

CARLOS STREET

JUNE 2025

# MIDCOAST MULTIMODAL PARALLEL TRAIL GAP CLOSURE | PROJECT FEASIBILITY STUDY



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## INTRODUCTION

The Midcoast Multi-Modal Parallel Trail (Trail), in the unincorporated San Mateo County Coastsides, is envisioned as a bicycle and pedestrian trail on the east side of Highway 1 that will provide an alternative means of transportation for residents of the Midcoast to safely access neighboring communities, town centers, schools, and recreational destinations without having to travel on the highway. The Midcoast includes the unincorporated communities of Montara, Moss Beach, El Granada, Princeton, and Miramar. The Trail, commonly referred to as the Parallel Trail, was conceptualized in the community-developed Highway 1 Safety and Mobility Improvement Study Phase 1, and the Trail is planned to extend from Montara to Miramar where it will connect to the existing Naomi Patridge Trail in Half Moon Bay. In 2022, San Mateo County and partners completed construction of the first segment of the Trail in unincorporated County between Coronado Street and City of Half Moon Bay boundary. The Trail, when fully built out, will be separated from the highway and have minimal interaction with vehicular traffic allowing it to serve residents of all ages and abilities. Connect the Coastsides, a community-based transportation plan to help improve mobility and safety for Coastsides residents and visitors in the unincorporated Midcoast, identifies programs and improvements for the Highway 1 corridor to improve mobility and accommodate the Midcoast's future transportation needs. Connect the Coastsides highlighted the need for the Trail as it will provide a continuous, car-free way to safely access Midcoast communities, town centers, schools and recreational destinations without having to travel on the highway. Due to right-of-way and geometric challenges along State Route (SR) 1 between California Avenue and 16<sup>th</sup> Street in Moss Beach, Connect the Coastsides identified Carlos Street, parallel to SR 1 as the preferred route of the Trail within this segment.

To address the Midcoast's transportation needs, San Mateo County and the San Mateo County Transportation Authority (SMCTA) in cooperation with Caltrans are currently advancing the Moss Beach State Route 1 (SR 1) Congestion and Safety Improvements Project (SR 1 Project). The SR 1 Project extends from just south of Marine Boulevard to just north of 16<sup>th</sup> Street and proposes to improve traffic flow and safety within the project area. Potential improvements include roundabouts, signals, dedicated turn lanes, high-visibility crosswalks, pedestrian walkways, bus stop enhancements, and bike lanes. The SR 1 Project's alternatives include the Trail from the southern project limits (just south of Marine Boulevard) to Etheldore Street. The SR 1 Project does not include the Trail along Carlos Street because Carlos Street is outside of the Caltrans right-of-way, making it outside of the scope of the Caltrans project development process. The SR 1 Project is currently in the Project Approval and Environmental Document (PA&ED) phase.

This Feasibility Study (Study) defines and evaluates the vision to improve bicycle and pedestrian mobility and close the Trail gap in Moss Beach on Carlos Street. County staff pursued and were awarded support through the Metropolitan Transportation Commission's Active Transportation Technical Assistance Program, funded through the OBAG 3 Program, for this Study. The goal of this Study is to identify potential alternatives to be studied and carried forward into preliminary design and future project development. This Study outlines potential benefits, challenges, and impacts of each alternative from a technical perspective only and did not include stakeholder and community engagement, which will take place in subsequent phases of work. The general Project vicinity is shown in **Figure 1**.





Figure 1: Project Location & Vicinity Map



## PROJECT BACKGROUND AND DESCRIPTION

Moss Beach is a community in San Mateo County, California with a population of approximately 3,200, according to the U.S. Census Bureau 2020 Population Estimate. Adjacent communities include the community of Montara to the north, and the communities of Princeton, El Granada, Miramar and the City of Half Moon Bay to the south. Moss Beach is regionally accessible via SR 1 and is serviced by San Mateo County Transit District (SamTrans), which has stops for the 117 line, including one at the corner of California Avenue/Etheldore Street and a second at Carlos Street/SR 1.

The **Midcoast Multimodal Parallel Trail Gap Closure Project** (Project) would plan, design, and construct pedestrian and bicycle facilities on Carlos Street between Etheldore Street/Vallemar Street and SR 1. This Trail section is not included in the SR 1 Project (as described in the introduction); therefore, the trail gap closure improvements are necessary to create a continuous Parallel Trail through Moss Beach to encourage increased use of active modes of transportation. The improvements would begin at the intersection of Carlos Street and Etheldore Street/Vallemar Street, where the SR 1 Project's shared-use multimodal path ends, then continue along Carlos Street for about 2,500 feet where it connects to the SR 1 Project's shared-use multimodal path at the intersection of Carlos Street and SR 1.

At the northeastern corner of Carlos Street and Sierra Street, the MidPen Housing Corporation is proposing to construct a 71-unit affordable housing community. The entrance to the development will be on Carlos Street just north of the intersection of Carlos Street and Sierra Street. As part of the housing development, new sidewalk improvements will be provided on the north side of Sierra Street from Carlos Street to Stetson Street. The Project's bicycle and pedestrian improvements will tie into the development's roadway improvements.

## PURPOSE AND NEED

### Project Purpose

- Provide pedestrian and bicycle connectivity between the two ends of the shared-use path of the Moss Beach State Route 1 Congestion and Safety Improvements Project.
- Improve safety for people of all ages and abilities.
- Promote active transportation.
- Improve connectivity in Moss Beach from residential areas to central Carlos Street.
- Improve connectivity to Montara and support Trail expansion to the north.

### Project Need

- The existing topography on SR 1 limits the ability for the Parallel Trail to be directly adjacent to SR 1 between California Avenue and 16<sup>th</sup> Street in Moss Beach.
- The lack of a distinct pedestrian infrastructure on Carlos Street requires pedestrians to walk on the existing roadway.



## CONSISTENCY WITH EXISTING PLANNING DOCUMENTS

### *Local Coastal Program (2021)*

In late 1980, the County Board of Supervisors and the California Coastal Commission approved the San Mateo County's Local Coastal Program (LCP). In April 1981, the County assumed responsibility for implementing the State Coastal Act in the unincorporated area of San Mateo County, including the issuance of Coastal Development Permits. Planning projects within the Coastal Zone should be designed to comply with the policies of the LCP and other County requirements. Policy 2.50 Improvements of Bicycle and Pedestrian Trails, (e) states: through coordination with Caltrans, promote the development of a continuous Midcoast pedestrian/bicycle/multi-purpose path (or a system of single mode paths) parallel to Highway 1 as part of the overall CCT system. The LCP includes other policies that will influence the siting and design of the trail.

### *Montara, Moss Beach, El Granada Community Plan (1978)*

The Montara-Moss Beach-El Granada Community Plan is part of the County's General Plan, and guides decisions about physical development in a community. The Plan was adopted by the Planning Commission and Board of Supervisors in 1978. Policy 3.18 Coastal Bicycle Path states: Construct a bicycle path along the Coast Highway for intra-community as well as regional access.

### *Highway 1 Safety and Mobility Improvement Study, Phase 1 & 2 (2010-2012)*

In April 2012, San Mateo County, in partnership with the Local Government Commission (LGC) developed studies for SR 1 along the Midcoast from Miramar to Montara to better serve all users. The efforts included community-based planning processes, engaging citizens in developing short and long-term transportation improvement strategies consistent with established regional policies.

The study identified Carlos Street as a key link of the Trail between Etheldore Street and 16<sup>th</sup> Street. The study also identified potential alternatives for a future pedestrian overcrossing SR 1 near Sierra St.

### *Unincorporated San Mateo County Active Transportation Plan (2021)*

On February 9, 2021, the San Mateo County Board of Supervisors approved the Unincorporated San Mateo County Active Transportation Plan (SMC ATP), a comprehensive framework to guide the development of active transportation projects and programs for walking, bicycling and other forms of human-powered movement for people of all ages and abilities throughout San Mateo County.

The SMC ATP builds on the County's ongoing work across multiple County departments, adjacent jurisdictions, and other public agencies to help ensure safe and seamless connected active transportation networks. Implementation of the program and policy recommendations included in the SMC ATP will support the development of a safer, more connected walking and biking network throughout the County's unincorporated communities.

Within the Project limits, the SMC ATP plan identifies Carlos Street as a proposed bicycle boulevard and SR 1 as a proposed shared-use path. The SMC ATP refers to the Trail as a visionary regional planning priority.



### *Connect the Coastside (2022)*

Connect the Coastside is a community-based transportation plan to help improve mobility and safety for Coastside residents and visitors. It identifies programs and improvements for the Highway 1 and Highway 92 corridors to improve mobility and accommodate the Midcoast's future transportation needs. A key purpose of Connect the Coastside is to define priority projects to pursue for external funding. The plan identifies a diverse range of road, highway and trail improvements. Categories in the plan include improvements to bike and walking facilities, roadways and intersections, transit facilities and services, and parking.

Within the Project limits, Connect the Coastside recommends that Carlos Street have a separated multimodal trail for most of the segment. For a 600' portion of the street between Sierra Street and Admiral Street the plan recommends a sidewalk and shared street bikeway also known as a Class III bikeway, due to potential constraints.

### *Caltrans Bay Area Bicycle Plan (Update of 2018 Plan)*

The Caltrans Bay Area Bike Plan, covering Caltrans District 4, identifies infrastructure improvements that can enhance bicycle safety, mobility, social equity and preservation throughout the Bay Area and remove some of the barriers to bicycling in the region. The Plan includes Project IDSM-1-C05, which is a Class 1 Bicycle and Pedestrian Path in the Highway 1 right-of-way from Gray Whale Cove to Half Moon Bay Airport.

### *Ohlone-Portolá Heritage Trail Feasibility Study (2019)*

The Ohlone-Portolá Heritage Trail (Heritage Trail) studied the feasibility of connecting and building on existing recreational trails to create a recreational trail route for hikers, equestrians, and bicyclists. The route would generally follow what once were Ohlone trade routes and the routes followed by the Gaspar de Portolá expedition in 1769.

Within the Project limits, the Heritage Trail identifies Carlos St as included in segment #23 and notes that the design scenario would be a Class III bikeway, sidewalk, share-the-road pedestrian route or multi-use trail. The Heritage Trail study identifies the use of logo signs for both identification and directional purposes. The study defers to the 2001 San Mateo County Trails Plan (SMC Trails Plan), for design of the facility.

## PROJECT STAKEHOLDERS

Multiple stakeholders will need to be involved in the Project's planning and design effort, providing input throughout the planning process. Agency/organization project stakeholders will include:

- San Mateo County (SMC)
- San Mateo County Transportation Authority (SMCTA)
- Midcoast Community Council (MCC)
- California Department of Transportation (Caltrans)
- Coastside Fire Protection District (CFPD)
- Pacific Gas and Electric Company (PG&E)
- San Francisco Bay Regional Water Quality Control Board



- MidPen Housing Corporation
- Montara Water and Sewer District (MWSD)

## PROJECT CONCERNS & CONSTRAINTS

The Project has several areas of concern and specific engineering constraints that are described below and are shown in **Appendix A**.

### Topography & Land Use

Moss Beach is characterized by hilly coastal topography, with low-density single-family residences and streets perched on hills or slopes. Fronting Carlos Street, there are several undeveloped, privately owned parcels as well as open areas space owned by San Mateo County. Moss Beach lies on the coast of the Pacific Ocean at the base of northern spur of the Santa Cruz mountains.

Due to a steep embankment on the north side of SR 1, a separated trail on the east side (shoulder) of SR 1 has been deemed infeasible by previous planning documents, so Carlos Street was identified to provide parallel bicycle and pedestrian connectivity. **Figure 2** illustrates the hilly topography of the area.



**Figure 2:** Google Earth View of the Project

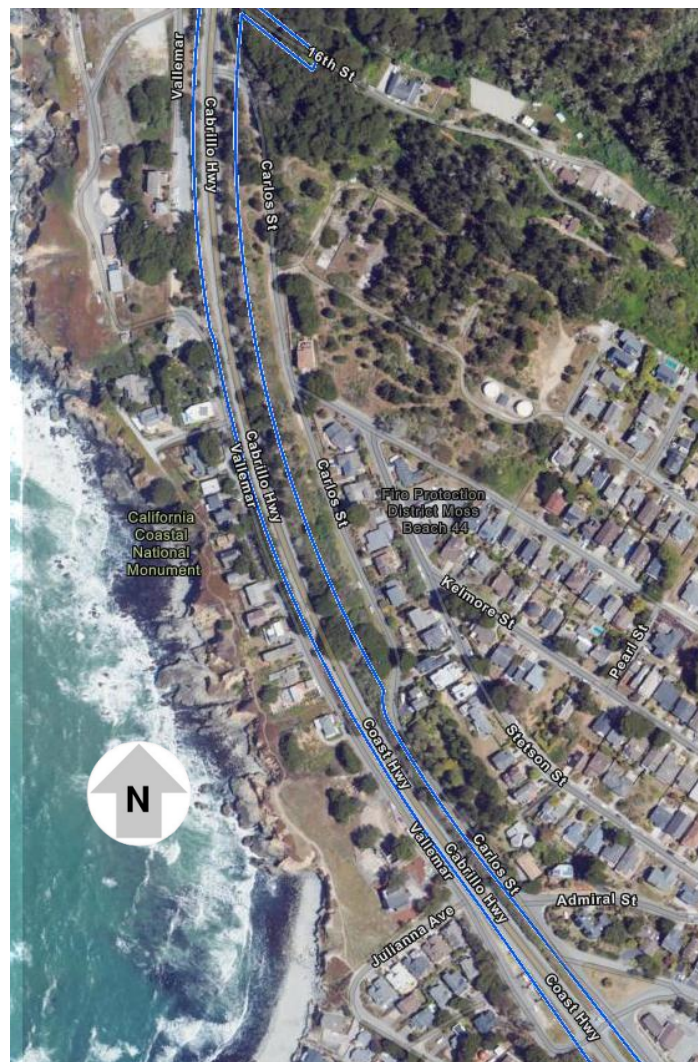
There are two areas where topography significantly limits the Project. These topography-constrained locations are identified in **Appendix A** and are identified and described as “Location 2” and “Location 4” in the exhibit.

Location 2 is characterized by a narrower than usual existing paved roadway. On the west side of the roadway, the ground is sharply sloped downwards to meet SR 1. On the east side of the roadway, the ground slopes upwards to existing houses.

Location 4 has steep upward slopes on both sides of Carlos Street, requiring significant excavation work to construct an adjacent shared-use or pedestrian-only path.

### SR 1 and Caltrans Right-of-Way

A boundary survey was conducted as part of the SR 1 Project and was made available for this Study. The Right of Way (R/W) map is shown in **Appendix A** and is also shown in **Figure 3**.



**Figure 3:** Caltrans District 4 Right of Way Map

Along Carlos Street, between Etheldore Street and approximately 600' north of Admiral Street, Caltrans R/W follows closely, varying from 3' to 15' from the west edge of the existing roadway. In the middle of the Carlos Street corridor, stretching south from Sierra Street approximately 800', there are three undeveloped privately owned parcels between Caltrans R/W and Carlos Street. The private parcels are approximately 18' from the west pavement edge of Carlos Street. North of Sierra Street, the Caltrans R/W is approximately 60' from the west edge of the existing roadway.

At Location 1 (shown in **Appendix A**) the Project proposes to connect to the end of the shared-use path proposed by the SR 1 Project, which will terminate at the southeast corner of the intersection of Etheldore Street and SR 1. Any path or trail improvements by the Project on the west side of Carlos Street will likely need to be constructed within Caltrans R/W for about 100' approaching Etheldore. An encroachment permit will be required for this portion of construction.

At Location 2, the roadway narrows significantly and there is only 3' between the west edge of Carlos Street and the Caltrans R/W line. If roadway widening and/or path improvements are proposed on the west side of Carlos Street, Caltrans R/W will be impacted, and an encroachment permit will be required.

#### Private Resident Yard Encroachment into County R/W

Based on a site visit and an analysis of existing R/W records, it was identified that several private residences have built their yards with landscaping paths and other amenities encroaching into the County R/W. The existing paved road section of Carlos Street uses only about 16' of the approximately 50' of available R/W. An example of these encroachments is illustrated in **Figure 4**. Per discussions with project stakeholders, stakeholders prefer to avoid project improvements on the east side of Carlos Street to mitigate impacts to landscaped areas and driveways of the adjacent properties.



**Figure 4:** Private Residence Yard Encroachments

### Utilities

There are six existing Pacific Gas and Electric (PG&E) joint-use-poles located within the Project limits and are shown in **Appendix A**. Relocation of these utilities will require consideration and close coordination with PG&E and Telecom utilities during preliminary engineering and construction.

There are other notable utilities within the Project area such as two AT&T manholes and several storm drain inlets and culverts that will need to be accounted for in the future design of this Project.

### Environmental Considerations

There is an Area of Special Biological Significance (ASBS) for the red-legged frog species that lives within the drainage ditch adjacent to Carlos Street and SR 1, between California Avenue and Etheldore Street. At Location 1, where this Project will tie into the SR 1 Project, special environmental technical studies will likely be necessary for this critical habitat.

### Fire Access and Existing Roadway Width

Fire Station 44 sits on Stetson Street, one street east of Carlos Street. At coordination meetings early in this Study, staff from the Coastside Fire Protection District (CFPD) noted that their fire trucks use Carlos Street from Sierra Street to SR 1 when responding to incidents north of the fire station. In addition, they noted that the existing 16' to 18' paved roadway widths of Carlos Street were substandard. International fire code dictates that the paved roadway width should be 20' minimum. CFPD acknowledged that pedestrian and bicycle improvements done outside of the roadway would be unlikely to trigger a requirement to upgrade and expand the roadway width to meet the 20' minimum requirement.

County of San Mateo Department of Public Works staff also acknowledged the existing sub-standard roadway widths and expressed that the roadway should be widened to 20' minimum if significant improvements were to be undertaken in this area.

### Drainage Concern

At Location 2, a drainage ditch on the east side of the roadway was observed during a field visit with standing water which could lead to significant erosion since the roadway is on a steep hill.

### Roadway Sight Distance

At Location 3, during a site visit it was observed that there is a blind corner caused by vegetation growing on public property. The County Department of Public Works has historically trimmed and sent notices to the property owners of the unpermitted vegetation encroaching in the County right-of-way. Since there are no existing pedestrian and bicycle facilities along Carlos Street, users must walk or ride in the street. The constrained sight lines at this corner inhibit visibility of vulnerable users by vehicles. This blind corner is shown in **Figure 5**.





*Figure 5: Blind Corner on Carlos Street, between Admiral Street and Sierra Street*

## PROJECT ALTERNATIVES

Through discussions with staff from the San Mateo County Planning and Building Department, the San Mateo County Department of Public Works, San Mateo County Parks Department, and the Coastside Fire Protection District on the Project needs and constraints, the consultant team identified two distinct segments on Carlos Street, with two alternatives for each segment. Additional alternatives were considered and described on page 21 of this Study. The two identified alternatives provide two compatible short-term and long-term options which can be selected and progressed depending on available funding.

South Segment: Etheldore Street to Sierra Street:

1. 5' wide solid surface pedestrian path & Class III bikeway with no roadway widening
2. 8' to 10' shared-use path and widen Carlos Street to 20'

North Segment: Sierra Street to SR 1

1. 10' shared-use path with no roadway widening
2. 10' shared-use path and widen Carlos Street to 20'

A conceptual image of each of the alternatives is shown in **Figure 6**. Preliminary layouts and cross-sections for the project alternatives are shown in **Appendix B**.



*Figure 6: Conceptual Alternative Options*

The general design criteria used to develop and analyze the alignments presented in this Study are listed below in two sections. The first set of requirements are Caltrans 2023 Highway Design Manual (HDM) standards which apply when the project limits are within Caltrans R/W.

- **Caltrans R/W**
  - Shared-Use Path Width:
    - The minimum paved width of travel way for a two-way bike path shall be 8 feet, 10-foot preferred. **(HDM Bold Standard 1003.1 (1)(a))**
  - Pedestrian Path Width
    - For all other locations the minimum width of sidewalk should be 6 feet when contiguous to a curb or 5 feet when separated by a planting strip. **(HDM Underlined Standard 105.2)**
  - **Path Material**
    - The pavement material and structure of a bike path should be designed in the same manner as a highway, with a recommendation from the District Materials Branch. It is important to construct and maintain a smooth, well drained, all-

weather riding surface with skid resistant qualities, free of vegetation growth. Principal loads will normally be from maintenance and emergency vehicles. (HDM Guidance 1003.1 (15))

- Shoulders
  - A minimum 2-foot wide shoulder, composed of the same pavement material as the bike path or all weather surface material that is free of vegetation, shall be provided adjacent to the traveled way of the bike path when not on a structure. **(HDM Bold Standard 1003.1 (1)(b))**
- Cross-Slopes
  - For proper drainage, the surface of a bike path should have a minimum cross slope of 1 percent to reduce ponding and a maximum of 2 percent per DIB 82. **(HDM Guidance 1003.1 (16))**
- Longitudinal Grade
  - Bike path grades must meet DIB 82. The maximum grade rate recommended for bike paths should be 5 percent. Sustained grades should be limited to 2 percent. **(HDM Guidance 1003.1 (14))**

The second set of criteria that apply when the project is within San Mateo County R/W. Guidelines provided by the SMC Trails plan should be followed where possible but may be deviated from contingent on County approval.

- **County R/W**
  - Shared-Use Path Width
    - Where paved, the paved portions of a multiple-use trail should have an optimum width of 12 feet with a center stripe. **(SMC Trails Plan D.G. 2.1.2)**
  - Pedestrian Path Width
    - Optimum trail tread for easy level of access is 5 feet. **(SMC Trails Plan D.G. 2.3.2)**
    - If an accessible route has less than 60 inches clear width, then passing spaces at least 60 inches by 60 inches shall be located at intervals not to exceed 200 feet. **(2010 ADA Standards 403.5.3 and Title 24 11B-403.5.3)**
  - Path Material
    - Trail material should provide a firm, smooth surface meeting the requirements of the most current Americans with Disabilities Act Accessibility Guidelines for Outdoor Developed Areas. **(SMC Trails Plan D.G. 3.6.1)**
    - The trail material should minimize runoff and erosion problems. **(SMC Trails Plan D.G. 3.6.2)**
  - Shoulders
    - A multiple-use trail should have minimum 2-foot, flush gravel shoulders, or clear space on each side of the trail. **(SMC Trails Plan D.G. 2.1.2)**
  - Cross-Slopes
    - Maximum Tread Cross-Slope: 3% for easy level of access. **(SMC Trails Plan D.G. 2.3.2)**
  - Longitudinal Grade



- Maximum 8.33% shared-use path longitudinal grade for easy level of access. **(SMC Trails Plan D.G. 2.3.2)**
- Grade of pedestrian access route shall not exceed the general grade established for the adjacent street or highway. **(ADA R302.5.1)**
- Roadway Width
  - Fire apparatus access roads shall have an unobstructed width of not less than 20 feet, exclusive of shoulders.” **(IFC 503.2.1)**
- Signage
  - Six types of signs should be considered in management plans for each County trail: Identity Signs, Use Signs, Safety Signs, Private Property Signs, Interpretive and Protective Signs, and Regional Signs. **(SMC Trails Plan D.G. 4.5)**

Standards from the Federal Americans with Disabilities Act (ADA) and the 2024 International Fire Code (IFC) apply regardless of R/W jurisdiction, including:

- Pedestrian Path Width
  - If an accessible route has less than 60 inches clear width, then passing spaces at least 60 inches by 60 inches shall be located at intervals not to exceed 200 feet. **(2010 ADA Standards 403.5.3 and Title 24 11B-403.5.3)**
- Longitudinal Grade
  - Grade of pedestrian access route shall not exceed the general grade established for the adjacent street or highway. **(ADA R302.5.1)**
- Roadway Width
  - Fire apparatus access roads shall have an unobstructed width of not less than 20 feet, exclusive of shoulders. **(IFC 503.2.1)**

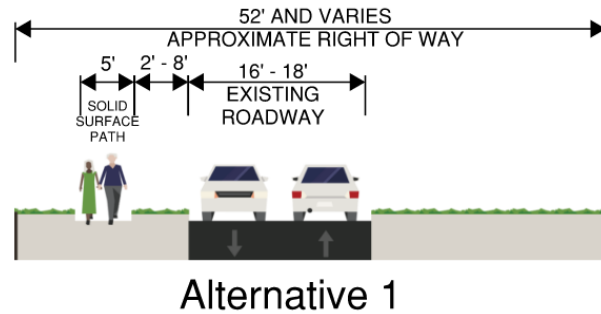
### South Segment (Etheldore Street to Sierra Street): Alternative 1 (No Roadway Widening)

In this Alternative, a pedestrian path and Class III bikeway will be provided within the South Segment. The proposed pedestrian path will begin at the intersection of Etheldore Street and Carlos Street, connecting to the SR 1 Project’s shared-use path to the south. The 5’ solid surface path will follow on the west side of Carlos Street varying from 2’ to 8’ from the pavement edge of Carlos Street. Crosswalks and curb ramps will be constructed at the west leg of the intersection of Carlos Street and Etheldore Street and at the south leg of Carlos Street and Admiral Street, connecting to the existing pedestrian infrastructure. Bicycle sharrow markings will be striped in the center of each traveled lane every 250 feet and bikeway signage will be provided to designate the Class III bicycle facility within this segment. Additionally, signage will be installed notifying drivers of the pedestrian crossings.

Alternative 1 proposes to maintain an 8’ buffer area between the existing roadway edge of pavement and the new pedestrian path. Vehicular parking in this area could result in parking encroaching on the pathway. Physical separation should be considered to either deter parking or protect the path from encroaching vehicles. A conceptual typical section of this alternative segment is shown in **Figure 7** with more detailed typical sections and layouts shown in **Appendix B**. Further discussions and outreach should be conducted to determine if the County desires to maintain the unofficial parking in the dirt



area on the west side of Carlos Street for approximately 800' south of Sierra Street. Consideration should be given to how this parking affects emergency access and response by the CFPD.



**Figure 7:** South Segment, Alternative 1 Typical Section

**Advantages** of this alternative include:

- Significantly less cost than Alternative 2 as no roadway widening is proposed.
- Fewer construction impacts to the community.
- No impacts to existing PG&E electrical poles.
- Less costs to mitigate stormwater pollution run-off from new roadway impervious areas compared to Alternative 2.

**Disadvantages** of this alternative include:

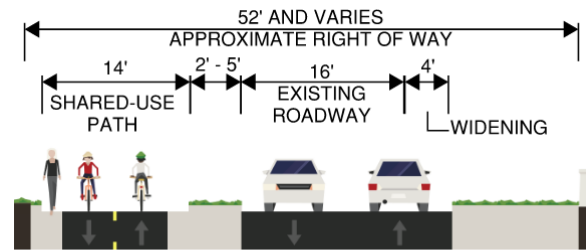
- Path alignment enters Caltrans R/W near location 2, requiring an encroachment permit.
- A continuous shared-use path is not provided through Moss Beach, broken by this segment of pedestrian path and Class III facility.
- The existing substandard 16' to 18' roadway is left as is.

### South Segment (Etheldore Street to Sierra Street): Alternative 2 (Roadway Widening)

In Alternative 2 of this segment, a proposed 10' shared-use path with 2' shoulders will begin at the intersection of Etheldore Street and Carlos Street, connecting to the SR 1 Project's shared-use path. The shared-use path will be on the west side of Carlos Street varying from 2' to 5' from the pavement edge of Carlos Street. At Location 2, a retaining wall will be constructed on the east side of the roadway and the roadway realigned. Crosswalks and curb ramps will be constructed at the west leg of the intersection of Carlos Street and Etheldore Street and at the south leg of Carlos Street and Admiral Street, connecting to the existing pedestrian infrastructure.

Some vehicles were observed parking on the west side of Carlos Street, outside of the paved roadway. People may attempt to park on the proposed path, so physical barriers should be considered to deter parking.

A conceptual typical section of this alternative is shown in **Figure 8** with more detailed typical sections and layouts shown in **Appendix B**.



Alternative 2

**Figure 8:** South Segment, Alternative 2 Typical Section

A possible variation of this alternative includes roadway widening only at Location 2, to minimize Project cost and impact while creating the facility width needed for the continuous shared-use path.

**Advantages** of this alternative include:

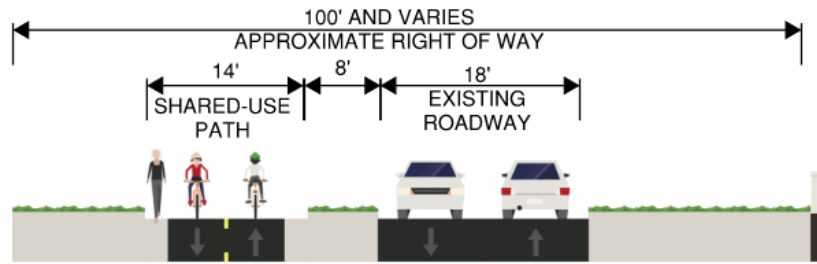
- A continuous shared-use path is provided throughout Moss Beach.
- Outside of the connection point at Etheldore Street, Caltrans R/W is not encroached upon.
- Entire roadway widened to 20' to meet minimum fire code requirements.

**Disadvantages** of this alternative include:

- Significantly more cost than Alternative 1 due to complete roadway widening and to construct the wide shared-use path.
- Significantly more impact to the local community through visual changes to the roadway and from construction impacts.
- Increased costs to mitigate water run-off from additional new impervious areas compared to Alternative 1.
- Removes buffer area on the western side of Carlos Street that people use for parking. (see Section C of Alternative 2).

### North Segment (Sierra Street to SR 1): Alternative 1 (No Roadway Widening)

For Alternative 1 of this segment, a proposed shared-use path will begin at the intersection of Carlos Street and Sierra Street, connecting to the South Segment. The path will be 10' shared-use path with 2' shoulders on the west side of Carlos Street, initially staying 8' from the western pavement edge of Carlos Street. As the topography on the west side of Carlos Street steepens, the path will meander towards the west, around the existing mound, trees and vegetation. The path will meander back towards Carlos Street and connect to the SR 1 Project outside of Caltrans R/W. The public R/W is substantially wider in the north segment compared to the south at approximately 100'. A conceptual typical section of this alternative segment is shown in **Figure 9** with more detailed typical sections and layouts shown in **Appendix B**.



**Alternative 1**

**Figure 9:** North Segment, Alternative 1 Typical Section

**Advantages** of this alternative include:

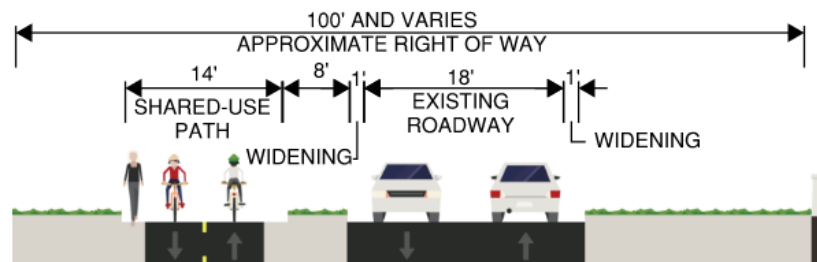
- Significantly less cost than Alternative 2 as no roadway widening is proposed.
- Fewer construction impacts than Alternative 2 to the community.
- Less costs to mitigate water run-off from new roadway impervious areas compared to Alternative 2.

**Disadvantages** of this alternative include:

- The existing substandard 18' roadway is left as is.

**North Segment (Sierra Street to SR 1): Alternative 2 (Roadway Widening)**

This alternative proposes a similar 10' shared-use path with 2' shoulders between Sierra Street and SR 1 for the North Segment as Alternative 1, but also proposes widening the existing 18' roadway of Carlos Street to 20' until it connects to the SR 1 Project. A conceptual typical section of this alternative segment is shown in **Figure 10** with more detailed typical sections and layouts shown in **Appendix B**.



**Alternative 2**

**Figure 10:** North Segment, Alternative 2 Typical Section

**Advantages** of this alternative include:

- Entire roadway widened to 20' to meet fire width requirements.

**Disadvantages** of this alternative include:



- Significantly more cost than Alternative 1 due to roadway widening.
- Significantly more impact to the local community than Alternative 1 through visual changes to the roadway and from construction impacts.
- Increased costs to mitigate water run-off from new impervious areas.

### Path Amenities

Additional optional amenities along the corridor that may be considered include path lighting, crosswalk lighting, benches, trail signage, vertical separation, and/or quick build traffic calming installations.

As shared by County staff, there are anticipated community concerns that the path and any associated lighting would result in negative impacts to the community and affect the desire for dark skies.<sup>1</sup> Further investigation is needed into lighting that can be placed that minimizes light pollution and intrusion into the nearby community, while achieving safety goals and County standards. This could be achieved through strategically placed full size lights at intersection crossing with light shields or low-profile bollards with lights along the trail. The segment of the Trail in Miramar used this strategy with solar bollard placement.

Benches could be placed strategically at locations with existing flat areas, available right of way, or at locations with coastal viewpoints. These benches should be spaced evenly to create rest areas along the steeper portions of the trail.

Due to the close proximity of the solid surface path and/or shared-use path to the adjacent roadway, vertical separation elements, considering the rural character of the surrounding area, could be installed to provide a physical barrier from the roadway and increase comfort to users of the trail. This separation could be provided by:

- Vertical Elements
  - Curb/Dike, Delineators, or Bollards
- Landscaping
  - Bushes, low plants, or street trees
- Parking
  - An unpaved buffer for vehicles to park, emulating the existing condition.

Quick build features could be implemented at the intersections of Admiral Street, Etheldore Street, and Sierra Street to promote traffic calming. These improvements would square up the intersections using paint and/or plastic bollards to slow turning speeds and provide shorter crossing distances. These elements would increase the initial cost to construct.

As this route is part of the Ohlone Portola Heritage Trail, the project could include logo signs on bollards for both identification and directional purposes.

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<sup>1</sup> The Midcoast Community Council (MCC) has discussed the desire for responsible lighting and Dark Skies ordinance at various meetings. In 2024, the [MCC requested Caltrans District 4 modify lighting](#) on Highway 1 accordingly.



## Other Considerations

**Vegetation and Sight Lines:** As part of the clearing and grubbing effort, the Project should improve the blind corner at Location 3 by removing vegetation in sight lines.

**Climate Resilience:** The San Mateo County Board of Supervisors approved the San Mateo County Sea Level Rise Policy for County Assets in 2019, which requires that sea level rise is considered in all County-owned and operated assets, design and construction projects, leases, and property acquisitions and dispositions. The Project should consider opportunities to further adaptation strategies that could support the surrounding community, such as modifications to address short duration floods.<sup>2</sup>

**Off-site Water Pollution Runoff:** All alternatives will increase off-site water runoff. Per San Mateo County drainage policies, a drainage analysis will be required to assess existing drainage systems and detention capacity, and to determine if the increased water runoff requires additional drainage modifications. Additional modifications could be considered per the County's Sea Level Rise Policy for County Assets.

**Pedestrian Railings:** As the trail will be near steep embankments leading downwards towards SR 1, a pedestrian railing may be constructed between the path and the SR 1 Highway. Using the same brown colored pedestrian railing that was used in the Trail segment south of the project would be beneficial for consistency and aesthetics.

**Pedestrian Path Material:** The Opinion of Probable Cost (Appendix C) assumes asphalt concrete for the pedestrian path for construction cost considerations; however, other materials can be utilized instead, such as bricks, Ecoraster, Gravelpave2, or other permeable surface materials. This could support the County's goals regarding climate resilience and minimizing off-site water pollution runoff. Path material must be stable, firm, and slip resistant as outlined above from the SMC Trails Plan and the federal ADA standards.

**Shoulder Material & Long-term Maintenance:** The San Mateo County Parks Department noted difficulty and significant cost in maintaining the soft shoulders on existing section of the Parallel Trail due to weed growth and dirt from graveled shoulders ending up on the trail, which becomes a tripping hazard as shown in *Figure 11*.

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<sup>2</sup> San Mateo County Sustainability Department. Climate Resilience and Sea Level Rise.





**Figure 11:** Maintenance Considerations on the Midcoast Multi-Modal Trail

Though graveled shoulders are regularly used in trail application, other materials can be utilized instead, such as asphalt, bricks, Ecoraster, Gravelpave2, or other permeable surface material. Parks staff have noted that some permeable materials used on trails at Fitzgerald Marine Reserve have been working well and have been easier to maintain. The path's shoulders could also be omitted, but this omission would be a departure from the established standard laid out in the HDM and SMC Trails Plan Standards and may need to be documented as non-standard features.

### Other Considered Alternatives

During the course of discussion with County staff, other alternatives were discussed but were not included for further evaluation at this time for this Study:

- Advisory Lanes – Advisory lanes, also called “advisory bike lanes” or “edge lane roads,” provide preferred but not exclusive operating space for people to bike along two-way roadways. Unlike standard bike lanes, advisory lanes allow cars to merge into the bike lane area when approaching an oncoming vehicle and when people biking are not present. They are defined by a central travel lane (10-18’) and dashed one-way bike lanes (5-6.5’ each) on each side of the street. Advisory lanes are recommended for low-volume (<3,000 ADT) and low speed (at or below 25 mph) roads.<sup>3</sup> Experience with these facilities is low in San Mateo County as there are few local examples; however, other jurisdictions, such as Minneapolis, MN and Fort Collins, CO

<sup>3</sup> NACTO Urban Bikeway Design Guide, <https://nacto.org/latest/urban-bikeway-design-guide-advisory-bike-lanes/>, Minneapolis Street Design Guide, 3.4N, <https://sdg.minneapolismn.gov/design-guidance/bikeways/advisory-bike-lanes>, Alta Planning and Design, Lessons Learned: Advisory Bike Lanes in North America, August 2017. <https://sdg.minneapolismn.gov/design-guidance/bikeways/advisory-bike-lanes>

are using advisory lanes. Advisory lanes are common in Europe. Advisory lanes are often used where there is not enough space for a traditional bike lane, and where sharing the road is not preferred. Advisory lanes are still considered an experimental treatment by the Federal Highway Administration (FHWA) and are not yet included in the Manual on Uniform Traffic Control Devices (MUTCD); therefore, it is advised they be implemented through the “Request to Experiment” process. The County could consider implementing advisory lanes as an interim solution or replacing the Class III shared bikeway with advisory lanes.

- One Way Street – This alternative would consider making Carlos Street one way from Admiral Street to Sierra Street. This does not increase the available width for a trail since the roadway still needs to be at least 20 feet (or the existing width) for fire access. In addition, a one-way road may increase speeds on this segment as drivers would expect no opposing traffic. This alternative is undesirable from an emergency response perspective.
- Natural Surface Path – This alternative would construct a crushed stone or compacted soil natural surface path along the side of Carlos Street instead of a solid surface material. Though the public may prefer this alternative, a natural surface path is not typically ADA compliant. Weather events may cause the surface to pond or soften and the path will require significant maintenance to keep it ADA compliant year-round.

## PROJECT DELIVERY STRATEGY

### Next Steps

The next step for the Project is to move into a broader study that includes community and stakeholder outreach to further discuss and evaluate project alternatives. Key tasks of the next phase could include:

- Caltrans Encroachment Office Engagement
- Public Outreach and Engagement
- Environmental Review and Clearance
- Develop Funding Strategy
- Conceptual Design Plans and Cost Estimate (Up to 30% Design Level)
- Utility coordination and mapping

As part of the final design, the Project will likely need to complete an encroachment permit through the Caltrans Encroachment Permits Office Process (EPOP). The improvements proposed in this Study are anticipated to be appropriate for the EPOP.

To avoid entering the more complex Design Engineering Evaluation Report (DEER) process with Caltrans, the project should follow these relevant requirements per the 2023 Caltrans Checklist to Determine Applicable Review Process<sup>4</sup>. Additional requirements are included in the full checklist.

- Avoid any R/W conveyance.

<sup>4</sup> <https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=DOTTR0416>



- Structures in Caltrans R/W should be constructed per Caltrans Standard Plans.
- Avoid creating 10,000 square feet or more of impervious highway surface.
- Avoid non-standard roadway design features within Caltrans R/W.
- Cap total construction costs within existing Caltrans R/W to \$1M.

Given that the Project will function as a gap closure for the SR 1 Project, the Project should consider a construction timeline that parallels the SR 1 Project, which would consolidate the noise and construction impacts to the neighborhood to one time period. A proposed schedule is shown below.

### Cost

As part of the development of this Study, preliminary costs were developed for each segment and each alternative. They are summarized in **Table 1** with further detail provided in **Appendix C**.

**Table 1: Preliminary Estimated Cost to Construct in 2025 Dollars**

	Alternative	Cost
South Segment: Etheldore Street to Sierra Street:	1 - No Roadway Widening & Pedestrian path/Class III Bikeway	\$1,749,000
	2 – Roadway Widening & Shared-Use Path	\$11,234,000
North Segment: Sierra Street to Etheldore Street	1 – No Roadway Widening & Shared-Use Path	\$1,414,000
	2 – Roadway Widening & Shared-Use Path	\$1,821,000

Weekly maintenance and equipment costs are not included in the estimates above. Per discussions with Parks Department staff, paths have variable maintenance costs depending on equipment used and weed trimming needs. The existing Parallel Trail (from Mirada Road to Coronado Street) is costly to maintain due to weed growth in the soft shoulders during the rainy season. Staff estimates \$2,400 per visit to maintain the existing trail; this does not include costs for asphalt repair and lighting replacement. More maintenance is required during the rainy season (~6 months), and ideally, would happen weekly. If the trail did not have the soft shoulders and required blowing only, the cost per visit would be reduced significantly to about \$400 per visit.

### Schedule

**Table 2** below details the approximate delivery plan for this Project on the left, with the SR 1 Project milestones on the right for reference.



**Table 2: Tentative Schedule of the Project**

Carlos Street Project Tentative Milestones		SR 1 Project Milestones	
Feasibility Study	September 2025	June 2026	Environmental Studies & Project Approval
Corridor Study: Preliminary Engineering, Public Outreach, and Environmental Clearance	December 2027*	December 2028*	Project Design & Right of Way
Final Design	December 2028*		
Construction Start	January 2031*	January 2029*	Construction Start
Construction Completion	December 2031*	December 2031*	Construction Completion

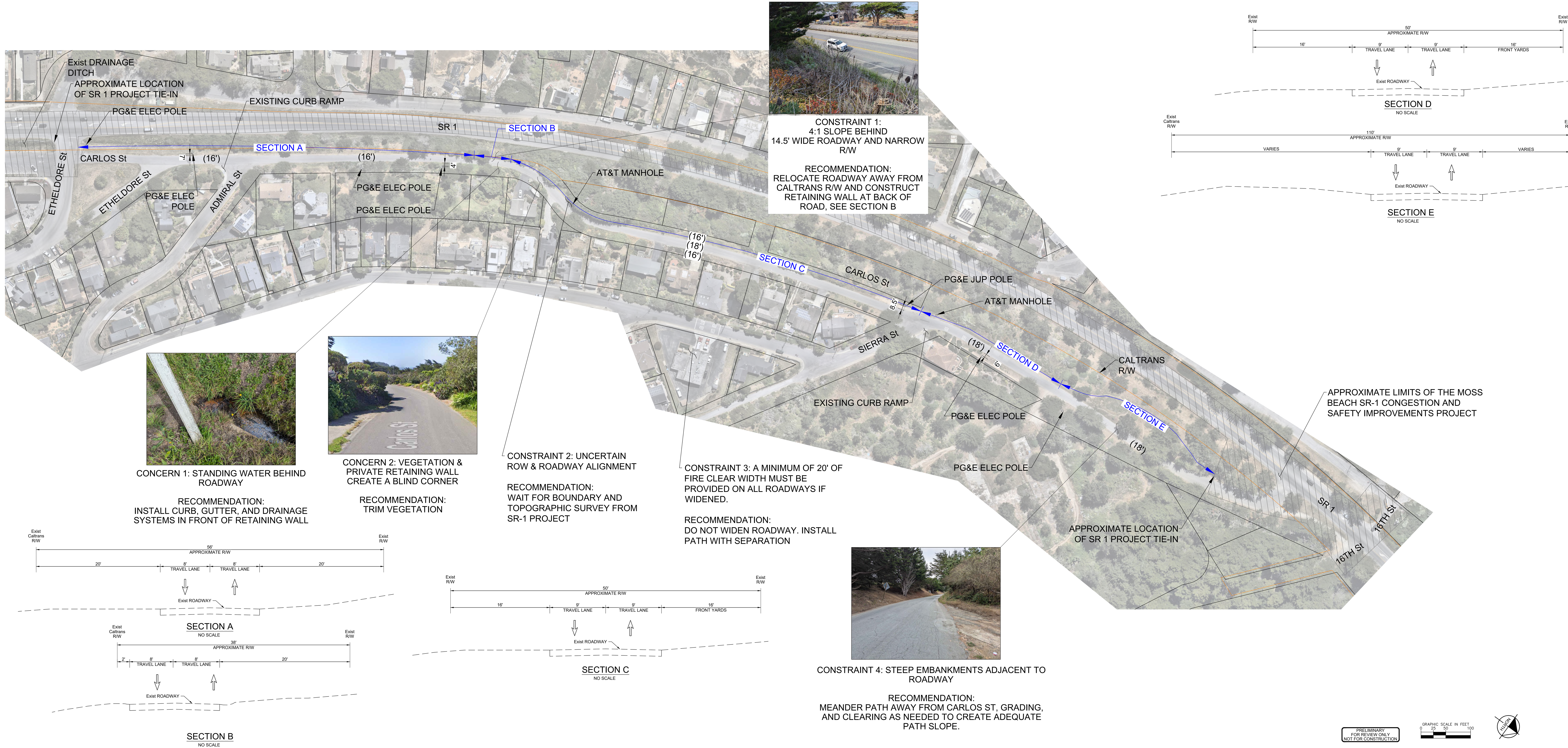
\*SR 1 Project and future Carlos Street Project milestones are pending project funding, which is dependent on external grant/revenue sources.





## APPENDIX A – Carlos Street Existing Conditions and Constraints





**CONSTRAINT 1:**  
4:1 SLOPE BEHIND  
14.5' WIDE ROADWAY AND NARROW  
R/W

**RECOMMENDATION:**  
RELOCATE ROADWAY AWAY FROM  
CALTRANS R/W AND CONSTRUCT  
RETAINING WALL AT BACK OF  
ROAD, SEE SECTION B



**CONCERN 1:** STANDING WATER BEHIND  
ROADWAY

**RECOMMENDATION:**  
INSTALL CURB, GUTTER, AND DRAINAGE  
SYSTEMS IN FRONT OF RETAINING WALL



**CONCERN 2:** VEGETATION &  
PRIVATE RETAINING WALL  
CREATE A BLIND CORNER

**RECOMMENDATION:**  
TRIM VEGETATION

**CONSTRAINT 2:** UNCERTAIN  
ROW & ROADWAY ALIGNMENT

**RECOMMENDATION:**  
WAIT FOR BOUNDARY AND  
TOPOGRAPHIC SURVEY FROM  
SR-1 PROJECT

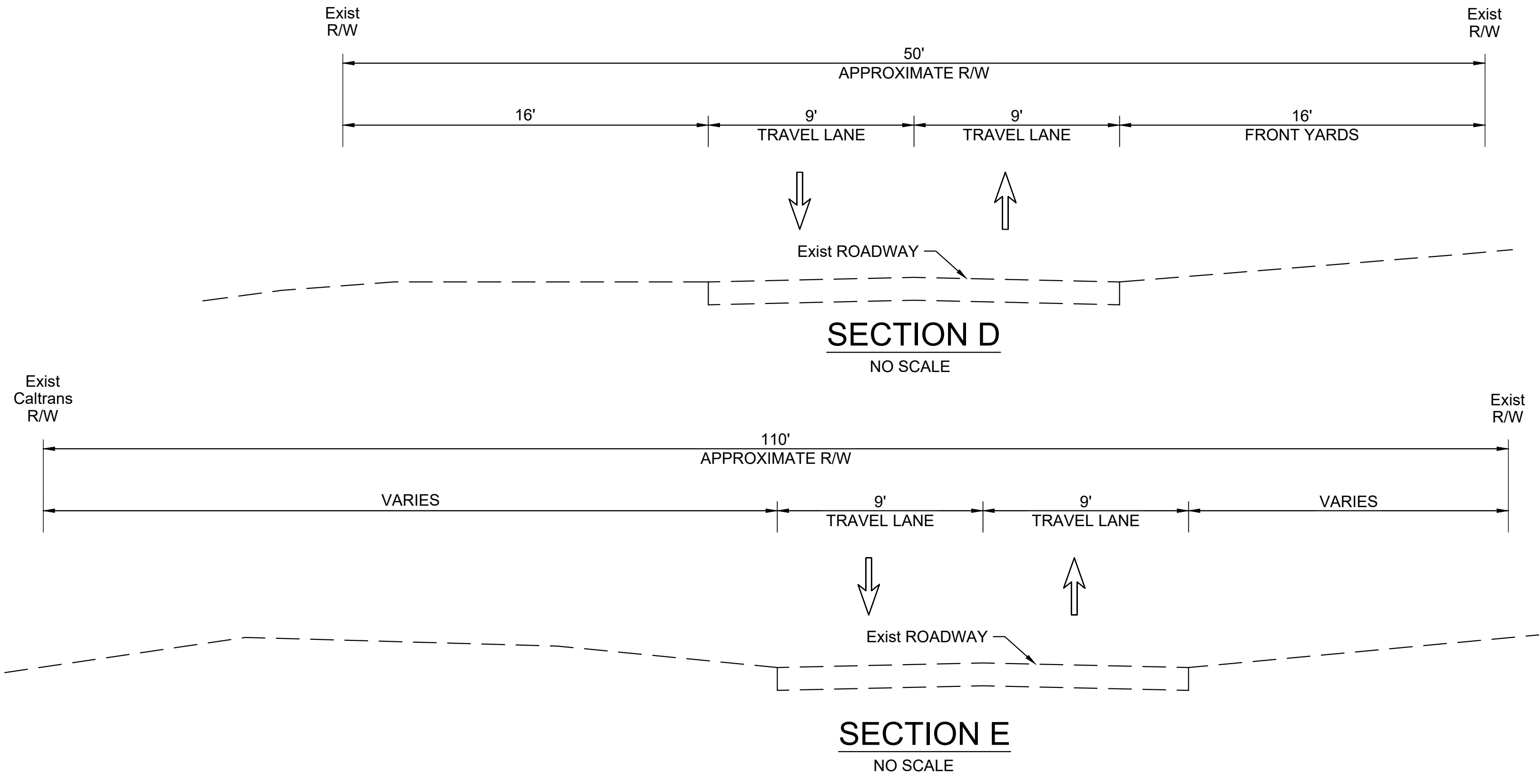
**CONSTRAINT 3:** A MINIMUM OF 20' OF  
FIRE CLEAR WIDTH MUST BE  
PROVIDED ON ALL ROADWAYS IF  
WIDENED.

**RECOMMENDATION:**  
DO NOT WIDEN ROADWAY. INSTALL  
PATH WITH SEPARATION



**CONSTRAINT 4:** STEEP EMBANKMENTS ADJACENT TO  
ROADWAY

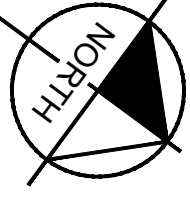
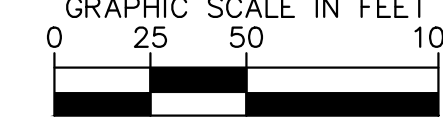
**RECOMMENDATION:**  
MEANDER PATH AWAY FROM CARLOS ST, GRADING,  
AND CLEARING AS NEEDED TO CREATE ADEQUATE  
PATH SLOPE.



APPROXIMATE LIMITS OF THE MOSS  
BEACH SR-1 CONGESTION AND  
SAFETY IMPROVEMENTS PROJECT

APPROXIMATE LOCATION  
OF SR 1 PROJECT TIE-IN

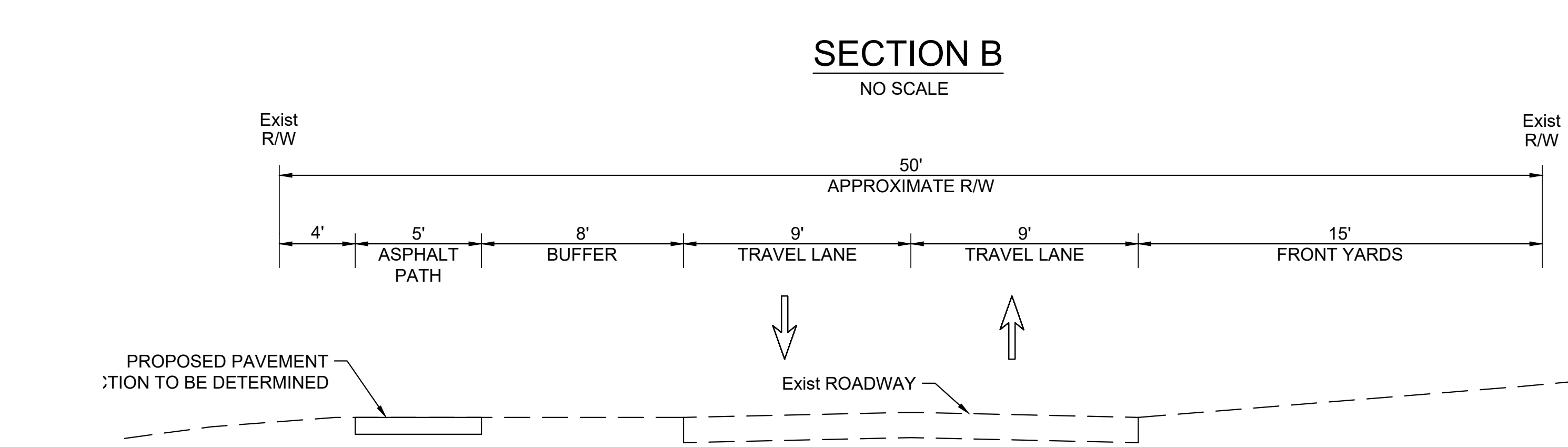
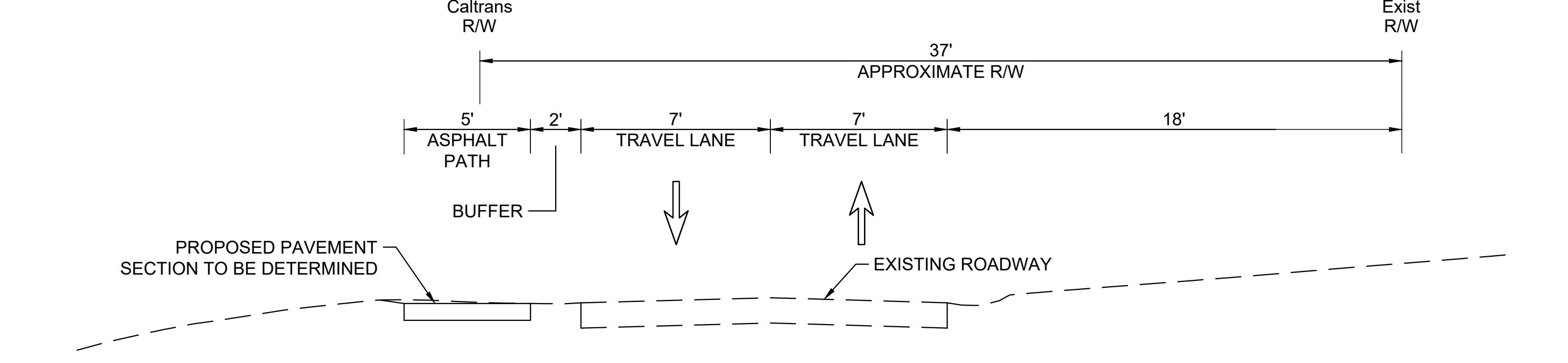
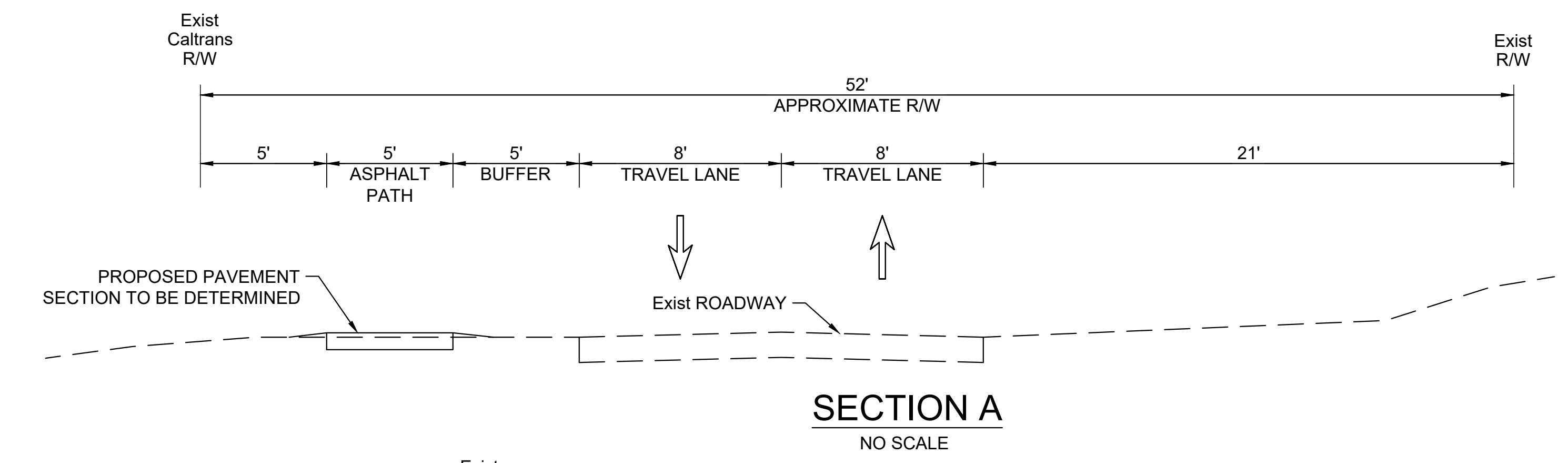
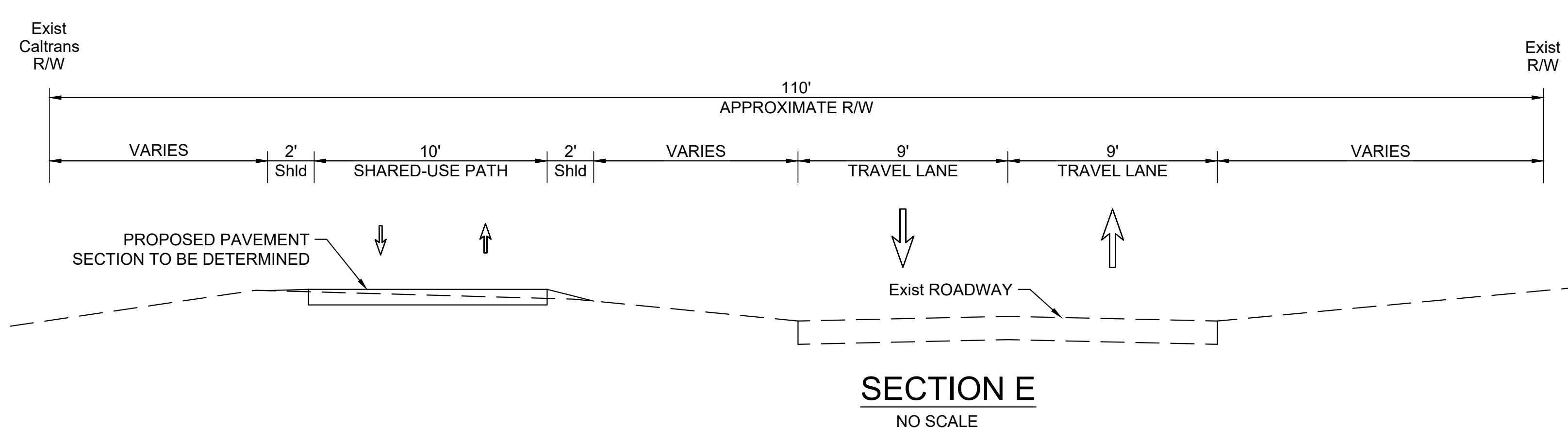
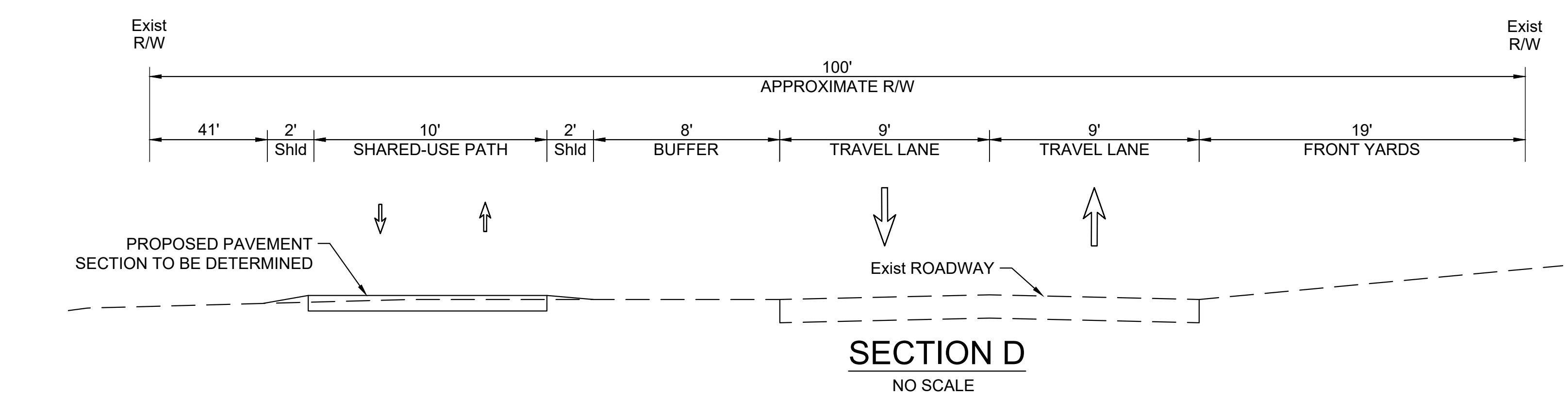
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FOR REVIEW ONLY  
NOT FOR CONSTRUCTION





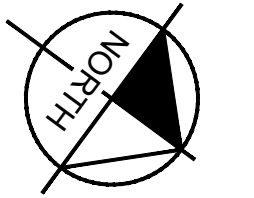
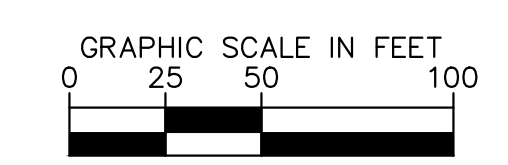
## APPENDIX B – Carlos Street Preliminary Concepts

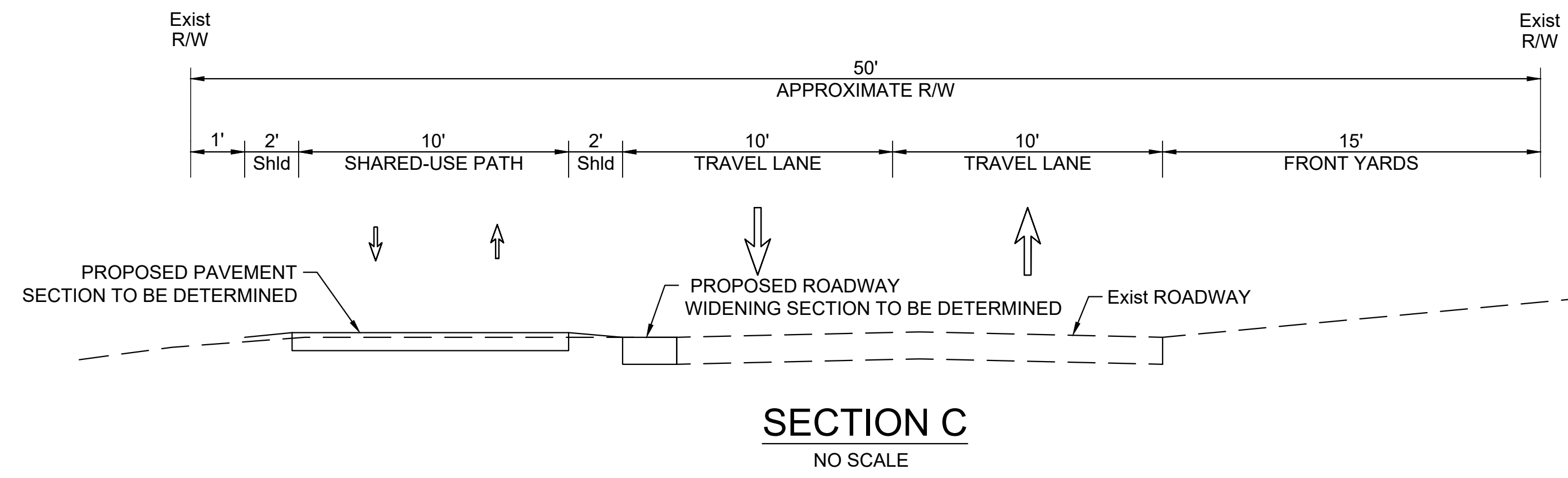
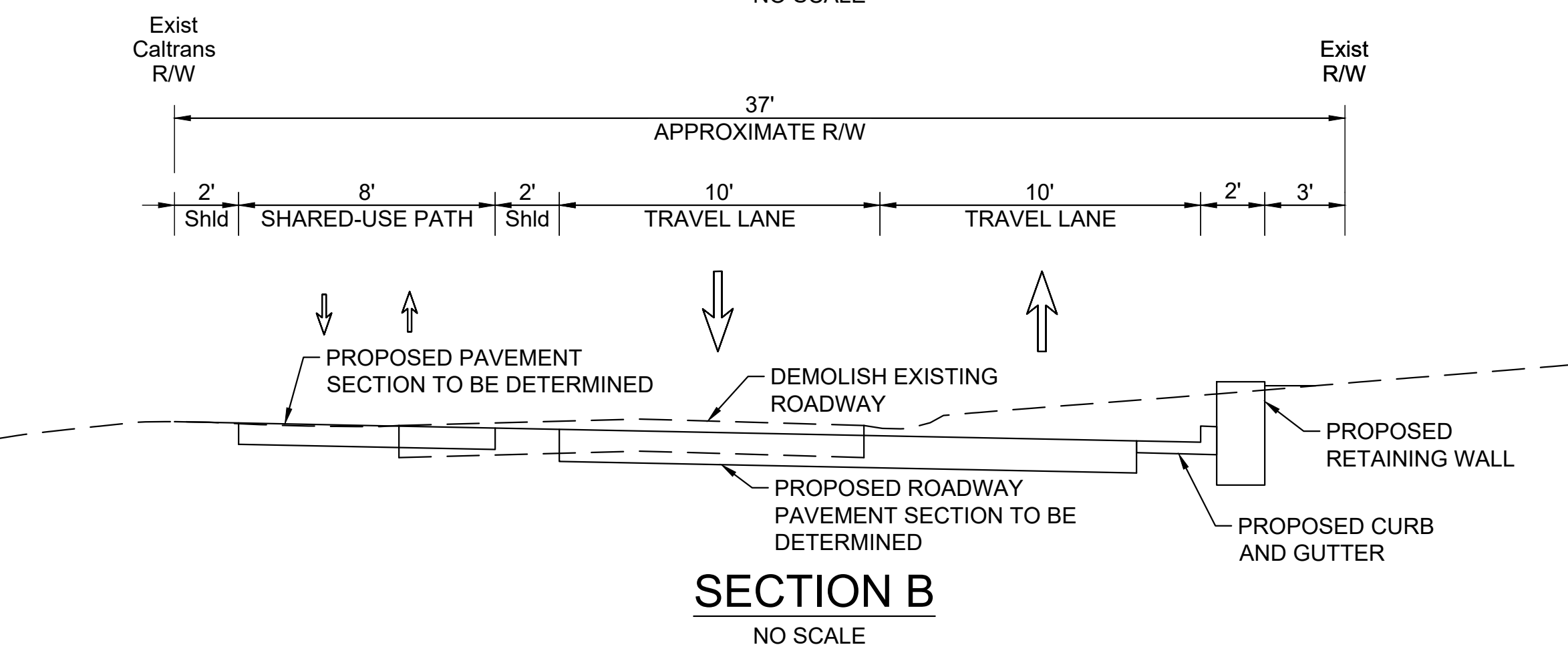
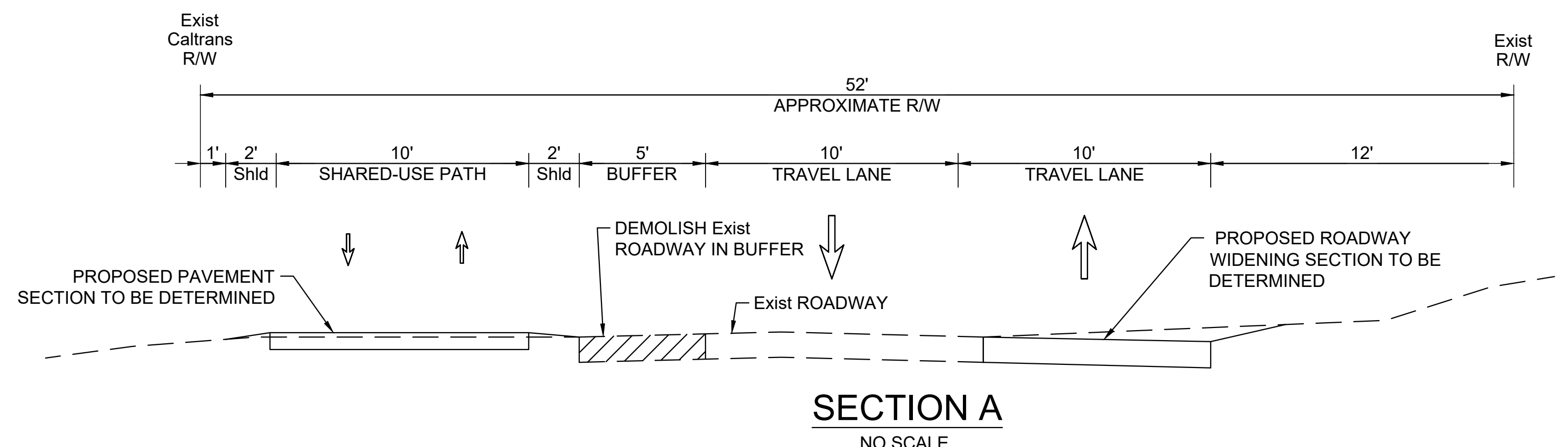
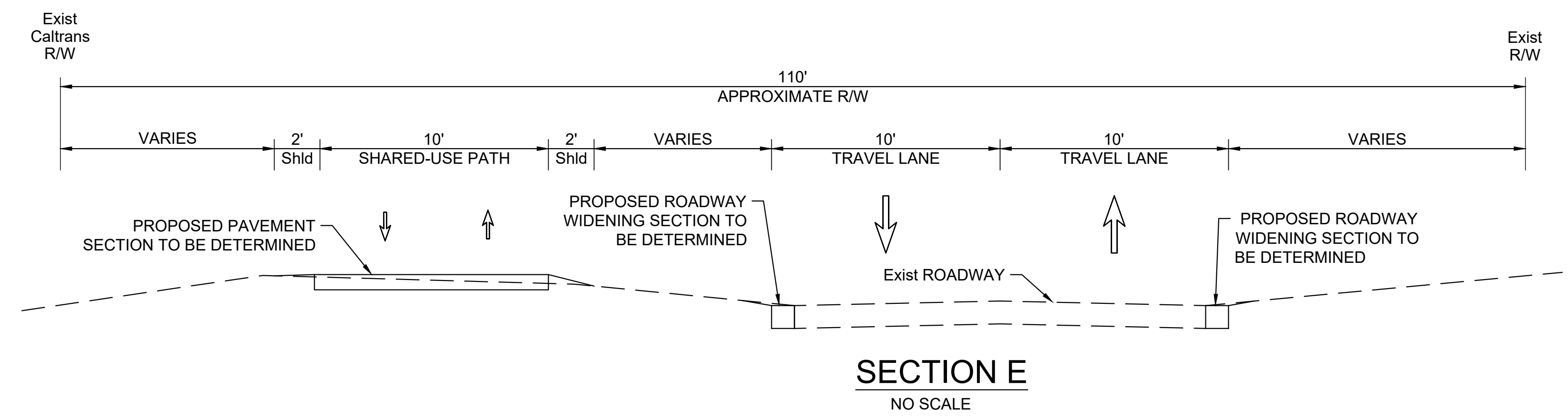
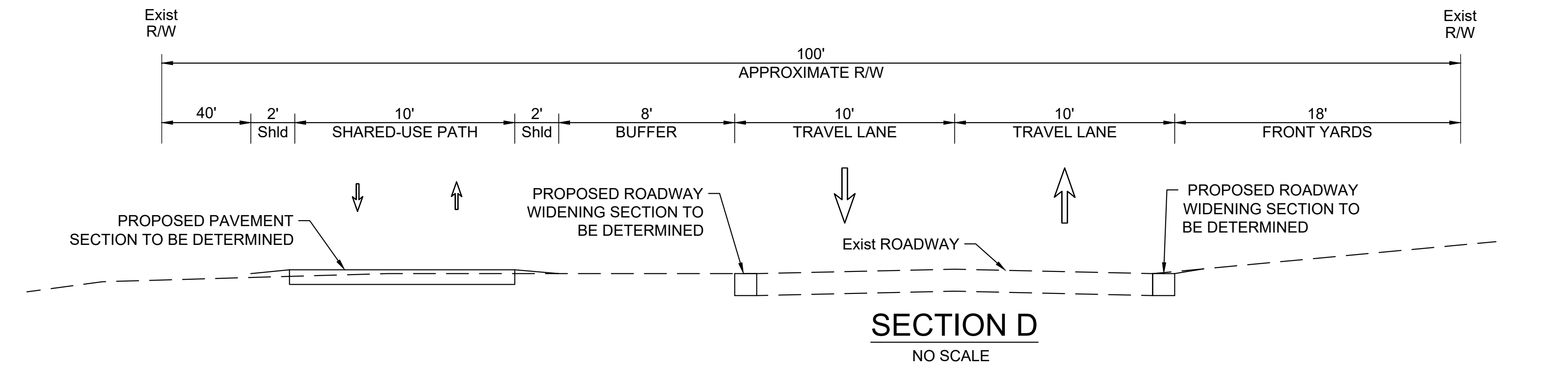
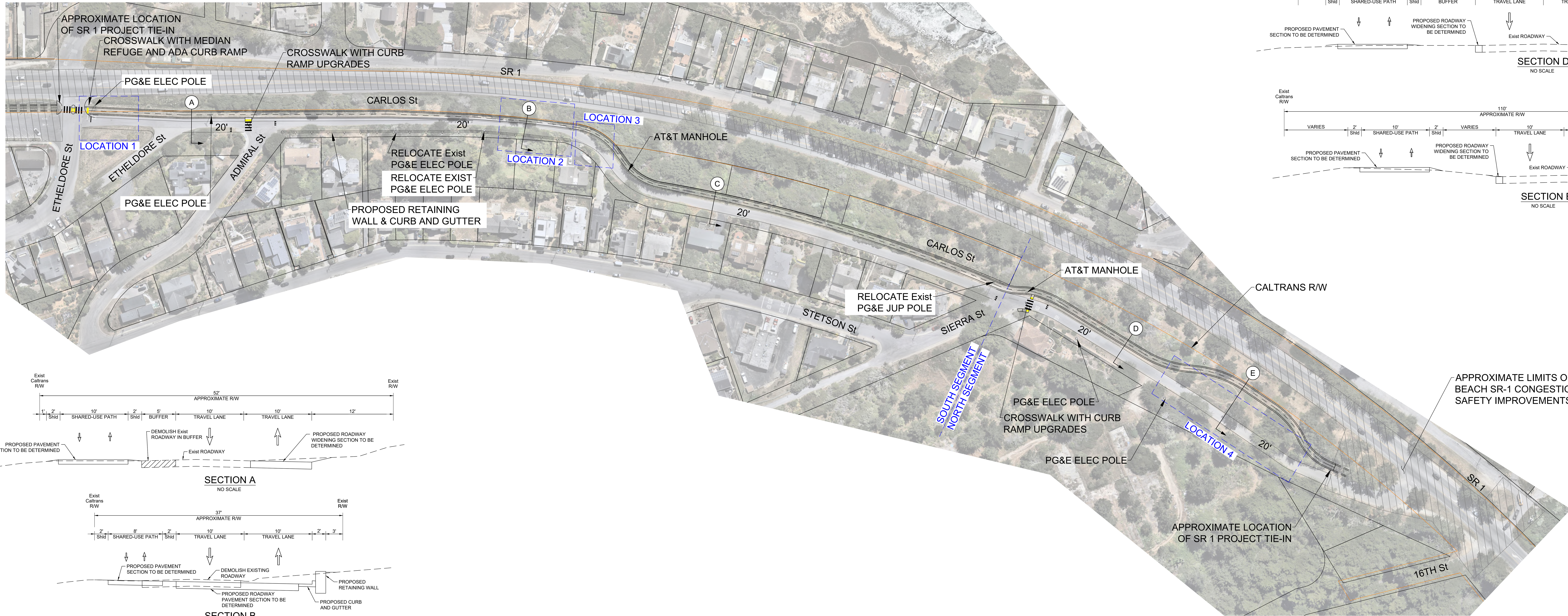




APPROXIMATE LIMITS OF THE MOSS BEACH SR-1 CONGESTION AND SAFETY IMPROVEMENTS PROJECT

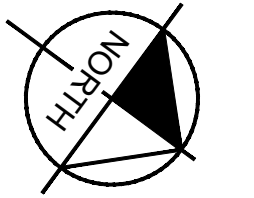
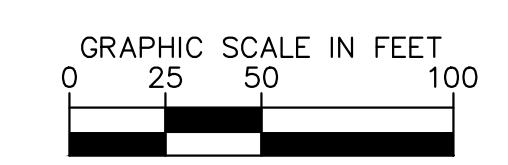
PRELIMINARY FOR REVIEW ONLY NOT FOR CONSTRUCTION





APPROXIMATE LIMITS OF THE MOSS BEACH SR-1 CONGESTION AND SAFETY IMPROVEMENTS PROJECT


PRELIMINARY FOR REVIEW ONLY NOT FOR CONSTRUCTION





## APPENDIX C – Opinion of Probable Cost



<b>Moss Beach Midcoast Multimodal Parallel Trail Gap Closure Project Feasibility Study</b> <b>Opinion of Probable Cost</b>						
<i>South Segment: Alternative 1 5' Pedestrian Path &amp; Class III bikeway – No Roadway Widening</i>					<b>Date Prepared:</b>	<b>June 6, 2025</b>
Item	Unit	Quantity	Unit Cost	Extended Cost	Notes	
1	Curb and Gutter	LF	65	\$100.00	\$7,000	Curb & gutter near at intersection with Etheldore St, includes 2' width HMA sawcut.
2	Median Refuge	EA	1	\$15,000.00	\$15,000	Includes demolition of existing, detectable warning surface, concrete pad, and 2' width HMA sawcut
3	Curb Ramp	EA	2	\$10,000.00	\$20,000	Includes cost of ramp, demolition of existing, additional sidewalk conform panels, detectable warning surface, and 2' width HMA sawcut
4	Pedestrian Path	SF	8,900	\$35.00	\$312,000	Assume 4" HMA/4" AB section. Include cost excavation, subgrade preparation, and site grading for the trail. Trail is 5 feet wide and approximately 1700 feet long. Includes edge treatment.
5	Stormwater Treatment	SF	400	\$80.00	\$32,000	Assumes 4% of impervious trail and roadway square footage. Cost assumes trail conveyance of runoff into treatment areas. Cost inclusive of treatment mix, grading, and infiltration. Possibility of exemption for this project in which case this approximate cost can be reduced to account for minor drainage conveyances (swale, overside drain, etc).
6	Signing & Striping	LS	1	\$18,000.00	\$18,000	Includes Class III bikeway signage and striping, Heritage Trail Signing, and crosswalk signage and striping.
7	Trail Lighting	EA	89	\$1,000.00	\$89,000	Solar Bollards spaced 20' along the path.
8	Crosswalk Lighting	EA	2	\$50,000.00	\$100,000	Assume 2 street light poles at each crosswalk and needed conduit and pullboxes.
<b>SUB-TOTAL MAJOR CONSTRUCTION ITEMS</b>					<b>\$614,000</b>	<b>Notes</b>
Removals/Resets/Utility Relocations	% of sub-total major construction items		1.0%	\$6,200	Utility adjustments anticipated to be minimal, this alternative to avoid relocating any utilities.	
Clear & Grubbing	% of sub-total major construction items		5.0%	\$30,700	Clearing and grubbing along the project.	
Erosion Control	% of sub-total major construction items		5.0%	\$30,700	Standard BMP and Erosion Control fencing/measures alongside SR-24	
Drainage	% of sub-total major construction items		10.0%	\$61,400	Assumed that trail improvements likely may require drainage improvements such as an AC dike, grated line drain, drainage inlets, etc.	
Traffic Control / Detour	% of sub-total major construction items		8.0%	\$49,200	Assuming minimal traffic control requirements due to type and location of improvements not significantly impacting existing traffic flow	
Mobilization	% of sub-total major construction items		10.0%	\$61,400	Increased mobilization from standard 5-7% range due to complexity of project, staging area, existing terrain, and type of equipment necessary	
Construction Survey/Staking	% of sub-total major construction items		1.5%	\$9,300	Construction Staking and surveying cost.	
<b>SUB-TOTAL CONSTRUCTION COSTS</b>					<b>\$862,900</b>	<b>Notes</b>
Engineering, Environmental, & Permitting	% of sub-total construction costs		25.0%	\$216,000	Standard design fee % + coordination cost with Caltrans Encroachment Permit Office includes SMC administration time.	
Construction Management/Materials Testing and County Management	% of sub-total construction costs		21.0%	\$182,000	Standard CM % +3% for County management	
<b>SUB-TOTAL DESIGN AND PROJECT ADMIN</b>					<b>\$398,000</b>	
<b>SUB-TOTAL</b>					<b>\$1,260,900</b>	<b>Notes</b>
Contingency (30%)	% of sub-total		30.0%	\$258,900	Calculated based on sub-total construction costs.	
Escalation	Escalation Rate %		4.0%	\$228,944	Assumed 6-years of escalation from 2025 to 2031 at shown escalation rate, calculated based on sub-total of construction costs.	
<b>Total Project Cost Estimate (Escalated to 2031 Dollars)</b>					<b>\$1,749,000</b>	
<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>						

**Moss Beach Midcoast Multimodal Parallel Trail Gap Closure  
Project Feasibility Study**

**Opinion of Probable Cost**





*South Segment: Alternative 2  
8' to 10' shared-use path and widen Carlos Street to 20'*

Date Prepared: June 6, 2025

Item	Unit	Quantity	Unit Cost	Extended Cost	Notes
1 Roadway Widening	SF	3,200	\$50.00	\$160,000	Assume roadway is widened from 16' to 20' for approximately 800'. Assume structure section is per SMC Standard detail for Rural Major Collector 0.2' of HMA and 0.5' of AB, actual roadway section to be confirmed in future phases.
1 Roadway Realignment	SF	17,000	\$50.00	\$850,000	Assume 20' for 900' of roadway section is reconstructed in front of the retaining wall to accommodate the path, but not the pavement required to widen the road to 20'. Assume structure section is per SMC Standard detail for Rural Major Collector 0.2' of HMA and 0.5' of AB, actual roadway section to be confirmed in future phases.
2 Curb and Gutter	LF	592	\$100.00	\$60,000	Curb & gutter near retaining wall and at intersection with Etheldore St, includes 2' width HMA sawcut.
3 Median Refuge	EA	1	\$15,000.00	\$15,000	Includes demolition of existing, detectable warning surface, concrete pad, and 2' width HMA sawcut
4 Curb Ramp	EA	2	\$10,000.00	\$20,000	Includes cost of ramp, demolition of existing, additional sidewalk conform panels, detectable warning surface, and 2' width HMA sawcut
5 Retaining Wall	LF	540	\$2,800.00	\$1,512,000	Assumes Caltrans Std Type 1 max 6' retaining wall height. All inclusive concept cost of excavation, backfill, steel, concrete, and cable railing.
6 Class I Shared-Use Path	SF	16,700	\$35.00	\$585,000	8'-10' wide path for approximately 1700'. Assume 4" HMA/4" AB section. Include cost excavation, subgrade preparation, and site grading for the trail.
7 Class I Shared-Use Path Shoulder	SF	7,100	\$35.00	\$249,000	2' Shoulders each side of the 1700' long path. Assume 4" HMA/4" AB section. Include cost excavation, subgrade preparation, and site grading for the trail.
8 Stormwater Treatment	SF	1,100	\$80.00	\$88,000	Assumes 4% of impervious trail and roadway square footage. Cost assumes trail conveyance of runoff into treatment areas. Cost inclusive of treatment mix, grading, and infiltration. Possibility of exemption for this project in which case this approximate cost can be reduced to account for minor drainage conveyances (swale, overside drain, etc).
9 Signing & Striping	LS	1	\$15,000.00	\$15,000	Includes signage and striping, Heritage Trail Signage, and crosswalk signage and striping.
10 Trail Lighting	EA	89	\$1,000.00	\$89,000	Solar Bollards spaced 20' along the trail.
11 Crosswalk Lighting	EA	2	\$50,000.00	\$100,000	Assume 2 street light poles at each crosswalk and needed conduit and pullboxes.
<b>SUB-TOTAL MAJOR CONSTRUCTION ITEMS</b>				<b>\$3,760,000</b>	<b>Notes</b>
Removals/Resets/Utility Relocations	% of sub-total major construction items		8.0%	\$300,800	Relocation of three PG&E electrical power poles. Adjustment or conforming to exist of AT&T manholes. Cost may be absorbed by PG&E, but assume part of project cost at this point.
Clear & Grubbing	% of sub-total major construction items		5.0%	\$188,000	Clearing and grubbing along the project.
Erosion Control	% of sub-total major construction items		5.0%	\$188,000	Standard BMP and Erosion Control fencing/measures alongside SR-24
Drainage	% of sub-total major construction items		10.0%	\$376,000	Assumed that trail improvements likely may require drainage improvements such as an AC dike, grated line drain, drainage inlets, etc.
Traffic Control / Detour	% of sub-total major construction items		8.0%	\$300,800	Assuming minimal traffic control requirements due to type and location of improvements not significantly impacting existing traffic flow
Mobilization	% of sub-total major construction items		10.0%	\$376,000	Increased mobilization from standard 5-7% range due to complexity of project, staging area, existing terrain, and type of equipment necessary
Construction Survey/Staking	% of sub-total major construction items		1.5%	\$56,400	Construction Staking and surveying cost.
<b>SUB-TOTAL CONSTRUCTION COSTS</b>				<b>\$5,546,000</b>	<b>Notes</b>
Engineering, Environmental, & Permitting	% of sub-total construction costs		25.0%	\$1,387,000	Standard design fee % + coordination cost with Caltrans Encroachment Permit Office. Includes SMC administration time.
Construction Management/Materials Testing and County Management	% of sub-total construction costs		21.0%	\$1,165,000	Standard CM % +3% for County management.
<b>SUB-TOTAL DESIGN AND PROJECT ADMIN</b>				<b>\$2,552,000</b>	
<b>SUB-TOTAL</b>				<b>\$8,098,000</b>	<b>Notes</b>
Contingency (30%)	% of sub-total		30.0%	\$1,663,800	Calculated based on sub-total construction costs.
Escalation	Escalation Rate %		4.0%	\$1,471,459	Assumed 6-years of escalation from 2025 to 2031 at shown escalation rate, calculated based on sub-total of construction costs.
<b>Total Project Cost Estimate (Escalated to 2031 Dollars)</b>				<b>\$11,234,000</b>	

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

<b>Moss Beach Midcoast Multimodal Parallel Trail Gap Closure Project Feasibility Study</b>  <b>Opinion of Probable Cost</b>																																														
<i>North Segment: Alternative 1 10' shared-use path with – No Roadway Widening</i>					<b>Date Prepared: June 6, 2025</b>																																									
Item	Unit	Quantity	Unit Cost	Extended Cost	Notes																																									
1	Curb Ramp	EA	2	\$10,000.00	\$20,000	Includes cost of ramp, demolition of existing, additional sidewalk conform panels, detectable warning surface, and 2' width HMA sawcut																																								
2	Class I Shared-Use Path	SF	7,000	\$35.00	\$245,000	8'-10' wide path for approximately 700'. Assume 4" HMA/4" AB section. Include cost excavation, subgrade preparation, and site grading for the trail.																																								
3	Class I Shared-Use Path Shoulder	SF	2,800	\$35.00	\$98,000	2' Shoulders each side of the 700' long path. Assume 4" HMA/4" AB section. Include cost excavation, subgrade preparation, and site grading for the trail.																																								
4	Stormwater Treatment	SF	400	\$80.00	\$32,000	Assumes 4% of impervious trail and roadway square footage. Cost assumes trail conveyance of runoff into treatment areas. Cost inclusive of treatment mix, grading, and infiltration. Possibility of exemption for this project in which case this approximate cost can be reduced to account for minor drainage conveyances (swale, overside drain, etc).																																								
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<b>SUB-TOTAL</b>					<b>\$1,019,000</b>	<b>Notes</b>																																								
Contingency (30%)	% of sub-total	30.0%	\$209,100	Calculated based on sub-total construction costs.																																										
Escalation	Escalation Rate %	4.0%	\$184,927	Assumed 6-years of escalation from 2025 to 2031 at shown escalation rate, calculated based on sub-total of construction costs.																																										
<b>Total Project Cost Estimate (Escalated to 2031 Dollars)</b>					<b>\$1,414,000</b>																																									
<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>																																														

<b>Moss Beach Midcoast Multimodal Parallel Trail Gap Closure Project Feasibility Study</b>  <b>Opinion of Probable Cost</b>						
<i>North Segment: Alternative 2 Construct 10' shared-use path and widen Carlos Street to 20'</i>					<b>Date Prepared: June 6, 2025</b>	
Item	Unit	Quantity	Unit Cost	Extended Cost	Notes	
1	Roadway Widening	SF	1,700	\$50.00	\$85,000	Assume structure section is per SMC Standard detail for Rural Major Collector 0.2' of HMA and 0.5' of AB, actual roadway section to be confirmed in future phases. Roadway widening to be approximately 2' for 700'
2	Curb Ramp	EA	2	\$10,000.00	\$20,000	Includes cost of ramp, demolition of existing, additional sidewalk conform panels, detectable warning surface, and 2' width HMA sawcut
3	Class I Shared-Use Path	SF	7,100	\$35.00	\$249,000	8'-10' wide path for approximately 700'. Assume 4" HMA/4" AB section. Include cost excavation, subgrade preparation, and site grading for the trail.
4	Class I Shared-Use Path Shoulder	SF	2,900	\$35.00	\$102,000	2' Shoulders each side of the approximately 700' long path. Assume 4" HMA/4" AB section. Include cost excavation, subgrade preparation, and site grading for the trail.
5	Stormwater Treatment	SF	500	\$80.00	\$40,000	Assumes 4% of impervious trail and roadway square footage. Cost assumes trail conveyance of runoff into treatment areas. Cost inclusive of treatment mix, grading, and infiltration. Possibility of exemption for this project in which case this approximate cost can be reduced to account for minor drainage conveyances (swale, overside drain, etc).
6	Signing & Striping	LS	1	\$7,000.00	\$7,000	Includes Class III bikeway signage and striping, Heritage Trail Signing, and crosswalk signage and striping.
7	Trail Lighting	EA	35	\$1,000.00	\$35,000	Solar Bollards spaced 20' along the trail.
8	Crosswalk Lighting	EA	1	\$50,000.00	\$50,000	Assume 2 street light poles at each crosswalk and needed conduit and pullboxes.
<b>SUB-TOTAL MAJOR CONSTRUCTION ITEMS</b>					<b>\$597,000</b>	<b>Notes</b>
Removals/Resets/Utility Relocations	% of sub-total major construction items		1.0%	\$6,000	Utility adjustments anticipated to be minimal, this alternative to avoid relocating any utilities.	
Clear & Grubbing	% of sub-total major construction items		5.0%	\$29,900	Clearing and grubbing along the project.	
Erosion Control	% of sub-total major construction items		5.0%	\$29,900	Standard BMP and Erosion Control fencing/measures alongside SR-24	
Drainage	% of sub-total major construction items		20.0%	\$119,400	Assumed that trail improvements likely may require drainage improvements such as an AC dike, grated line drain, drainage inlets, etc. Additional drainage requirements may be needed on this alternative such as constructing dikes or embankment modifications.	
Traffic Control / Detour	% of sub-total major construction items		8.0%	\$47,800	Assuming minimal traffic control requirements due to type and location of improvements not significantly impacting existing traffic flow	
Mobilization	% of sub-total major construction items		10.0%	\$59,700	Increased mobilization from standard 5-7% range due to complexity of project, staging area, existing terrain, and type of equipment necessary	
Construction Survey/Staking	% of sub-total major construction items		1.5%	\$9,000	Construction Staking and surveying cost.	
<b>SUB-TOTAL CONSTRUCTION COSTS</b>					<b>\$898,700</b>	<b>Notes</b>
Engineering, Environmental, & Permitting	% of sub-total construction costs		25.0%	\$225,000	Standard design fee % + coordination cost with Caltrans Encroachment Permit Office Includes SMC administration time.	
Construction Management/Materials Testing and County Management	% of sub-total construction costs		21.0%	\$189,000	Standard CM % +3% for County management	
<b>SUB-TOTAL DESIGN AND PROJECT ADMIN</b>					<b>\$414,000</b>	
<b>SUB-TOTAL</b>					<b>\$1,312,700</b>	<b>Notes</b>
Contingency (30%)	% of sub-total		30.0%	\$269,700	Calculated based on sub-total construction costs.	
Escalation	Escalation Rate %		4.0%	\$238,442	Assumed 6-years of escalation from 2025 to 2031 at shown escalation rate, calculated based on sub-total of construction costs.	
<b>Total Project Cost Estimate (Escalated to 2031 Dollars)</b>					<b>\$1,821,000</b>	
<p>The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.</p>						



APPENDIX D – Midcoast Multi-Modal Trail Phase 1  
Improvement Project As-Builts





APPROVED: \_\_\_\_\_  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

# COUNTY OF SAN MATEO CALIFORNIA

## MIDCOAST MULTI-MODAL TRAIL IMPROVEMENTS PROJECT IN SAN MATEO COUNTY TOTAL PROJECT LENGTH, APPROXIMATELY 0.85 MILES

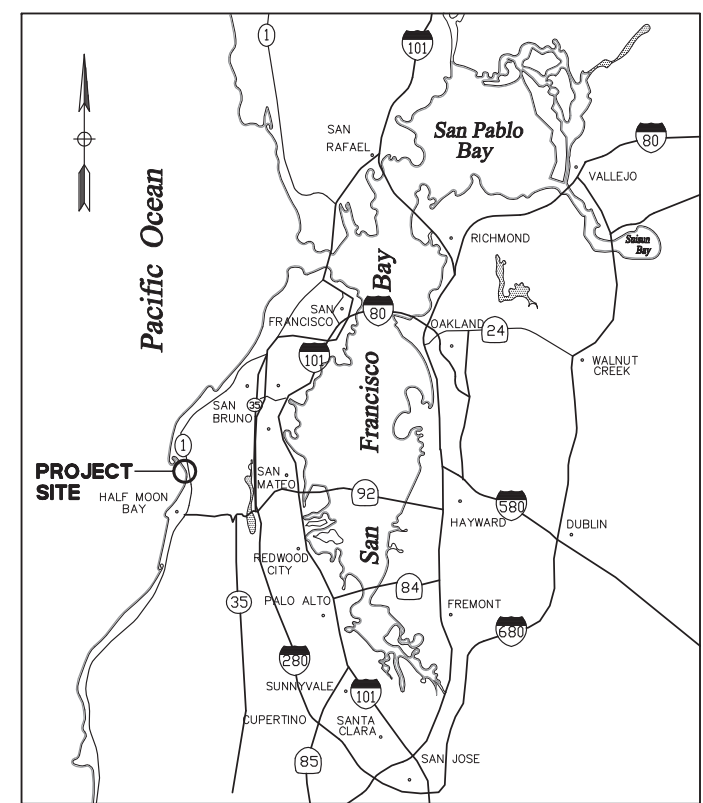
TO BE SUPPLEMENTED BY STATE OF CALIFORNIA DEPARTMENT OF  
 TRANSPORTATION STANDARD PLANS 2015

COUNTY PROJECT NO. P29F1

[CALTRANS PROJECT NO. 04-4K0401/04-SM-1-31.2 TO 32.0]

**SHEET INDEX:**

<b>CIVIL PLANS</b>	
C-0.00	TITLE SHEET
C-0.01	NOTES, ABBREVIATIONS, AND LEGENDS
C-0.02	TYPICAL CROSS SECTIONS
PC-1	SURVEY CONTROL PLAN
PC-2	SURVEY CONTROL PLAN
C-1.00	EXISTING CONDITION/DEMOLITION PLAN STA 0+00 TO STA 13+00
C-1.01	EXISTING CONDITION/DEMOLITION PLAN STA 13+00 TO STA 26+20
C-1.02	EXISTING CONDITION/DEMOLITION PLAN STA 26+20 TO STA 39+60
C-1.03	EXISTING CONDITION/DEMOLITION PLAN STA 39+60 TO 45+93 AND STA 50+10 TO 54+50
C-2.00	PLAN AND PROFILE STA 00+00 TO STA 06+40
C-2.01	PLAN AND PROFILE STA 06+40 TO STA 13+00
C-2.02	PLAN AND PROFILE STA 13+00 TO STA 19+60
C-2.03	PLAN AND PROFILE STA 19+60 TO STA 26+20
C-2.04	PLAN AND PROFILE STA 26+20 TO STA 32+90
C-2.05	PLAN AND PROFILE STA 32+90 TO STA 39+60
C-2.06	PLAN AND PROFILE STA 39+60 TO STA 45+93
C-2.07	PLAN AND PROFILE STA 50+10 TO STA 54+50
C-3.00	CROSS SECTIONS
C-3.01	CROSS SECTIONS
C-3.02	STORM DRAIN PROFILES
C-4.00	SIGNING AND STRIPING PLANS STA 0+00 TO STA 13+00
C-4.01	SIGNING AND STRIPING PLANS STA 13+00 TO STA 26+20
C-4.02	SIGNING AND STRIPING PLANS STA 26+20 TO STA 39+60
C-4.03	SIGNING AND STRIPING PLANS STA 39+60 TO 45+93 AND STA 50+10 TO 54+50
C-5.00	EROSION CONTROL PLAN
C-5.01	EROSION CONTROL DETAILS
C-6.00	INTERSECTION DETAILS
C-6.01	INTERSECTION DETAILS
C-6.02	INTERSECTION DETAILS
C-6.03	INTERSECTION DETAILS
C-6.04	MISCELLANEOUS DETAILS
C-6.05	MISCELLANEOUS DETAILS
<b>STRUCTURAL PLANS</b>	
S1	GENERAL PLAN - BRIDGE
S2	FOUNDATION PLAN - BRIDGE
S3	ABUTMENT DETAILS
S4	GENERAL PLAN - RETAINING WALL
S5	RETAINING WALL DETAILS
S6	RAILING DETAILS

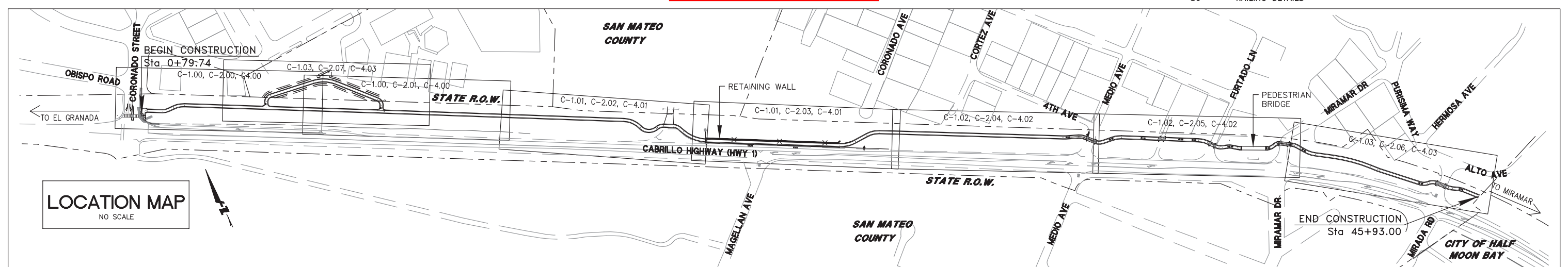


**VICINITY MAP**  
 NO SCALE

CONTRACTOR: MINERVA  
 SMC INSPECTOR: J, RAWLEY

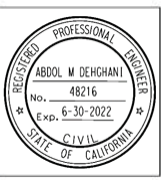
**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER \_\_\_\_\_  
 KRZYSZTOF LISIA  
 DEPUTY DIRECTOR DPW  
 DATE 12/11/23



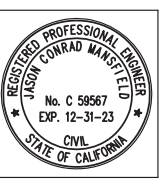
**LOCATION MAP**  
 NO SCALE

APPROVED DATE: 12/24/2021  
 \_\_\_\_\_  
 CALTRANS DESIGN OVERSIGHT  
 ABDOL DEGHANI  
 R.C.E. # 48216 / EXPIRES 06-30-2022

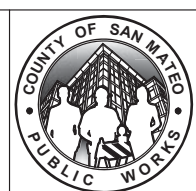


APPROVED DATE: 12-23-2021  
 \_\_\_\_\_  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

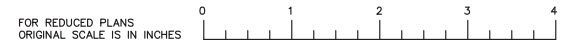
APPROVED DATE: \_\_\_\_\_  
 \_\_\_\_\_  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL	SCALE: AS SHOWN
CHECKED BY: BKF (AM)	TITLE SHEET	DATE: 12/08/2021
DRAWN BY: BKF (JC)	ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
		<b>C-000</b> SHEET 1 OF 38



DRAWING NAME: K:\Projects\140224\BKF\SET\CO\_00-TITLE.dwg  
 PLOT TIME: 12-28-21

PROJECT DESCRIPTION:

THE PROPOSED MIDCOAST MULTI-MODAL TRAIL IMPROVEMENTS PROJECT SHALL IMPLEMENT AN ASPHALT CONCRETE TRAIL PARALLEL TO HIGHWAY 1 TO PROVIDE AN ACCESSIBLE ROUTE FOR THE NEIGHBORHOODS ON THE NORTH SIDE OF HIGHWAY 1. THE PROJECT WILL INCLUDE CONSTRUCTION OF APPROXIMATELY 4,510 LF (0.85 MILES) OF NEW TRAIL.

PHYSICAL DESCRIPTION OF SITE: TRAIL ALONG HIGHWAY 1.

LOCATION: SAN MATEO COUNTY ALONG HIGHWAY 1 BETWEEN CORONADO STREET AND MIRADA ROAD.

UTILITIES: STORM DRAIN: COUNTY OF SAN MATEO, CALTRANS; WATER: COASTSIDE COUNTY WATER DISTRICT; SANITARY SEWER: SEWER AUTHORITY MID-COASTSIDE; GRANADA COMMUNITY SERVICES DISTRICT; GAS/ELECTRIC: PACIFIC GAS & ELECTRIC

REFERENCES: GEOTECHNICAL FOUNDATION REPORT PREPARED BY PARIKH CONSULTANTS, INC. TITLED "FOUNDATION REPORT - MID-COAST MULTI-MODAL TRAIL PHASE 2 PEDESTRIAN OVERCROSSING AND RETAINING WALL" AND DATED JANUARY 25, 2018.

EARTHWORK:

- 1. ESTIMATED EARTHWORK: CUT = 520 CY± (NET)
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EARTHWORK FINAL QUANTITIES.
3. CONTRACTOR SHALL REVIEW AND SUBMIT LEAD COMPLIANCE PLAN (LCP) AS DETAILED IN SECTION 10-5 OF THE SPECIFICATIONS.
4. CONTRACTOR SHALL TEST SOIL AS DESCRIBED IN SECTION 10-5 OF THE SPECIFICATIONS, AND AT THE LOCATIONS AS DESCRIBED ON SHEET C-0.02 OF THESE PLANS.
5. CONTRACTOR MAY REUSE SOILS FOUND TO BE CONTAMINATED AS STRUCTURAL BACKFILL AS DESCRIBED IN SECTION 10-5. WHERE CONTAMINATED SOILS ARE USED AS BACKFILL, THE CONTRACTOR SHALL PROVIDE THE REQUIRED COVER AS DETAILED IN THE TABLE BELOW.
6. NOTE THAT PER THE GEOTECHNICAL REPORT, GROUNDWATER WAS ENCOUNTERED AT A DEPTH 13.5' AND 12.5'. WHERE CONTAMINATED MATERIAL IS PROPOSED TO BE REUSED WITHIN CALTRANS RIGHT-OF-WAY, THE BURIAL LOCATION OF THE CONTAMINATED MATERIAL WILL HAVE TO BE SURVEYED PURSUANT TO THE "2016 DTSC-CALTRANS SOIL MANAGEMENT AGREEMENT FOR AERIALY DEPOSITED LEAD-CONTAMINATED SOILS".

Table with 4 columns: CASE, EXTRACTABLE LEAD CONCENTRATION, TOTAL LEAD CONCENTRATION, MINIMUM COVER REQUIREMENT. Rows include CASE 1 (Less than 5 mg/l CA-WET), CASE 2 (Greater than 5 mg/l CA-WET), CASE 3 (Greater than 1.5 mg/l DI-WET), and CASE 4 (Greater than 150 mg/l DI-WET).

REQUIRED PERMITS:

- COUNTY OF SAN MATEO ENCROACHMENT PERMIT
CALTRANS ENCROACHMENT PERMIT

EXISTING TOPOGRAPHY

THE EXISTING TOPOGRAPHY IS BASED ON AN AERIAL LIDAR PERFORMED BY UNITED STATES GEOLOGICAL SURVEY DATED JULY 14, 2010, AND TOPOGRAPHIC SURVEY PERFORMED BY BKF ENGINEERS ON MARCH 22, 2017, MAY 17, 2017, MAY 29, 2019, AND JUNE 6, 2019.

PROJECT NOTES:

- 1. CIVIL ENGINEER: BKF ENGINEERS, 255 SHORELINE DRIVE, SUITE 200, REDWOOD CITY, CA 94065
2. ENVIRONMENTAL CONSULTANT: PLACEWORKS, 1625 SHATTUCK AVE #300, BERKELEY, CA 94709
3. STRUCTURAL ENGINEER: CORNERSTONE STRUCTURAL ENGINEERING GROUP, 986 WEST ALLUVIAL AVENUE, SUITE 201, FRESNO, CA 93711
4. TRANSPORTATION ENGINEER: FEHR & PEERS, 332 PINE STREET, 4TH FLOOR, SAN FRANCISCO, CA 94104
5. GEOTECHNICAL ENGINEER: PARIKH CONSULTANTS, INC., 1497 NORTH MILPITAS BOULEVARD, MILPITAS, CA 95035
6. COUNTY: COUNTY OF SAN MATEO, 555 COUNTY CENTER, 5TH FLOOR, REDWOOD CITY, CA 94063
7. THE FOLLOWING NOTES ARE ESTABLISHED MERELY TO GUIDE THE CONTRACTOR AS TO THE GENERAL ITEMS OF WORK INVOLVED AND ARE NOT INTENDED TO COVER COMPLETE SCOPE OF WORK.
8. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR PERSONS AND PROPERTY; THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONJUNCTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.
9. ALL MATERIALS, WORK APPURTENANCES SHALL CONFORM WITH THESE PLANS, THE PROJECT SPECIFICATIONS AND THE LATEST ADOPTED VERSION OF SAN MATEO COUNTY STANDARD DETAILS.
10. THE CONTRACTOR SHALL AT ALL TIMES COMPLY WITH THE RULES AND REGULATIONS ESTABLISHED BY CAL-OSHA AND OTHER AGENCIES HAVING JURISDICTION OVER THE WORK.
11. THE CONTRACTOR SHALL NOT DESTROY ANY PERMANENT SURVEY POINTS WITHOUT THE CONSENT OF THE COUNTY. ANY PERMANENT MONUMENTS OR POINTS DESTROYED SHALL BE REPLACED BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING ROADWAYS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC. AND TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS OR HAZARDOUS CONDITIONS.
13. THE LOCATIONS AND TYPES OF EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON INFORMATION FURNISHED BY SERVICING AGENCIES AND FIELD SURVEY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE POSITION OF AND PROVIDE PROTECTION FOR SUCH UTILITIES AND STRUCTURES, WHETHER SHOWN ON THE PLAN OR NOT.

PROJECT NOTES (CONTINUED):

- 14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF ANY FIELD CONFLICTS.
15. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES DONE WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER.
16. ANY DEVIATIONS OR CHANGES IN THESE PLANS WITHOUT WRITTEN APPROVAL OF THE ENGINEER SHALL BE AT THE CONTRACTOR'S OWN RISK.
17. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS SHOWN.
18. CONTRACTOR IS ADVISED THAT EXISTING UTILITY LINES IN SOME LOCATIONS MAY BE VERY CLOSE TO TRAIL CONSTRUCTION WORK. CONTRACTOR IS TO SUPPORT THESE UTILITIES DURING CONSTRUCTION, AND ANY REQUIRED OR SPECIAL CONSTRUCTION TECHNIQUES PERFORMED SHALL BE AT NO EXTRA COST TO THE COUNTY. COMPENSATION FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICES PAID FOR THE VARIOUS CONTRACT ITEMS OF WORK, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED THEREFORE.
19. ELEVATIONS AND LOCATIONS OF ALL EXISTING UTILITY CROSSINGS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO START OF ANY CONSTRUCTION AFFECTING SAID LINES. CONTACT USA AT (800) 642-2444 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION.
20. CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES WITHIN THE PROJECT LIMITS, CONSISTING OF ROAD RIGHT-OF-WAY, UTILITY EASEMENTS, AND/OR PROJECT CONFORMS, AS SHOWN ON THE PLANS.
21. THE CONTRACTOR SHALL RESTORE ALL DAMAGED, REMOVED OR OTHERWISE DISTURBED WALLS, FENCES, SERVICES, UTILITIES, IMPROVEMENTS OR FEATURES OF WHATEVER NATURE, DUE TO CONTRACTOR'S WORK. SEPARATE PAYMENT FOR RESTORATION OF EXISTING IMPROVEMENTS TO THEIR ORIGINAL CONDITION WILL NOT BE MADE. COMPENSATION FOR THIS TASK SHALL BE CONSIDERED AS INCLUDED IN THE VARIOUS CONTRACT ITEMS OF WORK INVOLVED.
22. ALL PERMANENT MONUMENTS DISTURBED DURING THE PROCESS OF CONSTRUCTION SHALL BE REPLACED AT CONTRACTORS EXPENSE BEFORE ACCEPTANCE OF THE IMPROVEMENTS BY THE COUNTY ENGINEER.
23. THE CONTRACTOR SHALL GIVE THE COUNTY ENGINEER TWO WORKING DAYS ADVANCE NOTICE FOR INSPECTION.
24. VEGETATION AND IMPROVEMENTS SHALL BE REMOVED ONLY WHEN DIRECTED IN WRITING BY THE ENGINEER. NO TREES, VEGETATION, OR IMPROVEMENTS (INCLUDING FENCES) SHALL BE REMOVED WITHOUT PRIOR WRITTEN CONSENT AND APPROVAL OF THE ENGINEER.
25. CONTRACTOR SHALL EXERCISE CARE WHEN EXCAVATING NEAR TREES AND ROOTS OF TREES TO REMAIN. HAND EXCAVATION MAY BE REQUIRED FOR TREES IN CLOSE PROXIMITY TO THE TRAIL.
26. CONTINUOUS DUST CONTROL SHALL BE PROVIDED AS REQUIRED BY SECTION 10 "DUST CONTROL," OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.
27. THE CONTRACTOR SHALL FURNISH ALL AFFECTED PROPERTY OWNERS AND/OR RESIDENTS WRITTEN NOTIFICATIONS IN ACCORDANCE WITH SECTION 11, "MOBILIZATION," OF THE SPECIAL PROVISIONS.
28. THE CONTRACTOR SHALL FURNISH AND IMPLEMENT A WATER POLLUTION CONTROL PROGRAM FOR ALL PHASES OF WORK IN ACCORDANCE WITH SECTION 11-1, "WATER POLLUTION CONTROL," OF THE SPECIAL PROVISIONS.
29. THE CONTRACTOR SHALL FURNISH AND IMPLEMENT A TRAFFIC CONTROL PLAN FOR ALL PHASES OF WORK IN ACCORDANCE WITH SECTION 12, "MAINTAINING TRAFFIC," OF THE SPECIAL PROVISIONS. THE CONTRACTOR IS MADE AWARE THAT NO LANE CLOSURES WILL BE ALLOWED. ANY TEMPORARY REMOVAL OF ROADWAY STRIPING DURING CONSTRUCTION SHALL BE REPLACED IN KIND. WORK PERFORMED SHALL CONFORM WITH THE PROVISIONS OF THE CALTRANS ENCROACHMENT PERMIT.
30. NO TRENCHES OR HOLES SHALL BE LEFT OPEN OVERNIGHT, USE STEEL PLATING OR HOT-MIX ASPHALT AS REQUIRED TO PROTECT OPEN TRENCHES OVERNIGHT.
31. STAGING AREAS FOR EQUIPMENT AND MATERIALS STORAGE SHALL BE LOCATED IN PUBLIC ROAD RIGHT-OF-WAY WITH SAID LOCATION SUBJECT TO THE APPROVAL OF THE ENGINEER AND/OR CALTRANS.
32. ALL REVISIONS TO THIS PLAN MUST BE REVIEWED AND APPROVED BY THE COUNTY ENGINEER PRIOR TO CONSTRUCTION AND SHALL BE ACCURATELY SHOWN ON REVISED PLANS STAMPED AND SIGNED BY COUNTY ENGINEER PRIOR TO THE INSTALLATION OF THE IMPROVEMENTS.
33. CONTRACTOR SHALL PROTECT AND CLEANOUT ALL EXISTING CULVERT CROSSINGS WITHIN LIMITS OF AC TRAIL CONSTRUCTION.

GENERAL CONSTRUCTION NOTES:

- 1. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL SUBMIT FOR ACCEPTANCE BY THE ENGINEER A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE SWPPP SHALL BE PREPARED BY A QUALIFIED SWPPP DEVELOPER (QSD) AND IMPLEMENTED BY A QUALIFIED SWPPP PRACTITIONER (QSP) IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION GENERAL PERMIT.

IN ACCORDANCE WITH THE NPDES PERMIT COMPLIANCE CHECKLIST FOR THE COUNTY OF SAN MATEO, THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING:

- 1. STORE, HANDLE AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES PROPERLY, SO AS TO PREVENT THEIR CONTACT WITH STORMWATER.
2. CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING SOLID WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASHWATER OR SEDIMENTS AND NON-STORMWATER DISCHARGES TO STORM DRAINS AND WATERCOURSES.
3. USE SEDIMENT CONTROL OR FILTRATION TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.
4. AVOID CLEANING, FUELING OR MAINTAINING VEHICLES ON-SITE, EXCEPT IN A DESIGNATED AREA IN WHICH RUNOFF IS CONTAINED AND TREATED.
5. DELINEATE CLEARING LIMITS, EASEMENTS, SETBACKS, SENSITIVE OR CRITICAL AREAS, BUFFER ZONES, TREES, AND DRAINAGE COURSES WITH FIELD MARKERS.
6. PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OR FILTERS, DIKES, MULCHING, OR OTHER MEASURES AS APPROPRIATE.
7. PERFORM CLEARING AND EARTH MOVING ACTIVITIES ONLY DURING DRY WEATHER.
8. LIMIT AND TIME APPLICATIONS OF PESTICIDES AND FERTILIZERS TO PREVENT POLLUTED RUNOFF.
9. LIMIT CONSTRUCTION ACCESS ROUTES AND STABILIZE DESIGNATED ACCESS POINTS.
10. AVOID TRACKING DIRT OR OTHER MATERIALS OFF-SITE PAVED AREAS AND SIDEWALKS USING DRY SWEEPING METHODS.

CONSTRUCTION RELATED NOISE NOTES:

- 1. A SIGN SHALL BE POSTED ON CONSTRUCTION ZONE FENCING THAT IS CLEARLY VISIBLE TO SITE PASSERS-BY AND THAT INCLUDES A CONTACT NAME AND TELEPHONE NUMBER OF THE CONSTRUCTION SUPERINTENDENT(S). IF THE SUPERINTENDENT(S) RECEIVES A COMPLAINT, THE SUPERINTENDENT(S) SHALL INVESTIGATE, TAKE APPROPRIATE CORRECTIVE ACTION, AND REPORT THE ACTION TO THE REPORTING PARTY AND TO SAN MATEO COUNTY.
2. ALL INTERNAL COMBUSTION ENGINES ON CONSTRUCTION EQUIPMENT AND TRUCKS SHALL BE FITTED WITH PROPERLY MAINTAINED MUFFLERS, AIR INTAKE SILENCERS, AND ENGINE SHROUDS THAT ARE NO LESS EFFECTIVE THAN AS ORIGINALLY EQUIPPED BY THE MANUFACTURER.
3. STATIONARY CONSTRUCTION EQUIPMENT AND MATERIAL DELIVERY (LOADING/UNLOADING) AREAS SHALL BE LOCATED AS FAR AS PRACTICABLE FROM RESIDENCES.
4. MATERIAL STOCKPILING SHALL BE LOCATED AS FAR AS FEASIBLE FROM NEARBY NOISE-SENSITIVE RECEPTORS.
5. UNNECESSARY ENGINE IDLING SHALL BE CURTAILED TO NO MORE THAN 10 MINUTES, TO THE EXTENT FEASIBLE.
6. "SMART" BACK-UP ALARMS, WHICH AUTOMATICALLY ADJUST THE ALARM LEVEL BASED ON THE BACKGROUND NOISE LEVEL, SHALL BE EMPLOYED ON ALL TRUCKS AND CONSTRUCTION VEHICLES OR BACK-UP ALARMS SHALL BE DISABLED AND REPLACED WITH HUMAN SPOTTERS.
7. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO THE HAUL ROUTES ESTABLISHED BY SAN MATEO COUNTY.
8. SEE SECTION 14-8.02B FOR NOISE CONTROL AND MONITORING REQUIREMENTS FOR CONSTRUCTION ADJACENT TO THE EXISTING SCHOOLS, WILKINSON SCHOOL AND EL GRANADA ELEMENTARY SCHOOL.

ABBREVIATIONS:

Table with 4 columns: SYMBOL, DESCRIPTION, SYMBOL, DESCRIPTION. Lists various engineering symbols and their meanings, such as LG for LIP OF GUTTER, LT for LEFT, and LG for LIP OF GUTTER.

LEGEND:

Table showing symbols for PROPOSED and EXISTING features. Includes symbols for BOUNDARY, ELECTRICAL, FENCE OR RAILING, GAS, JOINT TRENCH, OVERHEAD TELEPHONE, SANITARY SEWER LINE, TELECOMMUNICATION LINE, STORM DRAIN LINE, SWALE, WATER LINE, BLOW OFF, BOLLARDS, CURB INLET, DETECTABLE WARNING SURFACE, FIRE HYDRANT, MANHOLE, OBJECT MARKER, SOLAR LIGHT BOLLARD, SPOT ELEVATION, TRAFFIC SIGN/OBJECT MARKER, VEHICLE SIGNAL HEAD, VEHICLE SIGNAL HEAD (RELOCATE), LUMINAIRE, LUMINAIRE (RELOCATE), PEDESTRIAN SIGNAL HEAD, PEDESTRIAN SIGNAL HEAD (RELOCATE), TRAIL SIGN, TREE, TREE REMOVAL, VALVE, ESA FENCING.



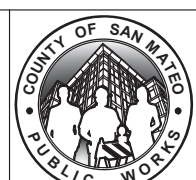
APPROVED: 12/23/2021
DATE:
ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS
R. C. E. # 47882 / EXPIRES 12-31-2023

APPROVED DATE: 12-23-2021
NICHOLAS CALDERON, PARKS DIRECTOR
SMC PARKS DEPARTMENT

APPROVED DATE:
JASON MANSFIELD, PROJECT MANAGER
BKF ENGINEERS
R.C.E. # 59567 / EXPIRES 12-31-2023



BKF ENGINEERS/SURVEYORS/PLANNERS
255 SHORELINE DRIVE, SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300



Project information box including: DESIGNED BY: BKF (CT), CHECKED BY: BKF (JM), DRAWN BY: BKF (JC), MIDCOAST MULTI-MODAL TRAIL, NOTES, ABBREVIATIONS, & LEGEND, SCALE: AS SHOWN, DATE: 12/08/2021, FILE NO: 1/4952, ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS, COUNTY SAN MATEO, 555 COUNTY CENTER, 5th FLOOR, REDWOOD CITY, CALIFORNIA 94063, C-001, SHEET 2 OF 38.

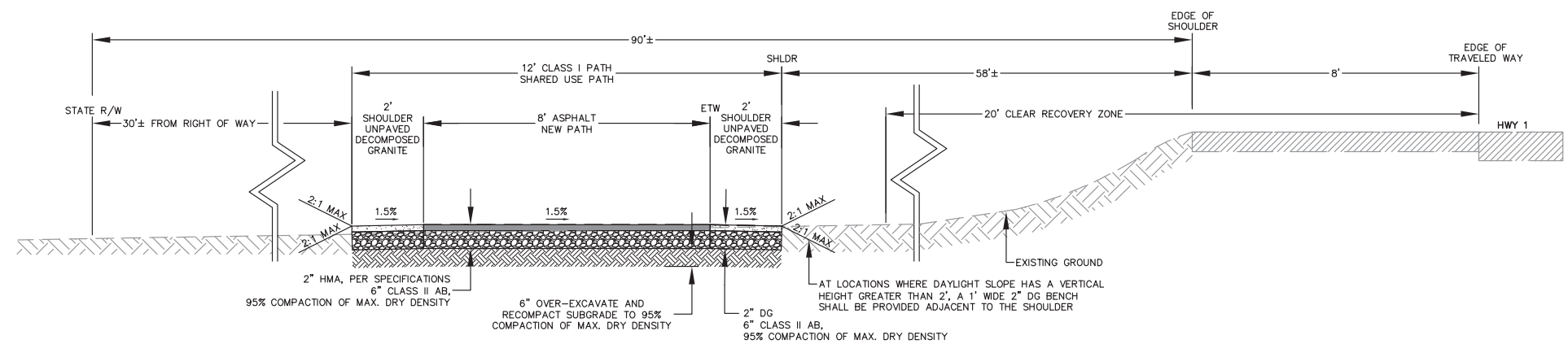
COUNTY OF SAN MATEO DEPARTMENT OF PUBLIC WORKS AS-BUILTS RECORD DRAWING. Resident Engineer: KRZYSZTOF LISIA, Deputy Director DPW. DATE: 12/11/23.



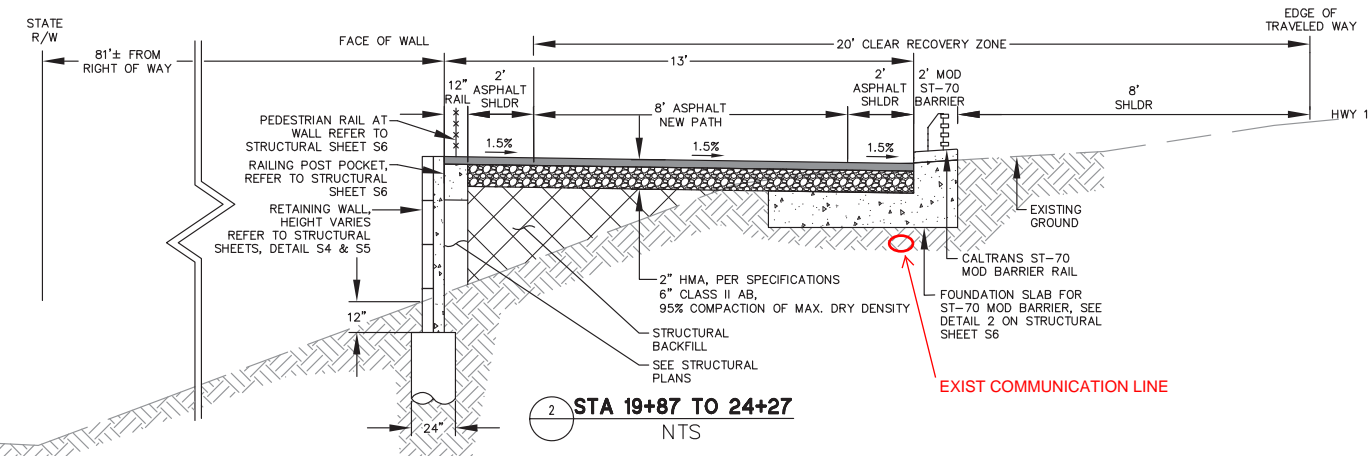
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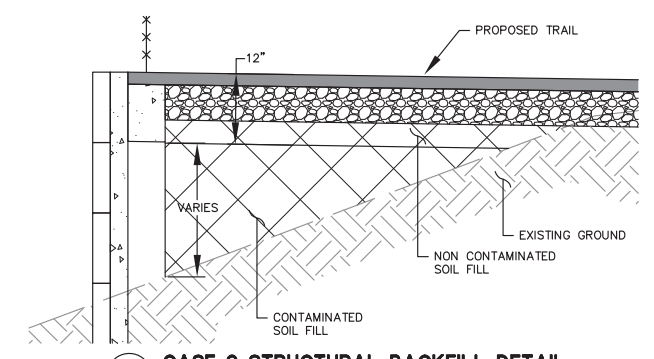
APPROVED: \_\_\_\_\_  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



**STA 1+09 TO 19+87, 24+27 TO 32+51, 32+87 TO 34+95,  
 35+18 TO 36+64, 36+88 TO 37+74, 38+54 TO 39+01,  
 39+38 TO 44+43, 44+79 TO 45+93, AND  
 50+00 TO 54+65 (SCHOOL CONNECTION)**  
 NTS



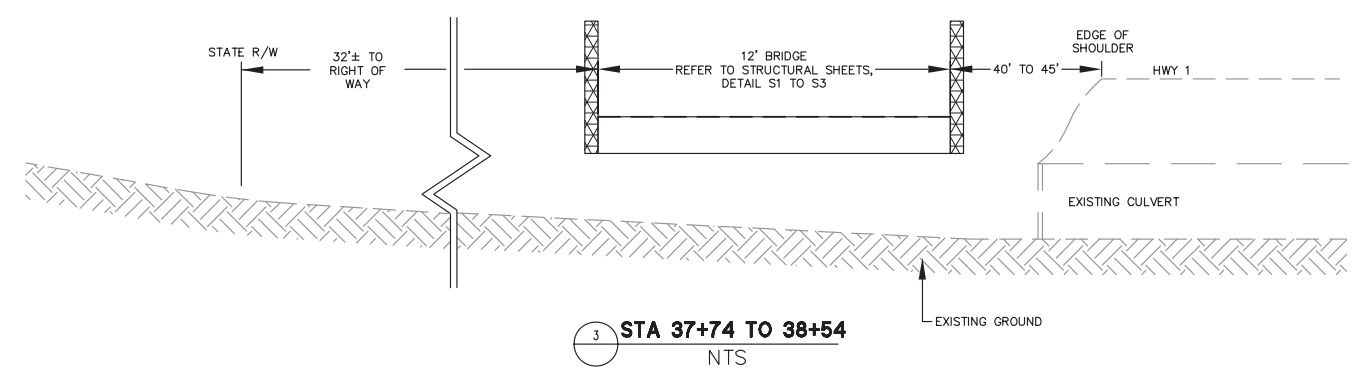
**STA 19+87 TO 24+27**  
 NTS



**CASE 2 STRUCTURAL BACKFILL DETAIL**  
 NTS

- NOTES**
- FROM STATION 19+45 TO 24+65 THE PROPOSED TRAIL IS WITHIN 10' OF THE EDGE OF THE PAVED SHOULDER. AS SUCH THE CONTRACTOR SHALL PERFORM SOIL TESTING AS DESCRIBED IN THE SPECIFICATIONS.
  - THE CONTRACTOR SHALL PERFORM SOIL TESTING AT A MINIMUM OF FOUR LOCATIONS ALONG THE STATION RANGE SPECIFIED IN NOTE 1.

- LEGEND**
- EXISTING GROUND
  - AGGREGATE BASE
  - ASPHALT
  - STRUCTURAL BACKFILL
  - CONCRETE
  - DECOMPOSED GRANITE
  - PEDESTRIAN RAILING

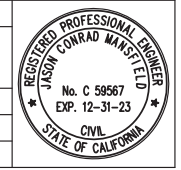


**STA 37+74 TO 38+54**  
 NTS

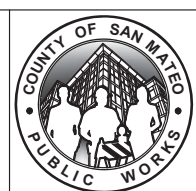
**COUNTY OF SAN MATEO  
 DEPARTMENT OF PUBLIC WORKS  
 AS-BUILTS  
 RECORD DRAWING**  
 RESIDENT ENGINEER: KRZYSZTOF LISIAI  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

APPROVED DATE: 12-23-2021  
 NJC  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE: \_\_\_\_\_  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL	SCALE: NTS
CHECKED BY: BKF (JM)	TYPICAL CROSS SECTIONS	DATE: 12/08/2021
DRAWN BY: BKF (JC)	ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		<b>C-002</b> SHEET 3 OF 38

DRAWING NAME: K:\DATA\14024\AS-BUILTS\CO-02-CROSS-SECTIONS.dwg  
 PLOT TIME: 12-28-21

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SM	1	31.2/32.0	1	2

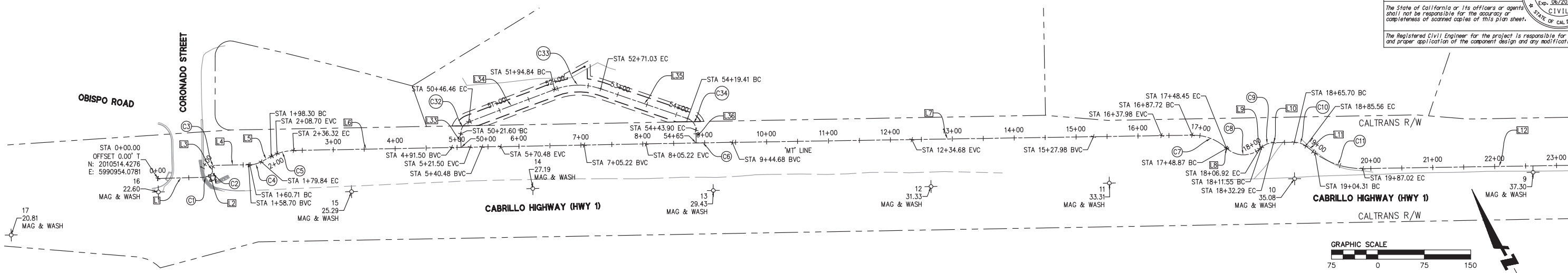
PROFESSIONAL LAND SURVEYOR DATE 12/08/21

PLANS APPROVAL DATE

DAVID C. JUNGMAN No. 9267 Exp. 06/20/22 CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

The Registered Civil Engineer for the project is responsible for the selection and proper application of the component design and any modifications shown.



LINE NO.	LENGTH (FT)	DIRECTION	BEARING
L1	74.74'	S63°28'07"E	S63°28'06.86"E
L2	7.06'	N89°43'01"E	N89°43'00.52"E
L3	5.02'	N26°25'32"E	N26°25'31.65"E
L4	55.76'	S62°44'18"E	S62°44'17.92"E
L5	18.46'	N89°51'40"E	N89°51'39.74"E
L6	658.93'	S62°54'19"E	S62°54'18.77"E
L7	791.00'	S62°44'18"E	S62°44'17.92"E
L8	0.42'	S19°14'34"E	S19°14'34.21"E
L9	4.62'	N77°36'09"E	N77°36'09.33"E
L10	33.40'	S62°46'13"E	S62°46'12.96"E
L11	18.75'	S24°50'00"E	S24°50'00.26"E
L12	440.12'	S62°44'35"E	S62°44'35.35"E
L13	43.45'	N86°33'09"E	N86°33'08.76"E
L14	607.06'	S63°06'18"E	S63°06'18.31"E
L15	42.92'	S68°34'52"E	S68°34'52.06"E

LINE NO.	LENGTH (FT)	DIRECTION	BEARING
L16	39.86'	S42°46'33"E	S42°46'32.61"E
L17	33.39'	S84°08'53"E	S84°08'53.05"E
L18	254.04'	S62°33'38"E	S62°33'37.78"E
L19	29.93'	S39°51'06"E	S39°51'06.46"E
L20	16.44'	S72°17'31"E	S72°17'31.20"E
L21	15.92'	S52°47'20"E	S52°47'19.53"E
L22	87.02'	S64°15'47"E	S64°15'46.60"E
L23	5.02'	N74°05'26"E	N74°05'26.34"E
L24	40.57'	S58°38'26"E	S58°38'25.58"E
L25	29.54'	S35°08'00"E	S35°07'59.53"E
L26	59.73'	S56°59'04"E	S56°59'03.91"E
L27	25.03'	S42°41'24"E	S42°41'23.84"E
L28	141.18'	S46°49'46"E	S46°49'45.84"E
L29	7.52'	S82°45'26"E	S82°45'25.94"E
L30	44.75'	S43°55'56"E	S43°55'56.03"E

LINE NO.	LENGTH (FT)	DIRECTION	BEARING
L31	21.34'	S59°23'30"E	S59°23'29.93"E
L32	80.75'	S42°47'07"E	S42°47'07.35"E
L33	21.60'	S26°13'05"W	S26°13'05.47"W
L34	148.38'	N82°34'50"W	N82°34'49.94"W
L35	148.38'	N42°53'46"W	N42°53'45.91"W
L36	20.47'	N27°15'42"E	N27°15'42.08"E

CURVE NO.	LENGTH (FT)	RADIUS (FT)	DELTA	BEARING
C1	4.68'	10.00'	026°48'53"	S76°52'33.17"E
C2	5.52'	5.00'	063°17'29"	N58°04'16.09"E
C3	7.93'	5.00'	090°50'10"	S71°50'36.87"W
C4	19.13'	40.00'	027°24'02"	S76°26'19.09"E
C5	38.03'	80.00'	027°14'01"	N76°31'19.52"W
C6	1.46'	500.00'	000°10'01"	N62°49'18.35"W
C7	60.73'	80.00'	043°29'44"	N40°59'26.07"W
C8	58.05'	40.00'	083°09'16"	S60°49'12.44"E
C9	20.75'	30.00'	039°37'38"	N82°35'01.82"W
C10	19.86'	30.00'	037°56'13"	N43°48'06.61"W
C11	82.71'	125.00'	037°54'35"	S43°47'17.81"E
C12	53.59'	100.00'	030°42'16"	S78°05'43.29"E
C13	42.37'	80.00'	030°20'33"	N78°16'34.77"W
C14	9.56'	100.00'	005°28'34"	S65°50'35.18"E
C15	18.02'	40.00'	025°48'19"	N55°40'42.33"W

CURVE NO.	LENGTH (FT)	RADIUS (FT)	DELTA	BEARING
C16	25.27'	35.00'	041°22'20"	S63°27'42.83"E
C17	30.14'	80.00'	021°35'15"	N73°21'15.42"W
C18	31.71'	80.00'	022°42'31"	N51°12'22.12"W
C19	22.65'	40.00'	032°26'25"	S56°04'18.83"E
C20	17.02'	50.00'	019°30'12"	N62°32'25.37"W
C21	10.01'	50.00'	011°28'27"	S58°31'33.07"E
C22	25.44'	35.00'	041°38'47"	S85°05'10.13"E
C23	16.50'	20.00'	047°16'08"	N82°16'29.62"W
C24	18.46'	45.00'	023°30'26"	N46°53'12.55"W
C25	38.14'	100.00'	021°51'04"	S46°03'31.72"E
C26	127.24'	510.00'	014°17'40"	N49°50'13.87"W
C27	5.78'	80.00'	004°08'22"	S44°45'34.84"E
C28	25.08'	40.00'	035°55'40"	S64°47'35.89"E
C29	20.33'	30.00'	038°49'30"	N63°20'40.98"W
C30	13.49'	50.00'	015°27'34"	S51°39'42.98"E

CURVE NO.	LENGTH (FT)	RADIUS (FT)	DELTA	BEARING
C31	14.49'	50.00'	016°36'23"	N51°05'18.64"W
C32	24.85'	20.00'	071°12'05"	S61°49'07.76"W
C33	76.19'	110.00'	039°41'04"	N62°44'17.92"W
C34	24.85'	20.00'	071°12'05"	N07°17'43.61"W

**NOTES TO CONTRACTOR**

- THIS PLAN REFLECTS MONUMENTATION DESIGNATED BY THE COUNTY OF SAN MATEO LAND SURVEYS AND MAPPING SECTION TO CONTROL CONSTRUCTION SURVEYS ANTICIPATED IN CONNECTION WITH THIS PROJECT.
- THE CONTRACTOR SHALL EMPLOY OR ENGAGE A PROFESSIONAL LAND SURVEYOR, LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA, COMPETENT TO PRACTICE IN THE ENDEAVOR IN WHICH HE/SHE WILL BE ENGAGED, TO BE IN RESPONSIBLE CHARGE OF ALL SURVEYING AND RELATED LAYOUT WORK WHICH THE CONTRACTOR IS REQUIRED TO PERFORM IN ORDER TO CONSTRUCT THE INTENDED IMPROVEMENTS IN CONFORMANCE WITH DESIGN. (RESPONSIBLE CHARGE REQUIREMENTS PURSUANT TO STATE OF CALIFORNIA CODE OF REGULATIONS, TITLE 16, CHAPTER 5, STATE OF CALIFORNIA, SECTION 404.2 "DEFINITION OF RESPONSIBLE CHARGE FOR LAND SURVEYORS," AND SECTION 415 "PRACTICE WITHIN AREA OF COMPETENCE.")
- THE CONTRACTOR SHALL SUBMIT A LETTER FROM THE PROFESSIONAL LAND SURVEYOR OR ENGINEER LICENSED TO PRACTICE LAND SURVEYING, INDICATING HIS/HER EMPLOYMENT BY THE CONTRACTOR IN RESPONSIBLE CHARGE. THIS LETTER SHALL BE SIGNED BY AND BEAR THE PROFESSIONAL SEAL OF THE INDIVIDUAL (NOT THE COMPANY) ENGAGED IN THAT CAPACITY. THIS LETTER SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK ALONG WITH A COPY TO THE COUNTY OF SAN MATEO LAND SURVEYOR.
- THE CONTRACTOR, HAVING ENGAGED OR EMPLOYED A PROFESSIONAL LAND SURVEYOR AND RELATED SUPPORT STAFF, IS RESPONSIBLE FOR SURVEY LAYOUT WORK, DEFINED HEREIN AS CONTRACTORS LINE AND GRADE. LINE AND GRADE POINTS SHALL BE SET FROM THE CONSTRUCTION CONTROL POINTS PROVIDED BY THE COUNTY OF SAN MATEO LAND SURVEYOR UNDER THE DIRECTION OF THE ENGINEER, AND SHALL ALSO SERVE AS THE CONTRACTOR'S PRESERVATION AND/OR PERPETUATION OF THAT CONTROL. THESE POINTS SHALL BE SET WITH PRECISION AND METHODS COMMENSURATE WITH THE TOLERANCES REQUIRED BY THE INTENDED CONSTRUCTION.
- THE CONTRACTOR SHALL CHECK AND VERIFY THE INTERNAL INTEGRITY OF THE PROJECT CONTROL AND CONSTRUCTION CONTROL TO ITS OWN SATISFACTION AND SHALL NOTIFY THE ENGINEER OF ANY APPARENT DISCREPANCY PRIOR TO USE FOR LAYOUT OF LINE AND GRADE POINTS.
- COUNTY OF SAN MATEO MONUMENTS AND CONTROL POINTS ARE TO BE PROTECTED FROM DAMAGE AND PRESERVED BY THE CONTRACTOR. IN THE EVENT THAT ANY MONUMENT OR CONTROL POINT IS TO BE LOST, DESTROYED, OR COVERED BY WORK PERFORMED IN CONNECTION WITH THIS CONTRACT, THE CONTRACTOR SHALL PROVIDE NO GREATER THAN 14 DAYS AND A MINIMUM OF TWO WORKING DAYS NOTICE TO THE COUNTY SURVEYOR OFFICE (650-599-1410) PRIOR TO ANY SUCH WORK SO THAT THE MONUMENTS MAY BE REFERENCED OR REPLACED. IN THE EVENT THAT NO NOTICE IS GIVEN AND THE MONUMENTS ARE LOST, ALTERED, OR DESTROYED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL REPLACEMENT COSTS.

**SURVEYOR'S NOTES**

- HORIZONTAL COORDINATES SHOWN ON THIS SURVEY CONTROL DIAGRAM ARE BASED UPON THE COUNTY OF SAN MATEO HORIZONTAL DATUM WHICH IS BASED ON NAD83 (2011), CALIFORNIA STATE PLANE ZONE 3, U.S. SURVEY FEET, COMBINED GROUND TO GRID SCALE FACTOR IS 0.999934.
- HORIZONTAL COORDINATES FOR ALL PROJECT CONTROL ARE THE PRODUCT OF A COMBINED GNSS AND TERRESTRIAL CONTROL SURVEY CONDUCTED BY BKF IN MARCH, 2017. ALL MEASUREMENTS WERE ADJUSTED WITH A WEIGHTED LEAST-SQUARES METHOD UTILIZING STAR\*NET PRO (V8). ADJUSTMENT WAS CONSTRAINED TO NAD83 (2011) POSITIONS.
- ELEVATIONS FOR THIS PROJECT WERE DETERMINED BY DIFFERENTIAL LEVELING AND GNSS MEASUREMENTS PERFORMED BY BKF IN MARCH, 2017. ALL MEASUREMENTS WERE ADJUSTED WITH A WEIGHTED LEAST-SQUARES METHOD UTILIZING STAR\*NET PRO (V8). ADJUSTED ELEVATIONS ARE REALIZED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-88).

**COUNTY LAND SURVEYOR'S STATEMENT:**

THIS SURVEY CONTROL PLAN HAS BEEN EXAMINED BY ME, OR BY A PROFESSIONAL LAND SURVEYOR UNDER MY DIRECTION, PURSUANT TO SEC. 8726 OF THE BUSINESS AND PROFESSIONS CODE OF THE STATE OF CALIFORNIA. I HEREBY STATE THAT THE INFORMATION SHOWN HEREON HAS BEEN GEOSPATIALLY CORRECTED TO THE SAN MATEO COUNTY CONTROL SYSTEM, THAT THE EXISTING MONUMENTATION SHOWN HEREON IS A SUFFICIENT BASIS FROM WHICH THE CONSTRUCTION LINES AND GRADES CAN BE SET, AND THAT THE MONUMENT DESCRIPTIONS ARE SUFFICIENT TO ALLOW FOR RECOVERY AND IDENTIFICATION BY SOMEONE WHO IS UNFAMILIAR WITH THE AREA. I HAVE ALSO EXAMINED THE ASSOCIATED ELECTRONIC FILES FOR THIS SURVEY CONTROL PLAN AND, TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THESE FILES ACCURATELY REPRESENT THE SAME INFORMATION SHOWN HEREON.

JOHN THOMAS MAY  
ACTING COUNTY SURVEYOR  
L.S. No. 8570, EXPIRES 03/31/2023

DATE: 12-23-2021

**LEGEND:**

- △ = PRIMARY CONTROL
- = PROJECT SURVEY CONTROLS
- 0000 POINT NUMBER
- 00.00 ELEVATION
- XXXX DESCRIPTION

**BENCHMARK STATEMENT:**

THE ELEVATIONS SHOWN ON THIS SURVEY WERE BASED ON NAVD-88.

THE SITE BENCHMARK IS BKF CONTROL POINT NO.1 - A MAG NAIL AND WASHER SET IN THE ASPHALT NEAR THE EDGE OF PAVEMENT ON THE EAST SIDE OF HIGHWAY 1 NORTH OF MIRADA ROAD.

ELEVATION = 69.41

**BASIS OF BEARINGS:**

THE BEARINGS WERE BASED ON NAD 83, CALIFORNIA COORDINATE SYSTEM OF 1983, EPOCH 2011. DISTANCES SHOWN HEREON ARE GROUND LEVEL DISTANCES. MULTIPLY DISTANCES BY 0.99999714 TO OBTAIN GRID VALUES.

THE BEARING N50°35'00"W AS SHOWN BETWEEN THE TWO MAG NAILS SET ON THE EAST SIDE OF HIGHWAY 1 WAS USED AS THE BASIS OF BEARINGS.

CP # 1 (MAG NAIL) N: 2008449.75 E: 5994739.05  
CP # 3 (MAG NAIL) N: 2008640.64 E: 5994506.80

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF USAJ  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23

POINT NO.	DESCRIPTION	STATION	OFFSET	ELEVATION	NORTHING	EASTING
1	MAG & WASH CP#1	'MT' 43+97.49	26.7' RT	69.41'	2008449.75	5994739.05
2	MAG & WASH	OUT OF RANGE	OUT OF RANGE	61.35'	2008233.78	5994930.34
3	MAG & WASH CP#3	'MT' 40+94.76	42.0' RT	74.27'	2008640.64	5994506.80
4	MAG & WASH	'MT' 39+93.74	53.3' RT	74.68'	2008705.16	5994406.44
5	MAG & WASH	'MT' 35+58.28	67.7' RT	69.91'	2008889.54	5994054.28
6	MAG & WASH	'MT' 31+71.90	58.3' RT	58.23'	2009065.83	5993718.39
7	MAG & WASH	'MT' 28+67.30	59.7' RT	47.96'	2009202.36	5993446.10
8	MAG & WASH	'MT' 25+69.27	60.2' RT	41.20'	2009336.74	5993180.08
9	MAG & WASH	'MT' 22+61.89	10.3' RT	37.30'	2009474.96	5992917.06
10	MAG & WASH	'MT' 19+02.98	53.1' RT	35.08'	2009647.58	5992572.54
11	MAG & WASH	'MT' 15+52.54	75.5' RT	33.31'	2009782.53	5992305.38
12	MAG & WASH	'MT' 12+64.42	76.4' RT	31.33'	2009913.69	5992048.85
13	MAG & WASH	'MT' 09+12.71	77.3' RT	29.43'	2010074.00	5991735.80
14	MAG & WASH	'MT' 06+21.14	68.7' RT	27.19'	2010214.35	5991480.34
15	MAG & WASH	'MT' 03+28.28	68.3' RT	25.29'	2010348.14	5991219.82
16	MAG & WASH	'MT' 00+00.18	21.7' RT	22.60'	2010494.93	5990944.54
17	MAG & WASH	OUT OF RANGE	OUT OF RANGE	20.81'	2010545.85	5990702.12

APPROVED DATE: 12-23-2021

NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

APPROVED DATE: 12/23/2021

ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS  
COUNTY OF SAN MATEO  
R.C.E. # 47882 / EXPIRES 12-31-2021

**BKF**  
ENGINEERS/SURVEYORS/PLANNERS

255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



DESIGNED BY: BKF (CT)  
CHECKED BY: BKF (JM)  
DRAWN BY: BKF (JC)

ANN MADER STILLMAN  
INTERIM DIRECTOR OF PUBLIC WORKS  
COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR  
REDWOOD CITY, CALIFORNIA 94063

SCALE: 1" = 75'  
DATE: 12/08/2021  
FILE NO: 1/4952

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

**PC-1**  
SHEET 4 OF 38

**MATCHLINE SEE PC-2**

DIST	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
04	SM	1	TOTAL PROJECT 31.2/32.0	NO. 2	SHEETS 2

PROFESSIONAL LAND SURVEYOR 12/08/21 DATE

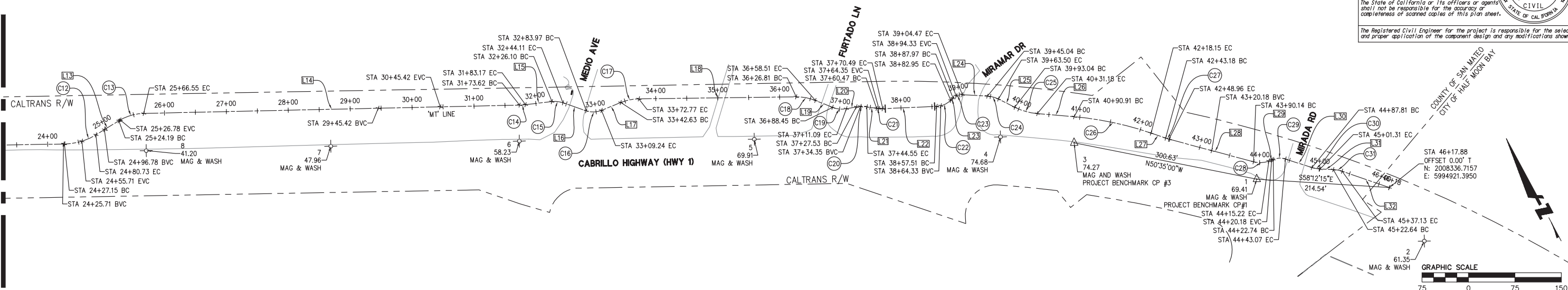
DAVID C. JUNGMAN  
No. 9267  
Exp. 06/20/22  
CIVIL  
STATE OF CALIFORNIA

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

The Registered Civil Engineer for the project is responsible for the selection and proper application of the component design and any modifications shown.

MATCHLINE SEE PC-1



LINE NO.	LENGTH (FT)	DIRECTION	BEARING
L1	74.74'	S63°28'07"E	S63°28'06.86"E
L2	7.06'	N89°43'01"E	N89°43'00.52"E
L3	5.02'	N26°25'31"E	N26°25'31.65"E
L4	55.76'	S62°44'18"E	S62°44'17.92"E
L5	18.46'	N89°51'40"E	N89°51'39.74"E
L6	658.93'	S62°54'19"E	S62°54'18.77"E
L7	791.00'	S62°44'18"E	S62°44'17.92"E
L8	0.42'	S19°14'34"E	S19°14'34.21"E
L9	4.62'	N77°36'09"E	N77°36'09.33"E
L10	33.40'	S62°46'13"E	S62°46'12.96"E
L11	18.75'	S24°50'00"E	S24°50'00.26"E
L12	440.12'	S62°44'35"E	S62°44'35.35"E
L13	43.45'	N86°33'09"E	N86°33'08.76"E
L14	607.06'	S63°06'18"E	S63°06'18.31"E
L15	42.92'	S68°34'52"E	S68°34'52.06"E

LINE NO.	LENGTH (FT)	DIRECTION	BEARING
L16	39.86'	S42°46'33"E	S42°46'32.61"E
L17	33.39'	S84°08'53"E	S84°08'53.05"E
L18	254.04'	S62°33'38"E	S62°33'37.78"E
L19	29.93'	S39°51'06"E	S39°51'06.46"E
L20	16.44'	S72°17'31"E	S72°17'31.20"E
L21	15.92'	S52°47'20"E	S52°47'19.53"E
L22	87.02'	S64°15'47"E	S64°15'46.60"E
L23	5.02'	N74°05'26"E	N74°05'26.34"E
L24	40.57'	S58°38'26"E	S58°38'25.58"E
L25	29.54'	S35°08'00"E	S35°07'59.53"E
L26	59.73'	S56°59'04"E	S56°59'03.91"E
L27	25.03'	S42°41'24"E	S42°41'23.84"E
L28	141.18'	S46°49'46"E	S46°49'45.84"E
L29	7.52'	S82°45'26"E	S82°45'25.94"E
L30	44.75'	S43°55'56"E	S43°55'56.03"E

LINE NO.	LENGTH (FT)	DIRECTION	BEARING
L31	21.34'	S59°23'30"E	S59°23'29.93"E
L32	80.75'	S42°47'07"E	S42°47'07.35"E
L33	21.60'	S26°13'05"W	S26°13'05.47"W
L34	148.38'	N82°34'50"W	N82°34'49.94"W
L35	148.38'	N42°53'46"W	N42°53'45.91"W
L36	20.47'	N27°15'42"E	N27°15'42.08"E

CURVE NO.	LENGTH (FT)	RADIUS (FT)	DELTA	BEARING
C1	4.68'	10.00'	026°48'53"	S76°52'33.17"E
C2	5.52'	5.00'	063°17'29"	N58°04'16.09"E
C3	7.93'	5.00'	090°50'10"	S71°50'36.87"W
C4	19.13'	40.00'	027°24'02"	S76°26'19.09"E
C5	38.03'	80.00'	027°14'01"	N76°31'19.52"W
C6	1.46'	500.00'	000°10'01"	N62°49'18.35"W
C7	60.73'	80.00'	043°29'44"	N40°59'26.07"W
C8	58.05'	40.00'	083°09'16"	S60°49'12.44"E
C9	20.75'	30.00'	039°37'38"	N82°35'01.82"W
C10	19.86'	30.00'	037°56'13"	N43°48'06.61"W
C11	82.71'	125.00'	037°54'35"	S43°47'17.81"E
C12	53.59'	100.00'	030°42'16"	S78°05'43.29"E
C13	42.37'	80.00'	030°20'33"	N78°16'34.77"W
C14	9.56'	100.00'	005°28'34"	S65°50'35.18"E
C15	18.02'	40.00'	025°48'19"	N55°40'42.33"W

CURVE NO.	LENGTH (FT)	RADIUS (FT)	DELTA	BEARING
C16	25.27'	35.00'	041°22'20"	S63°27'42.83"E
C17	30.14'	80.00'	021°35'15"	N73°21'15.42"W
C18	31.71'	80.00'	022°42'31"	N51°12'22.12"W
C19	22.65'	40.00'	032°26'25"	S56°04'18.83"E
C20	17.02'	50.00'	019°30'12"	N62°32'25.37"W
C21	10.01'	50.00'	011°28'27"	S58°31'33.07"E
C22	25.44'	35.00'	041°38'47"	S85°05'10.13"E
C23	16.50'	20.00'	047°16'08"	N82°16'29.62"W
C24	18.46'	45.00'	023°30'26"	N46°53'12.55"W
C25	38.14'	100.00'	021°51'04"	S46°03'31.72"E
C26	127.24'	510.00'	014°17'40"	N49°50'13.87"W
C27	5.78'	80.00'	004°08'22"	S44°45'34.84"E
C28	25.08'	40.00'	035°55'40"	S64°47'35.89"E
C29	20.33'	30.00'	038°49'30"	N63°20'40.98"W
C30	13.49'	50.00'	015°27'34"	S51°39'42.98"E

CURVE NO.	LENGTH (FT)	RADIUS (FT)	DELTA	BEARING
C31	14.49'	50.00'	016°36'23"	N51°05'18.64"W
C32	24.85'	20.00'	071°12'05"	S61°49'07.76"W
C33	76.19'	110.00'	039°41'04"	N62°44'17.92"W
C34	24.85'	20.00'	071°12'05"	N07°17'43.61"W



**NOTES TO CONTRACTOR**

- THIS PLAN REFLECTS MONUMENTATION DESIGNATED BY THE COUNTY OF SAN MATEO LAND SURVEYS AND MAPPING SECTION TO CONTROL CONSTRUCTION SURVEYS ANTICIPATED IN CONNECTION WITH THIS PROJECT.
- THE CONTRACTOR SHALL EMPLOY OR ENGAGE A PROFESSIONAL LAND SURVEYOR, LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA, COMPETENT TO PRACTICE IN THE ENDEAVOR IN WHICH HE/SHE WILL BE ENGAGED, TO BE IN RESPONSIBLE CHARGE OF ALL SURVEYING AND RELATED LAYOUT WORK WHICH THE CONTRACTOR IS REQUIRED TO PERFORM IN ORDER TO CONSTRUCT THE INTENDED IMPROVEMENTS IN CONFORMANCE WITH DESIGN. (RESPONSIBLE CHARGE REQUIREMENTS PURSUANT TO STATE OF CALIFORNIA CODE OF REGULATIONS, TITLE 16, CHAPTER 5, STATE OF CALIFORNIA, SECTION 404.2 "DEFINITION OF RESPONSIBLE CHARGE FOR LAND SURVEYORS," AND SECTION 415 "PRACTICE WITHIN AREA OF COMPETENCE.")
- THE CONTRACTOR SHALL SUBMIT A LETTER FROM THE PROFESSIONAL LAND SURVEYOR OR ENGINEER LICENSED TO PRACTICE LAND SURVEYING, INDICATING HIS/HER EMPLOYMENT BY THE CONTRACTOR IN RESPONSIBLE CHARGE. THIS LETTER SHALL BE SIGNED BY AND BEAR THE PROFESSIONAL SEAL OF THE INDIVIDUAL (NOT THE COMPANY) ENGAGED IN THAT CAPACITY. THIS LETTER SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK ALONG WITH A COPY TO THE COUNTY OF SAN MATEO LAND SURVEYOR.
- THE CONTRACTOR, HAVING ENGAGED OR EMPLOYED A PROFESSIONAL LAND SURVEYOR AND RELATED SUPPORT STAFF, IS RESPONSIBLE FOR SURVEY LAYOUT WORK, DEFINED HEREIN AS CONTRACTORS LINE AND GRADE. LINE AND GRADE POINTS SHALL BE SET FROM THE CONSTRUCTION CONTROL POINTS PROVIDED BY THE COUNTY OF SAN MATEO LAND SURVEYOR UNDER THE DIRECTION OF THE ENGINEER, AND SHALL ALSO SERVE AS THE CONTRACTOR'S PRESERVATION AND/OR PERPETUATION OF THAT CONTROL. THESE POINTS SHALL BE SET WITH PRECISION AND METHODS COMMENSURATE WITH THE TOLERANCES REQUIRED BY THE INTENDED CONSTRUCTION.
- THE CONTRACTOR SHALL CHECK AND VERIFY THE INTERNAL INTEGRITY OF THE PROJECT CONTROL AND CONSTRUCTION CONTROL TO ITS OWN SATISFACTION AND SHALL NOTIFY THE ENGINEER OF ANY APPARENT DISCREPANCY PRIOR TO USE FOR LAYOUT OF LINE AND GRADE POINTS.
- COUNTY OF SAN MATEO MONUMENTS AND CONTROL POINTS ARE TO BE PROTECTED FROM DAMAGE AND PRESERVED BY THE CONTRACTOR. IN THE EVENT THAT ANY MONUMENT OR CONTROL POINT IS TO BE LOST, DESTROYED, OR COVERED BY WORK PERFORMED IN CONNECTION WITH THIS CONTRACT, THE CONTRACTOR SHALL PROVIDE NO GREATER THAN 14 DAYS AND A MINIMUM OF TWO WORKING DAYS NOTICE TO THE COUNTY SURVEYOR OFFICE (650-599-1410) PRIOR TO ANY SUCH WORK SO THAT THE MONUMENTS MAY BE REFERENCED OR REPLACED. IN THE EVENT THAT NO NOTICE IS GIVEN AND THE MONUMENTS ARE LOST, ALTERED, OR DESTROYED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL REPLACEMENT COSTS.

**SURVEYOR'S NOTES**

- HORIZONTAL COORDINATES SHOWN ON THIS SURVEY CONTROL DIAGRAM ARE BASED UPON THE COUNTY OF SAN MATEO HORIZONTAL DATUM WHICH IS BASED ON NAD83 (2010), CALIFORNIA STATE PLANE ZONE 3, U.S. SURVEY FEET, COMBINED GROUND TO GRID SCALE FACTOR IS 0.999934.
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**COUNTY LAND SURVEYOR'S STATEMENT:**

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JOHN THOMAS MAY  
ACTING COUNTY SURVEYOR  
L.S. No. 8570, EXPIRES 03/31/2023  
DATE: \_\_\_\_\_

APPROVED DATE: 12-23-2021

*NJC*

NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

**LEGEND:**

- △ = PRIMARY CONTROL
- = PROJECT SURVEY CONTROLS
- 0000 POINT NUMBER
- 00.00 ELEVATION
- XXXX DESCRIPTION

**BENCHMARK STATEMENT:**

THE ELEVATIONS SHOWN ON THIS SURVEY WERE BASED ON NAVD-88.

THE SITE BENCHMARK IS BKF CONTROL POINT NO.1 - A MAG NAIL AND WASHER SET IN THE ASPHALT NEAR THE EDGE OF PAVEMENT ON THE EAST SIDE OF HIGHWAY 1 NORTH OF MIRADA ROAD.

ELEVATION = 69.41

**BASIS OF BEARINGS:**

THE BEARINGS WERE BASED ON NAD 83, CALIFORNIA COORDINATE SYSTEM OF 1983, EPOCH 2011. DISTANCES SHOWN HEREON ARE GROUND LEVEL DISTANCES. MULTIPLY DISTANCES BY 0.99999714 TO OBTAIN GRID VALUES.

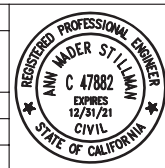
THE BEARING N50°35'00"W AS SHOWN BETWEEN THE TWO MAG NAILS SET ON THE EAST SIDE OF HIGHWAY 1 WAS USED AS THE BASIS OF BEARINGS.

CP # 1 (MAG NAIL) N: 2008449.75 E: 5994739.05  
CP # 3 (MAG NAIL) N: 2008640.64 E: 5994506.80

APPROVED DATE: 12/23/2021

*Ann Mader Stillman*

ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS  
COUNTY OF SAN MATEO  
R.C.E. # 47882 / EXPIRES 12-31-2021



**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER: *Krzysztof Usaj*  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23

PROJECT SURVEY CONTROL						
POINT NO.	DESCRIPTION	STATION	OFFSET	ELEVATION	NORTHING	EASTING
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17	MAG & WASH	OUT OF RANGE	OUT OF RANGE	20.81'	2010545.85	5990702.12

DESIGNED BY: BKF (CT)  
CHECKED BY: BKF (JM)  
DRAWN BY: BKF (JC)

ANN MADER STILLMAN  
INTERIM DIRECTOR OF PUBLIC WORKS  
COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR  
REDWOOD CITY, CALIFORNIA 94063

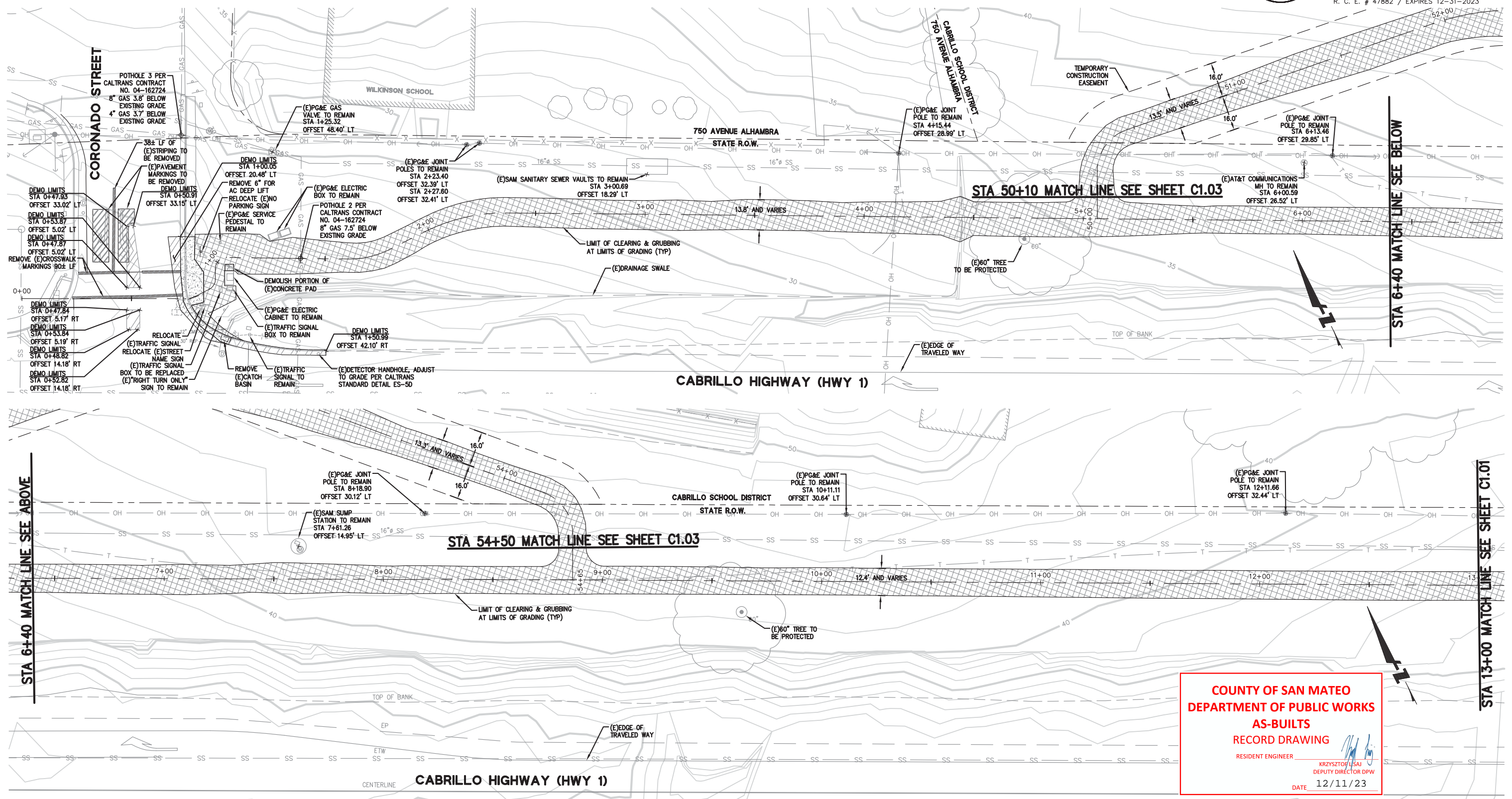
SCALE: 1" = 75'  
DATE: 12/08/2021  
FILE NO: 1/4952

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

**PC-2**  
SHEET 5 OF 38



APPROVED: *Ann Mader Stillman*  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



STA 6+40 MATCH LINE SEE ABOVE

STA 13+00 MATCH LINE SEE SHEET C1.01

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER *Krzysztof Usaj*  
 KRZYSZTOF USAJ  
 DEPUTY DIRECTOR DPW  
 DATE 12/11/23

**DEMOLITION LEGEND**

- CLEARING AND GRUBBING
- ASPHALT TO BE REMOVED
- CONCRETE TO BE REMOVED

**GRAPHIC SCALE**

0 20 40

APPROVED DATE: 12-23-2021

*NJC*

NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE:

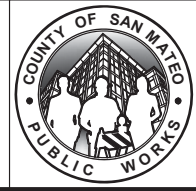
*Jason Mansfield*

JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS

255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL EXISTING CONDITION/DEMOLITION PLAN STA 00+00 TO STA 13+00	SCALE: AS SHOWN
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	<b>C-100</b> SHEET 6 OF 38

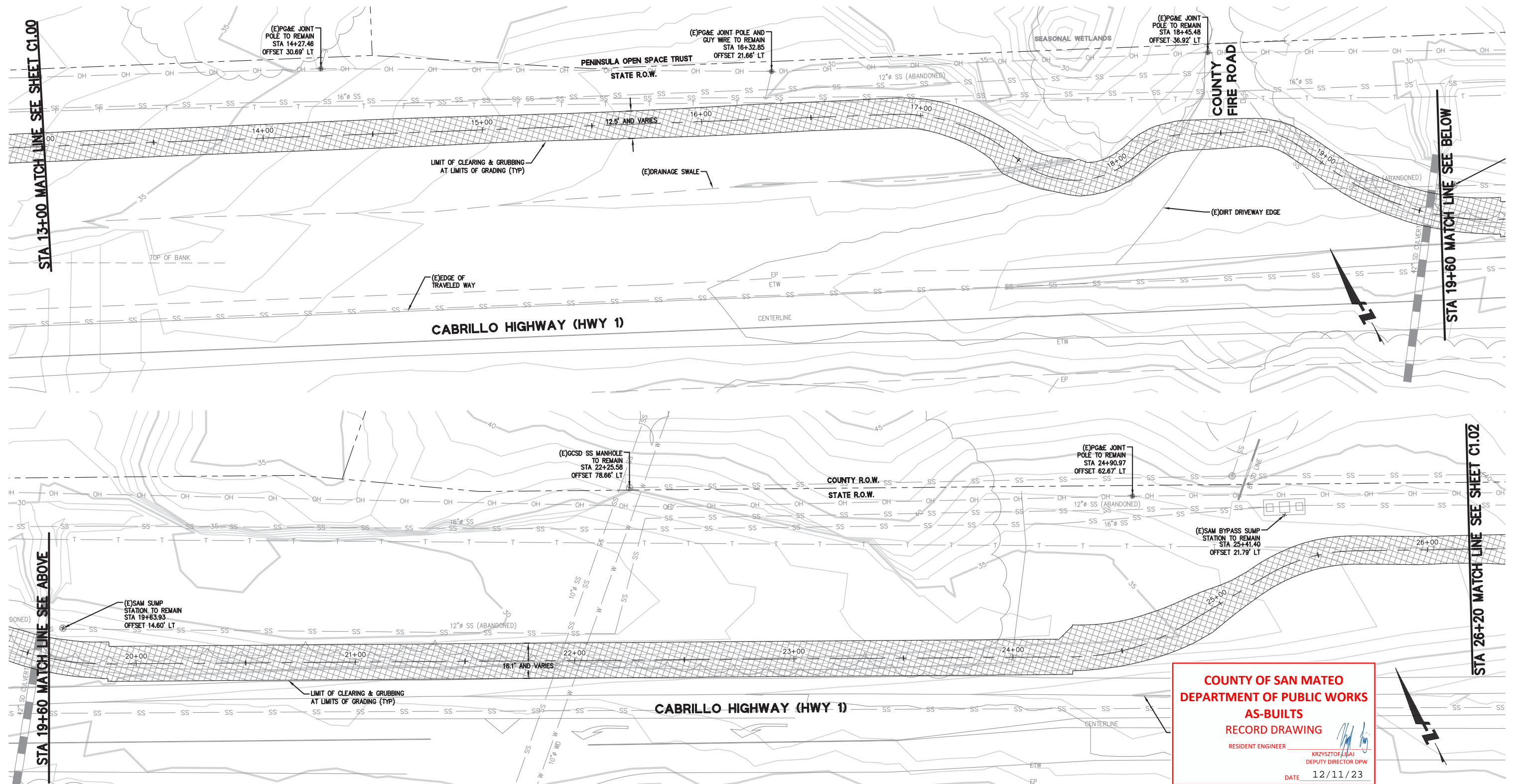
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

0 1 2 3 4

DRAWING NAME: 12-2021-01  
 PLOT TIME: 12-2021-01



APPROVED: 12/23/2021  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

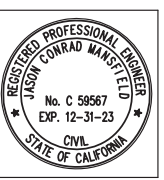


**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: KRZYSZTOF LIJAJ, DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

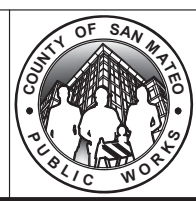
**DEMOLITION LEGEND**  
 CLEARING AND GRUBBING  
 ASPHALT TO BE REMOVED  
 CONCRETE TO BE REMOVED  
**GRAPHIC SCALE**  
 0 20 40

APPROVED DATE: 12-23-2021  
  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE:  
  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL EXISTING CONDITION/DEMOLITION PLAN STA 13+00 TO STA 26+20	SCALE: AS SHOWN
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		
0 1 2 3 4		
		<b>C-101</b> SHEET 7 OF 38

DRAWING NAME: K:\Projects\14234\BKF\13-26\13-26-23\13-26-23.dwg PLOT TIME: 12-29-21

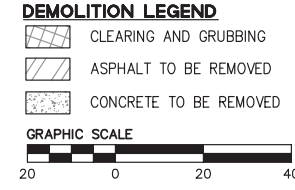
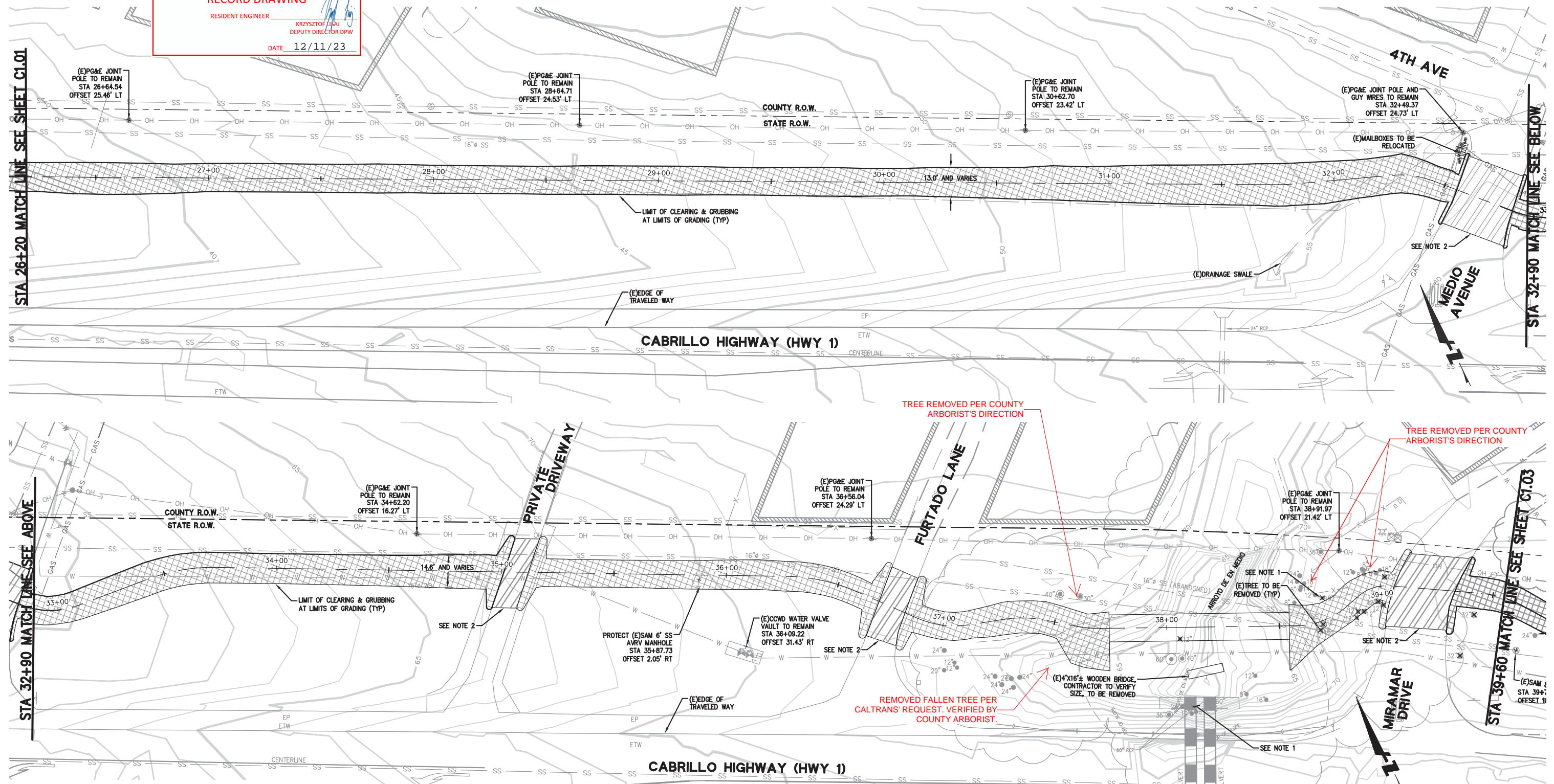
**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF MAJ  
 DEPUTY DIRECTOR DPW

DATE: 12/11/23



APPROVED: \_\_\_\_\_  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



**NOTES:**

- TREES SHOWN TO BE REMOVED OUTSIDE OF PROPOSED IMPROVEMENTS ARE CONTINGENT ON BRIDGE STAGING AND PLACEMENT. CONTRACTOR TO PROVIDE BRIDGE INSTALLATION PLAN THAT DETAILS THE BRIDGE STAGING AREA, BRIDGE MOVEMENT PATH, THE ANTICIPATED TREES TO BE REMOVED, A UTILITY STRUCTURE BUFFER, AND TRAFFIC HANDLING, TO BE APPROVED BY THE COUNTY OF SAN MATEO.
- LIMITS OF INTERSECTION DEMOLITION: REFERENCE SHEETS C-6.01 AND C6.02, INTERSECTION DETAILS.

APPROVED DATE: 12-23-2021

NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE: \_\_\_\_\_

JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS

255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL EXISTING CONDITION/DEMOLITION PLAN STA 26+20 TO STA 39+60	SCALE: AS SHOWN
CHECKED BY: BKF (AM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	C-102 SHEET 8 OF 38

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

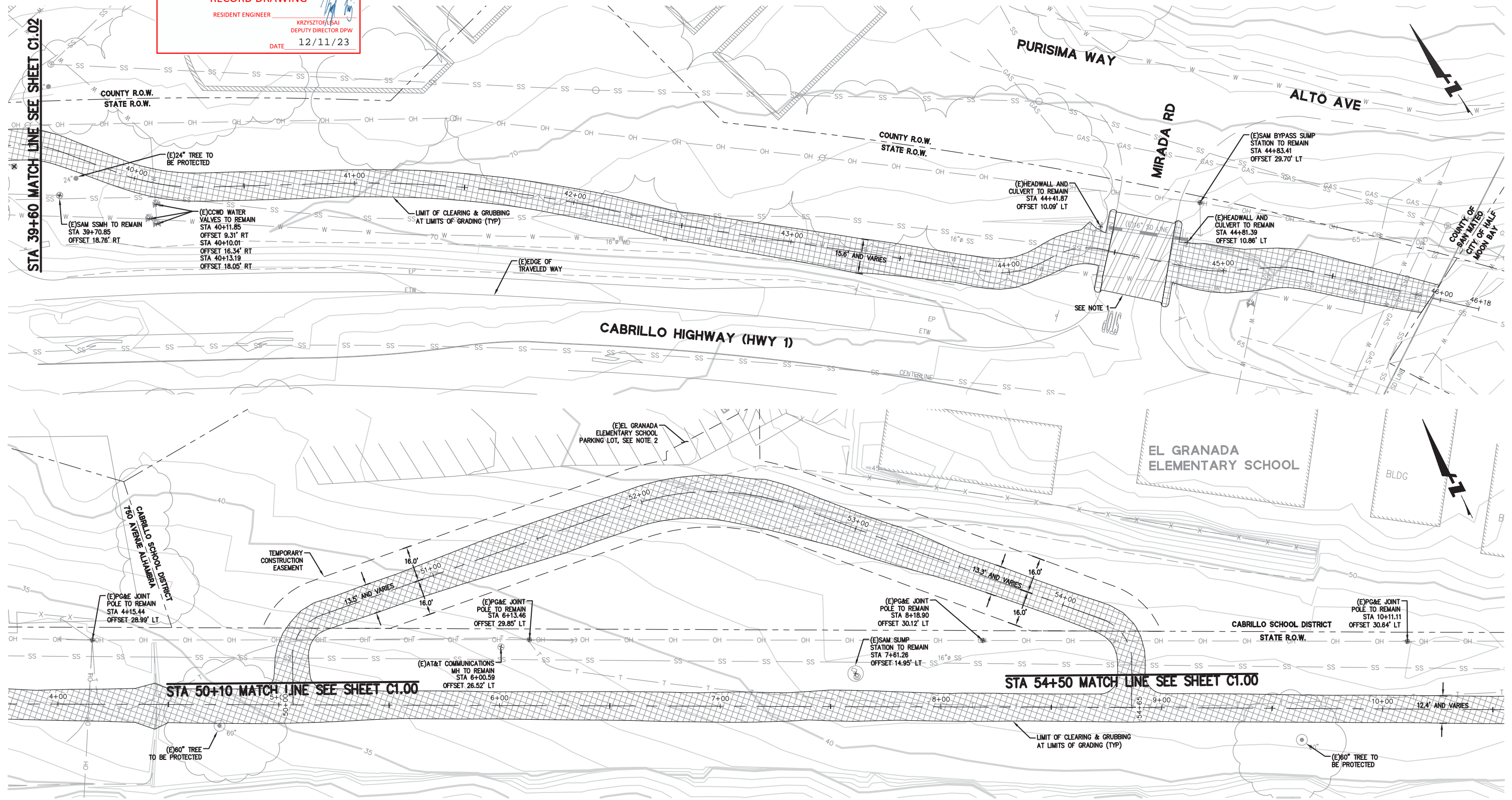
DRAWING NAME: 12-23-21

**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF SAJ  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23



APPROVED:  
DATE: 12/23/2021  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023



**DEMOLITION LEGEND**

- CLEARING AND GRUBBING
- ASPHALT TO BE REMOVED
- CONCRETE TO BE REMOVED

**GRAPHIC SCALE**

- NOTES:**
- LIMITS OF INTERSECTION DEMOLITION: REFERENCE SHEETS C-6.03, INTERSECTION DETAILS.
  - THE CONTRACTOR SHALL NOT USE THE EL GRANADA ELEMENTARY SCHOOL PARKING LOT FOR CONSTRUCTION ACCESS, OR AS A STAGING AREA.

APPROVED DATE: 12-23-2021

*NJC*

NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

APPROVED DATE:

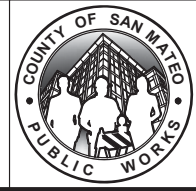
*Jason Mansfield*

JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
ENGINEERS/SURVEYORS/PLANNERS

255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



DESIGNED BY: BKF (CT)		MIDCOAST MULTI-MODAL TRAIL		SCALE: AS SHOWN
CHECKED BY: BKF (JM)		EXISTING CONDITION/DEMOLITION PLAN		DATE: 12/08/2021
DRAWN BY: BKF (JC)		STA 39+60 TO 45+93 AND STA 50+10 TO 54+50		FILE NO.: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		
REVISION	DATE			<b>C-103</b> SHEET 9 OF 38

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

DRAWING NAME: 12-2021-21  
PLOT TIME: 12-2021-21

APPROVED: *[Signature]*  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

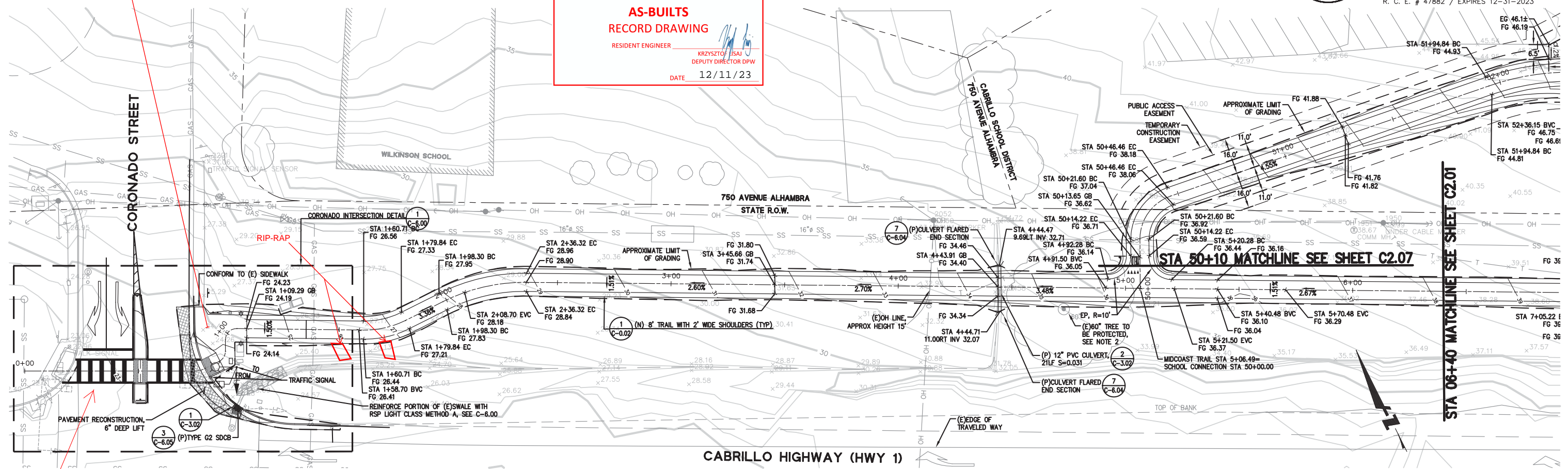


**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: KRZYSZTOF JISAI  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

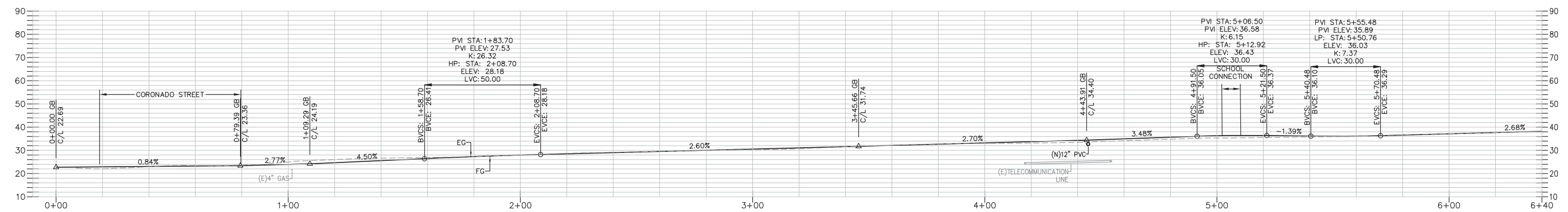
**LEGEND**  
 → DITCH FLOW DIRECTION TYP.

SEE SHEET C6.00 FOR CONCRETE UPGRADES PERFORMED

SEE SHEET C4.00 FOR ADDITIONAL ROAD IMPROVEMENTS

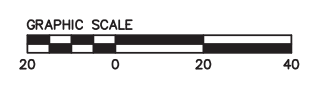


**CABRILLO HIGHWAY (HWY 1)**  
 PLAN  
 SCALE: 1" = 20'



**PROFILE**  
 SCALE: HORIZONTAL 1" = 20'  
 VERTICAL 1" = 20'

- NOTES:**
- SEE C-0.02 AND C-0.03 FOR SURVEY CONTROL PLAN.
  - REFERENCE IS MADE TO THE SPECIAL PROVISIONS IN SECTION 26, "AGGREGATE BASE (CLASS 2)," OF THE PROJECT SPECIFICATIONS FOR COMPACTION REQUIREMENTS AT THIS LOCATION.

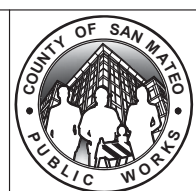


APPROVED DATE: 12-23-2021  
*[Signature]*  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE:  
*[Signature]*  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL PLAN & PROFILE STA 00+00 TO STA 06+40	SCALE: AS SHOWN
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	C-200 SHEET 10 OF 38

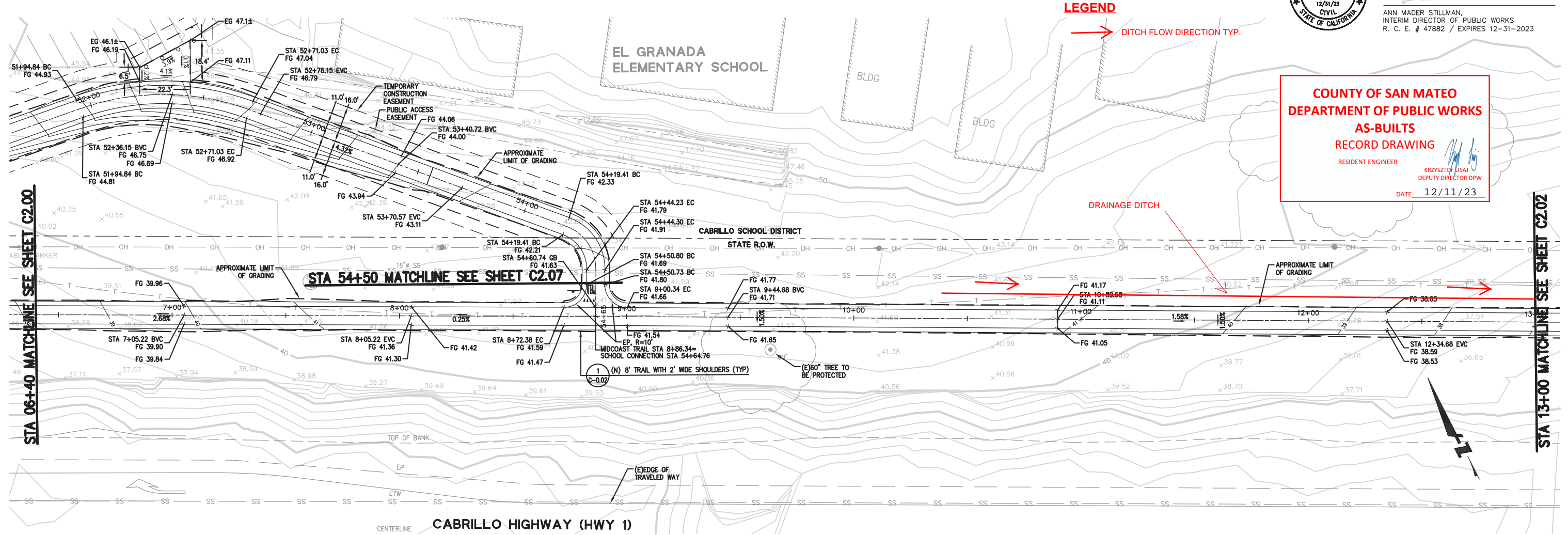
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

DRAWING NAME: 12-23-21 K:\V\d\1\4952\BKF\SET\2-C-200-PLAN.PDF (L) (M)

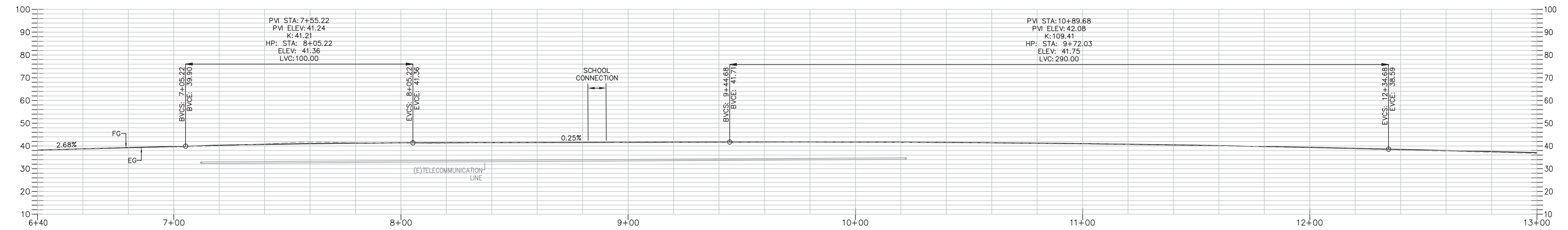


APPROVED: \_\_\_\_\_  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: KRZYSZTOF LISAJ  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23



PLAN  
 SCALE: 1" = 20'



PROFILE  
 SCALE: HORIZONTAL 1" = 20'  
 VERTICAL 1" = 20'

**NOTES:**  
 1. SEE C-0.02 AND C-0.03 FOR SURVEY CONTROL PLAN.

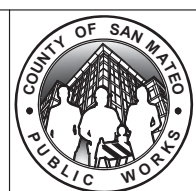


APPROVED DATE: 12-23-2021  
  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE:  
  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL	SCALE: AS SHOWN
CHECKED BY: BKF (JM)	PLAN & PROFILE	DATE: 12/08/2021
DRAWN BY: BKF (JC)	STA 06+40 TO STA 13+00	FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	
REVISION	DATE	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		C-201 SHEET 11 OF 38



POTHOLING DATA TABLE								
POT HOLE #	STREET	CUT SIZE	SOIL	UTILITY	UTILITY SIZE	MATERIAL	DEPTH	LOCATION REFERENCE/NOTES
1B	311 MAGELLAN AVE.	1' X 2'	CLAY, ROCKS	SANITARY SEWER	10"	ASBESTOS CEMENT	87"	45' NW FROM EDGE OF ASPHALT. 7' NE FROM NO PARKING SIGN
2	311 MAGELLAN AVE.	1' X 2'	CLAY, ROCKS	WATER	10"	STEEL	55"	45' NW FROM EDGE OF ASPHALT. 17' NE FROM NO PARKING SIGN
5	CA-1 & MAGELLAN AVE.	1' X 1'	HARD DIRT, CLAY	WATER	10"	STEEL		NO VISUAL, TOO MUCH GROUND WATER, POSSIBLE DEPTH AT 11.5'. POT HOLE IS LOCATED 20' NW FROM STOP SIGN. 15' SW FROM WHITE STOP LINE.
6	CA-1 & MAGELLAN AVE.	1' X 1'	HARD DIRT, CLAY	SANITARY SEWER	10"	ASBESTOS CEMENT	173"	34' NW FROM STOP SIGN. 13' SW FROM WHITE STOP LINE.

**NOTES:**

1. POT HOLE INFORMATION DETERMINED BY EXARO TECHNOLOGIES CORPORATION ON 5/6/2019, AND 5/7/2019.

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: KRZYSZTOF LISAI  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

**LEGEND**

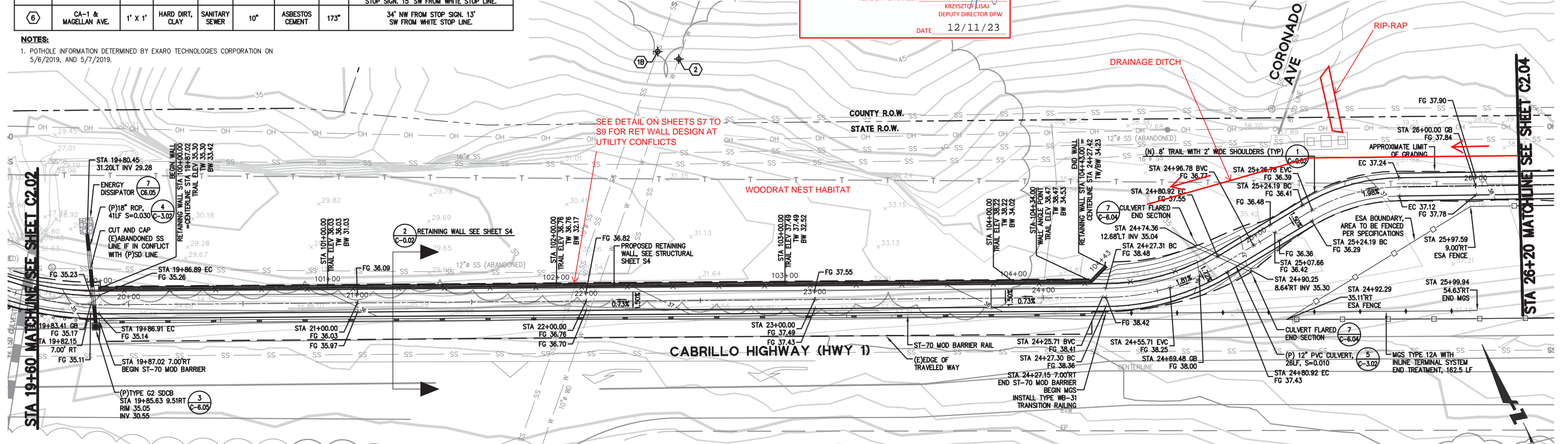
→ DITCH FLOW DIRECTION TYP.



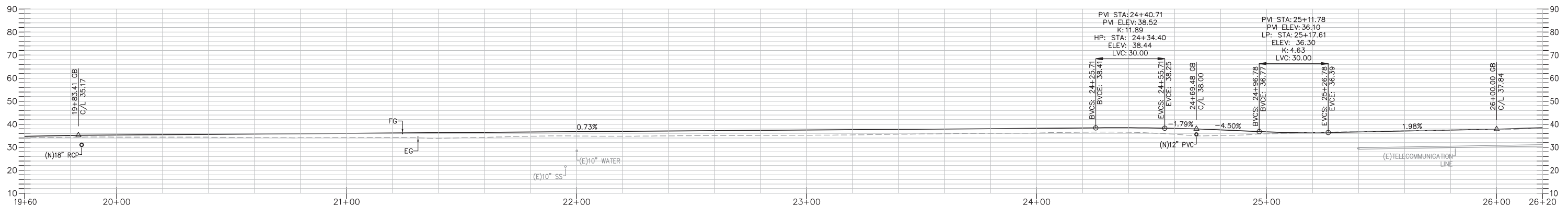
APPROVED:

DATE: 12/23/2021

ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



PLAN  
 SCALE: 1" = 20'



PROFILE  
 SCALE: HORIZONTAL 1" = 20'  
 VERTICAL 1" = 20'

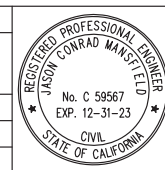
**NOTES:**

1. SEE C-0.02 AND C-0.03 FOR SURVEY CONTROL PLAN.

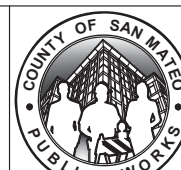


APPROVED DATE: 12-23-2021  
  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE:  
  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL PLAN & PROFILE STA 19+60 TO STA 26+20	SCALE: AS SHOWN
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	
REVISION	DATE	



**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER  
KRZYSZTOF BIAJ  
DEPUTY DIRECTOR DPW  
DATE 12/11/23

MARINA PAAP (OWNER)  
310 CORTEZ AVE

**LEGEND**

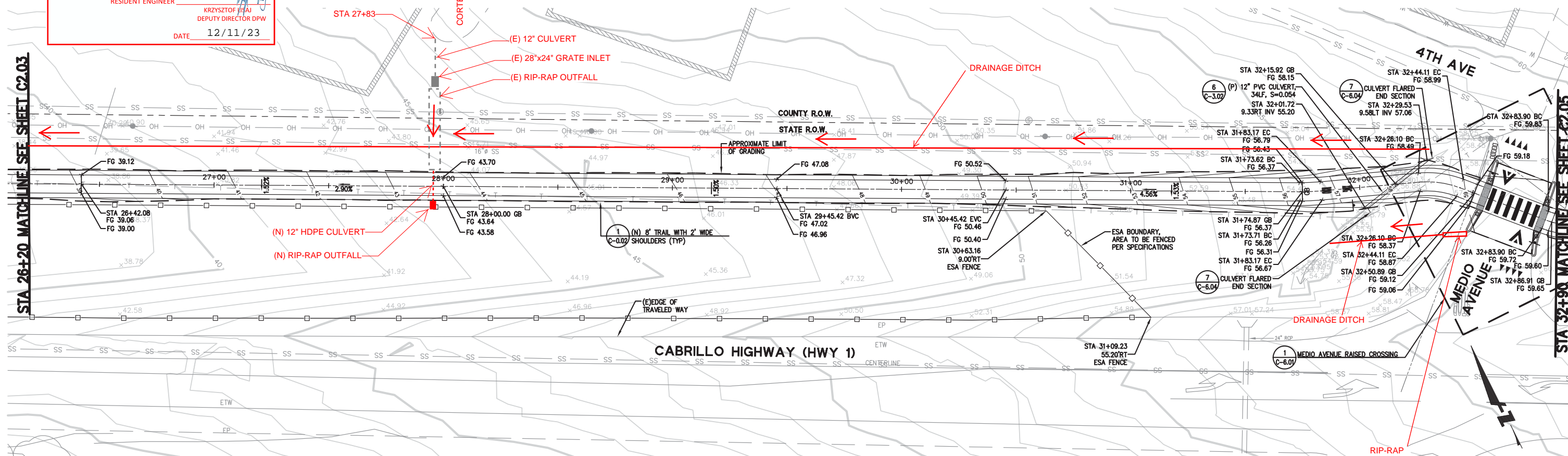
- ← DITCH FLOW DIRECTION TYP.
- - - (N) 12" DIA HDPE CULVERT.



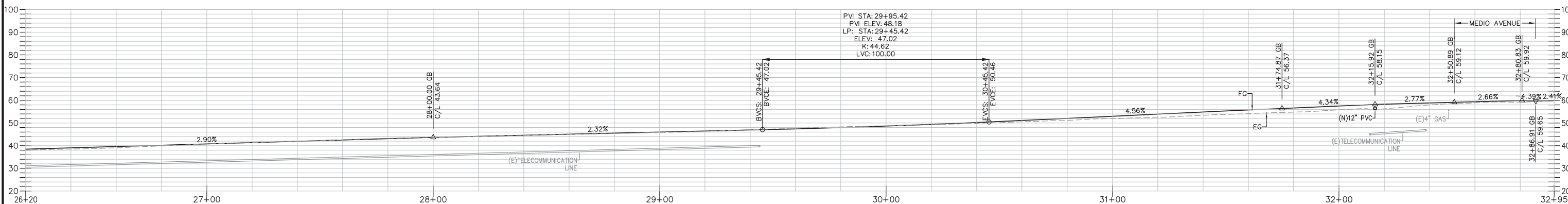
APPROVED: 12/23/2021  
DATE: *Ann Mader Stillman*  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

STA 26+20 MATCHLINE SEE SHEET C2.03

STA 32+90 MATCHLINE SEE SHEET C2.05



PLAN  
SCALE: 1" = 20'



PROFILE  
SCALE: HORIZONTAL 1" = 20'  
VERTICAL 1" = 20'

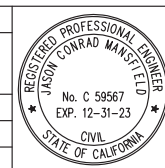
**NOTES:**

- SEE C-0.02 AND C-0.03 FOR SURVEY CONTROL PLAN.
- AREA WITHIN THE ESA FENCING IS DESIGNATED AS ARCHAEOLOGICAL RESOURCE SITE CA-SMA-149 AS IDENTIFIED IN THE ESA ACTION PLAN.
- CONTRACTOR SHALL REFERENCE MITIGATION MEASURE CULT-1B, AS LISTED UNDER THE AVOIDANCE AND MITIGATION MEASURES INCLUDED IN APPENDIX G OF THE PROJECT SPECIFICATIONS.



APPROVED DATE: 12-23-2021  
*NJC*  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

APPROVED DATE:  
*Jason Mansfield*  
JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
ENGINEERS/SURVEYORS/PLANNERS  
255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL PLAN & PROFILE STA 26+20 TO STA 32+90	SCALE: AS SHOWN
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	<b>C-204</b> SHEET 14 OF 38

FOR REDUCED PLANS  
ORIGINAL SCALE IS IN INCHES

POTHOLING DATA TABLE								
POTHOLE #	STREET	CUT SIZE	SOIL	UTILITY	UTILITY SIZE	MATERIAL	DEPTH	LOCATION REFERENCE/NOTES
1A	CA-1 & MIRAMAR DRIVE	1.5' X 1'	ROCKS, CLAY, MUD	FM/SANITARY SEWER	18"	PVC	16.5'	56' NW FROM EDGE OF ROAD, 32' NE FROM GUARD RAIL
3	NW CORNER OF CA-1 & MIRAMAR DRIVE	1' X 2'	CLAY, ROCKS	WATER	10"	STEEL		NO VISUAL, TOO MUCH GROUND WATER. POSSIBLE DEPTH AT 104". POTHOLE IS LOCATED 55' NW FROM EDGE OF ASPHALT, 27' NE FROM GUARD RAIL
4	SE CORNER OF CA-1 & FURTADO LANE	1' X 2'	HARD DIRT, CLAY	WATER	10"	STEEL		NO VISUAL, TOO MUCH GROUND WATER. POSSIBLE DEPTH AT 13". POTHOLE IS LOCATED 28' NE FROM GUARD RAIL, 60' SE FROM EDGE OF ASPHALT.

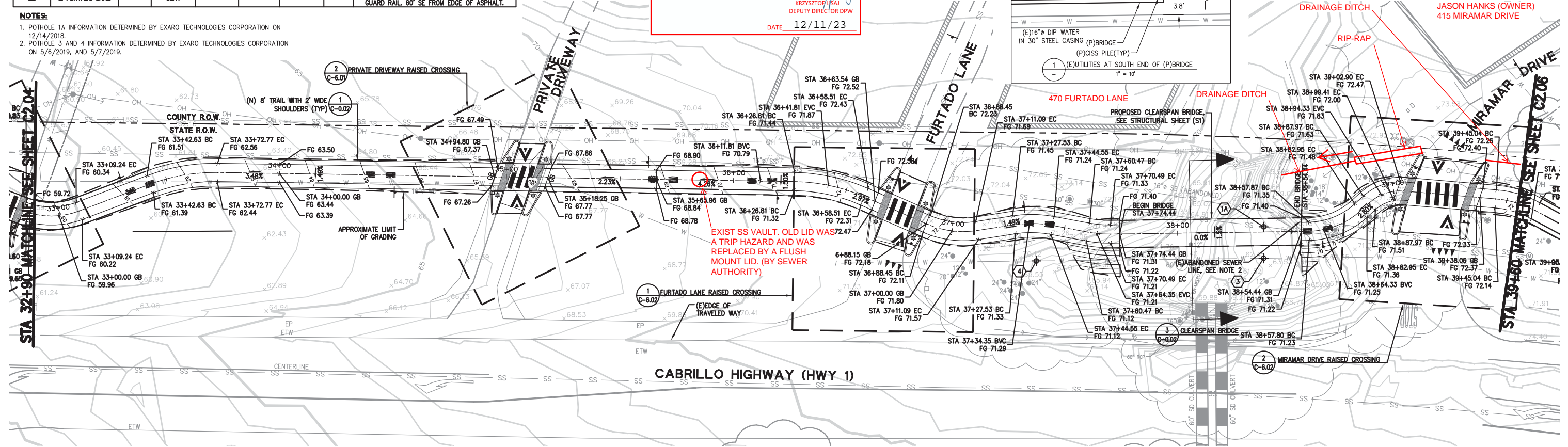
- NOTES:**
- POTHOLE 1A INFORMATION DETERMINED BY EXARO TECHNOLOGIES CORPORATION ON 12/14/2018.
  - POTHOLE 3 AND 4 INFORMATION DETERMINED BY EXARO TECHNOLOGIES CORPORATION ON 5/6/2019, AND 5/7/2019.

**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF SAJ  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23

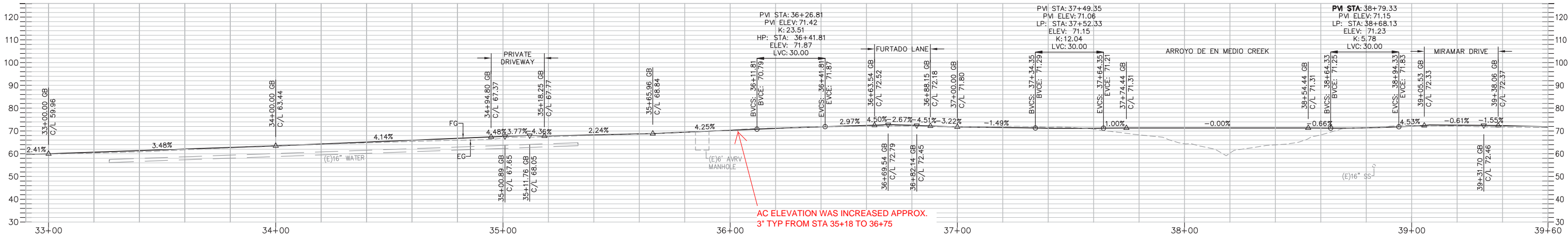


APPROVED: \_\_\_\_\_  
DATE: 12/23/2021  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023



PLAN  
SCALE: 1" = 20'

**LEGEND**  
→ DITCH FLOW DIRECTION TYP.



PROFILE  
SCALE: HORIZONTAL 1" = 20'  
VERTICAL 1" = 20'

- NOTES:**
- SEE C-0.02 AND C-0.03 FOR SURVEY CONTROL PLAN.
  - (E)ABANDONED SEWER LINE IS IN CONFLICT WITH (P)BRIDGE PIERS. CONTRACTOR TO REMOVE SEGMENT OF (E)PIPE AS REQUIRED TO INSTALL PROPOSED IMPROVEMENTS. CONTRACTOR TO COORDINATE REMOVAL OF (E)PIPE WITH COUNTY, ENGINEER, AND SEWER AUTHORITY MID-COASTSIDE.

APPROVED DATE: 12-23-2021  
*NJC*  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

APPROVED DATE: \_\_\_\_\_  
*Jason Mansfield*  
JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
ENGINEERS/SURVEYORS/PLANNERS  
255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL PLAN & PROFILE STA 32+90 TO STA 39+60	SCALE: AS SHOWN
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	<b>C-205</b> SHEET 15 OF 38

FOR REDUCED PLANS  
ORIGINAL SCALE IS IN INCHES

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PLOT TIME: 12-28-21



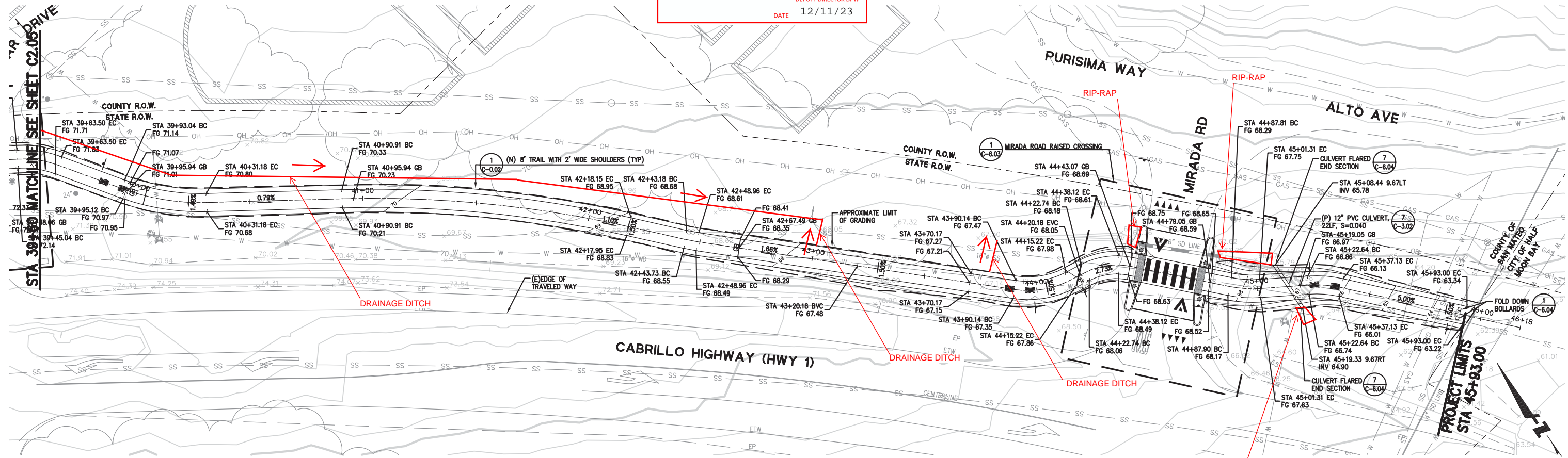
**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF LISAI  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23

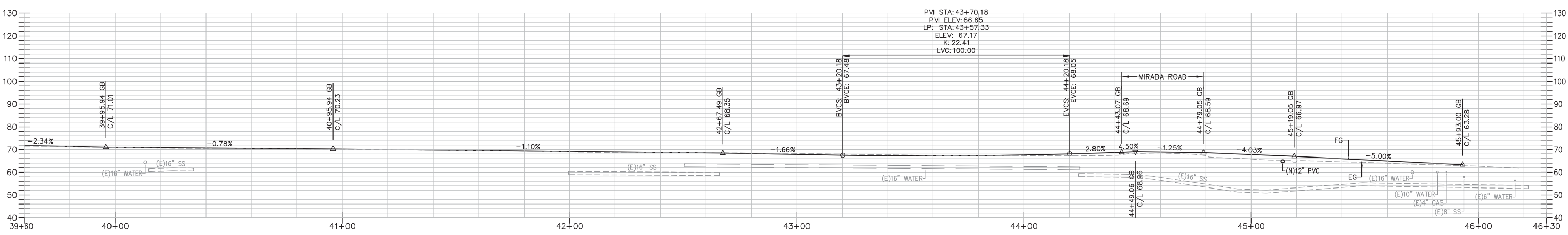


APPROVED: \_\_\_\_\_  
DATE: 12/23/2021  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

**LEGEND**  
→ DITCH FLOW DIRECTION TYP.



PLAN  
SCALE: 1" = 20'



PROFILE  
SCALE: HORIZONTAL 1" = 20'  
VERTICAL 1" = 20'

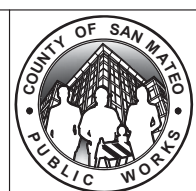
**NOTES:**  
1. SEE C-02 AND C-03 FOR SURVEY CONTROL PLAN.

APPROVED DATE: 12-23-2021  
*NJC*  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

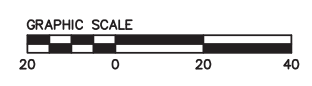
APPROVED DATE: \_\_\_\_\_  
*Jason Mansfield*  
JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023

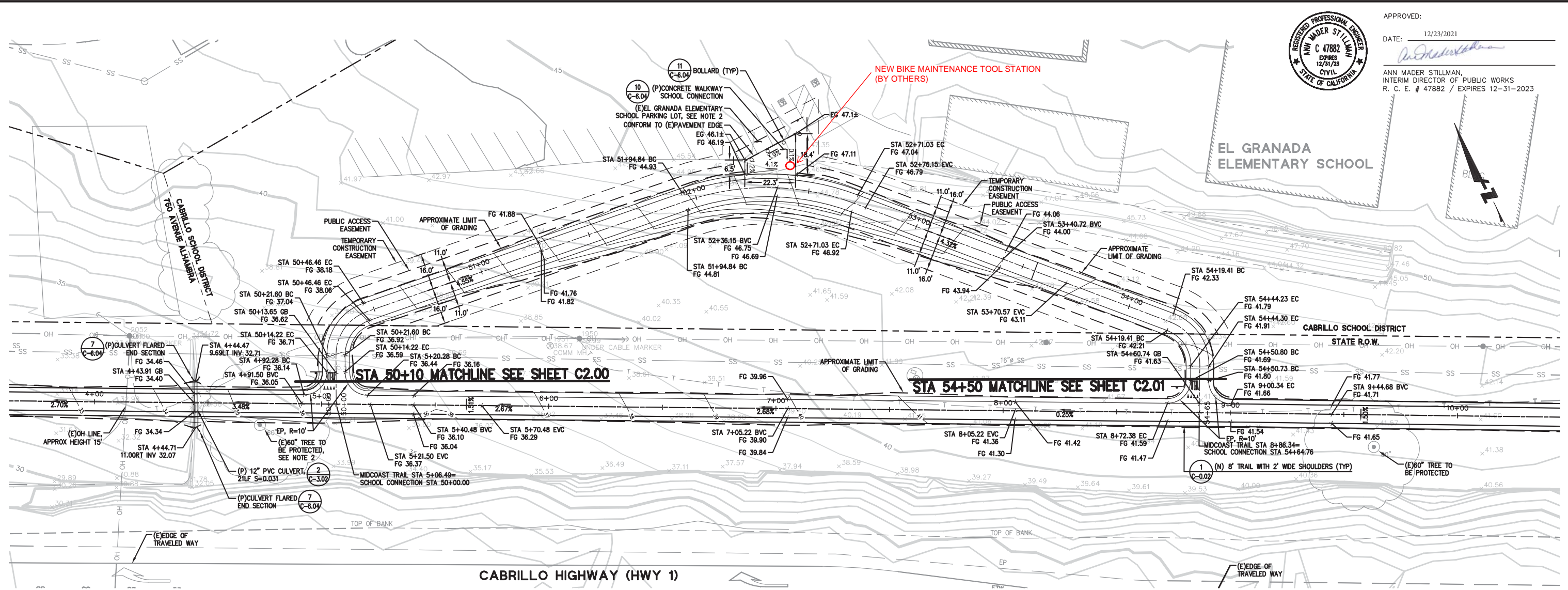


**BKF**  
ENGINEERS/SURVEYORS/PLANNERS  
255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300

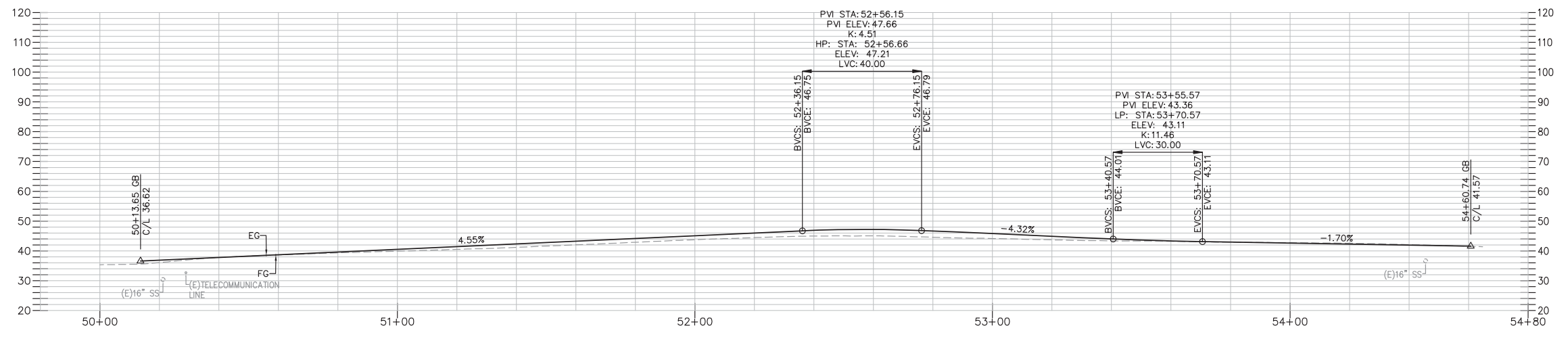


DESIGNED BY: BKF (CT)		MIDCOAST MULTI-MODAL TRAIL PLAN & PROFILE STA 39+60 TO STA 45+93		SCALE: AS SHOWN
CHECKED BY: BKF (JM)		ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		DATE: 12/08/2021
DRAWN BY: BKF (JC)		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		FILE NO: 1/4952
REVISION	DATE			
		FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		





PLAN  
SCALE: 1" = 20'



PROFILE  
SCALE: HORIZONTAL 1" = 20'  
VERTICAL 1" = 20'

- NOTES:**
- SEE C-0.02 AND C-0.03 FOR SURVEY CONTROL PLAN.
  - THE CONTRACTOR SHALL NOT USE THE EL GRANADA ELEMENTARY SCHOOL PARKING LOT FOR CONSTRUCTION ACCESS, OR AS A STAGING AREA.



APPROVED DATE: 12-23-2021

*NJC*

NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

APPROVED DATE:

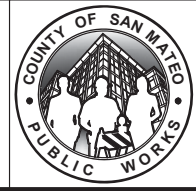
*Jason Mansfield*

JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
ENGINEERS/SURVEYORS/PLANNERS

255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



DESIGNED BY: BKF (CT)	ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO
CHECKED BY: BKF (JM)	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
DRAWN BY: BKF (JC)	
REVISION	DATE

MIDCOAST MULTI-MODAL TRAIL  
PLAN & PROFILE  
STA 50+10 TO STA 54+50

SCALE: AS SHOWN  
DATE: 12/08/2021  
FILE NO: 1/4952

ANN MADER STILLMAN  
INTERIM DIRECTOR OF PUBLIC WORKS  
COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR  
REDWOOD CITY, CALIFORNIA 94063

RESIDENT ENGINEER: KRZYSZTOF LISAJ  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23

C-207  
SHEET 17 OF 38



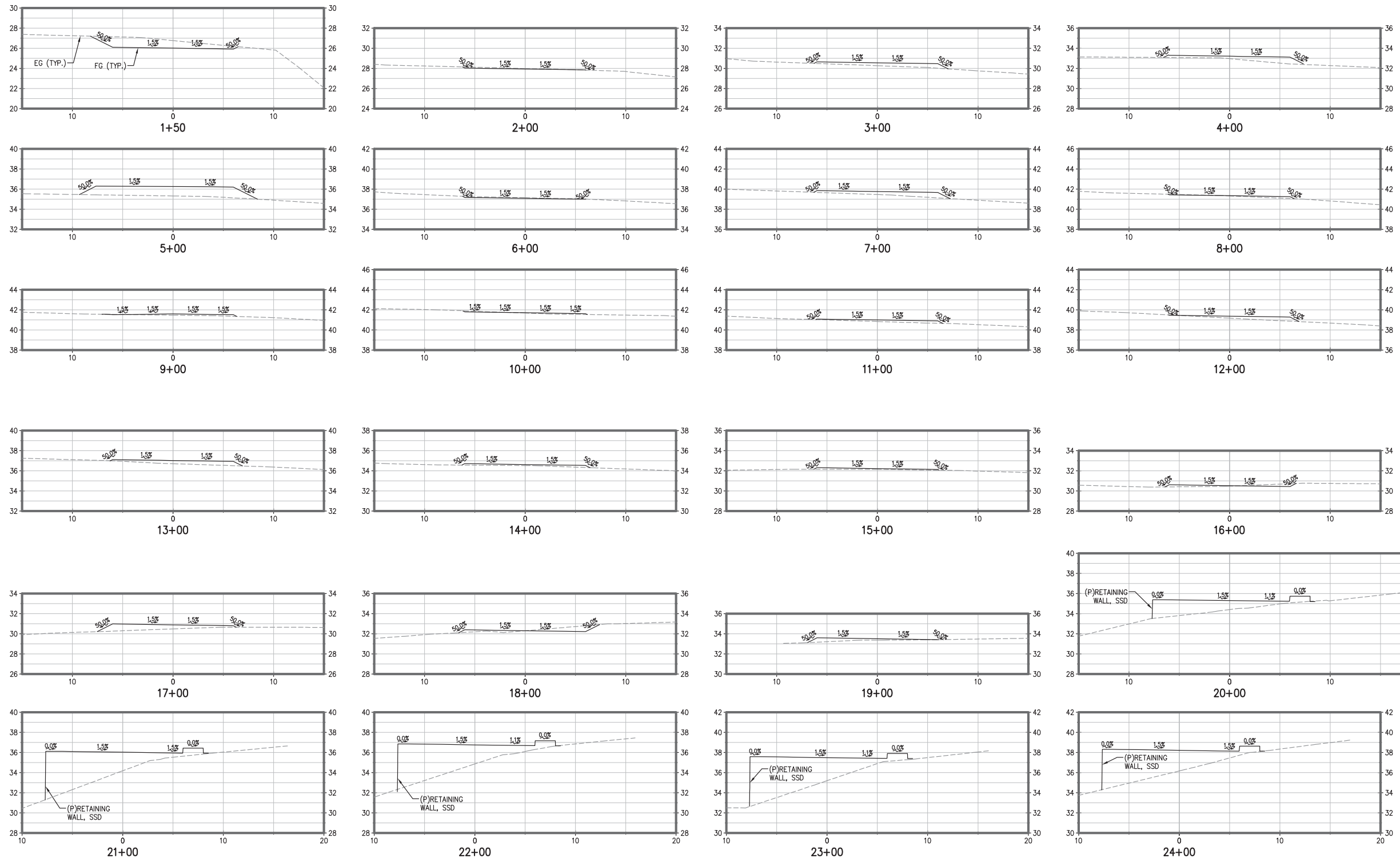
APPROVED: *Ann Mader Stillman*  
DATE: 12/23/2021

ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

DRAWING NAME: K:\Projects\14024\AS-BUILTS\C2-3X-PLANAL.PDF (L) - 04m  
PLOT TIME: 12-28-21



APPROVED: 12/23/2021  
 DATE: *Ann Mader Stillman*  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



SCALE: HORIZONTAL 1" = 10'  
 VERTICAL 1" = 10'

NOTE:  
 1. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS.

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: *Krzysztof Usaj*  
 KRZYSZTOF USAJ  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

APPROVED DATE: 12-23-2021  
*NJC*  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE:  
*Jason Mansfield*  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300

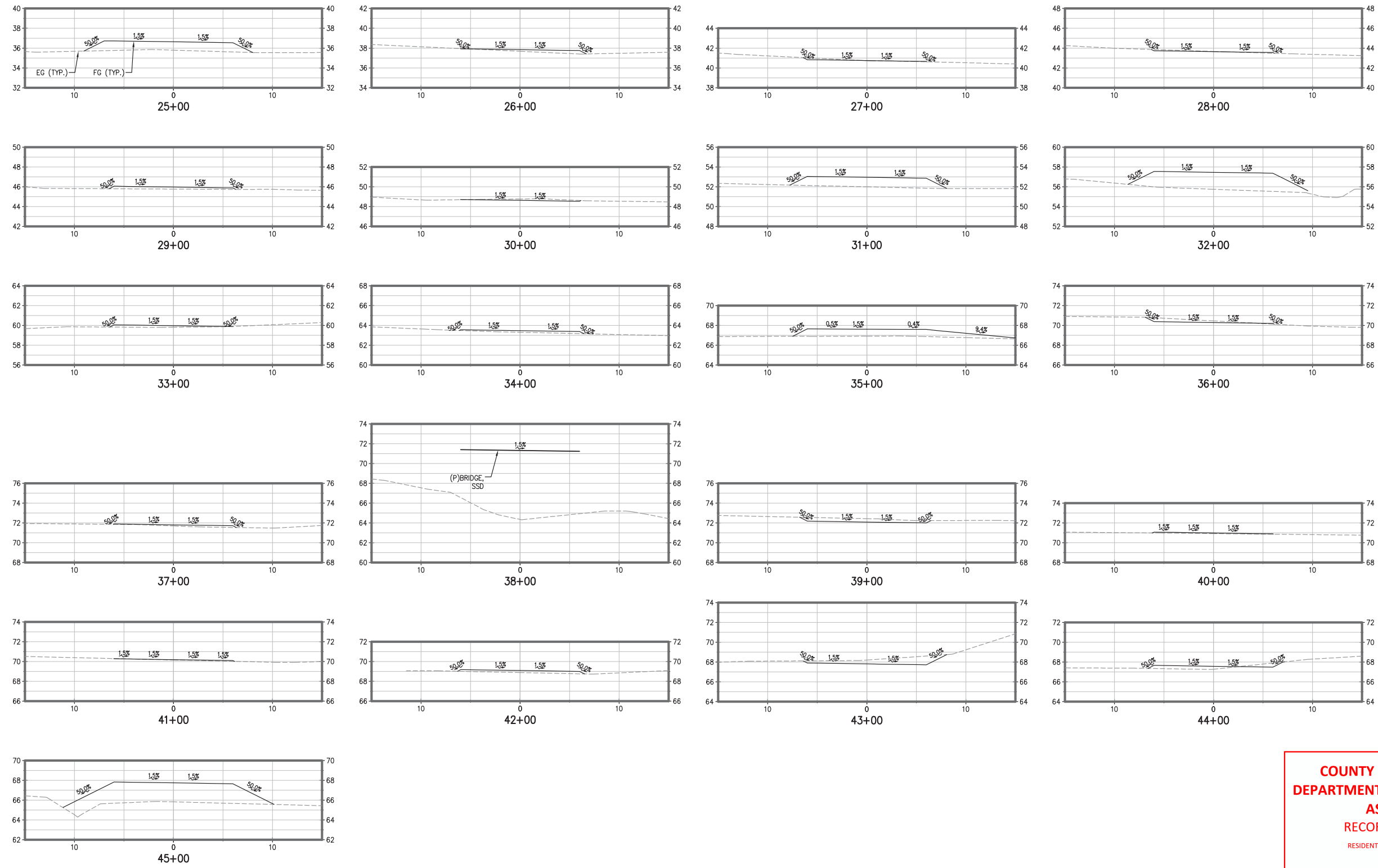


DESIGNED BY: BKF (CT)		MIDCOAST MULTI-MODAL TRAIL		SCALE: AS SHOWN
CHECKED BY: BKF (JM)		CROSS SECTIONS		DATE: 12/08/2021
DRAWN BY: BKF (JC)		ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		C-300
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES				

DRAWING NAME: K:\Projects\140224\BKF\ETS\CS\_10-16-SEC.dwg  
 PLOT TIME: 12-28-21



APPROVED: \_\_\_\_\_  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



NOTE:  
 1. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS.

SCALE: HORIZONTAL 1" = 10'  
 VERTICAL 1" = 10'

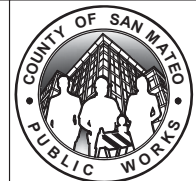
**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: KRZYSZTOF LISAJ  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

APPROVED DATE: 12-23-2021  
  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE:  
  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300

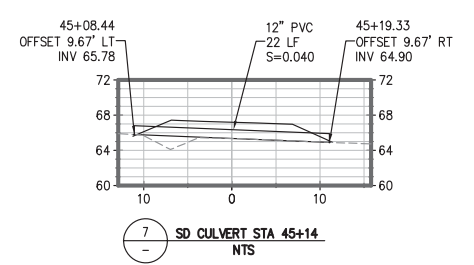
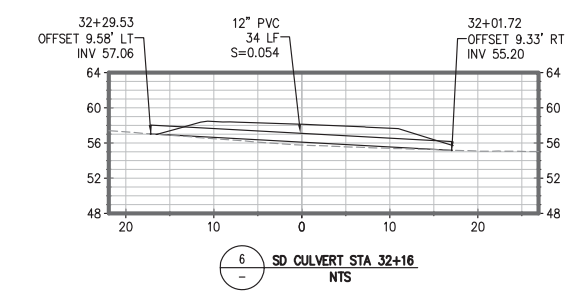
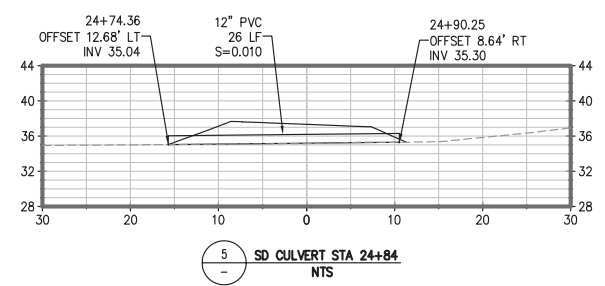
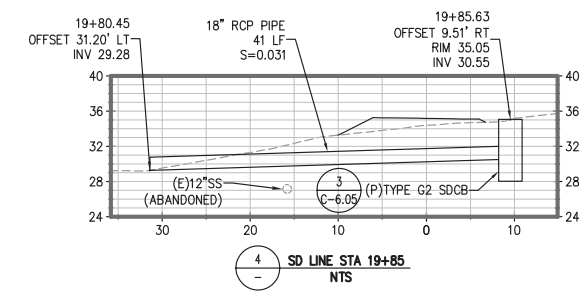
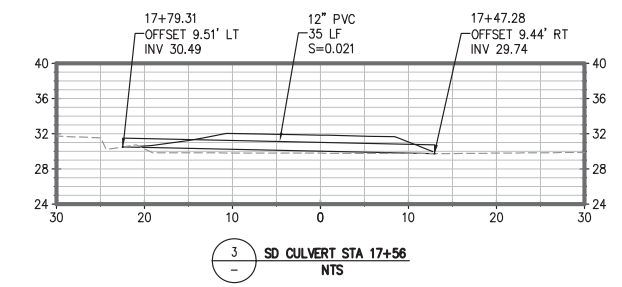
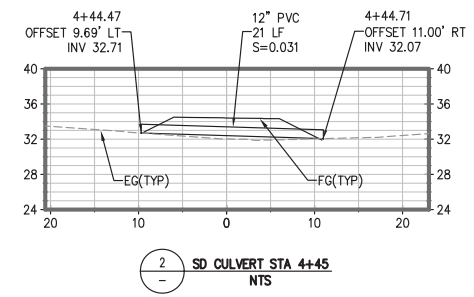
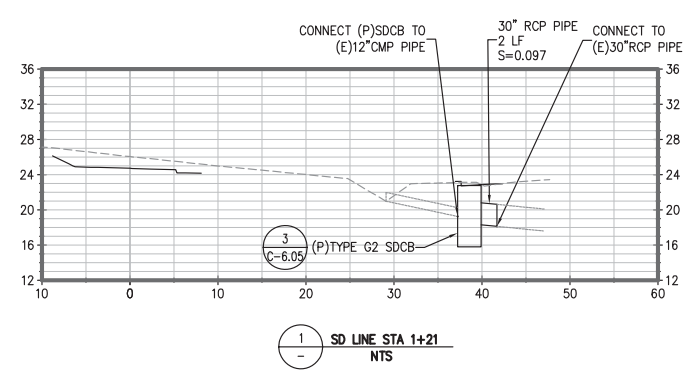


DESIGNED BY: BKF (CT)		MIDCOAST MULTI-MODAL TRAIL		SCALE: AS SHOWN
CHECKED BY: BKF (JM)		CROSS SECTIONS		DATE: 12/08/2021
DRAWN BY: BKF (JC)		ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		
		FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		<b>C-301</b> SHEET 19 OF 38

DRAWING NAME: K:\V\14\1402\4\BKF\ETS\CS\_10-16-SEC.dwg  
 PLOT TIME: 12-28-21



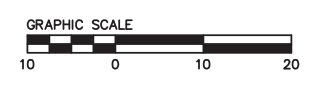
APPROVED: \_\_\_\_\_  
 DATE: 12/23/2021  
*Ann Mader Stillman*  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



CROSS SECTIONS  
 SCALE: HORIZONTAL 1" = 10'  
 VERTICAL 1" = 10'

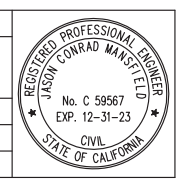
**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER \_\_\_\_\_  
 KRZYSZTOF LISAJ  
 DEPUTY DIRECTOR DPW  
 DATE 12/11/23

DRAWING NAME: K:\V\1\1402\4\3\BIBETS\3.01-UTL\117-6-SEC-4.dwg  
 PLOT TIME: 12-28-21

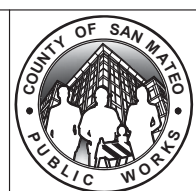


APPROVED DATE: 12-23-2021  
*NJC*  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE: \_\_\_\_\_  
*Jason Mansfield*  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL	SCALE: AS SHOWN
CHECKED BY: BKF (JM)	STORM DRAIN PROFILES	DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	
REVISION	DATE	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		0 1 2 3 4
		<b>C-302</b> SHEET 20 OF 38

**LEGEND:**

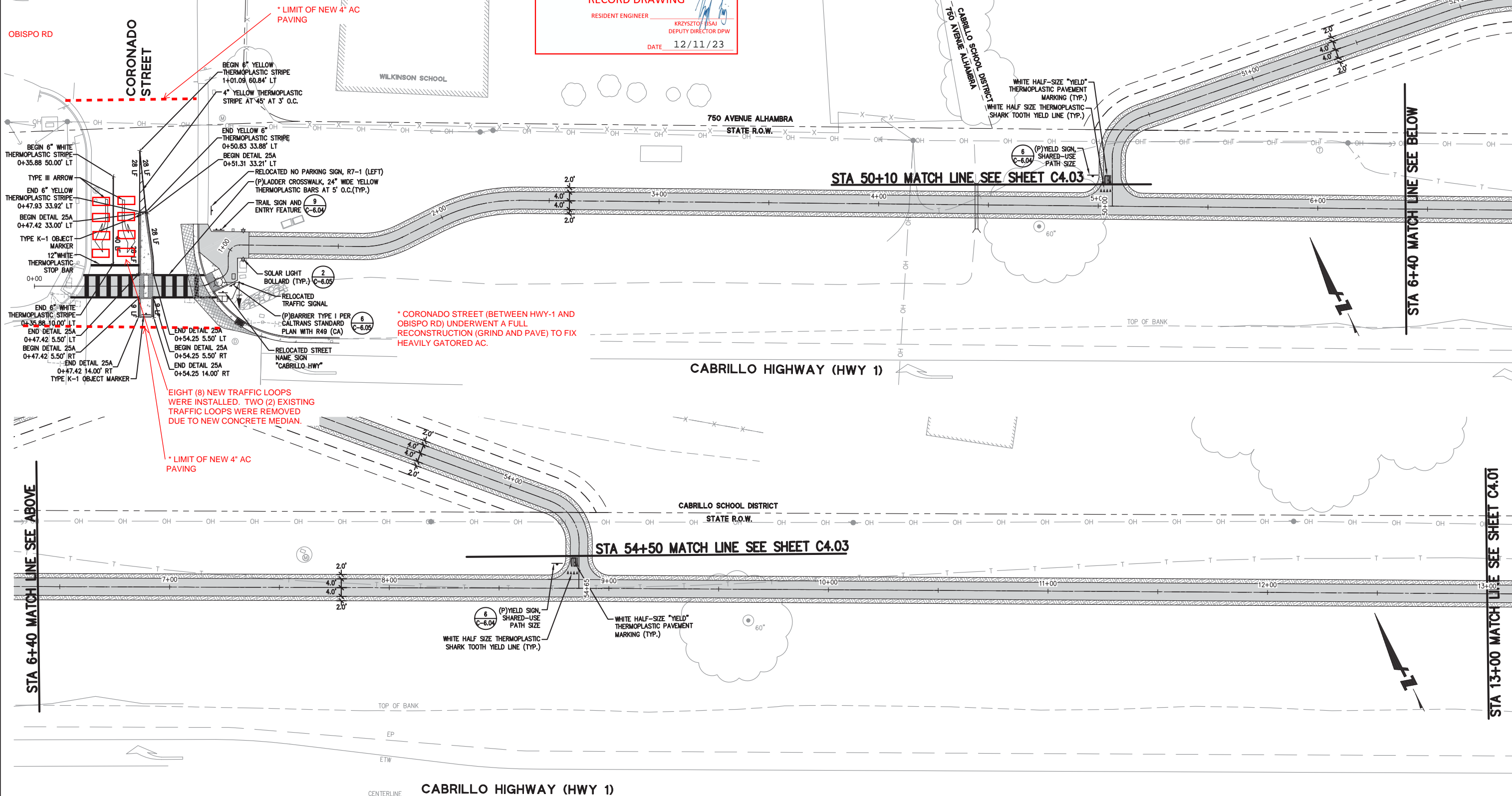
	AC PAVEMENT		DC SHOULDER
	CONCRETE (4" CONCRETE/6" CLASS II AB)		

**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF ISAJ  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23

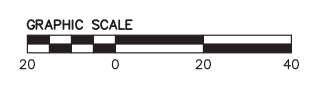


APPROVED: *Ann Mader Stillman*  
DATE: 12/23/2021  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023



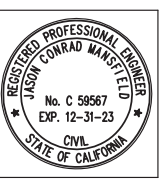
STA 6+40 MATCH LINE SEE ABOVE

STA 13+00 MATCH LINE SEE SHEET C4.01

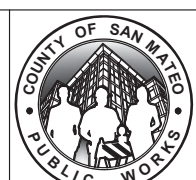


APPROVED DATE: 12-23-2021
<i>NJC</i>
NICHOLAS CALDERON, PARKS DIRECTOR
SMC PARKS DEPARTMENT

APPROVED DATE:
<i>Jason Mansfield</i>
JASON MANSFIELD, PROJECT MANAGER
BKF ENGINEERS
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
ENGINEERS/SURVEYORS/PLANNERS  
255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL SIGNING AND STRIPING PLANS STA 0+00 TO STA 13+00	SCALE: AS SHOWN
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	<b>C-400</b> SHEET 21 OF 38

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

DRAWING NAME: K:\V\d\1\4024\AS-BUILTS\C4-XX-5 (DL STRIP) IN.dwg  
PLOT TIME: 12-28-21

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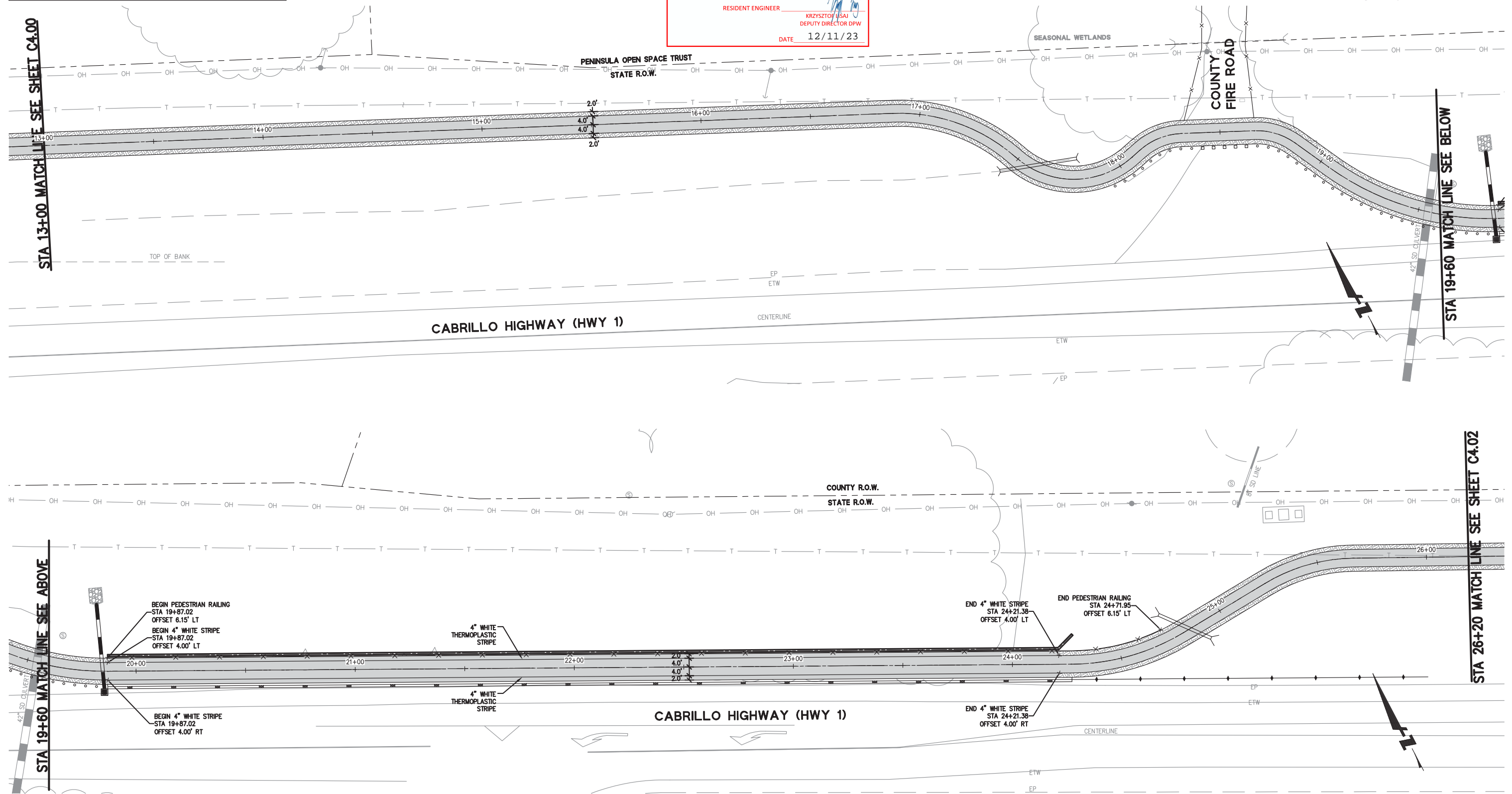
	AC PAVEMENT		DG SHOULDER
	CONCRETE (4" CONCRETE/6" CLASS II AB)		

**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF LISAJ  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23



APPROVED: *Ann Mader Stillman*  
DATE: 12/23/2021  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023



DRAWING NAME: K:\Data\14224\BURETS\CA-XK-S\04L STRIPING.dwg  
PLOT TIME: 12-28-21

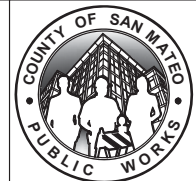


APPROVED DATE: 12-23-2021  
*NJC*  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

APPROVED DATE:  
*Jason Mansfield*  
JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
ENGINEERS/SURVEYORS/PLANNERS  
255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL SIGNING AND STRIPING PLAN STA 13+00 TO STA 26+20	SCALE: AS SHOWN
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	
REVISION	DATE	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		0 1 2 3 4

**LEGEND:**

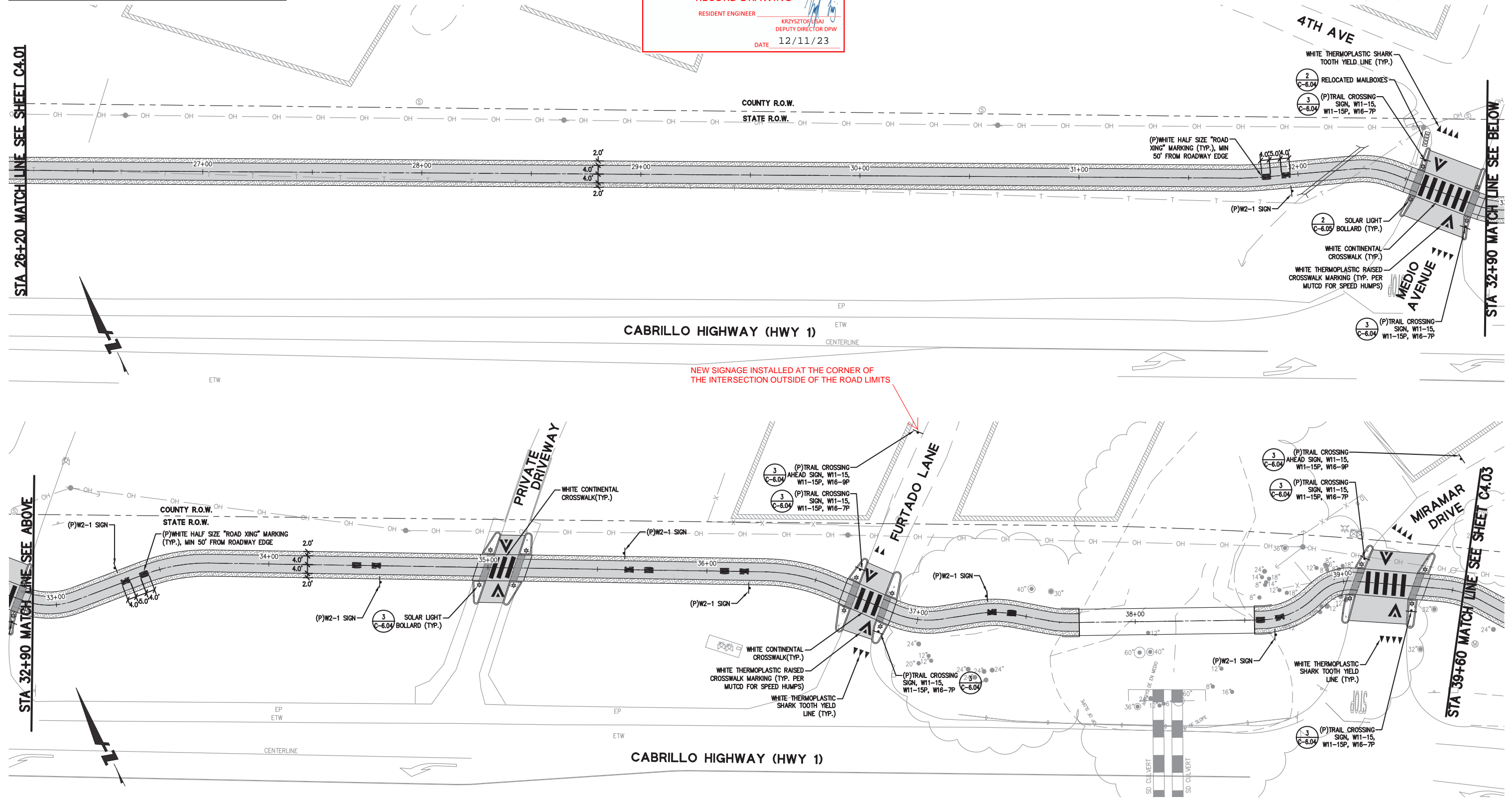
	AC PAVEMENT		DC SHOULDER
	CONCRETE (4" CONCRETE/6" CLASS II AB)		

**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF LSAI  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23



APPROVED: *Ann Mader Stillman*  
DATE: 12/23/2021  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

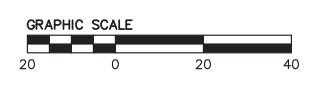


STA 26+20 MATCH LINE SEE SHEET C4.01

STA 32+90 MATCH LINE SEE BELOW

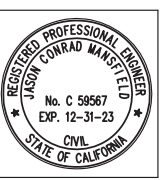
STA 32+90 MATCH LINE SEE ABOVE

STA 39+60 MATCH LINE SEE SHEET C4.03

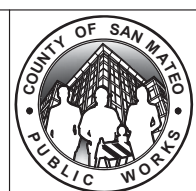


APPROVED DATE: 12-23-2021  
*NJC*  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

APPROVED DATE:  
*Jason Mansfield*  
JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
Engineers/Surveyors/Planners  
255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



REVISION	DATE

DESIGNED BY: BKF (CT)  
CHECKED BY: BKF (JM)  
DRAWN BY: BKF (JC)

MIDCOAST MULTI-MODAL TRAIL  
SIGNING AND STRIPING PLAN  
STA 26+20 TO STA 39+60

ANN MADER STILLMAN  
INTERIM DIRECTOR OF PUBLIC WORKS  
COUNTY SAN MATEO

555 COUNTY CENTER, 5th FLOOR  
REDWOOD CITY, CALIFORNIA 94063

SCALE: AS SHOWN  
DATE: 12/08/2021  
FILE NO: 1/4952

C-402  
SHEET 23 OF 38

DRAWING NAME: K:\V\d\1\402\4\BKF\CA-XX-5\04L STRIPING.dwg  
PLOT TIME: 12-28-21

**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

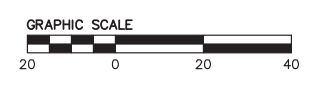
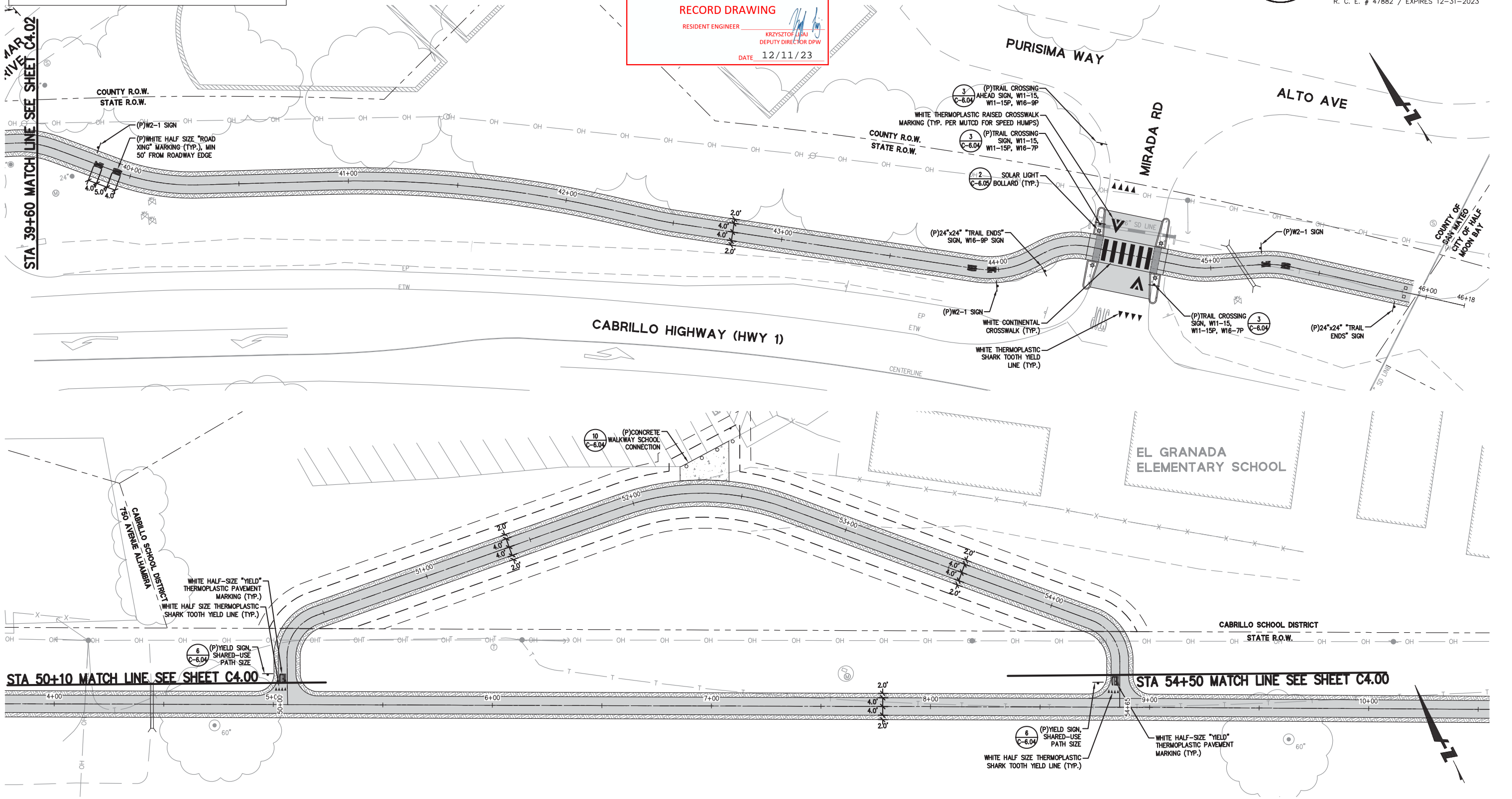
RESIDENT ENGINEER: KRZYSZTOF LUBAJ  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23



APPROVED: \_\_\_\_\_  
DATE: 12/23/2021  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

**LEGEND:**

	AC PAVEMENT		DC SHOULDER
	CONCRETE (4" CONCRETE/6" CLASS II AB)		

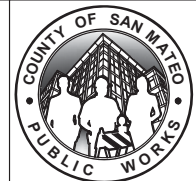


APPROVED DATE: 12-23-2021  
*NJC*  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

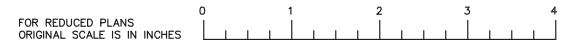
APPROVED DATE: \_\_\_\_\_  
*Jason Mansfield*  
JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
ENGINEERS/SURVEYORS/PLANNERS  
255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



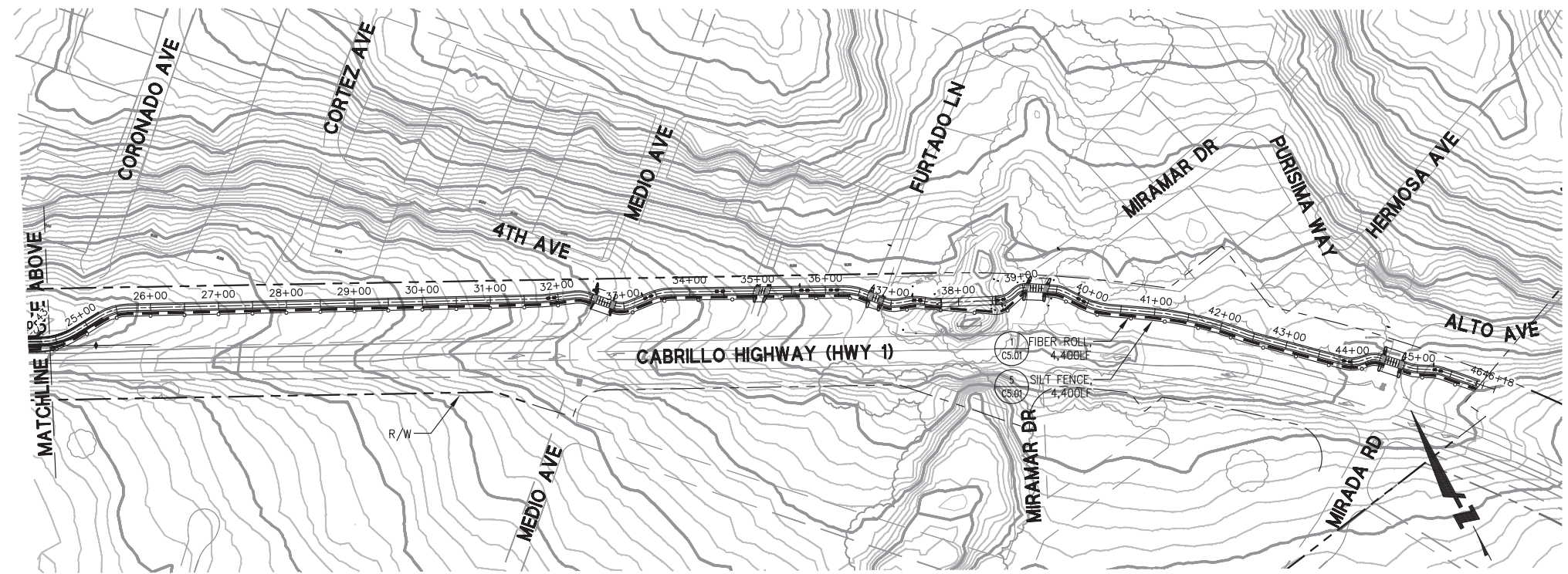
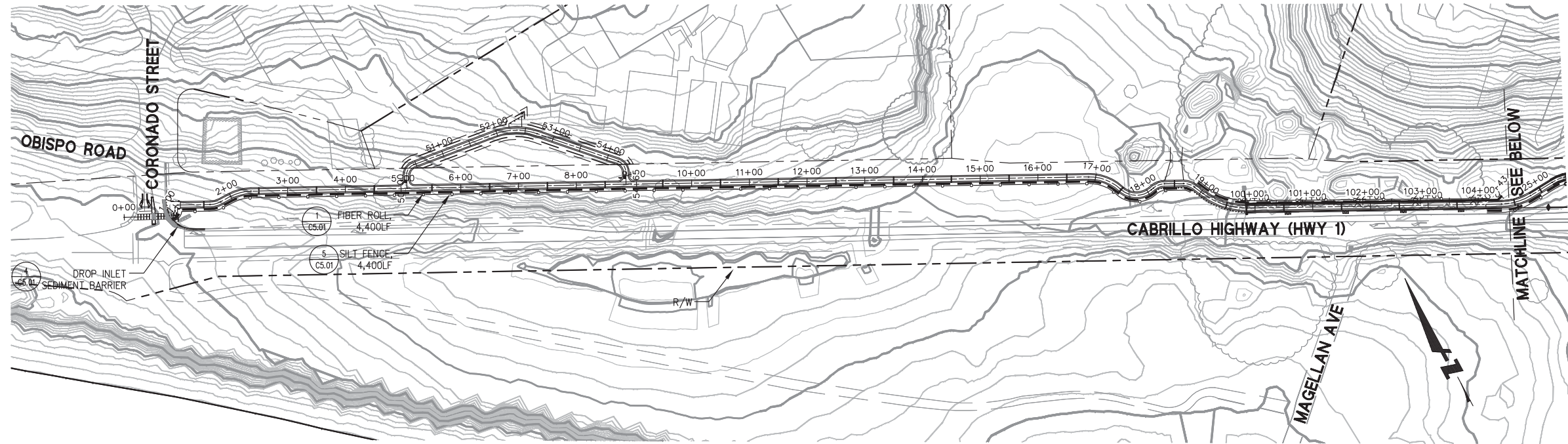
DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL SIGNING AND STRIPING PLAN STA 39+60 TO 45+93 AND STA 50+10 TO 54+50	SCALE: AS SHOWN
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	<b>C-403</b> SHEET 24 OF 38



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PLOT TIME: 12-28-21

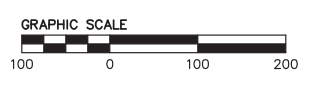


APPROVED: \_\_\_\_\_  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



**LEGEND:**  
 FIBER ROLL ————  
 SILT FENCE —○—○—

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER \_\_\_\_\_  
 KRZYSZTOF JISAJ  
 DEPUTY DIRECTOR DPW  
 DATE 12/11/23



APPROVED DATE: 12-23-2021  
 \_\_\_\_\_  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE: \_\_\_\_\_  
 \_\_\_\_\_  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



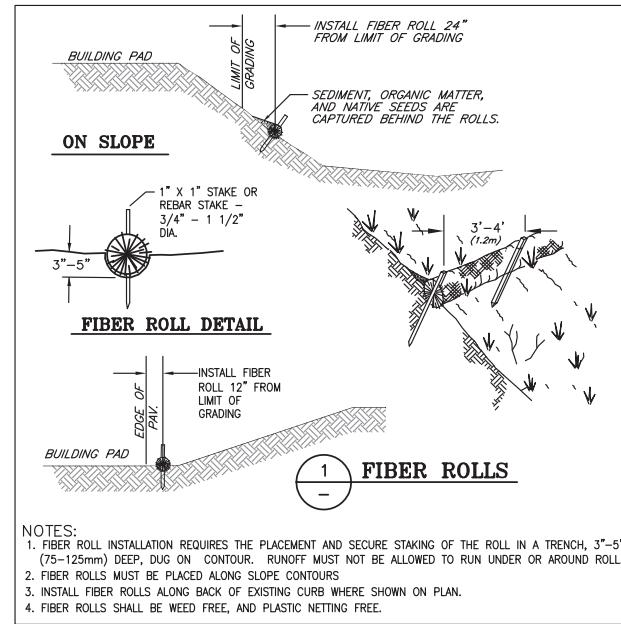
**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



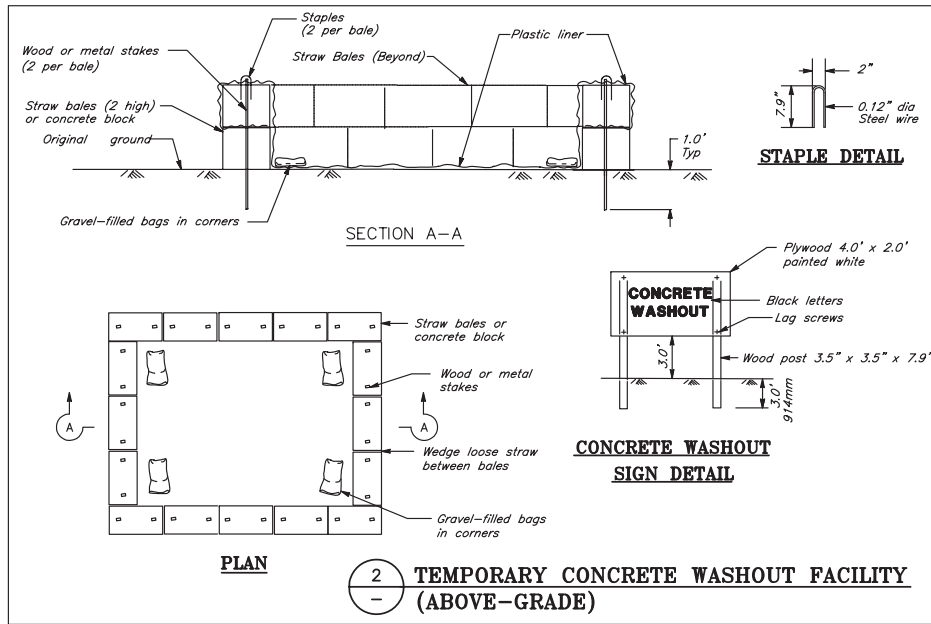
DESIGNED BY: BKF (CT)		MIDCOAST MULTI-MODAL TRAIL		SCALE: 1" = 100'
CHECKED BY: BKF (JM)		EROSION CONTROL PLAN		DATE: 12/08/2021
DRAWN BY: BKF (JC)		ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		<b>C-500</b> SHEET 25 OF 38
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES				

DRAWING NAME: K:\Data\14024\BIBETS\CS-XK-EROSION CONTROL PLAN.dwg  
 PLOT TIME: 12-28-21

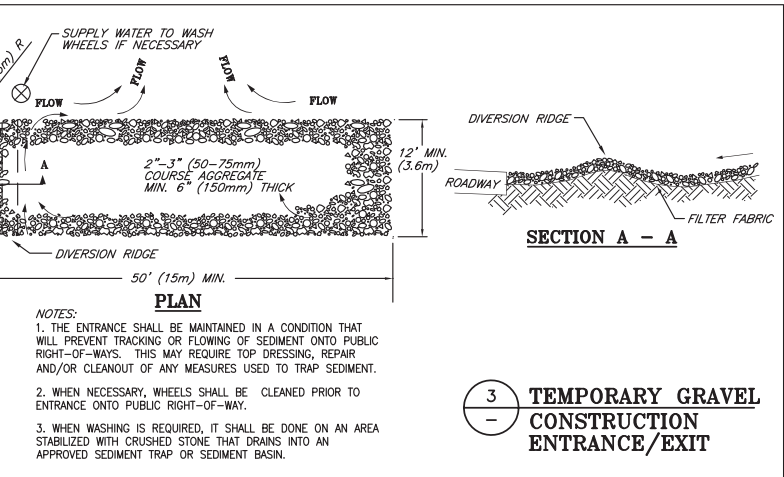
**EROSION CONTROL DETAILS**



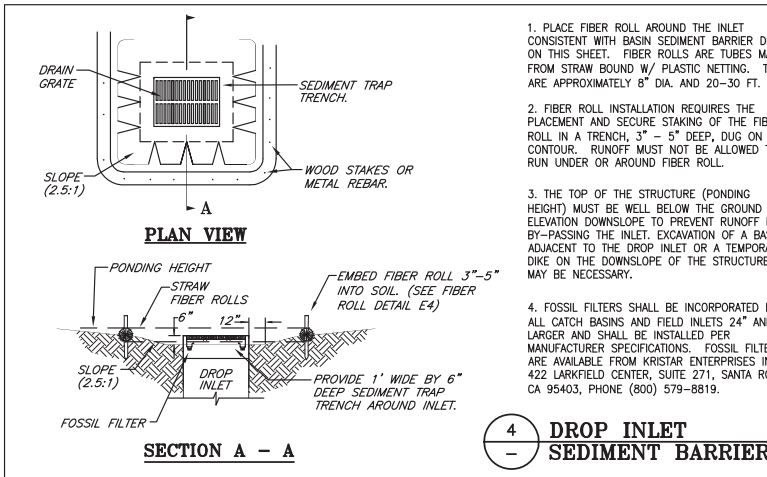
- NOTES:**
1. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" (75-125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
  2. FIBER ROLLS MUST BE PLACED ALONG SLOPE CONTOURS
  3. INSTALL FIBER ROLLS ALONG BACK OF EXISTING CURB WHERE SHOWN ON PLAN.
  4. FIBER ROLLS SHALL BE WEED FREE, AND PLASTIC NETTING FREE.



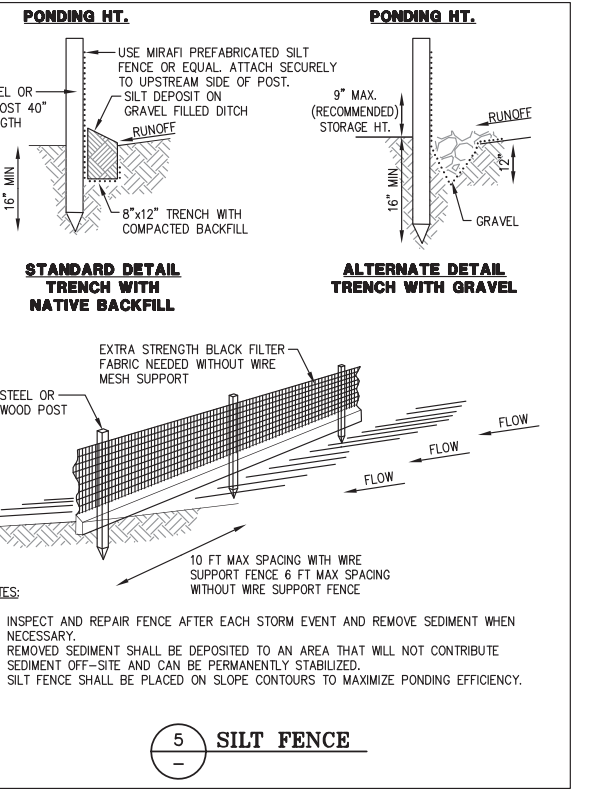
- PLAN**
- 2 TEMPORARY CONCRETE WASHOUT FACILITY (ABOVE-GRADE)**



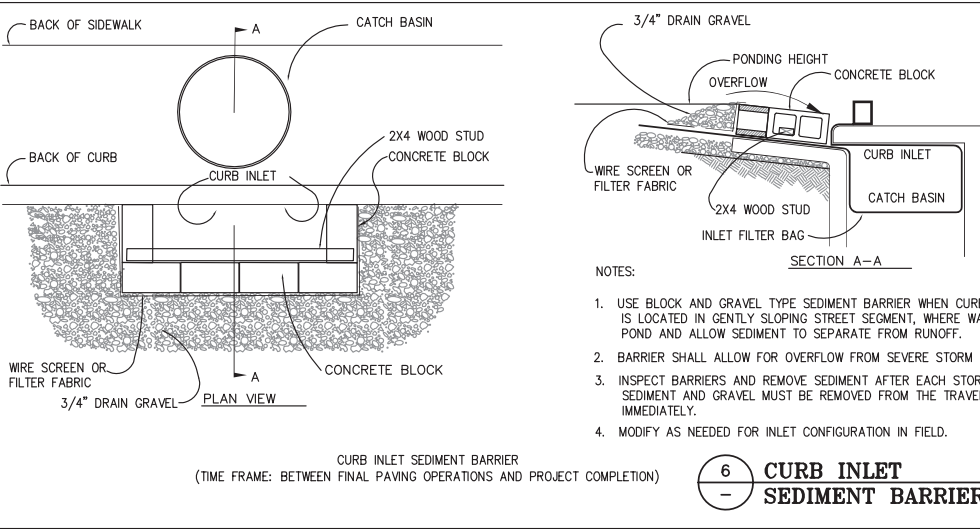
- NOTES:**
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
  2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
  3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.



1. PLACE FIBER ROLL AROUND THE INLET CONSISTENT WITH BASIN SEDIMENT BARRIER DETAIL ON THIS SHEET. FIBER ROLLS ARE TUBES MADE FROM STRAW BOUND W/ PLASTIC NETTING. THEY ARE APPROXIMATELY 8" DIA. AND 20-30 FT. LONG.
2. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE FIBER ROLL IN A TRENCH, 3" - 5" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND FIBER ROLL.
3. THE TOP OF THE STRUCTURE (PONING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY-PASSING THE INLET. EXCAVATION OF A BASIN ADJACENT TO THE DROP INLET OR A TEMPORARY DIKE ON THE DOWNSLOPE OF THE STRUCTURE MAY BE NECESSARY.
4. FOSSIL FILTERS SHALL BE INCORPORATED IN ALL CATCH BASINS AND FIELD INLETS 24" AND LARGER AND SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS. FOSSIL FILTERS ARE AVAILABLE FROM KRISTAR ENTERPRISES INC., 422 LARKFIELD CENTER, SUITE 271, SANTA ROSA, CA 95403, PHONE (800) 579-8819.



- NOTES:**
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
  2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
  3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONING EFFICIENCY.



- NOTES:**
1. USE BLOCK AND GRAVEL TYPE SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN GENTLY SLOPING STREET SEGMENT, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
  2. BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENTS.
  3. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.
  4. MODIFY AS NEEDED FOR INLET CONFIGURATION IN FIELD.

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF USAJ  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23



APPROVED: \_\_\_\_\_  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

**URBAN ROADWAY EROSION PREVENTION AND SEDIMENT CONTROL NOTES**

1. PERFORM EROSION PREVENTION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE LATEST EDITION OF APPENDIX CHAPTER 33 OF THE CALIFORNIA BUILDING CODE, APPLICABLE SAN MATEO COUNTY REGULATIONS, AND SECTION 20 OF THE CALTRANS STANDARD SPECIFICATIONS.
2. THE APPROVED PLANS SHALL CONFORM WITH THE EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES CONTAINED IN THE LATEST EDITIONS OF THE FOLLOWING PUBLICATIONS OR AN EQUIVALENT BEST MANAGEMENT PRACTICE:  
 STORMWATER MANAGEMENT PLAN BY THE SAN MATEO COUNTYWIDE STORMWATER POLLUTION PREVENTION PROGRAM.  
 EROSION AND SEDIMENT CONTROL FIELD MANUAL BY THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD.  
 MANUAL OF STANDARDS FOR EROSION & SEDIMENT CONTROL MEASURES BY THE ASSOCIATION OF BAY AREA GOVERNMENTS.  
 CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL BY CALTRANS.  
 STORMWATER BEST MANAGEMENT PRACTICE HANDBOOK BY THE CALIFORNIA STORMWATER QUALITY ASSOCIATION.
3. IF DISCREPANCIES OCCUR BETWEEN THESE NOTES, MATERIAL REFERENCED HEREIN OR THE MANUFACTURER'S RECOMMENDATIONS, THEN THE MOST PROTECTIVE SHALL APPLY.
4. THE OWNER IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT NO. CAS000002 WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY DISTURBING LAND EQUAL TO OR GREATER THAN ONE ACRE. CONSTRUCTION ACTIVITIES INCLUDE BUT ARE NOT LIMITED TO CLEARING, GRADING, EXCAVATION, STOCKPILING, AND RECONSTRUCTION OF EXISTING FACILITIES INVOLVING REMOVAL AND REPLACEMENT.
5. PRESERVATION OF EXISTING VEGETATION SHALL OCCUR TO THE MAXIMUM EXTENT PRACTICABLE.
6. THE OWNER IS RESPONSIBLE FOR PREVENTING STORM WATER POLLUTION GENERATED FROM THE CONSTRUCTION SITE YEAR ROUND. THE OWNER MUST IMPLEMENT AN EFFECTIVE COMBINATION OF EROSION PREVENTION AND SEDIMENT CONTROL ON ALL DISTURBED AREAS DURING THE RAINY SEASON (OCTOBER 15 - APRIL 15).
7. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED BY THE OWNER BEFORE FORECASTED STORM EVENTS AND AFTER ACTUAL STORM EVENTS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY. STORM EVENTS PRODUCE AT LEAST 1 INCH OF PRECIPITATION IN A 24 HOUR PERIOD. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES THAT HAVE FAILED OR ARE NO LONGER EFFECTIVE SHALL BE PROMPTLY REPLACED. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED.
8. CHANGES TO THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN MAY BE MADE TO RESPOND TO FIELD CONDITIONS. CHANGES SHALL BE NOTED ON THE PLAN WHEN MADE.
9. DISCHARGES OF POTENTIAL POLLUTANTS FROM CONSTRUCTION SITES SHALL BE PREVENTED USING SOURCE CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SEDIMENT, TRASH, NUTRIENTS, PATHOGENS, PETROLEUM HYDROCARBONS, METALS, CONCRETE, CEMENT, ASPHALT, LIME, PAINT, STAINS, GLUES, WOOD PRODUCTS, PESTICIDES, HERBICIDES, CHEMICALS, HAZARDOUS WASTE, SANITARY WASTE, VEHICLE OR EQUIPMENT WASH WATER AND CHLORINATED WATER.
10. ENTRANCE(S) TO THE CONSTRUCTION SITE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF POTENTIAL POLLUTANTS OFFSITE. POTENTIAL POLLUTANTS DEPOSITED ON PAVED AREAS WITHIN THE CITY RIGHT-OF-WAY, SUCH AS ROADWAYS AND SIDEWALKS, SHALL BE PROPERLY DISPOSED OF AT THE END OF EACH WORKING DAY OR MORE FREQUENTLY AS NECESSARY.
11. THE OWNER SHALL PROTECT STORM DRAIN INLETS FROM POTENTIAL POLLUTANTS UNTIL DRAINAGE CONVEYANCE SYSTEMS ARE FUNCTIONAL AND CONSTRUCTION HAS BEEN COMPLETED.
12. ENERGY DISSIPATORS SHALL BE INSTALLED AT CONCENTRATED STORM DRAIN RUNOFF LOCATIONS WHICH MAY CONVEY STORM WATER FLOW LEADING TO SOIL EROSION.
13. SOIL AND MATERIAL STOCKPILES SHALL BE PROPERLY PROTECTED TO MINIMIZE SEDIMENT AND POLLUTANT TRANSPORT FROM THE CONSTRUCTION SITE.
14. SOLID WASTE, SUCH AS TRASH, DISCARDED BUILDING MATERIALS AND DEBRIS, SHALL BE PLACED IN DESIGNATED COLLECTION AREAS OR CONTAINERS. THE CONSTRUCTION SITE SHALL BE CLEARED OF SOLID WASTE DAILY, OR AS NECESSARY, AND REGULAR REMOVAL AND PROPER DISPOSAL SHALL BE ARRANGED.
15. A CONCRETE WASHOUT AREA, SUCH AS A TEMPORARY PIT, SHALL BE DESIGNATED TO CLEAN CONCRETE TRUCKS AND TOOLS. AT NO TIME SHALL CONCRETE PRODUCTS AND WASTE BE ALLOWED TO ENTER WATERWAYS SUCH AS CREEKS OR STORM DRAINS.
16. PROPER APPLICATION, CLEANING AND STORAGE OF POTENTIALLY HAZARDOUS MATERIALS, SUCH AS PAINTS AND CHEMICALS, SHALL BE CONDUCTED TO PREVENT THE DISCHARGE OF POLLUTANTS.
17. WHEN UTILIZED, TEMPORARY RESTROOMS AND SANITARY FACILITIES SHALL BE LOCATED AND MAINTAINED TO PREVENT THE DISCHARGE OF POLLUTANTS.
18. APPROPRIATE VEHICLE STORAGE, FUELING, MAINTENANCE AND CLEANING AREAS SHALL BE DESIGNATED AND MAINTAINED TO PREVENT DISCHARGE OF POLLUTANTS.

**SUPPLEMENTAL EROSION CONTROL NOTES**

1. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. IN GENERAL, THE CONTRACTOR IS RESPONSIBLE FOR KEEPING SEDIMENT STORM RUN-OFF FROM LEAVING THE SITE. FIBER ROLLS AND SAND BAGS SHALL BE USED BY THE CONTRACTOR ON AN AS NEEDED BASIS TO INHIBIT SILT FROM LEAVING THE SITE AND ENTERING THE STORM DRAIN SYSTEM. ALL EXISTING TEMPORARY OR PERMANENT CATCH BASINS SHALL USE ONE OF THE SEDIMENT BARRIERS SHOWN.
2. AS THE OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES TO PUBLICLY AND/OR PRIVATELY OWNED AND MAINTAINED ROADS CAUSED BY THE CONTRACTOR'S GRADING ACTIVITIES, AND SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIAL SPILLED ON ANY PUBLIC ROAD ON THE HAUL ROUTE. ADJACENT PUBLIC ROADS SHALL BE CLEANED AT THE END OF EACH WORKING DAY. EROSION CONTROL MEASURES ARE REQUIRED DURING THE WET SEASON, STARTING OCTOBER 1 OF EACH YEAR. EROSION CONTROL FACILITIES SHALL BE MAINTAINED DAILY UNTIL APRIL 15.
3. THE NAME OF THE PERSON RESPONSIBLE FOR THE DAILY MAINTENANCE OF THESE FACILITIES SHALL BE ON RECORD WITH THE COUNTY OF SAN MATEO ALONG WITH A PHONE NUMBER WHERE THEY CAN BE REACHED 24 HOURS A DAY. THESE FACILITIES SHALL CONTROL AND CONTAIN EROSION-CAUSED SILT DEPOSITS AND PROVIDE FOR THE SAFE DISCHARGE OF SILT-FREE STORM WATER INTO EXISTING AND PROPOSED STORM DRAIN FACILITIES. DESIGN OF THESE FACILITIES MUST BE APPROVED AND UPDATED EACH YEAR PRIOR TO SEPTEMBER 30 BY THE ENGINEER.
4. AS THE OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL SUB-CONTRACTORS, AND SUPPLIERS ARE AWARE OF ALL STORM WATER QUALITY MEASURES & IMPLEMENT SUCH MEASURES. FAILURE TO COMPLY WITH THE APPROVED CONSTRUCTION WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS AND/OR A PROJECT STOP ORDER.
5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OPERABLE YEAR-ROUND OR UNTIL DISTURBED AREAS ARE STABILIZED.
6. DURING THE RAINY SEASON, ALL PAVED AREAS ARE TO BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE IS TO BE MAINTAINED SO AS TO MINIMIZE SEDIMENT RUNOFF TO ANY STORM DRAIN SYSTEM.
7. AS THE OWNER'S REPRESENTATIVE, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT ALL EROSION CONTROL FACILITIES AND REPAIR ANY DAMAGED FACILITIES BY THE END OF THE WORK DAY DURING THE RAINY SEASON.
8. BORROW AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES (TARPS, FIBER ROLLS, SILT FENCES ETC.) TO ENSURE SILT DOES NOT LEAVE THE SITE OR ENTER THE STORM DRAIN SYSTEM. REFER TO EROSION CONTROL AND SEDIMENT CONTROL FIELD MANUAL, 3RD EDITION, PREPARED BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION.
9. ALL DIRT PILES AND HAUL TRUCKS SHALL BE COVERED.
10. DURING PERIODS WHEN STORMS ARE FORECAST -
  - A. EXCAVATED SOILS SHOULD NOT BE PLACED IN STREETS OR ON PAVED AREAS.
  - B. ANY EXCAVATED SOILS SHOULD BE REMOVED FROM THE SITE BY THE END OF THE DAY.
  - C. WHERE STOCKPILING IS NECESSARY, USE A TARPULIN OR SURROUND THE STOCKPILED MATERIAL WITH STRAW BALES, FIBER ROLL, OR OTHER RUNOFF CONTROLS.
  - D. USE INLET CONTROLS (E.G. FILTER MAT) FOR STORM DRAINS ADJACENT TO THE STOCKPILED SOIL.
  - E. THOROUGHLY SWEEP ALL PAVED AREAS EXPOSED TO SOIL EXCAVATION AND PLACEMENT.
11. DURING PERIODS WHEN STORMS ARE NOT FORECAST -
  - A. PREVENT STOCKPILED MATERIAL FROM ENTERING THE STORM DRAIN SYSTEM
  - B. THOROUGHLY REMOVE LOOSE SOIL VIA SWEEPING FOLLOWING REMOVAL OF DIRT.
12. DRAINAGE INLET SEDIMENT BARRIERS SHALL BE INSTALLED AS SOON AS THE STORM DRAINAGE SYSTEM IS INSTALLED.
13. PRIOR TO PAVING, FIBER ROLLS SHALL BE INSTALLED AROUND EACH DROP INLET AND CURB INLET PER DETAIL 1. AFTER PAVING IS COMPLETE AROUND EACH DROP INLET, BLOCK AND GRAVEL SEDIMENT BARRIERS SHALL BE INSTALLED AROUND THE DROP INLETS AND CURB INLETS PER DETAIL 2 UNTIL ALL EXPOSED EARTHEN AREAS HAVE BEEN STABILIZED AND THE ROADWAY FACILITY IS OPERATIONAL.
14. THE LOCATIONS OF THE TEMPORARY CONCRETE WASHOUT FACILITY AND TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT CAN BE DECIDED BY THE CONTRACTOR UPON APPROVAL BY THE COUNTY OF SAN MATEO.

DRAWING NAME: K:\V\d\1\4024\EROSION CONTROL.DWG  
 PLOT TIME: 12-28-21

APPROVED DATE: 12-23-2021  
 \_\_\_\_\_  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE: \_\_\_\_\_  
 \_\_\_\_\_  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
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REVISION	DATE

DESIGNED BY: BKF (CT)  
 CHECKED BY: BKF (JM)  
 DRAWN BY: BKF (JC)  
 ANN MADER STILLMAN  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 COUNTY SAN MATEO

MIDCOAST MULTI-MODAL TRAIL  
**EROSION CONTROL DETAILS**  
 SCALE: NO SCALE  
 DATE: 12/08/2021  
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 555 COUNTY CENTER, 5th FLOOR  
 REDWOOD CITY, CALIFORNIA 94063  
**C-501**  
 SHEET 26 OF 38



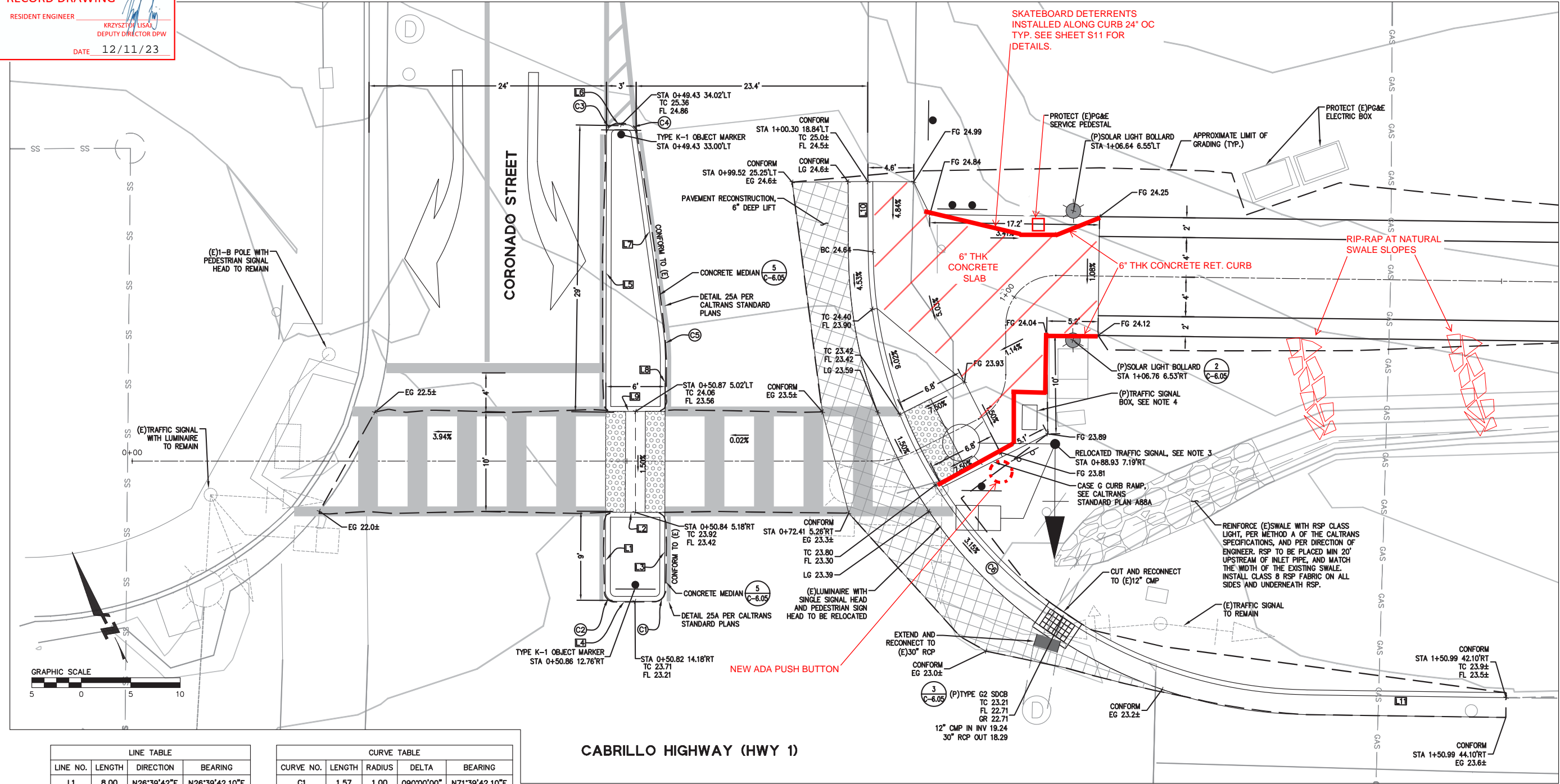
COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING

RESIDENT ENGINEER  
KRZYSZTOF LISIA  
DEPUTY DIRECTOR DPW  
DATE 12/11/23



APPROVED: 12/23/2021  
DATE: *[Signature]*  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

\* ALL NEW CONCRETE (RETAINING CURBS, MAJORITY OF NEW S/W, TRAIL ENTRY SLAB, MEDIANS) IN THIS AREA WAS COLORED DAVIS TERRA COTTA FOR AESTHETICS.



LINE NO.	LENGTH	DIRECTION	BEARING
L1	8.00	N26°39'42"E	N26°39'42.10"E
L2	6.00	S63°20'18"E	S63°20'17.90"E
L3	8.00	S26°39'42"W	S26°39'42.10"W
L4	4.00	N63°20'18"W	N63°20'17.90"W
L5	28.00	S26°39'42"W	S26°39'42.10"W
L6	0.99	N63°20'18"W	N63°20'17.90"W
L7	20.04	N18°34'17"E	N18°34'16.68"E
L8	5.47	N26°39'42"E	N26°39'42.10"E
L9	6.00	S63°28'07"E	S63°28'06.86"E
L10	7.12	N26°14'39"E	N26°14'38.94"E
L11	20.11	N62°39'04"W	N62°39'03.58"W

CURVE NO.	LENGTH	RADIUS	DELTA	BEARING
C1	1.57	1.00	090°00'00"	N71°39'42.10"E
C2	1.57	1.00	090°00'00"	S18°20'17.90"E
C3	1.57	1.00	090°00'00"	S71°39'42.10"W
C4	1.43	1.00	081°54'35"	N22°23'00.61"W
C5	2.82	20.00	008°05'25"	N22°36'59.39"E
C6	69.82	45.00	088°53'43"	S18°12'12.32"E

CABRILLO HIGHWAY (HWY 1)

1 CORONADO STREET INTERSECTION  
SCALE: 1" = 5'

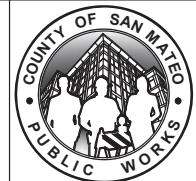
- NOTES:
- REFER TO SHEET C-2.00 FOR ADDITIONAL PLAN AND PROFILE INFORMATION.
  - REFER TO SIGNING AND STRIPING PLANS SHEET C-4.00 FOR ADDITIONAL INFORMATION.
  - RELOCATED TRAFFIC SIGNAL SHALL HAVE A FOUNDATION PER CALTRANS STANDARD PLAN ES-7A FOR A TYPE 15TS TRAFFIC SIGNAL POLE. CONTRACTOR SHALL CONFIRM BASE PLATES AND BOLTS ON EXISTING TRAFFIC SIGNAL POLE ARE COMPATIBLE WITH THE PROPOSED FOUNDATION DESIGN.
  - CONTRACTOR SHALL PLACE NEW TRAFFIC SIGNAL PULL BOX ON EXISTING CONDUITS IN THE LOCATION OF THE EXISTING SIGNAL PULL BOX AT PROPOSED GRADES. CONTRACTOR TO REMOVE CONDUIT SERVING EXISTING POLE TO BE RELOCATED, PULL SIGNAL WIRES, INSTALL NEW CONDUIT TO NEW POLE LOCATION, AND RECONNECT SIGNAL WIRES TO TRAFFIC SIGNAL POLE.
  - LOCATIONS OF TRAFFIC SIGNAL POLES, AND PULL BOXES ARE APPROXIMATE. ALL EQUIPMENT LOCATIONS SHALL BE APPROVED BY THE COUNTY PRIOR TO INSTALLATION. NEW SIGNAL POLES SHALL BE LOCATED IN THE PRESENCE OF THE ENGINEER PRIOR TO EXCAVATION. POLES SHALL BE PLACED A MINIMUM OF 30' FROM FACE OF CURB, AND A MINIMUM OF 48" OF SIDEWALK CLEARANCE FOR WHEELCHAIR ACCESS AND PEDESTRIAN TRAFFIC SHALL BE MAINTAINED.
  - ALL PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED 3.5' ABOVE THE FINISHED GRADE WALKING SURFACE, AND SHALL BE LOCATED A MAXIMUM OF 10' FROM THE ACCESSIBLE PATH OF TRAVEL. PUSH BUTTON FRAME EXTENDER BY POLARA OR APPROVED EQUIVALENT SHALL BE INSTALLED WITH THE APS AS NEEDED.

APPROVED DATE: 12-23-2021  
*[Signature]*  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

APPROVED DATE:  
*[Signature]*  
JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
ENGINEERS/SURVEYORS/PLANNERS  
255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
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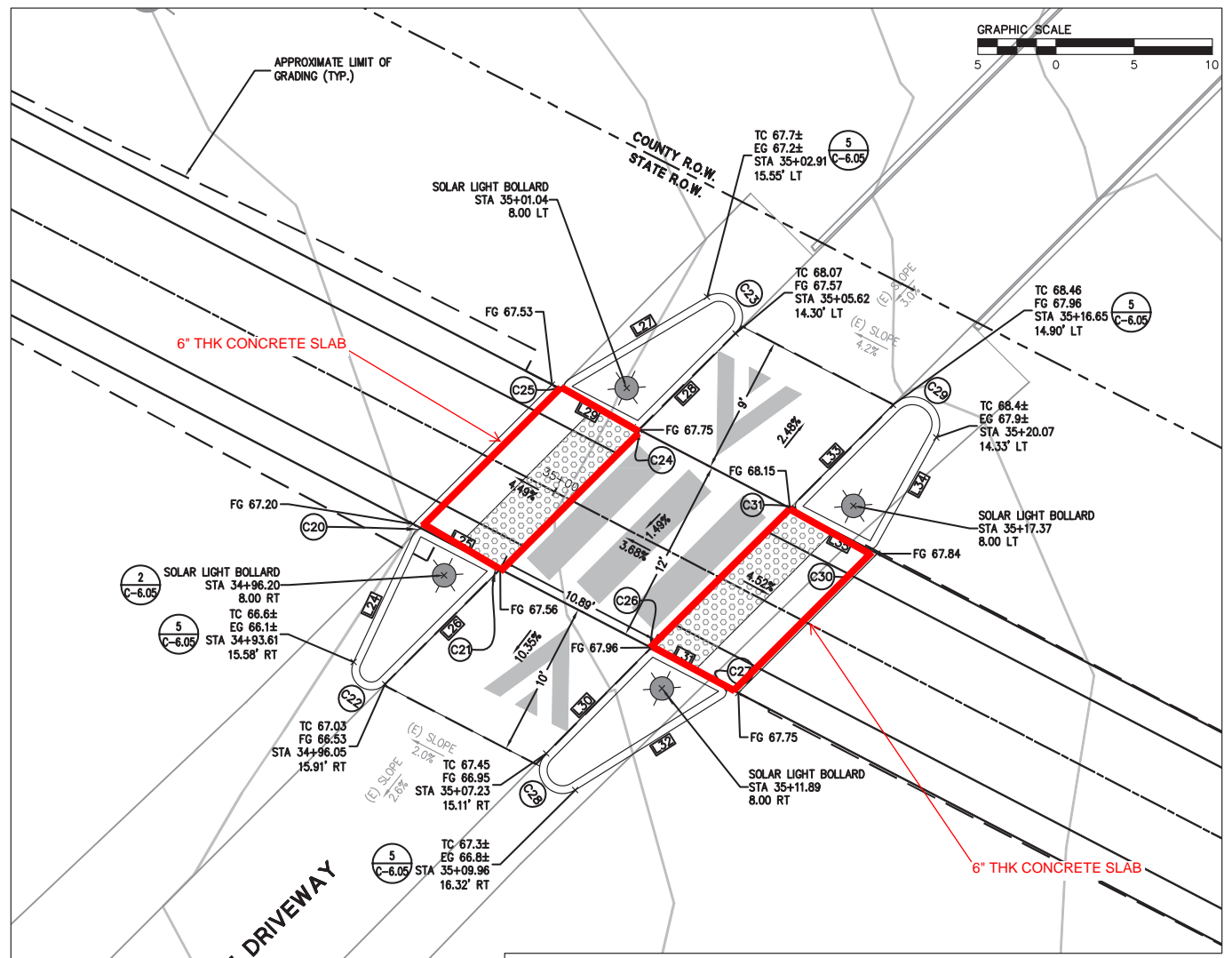
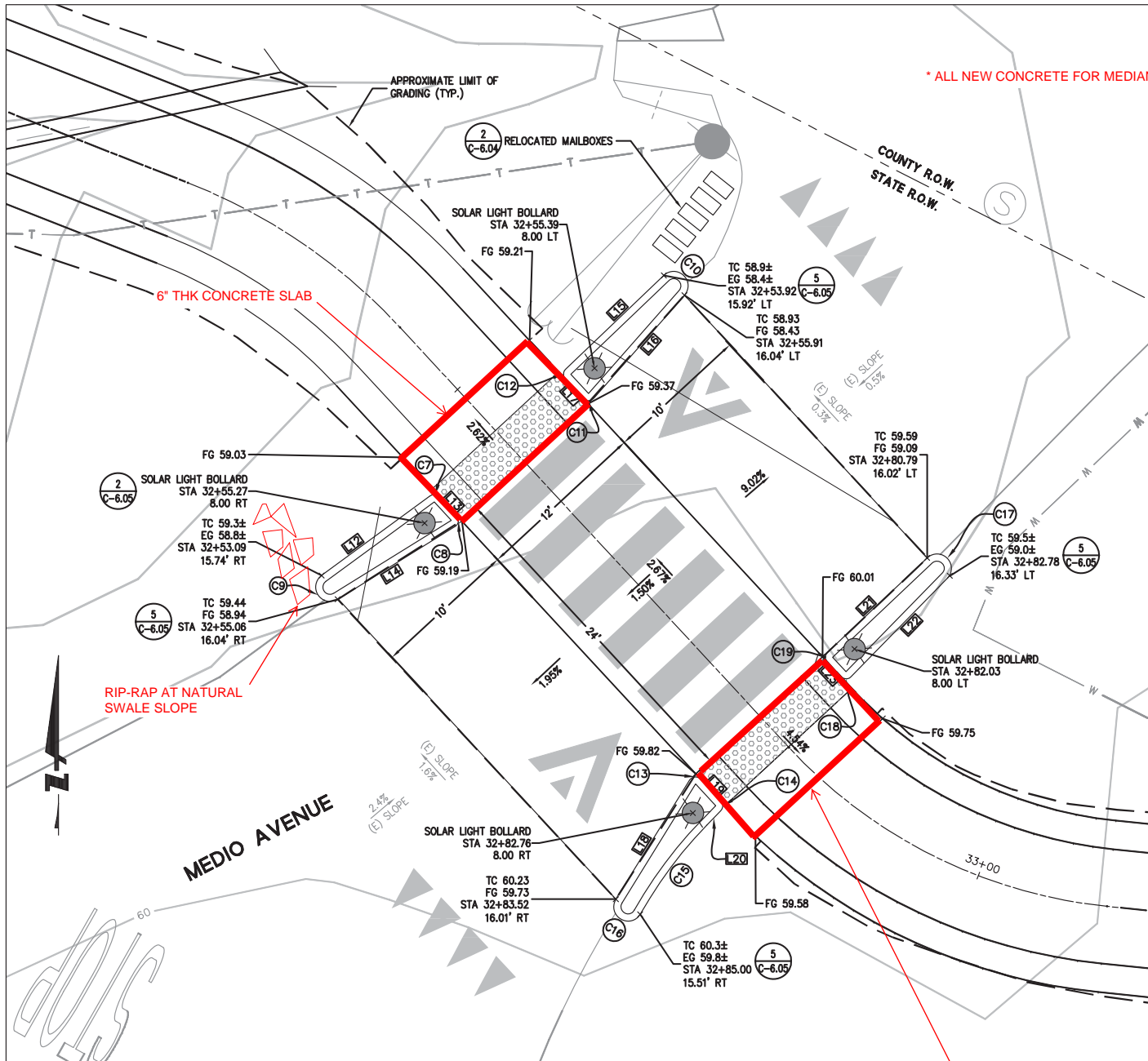


DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL	SCALE: 1" = 5'
CHECKED BY: BKF (JM)	INTERSECTION DETAILS	DATE: 12/08/2021
DRAWN BY: BKF (JC)	ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		C-600 SHEET 27 OF 38

DRAWING NAME: 12-20-21  
PLOT TIME: 12-20-21



APPROVED: \_\_\_\_\_  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



LINE NO.	LENGTH	DIRECTION	BEARING
L12	9.35	N53°42'58"E	N53°42'57.93"E
L13	1.75	S42°46'33"E	S42°46'32.61"E
L14	9.66	S58°08'34"W	S58°08'34.32"W
L15	9.43	S46°17'48"W	S46°17'48.19"W
L16	9.54	N41°20'29"E	N41°20'29.15"E
L17	1.82	S42°46'33"E	S42°46'32.61"E
L18	9.79	S31°43'19"W	S31°43'19.35"W
L19	2.07	N42°46'28"W	N42°46'28.13"W
L20	1.39	N44°08'35"E	N44°08'34.67"E
L21	9.53	S46°34'13"W	S46°34'13.04"W
L22	9.57	N44°21'09"E	N44°21'09.31"E
L23	1.37	S42°46'33"E	S42°46'32.61"E

CURVE NO.	LENGTH	RADIUS	DELTA	BEARING
C7	0.73	0.50	083°30'29"	N84°31'47.34"W
C8	0.84	0.50	096°34'33"	N05°30'43.93"E
C9	3.06	1.00	175°34'24"	S34°04'13.87"E
C10	3.06	1.00	175°02'41"	N46°10'51.33"W
C11	0.83	0.50	095°34'28"	N89°26'13.55"E
C12	0.78	0.50	089°04'21"	S01°45'37.79"W
C13	0.86	0.50	088°38'25"	S87°51'48.08"W
C14	0.76	0.50	086°55'03"	N00°41'03.27"E
C15	7.73	30.00	014°45'17"	S36°45'56.09"W
C16	3.18	1.00	182°20'02"	S59°26'41.57"E
C17	3.10	1.00	177°46'56"	N44°32'18.82"W
C18	0.81	0.50	092°52'18"	S89°12'41.65"E
C19	0.78	0.50	089°20'46"	S01°53'50.22"W

1 MEDIO AVENUE RAISED CROSSING  
 SCALE: 1" = 5'

NOTE:  
 1. REFER TO SHEET C-2.04 AND C-2.05 FOR ADDITIONAL PLAN AND PROFILE INFORMATION.  
 2. REFER TO SIGNING AND STRIPING PLAN SHEET C-4.02 FOR ADDITIONAL INFORMATION.

LINE NO.	LENGTH	DIRECTION	BEARING
L24	9.07	S25°00'57"W	S25°00'57.39"W
L25	4.79	N62°33'38"W	N62°33'37.78"W
L26	9.72	N45°05'37"E	N45°05'37.01"E
L27	10.33	N59°14'19"E	N59°14'18.59"E
L28	8.34	S44°57'59"W	S44°57'58.89"W
L29	4.74	N62°33'38"W	N62°33'37.78"W
L30	9.17	S44°42'57"W	S44°42'56.65"W
L31	4.75	N62°33'38"W	N62°33'37.78"W
L32	11.11	N58°04'25"E	N58°04'24.83"E
L33	8.65	S44°54'16"W	S44°54'16.19"W
L34	7.84	N28°56'31"E	N28°56'31.47"E
L35	4.83	S62°33'38"E	S62°33'37.78"E

CURVE NO.	LENGTH	RADIUS	DELTA	BEARING
C20	0.81	0.50	092°25'25"	S71°13'39.80"W
C21	0.94	0.50	107°39'15"	N08°44'00.39"W
C22	3.49	1.25	159°55'20"	S54°56'42.80"E
C23	4.34	1.50	165°43'40"	N37°53'51.26"W
C24	0.63	0.50	072°28'23"	N81°12'10.55"E
C25	1.06	0.50	121°47'56"	S01°39'39.60"E
C26	0.63	0.50	072°43'26"	S81°04'39.44"W
C27	1.05	0.50	120°38'03"	N02°14'36.48"W
C28	4.36	1.50	166°38'32"	S38°36'19.26"E
C29	5.01	1.75	164°02'15"	N53°04'36.17"W
C30	0.77	0.50	088°29'51"	N73°11'26.84"E
C31	0.94	0.50	107°27'54"	S08°49'40.80"E

2 PRIVATE DRIVEWAY RAISED CROSSING  
 SCALE: 1" = 5'

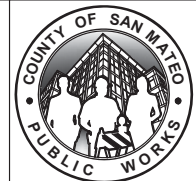
**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: KRZYSZTOF USAJ  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

APPROVED DATE: 12-23-2021  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE: \_\_\_\_\_  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300

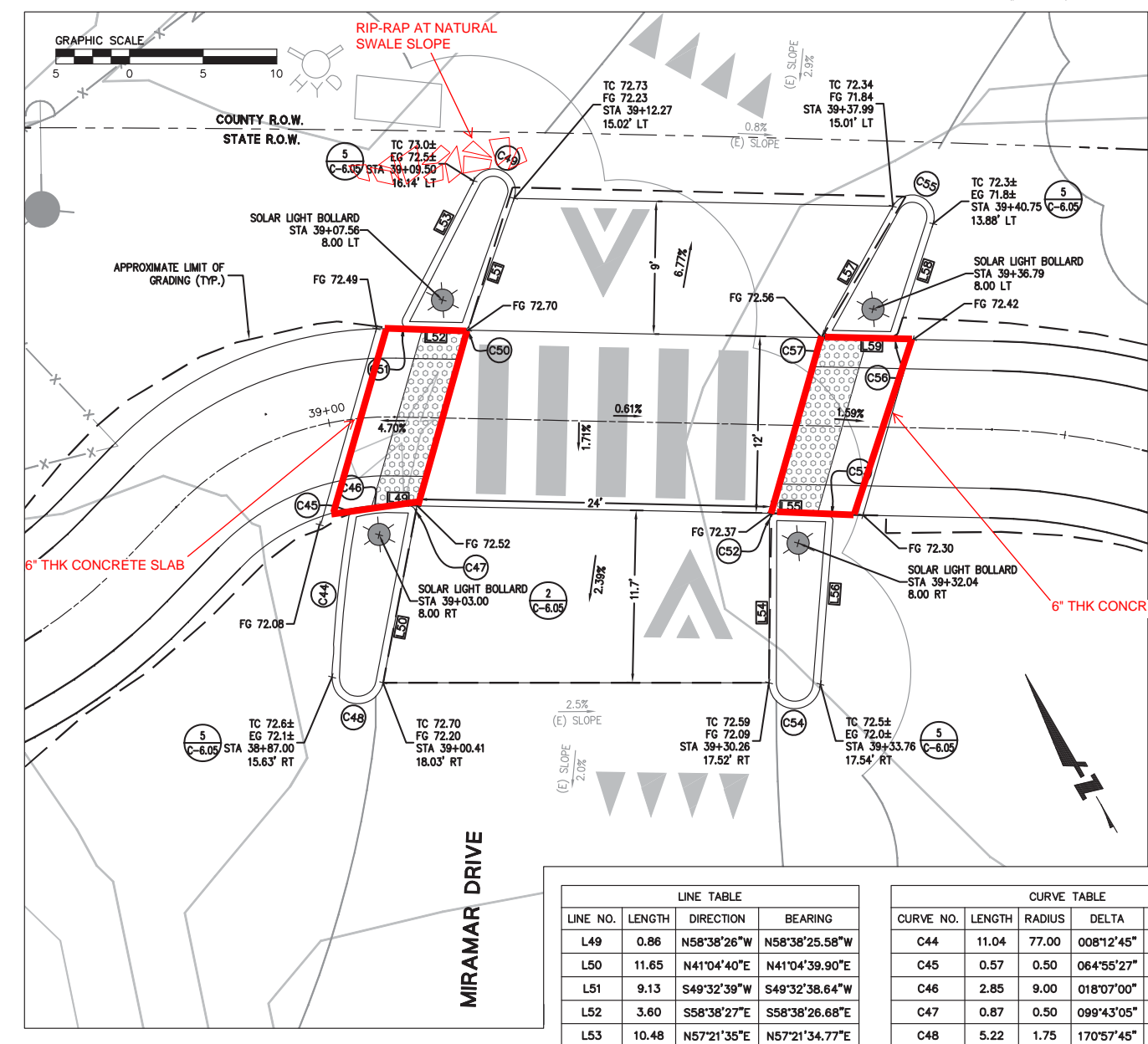
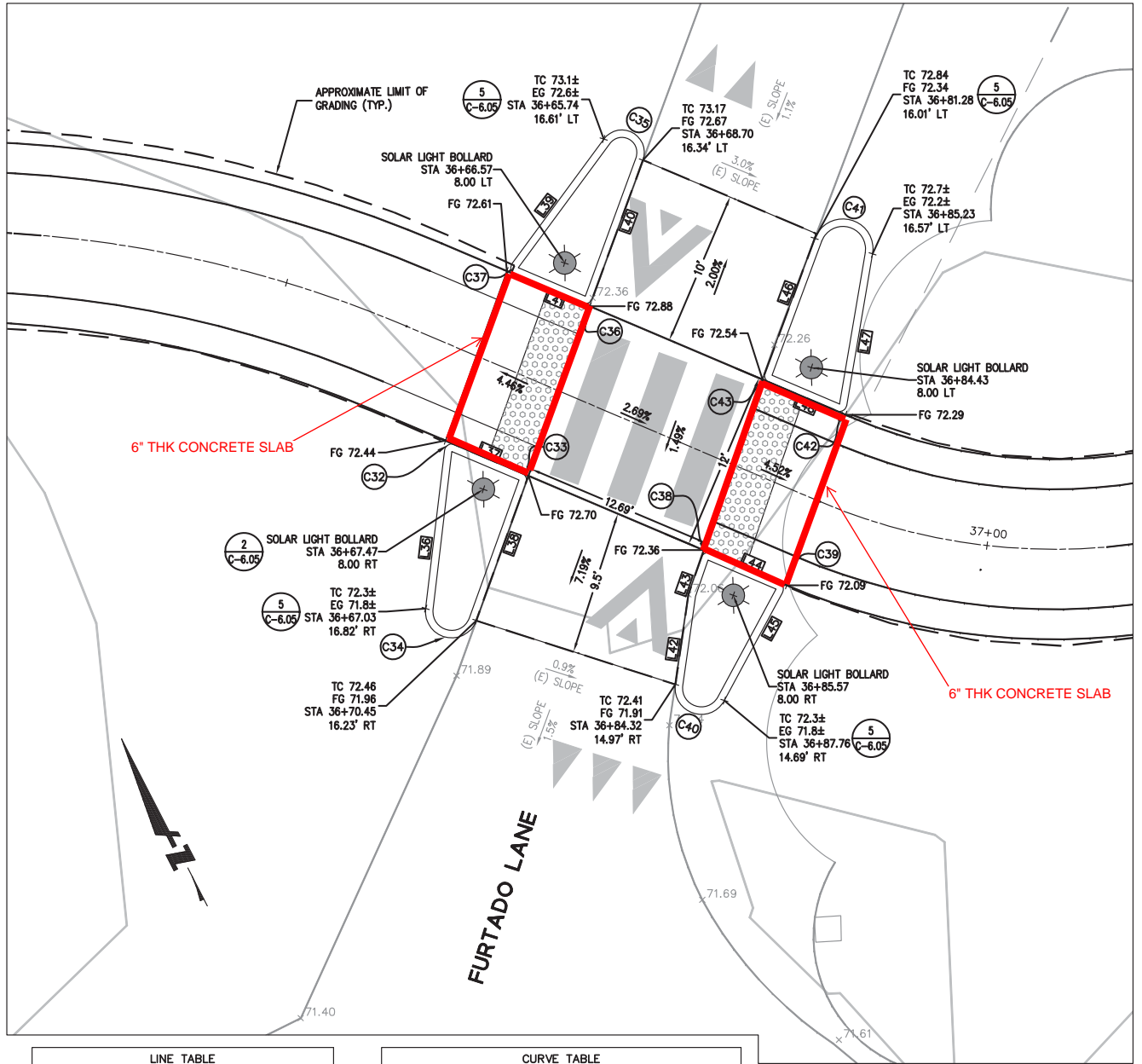


DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL	SCALE: 1" = 5'
CHECKED BY: BKF (JM)	INTERSECTION DETAILS	DATE: 12/08/2021
DRAWN BY: BKF (JC)	ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		<b>C-601</b> SHEET 28 OF 38



APPROVED: *Ann Mader Stillman*  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

\* ALL NEW CONCRETE FOR MEDIANS AND SLAB WAS COLORED DAVIS TERRA COTTA FOR AESTHETICS.



LINE NO.	LENGTH	DIRECTION	BEARING
L36	10.60	S33°57'57\"W	S33°57'57.21\"W
L37	4.86	N39°51'06\"W	N39°51'06.46\"W
L38	9.78	N46°58'24\"E	N46°58'23.74\"E
L39	10.28	S63°32'24\"W	S63°32'24.23\"W
L40	9.83	N47°17'42\"E	N47°17'42.08\"E
L41	4.84	S39°51'06\"E	S39°51'06.46\"E
L42	6.05	S35°25'01\"W	S35°25'01.10\"W
L43	2.59	S46°13'04\"W	S46°13'03.57\"W
L44	4.92	N39°51'06\"W	N39°51'06.46\"W
L45	8.18	N55°29'39\"E	N55°29'39.48\"E
L46	9.55	N47°35'09\"E	N47°35'09.29\"E
L47	10.23	S36°49'02\"W	S36°49'02.05\"W
L48	4.89	N39°51'06\"W	N39°51'06.46\"W

CURVE NO.	LENGTH	RADIUS	DELTA	BEARING
C32	0.93	0.50	106°10'56\"	S87°03'25.37\"W
C33	0.76	0.50	086°49'30\"	N03°33'38.64\"E
C34	5.10	1.75	166°59'33\"	S49°31'49.52\"E
C35	4.29	1.50	163°45'18\"	N34°34'56.84\"W
C36	0.81	0.50	092°51'11\"	S86°16'42.19\"E
C37	0.90	0.50	103°23'31\"	S11°50'38.88\"W
C38	0.82	0.50	093°55'50\"	N86°49'01.44\"W
C39	0.83	0.50	095°20'46\"	N07°49'16.51\"E
C40	4.88	1.75	159°55'22\"	S44°32'39.71\"E
C41	5.91	2.00	169°13'53\"	N47°47'54.33\"W
C42	0.90	0.50	103°19'51\"	N88°28'57.79\"E
C43	0.76	0.50	087°26'16\"	S03°52'01.41\"W

1 FURTADO LANE RAISED CROSSING  
 SCALE: 1" = 5'

2 MIRAMAR DRIVE RAISED CROSSING  
 SCALE: 1" = 5'

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: *Krzysztof Hsaj*  
 KRZYSZTOF HSJAJ  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

NOTE:  
 1. REFER TO PLAN SHEET C-2.05 FOR ADDITIONAL PLAN AND PROFILE INFORMATION.  
 2. REFER TO SIGNING AND STRIPING PLAN SHEETS C-4.02 FOR ADDITIONAL INFORMATION.

LINE NO.	LENGTH	DIRECTION	BEARING
L49	0.86	N58°38'26\"W	N58°38'25.58\"W
L50	11.65	N41°04'40\"E	N41°04'39.90\"E
L51	9.13	S49°32'39\"W	S49°32'38.64\"W
L52	3.60	S58°38'27\"E	S58°38'26.68\"E
L53	10.48	N57°21'35\"E	N57°21'34.77\"E
L54	11.02	S30°18'42\"W	S30°18'41.95\"W
L55	3.33	N58°35'55\"W	N58°35'55.03\"W
L56	10.94	N34°34'02\"E	N34°34'01.54\"E
L57	9.37	S59°12'07\"W	S59°12'06.53\"W
L58	7.86	N48°04'14\"E	N48°04'14.10\"E
L59	3.96	S58°38'26\"E	S58°38'25.58\"E

CURVE NO.	LENGTH	RADIUS	DELTA	BEARING
C44	11.04	77.00	008°12'45\"	S36°08'23.56\"W
C45	0.57	0.50	064°55'27\"	S72°42'06.13\"W
C46	2.85	9.00	018°07'00\"	N65°55'40.17\"W
C47	0.87	0.50	099°43'05\"	N08°46'52.84\"W
C48	5.22	1.75	170°57'45\"	S53°26'27.82\"E
C49	4.51	1.50	172°11'11\"	N36°32'53.30\"W
C50	0.63	0.50	071°48'55\"	N85°27'05.98\"E
C51	1.01	0.50	116°00'01\"	S00°38'25.96\"E
C52	0.79	0.50	091°05'23\"	S75°51'23.46\"W
C53	0.91	0.50	103°42'33\"	N06°44'38.70\"W
C54	5.41	1.75	177°13'08\"	S58°17'51.96\"E
C55	4.42	1.50	168°52'08\"	N36°21'49.69\"W
C56	0.64	0.50	073°17'20\"	N84°42'54.26\"E
C57	1.03	0.50	117°50'32\"	S00°16'50.47\"W

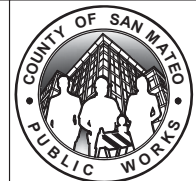
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 PLOT TIME: 12-29-21

APPROVED DATE: 12-23-2021  
*NJC*  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE:  
*Jason Mansfield*  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300

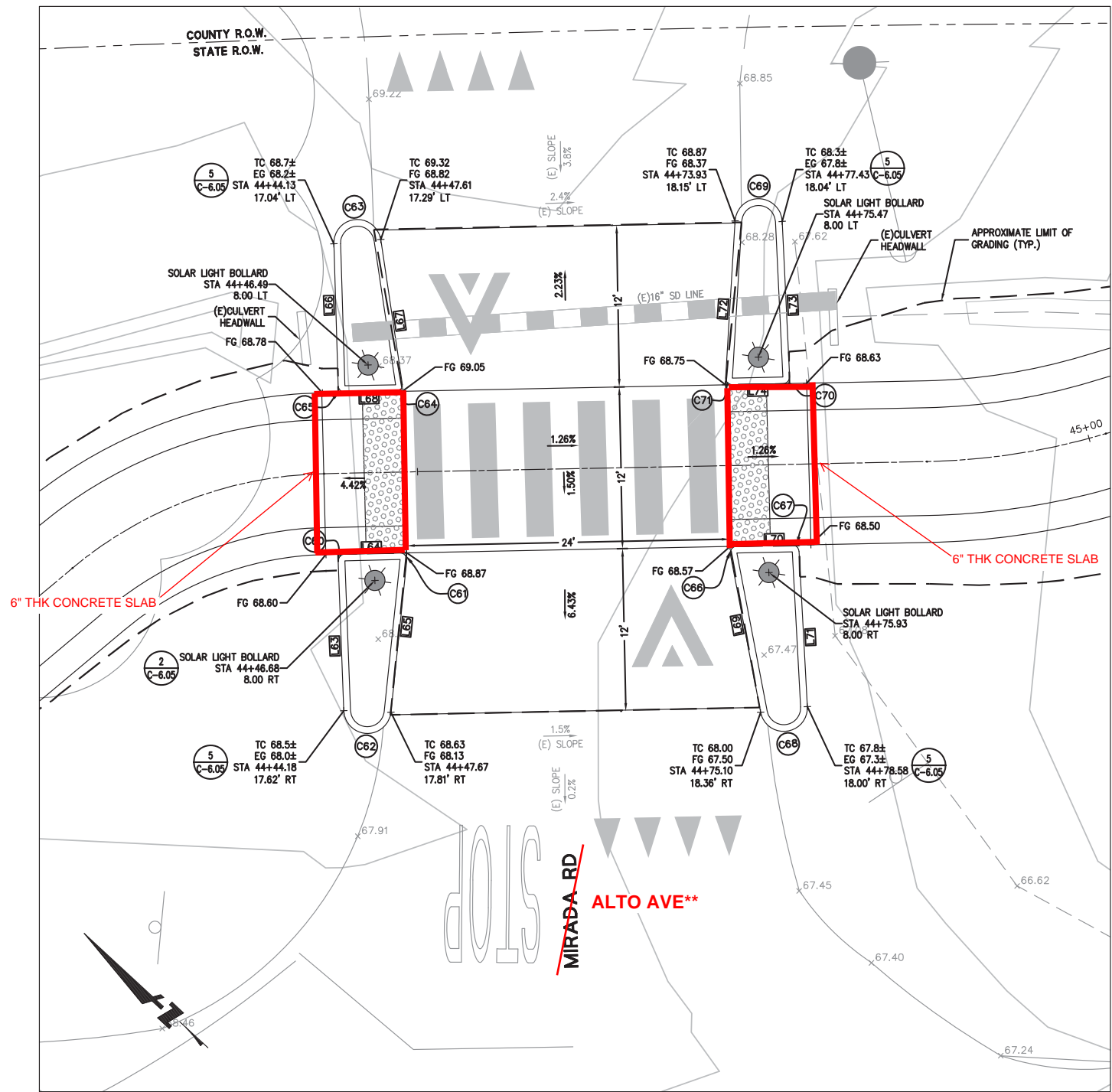


DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL INTERSECTION DETAILS	SCALE: 1" = 5'
CHECKED BY: BKF (JM)		DATE: 12/08/2021
DRAWN BY: BKF (JC)		FILE NO: 1/4952
ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	
REVISION	DATE	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		C-602 SHEET 29 OF 38



APPROVED: *Ann Mader Stillman*  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

\* ALL NEW CONCRETE FOR MEDIANS AND SLAB WAS COLORED DAVIS TERRA COITTA FOR AESTHETICS.  
 \*\* STREET SIGNAGE DENOTES STREET AS "ALTO" WHICH DIFFERS FROM GOOGLE MAPS AND THE PLANS.



LINE TABLE			
LINE NO.	LENGTH	DIRECTION	BEARING
L63	11.12	S45°03'56"W	S45°03'55.68"W
L64	4.09	N44°04'11"W	N44°04'11.47"W
L65	11.40	N53°10'57"E	N53°10'56.66"E
L66	10.55	N45°25'54"E	N45°25'53.67"E
L67	10.88	S38°41'35"W	S38°41'35.14"W
L68	3.76	N43°48'06"W	N43°48'06.31"W
L69	11.94	N36°22'26"E	N36°22'26.27"E
L70	4.11	S43°55'56"E	S43°55'56.03"E
L71	11.53	S44°10'18"W	S44°10'18.33"W
L72	11.69	S50°35'30"W	S50°35'29.58"W
L73	11.53	N44°25'31"E	N44°25'31.03"E
L74	3.75	S44°04'51"E	S44°04'51.13"E

CURVE TABLE				
CURVE NO.	LENGTH	RADIUS	DELTA	BEARING
C60	0.79	0.50	090°51'53"	N89°30'07.90"W
C61	0.80	0.50	091°08'12"	N01°45'59.54"E
C62	5.25	1.75	171°52'59"	S40°52'33.83"E
C63	5.29	1.75	173°15'41"	N47°56'15.59"W
C64	0.80	0.50	091°08'12"	S89°22'12.15"E
C65	0.78	0.50	089°14'00"	S00°48'53.68"W
C66	0.87	0.50	099°41'38"	S86°13'15.12"W
C67	0.77	0.50	088°06'14"	N00°07'11.15"E
C68	5.26	1.75	172°12'08"	S49°43'37.70"E
C69	5.33	1.75	174°32'52"	N42°08'04.31"W
C70	0.80	0.50	091°22'23"	S89°46'02.76"E
C71	0.80	0.50	091°08'12"	S01°45'59.54"W

1 MIRADA ROAD RAISED CROSSING  
 SCALE: 1" = 5'

NOTE:  
 1. REFER TO PLAN SHEET C-2.06 FOR ADDITIONAL PLAN AND PROFILE INFORMATION.  
 2. REFER TO SIGNING AND STRIPING PLAN SHEET C-4.03 FOR ADDITIONAL INFORMATION.



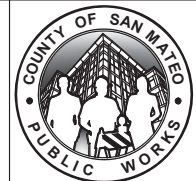
**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: *Krzysztof Saji*  
 KRZYSZTOF SAJI  
 DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

APPROVED DATE: 12-23-2021  
*NJC*  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT

APPROVED DATE:  
*Jason Mansfield*  
 JASON MANSFIELD, PROJECT MANAGER  
 BKF ENGINEERS  
 R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL	SCALE: 1" = 5'
CHECKED BY: BKF (JM)	INTERSECTION DETAILS	DATE: 12/08/2021
DRAWN BY: BKF (JC)	ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		<b>C-603</b> SHEET 30 OF 38

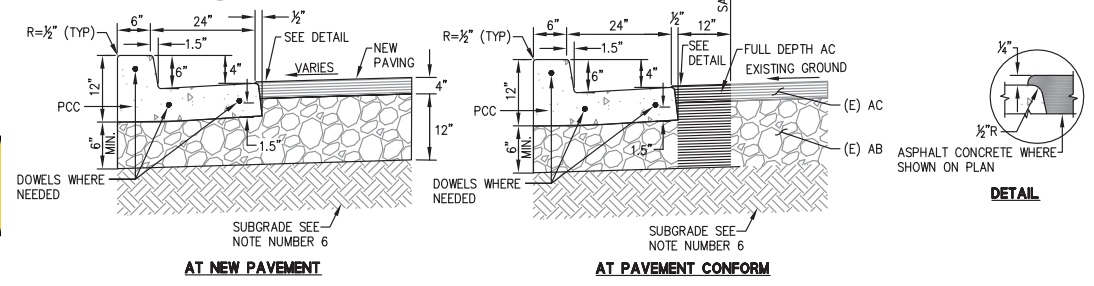
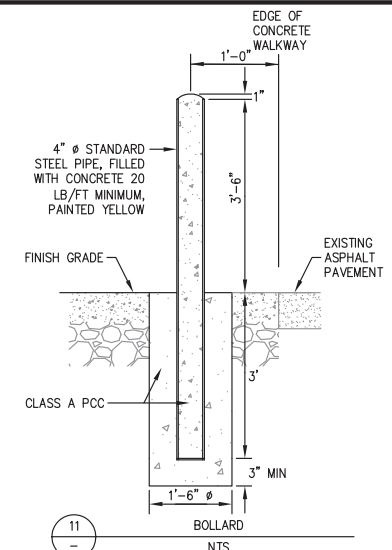
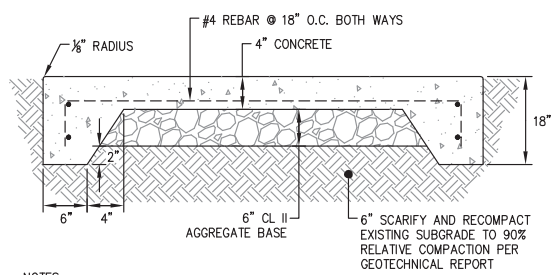
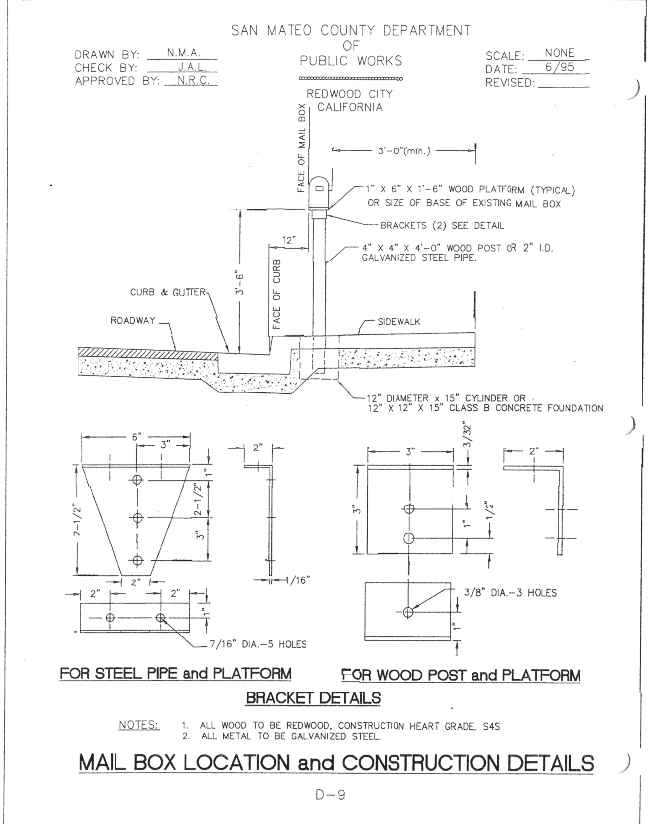
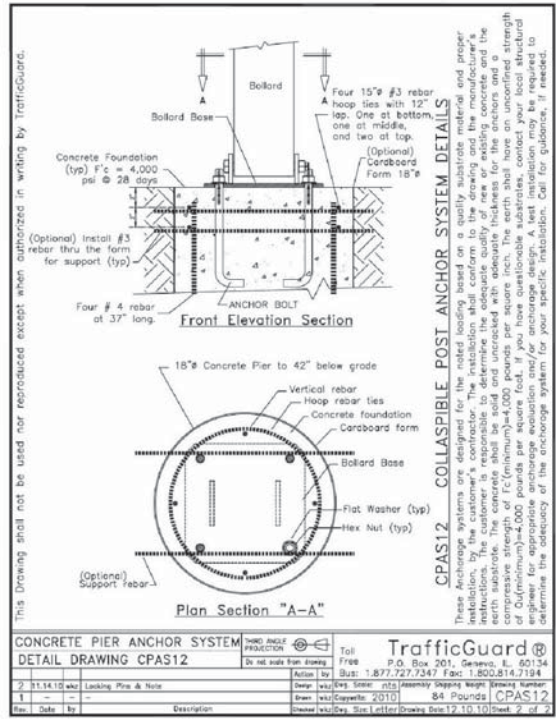
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 PLOT TIME: 12-29-21

**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF USAJ  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23

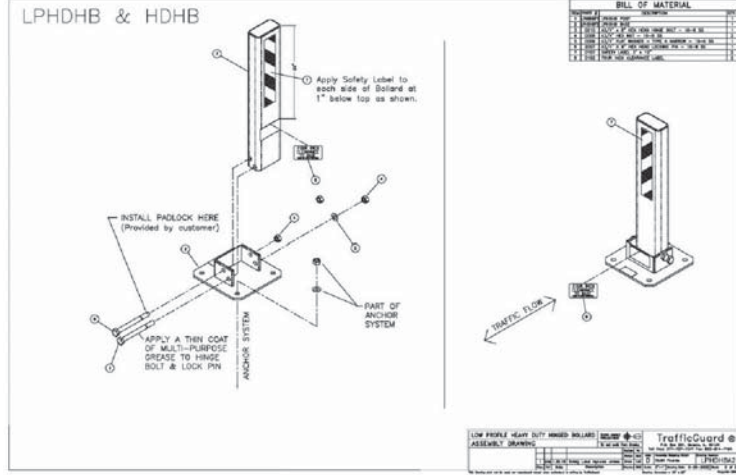


APPROVED: \_\_\_\_\_  
DATE: 12/23/2021  
*Ann Mader Stillman*  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023



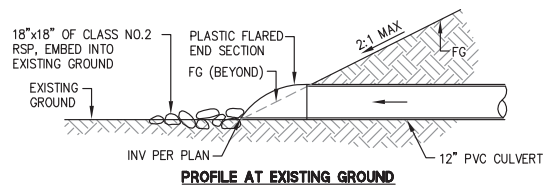
3 TRAIL CROSSING (W11-15, W11-15P, W16-7P, & W16-9P) NTS

4 CURB AND GUTTER NTS

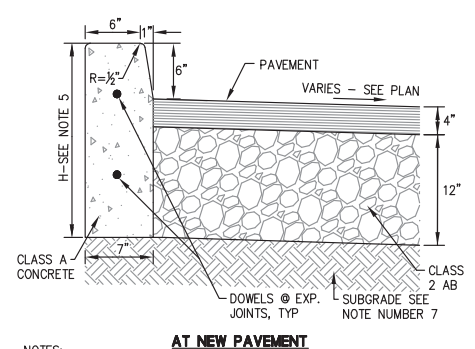


1 FOLD DOWN BOLLARD, TRAFFICGUARD LOW PROFILE HEAVY DUTY HINGED BOLLARD (CONCRETE ANCHOR SYSTEM) DETAIL NTS

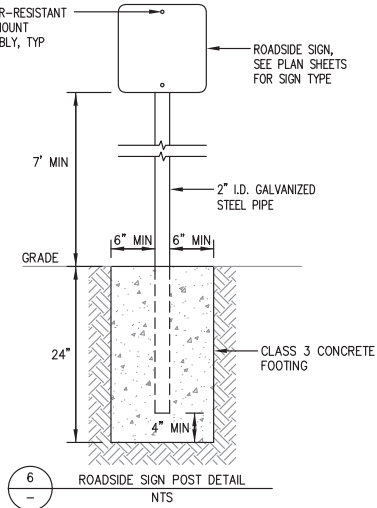
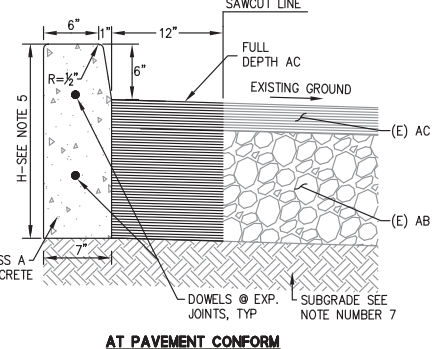
2 SAN MATEO COUNTY STANDARD DETAIL D-9 MAIL BOX LOCATION AND CONSTRUCTION DETAILS NTS



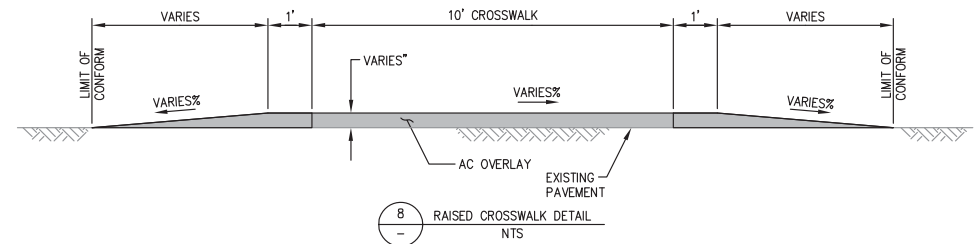
7 CULVERT FLARED END SECTION NTS



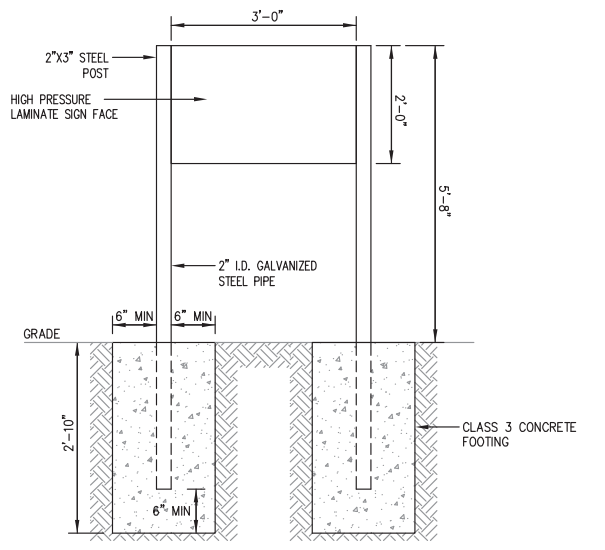
5 VERTICAL CURB NTS



6 ROADSIDE SIGN POST DETAIL NTS



8 RAISED CROSSWALK DETAIL NTS



9 TRAILHEAD SIGN NTS

APPROVED DATE: 12-23-2021  
*NJC*  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

APPROVED DATE:  
*Jason Mansfield*  
JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



**BKF**  
ENGINEERS/SURVEYORS/PLANNERS  
255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL	SCALE: AS SHOWN
CHECKED BY: BKF (JM)	MISCELLANEOUS DETAILS	DATE: 12/08/2021
DRAWN BY: BKF (JC)	ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		<b>C-604</b> SHEET 31 OF 38

DRAWING NAME: K:\V\d\1\4024\BIBETS\OR-X-DETAILS.dwg PLOT TIME: 12-29-21

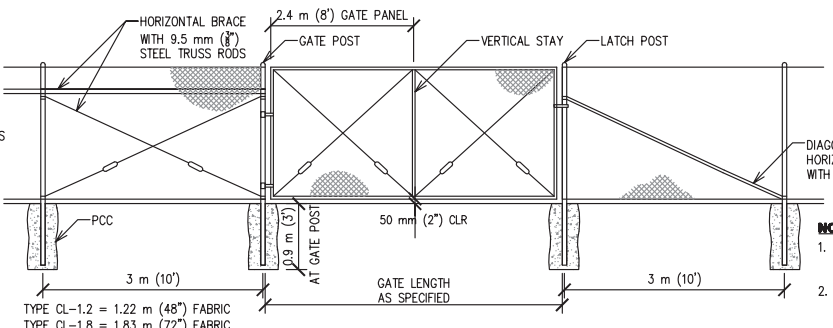
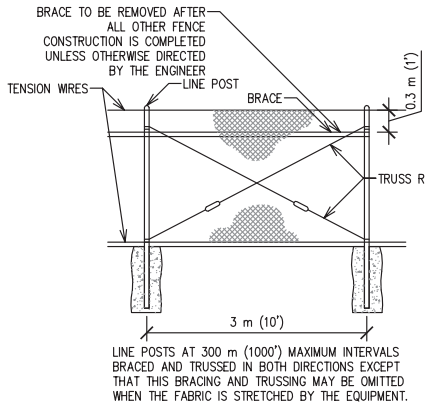
FENCE HEIGHT	TYPICAL MEMBER DIMENSIONS (SEE NOTES)												
	END, LATCH & CORNER POSTS				END, LATCH & CORNER POSTS				END, LATCH & CORNER POSTS				
	ROUND ID	H	ROLL FORMED	ROUND ID	ROLL FORMED	ROUND ID	H	BRACES	ROUND ID	H	BRACES	ROUND ID	H
1.83 m (6') & LESS	40 mm (1 1/2")	48 mm x 41 mm (1 1/8" x 1 5/8")	48 mm x 41 mm (1 1/8" x 1 5/8")	50 mm (2")	89 mm x 89 mm (3 1/2" x 3 1/2")	51 mm x 44 mm (2" x 1 3/4")	32 mm (1 1/4")	38 mm x 33 mm (1 1/2" x 1 1/8")	41 mm x 32 mm (1 5/8" x 1 1/4")	44 mm x 32 mm (1 3/4" x 1 1/4")	32 mm (1 1/4")	38 mm x 33 mm (1 1/2" x 1 1/8")	41 mm x 32 mm (1 5/8" x 1 1/4")
OVER 1.83 m (6')	50 mm (2")	57 mm x 51 mm (2 1/4" x 2")	51 mm x 44 mm (2" x 1 3/4")	63 mm (2 1/2")	89 mm x 89 mm (3 1/2" x 3 1/2")	63 mm x 63 mm (2 1/2" x 2 1/2")	32 mm (1 1/4")	38 mm x 33 mm (1 1/2" x 1 1/8")	41 mm x 32 mm (1 5/8" x 1 1/4")	44 mm x 32 mm (1 3/4" x 1 1/4")	32 mm (1 1/4")	38 mm x 33 mm (1 1/2" x 1 1/8")	41 mm x 32 mm (1 5/8" x 1 1/4")

FENCE HEIGHT	GATE WIDTHS	GATE POST	
		NOMINAL ID	MASS PER METER (WEIGHT PER FOOT)
1.83 m (6') AND LESS	UP THRU 1.83 m (6')	65 mm (2 1/2")	7.37 kg (4.95 lbs)
	OVER 1.83 m (6') THRU 3.66 (12')	100 mm (4")	16.06 kg (10.79 lbs)
	OVER 3.66 m (12') THRU 5.49 m (18')	125 mm (5")	21.76 kg (14.62 lbs)
OVER 1.83 m (6')	OVER 5.49 m (18') THRU 7.32 m (24') MAX	150 mm (6")	28.23 kg (18.97 lbs)
	UP THRU 1.83 m (6')	80 mm (3")	11.28 kg (7.58 lbs)
	OVER 1.83 m (6') THRU 3.66 (12')	125 mm (5")	21.76 kg (14.62 lbs)
OVER 1.83 m (6')	OVER 3.66 m (12') THRU 5.49 m (18')	150 mm (6")	28.23 kg (18.97 lbs)
	OVER 5.49 m (18') THRU 7.32 m (24') MAX	200 mm (8")	42.49 kg (28.55 lbs)

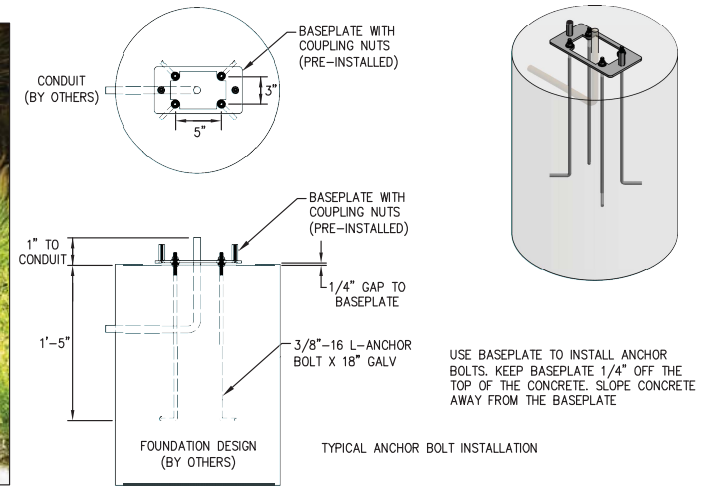
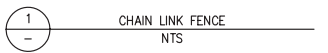
THIS PRODUCT HAS BEEN DISCONTINUED. SOLAR BOLLARD LIGHTS (GS-LL40) BY GREENSHINE WERE INSTALLED.



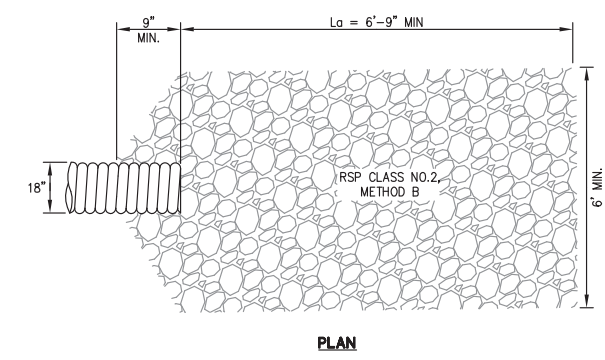
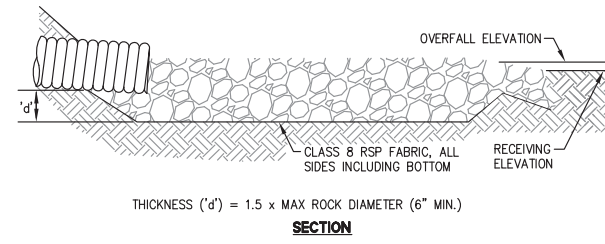
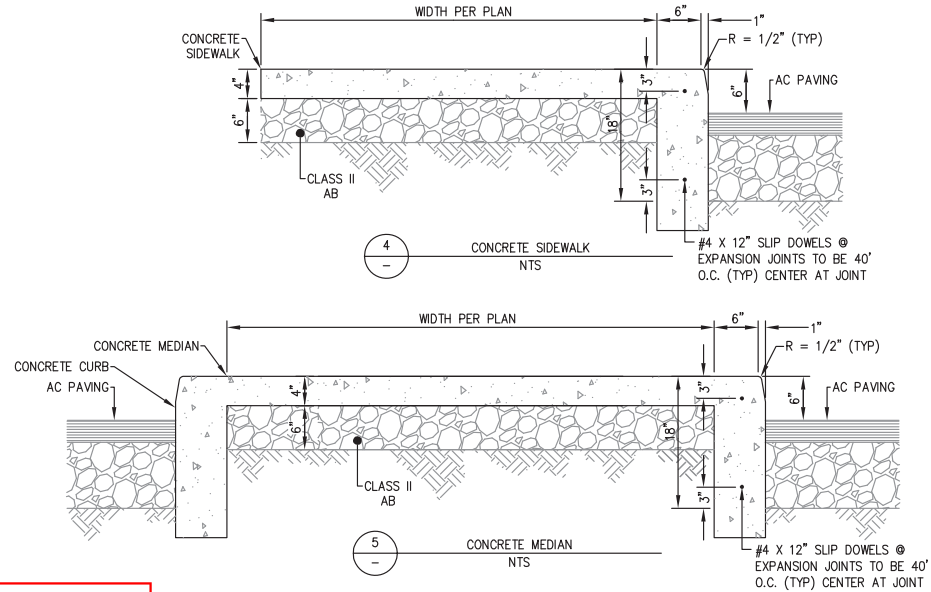
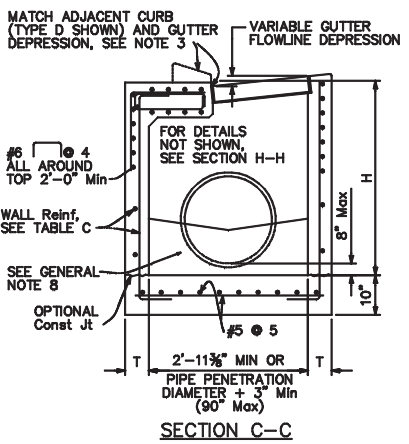
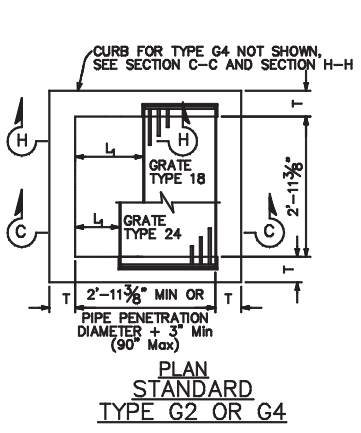
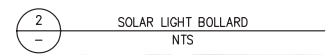
APPROVED: DATE: 12/23/2021  
ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023



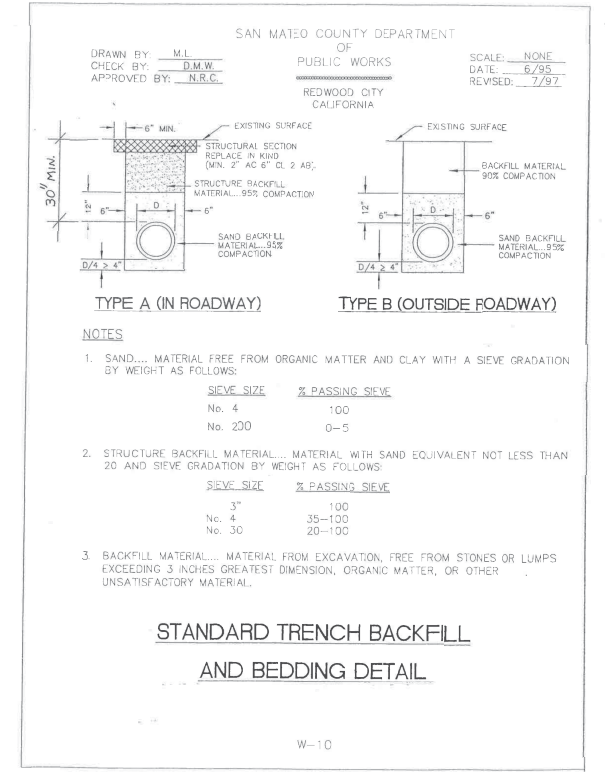
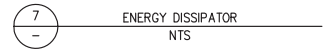
- NOTES:**
- THE ABOVE TABLE SHOWS EXAMPLES OF POST AND BRACE SECTIONS WHICH MAY COMPLY WITH THE SPECIFICATIONS.
  - SECTIONS SHOWN IN THE TABLES MUST ALSO COMPLY WITH THE STRENGTH REQUIREMENTS AND OTHER PROVISIONS OF THE SPECIFICATIONS.
  - OTHER SECTIONS WHICH COMPLY WITH THE STRENGTH REQUIREMENTS AND OTHER PROVISIONS OF THE SPECIFICATIONS MAY BE USED ON APPROVAL OF THE ENGINEER.
  - OPTIONS EXERCISED SHALL BE UNIFORM ON ANY ONE PROJECT.
  - OFFSET TO BE 0.60 m (2'-0") AT MONUMENT LOCATIONS, MEASURE AT RIGHT ANGLES TO R.O.W. LINES. TAPER TO ACHIEVE OFFSET TO BE AT LEAST 6 m (20') LONG.
  - DIMENSIONS SHOWN ARE NOMINAL.



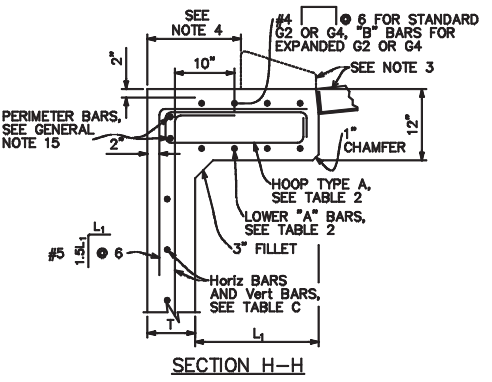
- NOTES:**
- SOLAR LIGHT BOLLARD TO BE STRUCTURA, MODEL MAC II SOL OR APPROVED EQUIVALENT. HEIGHT: 42" WIDTH: 10"
  - EMBED CONCRETE FOUNDATION WITH ANCHOR BOLT
  - SOLAR LIGHT BOLLARD TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS UNLESS OTHERWISE DIRECTED BY ENGINEER



- NOTES:**
- 'La' = LENGTH OF APRON. DISTANCE 'La' SHALL BE OF SUFFICIENT LENGTH TO DISSIPATE ENERGY.
  - APRON SHALL BE SET AT A ZERO GRADE AND ALIGNED STRAIGHT.
  - FILTER MATERIAL SHALL BE FILTER FABRIC OR 6" THICK (MIN.) GRADED GRAVEL LAYER.



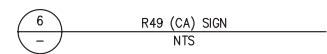
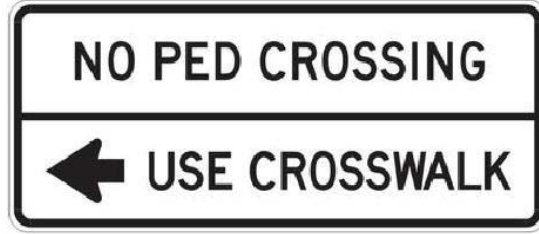
SAN MATEO COUNTY STANDARD DETAIL W-10 STANDARD TRENCH BACKFILL AND BEDDING NTS



- NOTES:**
- SEE CALTRANS 2018 REVISED STANDARD PLAN D72F FOR GENERAL NOTES AND ADDITIONAL DETAILS. SEE CALTRANS 2018 REVISED STANDARD PLAN D72G FOR TABLES, WALL THICKNESS "T", AND QUANTITIES.

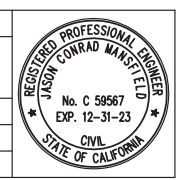
- 3 - STORM DRAIN CATCH BASIN (TYPE G2) NTS
- 9 - CALTRANS STANDARD DETAILS DELINEATORS, CHANNELIZERS AND BARRICADES A73C MIDWEST GUARDRAIL SYSTEM FOR APPROACH STRUCTURE A7701 MIDWEST GUARDRAIL SYSTEM FOR TRANSITION RAILING A7704 CASE 6 RAMP A88A DETECTABLE WARNING SURFACE A88A ELECTRICAL SYSTEMS (CURB AND SHOULDER TERMINATION, TRENCH, AND HANDHOLE DETAILS)

**COUNTY OF SAN MATEO DEPARTMENT OF PUBLIC WORKS AS-BUILTS RECORD DRAWING**  
RESIDENT ENGINEER: KRYSZTOF LESIA  
DEPUTY DIRECTOR DPW  
DATE: 12/11/23

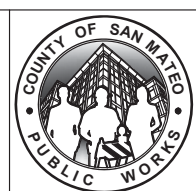


APPROVED DATE: 12-23-2021  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

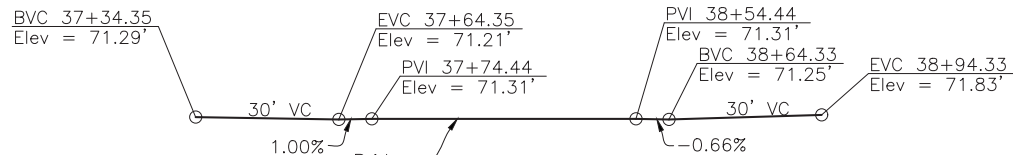
APPROVED DATE:  
JASON MANSFIELD, PROJECT MANAGER  
BKF ENGINEERS  
R.C.E. # 59567 / EXPIRES 12-31-2023



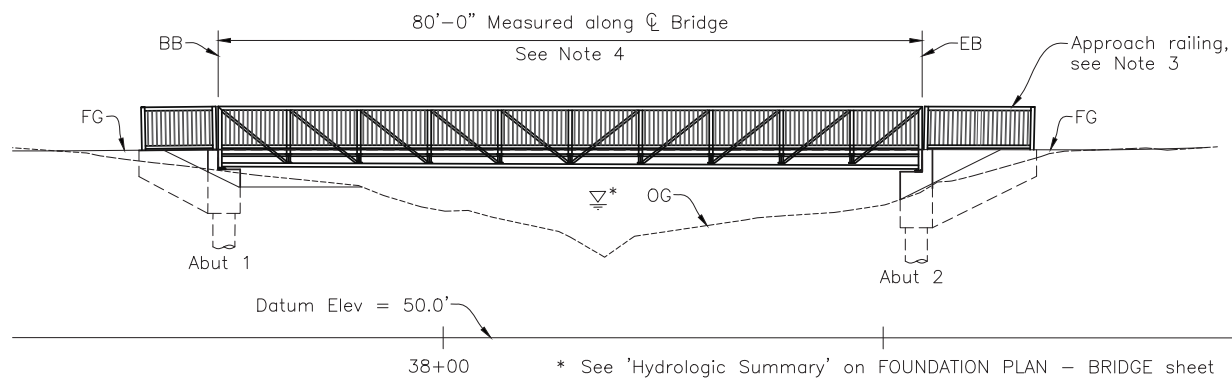
**BKF** ENGINEERS/SURVEYORS/PLANNERS  
255 SHORELINE DRIVE, SUITE 200 REDWOOD CITY, CA 94065 (650) 482-6300



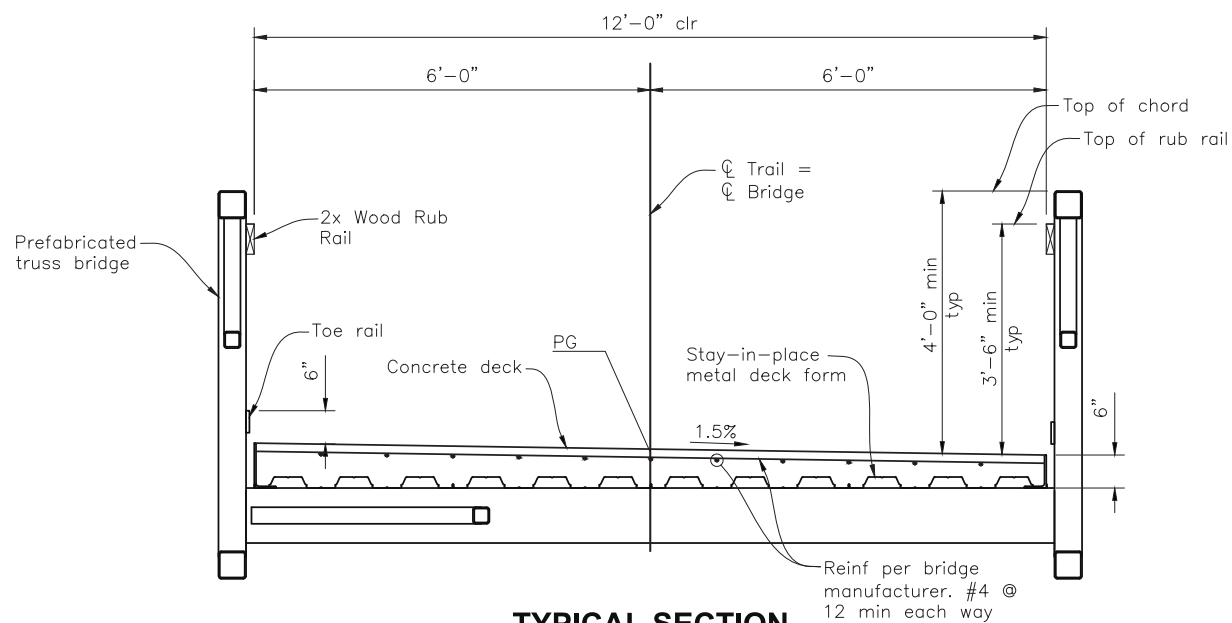
DESIGNED BY: BKF (CT)	MIDCOAST MULTI-MODAL TRAIL	SCALE: AS SHOWN
CHECKED BY: BKF (JM)	MISCELLANEOUS DETAILS	DATE: 12/08/2021
DRAWN BY: BKF (JC)	ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		C-605 SHEET 32 OF 38



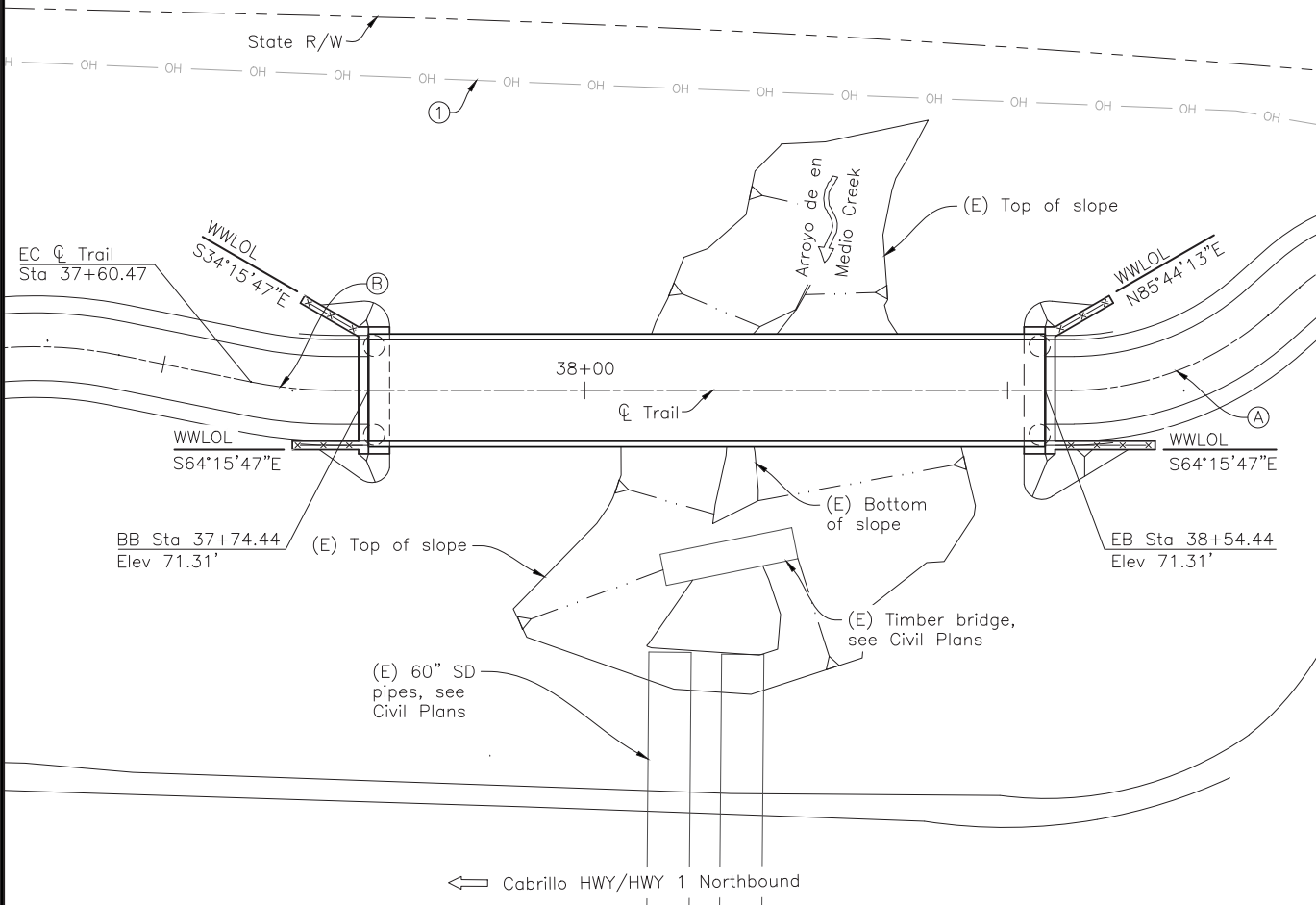
**PROFILE GRADE**  
NOT TO SCALE



**ELEVATION**  
1"=10'-0"



**TYPICAL SECTION**  
3/4"=1'-0"



**PLAN**  
1"=10'-0"

**CALTRANS STANDARD PLANS DATED 2015**

- A3A ABBREVIATIONS (SHEET 1 OF 3)
- A3B ABBREVIATIONS (SHEET 2 OF 3)
- A3C ABBREVIATIONS (SHEET 3 OF 3)
- A10A LEGEND - LINES & SYMBOLS (SHEET 1 OF 5)
- A10B LEGEND - LINES & SYMBOLS (SHEET 2 OF 5)
- A10C LEGEND - LINES & SYMBOLS (SHEET 3 OF 5)
- A10D LEGEND - LINES & SYMBOLS (SHEET 4 OF 5)
- A10E LEGEND - LINES & SYMBOLS (SHEET 5 OF 5)
- A10F LEGEND - SOIL (SHEET 1 OF 2)
- A10G LEGEND - SOIL (SHEET 2 OF 2)
- RSP B11-75 CALIFORNIA ST ST-70 BRIDGE RAIL (SHEET 1 OF 4)
- RSP B11-76 CALIFORNIA ST ST-70 BRIDGE RAIL (SHEET 2 OF 4)
- RSP B11-77 CALIFORNIA ST ST-70 BRIDGE RAIL (SHEET 3 OF 4)
- RSP B11-78 CALIFORNIA ST ST-70 BRIDGE RAIL (SHEET 4 OF 4)

**LEGEND**

- BO-3/3-1 Indicates Caltrans standard plan sheet no.
- A/3-1 Indicates detail no.
- A/3-1 Indicates section letter
- 1/S3 Indicates sheet no. shown on
- 1/S3 Indicates detail no.
- 1/S3 Indicates sheet no. shown on
- Ⓛ Existing Overhead Electrical Line, see Civil Plans
- ×-× Indicates approach railing by bridge manufacturer

**SHEET INDEX**

- S1 GENERAL PLAN - BRIDGE
- S2 FOUNDATION PLAN - BRIDGE
- S3 ABUTMENT DETAILS
- S4 GENERAL PLAN - RETAINING WALL
- S5 RETAINING WALL DETAILS
- S6 RAILING DETAILS

CURVE DATA			
CURVE	R	Δ	L
(A)	50.00'	11°27'34"	10.00'
(B)	35.00'	41°38'45"	25.44'

Verify Curve Data with Civil Plans

**NOTES**

1. These plans shall incorporate the 2015 Caltrans Standard Specifications and 2015 Standard Plans, the 2015 Revised Standard Specifications, and the Project Special Provisions.
2. Bridge abutments designed for the maximum anticipated prefabricated bridge reactions, see "General Notes" on the FOUNDATION PLAN sheet.
3. Approach Railing shall match the aesthetic of the bridge railing system.
4. Prefabricated truss bridge length shall be verified by the Contractor with in-place location of abutments.
5. Contractor shall obtain and comply with all permit requirements established for the project.
6. Surveyor shall verify layout and elevation control.
7. Contractor shall verify all structure dimensions shown on these plans with the bridge supplier. Any discrepancies must be brought to the attention of the Engineer immediately.
8. All steel to be painted per the project special provisions.
9. Utility locations shown are schematic only. Contractor to verify all utilities and Pothole Areas as required by Civil Plans.
10. **ADDITIONAL SCORE MARKS WERE ADDED TO THE BRIDGE DECK SLAB TO SERVE AS THERMAL EXPANSION JOINTS.**

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER: *[Signature]*  
DEPUTY DIRECTOR DPW: KRYSZTOF LEJAN  
DATE: 12/11/23

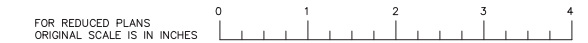
DRAWING NAME: 2-23-21 SIGN OFF DATE: 02-23-21

DESIGN OVERSIGHT: *[Signature]* Emil A. Vergara Jr.  
SIGN OFF DATE: 2-23-21

APPROVED DATE: 12-23-2021  
*[Signature]*  
NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT

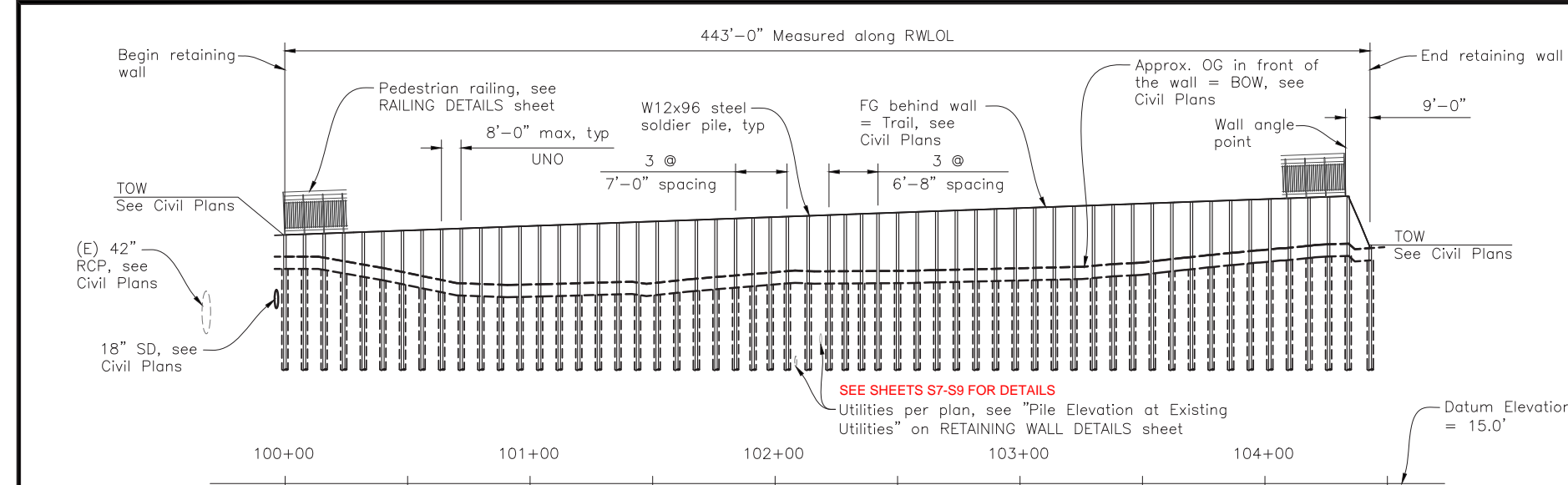


DESIGNED BY: CDI		MIDCOAST MULTI-MODAL TRAIL		SCALE: AS NOTED
CHECKED BY: JPJ		<b>GENERAL PLAN - BRIDGE</b>		DATE: 12/08/2021
DRAWN BY: CDI		ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		<b>S1</b> SHEET 33 OF 38



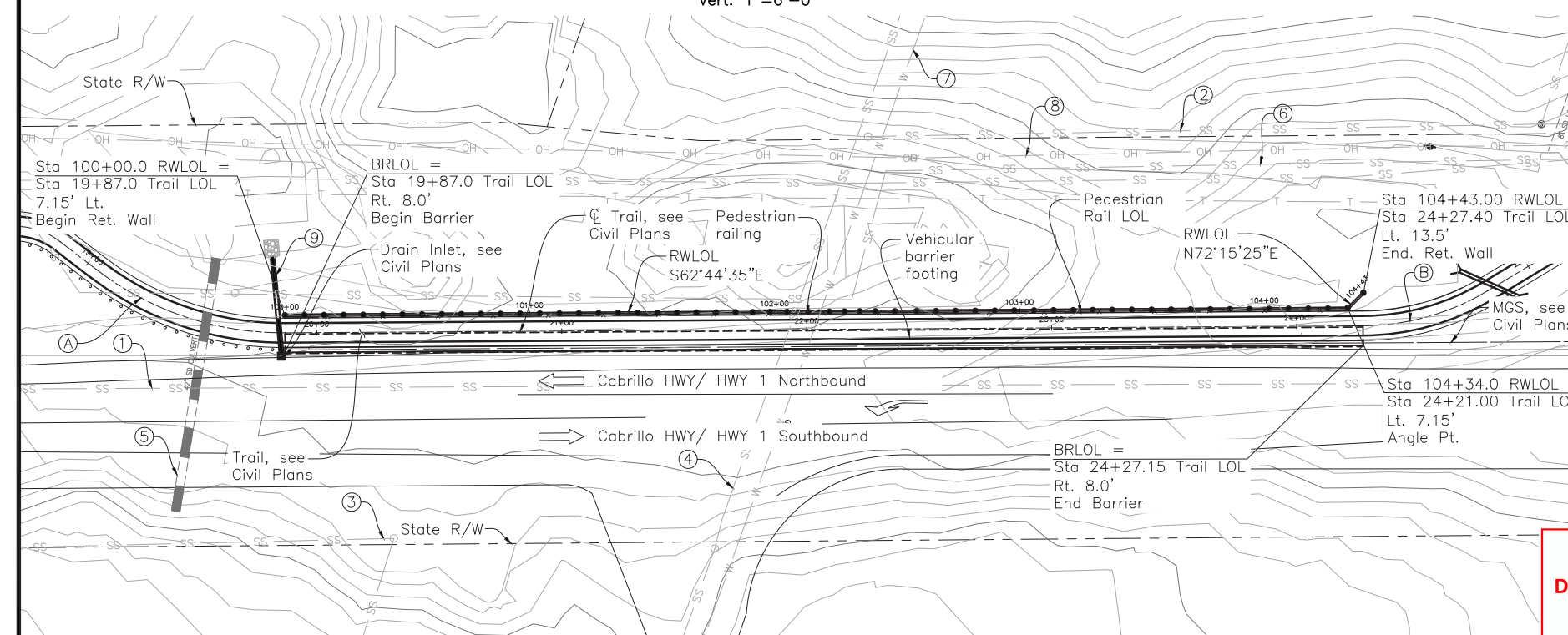






**DEVELOPED MIRRORED ELEVATION**

Horiz: 1"=30'-0"  
Vert: 1"=6'-0"



**PLAN**  
1"=30'-0"



- Legend:**
- ① Existing Sanitary Sewer Line, see Civil Plans
  - ② Existing Sanitary Sewer Line, see Civil Plans
  - ③ Existing Sanitary Sewer Line, see Civil Plans
  - ④ Existing 10" Sanitary Sewer Line, see Civil Plans
  - ⑤ Existing 42" RCP, see Civil Plans
  - ⑥ Existing Sanitary Sewer Line, see Civil Plans
  - ⑦ Existing 10" Water Line, see Civil Plans
  - ⑧ Existing Overhead Line, see Civil Plans
  - ⑨ Proposed 18" Storm drain, see Civil Plans

- Notes:**
1. For additional layout & finish grade information see Civil Plans.
  2. Contractor to verify all existing conditions in the field and inform the Engineer of any discrepancies with the plans.
  3. Contractor to field verify limits of drilled hole.
  4. The contractor shall be responsible for maintaining roadway and wall stability during all temporary conditions and construction operations.
  5. Utility locations shown are schematic. Contractor to verify all utilities with Civil Plans, and Pothole areas as required on the Civil Plans.
  6. Contours shown on plan are existing and proposed, see Civil Plans.

APPROVED DATE: 12-23-2021

*NJC*

NICHOLAS CALDERON, PARKS DIRECTOR  
SMC PARKS DEPARTMENT



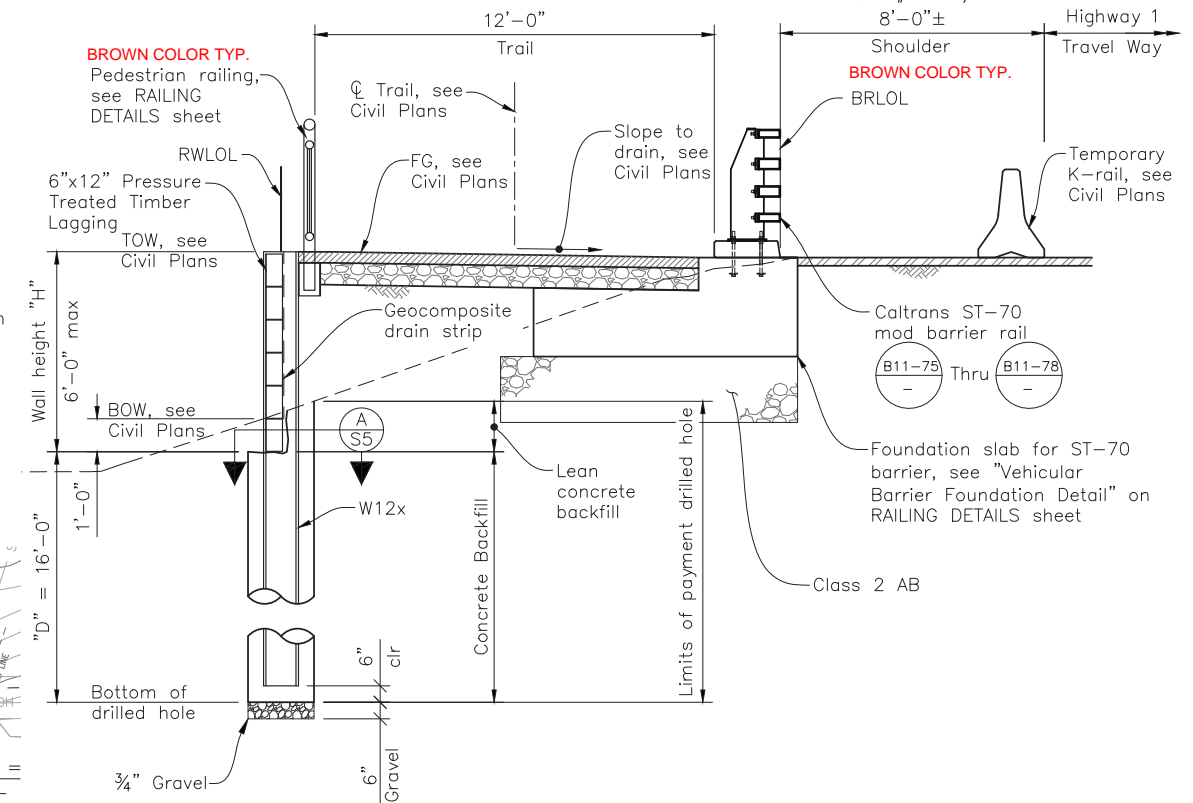
**CORNERSTONE**  
structural engineering group

**Bkf**  
ENGINEERS/SURVEYORS/PLANNERS

255 SHORELINE DRIVE, SUITE 200  
REDWOOD CITY, CA 94065  
(650) 482-6300



DESIGNED BY: CDI	MIDCOAST MULTI-MODAL TRAIL	SCALE: AS NOTED
CHECKED BY: TLS	<b>GENERAL PLAN - RETAINING WALL</b>	DATE: 12/08/2021
DRAWN BY: CDI	ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		<b>S4</b> SHEET 36 OF 38



**TYPICAL SECTION**

3/8"=1'-0"

**GENERAL NOTES**

- DESIGN:** AASHTO LRFD Bridge Design Specifications, 6th Edition with Caltrans Amendments
- LIVE LOADING:** H10 Design Vehicle
- SOIL CRITERIA FOR DESIGN:** Per Foundation Report provided by Parikh, dated 3/18/2020:
- Soldier Pile Wall:**
- Soil Unit Weight = 120 pcf (retained soil)
  - Active equivalent Fluid Pressure (drained) = 60 pcf (below design grade)
  - Passive pressure = 40 pcf
  - Arching factor = 150 pcf (top 5 feet)
  - Traffic Load (Lateral) = 270 pcf (below top 5 feet)
  - Incremental Seismic Earth Pressure = 2 (top 5 feet)
  - = 3 (below top 5 feet)
  - = 40 psf (from H10 vehicle)
  - = 30 pcf
- Vehicular Barrier:**
- Nominal Bearing Capacity = 5 ksf
  - Friction Coefficient = 0.45 (between footing and AB)
  - Nominal Passive Earth Pressure = 500 pcf
- STEEL SOLDIER PILES:** ASTM A572/A, ASTM 572M Grade 50 min, or ASTM A36/A36M
- STRUCTURAL TIMBER:** Treated Douglas Fir, Grade No. 1 or better Timber to be full sawn.
- CONCRETE:** f'c = 4,000 psi

**CURVE DATA**

CURVE	R	Δ	L
(A)	128.50'	37°32'07"	84.18'
(B)	100.00'	31°04'44"	54.24'

Verify Curve Data with Civil Plans

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER: KRZYSZTOF JASA  
DEPUTY DIRECTOR DPW

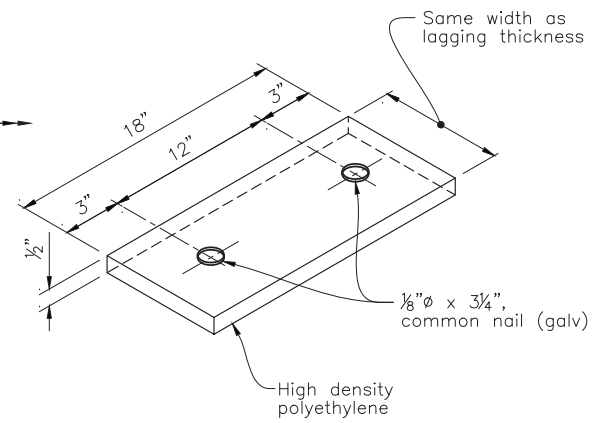
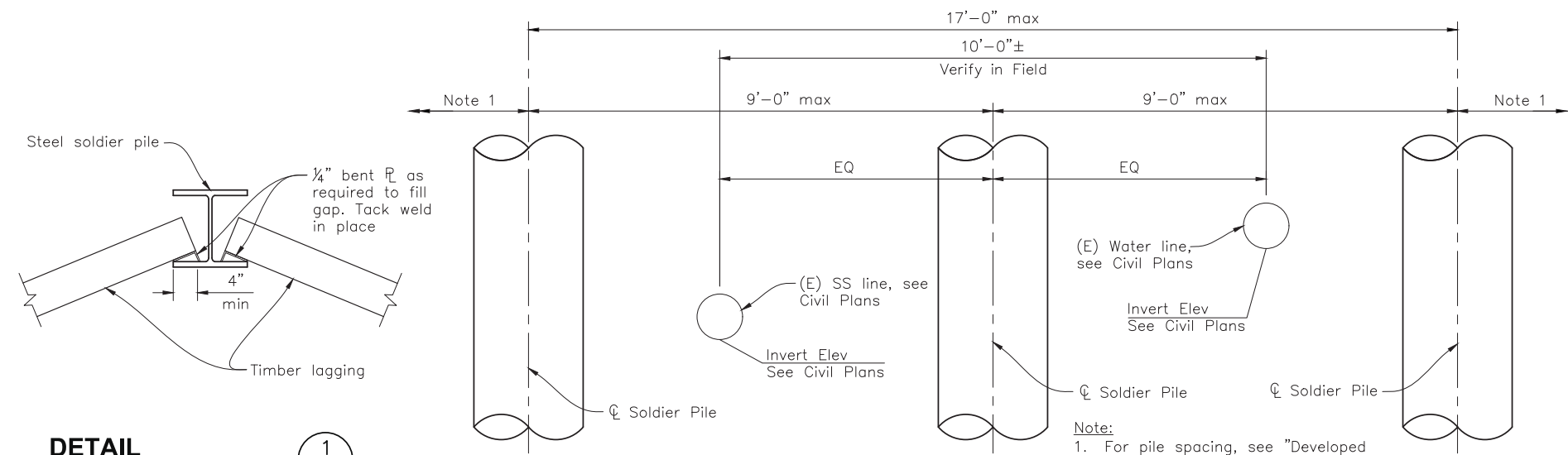
DATE: 12/11/23

DRAWING NAME: 2-23-21 SIGN OFF DATE: 12/23/21

DESIGN OVERSIGHT: *Emil A. Vergara Jr.*  
Emil A. Vergara Jr.



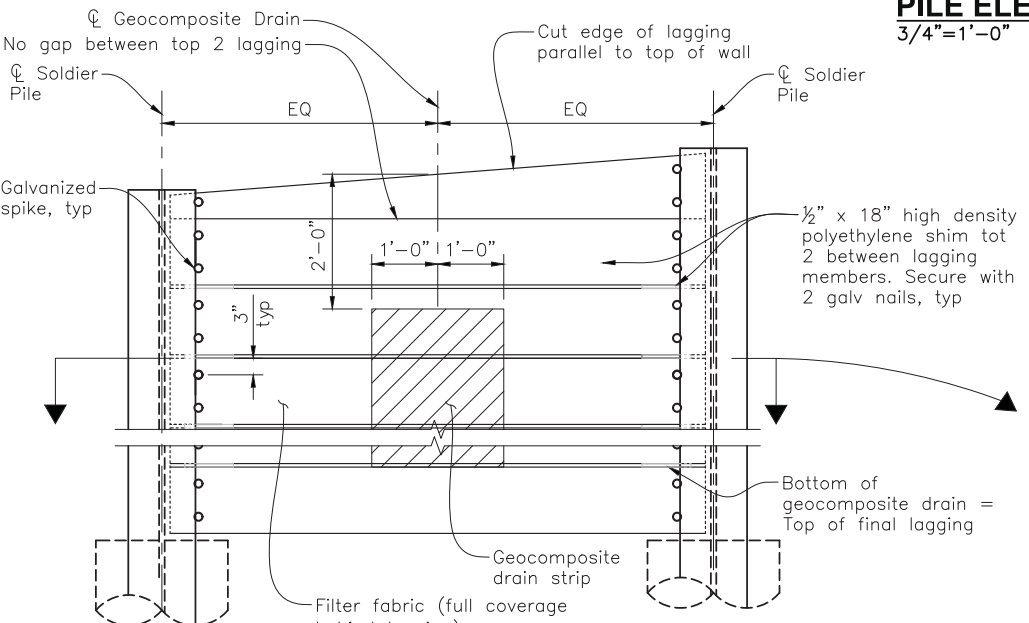
APPROVED: *[Signature]*  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2021



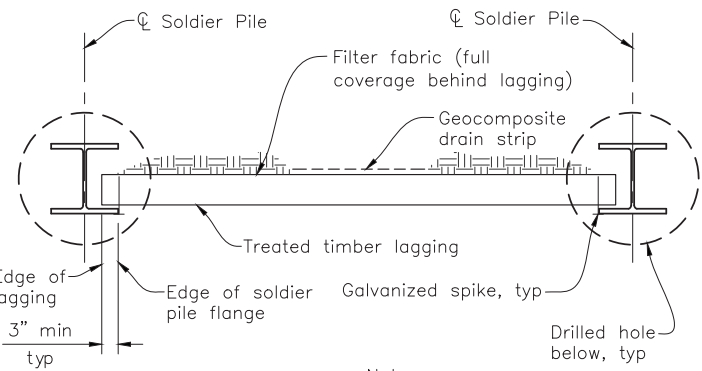
**SHIM DETAIL**  
NO SCALE

**PILE ELEVATION AT EXISTING UTILITIES**  
3/4"=1'-0"

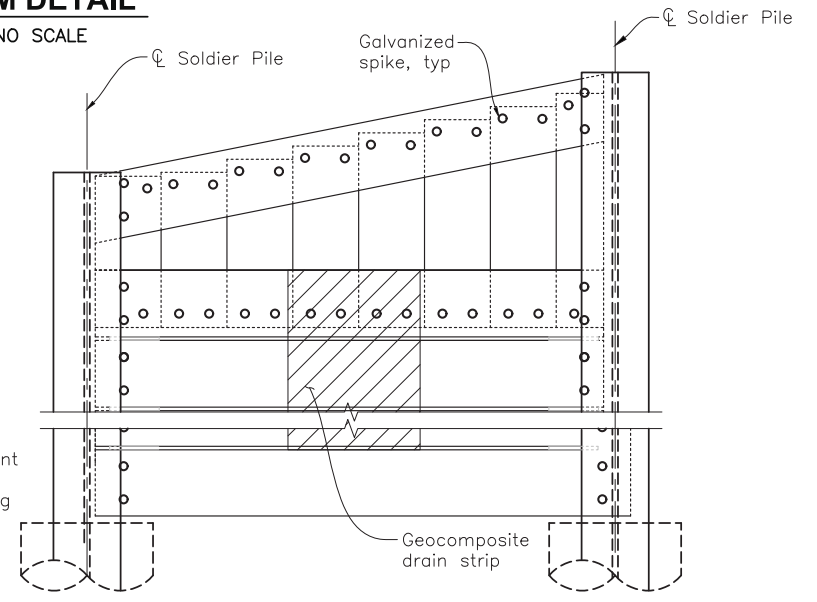
**DETAIL**  
1"=1'-0" (1) S5



**TYPICAL LAGGING DETAILS**  
3/4"=1'-0" (2) S5

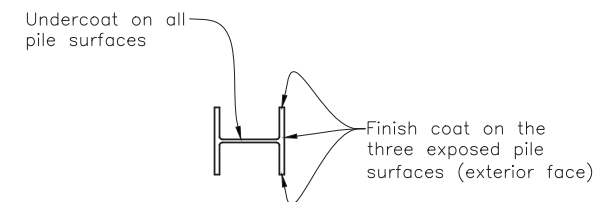


Notes:  
 1. Clipping of timber lagging corners is not allowed.  
 2. Use 40d galvanized wire spikes for 6x12 lagging.

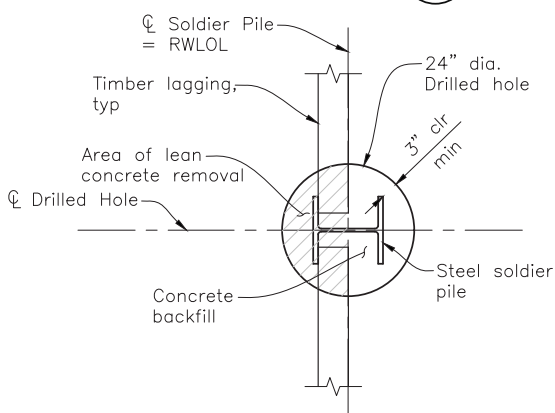


**VERTICAL LAGGING DETAILS**  
3/4"=1'-0" (3) S5

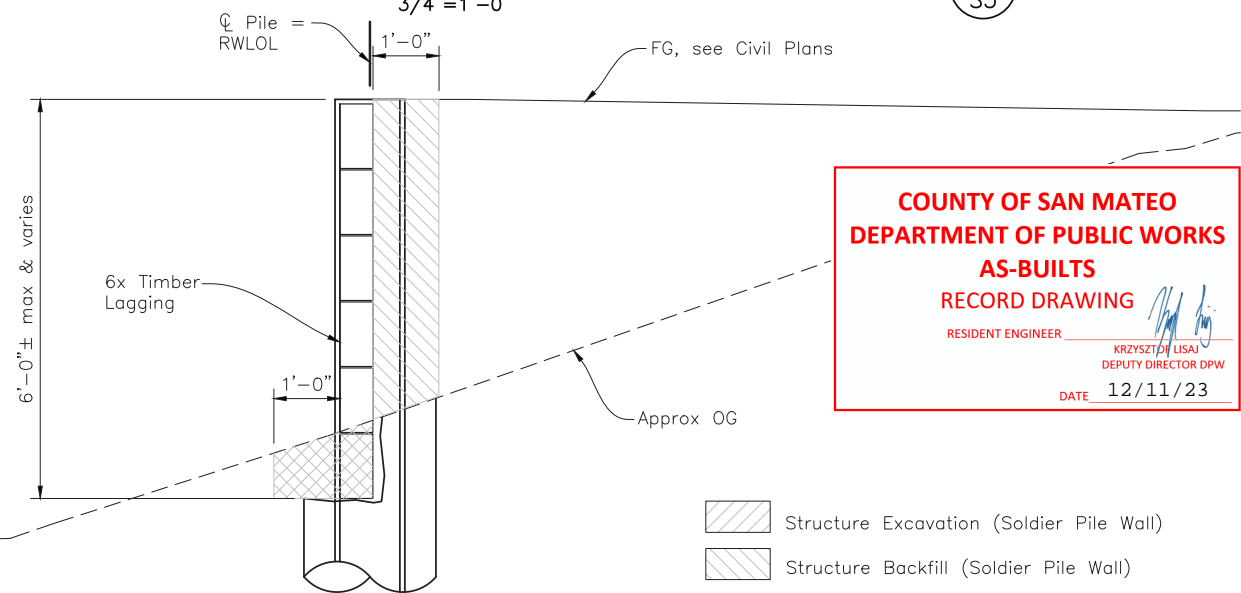
Note: **GREEN COLOR TYP.**  
 (A) Clean and paint Steel Soldier Pile from top of pile to 5'-0" min below bottom of lagging



**LIMITS OF CLEAN & PAINT STEEL SOLDIER PILE**  
NO SCALE



**SECTION**  
3/4"=1'-0" (A) S5



**EXCAVATION / BACKFILL DIAGRAM**  
3/4"=1'-0"

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER: KRZYSZTOF LISAJ, DEPUTY DIRECTOR DPW  
 DATE: 12/11/23

DRAWING NAME: 2-23-21 SIGN OFF DATE: 02-23-21

DESIGN OVERSIGHT: *[Signature]* Emil A. Vergara Jr.  
 2-23-21  
 SIGN OFF DATE

APPROVED DATE: 12-23-2021  
*[Signature]*  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT



**CORNERSTONE**  
 structural engineering group

**Bkf**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300

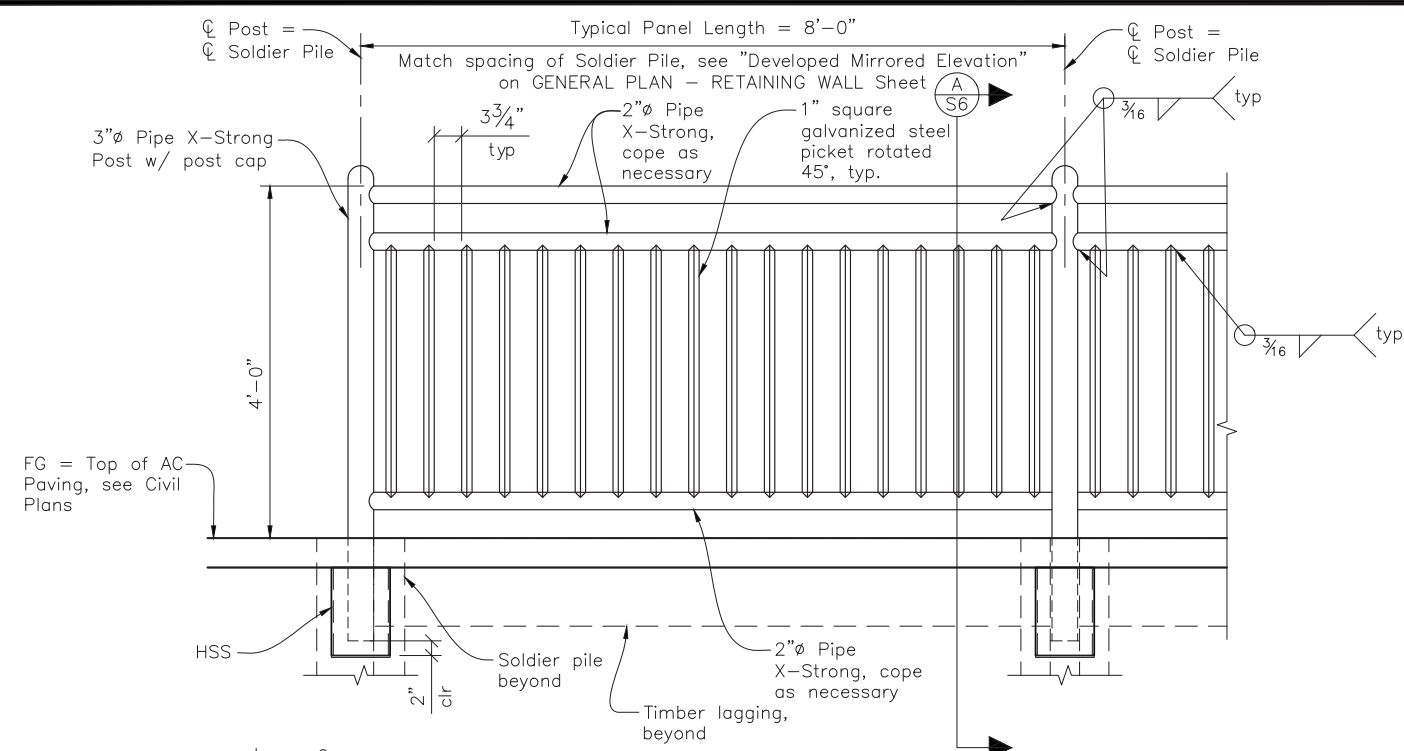


DESIGNED BY: CDI		MIDCOAST MULTI-MODAL TRAIL		SCALE: AS NOTED
CHECKED BY: JPJ		<b>RETAINING WALL DETAILS</b>		DATE: 12/08/2021
DRAWN BY: CDI		ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO: 1/4952
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		<b>S5</b> SHEET 37 OF 38

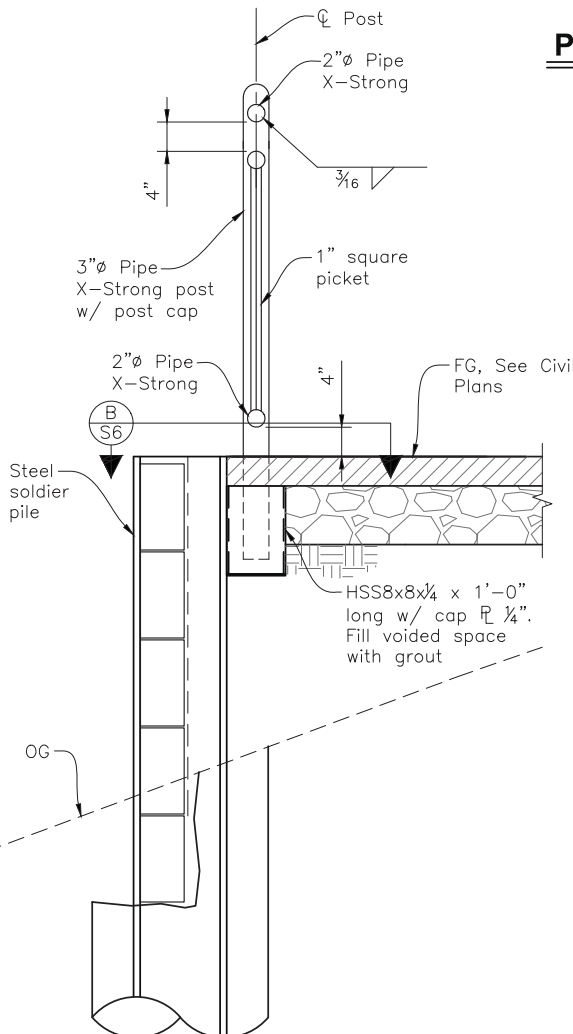
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES  
 0 1 2 3 4



APPROVED: *Ann Mader Stillman*  
 DATE: 12/23/2021  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2021

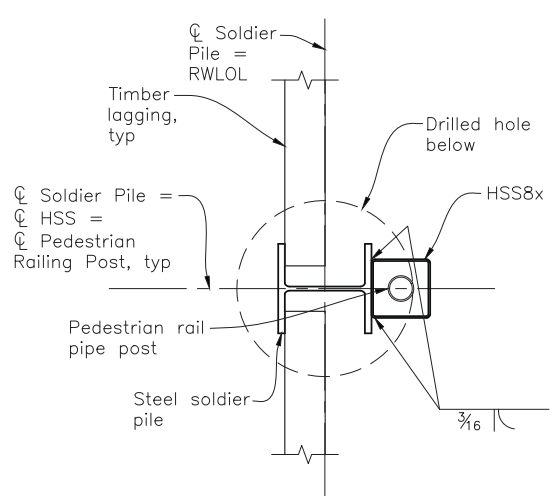


**PARTIAL ELEVATION**  
 1" = 1'-0"

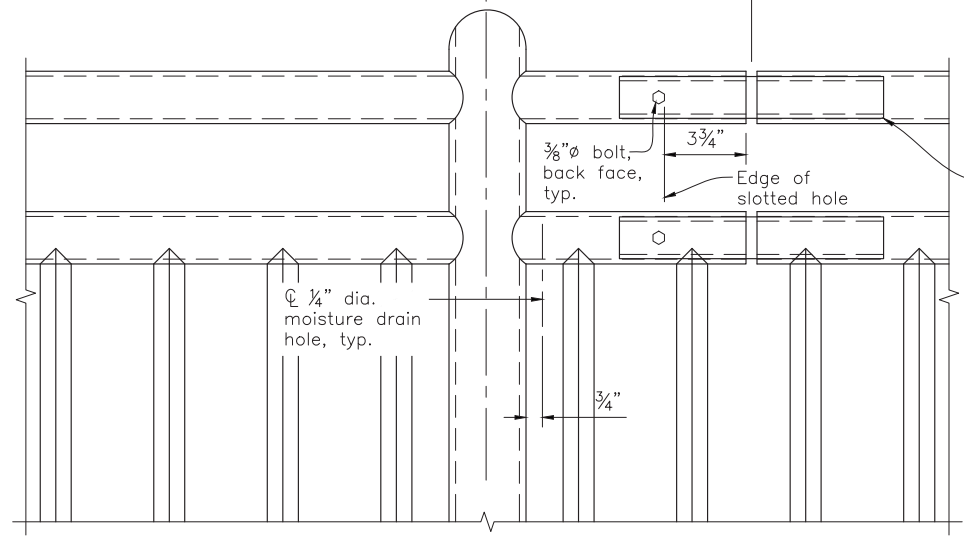


**SECTION A**  
 1" = 1'-0"

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**  
 RESIDENT ENGINEER *Krzysztof L. Laj*  
 KRZYSZTOF LAJ  
 DEPUTY DIRECTOR DPW  
 DATE 12/11/23



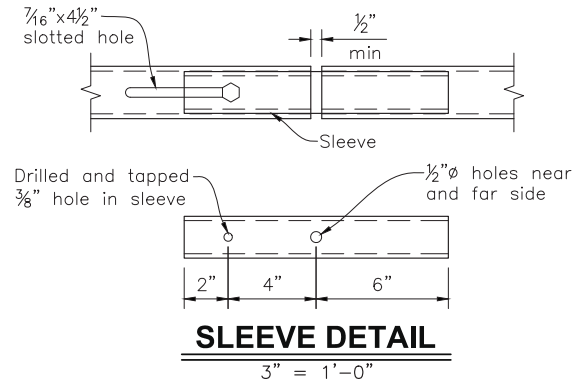
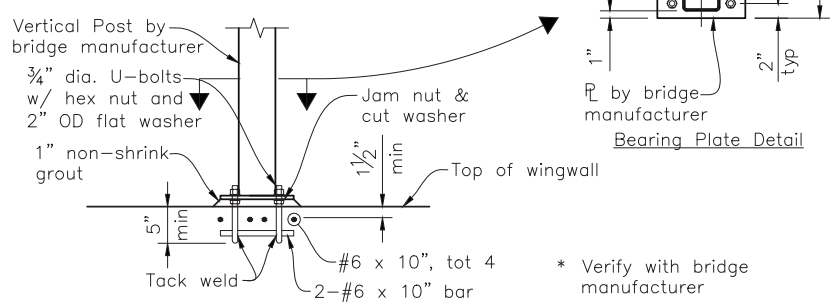
**SECTION B**  
 1" = 1'-0"



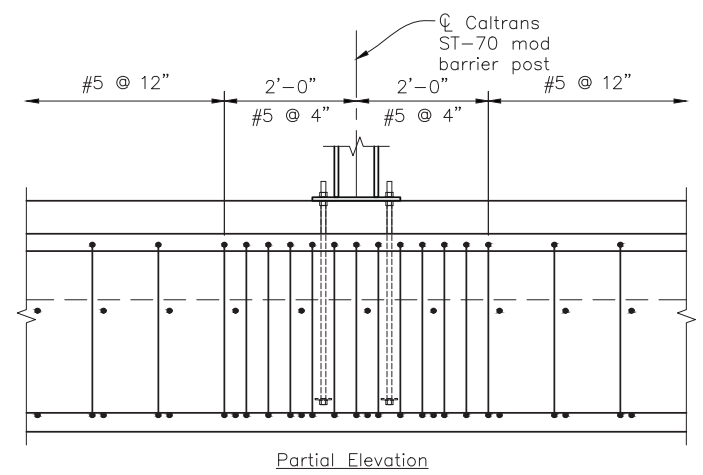
**EXPANSION JOINT DETAIL**  
 3" = 1'-0"

Notes:  
 1. Provide expansion joint every 48 feet.  
 2. Bottom rail expansion joint not shown, but similar.

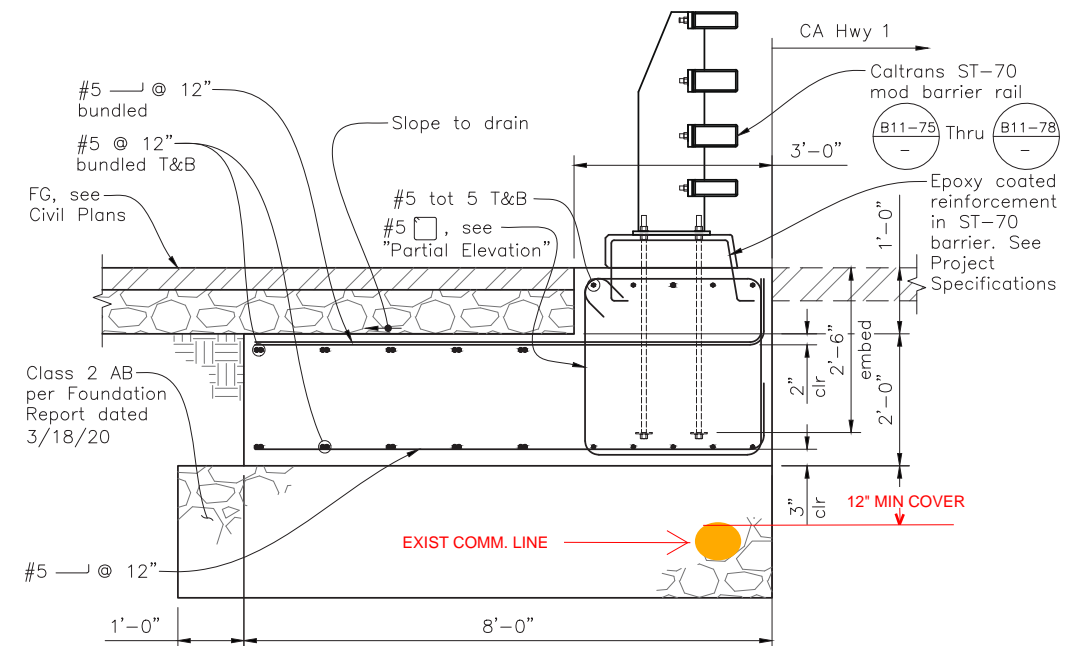
**RAILING ANCHORAGE @ BRIDGE APPROACH**  
 1" = 1'-0"



**SLEEVE DETAIL**  
 3" = 1'-0"



Partial Elevation



**VEHICULAR BARRIER FOUNDATION DETAIL**  
 3/4" = 1'-0"

DRAWING NAME: 2-23-21 SIGN OFF DATE: 2/23/2021

DESIGN OVERSIGHT: *Emil A. Vergara Jr.*  
 2-23-21  
 SIGN OFF DATE

APPROVED DATE: 12-23-2021  
*NJC*  
 NICHOLAS CALDERON, PARKS DIRECTOR  
 SMC PARKS DEPARTMENT



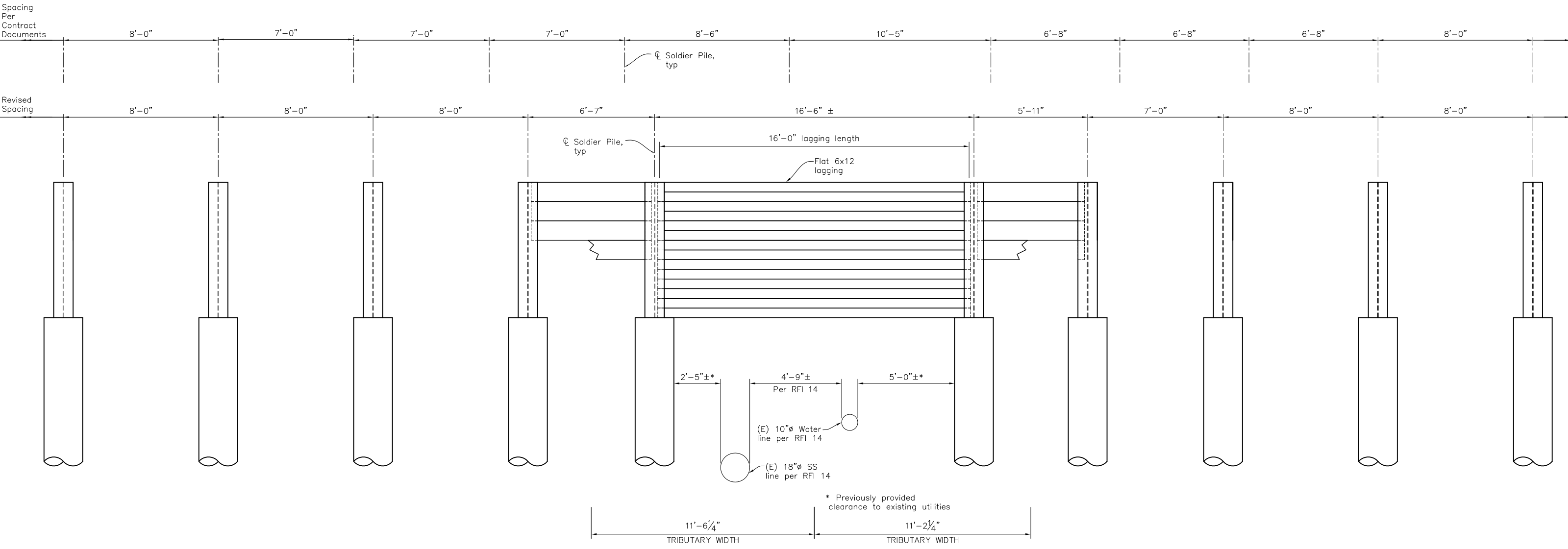
**CORNERSTONE**  
 structural engineering group

**Bkf**  
 ENGINEERS/SURVEYORS/PLANNERS  
 255 SHORELINE DRIVE, SUITE 200  
 REDWOOD CITY, CA 94065  
 (650) 482-6300



REVISION		DATE	DESIGNED BY: CDI	CHECKED BY: TLS	DRAWN BY: CDI	MIDCOAST MULTI-MODAL TRAIL	SCALE: AS NOTED
			ANN MADER STILLMAN INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO			555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	DATE: 12/08/2021 FILE NO: 1/4952

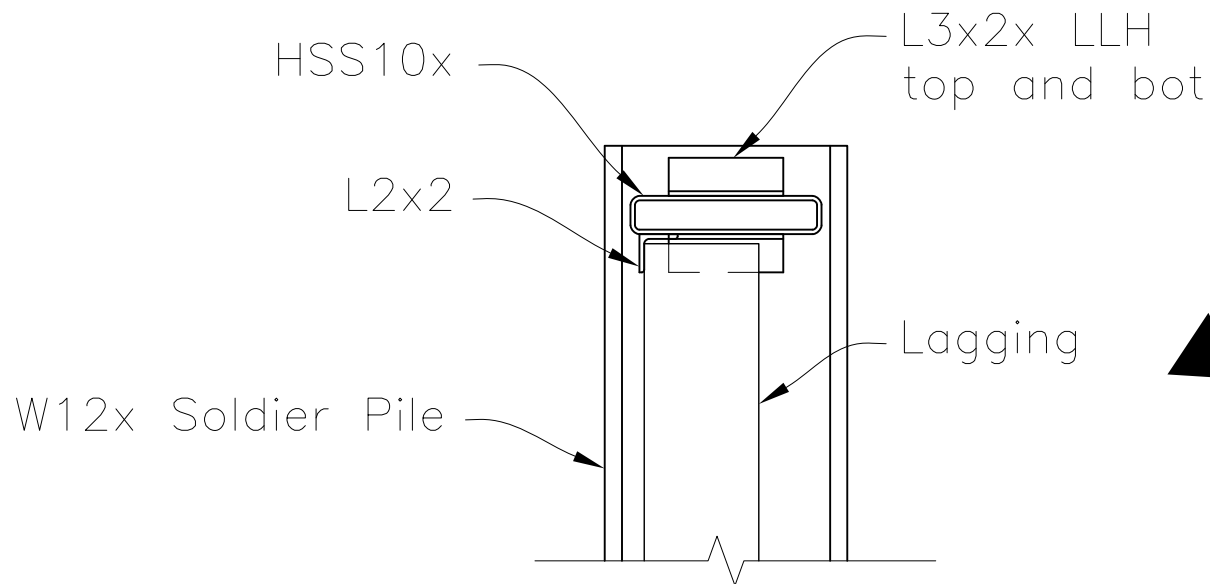
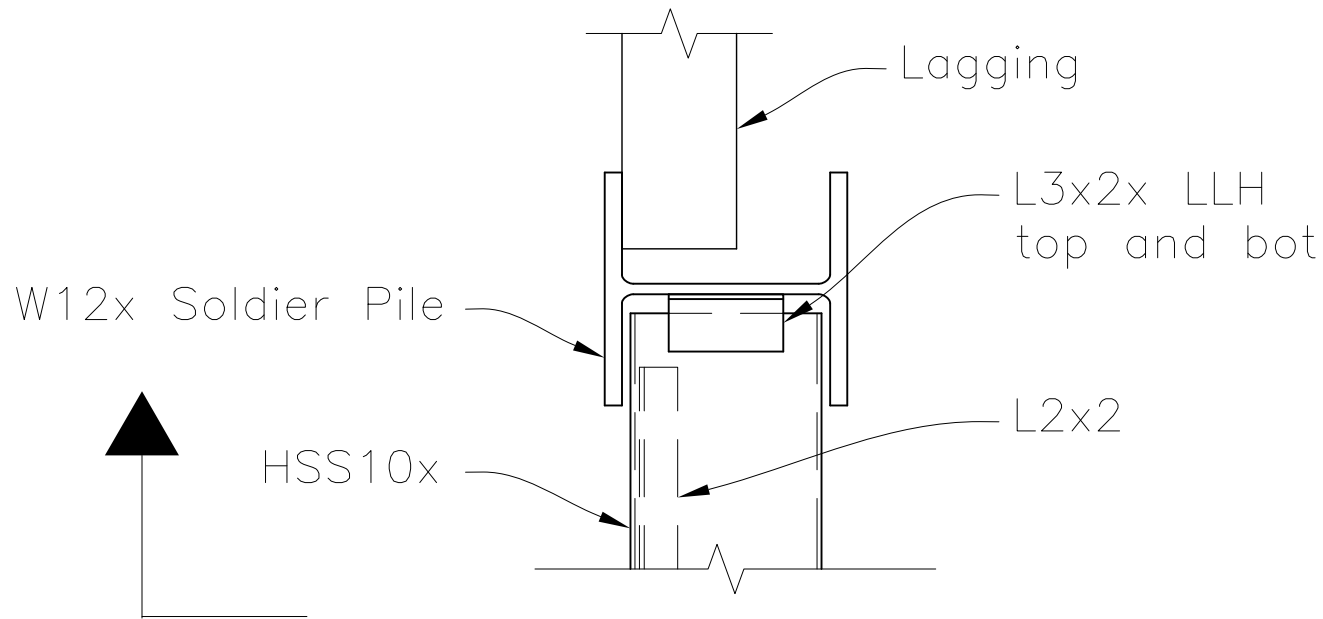
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES  
 0 1 2 3 4  
**S6**  
 SHEET 38 OF 38



**MODIFIED SOLDIER PILE SPACING AT UTILITY CONFLICT**

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
 RECORD DRAWING

RESIDENT ENGINEER *[Signature]*  
 KRZYSZTOF LISAJ  
 DEPUTY DIRECTOR DPW  
 DATE 12/11/23

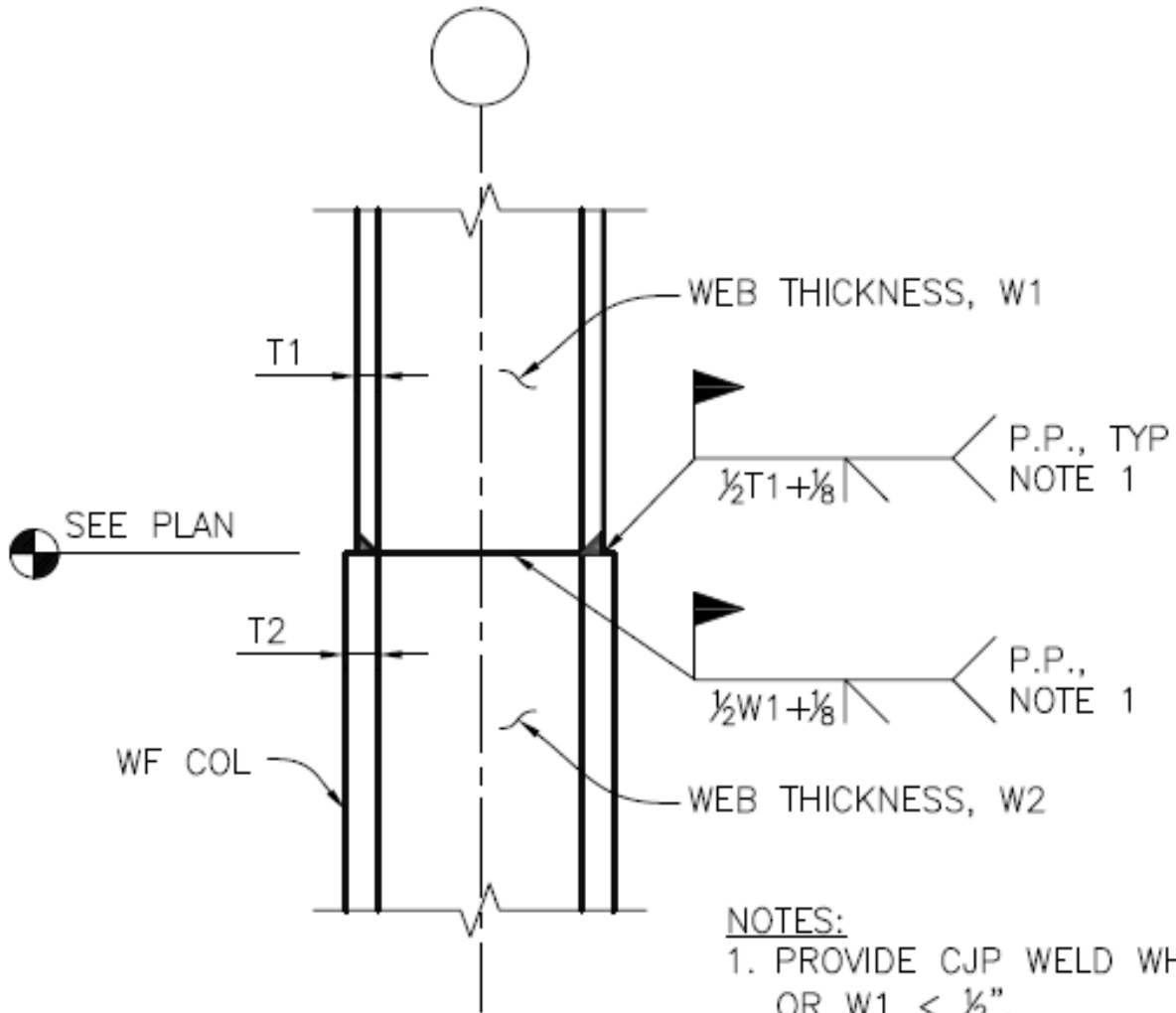


**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER \_\_\_\_\_  
KRZYSZTOF LISAJ  
DEPUTY DIRECTOR DPW

DATE 12/11/23

**SOLDIER PILE AND LAGGING DETAIL AT UTILITY CONFLICT**



**NOTES:**


1. PROVIDE CJP WELD WHEN T1 OR W1 < 1/2".
2. AT CONTRACTOR'S OPTION, CONT COLUMN MAT BE PROVIDED IN LIEU OF COLUMN SPLICE.

**WF COLUMN NON-FRAME**

**SOLDIER PILE WELDING DETAIL**

**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS**

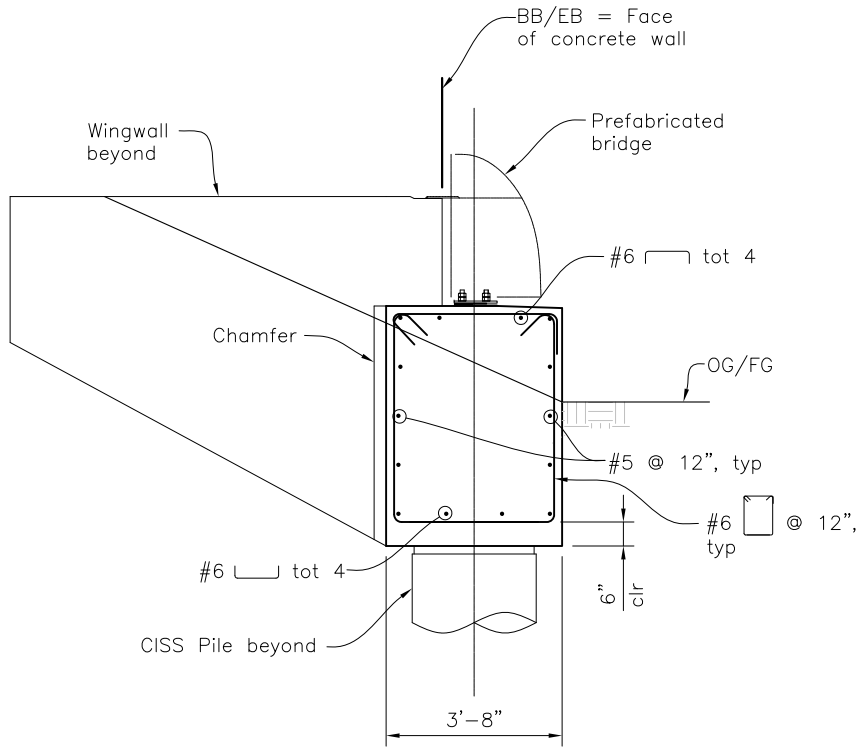
RECORD DRAWING

RESIDENT ENGINEER 

KRZYSZTOF LIGAJ  
DEPUTY DIRECTOR DPW

DATE 12/11/23

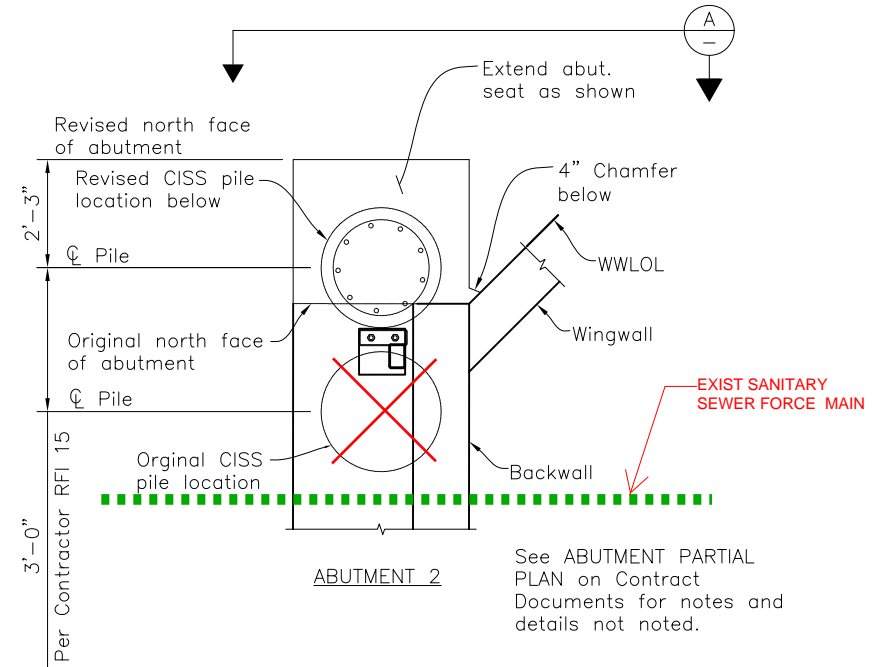
**Note:**  
 The east CISS pile at abutment 2 was shifted 3 ft to the east to provide additional horizontal clearance to the existing sanitary sewer force main. The abutment seat was also extended.




**SECTION A**

**ABUTMENT 2 PARTIAL PLAN REVISED PER RFI 15**

NTS



**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER   
 KRZYSZTOF LISAJ  
 DEPUTY DIRECTOR DPW

DATE 12/11/23

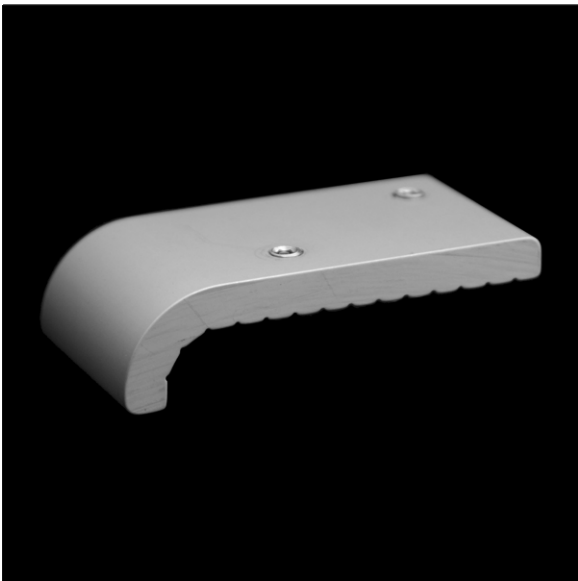
# PRODUCT DETAILS

## FR 0.5

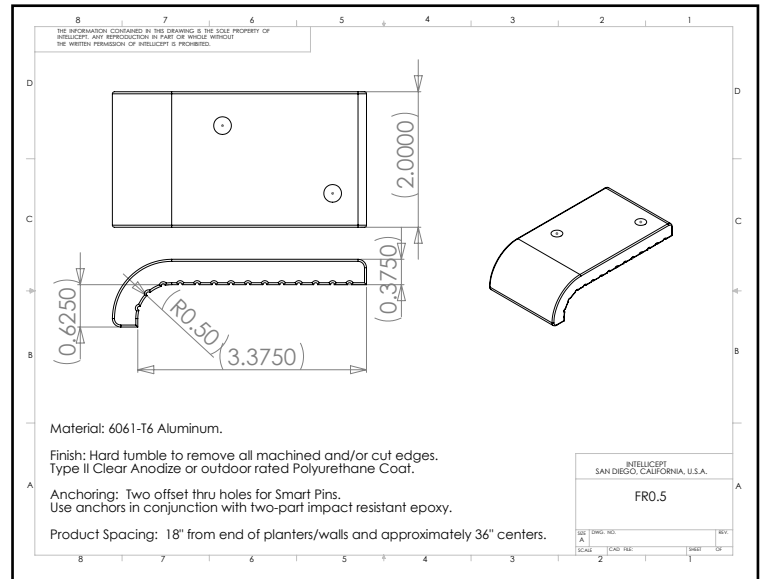
(FR Series - Surface Mount Aluminum)



**Description:** This part is designed for walls with 1/2" radius edge (may also be used in place of model FA902.5).



shown in Clear Anodize



**Material:** 6061-T6 Aluminum

**Finish:** Hard tumble to remove all machined and/or cut edges. Aluminum finish options include Type II Clear Anodize or Hard Anodize.

**Corner Radius:** For corner with 1/2" radius.

**Outside Dimensions:** 2" (wide) x 3 3/4" (deep) x 1" (tall)

**Anchoring:** Two offset thru holes for Smart Pins Plus. Use anchors in c epoxy.

**Product Spacing:** 18" from end of planters/walls and approximately 36" centers. Do not apply at grout joints.

**COUNTY OF SAN MATEO**  
**DEPARTMENT OF PUBLIC WORKS**  
**AS-BUILTS**  
**RECORD DRAWING**

RESIDENT ENGINEER \_\_\_\_\_  
KRZYSZTOF LISAJ  
DEPUTY DIRECTOR DPW

DATE 12/11/23

MEETING 3/21/23.

ISSUE: DETECTION LOOPS

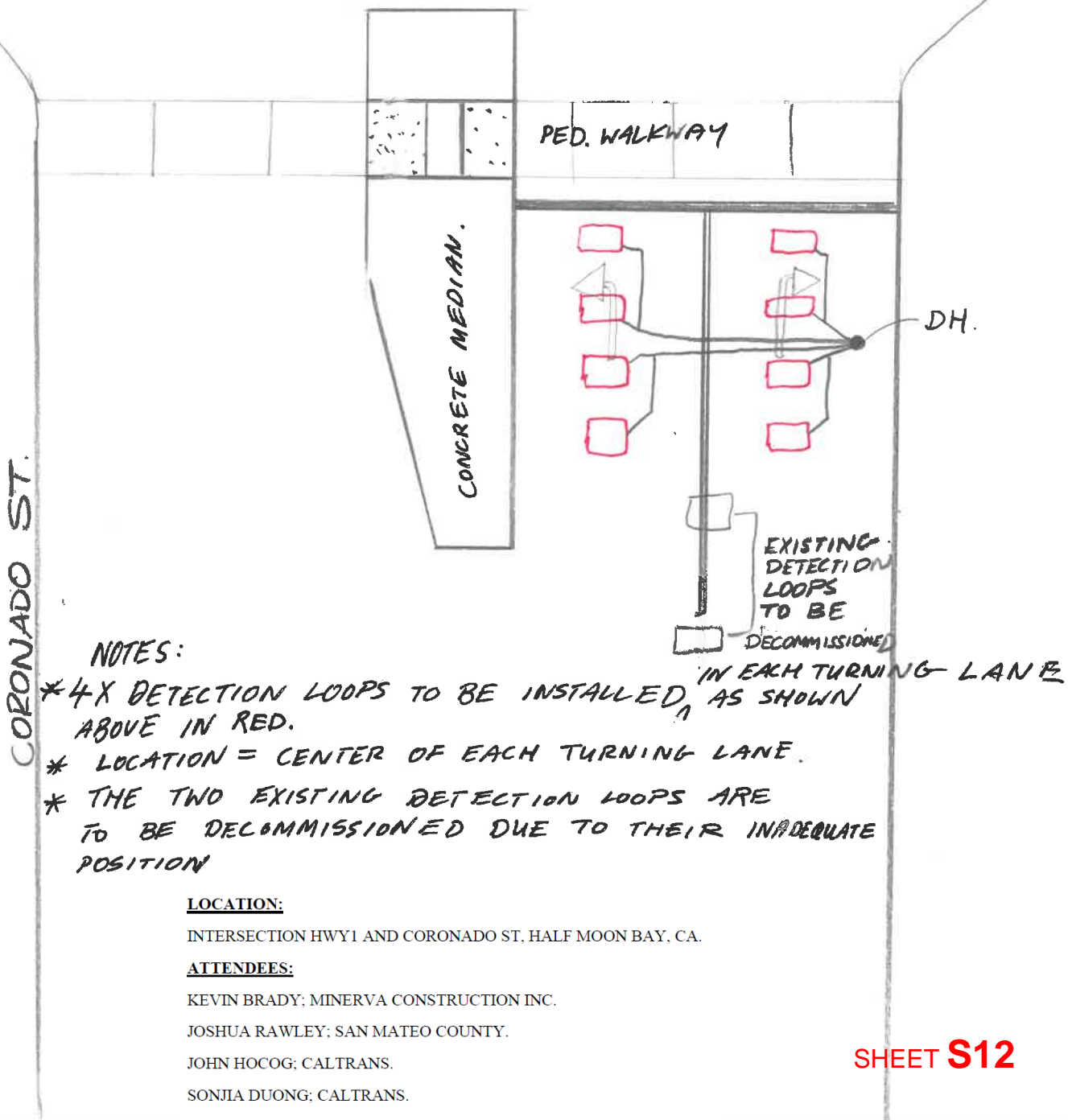
**APPROVED LOOP DETECTOR DRAWING PER CALTRANS  
FIELD MEETING ON 3/21/2023**

MWY 1

**COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
AS-BUILTS  
RECORD DRAWING**

RESIDENT ENGINEER \_\_\_\_\_  
KRZYSZTOF LISAJ  
DEPUTY DIRECTOR DPW

DATE 12/11/23



**NOTES:**

- \* 4X DETECTION LOOPS TO BE INSTALLED, AS SHOWN ABOVE IN RED.
- \* LOCATION = CENTER OF EACH TURNING LANE.
- \* THE TWO EXISTING DETECTION LOOPS ARE TO BE DECOMMISSIONED DUE TO THEIR INADEQUATE POSITION

**LOCATION:**

INTERSECTION HWY1 AND CORONADO ST, HALF MOON BAY, CA.

**ATTENDEES:**

- KEVIN BRADY; MINERVA CONSTRUCTION INC.
- JOSHUA RAWLEY; SAN MATEO COUNTY.
- JOHN HOCOG; CALTRANS.
- SONJIA DUONG; CALTRANS.
- RONALD SAN JOSE; CALTRANS
- MIN LEE; CALTRANS



APPENDIX E – Fitzgerald Marine Reserve Coastal Trail Improvement  
Project Bid Plans



# COASTAL TRAIL IMPROVEMENT PROJECT

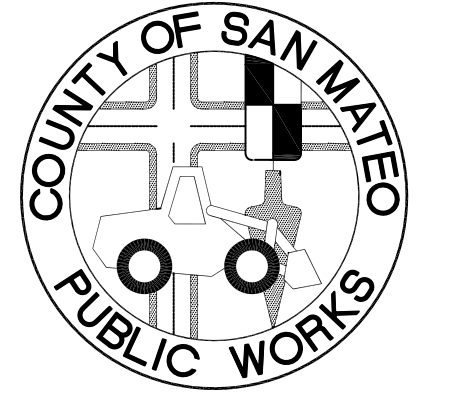
## COUNTY OF SAN MATEO

### FITZGERALD MARINE RESERVE

MOSS BEACH, CALIFORNIA  
PROJECT NO. 4873



COASTAL TRAIL  
IMPROVEMENT  
PROJECT  
COUNTY OF SAN MATEO  
FITZGERALD MARINE RESERVE  
MOSS BEACH, CALIFORNIA



APPROVED: \_\_\_\_\_

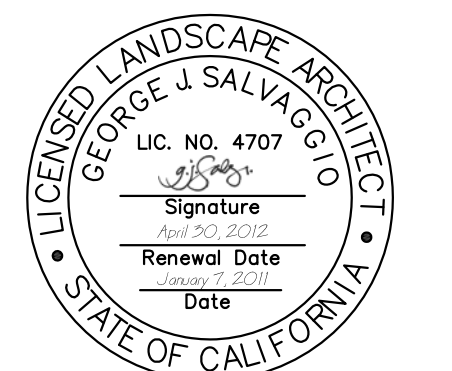
DATE: \_\_\_\_\_

DAVE HOLLAND, DIRECTOR OF SAN MATEO COUNTY PARKS DEPARTMENT

APPROVED: \_\_\_\_\_

DATE: \_\_\_\_\_

JAMES C. PORTER, DIRECTOR OF PUBLIC WORKS  
RCE # 48056 / EXPIRES 12-31-2011



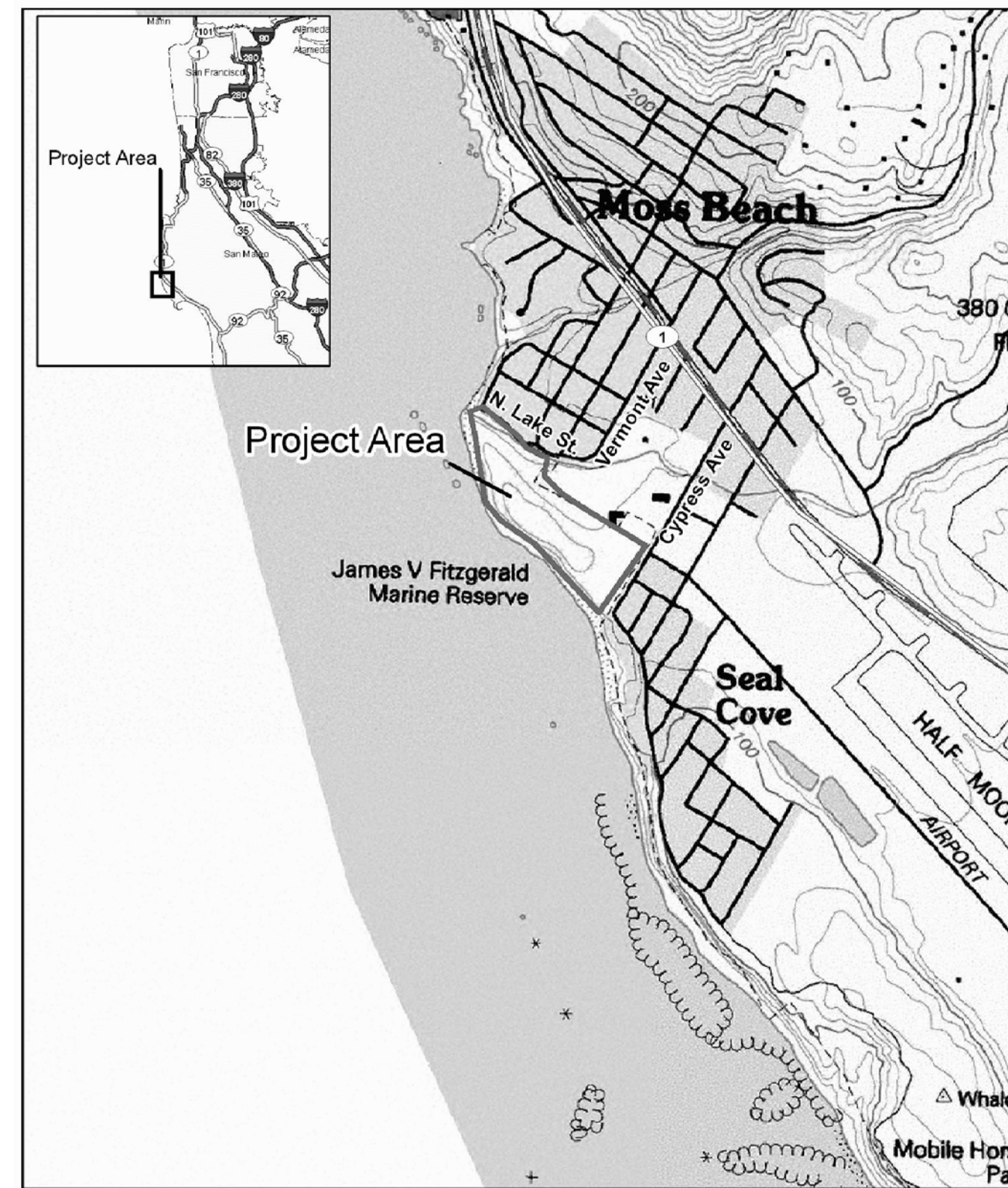
01/07/11	BID SET	
Date	Issues And Revisions	No.

FILE NO. 1/4873  
WRA PROJECT # 18054  
DRAWN BY: MCB  
CHECKED BY: GJS  
ORIGINAL DRAWING SIZE: 24 X 36

#### TITLE SHEET

Sheet

# L-1



LOCATION MAP

NOT TO SCALE



SITE MAP

SCALE: 1:100

#### GENERAL NOTES:

- All work in compliance with current County of San Mateo adopted Unified Building Codes.
- All work in compliance with State of California Department of Transportation Standard Plans Dated May 2006 and adopted by the County of San Mateo, November 14, 2006, by Resolution No. 068389.
- The Contractor shall notify the Project Geotechnical Engineer a minimum of 48 hours prior to commencing any aspect of the work.
- The Contractor shall contact USA (Underground Service Alert) at least 48 hours in advance of work 800/227-2600.
- The Contractor shall possess a Class "A" License or combination of Class C licenses that are applicable for the majority of work at the time of this contract is awarded.
- Technical Specification 3315 Cast-in-Place Reinforced Concrete are part of the plans.
- The Contractor shall restore access routes to their original conditions. Damage caused to visible or known improvements, such as structures or pavements shall be repaired by the Contractor at no cost to the owners.
- All excess excavated debris and material shall be hauled from the site and legally disposed of by the Contractor.
- All materials and workmanship shall be in accordance with the latest edition of the State of California, Department of Transportation (Caltrans) Standard Plans and Specifications.
- Improvement layouts may need to be modified in the field per the direction of the Engineer.
- See Section 3315 for concrete and steel requirements.

#### ARCHEOLOGICAL NOTES

- This project includes work within a known archeological site, CA-SMA-131. The Contractor shall review the Archeological Report and Memorandum of Understanding with Army Corps., and comply with all of the provisions and prohibitions prescribed in these documents.
- Protect ground surface of the site during construction by installing straw layer/wood mats on the surface in areas where equipment or other construction activities may disturb the ground surface.
- Install a permeable geo-textile barrier to differentiate fill from existing ground surface.
- Install and maintain orange construction fencing to mark the boundary of construction activities within the site. All equipment and construction traffic shall be prohibited outside the fenced area.
- Utilize hand construction for the installation of the archeological cap, bridge abutment and trail within the archeological site when ever possible to limit damage from the operation of machinery.
- An archeological monitor shall be on-site during any ground disturbing construction within or within 50 feet of the recorded site boundary of CA-SMA-131.
- The archeological monitor shall have the authority to temporarily halt any ground disturbing construction to identify and evaluate any archeological materials inadvertently exposed during construction. The exposure of significant results could result in the development of a treatment program including scientific removal, analysis and reporting.

#### SHEET INDEX

- L-1 --- SHEET INDEX
- L-2 --- EXISTING CONDITIONS & DEMOLITION PLAN
- L-3 --- SITE PLAN
- L-4A --- SITE DETAILS
- L-4B --- SITE DETAILS
- L-5 --- STRUCTURAL DETAILS
- L-6 --- STRUCTURAL DETAILS
- L-7 --- GRADING PLAN
- L-8 --- SEEDING & PLANTING PLAN

#### PROJECT CONTACT LIST

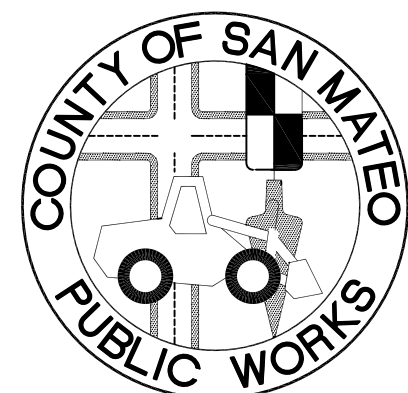
AGENCY / ORGANIZATION	NAME	PHONE	EMAIL
COUNTY OF SAN MATEO PARKS DEPARTMENT	GARY LOCKMAN	(650) 363-1881	GLOCKMAN@CO.SANMATEO.CA.US
COUNTY OF SAN MATEO PUBLIC WORKS DEPARTMENT	TO BE DETERMINED		
WRA (PROJECT LANDSCAPE ARCHITECT / DESIGNER)	GEORGE SALVAGGIO	(415) 454-8868	SALVAGGIO@WRA-CA.COM
MILLER PACIFIC (PROJECT ENGINEER)	SCOTT STEPHENS	(415) 382-3444	SSTEPHENS@MILLERPAC.COM



ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS AND PLANNERS  
2169 G East Francisco Blvd.  
San Rafael, CA 94901  
(415) 454-8868 Phone  
(415) 454-0129 Fax

# COASTAL TRAIL IMPROVEMENT PROJECT

COUNTY OF SAN MATEO  
FITZGERALD MARINE RESERVE  
MOSS BEACH, CALIFORNIA



APPROVED: \_\_\_\_\_

DATE: \_\_\_\_\_

DAVE HOLLAND, DIRECTOR OF SAN MATEO  
COUNTY PARKS DEPARTMENT

APPROVED: \_\_\_\_\_

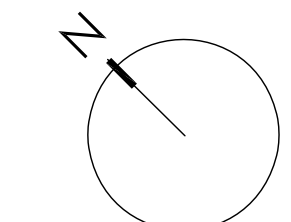
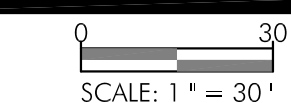
DATE: \_\_\_\_\_

JAMES C. PORTER, DIRECTOR OF PUBLIC WORKS  
RCE # 48056 / EXPIRES 12-31-2011



01/07/11 | BID SET  
Date Issues And Revisions No.

FILE NO. 1/4873  
WRA PROJECT # 18054  
DRAWN BY: MCB  
CHECKED BY: GJS  
ORIGINAL DRAWING SIZE: 24 X 36



## EXISTING CONDITIONS & DEMOLITION PLAN

Sheet

# L-2

### GENERAL NOTES

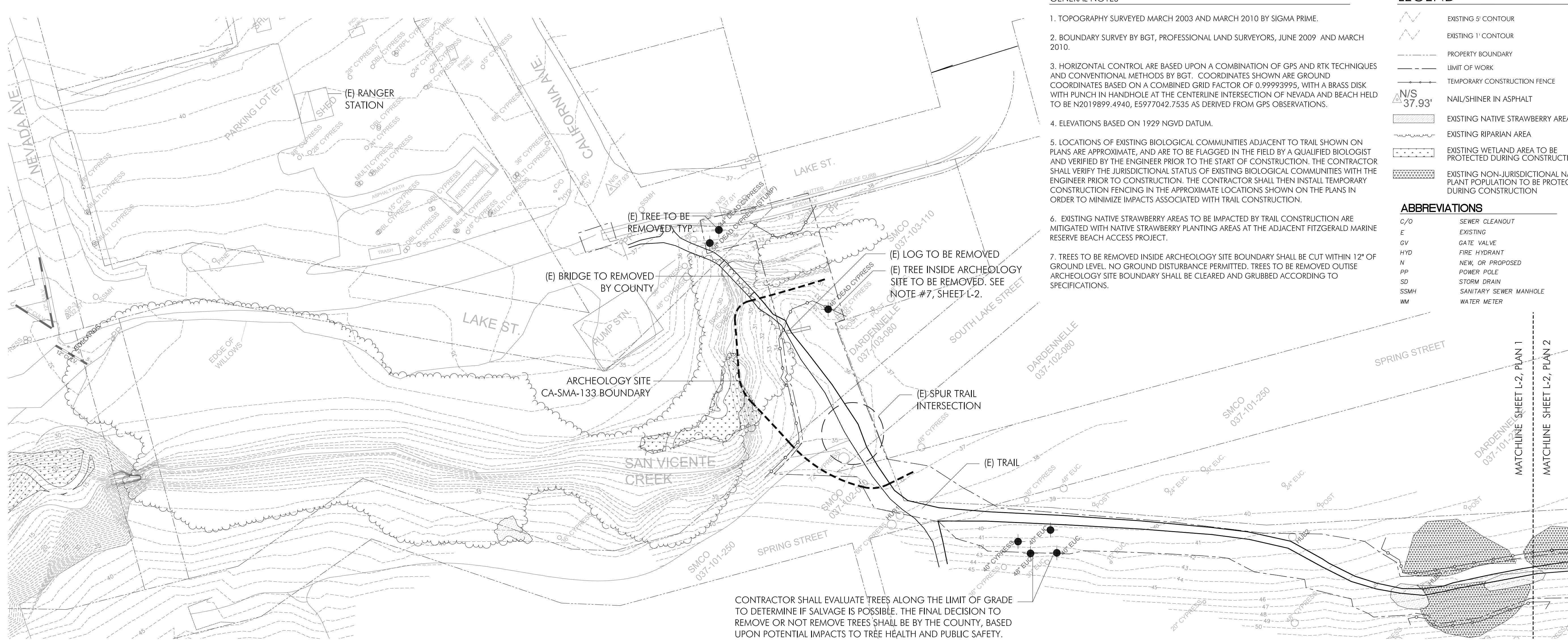
1. TOPOGRAPHY SURVEYED MARCH 2003 AND MARCH 2010 BY SIGMA PRIME.
2. BOUNDARY SURVEY BY BGT, PROFESSIONAL LAND SURVEYORS, JUNE 2009 AND MARCH 2010.
3. HORIZONTAL CONTROL ARE BASED UPON A COMBINATION OF GPS AND RTK TECHNIQUES AND CONVENTIONAL METHODS BY BGT. COORDINATES SHOWN ARE GROUND COORDINATES BASED ON A COMBINED GRID FACTOR OF 0.99993995, WITH A BRASS DISK WITH PUNCH IN HANDHOLE AT THE CENTERLINE INTERSECTION OF NEVADA AND BEACH HELD TO BE N2019899.4940, E5977042.7535 AS DERIVED FROM GPS OBSERVATIONS.
4. ELEVATIONS BASED ON 1929 NGVD DATUM.
5. LOCATIONS OF EXISTING BIOLOGICAL COMMUNITIES ADJACENT TO TRAIL SHOWN ON PLANS ARE APPROXIMATE, AND ARE TO BE FLAGGED IN THE FIELD BY A QUALIFIED BIOLOGIST AND VERIFIED BY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE JURISDICTIONAL STATUS OF EXISTING BIOLOGICAL COMMUNITIES WITH THE ENGINEER PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL THEN INSTALL TEMPORARY CONSTRUCTION FENCING IN THE APPROXIMATE LOCATIONS SHOWN ON THE PLANS IN ORDER TO MINIMIZE IMPACTS ASSOCIATED WITH TRAIL CONSTRUCTION.
6. EXISTING NATIVE STRAWBERRY AREAS TO BE IMPACTED BY TRAIL CONSTRUCTION ARE MITIGATED WITH NATIVE STRAWBERRY PLANTING AREAS AT THE ADJACENT FITZGERALD MARINE RESERVE BEACH ACCESS PROJECT.
7. TREES TO BE REMOVED INSIDE ARCHEOLOGY SITE BOUNDARY SHALL BE CUT WITHIN 12" OF GROUND LEVEL. NO GROUND DISTURBANCE PERMITTED. TREES TO BE REMOVED OUTSIDE ARCHEOLOGY SITE BOUNDARY SHALL BE CLEARED AND GRUBBED ACCORDING TO SPECIFICATIONS.

### LEGEND

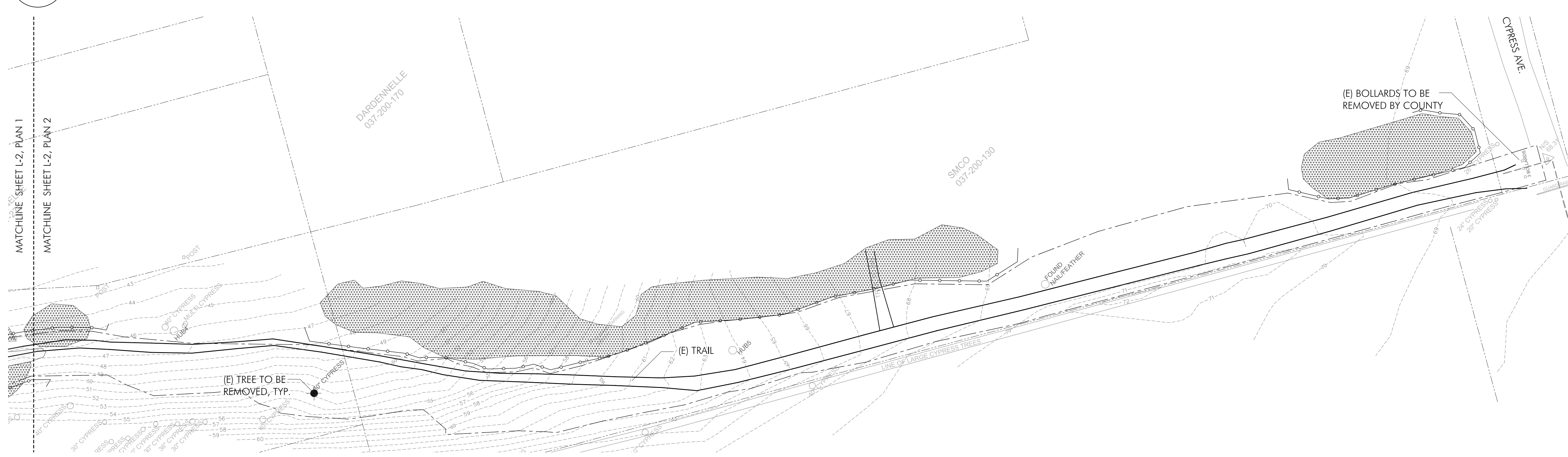
- EXISTING 5' CONTOUR
- EXISTING 1' CONTOUR
- PROPERTY BOUNDARY
- LIMIT OF WORK
- TEMPORARY CONSTRUCTION FENCE
- NAIL/SHINER IN ASPHALT
- EXISTING NATIVE STRAWBERRY AREA
- EXISTING RIPARIAN AREA
- EXISTING WETLAND AREA TO BE PROTECTED DURING CONSTRUCTION
- EXISTING NON-JURISDICTIONAL NATIVE PLANT POPULATION TO BE PROTECTED DURING CONSTRUCTION

### ABBREVIATIONS

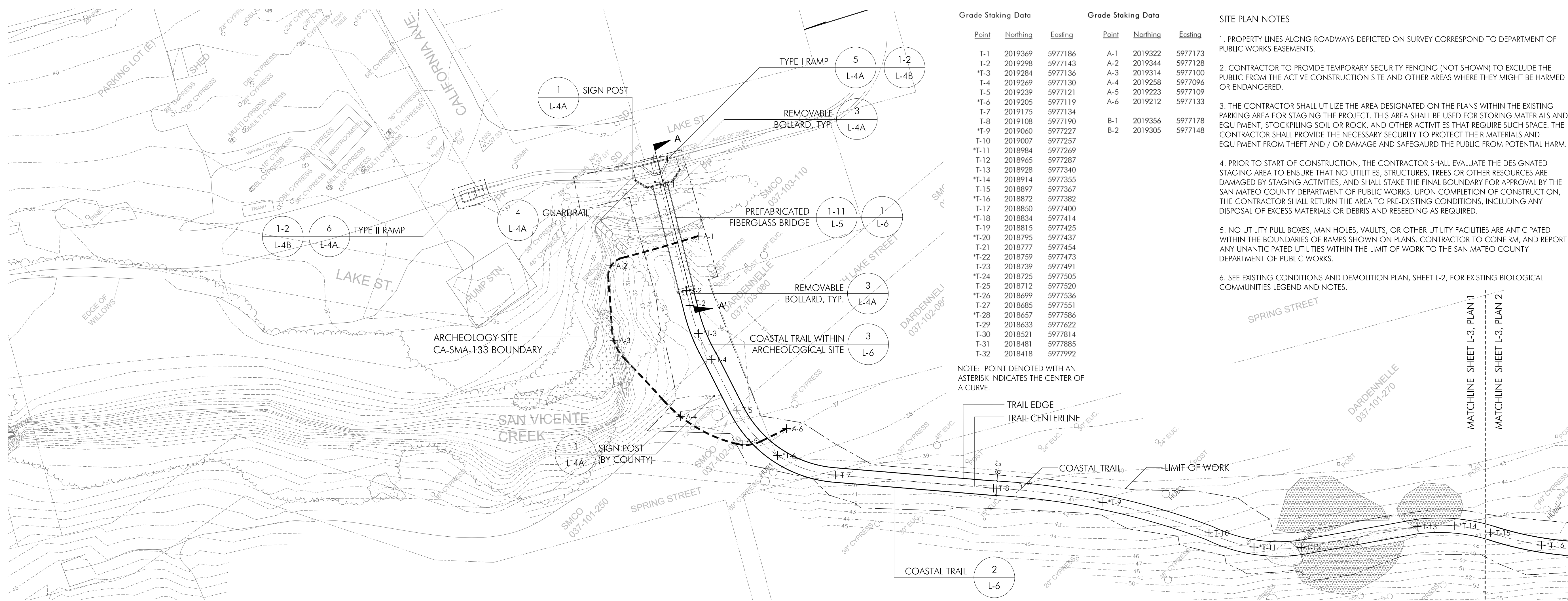
- |      |                        |
|------|------------------------|
| C/O  | SEWER CLEANOUT         |
| E    | EXISTING               |
| GV   | GATE VALVE             |
| HYD  | FIRE HYDRANT           |
| N    | NEW, OR PROPOSED       |
| PF   | POWER POLE             |
| SD   | STORM DRAIN            |
| SSMH | SANITARY SEWER MANHOLE |
| WM   | WATER METER            |



**1** EXISTING CONDITIONS & DEMOLITION PLAN  
SCALE 1" = 30'



**2** EXISTING CONDITIONS & DEMOLITION PLAN  
SCALE 1" = 30'

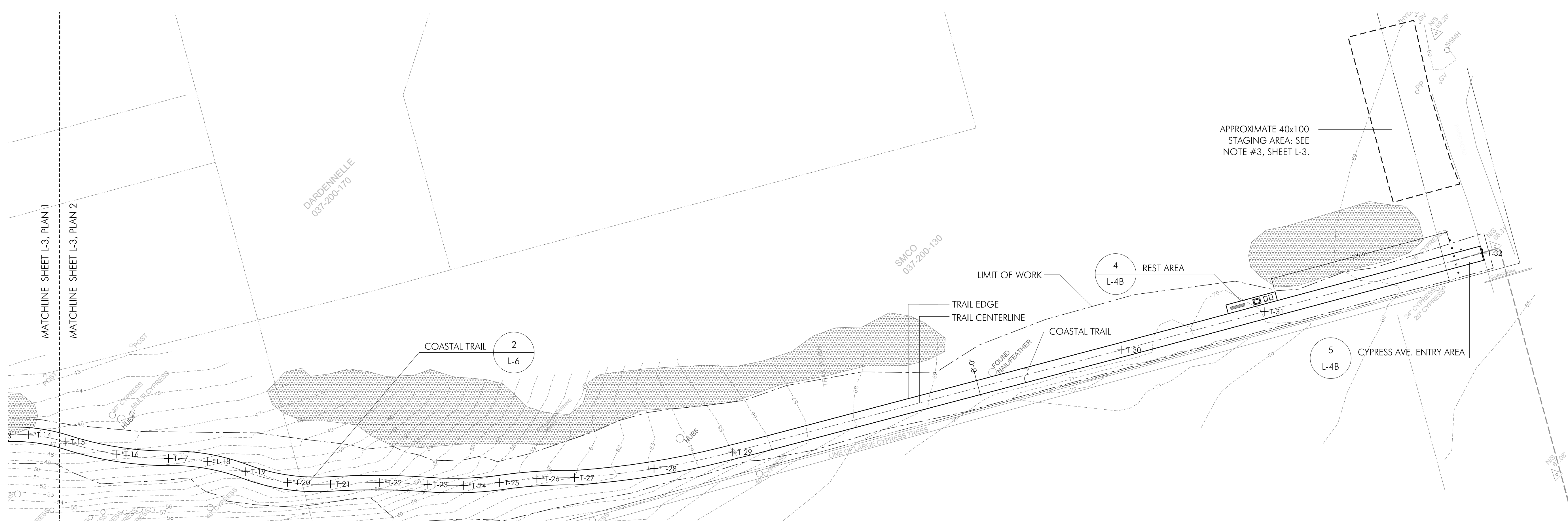


Grade Staking Data			Grade Staking Data		
Point	Northing	Easting	Point	Northing	Easting
T-1	2019369	5977186	A-1	2019322	5977173
T-2	2019298	5977143	A-2	2019344	5977128
T-3	2019284	5977136	A-3	2019314	5977100
T-4	2019269	5977130	A-4	2019258	5977096
T-5	2019239	5977121	A-5	2019223	5977109
T-6	2019205	5977119	A-6	2019212	5977133
T-7	2019175	5977134	B-1	2019356	5977178
T-8	2019108	5977190	B-2	2019305	5977148
T-9	2019060	5977227			
T-10	2019007	5977257			
T-11	2018984	5977269			
T-12	2018965	5977287			
T-13	2018928	5977340			
T-14	2018914	5977355			
T-15	2018897	5977367			
T-16	2018872	5977382			
T-17	2018850	5977400			
T-18	2018834	5977414			
T-19	2018815	5977425			
T-20	2018795	5977437			
T-21	2018777	5977454			
T-22	2018759	5977473			
T-23	2018739	5977491			
T-24	2018725	5977505			
T-25	2018712	5977520			
T-26	2018699	5977536			
T-27	2018685	5977551			
T-28	2018667	5977586			
T-29	2018633	5977622			
T-30	2018521	5977814			
T-31	2018481	5977885			
T-32	2018418	5977992			

- SITE PLAN NOTES**
- PROPERTY LINES ALONG ROADWAYS DEPICTED ON SURVEY CORRESPOND TO DEPARTMENT OF PUBLIC WORKS EASEMENTS.
  - CONTRACTOR TO PROVIDE TEMPORARY SECURITY FENCING (NOT SHOWN) TO EXCLUDE THE PUBLIC FROM THE ACTIVE CONSTRUCTION SITE AND OTHER AREAS WHERE THEY MIGHT BE HARMED OR ENDANGERED.
  - THE CONTRACTOR SHALL UTILIZE THE AREA DESIGNATED ON THE PLANS WITHIN THE EXISTING PARKING AREA FOR STAGING THE PROJECT. THIS AREA SHALL BE USED FOR STORING MATERIALS AND EQUIPMENT, STOCKPILING SOIL OR ROCK, AND OTHER ACTIVITIES THAT REQUIRE SUCH SPACE. THE CONTRACTOR SHALL PROVIDE THE NECESSARY SECURITY TO PROTECT THEIR MATERIALS AND EQUIPMENT FROM THEFT AND / OR DAMAGE AND SAFEGUARD THE PUBLIC FROM POTENTIAL HARM.
  - PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL EVALUATE THE DESIGNATED STAGING AREA TO ENSURE THAT NO UTILITIES, STRUCTURES, TREES OR OTHER RESOURCES ARE DAMAGED BY STAGING ACTIVITIES, AND SHALL STAKE THE FINAL BOUNDARY FOR APPROVAL BY THE SAN MATEO COUNTY DEPARTMENT OF PUBLIC WORKS. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL RETURN THE AREA TO PRE-EXISTING CONDITIONS, INCLUDING ANY DISPOSAL OF EXCESS MATERIALS OR DEBRIS AND RESEEDING AS REQUIRED.
  - NO UTILITY PULL BOXES, MAN HOLES, VAULTS, OR OTHER UTILITY FACILITIES ARE ANTICIPATED WITHIN THE BOUNDARIES OF RAMPS SHOWN ON PLANS. CONTRACTOR TO CONFIRM, AND REPORT ANY UNANTICIPATED UTILITIES WITHIN THE LIMIT OF WORK TO THE SAN MATEO COUNTY DEPARTMENT OF PUBLIC WORKS.
  - SEE EXISTING CONDITIONS AND DEMOLITION PLAN, SHEET L-2, FOR EXISTING BIOLOGICAL COMMUNITIES LEGEND AND NOTES.

NOTE: POINT DENOTED WITH AN ASTERISK INDICATES THE CENTER OF A CURVE.

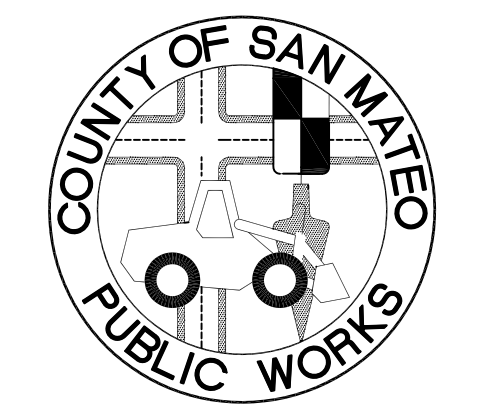
**1** SITE PLAN  
SCALE 1" = 30'



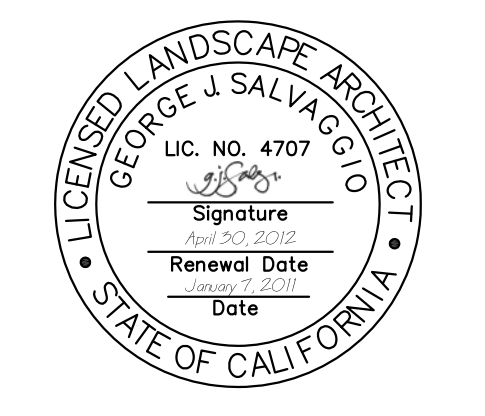
**2** SITE PLAN  
SCALE 1" = 30'



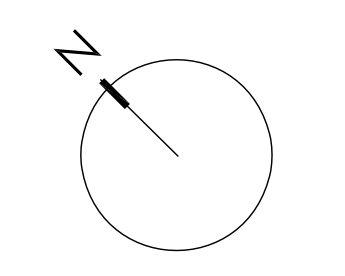
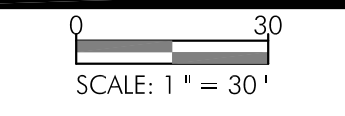
**COASTAL TRAIL IMPROVEMENT PROJECT**  
COUNTY OF SAN MATEO  
FITZGERALD MARINE RESERVE  
MOSS BEACH, CALIFORNIA



APPROVED: \_\_\_\_\_  
DATE: \_\_\_\_\_  
DAVE HOLLAND, DIRECTOR OF SAN MATEO COUNTY PARKS DEPARTMENT  
APPROVED: \_\_\_\_\_  
DATE: \_\_\_\_\_  
JAMES C. PORTER, DIRECTOR OF PUBLIC WORKS  
RCE # 48056 / EXPIRES 12-31-2011



01/07/11 | BID SET  
Date Issues And Revisions No.  
FILE NO. 1/4873  
WRA PROJECT # 18054  
DRAWN BY: MCB  
CHECKED BY: GJS  
ORIGINAL DRAWING SIZE: 24 X 36

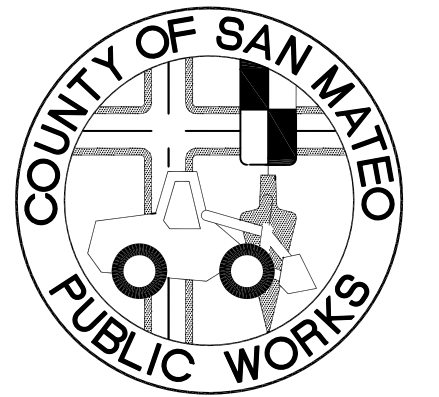


**SITE PLAN**  
Sheet

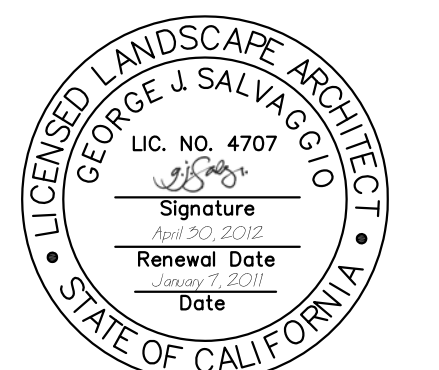
**L-3**



**COASTAL TRAIL  
 IMPROVEMENT  
 PROJECT**  
 COUNTY OF SAN MATEO  
 FITZGERALD MARINE RESERVE  
 MOSS BEACH, CALIFORNIA

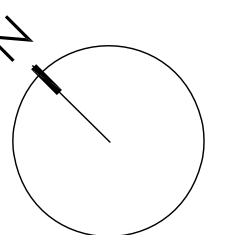


APPROVED: \_\_\_\_\_  
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 COUNTY PARKS DEPARTMENT  
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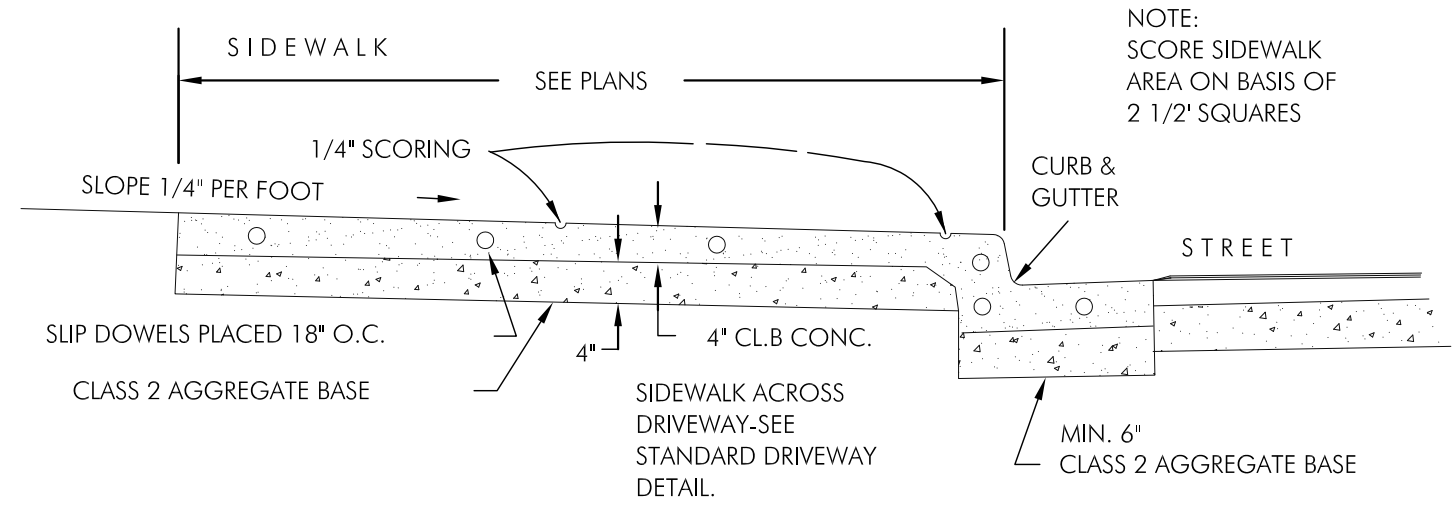
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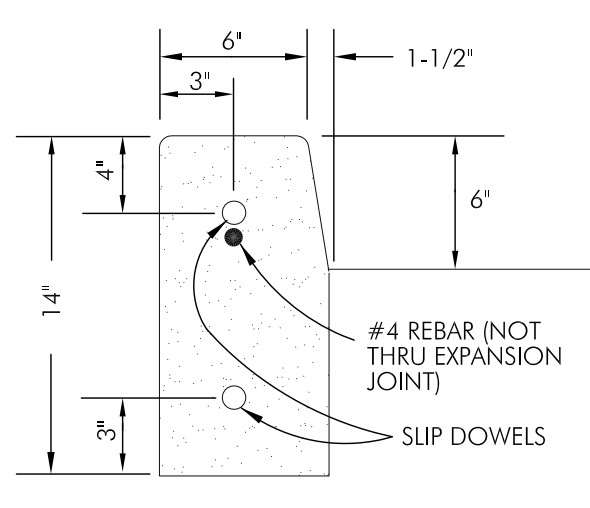
**SITE DETAILS**

Sheet

**L-4B**

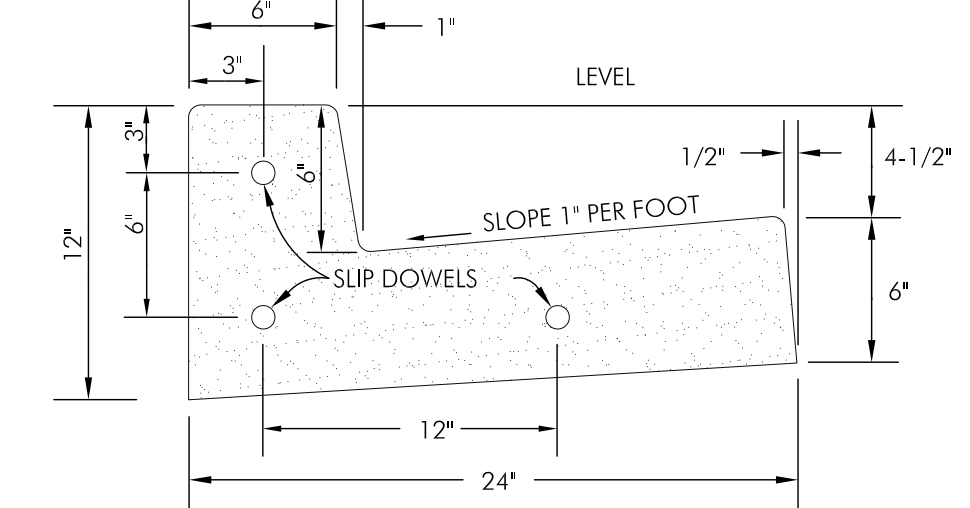


**TYPICAL SECTION  
 MONOLITHIC CURB, GUTTER AND SIDEWALK**

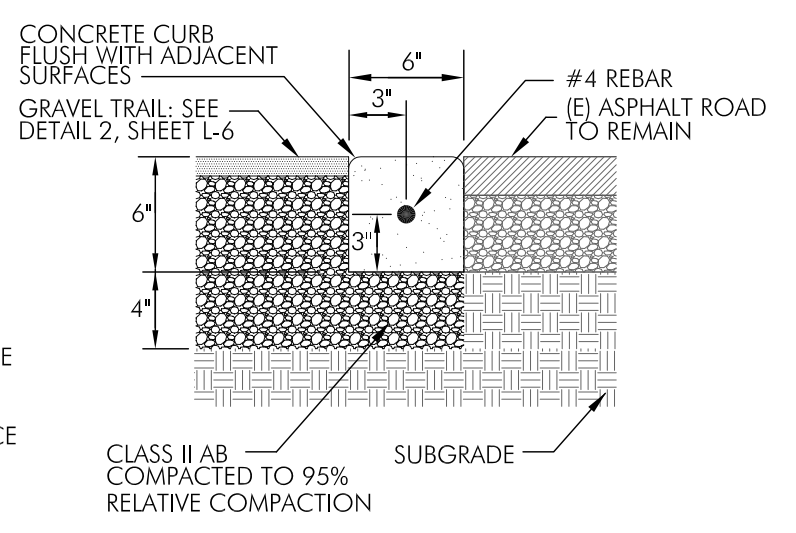


**RETAINING CURB (A1-6)**

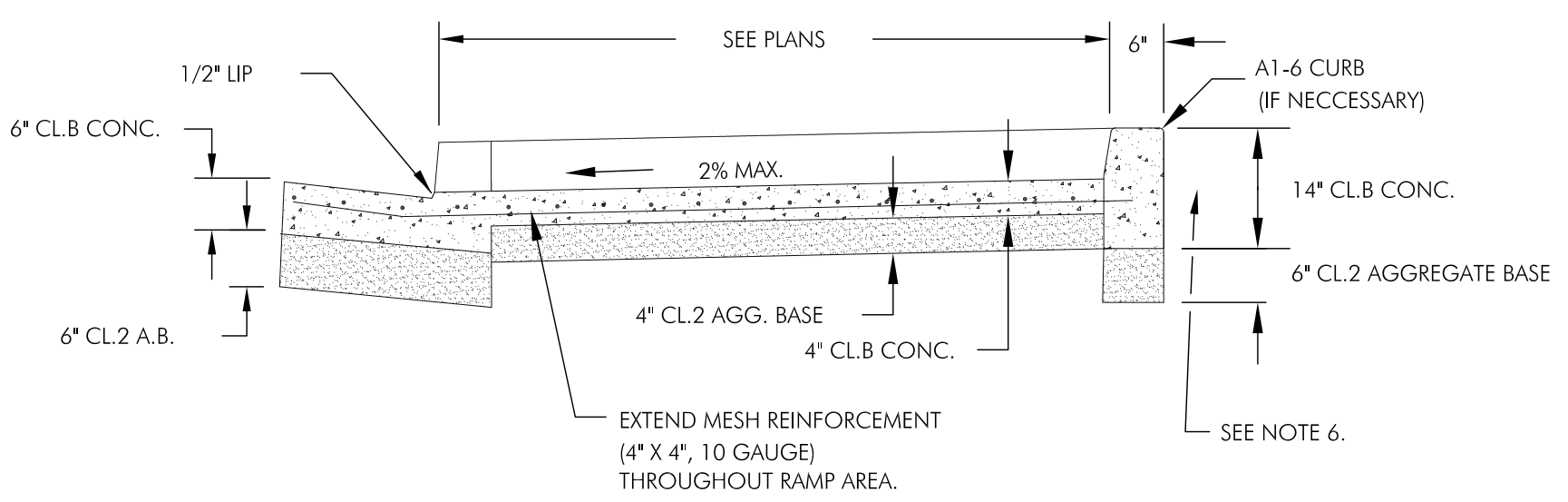
- NOTES:**
1. ALL CONCRETE TO BE CLASS B CONCRETE.
  2. MINIMUM SIDEWALK THICKNESS = 4 INCHES PORTLAND CEMENT CONCRETE.
  3. PLACE 1/2" DIAMETER X 18" LONG DOWELS AT EXPANSION JOINTS AS SHOWN.
  4. PLACE 1/2" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER.
  5. CONSTRUCT MONOLITHIC CURB, GUTTER AND SIDEWALK UNLESS OTHERWISE SPECIFICALLY AUTHORIZED BY THE ENGINEER.
  6. SUB-BASE MATERIALS WITHIN 30" OF SUBGRADE SHALL BE COMPACTED TO 95%.
  7. OBSTRUCTIONS SUCH AS POLES, HYDRANTS, STREET SIGNS, UTILITY BOXES, STREET LIGHTS, ETC. SHALL BE LOCATED BEHIND THE SIDEWALK, UNLESS OTHERWISE SPECIFICALLY AUTHORIZED BY THE DIRECTOR OF PUBLIC WORKS. A CLEAR ZONE ALONG THE CURB AND SIDEWALK 18 INCHES IN WIDTH (MEASURED FROM THE FACE OF THE CURB) SHALL BE KEPT CLEAR AND OPEN FROM ALL OBSTRUCTIONS. IN ADDITION, AN AREA 3 FEET IN WIDTH ALONG THE SIDEWALK, EXCLUSIVE OF THE CURB WIDTH, SHALL BE KEPT CLEAR AND OPEN FROM ALL OBSTRUCTIONS IN COMPLIANCE WITH THE STATE BUILDING CODE (PART 2, TITLE 24, C.A.C.).



**ALT - SEPARATE CURB AND GUTTER**



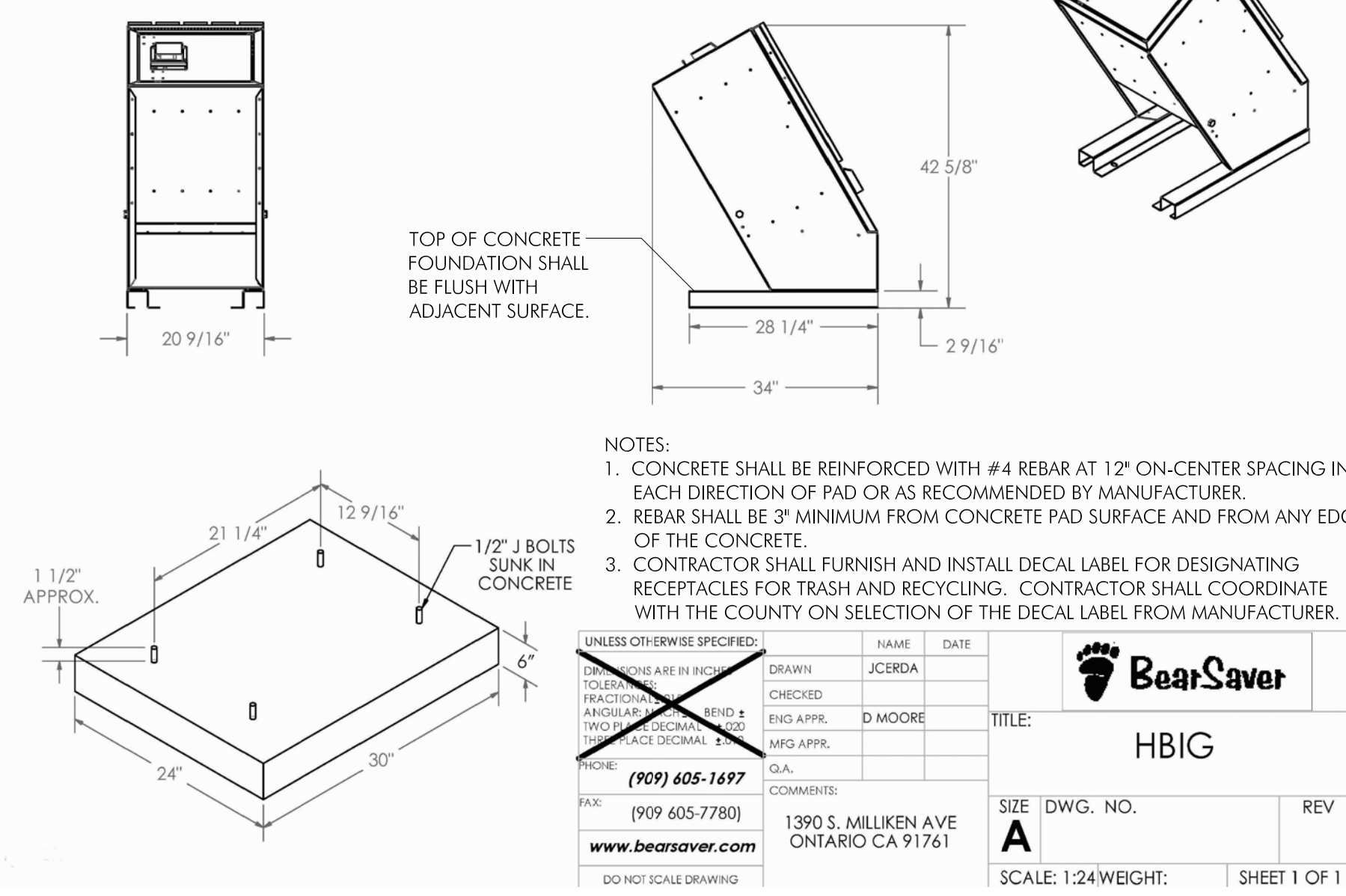
**FLUSH CURB**



**TYPICAL SECTION  
 ACCESS RAMP**

- GENERAL NOTES:**
1. CURB RAMPs THAT HAVE A RAMP SLOPE FLATTER THAN 6.67% SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH OF THE RAMP AND 24" MINIMUM LENGTH. DETECTABLE WARNING SURFACES, AT THE OPTION OF THE CONTRACTOR, SHALL BE CONSTRUCTED BY CAST-IN-PLACE OR STAMPED METHOD, OR CONSIST OF A PREFABRICATED SURFACE. THE PRE-FABRICATED SURFACE SHALL REQUIRE APPROVAL BY THE ENGINEER.
  2. TRANSITIONS FROM RAMPs TO WALKs SHALL BE FLUSH AND FREE OF ABRUPT CHANGES. THE BOTTOM OF THE RAMP SHALL HAVE A 1/2" LIP AT 45°.
  3. INSTALL SLIP DOWELS 18" O.C. AT EXPANSION JOINTS.
  4. MINIMUM WIDTH OF RAMP, NOT INCLUDING RETAINING CURB, SHALL BE 4 FEET.
  5. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK EXCEPT WHEN LOCATED IN CENTER OF CURB RETURN.
  6. BACKFILL MATERIAL TO BE PLACED FLUSH WITH TOP OF CURB.
  7. CONSTRUCT MONOLITHIC CURB, GUTTER, AND SIDEWALK.
  8. SUB-BASE MATERIAL WITHIN 2.5' OF SUBGRADE SHALL BE COMPACTED TO 95%.
  9. RECONSTRUCT SIDEWALK TO NEAREST SCORE LINE AND INSTALL EXPANSION JOINT.

MANUFACTURER: BEARSAVER  
 MODEL: HB1 G-P OR APPROVED EQUIVALENT

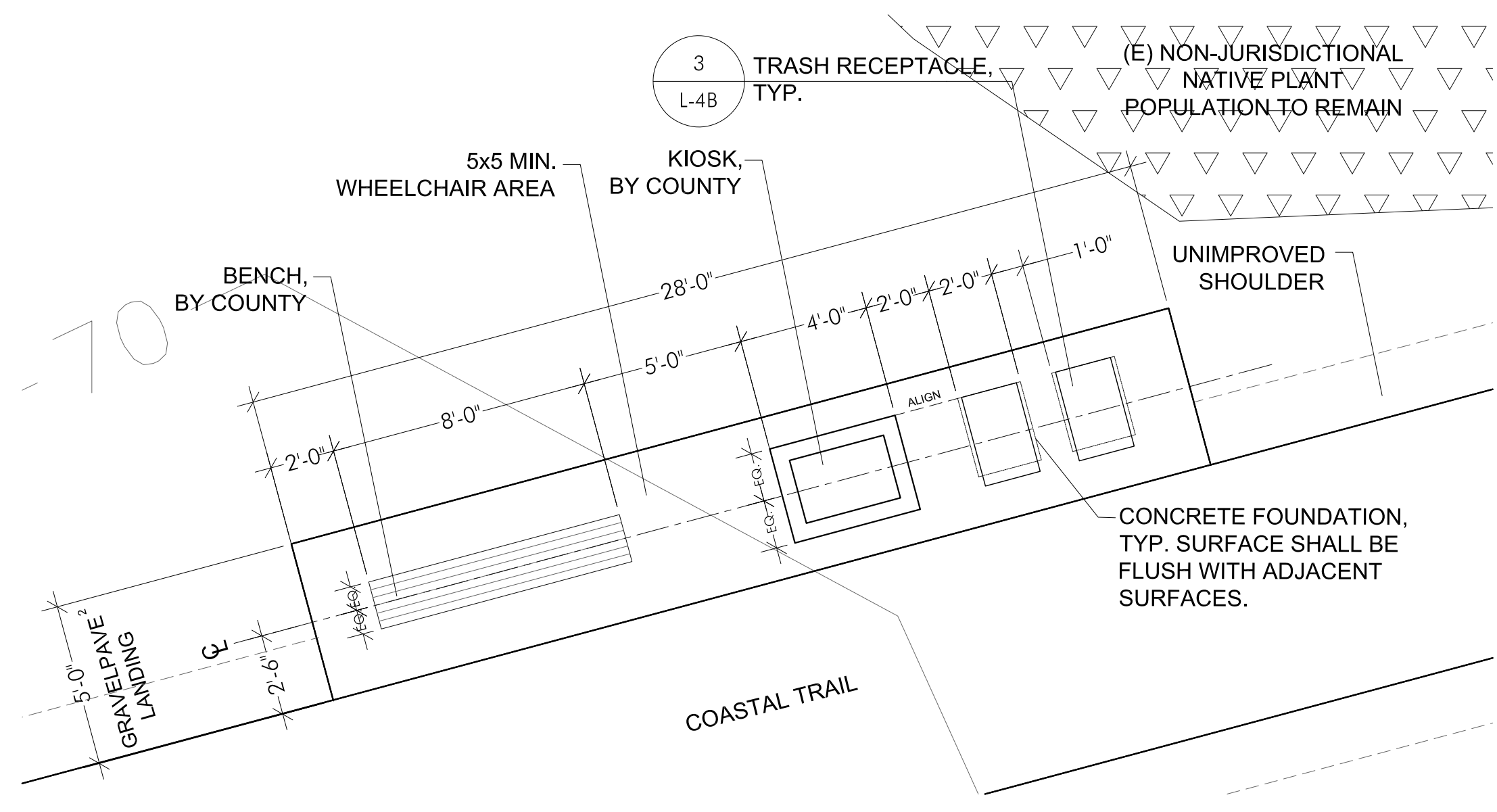


- NOTES:**
1. CONCRETE SHALL BE REINFORCED WITH #4 REBAR AT 12" ON-CENTER SPACING IN EACH DIRECTION OF PAD OR AS RECOMMENDED BY MANUFACTURER.
  2. REBAR SHALL BE 3" MINIMUM FROM CONCRETE PAD SURFACE AND FROM ANY EDGE OF THE CONCRETE.
  3. CONTRACTOR SHALL FURNISH AND INSTALL DECAL LABEL FOR DESIGNATING RECEPTACLES FOR TRASH AND RECYCLING. CONTRACTOR SHALL COORDINATE WITH THE COUNTY ON SELECTION OF THE DECAL LABEL FROM MANUFACTURER.

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
LENGTH ARE BY INCH	DRAWN	JCRIDA	
ANGLE ARE BY DEGREE	CHECKED		
ANGULAR DIMENSIONS	ENG APPR.	D MOORE	
PROVIDE DECIMAL PLACES	MFG APPR.		
	G.A.		
PHONE: (909) 405-1697	COMMENTS:		
FAX: (909) 605-7780	1390 S. MILLIKEN AVE		
www.bearsaver.com	ONTARIO CA 91761		
DO NOT SCALE DRAWING			

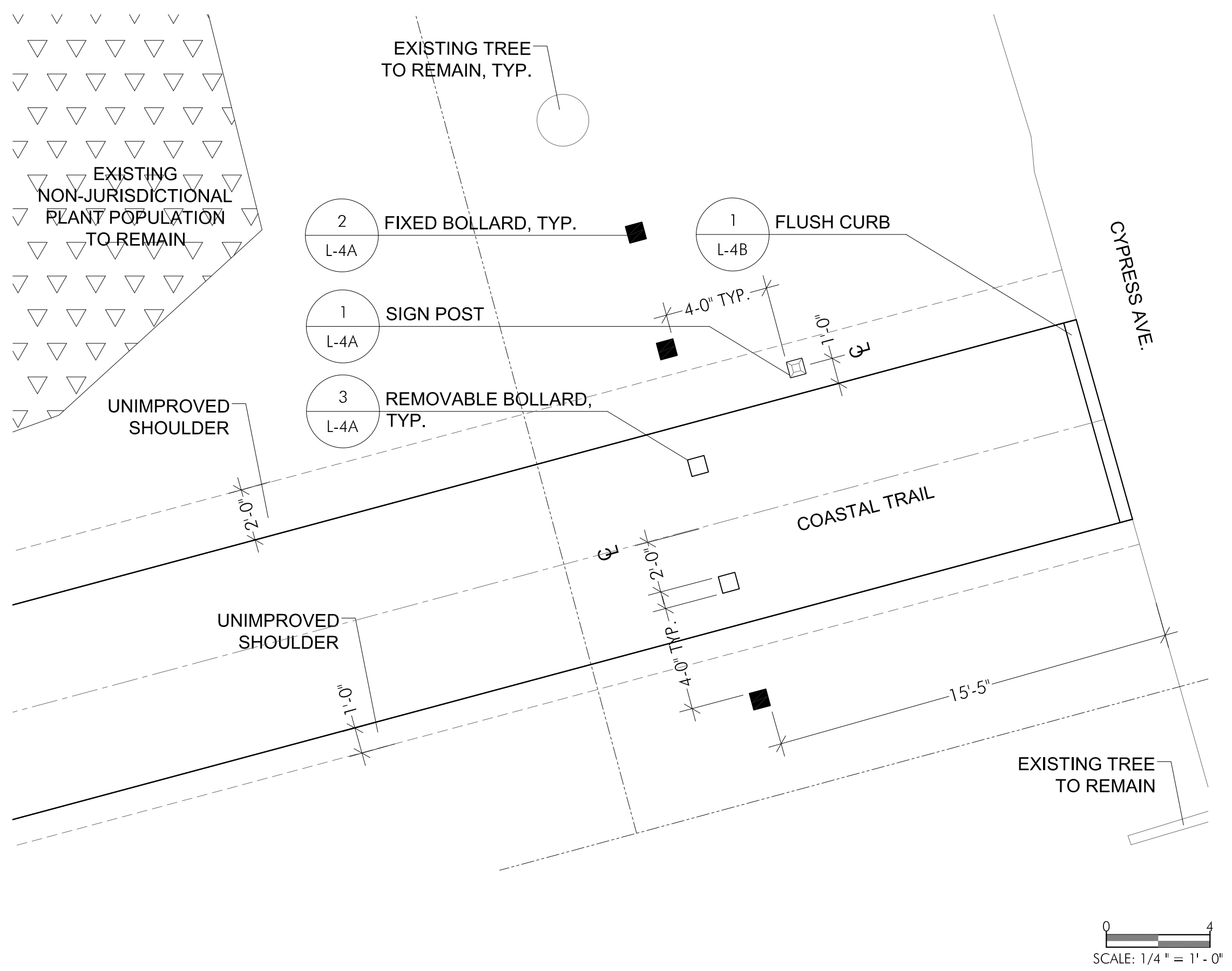
**BearSaver**  
**HBIG**  
 TITLE: HBIG  
 SIZE DWG. NO. A  
 SCALE: 1:24 WEIGHT: SHEET 1 OF 1

**1 SIDEWALK  
 NOT TO SCALE**



**4 REST AREA  
 SCALE: 1/4" = 1'-0"**

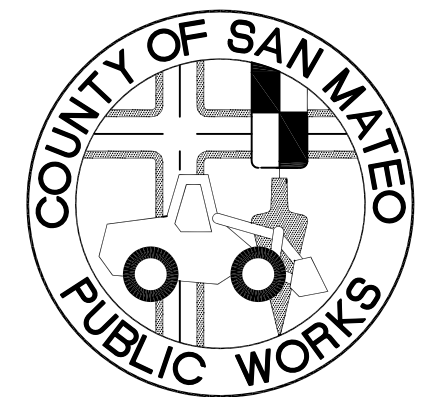
**2 TYPICAL ACCESS RAMP SECTION  
 NOT TO SCALE**



**5 CYPRESS. AVE. ENTRANCE  
 SCALE: 1/4" = 1'-0"**

**COASTAL TRAIL  
IMPROVEMENT  
PROJECT**

COUNTY OF SAN MATEO  
FITZGERALD MARINE RESERVE  
MOSS BEACH, CALIFORNIA



APPROVED:

DATE: \_\_\_\_\_

DAVE HOLLAND, DIRECTOR OF SAN MATEO  
COUNTY PARKS DEPARTMENT

APPROVED:

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JAMES C. PORTER, DIRECTOR OF PUBLIC WORKS  
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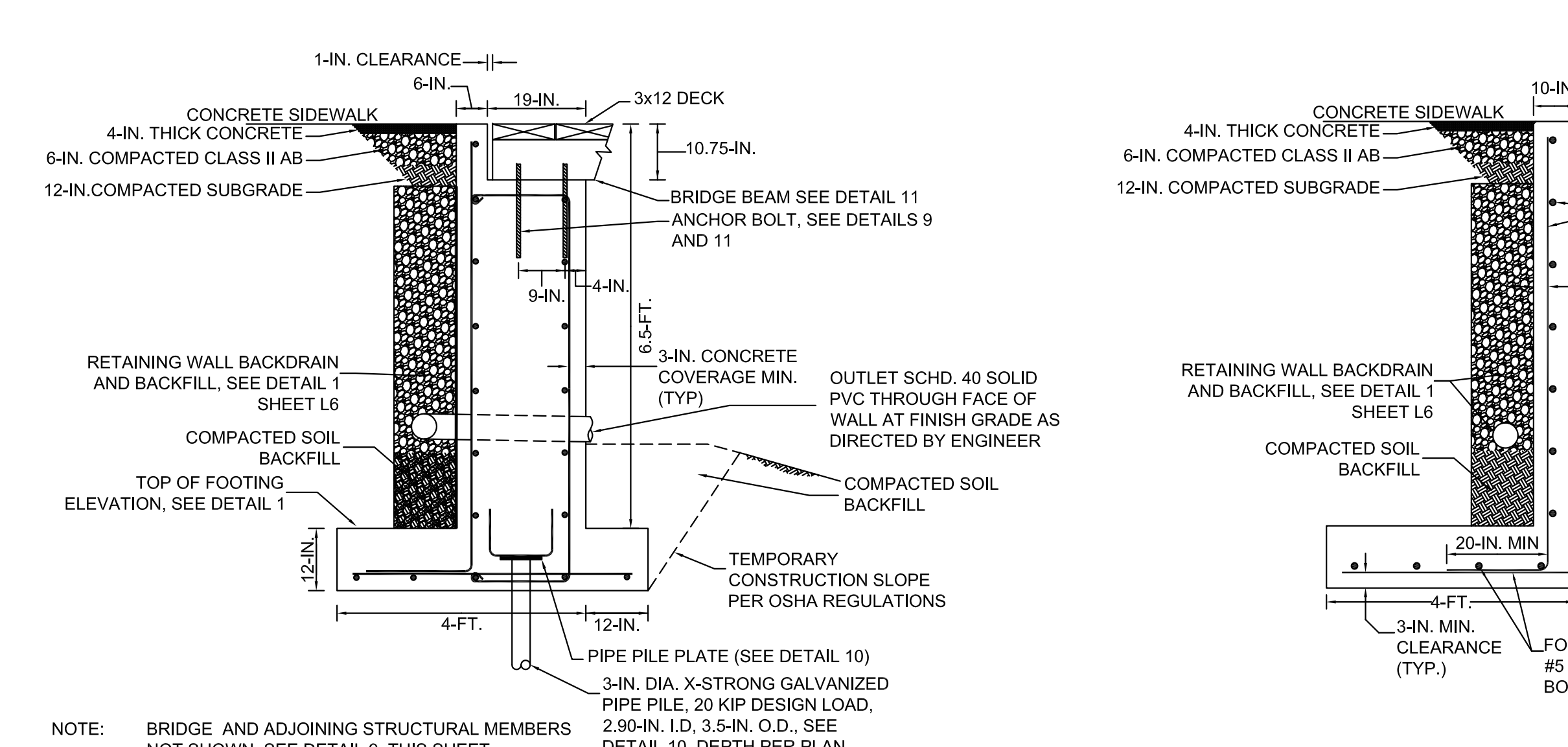
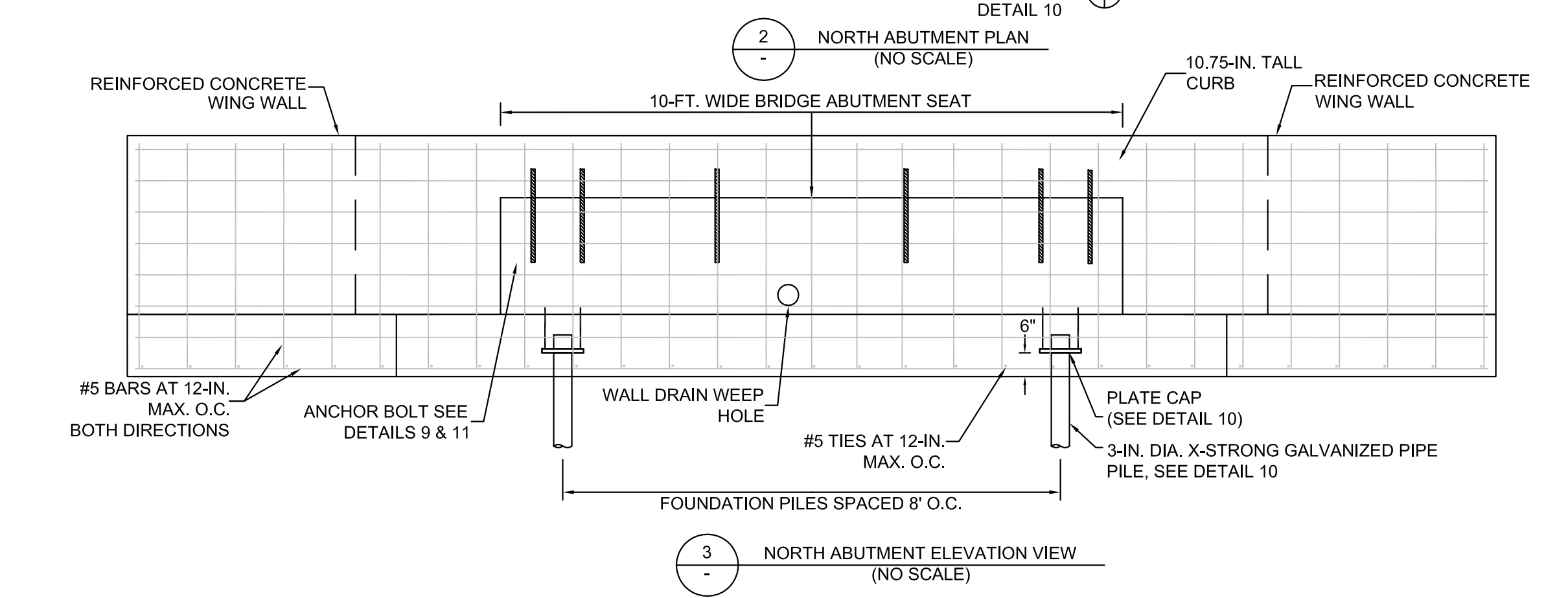
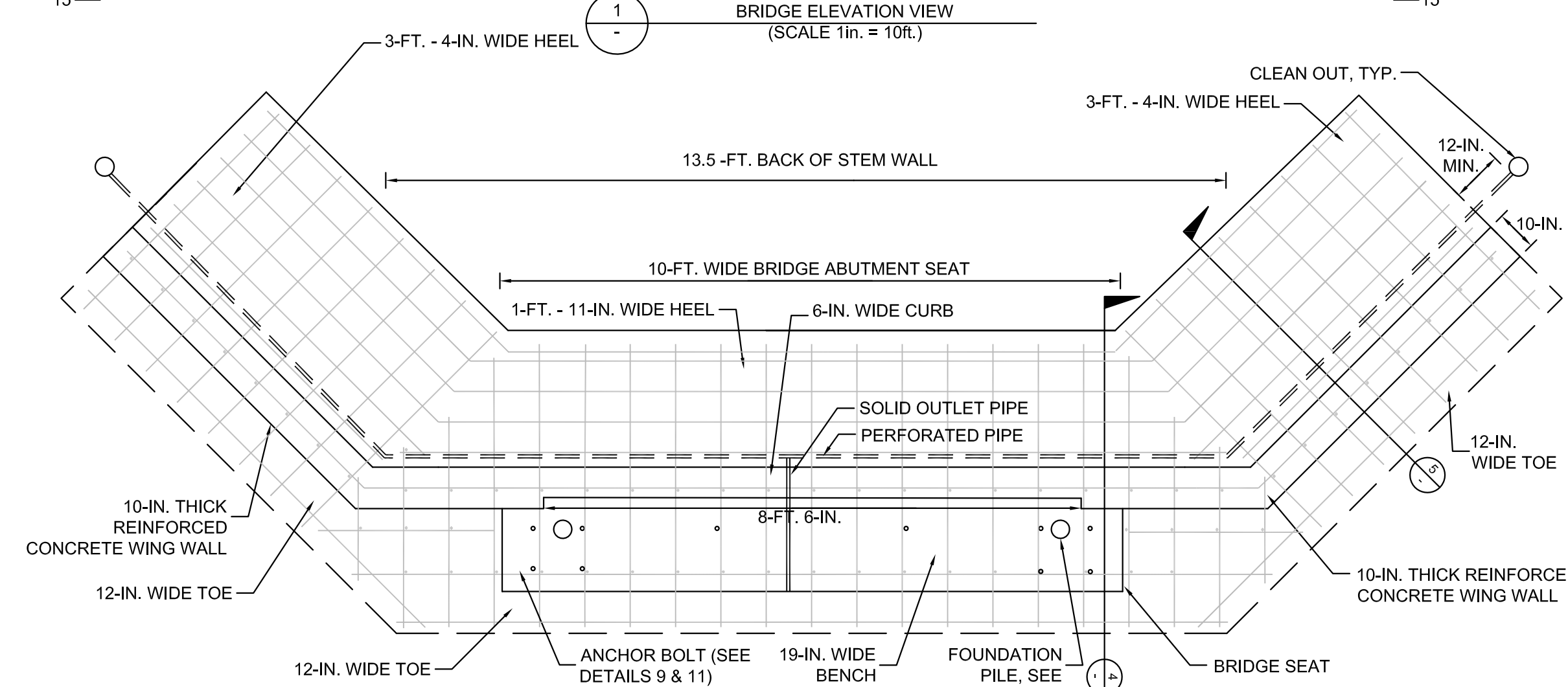
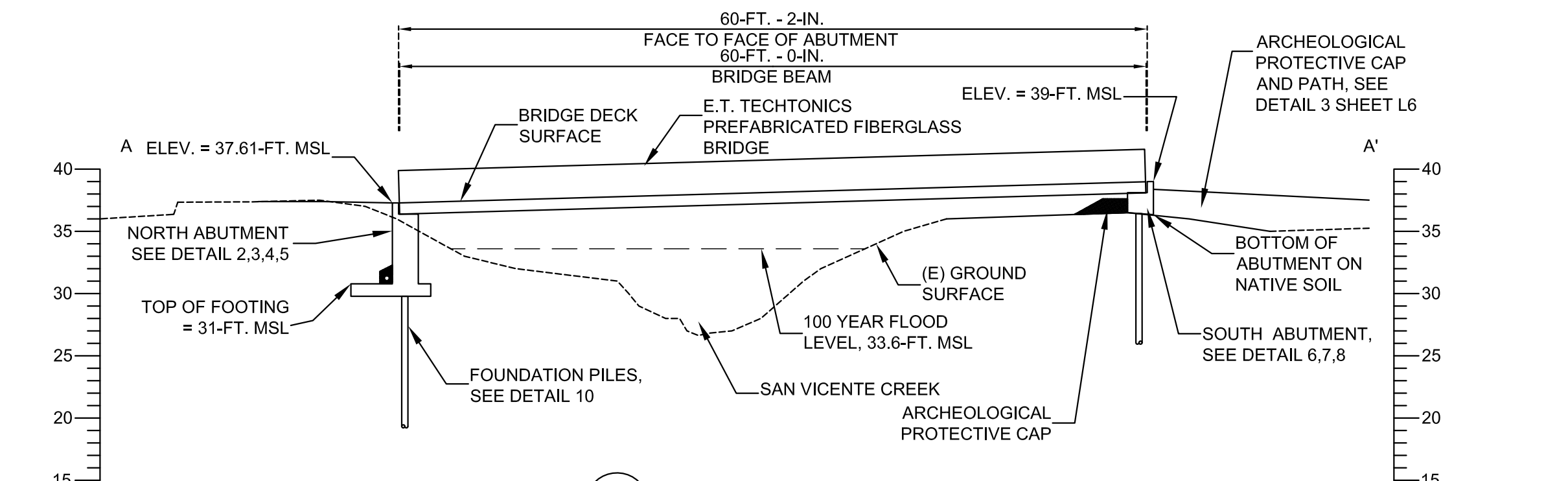
01/07/11 | BID SET  
Date Issues And Revisions No.

FILE NO. 1/4873  
WRA PROJECT #18054  
DRAWN BY: DFS  
CHECKED BY: SAS  
ORIGINAL DRAWING SIZE: 24 X 36

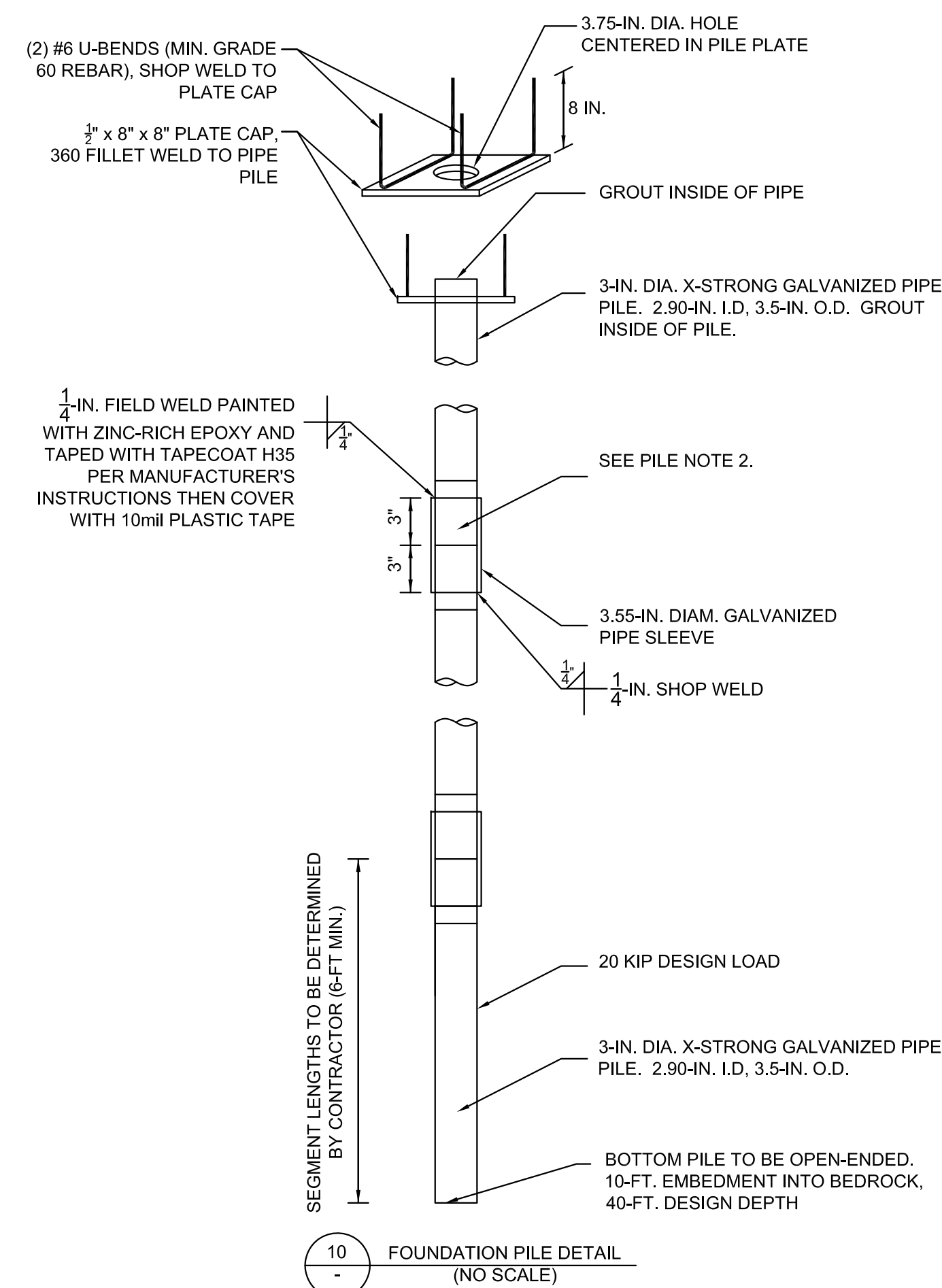
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**STRUCTURAL  
DETAILS**

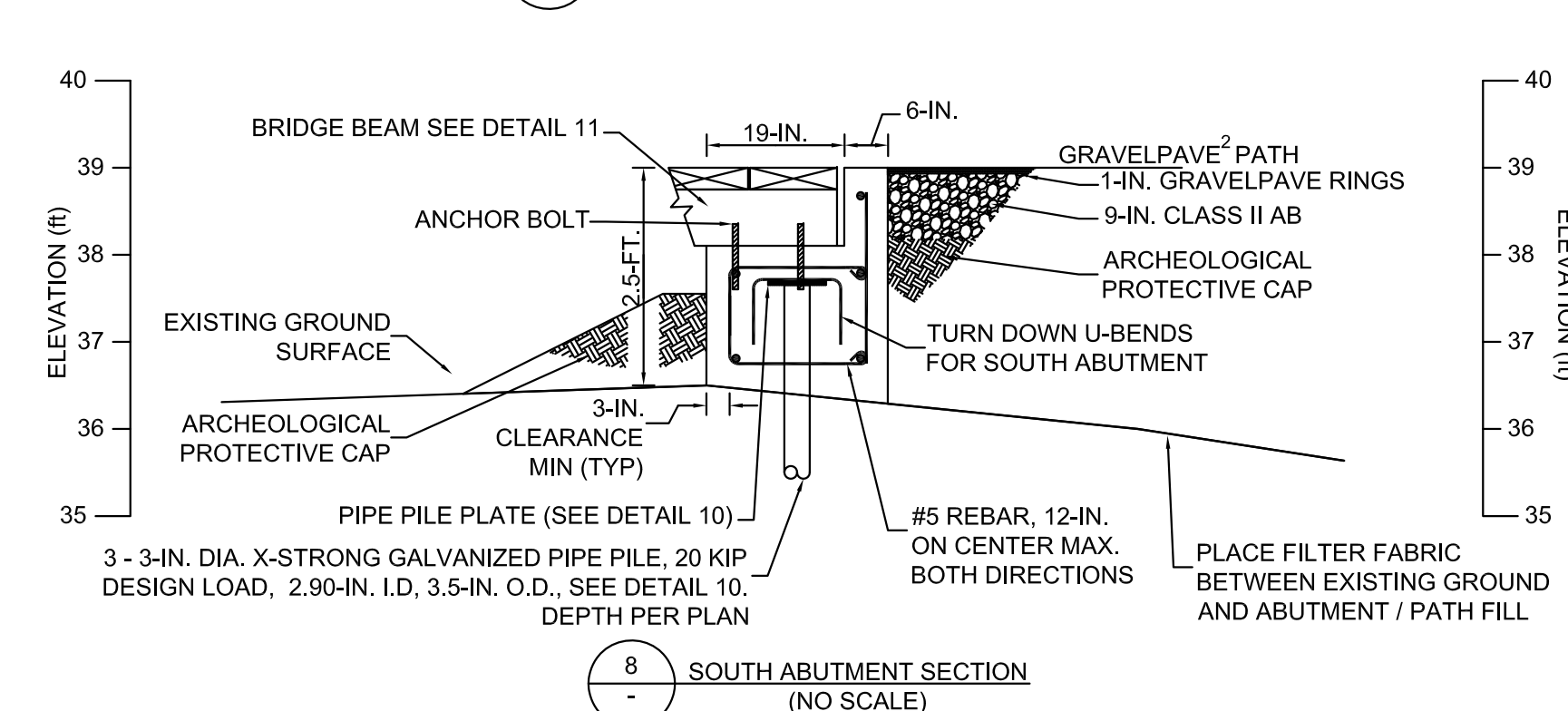
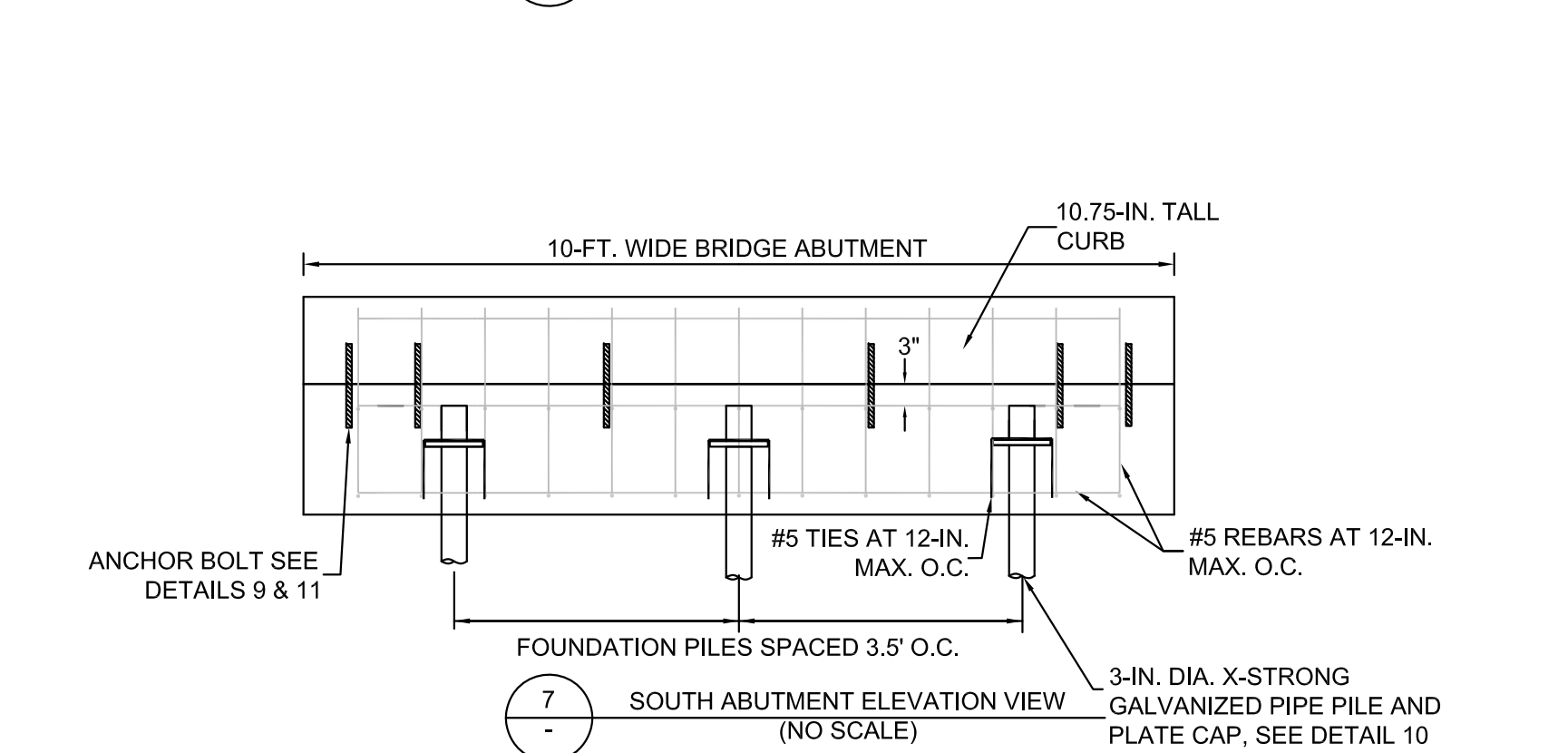
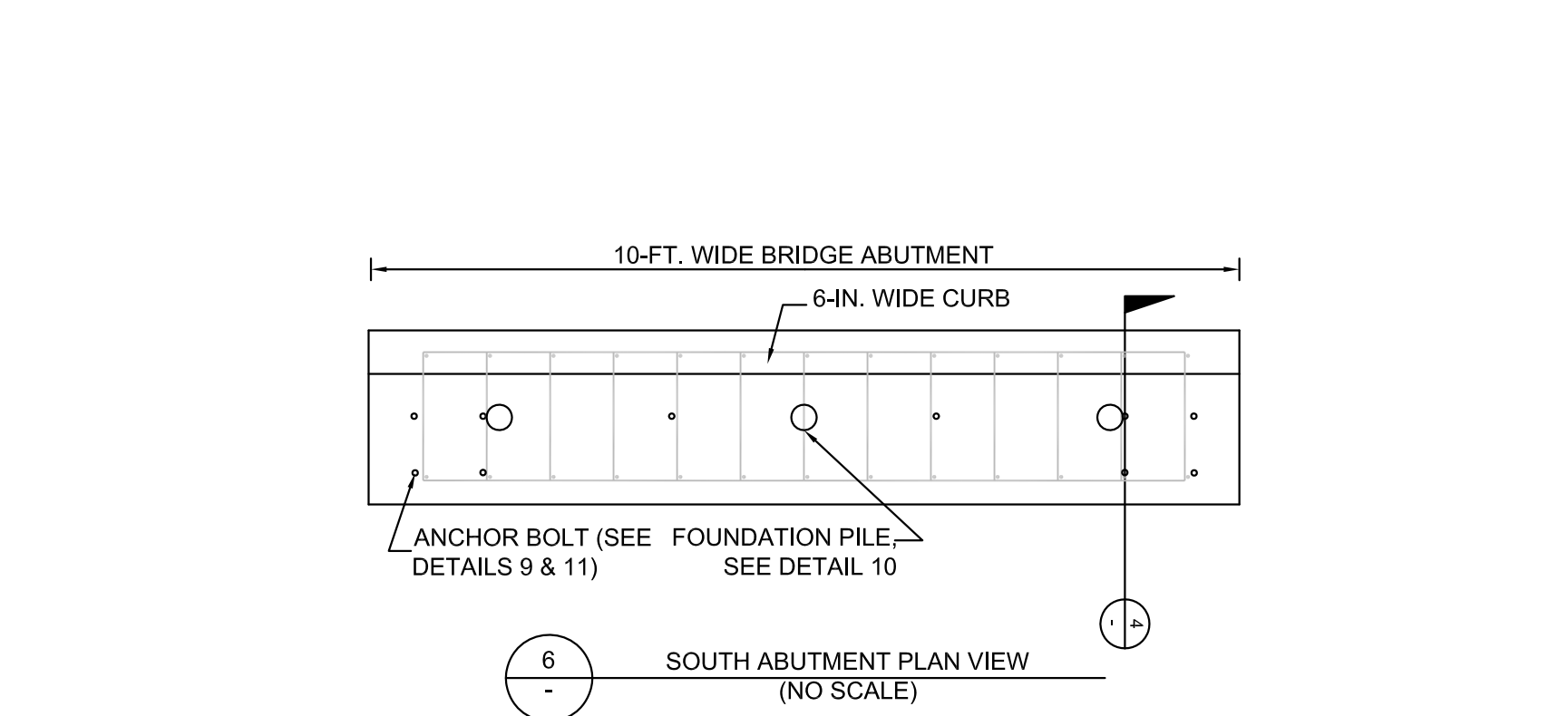
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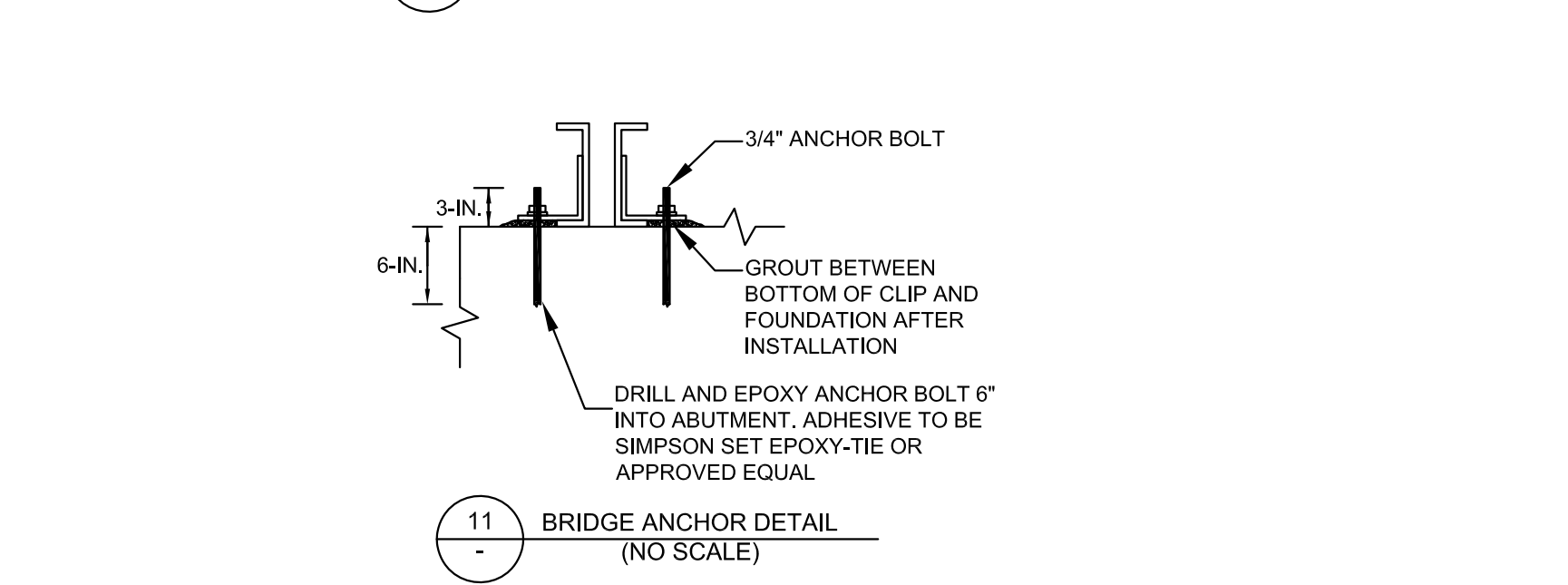
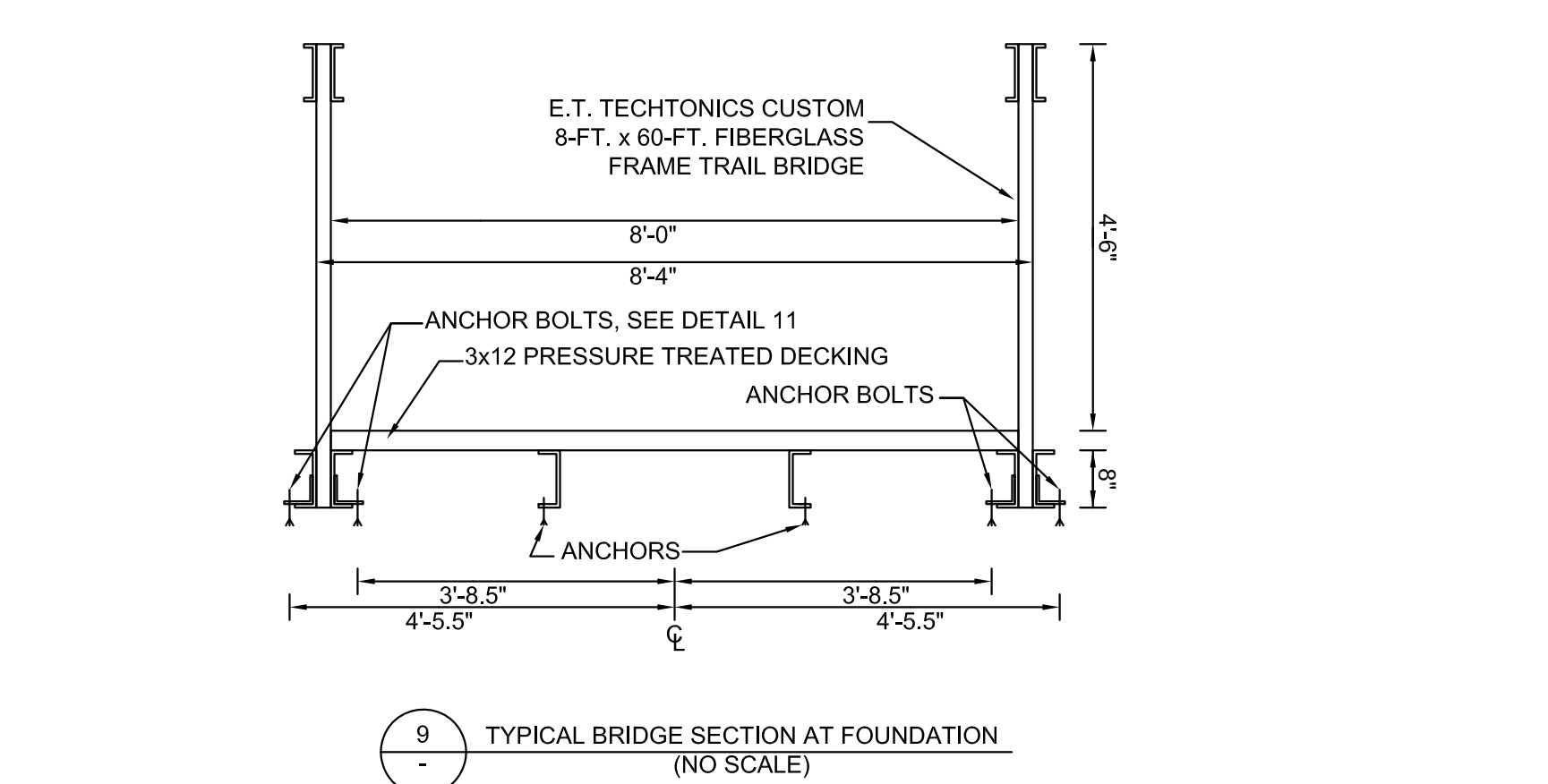
NOTE: BRIDGE AND ADJOINING STRUCTURAL MEMBERS NOT SHOWN, SEE DETAIL 9, THIS SHEET



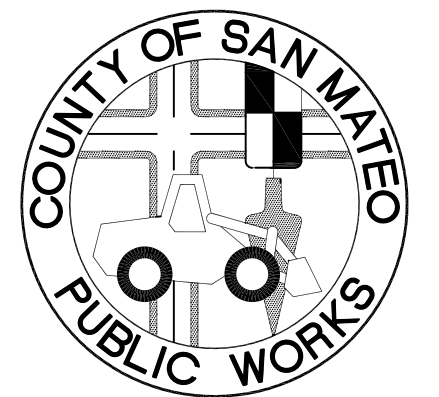
- PIPE PILE NOTES:**
- PILES SHALL BE 3.5 INCH O.D. AND 2.9 INCH I.D. 36 KSI STEEL PIPE PILES CONFORMING TO ASTM A501. ALL MATERIALS FOR PIPE PILES, INCLUDING PIPE, COUPLERS, AND CAPS SHALL BE HOT-DIP GALVANIZED. REPAIR WELDS AND ANY REMOVAL OF GALVANIZATION WITH PAINT-ON ZINC RICH EPOXY.
  - ALL PIPE PILES SHALL BE DRIVEN TO THE MINIMUM DEPTHS SPECIFIED ON THE PLANS AND DRIVEN AT A RATE TO PROVIDE AT LEAST 20 KIIPS OF VERTICAL CAPACITY. THE PILE SUBCONTRACTOR SHALL SUPPLY SHOP DRAWINGS DESCRIBING THE DETAILS OF THE PILE SYSTEM AND INSTALLATION CRITERIA FOR REVIEW BY THE ENGINEER. THE SUBCONTRACTOR SHALL NOT ORDER OR FABRICATE ANY MATERIAL UNTIL THE SHOP DRAWINGS ARE REVIEWED AND ACCEPTED.
  - PIPE PILES TO BE INSTALLED PER THE INSPECTION AND DIRECTION OF THE GEOTECHNICAL ENGINEER
- GENERAL NOTE:**
- SEE SPECIFICATIONS SECTIONS 90, 109, AND 111 FOR REBAR AND CONCRETE STRENGTH GUIDELINES.



NOTE: 1) ALL FILL SOILS TO BE PLACED IN 4-IN. THICK LIFTS AND COMPACTED WITH STATIC SMOOTH DRUM ROLLERS



**COASTAL TRAIL  
 IMPROVEMENT  
 PROJECT**  
 COUNTY OF SAN MATEO  
 FITZGERALD MARINE RESERVE  
 MOSS BEACH, CALIFORNIA



APPROVED:

DATE: \_\_\_\_\_

DAVE HOLLAND, DIRECTOR OF SAN MATEO  
 COUNTY PARKS DEPARTMENT

APPROVED:

DATE: \_\_\_\_\_

JAMES C. PORTER, DIRECTOR OF PUBLIC WORKS  
 RCE # 48056 / EXPIRES 12-31-2011



Date	Issues And Revisions	No.
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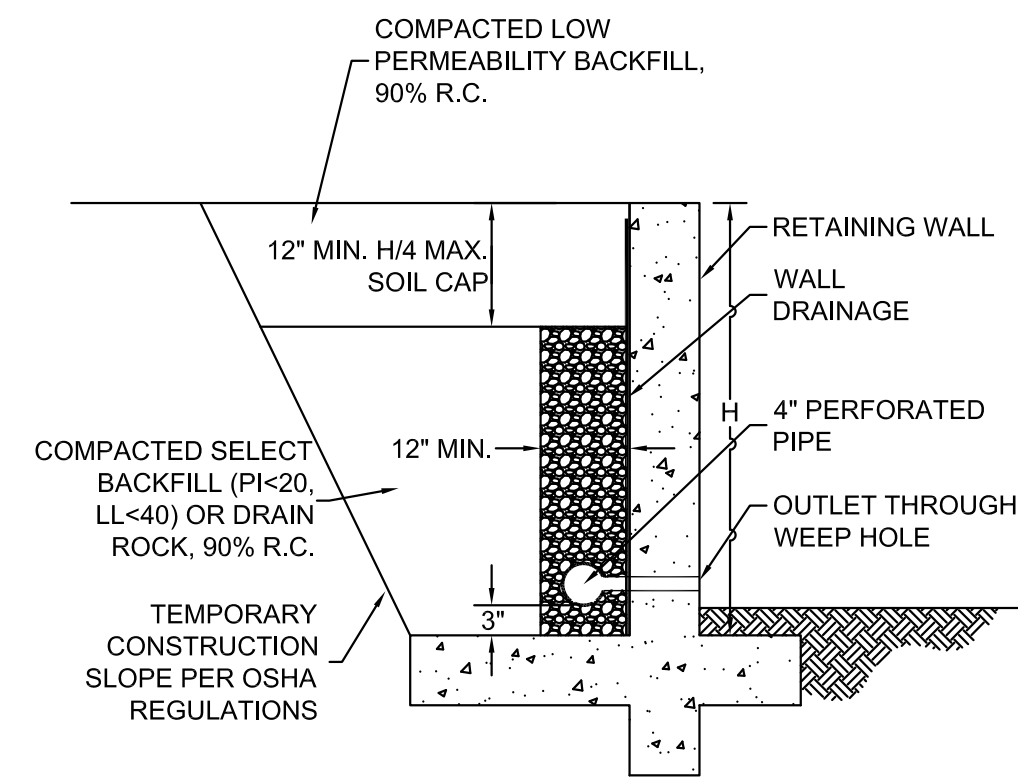
FILE NO. 1/4873  
 WRA PROJECT #18054  
 DRAWN BY: DFS  
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 ORIGINAL DRAWING SIZE: 24 X 36

SCALE: AS INDICATED

**STRUCTURAL  
 DETAILS**

Sheet

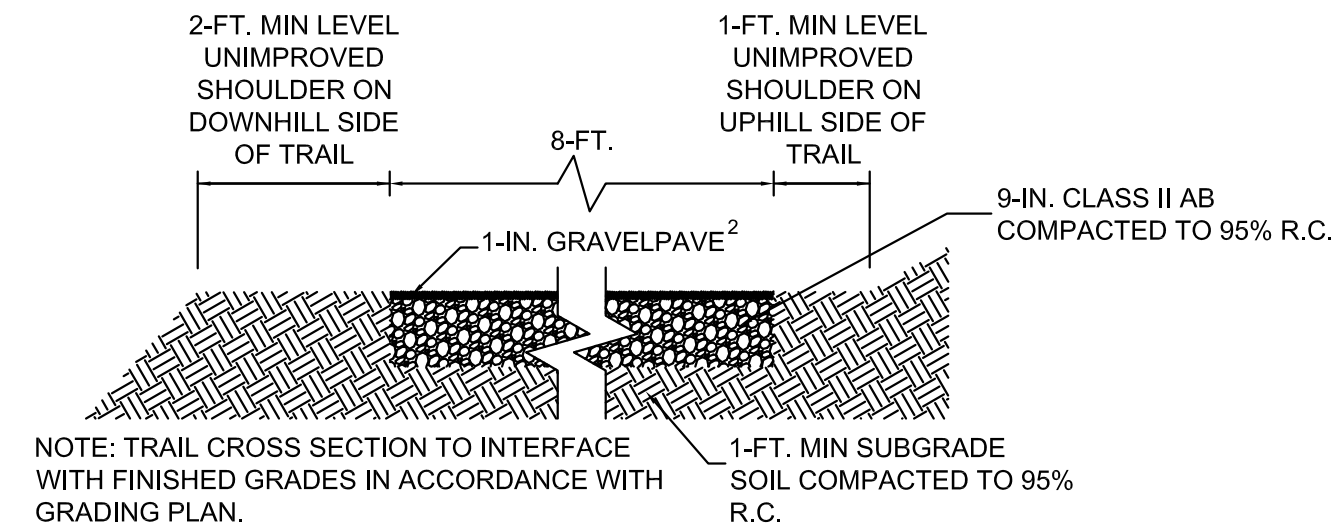
**L-6**



NOTES:

1. WALL DRAINAGE SHOULD CONSIST OF CLEAN, FREE DRAINING 3/4 INCH CRUSHED ROCK (CLASS 1B PERMEABLE MATERIAL) WRAPPED IN IN FILTER FABRIC (MIRAFI 140N OR EQUIVALENT) OR CLASS II PERMEABLE MATERIAL. ALTERNATIVELY, A PRE-FABRICATED DRAINAGE PANEL (MIRADRAIN G100N OR EQUIVALENT) INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS, MAY BE USED IN LIEU OF DRAIN ROCK AND FABRIC.
2. PERFORATED PIPE SHALL BE SCH 40 OR SDR 35. PLACE PIPE PERFORATIONS DOWN AND SLOPED AT 1% TO A GRAVITY OUTLET. ALTERNATIVELY, DRAINAGE CAN BE OUTLET THROUGH 3" DIAMETER WEEP HOLES SPACED APPROXIMATELY 20' APART.
3. CLEAN OUTS SHOULD BE INSTALLED AT THE UPSLOPE END AND AT SIGNIFICANT DIRECTION CHANGES OF THE PERFORATED PIPE. ADDITIONALLY, ALL ANGLED CONNECTORS SHALL BE LONG BEND SWEEP CONNECTIONS.
4. DURING COMPACTION, THE CONTRACTOR SHOULD USE APPROPRIATE METHODS (SUCH AS TEMPORARY BRACING AND/OR LIGHT COMPACTION EQUIPMENT) TO AVOID OVER STRESSING THE WALLS. WALLS SHALL BE COMPLETELY BACKFILLED PRIOR TO CONSTRUCTION IN FRONT OF OR ABOVE THE RETAINING WALL.
5. ALL WORK AND MATERIALS SHALL CONFORM WITH SECTION 68 OF THE LATEST EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS (CALTRANS).

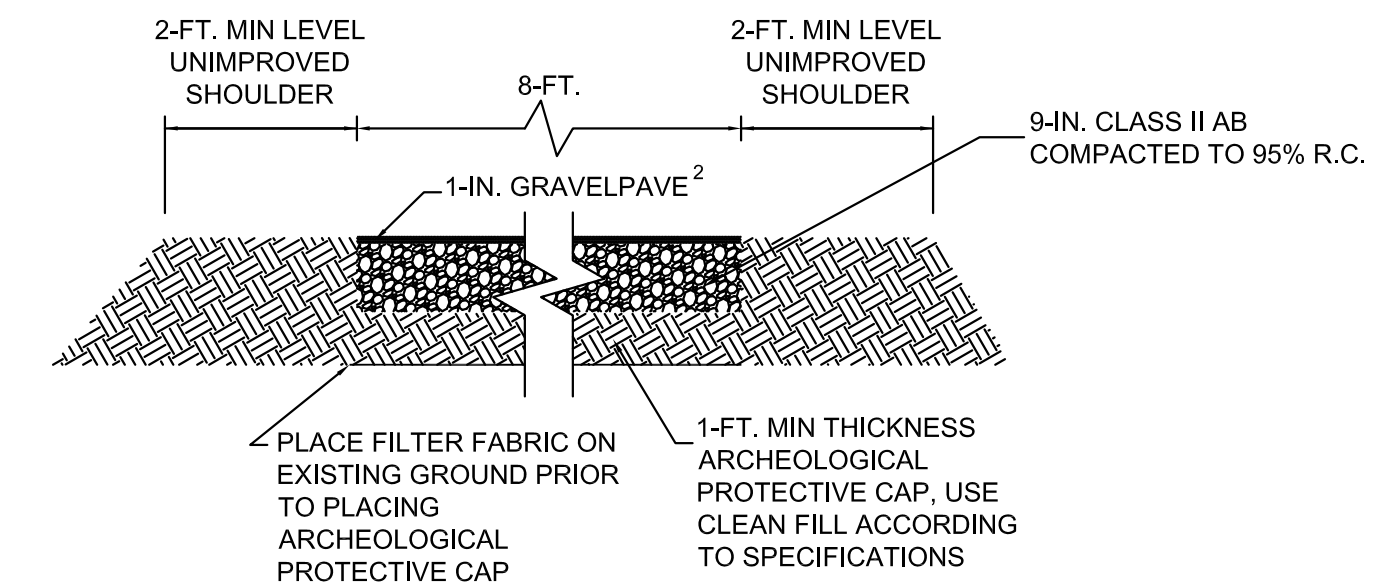
1 - STANDARD RETAINING WALL BACKDRAIN  
 (NO SCALE)



2 - COAST TRAIL DETAIL  
 (NO SCALE)

**GRAVELPAVE<sup>2</sup> NOTES:**

1. GRAVELPAVE RINGS AND INFILL TO BE TERRACOTTA BROWN COLOR.
2. INFILL SHALL CONSIST OF POORLY-GRADED ANGULAR GRAVEL, 3/8" DIAMETER MAX.; COLOR AND TYPE TO BE SELECTED BY COUNTY OF SAN MATEO.
3. ALL HARD SURFACE CONSTRUCTION (ASPHALT PAVING OR CONCRETE WALKS) ADJACENT TO GRAVELPAVE AREAS MUST BE COMPLETED PRIOR TO INTALLATION OF GRAVELPAVE. REFER TO MANUFACTURER'S TECHNICAL SPECIFICATIONS FOR ADDITIONAL INSTALLATION NOTES.



NOTE: TRAIL CROSS SECTION TO INTERFACE WITH FINISHED GRADES IN ACCORDANCE WITH GRADING PLAN.

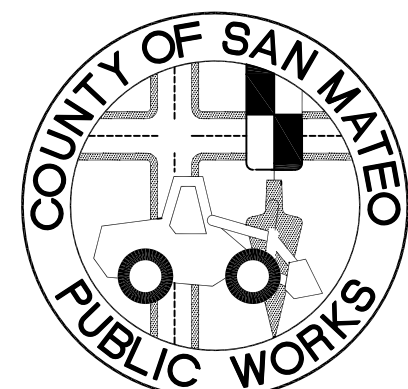
3 - COAST TRAIL WITHIN ARCHEOLOGICAL SITE DETAIL  
 (NO SCALE)



ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS AND PLANNERS  
2169 G East Francisco Blvd.  
San Rafael, CA 94901  
(415) 454-8868 Phone  
(415) 454-0129 Fax

# COASTAL TRAIL IMPROVEMENT PROJECT

COUNTY OF SAN MATEO  
FITZGERALD MARINE RESERVE  
MOSS BEACH, CALIFORNIA



APPROVED:

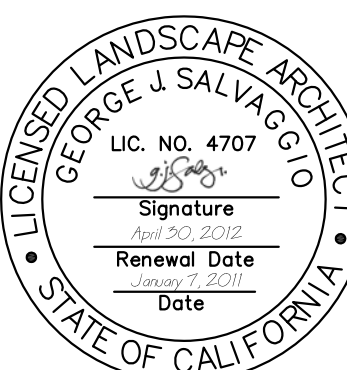
DATE:

DAVE HOLLAND, DIRECTOR OF SAN MATEO  
COUNTY PARKS DEPARTMENT

APPROVED:

DATE:

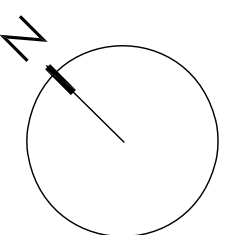
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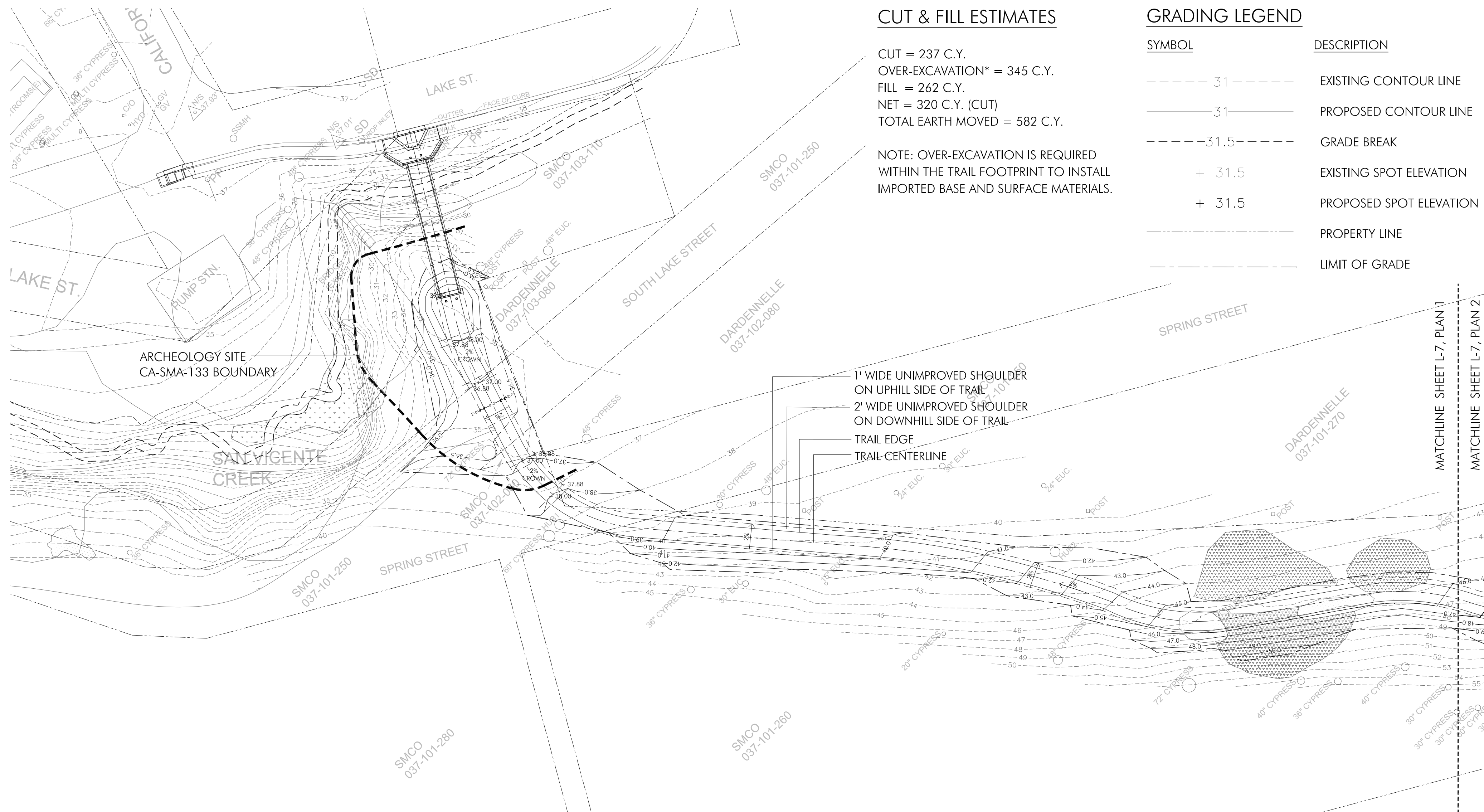
0 30  
SCALE: 1" = 30'



## GRADING PLAN

Sheet

# L-7



**CUT & FILL ESTIMATES**  
CUT = 237 C.Y.  
OVER-EXCAVATION\* = 345 C.Y.  
FILL = 262 C.Y.  
NET = 320 C.Y. (CUT)  
TOTAL EARTH MOVED = 582 C.Y.

NOTE: OVER-EXCAVATION IS REQUIRED WITHIN THE TRAIL FOOTPRINT TO INSTALL IMPORTED BASE AND SURFACE MATERIALS.

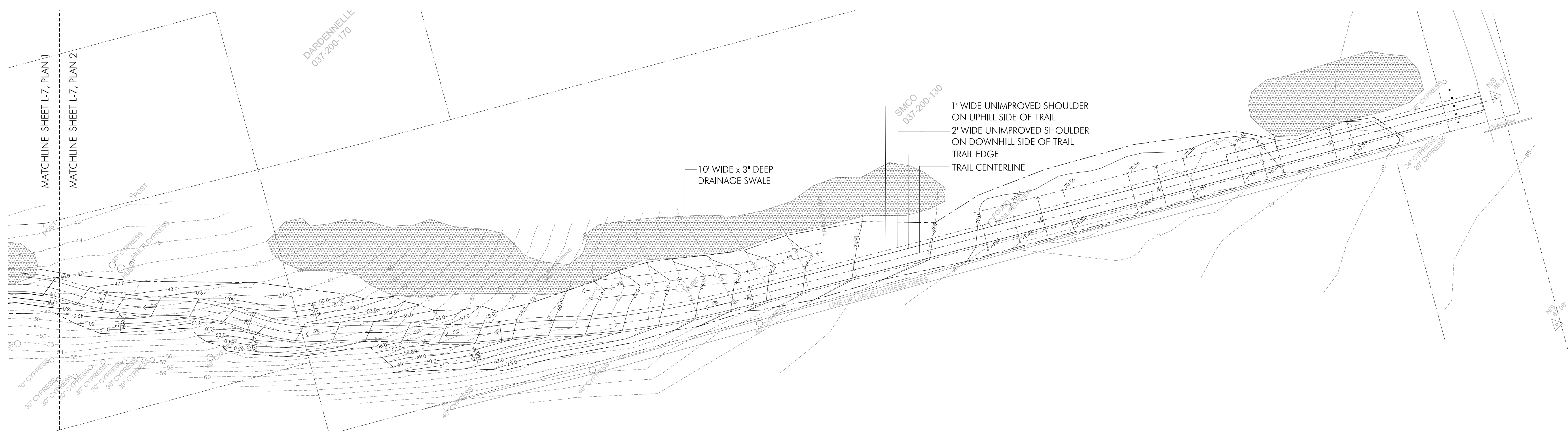
**GRADING LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR LINE
---	PROPOSED CONTOUR LINE
---	GRADE BREAK
+ 31.5	EXISTING SPOT ELEVATION
+ 31.5	PROPOSED SPOT ELEVATION
---	PROPERTY LINE
---	LIMIT OF GRADE

SYMBOL	DESCRIPTION
---	CENTER LINE
---	SWALE CENTERLINE
3:1 MAX	SLOPE INDICATION

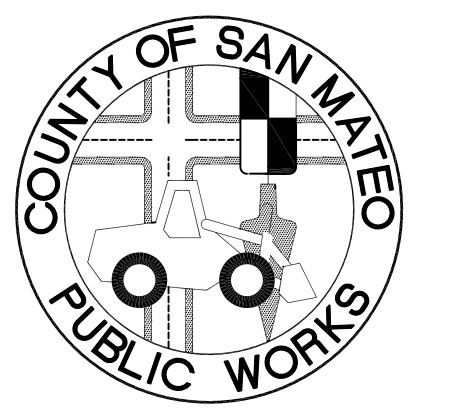
- GRADING NOTES**
- THE GRADING PLANS INDICATE FINISHED GRADE ELEVATIONS.
  - SEE SHEET L-3 FOR LOCATIONS OF STAGING AND STOCKPILE AREA.
  - NO GRADING SHALL OCCUR WITHIN THE DRIPLINE OF EXISTING TREES TO REMAIN. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING TREES.
  - ORANGE CONSTRUCTION FENCE SHALL BE INSTALLED AND MAINTAINED AT THE LOCATIONS SHOWN ON THE DRAWINGS IN ORDER TO PREVENT DISTURBANCE TO THE EXISTING BIOLOGICAL COMMUNITIES. CONSTRUCTION FENCING SHALL BE 4' HIGH AND SECURED WITH METAL T-POSTS AT 6' ON-CENTER MAXIMUM, AND SHALL BE OFFSET 2' MAXIMUM FROM THE LIMIT OF GRADE.
  - OUTSIDE OF THE ARCHEOLOGY SITE BOUNDARY THE TRAIL SHALL BE GRADED WITH A CONTINUOUS 2% CROSS SLOPE ACROSS TRAIL AND UNIMPROVED SHOULDERS, AS INDICATED ON PLANS. WITHIN THE ARCHEOLOGY SITE BOUNDARY THE TRAIL SHALL BE GRADED WITH A CONTINUOUS 2% CROWN ACROSS TRAIL AND UNIMPROVED SHOULDERS, AS INDICATED ON PLANS.
  - TOPSOIL SHALL BE EXCAVATED TO A DEPTH OF EIGHT (8) INCHES FROM THE AREAS WITHIN THE LIMIT OF GRADING AND TRANSPORTED TO THE STOCKPILE AREA DESIGNATED ON THE PLANS. ANY EXCESS TOPSOIL GENERATED WITHIN THE TRAIL FOOTPRINT SHALL BE USED TO CONFORM TO FINISH GRADE AND INCREASE THE DEPTH OF TOPSOIL WITHIN ADJACENT LANDSCAPE AREAS.
  - THE VOLUME OF MATERIAL THAT CAN BE HAULED BY A SINGLE TRUCK SHALL BE LIMITED TO THE VOLUME THAT CAN BE FULLY COVERED AND PROTECTED DURING TRANSPORT. IF HAULING OPERATIONS RESULT IN ANY RELEASE OF MATERIAL ONTO THE ROAD SURFACE, THE CONTRACTOR SHALL CLEAN THE ROAD SURFACE IMMEDIATELY. THE CONTRACTOR SHALL PREPARE PLANS FOR THE STOCKPILE AREAS FOR APPROVAL BY THE COUNTY, INCLUDING THE CONSTRUCTION OF A PERIMETER FENCE, CONSTRUCTION ENTRANCE, AND ADEQUATE EROSION CONTROL MEASURES TO MINIMIZE SOIL EROSION AFTER OCTOBER 30TH.
  - SEE EXISTING CONDITIONS AND DEMOLITION PLAN, SHEET L-2, FOR EXISTING BIOLOGICAL COMMUNITIES LEGEND AND NOTES.

**1** GRADING PLAN  
SCALE 1" = 30'

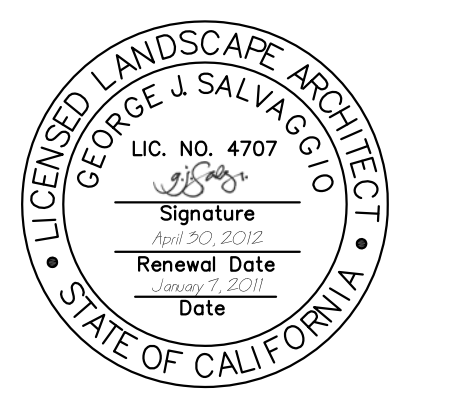


**2** GRADING PLAN  
SCALE 1" = 30'

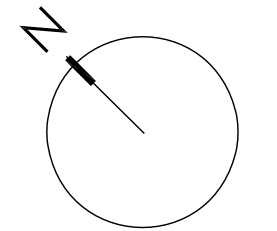
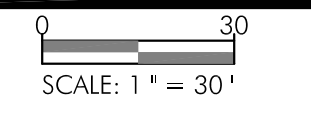
**COASTAL TRAIL  
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APPROVED: \_\_\_\_\_  
DATE: \_\_\_\_\_  
JAMES C. PORTER, DIRECTOR OF PUBLIC WORKS  
RCE # 48056 / EXPIRES 12-31-2011



01/07/11 | BID SET  
Date Issues And Revisions No.  
FILE NO. 1/4873  
WRA PROJECT # 18054  
DRAWN BY: MCB  
CHECKED BY: GJS  
ORIGINAL DRAWING SIZE: 24 X 36



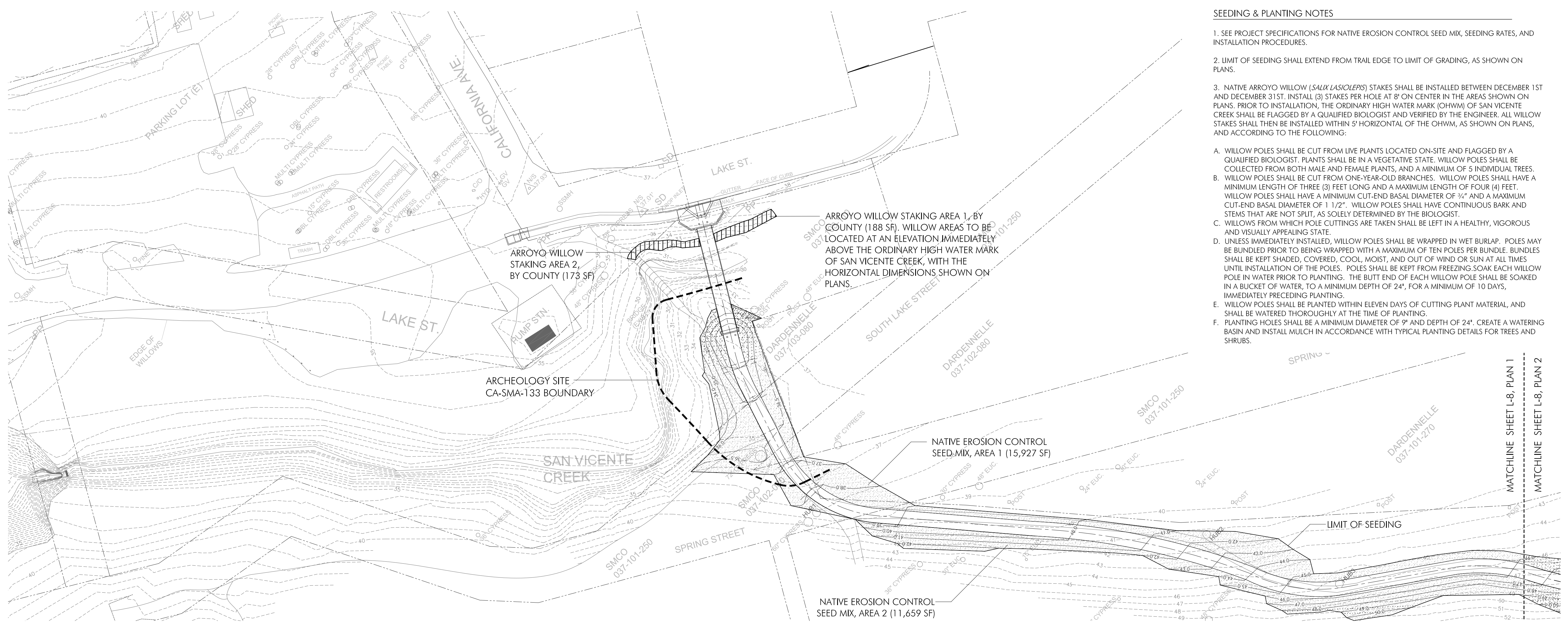
**SEEDING &  
PLANTING PLAN**

Sheet

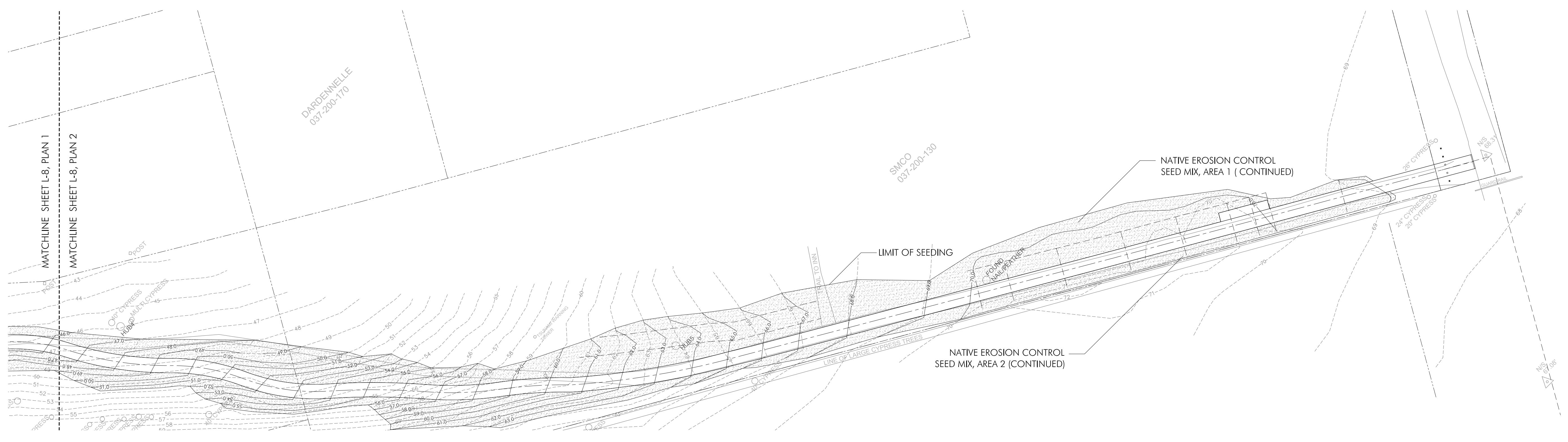
**L-8**

**SEEDING & PLANTING NOTES**

- SEE PROJECT SPECIFICATIONS FOR NATIVE EROSION CONTROL SEED MIX, SEEDING RATES, AND INSTALLATION PROCEDURES.
- LIMIT OF SEEDING SHALL EXTEND FROM TRAIL EDGE TO LIMIT OF GRADING, AS SHOWN ON PLANS.
- NATIVE ARROYO WILLOW (*SALIX LASIOLEPIS*) STAKES SHALL BE INSTALLED BETWEEN DECEMBER 1ST AND DECEMBER 31ST. INSTALL (3) STAKES PER HOLE AT 8' ON CENTER IN THE AREAS SHOWN ON PLANS. PRIOR TO INSTALLATION, THE ORDINARY HIGH WATER MARK (OHWM) OF SAN VICENTE CREEK SHALL BE FLAGGED BY A QUALIFIED BIOLOGIST AND VERIFIED BY THE ENGINEER. ALL WILLOW STAKES SHALL THEN BE INSTALLED WITHIN 5' HORIZONTAL OF THE OHWM, AS SHOWN ON PLANS, AND ACCORDING TO THE FOLLOWING:
  - WILLOW POLES SHALL BE CUT FROM LIVE PLANTS LOCATED ON-SITE AND FLAGGED BY A QUALIFIED BIOLOGIST. PLANTS SHALL BE IN A VEGETATIVE STATE. WILLOW POLES SHALL BE COLLECTED FROM BOTH MALE AND FEMALE PLANTS, AND A MINIMUM OF 5 INDIVIDUAL TREES.
  - WILLOW POLES SHALL BE CUT FROM ONE-YEAR-OLD BRANCHES. WILLOW POLES SHALL HAVE A MINIMUM LENGTH OF THREE (3) FEET LONG AND A MAXIMUM LENGTH OF FOUR (4) FEET. WILLOW POLES SHALL HAVE A MINIMUM CUT-END BASAL DIAMETER OF 3/4" AND A MAXIMUM CUT-END BASAL DIAMETER OF 1 1/2". WILLOW POLES SHALL HAVE CONTINUOUS BARK AND STEMS THAT ARE NOT SPLIT, AS SOLELY DETERMINED BY THE BIOLOGIST.
  - WILLOWS FROM WHICH POLE CUTTINGS ARE TAKEN SHALL BE LEFT IN A HEALTHY, VIGOROUS AND VISUALLY APPEALING STATE.
  - UNLESS IMMEDIATELY INSTALLED, WILLOW POLES SHALL BE WRAPPED IN WET BURLAP. POLES MAY BE BUNDLED PRIOR TO BEING WRAPPED WITH A MAXIMUM OF TEN POLES PER BUNDLE. BUNDLES SHALL BE KEPT SHADED, COVERED, COOL, MOIST, AND OUT OF WIND OR SUN AT ALL TIMES UNTIL INSTALLATION OF THE POLES. POLES SHALL BE KEPT FROM FREEZING. SOAK EACH WILLOW POLE IN WATER PRIOR TO PLANTING. THE BUTT END OF EACH WILLOW POLE SHALL BE SOAKED IN A BUCKET OF WATER, TO A MINIMUM DEPTH OF 24", FOR A MINIMUM OF 10 DAYS, IMMEDIATELY PRECEDING PLANTING.
  - WILLOW POLES SHALL BE PLANTED WITHIN ELEVEN DAYS OF CUTTING PLANT MATERIAL, AND SHALL BE WATERED THOROUGHLY AT THE TIME OF PLANTING.
  - PLANTING HOLES SHALL BE A MINIMUM DIAMETER OF 9" AND DEPTH OF 24". CREATE A WATERING BASIN AND INSTALL MULCH IN ACCORDANCE WITH TYPICAL PLANTING DETAILS FOR TREES AND SHRUBS.



**1 SEEDING PLAN**  
SCALE 1" = 30'



**2 SEEDING PLAN**  
SCALE 1" = 30'