

APPENDIX A

HISTORICAL RESOURCES
(CONFIDENTIAL)

IV. DISCUSSION:

Historical Resources

The San Diego Municipal Code: Chapter 14, Division 3, Article 2, §143 *et seq.*: Historical Resources Regulations, has as its purpose “to protect, preserve and, where damaged, restore historical resources of San Diego.” This regulation applies to proposed development within the City of San Diego when historical resources are to be affected. The City of San Diego defines an historic resource as “designated historic resources, historic districts, historical buildings, structures, objects, and landscapes, important archaeological sites and traditional cultural properties.”

CEQA requires that before approving discretionary projects the Lead Agency must identify and examine the significant adverse environmental effects which may result from that project. A project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment (Sections 15064.5(b) and 21084). A substantial adverse change is defined as demolition, destruction, relocation, or alteration activities which would impair historical significance (Sections 15064.5(b)(1) and 5020.1). Any historic resource listed in or eligible to be listed in the California Register of Historical Resources, including archaeological resources, is considered to be historically or culturally significant.

The South Coastal Information Center (SCIC), the California Historical Resources Information System (CHRIS) for San Diego County, completed a records search of previously recorded cultural resources and previously completed cultural resources surveys within the proposed project area on June 12, 2007. Records from the SCIC indicate that 16 cultural resources have been previously recorded within the project area and 12 have been previously recorded adjacent to the project area.

Five of the archaeological sites within the project area, CA-SDI-12423, CA-SDI-12417, CA-SDI-12427, CA-SDI-12416 and CA-SDI-12426, have been evaluated according to National Register criteria and found ineligible for listing in the NRHP; these sites were not evaluated for the CRHR or the City of San Diego’s Register. These five archeological sites are more specifically located within the proposed Rose Canyon Segment. CA-SDI-12423 was recorded as a lithic scatter but was substantially altered by construction activities. CA-SDI-12417 was described as a light lithic scatter, and CA-SDI-12427 was described as a lithic scatter and subsurface deposit, although the eastern portion of this site had been graded. CA-SDI-12416 was described as a “light lithic scatter” and CA-SDI-12426 was described as a dense lithic scatter with a subsurface deposit and milling slab.

The remaining 11 archaeological sites within the project area have not been evaluated for significance. These 11 sites are all prehistoric: eight sites are lithic scatters of varying densities and sizes, one site is a flake and shell midden, one site is a lithic scatter with subsurface deposit, and one site had no description on its site form.

Twelve cultural resources immediately adjacent to the project area include two National Register eligible prehistoric sites (CA-SDI-10437 was described as a dense deposit of



August 17, 2007

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Subject: Initial Study; City of San Diego Coastal Rail Trail
City of San Diego, CA
URS Project/Reference No. 27684014.10521

Dear Mr. Handal:

URS Corporation Americas (URS) is pleased to submit this Initial Study for the Coastal Rail Trail (CRT) to the City of San Diego (City). This Initial Study includes the following sections: Section I Project Description; Section II Environmental Setting, Section III Environmental Analysis (Initial Study Checklist and References); Section IV Discussion; Section V Recommendation. In addition, Appendix A Historical Resources (Confidential) and four figures are also included in the Initial Study packet.

The CRT, a Multi-Jurisdictional project, will develop approximately 40-miles of multi-use, Class I, Class II, and some Class III continuous corridor bicycle facilities to be constructed primarily along the railroad right-of-way (ROW). This Initial Study focuses on the northerly +/- 10 miles of trail from the Sorrento Valley Road Intersection to the Gilman Drive/I-5 intersection.

Please feel free to call us if you have any questions.

URS appreciates the opportunity to continue to assist you with this important project.

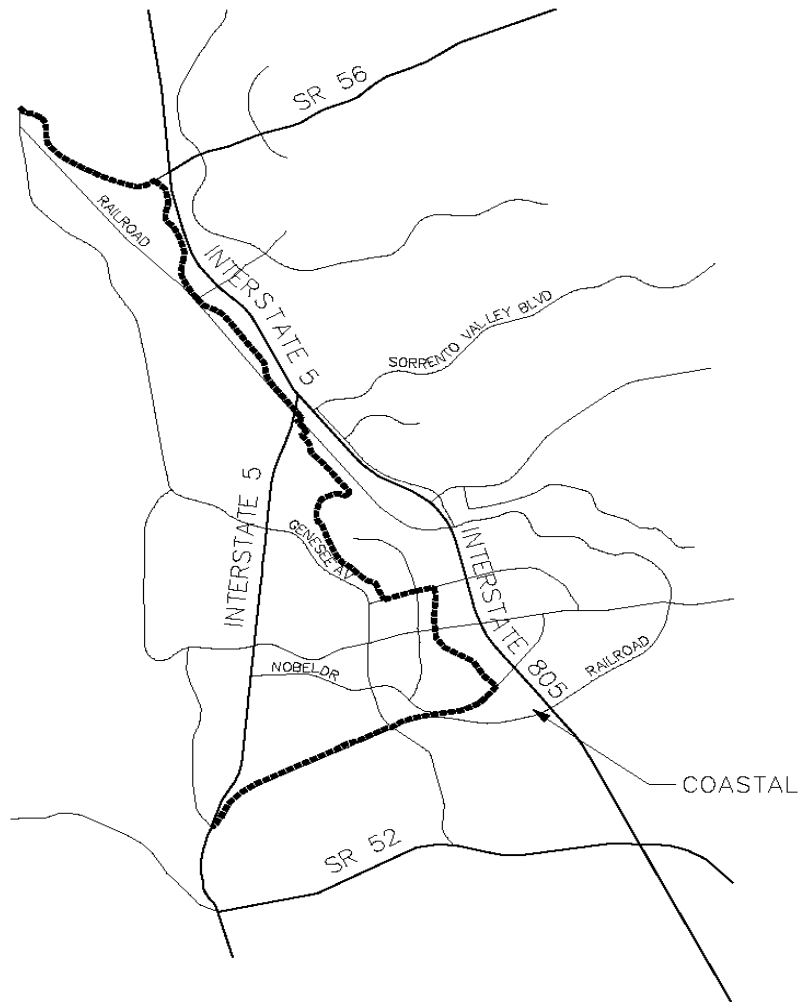
Sincerely,

URS CORPORATION

Angela Leiba, GISP
Project Manager

Attachments: Initial Study
Appendix A (Confidential)
Figures 1-4

City of San Diego Coastal Rail Trail Preliminary Engineering Report (Draft)



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1ST Draft (8/17/07)
2nd Draft (3/3/08)

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List of Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
APCD	Air Pollution Control District
CHSRA	California High Speed Rail Authority
CRT	Coastal Rail Trail
HDM	Highway Design Manual
I-	Interstate
IS	Initial Study
LPA	Locally Preferred Alternative
LRT	Light Rail Transit
MBGR	Metal Beam Guardrail
mph	miles per hour
MSE	Mechanically Stabilized Earth
PB	Parsons Brinkerhoff
PCC	Portland Cement Concrete
R-value	resistance value
SANDAG	San Diego Association of Governments
SDG&E	San Diego Gas & Electric
SD	San Diego

SECTION 1 INTRODUCTION

This engineering report serves as a compilation of the major alignment studies completed to date on portions of the City of San Diego Coastal Rail Trail (CRT). An Initial Study (IS) of the alignment has been completed and submitted with the first draft of this report. It is not the intent of this report to serve as a Project Study Report or a Project Report. Such reports will be developed under separate task orders.

The CRT is a multi-jurisdictional project among the coastal cities of Oceanside, Carlsbad, Encinitas, Solana Beach and San Diego. Each city serves as the lead agency responsible for development of the CRT in their community. The alignments studied comprise CRT *Segment 8*, within the City of San Diego, Carmel Valley Road to Gilman Avenue. *Segment 8* is approximately 10.5 miles long and begins at the City of San Diego/City of Del Mar boundary. *Segment 8* is shown in Figure 8.1.

SECTION 2 BACKGROUND

The CRT project will develop an approximately 40-mile, continuous corridor of multi-use, Class I, Class II, and some Class III bicycle facilities along the coast of San Diego County. The bicycle facilities will be constructed primarily along the railroad right-of-way. The north coastal communities have made progress on their portion of the trail with Solana Beach being the first to complete segments.

The City of San Diego will develop approximately half of the CRT. San Diego's portion is proposed to run for approximately 20 miles extending from City's border with Del Mar south to downtown San Diego. Presently, the City is focusing engineering and environmental permitting efforts on the northerly +/- ten miles of trail from the Sorrento Valley Road/Carmel Valley Road intersection to the I-5/Gilman Drive interchange. For the purposes of this report, the northern +/- ten miles will be referred to as the SD City CRT.

2.1 BIKEWAY CLASSIFICATION

This assessment was conducted in accordance with the Caltrans Highway Design Manual (HDM). According to the Manual, the Streets and Highway Code Section 890.4 defines a "Bikeway" as a facility that is provided primarily for bicycle travel. Bikeways are divided into three Classes:

- (1) Class I Bikeway (Bike Path). Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow by motorists minimized.
- (2) Class II Bikeway (Bike Lane). Provides a striped lane for one-way bike travel on a street or highway.
- (3) Class III Bikeway (Bike Route). Provides for shared use with pedestrian or motor vehicle traffic.

2.2 GOALS AND OBJECTIVES FOR PROJECT

The goals and objectives for the project are to:

- Provide a functional north-south multi-use trail through north coastal San Diego.
- Locate the trail within or near railroad right-of-way or other Class I route to provide an alternative bike route to heavily traveled roadways with Class II bike lanes.
- Enhance existing paths consistent with the stewardship of San Diego's canyons.
- Connect to adjacent communities, transit facilities, and other trails.
- Create a safe and pleasant experience through good design and operation.
- Protect wetlands and other sensitive habitat.
- Use public-owned property or open space to the extent practical.

2.2.1 Route Constraints

The proposed route for the northern 10 miles of the SD City CRT faces several constraints which affect the possibilities for alignment, including topography, right-of-way and easements, future rail expansion, environmental considerations, existing traffic patterns and funding.

Canyon and Mesa Topography

The topography of the northern portion of the SD City CRT includes significant changes in elevation. Transitions between canyons and mesas in two segments are particularly challenging. The first segment is between Roselle Street and Eastgate Mall, within Roselle Canyon. A rise of 260 feet in 5000 feet would be required for the whole length of the canyon to create a grade of approximately 5%. An alignment with a 5% grade would require very tall retaining walls; detailed environmental studies may be required to assess the impact of the walls. The second area with challenging topography is the descent from Nobel Drive into Rose Canyon. The descent along this alignment is 135 feet in 2000 feet and may also require tall retaining walls.

Right-of-Way and Easements

In general, the alignment will be located in open space easements and on property owned by public agencies. However, portions of the alignment, particularly in Rose Canyon, will require property take from private properties. Portions of these private property takes may already be designated as open space easements.

Possible Future Rail Expansion

At the present time, three rail projects could be located along the project, all within Rose Canyon. The projects are in various stages of development and it is unknown at this time if any of the projects will be implemented. These projects are:

- Nobel Coaster Station. The Nobel Coaster Station has been designed to a 95% level, but has been temporarily placed on hold due to funding issues.
- Mid-Coast Light Rail Transit (LRT) Extension. A Locally Preferred Alternative (LPA) has been identified for the Mid-Coast LRT. However, since the adoption of the LPA, Bus Rapid Transit has seen a significant rise in use in other parts of the country. SANDAG is in the process of revisiting the LPA and the Alternative Alignment studies for the Mid-Coast LRT. One possible alignment for the Mid-Coast LRT would be to locate two additional LRT tracks next to existing tracks within Rose Canyon.
- California High Speed Rail. The California High Speed Rail Authority (CHSRA) has begun its detailed environmental study. Exact alignments are subject to further studies. A possible alignment for the CHSRA is through Rose Canyon.

Sensitive Species and Vegetation

Sensitive species' habitat and vegetation are along or in proximity to the proposed alignments. Sensitive vegetation found in Roselle Canyon and Rose Canyon include Native Grassland, Disturbed Native Grassland, Southern Willow Scrub, Coastal Sage Scrub and Disturbed Coastal Sage Scrub. Potential habitats for sensitive species located along or within the proposed alignment include, but may not be limited to California Gnat Catcher and San Diego Fairy Shrimp.

Built Environment

Existing residential and business development along the alignment presents challenges to route design. These challenges include limitations to street widening to establish Class II bike lanes caused by existing buildings.

Corridors with Heavy Vehicle Traffic

Of the Class II and III corridors being considered for the SD City CRT, the intersection of Sorrento Valley Road and Sorrento Valley Boulevard provides the greatest challenge. This intersection is currently operating at a poor level of service with vehicles waiting multiple cycles during the peak hours. In addition to the congestion, the existing railroad grade crossing at Sorrento Valley Boulevard and the short distance of travel along Sorrento Valley Boulevard (between Sorrento Valley Road and Roselle Street) would require skilled maneuvering by users.

Funding

Funding for the project design may be limited. Current funding sources include federal Congestion Mitigation Air Quality funds, Federal Highway Administration funds and Local Transnet bicycle program funds.

SECTION 3 PURPOSE AND NEED**3.1 PURPOSE**

The purpose of the SD City CRT is to:

- Enhance regional bicycle route connectivity and improve intermodal relationships by connecting existing trails to adjacent communities and transit facilities;
- Improve the quality of recreational bicycle use in this connected system;
- Provide an alternative to vehicle commuting and heavily traveled roadways;
- Provide the opportunity to improve regional air quality; and
- Support the stewardship of San Diego's canyons and protect wetlands and other sensitive habitats.

3.2 NEED

The needs that will be served by the development of the CRT are as follows:

Regional Connectivity and Intermodal Relationships

North coastal San Diego County has various bike paths and trails; however, they are intermittent and discontinuous. The CRT project would improve the existing Class II facilities and create new Class I trails that would link many of the intermittent segments of existing trails, thereby enhancing the overall trail network. The quality of recreation bicycle use on this system would be greatly enhanced.

Significant efforts have been made throughout San Diego County to encourage and foster use of the Coaster, the commuter rail link servicing north coastal San Diego County. Better access to and connection with coaster stations is needed in order to make Coaster commuting an easy and convenient alternative to driving. The proposed CRT alignment will connect users to existing and proposed Coaster Stations, specifically the Sorrento Valley Coaster Station and the planned Nobel Drive Coaster Station.

Transportation Demand

According to Mobility 2030, SANDAG's regional transportation plan, interregional commuting will increase over the next 30 years due to expected population growth and job growth. Options need to be available to move people through the region. While the automobile is the most popular way to travel in Southern California and San Diego, adequate funding and right-of-way will not be available to widen highways in order to meet the increased transportation demands. The CRT, as a continuous 40-mile trail would provide an attractive alternative to vehicle commuting, helping to reduce traffic congestion.

Opportunity to Improve Regional Air Quality

According to the Air Pollution Control District (APCD) of San Diego, toxic air contaminants come from the following sources:

- 61% automobiles;
- 28% industrial facilities; and
- 11% natural sources.

The APCD also contends that the primary way to fight air pollution is to reduce driving and suggests methods such as combining errands, carpooling, telecommuting, walking, and bicycling. The CRT project would promote better air quality by providing a transportation alternative to the use of the private automobile. The reduction in vehicle miles traveled will contribute to improved air quality.

Support for Environmental Stewardship and Conservation Initiatives

A number of environmental conservation and stewardship proposals, such as the San Diego Civic Solutions Canyon Lands Initiative and the Rose Creek Watershed Alliance Opportunities Assessment, call for protection and preservation of San Diego's undeveloped canyons and watersheds through education and stewardship. One specific need outlined by San Diego Civic Solutions is to support communities and canyon lands with green infrastructure and connections to and between canyons. The SD City CRT would connect the natural corridors of Roselle Canyon and Rose Canyon while better linking these undeveloped, ecological sanctuaries to their surrounding communities and to one another.

SECTION 4 BASIS OF DESIGN

The following key factors were considered for each proposed alignment.

4.1 DESIGN STANDARDS

The design standards used on this project are

- Caltrans Highway Design Manual (HDM), Chapter 1000. September 2006.
- Guide for the Development of Bicycle Facilities. American Association of State Highway and Transportation Officials (AASHTO). 1999.
- City of San Diego Bicycle Master Plan. May 2002.
- City of San Diego Drainage Design Manual.

Design exceptions from the Caltrans HDM, if required, will be documented and submitted to the City of San Diego and Caltrans for approval.

4.2 DESIGN SPEEDS

The design of the various alignments conforms with the Caltrans HDM Bikeway Planning and Design Standards. The alignments are categorized as “Bike Paths with Mopeds Prohibited” (design speed of 25 mph) and “Bike Paths on Long Downgrades” (design speed of 30 mph).

Table 1. Design Speed Standards

Type of Facility	Design Speed (mph)
Bike Paths with Mopeds Prohibited	25
Bike Paths with Mopeds Permitted	30
Bike Paths on Long Downgrades (steeper than 4%, and longer than 150 m)	30

4.3 LIGHTING AND SECURITY

In general, bike path facilities are not used during inclement weather and hours of darkness. The City of San Diego, however, has indicated that lighting may be required along bike paths. The AASHTO Guide for the Development of Bicycle Facilities notes that fixed source lighting improves visibility along paths and intersections, and that lighting for shared use paths is important and should be considered where night usage is expected. Lighting should also be considered through underpasses or tunnels, and when nighttime security could be an issue. Depending on the location, average maintained horizontal

illumination levels of 5 lux to 22 lux should be considered. Further discussion with the City of San Diego and Caltrans is required to determine the appropriate level of lighting, if any.

4.4 PAVEMENT STRUCTURAL SECTION

Cost estimates developed to date are based on generally accepted pavement design for bike facilities. These pavement structural sections may require additional thickness to handle maintenance vehicles. The design of pavement structural sections to handle maintenance vehicles will be completed during the final design phase of this project, after the resistance value (R-value) of the soil for each Class I bicycle facility has been obtained. The estimated pavement structural section used for the planning phase of this project is 3 inches of asphalt concrete over 4 inches of aggregate base. City of San Diego has indicated that Portland Cement Concrete (PCC) pavement may be required. PCC pavement may reduce future maintenance costs.

4.5 DRAINAGE

In general, drainage facilities will be designed to the standards of the City of San Diego Drainage Design Manual. As Class I bicycle facilities will see little or no use during severe storm events, it is anticipated that the spread width of design frequency storm water flow could be as wide as the total width of the trail.

4.6 CONNECTION TO OTHER FACILITIES

Some of the more significant users of CRT are commuters who choose to use a bicycle for part or all of their commute. As such, connections to other facilities are essential for its successful operation. The proposed alignment connects to Carmel Valley Road at its northern terminus and the existing Rose Canyon trail at its southern terminus. It will also connect to Class II bike lanes in the University Town Center area at Eastgate Mall. Additional connection points to existing Class II facilities are planned at Nobel Drive and Genesee Avenue.

4.7 RETAINING WALLS

Portions of the alignment may require construction of significant retaining walls and a retaining wall type selection report may be required. Presently, both cut and fill walls are required. Short retaining walls of up to 15 feet tall are most likely to be cast in place concrete retaining walls. Taller retaining walls that require significant embankment may be Mechanically Stabilized Earth (MSE) retaining walls. Tall cast in place concrete retaining walls in cut may require significant back cut. Along steep slopes, the back cut may cause significant disturbance to the existing hillside. Hence, there may be cut areas where soil nail walls would be more appropriate.

Where cast in place concrete retaining walls are to be used, Regional Standard Plans will be utilized, if applicable. Where Standard Plans cannot be used and special design walls are required, they will be designed for seismic loads and will comply with Caltrans requirements.

4.8 BRIDGES

At the present time advanced planning studies have not been performed on proposed bridge locations. However, all bridges will comply with Caltrans and AASHTO standards.

4.9 UTILITY RELOCATIONS

Utility impacts are anticipated in Rose Canyon, along Eastgate Mall, and in Roselle Canyon. The Rose Canyon alignment must be threaded through existing utility poles in order to avoid their relocation. It is anticipated that Rose Canyon's sewer facilities would not be impacted. In addition, any existing fiber optic or other communication lines within the railroad right-of-way must be protected in place.

Eastgate Mall requires some local widening to change a Class III facility to a Class II facility. This widening will require relocation of various potable water line facilities as well as franchise utilities.

Roselle Canyon has an existing sewer line and utility poles belonging to SDG&E. Tall retaining walls will cause additional loading on the existing sewer line. Encasement of the sewer line may be an option, but if the fill height becomes significant, access to the sewer line through deep manholes becomes difficult. This may warrant vertical realignment of the sewer line. In addition, tall retaining walls may cause a reduction of overhead electric lines clearance. This may require taller utility poles to be installed within the canyon.

4.10 LANDSCAPING

With possibility of significant retaining walls within the canyons, facial treatment of the proposed walls will be considered. One option would be to install vines along the face of the walls, which could require the installation of irrigation lines to ensure plant establishment. Portions of the alignment which pass through Roselle and Rose Canyons are within open space preserve. Slope vegetation in these canyons should follow the existing natural vegetation.

4.11 STORM WATER QUALITY CONTROL

In general, all storm water quality control systems will be designed in accordance with the San Diego Regional National Pollution Discharge Elimination System Stormwater Permit. The project site may produce pollutants of concern such as oil, grease, fuels, Portland cement products, and total suspended solids. To treat these pollutants of concern, storm water treatment best management practices will be constructed at the site. A Storm Water Pollution Prevention Plan will be prepared prior to the construction of the northern portion of the SD City CRT.

SECTION 5 ALTERNATIVE ALIGNMENTS**5.1 SUMMARY OF ALIGNMENTS STUDIED**

This section compiles all alignments studied to date. As part of the development of the environmental documentation for the SD City CRT several variations of alignment alternatives through Roselle Canyon have been studied. However, alignment studies through Roselle Canyon, as well as elsewhere in the project, are not complete and further investigation will be required. The alignments studied are a combination of Class I paths and Class II lanes. Due to probable funding constraints, suggestions are made to keep some segments of the alignment as Class III bike routes. All construction costs developed as part of this study are based on 2006 cost data. Prior studies of the bike path include the October 2001 *Sorrento Valley Road/Sorrento Valley Bikeway Feasibility Study* conducted for the City of San Diego by Parsons Brinckerhoff Quade & Douglas, Inc. Alignments studied by Parsons Brinckerhoff (PB) are summarized in Section 5.3. With one exception, cost data from the *Sorrento Valley Road/Sorrento Valley Bikeway Feasibility Study* is imported directly from that report and are presumed to represent cost data from 2001. Hence, most cost data is not directly comparable. The one exception is alternative 2 of the PB report which has been updated to 2006 cost data in order to allow direct comparison to the newly studied alignments. (Alternative 2 investigated an alignment which paralleled I-5, rather than traveling through Roselle Canyon.)

5.2 ALIGNMENT STUDIES INVESTIGATED TO DATE

The alignments studied are divided into geographically distinct segments of the CRT (Segments 1-6). Variations of the alignment studied for Roselle Canyon are presented as alternatives. Portions of segments and various connection points to a particular segment are presented in subsections. Segments are typically established at significant changes in topography or geography which can cause a change in cost and/or improvement method.

Segment 1: Carmel Valley Road

Segment 1, Carmel Valley Road, is included in the existing Carmel Valley Road Widening Project, creating a 6300 foot Class II bike lane. This segment begins at the City of Del Mar/ City of San Diego city limit, travels southeast along Carmel Valley Road and terminates just before the I-5 overpass, at the intersection of Carmel Valley Road and Sorrento Valley Road. The construction of this segment was completed in 2007 and no additional construction or funding is needed to complete this segment.

Segment 2: Sorrento Valley Road

The proposed alignment for Segment 2, Sorrento Valley Road, is based on the *Sorrento Valley Road Reuse Project Environmental Impact Report; Pedestrian Trail and Multi-Use Path Option*. The proposed alignment would establish a combination of a Class I and Class II bike facilities. The 3800 foot Class I bike path begins at the junction of Carmel Valley Road and Sorrento Valley Road and travels south along the closed portion of Sorrento Valley Road (briefly traveling under the SR-56 direct connector to the southbound I-5 Local Bypass) to City of San Diego Pump Station 65, following along the west side of I-5. This portion of the road is paved and closed to motorized vehicle traffic. At Pump Station 65 motor

vehicle traffic is allowed on the road and the bikeway becomes a Class II bike lane for 2400 feet, with limited motor vehicle traffic. The segment terminates at the junction of Sorrento Valley Road and Carmel Mountain Road. Localized widening may be required to upgrade this segment of Sorrento Valley Road to a Class II bike facility.

Due to the low volume of traffic on this portion of Sorrento Valley Road, a Class III bike route could be implemented in this segment of the project. A Class III bike route would achieve minor savings in capital improvements.

The construction cost to implement this segment with a Class II bike facility is estimated to be \$658,000. The Class I section of this segment is a minor cost only requiring striping and signing.

Segment 3: Sorrento Valley Road and Roselle Street

Segment 3 is divided into two sub segments. Segment 3a, a pre-existing Class II bike lane requiring only additional signage and Segment 3b, requiring improvements to the existing roadway as well as the addition of signage and striping. The segments are discussed in detail below.

3a: Sorrento Valley Road and Boulevard

The 7400 foot Class II bike lane alignment for Segment 3a, Sorrento Valley Road and Boulevard, requires minimal improvement. It begins at the junction of Sorrento Valley Road and Carmel Mountain Road and follows Sorrento Valley Road as it travels southeast, through a mainly light commercial use area, passing under I-5 and connecting to Sorrento Valley Boulevard. The alignment then turns west onto Sorrento Valley Boulevard and continues to Roselle Street. This segment of alignment provides an important commuter connection to the existing Sorrento Valley Coaster Station.

The short distance along Sorrento Valley Boulevard between Sorrento Valley Road and Roselle Street will be challenging. Southbound bikers will make a right turn onto Sorrento Valley Boulevard, cross railroad tracks, and then make a left turn on Roselle Street. Similarly, northbound bikers will make a right turn from Roselle Street to Sorrento Valley Boulevard cross railroad tracks, and make a left turn onto Sorrento Valley Road. The City of San Diego is currently studying the I-5 interchange with Roselle Street. Coordination will be required between this project and I-5/Roselle Street interchange Project Report to ensure that bike facilities are adequately addressed as part of that study.

The proposed alignment requires the addition of signage to the existing bike lane. The estimated cost to install additional signage is \$10,000.

3b: Roselle Street

The proposed alignment for Segment 3b, Roselle Street, is a 4200 foot Class II bike lane. It begins at Sorrento Valley Boulevard and travels southeast along Roselle Street. It terminates at

the cul-de-sac at the end of Roselle Street. This segment requires improvements to the existing roadway as well as signage and striping.

The existing Roselle Street alignment goes through two 90 degree turns south of the I-5 interchange. Trucks making right turns at these 90 degree turns may have difficulty avoiding encroachment on the proposed Class II bike lane. At the turn nearest the interchange, it appears that minor improvements can be made to provide additional buffer between the travel lane and bike lane. At the second 90 degree turn, located to the southwest of the first, additional right-of-way would be required to provide a buffer of separation between the bike lanes and motorized traffic. The additional right-of-way may have an impact on motor vehicle ingress to and egress from the existing buildings. This location warrants further review and a stop control sign may be required (Figure 8.2). In addition, possible modification to an existing box culvert may be required.

Existing street parking will remain unchanged, except for the portion of Roselle Street between and in the vicinity of the 90 degree turns. In this area, existing parking would have to be prohibited in order to allow adequate turning movement. The existing street is wide enough to accommodate two 12-foot travel lanes, two 8-foot parking lanes and two 4-foot bike lanes.

The construction cost to implement a Class II bike facility in this segment is estimated to be \$171,000.

Segment 4: Roselle Canyon and Towne Centre Drive

Segment 4, Roselle Canyon is divided into two subsegments. Segment 4a, Roselle Canyon Access Road requires the improvement of an existing access road as well the addition of signage and striping. Segment 4b, Roselle Canyon Bikeway has several possible alignment alternatives, each beginning at the City of San Diego Storage Yard and ending at Eastgate Mall. Alternatively, the trail can be routed through the ridge top next to Roselle Canyon and then to Towne Centre Drive. The alignments are discussed in detail below.

4a: Roselle Canyon Access Road

The proposed alignment for Segment 4a, Roselle Canyon Access Road, is a 1000 foot Class II bike lane. It begins at the Roselle Street cul-de-sac and travels west for 1000 feet to the Roselle Canyon Storage Yard operated by the City of San Diego. It requires the improvement of an existing access road and the addition of signage and striping.

The existing road is not wide enough to meet the width requirements necessary to implement a Class II bike lane; additional widening and small retaining walls together with right-of-way take will be required. However, this segment of the alignment has very little traffic, most of which belongs to City of San Diego storage yard operations. Maintaining a Class III bike route for this segment would have minimal impact, if any, to the users.

The construction cost to implement a Class II bike facility in this segment is estimated to be \$732,000.

4b: Roselle Canyon Bikeway

All proposed alignments for Segment 4b, Roselle Canyon Bikeway, connect Eastgate Mall with Roselle Street. The alignments begin at the Eastgate Mall (Sta 10+00, elevation 380), travel through Roselle Canyon and terminate at City of San Diego Storage Yard (Sta 69+70, elevation 116). Currently, a portion of the trail serves as a maintenance road for a sewer line, SDG&E utility poles and a SDG&E substation. The slope of the existing unpaved trail at times exceeds a 10% grade. The trail from the storage yard to Eastgate Mall climbs over 260 feet at an average grade of about 5.6%. The Caltrans HDM requirement is for a maximum grade of 5%. Significant grading will be required to bring this trail to HDM standards. In addition to grading, retaining walls and bridge structures would also be required. The proposed alignment alternatives either add embankment to reduce the existing grades or cut into the canyon hillside to create a “bench” for the bikeway. The various alignment studies to construct a Class I bike facility in Roselle Canyon are further described below and shown in Figures 8.3 – 8.6.

4b.1: Maximum Grade of 10% (2005)

This alignment was originally proposed in February of 2005 and is intended to cause the least amount of disturbance to the canyon. The existing trail through the canyon will be paved. Approximately 350 feet of the alignment has a grade of 10% and 1300 feet has a grade approaching 8%. Construction of minor retaining walls near Eastgate Mall will be required and separation of bikers from other trail users may be required. This alternative has minimal impact to the canyon, but does not meet the requirements of HDM. Design exceptions will be required for grades above 5%.

The construction cost of this alternative is estimated to be \$2,928,000 million.

4b.2: Maximum Grade of 7% with Landings (2007)

This alignment follows the same general route as Alternative 4b.1 through the canyon. However, it limits the maximum grade to 7% and provides landings at intervals of approximately 700 feet. The alignment was developed in January of 2007 to address the concerns of the advisory groups with respect to the 10% grades of alignment 4b.1. The alignment will require tall retaining walls with maximum exposed heights as high as 35 feet. Such significant embankment may require relocation of the existing sewer line and vertical and/or horizontal alignment changes to the utility poles and wires. Although the proposed grades does not meet the requirements of HDM and design exceptions will be required, the spacing of landings does meet the requirements of AASHTO’s Guide for Development of Bicycle Facilities.

The construction cost of this alternative is estimated to be \$10,509,000 million.

4b.3: Maximum Grade of 5% with Sharp Horizontal Curves

Alignment 4b.3 will cut a bench into the hillside and follow the contours of the existing topography. By staying along the hillside it is anticipated that the height of the retaining walls would be reduced, and that the alignment would not impact the existing sewer and franchise utility access roads. However, substandard horizontal curves would result from following the existing contour lines, resulting in tight turns which do not meet design standards. The minimum proposed curvature has a radius of 50 feet (15 mph design speed), compared to the required curve radius of 250 feet (30 mph design speed). This alternative also adds approximately 2000 feet to the overall length of the trail, caused by following the canyon contours. Although there will be added cost due to the length of trail, the grades will be milder than alternatives 4b.1 and 4b.2 (less than 5%).

The construction cost of this alternative is estimated to be \$13,338,000 million. This alternative is shown in Figure 8.3.

4b.4: Maximum Grade of 5% without Sharp Horizontal Curves

Alignment 4b.4 is similar to 4b.3, but curve radii have been increased to provide a design speed of 30 mph. The alignment has also been pulled slightly away from the hillside by increasing the fill walls and reducing some cut walls. A maximum grade of 5% can be achieved, but construction of bridges or tall retaining walls exceeding 35 feet in height would be required.

In order to reduce construction costs, an alternative to fill the canyons rather than bridge across them was studied and found to be more expensive than a bridge option. Due to the height of fill and length of some of the canyons, significant embankment would have been required. The option to fill the larger canyons is no longer being considered.

The construction cost of this alternative is estimated to be \$15,115,000 million. This alternative is shown in Figure 8.4.

4b.5: Maximum Grade of 5% with Minimum Amount of Cut Walls

Alignment 4b.5 is similar to 4b.3 and 4b.4. In this alternative, the alignment was pulled further away from the hillside, in order to reduce the amount of cut walls. Where possible, fill retaining walls were located at the bottom of the fill slopes in order to reduce their height. The maximum grade was limited to 5% through construction of bridges or tall retaining walls.

The option to fill the canyons rather than bridge across them was investigated and found to be less cost effective than bridging across the more significant canyons (again, due to amount of fill required to fill the larger canyons). The option to fill the larger canyons is no longer being considered.

The construction cost of this alternative is estimated to be \$13,696,000 million. This alternative is shown in Figure 8.5.

4b.6: Combination Class I and Unpaved Trail

Of the total length of Roselle Canyon alignment (6000 ft), approximately 3800 ft has existing grade of 5% or less. The remaining 2200 feet has grades ranging from 5% to 10%. Approximately 350 feet has a grade of 10% and 1300 feet has a grade approaching 8%. Grades at or below 5% begin at the northerly entrance to the canyon at the terminus of Roselle Access Road (Segment 4a) and continue southerly. Requirements for tall retaining walls and bridges can be avoided if Class I bike path is terminated at the point where grades increase beyond 5% (Sta 32+00). South of this limit, Class I bike path would terminate and a recreational unpaved trail would begin. The recreational trail can be improved with Class 2 aggregate base or decomposed granite. In the southbound (uphill) direction, signs can be posted on Roselle Street, warning users of the termination of Class I facility within the canyon. In the northbound (downhill) direction, Class I facility will not be signed at its entrance on Eastgate Mall. The combination of Class I bike path and recreational trail will provide an acceptable level of ride surface for the bicycle commuter community as well as for the recreational users, and at the same time, preserve the character of the canyon and reduce capital cost of the project. However, it would require additional maintenance.

The construction cost of this alternative is estimated to be \$1,663,000. An overview of this alternative is shown in Figure 8.6B.

4b.7: Combination Class I and Ramp

An alternative to alignment 4b.6 above would be to construct a ramp at the terminus of Class I facility within Roselle Canyon and then continue south toward Eastgate Mall at grade of approximately 5% (Fig. 8.6C). The ramp would be located at about 3200 feet north of Eastgate Mall (Sta 42+00, elevation 200), would have a length of about 1000 feet and would be ADA compliant. Due to the required number of landings, such a ramp will not meet the design requirements for a bicycle facility. Retaining walls will be required for almost the whole length from Eastgate Mall to Sta 42+00. The ramp would have to cross a canyon at Sta 32+00, the maximum height of retaining wall would reach 40 feet (fill condition). A total of 25,000 square feet of fill walls, and 6,000 square feet of cut walls will be required to construct the ramp and the continuation of class I facility south of the ramp to Eastgate Mall.

A variation of this alternative is to construct a switchback or helical ramp to take out most of the grade differential. In order not to impact the canyon in the vicinity of Sta 32+00, the ramp would be constructed south of this canyon. Such a ramp would rise for approximately 100 feet and then continue south at a grade of about 4%-5% as a Class I bike path. To the extent possible, the alignment could be benched into the hillside, but a significant length of retaining wall will still be required. The required amount of fill walls will be reduced to about 13000 square feet and the maximum height walls will be reduced to 20 feet. However, an ADA ramp rising vertically 100 feet will have significant visual impact.

The initial reason for analyzing this alternative was to determine if it could reduce the visual and other impacts to Roselle Canyon. With the alignment description noted above, it appears that between 2200 to 3200 feet of the canyon will be impacted by the this alternative.

The construction cost of this alternative is estimated to be \$6,198,000.

4c: Ridge Trail and Towne Centre Drive

Alignment 4c (see Fig 8.6D) avoids Roselle Canyon completely. It begins at the southerly terminus of Roselle Street with a switchback ramp structure that will connect with an existing trail and maintenance road on a hill top ridge that parallels I-805. The ramp will meet ADA requirements, but not design standards for a bike path. Along the ridge, the trail continues south, terminating in a private parking lot that connects to Towne Centre Drive. Then the bike path would continue as a Class II bike lane along Towne Centre Drive to its intersection with Eastgate Mall. Presently Towne Centre Drive has parking on both sides, a raised median, and has one lane in each direction until the approach to Eastgate Mall where it widens to two lanes in each direction. Where Towne Centre Drive becomes a 4 lane divided street, existing on street parking would have to be abandoned in order to accommodate Class II bike facility. Alternatively, should it be desirable to keep all existing on street parking, street widening and right of way impacts would have to be considered.

Approximately 250' of existing trail along the hilltop has a grade of 15%. Lowering the grade to a maximum of 5% would require retaining walls. This alternative would also require removal of parking spaces in the private parking lot to make room for a bike path through the parking lot.

The additional right of way impact to existing office building at the northerly terminus of Towne Centre Drive, grading along the ridge of existing hillside between Town Centre Drive and Roselle Street and removal parking spaces along Towne Centre Drive will cause impacts that cannot easily be mitigated. In addition, construction of a switchback ramp at the terminus of Roselle Street, with a total height of approximately 200 feet, will have significant visual impacts and will incur significant capital cost.

The construction cost for this alternative is estimated to be \$5,375,000.

Segment 5: Eastgate Mall and Judicial Drive

Segment 5 is a Class II bike lane along Eastgate Mall and Judicial Drive. Segment 5a, located along Eastgate Mall, requires improvements to the existing street. Segment 5b, located along Judicial Drive, is presently under construction. It may require additional signage. The segments are discussed in detail below.

5a1: Eastgate Mall (Class II)

The proposed alignment for Segment 5a, Eastgate Mall, is a 2600 foot Class II bike lane. It begins at the intersection of the Roselle Canyon alignment and Eastgate Mall. It travels east on Eastgate Mall and terminates at the intersection of Eastgate Mall and Judicial Drive. A push button signalized crossing is proposed at intersection of Roselle Canyon and Eastgate Mall in order prevent out of direction travel by bicyclists attempting to cross Eastgate Mall. The signal will be interconnected with that at Easter Way so as to minimize any impact to vehicular traffic.

Presently, Eastgate Mall has a Class II bicycle facility from Roselle Canyon to approximately halfway between Easter Way and Towne Centre Drive. At that point, the roadway narrows and the Class II facility changes to Class III facility and remains as such until about half way between Towne Centre Drive and Judicial Drive, at which point the Class II facility begins again.

This alignment alternative proposes to improve the whole alignment along Eastgate Mall to a Class II facility. This is a fully developed urbanized center and relocation of the curb line closer to the right of way will require the relocation of existing utilities. These include irrigation, waterline appurtenances, telecommunication lines and underground electric lines.

The construction cost to implement a Class II bike facility in this segment is estimated to be \$421,000.

5a.2: Eastgate Mall (Class I and Class II)

The proposed alignment for Segment 5a.2, Eastgate Mall (Class I and Class II), is similar to 5a.1 except that instead of utilizing a mid block signalized crossing to access eastbound bike lane on Eastgate Mall from southerly limits of Roselle Canyon, a 300 foot Class I bike path will be installed behind the existing sidewalk on the north side of Eastgate Mall west of Easter Way. Bicycles will be able to use the existing signal at Easter Way to cross Eastgate Mall and continue with the Class II until Judicial Drive.

The Class I bike path will require right of way take and relocation of existing facilities, along and behind the sidewalk. Figure 8.6E displays the proposed typical section for this alternative.

The construction cost to implement a Class I and Class II bike facility in this segment is estimated to be \$622,000.

5b: Judicial Drive

The proposed alignment for Segment 5b, Judicial Drive, utilizes the proposed 5200 foot Class II bike lane on Judicial Drive. A portions of this alignment is presently under construction. The alignment begins at the intersection of Eastgate Mall and Judicial Drive, then travels south on Judicial Drive to its intersection with Nobel Drive. The proposed alignment may require the addition of signage to the proposed bike lanes.

The estimated cost to install additional signage is \$7,000.

Segment 6: Rose Canyon

Segment 6 connects Judicial Drive to an existing Class I bike path at I-5/Gilman Drive interchange. Several existing Class II bike lanes in the University community area provide multiple possible alignments and access points. The segments are discussed in detail below. The segment is shown in Figure 8.7.

6a: Nobel Descent

The proposed alignment for Segment 6a, Nobel Descent, would establish a 3900 foot Class I bike path through the existing open space reserve south of the intersection of Judicial Drive with Nobel Drive. It begins at the above noted intersection and descends southwesterly, terminating at the existing fire access road located between Rose Canyon and the existing housing development. Although this is a challenging alignment, Class I standards will be adhered to in constructing the bike path. Significant grading will be required along this alignment. When necessary, retaining walls will be utilized to minimize grading impacts.

The construction cost to implement a Class I bike facility in this segment is estimated to be \$6,654,000 million.

6b: Fire Access Lane

The proposed alignment for Segment 6b, Fire Access Lane, requires minor improvements to an existing paved fire lane to establish a 1440 foot Class I bike path. It begins at the eastern edge of the housing complex (the terminus of the existing fire lane) and extends west to where the fire lane turns to meet Nobel Drive. It is expected that most of this alignment will be used in its present condition. Some minor widening may be required and some minor design exceptions may be needed to avoid excessive reconstruction of portions of the fire lane.

The construction cost to implement a Class I bike facility in this segment is estimated to be \$323,000.

6c: Fire Lane to Genesee Avenue

The proposed alignment for Segment 6c, Fire Lane to Genesee Avenue, requires the improvement of an existing graded SDG&E maintenance road to establish a 2080 foot Class I bike path. It begins at the junction of the fire lane and the graded maintenance road and travels west to Genesee Avenue. SANDAG has designed the Nobel Coaster Station in this vicinity; however, the project is currently on hold due to significant cost escalation. Other transit improvements in the University Towne Centre area may ultimately prove to be more cost effective than Nobel Coaster Station.

This segment of the alignment is generally level, with rolling grades that will not exceed Caltrans HDM requirements. However, crossing of existing drainage channels may require improvements beyond the limits of the roadway bed.

The construction cost to implement a Class I bike facility in this segment is estimated to be \$1,745,000 million.

6d: *Rose Canyon Maintenance Road*

The proposed alignment for Segment 6d, Rose Canyon Maintenance Road, requires the improvement of the existing graded maintenance road to create a 9900 foot Class I bike path. Presently, the maintenance road is being used by the City of San Diego and SDG&E. It begins at Genesee Avenue and follows the unpaved access road through the canyon to the I-5/Gilman Drive interchange. This end point would link the Class I bike path with the existing Class I bike path along I-5 and Class II bike lanes on Gilman Drive. Due to the steepness of terrain at certain locations, three bridge crossings are proposed along this alignment. Retaining walls will also be required intermittently along the alignment. The maximum height of walls will be 25 feet. The alignment will meet the requirements of the Caltrans HDM for Class I bicycle facilities and provide access to existing Class II facilities along its route. These alternate access points to the CRT are described in alignments 6f, 6g and 6h.

The construction cost to implement a Class I bike facility in this segment is estimated to be \$7,884,000 million.

6e.i: *Nobel Drive (Class I)*

The Nobel Drive (Class I) alternative provides a Class I bike facility parallel to and south of the southerly sidewalk on Nobel Drive and will use the existing sewer access easement (alignment 6f) as the primary access route to Rose Canyon. The Class I bike facility will begin at Towne Centre Drive and extend easterly to Judicial Drive. Crossing of Nobel Drive can occur at existing signalized intersections at Towne Centre Drive, Shoreline Drive and Judicial Drive. The existing Class II bike facility on Nobel Drive will remain, as will most of the curb line on Nobel Drive. The only reconstruction of existing curb, gutter and sidewalk along Nobel Drive will occur at southeasterly curb return of Nobel Drive and Towne Centre Drive intersection and easterly from this intersection for about 300 feet. The sidewalk along the south side of Nobel Drive will be separated from the Class I bike facility by railing. Where there is an existing metal beam guardrail (MBGR) behind the southerly sidewalk along Nobel Drive, the railing will be constructed behind the MBGR, in order to avoid its reconstruction. To minimize construction impacts, the alignment will transition around existing street lights and overhead signs. There will be limited right of way impacts at the intersection of bike route with Towne Center Drive and at Shoreline Drive, where sidewalk access to an existing clubhouse will be modified. In order to limit right of way impacts along the existing apartments at Towne Centre Drive, a cut retaining wall will be constructed. Westerly of the apartments, fill retaining walls will be constructed as necessary, in order to avoid construction of embankment down toward Rose Canyon. Figure 8.7B displays the alignment and the proposed typical section for this alternative.

The construction cost to implement a Class II bike facility in this segment along Nobel Drive and to construct a Class I bike facility behind the southerly sidewalk of Nobel drive is estimated to be \$1,649,000.

6e.ii: Nobel Drive (Class II)

Existing Nobel Drive Class II bike lanes provides two additional alternate access routes to Rose Canyon. The first possible alternate point of access would be at an existing sewer maintenance access road that is located along the south side of Nobel drive, between Towne Centre Drive and Shoreline Drive (Segment 6f). The second possible access point would be at Genesee Avenue (Segment 6g).

Minor upgrade to the existing 3200 foot Class II bike lane on Nobel Drive will be required. It would work best in conjunction with construction of the Nobel Coaster Station. The plans for the Coaster Station include the installation of a traffic signal at the station entrance on Nobel Drive, permitting crossing of Nobel Drive for pedestrian and bicycle facility users. Without the construction of Nobel Coaster Station and its associated traffic signal, CRT users may have to access Rose Canyon by performing a U-turn at Towne Centre Drive, so as to gain access to the sewer access easement (alternative 6f)

The construction cost to implement a Class I bike facility in this segment (not including the cost of a traffic signal) is estimated to be \$5,000.

6f: Sewer Access Easement

The proposed alignment for Segment 6f, Sewer Access Easement, would connect Nobel Drive with Rose Canyon, just east of Genesee Avenue. It would require the improvement of an existing graded access road to create a 960 foot Class I bike path, beginning at Nobel Drive and descending the sewer easement into Rose Canyon. Portions of the existing maintenance road are at a grade steeper than 5%. Minor re-grading of this access road would be required to conform with Caltrans HDM requirements. Without the traffic signal noted above in Segment 6e.ii, this alignment could operate as a secondary access to Rose Canyon.

The construction cost to implement a Class I bike facility in this segment is estimated to be \$326,000.

6g: Genesee Avenue Access to Rose Canyon

The proposed alignment for Segment 6g, Genesee Avenue Access to Rose Canyon, would provide 340 feet of Class I bike paths as secondary access ramps on the east and west sides of Genesee Avenue where it crosses Rose Canyon. These access points would connect the existing Class II bike lanes on Genesee Avenue with Rose Canyon. Due to steep grades and short lengths, portions of this access point may require design exceptions.

It would be possible to use this segment as a primary access point to Rose Canyon by utilizing the existing Class II bike lanes on Nobel Drive and Genesee Avenue. However, this would require some out of direction westerly travel along Nobel Drive to Genesee Avenue and then southerly

travel from the intersection of Nobel Drive and Genesee Avenue down to the Genesee Avenue overpass at Rose Canyon.

The construction cost to implement a Class I bike facility in this segment is estimated to be \$79,000.

6h: Regents Road Access to Rose Canyon

The proposed alignment for Segment 6h connects Regents Road to Rose Canyon. This connection would provide 1000 feet of Class I bike paths on the east and west sides of Regents Road where it meets Rose Canyon. Presently, the portion of Regents Road near Rose Canyon is not on the Regional Bike Circulation. With CRT improvements and the proposed Regents Road Bridge, the bicycle facility on Regents Road could be extended to Rose Canyon and beyond.

The construction cost to implement a Class I bike facility in this segment is estimated to be \$81,000.

5.3 PREVIOUS ALIGNMENT STUDIES

Parsons Brinkerhoff (PB) developed alignments to connect the junction of Sorrento Valley Road and Sorrento Valley Boulevard to Eastgate Mall in 2001. This study area is similar to the combined area of URS Segments 3b, 4a and 4b. Parsons Brinkerhoff studied three possible alternative alignments to establish a bikeway between the junction of Sorrento Valley Road and Carmel Mountain Road and the end of Roselle Street, and a single alternative through Roselle Canyon, terminating at Eastgate Mall. The study also proposed an alternative alignment which utilize the existing Class II bike lanes and require establishment of a separate Class I bike path parallel to the northbound side of I-5. The alignments have been renumbered for easy comparison with the alignments studied by URS. Cost data from this study is imported directly from that report and are presumed to represent cost data from 2001. Hence, most cost data from the two studies are not directly comparable. However, Alternative 2 of that report has been updated to 2006 cost data in order to allow direct comparison to the new alignments. (Alternative 2 investigated an alignment paralleling I-5, rather than going through Roselle Canyon.)

PB Segment 3b: Sorrento Valley Boulevard – Roselle Street (Alternative 1)

The PB Segment 3b begins at the intersection of Sorrento Valley Road and Sorrento Valley Boulevard and ends at Eastgate Mall. All alternatives have similar start and end points as the combined URS Segments 3b, 4a and 4b.

3b: Sorrento Valley Road (Alternative 1a – South of Trestle)

This alignment alternative would establish a Class I bike path along the south side of the existing railroad tracks. The bikeway would cross Sorrento Creek and then cross the railroad tracks via a bridge just south of the existing wooded trestle. It would then proceed along the base of the bluff fronting an undeveloped parcel and the railroad right-of-way, ending at the Roselle Street cul-de-sac. The alignment would then follow the existing sewer easement through Roselle Canyon and end at Eastgate Mall. The

estimated construction cost of this alternative was \$4.1 million. (The original study number was Alternative 1A and is shown in Figure 8.8)

3b: Sorrento Valley Road (Alternative 1b – North of Trestle)

This alignment alternative follows that of Alternative 1a, but crosses Sorrento Creek and the railroad tracks to the north of the existing wood trestle. It would then turn west and travel along property lines, turning south just before intersecting Roselle Street and then following around Roselle Street to the cul-de-sac at the end of Roselle Street. The alignment would then follow the existing sewer easement through Roselle Canyon and end at Eastgate Mall. The estimated construction cost of this alternative was \$5.9 million. (The original study number was Alternative 1B and is shown in Figure 8.9.)

3b: Sorrento Valley Road (Alternative 1c – Roselle Street Class II)

This alignment alternative would establish a Class II bike lane along Sorrento Valley Boulevard and Roselle Street, crossing the railroad tracks at grade. This alignment is the most similar to the combined URS alignments 3b, 4a and 4b. The estimated construction cost of this alternative was \$2.4 million. (The original study number was Alternative 1C and is shown in Figure 8.10.)

PB Segment 3b-4a-4b: Sorrento Valley Road – Genesee Avenue (Alternative 2)

The proposed alignment would establish a combination Class I and Class II bikeway. It would begin at the intersection of Sorrento Valley Road and Sorrento Valley Boulevard, crossing the railroad tracks at grade on Sorrento Valley Boulevard, then traveling on Roselle Street to the beginning of a Class I bikeway located along the east side of I-5. The alignment, separated from I-5 by a protective barrier would proceed along the east side of I-5 to the Genesee Avenue off-ramp. An at-grade roadway crossing on Genesee Avenue would be required. The conceptual plans do not address how this crossing of Genesee Avenue could function. The estimated cost of this alternative was \$4 million. (The original study number was Alternative 2 and is shown in Figure 8.11.)

5.4 ALIGNMENT ALTERNATIVE MATRIX

Table 2. Alignment Alternative Matrix

Segments	Description of Segment/Alternative	Description of Existing Facilities in Segment	Considerations and Options for Segment/Alternative	Engineering Improvements	Proposed Segment Cost
SEGMENT 1: Carmel Valley Road					
Segment 1 Carmel Valley Road	Class II – 6300 feet From Camino Del Mar to Sorrento Valley Road.	Part of current road widening project. Connects to Del Mar portion of CRT at northern terminus.	This segment connects to existing Del Mar portion of the CRT.	None.	None.
SEGMENT 2: Sorrento Valley Road					
Segment 2 Sorrento Valley Road	Class I – 3800 feet From Carmel Valley Road to Pump Station 65. Class II – 2400 feet From Pump Station 65 to Carmel Mountain Road.	Paved roadway closed to through traffic. Paved roadway open to through traffic.	May be possible to implement a Class III bike route instead of a Class II bike lane for the last 2400 feet of the segment due to low traffic volume.	No improvements required for the Class I portion. Items of work for Class II Improvements: <ul style="list-style-type: none"> • Minor Earthwork • AC Pavement • Fencing • Striping & Signing • Drainage Improvements • Water Pollution Control Measures • Landscaping 	\$658,000
SEGMENT 3: Sorrento Valley Road and Roselle Street					
Segment 3a Sorrento Valley Road and Boulevard	Class II – 7400 feet Sorrento Valley Road from Carmel Mountain Road to Sorrento Valley Boulevard., then along Sorrento Valley Boulevard to Roselle Street.	Class II bike lane is already established. Segment connects to the Sorrento Valley Coaster Station.	Bike travel along Sorrento Valley Boulevard portion will be challenging; southbound bikers would be required to make a left turn at Roselle Street. City of SD is currently studying the I-5/Roselle Street interchange; coordination with that project will be required. Connection to the Coaster Station meets connection to transit goals of CRT.	Items of Work: <ul style="list-style-type: none"> • Signage 	\$10,000

Segments	Description of Segment/Alternative	Description of Existing Facilities in Segment	Considerations and Options for Segment/Alternative	Engineering Improvements	Proposed Segment Cost
Segment 3b Roselle Street	Class II – 4200 feet From Sorrento Valley Boulevard to cul-de-sac.	Existing paved road with on-street parking.	<p>Alignment has two 90 degree turns. Trucks making right hand turns may encroach on a Class II bike lane. Would require engineering improvement, possible right-of-way and prohibition of parking between turns.</p> <p>With exception of portion between two turns, the existing street is wide enough to accommodate two 12 foot lanes, two 8 foot parking lanes and two 4 foot bike lanes.</p> <p><i>Additional Alignment Alternatives for bike travel for this segment were studied in 2001 and are provided in the summary of the Parsons/Brickerhoff alignments.</i></p>	<p>1st 90 degree turn (nearest I-5 interchange). Minor improvements are needed to provide additional buffer between travel lane and bike lane.</p> <p>2nd 90 degree turn (southwest of 1st). Additional right-of-way required to provide additional buffer. May have impact on operation of existing buildings. Stop control sign may be required. Warrants further review.</p> <p>Roadway to north and south of turn segment would require minor roadway improvements as well as signage and striping.</p> <p>Items of Work:</p> <ul style="list-style-type: none"> • Striping & Signing • Possible Modification to Existing Box Culvert 	\$171,000
SEGMENT 4: Roselle Canyon					
Segment 4a Roselle Canyon Access Road	Class II – 1000 foot From the cul-de-sac to City of San Diego Storage Yard.	Existing paved driveway to one commercial building and City of San Diego Storage Yard.	<p>Existing road is not wide enough to meet width requirements for a Class II lane.</p> <p>May be possible to implement a Class III bike route instead of a Class II bike lane due to low traffic volume.</p>	<p>Items of work:</p> <ul style="list-style-type: none"> • Minor Earthwork • Landscaping • AC Pavement • Small Retaining Wall • Striping & Signing 	\$732,000
Segment 4b Roselle Canyon Bikeway	Class I – Various Lengths From Roselle Canyon Storage Yard to Eastgate Mall. Alternatives follow existing trail through canyon or cut into hillside.	<p>Canyon contains an unpaved maintenance access road for a sewer line and SDG&E utility poles and substation. The canyon is also used for recreational activities.</p> <p>Slope of the existing unpaved trail at times exceeds a 10% grade.</p> <p>Trail from the storage yard to Eastgate Mall climbs over 260 feet at an average grade of about 5.6%.</p> <p>Canyon hillside has sharp curves.</p>	Caltrans HDM requirement is for a maximum grade of 5%; significant engineering improvements and design exceptions would be required.	Pave trail, significant grading, retaining walls and bridge structures (alternative dependent).	\$1.7 million - \$15.1 million

SECTION FIVE

Alternative Alignments

Segments	Description of Segment/Alternative	Description of Existing Facilities in Segment	Considerations and Options for Segment/Alternative	Engineering Improvements	Proposed Segment Cost
Alternative 4b.1 Maximum Grade of 10%	Class I - 6000 feet Canyon floor alignment. Pave existing canyon trail to extent possible.	See 4b above.	Grades exceed Caltrans HDM design standards of 5% for long portions of segment. 350 feet of alignment would have grade of 10% and 1300 feet would have grade approaching 8%. Only minor retaining walls required (near Eastgate Mall), separation of bikers and other recreational users may be required.	Items of Work: <ul style="list-style-type: none"> • Bikeway Grading • Striping & Signing • Fencing • AC Paving • Retaining Walls • Bridge Structures • Drainage Improvements • Landscaping • Water Pollution Control Measures • Environmental Mitigation 	\$2,928,000
Alternative 4b.2 Maximum Grade of 7% with Landings	Class I - 6930 feet Raise existing canyon floor to provide maximum grade of 7% with some landings. Pave existing canyon trail to extent possible.	See 4b above.	Limits maximum grade to 7% and provides landings at intervals of approx. 700 feet, addressing grade problems. Requires tall retaining walls with maximum exposed heights of 35 feet. Large amount of embankment required for retaining walls. May require relocation of existing sewer line and vertical and/or horizontal changes to the utility poles and wires.	Items of Work: <ul style="list-style-type: none"> • Significant Imported Material • Striping & Signing • Fencing • AC Pavement • Significant Retaining Walls • Bridge Structures • Drainage Improvements • Significant Utility Relocation • Landscaping • Water Pollution Control Measures • Environmental Mitigation 	\$10,500,000
Alternative 4b.3 Maximum Grade of 5% with Sharp Horizontal Curves	Class I - 9020 feet Hillside alignment. Cut bench into hillside and follow contours of existing topography.	See 4b above.	Following existing contour lines results in tight turns and additional length. Minimum proposed curvature has radius of 50 feet (15 mph design speed); Caltrans HDM requires 250 feet (30mph design speed). Following contour lines adds approximately 2000 feet to trail length. Alternative meets 5% grade requirement, height of retaining walls are reduced, and does not impact existing sewer and utility roads or infrastructure.	Items of Work: <ul style="list-style-type: none"> • Significant Excavation • Striping & Signing • Fencing • AC Pavement • Significant Retaining Walls • Bridge Structures • Drainage Improvements • Some Utility Relocation • Landscaping • Water Pollution Control Measures • Environmental Mitigation 	\$13,338,000

SECTION FIVE

Alternative Alignments

Segments	Description of Segment/Alternative	Description of Existing Facilities in Segment	Considerations and Options for Segment/Alternative	Engineering Improvements	Proposed Segment Cost
Alternative 4b.4 Maximum Grade of 5% without Sharp Horizontal Curves	Class I - 7820 feet Hillside alignment. Same as Alternative 4b.3, but pull bench slightly away from hillside to provide a more balanced cut and fill retaining wall.	See 4b above.	Alignment is pulled away from hillside by increasing fill wall heights and reducing some cut wall heights. Bridges are used to reduce the need to construct tall retaining walls (height exceeding 38 feet would be required). Meets Caltrans HDM requirements. Pulling away from hillside increases curve radii. Maximum grade of 5%.	Items of Work <ul style="list-style-type: none"> • Significant Grading • Striping & Signing • Fencing • AC Pavement • Significant Retaining Wall in Cut and Fill • Bridge Structures • Drainage Improvements • Some Utility Relocation • Landscaping • Water Pollution Control Measures • Environmental Mitigation 	\$15,115,000
Alternative 4b.5 Maximum Grade of 5% with Minimum Amount of Cut Walls	Class I - 7820 feet Hillside alignment. Use predominantly fill retaining wall on the west side of the trail, grade to existing surface along the east side of trail.	See 4b above.	Alignment is pulled further away from hillside. Where possible fill retaining walls were located at bottom of fill slopes to reduce height. Bridges used to reduced need to construct tall retaining walls (height exceeding 38 feet would be required). Meets Caltrans HDM requirements. Pulling away from hillside increases curve radii. Maximum grade of 5%.	Items of Work: <ul style="list-style-type: none"> • Significant Grading • Striping & Signing • Fencing • AC Pavement • Significant Retaining Wall • Bridge Structures • Drainage Improvements • Some Utility Relocation • Landscaping • Water Pollution Control Measures • Environmental Mitigation 	\$13,969,000
Alternative 4b.6 Combination of Class I and Unpaved Trail	Class I : 3800 feet, Unpaved Trail: 2200 feet Class I facility where existing grades are 5% or less, thence unpaved trail using Class 2 base or decomposed granite.	See 4b above	Termination of Class I in the middle of the canyon is unconventional and may not have the required public support. Bridge and retaining wall costs will be eliminated. Maintenance cost of unpaved segments may become unacceptable.	Items of Work: <ul style="list-style-type: none"> • Minor Grading • Striping and Signing • AC Pavement • Drainage Improvements • Minor Utility Impacts • Landscaping • Water Pollution Control Measures • Environmental Mitigation 	\$1,663,000

SECTION FIVE

Alternative Alignments

Segments	Description of Segment/Alternative	Description of Existing Facilities in Segment	Considerations and Options for Segment/Alternative	Engineering Improvements	Proposed Segment Cost
Alternative 4b.7 Combination Class I and Ramp	Class I: 5100 feet, Ramp: 1200 feet Class I along bottom of canyon, then, ramp up and cut a bench along hillside and continue Class I to Eastgate Mall	See 4b above	Significant ramp is required. Visual impact and cost would be significant. Hike up the ramp would be significant (even with ADA compliance). Cut bench along the canyon crossing of canyon at Sta 32+00 will require walls.	Items of Work: <ul style="list-style-type: none"> Significant ramp structure Significant Grading Signing and Striping Fencing AC Pavement Minor retaining walls (up to 15') Bridge structures Drainage Improvements Utility Improvements Landscaping Water Pollution Control Measures Environmental Mitigation 	\$6,198,000
Alternative 4c Ridge Trail and Towne Centre Drive	Class I: 1700 feet, Class II: 3250 feet, Ramp 2700 feet Ramp at end of Roselle Street to access the hilltop ridge, follow hilltop ridge, then through private parking lot and Class II on Towne Centre Drive to Eastgate Mall	See 4b above	Significant ramp structure is required, although it would not be located within Roselle Canyon Some impact to private parking facilities as well as to on street parking stalls. Right of way is required. Existing maintenance road at the hilltop ridge has a slope of 15%. Hence retaining walls would be required.	Items of Work: Significant ramp structure Grading Signing and Striping Minor Retaining Walls AC Pavement Private Property Improvements Landscaping Water Pollution Control Measures	\$5,375,000
SEGMENT 5: Eastgate Mall and Judicial Drive					
Segment 5a1: Eastgate Mall	Class II – 2600 feet From Roselle Canyon alignment to Judicial Drive.	Eastgate Mall has two Class II facilities separated by one Class III. Class II - Roselle Canyon to approximately halfway between Easter Way and Towne Centre Drive. Class III – From Easter Way/Towne Centre Drive point to approximately halfway between Towne Centre Drive and Judicial Drive. Class II – From Towne Centre Drive/Judicial Drive point to Judicial Drive. Segment is a fully developed urbanized center with existing utilities.	Intent is to improve entire alignment to Class II facility. Will require widening of roadway in Class III portion, relocating curb line closer to the right-of-way, resulting in relocation of existing utilities (includes irrigation, waterline appurtenances, telecommunications lines, and underground electric lines.) To avoid out of direction travel by bicyclists, a push button signalized crossing is proposed at the intersection of Roselle Canyon alignment with Eastgate Mall. Signal would be interconnected with signal at Easter Way to minimize impact on traffic.	Items of Work: <ul style="list-style-type: none"> Demolition Utility Relocation Roadway Widening Striping & Signing Landscaping Signalized Crossing 	\$421,000

SECTION FIVE

Alternative Alignments

Segments	Description of Segment/Alternative	Description of Existing Facilities in Segment	Considerations and Options for Segment/Alternative	Engineering Improvements	Proposed Segment Cost
Segment 5a2: Eastgate Mall (Class I & II)	Class I: 300 feet Roselle Canyon to Easterway Class II: 2300 feet, Easter Way to Judicial Drive	See 5a1 above.	Construct a Class I facility from southerly limits of Roselle Canyon to Easterway. Then follow alignment 5a1 above to Judicial Drive. Additional right of Way would be required.	Items of Work: <ul style="list-style-type: none"> • AC Pavement • Fencing • Demolition • Utility Relocation • Roadway Widening • Striping & Signing • Landscaping 	\$622,000
Segment 5b Judicial Drive	Class II – 5200 feet From Eastgate Mall to Nobel Drive.	Class II bike lane on Judicial Drive is currently under construction.	May require additional signage.	Additional signage.	\$7,000
SEGMENT 6: Rose Canyon					
Segment 6a Nobel Descent	Class I – 3900 feet Path begins at intersection of Judicial Drive and Nobel Drive then descends southwesterly, terminating at the fire access lane between Rose Canyon and the existing housing development.	Open space preserve.	Slope of alignment will require significant grading. Some grading may be eliminated by using retaining walls. This segment requires construction of Segments 6b, 6c, and 6d.	Items of Work: <ul style="list-style-type: none"> • Significant Grading • Striping & Signing • Fencing • AC Pavement • Retaining Wall • Drainage Improvements • Landscaping • Water Pollution Control Measures • Environmental Mitigation 	\$6,654,000
Segment 6b Fire Access Lane	Class I – 1440 feet Fire access lane from its start at the eastern edge of the housing complex to where it turns west to meet Nobel Drive.	Paved fire access road.	Expected that most of alignment can be used in present condition. Minor widening may be required and minor design exceptions may be needed. Coordination with Fire Department is required. This segment requires construction of Segments 6a, 6c, and 6d.	Items of Work: <ul style="list-style-type: none"> • Striping & Signing • Possible Roadway Widening • Landscaping • Fencing • Water Pollution Control Measures • Environmental Mitigation 	\$323,000
Segment 6c Fire Lane to Genesee Avenue	Class I – 2080 feet Graded SDG&E maintenance road from its intersection with the fire lane to Genesee Avenue.	Graded, unpaved maintenance road with drainage channels.	SANDAG has designed a Coaster station in this area, but the project is on hold. Alignment is generally level, grades not exceeding 5%. Crossing existing drainage channels may require additional improvements. This segment requires construction of Segments 6a, 6c, and 6d.	Items of Work: <ul style="list-style-type: none"> • Grading • Striping & Signing • AC Pavement • Retaining Wall • Drainage Improvements • Landscaping • Fencing • Water Pollution Control Measures • Environmental Mitigation 	\$1,745,000

SECTION FIVE

Alternative Alignments

Segments	Description of Segment/Alternative	Description of Existing Facilities in Segment	Considerations and Options for Segment/Alternative	Engineering Improvements	Proposed Segment Cost
Segment 6d Rose Canyon Maintenance Road	Class I – 9900 feet Graded SDG&E/City of San Diego maintenance road from Genesee Avenue through the Canyon to the Gilman/ I-5 junction to the existing Class I bike facility in the railroad alignment.	Graded, unpaved maintenance road with sections of steep terrain.	The steepness of terrain will require three bridges along the alignment, as well as the intermittent placement of retaining walls. Access to this segment requires construction of at least one of the following: Segments 6a, 6b, 6c; Segments 6e and 6f ; or Segment 6g (utilizes existing Class II lanes on Nobel and Genesee) Alternate access points and connections to existing Class II facilities are provided by segments 6e-f, and 6g.	Items of Work: <ul style="list-style-type: none"> • Bikeway Grading • Striping & Signing • Fencing • AC Pavement • Retaining Walls • Bridge Structures • Drainage Improvements • Landscaping • Water Pollution Control Measures • Environmental Mitigation 	\$7,884,000
Segment 6e.i: Nobel Drive (Class I)	Class I – 5150 feet Construct along south side of Nobel Drive, south of the southerly sidewalk.	Existing Class II bike lanes.	Eastbound Class II facility could be eliminated and southerly curb line could be moved about 3 feet north. Where right of way constraints dictate, bike lane width will be reduced to 8'. Existing MBGR is located at the back of sidewalk. Ideally, this should be located at the curb line. Should additional funds become available, this situation should be corrected.	Items of Work: <ul style="list-style-type: none"> • Earthwork • Retaining Walls • Curb, Gutter and Sidewalk Reconstruction • Signing and Striping, Including Reconstruction of Private Signs • Fencing • Private Walkway Access Improvements • Water Pollution Control Measures • Minor Visual Impacts Due to Small Retaining Walls 	\$1,649,000
Segment 6e.ii Nobel Drive	Class II – 3200 feet From Judicial Drive to sewer maintenance access road between Towne Center Drive and Shoreline Drive.	Existing Class II bike lanes.	If 6e is the primary access point then a traffic signal should be constructed. A Coaster Station proposed for this location is currently on hold due to cost. The construction of a coaster station would result in a traffic signal, permitting safe crossing of Nobel Drive. This segment requires the construction of segments 6d and 6f. If segments 6a-c are also constructed, a traffic signal may not be needed at this location.	Item of Work: <ul style="list-style-type: none"> • Striping and Signage 	\$5,000
Segment 6f Sewer Access Easement	Class I – 960 feet Existing graded sewer access road from Nobel Drive into Rose Canyon.	Existing sewer maintenance access road. Road grade exceeds 5%.	Minor grading of the road would be needed to meet Caltrans HDM grade design standards. This segment requires the construction of 6d.	Items of Work: <ul style="list-style-type: none"> • Striping & Signing • AC Pavement • Landscaping • Fencing • Water Pollution Control Measures • Environmental Mitigation 	\$326,000

SECTION FIVE

Alternative Alignments

Segments	Description of Segment/Alternative	Description of Existing Facilities in Segment	Considerations and Options for Segment/Alternative	Engineering Improvements	Proposed Segment Cost
Segment 6g Genesee Avenue Access to Rose Canyon	Class I – 340 feet Short access ramps on the east and west sides of Genesee Avenue at Rose Canyon.	Existing Class II bike lanes on Genesee Avenue. Steep slopes from Genesee Avenue into Rose Canyon.	Steep slopes may require design exceptions. This segment requires construction of 6d. It could serve as the primary access point for segment 6d by utilizing existing Class II bike lanes on Nobel Drive to the existing lanes on Genesee Drive to the access point.	Items of Work: <ul style="list-style-type: none"> • Earthwork • AC Pavement • Landscaping • Striping & Signing • Fencing • Water Pollution Control Measures • Environmental Mitigation 	\$79,000
Segment 6h Regents Road Access to Nobel Canyon	Class I – 1000 feet Short access ramps on the east and west sides of Regents Road at Rose Canyon.	Existing unpaved trails.		Items of Work: <ul style="list-style-type: none"> • Earthwork • AC Pavement • Landscaping • Striping & Signing • Fencing • Water Pollution Control Measures • Environmental Mitigation 	\$81,000

SECTION 6 CONSTRUCTION COST ESTIMATE

This is a conceptual level cost estimate based on the 2006 Caltrans Cost Data book. PB’s Alternative 2 has been updated with the 2006 Caltrans Cost Data book. All other costs for PB are presumed to be from the 2001 Caltrans Cost Data book. PB costs are adequate for comparison to themselves and are found in Section 5.3.

Table 6.3 Cost Summary

Segment	Cost
Segment 1: Carmel Valley Road	\$ -
Segment 2: Sorrento Valley Road	\$658,000
Segment 3a: Sorrento Valley Road and Boulevard	\$10,000
Segment 3b: Roselle Street	\$171,000
Segment 4a: Roselle Canyon Access Road	\$732,000
Segment 4b: Roselle Canyon Alternate 1	\$2,928,000
Segment 4b: Roselle Canyon Alternate 2	\$10,500,000
Segment 4b: Roselle Canyon Alternate 3	\$13,338,000
Segment 4b: Roselle Canyon Alternate 4	\$15,115,000
Segment 4b: Roselle Canyon Alternate 5	\$13,969,000
Segment 4b: Roselle Canyon Alternate 6	\$1,663,000
Segment 4b: Roselle Canyon Alternate 7	\$6,198,000
Segment 4c: Towne Centre Drive	\$5,375,000
Segment 5a: Eastgate Mall Alternate 1	\$421,000
Segment 5a: Eastgate Mall Alternate 2	\$622,000
Segment 5b: Judicial Drive	\$7,000
Segment 6a: Nobel Descent	\$6,654,000
Segment 6b: Fire Access Lane	\$323,000
Segment 6c: Fire Lane to Genesee Avenue	\$1,745,000
Segment 6d: Rose Canyon Maintenance Road	\$7,884,000
Segment 6e: Nobel Drive Alternate i	\$1,649,000
Segment 6e: Nobel Drive Alternate ii	\$5,000
Segment 6f: Sewer Easement Maintenance Road	\$326,000
Segment 6g: Genesee Avenue Access to Rose Canyon	\$79,000
Segment 6h: Regents Road Access to Rose Canyon	\$81,000
Total Coastal Rail Trail Construction Cost (2006)	\$15,028,000
Mobilization (10%)	\$1,502,800
Total Cost (2006)	\$16,530,800
Total Cost (2008) (Escalated 5% Per Yr)	\$18,225,207

Some of the above alignments are alternatives of each other. Hence, the probable construction cost will not be the summation of all of the above. In an attempt to determine a construction cost estimate for this project, some of the more cost effective alternatives have been highlighted. The construction cost noted, is the summation of the highlighted alternatives. At this time, these alignments have neither been reviewed nor approved by stakeholders. In addition, significant design exception approvals will be required for some of the highlighted alternatives. Depending on the exact alignment alternative chosen, the probable construction cost estimate could increase by as much as 100% or more.

SECTION 7 RECOMMENDED FOLLOW UP ALIGNMENT STUDIES

A Project Report may be required for this project. Development of Project Report may require a more detailed study of one or more of the proposed alignment alternatives. Requirements of a Project Report is spelled out in Caltrans Project Development Procedures Manual (PDPM). In addition to the requirement of PDMP, the following studies should be undertaken:

- Due to possibility of significant retaining walls along various alignments, a Retaining Wall Type Selection Study may be beneficial to this project.
- Proposed alignment along I-5 and improvement to I-5 interchange at Genesee Avenue should consider the requirements of CRT. Construction cost estimate for the I-5 alignment requires design exceptions. In addition, the study did not address how the bicyclist would cross Genesee Avenue.
- Proposed improvements to I-5 interchange at Roselle/Sorrento Valley Boulevard should take into account the needs of CRT
- Acceptability of Class III Bike Route along certain portions of CRT that convey low traffic volumes. Presently, there are three locations along the alignment with Class III bike facilities. These are located on Sorrento Valley Road, Roselle Canyon Access Road and on Eastgate Mall. Sorrento Valley Road and Roselle Canyon Access Road have very low traffic volumes. It is recommended that these two locations be reviewed for acceptability of a Class III bike facility. Any widening of Sorrento Valley Road may have environmental impacts to Penasquitos Lagoon, and widening of Roselle Canyon Access Road would require property take that may impact the existing parking stalls of a commercial building
- Determination of level of lighting requirements for CRT. The additional lighting cost has not been included in the construction cost estimates presented in this report.
- Determination of pavement type for CRT.

SECTION 8 PLAN AND PROFILE SHEETS

- 8.1 Segment Map
- 8.2 Roselle Street Localized Widening
- 8.3 Roselle Canyon Study 2007 Alternate 1
- 8.4 Roselle Canyon Study 2007 Alternate 2
- 8.5 Roselle Canyon Study 2007 Alternate 3
- 8.6 Roselle Canyon Segment: Plan and Profile
- 8.6b Roselle Canyon Segment 4b, Alternative 4b.6
- 8.6c Roselle Canyon Segment 4b, Alternative 4b.7
- 8.6d Roselle Canyon Segment 4, Alternative 4c
- 8.6e Eastgate Mall Segment 5a, Alternative 5a.2
- 8.7 Rose Canyon Segment: Plan and Profile
- 8.7b Nobel Drive Segment 6, Alternative 6e.i
- 8.8 Sorrento Valley Bikeway: Alternative 1A
- 8.9 Sorrento Valley Bikeway: Alternative 1B
- 8.10 Sorrento Valley Bikeway: Alternative 1C
- 8.11 Sorrento Valley Bikeway: Alternative 2

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LEGEND

- Segment Breaklines
- Preliminary Alignment
- ▨ Railroads

URS

SOURCES:
 AirPhotoUSA (aerial image Jan. 2005);
 Sandag (road labels 2006).

1500 0 1500 3000 Feet
 SCALE: 1" = 3000' (1:36,000)

**SEGMENT MAP
 COASTAL RAIL TRAIL**

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PM: AL	PROJ. NO: 27684013.01400	8.1

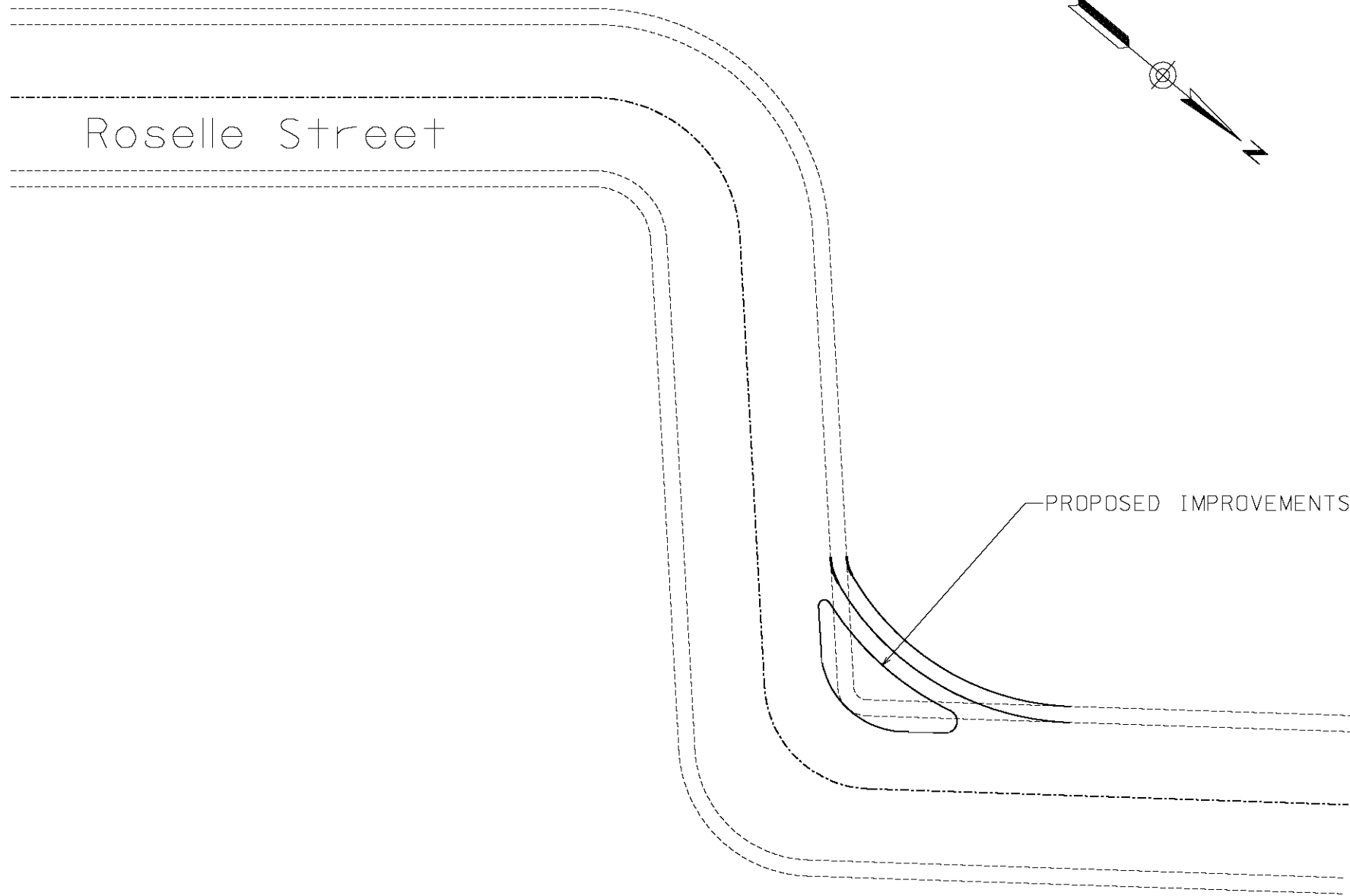


FIGURE 8.2

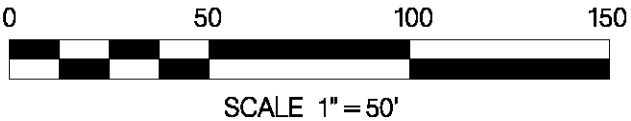
PLANS FOR THE CONSTRUCTION OF
 COASTAL RAIL TRAIL
 SEGMENT 3b
 ROSELLE STREET

CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
 SHEET 1 OF 1 SHEET

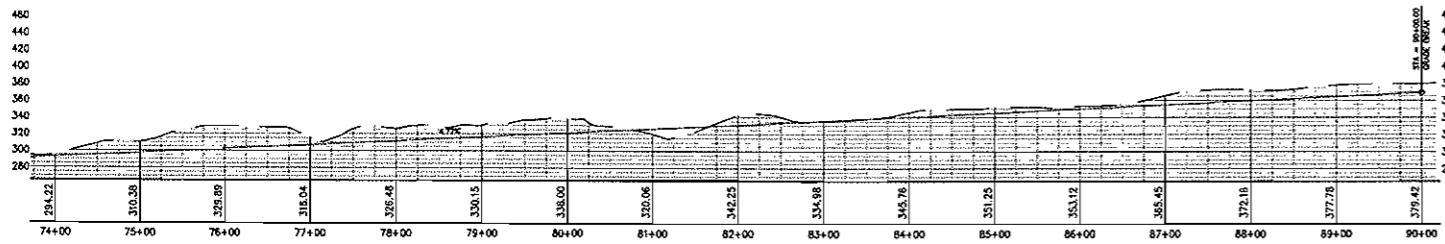
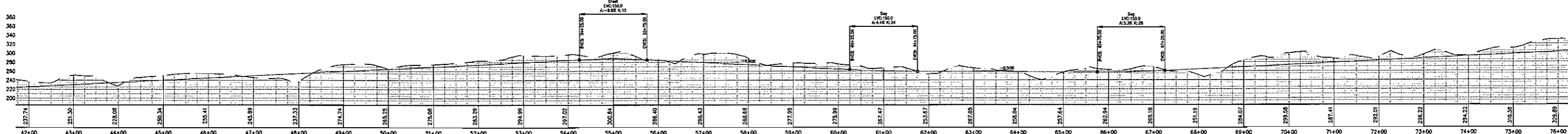
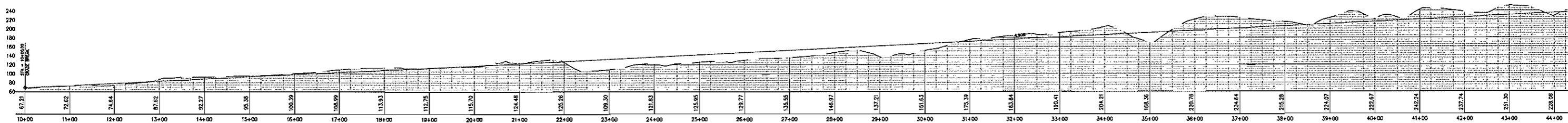
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FILE NAME	DATE	---			
AS-BUILT					
CONTRACTOR	DATE STARTED				
INSPECTOR	DATE COMPLETED				
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133					PROJECT MANAGER
					DESIGN ENGINEER
					278-1692
					LAMBERT COORDINATES
					32186- 1-D

PRELIMINARY



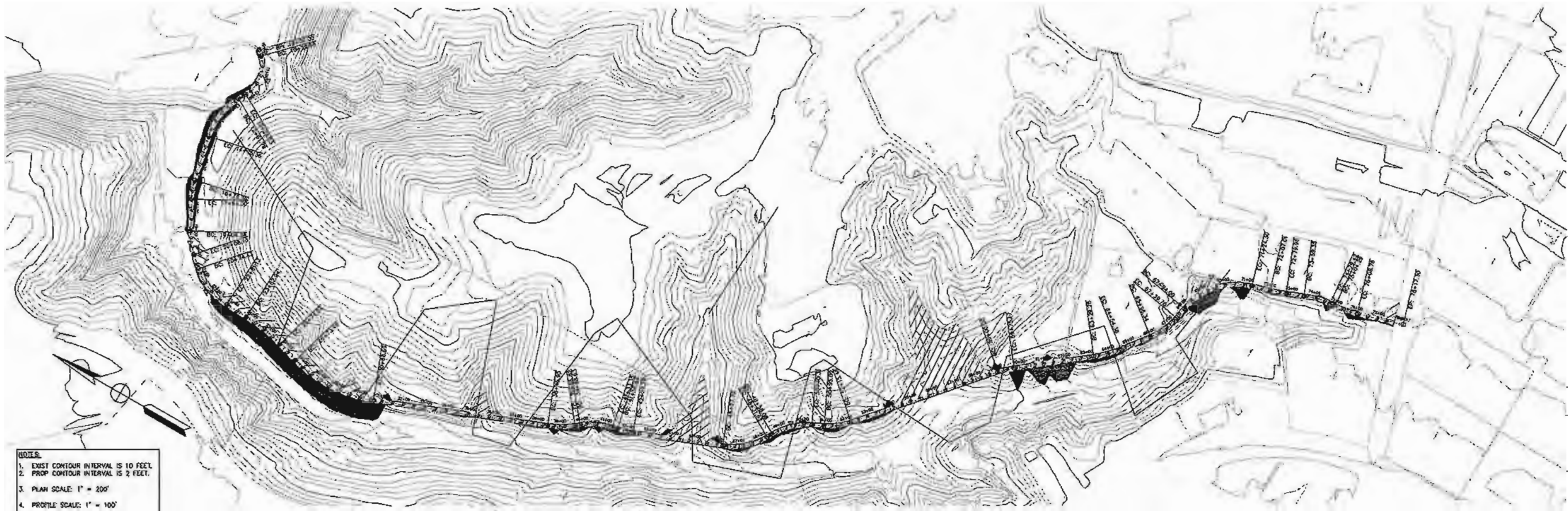
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 1615 MURRAY CANYON RD
 SUITE 1000
 SAN DIEGO, CA 92108
 (619) 294-9400
 (619) 293-7920



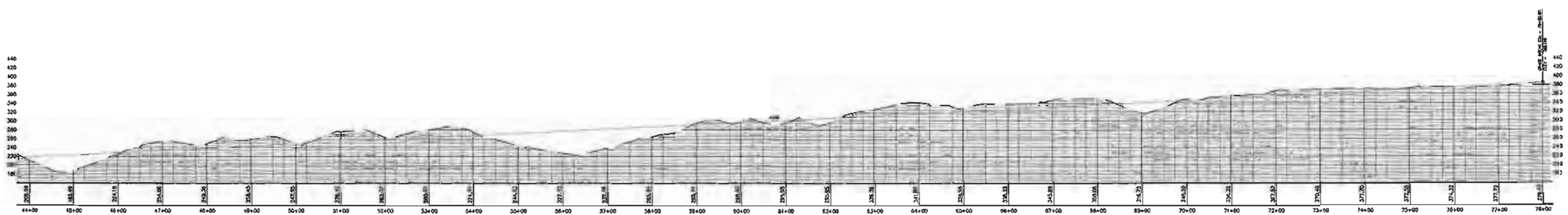
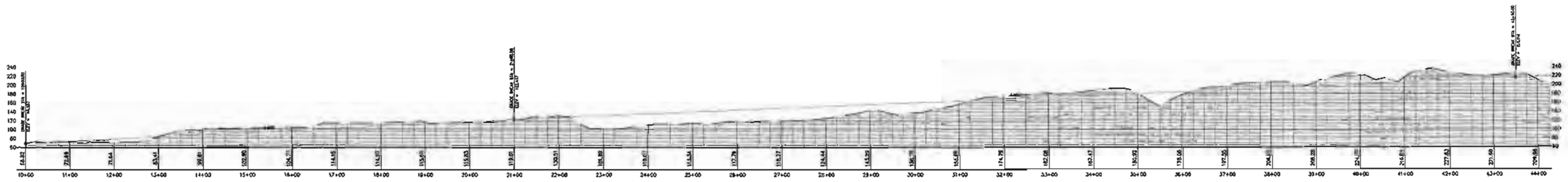
ALTERNATE 1

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	CHECKED BY:	DATE: 06/14/2007	PROJ. NO: 27684013	FIG. NO: 8.3

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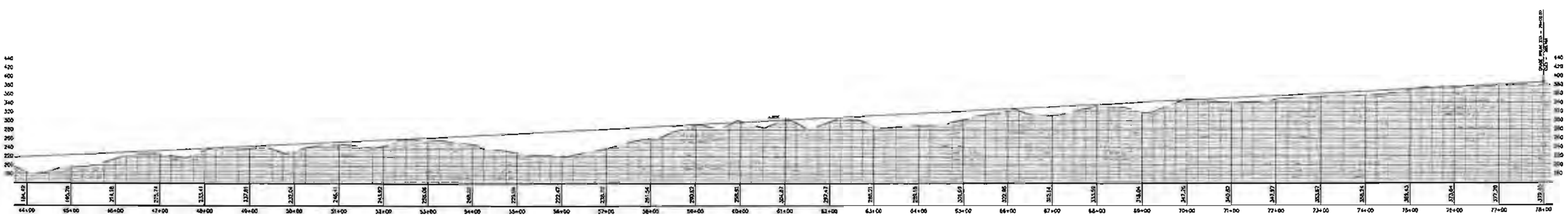
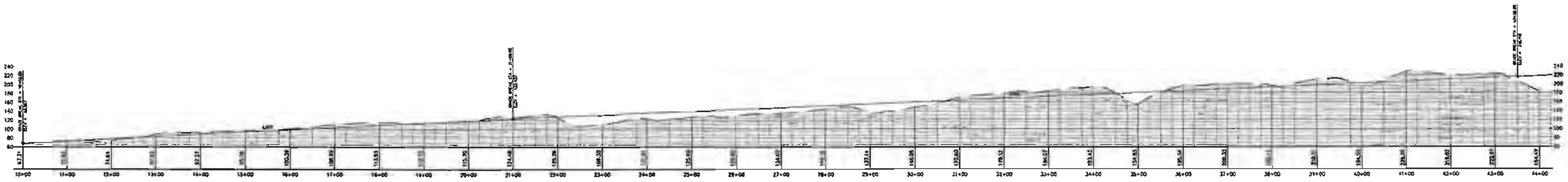
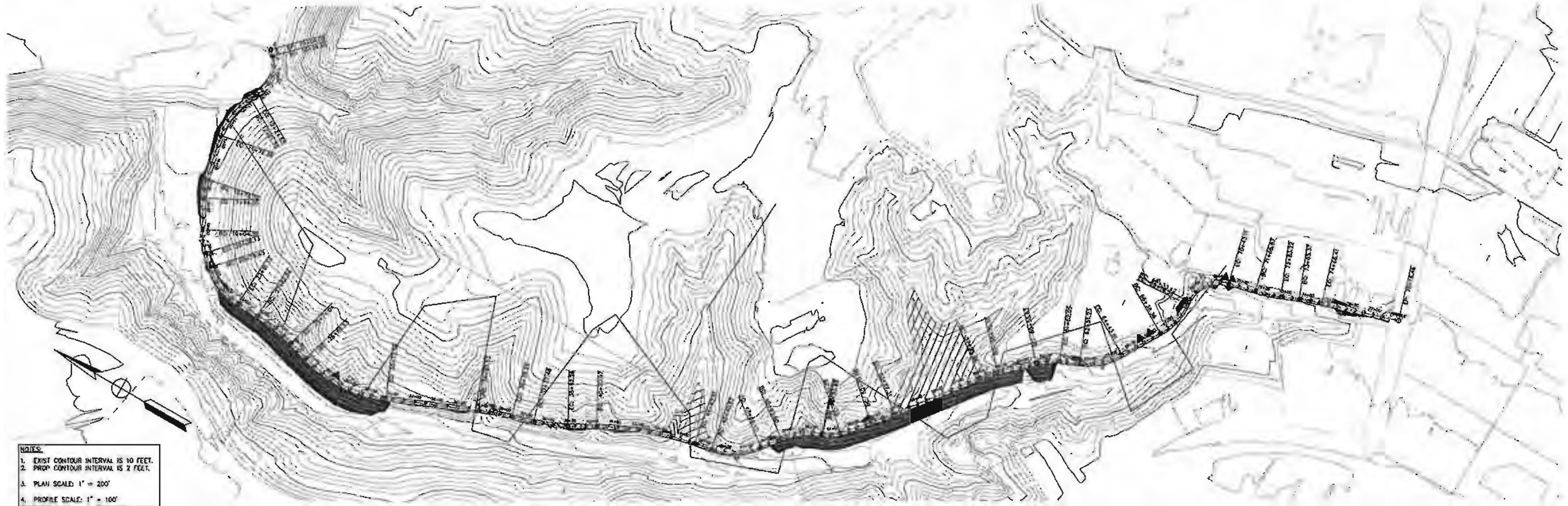


- NOTES**
1. EXIST CONTOUR INTERVAL IS 10 FEET.
 2. PROP CONTOUR INTERVAL IS 2 FEET.
 3. PLAN SCALE: 1" = 200'
 4. PROFILE SCALE: 1" = 100'



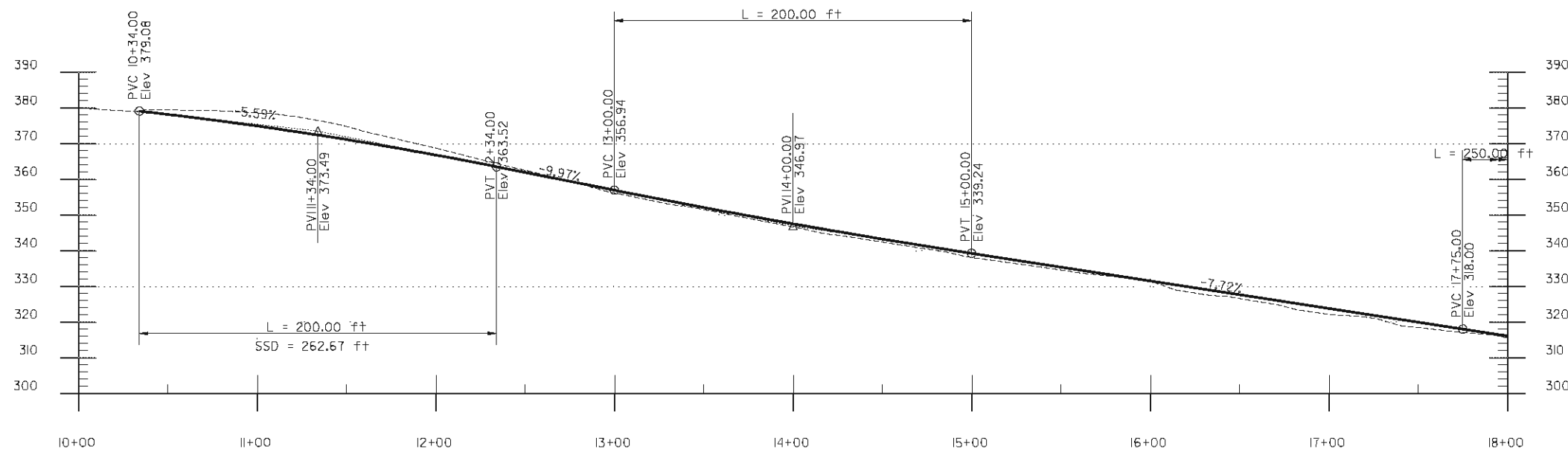
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	CHECKED BY: PM:	DATE: 06/14/2007 PROJ. NO: 27684013	FIG. NO: 8,4	

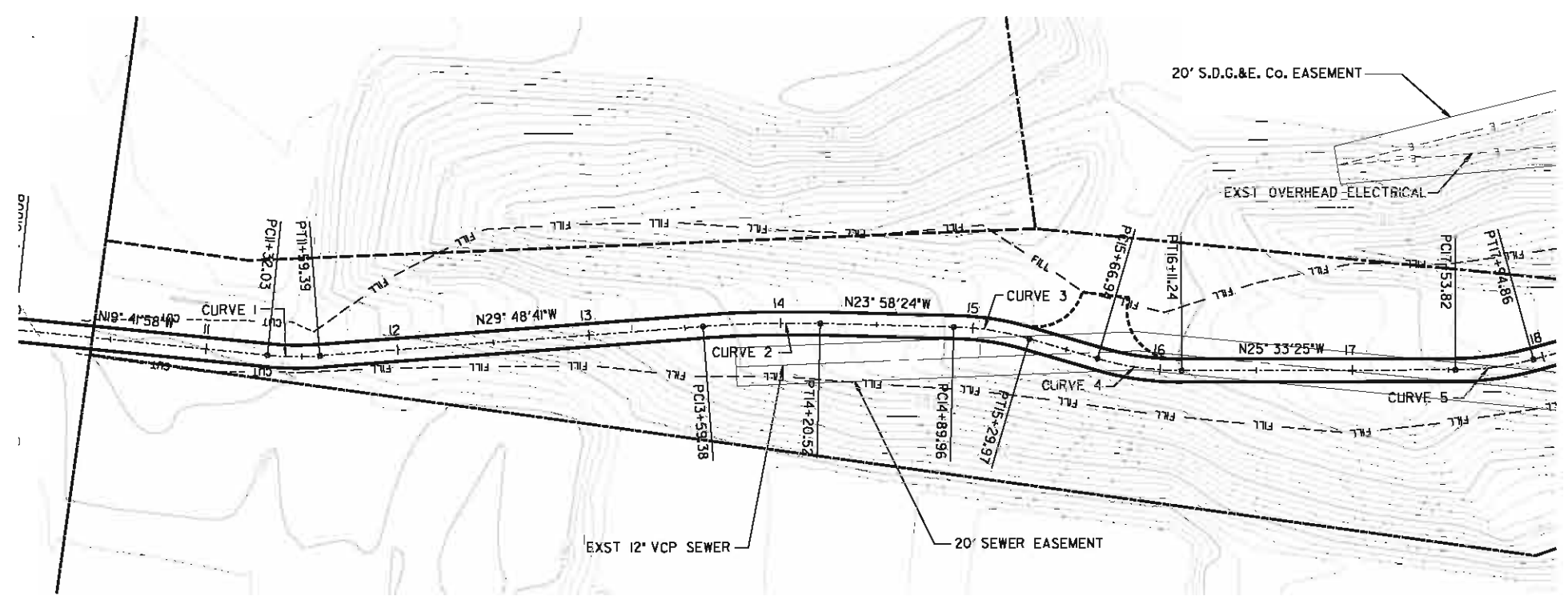


ALTERNATE 3

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	CHECKED BY:	DATE: 06/14/2007	FIG. NO: 8.5	
PM:	PROJ. NO: 27684013			



SCALE: 1"=40' HORIZ
1"= 20' VERT



CURVE 1 Delta 10° 06' 43" T= 13.71' L= 27.36' R= 155.00' E= 0.61'	CURVE 2 Delta 5° 50' 17" T= 30.59' L= 61.14' R= 600.00' E= 0.78'	CURVE 3 Delta 14° 47' 24" T= 20.12' L= 40.01' R= 155.00' E= 1.30'
CURVE 4 Delta 16° 22' 25" T= 22.30' L= 44.30' R= 155.00' E= 1.60'	CURVE 5 Delta 15° 10' 10" T= 20.64' L= 41.04' R= 155.00' E= 1.37'	

FIGURE 8.6

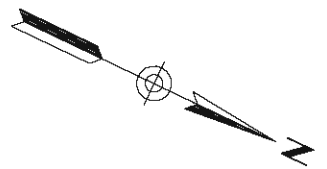
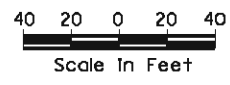
PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSELLE CANYON SEGMENT
PLAN AND PROFILE STA 10+00 TO STA 18+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 1 OF 9 SHEETS
W.D. NO. XXXXXX

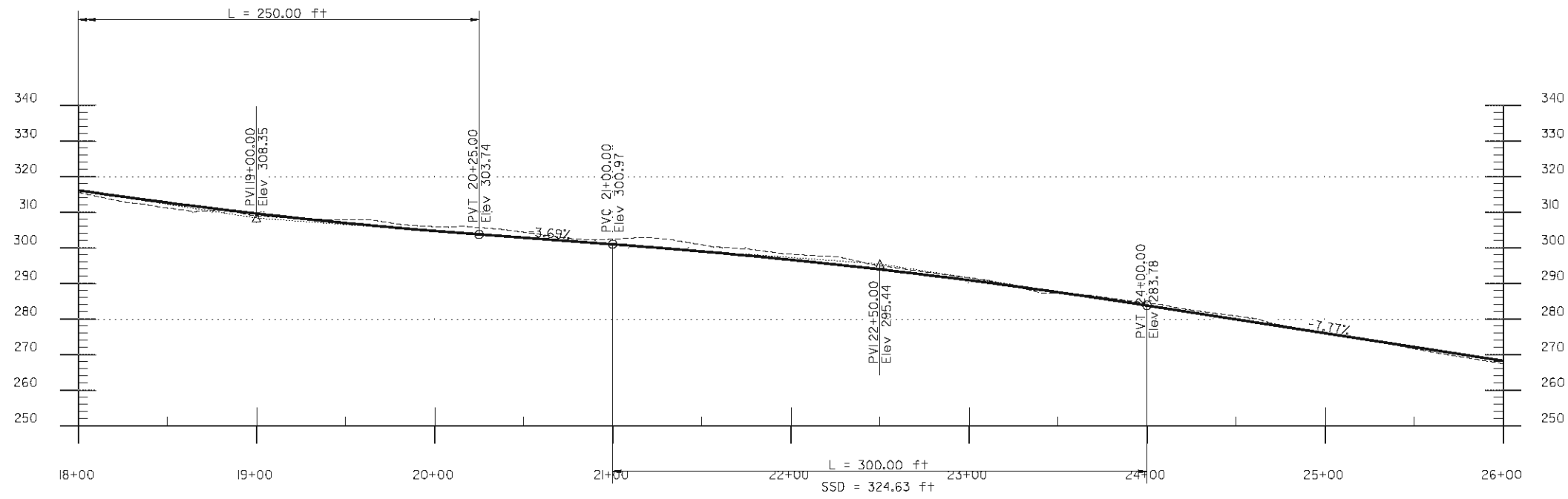
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

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DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
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CONTRACTOR INSPECTOR				DESIGN ENGINEER
DATE STARTED				DATE COMPLETED
DATE STARTED				DATE COMPLETED

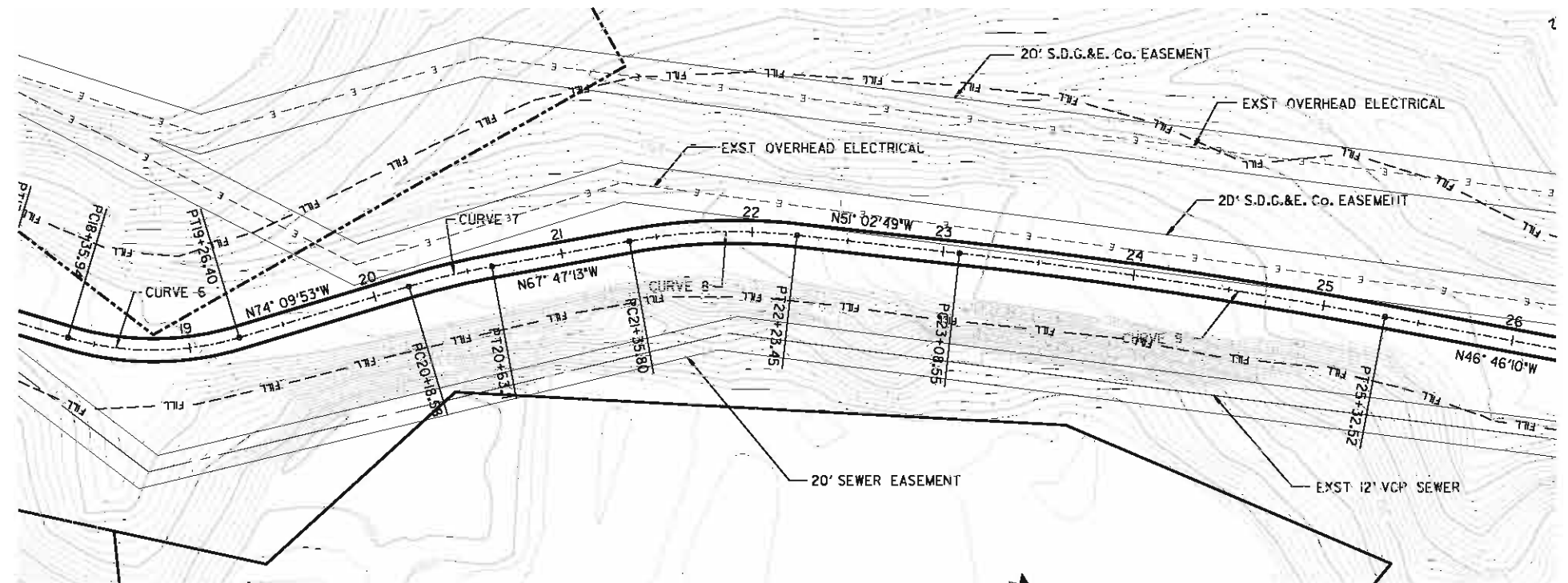
URS
1615 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
(619) 294-9400
(619) 293-7920



UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133
CONTRACTOR INSPECTOR: Jacqueline Olbers
DATE STARTED: 8/16/2007
DATE COMPLETED: 10/31/24 AM



SCALE: 1"=40' HORIZ
1"=20' VERT



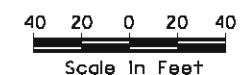
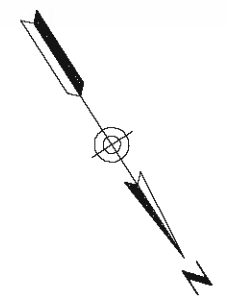
CURVE 6 Delta 33° 26'18" T= 46.56' L= 90.46' R= 155.00' E= 6.84'	CURVE 7 Delta 6° 22'40" T= 22.29' L= 44.53' R= 400.00' E= 0.62'	CURVE 8 Delta 16° 44'24" T= 44.14' L= 87.65' R= 300.00' E= 3.23'
CURVE 9 Delta 4° 16'39" T= 112.04' L= 223.97' R= 3000.00' E= 2.09'		

FIGURE 8.6
 PLANS FOR THE CONSTRUCTION OF
 COASTAL RAIL TRAIL
 ROSELLE CANYON SEGMENT
 PLAN AND PROFILE STA 18+00 TO STA 26+00

CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
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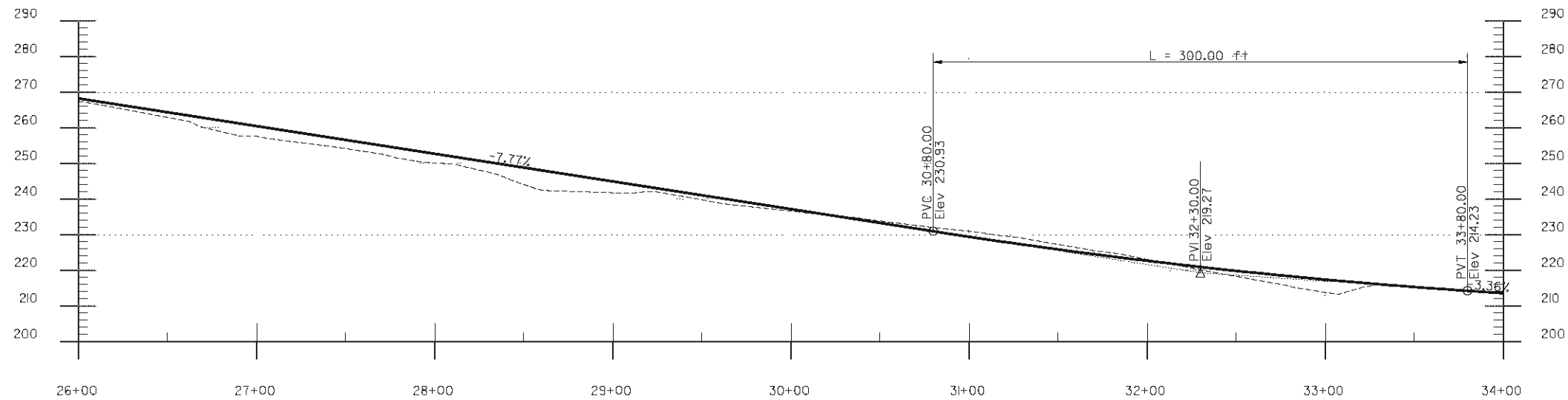
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INSPECTOR				278-1692
DATE STARTED				LAMBERT COORDINATES
DATE COMPLETED				32186-2 -D

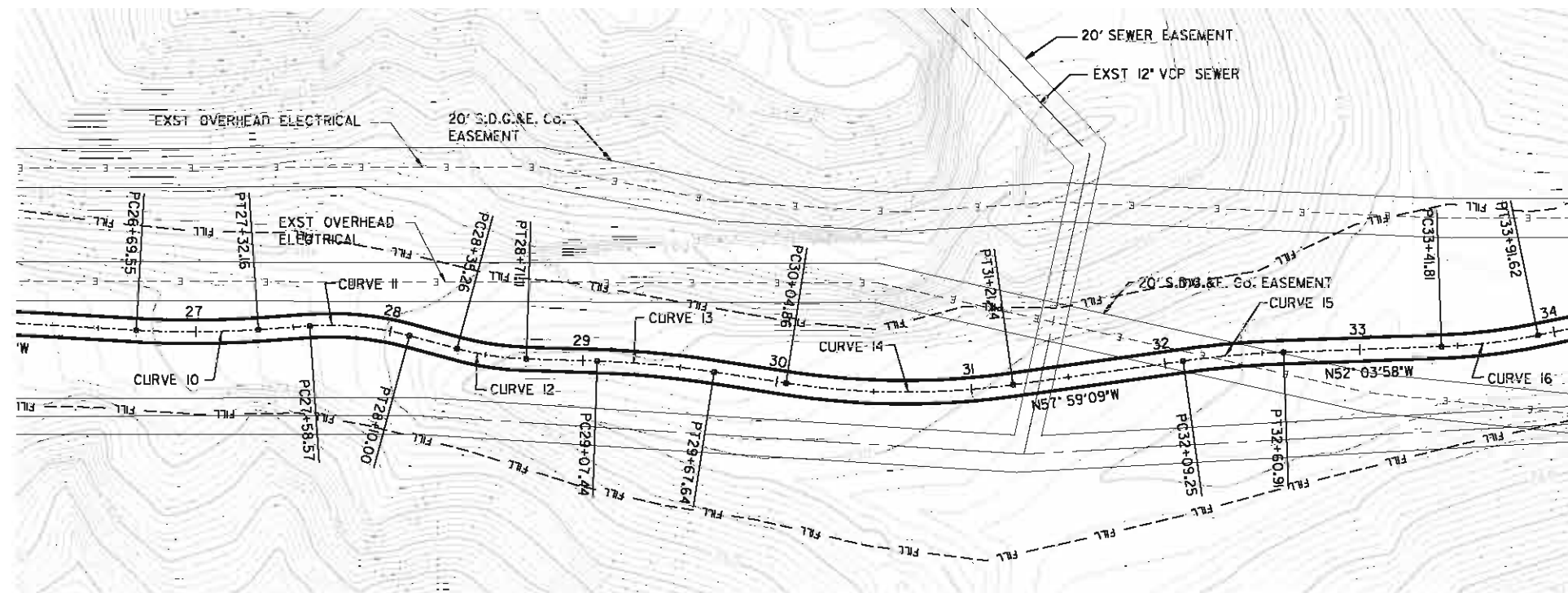


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 (619) 293-7920

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 (USA) 1-800-422-4133



SCALE: 1"=40' HORIZ
1"= 20' VERT



CURVE 10 Delta 7° 10' 28" T= 31.35' L= 62.61' R= 500.00' E= 0.98'	CURVE 11 Delta 19° 00' 39" T= 25.95' L= 51.43' R= 155.00' E= 2.16'	CURVE 12 Delta 13° 15' 09" T= 18.01' L= 35.85' R= 155.00' E= 1.04'
CURVE 13 Delta 6° 53' 54" T= 30.14' L= 60.20' R= 500.00' E= 0.91'	CURVE 14 Delta 16° 41' 55" T= 58.71' L= 116.58' R= 400.00' E= 4.28'	CURVE 15 Delta 5° 55' 11" T= 25.85' L= 51.66' R= 500.00' E= 0.67'
CURVE 16 Delta 9° 30' 47" T= 24.96' L= 49.81' R= 300.00' E= 1.04'		

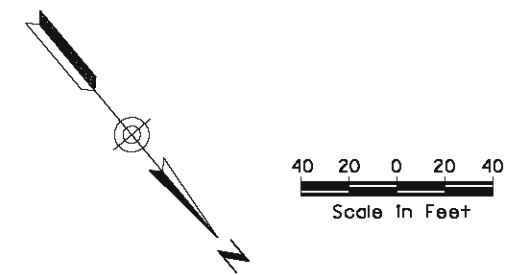
FIGURE 8.6

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSELLE CANYON SEGMENT
PLAN AND PROFILE STA 26+00 TO STA 34+00

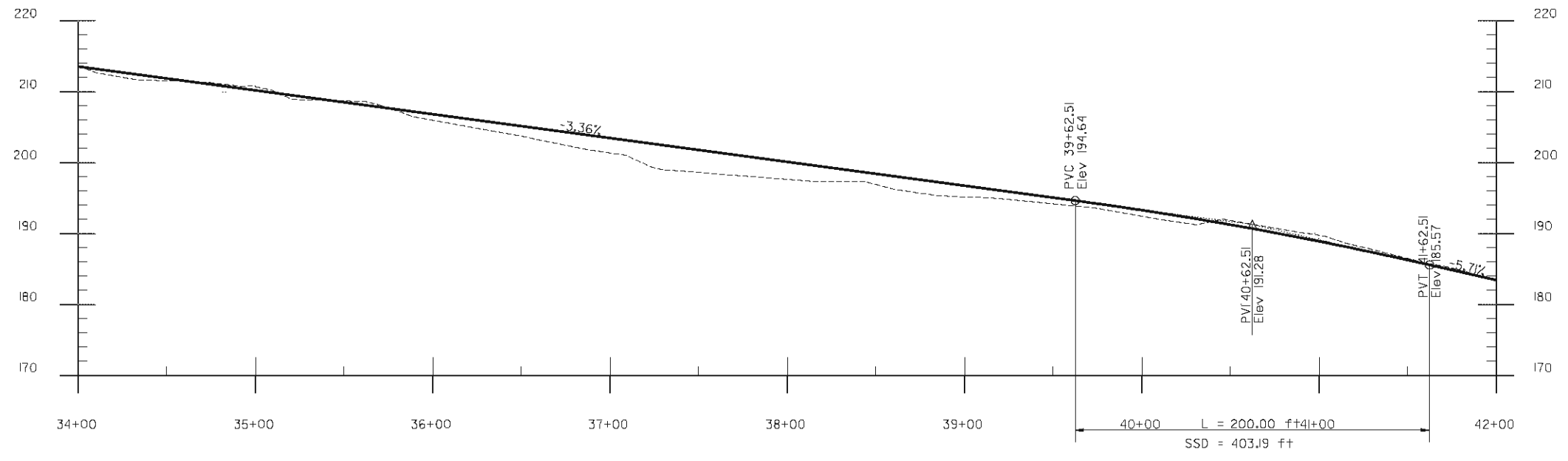
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W.D. NO. XXXXXX

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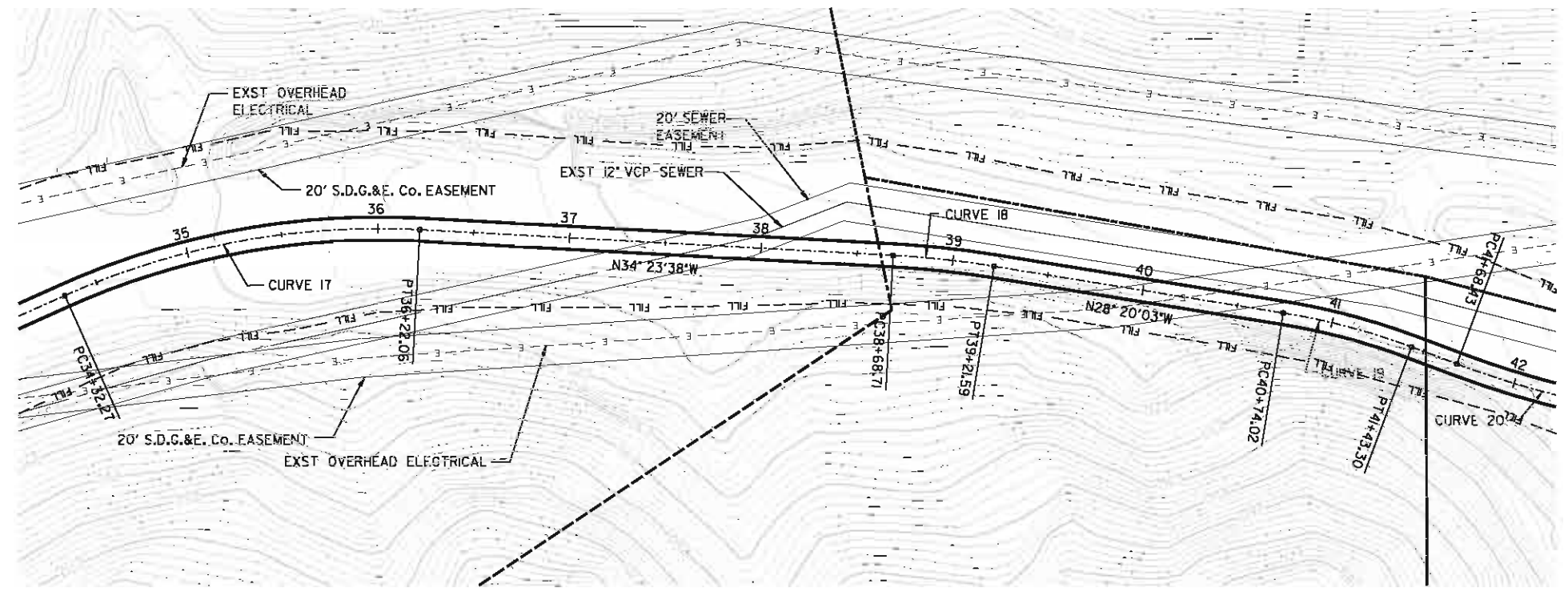
FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR INSPECTOR				DESIGN ENGINEER
DATE STARTED				278-1692
DATE COMPLETED				LAMBERT COORDINATES
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133				32186-3-D



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(619) 293-7920



SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 17 Delta 27° 11'07" T= 96.72' L= 189.79' R= 400.00' E= 11.53'	CURVE 18 Delta 6° 03'35" T= 26.47' L= 52.88' R= 500.00' E= 0.70'	CURVE 19 Delta 11° 20'30" T= 34.75' L= 69.28' R= 350.00' E= 1.72'
CURVE 20 Delta 7° 15'42" T= 31.73' L= 63.37' R= 500.00' E= 1.01'		

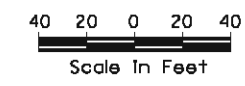
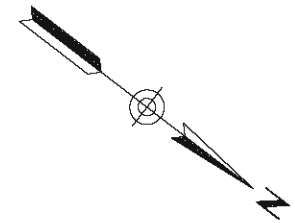
FIGURE 8.6

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSELLE CANYON SEGMENT
PLAN AND PROFILE STA 34+00 TO STA 42+00

CITY OF SAN DIEGO, CALIFORNIA
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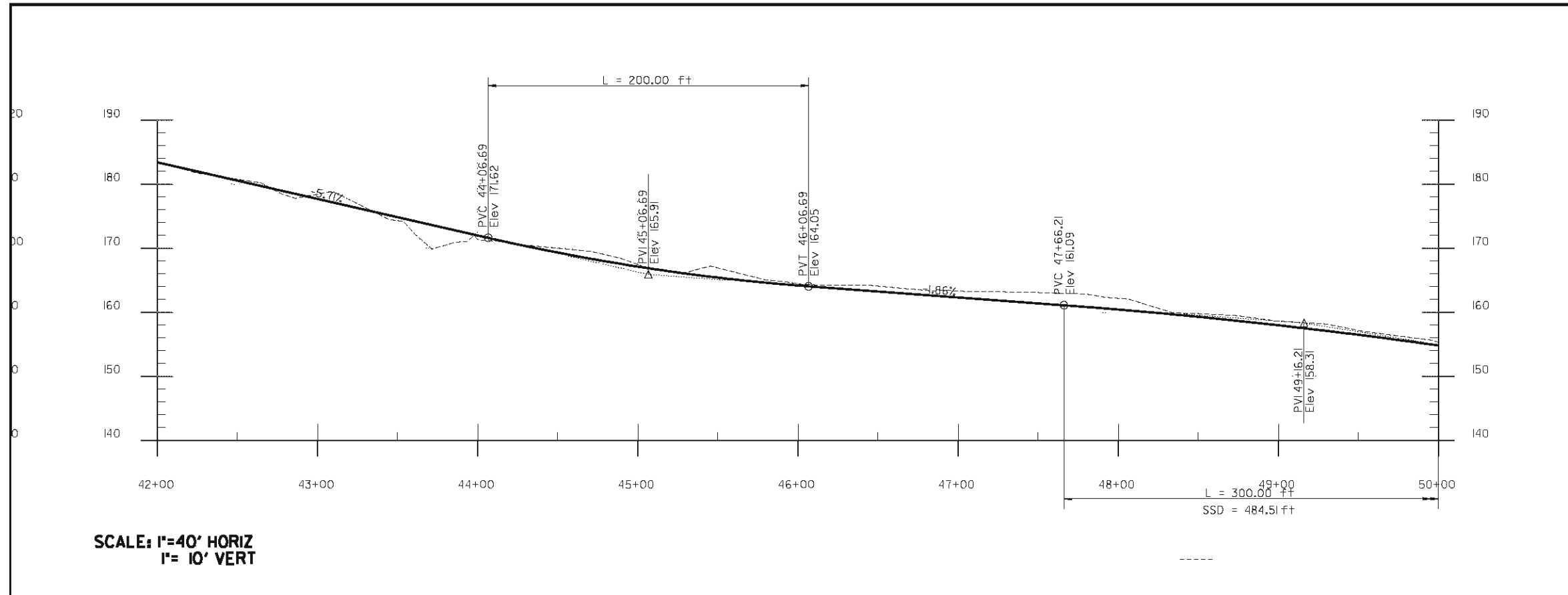
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR INSPECTOR				DESIGN ENGINEER
DATE STARTED				278-1692
DATE COMPLETED				LAMBERT COORDINATES
				32186-4 -D

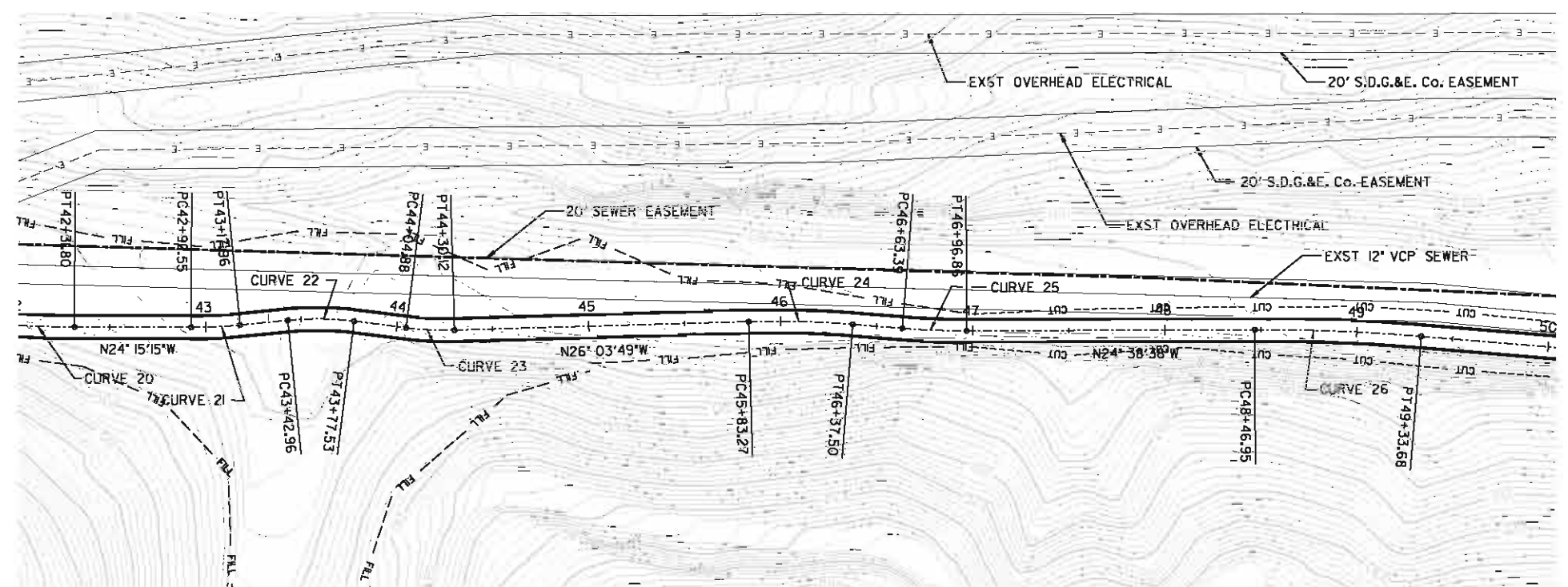


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(619) 293-7920

UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

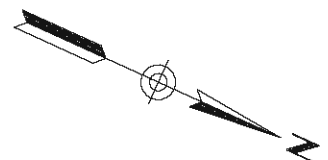


SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 20 Delta 7° 15' 42" T= 31.73' L= 63.37' R= 500.00' E= 1.01'	CURVE 21 Delta 5° 49' 30" T= 12.72' L= 25.42' R= 250.00' E= 0.32'	CURVE 22 Delta 12° 46' 45" T= 17.36' L= 34.57' R= 155.00' E= 0.97'
CURVE 23 Delta 8° 45' 49" T= 12.64' L= 25.24' R= 165.00' E= 0.48'	CURVE 24 Delta 6° 12' 51" T= 27.14' L= 54.23' R= 500.00' E= 0.74'	CURVE 25 Delta 4° 47' 40" T= 16.75' L= 33.47' R= 400.00' E= 0.35'
CURVE 26 Delta 4° 58' 10" T= 43.39' L= 86.73' R= 1000.00' E= 0.94'		

FIGURE 8.6
 PLANS FOR THE CONSTRUCTION OF
 COASTAL RAIL TRAIL
 ROSELLE CANYON SEGMENT
 PLAN AND PROFILE STA 42+00 TO STA 50+00

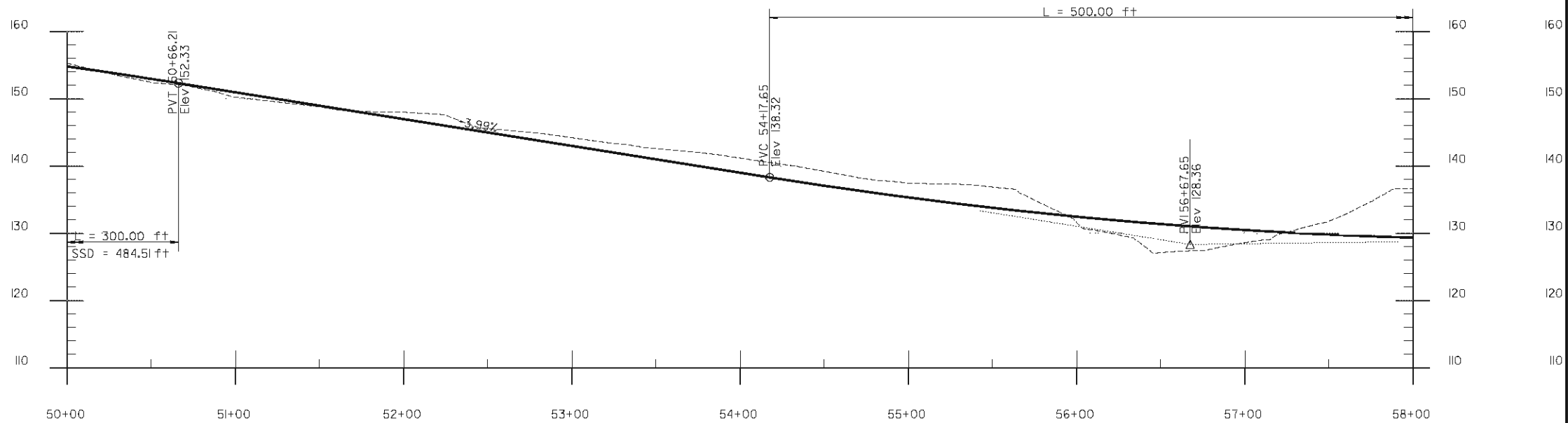


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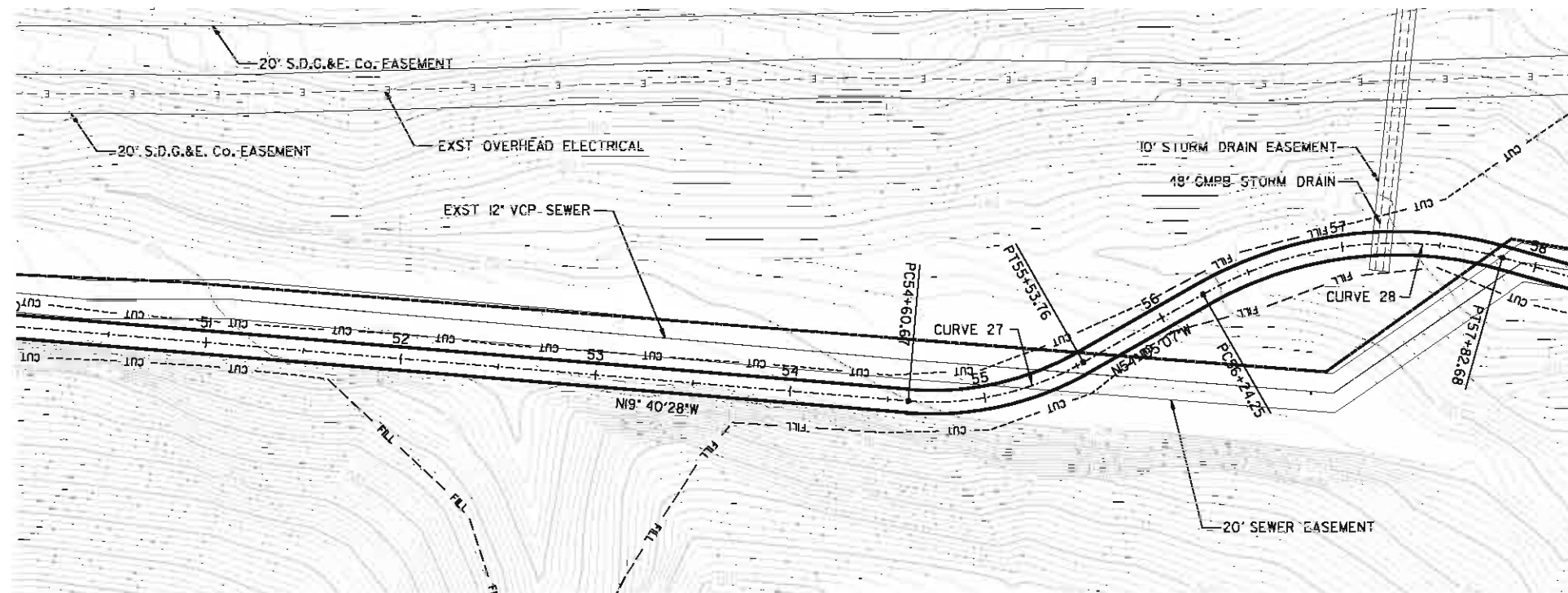
CONTRACTOR MUST NOTIFY THE
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CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 5 OF 9 SHEETS		W.D. NO. XXXXXX
FOR CITY ENGINEER		SECTION HEAD
DESCRIPTION	BY	APPROVED
FILE NAME	DATE	DATE
AS-BUILT	DATE STARTED	DATE COMPLETED
CONTRACTOR	INSPECTOR	PROJECT MANAGER
DESIGN ENGINEER		278-1692
LAMBERT COORDINATES		32186-5 -D



SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 27
Delta 34° 24' 39"
T = 48.00'
L = 93.09'
R = 155.00'
E = 7.26'

CURVE 28
Delta 45° 23' 12"
T = 83.63'
L = 158.43'
R = 200.00'
E = 16.78'

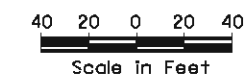
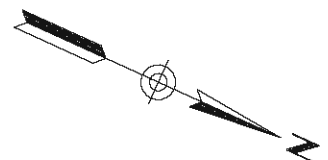
FIGURE 8.6

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSELLE CANYON SEGMENT
PLAN AND PROFILE STA 50+00 TO STA 58+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 6 OF 9 SHEETS
W.D. NO. XXXXXX

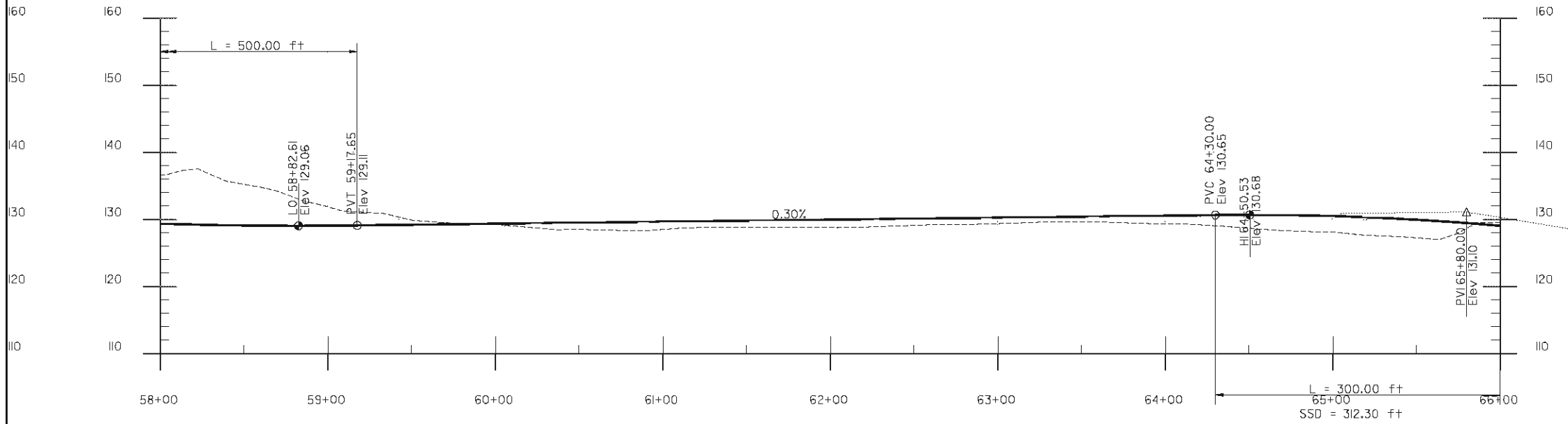
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			PROJECT MANAGER
				DESIGN ENGINEER
				278-1692
				LAMBERT COORDINATES
AS-BUILT				32186-6-D
CONTRACTOR INSPECTOR		DATE STARTED	DATE COMPLETED	

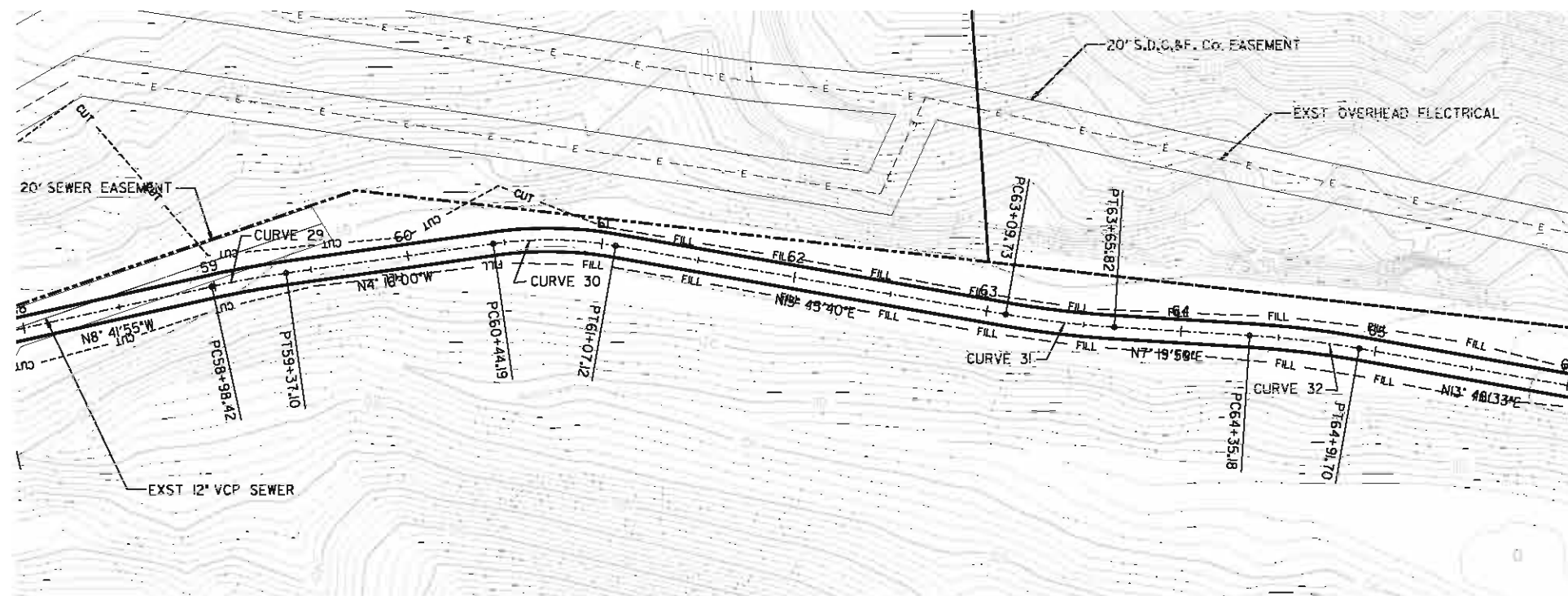


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SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 29 Delta 4' 25'55" T= 19.35' L= 38.68' R= 500.00' E= 0.37'	CURVE 30 Delta 18' 01'40" T= 31.73' L= 62.93' R= 200.00' E= 2.50'	CURVE 31 Delta 6' 25'41" T= 28.08' L= 56.10' R= 500.00' E= 0.79'
CURVE 32 Delta 6' 28'34" T= 28.29' L= 56.51' R= 500.00' E= 0.80'		

FIGURE 8.6

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSELLE CANYON SEGMENT
PLAN AND PROFILE STA 58+00 TO STA 66+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 7 OF 9 SHEETS
W.D. NO. XXXXXX

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

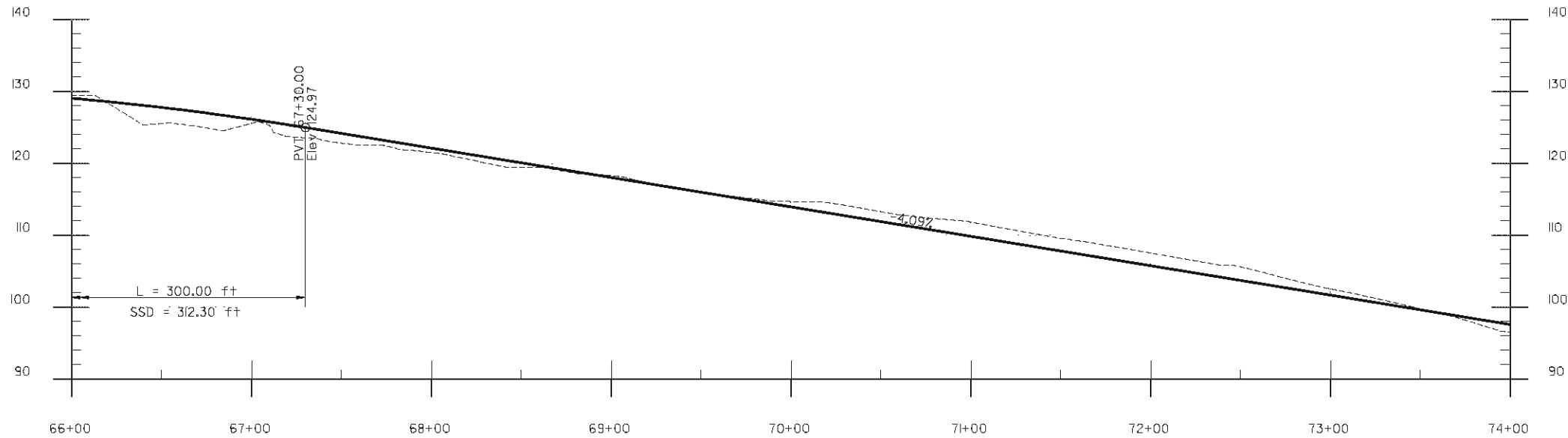
FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR INSPECTOR				DESIGN ENGINEER
DATE STARTED				278-1692
DATE COMPLETED				LAMBERT COORDINATES
				32186-7 -D



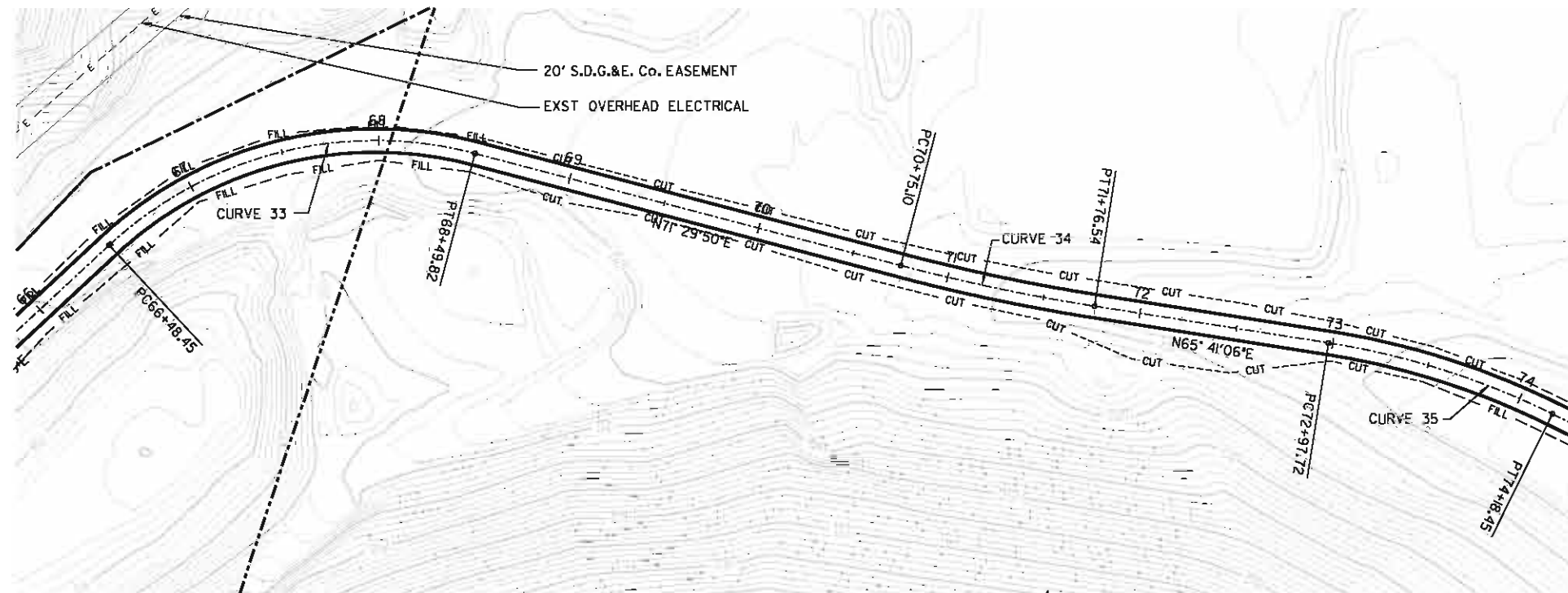
40 20 0 20 40
Scale In Feet

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1615 MURRAY CANYON RD
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(USA) 1-800-422-4133



SCALE: 1"=40' HORIZ
1"=10' VERT



CURVE 33	CURVE 34	CURVE 35
Delta 57' 41"17"	Delta 5' 48' 44"	Delta 17' 17"35"
T= 110.15'	T= 50.76'	T= 60.83'
L= 201.37'	L= 101.44'	L= 120.73'
R= 200.00'	R= 1000.00'	R= 400.00'
E= 28.33'	E= 1.29'	E= 4.60'

FIGURE 8.6

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSELLE CANYON SEGMENT
PLAN AND PROFILE STA 66+00 TO STA 74+00

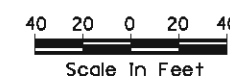
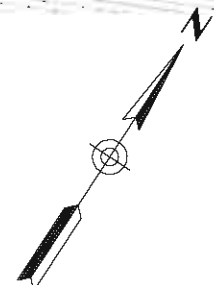
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CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

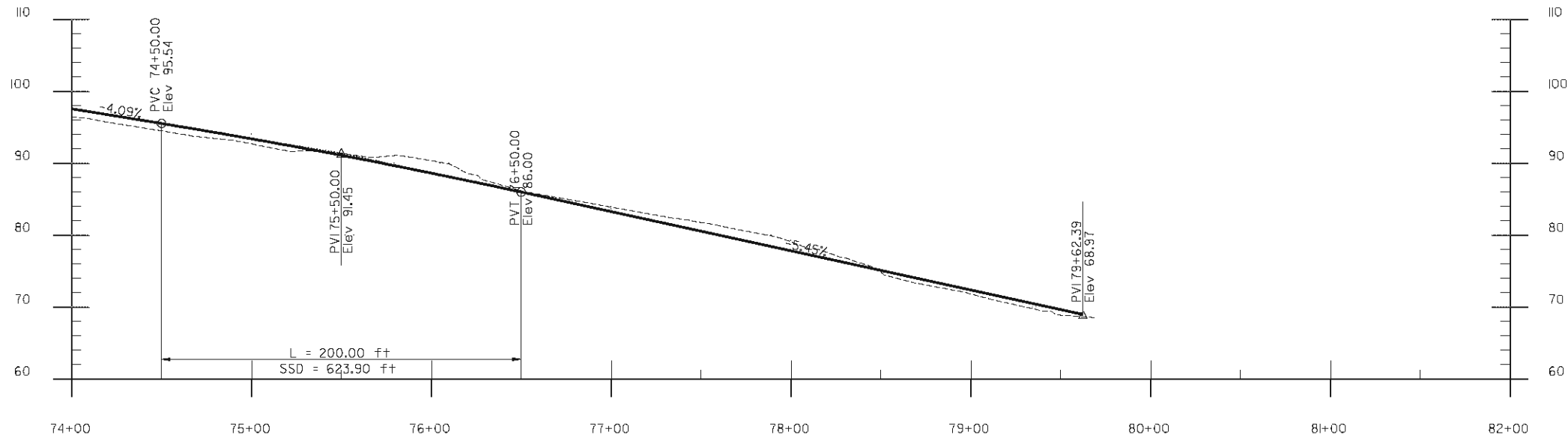
FOR CITY ENGINEER					DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED		
FILE NAME	DATE					PROJECT MANAGER
						DESIGN ENGINEER
						278-1692
						LAMBERT COORDINATES

UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

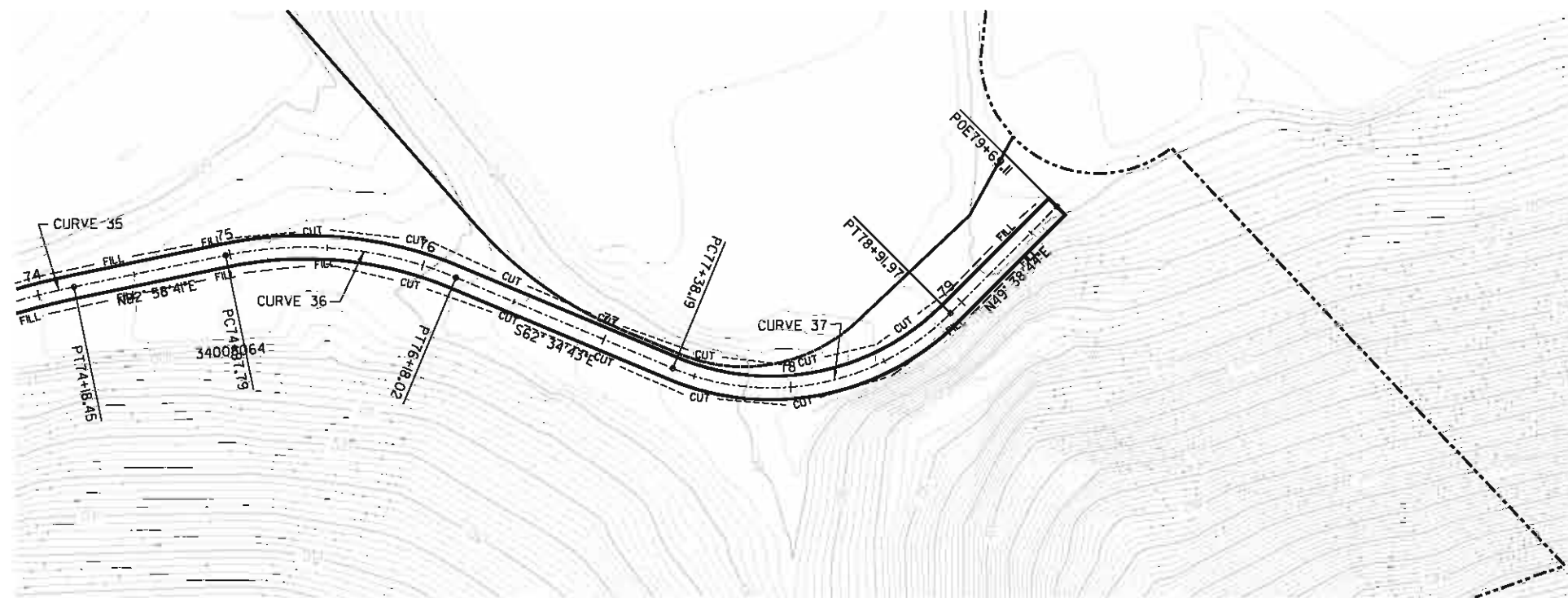
CONTRACTOR	DATE STARTED	DATE COMPLETED	32186-8 -D



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SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 35	CURVE 36	CURVE 37
Delta 17° 17' 35"	Delta 34° 26' 36"	Delta 67° 46' 33"
T= 60.83'	T= 61.99'	T= 87.32'
L= 120.73'	L= 120.23'	L= 153.78'
R= 400.00'	R= 200.00'	R= 130.00'
E= 4.60'	E= 9.39'	E= 26.60'

FIGURE 8.6

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSELLE CANYON SEGMENT
PLAN AND PROFILE STA 74+00 TO STA 80+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 9 OF 9 SHEETS
W.D. NO. XXXXXX

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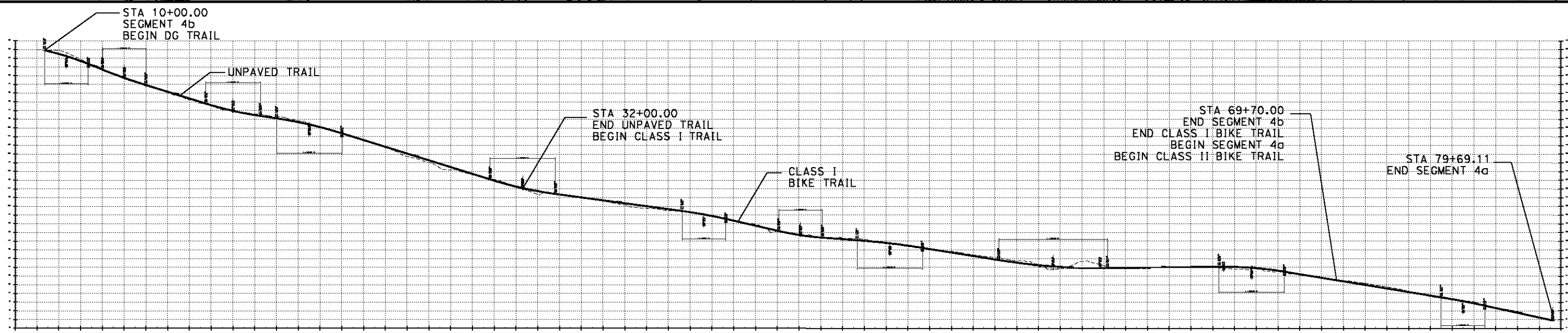
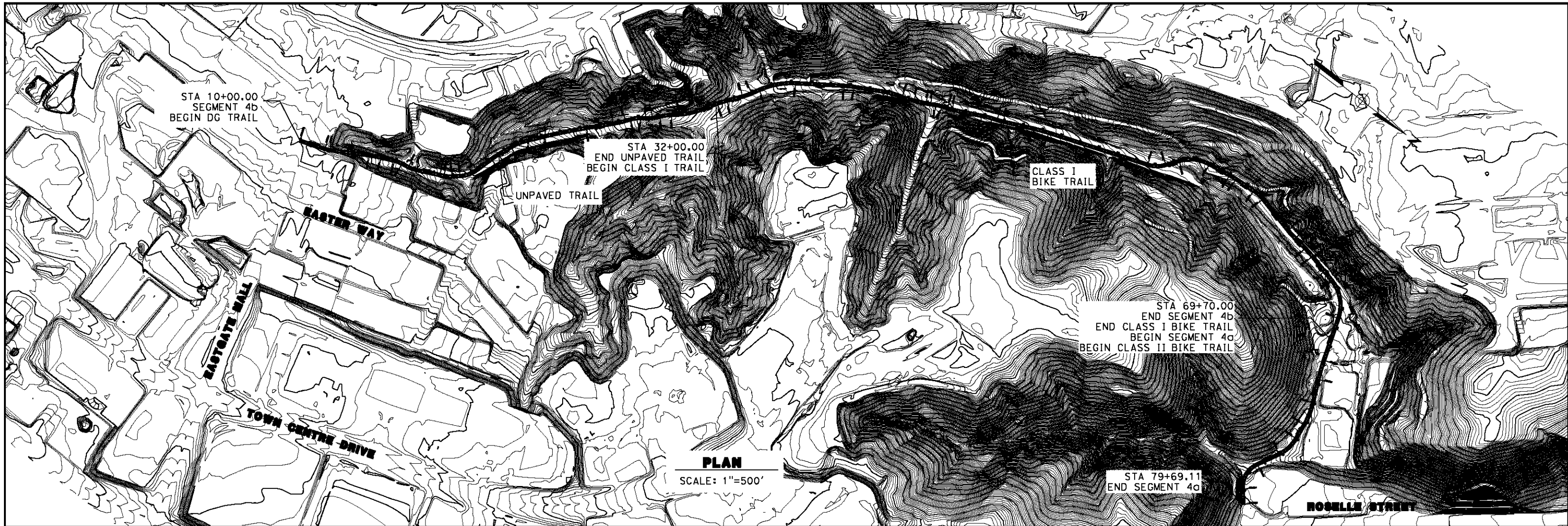
FOR CITY ENGINEER					DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED		
FILE NAME	DATE					PROJECT MANAGER
						DESIGN ENGINEER
						278-1692
						LAMBERT COORDINATES
AS-BUILT						32186-9-D
CONTRACTOR		DATE STARTED				
INSPECTOR		DATE COMPLETED				



40 20 0 20 40
Scale In Feet

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(619) 293-7920

UNDERGROUND SERVICE ALERT
(USA) 1-800-422-4133



PROFILE
SCALE: H: 1"=500'
V: 1"=125'

**SEGMENT 4b (ROSELLE CANYON)
ALIGNMENT ALTERNATIVE 4b.8
COMBINATION OF CLASS I AND UNPAVED TRAIL**

PRELIMINARY

**PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL**

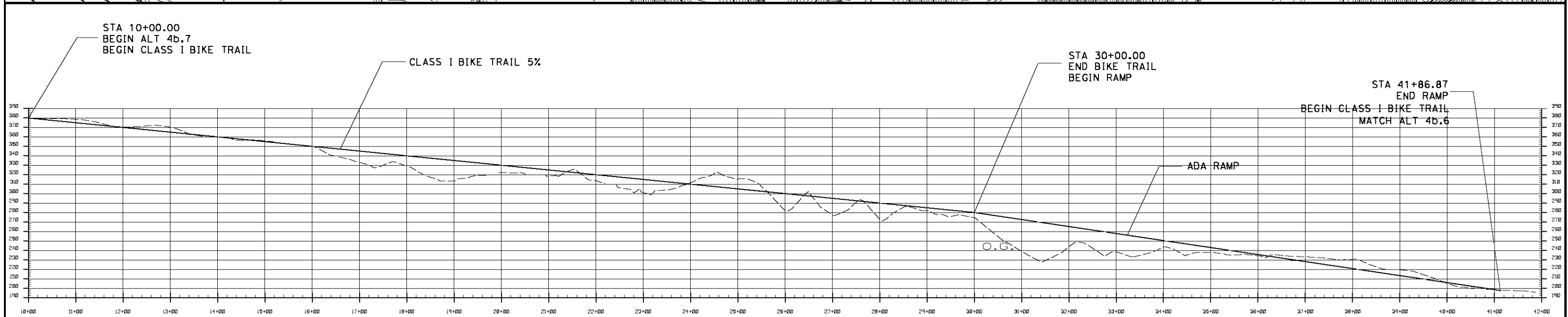
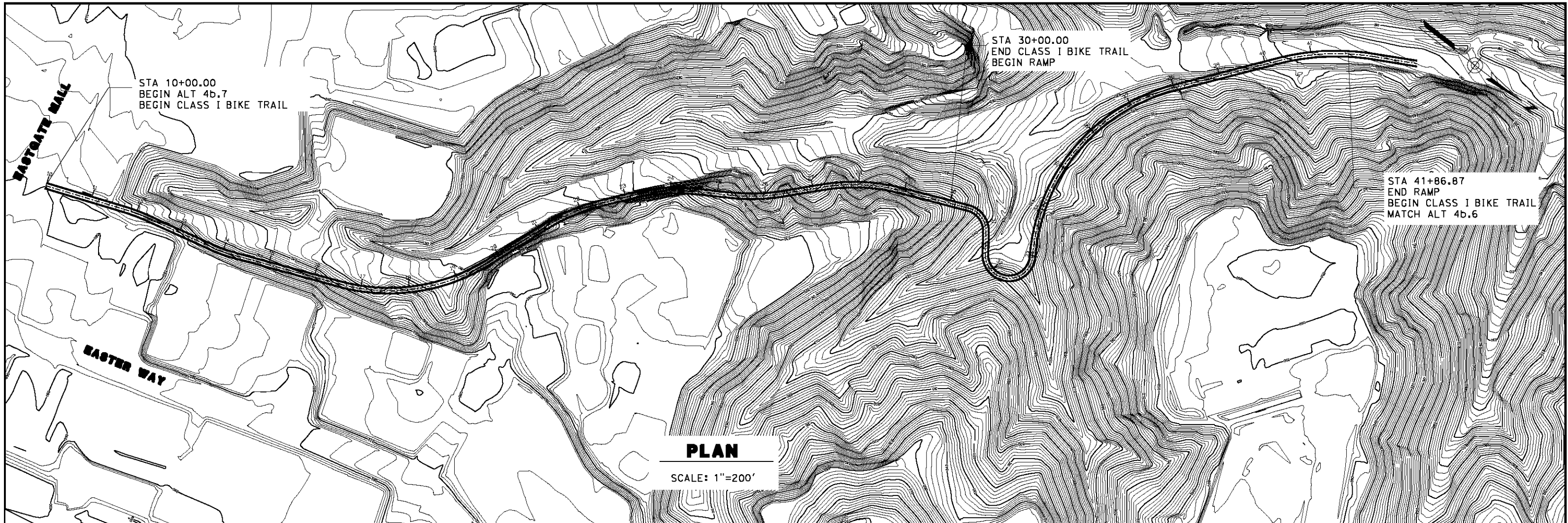
CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 2 OF 22 SHEETS

NO. XXXXXX

FIGURE 8.8b

URS

165 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
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PRELIMINARY

**SEGMENT 4b (ROSELLE CANYON)
ALIGNMENT ALTERNATIVE 4b.7
CLASS I AND ADA RAMP COMBINATION**

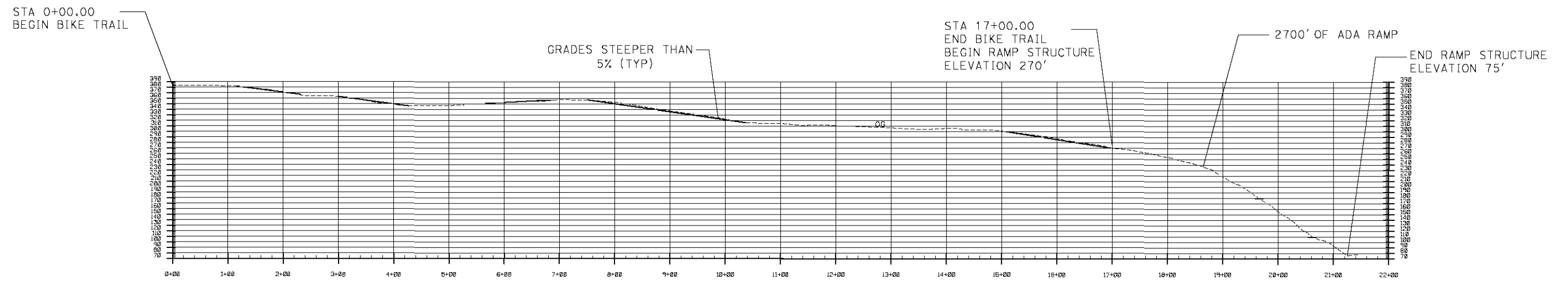
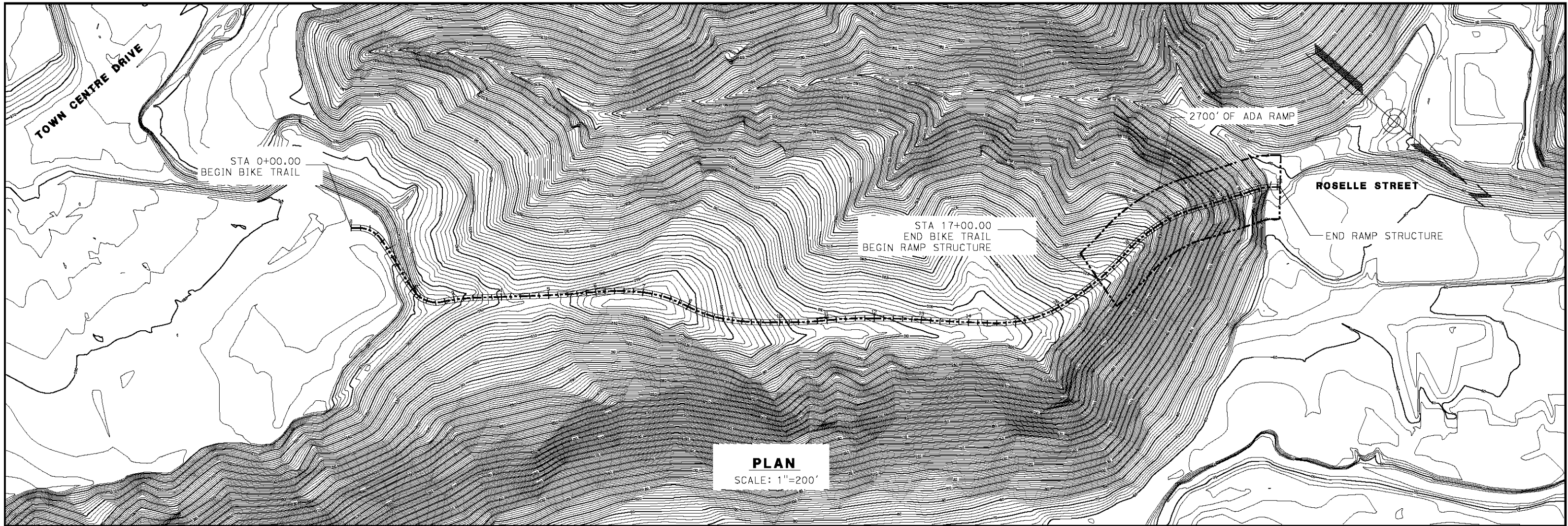
**PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL**

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 2 OF 22 SHEETS

NO. XXXXXX

FIGURE 8.8c

URS
165 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
(619) 294-9400
(619) 293-7920



PROFILE

SCALE H: 1"=200'
V: 1"=200'

**SEGMENT 4 (ROSELLE CANYON)
ALIGNMENT ALTERNATIVE 4c
TOWNE CENTRE DRIVE**

PRELIMINARY

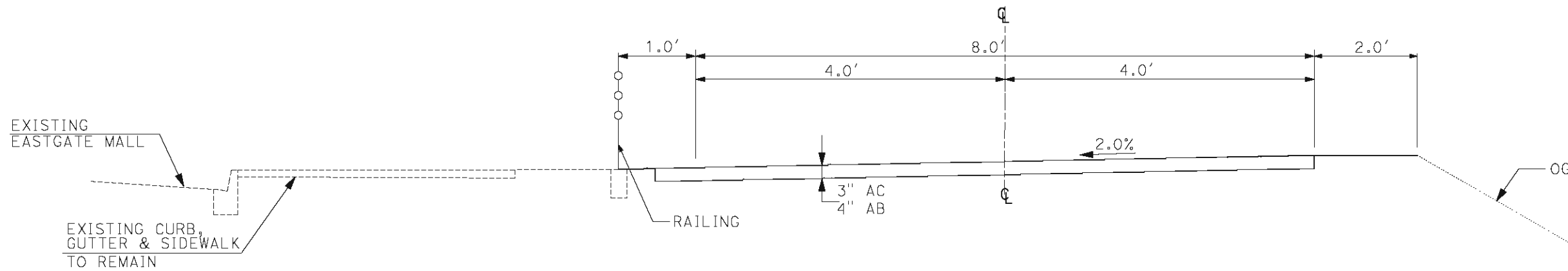
**PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL**

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 2 OF 22 SHEETS

NO. XXXXXX

FIGURE 8.6d

URS
165 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
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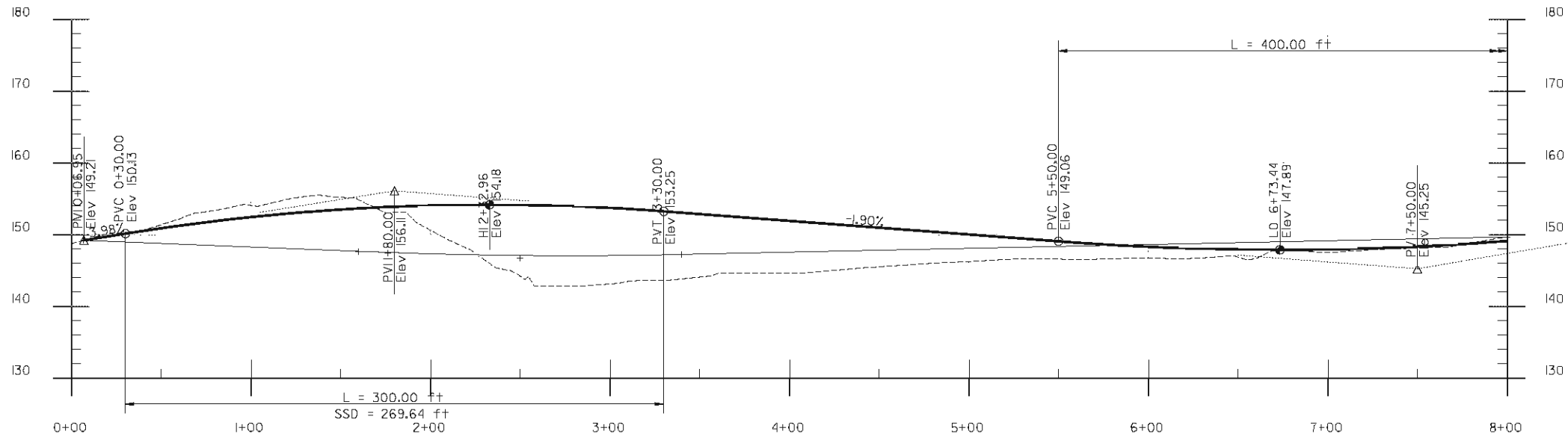
TYPICAL SECTION

EASTGATE MALL

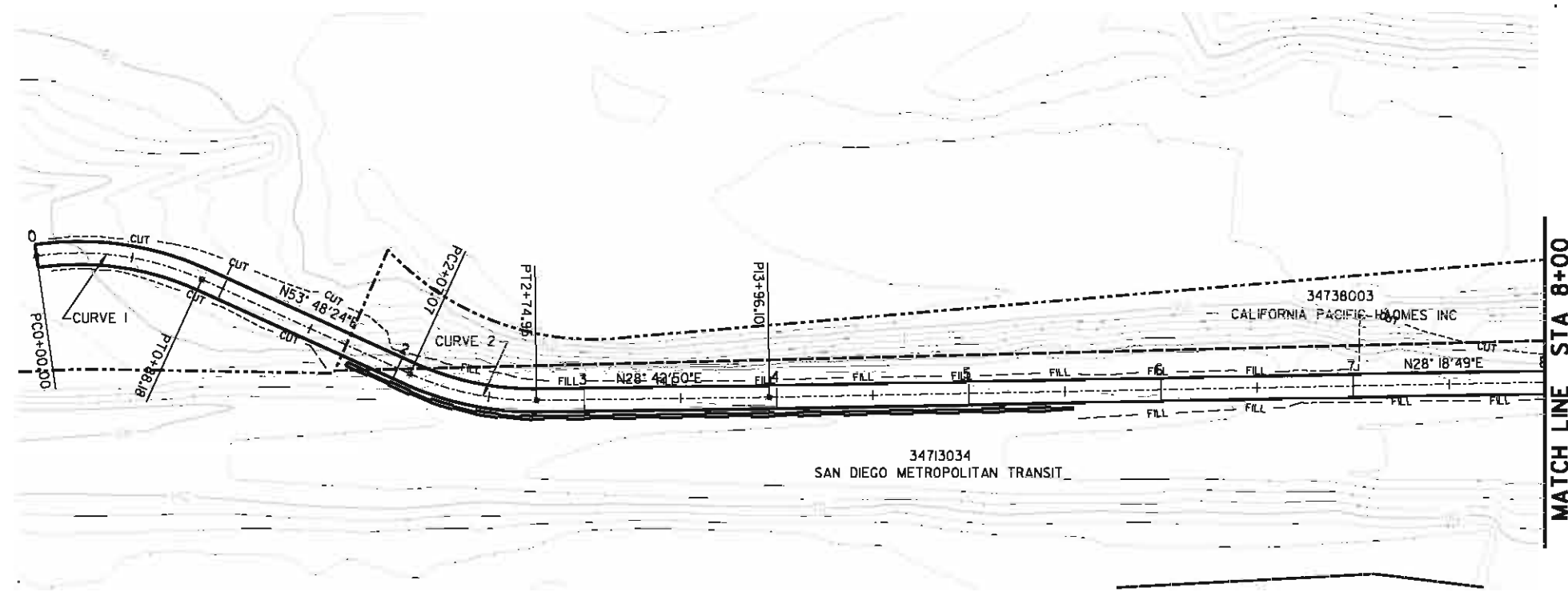
FIGURE 8.6e
ALIGNMENT ALTERNATIVE 5a.2

		PLANS FOR THE CONSTRUCTION OF				S.D. NO.
		COASTAL RAIL TRAIL EASTGATE MALL TYPICAL SECTION				
		CITY OF SAN DIEGO, CALIFORNIA				S.D. NO.
		ENGINEERING DEPARTMENT SHEET 1 OF 1 SHEETS				
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :		FOR CITY ENGINEER		DATE		SECTION HEAD
		DESCRIPTION	BY	APPROVED	DATE	FILED
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133		FILE NAME:	DATE:			PROJECT NUMBER
						DESIGN NUMBER
		NO. OF 1				LAUNCH COORDINATES
		CONTRACTOR INSPECTOR		DATE STARTED	DATE COMPLETED	

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1615 MURRAY CANYON RD
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SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 1
Delta 32°35'51"
T= 45.32'
L= 88.18'
R= 155.00'
E= 6.49'

CURVE 2
Delta 25°05'34"
T= 34.49'
L= 67.88'
R= 155.00'
E= 3.79'

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 0+00 TO STA 8+00

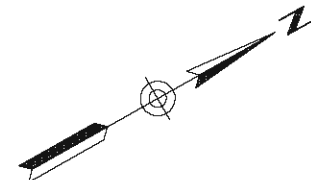
CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 1 OF 23 SHEETS

W.D. NO. XXXXXX

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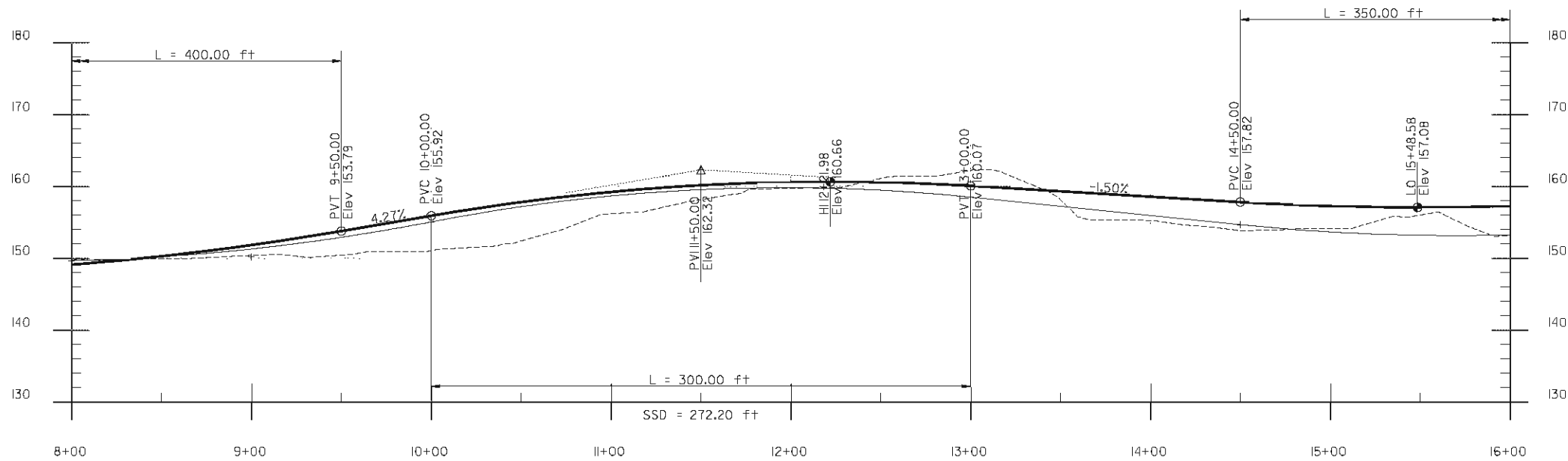
FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR				DESIGN ENGINEER
INSPECTOR				278-1692
DATE STARTED				LAMBERT COORDINATES
DATE COMPLETED				32186-1-D

PRELIMINARY

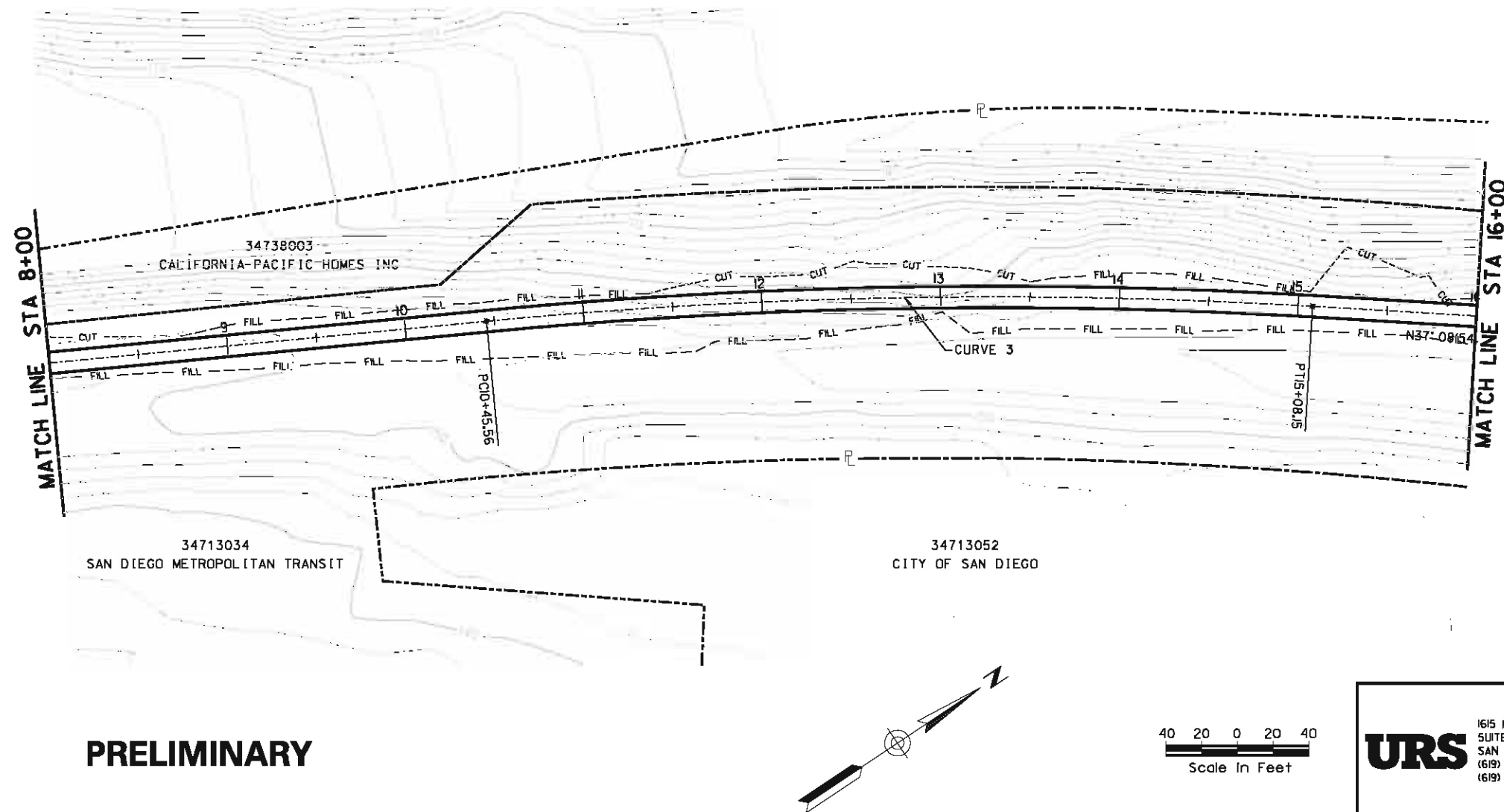


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SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 3
Delta 8° 50' 06"
T= 231.76'
L= 462.60'
R= 3000.00'
E= 8.94'

FIGURE 8.7

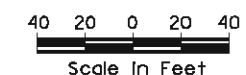
PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 8+00 TO STA 16+00

CITY OF SAN DIEGO, CALIFORNIA
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FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				
CONTRACTOR	DATE STARTED			
INSPECTOR	DATE COMPLETED			

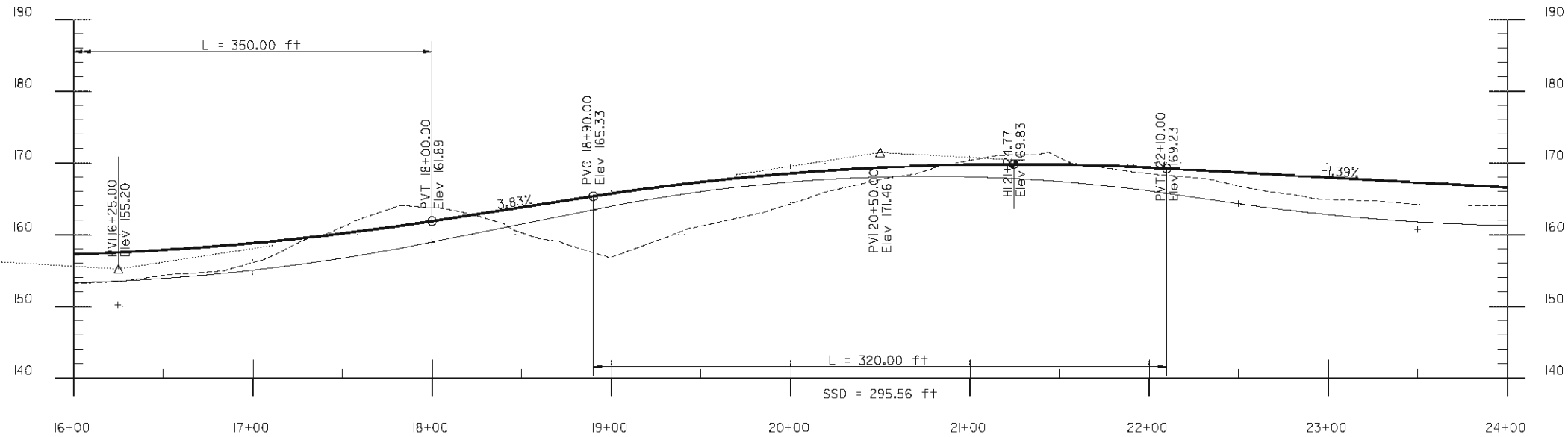
PRELIMINARY



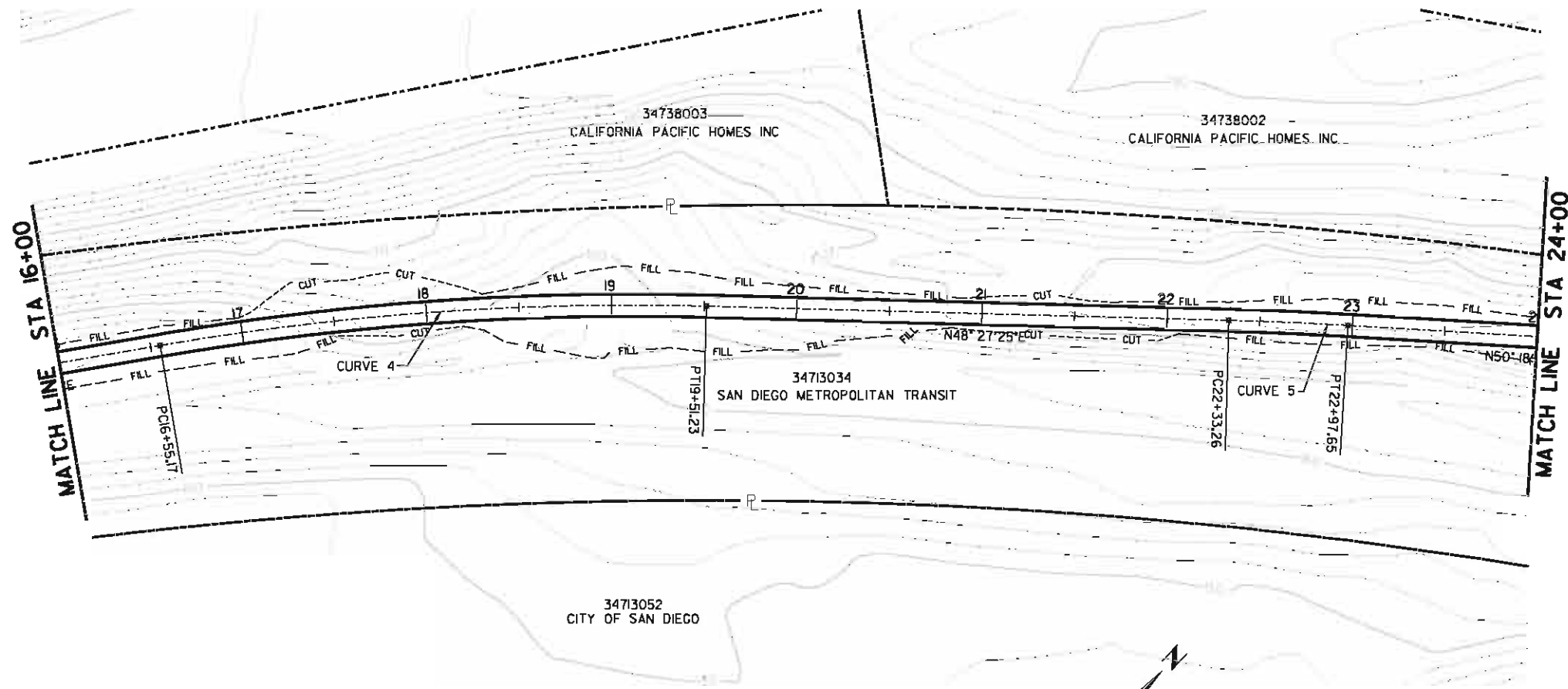
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32186-2 -D



SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 4
Delta 11° 18' 31"
T= 148.51'
L= 296.06'
R= 1500.00'
E= 7.33'

CURVE 5
Delta 1° 50' 41"
T= 32.20'
L= 64.39'
R= 2000.00'
E= 0.26'

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 16+00 TO 24+00

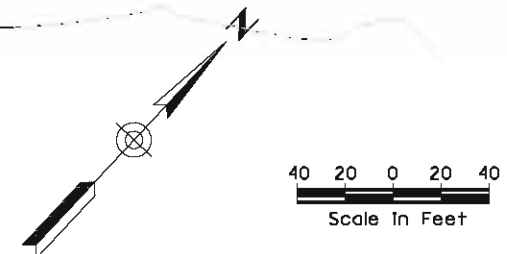
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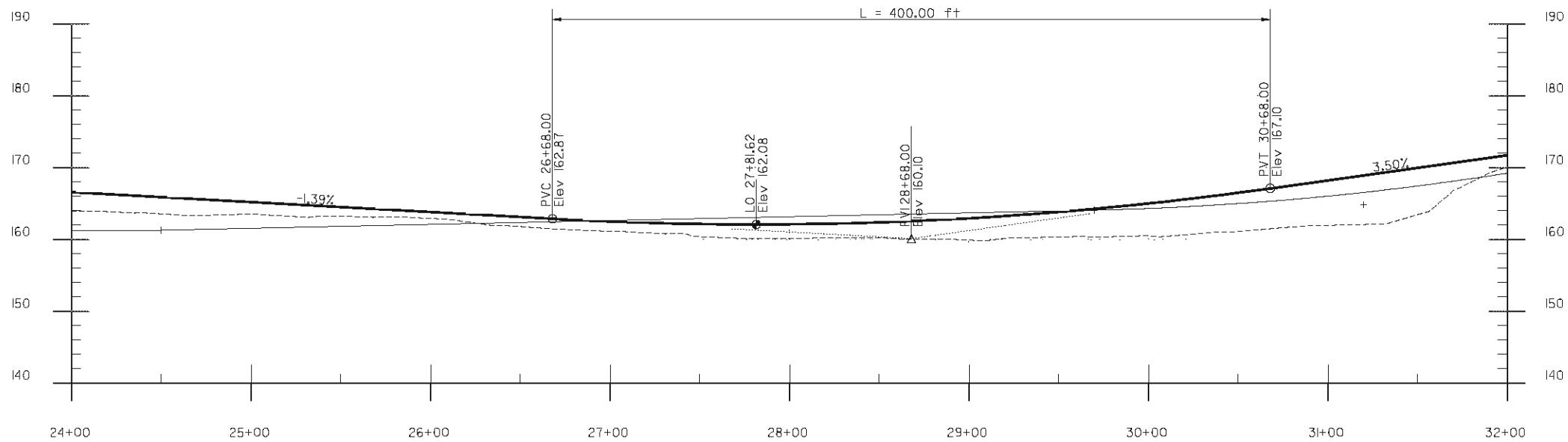
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DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
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CONTRACTOR				DESIGN ENGINEER
INSPECTOR				278-1692
DATE STARTED				LAMBERT COORDINATES
DATE COMPLETED				32186-3-D

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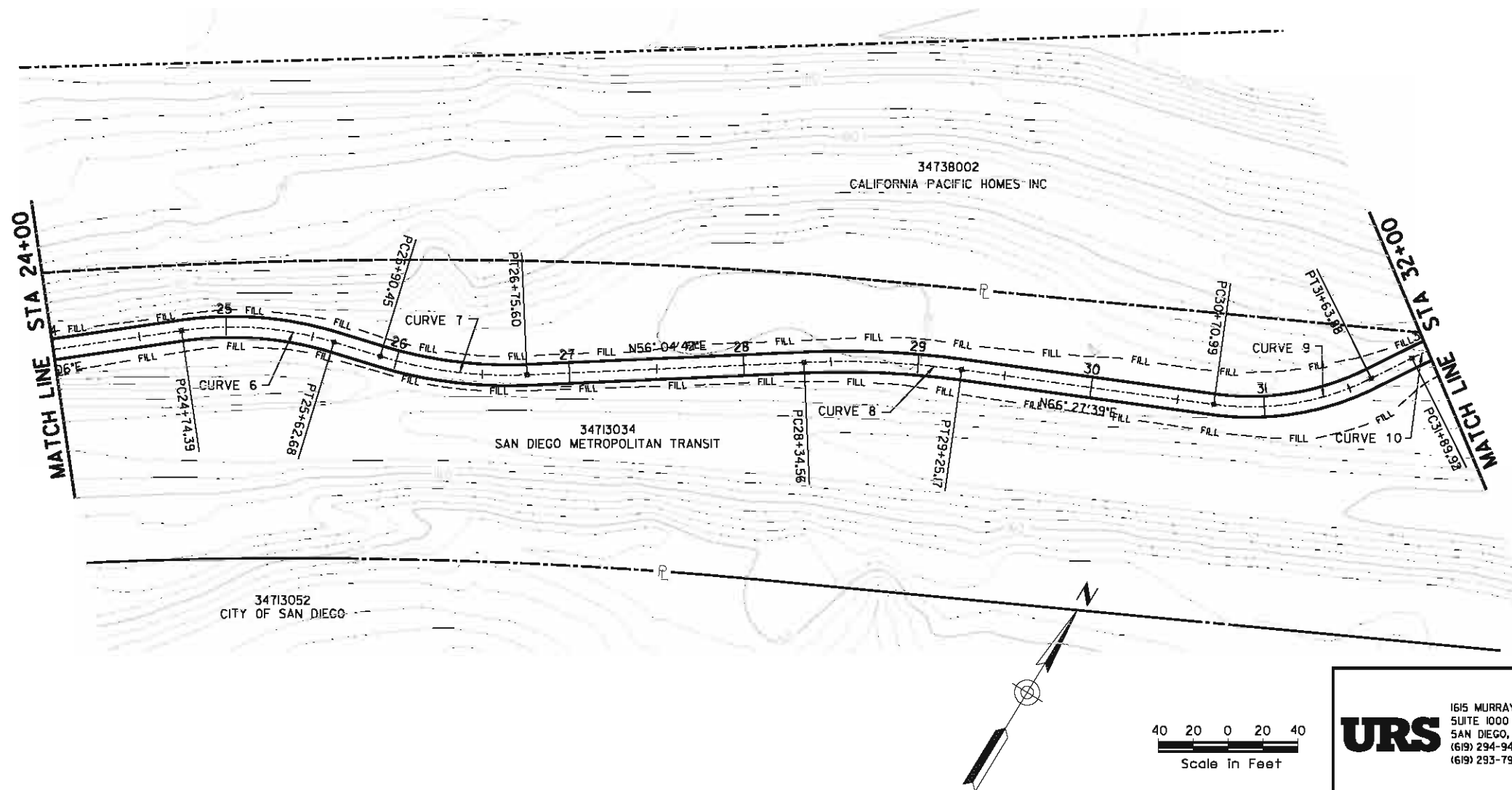


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SCALE: 1"=40' HORIZ
1"= 10' VERT



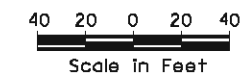
CURVE 6 Delta 25° 17' 32" T= 44.87' L= 88.29' R= 200.00' E= 4.97'	CURVE 7 Delta 19° 30' 56" T= 42.99' L= 85.15' R= 250.00' E= 3.67'	CURVE 8 Delta 10° 22' 57" T= 45.43' L= 90.60' R= 500.00' E= 2.06'
CURVE 9 Delta 34° 20' 19" T= 47.89' L= 92.89' R= 155.00' E= 7.23'	CURVE 10 Delta 24° 53' 38" T= 34.21' L= 67.34' R= 155.00' E= 3.73'	

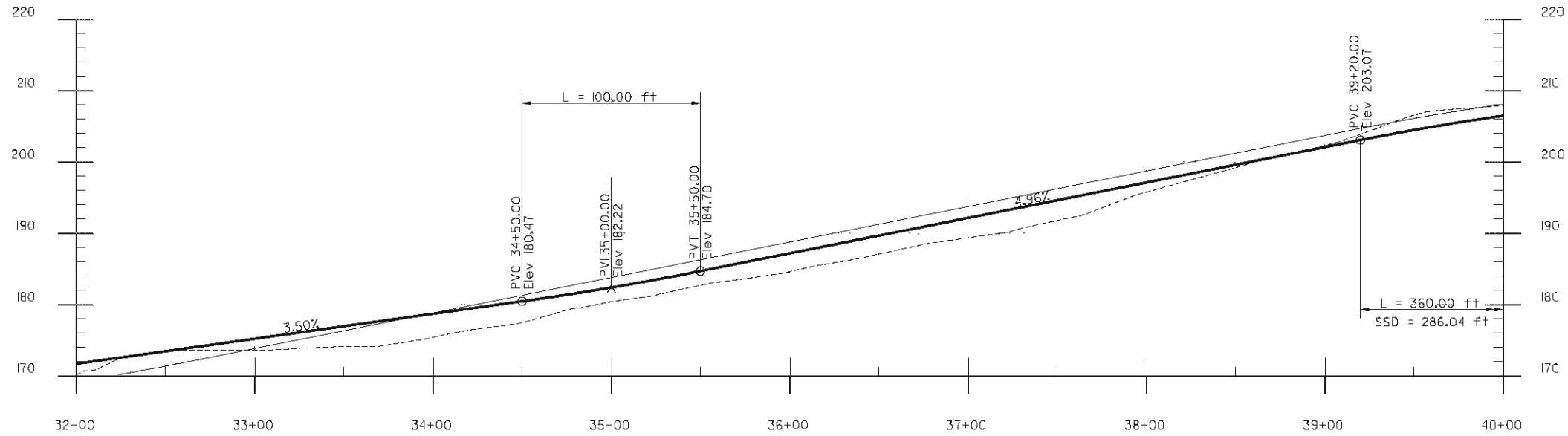
FIGURE 8.7
 PLANS FOR THE CONSTRUCTION OF
 COASTAL RAIL TRAIL
 ROSE CANYON SEGMENT
 PLAN AND PROFILE STA 24+00 TO STA 32+00

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 ENGINEERING DEPARTMENT
 SHEET 4 OF 23 SHEETS
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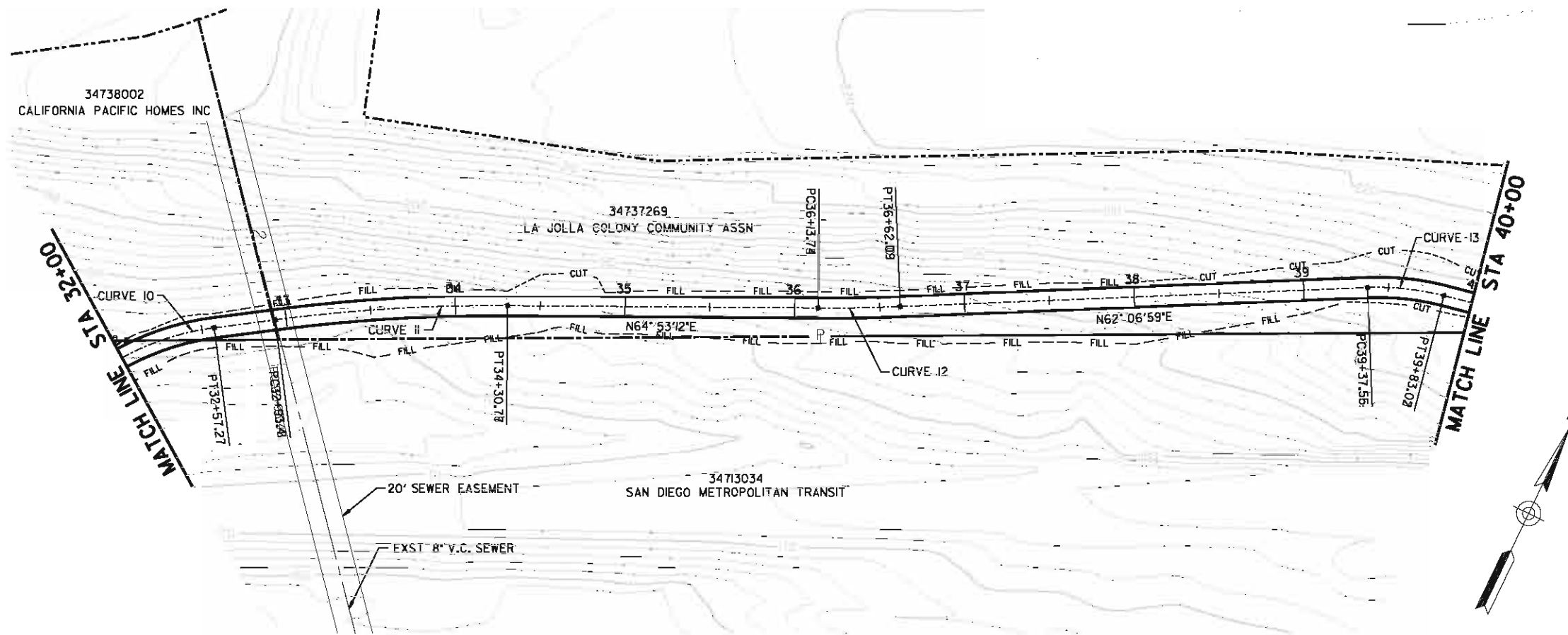
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DESCRIPTION	DATE				
FILE NAME	DATE				
AS-BUILT	DATE STARTED	DATE COMPLETED			
CONTRACTOR INSPECTOR					
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133					PROJECT MANAGER
					DESIGN ENGINEER
					278-1692
					LAMBERT COORDINATES
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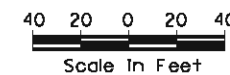




SCALE: 1"=40' HORIZ
1"= 10' VERT



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CURVE 10	CURVE 11	CURVE 12
Delta 24° 53' 38"	Delta 7° 52' 13"	Delta 2° 46' 13"
T= 34.21'	T= 68.79'	T= 24.18'
L= 67.34'	L= 137.36'	L= 48.35'
R= 155.00'	R= 1000.00'	R= 1000.00'
E= 3.73'	E= 2.36'	E= 0.29'

CURVE 13
Delta 16° 48' 31"
T= 22.90'
L= 45.47'
R= 155.00'
E= 1.68'

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 32+00 TO STA 40+00

CITY OF SAN DIEGO, CALIFORNIA
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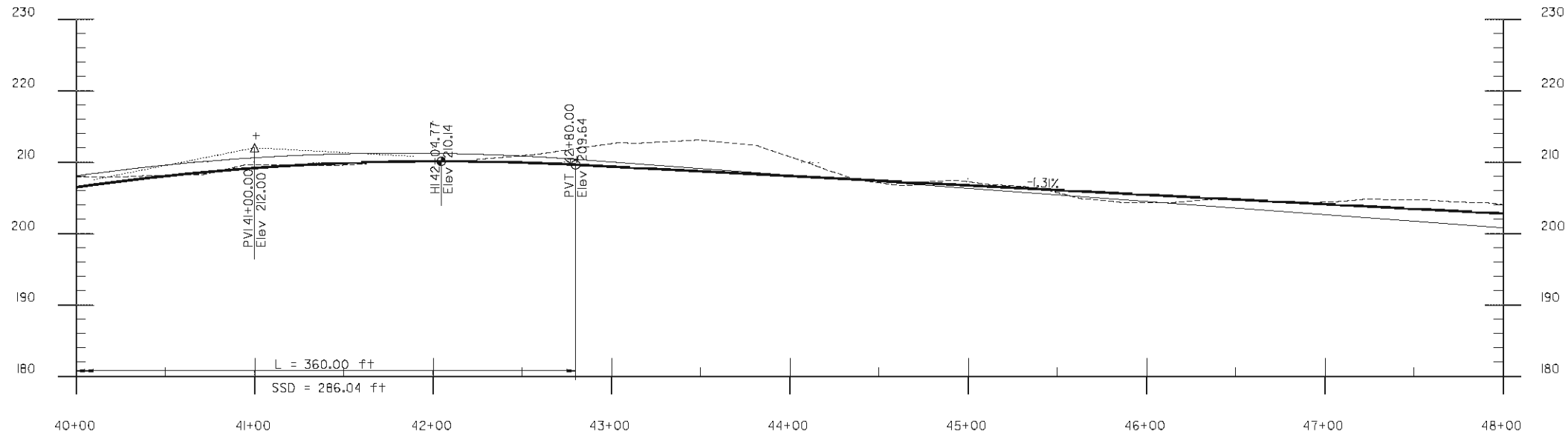
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FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				
CONTRACTOR	DATE STARTED			
INSPECTOR	DATE COMPLETED			

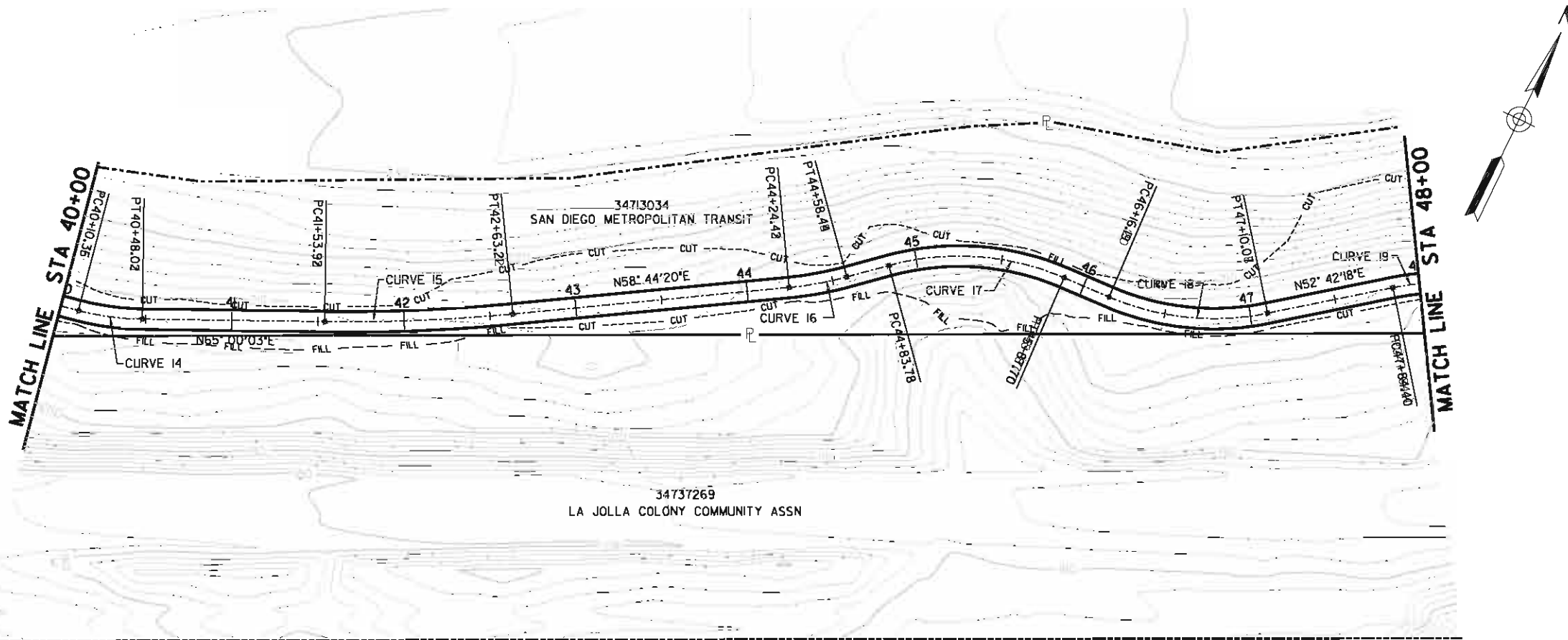
PROJECT MANAGER
DESIGN ENGINEER
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32186-5-D

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SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 14 Delta 13° 55' 27" T= 18.93' L= 37.67' R= 155.00' E= 1.15'	CURVE 15 Delta 6° 15' 43" T= 54.70' L= 109.29' R= 1000.00' E= 1.49'	CURVE 16 Delta 9° 44' 51" T= 17.05' L= 34.03' R= 200.00' E= 0.73'
CURVE 17 Delta 38° 24' 57" T= 54.00' L= 103.92' R= 155.00' E= 9.14'	CURVE 18 Delta 34° 42' 07" T= 48.43' L= 93.88' R= 155.00' E= 7.39'	CURVE 19 Delta 25° 33' 51" T= 35.16' L= 69.16' R= 155.00' E= 3.94'

FIGURE 8.7

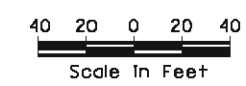
PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
 ROSE CANYON SEGMENT
 PLAN AND PROFILE STA 40+00 TO STA 48+00

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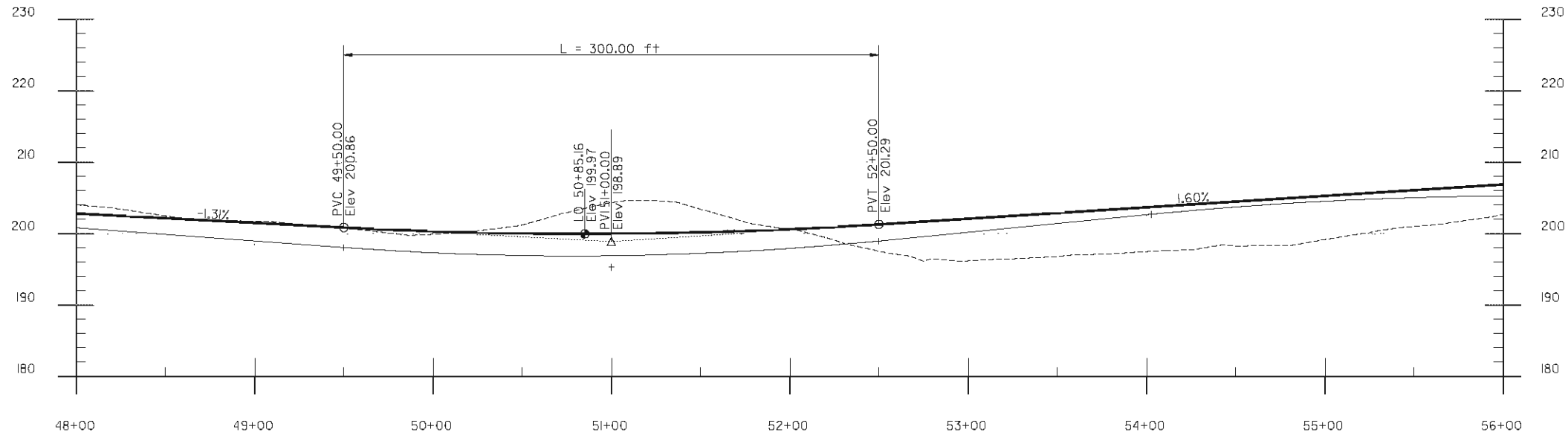
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR INSPECTOR				DESIGN ENGINEER
DATE STARTED				278-1692
DATE COMPLETED				LAMBERT COORDINATES
				32186-6-D



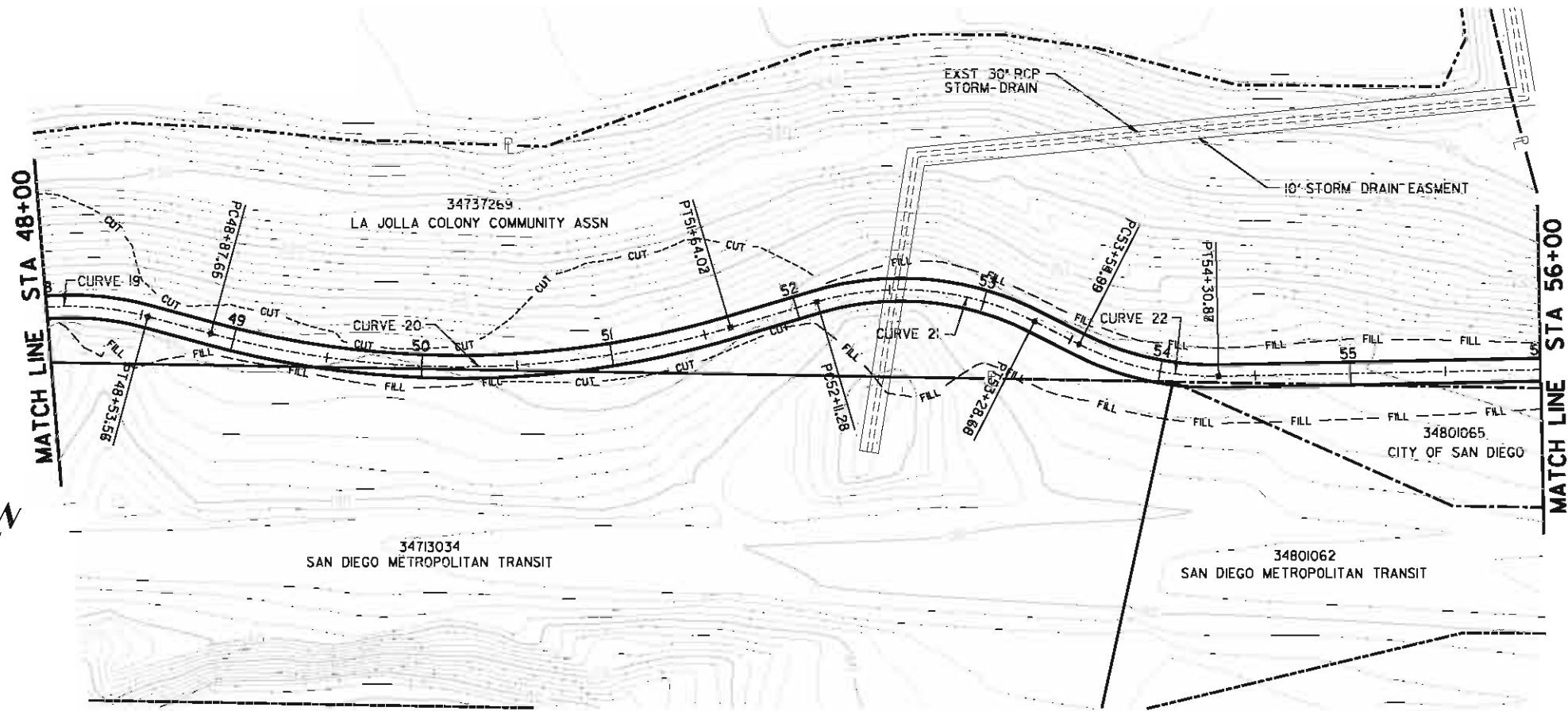
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SCALE: 1"=40' HORIZ
1"= 10' VERT

OFFSET



CURVE 19 Delta 25° 33' 51" T= 35.16' L= 69.16' R= 155.00' E= 3.94'	CURVE 20 Delta 31° 40' 11" T= 141.81' L= 276.37' R= 500.00' E= 19.72'	CURVE 21 Delta 43° 24' 02" T= 61.68' L= 117.41' R= 155.00' E= 11.82'
CURVE 22 Delta 28° 02' 46" T= 38.71' L= 75.87' R= 155.00' E= 4.76'		

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
 ROSE CANYON SEGMENT
 PLAN AND PROFILE STA 48+00 TO STA 56+00

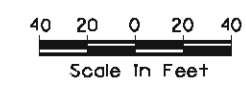
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 ENGINEERING DEPARTMENT
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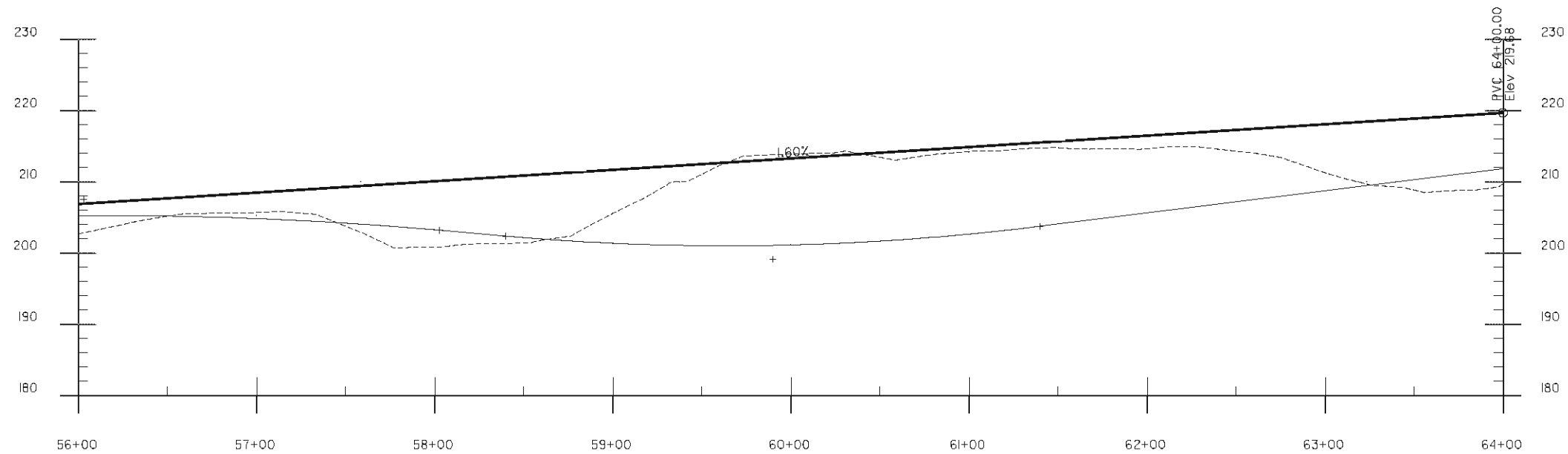
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FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR INSPECTOR				DESIGN ENGINEER
DATE STARTED				278-1692
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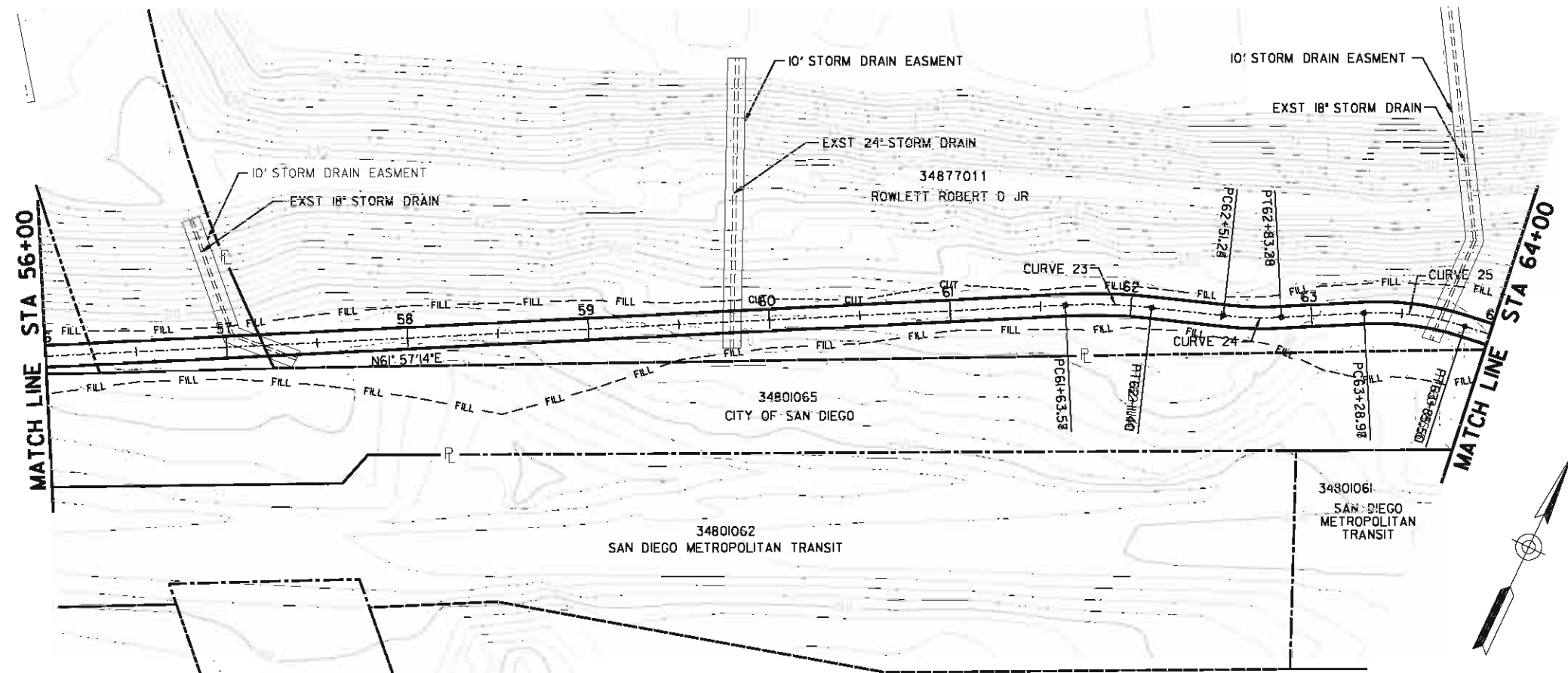
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SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 23	CURVE 24	CURVE 25
Delta 9° 08' 08"	Delta 9° 10' 51"	Delta 20° 53' 47"
T= 23.97'	T= 16.06'	T= 28.58'
L= 47.83'	L= 32.05'	L= 56.53'
R= 300.00'	R= 200.00'	R= 155.00'
E= 0.96'	E= 0.64'	E= 2.61'

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 56+00 TO STA 64+00

CITY OF SAN DIEGO, CALIFORNIA
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FOR CITY ENGINEER	DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED
FILE NAME	DATE	DATE
AS-BUILT	DATE STARTED	DATE COMPLETED
CONTRACTOR	INSPECTOR	

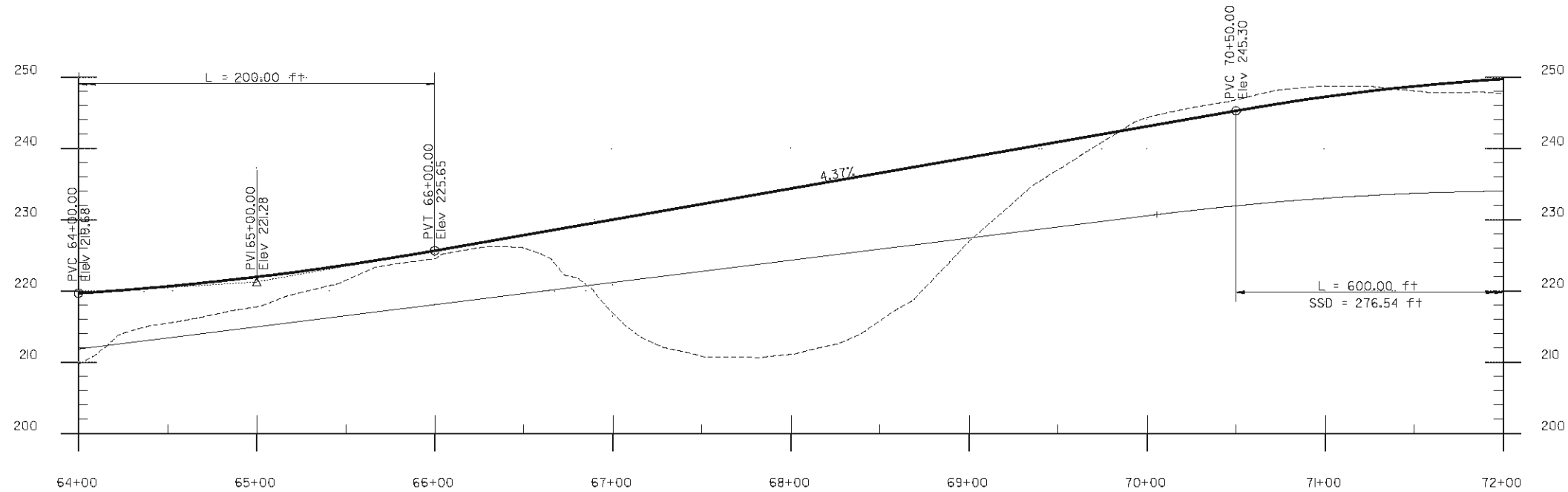
PROJECT MANAGER
DESIGN ENGINEER
278-1692
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32186-8-D

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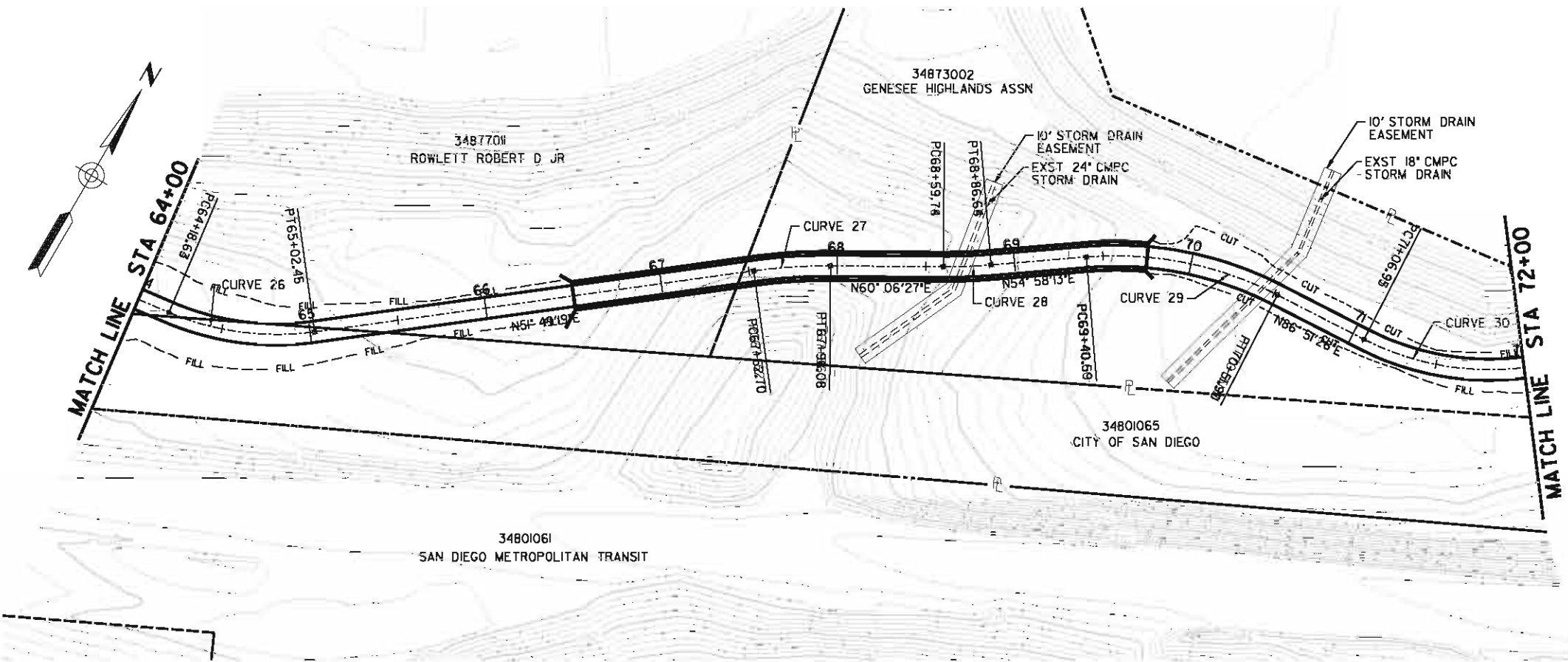
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Scale In Feet

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SAN DIEGO, CA 92108
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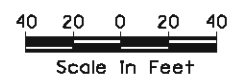
SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 26 Delta 30° 58' 59" T= 42.96' L= 83.82' R= 155.00' E= 5.84'	CURVE 27 Delta 8° 17' 08" T= 13.73' L= 43.38' R= 300.00' E= 0.79'	CURVE 28 Delta 5° 08' 14" T= 13.46' L= 26.90' R= 300.00' E= 0.30'
CURVE 29 Delta 31° 53' 13" T= 57.14' L= 111.31' R= 200.00' E= 8.00'	CURVE 30 Delta 37° 55' 30" T= 53.26' L= 102.60' R= 155.00' E= 8.89'	

FIGURE 8.7
PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 64+00 TO STA 72+00

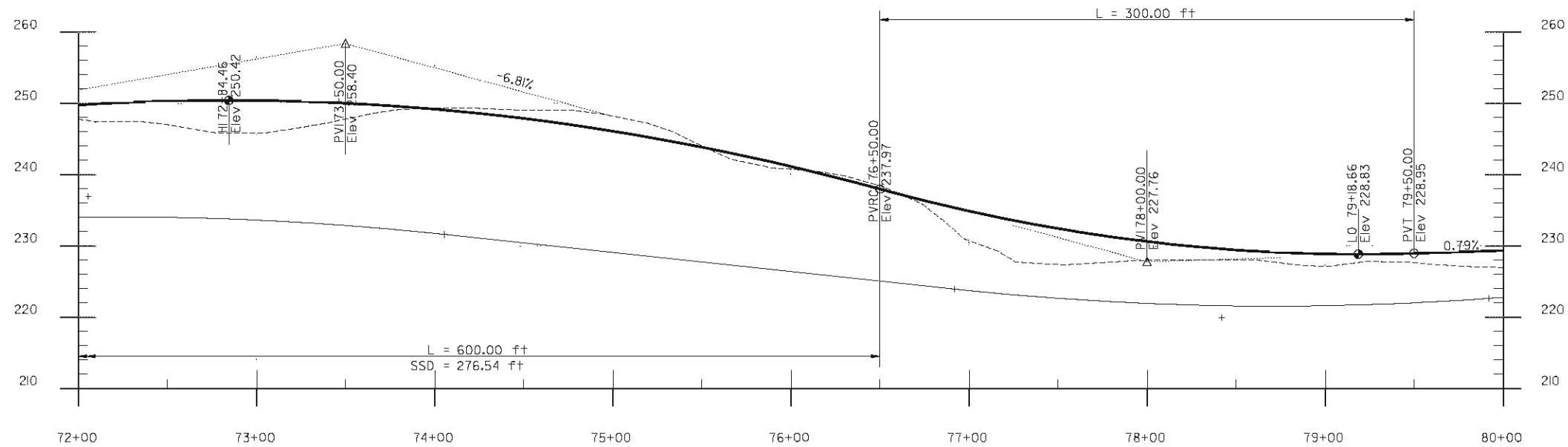
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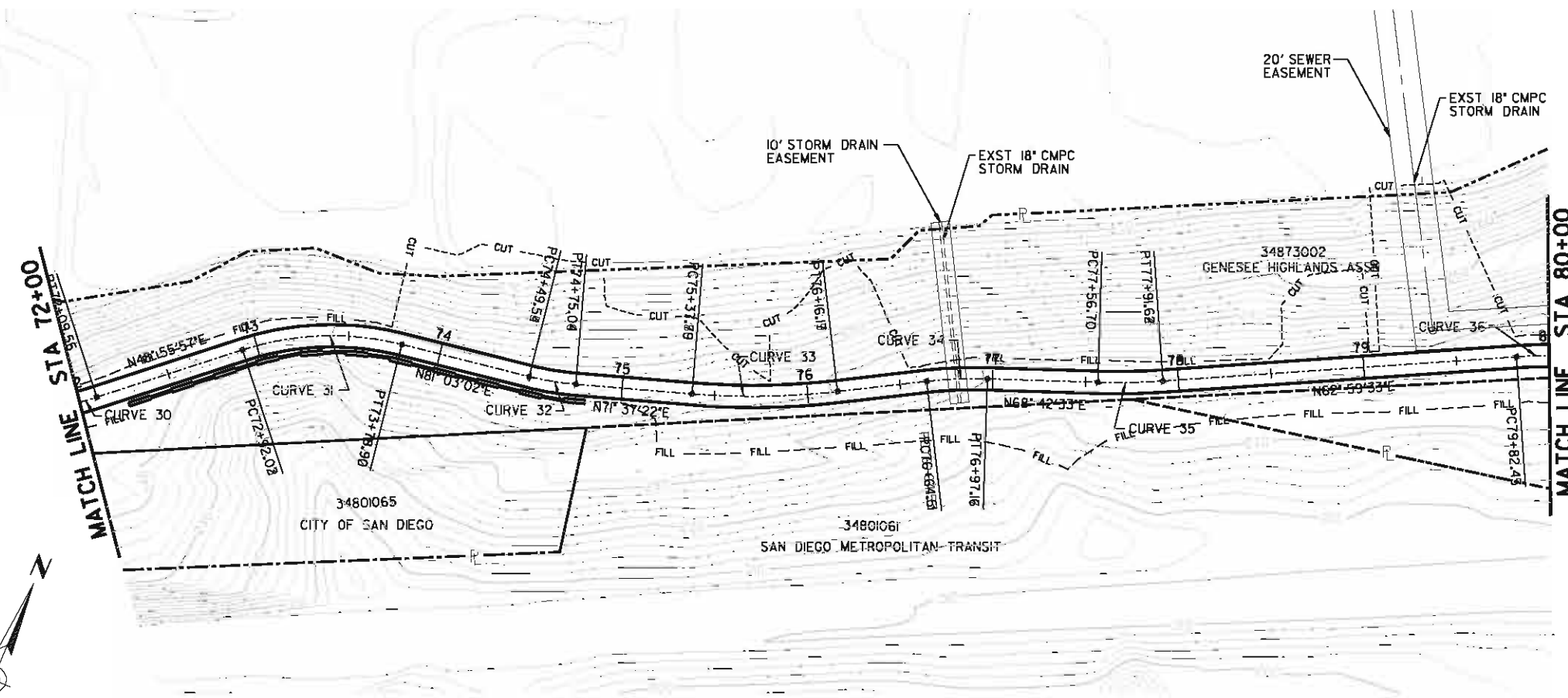
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FILE NAME	DATE	DATE FILMED
AS-BUILT		PROJECT MANAGER
CONTRACTOR INSPECTOR		DESIGN ENGINEER
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Jacqueline.ellers 8/16/2007 10:34:04 AM



SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 30 Delta 37° 55' 30" T= 53.26' L= 102.60' R= 155.00' E= 8.89'	CURVE 31 Delta 32° 07' 06" T= 44.62' L= 86.89' R= 155.00' E= 6.29'	CURVE 32 Delta 9° 25' 41" T= 12.78' L= 25.51' R= 155.00' E= 0.53'
CURVE 33 Delta 11° 13' 38" T= 39.32' L= 78.38' R= 400.00' E= 1.93'	CURVE 34 Delta 8° 18' 49" T= 16.35' L= 32.65' R= 225.00' E= 0.59'	CURVE 35 Delta 5° 43' 00" T= 17.48' L= 34.92' R= 350.00' E= 0.44'
CURVE 36 Delta 7° 47' 35" T= 20.43' L= 40.80' R= 300.00' E= 0.70'		

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 72+00 TO 80+00

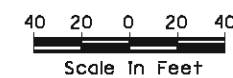
CITY OF SAN DIEGO, CALIFORNIA
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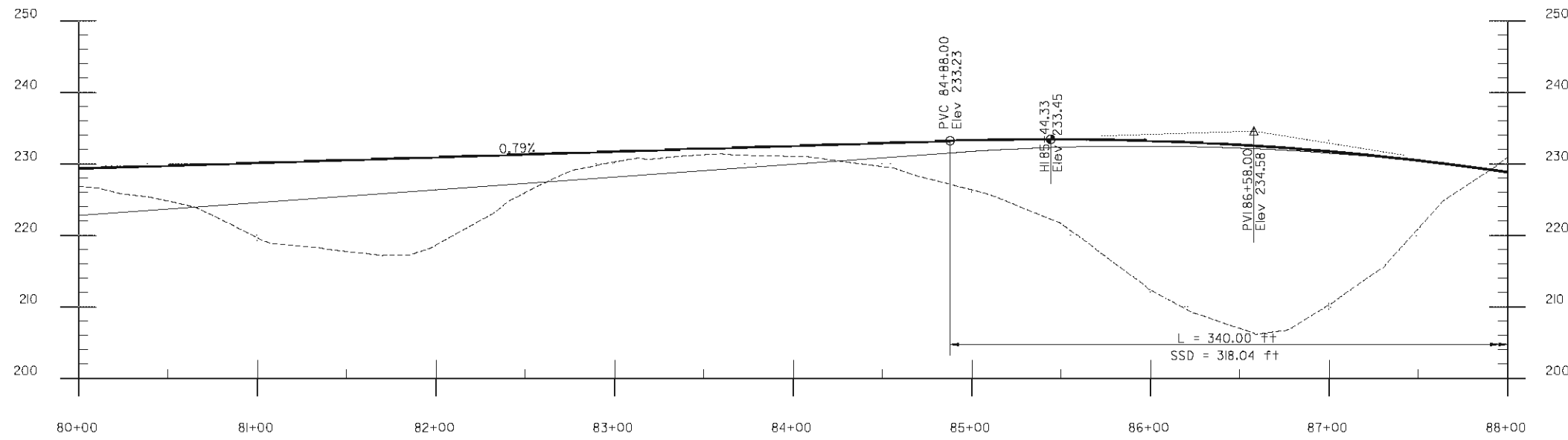
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AS-BUILT						DESIGN ENGINEER
CONTRACTOR INSPECTOR						278-1692
DATE STARTED						LAMBERT COORDINATES
DATE COMPLETED						32186-10-D

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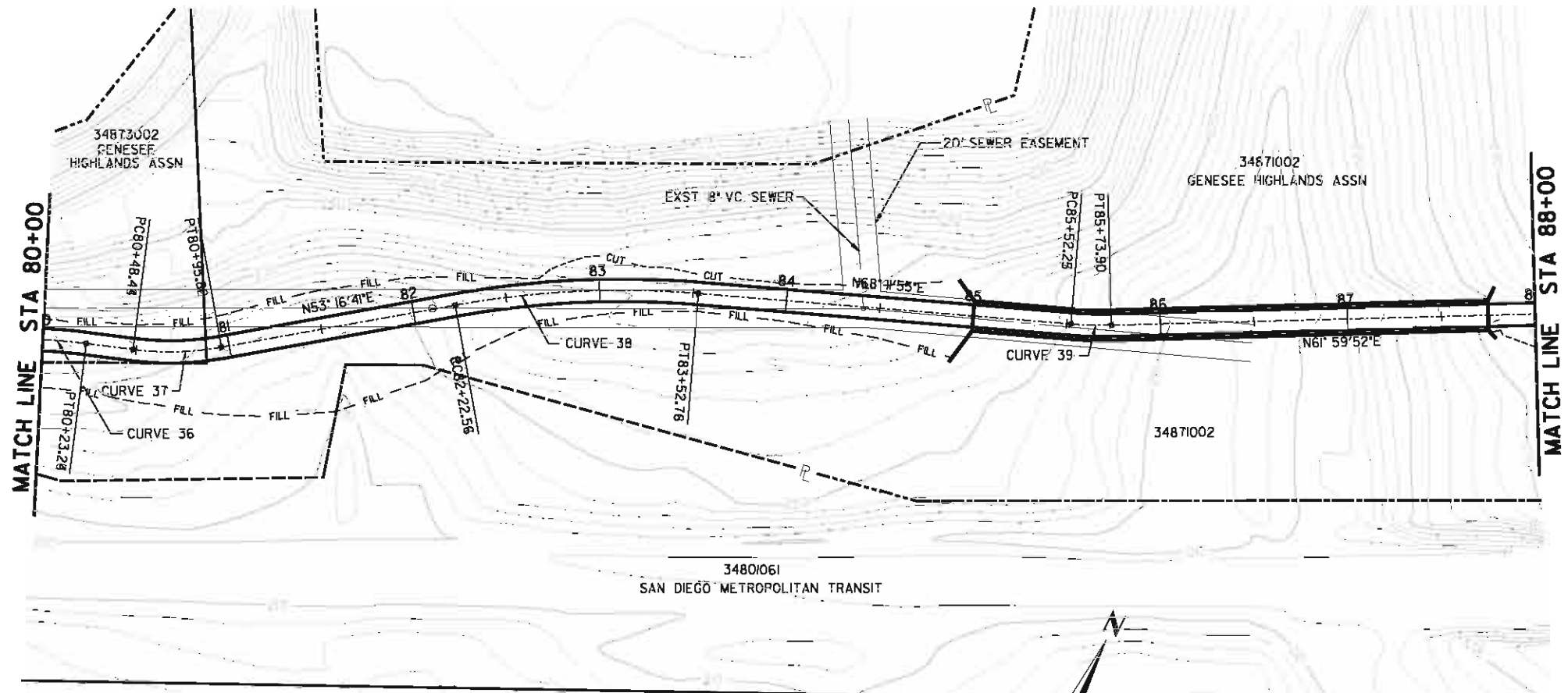
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SCALE: 1"=40' HORIZ
1"= 10' VERT



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CURVE 36 Delta 7° 47' 35" T= 20.43' L= 40.80' R= 300.00' E= 0.70'	CURVE 37 Delta 17° 30' 26" T= 23.87' L= 47.36' R= 155.00' E= 1.83'	CURVE 38 Delta 14° 55' 13" T= 65.47' L= 130.21' R= 500.00' E= 4.27'
CURVE 39 Delta 6° 12' 03" T= 10.83' L= 21.65' R= 200.00' E= 0.29'		

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
 ROSE CANYON SEGMENT
 PLAN AND PROFILE STA 80+00 TO STA 88+00

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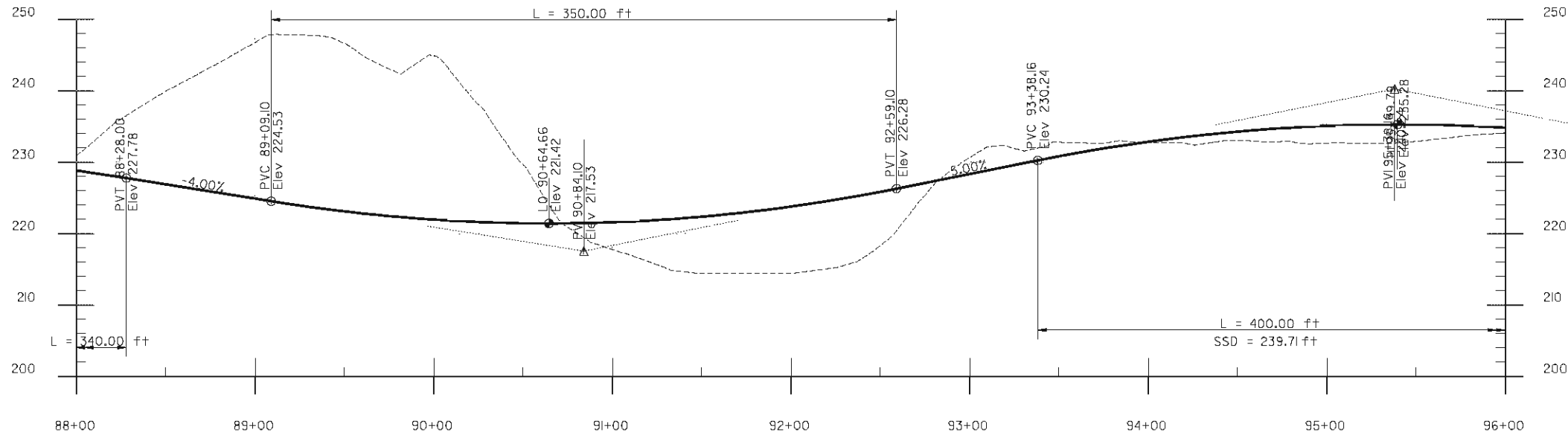
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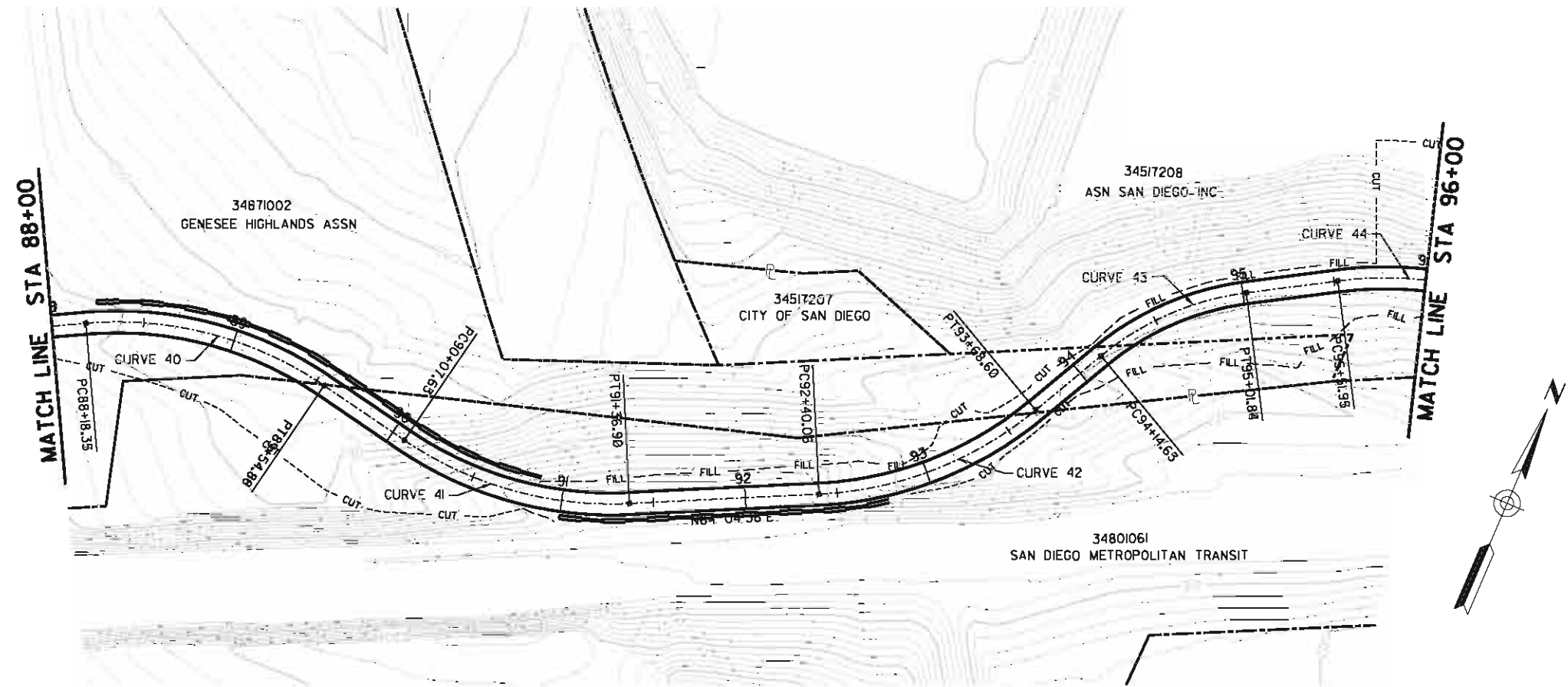
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FILE NAME	DATE			
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CONTRACTOR INSPECTOR				DESIGN ENGINEER
DATE STARTED				278-1692
DATE COMPLETED				LAMBERT COORDINATES
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SCALE: 1"=40' HORIZ
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CURVE 40 Delta 39° 06' 41" T= 71.04' L= 136.52' R= 200.00' E= 12.24'	CURVE 41 Delta 37° 01' 57" T= 66.98' L= 129.27' R= 200.00' E= 10.92'	CURVE 42 Delta 36° 49' 25" T= 66.58' L= 128.54' R= 200.00' E= 10.79'
CURVE 43 Delta 32° 14' 12" T= 44.79' L= 87.21' R= 155.00' E= 6.34'	CURVE 44 Delta 20° 29' 02" T= 36.14' L= 71.50' R= 200.00' E= 3.24'	

FIGURE 8.7

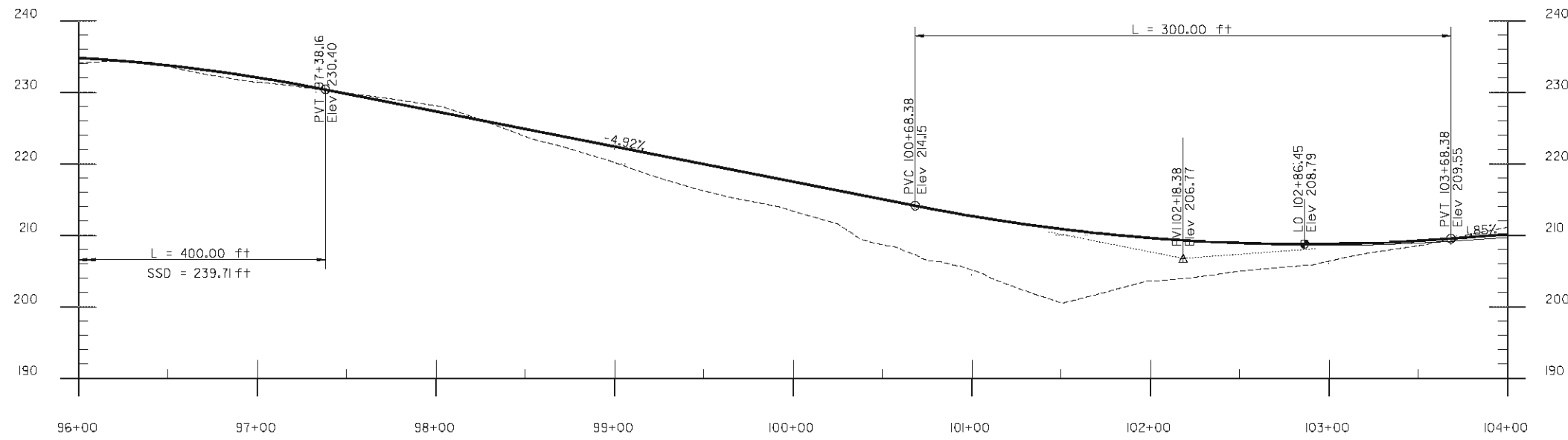
PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 88+00 TO 96+00

CITY OF SAN DIEGO, CALIFORNIA
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SHEET 12 OF 23 SHEETS
W.D. NO. XXXXXX

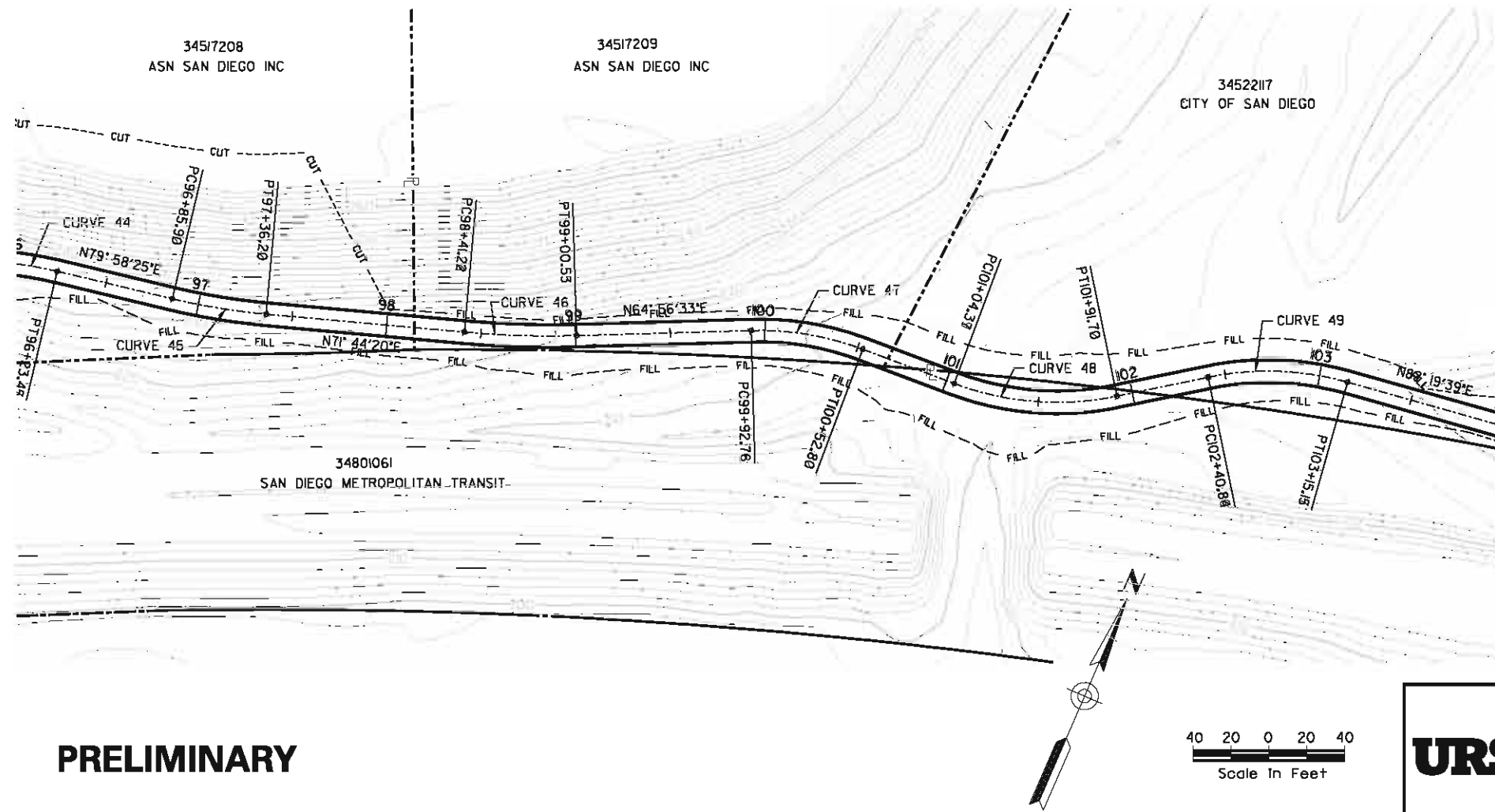
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FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR INSPECTOR				DESIGN ENGINEER
DATE STARTED				278-1692
DATE COMPLETED				LAMBERT COORDINATES
				32186-12-D

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SCALE: 1"=40' HORIZ
1"= 10' VERT



PRELIMINARY

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CURVE 44 Delta 20° 29' 02" T= 36.14' L= 71.50' R= 200.00' E= 3.24'	CURVE 45 Delta 8° 14' 05" T= 25.20' L= 50.30' R= 350.00' E= 0.91'	CURVE 46 Delta 6° 47' 47" T= 29.69' L= 59.31' R= 500.00' E= 0.88'
CURVE 47 Delta 22° 11' 43" T= 30.40' L= 60.04' R= 155.00' E= 2.95'	CURVE 48 Delta 32° 16' 52" T= 44.86' L= 87.33' R= 155.00' E= 6.36'	CURVE 49 Delta 27° 28' 16" T= 37.89' L= 74.32' R= 155.00' E= 4.56'

FIGURE 8.7
PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
 PLAN AND PROFILE STA 96+00 TO STA 104+00

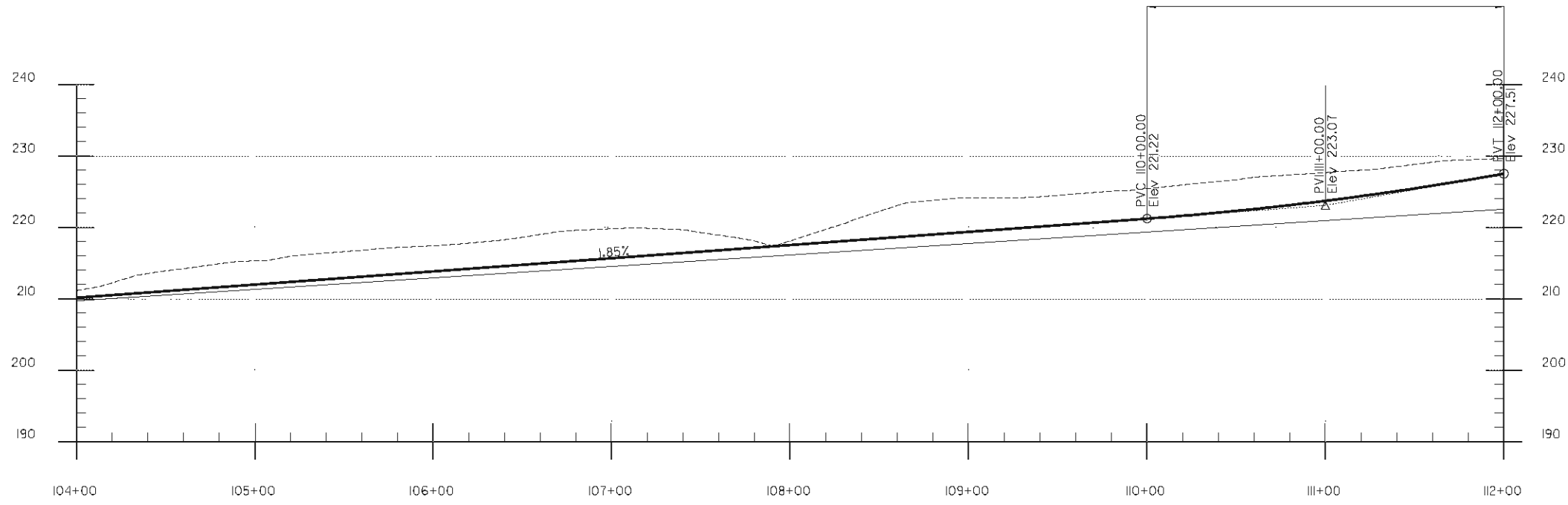
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W.D. NO. XXXXXX

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR				DESIGN ENGINEER
INSPECTOR				278-1692
DATE STARTED				LAMBERT COORDINATES
DATE COMPLETED				32186-13-D

UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133



SCALE: 1"=40' HORIZ
1"= 10' VERT

CURVE 50	CURVE 51	CURVE 52
Delta 8' 06'13"	Delta 10' 29'04"	Delta 5' 05'39"
T= 10.98'	T= 14.22'	T= 44.48'
L= 21.92'	L= 28.36'	L= 88.91'
R= 155.00'	R= 155.00'	R= 1000.00'
E= 0.39'	E= 0.65'	E= 0.99'

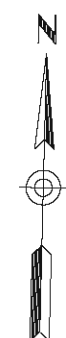
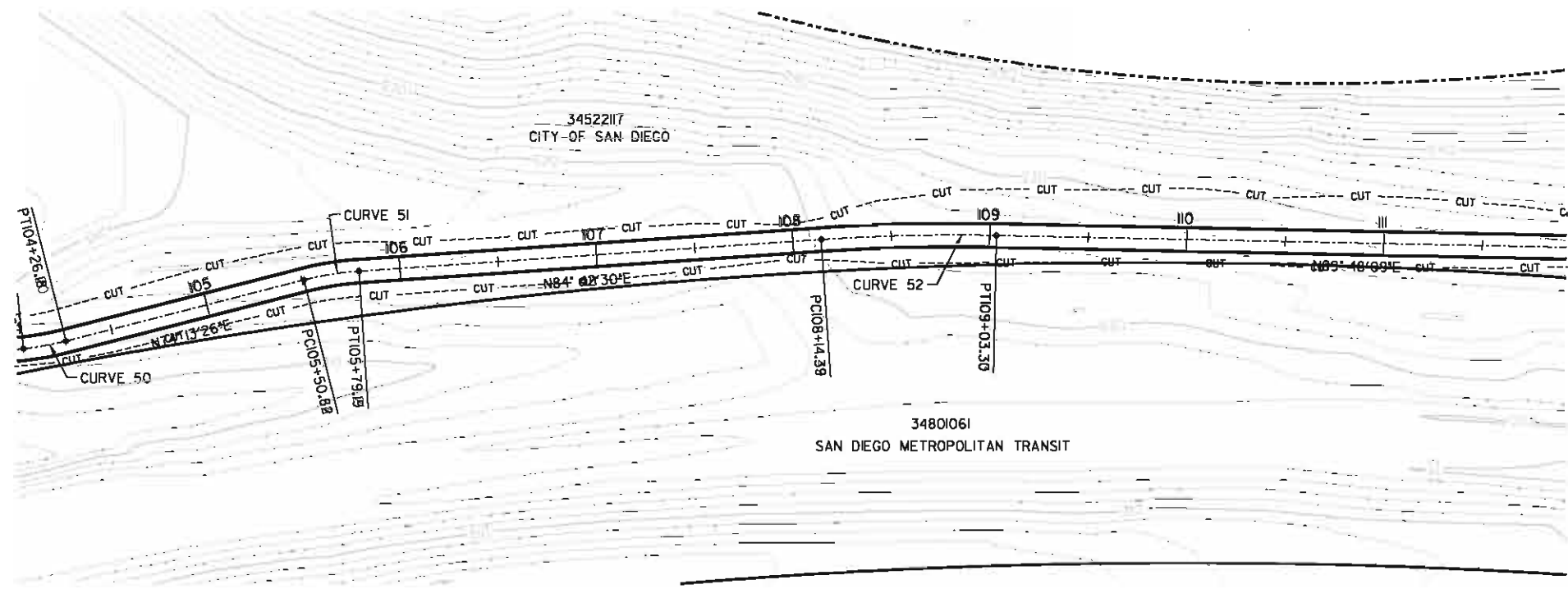
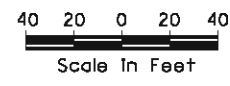


FIGURE 8.7

PRELIMINARY



URS
1615 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
(619) 294-9400
(619) 293-7920

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 104+00 TO STA 112+00

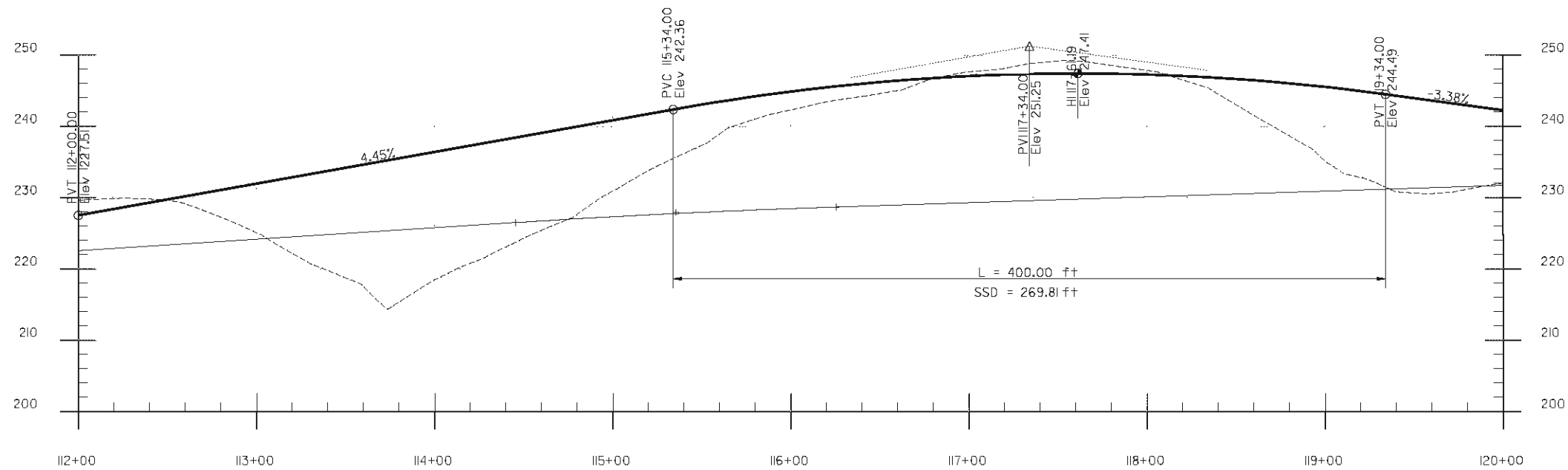
CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 14 OF 23 SHEETS

W.D. NO. XXXXXX

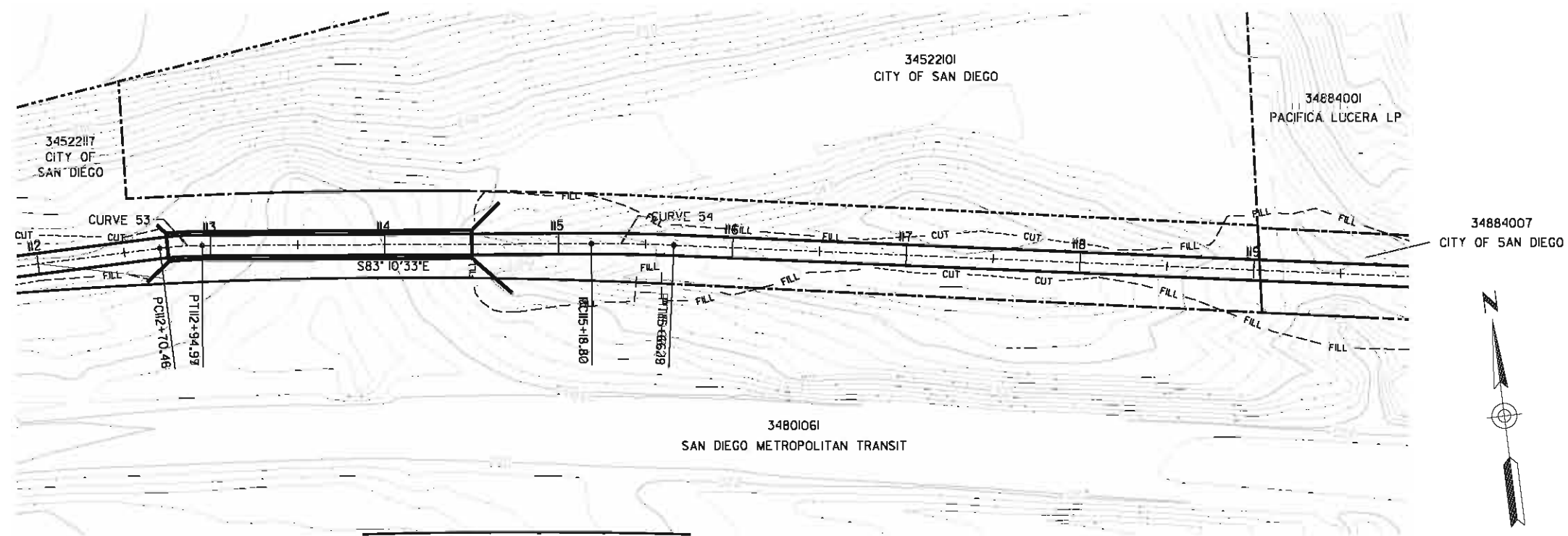
FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	
FILE NAME	DATE			PROJECT MANAGER
				DESIGN ENGINEER
				278-1692
				LAMBERT COORDINATES
AS-BUILT				32186-14-D
CONTRACTOR INSPECTOR		DATE STARTED	DATE COMPLETED	

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133



SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 53
Delta 7° 01'19"
T= 12.27'
L= 24.51'
R= 200.00'
E= 0.38'

CURVE 54
Delta 2° 42'56"
T= 23.70'
L= 47.39'
R= 1000.00'
E= 0.28'

FIGURE 8.7

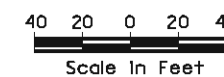
PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 112+00 TO STA 120+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 15 OF 23 SHEETS
W.D. NO. XXXXXX

CONTRACTOR MUST NOTIFY THE
BELOW LISTED AGENCY AT
LEAST TWO (2) WORKING DAYS
PRIOR TO COMMENCEMENT OF
EXCAVATION :

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME:	DATE:			
AS-BUILT				
CONTRACTOR		DATE STARTED		
INSPECTOR		DATE COMPLETED		

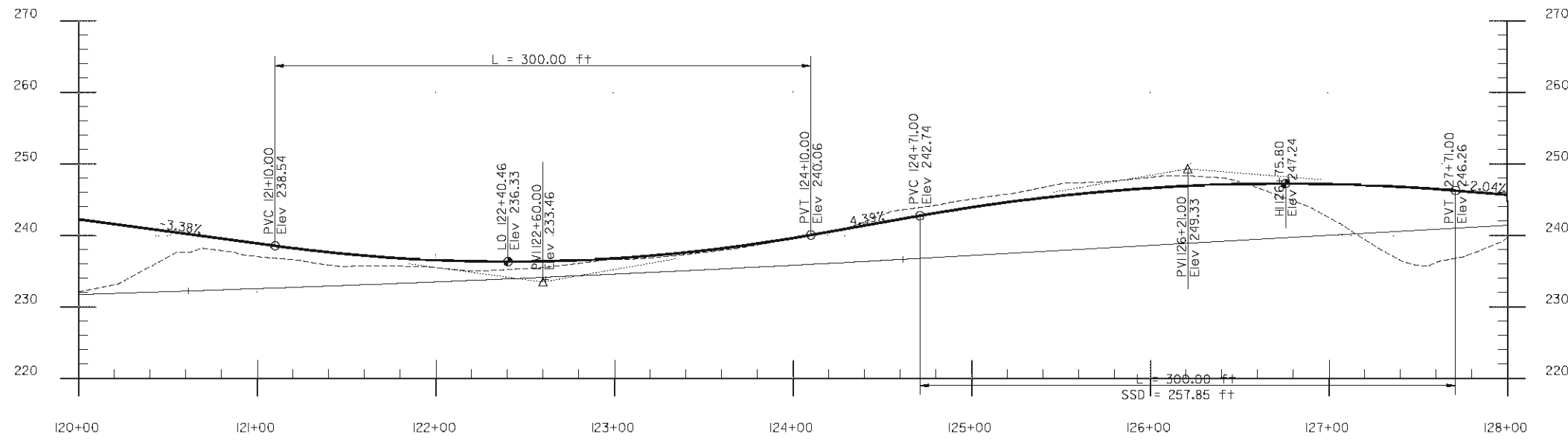
PRELIMINARY



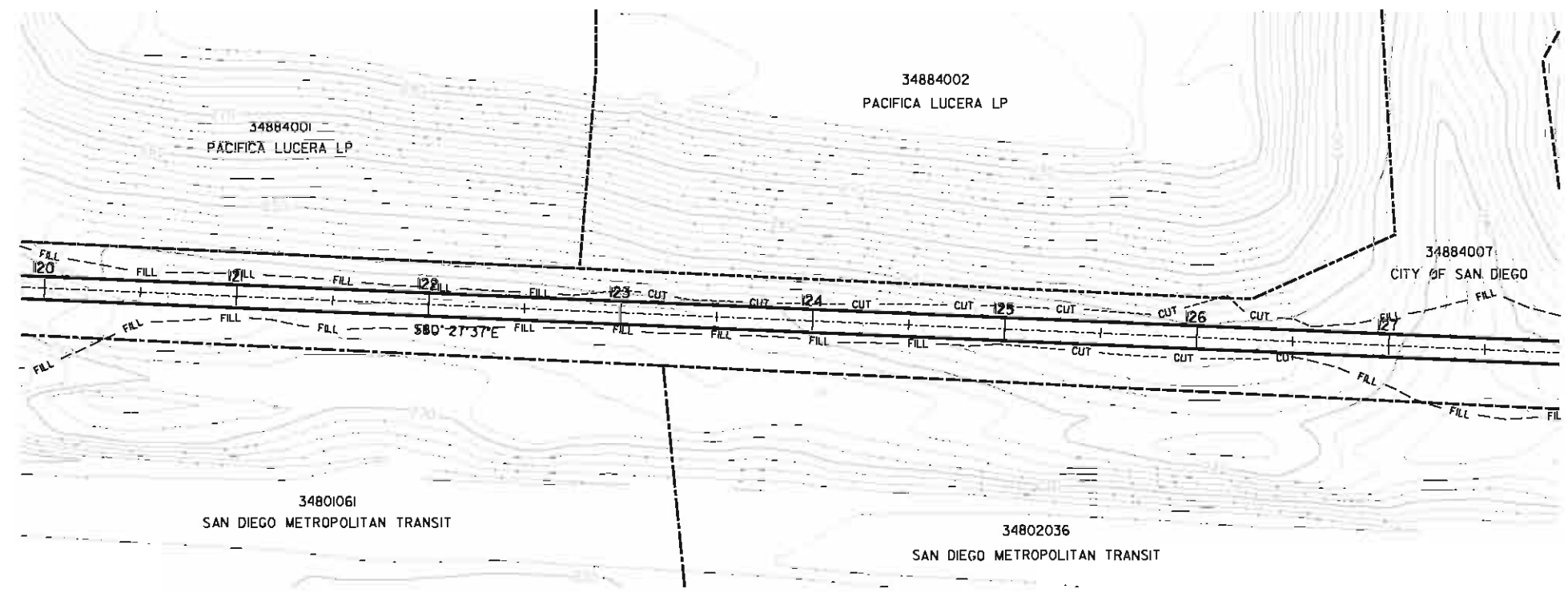
URS
1615 MURRAY CANYON RD
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SAN DIEGO, CA 92108
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(619) 293-7920

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(USA) 1-800-422-4133

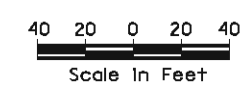
278-1692
LAMBERT COORDINATES
32186-15-D



SCALE: 1"=40' HORIZ
1"= 10' VERT



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FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 120+00 TO STA 128+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 16 OF 23 SHEETS

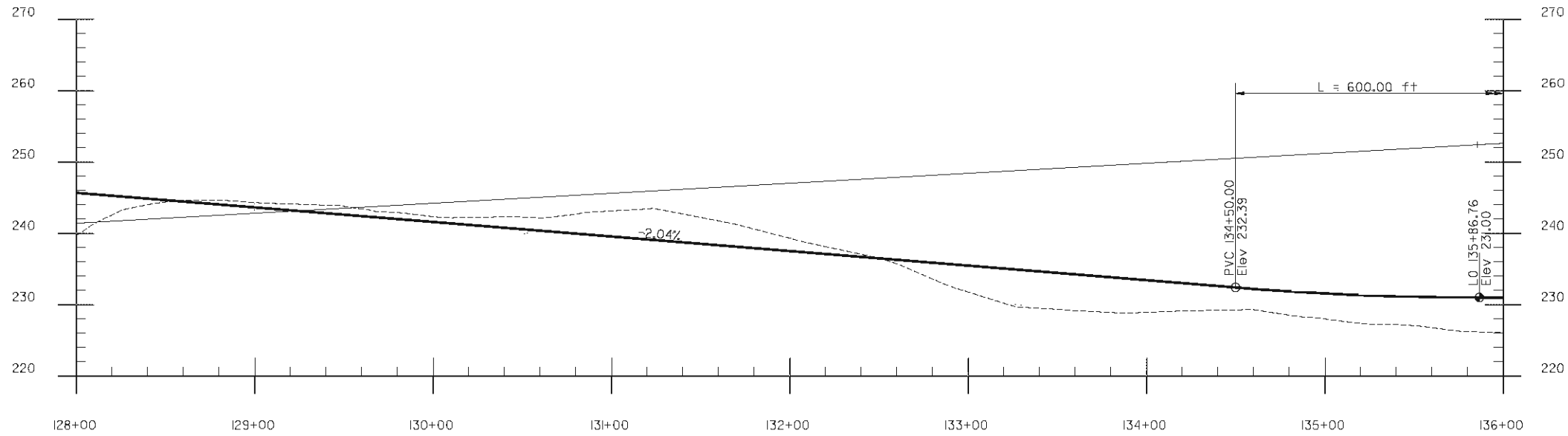
W.D. NO. XXXXXX

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

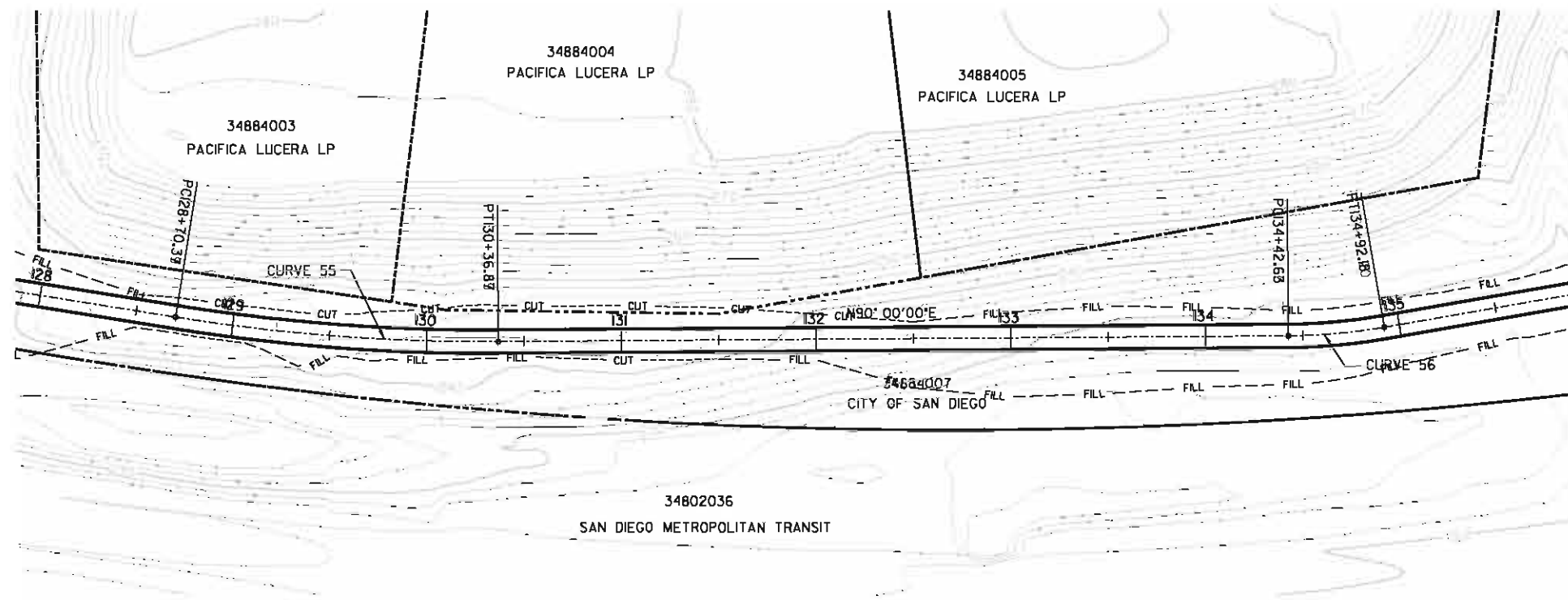
FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NUMBER	DATE			
AS-BUILT				
CONTRACTOR	DATE STARTED			
INSPECTOR	DATE COMPLETED			

PROJECT MANAGER
DESIGN ENGINEER
278-1692
LAMBERT COORDINATES
32186-16-D

UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133



SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 55
Delta 9° 32' 23"
T= 83.44'
L= 166.50'
R= 1000.00'
E= 3.48'

CURVE 56
Delta 9° 27' 44"
T= 24.83'
L= 49.54'
R= 300.00'
E= 1.03'

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 128+00 TO STA 136+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 17 OF 23 SHEETS

W.D. NO. XXXXXX

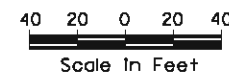
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR				DESIGN ENGINEER
INSPECTOR				278-1692
DATE STARTED				LAMBERT COORDINATES
DATE COMPLETED				32186-17-D

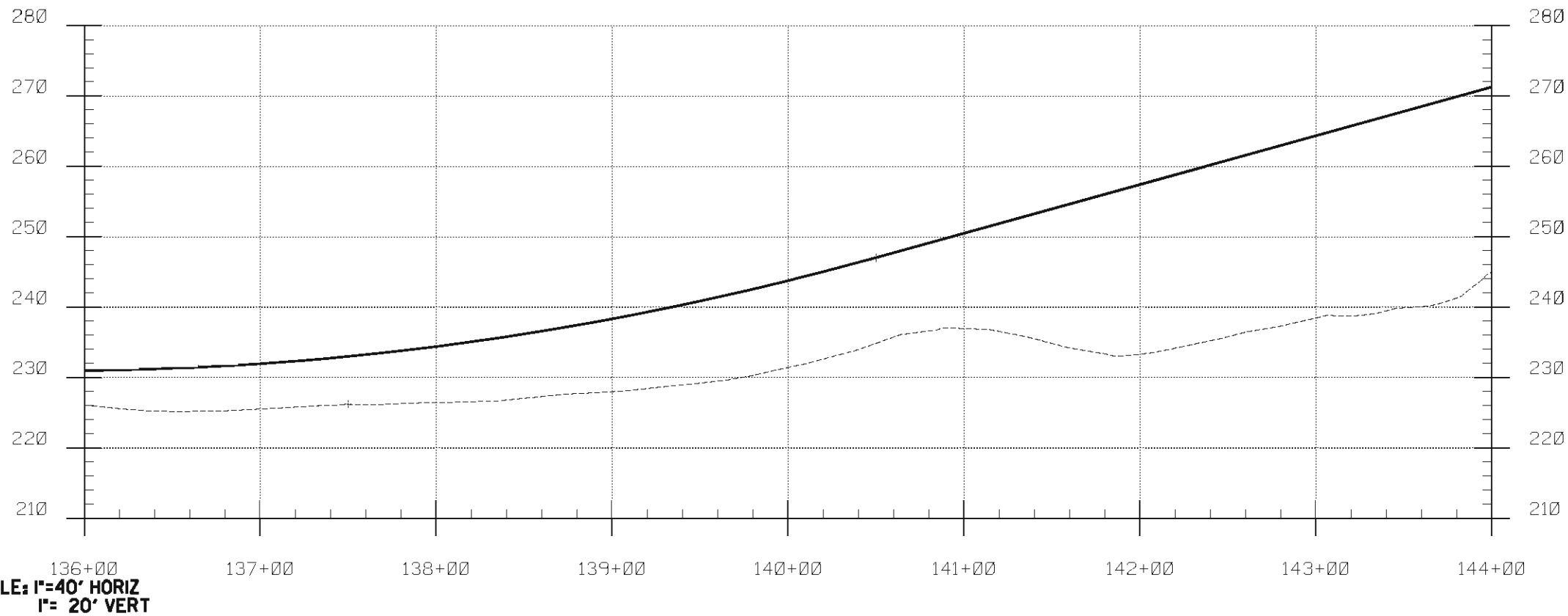
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

jacqueline.olbers 8/16/2007

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CURVE 57	CURVE 58	CURVE 59
Delta 9' 27' 44"	Delta 18' 26' 06"	Delta 156' 24' 06"
T= 24.83'	T= 48.68'	T= 742.00'
L= 49.54'	L= 96.53'	L= 423.11'
R= 300.00'	R= 300.00'	R= 155.00'
E= 1.03'	E= 3.92'	E= 603.02'

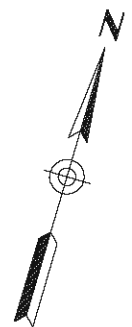
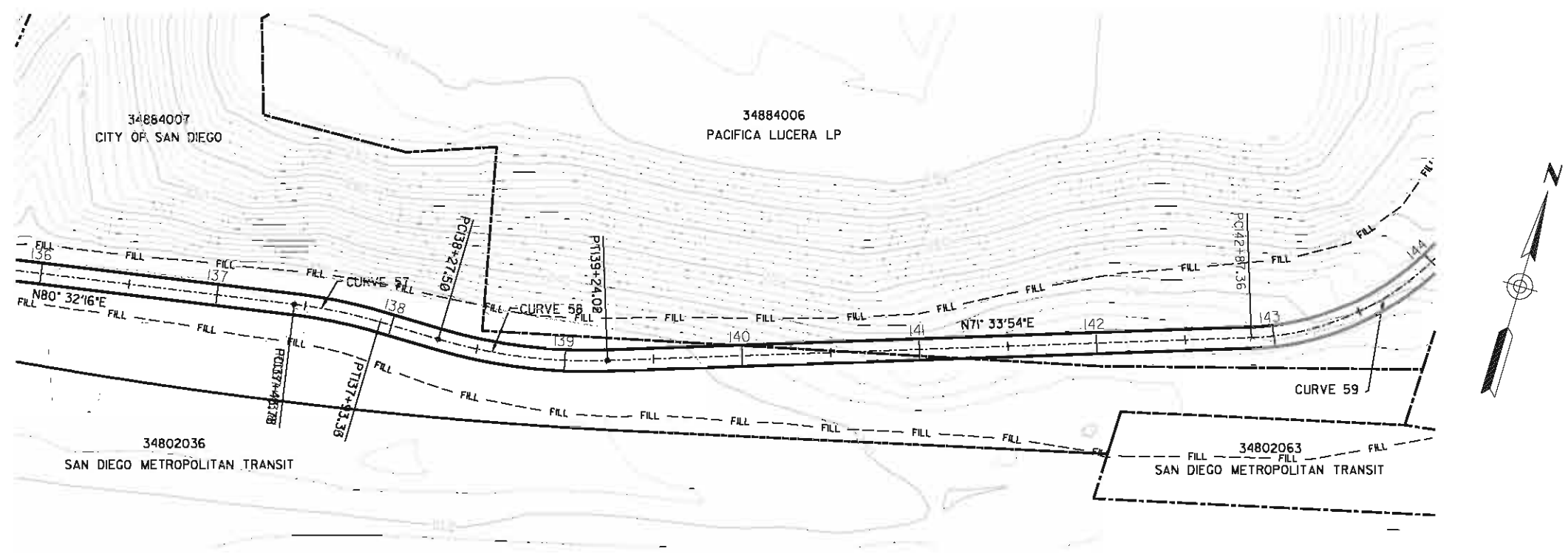
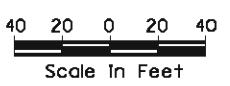


FIGURE 8.7
PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 136+00 TO STA 144+00

PRELIMINARY

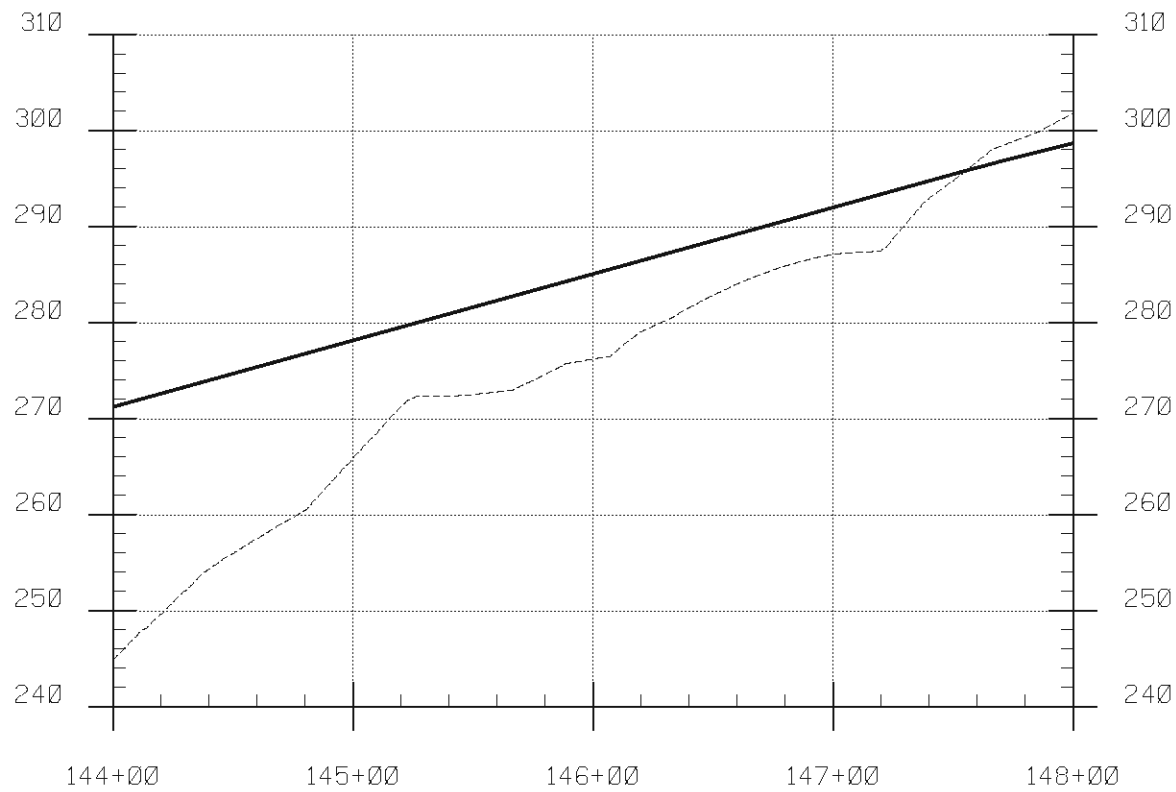


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(619) 293-7920

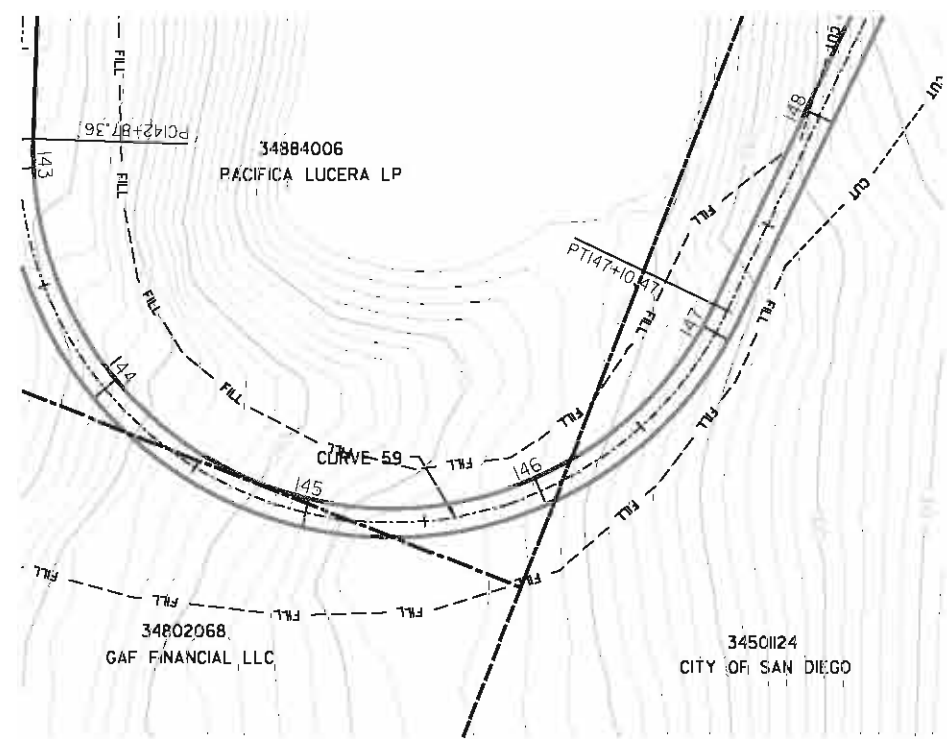
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 18 OF 23 SHEETS		W.D. NO. XXXXXX
FOR CITY ENGINEER	DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED
FILE NAME	DATE	DATE FILMED
AS-BUILT		PROJECT MANAGER
CONTRACTOR		DESIGN ENGINEER
INSPECTOR		278-1692
DATE STARTED		LAMBERT COORDINATES
DATE COMPLETED		32186-18-D



SCALE: 1"=40' HORIZ
1"= 20' VERT



CURVE 59
Delta 156° 24' 06"
T= 742.00'
L= 423.11'
R= 155.00'
E= 603.02'

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 144+00 TO STA 148+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 19 OF 23 SHEETS

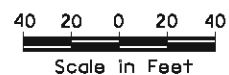
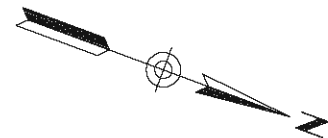
W.D. NO. XXXXXX

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

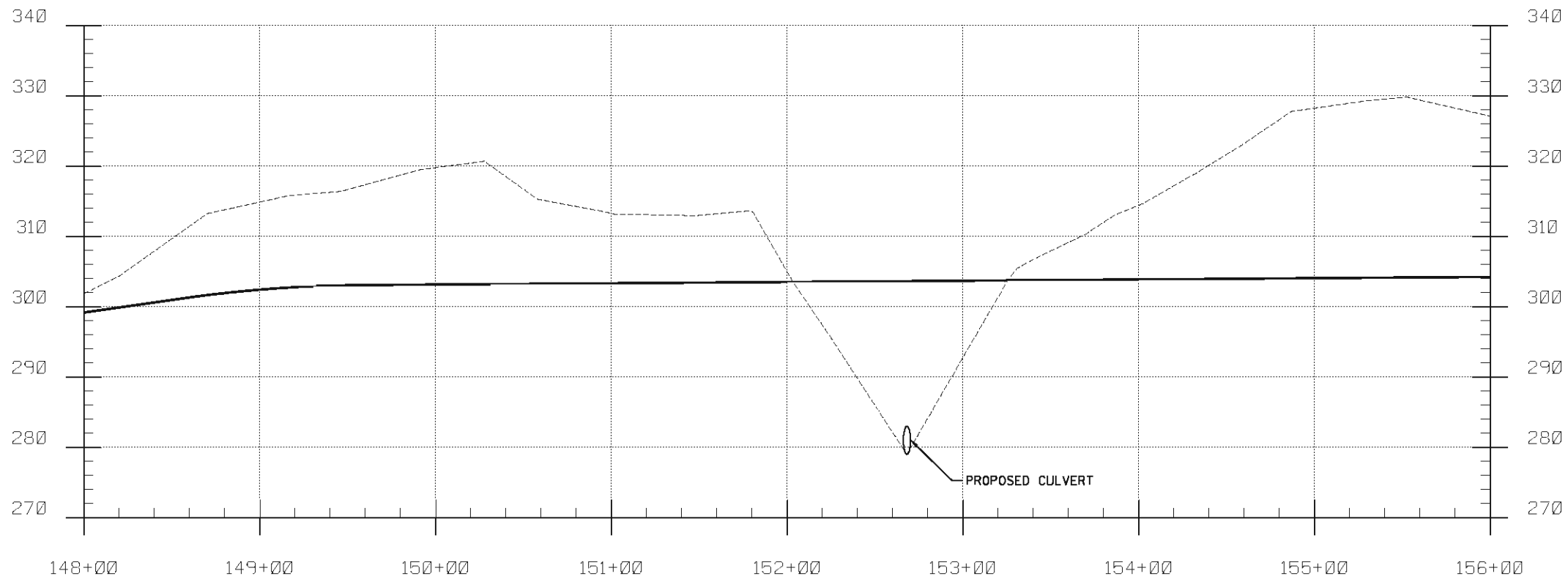
FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				PROJECT MANAGER
CONTRACTOR INSPECTOR				DESIGN ENGINEER
DATE STARTED				278-1692
DATE COMPLETED				LAMBERT COORDINATES
				32186-19-D

UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

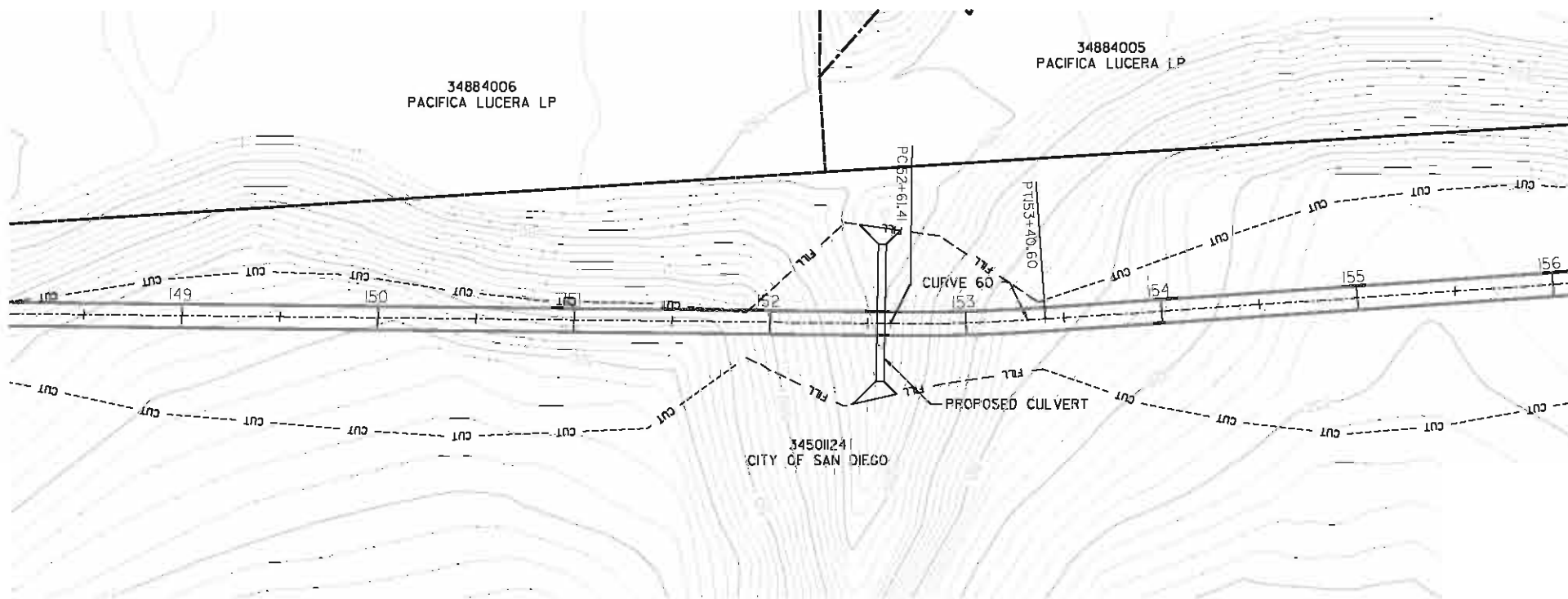
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1615 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
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(619) 293-7920



SCALE: 1"=40' HORIZ
1"= 20' VERT



CURVE 60
Delta 4° 32'15"
T= 39.62'
L= 79.19'
R= 155.00'
E= 0.78'

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 148+00 TO STA 156+00

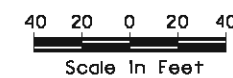
CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 20 OF 23 SHEETS
W.D. NO. XXXXXX

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

FOR CITY ENGINEER					DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED		
FILE NAME	DATE					PROJECT MANAGER
						DESIGN ENGINEER
						278-1692
						LAMBERT COORDINATES
AS-BUILT						32186-20-D
CONTRACTOR		DATE STARTED				
INSPECTOR		DATE COMPLETED				

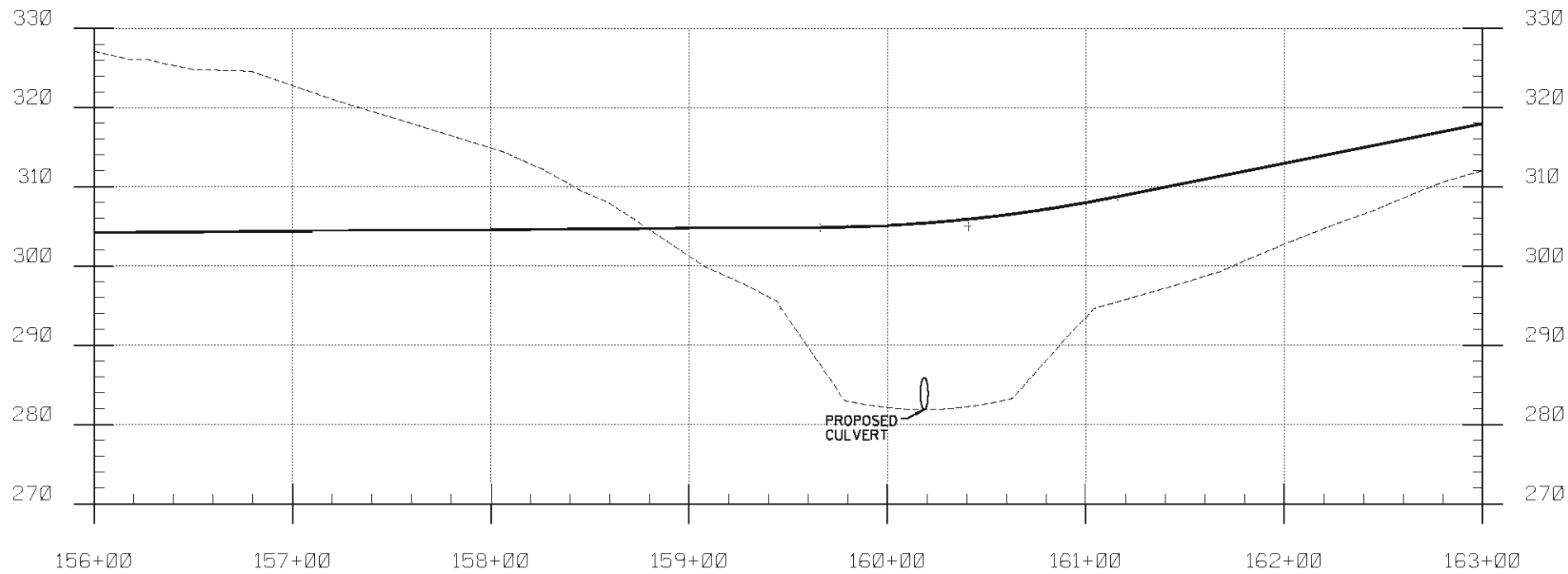
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

PRELIMINARY

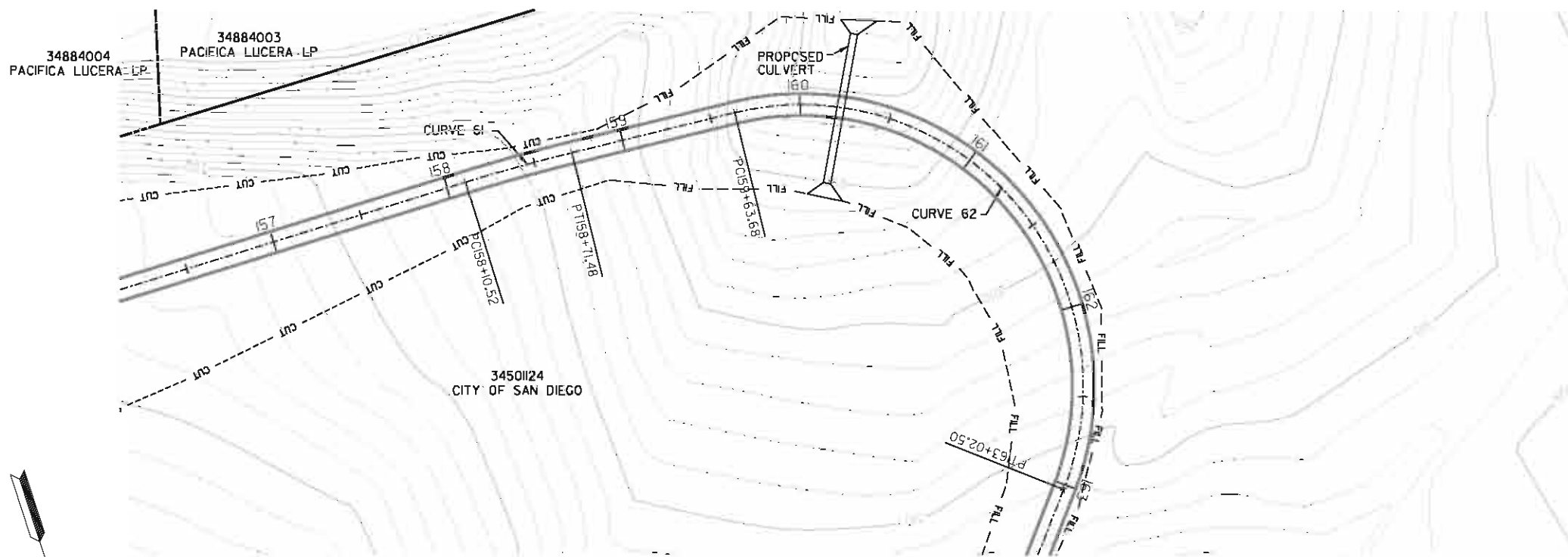


URS

1615 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
(619) 294-9400
(619) 293-7920



SCALE: 1"=40' HORIZ
1"= 10' VERT



CURVE 61	CURVE 62
Delta 3° 29' 32"	Delta 125° 14' 39"
T= 30.49'	T= 299.31'
L= 60.95'	L= 338.82'
R= 1000.00'	R= 155.00'
E= 0.46'	E= 182.06'

FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 156+00 TO STA 163+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 21 OF 23 SHEETS

W.D. NO. XXXXXX

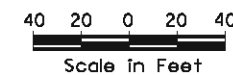
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

FOR CITY ENGINEER					DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED		
FILE NAME	DATE					PROJECT MANAGER
						DESIGN ENGINEER
						278-1692
						LAMBERT COORDINATES
AS-BUILT						32186-21-D
CONTRACTOR		DATE STARTED				
INSPECTOR		DATE COMPLETED				

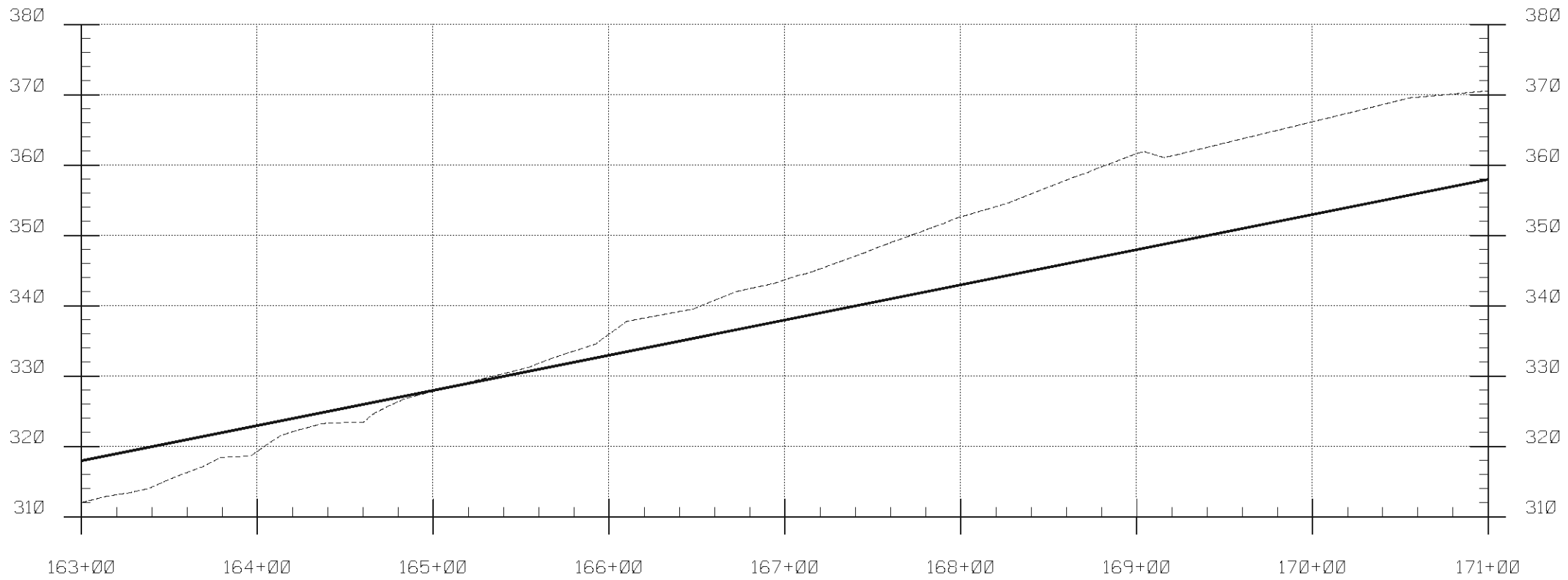
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

32186-21-D

PRELIMINARY



URS
1615 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
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(619) 293-7920



SCALE: 1"=40' HORIZ
1"= 10' VERT

CURVE 62	CURVE 63	CURVE 64	CURVE 65
Delta 125° 14' 39"	Delta 11° 41' 45"	Delta 8° 02' 41"	Delta 1° 36' 55"
T= 299.31'	T= 51.21'	T= 70.32'	T= 42.29'
L= 338.82'	L= 102.07'	L= 140.41'	L= 84.57'
R= 155.00'	R= 500.00'	R= 1000.00'	R= 3000.00'
E= 182.06'	E= 2.62'	E= 2.47'	E= 0.30'

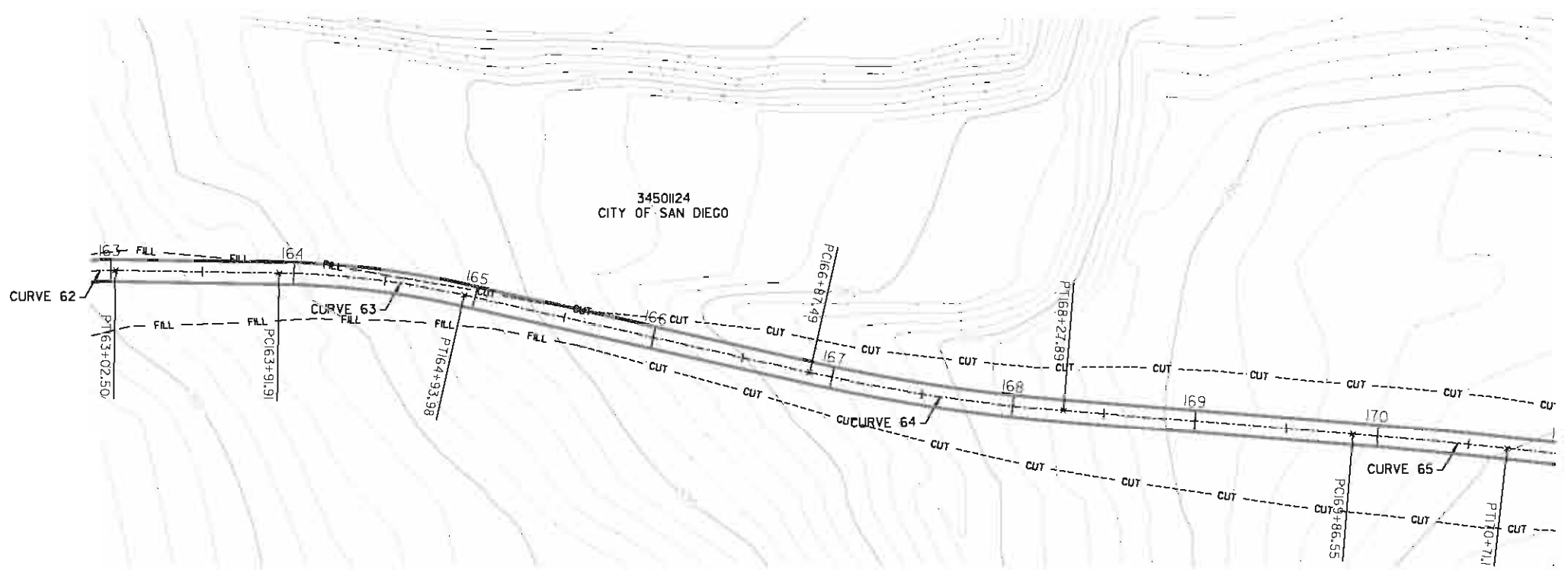


FIGURE 8.7

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 163+00 TO STA 171+00

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 22 OF 23 SHEETS

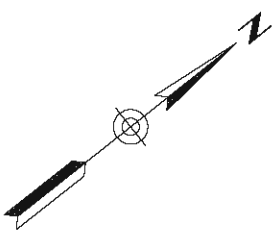
W.D. NO. XXXXXX

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

FOR CITY ENGINEER					DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED		
FILE NAME	DATE					PROJECT MANAGER
						DESIGN ENGINEER
						278-1692
						LAMBERT COORDINATES
AS-BUILT						32186-22-D
CONTRACTOR INSPECTOR			DATE STARTED		DATE COMPLETED	

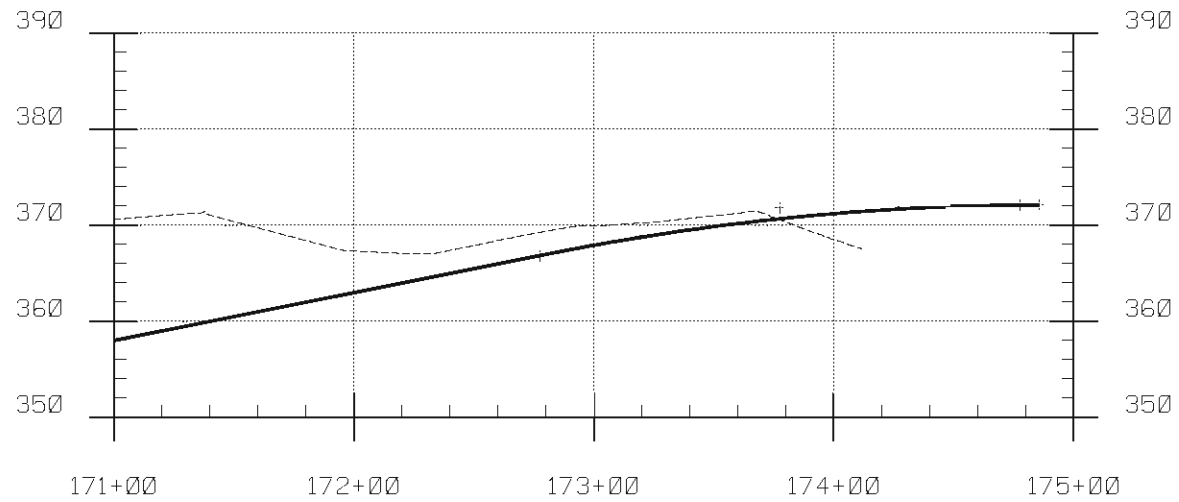
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

PRELIMINARY



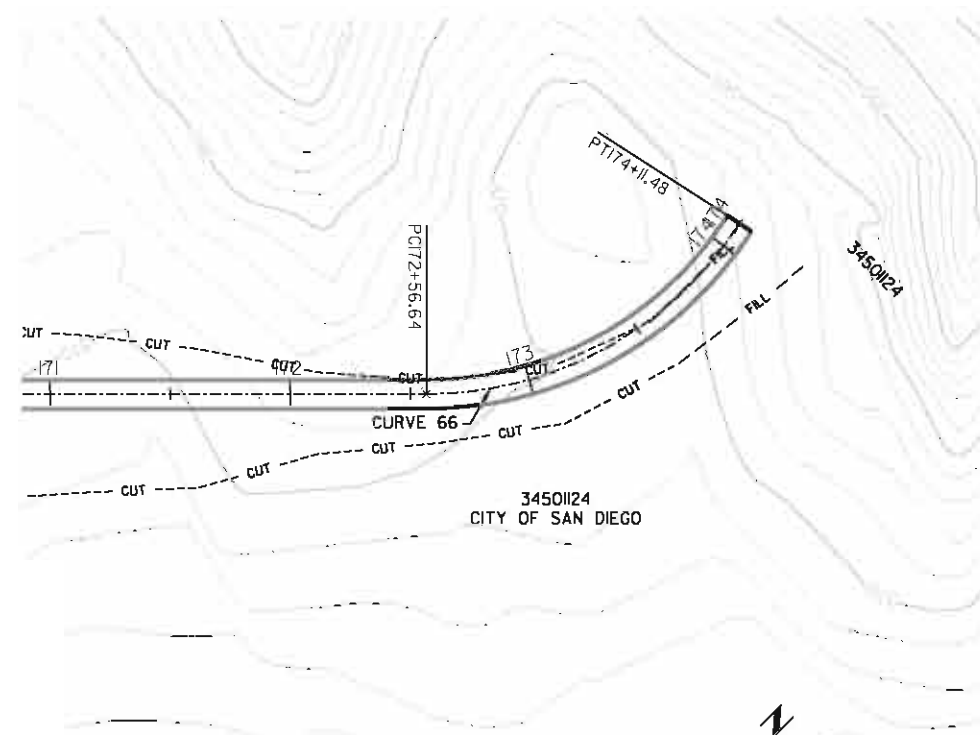
40 20 0 20 40
Scale In Feet

URS
1615 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
(619) 294-9400
(619) 293-7920

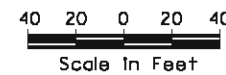
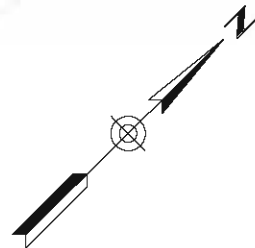


SCALE: 1"=40' HORIZ
1"= 10' VERT

CURVE 66
Delta 57°14'11"
T= 84.57'
L= 154.84'
R= 155.00'
E= 21.57'



PRELIMINARY



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CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

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FIGURE 8.7

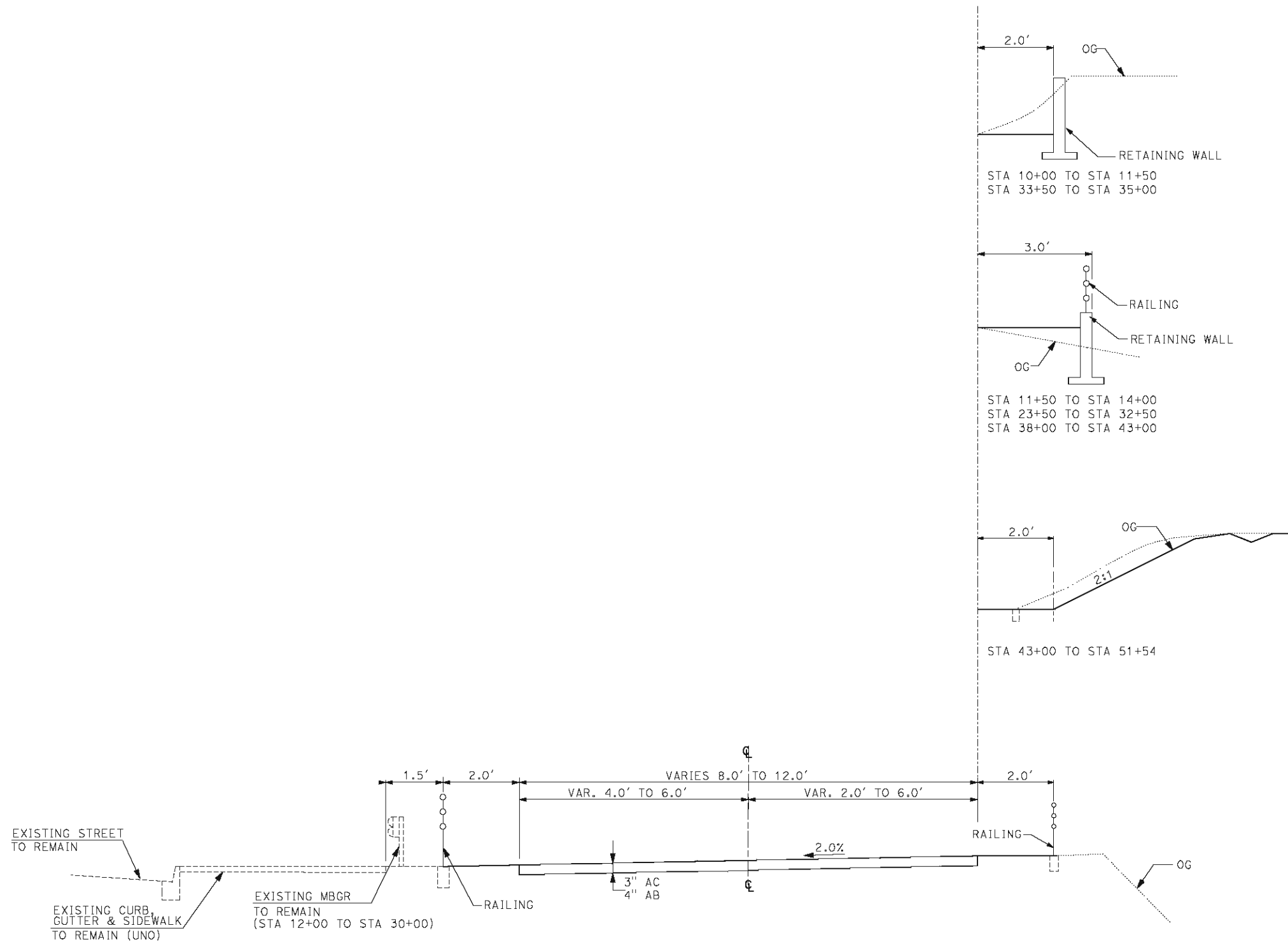
PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
ROSE CANYON SEGMENT
PLAN AND PROFILE STA 171+00 TO STA 174+11.48

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 23 OF 23 SHEETS

W.D. NO. XXXXXX

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED
FILE NAME	DATE			
AS-BUILT				
CONTRACTOR		DATE STARTED		
INSPECTOR		DATE COMPLETED		

PROJECT MANAGER
DESIGN ENGINEER
278-1692
LAMBERT COORDINATES
32186-23-D



TYPICAL SECTION
 NOBEL DRIVE SEGMENT
 STA 10+00 TO STA 51+54
 NTS

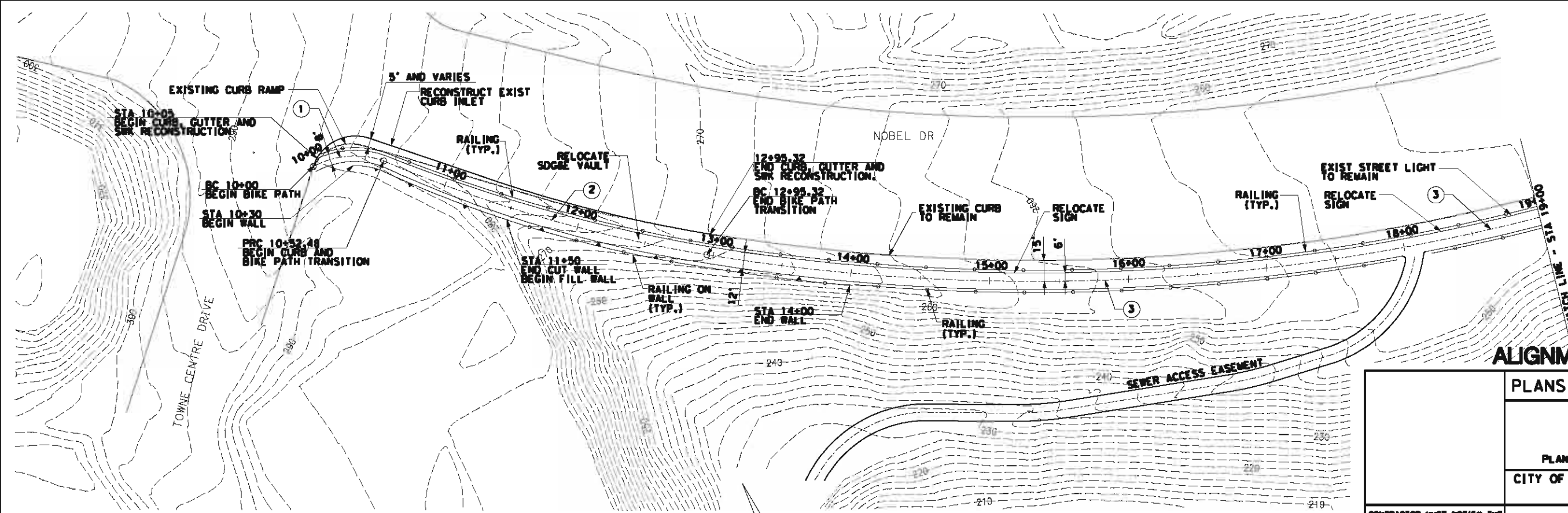
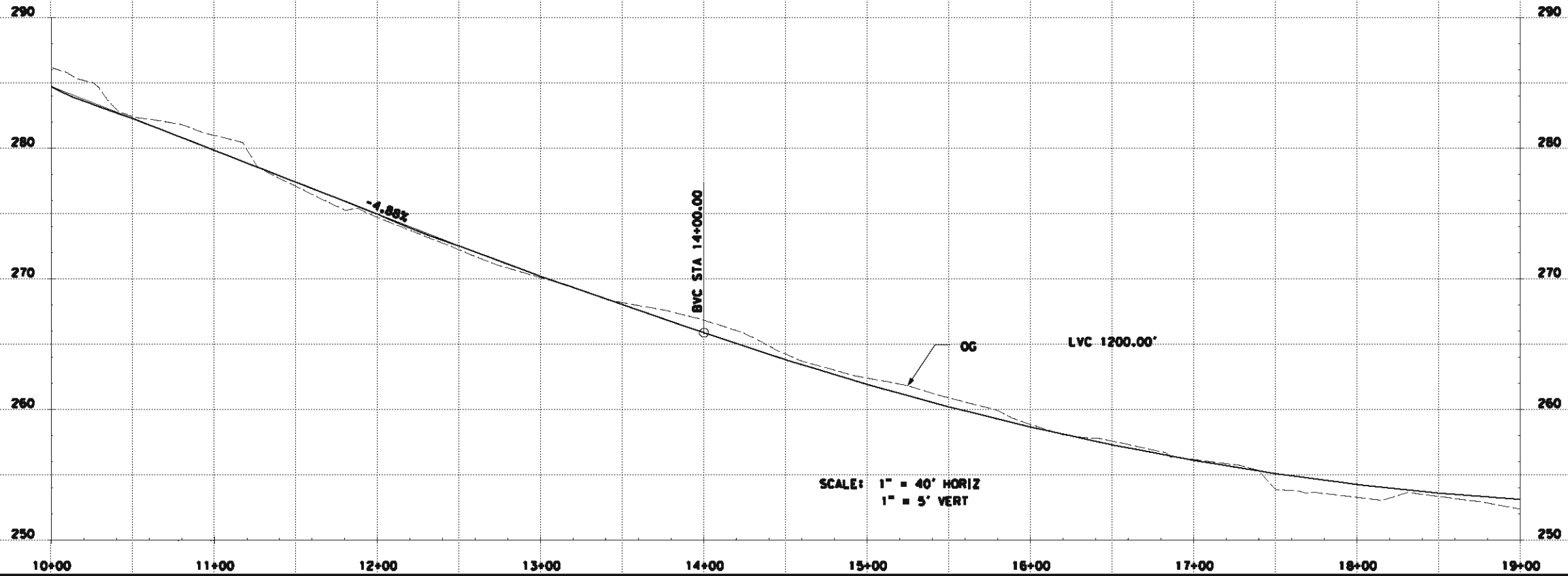
URS
 1615 MURRAY CANYON RD
 SUITE 1000
 SAN DIEGO, CA 92108
 (619) 294-9400
 (619) 293-7320

FIGURE 8.7b
ALIGNMENT ALTERNATIVE 6e.i

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
EASTGATE MALL
 TYPICAL SECTION

CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 1 OF 5 SHEETS		S.D. NO.
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :		SECTION HEAD
FOR CITY ENGINEER	DATE	PROJECT NUMBER
DESCRIPTION	BY	APPROVED
FILE NAME:	DATE:	DATE FILLED
DESIGNER	DATE STARTED	LAUNCH COORDINATES
CONTRACTOR INSPECTOR	DATE COMPLETED	

3/3/2008

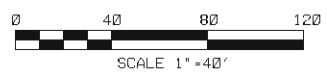


CURVE DATA

①	R 62.14'
	L 52.48'
	Delta 48°23'28"
②	R 1015.00'
	L 242.84'
	Delta 13°42'29"
③	R 1459.00'
	L 1189.09'
	Delta 46°41'47"

**FIGURE 8.7b
ALIGNMENT ALTERNATIVE 6e.i**

**PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
EASTGATE MALL
TYPICAL SECTION
PLAN AND PROFILE STA 10+00 TO STA 19+00
CITY OF SAN DIEGO, CALIFORNIA**

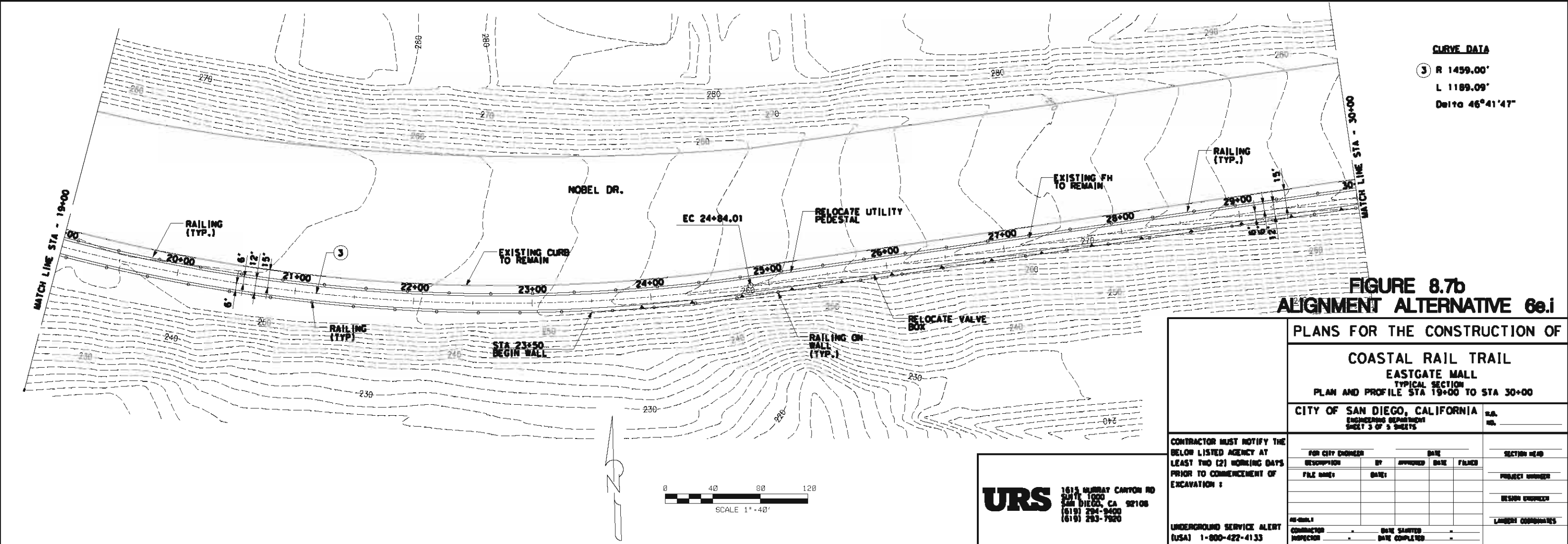
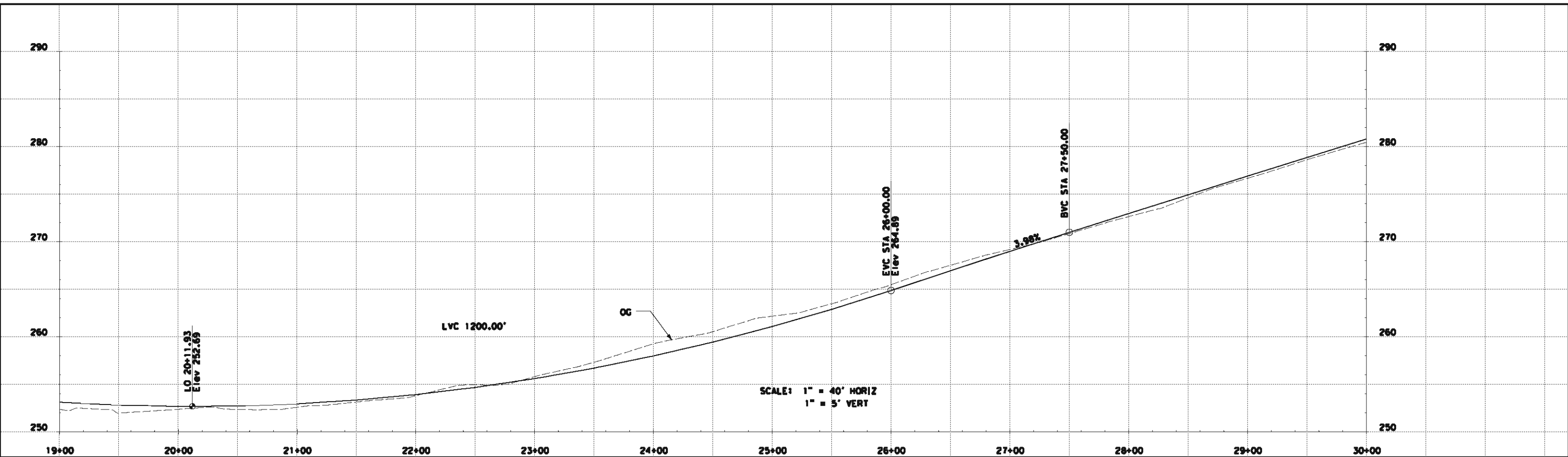


URS
1615 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
(619) 294-9400
(619) 293-7320

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILED
FILE NAME:	DATE:			
CONTRACTOR				DATE STARTED
INSPECTION				DATE COMPLETED



CURVE DATA
 (3) R 1459.00'
 L 1189.09'
 Delta 46°41'47"

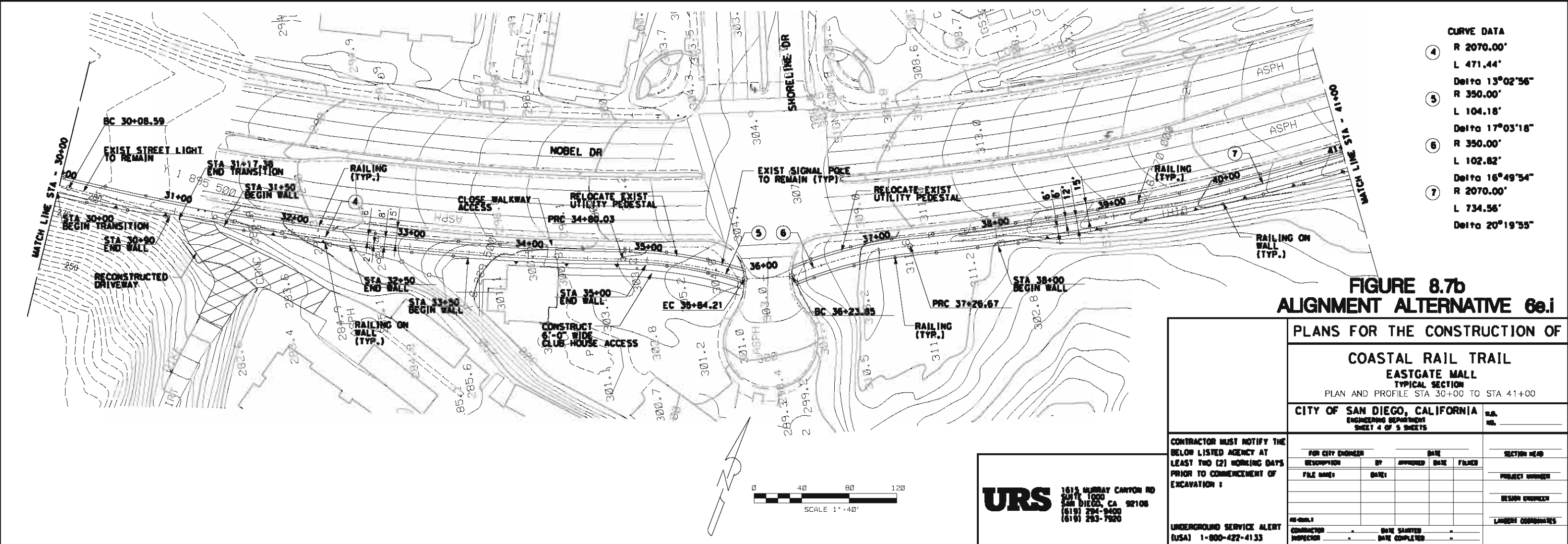
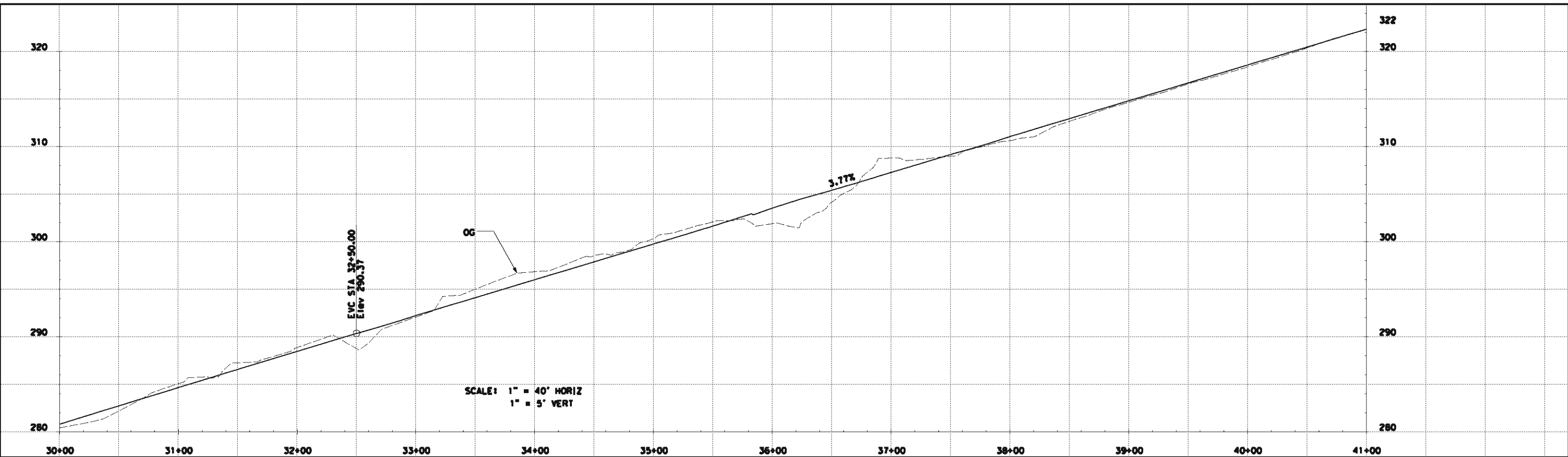
FIGURE 8.7b
ALIGNMENT ALTERNATIVE 6e.i

PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
EASTGATE MALL
 TYPICAL SECTION
 PLAN AND PROFILE STA 19+00 TO STA 30+00
 CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
 SHEET 3 OF 5 SHEETS

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION:				SECTION HEAD
FOR CITY ENGINEER	BY	APPROVED	DATE	FILED
FILE NAME:	DATE:			
REVISION	CONTRACTOR INSPECTION	DATE STARTED	DATE COMPLETED	PROJECT NUMBER
				DESIGN NUMBER
				LEGEND COORDINATES

URS
 1615 MURRAY CANYON RD
 SUITE 1000
 SAN DIEGO, CA 92108
 (619) 294-9400
 (619) 293-7320

UNDERGROUND SERVICE ALERT
 (USA) 1-800-422-4133



CURVE DATA

④	R 2070.00'
	L 471.44'
	Delta 13°02'56"
⑤	R 350.00'
	L 104.18'
	Delta 17°03'18"
⑥	R 350.00'
	L 102.82'
	Delta 16°49'34"
⑦	R 2070.00'
	L 734.56'
	Delta 20°19'55"

**FIGURE 8.7b
ALIGNMENT ALTERNATIVE 6e.i**

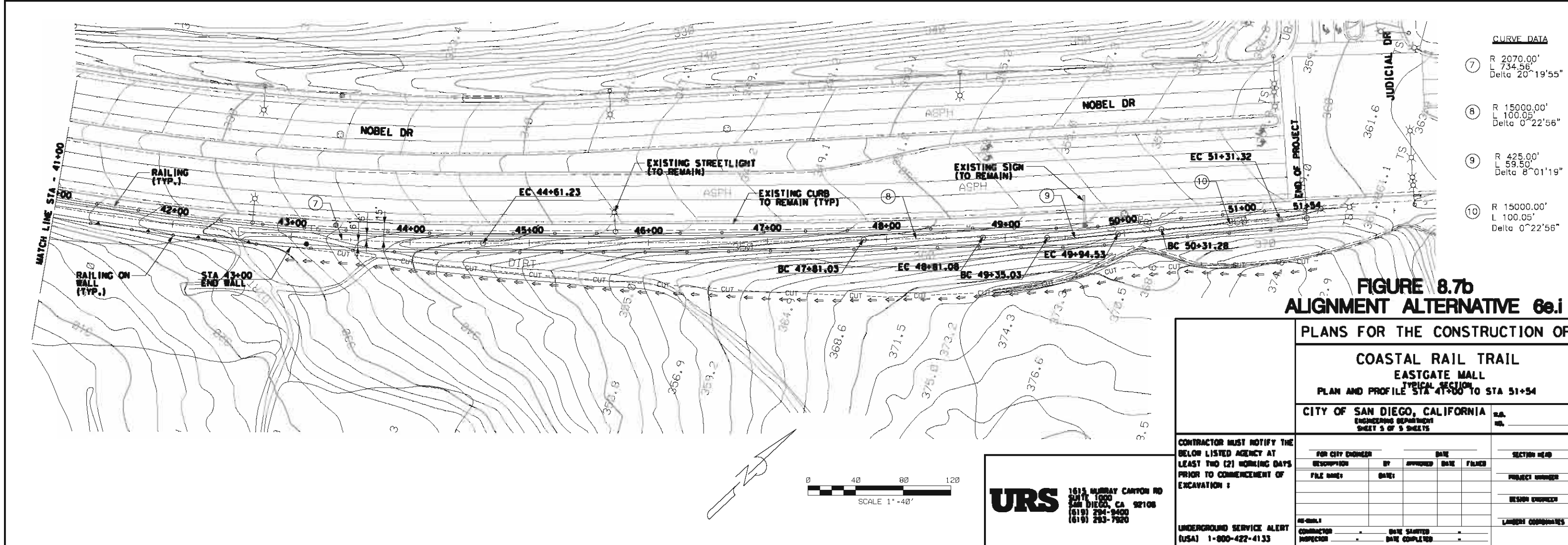
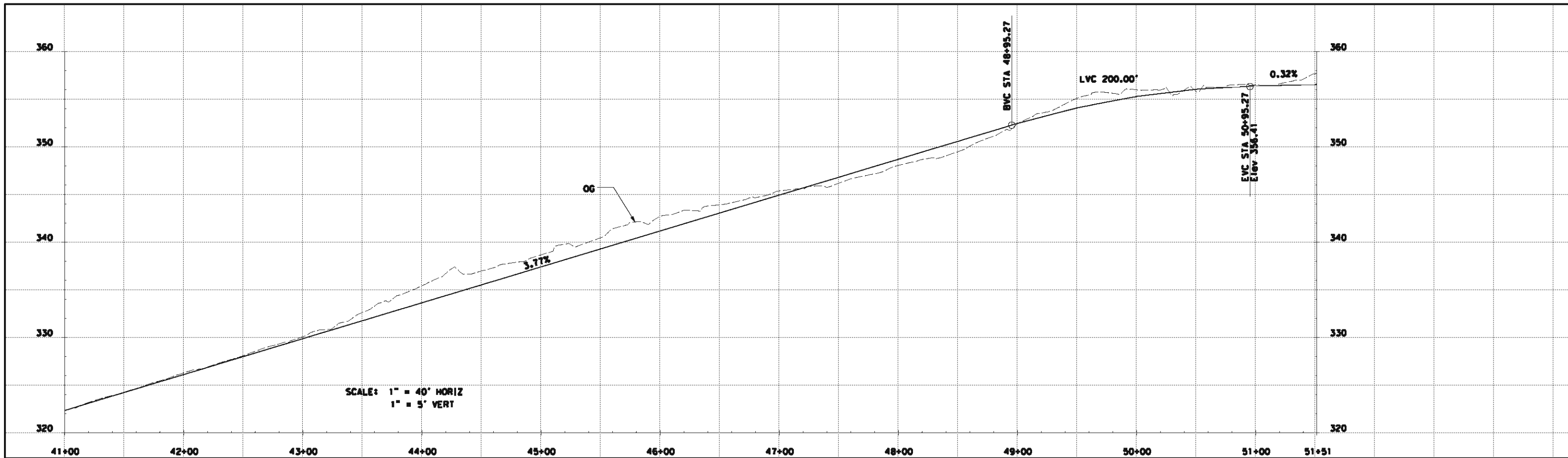
**PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
EASTGATE MALL
TYPICAL SECTION
PLAN AND PROFILE STA 30+00 TO STA 41+00**

CITY OF SAN DIEGO, CALIFORNIA S.A. NO. _____
ENGINEERING DEPARTMENT
SHEET 4 OF 5 SHEETS

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :				SECTION HEAD
FOR CITY ENGINEER	BY	DATE	FILED	
FILE NAME:	DATE:			PROJECT NUMBER
				DESIGN ENGINEER
				LEGEND COORDINATES
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133	CONTRACTOR INSPECTION	DATE STARTED	DATE COMPLETED	

URS
1615 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
(619) 294-9400
(619) 293-7320





CURVE DATA

7	R 2070.00' L 734.56' Delta 20°19'55"
8	R 15000.00' L 100.05' Delta 0°22'56"
9	R 425.00' L 59.50' Delta 8°01'19"
10	R 15000.00' L 100.05' Delta 0°22'56"

**FIGURE 8.7b
ALIGNMENT ALTERNATIVE 6e.i**

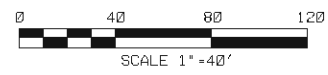
**PLANS FOR THE CONSTRUCTION OF
COASTAL RAIL TRAIL
EASTGATE MALL
PLAN AND PROFILE STA 41+00 TO STA 51+54**

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 5 OF 5 SHEETS

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILED
FILE NAME:	DATE:			
CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :				PROJECT NUMBER
CONTRACTOR INSPECTION				DESIGN ENGINEER
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133				LARGEST COORDINATES
DATE STARTED		DATE COMPLETED		

3/3/2008

URS
1615 MURRAY CANYON RD
SUITE 1000
SAN DIEGO, CA 92108
(619) 294-9400
(619) 293-7920



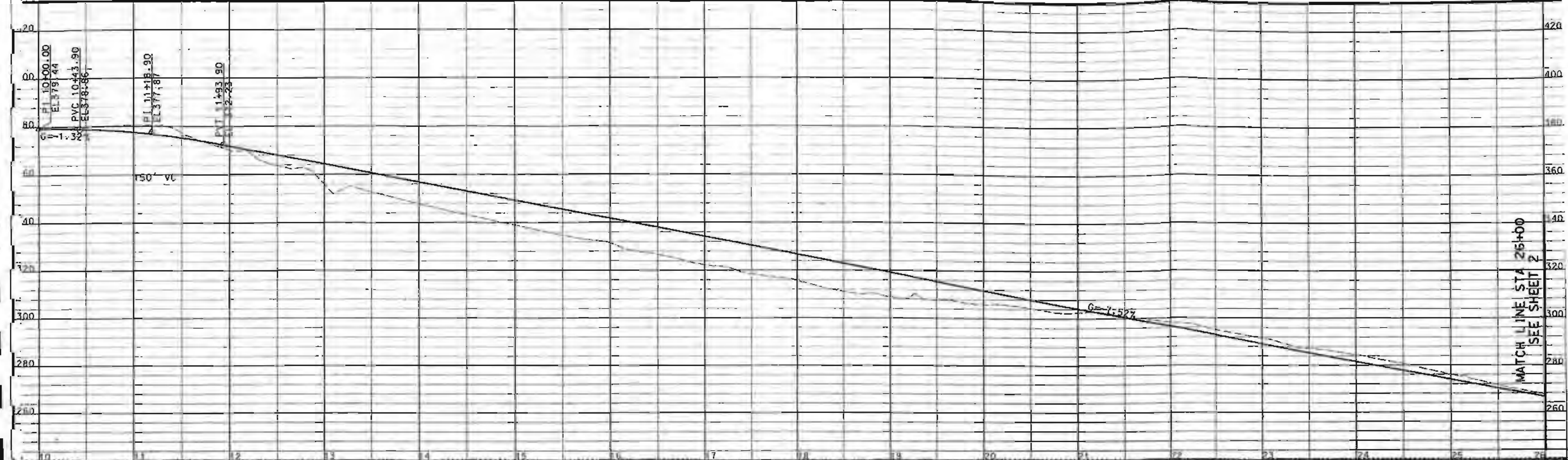


FIGURE 8.8

PLAN AND PROFILE
SORRENTO VALLEY BIKEWAY
EASTGATE MALL TO SORRENTO VALLEY BLVD
ALTERNATIVE NO. 1A

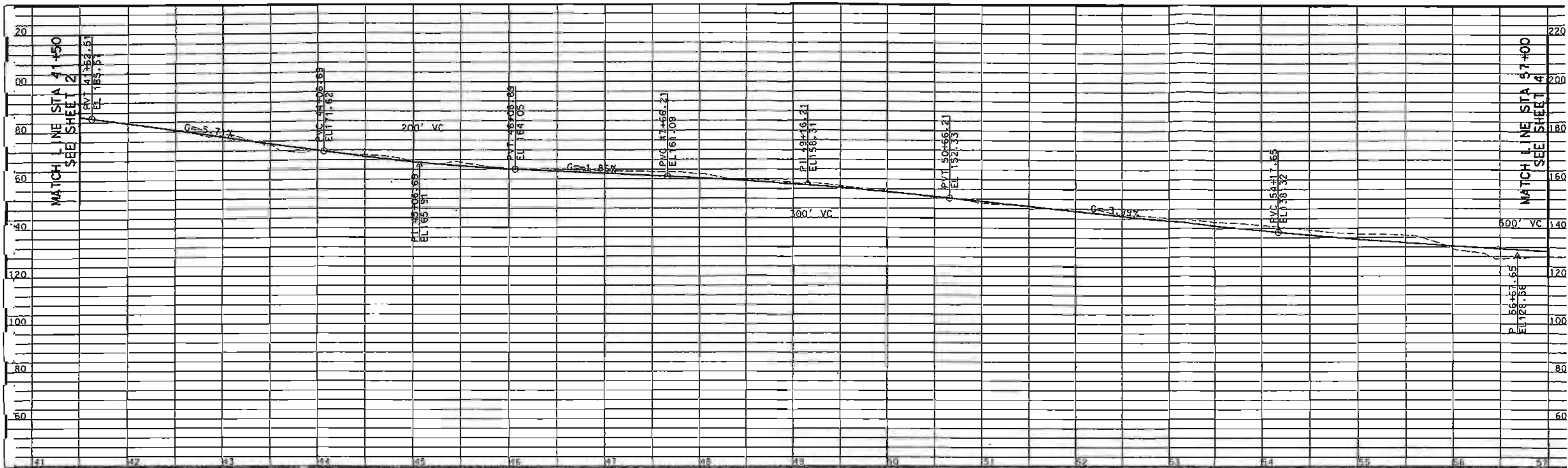
CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
 SHEET 1 OF 8

PB PARSONS BRINCKERHOFF
 707 BROADWAY SUITE 1600
 SAN DIEGO, CA 92101 619-538-9376
 REGISTERED CIVIL ENGINEER

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION:

UNDERGROUND SERVICE ALERT!
 (USAI) 1-800-422-4133

FOR CITY ENGINEER					SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILED	NAME
FILE NAME	DATE	DOB			PROJECT MANAGER
					DESIGN ENGINEER
					XXX-XXXX
					LAMBERT COORDINATES
AS-BUILT			DATE STARTED		27XXX-1-D
CONTRACTOR INSPECTOR			DATE COMPLETED		



WATCH LINE STA 41+50
SEE SHEET 2

WATCH LINE STA 57+00
SEE SHEET 4

FIGURE 8.8

PLAN AND PROFILE
SORRENTO VALLEY BIKEWAY
EASTGATE MALL TO SORRENTO VALLEY BLVD
ALTERNATIVE NO. 1A

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 3 OF 8

CONTRACTOR MUST NOTIFY THE
BELOW LISTED AGENCY AT
LEAST TWO (2) WORKING DAYS
PRIOR TO COMMENCEMENT OF
EXCAVATION:

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	NAME
FILE NAME	DATE	DOB		PROJECT MANAGER
				DESIGN ENGINEER
				XXX-XXXX
				LABERT COORDINATES
CONTRACTOR	DATE STARTED	INSPECTOR	DATE COMPLETED	27XXX-1-D

PB PARSONS BRINCKERHOFF
707 BROADWAY SUITE 1600
SAN DIEGO, CA. 92101 619-338-9376
REGISTERED CIVIL ENGINEER

UNDERGROUND SERVICE ALERT
(USAN) 1-800-422-4133

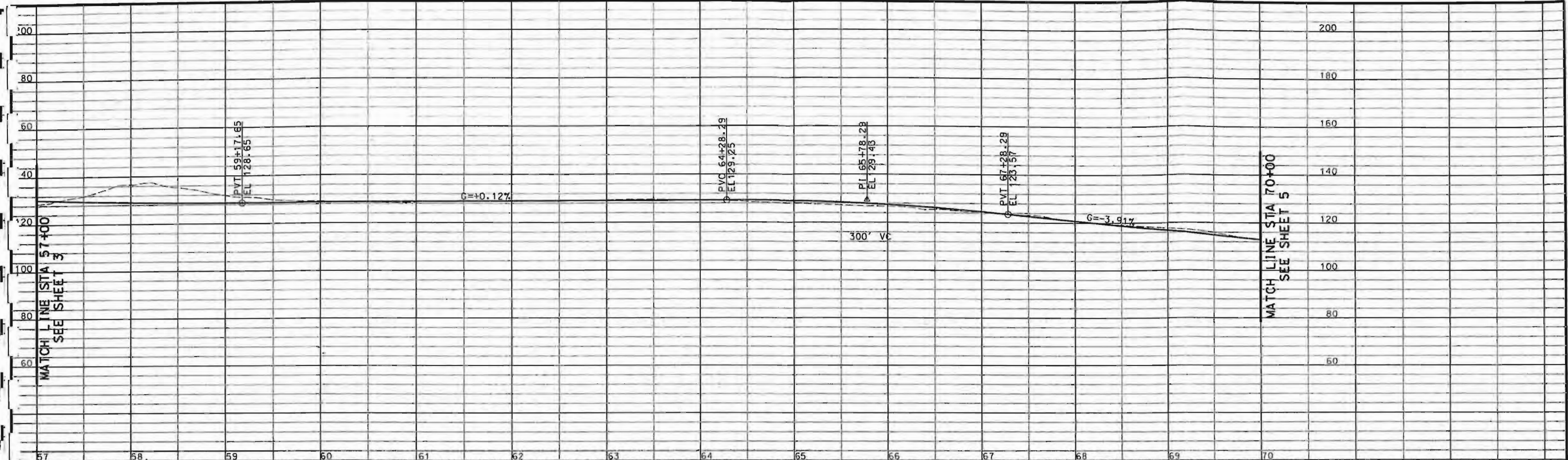


FIGURE 8.8

PLAN AND PROFILE
SORRENTO VALLEY BIKEWAY
 EASTGATE MALL TO SORRENTO VALLEY BLVD
 ALTERNATIVE NO. 1A

CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
 SHEET 4 OF 8

FOR CITY ENGINEER				DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILMED	NAME
FILE NAME	DATE	BOR			PROJECT MANAGER
					DESIGN ENGINEER
					XXX-XXXX
					LAUBERT COORDINATES

PB PARSONS BRINCKERHOFF
 707 BROADWAY SUITE 1600
 SAN DIEGO, CA 92101 619-338-9376

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

UNDERGROUND SERVICE ALERT
 (818) 311-800-427-6133

AS-BUILT CONTRACTOR DATE STARTED DATE COMPLETED
 27XXX-1-D

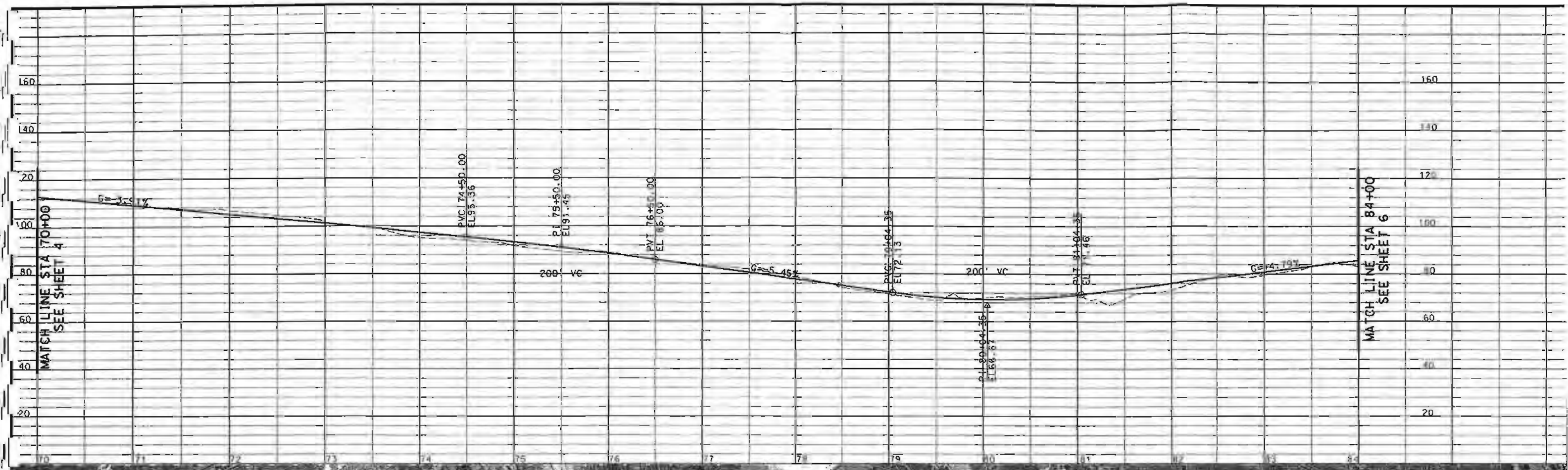


FIGURE 8.8

PLAN AND PROFILE
SORRENTO VALLEY BIKEWAY
EASTGATE MALL TO SORRENTO VALLEY BLVD
ALTERNATIVE NO. 1A

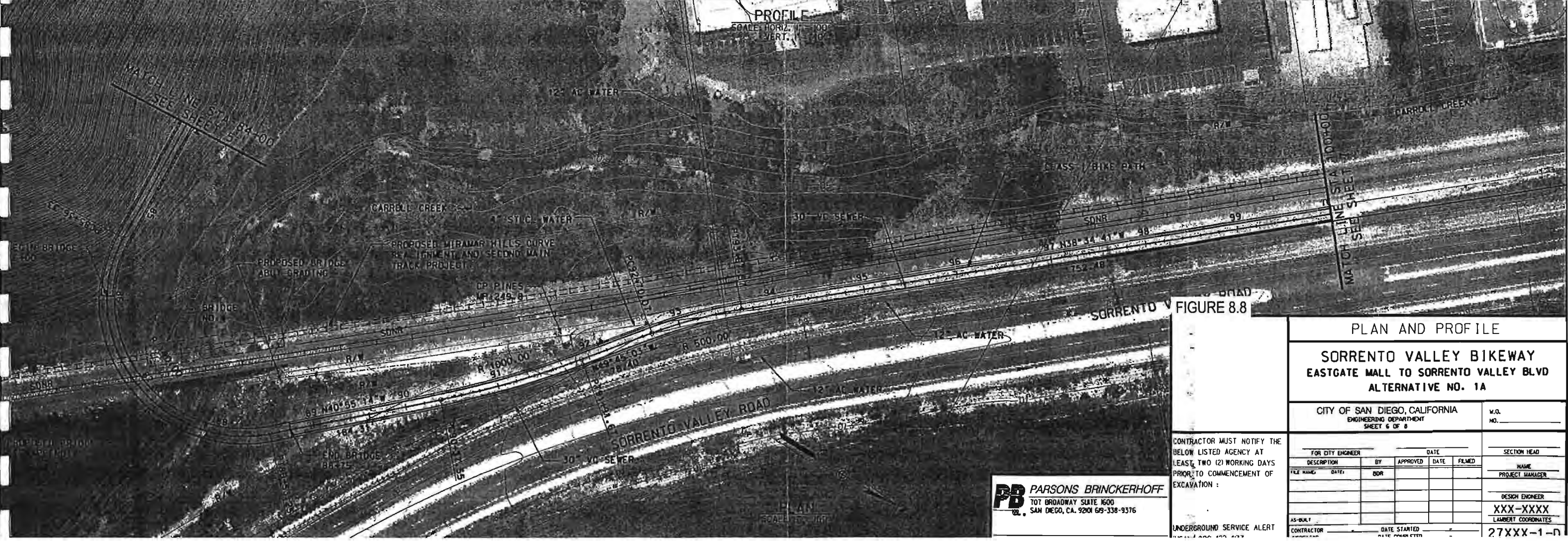
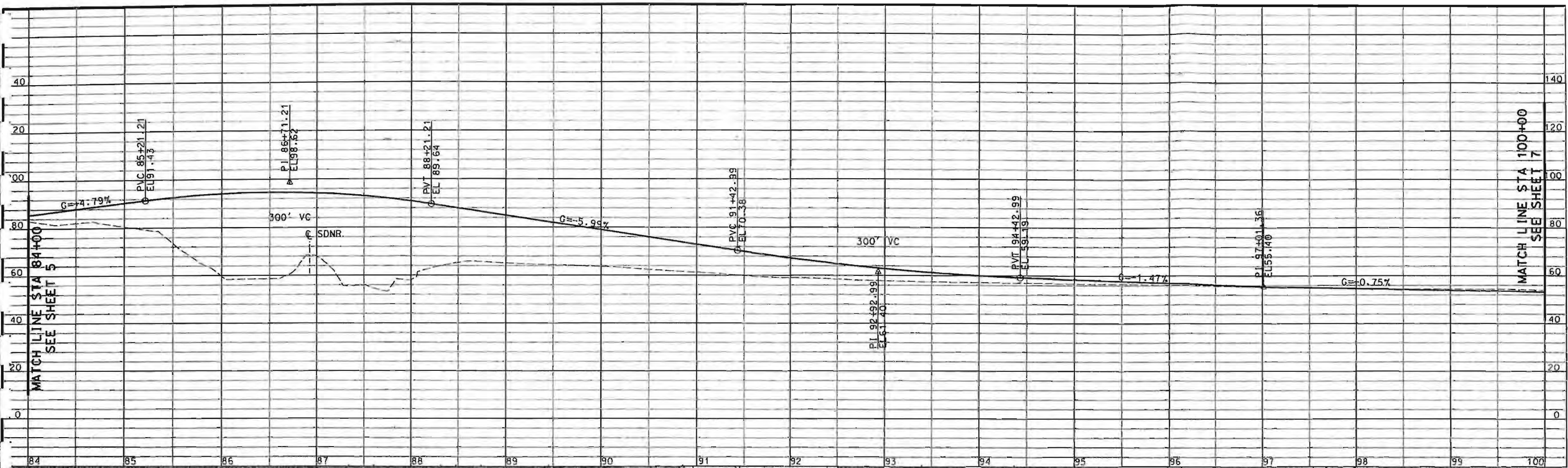
CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
 SHEET 5 OF 8

FOR CITY ENGINEER				DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILED	NAME
FILE NAME	DATE	DOB			PROJECT MANAGER
					DESIGN ENGINEER
					XXX-XXXX
					LAURET COORDINATES
AS-BUILT					
CONTRACTOR	DATE STARTED				
INSPECTOR	DATE COMPLETED				

PB PARSONS BRINCKERHOFF
 707 BROADWAY SUITE 1600
 SAN DIEGO, CA 92101 619-338-9376
 REGISTERED CIVIL ENGINEER

CONTRACTOR MUST NOTIFY THE
 INDICATED AGENCY AT
 LEAST TWO (2) WORKING DAYS
 PRIOR TO COMMENCEMENT OF
 EXCAVATION.
 UNDERGROUND SERVICE ALERT
 (USA) 1-800-422-4133

27XXX-1-0



PROFILE
 SCALE: HORIZ. 1" = 100'
 VERT. 1" = 10'

FIGURE 8.8

PLAN AND PROFILE
 SORRENTO VALLEY BIKEWAY
 EASTGATE MALL TO SORRENTO VALLEY BLVD
 ALTERNATIVE NO. 1A

CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
 SHEET 6 OF 8

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILED
FILE NAME:	DATE:	DOB:		
AS-BUILT				
CONTRACTOR		DATE STARTED		

PB PARSONS BRINCKERHOFF
 707 BROADWAY SUITE 1600
 SAN DIEGO, CA 92101 619-338-9376

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION:
 UNDERGROUND SERVICE ALERT

27XXX-1-D

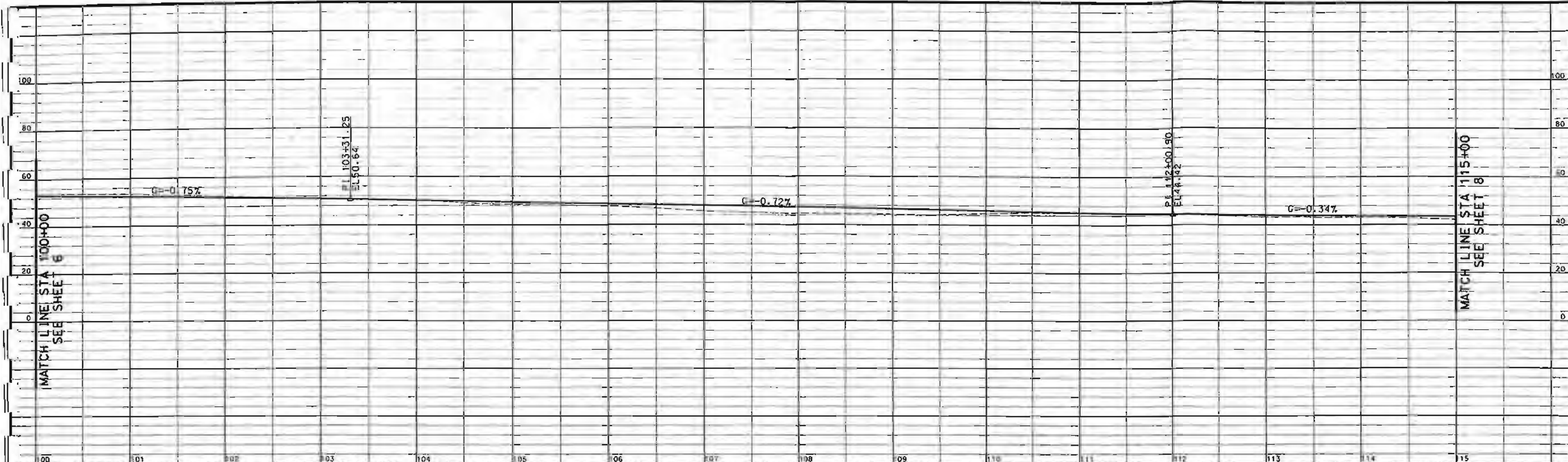


FIGURE 8.8

PLAN AND PROFILE
SORRENTO VALLEY BIKEWAY
EASTGATE MALL TO SORRENTO VALLEY BLVD
ALTERNATIVE NO. 1A

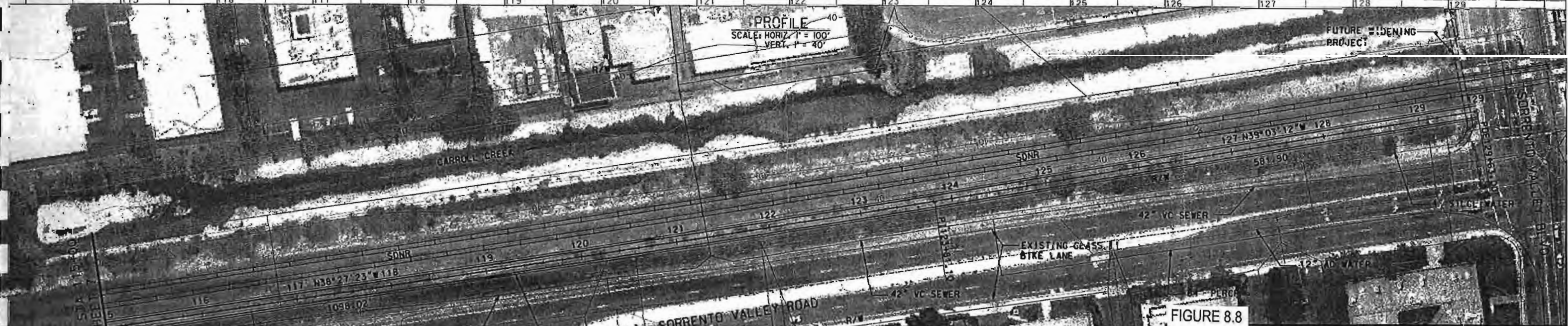
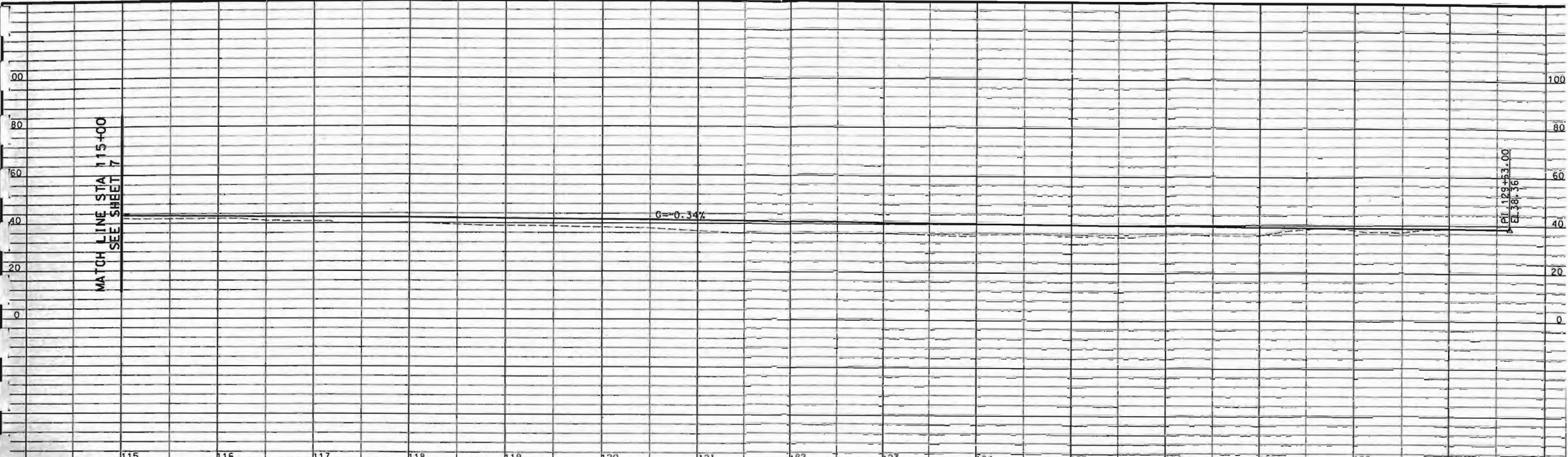
CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
 SHEET 1 OF 8

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST 7WD (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION:

UNDERGROUND SERVICE ALERT
 (USA) 1-800-422-4333

FOR CITY ENGINEER					DATE	SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	FILED		NAME
FILE NAME	DATE	DOB				PROJECT MANAGER
						DESIGN ENGINEER
						XXX-XXXX
						LAMBERT COORDINATES
LS-BUL1						27XXX-1-D
CONTRACTOR INSPECTOR			DATE STARTED			DATE COMPLETED

PB PARSONS BRINCKERHOFF
 107 BROADWAY SUITE 1600
 SAN DIEGO, CA 92101-9338-9376
 REGISTERED CIVIL ENGINEER



PROFILE
SCALE: HORIZ. 1" = 100'
VERT. 1" = 40'

FUTURE WIDENING PROJECT

FIGURE 8.8

PLAN AND PROFILE
SORRENTO VALLEY BIKEWAY
EASTGATE MALL TO SORRENTO VALLEY BLVD
ALTERNATIVE NO. 1A

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
ATTACHMENT B OF B

V.D. NO. _____

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION :

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	NAME
FILE NAME	DATE	DOR		PROJECT MANAGER

DESIGN ENGINEER
XXX-XXXX
LAMBERT COORDINATES

PB PARSONS BRINCKERHOFF
707 BROADWAY SUITE 1600
SAN DIEGO, CA. 92101 619-338-9376

REGISTERED CIVIL ENGINEER

UNDERGROUND SERVICE ALERT
(USA) 1-800-422-4133

CONTRACTOR INSPECTOR	DATE STARTED	DATE COMPLETED

27XXX-1-D

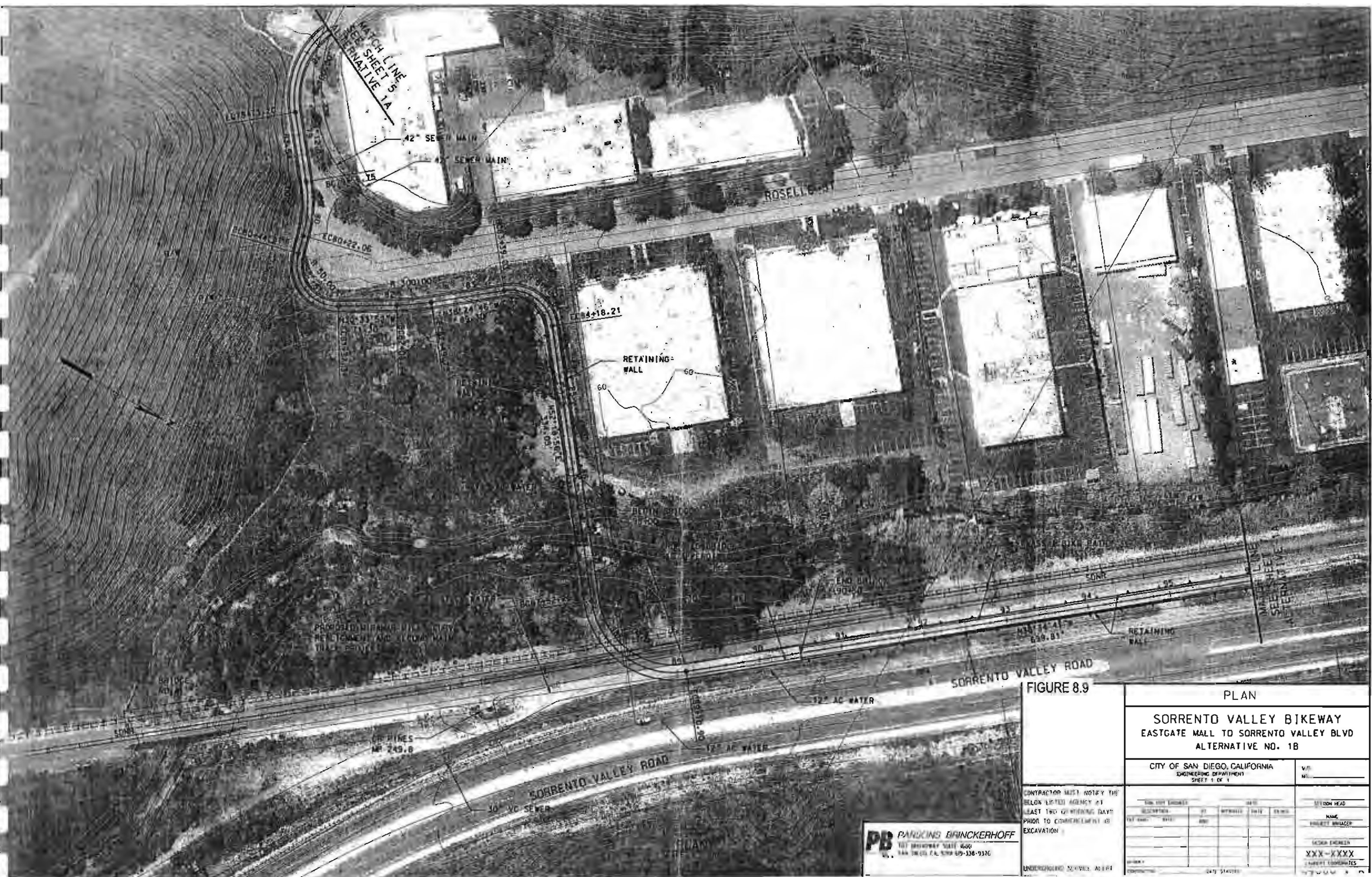


FIGURE 8.9

PLAN

**SORRENTO VALLEY BIKEWAY
EASTGATE MALL TO SORRENTO VALLEY BLVD
ALTERNATIVE NO. 1B**

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 1 OF 1

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION.

AGENCY	DATE	BY	REMARKS

UNDERGROUND SERVICES: ALL

DATE: 2/15/2010

SCALE: AS SHOWN

PROJECT: SORRENTO VALLEY BIKEWAY

DATE: 2/15/2010

SCALE: AS SHOWN

PROJECT: SORRENTO VALLEY BIKEWAY

PB PARKINS BRINCKERHOFF
101 BROADWAY SUITE 400
SAN DIEGO, CA 92101-326-9370



FIGURE 8.10

PLAN
SORRENTO VALLEY BIKEWAY
 EASTGATE MALL TO SORRENTO VALLEY BLVD
 ALTERNATIVE NO. 1C

CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
 SHEET 1 OF 3

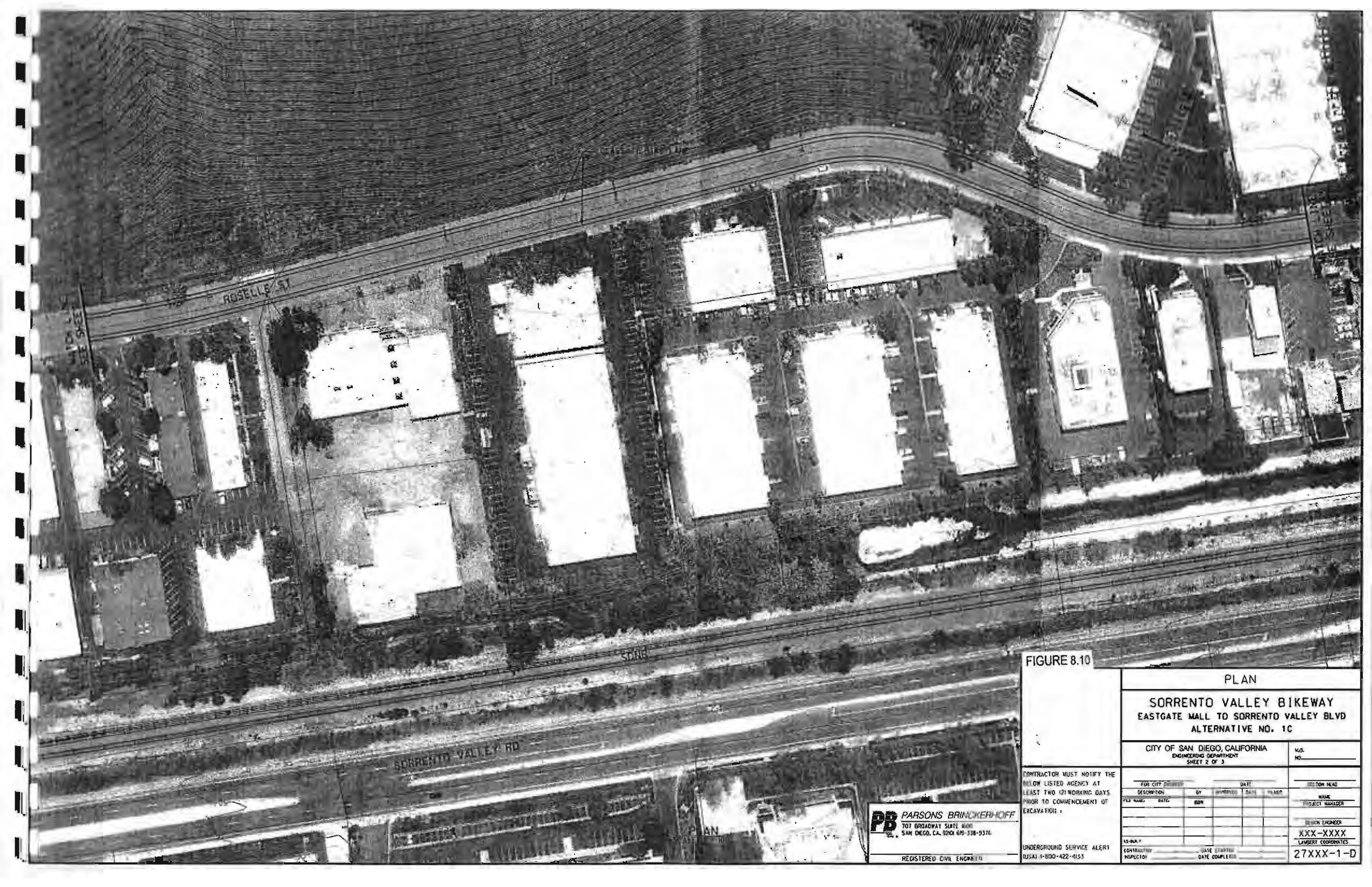
V.O. NO. _____

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	NAME
FILE NAME	DATE	BY	DATE	PROJECT MANAGER
				DESIGN ENGINEER
				XXX-XXXX
AS-BUILT				LANGBERT COORDINATES
CONTRACTOR		DATE STOPPED		27XXX 1 0

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION:

UNDERGROUND SERVICE ALERT

PARSONS BRINCKERHOFF
 707 BROADWAY SUITE 600
 SAN DIEGO, CA. 92101 619-338-9376



ROSELLE ST

SORRENTO VALLEY RD

FIGURE 8.10

PLAN			
SORRENTO VALLEY BIKEWAY EASTGATE MALL TO SORRENTO VALLEY BLVD ALTERNATIVE NO. 1C			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 2 OF 3			M.O. NO.
FOR CITY ENGINEER			DATE
DESCRIPTION	BY	APPROVED	DATE
FILE NAME	DATE	EDR	
CONTRACTOR			DATE STARTED
INSPECTOR			DATE COMPLETED
			SECTION HEAD
			NAME
			PROJECT MANAGER
			DESIGN ENGINEER
			XXX-XXXX
			LAMBERT COORDINATES
			27XXX-1-D

CONTRACTOR MUST NOTIFY THE
BAYLOR LISTED AGENCY AT
LEAST TWO (2) WORKING DAYS
PRIOR TO COMMENCEMENT OF
EXCAVATION.

UNDERGROUND SERVICE ALERT
(USA) 1-800-422-4153

PB PARSONS BRINCKERHOFF
701 BROADWAY SUITE 4000
SAN DIEGO, CA, 92101 619-338-9370
REGISTERED CIVIL ENGINEER



FIGURE B.10

PLAN
SORRENTO VALLEY BIKEWAY
 EASTGATE MALL TO SORRENTO VALLEY BLVD
 ALTERNATIVE NO. 1C

CITY OF SAN DIEGO, CALIFORNIA		DATE
DEPARTMENT OF PUBLIC WORKS		NO.
PROJECT NO.	DATE	SCALE
BY	DATE	BY
CHECKED BY	DATE	BY
APPROVED BY	DATE	BY
DRAWN BY		DATE
CHECKED BY		DATE
APPROVED BY		DATE

LANDSCAPE ARCHITECTS
 1000 AVENUE OF THE STARS
 SAN DIEGO, CALIFORNIA 92108

CONTRACTOR MUST VERIFY THE
 BELOW LOCUS ADDRESS BY
 FIELD SURVEYING DATA
 PRIOR TO COMMENCEMENT OF
 CONSTRUCTION.

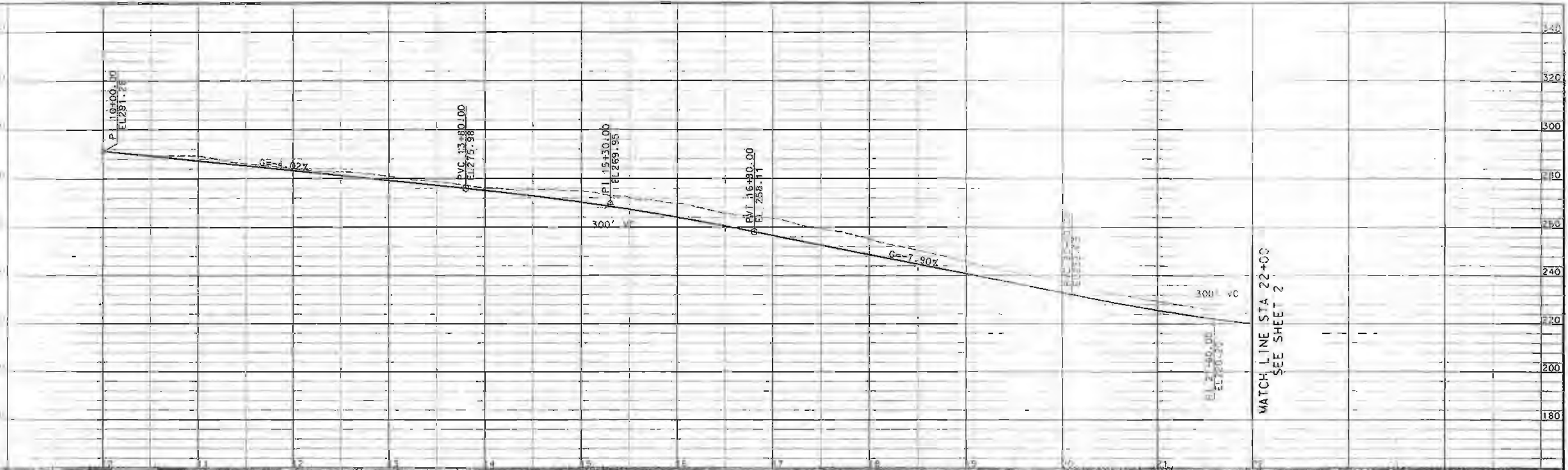


FIGURE 8.11

PLAN AND PROFILE	
SORRENTO VALLEY BIKEWAY EASTGATE MALL TO SORRENTO VALLEY BLVD ALTERNATIVE NO. 2	
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEET 1 OF 4	V.A. NO.
FOR CITY ENGINEER	DATE
DESCRIPTION	BY APPROVED DATE FILED
FILE NAME	DATE
AS-BUILT	DATE STARTED
CONTRACTOR	DATE COMPLETED
INSPECTOR	DATE
SECTION HEAD NAME PROJECT MANAGER DESIGN ENGINEER XXX-XXXX LABORER COORDINATOR 27XXX-1-D	

PARSONS BRINCKERHOFF
707 BROADWAY SUITE 1600
SAN DIEGO, CA 92101 619-336-9376
REGISTERED CIVIL ENGINEER

CONTRACTOR MUST NOTIFY THE
RELEVANT AGENCY AT
LEAST FIVE (5) WORKING DAYS
PRIOR TO COMMENCEMENT OF
EXCAVATION.

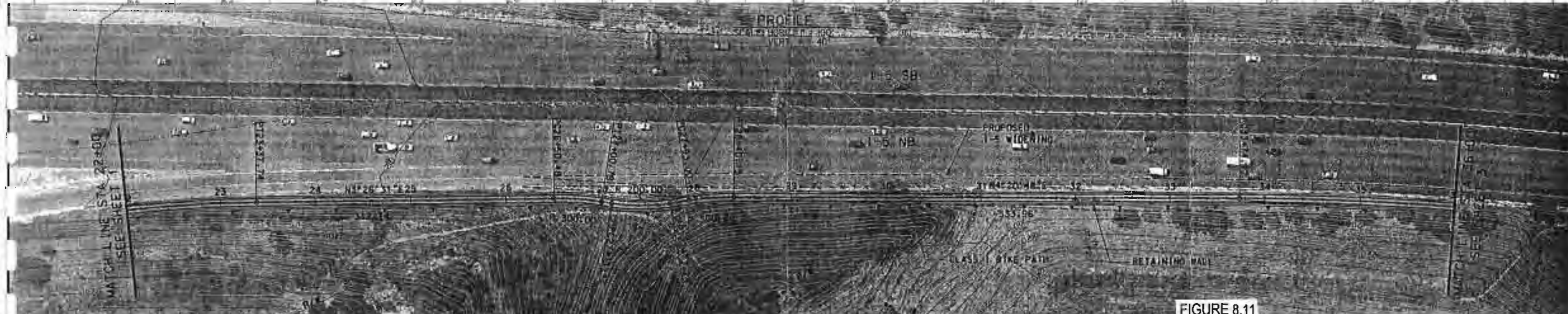
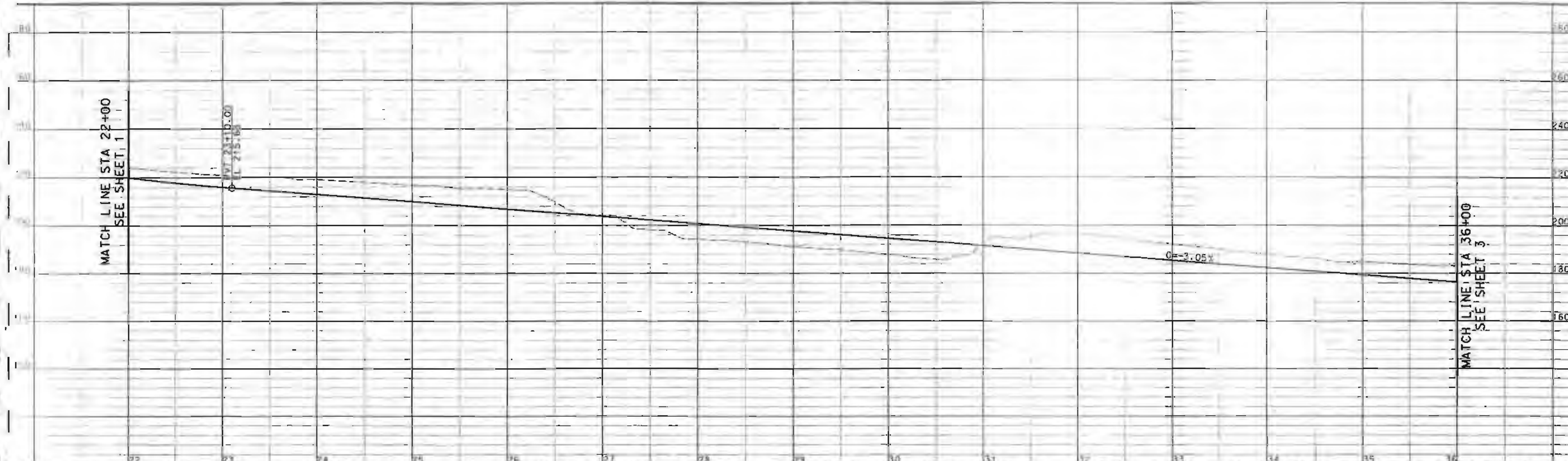


FIGURE 8.11

PLAN AND PROFILE

SORRENTO VALLEY BIKEWAY
EASTGATE MALL TO SORRENTO VALLEY BLVD
ALTERNATIVE NO. 2

CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING DEPARTMENT
 SHEET 2 OF 4

V.O. NO. _____

FOR OFF ENGINEER	DATE	SECTION HEAD			
DESCRIPTION	BY	APPROVED	DATE	PROJECT	NAME
FILE NAME	DATE	NO.			PROJECT MANAGER
					DESIGN ENGINEER
					XXX-XXXX
					COORDINATOR
					27XXX-1-D

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION:

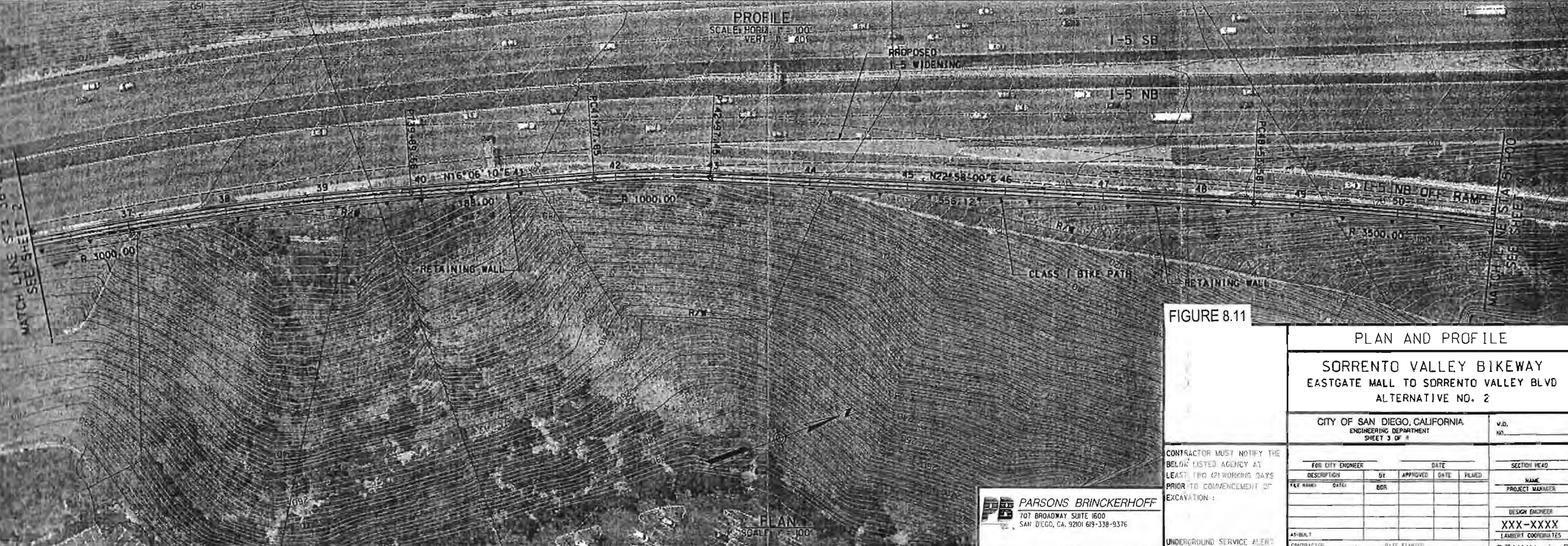
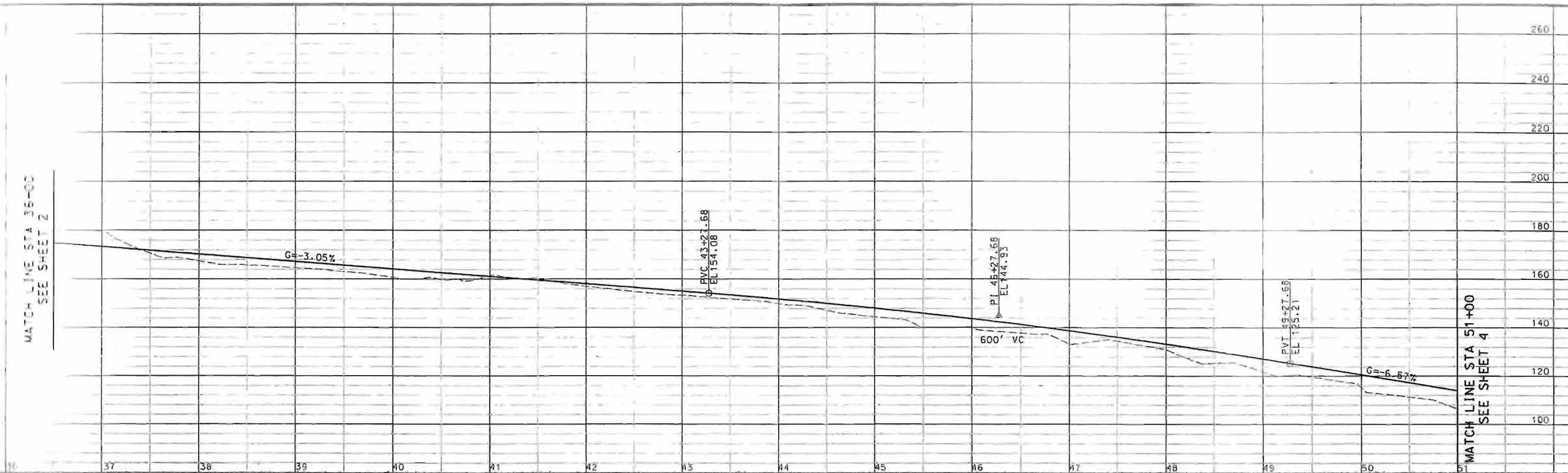
UNDERGROUND SERVICE ALERT (USA) 1-800-422-4133

PARSONS BRINCKERHOFF
 707 BROADWAY SUITE 1600
 SAN DIEGO, CA 92101 619-338-9376

REGISTERED CIVIL ENGINEER

MATCH LINE STA 36+00
SEE SHEET 2

MATCH LINE STA 51+00
SEE SHEET 4



PROFILE
SCALE: HORIZ. 1" = 100'
VERT. 1" = 40'

PLAN
SCALE: 1" = 100'

FIGURE 8.11

PLAN AND PROFILE

SORRENTO VALLEY BIKEWAY
EASTGATE MALL TO SORRENTO VALLEY BLVD
ALTERNATIVE NO. 2

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING DEPARTMENT
SHEET 3 OF 4

V.D. NO. _____

FOR CITY ENGINEER		DATE		SECTION HEAD
DESCRIPTION	BY	APPROVED	DATE	NAME
FILE NAME	DATE	BDS		PROJECT MANAGER
				DESIGN ENGINEER
				XXX-XXXX
				LAMBERT COORDINATES

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION:

UNDERGROUND SERVICE ALERT
800-488-4888

CONTRACTOR _____ DATE STARTED _____

27XXX-1-D

PARSONS BRINCKERHOFF
707 BROADWAY SUITE 1600
SAN DIEGO, CA 92101 619-338-9376

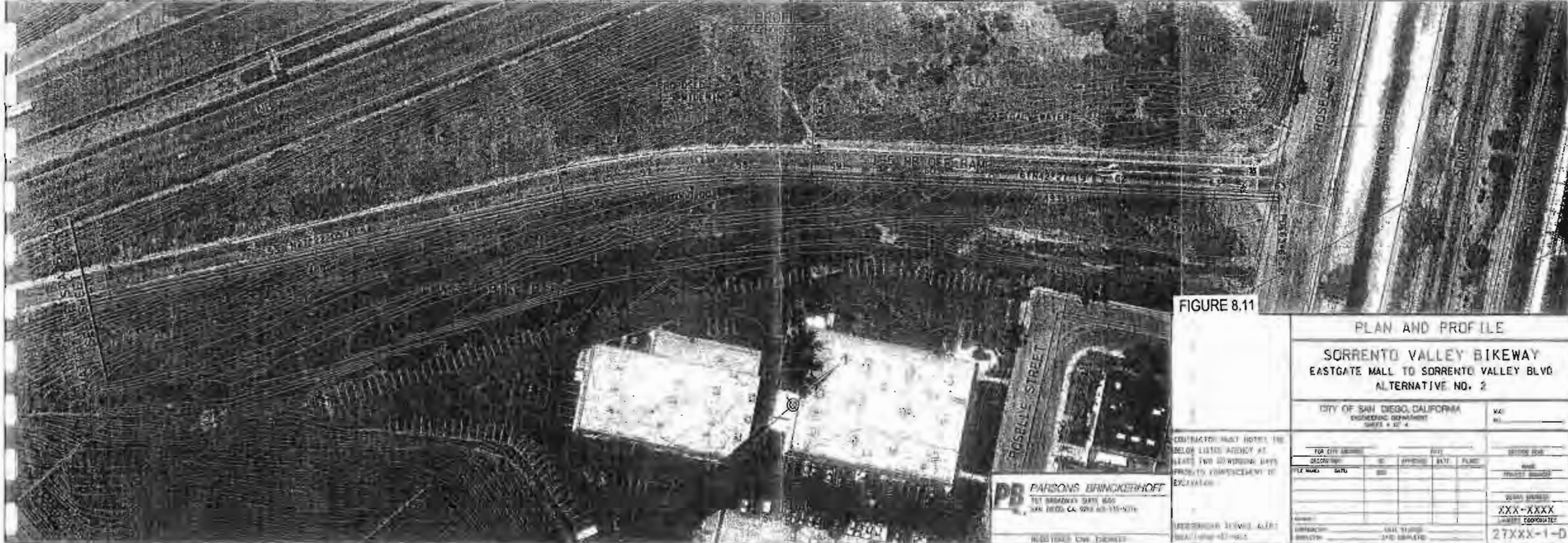
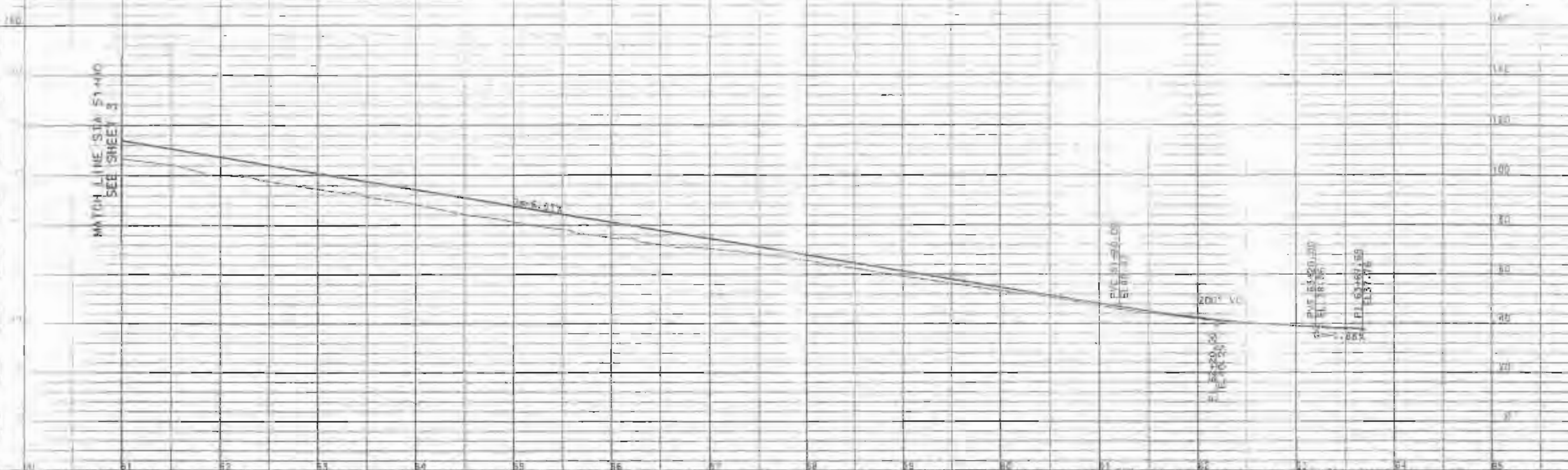


FIGURE 8.11

PLAN AND PROFILE	
SORRENTO VALLEY BIKEWAY EASTGATE MALL TO SORRENTO VALLEY BLVD ALTERNATIVE NO. 2	
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING DEPARTMENT SHEETS 4 OF 4	KAC
FOR CITY REVIEW: DATE: _____ BY: _____	ISSUE DATE: _____
DESIGN NO: _____	NAME: _____
FILE NO: _____	PROJECT NUMBER: _____
	SCALE: _____
	DATE: _____
	PROJECT: _____
	27XXX-1-D

PARSONS BRINCKERHOFF
 300 BROADWAY, SUITE 1600
 SAN DIEGO, CA 92101-1011
 WWW.PARSONSBRINCKERHOFF.COM

CONTRACTOR MUST NOTIFY THE BELOW LISTED AGENCY AT LEAST TWO WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION:
 UNDERGROUND SERVICE ALERT
 800-4-A-SHIELD

Appendix A. Cost Detail

Segments 1 & 2 Cost Detail

Segment 1: Carmel Valley Road

Length of Class 2 (feet): 6300
 Construct with Carmel Valley Road Widening Project.

CRT Project Cost	\$ -
------------------	------

Segment 2: Sorrento Valley Road

Carmel Valley Road to Carmel Mountain Road
 Length of Class 1 (feet): 3800
 Length of Class 2 (feet): 2400
 Based on Sorrento Valley Road Reuse Project EIR
 -- Pedestrian Trail and Multi-Use Path Option
 Improve existing roadway.
 Excludes Caltrans Bridge Project area

Items of Work	Quantity	Unit Cost	Item Cost
Earthwork, CY	4500	\$ 25	\$ 112,500
Asphalt Concrete (AC), Ton	1245	\$ 110	\$ 136,950
Stabilized Soil, CY	650	\$ 23	\$ 14,950
Wooden Fence, LF	2400	\$ 25	\$ 60,000
Striping & Signing, LF	6200	\$ 2.50	\$ 15,500
Traffic Control, LS	1	\$ 12,000	\$ 12,000
Drainage, LS	1	\$ 58,000	\$ 58,000
NPDES, LF	6200	\$ 6	\$ 37,200
Landscaping, SF	20000	\$ 2	\$ 40,000
Sub-Total			\$ 487,100
Contingency	35%		\$ 170,485
CRT Project Cost			\$ 657,585

Segment 3 - Cost Detail

Segment 3a: Sorrento Valley Road and Boulevard

Carmel Mountain Road to Roselle Street
 Length of Class 2 (feet): 7400
 Add signage to existing bike lane.

Items of Work	Quantity	Unit Cost	Item Cost
Signing, LS	1	\$ 7,000	\$ 7,000
			\$ -
			\$ -
			\$ -
Sub-Total			\$ 7,000
Contingency	35%		\$ 2,450
CRT Project Cost			\$ 9,450

Segment 3b: Roselle Street

Sorrento Valley Blvd to Cul-de-Sac
 Length of Class 2 (feet): 4200
 Add signage and striping to existing roadway.

Items of Work	Quantity	Unit Cost	Item Cost
Striping & Signing, LF	4200	\$ 2.50	\$ 10,500
Drainage, LS	1	\$ 58,000	\$ 58,000
Roadway Improvements, LS	1	\$ 58,000	\$ 58,000
			\$ -
Sub-Total			\$ 126,500
Contingency	35%		\$ 44,275
CRT Project Cost			\$ 170,775

Segment 4a: Roselle Canyon Access Road

Roselle Street to Storage Yard.

Length of Class 2 (feet): 1000

Improve existing access road to City storage.

Add signage and striping.

Items of Work	Quantity	Unit Cost	Item Cost
Earthwork, CY	450	\$ 25	\$ 11,250
Landscaping, SF	30000	\$ 2.00	\$ 60,000
Asphalt Concrete (AC), TON	1250	\$ 110	\$ 137,500
Aggregate Base (AB), CY	700	\$ 90	\$ 63,000
Aggregate Subbase (AS), CY	950	\$ 60	\$ 57,000
Retaining Wall, SF	2000	\$ 86	\$ 172,000
Striping & Signing, LF	1000	\$ 2.50	\$ 2,500
NPDES, LF	1000	\$ 6	\$ 6,000
Drainage, LS	1	\$ 23,000	\$ 23,000
Enviro Mitigation - Uplands, Ac	0.2	\$ 51,000	\$ 10,200
Sub-Total			\$ 542,450
Contingency	35%		\$ 189,858
CRT Project Cost			\$ 732,308

Segment 4b.1: Roselle Canyon Maximum Grade of 10% (Feb 2005)

Storage Yard to Eastgate Mall

Length of Class 1 (feet): 6000

Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	2200	\$ 25	\$ 55,000
Embankment, CY	10000	\$ -	\$ -
Imported Borrow, CY	7800	\$ 25	\$ 195,000
Striping & Signing, LF	6000	\$ 2.50	\$ 15,000
Wooden Fence, LF	6000	\$ 25	\$ 150,000
Asphalt Concrete (AC), TON	870	\$ 110	\$ 95,700
Aggregate Base (AB), CY	1150	\$ 90	\$ 103,500
Retaining Wall, SF	6400	\$ 86	\$ 550,400
Bridge Structure, SF	800	\$ 200	\$ 160,000
Drainage, LS	1	\$ 58,000	\$ 58,000
Landscaping, SF	120000	\$ 2.00	\$ 240,000
NPDES, LF	6000	\$ 6.00	\$ 36,000
Enviro Mitigation - Uplands, Ac	1.8	\$ 51,000	\$ 91,800
Enviro Mitigation - Wetlands, Ac	2.6	\$ 161,000	\$ 418,600
Sub-Total			\$ 2,169,000
Contingency	35%		\$ 759,150
CRT Project Cost			\$ 2,928,150

Segment 4b.2: Maximum Grade of 10% (Jan 2007)

Storage Yard to Eastgate Mall

Length of Class 1 (feet): 6930

Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	13385	\$ 25	\$ 334,625
Embankment, CY	139855	\$ -	\$ -
Imported Borrow, CY	126470	\$ 25	\$ 3,161,750
Striping & Signing, LF	6930	\$ 2.50	\$ 17,325
Wooden Fence, LF	6930	\$ 25	\$ 173,250
Asphalt Concrete (AC), TON	972	\$ 110	\$ 106,935
Aggregate Base (AB), CY	1284	\$ 90	\$ 115,592
Retaining Wall, SF	19285	\$ 86	\$ 1,658,510
Bridge Structure, SF	800	\$ 200	\$ 160,000
Drainage, LS	1	\$ 58,000	\$ 58,000
Utility Relocation, LS	1	\$ 1,200,000	\$ 1,200,000
Landscaping, SF	120000	\$ 2.00	\$ 240,000
NPDES, LF	6930	\$ 6.00	\$ 41,580
Enviro Mitigation - Uplands, Ac	1.8	\$ 51,000	\$ 91,800
Enviro Mitigation - Wetlands, Ac	2.6	\$ 161,000	\$ 418,600
Sub-Total			\$ 7,777,968
Contingency	35%		\$ 2,722,289
CRT Project Cost			\$ 10,500,257

Segment 4b.3: Maximum Grade of 5% with Sharp Horizontal Curves

Storage Yard to Eastgate Mall

Length of Class 1 (feet): 9017

Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	56912	\$ 25	\$ 1,422,800
Embankment, CY	66940	\$ -	\$ -
Imported Borrow, CY	10028	\$ 25	\$ 250,700
Striping & Signing, LF	9017	\$ 2.50	\$ 22,543
Wooden Fence, LF	9017	\$ 25	\$ 225,425
Asphalt Concrete (AC), TON	1265	\$ 110	\$ 139,140
Aggregate Base (AB), CY	1671	\$ 90	\$ 150,404
Retaining Wall, SF	78473	\$ 86	\$ 6,748,678
Bridge Structure, SF	0	\$ 200	\$ -
Drainage, LS	1	\$ 58,000	\$ 58,000
Utility Relocation, LS	1	\$ 58,000	\$ 58,000
Landscaping, SF	120000	\$ 2.00	\$ 240,000
NPDES, LF	9017	\$ 6.00	\$ 54,102
Enviro Mitigation - Uplands, Ac	1.8	\$ 51,000	\$ 91,800
Enviro Mitigation - Wetlands, Ac	2.6	\$ 161,000	\$ 418,600
Sub-Total			\$ 9,880,191
Contingency	35%		\$ 3,458,067
CRT Project Cost			\$ 13,338,257

Segment 4b.4: Maximum Grade of 5% without Sharp Horizontal Curves

Storage Yard to Eastgate Mall Improve existing dirt access road.

Length of Class 1 (feet): 7817

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	15030	\$ 25	\$ 375,750
Embankment, CY	128195	\$ -	\$ -
Imported Borrow, CY	113165	\$ 25	\$ 2,829,125
Striping & Signing, LF	7817	\$ 2.50	\$ 19,543
Wooden Fence, LF	7817	\$ 25	\$ 195,425
Asphalt Concrete (AC), TON	1097	\$ 110	\$ 120,623
Aggregate Base (AB), CY	1449	\$ 90	\$ 130,388
Retaining Wall, SF	48630	\$ 86	\$ 4,182,180
Bridge Structure, SF	12150	\$ 200	\$ 2,430,000
Drainage, LS	1	\$ 58,000	\$ 58,000
Utility Relocation, LS	1	\$ 58,000	\$ 58,000
Landscaping, SF	120000	\$ 2.00	\$ 240,000
NPDES, LF	7817	\$ 6.00	\$ 46,902
Enviro Mitigation - Uplands, Ac	1.8	\$ 51,000	\$ 91,800
Enviro Mitigation - Wetlands, Ac	2.6	\$ 161,000	\$ 418,600
Sub-Total			\$ 11,196,335
Contingency	35%		\$ 3,918,717
CRT Project Cost			\$ 15,115,052

Segment 4b.5: Maximum Grade of 5% with Minimum Amount of Cut Walls

Storage Yard to Eastgate Mall Improve existing dirt access road.

Length of Class 1 (feet): 7816

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	15030	\$ 25	\$ 375,750
Embankment, CY	115674	\$ -	\$ -
Imported Borrow, CY	100644	\$ 25	\$ 2,516,100
Striping & Signing, LF	7816	\$ 2.50	\$ 19,540
Wooden Fence, LF	7816	\$ 25	\$ 195,400
Asphalt Concrete (AC), TON	1096	\$ 110	\$ 120,607
Aggregate Base (AB), CY	1449	\$ 90	\$ 130,371
Retaining Wall, SF	32980	\$ 86	\$ 2,836,280
Bridge Structure, SF	16200	\$ 200	\$ 3,240,000
Drainage, LS	1	\$ 58,000	\$ 58,000
Utility Relocation, LS	1	\$ 58,000	\$ 58,000
Landscaping, SF	120000	\$ 2.00	\$ 240,000
NPDES, LF	7816	\$ 6.00	\$ 46,896
Enviro Mitigation - Uplands, Ac	1.8	\$ 51,000	\$ 91,800
Enviro Mitigation - Wetlands, Ac	2.6	\$ 161,000	\$ 418,600
Sub-Total			\$ 10,347,344
Contingency	35%		\$ 3,621,570
CRT Project Cost			\$ 13,968,914

Segment 4b.6 Combination Class I and Unpaved Trail

Storage Yard to Eastgate Mall

3800 feet of Class I and 2200 feet of Unpaved Trail

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	1300	\$ 25	\$32,500
Embankment, CY	0	\$ -	\$ -
Imported Borrow, CY	0	\$ 25	\$ -
Striping & Signing, LF	6000	\$ 2.50	\$15,000
Wooden Fence, LF	6000	\$ 25	\$150,000
Asphalt Concrete (AC), TON	800	\$ 110	\$88,000
Aggregate Base (AB), CY	1130	\$ 90	\$101,700
Retaining Wall, SF	0	\$ 86	\$ -
Bridge Structure, SF	0	\$ 200	\$ -
Drainage, LS	1	\$ 58,000	\$58,000
Landscaping, SF	120000	\$ 2.00	\$240,000
NPDES, LF	6000	\$ 6.00	\$36,000
Enviro Mitigation - Uplands, Ac	1.8	\$ 51,000	\$91,800
Enviro Mitigation - Wetlands, Ac	2.6	\$ 161,000	\$418,600
Sub-Total			\$1,231,600
Contingency	35%		\$431,060
CRT Project Cost			\$1,662,660

Segment 4b.7 Combination Class I and Ramp

Storage Yard to Eastgate Mall

5100 feet of Class I and 1200 feet of Unpaved Trail

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	4000	\$ 25	\$100,000
Embankment, CY	15000	\$ -	\$ -
Imported Borrow, CY	11000	\$ 25	\$275,000
Striping & Signing, LF	6000	\$ 2.50	\$15,000
Wooden Fence, LF	6000	\$ 25	\$150,000
Asphalt Concrete (AC), TON	1260	\$ 110	\$138,600
Aggregate Base (AB), CY	3900	\$ 90	\$351,000
Retaining Wall, SF	31000	\$ 86	\$2,666,000
Bridge Structure, SF	0	\$ 200	\$ -
Drainage, LS	1	\$ 58,000	\$58,000
Landscaping, SF	120000	\$ 2.00	\$240,000
NPDES, LF	6000	\$ 6.00	\$36,000
Enviro Mitigation - Uplands, Ac	2.8	\$ 51,000	\$142,800
Enviro Mitigation - Wetlands, Ac	2.6	\$ 161,000	\$418,600
Sub-Total			\$4,591,000
Contingency	35%		\$1,606,850
CRT Project Cost			\$ 6,197,850

Segment 4c Towne Centre Drive

Roselle Street to Eastgate Mall

1700 feet of Class I, 3250 feet of Class II and 2700 feet of Ramp

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	1400	\$ 25	\$35,000
Embankment, CY	7500	\$ -	\$ -
Imported Borrow, CY	6100	\$ 25	\$152,500
Striping & Signing, LF	8200	\$ 2.50	\$20,500
Wooden Fence, LF	1700	\$ 25	\$42,500
Asphalt Concrete (AC), TON	360	\$ 110	\$39,600
Aggregate Base (AB), CY	250	\$ 90	\$22,500
Retaining Wall, SF	6200	\$ 86	\$533,200
Ramp Structure	1	\$ 3,000,000	\$3,000,000
Bridge Structure, SF	0	\$ 200	\$ -
Drainage, LS	1	\$ 25,000	\$25,000
Landscaping, SF	3500	\$ 2.00	\$7,000
NPDES, LF	4500	\$ 6.00	\$27,000
Enviro Mitigation - Uplands, Ac	1.5	\$ 51,000	\$76,500
Enviro Mitigation - Wetlands, Ac	0	\$ 161,000	\$ -
Sub-Total			\$3,981,300
Contingency	35%		\$1,393,455
CRT Project Cost			\$5,374,755

Segment 5a.1: Eastgate Mall, Class II

Genesee Avenue to Judicial Drive

Length of Class II (feet): 2600

Widen pavement, restripe, signage.

Items of Work	Quantity	Unit Cost	Item Cost
Traffic Control, LS	1	\$58,000	\$58,000
Earthwork, CY	500	\$25	\$12,500
Demolition, LS	1	\$12,000	\$12,000
Utility Relocation, LS	1	\$58,000	\$58,000
Asphalt Concrete (AC), TON	260	\$110	\$28,600
Aggregate Base (AB), CY	150	\$90	\$13,500
Aggregate Subbase (AS), CY	200	\$60	\$12,000
Striping & Signing, LF	2600	\$11	\$28,600
Landscaping, SF	7000	\$3.50	\$24,500
NPDES, LF	2600	\$2.50	\$6,500
Drainage, LS	1	\$58,000	\$58,000
Sub-Total			\$312,200
Contingency	35%		\$109,270
CRT Project Cost			\$421,470

Segment 5a.2: Eastgate Mall, Class I and Class II

Genesee Avenue to Judicial Drive

Length of Class II (feet): 2300 Length of Class I: 300 feet

Widen pavement, restripe, signage.

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	600	\$25	\$15,000
Embankment, CY	200	\$ -	\$ -
Imported Borrow, CY	0	\$25	\$0
Striping & Signing, LF	300	\$2.50	\$750
Wooden Fence, LF	300	\$25	\$7,500
Asphalt Concrete (AC), TON	310	\$110	\$34,100
Aggregate Base (AB), CY	180	\$90	\$16,200
Aggregate Subbase (AS), CY	200	\$60	\$12,000
Demolition, LS	1	\$12,500	\$12,500
Reconstructed C,G&SWK	50	\$300	\$15,000
Retaining Wall, SF	900	\$86	\$77,400
Bridge Structure, SF	0	\$200	\$ -
Drainage, LS	1	\$73,000	\$73,000
Utility Reolcation, LS	1	\$58,000	\$58,000
Landscaping, SF	10000	\$3.50	\$35,000
NPDES, LF	2900	\$6.00	\$17,400
Signing and Striping, LF	2600	\$11.00	\$28,600
Traffic Control, LS	1	\$58,000.00	\$58,000
Enviro Mitigation - Uplands, Ac	0	\$51,000	\$ -
Enviro Mitigation - Wetlands, Ac	0	\$161,000	\$ -
Sub-Total			\$460,450
Contingency	35%		\$161,158
CRT Project Cost			\$621,608

Segment 5b: Judicial Drive

Eastgate Mall to Nobel Drive
 Length of Class 2 (feet): 5200
 Add signage to existing bike lane.

Items of Work	Quantity	Unit Cost	Item Cost
Signing, LS	1	\$ 5,000	\$ 5,000
			\$ -
			\$ -
Sub-Total			\$ 5,000
Contingency	35%		\$ 1,750
CRT Project Cost			\$ 6,750

Segment 6a: Nobel Descent

Asphalt road to Nobel Drive by I-805
 Length of Class 1 (feet): 3900
 Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	19000	\$ 25	\$ 475,000
Embankment, CY	25000	\$ 7	\$ 175,000
Imported Borrow, CY	6350	\$ 25	\$ 158,750
Striping & Signing, LF	3900	\$ 2.50	\$ 9,750
Wooden Fence, LF	3900	\$ 25	\$ 97,500
Asphalt Concrete (AC), TON	547	\$ 110	\$ 60,180
Aggregate Base (AB), CY	723	\$ 90	\$ 65,052
Retaining Wall, SF	38500	\$ 86	\$ 3,311,000
Drainage, LS	1	\$ 115,000	\$ 115,000
Landscaping, SF	60000	\$ 2	\$ 120,000
NPDES, LF	3900	\$ 6	\$ 23,400
Enviro Mitigation - Uplands, Ac	1.5	\$ 51,000	\$ 76,500
Enviro Mitigation - Wetlands, Ac	1.5	\$ 161,000	\$ 241,500
Sub-Total			\$ 4,928,632
Contingency	35%		\$ 1,725,021
CRT Project Cost			\$ 6,653,653

Segment 6b: Fire Access Lane

Rose Canyon maintenance asphalt road
 Length of Class 1 (feet): 1440
 Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Earthwork, CY	1000	\$ 25	\$ 25,000
Striping & Signing, LF	1440	\$ 2.50	\$ 3,600
Drainage, LS	1	\$ 16,000	\$ 16,000
Landscaping, SF	22000	\$ 2	\$ 44,000
Wooden Fence, LF	1440	\$ 25	\$ 36,000
NPDES, LF	1440	\$ 6	\$ 8,640
Enviro Mitigation - Uplands, Ac	0.5	\$ 51,000	\$ 25,500
Enviro Mitigation - Wetlands, Ac	0.5	\$ 161,000	\$ 80,500
Sub-Total			\$ 239,240
Contingency	35%		\$ 83,734
CRT Project Cost			\$ 322,974

Segment 6c: Fire Lane to Genesee Avenue

Rose Canyon maintenance dirt road
 Length of Class 1 (feet): 2080
 Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Earthwork, CY	2600	\$ 25	\$ 65,000
Embankment, CY	8000	\$ 7	\$ 56,000
Imported Borrow, CY	5400	\$ 25	\$ 135,000
Striping & Signing, LF	2080	\$ 2.50	\$ 5,200
Asphalt Concrete (AC), TON	292	\$ 110	\$ 32,096
Aggregate Base (AB), CY	385	\$ 90	\$ 34,694
Retaining Wall, SF	8040	\$ 86	\$ 691,440
Drainage, LS	1	\$ 23,000	\$ 23,000
Landscaping, SF	40000	\$ 2	\$ 80,000
Wooden Fence, LF	2080	\$ 25	\$ 52,000
NPDES, LF	2080	\$ 6	\$ 12,480
Enviro Mitigation - Uplands, Ac	0.5	\$ 51,000	\$ 25,500
Enviro Mitigation - Wetlands, Ac	0.5	\$ 161,000	\$ 80,500
Sub-Total			\$ 1,292,910
Contingency	35%		\$ 452,519
CRT Project Cost			\$ 1,745,429

Segment 6d: Rose Canyon Maintenance Road

Sewer Easement to Gilman Drive

Length of Class 1 (feet): 9900

Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	2500	\$ 25	\$ 62,500
Embankment, CY	11500	\$ 7	\$ 80,500
Imported Borrow, CY	9000	\$ 25	\$ 225,000
Striping & Signing, LF	9900	\$ 2.50	\$ 24,750
Wooden Fence, LF	9900	\$ 25	\$ 247,500
Asphalt Concrete (AC), TON	1450	\$ 110	\$ 159,500
Aggregate Base (AB), CY	1900	\$ 90	\$ 171,000
Retaining Wall, SF	4600	\$ 86	\$ 395,600
Bridge Structure, SF	16000	\$ 200	\$ 3,200,000
Drainage, LS	1	\$ 86,000	\$ 86,000
Landscaping, SF	200000	\$ 2	\$ 400,000
NPDES, LF	9900	\$ 6	\$ 59,400
Enviro Mitigation - Uplands, Ac	10.8	\$ 51,000	\$ 550,800
Enviro Mitigation - Wetlands, Ac	1.1	\$ 161,000	\$ 177,100
Sub-Total			\$ 5,839,650
Contingency	35%		\$ 2,043,878
CRT Project Cost			\$ 7,883,528

Segment 6e.i: Nobel Drive Class I

Judicial Drive to Towne Centre Drive

Length of Class I: 4150 feet

Items of Work	Quantity	Unit Cost	Item Cost
Excavation, CY	3800	\$25	\$ 95,000
Embankment, CY	1000	\$ -	\$ -
Imported Borrow, CY	0	\$25	\$ -
Remove Existing C,G & SWK	2000	\$10	\$ 20,000
Construct C,G & SWK	3000	\$30	\$ 90,000
Construct Ped Ramp	3	\$2,500	\$ 7,500
Striping & Signing, LF	4150	\$3.50	\$ 14,525
Sign Relocation, EA	1	\$5,000.00	\$ 5,000
Railing, LF	9300	\$25	\$ 232,500
Asphalt Concrete (AC), TON	880	\$110	\$ 96,800
Aggregate Base (AB), CY	620	\$90	\$ 55,800
Retaining Wall, SF	5100	\$86	\$ 438,600
Drainage, LS	1	\$20,000	\$ 20,000
Utility Relocation, LS	1	\$50,000	\$ 50,000
Landscaping, SF	4150	\$2.00	\$ 8,300
Traffic Control, LS	1	\$50,000.00	\$ 50,000
NPDES, LF	4150	\$6.00	\$ 24,900
Enviro Mitigation - Uplands, Ac	0.25	\$51,000	\$ 12,750
Enviro Mitigation - Wetlands, Ac	0	\$161,000	\$ -
Sub-Total			\$1,221,675
Contingency	35%		\$ 427,586
CRT Project Cost			\$1,649,261

Segment 6e.ii: Nobel Drive Class II

Judicial Drive to Sewer Easement
 Length of Class 2 (feet): 3200
 Add signage to Nobel Drive.

Items of Work	Quantity	Unit Cost	Item Cost
Signing, LS	1	\$ 4,000	\$ 4,000
			\$ -
			\$ -
			\$ -
Sub-Total			\$ 4,000
Contingency	35%		\$ 1,400
CRT Project Cost			\$ 5,400

Segment 6f: Sewer Easement Maintenance Road

Nobel Drive to Rose Canyon maintenance road
 Length of Class 1 (feet): 960
 Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Earthwork, CY	800	\$ 25	\$ 20,000
Striping & Signing, LF	960	\$ 2.50	\$ 2,400
Asphalt Concrete (AC), TON	140	\$ 110	\$ 15,400
Aggregate Base (AB), CY	180	\$ 90	\$ 16,200
Drainage, LS	1	\$ 12,000	\$ 12,000
Landscaping, SF	20000	\$ 2	\$ 40,000
Wooden Fence, LF	960	\$ 25	\$ 24,000
NPDES, LF	960	\$ 6	\$ 5,760
Enviro Mitigation - Uplands, Ac	0.5	\$ 51,000	\$ 25,500
Enviro Mitigation - Wetlands, Ac	0.5	\$ 161,000	\$ 80,500
Sub-Total			\$ 241,760
Contingency	35%		\$ 84,616
CRT Project Cost			\$ 326,376

Segment 6g: Genesee Avenue Access to Rose Canyon

Access ramps east and west of Genesee

Length of Class 1 (feet): 340

Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Asphalt Concrete (AC), TON	50	\$ 110	\$ 5,500
Aggregate Base (AB), CY	70	\$ 90	\$ 6,300
Landscaping, SF	10000	\$ 2	\$ 20,000
Earthwork, CY	200	\$ 25	\$ 5,000
Striping & Signing, LF	340	\$ 2.50	\$ 850
Wooden Fence, LF	340	\$ 25	\$ 8,500
NPDES, LF	340	\$ 6	\$ 2,040
Enviro Mitigation - Uplands, Ac	0.2	\$ 51,000	\$ 10,200
Sub-Total			\$ 58,390
Contingency	35%		\$ 20,437
CRT Project Cost			\$ 78,827

Segment 6h: Regents Road Access to Nobel Canyon

Access ramps east and west of Genesee

Length of Class 1 (feet): 1000

Improve existing dirt access road.

Items of Work	Quantity	Unit Cost	Item Cost
Asphalt Concrete (AC), TON	150	\$ 110	\$ 16,500
Aggregate Base (AB), CY	210	\$ 90	\$ 18,900
Landscaping, SF	5000	\$ 2	\$ 10,000
Earthwork, CY	50	\$ 25	\$ 1,250
Striping & Signing, LF	1000	\$ 2.50	\$ 2,500
NPDES, LF	1000	\$ 6	\$ 6,000
Enviro Mitigation - Uplands, Ac	0.1	\$ 51,000	\$ 5,100
Sub-Total			\$ 60,250
Contingency	35%		\$ 21,088
CRT Project Cost			\$ 81,338

Exhibit 6-A Preliminary Environmental Study (PES) Form

Federal Project No.: <u>CML-5004 (131)</u> <small>(Federal Program Prefix-Project No., Agreement No.)</small>		Final Design: <u>April, 2011</u> <small>(Expected Start Date)</small>	
To: <u>Erwin Gojuangco</u> <small>(District Local Assistance Engineer)</small>		From: <u>City of San Diego</u> <small>(Local Agency)</small>	
<u>District 11</u> <small>(District)</small>		<u>Nitsuh Aberra</u> <small>(Project Manager's Name and Telephone No.)</small>	
<u>4050 Taylor Street, San Diego, CA 92110</u> <small>(Address)</small>		<u>600 B Street, Suite 800, MS 908A, San Diego, CA 92101-4502</u> <small>(Address)</small>	
<u>erwin.gojuangco@dot.ca.gov</u> <small>(E-mail Address)</small>		<u>naberra@sandiego.gov</u> <small>(E-mail Address)</small>	

Is this Project "ON" the State Highway System? Yes No **IF YES, STOP HERE** and contact the District Local Assistance Engineer regarding the completion of other environmental documentation.

Federal State Transportation Improvement Program (FSTIP) <http://www.dot.ca.gov/hq/transprog/fedpdm.htm> October 2008 124
(Currently Adopted Plan Date) (Page No. attach to this form)

Programming for FSTIP:	Preliminary Engineering	Right of Way	Construction
<u>2008/2009</u> <small>(Fiscal Year)</small>	<u>\$ 3,477,000</u> <small>(Dollars)</small>	<u>n/a</u> <small>(Fiscal Year)</small>	<u>n/a</u> <small>(Fiscal Year)</small>
		<u>\$ n/a</u> <small>(Dollars)</small>	<u>\$ n/a</u> <small>(Dollars)</small>

Project Description as Shown in RTP and FSTIP: From the RTP: Coastal Rail Trail from Oceanside to San Diego – multi-jurisdictional class I bike and pedestrian trail along the Coaster ROW.

Detailed Project Description: *(Describe the following, as applicable: purpose and need, project location and limits, required right of way acquisition, proposed facilities, staging areas, disposal and borrow sites, construction activities, and construction access.)*
Please see attached Notes page.

(Continue description on "Notes" sheet, last page of this Exhibit, if necessary)

Preliminary Design Information:

Does the project involve any of the following? Please check the appropriate boxes and delineate on an attached map, plan, or layout including any additional pertinent information.

<table style="width:100%;"> <tr><td><input checked="" type="checkbox"/> Yes</td><td><input type="checkbox"/> No</td></tr> <tr><td><input checked="" type="checkbox"/> Widen existing roadway</td><td><input type="checkbox"/> Increase number of through lanes</td></tr> <tr><td><input type="checkbox"/> Increase number of through lanes</td><td><input checked="" type="checkbox"/> New alignment</td></tr> <tr><td><input type="checkbox"/> New alignment</td><td><input checked="" type="checkbox"/> Capacity increasing—other (e.g., channelization)</td></tr> <tr><td><input type="checkbox"/> Capacity increasing—other (e.g., channelization)</td><td><input checked="" type="checkbox"/> Realignment</td></tr> <tr><td><input checked="" type="checkbox"/> Realignment</td><td><input checked="" type="checkbox"/> Ramp or street closure</td></tr> <tr><td><input checked="" type="checkbox"/> Ramp or street closure</td><td><input type="checkbox"/> Bridge work</td></tr> <tr><td><input type="checkbox"/> Bridge 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Required Attachments:

- Regional map
- Project location map
- Project footprint map (existing/proposed right of way)
- Engineering drawings (existing and proposed cross sections), if available
- Borrow/disposal site location map, if applicable
- (Note: all maps (except project location map and regional maps) should be consistent with the project description (minimum scale: 1" = 200').)
- Notes to support the conclusions of this checklist/project description continuation page (attached)

Examine the project for potential effects on the environment, direct or indirect and answer the following questions. The "construction area," as specified below, includes all areas of ground disturbance associated with the project, including staging and stockpiling areas and temporary access roads.

Each answer must be briefly documented on the "Notes" pages at the end of the PES Form.

A. Potential Environmental Effects	Yes	To Be Determined	No
General			
1. Will the project require future construction to fully utilize the design capabilities included in the proposed project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Will the project generate public controversy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Noise			
3. Is the project a Type I project as defined in 23 CFR 772.5(h); "construction on new location or the physical alteration of an existing highway, which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes"?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Does the project have the potential for adverse construction-related noise impact (such as related to pile driving)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Air Quality			
5. Is the project in a NAAQS non-attainment or maintenance area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Is the project exempt from the requirement that a conformity determination be made? (If "Yes," state which conformity exemption in 40 CFR 93.126, Table 2 applies): <i>Air Quality</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Is the project exempt from regional conformity? (If "Yes," state which conformity exemption in 40 CFR 93.127, Table 3 applies): <i>see above</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. If project is not exempt from regional conformity, (If "No" on Question #7)			
Is project in a metropolitan non-attainment/maintenance area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is project in an isolated rural non-attainment area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is project in a CO, PM10 and/or PM2.5 non-attainment/maintenance area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Materials/Hazardous Waste			
9. Is there potential for hazardous materials (including underground or aboveground tanks, etc.) and/or hazardous waste (including oil/water separators, waste oil, asbestos-containing material, lead-based paint, ADL, etc.) within or immediately adjacent to the construction area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Water Quality/Resources			
10. Does the project have the potential to impact water resources (rivers, streams, bays, inlets, lakes, drainage sloughs) within or immediately adjacent to the project area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Is the project within a designated sole-source aquifer?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Coastal Zone			
12. Is the project within the State Coastal Zone, San Francisco Bay, or Suisun Marsh?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floodplain			
13. Is the construction area located within a regulatory floodway or within the base floodplain (100-year elevation of a watercourse or lake)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wild and Scenic Rivers			
14. Is the project within or immediately adjacent to a Wild and Scenic River System?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Biological Resources			
15. Is there a potential for federally listed threatened or endangered species, or their critical habitat or essential fish habitat to occur within or adjacent to the construction area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Does the project have the potential to directly or indirectly affect migratory birds, or their nests or eggs (such as vegetation removal, box culvert replacement/repair, bridge work, etc.)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Is there a potential for wetlands to occur within or adjacent to the construction area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. Is there a potential for agricultural wetlands to occur within or adjacent to the construction area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19. Is there a potential for the introduction or spread of invasive plant species?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sections 4(f) and 6(f)			
20. Are there any historic sites or publicly owned public parks, recreation areas, wildlife or waterfowl refuges (Section 4[f]) within or immediately adjacent to the construction area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Does the project have the potential to affect properties acquired or improved with Land and Water Conservation Fund Act (Section 6[f]) funds?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Visual Resources			
22. Does the project have the potential to affect any visual or scenic resources?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relocation Impacts			
23. Will the project require the relocation of residential or business properties?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Land Use, Community, and Farmland Impacts			
24. Will the project require any right of way, including partial or full takes? Consider construction easements and utility relocations.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Is the project inconsistent with plans and goals adopted by the community?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
26. Does the project have the potential to divide or disrupt neighborhoods/communities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27. Does the project have the potential to disproportionately affect low-income and minority populations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28. Will the project require the relocation of public utilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
29. Will the project affect access to properties or roadways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
30. Will the project involve changes in access control to the State Highway System (SHS)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
31. Will the project involve the use of a temporary road, detour, or ramp closure?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
32. Will the project reduce available parking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
33. Will the project construction encroach on state or federal lands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
34. Will the project convert any farmland to a different use or impact any farmlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cultural Resources			
35. Is there National Register listed, or potentially eligible historic properties, or archaeological resources within or immediately adjacent to the construction area? (Note: Caltrans PQS answers question #35)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
36. Is the project adjacent to, or would it encroach on Tribal land?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

For Sections B, C, and D, check appropriate box to indicate required technical studies; coordination, permits, or approvals.

B. Required Technical Studies and Analyses	C. Coordination	D. Anticipated Actions/Permits/Approvals
<input checked="" type="checkbox"/> Traffic <i>Check one:</i> <input checked="" type="checkbox"/> Traffic Study – TMP ONLY <input type="checkbox"/> Technical Memorandum <input type="checkbox"/> Discussion in ED Only	<input checked="" type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Approval
<input type="checkbox"/> Noise <i>Check as applicable:</i> <input type="checkbox"/> Traffic Related <input type="checkbox"/> Construction Related <i>Check one:</i> <input type="checkbox"/> Noise Study Report <input type="checkbox"/> NADR <input type="checkbox"/> Technical Memorandum <input type="checkbox"/> Discussion in ED Only	<input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Approval
<input type="checkbox"/> Air Quality <i>Check as applicable:</i> <input type="checkbox"/> Traffic Related <input type="checkbox"/> Construction Related <i>Check one:</i> <input type="checkbox"/> Air Quality Report <input type="checkbox"/> Technical Memorandum <input type="checkbox"/> Discussion in ED Only	<input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> FHWA <input type="checkbox"/> Caltrans <input type="checkbox"/> Regional Agency	<input type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Conformity Finding (6005 CE, EAs, BISs) <input type="checkbox"/> Conformity Finding (6004 CE) <input type="checkbox"/> PM10/PM2.5 Interagency Consultation
<input checked="" type="checkbox"/> Hazardous Materials/ Hazardous Waste <i>Check as applicable:</i> <input checked="" type="checkbox"/> Initial Site Assessment (Phase 1) <input type="checkbox"/> Preliminary Site Assessment (Phase 2) <input type="checkbox"/> Discussion in ED Only	<input checked="" type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Cal EPA DTSC <input type="checkbox"/> Local Agency	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Review Database <input type="checkbox"/> Review Database
<input checked="" type="checkbox"/> Water Quality/Resources <i>Check as applicable:</i> <input checked="" type="checkbox"/> Water Quality Assess. Report <input type="checkbox"/> Technical Memorandum <input type="checkbox"/> Discussion in ED Only	<input checked="" type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Approval
<input type="checkbox"/> Sole-Source Aquifer (Districts 5, 6 and 11)	<input type="checkbox"/> EPA (S.F. Regional Office)	<input type="checkbox"/> Approval of Analysis in ED
<input checked="" type="checkbox"/> Coastal Zone	<input checked="" type="checkbox"/> CCC	<input checked="" type="checkbox"/> Coastal Zone Consistency Determination

B. Required Technical Studies and Analyses	C. Coordination	D. Anticipated Actions/Permits/Approvals
<input checked="" type="checkbox"/> Floodplain		
<i>Check as applicable:</i>		
<input checked="" type="checkbox"/> Location Hydraulic Study	<input checked="" type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> Approval
<input type="checkbox"/> Floodplain Evaluation Report	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval
<input type="checkbox"/> Summary Floodplain Encroachment Report	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval
	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Only Practicable Alternative Finding
	<input type="checkbox"/> FHWA	<input type="checkbox"/> Approves significant encroachments and concurs in Only Practicable Alternative Findings
<input type="checkbox"/> Wild and Scenic Rivers	<input type="checkbox"/> River Managing Agency	<input type="checkbox"/> Wild and Scenic Rivers Determination
<input checked="" type="checkbox"/> Biological Resources		
<i>Check as applicable:</i>		
<input type="checkbox"/> NES, Minimal Impact	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval
<input checked="" type="checkbox"/> NES		
<input checked="" type="checkbox"/> BA	<input checked="" type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> Approves for Consultation
	<input checked="" type="checkbox"/> USFWS	<input checked="" type="checkbox"/> Section 7 Informal/Formal Consultation
	<input type="checkbox"/> NOAA Fisheries	
<input type="checkbox"/> EFH Evaluation	<input type="checkbox"/> NOAA Fisheries	<input type="checkbox"/> MSA Consultation
<input type="checkbox"/> Bio-Acoustic Evaluation	<input type="checkbox"/> NOAA Fisheries	<input type="checkbox"/> Approval
<input type="checkbox"/> Technical Memorandum	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval
<input checked="" type="checkbox"/> Wetlands		
<i>Check as applicable:</i>		
<input checked="" type="checkbox"/> WD and Assessment	<input checked="" type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> Approval
	<input checked="" type="checkbox"/> ACOE	<input checked="" type="checkbox"/> Wetland Verification
	<input type="checkbox"/> NRCS	<input type="checkbox"/> Agricultural Wetland Verification
	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Wetlands Only Practicable Alternative Finding
<input checked="" type="checkbox"/> Invasive Plants		
<input checked="" type="checkbox"/> Discussion in BD Only	<input checked="" type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> Approval
<input checked="" type="checkbox"/> Section 4(f)		
<i>Check as applicable:</i>		
	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Determine Temporary Occupancy
<input checked="" type="checkbox"/> De minimis	<input checked="" type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> De minimis finding
<input type="checkbox"/> Programmatic 4(f) Evaluation Type: Minor	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval
<input type="checkbox"/> Individual 4(f) Evaluation	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval
	<input type="checkbox"/> Agency with Jurisdiction	
	<input type="checkbox"/> SHPO	
	<input type="checkbox"/> DOI	
	<input type="checkbox"/> HUD	
	<input type="checkbox"/> USDA	

B. Required Technical Studies and Analyses	C. Coordination	D. Anticipated Actions/Permits/Approvals
<input type="checkbox"/> Section 6(f)	<input type="checkbox"/> Agency with Jurisdiction <input type="checkbox"/> NPS	<input type="checkbox"/> Determines Consistency with Long-Term Management Plan
	<input type="checkbox"/> NPS	<input type="checkbox"/> Approves Conversion
<input checked="" type="checkbox"/> Visual Resources <i>Check one:</i> <input checked="" type="checkbox"/> Visual Impact Assessment <input type="checkbox"/> Technical Memorandum <input type="checkbox"/> Discussion in ED Only	<input checked="" type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Approval
<input type="checkbox"/> Relocation Impacts <i>Check one:</i> <input type="checkbox"/> Relocation Impact Memo <input type="checkbox"/> Relocation Impact Study <input type="checkbox"/> Relocation Impact Report	<input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Approval
<input checked="" type="checkbox"/> Land Use and Community Impacts <i>Check one:</i> <input type="checkbox"/> CIA <input checked="" type="checkbox"/> Technical Memorandum <input type="checkbox"/> Discussion in ED Only	<input type="checkbox"/> Caltrans <input checked="" type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval <input checked="" type="checkbox"/> Approval <input type="checkbox"/> Approval
<input type="checkbox"/> Construction/Encroachment on State Lands <i>Check as applicable:</i> <input type="checkbox"/> SLC Jurisdiction <input type="checkbox"/> Caltrans Jurisdiction <input type="checkbox"/> SP Jurisdiction	<input type="checkbox"/> SLC <input type="checkbox"/> Caltrans <input type="checkbox"/> SP	<input type="checkbox"/> SLC Lease <input type="checkbox"/> Encroachment Permit <input type="checkbox"/> Encroachment Permit
<input type="checkbox"/> Construction/Encroachment on Federal Lands	<input type="checkbox"/> Federal Agency with Jurisdiction	<input type="checkbox"/> Encroachment Permit
<input type="checkbox"/> Construction/Encroachment On Indian Trust Lands	<input type="checkbox"/> Bureau of Indian Affairs	<input type="checkbox"/> Right of Way Permit
<input type="checkbox"/> Farmlands <i>Check one:</i> <input type="checkbox"/> CIA <input type="checkbox"/> Technical Memorandum <input type="checkbox"/> Discussion in ED Only	<input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans <input type="checkbox"/> Caltrans	<input type="checkbox"/> Approval <input type="checkbox"/> Approval <input type="checkbox"/> Approval
<i>Check as applicable:</i> <input type="checkbox"/> Form AD 1006 <input type="checkbox"/> Conversion to Non-Agri Use	<input type="checkbox"/> NRCS <input type="checkbox"/> CDOC <input type="checkbox"/> ACOE	<input type="checkbox"/> Approves Conversion <input type="checkbox"/> Approves Conversion

B. Required Technical Studies and Analyses	C. Coordination	D. Anticipated Actions/Permits/ Approvals
<input checked="" type="checkbox"/> Cultural Resources (PQS completes this section) <i>Check as applicable:</i>	<input type="checkbox"/> Caltrans PQS	<input type="checkbox"/> Screened Undertaking
<input checked="" type="checkbox"/> APE Map	<input checked="" type="checkbox"/> Caltrans PQS and DLAE	<input checked="" type="checkbox"/> Approves APE Map
	<input checked="" type="checkbox"/> Local Preservation Groups and/or Native American Tribes	<input checked="" type="checkbox"/> Provides Comments Regarding Concerns with Project
<input checked="" type="checkbox"/> HPSR <input checked="" type="checkbox"/> ASR <input type="checkbox"/> HRER	<input checked="" type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> Approves for Consultation
<input checked="" type="checkbox"/> Finding of Effect Report	<input checked="" type="checkbox"/> Caltrans	<input checked="" type="checkbox"/> Concurs on No Effect, No Adverse Effect with Standard Conditions
	<input checked="" type="checkbox"/> SHPO	<input checked="" type="checkbox"/> Letter of Concurrence on Eligibility, No Adverse Effect without Standard
<input type="checkbox"/> MOA	<input type="checkbox"/> Caltrans	<input type="checkbox"/> Approves MOA
	<input type="checkbox"/> SHPO	<input type="checkbox"/> Approves MOA
	<input type="checkbox"/> ACHP (if requested)	<input type="checkbox"/> Approves MOA
<input checked="" type="checkbox"/> Permits Copies of permits and a list of mitigation commitments are mandatory submittals following NEPA approval.	<input checked="" type="checkbox"/> ACOE	<input checked="" type="checkbox"/> Section 404 Nationwide Permit
	<input type="checkbox"/> ACOE	<input type="checkbox"/> Section 404 Individual Permit
	<input type="checkbox"/> Caltrans/ACOE/EPA	<input type="checkbox"/> NEPA/404 Integration MOU
	<input type="checkbox"/> USFWS	
	<input type="checkbox"/> NOAA Fisheries	
	<input type="checkbox"/> ACOE	<input type="checkbox"/> Rivers and Harbors Act Section 10 Permit
	<input type="checkbox"/> USCG	<input type="checkbox"/> USCG Bridge Permit
	<input checked="" type="checkbox"/> RWQCB	<input checked="" type="checkbox"/> Section 401 Water Quality Certification
	<input checked="" type="checkbox"/> CDFG	<input checked="" type="checkbox"/> Section 1602 Streambed Alteration Agreement
	<input checked="" type="checkbox"/> RWQCB	<input checked="" type="checkbox"/> NPDES Permit
	<input checked="" type="checkbox"/> CCC	<input checked="" type="checkbox"/> Coastal Zone Permit
	<input checked="" type="checkbox"/> Local Agency	
	<input type="checkbox"/> BCDC	<input type="checkbox"/> BCDC Permit

Notes: Additional studies may be required for other federal agencies.

ACHP	=	Advisory Council on Historic Preservation	HRER	=	Historical Resources Evaluation Report
ACOE	=	U.S. Army Corps of Engineers	HUD	=	U.S. Housing and Urban Development
ADL	=	Aerially Deposited Lead	MOA	=	Memorandum of Agreement
APE	=	Area of Potential Effect	MSA	=	Magnuson-Stevens Fishery Conservation and Management Act
APN	=	Assessor Parcel Number	NEPA	=	National Environmental Policy Act
ASR	=	Archaeological Survey Report	NADR	=	Noise Abatement Decision Report
BA	=	Biological Assessment	NES	=	Natural Environment Study
BCDC	=	Bay Conservation and Development Commission	NHPA	=	National Historic Preservation Act
BE	=	Biological Evaluation	NOAA	=	National Oceanic and Atmospheric Administration
BO	=	Biological Opinion	NMFS	=	National Marine Fisheries Service
Cal EPA	=	California Environmental Protection Agency	NPDES	=	National Pollutant Discharge Elimination System
CCC	=	California Coastal Commission	NPS	=	National Park Service
CDFG	=	California Department of Fish and Game	NRCS	=	Natural Resources Conservation Service
CDOC	=	California Department of Conservation	PM10	=	Particulate Matter 10 Microns in Diameter or Less
CE	=	Categorical Exclusion	PM2.5	=	Particulate Matter 2.5 Microns in Diameter or Less
CIA	=	Community Impact Assessment	PMP	=	Project Management Plan
CWA	=	Clean Water Act	PQS	=	Professionally Qualified Staff
DLAE	=	District Local Assistance Engineer	ROD	=	Record of Decision
DOI	=	U.S. Department of Interior	RTIP	=	Regional Transportation Improvement Program
DTSC	=	Department of Toxic Substances Control	RTP	=	Regional Transportation Plan
EA	=	Environmental Assessment	RWQCB	=	Regional Water Quality Control Board
ED	=	Environmental Document	SER	=	Standard Environmental Reference
EFH	=	Essential Fish Habitat	SEP	=	Senior Environmental Planner
EIS	=	Environmental Impact Statement	SHPO	=	State Historic Preservation Officer
EPA	=	U.S. Environmental Protection Agency	SLC	=	State Lands Commission
FEMA	=	Federal Emergency Management Agency	SP	=	State Parks
FHWA	=	Federal Highway Administration	TIP	=	Transportation Improvement Program
FONSI	=	Finding of No Significant Impacted	USCG	=	U.S. Coast Guard
FTIP	=	Federal Transportation Improvement Program	USDA	=	U.S. Department of Agriculture
HPSR	=	Historic Property Survey Report	USFWS	=	U.S. Fish and Wildlife Service
			WD	=	Wetland Delineation

E. Preliminary Environmental Document Classification (NEPA)

Based on the evaluation of the project, the environmental document to be developed should be:

Check one:

- Environmental Impact Statement (Note: Engagement with participating agencies in accordance with SAFETEA-LU Section 6002 required)
- Compliance with SAFETEA-LU Section 6002 regarding Participating Agencies required
- Complex Environmental Assessment
- Routine Environmental Assessment
- Categorical Exclusion without required technical studies.
- Categorical Exclusion with required technical studies
(If Categorical Exclusion is selected, check one of the following):
 - Section 6004
 - 23.CFR 771. activity (c)(3)
 - 23.CFR 771. activity (d) (_____)
 - Activity _____ listed in the Section 6004.MOU.
 - Section 6005.

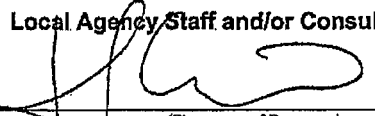
F. Public Availability and Public Hearing

Check as applicable:

- Not Required
- Notice of Availability of Environmental Document
- Public Meeting. Per our 9/2/09 meeting w/ city and UAS.
- Notice of Opportunity for a Public Hearing
- Public Hearing Required

G. Signatures

Local Agency Staff and/or Consultant Signature



 (Signature of Preparer)

9/22/09

 (Date)

619-743-6939

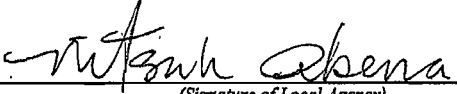
 (Telephone No.)

Jennifer Cordean

 (Name)

Local Agency Project Engineer Signature

This document was prepared under my supervision, in accordance with the *Local Assistance Procedures Manual*, Exhibit 6-B, "Instructions for Completing the Preliminary Environmental Study Form."



 (Signature of Local Agency)

9/22/09


 (Date)

619-533-4656

 (Telephone No.)

Caltrans District Professionally Qualified Staff (PQS) Signature

- Project does not meet definition of an "undertaking"; no further review is necessary under Section 106 ("No" Section A, #35).
- Project is limited to the type of activity listed in Attachment 2 of the Section 106 PA and based on the information provided in the PES Form, the project does not have the potential to affect historic properties ("No" Section A, #35).
- Project is limited to the type of activity listed in Attachment 2 of the Section 106 PA, but the following additional procedures or information is needed to determine the potential for effect ("To Be Determined" Section A, #35):
 - Records Search _____ _____ _____
- Project meets the definition of an "undertaking"; all properties in the project area are exempt from evaluation per Attachment 4 of the Section 106 PA ("No" Section A, #35).
- The proposed undertaking is considered to have the potential to affect historic properties; further studies for 106 compliance are indicated in Sections B, C, and D of this PES Form ("Yes" Section A, #35).



(Signature of Professionally Qualified Staff)

9-22-09

(Date)

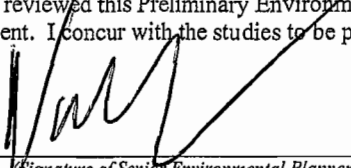
619-688-0257

(Telephone No.)

The following signatures are required for all CEs, routine and complex EAs, and EISs:

Caltrans District Senior Environmental Planner (or Designee) and DLAE Signatures

I have reviewed this Preliminary Environmental Study (PES) Form and determined that the submittal is complete and sufficient. I concur with the studies to be performed and the recommended NEPA Class of Action.



(Signature of Senior Environmental Planner or Designee)

9/22/09

(Date)

619 688 0246

(Telephone No.)

Kerri Hovey

(Name)



(Signature of District Local Assistance Engineer or Designee)

9-22-09

(Date)

619-278-3756

(Telephone No.)

ERWIN GOJUANGCO

(Name)

HQ DEA Environmental Coordinator concurrence _____ E-mail concurrence attached.
(date)