

# Phase I Initial Site Assessment

**Santa Cruz Route 1 HOV**

**Tier I Corridor Analysis of  
High Occupancy Vehicle (HOV) Lanes and Transportation System  
Management (TSM) Alternatives**

**(05 SCR-1-PM 7.24-16.13)**

**and**

**Tier II Build Project Analysis**

**41<sup>st</sup> Avenue to Soquel Avenue/Drive**

**Auxiliary Lanes and Chanticleer Avenue Pedestrian Overcrossing**

**(05 SCR-1-PM 13.5-14.9)**

**EA 0C7300**



**Prepared by the  
State of California Department of Transportation**

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# State Route 1 HOV Lane Widening Project (From Morrissey Boulevard to San Andreas Road) INITIAL SITE ASSESSMENT

## Errata

June 10, 2015

This Errata sheet revises the Initial Site Assessment as described below.

1. **Project Description.** The project description text provided in Section 1.2 of the report is hereby changed to replace the existing text of Section 1.2 with the following text.

### 1.2 Project Description

#### Purpose

The purpose of the proposed Tier I project on Route 1 within the project limits is to achieve the following:

- Reduce congestion.
- Promote the use of alternative transportation modes as means to increase transportation system capacity.
- Encourage carpooling and ridesharing.

The purpose of the Tier II project is to:

- Reduce congestion.
- Improve safety.
- Promote the use of alternative transportation modes as means to increase transportation system capacity.

The main distinction between the Tier I and Tier II project purposes is the Tier II project also addresses a congestion-related safety need within its limits but will not promote carpooling in the Route 1 corridor.

The Tier I and Tier II projects are intended to address specific deficiencies and needs on Route 1, as described in the following subsection.

#### Need

The Tier I and Tier II projects address the following needs resulting from deficiencies on Route 1 within the project limits:

- Several bottlenecks along Route 1 in the southbound and northbound directions cause recurrent congestion during peak hours.
- Travel time delays due to congestion are experienced by commuters, commerce, and emergency vehicles.
- “Cut-through” traffic, or traffic on local streets, occurs and is increasing because drivers seek to avoid congestion on the highway.

- Limited opportunities exist for pedestrians and bicyclists to safely get across Route 1 within the project corridor.

Within the Tier I project limits, in addition to the common needs identified above there is a need to address the following corridor-wide deficiencies:

- Insufficient incentives to increase transit service in the Route 1 corridor because congestion threatens reliability and cost-effective transit service delivery.
- Inadequate facilities to support carpool and rideshare vehicles over single-occupant vehicles, reducing travel time savings and reliability.

The Tier II project, in addition to the common needs identified above, also addresses the following need:

- Improve operational safety to address accident rates in excess of the statewide average.

### **Project Alternatives**

This section describes the proposed project improvements and the project alternatives developed to meet the purpose and need, while avoiding or minimizing environmental impacts. The alternatives are the Tier I Corridor HOV Lane Alternative, the Tier I Corridor TSM Alternative, and the Tier II Auxiliary Lane Alternative.

The proposed Tier I and Tier II project locations are in Santa Cruz County, California, on Route 1. The Tier I eastern project limit is just south of the village of Aptos, approximately 0.4 mile south of the San Andreas-Larkin Valley Road interchange; the Tier I project then traverses the villages of Soquel, Live Oak and unincorporated Santa Cruz County. The western Tier I project limit is in the City of Santa Cruz, approximately 0.4 mile north of the Morrissey Boulevard interchange, for a total length of 8.9 miles. The Tier II project limits, which lie within the Tier I corridor, begin at 41<sup>st</sup> Avenue on the east and extend a distance of 1.4 miles westward to Soquel Avenue.

Within the Tier I and Tier II project limits, Route 1 is a four-lane divided freeway with 12-foot lanes. In the southbound direction the existing inside paved shoulder width varies from approximately 4 feet to 18 feet and in the northbound direction the existing inside paved shoulder width varies from 7 feet to 18 feet. In the southbound direction in the project corridor, the outside shoulder width varies from 8 feet to 12 feet. In the northbound direction in the project corridor, the outside shoulder width varies from 6 feet to 8 feet.

The purpose of the Tier I project is to reduce congestion, promote the use of alternative transportation modes as means to increase transportation system capacity, and encourage carpooling and ridesharing. The purpose of the Tier II project is to reduce congestion,

improve safety, and promote the use of alternative transportation modes as means to increase transportation system capacity.

## **Alternatives**

This section describes the Tier I Corridor Alternatives and the Tier II Auxiliary Lane Alternative that were analyzed in this document. The Project Development Team studied various design alternatives and options. In an effort to reduce and avoid impacts, the Project Development Team also considered preliminary environmental information to better understand the impacts of those alternatives. The views of stakeholders were elicited through public information meetings and meetings with local agency staff and elected officials. From this preliminary analysis and public outreach, a longer list of alternatives and options was narrowed to include the alternatives described below.

The Tier I Corridor HOV Lane and TSM Alternatives were originally conceived as construction-level study alternatives, under the assumption that funding would be available in the near future. The Project Development Team recognized that funding sources to construct either of those alternatives would be limited in the short term and that implementation of the Tier I project would occur over a multi-year period. To make a decision on the types of transportation improvements that would occur within the corridor in the future, Tier I project implementation alternatives were identified. The team decided to study the HOV Lane and TSM Alternatives in a Tier I or Master Plan environmental document. The Tier I/II DEIR/EA will allow for the identification of a preferred corridor alternative for the 8.9-mile-long project corridor and facilitate the programming of funds. At the same time, the team also recognized that there was sufficient funding to implement a construction-level Tier II project within the corridor that would have more immediate congestion-relief benefits. Accordingly, a Tier II Auxiliary Lane and Pedestrian/Bicycle Overcrossing Alternative is also defined and analyzed in the Tier I/II DEIR/EA.

The Tier I corridor analysis includes three alternatives: a Tier I Corridor HOV Lane Alternative, a Tier I Corridor TSM Alternative, and a Tier I No Build Alternative. As funding becomes available, the high-priority improvements in the corridor would become subsequent incremental (Tier II) construction-level projects and would be subject to separate environmental reviews.

The Tier II corridor analysis considers an Auxiliary Lane Alternative and Pedestrian/Bicycle Overcrossing, and a No Build Alternative. The Tier II project is located between 41<sup>st</sup> Avenue and Soquel Avenue/Drive. It is anticipated that construction of the Tier II project could begin in 2019.

***Common Design Features of the Tier I Corridor HOV Lane and TSM Alternatives***

The Tier I HOV Lane and TSM Alternatives share many features, such as: the addition of auxiliary lanes, new pedestrian/bicycle overcrossings over Route 1, and Transportation Operations System elements. These common design features are described below.

***Auxiliary Lanes***

Auxiliary lanes are designed to reduce conflicts between traffic entering and exiting the highway by connecting the on-ramp of one interchange to the off-ramp of the next; they are not designed to serve through traffic. Auxiliary lanes would be constructed to improve merging operations at the locations listed below:

- Freedom Boulevard and Rio Del Mar Boulevard – northbound and southbound
- Rio Del Mar Boulevard and State Park Drive – northbound and southbound
- State Park Drive and Park Avenue – both directions in the TSM Alternative; southbound only in the HOV Lane Alternative
- Park Avenue and Bay Avenue/Porter Street – northbound and southbound
- 41<sup>st</sup> Avenue and Soquel Avenue/Drive – northbound and southbound

***New Pedestrian/Bicycle Overcrossings***

Both Tier I alternatives would construct new pedestrian/bicycle overcrossings of Route 1 at the following locations:

- Mar Vista Drive – The crossing would start on the north side of Route 1 and parallel the highway eastward for approximately 600 feet, doubling back westward as it climbs before crossing the highway and McGregor Drive at a right angle and then descending by switchbacks to and along Mar Vista Drive for approximately 550 feet; the final design will be determined as part of the Tier II design/environmental analysis of this facility.
- Chanticleer Avenue – The crossing would start at the Chanticleer Avenue cul-de-sac on the north side of Route 1 and run parallel the highway for approximately 400 feet to the west and then cross Route 1 and Soquel Avenue (frontage road) on a curved alignment, terminating just west of Chanticleer Avenue on the south side of the highway and Soquel Avenue (frontage road).
- Trevethan Avenue – The crossing would start on the north side of Route 1 at Trevethan Avenue and parallel the highway approximately 600 feet before crossing on an angle and continuing along the banks of the western tributary to Arana Gulch to terminate close to Harbor High School; multiple configurations are possible, with the final design to be determined as part of the subsequent design/environmental analysis of this facility.

*Other Common Features of the Tier I Corridor Alternatives*

The Tier I Corridor Alternatives would include reconstruction of the Santa Cruz Branch Rail Line bridges over Route 1 and the State Park Drive, Capitola Avenue, 41<sup>st</sup> Avenue, and Soquel Avenue overcrossings. The Santa Cruz Branch Line railroad underpass structures are proposed to be modified or replaced to accommodate highway widening to match the ultimate six-through-lane concept, including shoulder and sidewalk facilities to accommodate pedestrians and bicycles. These modifications will lower the highway profile to provide standard clearances. In addition the Aptos Creek Bridge would be widened.

Both build alternatives would include Transportation Operations System elements such as changeable message signs, closed-circuit television, microwave detection systems, and vehicle detection systems. In addition, ramp metering and HOV on-ramp bypass lanes with highway patrol enforcement areas would be constructed on the Route 1 ramps within the Tier I project limits; however, only the HOV Lane Alternative would include HOV lanes on the mainline.

Table 1-4 summarizes the major features of the Tier I Corridor Alternatives.

**Tier I Corridor HOV Lane Alternative**

The Tier I Corridor HOV Lane Alternative includes the following main components, which are discussed in detail below and are shown in Figure 1-3:

- Highway mainline to include northbound and southbound HOV lanes throughout the project limits;
- Auxiliary lanes;
- Highway interchange reconfigurations and improvements such as ramp metering, on-ramp HOV bypass lanes and California Highway Patrol enforcement areas, and stormwater drainage/treatment facilities;
- Construction of three pedestrian/bicycle overcrossings;
- Reconstruction of two Santa Cruz Branch Rail Line overcrossings in Aptos;
- Widening of the Aptos Creek Bridge;
- Replacement of the Capitola Avenue overcrossing;
- Retaining walls;
- Soundwalls; and
- Traffic signal coordination and other transportation operation system improvements.

The Tier I Corridor HOV Lane Alternative would expand the existing four-lane highway to a six through-lane facility by adding HOV lanes in both the northbound and southbound directions. HOV lanes would be constructed entirely within the existing median where possible. In those areas where the median is not wide enough to accommodate additional lanes, widening would occur outside of the existing freeway footprint. The southernmost

1.5 miles of the freeway can accommodate an HOV lane inside the existing median. From approximately Freedom Boulevard to Soquel Drive, the existing median is not wide enough to accommodate an HOV lane, so the space needed for the additional lanes would be achieved through a combination of median conversion within existing right-of-way and acquisition of property adjacent to the freeway.

**Table 1-4: Major Project Features  
Tier I Project Alternatives**

Project Features	HOV Lane Alternative	TSM Alternative	No Build Alternative
<b>Highway Mainline Changes</b>			
HOV lanes	X		
Lower highway profile at Santa Cruz Branch Line bridge crossings <sup>1</sup>	X	X	
<b>Auxiliary Lane Improvements</b>			
Northbound and southbound between Freedom Boulevard and Rio Del Mar Boulevard	X	X	
Northbound and southbound between Rio Del Mar Boulevard and State Park Drive	X	X	
Northbound between State Park Drive and Park Avenue		X	
Southbound between State Park Drive and Park Avenue	X	X	
Northbound and southbound between Park Avenue and Bay Avenue/Porter Street	X	X	
Northbound and southbound from 41 <sup>st</sup> Avenue to Soquel Avenue/Drive	X	X	
<b>Highway Interchange Improvements</b>			
Reconfigure all nine interchanges within project limits	X		
Reconstruct State Park Drive, 41st Avenue, and Soquel overcrossings		X	
Ramp metering	X	X	
On-ramp HOV bypass lanes	X	X	
On-ramp California Highway Patrol enforcement areas	X	X	
Stormwater drainage and treatment facilities	X	X	
<b>New Pedestrian/Bicycle Overcrossings</b>			
Mar Vista Drive Crossing	X	X	
Chanticleer Avenue Crossing	X	X	
Trevethan Avenue Crossing	X	X	
<b>Santa Cruz Branch Line Bridges Replacement</b>	X	X	
<b>Aptos Creek Bridge Widening</b>	X	X	
<b>Capitola Avenue Overcrossing Replacement</b>	X	X	
<b>Retaining Walls</b>	X	X	
<b>Soundwalls</b>	X	X	
<b>Traffic Signal Coordination</b>	X	X	X
<b>Transportation Operations System</b>	X	X	X
<b>Transit-Supportive Improvements</b>	X		

**Table 1-4: Major Project Features  
Tier I Project Alternatives**

Project Features		HOV Lane Alternative	TSM Alternative	No Build Alternative
1	Existing highway profile does not meet vertical clearance standards for railroad bridge crossings.			
2				



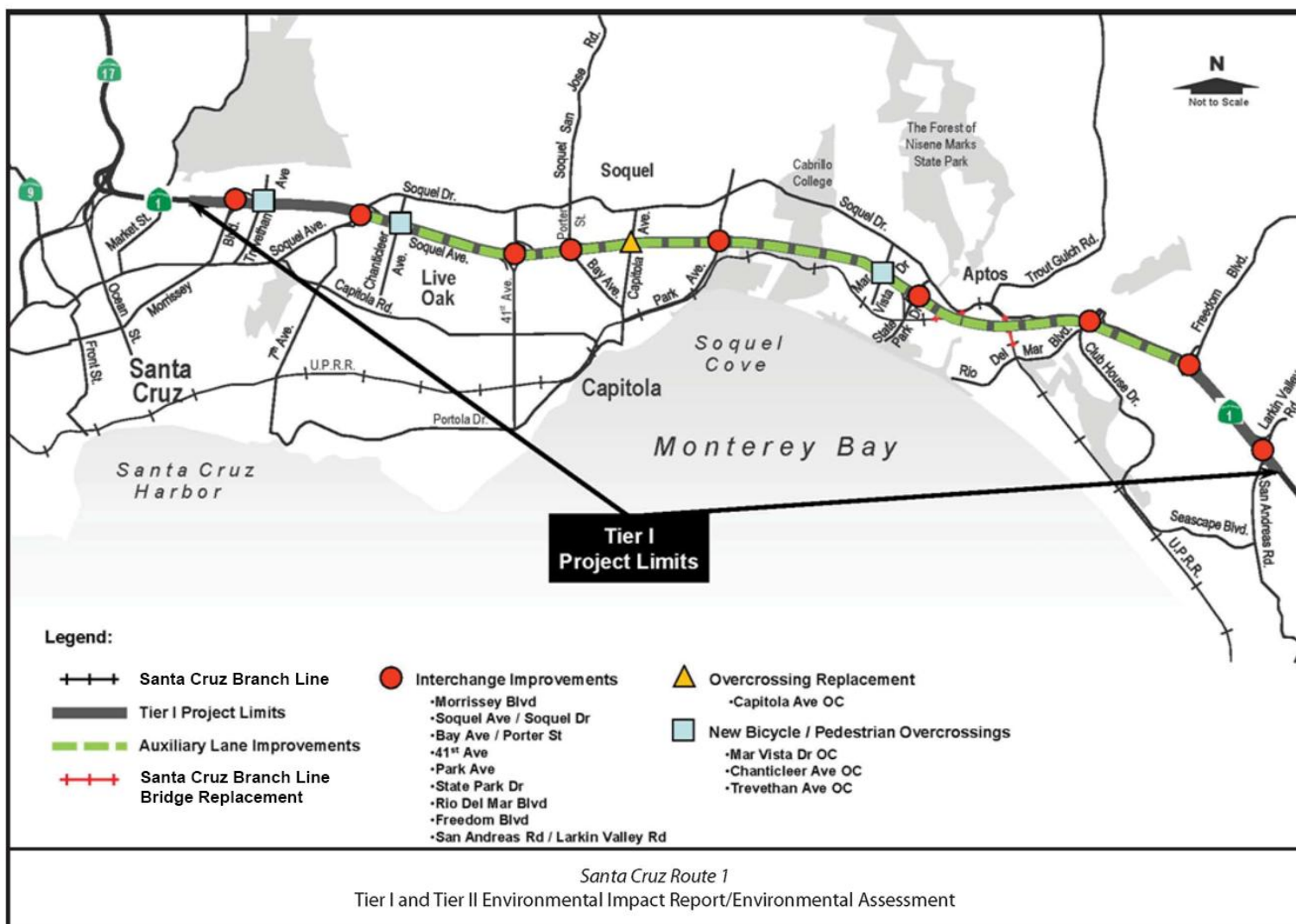


Figure 1-3: Tier I Corridor HOV Lane Alternative – Project Features

The Tier I Corridor HOV Lane Alternative would expand the existing four-lane highway to a six through-lane facility by adding HOV lanes in both the northbound and southbound directions. HOV lanes would be constructed entirely within the existing median where possible. In those areas where the median is not wide enough to accommodate additional lanes, widening would occur outside of the existing freeway footprint. The southernmost 1.5 miles of the freeway can accommodate an HOV lane inside the existing median. From approximately Freedom Boulevard to Soquel Drive, the existing median is not wide enough to accommodate an HOV lane, so the space needed for the additional lanes would be achieved through a combination of median conversion within existing right-of-way and acquisition of property adjacent to the freeway.

A mandatory standard median width (22 feet) set by Caltrans in its Highway Design Manual is proposed through most of the project corridor, north of Freedom Boulevard. The mandatory standard median width comprises two 10-foot-wide inside shoulders and a 2-foot-wide barrier. Where meeting the mandatory median width standard would result in acquiring property on the non-highway side of existing frontage roads, inside shoulder widths of 5 feet are proposed to reduce property requirements and impacts. Five feet is a nonstandard inside shoulder width for a Caltrans facility. This exception to shoulder-width design standards has received conceptual review in meetings between Caltrans and the project sponsor. All projects requiring design exceptions must ultimately be approved by Caltrans.

The Tier I Corridor HOV Lane Alternative would modify or reconstruct all nine interchanges within the project corridor to improve merging operations and ramp geometry by increasing the length of lanes for acceleration and deceleration, adding HOV bypass lanes and mixed-flow lanes to on-ramps, and improving sight distances. The Bay Avenue/Porter Street and 41<sup>st</sup> Avenue interchanges would be modified to operate as one interchange with frontage roads connecting the two interchanges. Where feasible, design deficiencies on existing ramps would be corrected to meet current design standards. Ramp metering and HOV bypass lanes would be provided on all Route 1 on-ramps. This alternative would include auxiliary lanes between all interchange ramps (with the exception of a northbound auxiliary lane between State Park Drive and Park Avenue) and Transportation Operations System elements, such as changeable message signs, microwave detection systems, and vehicle detection systems. Bridge structures and the Capitola Avenue overcrossing would be modified or replaced to accommodate the HOV lanes. New and widened highway crossing structures would include shoulder and sidewalk facilities to accommodate pedestrians and bicycles. The HOV Lane Alternative would include three new pedestrian/bicycle overcrossings of Route 1. The two existing Santa Cruz Branch Line structures over Route 1 in Aptos would be replaced with longer bridges at the same elevation, and the highway profile would be lowered to achieve standard vertical clearance under the bridges to make room for the HOV and auxiliary lanes. In addition, this design configuration would reduce

environmental impacts. The existing Route 1 bridge over Aptos Creek would be widened on the outside to accommodate the HOV lanes in each direction. The existing Capitola Avenue overcrossing would be replaced with a longer structure.

Retaining walls would be constructed to minimize property acquisitions and reduce environmental impacts. At locations where frontage roads are adjacent to Route 1, concrete barriers would be constructed to separate the highway and frontage road.

*Changes to Highway Mainline with the Tier I Corridor HOV Lane Alternative*

- Route 1 would be expanded to allow for two standard-width (12-foot) mixed-flow lanes, one standard-width (12-foot) HOV lane, and standard-width outside (10-foot) shoulders in each direction.
- The proposed lanes would be constructed within the existing 45-foot median. In locations where the existing median width is less than 45 feet, widening would occur both in the median and at the outside, generally within the existing Route 1 right-of-way.
- Where auxiliary lanes are proposed, widening by approximately 12 feet outside of the existing highway footprint would occur.
- A mandatory standard median width of 22 feet is proposed through most of the corridor.
- The highway centerline would be shifted northward in the vicinity of the Santa Cruz Branch Line crossings in Aptos to reduce impacts to wetlands. The bridge over Aptos Creek would be widened to allow for four new lanes: two HOV, two auxiliary, and pedestrian/bicycle facilities.
- Route 1 would be lowered to obtain vertical clearance at the Santa Cruz Branch Line crossings in Aptos. A mandatory standard median width of 22 feet is proposed to minimize impact to the railroad bridge.
- At three locations, median and inside shoulder widths would be nonstandard to reduce impacts to adjacent streets. The three locations are: McGregor Drive, Cabrillo College Drive, and Kennedy Drive. At these three constrained locations, the inside shoulder in the constrained direction would be a nonstandard 5 feet, and the median would be a nonstandard 17 feet.

*Auxiliary Lane Improvements with the Tier I Corridor HOV Lane Alternative*

The auxiliary lane improvements are discussed above in Section 1.5 Common Design Features of the Tier I Corridor HOV Lane and TSM Alternatives.

*Interchange Improvements with the Tier I Corridor HOV Lane Alternative*

All nine interchanges within the project corridor would be modified under the Tier I Corridor HOV Lane Alternative, including overcrossing and undercrossing widening or replacement. These modifications would improve merging operations and ramp geometrics, and accessibility and

safety for pedestrians and bicyclists. Major interchange improvements would include the following:

- Reconfiguration of intersections, including replacement or widening of highway overcrossings and undercrossings.
- Intersections of freeway ramps with local roads would be modified to shorten the pedestrian and bike crossing distances. Additionally, free right turns would be eliminated where feasible and traffic signals installed to improve traffic flow and slow vehicle traffic speeds through the bike and pedestrian crossing areas.
- Local roadways would be widened at the interchanges to accommodate the anticipated travel demand.
- Drainage and stormwater runoff treatment facilities would be provided.

Interchange improvements and design reconfigurations proposed for each interchange are listed in Table 1-5.

**Table 1-5: Interchange Improvements and Reconfigurations  
Tier I Corridor HOV Lane Alternative**

Route 1 Interchange Location	Project Plan Sheet No. <sup>1</sup>	Tier I Corridor HOV Lane Alternative Features
San Andreas/Larkin Valley Roads Interchange	HOV-20	The existing northbound cloverleaf off-ramp free right-turn onto Larkin Valley Road would be eliminated in favor of a signalized 90-degree intersection.
		A signalized intersection would be provided at the San Andreas Road ramps and the free right-turns would be eliminated.
		The existing on-ramps would be widened to accommodate HOV bypass lanes.
		The southbound Route 1 bridge over San Andreas/Larkin Valley Road would be widened into the median to accommodate the HOV lanes.
		San Andreas/Larkin Valley Roads would be widened within the Tier I project limits to add turn lanes.
		New sidewalks would be added along San Andreas/Larkin Valley Roads within the Tier I project limits.
Freedom Boulevard Interchange	HOV-18	The existing ramp termini at Freedom Boulevard would be modified to provide less-skewed intersections with Freedom Boulevard. These intersections would be signalized, and free right-turns would be eliminated.
		The southbound off-ramp would be widened to two exit lanes.
		The existing on-ramps would be widened to accommodate HOV bypass lanes.
		Freedom Boulevard would be widened within the Tier I project limits to add turn lanes.
		The Freedom Boulevard/Bonita Drive intersection would be enlarged to add turn lanes and achieve acceptable level of service.
		The Freedom Boulevard bridge would be replaced with a wider structure that would accommodate a new turn lane on Freedom Boulevard and the new HOV lanes on Route 1.
		New sidewalks would be added along Freedom Boulevard within the Tier I project limits.
Rio Del Mar Boulevard Interchange	HOV-16	The northbound on-ramp would be realigned to form the north leg of a four-way intersection with Rio Del Mar Boulevard and the northbound off-ramp. This intersection would be signalized, and free right turns would be eliminated

**Table 1-5: Interchange Improvements and Reconfigurations  
Tier I Corridor HOV Lane Alternative**

Route 1 Interchange Location	Project Plan Sheet No. <sup>1</sup>	Tier I Corridor HOV Lane Alternative Features
		The northbound off-ramp would be widened to two exit lanes.
		The southbound ramps would be widened, the intersection with Rio Del Mar Boulevard signalized, and free right-turns eliminated.
		The existing on-ramps would be widened to accommodate HOV bypass lanes.
		Soquel Drive would be shifted northward to accommodate the roadway widening along the northbound off-ramp.
		Rio Del Mar Boulevard would be widened within the Tier I project limits to add turn lanes and a through lane in each direction.
		The Rio Del Mar Boulevard bridge over Route 1 would be replaced with a longer, wider bridge to accommodate a new turn lane and a through lane in each direction on Rio Del Mar Boulevard and the new HOV lanes on Route 1.
		Sidewalk would be added along eastbound Rio Del Mar Boulevard within the Tier I project limits; the sidewalk on westbound Rio Del Mar Boulevard would be retained.
State Park Drive Interchange	HOV-13	The existing northbound cloverleaf on-ramp free-right turn would be changed to a signalized right turn.
		The existing northbound off-ramp terminus would be modified to form, together with the realigned northbound on-ramp terminus, the south leg of a signalized intersection with State Park Drive.
		The northbound and southbound off-ramps would be widened to two exit lanes.
		The existing on-ramps would be widened to accommodate HOV bypass lanes.
		State Park Drive would be widened within the Tier I project limits to add turn lanes and a through lane in each direction.
		The State Park Drive bridge over Route 1 would be replaced with a longer, wider bridge to accommodate a new through-lane in each direction on State Park Drive and the new HOV lanes on Route 1.
		Sidewalk would be added along eastbound State Park Drive within the Tier I project limits; the sidewalk along westbound State Park Drive would be retained.
Park Avenue Interchange	HOV-10	The existing diamond interchange ramp design would be retained and ramps would be widened.
		The northbound and southbound off-ramps would be widened to two exit lanes.
		The existing on-ramps would be widened to accommodate HOV bypass lanes.
		Park Avenue would be widened within the Tier I project limits to add turn lanes.
		The two Route 1 bridges over Park Avenue would be replaced with one, wider structure to accommodate the new HOV lanes on Route 1.
		Sidewalk would be added within the Tier I project limits along westbound Park Avenue; the sidewalk along eastbound Park Avenue would be retained.
Bay Avenue/Porter Street and 41st Avenue Interchanges	HOV-7	Improvements at the Bay Avenue/Porter Street and 41 <sup>st</sup> Avenue interchanges would be designed so that these two interchanges would work as a single interchange connected by a collector/frontage road running between the interchanges.
		The freeway ramps would be reconstructed to form less-skewed intersections with Bay Avenue/Porter Street.
		The existing southbound Route 1 off-ramp to Bay Avenue/Porter Street would be eliminated. Southbound traffic bound for Bay Avenue/Porter Street would exit at the 41 <sup>st</sup> Avenue two-lane off-ramp and continue on a new southbound collector/frontage road to Bay Avenue/Porter Street.

**Table 1-5: Interchange Improvements and Reconfigurations  
Tier I Corridor HOV Lane Alternative**

Route 1 Interchange Location	Project Plan Sheet No. <sup>1</sup>	Tier I Corridor HOV Lane Alternative Features
		<p>The existing two-lane on-ramp from Porter Street to northbound Route 1 would be modified to become a northbound collector/frontage road serving traffic bound for 41<sup>st</sup> Avenue or northbound Route 1.</p> <p>Northbound traffic exiting Route 1 would either bear right to intersect with Porter Street and continue north, or stay left and continue on a new structure over Porter Street, join the northbound collector/frontage road, and end at a new signalized intersection at 41<sup>st</sup> Avenue.</p> <p>At 41<sup>st</sup> Avenue, southbound on- and off-ramps would be eliminated and replaced with a diagonal off-ramp and a collector/frontage road serving traffic bound for Bay Avenue/Porter Street or southbound Route 1. The new ramp and collector/frontage road would form a signalized intersection with 41<sup>st</sup> Avenue.</p> <p>At 41<sup>st</sup> Avenue, the northbound on-ramps would be realigned.</p> <p>New on-ramps would include HOV bypass lanes.</p> <p>41<sup>st</sup> Avenue would be widened within the Tier I project limits to add turn lanes and eastbound through lanes over Route 1.</p> <p>Bay Avenue/Porter Street would be widened to add right-turn lanes at the on-ramps.</p> <p>A new bridge over Soquel Creek and Soquel Wharf Road would be constructed for the new southbound collector/frontage road from 41<sup>st</sup> Avenue to Bay Avenue/Porter Street.</p> <p>The 41<sup>st</sup> Avenue bridge over Route 1 would be replaced with a longer, wider bridge to accommodate the new eastbound through lane and turn lanes on 41<sup>st</sup> Avenue, and the new HOV lanes on Route 1.</p> <p>Northbound and southbound Class I bike paths would be constructed between 41<sup>st</sup> Avenue and Bay Avenue/Porter Street on either side of the new collector/frontage roads, respectively.</p>
Soquel Avenue/ Drive Interchange	HOV-3	<p>The northbound off-ramp would be realigned to a signalized 90-degree intersection with Soquel Drive. The existing access to Commercial Way would be eliminated.</p> <p>The westbound Soquel Drive on-ramp to northbound Route 1 would be modified to eliminate the free right-turn access.</p> <p>The existing northbound loop on-ramp from eastbound Soquel Avenue would be realigned and its free-right terminus would become a signalized 90-degree intersection.</p> <p>A new, wider southbound diagonal off-ramp that adds turn lanes at its terminus and a new loop on-ramp would form the north leg of a signalized intersection at Soquel Avenue.</p> <p>The existing southbound hook on-ramp would be widened to add an HOV bypass lane and realigned to be made standard.</p> <p>The northbound and southbound off-ramps would be widened to two exit lanes.</p> <p>All new on-ramps would include HOV bypass lanes.</p> <p>Soquel Avenue within the Tier I project limits would be widened to add an eastbound through lane and turn lanes.</p> <p>Salisbury Lane would be shifted eastward to form an intersection with the realigned northbound off-ramp and loop on-ramp.</p>

**Table 1-5: Interchange Improvements and Reconfigurations  
Tier I Corridor HOV Lane Alternative**

Route 1 Interchange Location	Project Plan Sheet No. <sup>1</sup>	Tier I Corridor HOV Lane Alternative Features
		The Soquel Drive bridge over Route 1 would be replaced with a longer, wider bridge to add an eastbound through lane and a turn lane to Soquel Drive and accommodate the new HOV lanes on Route 1.
		The culvert at Arana Gulch would be extended underneath the widened Route 1 and new southbound off-ramp.
		Sidewalk would be added along eastbound Soquel Drive within the Tier I (and Tier II) project limits; the sidewalk along westbound Soquel Drive would be retained.
Morrissey Boulevard Interchange	HOV-1	The southbound exit would be realigned to terminate at a new signalized intersection with Morrissey Boulevard.
		The existing southbound on-ramp would be eliminated and replaced with a new, wider diagonal ramp with a signalized terminus.
		The existing southbound off- and on-ramp at Elk Street would be eliminated.
		The existing northbound loop on-ramp would be eliminated, as would access to Rooney Street from this northbound loop.
		The northbound off-ramp would be widened to two exit lanes.
		New on-ramps would include HOV bypass lanes.
		Morrissey Boulevard is being replaced with a wider bridge to add an eastbound through lane and turn lanes, and realigned to form a straight line between its intersections with Fairmont Avenue and Rooney Street.
		The Morrissey Boulevard bridge is being replaced with a longer, wider bridge to accommodate a new eastbound through lane and turn lanes on Morrissey Boulevard and new HOV lanes on Route 1.
		Sidewalk would be added along eastbound Morrissey Boulevard within the Tier I project limits; the sidewalk along westbound Morrissey Boulevard would be retained.
Transit-Related Facilities	NA	Both on-ramps and both off-ramps at the reconfigured Park Avenue interchange include options for bus pads and bus shelters.
		Ramps and collectors at the Bay Avenue/Porter Street and 41 <sup>st</sup> Avenue interchanges include options for bus pads and shelters.

#### *Transit Supportive Planning and Design*

The Tier I Corridor HOV Lane Alternative would not preclude the development of the following features from being added in the future to facilitate freeway-oriented transit services and operations:

- The reconfigured Park Avenue and Bay Avenue/Porter Street/41<sup>st</sup> Avenue interchanges would allow for future bus pads and bus stop shelters to be constructed as part of a separate project.
- Future park-and-ride lots are under consideration by RTC at the Larkin Valley Road/San Andreas Road and 41<sup>st</sup> Avenue interchanges, to be coordinated with the bus facilities as part of a future project.

The aforementioned features are not part of the proposed project and would be subject to future environmental clearance. The proposed Tier I project is simply taking into consideration potential future transit projects as a collaborative planning effort.

#### *New Pedestrian/Bicycle Overcrossings*

The proposed pedestrian/bicycle overcrossings are discussed above in Section 1.5 Common Design Features of the Tier I Corridor HOV Lane and TSM Alternatives.

#### **Tier I Corridor TSM Alternative**

The Tier I Corridor TSM Alternative was formulated to provide Route 1 improvements that would partially address the purpose and need, and could be achieved at lower cost and with fewer impacts than the Tier I Corridor HOV Lane Alternative. TSM strategies typically consist of improvements that can benefit the operations of existing facilities without increasing the number of through lanes.

As discussed in Section 1.5 Common Design Features of the Tier I Corridor HOV Lane and TSM Alternatives, the Tier I Corridor TSM Alternative proposes to add auxiliary lanes, ramp metering and HOV on-ramp bypass lanes; improve existing nonstandard geometric elements at various ramps; and incorporate other TSM elements, such as changeable message signs, closed circuit television, microwave detection systems, and vehicle detection systems.). In short, the TSM Alternative shares many of the Tier I Corridor HOV Lane Alternative features, except HOV lanes would not be constructed along the mainline and the Soquel Drive interchange would be the only interchange reconfigured.

#### *Auxiliary Lanes*

The majority of auxiliary lane improvements are discussed above in Section 1.5 Common Design Features of the Tier I Corridor HOV Lane and TSM Alternatives. In addition, the TSM Alternative would have both a southbound and northbound auxiliary lane between State Park Drive and Park Avenue — improvements that are not included in the HOV Lane Alternative.

#### *Interchange Improvements*

Improvements to interchanges proposed under the Tier I Corridor TSM Alternative include the following:

- The Soquel Avenue northbound off-ramp from Route 1 would be realigned and widened from one to two exit lanes for a distance of approximately 1,300 feet, widening to four lanes at its intersection with Soquel Drive. The northbound off-ramp/Commercial Way connection would be eliminated, and Commercial Way would become a cul-de-sac north of the realigned ramp. The intersection of the northbound off-ramp with Soquel Drive would be enlarged to achieve an acceptable level of service for the anticipated traffic volume.



*State Route 1 HOV Lane Widening Project (from Morrissey Blvd to San Andreas Road)*

- Improve existing nonstandard geometric elements at various ramps.
- Provide HOV bypass lanes on all except northbound Morrissey Boulevard on-ramps.
- Add California Highway Patrol enforcement areas at on-ramps with HOV bypass lanes.

*New Pedestrian/Bicycle Overcrossings*

The proposed pedestrian/bicycle overcrossings are discussed above in Section 1.5 Common Design Features of the Tier I Corridor HOV Lane and TSM Alternatives.

*Other Improvements*

The details of the other improvements are included above in Section 1.5 Common Design Features of the Tier I Corridor HOV Lane and TSM Alternatives.

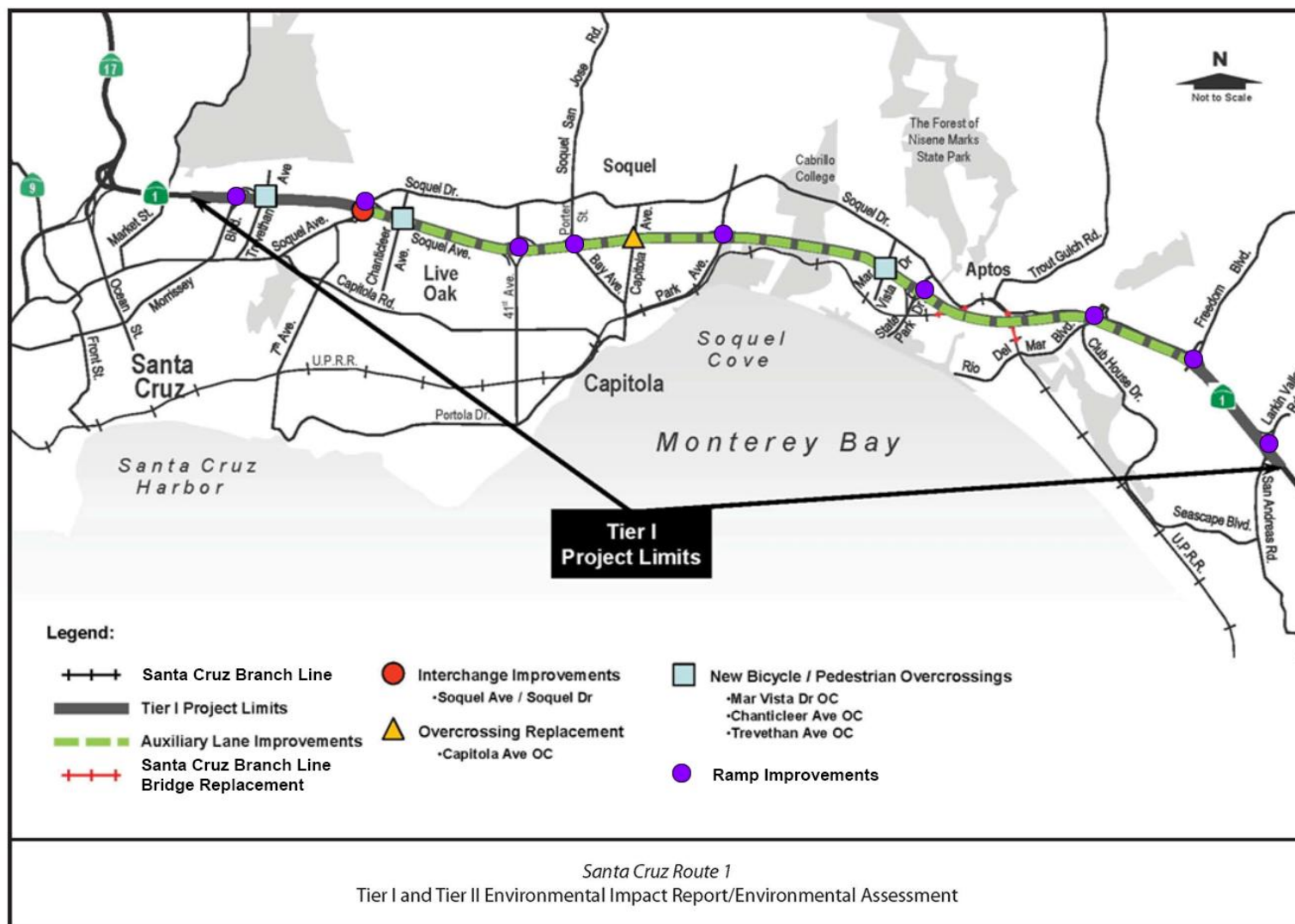


Figure 1-4: Tier I Corridor TSM Alternative – Project Features

## **Tier II Auxiliary Lane Alternative**

The Tier II Auxiliary Lane Alternative would construct northbound and southbound auxiliary lanes on Route 1 from 41<sup>st</sup> Avenue to Soquel Drive and make other improvements, as discussed below. Figure 1-5 shows features of the Auxiliary Lane Alternative. To construct the Auxiliary Lane Alternative, right-of-way would be acquired along Soquel Avenue west of Chanticleer Avenue and at the Chanticleer Avenue cul-de-sac north of Route 1 to accommodate the bicycle/pedestrian overcrossing.

### *Auxiliary Lanes*

The Tier II Auxiliary Lane Alternative proposes to widen Route 1 by adding an auxiliary lane in both the northbound and southbound directions between the 41st Avenue and Soquel Avenue/Drive interchanges. The total roadway widening would be approximately 1.4 miles in length. Southbound, the auxiliary lane would begin at the existing Soquel Avenue on-ramp and end at the existing off-ramp to 41<sup>st</sup> Avenue. Northbound, the auxiliary lane would begin just south of the 41<sup>st</sup> Avenue overcrossing, at the existing loop on-ramp from northbound 41<sup>st</sup> Avenue. North of the overcrossing, the on-ramp from 41<sup>st</sup> Avenue to northbound Route 1 would merge with the new auxiliary lane, approximately 1,000 feet downstream from the loop ramp.

The new auxiliary lanes would be 12 feet wide. In the southbound direction, the width needed for the new lane would be added in the median, and the median barrier would be shifted approximately 5 feet toward the northbound side of the freeway to make room for the new lane and a standard 10-foot-wide shoulder. Where the new southbound lane meets the existing ramps, outside shoulder widening would occur to achieve standard 10-foot-wide shoulders. In the northbound direction, the Tier II project proposes to pave a 10-foot-wide median shoulder and widen to the outside to add the 12-foot-wide auxiliary lane and a new 10-foot-wide shoulder.

As part of the widening in the northbound direction, the Tier II project proposes to repair an existing pavement failure in the outside lane and shoulder by improving the pavement section, installing a retaining wall and, if necessary, replacing the underlying County-owned sanitary sewer line crossing Route 1. A new concrete median barrier would also be constructed.

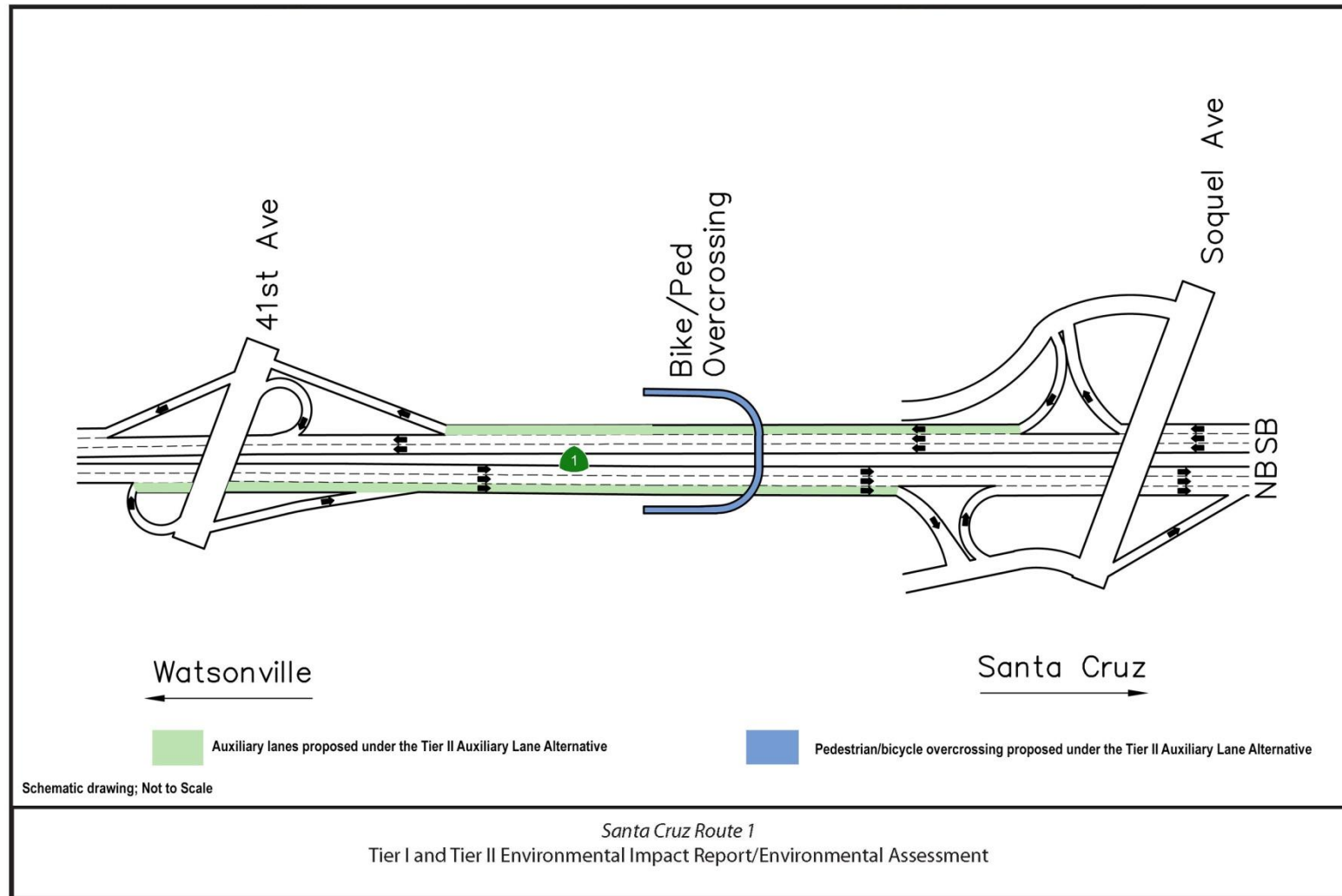


Figure 1-5: Tier II Auxiliary Lane Alternative – Project Features

### *Pedestrian/Bicycle Overcrossing*

A new horseshoe-shaped pedestrian overcrossing is proposed over Route 1 at Chanticleer Avenue.<sup>1</sup> The overcrossing would vary in width from 14 feet along the ramps to 16 feet around the curves. Ramps from Chanticleer Avenue up to the overcrossing would be at approximately a 5 percent grade. Up to where the overcrossing exceeds approximately 10 feet in height, the ramp would be built on retained fill; beyond that point, the bridge would rest on columns along the north right-of-way of Route 1, in the Route 1 median, behind the curb between Route 1 and Soquel Avenue, and along the south side of Soquel Avenue. The design of the ramps and bridge would include architectural texture or other aesthetic treatment. (See Section 2.16 for a visual simulation of the proposed Chanticleer Avenue pedestrian/bicycle overcrossing.)

In addition, a new 360-foot-long by 6-foot-wide sidewalk would be constructed along the south side of Soquel Avenue, starting at Chanticleer Avenue. The sidewalk would be separated from the street by a 4-foot-wide strip.

### *Retaining Walls*

Retaining walls would be constructed as part of the roadway widening, with four separate walls: three on the north side of Route 1 and one on the south side. One of the retaining walls would start after the 41<sup>st</sup> Avenue on-ramp and extend approximately 150 feet; two other retaining walls on the northbound side would be 375 and 408 feet. On the southbound side, a 350-foot-long wall would be constructed along the highway mainline and Soquel Avenue, over the Rodeo Gulch culvert.

Three of the walls would be located to allow widening for an additional mainline lane on Route 1 in each direction in the future. The wall proposed along the northbound on-ramp at 41<sup>st</sup> Avenue would have to be demolished and replaced if the highway were to be widened in the future. Two of the walls would span Rodeo Creek Gulch, where there is an existing 9-foot arch concrete culvert, and one would be constructed within a narrow jurisdictional wetland area on the northbound side of Route 1, adjacent to a 39-inch culvert crossing.

### **No Build Alternative**

The No Build Alternative offers a basis for comparing the effects of the Tier I Corridor Alternatives and the Tier II Auxiliary Lane Alternative with doing none of the proposed improvements. The No Build Alternative assumes there would be no major construction on Route 1 through the Tier I project limits other than currently planned and programmed improvements and continued routine maintenance. The following planned and programmed

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<sup>1</sup> The overcrossing at Chanticleer is included in both the Tier I and Tier II Projects. The Tier I program of improvements encompasses the current Tier II Auxiliary Lane Project, which has been identified as the first phase of the overall program of improvements.

improvements included in the No Build Alternative are contained in the 2010 Regional Transportation Plan:

- Construction of auxiliary lanes between the Soquel Drive and Morrissey Boulevard interchanges for the Soquel to Morrissey Auxiliary Lanes Project; construction completed in December 2013.
- Replacement of the La Fonda Avenue overcrossing of Route 1, included as part of the Soquel to Morrissey Auxiliary Lanes project; construction completed in 2013.
- Reconstruction of bridges and addition of a merge lane in each direction between Highway 17 and the Morrissey/La Fonda area for the Highway 1/17 Merge Lanes Project; construction completed in 2008.
- Installation of median barrier on Route 1 from Freedom Boulevard to Rio Del Mar Boulevard.

Improvements of roadways and roadsides on Rio Del Mar Boulevard from Esplanade to Route 1, which includes the addition of bike lanes, transit turnouts, left-turn pockets, merge lanes, and intersection improvements. Roadwork includes major rehabilitation and ongoing maintenance. If the No Build Alternative is selected, it is highly likely that other improvements could be expected in the future.

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## **Appendices**

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# Summary

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This Initial Site Assessment (ISA) was performed by Parsons in late 2006 to early 2007 and revisited in 2010. An environmental database search update was also conducted in January 2013. The overall project corridor extends approximately 8.5 miles, from approximately 0.2-mile south of the San Andreas-Larkin Valley Road Interchange to 0.2-mile north of the Morrissey Boulevard Interchange in Santa Cruz County. The potential right-of-way (ROW) for transportation improvements in the project corridor establishes the study area for this assessment. The project study consists of a Tier 1 (planning) level analysis of High-Occupancy Vehicle (HOV) and Transportation System Management (TSM) alternatives within the full corridor limits and a Tier 2 (project) level analysis of auxiliary lanes within a 1-mile segment near the northern end of the project corridor. A detailed project description follows in Section 1.2. The ISA evaluates whether the project corridor contains hazardous substances that could adversely affect project construction activities and costs.

To assess the environmental conditions for hazardous wastes, this ISA follows accepted practices for preparing a Phase I Site Assessment as outlined in the California Department of Transportation (Caltrans) Standard Environmental Reference (SER) (Chapter 10, Hazardous Waste) and American Society for Testing and Materials (ASTM) Standard E 1527-00. On November 1, 2006, ASTM Standard E 1527-05 became effective, adding new requirements for performing Phase I assessments. This ISA was conducted in general conformance with ASTM Standard E 1527-05.

## **S.1 Environmental Database Search and Agency Records Review**

An environmental database search was obtained for an area 1-mile on either side of the existing State Route 1 (SR 1) centerline and beyond the northern and southern limits of the project corridor. The environmental database search was performed by TrackInfo Services. The environmental database search consisted of a review of lists maintained by all federal and state regulatory agencies that are responsible for recording incidents of hazardous wastes spills, sites with soil and ground water contamination, and facilities that transfer, store, or dispose of hazardous materials or wastes.

The agency records review consisted of an investigation of the Santa Cruz County Site Mitigation List (SCSML) as of April 2, 2008, the Central Coast Regional Water Quality Control Board (RWQCB) listed sites as provided by the SCSML, and Geo Tracker (a Web site database operated by the State Water Resources Control Board (SWRCB) containing environmental data for regulated facilities). The Santa Cruz County Fire Department also uses the SCSML as their database for hazardous waste sites. Gasoline and dry cleaner sites were checked through the use of MapQuest<sup>®</sup> due to their association with hazardous wastes. Interviews with regulatory agency officials were limited to discussion of the status of their hazardous wastes database.

An updated environmental database search was conducted by Environmental Data Resources (EDR), Inc. on January 22, 2013. The results are incorporated herein.

## **S.2 Review of Historical Land Use**

The review of project corridor land uses included a review of aerial photographs (historical and present) and topographic maps. Based on historical data, land uses within the project area and surrounding areas prior to 1950 were primarily agricultural and open space with minor residential uses connected with rural roadways. The agricultural lands surrounding the project corridor were slowly converted to residential and commercial land uses, with scattered industrial uses from the mid-1950s to the present. Aerial photographs clearly document that ROUTE 1 in the Santa Cruz, Soquel, and Aptos areas has supported vehicular activity since the mid-1950s (see Appendix E).

## **S.3 Site Reconnaissance**

Site reconnaissance was performed by Parsons in November 2006 and again in April 2010. Site reconnaissance confirmed the presence of surrounding land uses that by their nature could be sources of hazardous wastes. These land uses include gas stations, a dry-cleaning facility, commercial storage yards, commercial maintenance/construction yards, railroad tracks, aboveground storage tank (AST) sites, a U.S. Post Office, a California Highway Patrol (CHP) station, Pacific Gas and Electric (PG&E) substations, and auto repair facilities. Some of these land uses are on properties that are within or adjacent to the potential project ROW.

## **S.4 Data Analysis and Report Preparation**

A review of “standard environmental record sources,” as described in ASTM Standard E 1527-05, is provided in Section 4. The potential risk associated with each listed site is provided in accordance with the Caltrans Project Development Procedures Manual, Chapter 18, Article 4.<sup>1</sup> As recommended by the RWQCB as an additional environmental record source, the Geo Tracker Web site database was reviewed for hazardous substance sites identified near the project location (discussed in Section 6). Information from the environmental database search is supplemented with information from the Santa Cruz County Environmental Health Department (SCCEHD), a local agency database, to identify potential hazardous substance sites. Web-based tools (e.g., Google Earth<sup>®</sup> and MapQuest<sup>®</sup>) were utilized in locating gas stations and dry-cleaning facilities in relation to the aerial topography, highway, and local streets. In addition, a site reconnaissance and review of historical land use were undertaken.

### **S.4.1 Recognized Environmental Conditions**

Available information for the project location and surroundings was collected and evaluated to identify Recognized Environmental Conditions. According to ASTM Standard Practice E 1527-05, the term Recognized Environmental Conditions (RECs) means “the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.” The term REC includes hazardous

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<sup>1</sup> California Department of Transportation, Project Development Procedures Manual, 7<sup>th</sup> Edition, 1<sup>st</sup> Revision, July 1, 1999.

substances or petroleum products even under conditions in compliance with applicable laws. The term is not intended to include *de minimis* conditions that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

The environmental database search identified 239 listed sites within the ASTM search distances. These sites were not evaluated based on the definition of an REC, except those listed sites within the project limits of the Tier 2 project. As future Tier 2 projects are implemented, new environmental database searches will be conducted and new ISAs will be developed. Based on the definition in the ASTM Standard Practice E 1527-05, the following RECs have been identified for the project location:

### ***Tier 1 Alternatives***

As noted above, the environmental database search identified 239 listed sites within the ASTM search distances for the Tier 1 corridor for planning purposes (see Appendix B). The following general RECs apply to the Tier 1 alternatives:

- Wooden utility poles along the roadside may be coated with creosote. These wooden poles should be properly managed if removed and disposed.
- Asbestos-containing materials (ACM) are suspected to be present in Route 1 bridges and railroad undercrossing joint compound materials. ACM materials that may be disturbed during construction activities should be managed according to Cal-OSHA regulations (Title 8, *California Code of Regulations* [CCR], Section 1529).
- Paint used on existing Route 1 interchanges, bridges and railroad undercrossings, yellow traffic striping, and pavement marking materials may contain lead-based paint (LBP) or other hazardous substances and may exceed hazardous waste criteria under CCR Title 22, requiring disposal in a Class I disposal site. It is recommended that the paint used for lane striping be tested for LBP prior to removal to determine proper disposal methods.
- Aerially deposited lead (ADL) may be present along the shoulders and median of Route 1. It is recommended that soil sampling be conducted for ADL in areas along the shoulders and median of Route 1.

### ***Tier 2 Alternatives***

The general RECs listed under the Tier 1 alternatives also apply to the Tier 2 alternatives. In addition, the following RECs were identified from the environmental database search:

- An ARCO station located at 2407 Porter Street in Soquel released gasoline that contaminated groundwater. The case was closed in 1997. This site is adjacent to the project footprint. No remedial action is required.
- The Redtree Properties located at 1650 Commercial Way in Santa Cruz discharged gasoline, and only soil was contaminated. The case was closed in 1988. This site is located adjacent to the project footprint. No remedial action is required.

- The Chevron Station 9-2231 located at 1524 Commercial Way in Santa Cruz discharged gasoline and contaminated soil and groundwater. The case was closed in 1995. This site is located adjacent to the project footprint. No remedial action is required.
- The Service Station No. 88 located at 2700 41<sup>st</sup> Avenue in Soquel discharged gasoline and contaminated soil and groundwater. The case was closed in 2002. This site is adjacent to the project footprint. No remedial action is required.
- The former Exxon 7-0281 facility located at 2501 Main Street in Soquel discharged gasoline and contaminated soil and groundwater. The case was closed in 2011. This site is adjacent to the project footprint. No remedial action is required.
- The former Exxon 7-3604 facility (also listed as Pit Stop Service, Inc.) located at 836 Bay Avenue in Capitola discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the south. Although the groundwater gradient at this site is in the southwest direction away from the project site, remediation activities at this site should be monitored to ensure that contaminant migration to the project site is not occurring.
- Redtree Properties located at 819 Bay Avenue in Capitola discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the south. Although the groundwater gradient at this site is in the southwest direction away from the project site, remediation activities at this site should be monitored to ensure that contaminant migration to the project site is not occurring.
- The Unocal Station No. 6193 located at 1500 Soquel Drive in Santa Cruz discharged gasoline and diesel and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the north. The groundwater gradient at this site is in the southwest direction towards the project site. Remediation activities at this site should be monitored to ensure that contaminant migration to the project site is not occurring.
- The BP 11240 facility located at 2178 41<sup>st</sup> Avenue in Capitola discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the south. Although the groundwater gradient at this site is in the south-southwest direction away from the project site, remediation activities at this site should be monitored to ensure that contaminant migration to the project site is not occurring.
- The San Lorenzo Lumber Company located at 2435 41<sup>st</sup> Avenue in Santa Cruz discharged gasoline, and only soil was contaminated. This site was closed in 1991. This site is located adjacent to the project footprint. No remedial action is required.
- The Tosco Service Station 30757 (also listed as Union Oil Service Station No. 4902) located at 2255 41<sup>st</sup> Avenue in Santa Cruz discharged gasoline, waste oil, motor oil, lubricating oil, and hydraulic fluid. Only soil was contaminated. This site was closed

in 2004. This site is located adjacent to the project footprint. No remedial action is required.

- Krafts Body Shop (also listed as Santa Cruz Distribution Facility) located at 6100 Soquel Avenue in Santa Cruz discharged diesel, and only soil was contaminated. This site was closed in 1991. This site is located adjacent to the project footprint. No remedial action is required.
- The Chevron Station located at 5998 S oquel Avenue in Santa Cruz discharged gasoline, and only soil was contaminated. This site was closed in 1985. This site is located adjacent to the project footprint. No remedial action is required.
- The Pacific Bell facility located at 7070 Soquel Avenue in Santa Cruz discharged gasoline and contaminated soil and groundwater. This site was closed in 2001. This site is located adjacent to the project footprint. No remedial action is required.

## **S.5 Recommendations**

A summary of recommendations provided in Section 6 follows:

- Once the project limits for cuts and fills, (including required excavation depths for interchange and bridge improvements, and proposed retaining walls and soundwalls) are known, soil sampling should be conducted to determine the presence and concentration of ADL in soils along and within the unpaved shoulder and median of Route 1. Soil samples should be taken for the full depth of excavation to adequately characterize all soil to be excavated. Soil should be analyzed for soluble lead by State and Federal methods and also by a de-ionized water extract method in addition to total lead. A Lead Compliance Plan would be prepared by the construction contractor to establish special health and safety procedures to be in effect regarding construction near lead-contaminated areas.
- If soil samples for ADL indicate elevated lead levels in disturbed soils where the groundwater table is shallow, special handling of encountered groundwater during construction activities may be necessary. Consultation with the Central Coast RWQCB, Soquel Creek Water District, and SCCEHD is recommended following lead soil surveys if construction earthwork activities may occur in areas with elevated lead levels and shallow groundwater. This consultation should determine the degree of water treatment and water disposal options during construction dewatering activities and identify the need for any related discharge permits.
- An LBP survey of site features (including existing Route 1 interchanges, bridges, and railroad undercrossings, in addition to yellow traffic striping, and pavement marking materials) and structures that may be demolished as part of the project should be performed by an inspector certified in accordance with current regulations.<sup>2</sup> This work should be performed early in the design phase so that it may be appropriately addressed in the project plans, specifications and estimate (PS&E). LBP should be abated by a contractor certified to perform such work. If paint containing lead is found, it should be managed in accordance with all applicable laws and regulations.

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<sup>2</sup> [http://portal.hud.gov/hudportal/HUD?src=/program\\_offices/healthy\\_homes/lbp/hudguidelines](http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/lbp/hudguidelines)

- An ACM investigation of site features (including existing Route 1 interchanges, bridges, and railroad undercrossings) and structures that may be demolished as part of the project should be performed by an inspector certified in accordance with the Asbestos Hazard Emergency Response Act (AHERA) under the Toxic Substances Control Act (TSCA) Title II and by Cal OSHA under State of California rules and regulations (CCR Section 1529). This work should be performed early in the design phase so that it may be appropriately addressed in the project PS&E. ACMs should be abated by a contractor certified to perform such work. If ACMs are found, they should be managed in accordance with all applicable laws and regulations.
- Following selection of the preferred alternative, coordination with regulatory agencies and property owners should be conducted prior to acquisition of properties adjacent to the project site for proposed ROWs to determine the presence of hazardous substances, soil and groundwater contaminants, and the status of site assessments and monitoring activities.

## **S.6 Limitations**

This ISA does not contain results of interviews with property owners or agency officials. The interview requirements of ASTM Standard E 1527-05 will be performed by Caltrans after a preferred alternative is selected.

Professional judgment was exercised in gathering and analyzing the information obtained for this ISA, consistent with the usual care, thoroughness, and competence of the engineering profession. The conclusions in this report are based on information obtained in part from regulatory agencies and government officials, and they are assumed by Parsons to be complete and correct. It should be noted that this information is subject to professional interpretation, and that conclusions may differ, based upon opinions specific to individuals. No warranty, expressed or implied, is made. This report is not a legal opinion.

Parsons cannot guarantee that this ISA has completely defined the degree or extent of existing contamination by hazardous or otherwise harmful substances described in the report or, if no such contamination was found, its absolute absence. This ISA is not a risk assessment and is not intended to provide information needed for public health risk assessment purposes. Subsurface conditions can differ from those observed on the surface or determined through records searches and other research and analysis performed for this study. Additional investigation or soil sampling and analysis for the preferred alternative could lead to a revised conclusion.



# Section 1 – Introduction

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## 1.1 Project History

The California Department of Transportation (Caltrans), in cooperation with the Federal Highway Administration and the Santa Cruz County Regional Transportation Commission (SCCRTC), proposes to improve State Route 1 (Route 1) in Santa Cruz County for a distance of approximately 8.9 miles, from approximately 0.4 miles south of the San Andreas-Larkin Valley Road Interchange through the Morrissey Boulevard Interchange.

Route 1 is the primary route connecting communities in Santa Cruz County and is the only continuous commuter route linking Watsonville, Capitola, Aptos, Cabrillo College, Santa Cruz and the University of California at Santa Cruz. Approximately one quarter of commuters using Route 1 continue on State Route 17 to jobs in Santa Clara County. Route 1 also is the southern terminus for State Routes 9 and 17, which bring heavy tourist traffic to coastal destinations in Santa Cruz and Monterey Counties. Route 1 between San Andreas Road and the Route 1/State Route 17 interchange is a four-lane divided freeway with a median varying in width from 8.2 to 62.6 feet. Within the project limits there are nine interchanges, two overcrossings, and two Santa Cruz Branch Rail Line overpass bridge structures.

The population of Santa Cruz County has doubled in the last thirty years to approximately 270,000. During this time, operational improvements have been made to the route within the Project limits, but no capacity enhancements, and this segment of State Route 1 has become heavily congested during morning and evening commute times. Heavy congestion is now experienced on weekdays on Route 1 for three and a half hours in the morning from 6:30 am to 10 am and for four and a half hours in the evening from 2 pm to 6:30 pm. Traffic projections for the No-Build scenario in design year 2035 show that from 6:00 am to 12 noon the corridor would operate at Level of Service (LOS) F in the northbound direction. From 2:00 pm to 8:00 pm, the corridor would operate at LOS F in both directions. The average northbound travel time in the AM peak hour would be as high as 59 minutes, up from 23 minutes under existing conditions. Travel time for the southbound direction during the PM peak hour would average 61 minutes, up from 27 minutes under existing conditions. In the peak commute direction in 2035 No Build, the average travel speed would drop from 44 mph to 18 mph in the AM and from 39 mph to 15 mph in the PM (State Route 1 HOV Lane Project (From Morrissey Boulevard to San Andreas Road) Traffic Operations Report, April 2012, Wilbur Smith Associates)

This project uses a "tiered" approach to its environmental documentation. Tiering is a staged approach that addresses broad programs and issues related to the entire corridor in the Tier I analysis. As specific projects within the corridor are ready for implementation, impacts of that action are evaluated in subsequent Tier II studies. The tiered process supports decision making on issues that are ripe for decision and provides a means to preserve those decisions. The Tier I portion of the project documentation provides fact-based analyses that supports informed decision making on the 8.9-mile corridor and discloses issues associated with the selection of a Tier I Corridor alternative. Identification of a Tier I Corridor alternative will not result directly

in construction; however, it will provide the basis for decision makers to select a program of transportation improvements within the corridor.

The Tier II portion of the environmental documentation examines a project-level Auxiliary Lane Alternative and a No-Build Alternative. The Tier II corridor segment is within the project limits of the Tier I corridor and would represent the first implementation phase of transportation improvements for the 8.9-mile corridor. As mentioned above, all Tier II corridor projects will be subject to separate environmental review.

## **1.2 Project Description**

The purpose of the proposed project is to achieve the following within the Tier I and Tier II project limits:

- Reduce congestion.
- Encourage carpooling and use of alternative transportation modes as a means to increase transportation system capacity.

The need for the project is summarized by these deficiencies on Route 1 within the project limits:

- Several bottlenecks along Route 1 in the southbound and northbound directions cause recurrent congestion during peak hours;
- Travel time delays due to congestion and related accidents;
- "Cut-through" traffic, or traffic on local streets, occurs and is increasing because drivers seek to avoid congestion on the highway;
- Limited opportunities for pedestrians and bicyclists to safely get across Route 1 within the project limits;
- Insufficient support facilities and incentives to increase transit service that operates in the Route 1 corridor because congestion threatens reliability and cost-effective transit service delivery; and
- Inadequate facilities to support carpooler and rideshare vehicles over single-occupancy vehicles; therefore, incentives, such as travel time savings, and reliability are difficult to achieve.

### **1.2.1 Tier I Alternatives**

The three Tier I alternatives currently under consideration are the HOV Lane Alternative, the Transportation System Management Alternative, and the No-Build Alternative.

#### **Common Design Features of the Build Alternatives**

The HOV Lane Alternative shares three primary sets of features with the Transportation System Management Alternative: new auxiliary lanes, new pedestrian/bicycle overcrossings of

Route 1, and Transportation Operations System electronic equipment. These common design features are highlighted here but the auxiliary lanes are discussed in detail within the separate description of each alternative, since specifics vary.

#### Auxiliary Lanes

Auxiliary lanes would be constructed in the following locations under either the HOV Lane or Transportation System Management Alternative:

- Freedom Boulevard and Rio Del Mar Boulevard - northbound and southbound.
- Rio Del Mar Boulevard and State Park Drive - northbound and southbound.
- State Park Drive and Park Avenue - both directions in the Transportation System Management Alternative; southbound only in the HOV Alternative.
- Park Avenue and Bay Avenue/Porter Street - northbound and southbound.
- 41st Avenue and Soquel Avenue/Soquel Drive - northbound and southbound.

#### New Bicycle/Pedestrian Overcrossings

Both build alternatives include construction of new bicycle/pedestrian overcrossings of Route 1 at Mar Vista Drive, Chanticleer Avenue and Trevethan Avenue, as described under the HOV Lane Alternative.

#### Other Common Features of the Build Alternatives

Both the HOV Lane and Transportation System Management Alternatives include installation of ramp metering and construction of HOV by-pass lanes on the Route 1 on-ramps within the project limits. Under the Transportation System Management Alternative, however, no new HOV lanes would be incorporated into the freeway mainline. Highway Patrol enforcement areas would be included with the new HOV bypass lanes.

Both build alternatives would include reconstruction of the Santa Cruz Branch Rail Line bridges over Route 1 and the State Park Drive, Capitola Avenue, 41st Avenue and Soquel Avenue overcrossings. Also, under both alternatives, the Aptos Creek and Soquel Creek bridges would be widened.

Both the HOV Lane and Transportation System Management Alternatives also would include Transportation Operations System equipment, described in detail within each alternative description.

### **1.2.2 HOV Lane Alternative**

The HOV Lane Alternative would widen the existing four-lane highway to a six-lane facility by adding an HOV lane next to the median in both the northbound and southbound directions. Along the southern portion of the project, the existing median generally is wide enough to add the new HOV lanes within the existing right-of-way. A mandatory standard median width (22 feet) would be used through most of the corridor, north of Freedom Boulevard. Where existing frontage roads would be impacted, non-standard inside shoulder widths of 5 feet are proposed to reduce right-of-way requirements and impacts. Such non-standard design features will

require design exceptions when they are part of Tier II project. In some locations, widening would extend outside the existing state right-of-way.

The HOV Lane Alternative would modify or reconstruct all nine interchanges within the project limits to improve merging operations and ramp geometrics, lengthen acceleration and deceleration lanes, and improve sight distances. The Bay Avenue/Porter Street and 41st Avenue interchanges would be modified to operate as one interchange with a frontage road connecting the two interchanges. Where feasible, design deficiencies on existing ramps would be corrected to meet current design standards. Ramp metering and HOV by-pass lanes would be provided on all Route 1 on-ramps. The HOV Lane Alternative would include auxiliary lanes between interchange ramps and Transportation Operations System electronic equipment, such as changeable message signs, closed-circuit television, microwave detection systems and vehicle detection systems as also described under the Transportation System Management Alternative-with the exception that an auxiliary lane would not be constructed northbound between State Park Drive and Park Avenue.

Bridge structures and the Capitola Avenue Overcrossing would be modified or replaced to accommodate the new HOV lanes. New and widened highway crossing structures would include shoulder and sidewalk facilities to accommodate pedestrians and bicycles. The HOV Lane Alternative would include three new pedestrian/bicycle overcrossings of Route 1. The existing Santa Cruz Branch Rail Line structures would be replaced, not relocated or raised, to minimize environmental impacts. The Route 1 bridge over Aptos Creek would be widened on the outside to accommodate the new HOV lanes.

Retaining walls would be constructed to minimize right-of-way acquisition and reduce or avoid environmental impacts. At locations where frontage roads are adjacent to Route 1, concrete barriers would be constructed to separate the two facilities and minimize right-of-way acquisition. The project also would include demolition and disposal, excavation, borrow and fill, right-of-way acquisition, and temporary easements.

#### Mainline Improvements with the HOV Lane Alternative

- Route 1 would be widened to allow for two standard width (12 feet) mixed-flow lanes, one standard width (12 feet) HOV lane and standard outside (10 feet) shoulders.
- The proposed widening would be constructed into the median where the existing median width is over 45 feet. Where the existing median width is less than 45 feet, the required widening would be both into the median and at the outside shoulder, but generally within the existing Route 1 right-of-way.
- Where auxiliary lanes are proposed, widening to the outside would be increased by approximately 12 feet.
- A mandatory standard median width of 22 feet is proposed through most of the corridor.

- The highway centerline would be shifted northward in the vicinity of the Santa Cruz Branch Rail Line crossings to reduce impacts to wetlands. The bridge over Aptos Creek would be widened.
- Route 1 would be lowered to obtain vertical clearance at the Santa Cruz Branch Rail Line crossings in Aptos. A mandatory standard median width of 22 feet is proposed to minimize impacts to the Santa Cruz Branch Rail Line.
- Median and inside shoulder width would be non-standard to reduce impacts to these adjacent streets: McGregor Drive, Cabrillo College Drive, Kennedy Drive and Soquel Avenue. At these four constrained locations, the inside shoulder would be a non-standard 5 feet and the median a non-standard 17 feet.

#### Auxiliary Lane Improvements with the HOV Lane Alternative

Auxiliary lanes are designed to reduce conflicts between traffic entering and exiting the highway by connecting from the on-ramp of one interchange to the off-ramp of the next; they are not designed to serve through traffic. Auxiliary lanes would be added at the following locations:

- Northbound and southbound between Freedom Boulevard and Rio Del Mar Boulevard
- Northbound and southbound between Rio Del Mar Boulevard and State Park Drive
- Southbound between State Park Drive and Park Avenue
- Northbound and southbound from Park Avenue to Bay Avenue/Porter Street, and
- Northbound and southbound from 41st Avenue to Soquel Drive/Soquel Avenue
- Interchange Improvements with the HOV Lane Alternative
- All interchanges within the project limits would be modified to improve merging operations and ramp geometrics, and to improve accessibility and safety for pedestrians and bicyclists.
- Interchange improvements would generally include the following:
  - Ramp metering and HOV by-pass lanes would be provided on all on-ramps.
  - Ramps would be widened and their geometrics improved where feasible.
  - California Highway Patrol enforcement areas would be provided at all on-ramps except Park Avenue, southbound.
- Intersections of freeway ramps with local roads would be modified to provide less-skewed intersections with crosswalks for pedestrians and bicycles; free right-turns would be eliminated where feasible and traffic signals installed.
- Local roadways would be widened at the interchanges to serve anticipated travel demand.

- Retaining walls would be constructed to minimize impacts to local roadways, development, wetlands, and waterways.
- Drainage facilities would be provided for adequate drainage and treatment of storm water runoff.
- Other specific improvements are identified by interchange area.

#### Changes at San Andreas/Larkin Valley Roads Interchange

- The existing northbound cloverleaf off-ramp free right-turn onto Larkin Valley Road would be eliminated in favor of a signalized 90 degree intersection.
- A signalized intersection would be provided at the San Andreas Road ramps and the free right-turns eliminated.
- The existing on-ramps would be widened to accommodate HOV by-pass lanes.
- The southbound Route 1 bridge over San Andreas/Larkin Valley Road would be widened into the median to accommodate the HOV lanes.
- San Andreas/Larkin Valley Roads would be widened within the project limits to add turn lanes.
- New sidewalks would be added along San Andreas/Larkin Valley Roads within the project limits.

#### Changes at Freedom Boulevard Interchange

- The existing ramp termini at Freedom Boulevard would be modified to provide less-skewed intersections with Freedom Boulevard. These intersections would be signalized, and free right-turns eliminated.
- The southbound off-ramp would be widened to two exit lanes.
- The existing on-ramps would be widened to accommodate HOV by-pass lanes.
- Freedom Boulevard would be widened within the project limits to add turn lanes.
- The Freedom Boulevard/Bonita Drive intersection would be enlarged to add turn lanes and achieve acceptable level of service.

The Freedom Boulevard bridge would be replaced with a wider structure that would accommodate a new turn lane on Freedom Boulevard and the new HOV lane on Route 1.

- New sidewalks would be added along Freedom Boulevard within the project limits.

#### Changes at Rio Del Mar Boulevard Interchange

- The northbound on-ramp would be realigned to form the north leg of a four-way intersection with Rio Del Mar Boulevard and the northbound off-ramp. This intersection would be signalized, and free right turns eliminated.
- The northbound off-ramp would be widened to two exit lanes.

- The southbound ramps would be widened, the intersection with Rio Del Mar Boulevard signalized, and free right-turns eliminated.
- The existing on-ramps would be widened to accommodate HOV by-pass lanes.
- Soquel Drive would be shifted northward to accommodate the roadway widening along the northbound off-ramp.
- Rio Del Mar Boulevard would be widened within the project limits to add turn lanes and a through lane in each direction.
- The Rio Del Mar Boulevard bridge over Route 1 would be replaced with a longer, wider bridge to accommodate a new turn lane and a through lane in each direction on Rio Del Mar and the new HOV lane on Route 1.
- Sidewalk would be added along eastbound Rio Del Mar Boulevard within the project limits; the sidewalk on westbound Rio Del Mar Boulevard will be retained.

#### Changes at State Park Drive Interchange

- The existing northbound cloverleaf on-ramp free-right would be changed to a signalized right turn.
- The existing northbound off-ramp terminus would be modified to form, together with the realigned northbound on-ramp terminus, the south leg of a signalized intersection with State Park Drive.
- The northbound and southbound off-ramps would be widened to two exit lanes.
- The existing on-ramps would be widened to accommodate HOV by-pass lanes.
- State Park Drive would be widened within the project limits to add turn lanes and a through lane in each direction.
- The State Park Drive bridge over Route 1 would be replaced with a longer, wider bridge to accommodate a new through lane in each direction on State Park Drive, and the new HOV lane on Route 1.
- Sidewalk would be added along eastbound State Park Drive within the project limits; the sidewalk along westbound State Park Drive will be retained.

#### Changes at Park Avenue Interchange

- The existing diamond interchange ramp design would be retained and ramps would be widened.
- The northbound and southbound off-ramps would be widened to two exit lanes.
- The existing on-ramps would be widened to accommodate HOV by-pass lanes.
- Park Avenue would be widened within the project limits to add turn lanes.
- The two Route 1 bridges over Park Avenue would be replaced with one, wider structure to accommodate the new HOV lanes on Route 1.

- Sidewalk would be added within the project limits along westbound Park Avenue; the sidewalk along eastbound Park Avenue will be retained.

#### Changes at Bay Avenue/Porter Street and 41st Avenue Interchanges

- Improvements at the Bay Avenue/Porter Street and 41st Avenue interchanges are designed so that these two interchanges would work as a single interchange connected by a collector/frontage road running between the interchanges.
- The ramps at Bay Avenue/Porter Street would be reconstructed to form less skewed intersections with Bay Avenue/Porter Street.
- The existing southbound Route 1 off-ramp to Bay Avenue/Porter Street would be eliminated. Southbound traffic bound for Bay Avenue/Porter Street would exit at 41st Avenue two-lane ramp and continue on a new southbound collector/frontage road to Bay Avenue/Porter Street.
- The existing on-ramp from Porter Street to northbound Route 1 on a two-lane ramp would be modified to become a northbound collector/frontage road serving traffic bound for 41st Avenue or northbound Route 1.
- Northbound traffic exiting Route 1 would bear right to access Bay Avenue/Porter Street, or stay left and continue on a new structure over Bay Avenue/Porter Street, join the northbound collector/frontage road, and end at a new signalized intersection at 41st Avenue.
- At 41st Avenue, southbound on and off-ramps would be eliminated and replaced with a diagonal off-ramp and a collector/frontage road serving traffic bound for Bay Avenue/Porter Street or southbound Route 1. The new ramp and collector/frontage road would form a signalized intersection with 41st Avenue.
- At 41st Avenue, the northbound on-ramps would include a realigned loop and realigned diagonal.
- New on-ramps would include HOV by-pass lanes.
- 41st Avenue would be widened within the project limits to add turn lanes and eastbound through lanes over Route 1.
- Bay Avenue/Porter Street would be widened to add right-turn lanes at the on-ramps.
- A new bridge over Soquel Creek and Soquel Wharf Road would be constructed for the new southbound collector/frontage road from 41st Avenue to Bay Avenue/Porter Street.
- The 41st Avenue bridge over Route 1 would be replaced with a longer, wider bridge to accommodate the new eastbound through lane and turn lanes on 41st Avenue, and the new HOV lanes on Route 1.



- Class I bike paths would be constructed between 41st Avenue and Bay Avenue/Porter Street adjacent to the new collector/frontage roads.

#### Changes at Soquel Drive/Soquel Avenue Interchange

- The northbound off-ramp would be realigned to a signalized 90 degree intersection with Soquel Drive. The existing access to Commercial Way would be eliminated.
- The westbound Soquel Drive on-ramp to northbound Route 1 would be modified to eliminate the free right-turn access.
- The existing northbound loop on-ramp from eastbound Soquel Avenue would be realigned and its free-right terminus would become a signalized 90 degree intersection.
- A new, wider southbound diagonal off-ramp that adds turn lanes at its terminus and a new loop on-ramp would form the north leg of a signalized intersection at Soquel Avenue.
- The existing southbound hook on-ramp would be widened to add an HOV by-pass lane and realigned to be made standard.
- The northbound and southbound off-ramps would be widened to two exit lanes.
- New on-ramps would include HOV by-pass lanes.
- Soquel Avenue within the project limits would be widened to add an eastbound through lane and turn lanes.
- Salisbury Lane would be shifted eastward to form an intersection with the realigned northbound off-ramp and loop on-ramp.
- The Soquel Drive/Soquel Avenue bridge over Route 1 would be replaced with a longer, wider bridge to add an eastbound through lane and a turn lane to Soquel Drive and accommodate the new HOV lane on Route 1.
- The culvert at Arana Gulch would be extended underneath the widened Route 1 and new southbound off-ramp.
- Sidewalk would be added along eastbound Soquel Drive/Soquel Avenue within the project limits; the sidewalk along westbound Soquel Drive/Soquel Avenue will be retained.

#### Changes at Morrissey Boulevard Interchange

- The southbound exit would be realigned to terminate at a new signalized intersection with Morrissey Boulevard.
- The existing southbound on-ramp would be eliminated and replaced with a new, wider diagonal ramp with a signalized terminus.
- The existing southbound exit and on-ramp at Elk Street would be eliminated.

- The existing northbound loop on-ramp would be eliminated, as would access to Rooney Street from this northbound loop.
- The northbound off-ramp would be widened to two exit lanes.
- New on-ramps would include HOV by-pass lanes.
- Morrissey Boulevard within the project limits would be widened to add an eastbound through lane and turn lanes, and realigned to form a straight line between its intersections with Fairmont Avenue and Rooney Street.
- The Morrissey Boulevard bridge would be replaced with a longer, wider bridge to accommodate a new eastbound through lane and turn lanes on Morrissey Boulevard and new HOV lanes on Route 1.
- Sidewalk would be added along eastbound Morrissey Boulevard within the project limits; the sidewalk along westbound Morrissey Boulevard will be retained.

#### Transit-Related Facilities

In addition to the mainline HOV through-lanes on the highway and HOV by-pass lanes on the ramps, the HOV Lane Alternative could include the following features to facilitate freeway-oriented transit services and operations:

- Both on-ramps and both off-ramps at the reconfigured Park Avenue interchange include options for bus pads and bus shelters.
- Ramps and collectors at the Bay Avenue/Porter Street and 41st Avenue interchange include options for bus pads and shelters.
- A future Park and Ride lot is under consideration at the 41st Avenue interchange, to be coordinated with the bus facilities.
- Feasibility for a Park and Ride lot in the Bay Avenue/Porter Street interchange area would be investigated.

These improvements would be considered as part of the detailed Tier II design/environmental analysis of those respective facilities in the future.

#### New Bicycle/Pedestrian Overcrossings

The HOV Lane Alternative would construct new bicycle/pedestrian overcrossings of Route 1 at the following locations:

- Mar Vista Drive - the crossing would start on the north side of Route 1 and parallel the highway eastward for about 600 feet, doubling back westward as it climbs before crossing the highway at a right angle and then descending by switchbacks to and along Mar Vista Drive for about 550 feet; multiple configurations are under consideration the final design will be determined as part of the Tier II design/environmental analysis of this facility.

- Chanticleer Avenue - the crossing would start at the Chanticleer cul-de-sac on the north side of Highway 1 and parallel the highway for about 400 feet to the west before crossing it on a curved alignment, returning to terminate just west of Chanticleer on the south side of the highway.
- Trevethan Avenue - the crossing would start on the north side of Route 1 at Trevethan Avenue and parallel the highway about 600 feet before crossing on an angle and continuing along the banks of the western tributary to Arana Gulch to terminate close to Harbor High School; multiple configurations are possible with the final design to be determined as part of the Tier II design/environmental analysis of this facility.

### **1.2.3 Transportation System Management Alternative**

The Transportation System Management Alternative proposes to add ramp metering and construct HOV bypass lanes on existing interchange on-ramps, improve existing nonstandard geometric elements at various ramps, and add auxiliary lanes along the mainline between major interchange pairs within the project limits, as described below and summarized under Common Design Features of the Build Alternatives. It would not construct HOV lanes or any additional through lanes on the mainline.

The Common Design Features of the Build Alternatives section describes other features included in the Transportation System Management Alternative.

#### **Auxiliary Lanes**

Auxiliary lanes are designed to reduce conflicts between traffic entering and exiting the highway by connecting from the on-ramp of one interchange to the off-ramp of the next; they are not designed to serve through traffic. Auxiliary lanes to be constructed on Route 1 with the Transportation System Management Alternative consist of the following:

- Northbound and southbound between Freedom Boulevard and Rio Del Mar Boulevard.
- Northbound and southbound between Rio Del Mar Boulevard and State Park.
- Northbound and southbound between State Park Drive and Park Avenue.
- Northbound and southbound between Park Avenue and Bay Avenue/Porter.
- Northbound and southbound from 41st Avenue to Soquel Drive/Soquel.

#### **New Bicycle/Pedestrian Overcrossings**

The Transportation System Management Alternative would construct new bicycle/pedestrian overcrossings of Route 1 at Mar Vista Drive, Chanticleer Avenue and Trevethan Avenue as described under the HOV Lane Alternative.

#### **Other Improvements**

- At Freedom Boulevard, the southbound off-ramp would be widened to two exit lanes.

- At State Park Drive, the northbound and southbound off-ramps would be widened to two exit lanes.
- At Park Avenue, the northbound and southbound off-ramps would be widened to two exit lanes.
- Like the HOV alternative, the Transportation System Management alternative would widen the Soquel Avenue northbound and southbound off-ramps to provide two exit lanes, but the southbound ramp would not be realigned and the northbound ramp realignment would not be as significant as in the HOV alternative. Also as in the HOV alternative, the realigned northbound off-ramp would eliminate access to Commercial Way.

#### **1.2.4 No-Build Alternative**

The No-Build Alternative offers a basis of comparison with the Transportation System Management and HOV Lane Alternatives in the future analysis year of 2035. It would not address the project purpose and need. It assumes no major construction on Route 1 through the project limits other than currently planned and programmed improvements and continued routine maintenance. Planned and programmed improvements included in the No-Build Alternative are the following improvements contained in the 2010 Regional Transportation Plan:

- Installation of median barrier on Route 1 from Freedom Boulevard to Rio Del Mar Boulevard.
- Construction of auxiliary lanes between the Soquel Avenue-Soquel Drive and Morrissey Boulevard interchanges (EA 05-0F6500, completed May 2013).
- Replacement of the La Fonda Avenue overcrossing of Route 1, included as part of the Soquel-Morrissey Auxiliary Lanes project.

Also included in the No-Build Alternative are a number of locally-sponsored projects for improving the local arterial network and constructing or improving bicycle lanes.

#### **1.2.5 Tier II Alternative**

The Tier II project purpose matches that of the Santa Cruz County Route 1 HOV project, which is reducing congestion and encouraging use of alternative transportation modes as a means to increase system capacity, except that encouraging carpooling is not a part of the Tier II project purpose.

#### **1.2.6 Auxiliary Lanes**

It is proposed to widen Route 1 by adding an auxiliary lane to both the northbound and southbound sides between the 41st Avenue and Soquel Drive interchanges. The total roadway

widening would be approximately 1.2 miles in length. Southbound, the auxiliary lane would begin at the existing Soquel Drive on-ramp, and end at the existing off-ramp at 41st Avenue. Northbound, the auxiliary lane would begin just south of the 41st Avenue overcrossing, at the existing loop on-ramp to northbound 41st Avenue. West of the overcrossing, the on-ramp from southbound 41st Avenue to northbound Route 1 would merge with the new auxiliary lane, approximately 1000 ft downstream from its beginning at the bottom of the loop ramp.

As part of the widening in the northbound direction, the project proposes to repair the pavement failure in the outside lane and shoulder by improving the pavement section, installing a retaining wall, and if necessary, replacing the underlying county-owned sanitary sewer.

#### Pedestrian Features

A new horseshoe-shaped pedestrian overcrossing at Chanticleer Avenue is proposed, and approximately 400 ft of sidewalk would be constructed along the south side of Soquel Avenue, starting at Chanticleer Avenue.

#### Retaining Walls

Retaining walls would be constructed as part of the roadway widening, with a total of four separate walls: three on the northbound side of the highway and one on the southbound side. Three of the walls would be located to allow widening for a future lane on the highway, in both directions. The wall proposed along the northbound on-ramp at 41st Avenue would require demolition in the event the highway was widened in the future. Two of the walls would span Rodeo Creek Gulch, where there is an existing 9 ft arch concrete culvert, and one would be constructed within a narrow jurisdictional area on the northbound side of Route 1, adjacent to a 39 inch culvert crossing.

#### Right of Way

Right of way would be acquired along Soquel Avenue west of Chanticleer Avenue and at the Chanticleer Avenue cul-de-sac north of the highway, along with temporary construction easements on both sides of Route 1 near the proposed overcrossing.

### **1.3 Project Development and Schedule**

The Santa Cruz County RTC, serving as implementing agency (with FHWA and Caltrans serving as Lead Agencies for environmental purposes), initiated preliminary engineering and environmental studies in late 2003. These studies are being conducted to comply with the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The environmental review phase of the Tier I and Tier II projects is funded with a combination of state and federal funds, including funds from the region's share of State Transportation Improvement Program (STIP) funds. Current and projected state and federal funds do not cover project costs through construction. The Environmental Impact Report/Environmental Assessment will provide information to the public about the Tier I and Tier II project alternatives and the environmental impacts associated with each, which will in turn inform the decision making process. Past, Current, and Future Planned Projects in the Tier I and Tier II Study Areas

The Tier I and Tier II project study areas are relatively built-out. The only major projects listed as in progress by the City of Santa Cruz Planning and Community Development Department (January 2013) are the redevelopment of the Tannery Arts Center, the Pacific Station, and the National Marine Fisheries Visitor Center. At present, there are no residential projects within the study area are under construction (January 2013). One roadway project, the Highway 9/Route 1 Intersection Project, is currently in the planning stage; it is located just outside the project study area.

#### **1.4 Study Area Boundary for Community Impact Assessment**

The geographical area evaluated by this study covers the area that would potentially be directly or indirectly affected by the Tier I and Tier II proposed project activities. The primary impact area consists of the area immediately adjacent to the Route 1 corridor that is subject to direct effects, such as property acquisition or disruption from construction activities. Secondary impact areas would be dispersed and include areas likely to experience increased vehicle movements associated with construction-driven detour traffic. The secondary impact zone varies among resources analyzed in this report.

##### **Tier I Study Area**

The Tier I study area includes 18 census tracts that surround Route 1 within the project limits. They are as follows: 1001, 1002, 1211, 1212, 1213, 1214.01, 1214.02, 1214.03, 1217, 1218, 1220.01, 1220.02, 1220.03, 1221, 1222.01, 1222.02, 1222.03, and 1224. The study area is further broken down to include only those block groups within each census tract that are closest to the Route 1 corridor. There are a total of 47 census tract block groups included in this study, depicted in Figure 4-1 in Chapter 4 of this report.

##### **Tier II Study Area**

The Tier II study area includes 5 census tracts that surround Route 1 within the project limits, from Soquel Drive to 41<sup>st</sup> Avenue. They are as follows: 1213, 1214.01, 1214.02, 1217, and 1220.03. The study area is further broken down to include only those block groups within each census tract that are closest to the Route 1 corridor. There are a total of 16 census tract block groups included in this study, depicted in Figure 4-2 in Chapter 4 of this report.

## Section 2–Background Information

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### **2.1 Reason for Performing Initial Site Assessment**

The purpose of the ISA is to screen property during the project planning phase that could potentially contain hazardous wastes, and identify reported and obvious potential hazardous conditions that need to be addressed or considered before proceeding with project construction.

Based on the information presented in this ISA, for the alternative selected, a determination will be made whether any portion of the existing or proposed ROW should be further investigated for potential hazardous wastes. Further investigation will likely conform to a Phase II environmental site assessment (e.g., hydrogeologic investigation). The Phase II environmental site assessment should be performed in conformance with current Caltrans procedures. In the existing ROW, Phase II investigation should consider the need for testing for asbestos containing material (ACM), aerially deposited lead (ADL), lead-based paint (LBP), yellow traffic striping, pavement marking materials, and yellow paint. Within proposed ROW, the Phase II investigation sampling should be geared towards the suspected hazardous material usage on the property.

Recommendations in the ISA should be strongly considered to avoid purchasing properties with hazardous wastes issues and to avoid construction in these areas.

### **2.2 Project Plans**

The project plans are considered part of this ISA. The project area, as identified on the project plans, includes the existing and proposed Caltrans ROW. Project plans were provided and are entitled “Route 1 HOV Lane Alternative” dated April 2010 prepared by Nolte Associates, Inc.

The project plans identify topography, as well as the outlines of structures and trees, the location of existing wetlands, assessor’s parcel numbers (APN) of parcels adjacent to the ROW, and owners associated with the parcel number. The County of Santa Cruz Geographic Information Systems Mapping Application was used to determine the addresses associated with each APN number. This allowed cross referencing of government databases for hazardous waste sites.

### **2.3 Common Hazardous Waste Issues on Highway Projects**

ADL created by vehicular exhaust of cars burning gasoline is common in soils in the immediate vicinity of freeways and highways.

Hazardous materials, consisting of LBP and ACMs, are often present in the building materials of freeway overcrossings built prior to 1989. LBP may also be present in yellow traffic striping and pavement marking materials.

Impacts from hazardous waste and/or material sites are an important consideration in the planning and development of any major transportation improvement project. Because remediation of contaminated soil and groundwater from contaminated sites can increase the overall cost of a project, it is important to identify the location of these sites early in the environmental process. With this information, contaminated sites can be avoided, or where contaminated sites cannot be avoided, early identification of these sites can help mitigate impacts resulting in increased project costs, schedule delays, and public and worker safety issues. Contaminated sites are more often found in commercial and industrial areas, although contaminated sites are also known to occur in rural areas. Common impacts of dealing with contaminated sites during development of transportation projects include unanticipated costs for dealing with contaminated soil, groundwater, and hazardous materials; regulatory agency coordination; sampling, removing, and/or treating and/or disposing of contaminated media; and implementing worker safety plans.

If unanticipated contaminated soil is encountered during excavation within a project site, it not only poses a worker safety concern, but also causes additional work associated with determining the type of chemical contamination and the limits of contamination in terms of its lateral and vertical extent in the soil. Unanticipated costs and construction delays may arise from mitigation measures, including the required regulatory agency coordination, soil sampling to characterize chemical concentrations, and onsite or offsite treatment and/or disposal costs.

If unanticipated contaminated groundwater is encountered, pumping of the groundwater during dewatering activities could cause the groundwater to migrate further into the aquifer. This scenario is possible if dewatering activities (e.g., for trenches and excavations) intercept the contaminated groundwater or cause a change in the local hydraulic gradient, thereby drawing contaminated groundwater from some offsite source. For contaminated groundwater, adverse impacts would be the unanticipated costs and construction delays associated with regulatory coordination, groundwater sampling, possible onsite pretreatment of pumped groundwater, and/or offsite treatment and disposal of contaminated groundwater.

Other potential adverse impacts in the short term (during construction) or long term (during operation of the highway) would be the human health and natural environment impacts of project activities if they cause existing fuel or chemical vapors to emanate from contaminated soil or groundwater or directly from leaks or spills of hazardous materials. These vapors could move through the vadose zone and potentially impact excavated areas, underground, or aboveground structures.



## Section 3–Reconnaissance and Site Description

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### 3.1 Location and Description of Project Area

The Tier I HOV Lanes and Tier II Auxiliary Lanes Project on Route 1 extends from approximately 0.2-mile south of the San Andreas-Larkin Valley Road Interchange to 0.2-mile north of the Morrissey Boulevard Interchange in Santa Cruz County. The existing Route 1 corridor within the project area is an asphalt and concrete, paved four-lane freeway, not including on-ramps and off-ramps at freeway interchanges. The proposed project would increase the number of through lanes from four to six (two mixed-flow and one HOV lane in each direction) and auxiliary lanes, utilizing existing shoulder and median areas. Along the southern portion of the project, the median generally is wide enough to incorporate HOV lanes within the existing ROW. Along the northern reach of the project, where the median is narrower, widening would occur outside the existing ROW in some locations.

The width of the project area generally varies from approximately 164 to 558 feet, exclusive of intersections with roadways. Where major overpasses and underpasses occur, the project area varies from approximately 459 to 984 feet. The freeway median is narrow and paved from the intersection with Market Street to just before the intersection with Rio Del Mar Boulevard. From Freedom Boulevard to San Andreas/Larkin Valley Road, the median is relatively wide and unpaved.

### 3.2 Site and Vicinity General Characteristics

Route 1 is a state highway that runs along the Pacific coast of the State of California. In the project area, Route 1 serves as the primary route connecting communities in the southern and central areas of Santa Cruz County. The largest community is the city of Santa Cruz at the northwestern end of the project area. Santa Cruz is the most urban and the oldest of the communities in the project area. Traveling south on Route 1 from Santa Cruz, approximately midway in the project area are the communities of Soquel and Capitola. Near the southern end of the project area is Aptos. Aptos is the least urbanized of the communities.

Santa Cruz is the county seat and is the most populated city in Santa Cruz County. Route 1 and Highway 17 are the main roads in and out of Santa Cruz. The Route 1 transportation corridor (freeway) is geographically constrained between the Santa Cruz Mountains and Monterey Bay. The freeway in the vicinity of Santa Cruz suffers severe congestion.

The city of Capitola is smaller than Santa Cruz and is known for its steep cliffs on Monterey Bay. Capitola is the entry point from Route 1 to several popular beaches, including New Brighton Beach. The downtown area of Capitola sits in a depression above the cliffs near Capitola Beach.

Soquel is a smaller unincorporated community located adjacent to Capitola. From the Porter Street exit off Route 1, Capitola is south towards the ocean and Soquel is north towards the mountains.

Aptos is an unincorporated area of Santa Cruz County, consisting of several small communities: Seacliff, northwest of Route 1, west of Spreckels Drive; Rio Del Mar, south of

Route 1, east of Spreckels, down to near Seascap Boulevard; and Seascap, southwest of Route 1. The center of Aptos is considered to be on the northwest side of Route 1, stretching from Park Avenue to Freedom Boulevard. This is also where the main business and commerce centers are located.

### **3.3 Reconnaissance Methodology and Limiting Conditions**

The original site reconnaissance was performed by Travis Hinman of Parsons on November 13, 2006, and subsequent reconnaissance was conducted by Angela Schnapp and Brynna McNulty of Parsons on April 13 and 14, 2010. The methodology for performing the site reconnaissance in April 2010 was first to perform a windshield tour of Route 1 for the entire length of the project within the project limits, from south to north and then from north to south. Once the windshield survey of the freeway was complete, the perimeter of the project area was surveyed on foot, based on observations during the windshield survey and on information logged in the 2006 site reconnaissance and the 2010 database run results. Progressing from south to north, time was taken to travel by car along frontage roads on both sides of the freeway to observe surrounding land uses and the condition of adjacent properties.

Observations made during the site reconnaissance (walk/drive-through) of the project area and vicinity are described on a segment-by-segment basis. Photographs referred to in the reconnaissance descriptions are presented in Appendix F. The Caltrans ISA Checklist, as completed with notes from the site reconnaissance, is provided in Appendix G.

### **3.4 Land Uses in the Project Area**

The general setting of the project area is rural to suburban in the southern reach of the project area and suburban to urban in the northern reach of the project area. The 2010 site reconnaissance was performed during the rainy season. Soil was fairly saturated and vegetation was green. There were many puddles and areas of standing water. No areas of hazardous waste spills were observed within the project area or vicinity.

Current use of the existing ROW is for transportation use as a state highway. Unpaved areas within the existing ROW, some with landscaping, provide a buffer zone between the freeway and adjoining land uses. Current use of the potential project ROW varies from light commercial to residential.

Within the existing Caltrans ROW, there are 10 freeway overpasses and 6 freeway underpasses. Of the 10 overpasses, 8 are roadway overpasses and 2 are railroad overpasses. From north to south, roadway overpasses occur at Morrissey Boulevard, La Fonda Avenue, Soquel Avenue, 41<sup>st</sup> Avenue, Capitola Avenue, State Park Drive, Rio Del Mar Boulevard, and Freedom Boulevard. The two railroad overpasses occur between State Park Drive and Rio del Mar Boulevard. From north to south, the roadway underpasses occur at Market Street, Wharf Road, Bay Avenue, Park Avenue, Spreckels Drive, and San Andreas/Larkin Valley Road.

A summary of the types of land uses within the proposed ROW, discussed by corridor segment, is presented below.

***Southern End of Project Area from San Andreas/Larkin Valley Road to Rio Del Mar Boulevard (Tier I)***

This segment is largely rural open space and agricultural land use. Much of the open space is associated with larger privately owned residential parcels, although residential structures are not located directly adjacent to the freeway. The topography in this segment is rolling hills.

Route 1 is characterized by sloping topography on either side near Larkin Valley/San Andreas Road. A gate is located a short distance from the highway on Soquel Drive adjacent to the northbound side of Route 1. A CHP station, two mini storage locations, a church, and a veterinarian are located on this section of the road. Across from the CHP station, there is a small fenced-in area with a sign that read “Warning Chlorine.” A small shed and a pipe rising from the ground is situated inside this area. A small enclosure on Soquel Drive north of the Freedom Boulevard exit has a “danger high voltage” sign. A pipe rising from the ground and several electrical panels can be seen through the fence. In this area, a small section of businesses are just outside the potential ROW, which contains an auto body repair shop and a tool shop.

Beginning on the southwestern side of the freeway moving north, the land use is largely open space associated with large private residential parcels. Approximately midway between San Andrea/Larkin Valley Road and Freedom Boulevard, the residential parcels become smaller and residential structures are located closer to the freeway.

Along Bonita Drive, there is a predominantly residential area adjacent to the southbound side of Route 1 where a few propane tanks were observed. The Valencia Lagoon, owned by the California Department of Fish and Wildlife, is a prominent open space feature and is located between Bonita Drive and Route 1. The Valencia Lagoon is maintained as habitat for the Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*), a federally listed endangered species. Residential properties are located on the southwest side of Bonita Drive. Near the intersection of Rio Del Mar Boulevard and Route 1, the land use becomes commercial, including a gas station.

On the northeast side of Route 1, Soquel Drive is a frontage road along which there are commercial and residential properties. Near Freedom Boulevard, commercial properties along Soquel Drive include a restaurant, auto repair facility, miscellaneous multi-use, and a self-storage facility. Near the intersection of Rio Del Mar Boulevard and Route 1, residential properties along Soquel Drive transition back to light commercial uses, including a retail coffee outlet and restaurant.

***Rio Del Mar Boulevard to Park Avenue (Tier I)***

The topography in this segment is also rolling hills. Land use in this segment is mixed and includes agricultural, open space, residential, and light commercial.

On the south side of the freeway moving west, there is a shopping center near the intersection of Rio Del Mar Boulevard and Route 1, followed by planted fields and an orchard, tennis courts, railroad tracks, and residential parcels.

On the north side of the freeway moving west, Soquel Drive continues to serve as a frontage road. On the north side of Soquel Drive, light commercial uses, including restaurants, offices, medical facilities, and railroad tracks, are located. West of the railroad tracks there is wooded open space (Trout Creek Gulch) and drainage for Aptos and Valencia creeks. Farther west, there is a roadway underpass, multiple-use offices, and railroad tracks.

In this segment, the UPRR crosses Route 1 and transects the city of Aptos. Where Soquel Drive is adjacent to Route 1, there are several small businesses, a PG&E substation, and a small construction project. The PG&E substation is located adjacent to Route 1 and may have the potential to impact the proposed project. Travel along the northbound side of Route 1 was not possible in this segment; however, a small cultivated field was observed near the Rio Del Mar Boulevard off-ramp.

A large commercial area with a Safeway and a gas station is located near the State Park Drive off-ramp. On the northbound side of Route 1, a field that appeared to be graded for construction existed at the south end of McGregor Drive. A transfer truck related to this construction was parked across the street. McGregor Drive runs adjacent to Route 1, with only a thin wooded area separating the two roads. This area consisted primarily of residential and open space land uses.

On the south side of the highway, heading northwest from State Park Drive, adjacent land use is transportation (McGregor Drive). Southwest of McGregor Drive is fairly dense residential land use until the road reaches an unnamed creek, and the land use continues as larger commercial buildings and eventually intersects with Borregas Creek. Continuing north, there is undeveloped open space until the intersection of Route 1 and Park Avenue.

On the north side of the freeway, starting at State Park Drive heading northwest, there are commercial office and medical facilities, hotel lodging, undeveloped open space, residential parcels, a club/lodge hall, mobile-home park, unnamed creek, residential structures, and Borregas Creek with its associated wetlands. A hospital with a helipad is located near State Park Drive. Continuing westward, there is a baseball park and the structures of a junior college using Cabrillo College Drive as a frontage road. Other adjacent land uses include a church and multi-family housing units near Park Avenue.

***Park Avenue to 41<sup>st</sup> Avenue (includes Bay Avenue and Porter Street areas) (Tier 1)***

Heading north on Route 1, topographic relief is prominent only where small drainages cross Route 1. Land uses are more urban, and there is much less vegetation on adjacent parcels.

On the south side of the highway heading west from Park Avenue, there are residential land uses until reaching Kennedy Drive. Kennedy Drive remains a frontage road as it travels west until reaching a mobile home park. Businesses along Kennedy Drive in this area are light industrial, including a storage yard, manufacturing facility, truck and equipment storage, food processing, warehouse, dry storage, and a motorcycle shop. West of the mobile home park is Capitola Avenue, an apartment complex, motel, post office, and a gas station.

On the north side of the highway heading west from Park Avenue, there is a school, church, and a wooded area associated with an unnamed creek adjacent to an area of residential

parcels. Farther west is Nobel Creek and a mobile home park, followed by more residential parcels and a manufacturing facility near Rosedale Avenue. Residential uses continue northward until reaching Main Street, where there are offices, a produce market, and restaurant near the intersection of Route 1 and Porter Avenue.

An overpass is located on Capitola Avenue over Route 1. This overpass appears to be older than the others in the project area, but it resembles the one just south of Morrissey Boulevard. A postal facility is located near the intersection of Bay Avenue-Porter Street and Route 1, and during the 2010 site visit, there were no aboveground storage tanks (ASTs) or evidence of underground storage tanks (USTs) observed in the rear parking lot of this facility. A gas station is located on the corner of Route 1 and Bay Avenue just west of the post office.

On the south side of the highway, heading west from Bay Avenue, the land uses are open space until reaching Auto Plaza Drive, which is a frontage road. Businesses on the south side of this road relate to auto retail, with the exception of a restaurant near 41<sup>st</sup> Avenue.

On the north side of the highway, heading west from Porter Avenue, the land uses are commercial offices and Soquel Creek, followed by residential and a big box retailer with a large parking lot near the intersection of 41<sup>st</sup> Avenue.

#### ***41<sup>st</sup> Avenue (Bay Avenue and Porter Street areas) to Soquel Avenue/Soquel Drive (Tier 2)***

Similar to the previous segment, topographic relief is prominent only where small drainages cross the highway. Land uses are mostly commercial with fewer residential uses.

At the intersection of Route 1 and 41<sup>st</sup> Avenue, a large construction project was observed to the north of the northbound off-ramp during the 2010 site reconnaissance. It appeared to be a rebuilding of a commercial complex. On Soquel Drive, adjacent to the southbound side of Route 1, a group of small businesses exists, including a Wells Fargo Home Loan and what appears to be a real estate office. Predominantly industrial and commercial land uses exist around the Soquel Avenue and Route 1 interchange. On the north side of the highway, heading west from 41<sup>st</sup> Avenue, there is a lumber yard, warehouses, and commercial buildings until reaching Rodeo Creek Gulch. Businesses in this area include an auto body shop, a lumber yard, a carpet shop, and a storage yard, which contained piles of gravel and several pieces of equipment. Farther west of the gulch, there are some residential properties, a school, and a drive-in movie theater. West of the movie theater, land uses appear to be commercial storage, warehouses, and light industry. Nearing the intersection of Route 1 and Soquel Drive, there are large retail outlets, a gas station, restaurant, offices, and medical facilities.

On the south side of the highway, heading west from 41<sup>st</sup> Avenue, there are commercial offices, including a mortgage lender. Farther west, Soquel Avenue is a frontage road with commercial businesses on the south side until reaching the Rodeo Creek Gulch wetland. Farther west, beyond the wetland, the land use is primarily commercial on the south side of Soquel Avenue, including some storage yards. Hotel lodging exists near where Soquel Avenue becomes Soquel Drive.

### ***Soquel Avenue/Soquel Drive Route 1 Interchange to Northern End of Project Area (Tier 1)***

Similar to the previous two segments, topographic relief is prominent only where small drainages cross the freeway. Land uses are split between commercial and residential uses.

There is a small group of businesses appearing to sell lawn and garden items located in the potential project ROW at the Soquel Drive/Route 1 interchange. A storage yard was observed behind the storefront; however, it was not possible to ascertain if it contained anything of concern.

On the southbound side of Route 1, a park-and-ride lot, as well as an outpatient medical clinic were observed. On the northern portion of Chanticleer Avenue, to be realigned as part of the proposed project, a recycling center, art supply center, and a gas riser were observed. It was not readily apparent which direction the gas line runs from this point. In addition, a hospital was observed a short distance from the end of Chanticleer Avenue.

On the south side of the highway, heading west from Soquel Avenue, the adjacent land uses include a large commercial building and a wetland area at Arana Gulch. Continuing west, there is a sports facility associated with a high school and light commercial uses until reaching a wetland area owned by the State of California. West of the wetland area, adjacent land uses are primarily residential until reaching Morrissey Boulevard and continuing west to the end of the project area.

On the north side of the highway, heading west from Soquel Drive, the adjacent land uses include a hospital and related medical structures, residential structures, and the Arana Gulch. West of the gulch, the adjacent properties are primarily residential except for a church near the intersection of the highway and Morrissey Boulevard. West of Morrissey Boulevard, adjacent land uses include residential uses, a church, and transportation (Rooney Street). Residential land uses occur on the north side of Rooney Street.

At the Route 1 and Morrissey Boulevard interchange, construction was underway between Highway 17 and just south of the off-ramp to the junction of Route 1.

### **3.5 Existing Land Uses: Immediate Vicinity of HOV Lane Alternative (Tier 1)**

A portion of the HOV Lane Alternative would expand the Caltrans ROW for off-ramps and on-ramps at major roadway underpasses and overpasses. This expansion would involve the acquisition of private property near some roadway intersections. Proposed expansion of the Caltrans ROW onto private property or local ROW to accommodate modification of on-ramps/off-ramps is planned at the following interchanges: (1) Route 1 and State Park Drive; (2) Route 1 and Capitola Avenue; (3) Route 1 and Park Avenue; (4) Route 1 and Bay Avenue/Porter Avenue; (5) Route 1 and 41<sup>st</sup> Avenue; (6) Route 1 and Soquel Drive/Soquel Avenue; and (7) Route 1 and Morrissey Boulevard. Lesser expansions beyond the existing ROW would occur in between these interchanges to widen Route 1 and in some areas where soundwalls and retaining walls are planned (e.g., Kennedy Drive).

Within the proposed ROW (near interchanges), land uses in the project area include:

### ***Near Route 1/Bay Avenue/Porter Avenue Interchange***

- Multiple small strip mall-type stores and a market near the Main Street proposed northbound off-ramp;
- Restaurant near Main Street proposed northbound off-ramp; and
- Parking lot for commercial offices (very close to a structure located in the parking lot) near Porter Street, proposed northbound on-ramp.

### ***Near Route 1/41<sup>st</sup> Avenue Interchange***

- Lumber supply parking lot near 41<sup>st</sup> Avenue proposed northbound on-ramp.

### ***Route 1/Soquel Drive/Soquel Avenue Interchange***

- Park-and-ride parking lot, proposed northbound on-ramp.

### ***Route 1/Morrissey Boulevard Interchange (Tier 1)***

- Residential structures near Morrissey Boulevard, proposed southbound on-ramp;
- The potential project ROW line is near residential structures west of Morrissey Boulevard, proposed widening of southbound on-ramp from Fairmount Avenue; and
- The potential project ROW line is near residential structures west of Morrissey Boulevard, proposed widening of southbound off-ramp.

## **3.6 Existing Land Uses: Immediate Vicinity of TSM Alternative (Tier 1)**

The TSM Alternative would require limited additional ROW. Proposed expansion of the Caltrans ROW to accommodate modification of on-ramps/off-ramps is planned at the Route 1/ Soquel Drive/Avenue Interchange. In addition, expansions of the existing ROW would occur at Mar Vista Drive, Park Way, and Oak Way for the Mar Vista, Chanticleer, and La Fonda Avenue overcrossings.

There would be no acquisition of existing residences or businesses for the TSM Alternative.

## **3.7 Existing Land Uses: Immediate Vicinity of Tier 2 Alternative**

Land uses within the immediate vicinity of the Tier 2 Alternative proposed ROW are:

### ***Near Route 1/41<sup>st</sup> Avenue Interchange***

- Lumber supply parking lot near 41<sup>st</sup> Avenue proposed northbound on-ramp.

### ***Route 1/Soquel Drive/Soquel Avenue Interchange***

- Park-and-ride parking lot, proposed northbound on-ramp.





## Section 4–Records Review

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### 4.1 Standard Environmental Record Sources

Parsons conducted a records review of “standard environmental record sources” as described in ASTM Standard E 1527-05. The “standard environmental record sources” is hereafter referred to as the environmental database search. The environmental database search consisted of a review of listings of Federal and State regulatory agencies that are responsible for recording incidents of spills, soil and groundwater contamination, and transfer, storage, or disposal facilities that handle hazardous materials. Parsons subcontracted this database search to EDR.

The environmental database search for the Tier 1 project corridor was ordered in January 2013 and is used for corridor planning purposes only. As future project phases are implemented, new record searches will be conducted and new ISAs will be prepared.

The database search radius along the highway corridor followed the search distance guidelines recommended in ASTM Standard E 1527-05. The list of databases searched is included in the environmental database search report (refer to Appendix B).

#### 4.1.1 Sites Identified within the Tier 1 Project Limits

A summary of sites listed within the required ASTM search distances for the Tier 1 project is as follows. Information on these sites is available in Appendix B. Only those sites within the Tier 2 project limits have been evaluated for meeting the criteria of an REC.

Database Searched	Number of Sites Listed
Comprehensive Environmental Response, Compensation, and Liability Information System – No Further Remedial Action Planned	1
Resource Conservation Recovery Act – Small Quantity Generators	26
Leaking Underground Storage Tanks	78
Spills, Leaks, Investigations, and Cleanups	1
Underground Storage Tanks	19
Certified Unified Program Agencies Listings	104
Aboveground Storage Tanks	9
Voluntary Cleanup Program	1

#### **4.1.2 Sites Identified within the Tier 2 Project Limits**

The following is a list of sites within the Tier 2 project limits that are within the required ASTM standard search distances. Databases searched that do not list any sites within the ASTM standard search distances have not been included in this summary.

##### **4.1.2.1 Federal ASTM Records**

###### ***Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) – No Further Remedial Action Planned***

The CERCLIS database contains data on potentially hazardous waste sites that have been reported to the United States Environmental Protection Agency (EPA) by states, municipalities, private companies, and private persons. Beginning in February 1995, CERCLIS sites designated No Further Remedial Action Planned (NFRAP) have been removed from the CERCLIS database. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the National Priorities List (NPL), or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived these as historical records so that EPA does not needlessly repeat the investigations in the future.

Currently, there is one listed CERCLIS-NFRAP site located within the 0.5-mile search distance from the project location. This site is the Brown Bulb Ranch located at 1971 41<sup>st</sup> Avenue in Capitola. This site was initially assessed as a high priority for further assessment in 1986. Two months later, the determination was made that no further remedial action was planned for the site. No details were available as to the type of contamination or what media were affected by the contamination (soil or groundwater). This site is approximately 0.21-mile south of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint, the fact that the general area groundwater hydraulics are in a direction away from the project footprint, and that there is no indication that contamination has migrated to the project site, this site does not constitute an REC for the project location.

Three additional CERCLIS-NFRAP sites could not be mapped due to poor or inadequate location information. The first site is the PG&E gas plant in Santa Cruz. Its location is described as the west side of north Pacific and adjacent to River Street. This intersection (North Pacific Avenue and River Street) is approximately 0.40-mile southeast from the project footprint. No details were available as to the type of contamination or what media were affected by the contamination (soil or groundwater). The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint, the fact that the general area groundwater hydraulics are in a direction away from the project footprint, and that there is no indication that contamination has migrated to the project site, this site does not constitute an REC for the project location.

The second site is the McMillian Residence located at 503 B Pine Street in Capitola. This site was initially assessed as a low priority for further assessment in 1980. By 1989, the determination was made that no further remedial action was planned for the site. No details were available as to the type of contamination or what media were affected by the contamination (soil or groundwater). This site is approximately 0.25-mile south-southeast of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint, the fact that the general area groundwater hydraulics are in a direction away from the project footprint, and that there is no indication that contamination has migrated to the project foot, this site does not constitute an REC for the project location.

The third site is the New Brighton Pumping Station located at the New Brighton State Beach in Capitola. No details were available as to the type of contamination or what media were affected by the contamination (soil or groundwater). This site is approximately 2.8 miles west of the project footprint. Due to the distance of the site from the project footprint, this site does not constitute an REC for the project location.

### ***Resource Conservation and Recovery Act/Large and Small Quantity Generators***

The Resource Conservation and Recovery Act Information System (RCRIS) Sites is a database of facilities that generate or transport hazardous waste or meet other RCRA requirements. The Large Quantity Generators (LQGs) list identifies those facilities or locations that have notified EPA that they generate (or have generated) at least 2,200 pounds (lbs) of non-acutely hazardous wastes and/or 2.2 lbs of acutely hazardous waste, monthly. The Small Quantity Generators (SQGs) list identifies those facilities or locations that have notified EPA that they generate (or have generated) less than 2,200 lbs of non-acutely hazardous wastes and/or 2.2 lbs of acutely hazardous waste, monthly. A listed site does not necessarily indicate environmental problems on the site, but rather that the site is (or was) engaged in hazardous waste activities; therefore, it may have the potential to cause environmental degradation if hazardous wastes have been mishandled or otherwise released in an uncontrolled manner.

Currently, there are 23 listed RCRA SQG sites and no RCRA LQG sites within the 0.25-mile search distance from the project location. None of the 23 sites have had any violations or enforcement actions reported. None of these sites constitutes an REC for the project location.

One site, Marina Pontiac Buick, located at 4100 Auto Plaza in Capitola, had written informal enforcement actions related to general generator and land disposal requirements in 1988. Onsite compliance inspections were conducted in 1988 and 1989 as a remedy to the violations. No further violations have been reported since 1989. Based on the informal enforcement action and the remedy, this site does not constitute an REC for the project location.

There are nine listed RCRA SQG (includes one conditionally exempt) sites that could not be mapped due to poor or inadequate location information. None of these sites have had any violations or enforcement actions reported. None of these sites constitutes an REC for the project location.

### ***Resource Conservation and Recovery Act/No Longer Report***

The RCRA Information Sites/No Longer Report (RCRA NLR) is a database of facilities not currently classified by EPA but is still included in the RCRIS database. The reasons for non classification are: (1) failure to report in a timely matter; (2) no longer in business at the listed address, and/or (3) no longer generating hazardous waste materials in quantities that require reporting.

Currently, there are two listed RCRA NLR sites within the 0.125-mile search distance from the project location. These sites had no listed violations or enforcement actions. These sites do not constitute RECs for the project location.

### ***Emergency Response Notification System***

The Emergency Response Notification System (ERNS) is an EPA national computer database system that is used to store information on the sudden and/or accidental release of hazardous substances, including petroleum, into the environment. The ERNS reporting system contains preliminary information on specific releases, including the spill location, the substance released, and the responsible party. The ERNS report only includes releases from 1988 to the most recent quarterly update.

Currently, there is one ERNS site within the 0.125-mile search distance from the project location. An event occurred along southbound Route 1 over Park Avenue. Ten gallons of gasoline were released in 1992 along the southbound shoulder. Cleanup was underway in 1992. This site is located 1-mile east of the project footprint. Due to its distance from the project footprint, this site does not constitute an REC for the project location.

There are six ERNS sites that could not be mapped due to poor location information. The location and city are listed below:

- Ano Nuevo State Park, Santa Cruz. This site is located approximately 24 miles northwest of the project site. Due to its distance from the project site, this site is not considered an REC.
- May Avenue, Santa Cruz. This site is located approximately 2 miles southwest of the project site. Due to its distance from the project site, this is not considered an REC.
- 600 Cabrillo Park Court, Santa Cruz County. This site is located approximately 4 miles west of the project site. Due to its distance from the project site, this is not considered an REC.
- Corner of West Cliff and Alamar Avenue, Santa Cruz. This site is located approximately 5 miles south-southwest of the project site. Due to its distance from the project site, this is not considered an REC for the project location.
- Soquel Avenue, Santa Cruz. There is not enough information to ascertain the location of this ERNS site. For this reason, this site cannot be considered an REC for the project location.

- Charles Derby Small Bore Range, De Laveaga Park, Santa Cruz. This site is located approximately 1-mile northwest of the project site. Due to its distance from the project site, this is not considered an REC for the project location.

#### **4.1.2.2 State of California ASTM Records**

##### ***School Property Evaluation Program (SCH)***

This category contains proposed and existing school sites that are being evaluated by the Department of Toxic Substances Control (DTSC) for possible hazardous materials contamination. In some cases, these properties may be listed in the Calsites category depending on the level of threat to public health and safety or the environment they pose.

Currently, there is one SCH site within the 1-mile search distance from the project location. The Opal Cliffs School Site, located at 4400 Jade Street in Capitola, was a site investigated as a possible school location. A No Further Action determination was issued in 2009. This site is approximately 0.80-mile south of the project location. Due to the distance of this site from the project footprint and due to no indication that contamination has migrated to the project footprint, this site does not constitute an REC for the project location.

There is one SCH site that could not be mapped due to poor location information. The Soquel Avenue Property, located at 2880 and 2890 Soquel Avenue in Santa Cruz, was a site being investigated as a possible school location. A No Further Action determination was issued in 2005. While this site is adjacent to the project footprint, there is no indication that contamination was found at the site. This site does not constitute an REC for the project location.

##### ***Waste Management Unit Database System (WMUDS/SWAT)***

WMUDS is used by the SWRCB and the RWQCBs for program tracking and inventory of waste management units. WMUDS is no longer updated by the SWRCB, and it was used to track management units for several regulatory programs related to waste management and its potential impact on groundwater.

Currently, there are no WMUDS/SWAT sites within the 0.5-mile search distance from the project location; however, there is one WMUDS/SWAT site that could not be mapped due to poor location information. This site is identified as the Santa Cruz Disposal site located on Route 1 (Dimeo Lane extension). It is also known as the City of Santa Cruz Resource Recovery Facility and includes a sanitary landfill, recycling center, green waste dropoff area, and household hazardous waste dropoff facility. This location is approximately 7 miles west of the project location. Due to the distance of this site from the project footprint, this site does not constitute an REC for the project location.

##### ***Waste Discharge System (WDS)***

The WDS tracks sites that have been issued waste discharge requirements by the SWRCB.

Currently, there are no WDS sites within the 1-mile search distance from the project location; however, there is one WDS site that could not be mapped due to poor location information. This site is identified as the Neary Lagoon Park storm drain in Santa Cruz. This location is

approximately 5 miles west of the project location. Due to the distance of this site from the project footprint, this site does not constitute an REC for the project location.

### ***Leaking Underground Storage Tanks (LUST)***

The SWRCB maintains a database of sites with confirmed or unconfirmed LUSTs.

Currently, there are 48 LUST sites within the 0.5-mile search distance from the project location. There are 35 sites for which the cases are closed and 13 sites for which the cases are still open. Of the 35 closed sites, 14 have potential groundwater contamination.

The following 14 sites are adjacent to the project footprint and constitute RECs for the project location:

- San Lorenzo Lumber Company located at 2435 41<sup>st</sup> Avenue in Santa Cruz (soil contamination only, closed case)
- The TOSCO Service Station 30757 (also listed as Union Oil Service Station No. 4902) located at 2255 41<sup>st</sup> Avenue in Santa Cruz (soil contamination only, closed case)
- BP Oil Facility No. 11240 located at 2178 41<sup>st</sup> Avenue in Santa Cruz (open case)
- Service Station 88/USA Petroleum at 2700 41<sup>st</sup> Avenue in Soquel (soil and groundwater contamination, closed case)
- Redtree Properties located at 1650 Commercial Way in Santa Cruz (soil contamination only, closed case)
- Chevron 9-2231 located at 1524 Commercial Way in Santa Cruz (soil contamination only, closed case)
- Unocal 6193 at 1500 Soquel Drive in Santa Cruz (open case)
- Krafts Body Shop (also listed as Santa Cruz Distribution Facility) at 6100 Soquel Avenue in Santa Cruz (soil contamination only, closed case)
- Chevron Station at 5998 Soquel Avenue in Santa Cruz (soil contamination only, closed case)
- Pacific Bell at 7070 Soquel Avenue in Santa Cruz (soil contamination only, closed case)
- Arco Station at 2407 Porter Street in Soquel (soil and groundwater contamination, closed case)
- Exxon Gas Station 7-0281 at 2501 Main Street in Soquel (soil and groundwater contamination, closed case)
- Exxon 7-3604 at 836 Bay Avenue in Capitola (open case)
- Redtree Properties located at 819 Bay Avenue in Capitola (open case)

There are 14 sites that were closed that possibly had groundwater contamination. These sites are discussed below:

- The ARCO station located at 2407 Porter Street in Soquel released gasoline that contaminated soil and groundwater. The case was closed in 1997. This site is 350 feet north of the project footprint. Due to this site being adjacent to the project footprint, this site constitutes an REC for the project location.
- The Dominican Hospital located at 1555 Soquel Drive in Santa Cruz discharged fuel oil and contaminated soil and groundwater. During removal of a 7,500-gallon fuel oil tank, soil contamination was found in the tank pit. Water, extracted from the tank pit, was found to be contaminated; however, analytical results of onsite ground water monitoring wells suggest that this water is not in hydraulic connection with the shallow groundwater table beneath the site. This case was closed in 1997. This site is approximately 0.15-mile north-northeast of the project location. Because the site is not adjacent to the project footprint, this site does not constitute an REC for the project location.
- Chevron Station 9-2231 located at 1524 Commercial Way in Santa Cruz discharged gasoline and contaminated soil and groundwater. The case was closed in 1995. This site is located approximately 400 feet northwest of the project site and constitutes an REC for the project location.
- The Antolini Company located at 2776 Soquel Avenue in Santa Cruz discharged gasoline and contaminated soil and groundwater. The case was closed in 1988. The site is located 0.07-mile southwest of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- The Service Station No. 88 (also listed as USA Petroleum Company No. 88) located at 2700 41<sup>st</sup> Avenue in Soquel discharged gasoline and contaminated soil and groundwater. This site is located approximately 500 feet north of the project footprint. The case was closed in 2002. Due to this site being near the project footprint, this site constitutes an REC for the project location.
- The Chevron Station located 600 Bay Avenue in Capitola discharged gasoline and contaminated soil and groundwater. The case was closed in 2002. This site is located approximately 0.4-mile south-southeast of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- The former EDD Building located at 2200 Soquel Avenue in Santa Cruz discharged gasoline and contaminated soil and groundwater. The case was closed in 1997. The site is located approximately 0.6-mile south of the project footprint. The general area

groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.

- The E-Z Serve 100981 located at 4901 Soquel Drive in Soquel discharged gasoline and contaminated soil and groundwater. The case was closed in 2007. This site is located approximately 0.6-mile north-northeast. Due to the distance of the site from the project footprint, this site does not constitute an REC for the project location.
- The Ponza Brothers Yard located at 3131 Porter Street in Soquel discharged gasoline and contaminated soil and groundwater. The case was closed in 1992. This site is approximately 0.4-mile north of the project footprint. Due to the distance of the site from the project footprint, this site does not constitute an REC for the project location.
- The Cal-Cruz Hatchery located at 1010 Rodriguez Street in Santa Cruz discharged diesel and contaminated soil and groundwater. The case was closed in 1996. This site is located approximately 0.6-mile south of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- The Eastside True Value Hardware (former Ace Hardware) located at 1817 Soquel Avenue in Santa Cruz discharged kerosene and contaminated soil and groundwater. The case was closed in 2008. This site is approximately 0.9-mile southwest of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- Volkswagen of Santa Cruz located at 1800 Soquel Avenue in Santa Cruz discharged waste oil/motor/hydraulic/lubricating oil and contaminated soil and groundwater. The case was closed in 1989. This site is located approximately 0.9-mile southwest of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- The former Exxon 7-0281 facility located at 2501 Main Street in Soquel discharged gasoline and contaminated soil and groundwater. This site is adjacent to the project footprint and is located approximately 200 feet north of the project site. The groundwater gradient is 0.003-foot/foot in the southeast direction, which is towards the project footprint. Due to this site being adjacent to the project footprint and the



fact that the groundwater gradient is towards the project site, this site constitutes an REC for the project location.

- The Santa Cruz SPCA located at 2200 7<sup>th</sup> Avenue in Santa Cruz discharged gasoline and contaminated soil and groundwater. This site is approximately 0.27-mile south of the project footprint. The general area groundwater hydraulics are south, southwest, and southeast, which is away from the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.

There are 13 sites that remain open. These are discussed below:

- The Unocal Station No. 6193 located at 1500 Soquel Drive in Santa Cruz discharged gasoline and diesel and contaminated soil and groundwater. Groundwater monitoring continues. This site is approximately 600 feet north of the project footprint. The groundwater gradient is 0.01-foot/foot in the southwest direction, which is in the direction of the project footprint. Due to its proximity to the project site and the general area groundwater hydraulics being in a direction towards the project footprint, this site constitutes an REC for the project location.
- The former Exxon 7-3604 facility (also listed as Pit Stop Service, Inc.) located at 836 Bay Avenue in Capitola discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. The groundwater gradient is 0.0012-foot/foot in the southwest direction, away from the project footprint. This site is located approximately 600 feet south of the project footprint. Due to its proximity to the project site, the site constitutes an REC for the project location.
- The Redtree Property located at 819 Bay Avenue in Capitola discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. The groundwater gradient is 0.003-foot/foot in the south direction, away from the project footprint. This site is located approximately 400 feet south of the project footprint. Due to this site being adjacent to the project footprint, this site constitutes an REC for the project location.
- The Gasamat Oil Corporation 955 facility located at 2680 Soquel Avenue in Santa Cruz discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is approximately 0.13-mile southwest of the project footprint. The groundwater gradient is 0.04-foot/foot in the south direction, away from the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- The BP 11240 facility located at 2178 41st Avenue in Capitola discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is approximately 300 feet south of the project footprint. The groundwater gradient is 0.01-foot/foot in the south-southwest direction, away from the project footprint. Due to the distance of the site from the project footprint, this site constitutes an REC for the project location.

- The Quick Stop Market No. 78 located at 5505 Soquel Drive in Soquel discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. The groundwater flow is in the south-southwest direction, which is towards the project footprint. This site is approximately 0.28-mile north of the project footprint. Due to the distance of this site from the project footprint, this site does not constitute an REC for the project location.
- The TOSCO facility 2452 (also listed as Unocal facility 2452) located at 4860 Soquel Drive in Soquel discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. The groundwater gradient is 0.13-foot/foot to the east, which is parallel to the project footprint. This site is approximately 0.32-mile north-northeast of the project footprint. Due to the distance of this site from the project footprint, this site does not constitute an REC for the project location.
- The North Bay Ford located at 1998 Soquel Avenue in Santa Cruz discharged waste/motor/hydraulic/lubricating oil and gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is approximately 0.38-mile south of the project footprint. The groundwater gradient is 0.0035-foot/foot in the south direction, away from the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- Whalers Carwash located at 2001 Soquel Avenue in Santa Cruz discharged fuel oxygenates and gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is approximately 0.42-mile south of the project footprint. The groundwater gradient is 0.2-foot/foot in the east-southeast direction, away from the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- The Shell Service Station (former) located at 1605 Soquel Avenue in Santa Cruz discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is approximately 0.38-mile south of the project footprint. The groundwater gradient is 0.01-foot/foot in the south direction, away from the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- The TOSCO facility 4818 located at 1505 Soquel Avenue in Santa Cruz discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is approximately 0.38-mile south of the project footprint. The groundwater gradient is 0.01-foot/foot in the southwest direction, away from the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.

- The Ultramar Beacon 3735 facility located at 1516 Soquel Avenue in Santa Cruz discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is approximately 0.4-mile south of the project footprint. The groundwater gradient is 0.003-foot/foot in the south-southwest direction, away from the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- The Caltrans Santa Cruz Maintenance facility located at 195 Capitola Road Extension in Santa Cruz discharged diesel and is still under investigation. This site is approximately 0.6-mile south-southwest of the project footprint. The general groundwater gradient in the area is in the south-southwest direction, away from the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.

There are two LUST sites that could not be mapped by the environmental database search due to poor or inadequate location information. These sites are described below:

- The Capitola pumping station located at the end of Esplanade in Capitola discharged diesel fuel and contaminated soil onsite. The case was closed in 1988. This site is approximately 0.8-mile south of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.
- The Santa Cruz County Sanitation District Rio Del Mar pumping station located at the end of Cliff Drive in Aptos has discharged diesel fuel that has contaminated groundwater. The investigation is still ongoing. This site is approximately 0.8-mile south of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.

### ***Spills, Leaks, Investigations and Cleanups (SLIC)***

The SWRCB maintains reports of sites that have records of spills, leaks, investigations, and cleanups.

Currently, there are no SLIC sites within the 0.125-mile search distance from the project site, although the Noble Gulch Storm Drain located at 370 Bay Avenue in Capitola came up from the search. This site is located approximately 0.5-mile southeast of the project footprint and is undergoing assessment and interim remedial action. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint, the fact that the general area groundwater hydraulics are in a direction away from the project footprint, and that there

is no indication that contamination has migrated to the project site, this site does not constitute an REC for the project location.

There are two SLIC sites that could not be mapped due to poor or inadequate location information. The properties located at 3905 East Cliff Drive and 2 East Cliff Drive in Santa Cruz are more than 2 miles south of the project site and do not constitute RECs for the project location.

### ***Underground Storage Tanks (UST)***

The UST database identifies active USTs in the state of California. This database is maintained by the California Certified Unified Program Agencies (CUPA).

There are 15 UST sites within the 0.25-mile search distance from the project site. None of these sites have had any violations or enforcement actions reported in the UST database. None of these sites constitutes an REC for the project location.

There are five UST sites that could not be mapped due to poor or inadequate location information. These sites have not had any violations or enforcement actions reported in the UST database and do not constitute RECs for the project location.

### ***Certified Unified Program Agencies (CUPA) Listings***

The CUPA listings track establishments issued permits and the status of their permits in relation to compliance with federal, state, and local regulations that the County oversees.

Currently, there are 105 CUPA listings sites within the 0.25-mile search distance from the project location. No violations were reported in association with permits for these sites, and they do not constitute RECs for the project location.

There are 17 CUPA listings sites that could not be mapped due to poor location information. No violations were reported in association with permits for these sites, and they do not constitute RECs for the project location.

### ***Aboveground Storage Tanks (AST)***

The AST database identifies ASTs in the state of California. This database is maintained by the CUPA.

Currently, there are eight AST sites within the 0.25-mile search distance from the project site. None of these sites have had any violations or enforcement actions reported in the AST database. None of these sites constitutes an REC for the project location.

There is one AST site that could not be mapped due to poor or inadequate location information. This is the PG&E Paul Sweet Substation located at Houts Drive in Santa Cruz. This site is located approximately 0.6-mile north of the project site and does not constitute an REC for the project location.

### ***Voluntary Clean Up Program (VCP)***

The VCP database contains low-level threat properties with either confirmed or unconfirmed releases and the project proponents have requested that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

There is one VCP site within the 0.5-mile search distance from the project location. The Silvercrest Apartments, located at 750 Bay Avenue in Capitola, entered into a voluntary cleanup agreement with DTSC in June 2008. Soil was contaminated with dieldrin as a result of application for agricultural uses. A No Further Action letter was issued for this property on March 25, 2011. This site is approximately 0.12-mile southeast of the project footprint. The general area groundwater hydraulics are south, southwest, southeast, which is in the opposite direction of the project footprint. Due to the distance of the site from the project footprint and the fact that the general area groundwater hydraulics are in a direction away from the project footprint, this site does not constitute an REC for the project location.

According to the database search, one VCP site could not be mapped due to poor or inadequate location information. This site is the Charles Derby Small Bore Range located at the De Laveaga Park in Santa Cruz, approximately 1-mile northwest of the project site. Due to the distance of the site from the project footprint, this site does not constitute an REC for the project location.

## **4.2 Additional Environmental Record Sources**

Additional environmental records sources were reviewed as required by ASTM 1527-05. Parsons obtained a copy of the Santa Cruz County Site Mitigation List dated April 8, 2011. A copy of the list is presented in Appendix C. This list is posted on the Santa Cruz County Government, Environmental Health Services Web site.

On Thursday January 4, 2007, Ms. Jayna Goodman of Parsons spoke with Ms. Elizabeth Gutierrez of the County of Santa Cruz Environmental Health Services General Information Department regarding the status of the Santa Cruz County Site Mitigation List. Ms. Gutierrez stated that there are no new hazardous waste sites within 1-mile of the proposed project since July 12, 2005. She also stated that it was her impression the County of Santa Cruz Fire Department uses the same list with the exception of special circumstances. The list posted on the Web site was updated on January 12, 2007, but no new sites were identified within the search radius.

On January 16, 2007, Ms. Jayna Goodman of Parsons spoke with Ms. Kelly Kumec of the County of Santa Cruz Fire Department regarding the site mitigation list of regulated facilities. Ms. Kumec stated that the list used by the Fire Department is the same as the County of Santa Cruz Health Department.

On January 16, 2007, Ms. Jayna Goodman of Parsons also spoke with Mr. Burton Chadwick of the Central Coast RWQCB regarding the Santa Cruz County Site Mitigation List and whether they use the same database for identifying hazardous materials sites. Mr. Burton indicated that the RWQCB listed sites should be the same as those identified by EDR and that they also use the Santa Cruz County Site Mitigation List. Mr. Burton also indicated that

the RWQCB is stringent in their request for the County of Santa Cruz Health Department to enter their sites into Geo Tracker, a RWQCB-run Web site that tracks all regulated facilities. In conclusion, these mitigation lists are virtually the same.

Parsons also utilized Web-based tools (e.g., Google Earth® and MapQuest®) for help in locating gas stations and dry-cleaning facilities in relation to the aerial topography, highway, and local streets (see Appendix C).

For hazardous material sites identified within and immediately adjacent to the existing and proposed ROW in the project area (see discussion in Section 6), Parsons also reviewed the Geo Tracker Web site database, as recommended by the RWQCB as an additional environmental record source.

### **4.3 Physical Setting Sources**

As required by ASTM Standard E 1527-05, Parsons reviewed current 7.5 minute United States Geological Survey (USGS) topographic maps of the project area and vicinity. The most current USGS 7.5 minute maps are:

- Watsonville West, 1995
- Santa Cruz, 1994
- Soquel, 1997

A mosaic of these maps utilizing National Geographic software (TOPO!®CD-ROMs) is provided in Appendix D.

Parsons also reviewed a document posted on the Soquel Creek Water District Web site entitled “Groundwater Assessment of Alternative Conjunctive Use Scenarios” dated September 2004. In this document, a detailed description is provided of the geologic units within the project area and the major hydrostratigraphic units that are the primary aquifers in the region.

Within the project area, much of the exposed geology is coastal terrace deposits of Pleistocene age. These coastal terrace deposits are mainly exposed west of where Valencia Creek crosses Route 1. East of where Valencia Creek crosses Route 1 until reaching Rio Del Mar Boulevard, the exposed geology includes the Purisima Formation, which is Pliocene and upper Miocene in age. The Purisima Formation is semi-consolidated to consolidated marine sandstone with siltstone and claystone interbeds and is an important water-bearing unit. East of Rio Del Mar Boulevard reaching to the southern end of the project area, the exposed geology, particularly to the north side of the highway, is the Aromas Sand, which is Pleistocene in age. The Aromas Sand consists of interbedded fluvial, marine, and eolian sands with lenses of silt and clay. The Aromas Sand is also an important water-bearing unit and is approximately 200 to 500 feet thick spanning from the Aptos to the La Selva Beach area (Johnson, *et al.*, 2004).

Hydraulic gradients are variable throughout the project area, although there is a regional hydraulic gradient that is largely south to southeast (Johnson, *et al.*, 2004). According to the

Preliminary Geotechnical Report prepared for the project in 2007, groundwater varies along the project corridor and is dependent on the local geology, influence from local streams and creeks, and the topography. Based on an as-built Log of Test Borings (LOTBs) provided by Caltrans, groundwater was encountered at the following locations and approximate elevations along the project corridor: 129 to 134 feet at the Freedom Boulevard Overcrossing; 64 to 76 feet at the Park Avenue Undercrossing; 13 feet at the Bay Avenue Undercrossing; 8.5 to 16 feet at the Soquel Creek Bridge; 64 feet at the 41<sup>st</sup> Avenue Overcrossing; and 95 feet at the Morrissey Avenue Overcrossing. It should be recognized that most of the as-built LOTBs are from the 1950s to 1990s when the original structures were constructed. Groundwater data may vary with the passage of time due to seasonal groundwater fluctuation, surface and subsurface flows, ground surface runoff, water level in adjacent creeks, and other factors that may not be present at the time of the referenced investigations. The Preliminary Geotechnical Report recommends site-specific subsurface soil conditions and groundwater conditions within the project limits be verified during the plans, specifications, and estimate (PS&E) phase.

According to the California Department of Conservation, the project site is not located in an area likely to contain naturally occurring asbestos.

Santa Cruz County is in a Radon Zone 2 area, which has moderate radon potential with a predicted average indoor radon screening level between 2 and 4 picocuries per liter (pCi/L).<sup>3</sup> The project setting would not create enclosed spaces or build residential dwellings, and the project is not located in an area with a high radon potential; therefore, radon-associated risks are unlikely, and testing would not be required.

#### **4.4 Historical Use Information within the Project Area**

##### ***Aerial Photographs***

Compilation of historical aerial photographs of the project area from 1931 to 2001 was performed by Parsons subcontractor EDR. Approximately 35 aerial photographs encompassing the project area were examined.

Copies of the aerial photographs are provided in Appendix E. Based on a review of these historical aerial photographs, it appears that the project area and vicinity was largely agricultural in use, with undeveloped, residential, and commercial use properties dating from 1931 to the present. Residential and commercial uses became more prevalent in recent years.

A summary description of the photographs reviewed is presented below.

Review of aerial photographs from 1931 to 1948 showed that the project area was mainly agricultural, with commercial uses developing into residential uses near the western end closer to 1948. The 1948 aerial photographs show distinctive signs of grading activity for the Route 1 ROW, and scattered residential development occurs throughout the predominant agricultural use.

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<sup>3</sup> U.S. Environmental Protection Agency Web site accessed by Parsons staff on April 16, 2008: <http://www.epa.gov/radon/zonemap.html>

By 1956, residential land uses become predominant, replacing the previously agricultural areas. East of Soquel Avenue/Drive, land uses become a mix of commercial and residential with scattered agricultural areas. Porter Street/Bay Avenue is flanked by industrial uses; however, east of Capitola Avenue, rural residential and agricultural land uses exist. Initial signs of single-family housing tract development are apparent in 1956 and dot the landscape.

In 1964, residential land uses have become denser on either side of Route 1. Industrial and commercial land uses also become denser from Soquel Avenue/Drive to 41<sup>st</sup> Avenue. The area south of the Route 1/41<sup>st</sup> Avenue interchange continued to develop as single-family residential uses; however, vacant land uses were still present.

By 1977, the project vicinity remains the same as it was in 1964; however, the area south and east of the Route 1/41<sup>st</sup> Avenue interchange has become denser with residential development.

In 1981, industrial development flanks Route 1 in the area east of Soquel Avenue/Drive continuing west until reaching Bay Avenue. The area east of Aptos Beach Drive continues to be predominantly rural with some rural residential development.

Between 1981 and present, the rural areas east of Aptos Beach Drive have developed into denser residential uses, although some open space areas are still preserved.

Issues of environmental concern other than noted above were not observed during the aerial photograph review.

### ***Fire Insurance Maps***

Fire insurance maps were not reviewed as part of the historical land use review. Once a Tier 2 build alternative is selected and if private properties in the proposed ROW are to be acquired, then fire insurance maps for these properties should be reviewed in conjunction with interviews of past and current property owners/occupants to confirm the presence/absence of hazardous materials use and storage.

## **4.5 Historical Use Information on Adjacent Properties**

### ***Aerial Photographs***

Historical aerial photographs compiled by EDR also show historical uses of the area surrounding the project area. The increase in commercial and residential development in surrounding areas from 1931 to present is similar to the increase in commercial and residential development in the project area and immediate vicinity.



## Section 5–Interviews

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### **5.1 Discussions with Project Representatives**

In project meetings and discussions prior to performing the ISA, Caltrans informed Parsons that the State's ROW does not contain known hazardous wastes and that the following hazardous materials common in highway projects may occur at the project site: ADL, naturally occurring asbestos, and ACM. These aforementioned materials are discussed in Section 6. Caltrans emphasized that the State seeks to avoid purchasing property that is contaminated with hazardous wastes or materials. Section 8, Conclusions, presents findings to suggest that the project corridor is unlikely to contain naturally occurring asbestos. The potential for presence of ADL and ACMs is discussed in Section 6, Findings.

The Caltrans Preliminary Environmental Analysis Report (PEAR) (June 2002) states that soil sampling for ADL should be considered part of the scope of work during the Project Approval/Environmental Document (PA/ED) phase. The purpose of doing this work early in the project development process is to ensure sufficient funds are included within the project cost estimates. The desire for soil sampling to be performed during PA/ED was discussed at a Project Development Team meeting on October 23, 2006, and it was iterated that soil sampling was more typically performed during the design phase of the project, once a preferred alternative had been identified.

### **5.2 Interviews with Property Owners/Occupants**

Caltrans typically handles all direct communications with property owners for acquisition of State ROWs. During early project discussions, Caltrans confirmed that property owner interviews, if necessary, would be conducted by appropriate ROW professionals during the ROW acquisition phase and after a preferred alternative was selected.

### **5.3 Interviews with Local Government Officials**

Parsons contacted representatives from the County of Santa Cruz Fire Department, Santa Cruz County Department of Environmental Health Services, and the Central Coast RWQCB. Details of conversations with representatives from these agencies are provided in Section 4.2 of this report. Discussions with local regulatory agencies were primarily focused on understanding the different agency databases of hazardous material sites in Santa Cruz County.



## Section 6–Findings

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### ***Tier 1 Alternatives***

The environmental database search identified 239 listed sites within the ASTM search distances for the Tier 1 project corridor for planning purposes. Except for those sites within the Tier 2 project limits, these sites were not evaluated for meeting the criteria for an REC. As future Tier 2 projects are implemented, new environmental database searches will be conducted and new ISAs will be developed; however, the following general RECs apply to the Tier 1 alternatives:

- Wooden utility poles along the roadside may be coated with creosote. These wooden poles would need to be properly managed if removed and disposed.
- ACMs are suspected to be present in Route 1 bridges and railroad undercrossings joint compound materials. ACM materials that may be disturbed during construction activities should be managed according to Cal-OSHA regulations (Title 8, *California Code of Regulations* [CCR], Section 1529).
- Paint used on existing Route 1 interchanges, bridges and railroad undercrossings, yellow traffic striping, and pavement marking materials may contain LBP or other hazardous materials and may exceed hazardous waste criteria under CCR Title 22, and require disposal in a Class I disposal site. It is recommended that the paint used for lane striping be tested for LBP prior to removal to determine proper disposal methods.
- ADL may be present along the shoulders and median of Route 1. It is recommended that soil sampling be conducted for ADL in areas along the shoulders and median of Route 1.

### ***Tier 2 Alternative***

The general RECs listed under the Tier 1 alternatives also apply to the Tier 2 alternatives. In addition, the following RECs were identified from the environmental database search:

- An ARCO station located at 2407 Porter Street in Soquel released gasoline that contaminated groundwater. The case was closed in 1997. This site is adjacent to the project footprint. No remedial action is required.
- The Redtree Properties located at 1650 Commercial Way in Santa Cruz discharged gasoline and only soil was contaminated. The case was closed in 1988. This site is located adjacent to the project footprint. No remedial action is required.
- The Chevron Station 9-2231 located at 1524 Commercial Way in Santa Cruz discharged gasoline and contaminated soil and groundwater. The case was closed in 1995. This site is located adjacent to the project footprint. No remedial action is required.

- The Service Station No. 88 located at 2700 41<sup>st</sup> Avenue in Soquel discharged gasoline and contaminated soil and groundwater. The case was closed in 2002. This site is adjacent to the project footprint. No remedial action is required.
- The former Exxon 7-0281 facility located at 2501 Main Street in Soquel discharged gasoline and contaminated soil and groundwater. The case was closed in 2011. This site is adjacent to the project footprint. No remedial action is required.
- The former Exxon 7-3604 facility (also listed as Pit Stop Service, Inc.) located at 836 Bay Avenue in Capitola discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the south. Although the groundwater gradient at this site is in the southwest direction away from the project site, remediation activities at this site should be monitored to ensure that contaminant migration to the project site is not occurring.
- Redtree Properties located at 819 Bay Avenue in Capitola discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the south. Although the groundwater gradient at this site is in the southwest direction away from the project site, remediation activities at this site should be monitored to ensure that contaminant migration to the project site is not occurring.
- The Unocal Station No. 6193 located at 1500 Soquel Drive in Santa Cruz discharged gasoline and diesel and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the north. The groundwater gradient at this site is in the southwest direction towards the project site. Remediation activities at this site should be monitored to ensure that contaminant migration to the project site is not occurring.
- The BP 11240 facility located at 2178 41<sup>st</sup> Avenue in Capitola discharged gasoline and contaminated soil and groundwater. Groundwater monitoring continues. This site is located adjacent to the project footprint to the south. Although the groundwater gradient at this site is in the south-southwest direction away from the project site, remediation activities at this site should be monitored to ensure that contaminant migration to the project site is not occurring.
- The San Lorenzo Lumber Company located at 2435 41<sup>st</sup> Avenue in Santa Cruz discharged gasoline, and only soil was contaminated. This site was closed in 1991. This site is located adjacent to the project footprint. No remedial action is required.
- The Tosco Service Station 30757 (also listed as Union Oil Service Station No. 4902) located at 2255 41<sup>st</sup> Avenue in Santa Cruz discharged gasoline, waste oil, motor oil, lubricating oil, and hydraulic fluid. Only soil was contaminated. This site was closed in 2004. This site is located adjacent to the project footprint. No remedial action is required.
- Krafts Body Shop (also listed as Santa Cruz Distribution Facility) located at 6100 Soquel Avenue in Santa Cruz discharged diesel, and only soil was contaminated. This

site was closed in 1991. This site is located adjacent to the project footprint. No remedial action is required.

- The Chevron Station located at 5998 Soquel Avenue in Santa Cruz discharged gasoline, and only soil was contaminated. This site was closed in 1985. This site is located adjacent to the project footprint. No remedial action is required.
- The Pacific Bell facility located at 7070 Soquel Avenue in Santa Cruz discharged gasoline and contaminated soil and groundwater. This site was closed in 2001. This site is located adjacent to the project footprint. No remedial action is required.



## Section 7–Opinion

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Based on the findings of this ISA, the Parsons environmental professionals provide the following opinions on the observed conditions:

- Creosote – It is the opinion of the environmental professionals that wooden utility poles along the roadside may be coated with creosote. Recommendations are detailed in Section 6, Findings.
- ACM – It is the opinion of the environmental professionals that ACM may be present in Route 1 bridges and railroad undercrossing joint compound materials. Recommendations are detailed in Section 6, Findings.
- LBP – It is the opinion of the environmental professionals that paint used on existing Route 1 interchanges, bridges and railroad undercrossings, yellow traffic striping, and pavement marking materials, which might be removed as part of the proposed project, may contain LBP. Recommendations are detailed in Section 6, Findings.
- ADL – It is the opinion of the environmental professionals that ADL may be present along the shoulders and median of Route 1 within the project corridor. Recommendations are detailed in Section 6, Findings.
- Petroleum Products/Hazardous Substances – It is the opinion of the environmental professionals that remediation activities should be monitored at the following listed sites adjacent to the Tier 2 project site to ensure that contaminant migration to the project site is not occurring:
  - Former Exxon 7-3604 facility (also listed as Pit Stop Service, Inc.) located at 836 Bay Avenue in Capitola
  - Redtree Properties located at 819 Bay Avenue in Capitola
  - Unocal Station No. 6193 located at 1500 Soquel Drive in Santa Cruz
  - BP 11240 facility located at 2178 41<sup>st</sup> Avenue in Capitola





## Section 8–Conclusions

---

Parsons has conducted this Phase I Environmental Site Assessment in general accordance with the ASTM Standard Practice E 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, as applicable. This assessment has revealed no evidence of RECs in connection with the subject property except for the following:

### **8.1 General Conclusions**

Per the findings above, the following RECs were identified for the site:

- (1) Creosote on wooden utility poles
- (2) ACM in joint compound on the bridges and undercrossings
- (3) LBP on interchanges, bridges and railroad undercrossings, yellow traffic striping, and pavement marking materials
- (4) ADL in soils
- (5) Petroleum products/hazardous substances at the following sites adjacent to the Tier 2 project limits:
  - Former Exxon 7-3604 facility (also listed as Pit Stop Service, Inc.) located at 836 Bay Avenue in Capitola
  - Redtree Properties located at 819 Bay Avenue in Capitola
  - Unocal Station No. 6193 located at 1500 Soquel Drive in Santa Cruz
  - BP 11240 facility located at 2178 41<sup>st</sup> Avenue in Capitola



## Section 9–References

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- ASTM E 1527-05 (Effective November 1, 2006), “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process,” ASTM International. December 22, 2005.
- Department of Public Works, County of Santa Cruz, California, 2004.
- EDR DataMap<sup>®</sup> Corridor Study, “Park Avenue, Santa Cruz, CA, 950101, Inquiry number 3497092.1s” EDR Environmental Data Resources Inc. January 22, 2013.
- Johnson, Nicholas M., D. Williams, E. Yates, G. Thrupp, “Groundwater Assessment of Alternative Conjunctive Use Scenarios, Technical memorandum 2: Hydrogeologic Conceptual Model,” prepared for Soquel Creek Water District. September 2004.
- Parikh Consultants, 2007. Preliminary Geotechnical Report for the Highway 1 HOV Lane Widening Project. Prepared by Parikh Consultants for Nolte Associates. July 2.
- Santa Cruz County Geographic Information Systems Interactive Mapping Application, <http://gis.co.santa-cruz.ca.us/>
- Santa Cruz County, 2008. Santa Cruz County Site Mitigation List. Prepared by the Santa Cruz County Environmental Health Services Department on April 2, 2008. Web site accessed by Parsons staff on April 14, 2008: [http://sccounty01.co.santa-cruz.ca.us/eh/hazardous\\_materials/scc\\_site\\_mitigation\\_list.pdf](http://sccounty01.co.santa-cruz.ca.us/eh/hazardous_materials/scc_site_mitigation_list.pdf)
- Santa Cruz County, 2011. Santa Cruz County Site Mitigation List. Prepared by the Santa Cruz County Environmental Health Services Department on April 8, 2011. (Web site accessed by Parsons staff on October 27.)
- United States Geological Survey (USGS) 7.5 minute USGS Topographic Maps “Watsonville West (1995), Santa Cruz (1994), Soquel (1997),” National Geographic software, TOPO!<sup>®</sup>CD-ROMs.

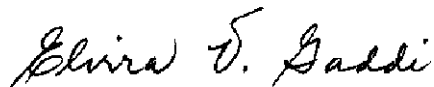


## Section 10–Signatures and Qualifications of Environmental Professionals

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We declare that we meet the definition of environmental professional as defined in 312.10 of *40 Code of Federal Regulations (CFR) Part 312* and possess specific qualifications appropriate to conduct a Phase I at the subject property; and

We developed and performed All Appropriate Inquiry in conformance with the standards and practices set forth in *40 CFR Part 312*.



---

Elvira Gaddi, PE, STP

April 1, 2013

Date



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Angela Schnapp, LEED AP

April 1, 2013

Date



## FIGURES





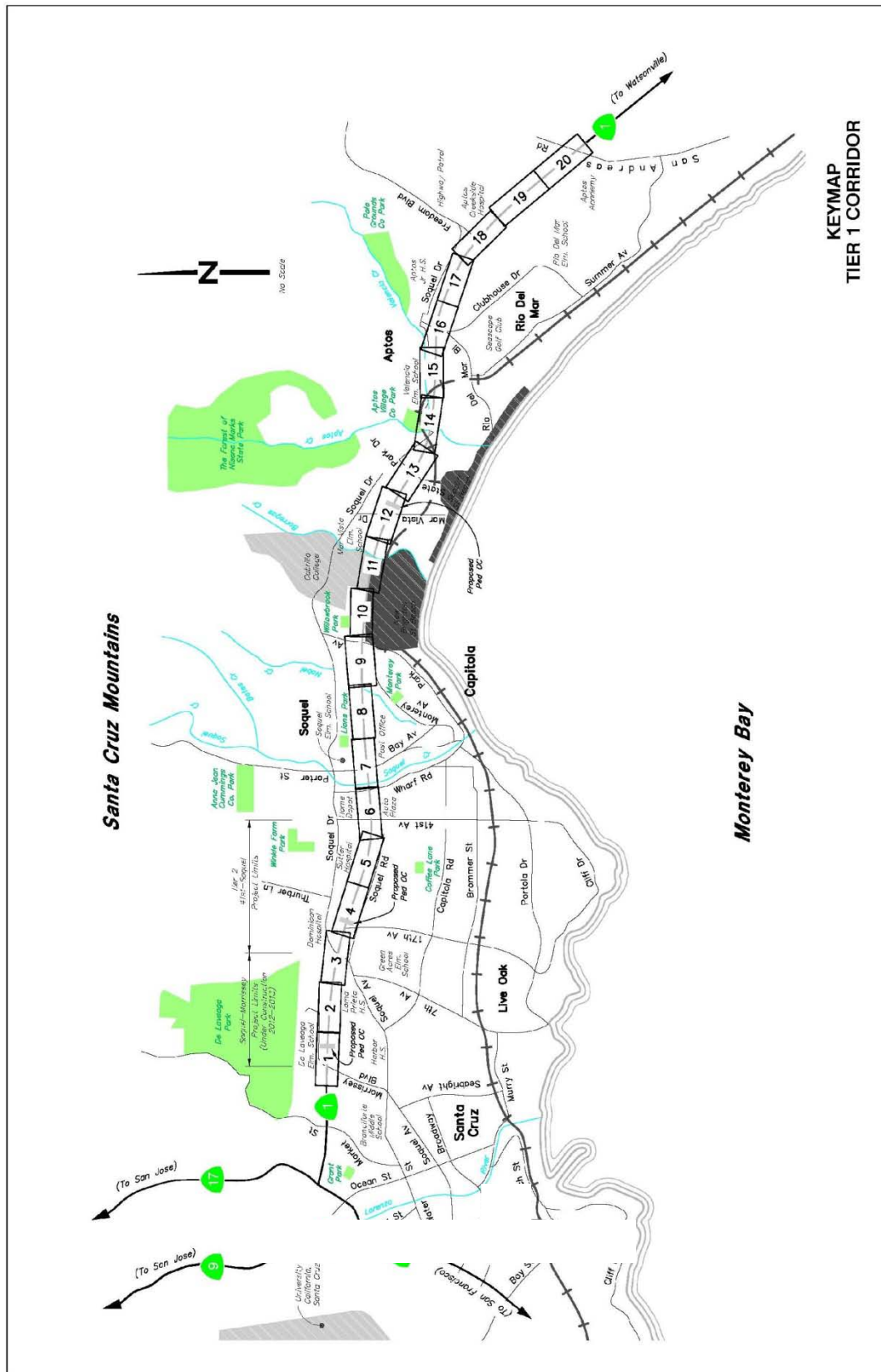


Figure 1 – Tier 1 Project Location Map

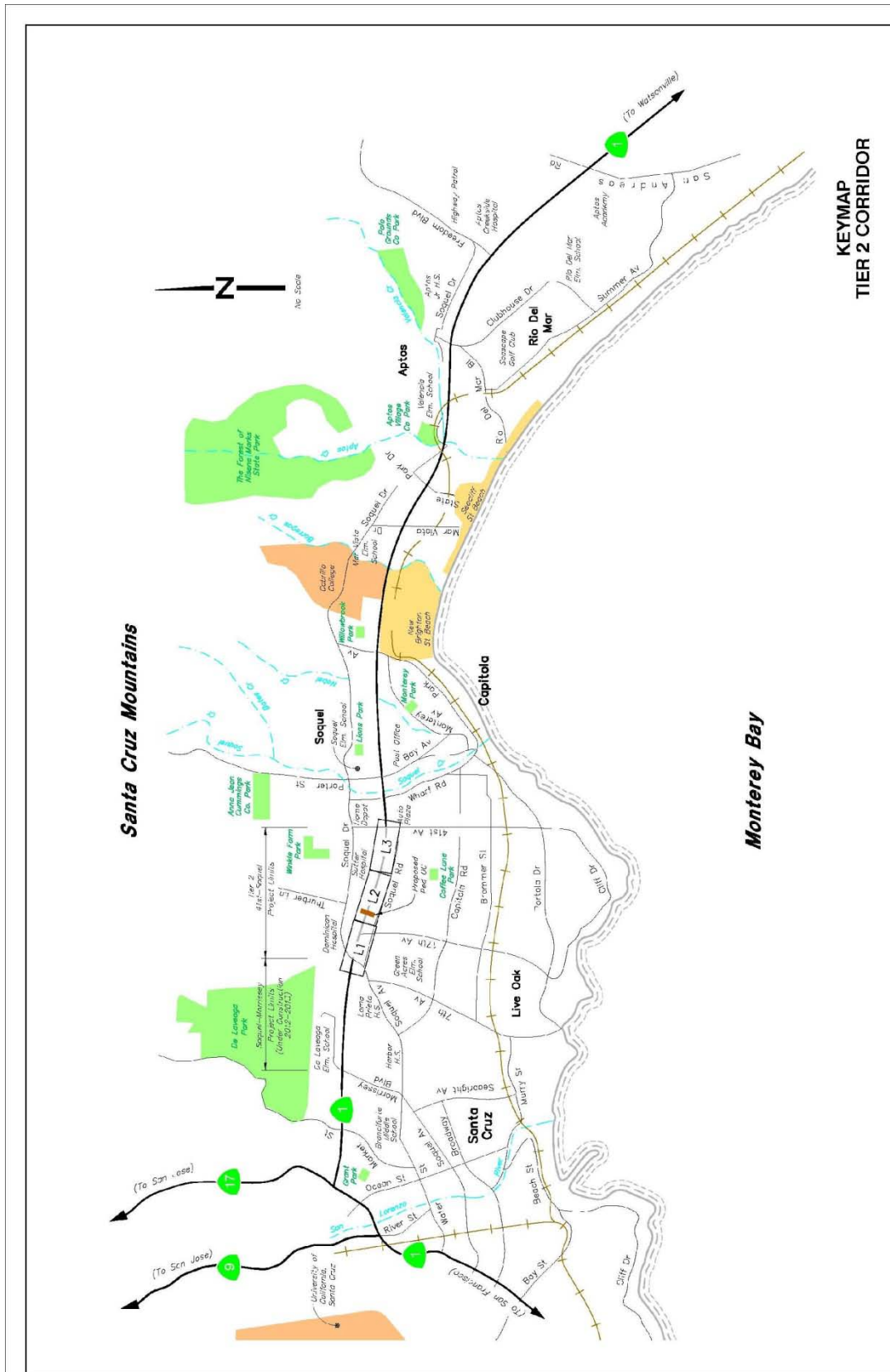
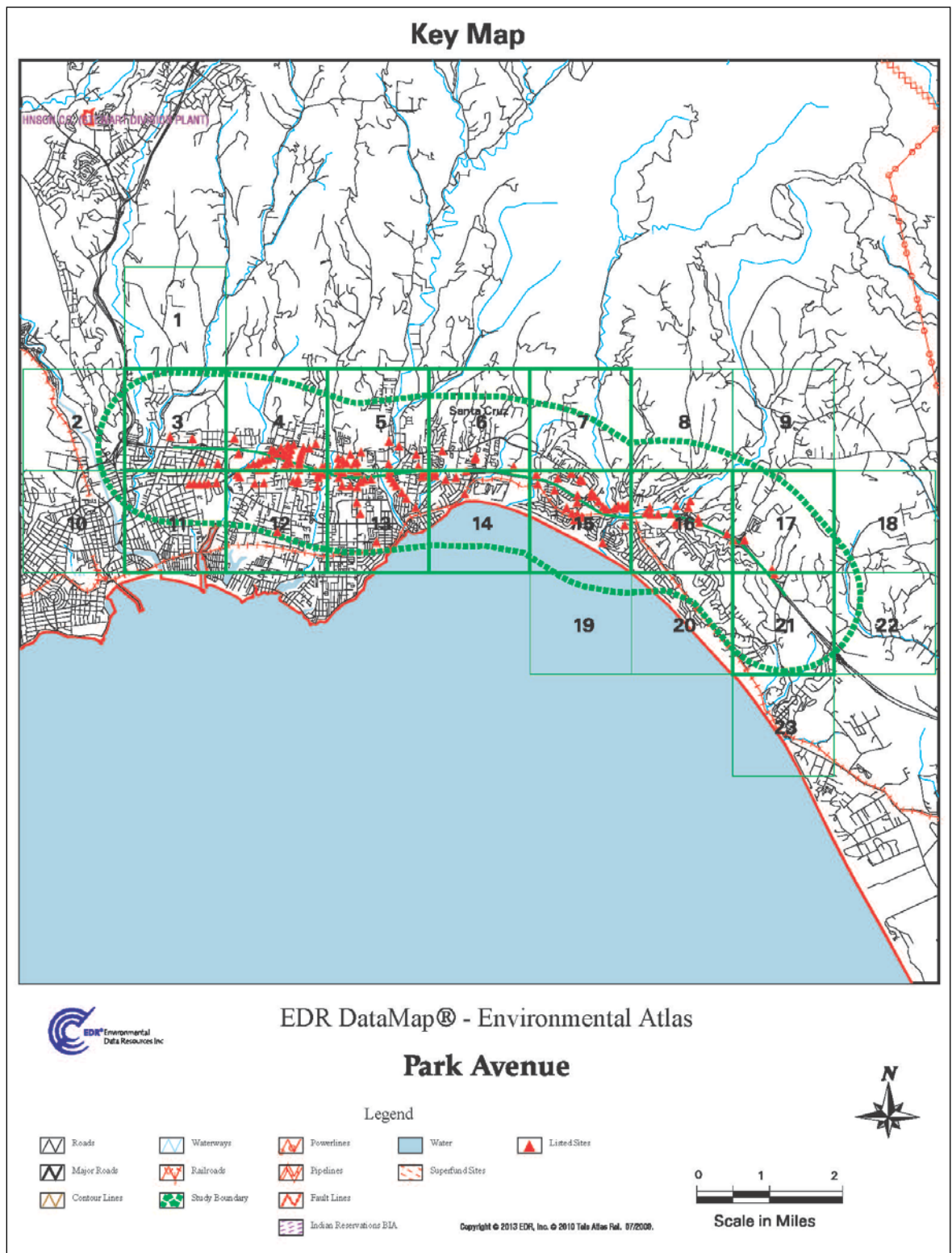


Figure 2 – Tier 2 Project Location Map



**Figure 3 – Tier 1 Project 1-Mile Database Search Radius Map**

Note: The Tier 2 project 1-mile database search radius maps are in Appendix B under Focus Maps 3, 4, 5, 6, 11, 12, 13 and 14.



# **APPENDIX A**

## **PROJECT PLANS**

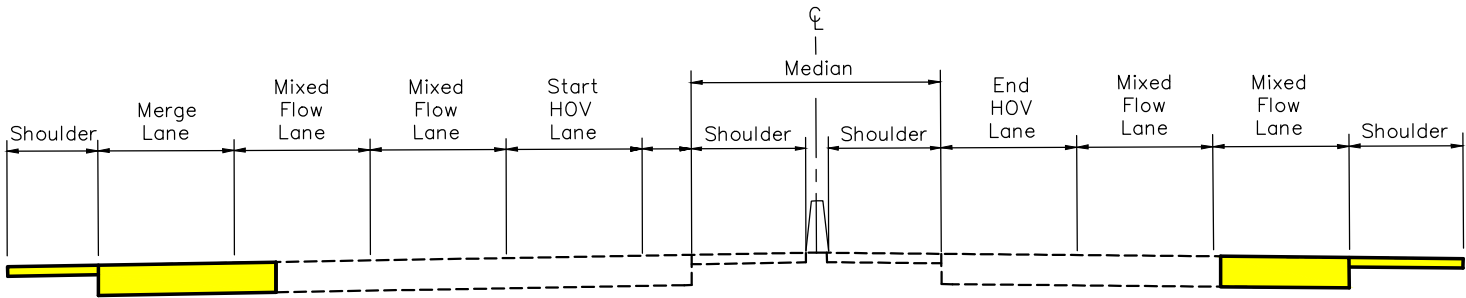




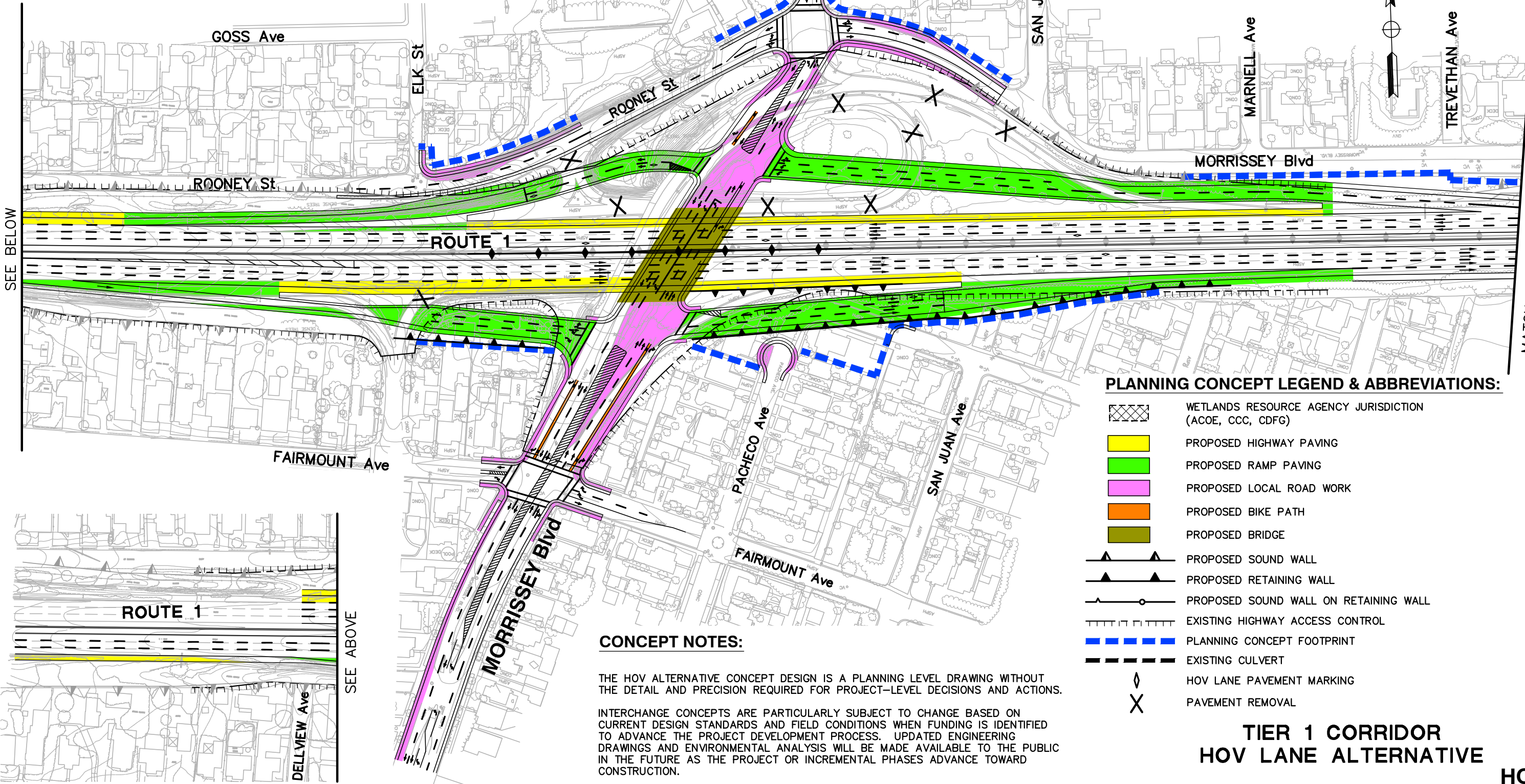
DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	1	20

GENERAL NOTES:

1. ALL EXISTING BIKE LANES AND BIKE PATHS WILL BE MAINTAINED IN PLACE, UNLESS OTHERWISE NOTED.
2. SECTION SHOWN ON PLANS ARE FOR LANE CONFIGURATION PURPOSE ONLY
3. ALL CURB RETURNS WHERE SIDEWALKS ARE PRESENT WILL HAVE CURB RAMPS.
4. ALL R/W LINES THAT ARE ACCESS CONTROLLED WILL HAVE WALLS OR FENCING.
5. SEE SHEET HOV-2 FOR ABBREVIATIONS.



TYPICAL SECTION – NO RAMPS SHOWN  
NO SCALE



PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE
- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

CONCEPT NOTES:

THE HOV ALTERNATIVE CONCEPT DESIGN IS A PLANNING LEVEL DRAWING WITHOUT THE DETAIL AND PRECISION REQUIRED FOR PROJECT-LEVEL DECISIONS AND ACTIONS.

INTERCHANGE CONCEPTS ARE PARTICULARLY SUBJECT TO CHANGE BASED ON CURRENT DESIGN STANDARDS AND FIELD CONDITIONS WHEN FUNDING IS IDENTIFIED TO ADVANCE THE PROJECT DEVELOPMENT PROCESS. UPDATED ENGINEERING DRAWINGS AND ENVIRONMENTAL ANALYSIS WILL BE MADE AVAILABLE TO THE PUBLIC IN THE FUTURE AS THE PROJECT OR INCREMENTAL PHASES ADVANCE TOWARD CONSTRUCTION.

TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE

HOV-1

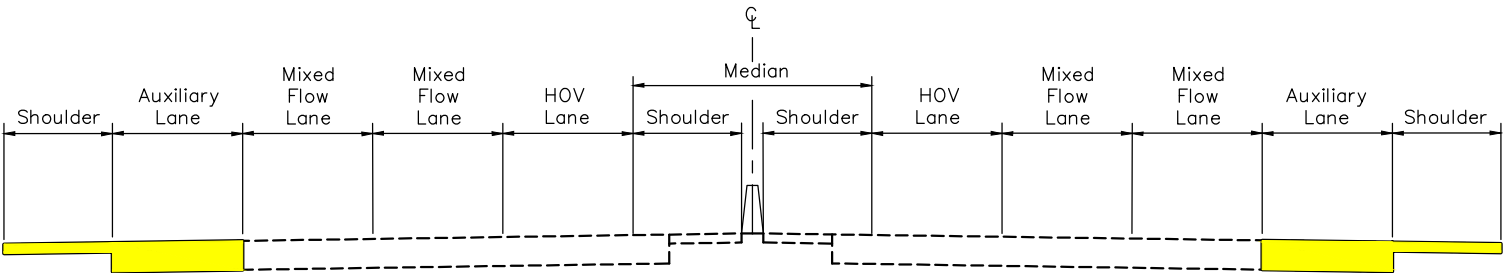




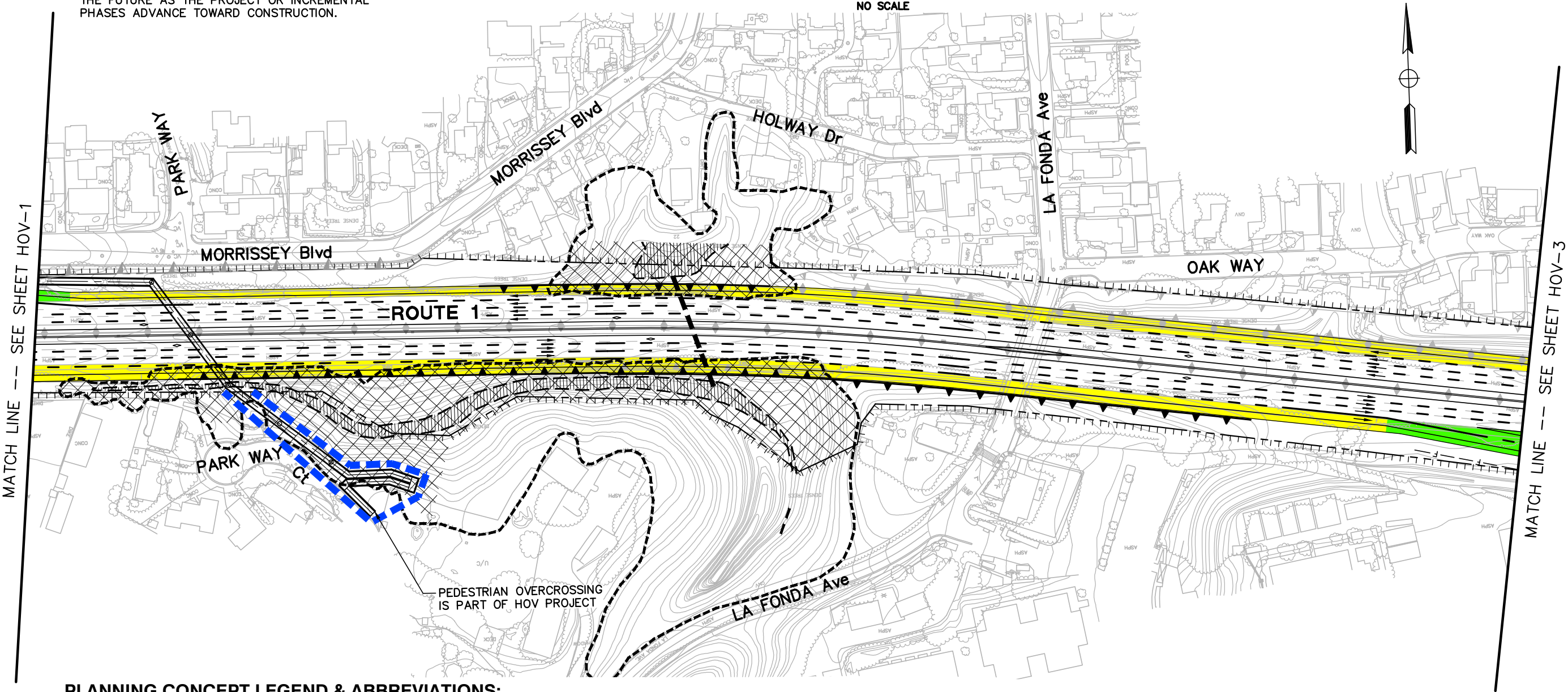
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TYPICAL SECTION  
NO SCALE



PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE

- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
- Med MEDIAN
- OG ORIGINAL GROUND
- RCP REINFORCED CONCRETE PIPE
- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED

TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE



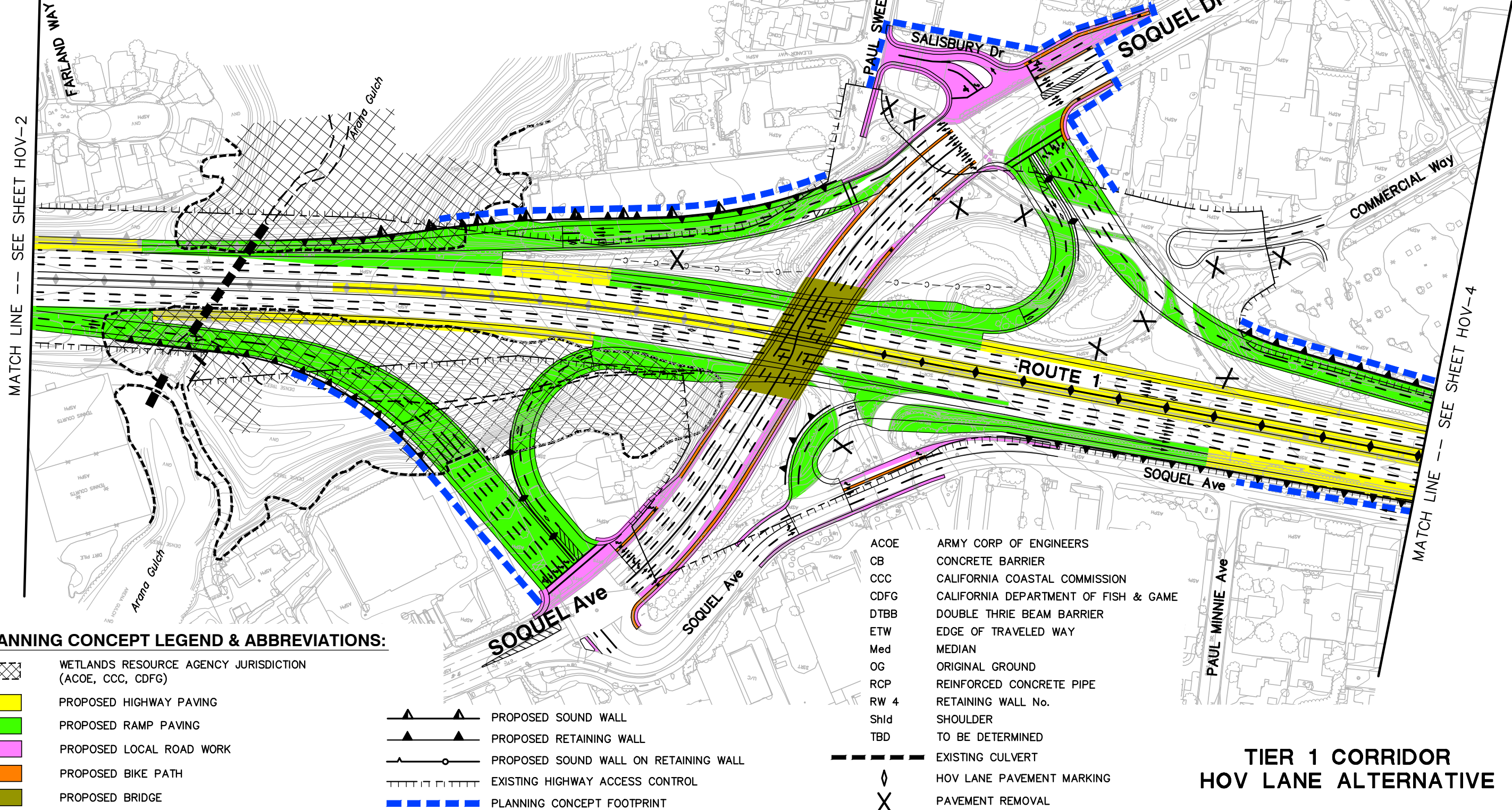
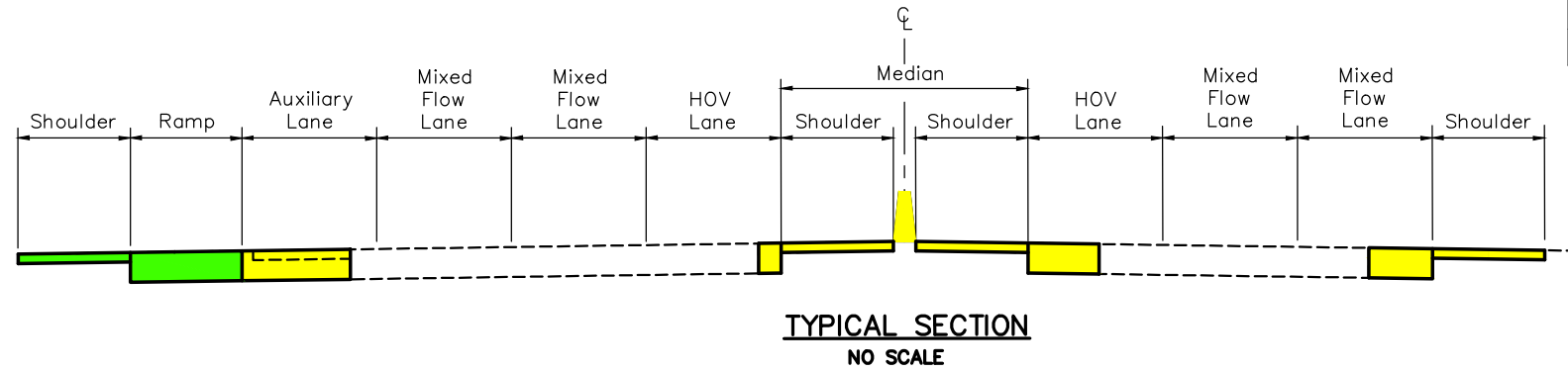


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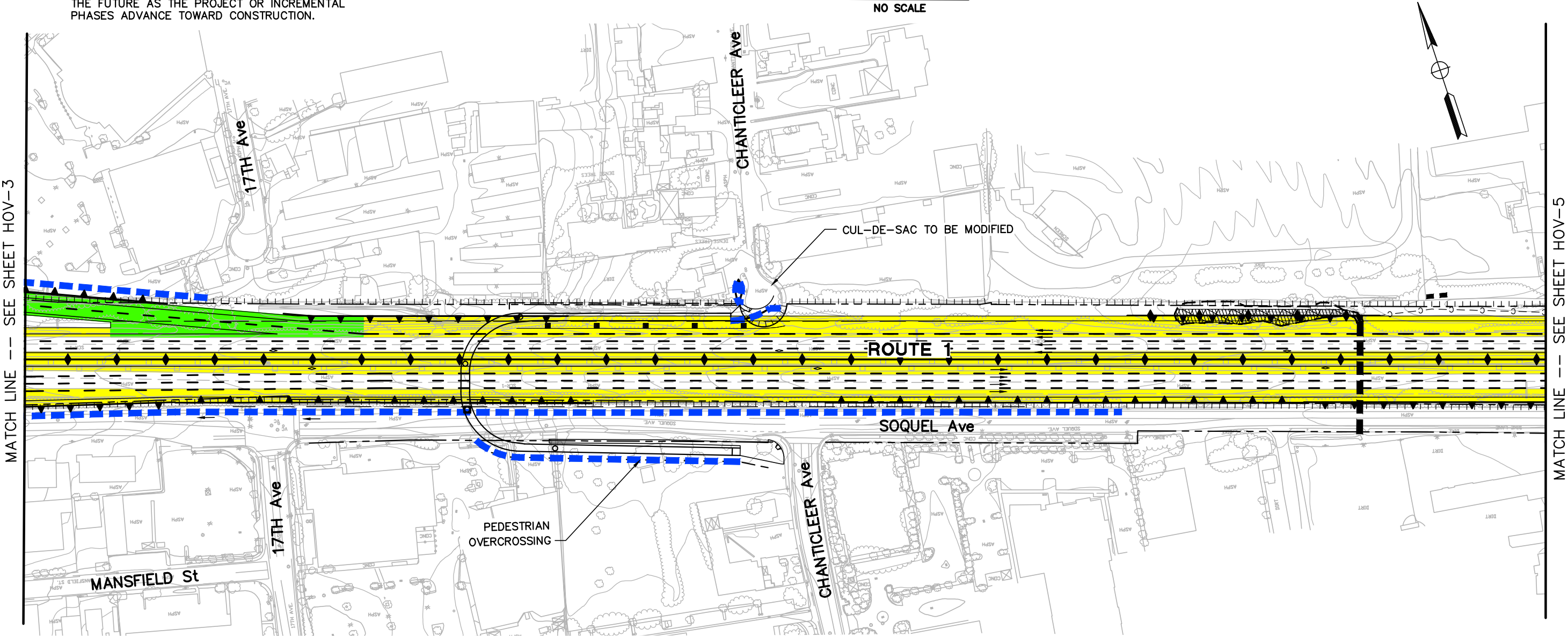
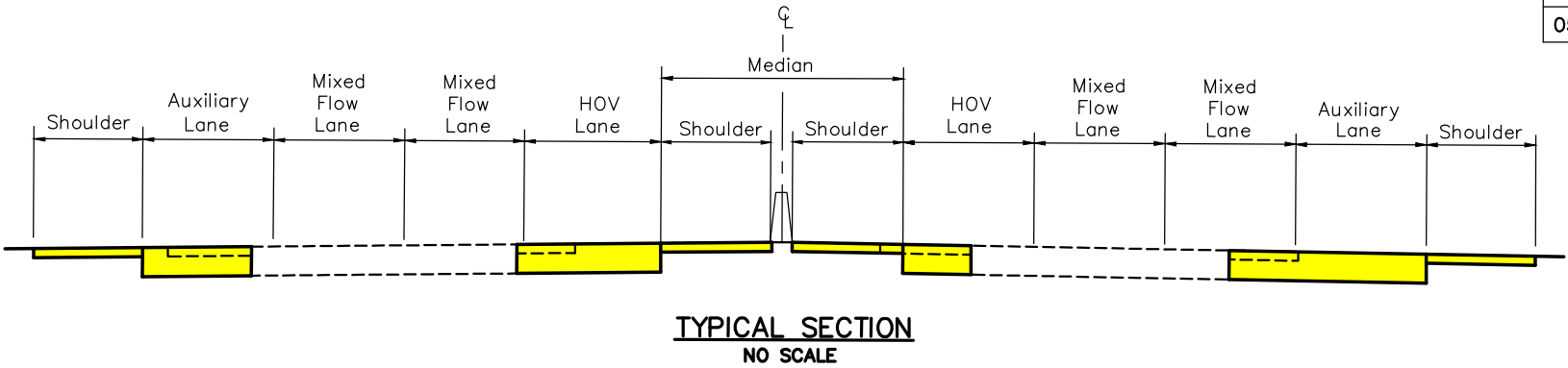


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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CONCEPT NOTES:

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PLANNING CONCEPT LEGEND & ABBREVIATIONS:

	WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)		PROPOSED SOUND WALL	ACOE	ARMY CORP OF ENGINEERS
	PROPOSED HIGHWAY PAVING		PROPOSED RETAINING WALL	CB	CONCRETE BARRIER
	PROPOSED RAMP PAVING		PROPOSED SOUND WALL ON RETAINING WALL	CCC	CALIFORNIA COASTAL COMMISSION
	PROPOSED LOCAL ROAD WORK		EXISTING HIGHWAY ACCESS CONTROL	CDFG	CALIFORNIA DEPARTMENT OF FISH & GAME
	PROPOSED BIKE PATH		PLANNING CONCEPT FOOTPRINT	DTBB	DOUBLE THRIE BEAM BARRIER
	PROPOSED BRIDGE		EXISTING CULVERT	ETW	EDGE OF TRAVELED WAY
			HOV LANE PAVEMENT MARKING	Med	MEDIAN
			PAVEMENT REMOVAL	OG	ORIGINAL GROUND
				RCP	REINFORCED CONCRETE PIPE
				RW 4	RETAINING WALL No.
				Shld	SHOULDER
				TBD	TO BE DETERMINED

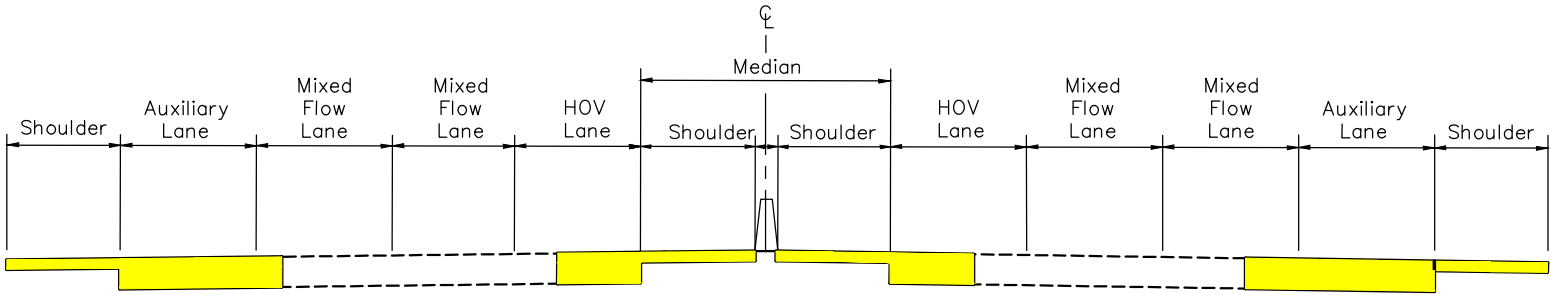


CONCEPT NOTES:

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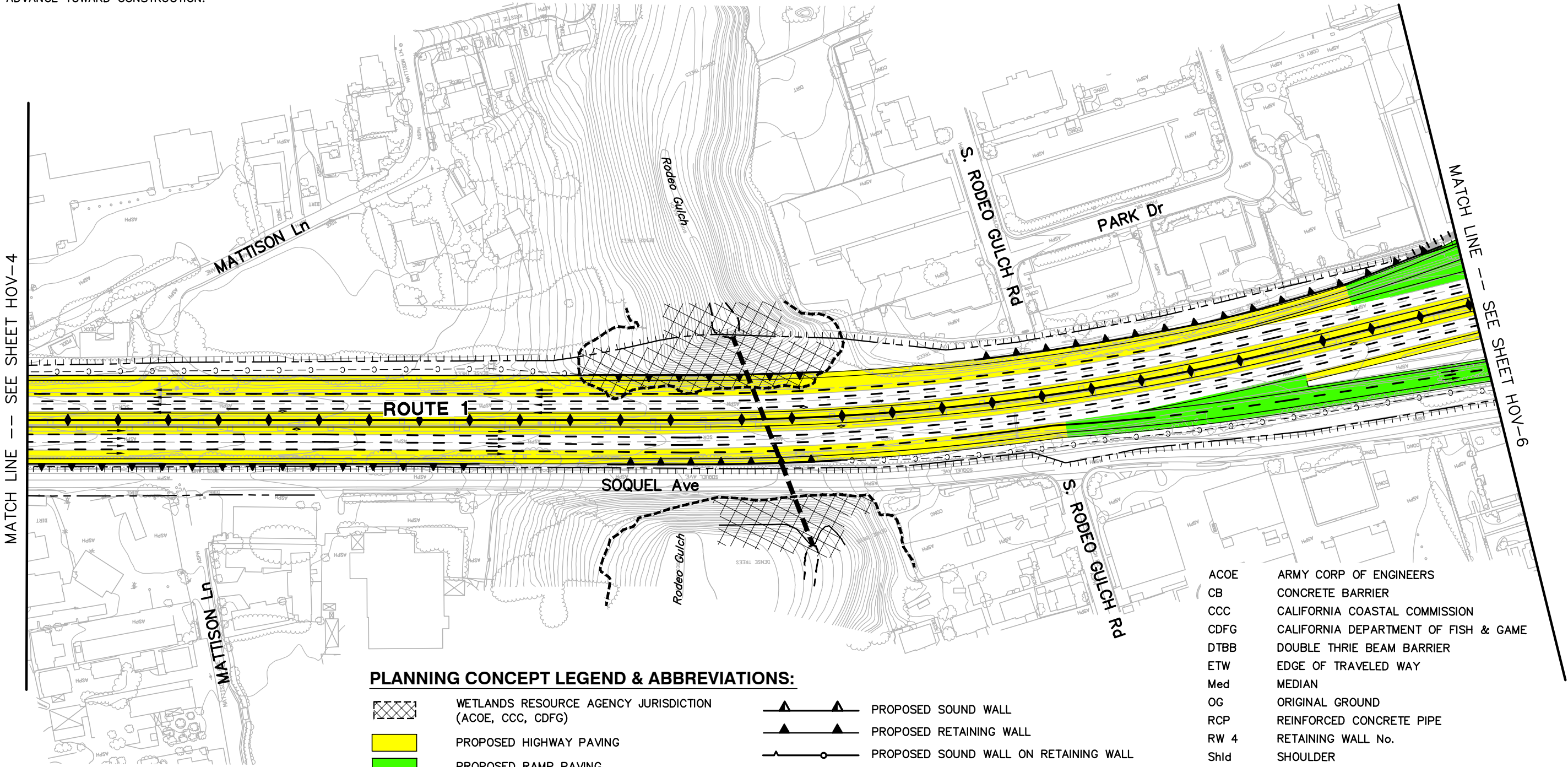
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DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	5	20



TYPICAL SECTION – NO RAMPS SHOWN

NO SCALE



PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE

- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
- Med MEDIAN
- OG ORIGINAL GROUND
- RCP REINFORCED CONCRETE PIPE
- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED







TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE

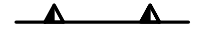

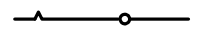





HOV-5





PLANNING CONCEPT LEGEND & ABBREVIATIONS:

-  WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
-  PROPOSED HIGHWAY PAVING
-  PROPOSED RAMP PAVING
-  PROPOSED LOCAL ROAD WORK
-  PROPOSED BIKE PATH
-  PROPOSED BRIDGE

-  PROPOSED SOUND WALL
-  PROPOSED RETAINING WALL
-  PROPOSED SOUND WALL ON RETAINING WALL
-  EXISTING HIGHWAY ACCESS CONTROL
-  PLANNING CONCEPT FOOTPRINT
-  EXISTING CULVERT
-  HOV LANE PAVEMENT MARKING
-  PAVEMENT REMOVAL

- ACOE

ARMY CORP OF ENGINEERS
- CB

CONCRETE BARRIER
- CCC

CALIFORNIA COASTAL COMMISSION
- CDFG

CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB

DOUBLE THRIE BEAM BARRIER
- ETW

EDGE OF TRAVELED WAY
- Med

MEDIAN
- OG

ORIGINAL GROUND
- RCP

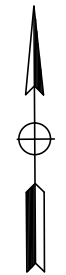
REINFORCED CONCRETE PIPE
- RW 4

RETAINING WALL No.
- Shld

SHOULDER
- TBD

TO BE DETERMINED

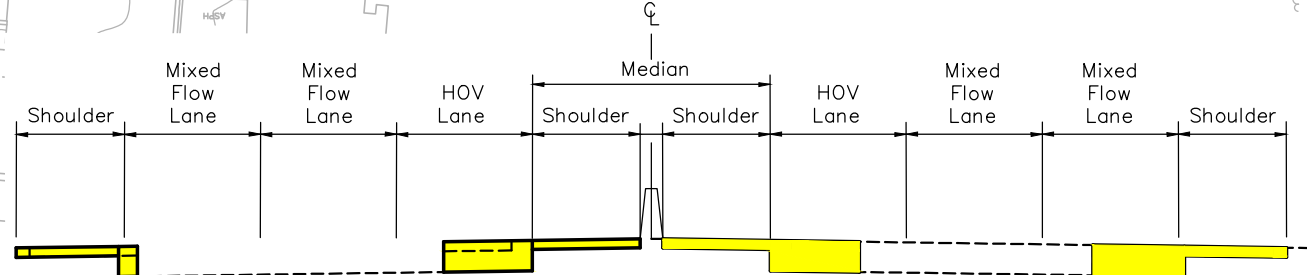
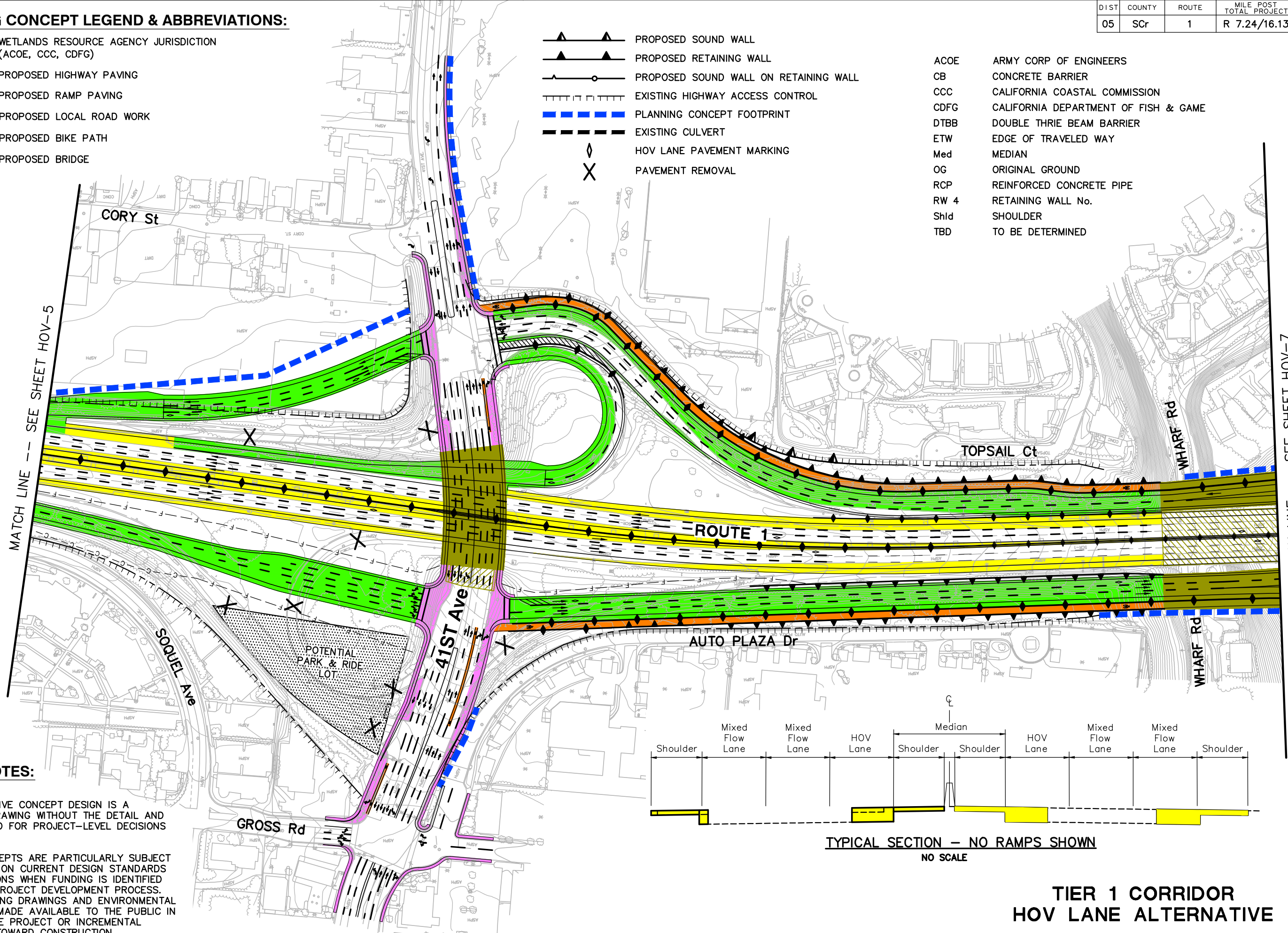
DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SCr	1	R 7.24/16.13	6	20



CONCEPT NOTES:

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INTERCHANGE CONCEPTS ARE PARTICULARLY SUBJECT TO CHANGE BASED ON CURRENT DESIGN STANDARDS AND FIELD CONDITIONS WHEN FUNDING IS IDENTIFIED TO ADVANCE THE PROJECT DEVELOPMENT PROCESS. UPDATED ENGINEERING DRAWINGS AND ENVIRONMENTAL ANALYSIS WILL BE MADE AVAILABLE TO THE PUBLIC IN THE FUTURE AS THE PROJECT OR INCREMENTAL PHASES ADVANCE TOWARD CONSTRUCTION.



TYPICAL SECTION – NO RAMPS SHOWN  
NO SCALE



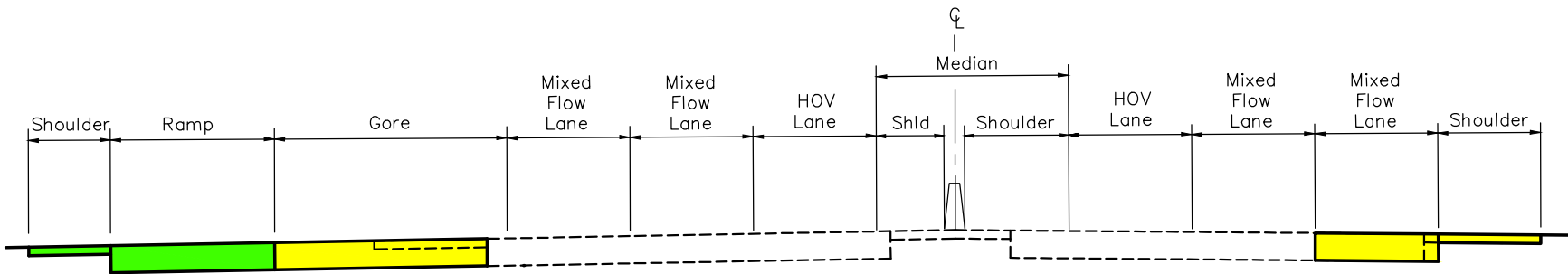


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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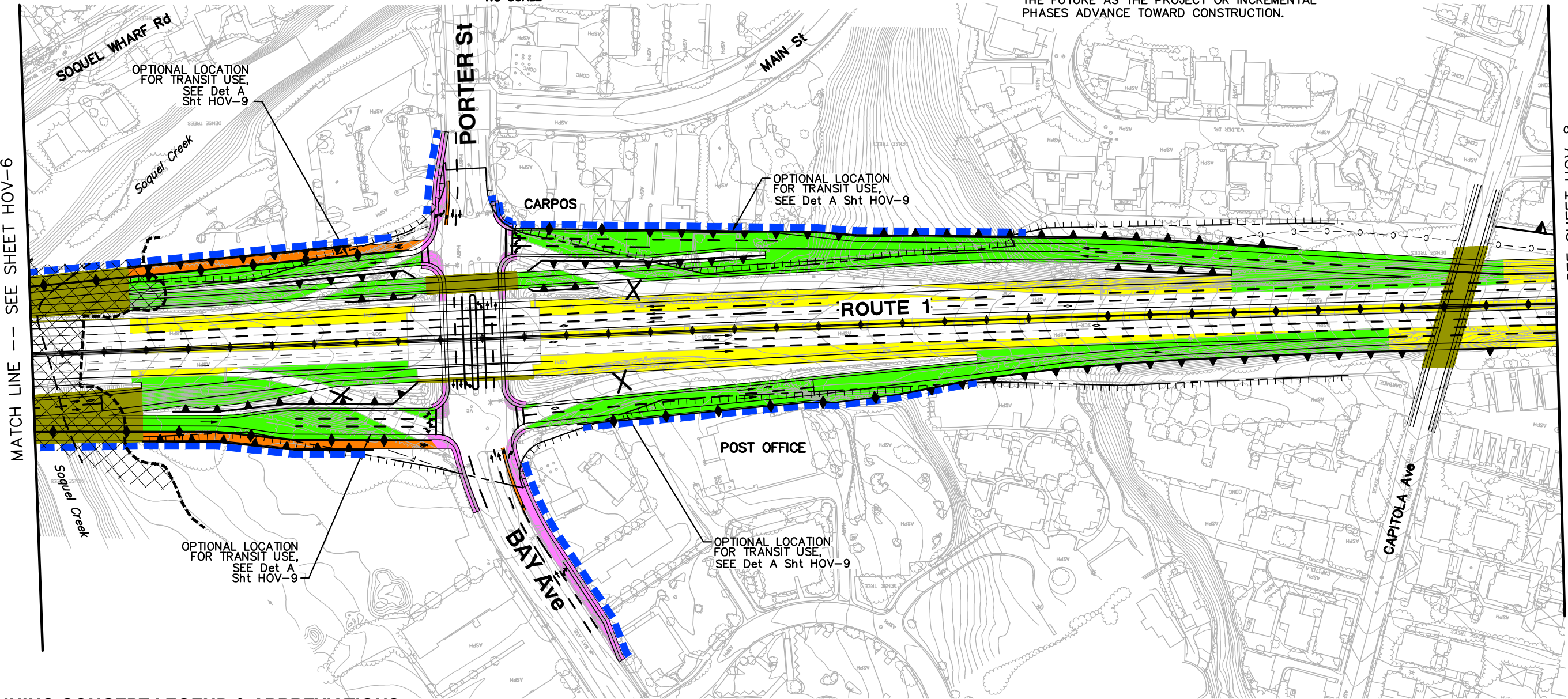
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TYPICAL SECTION  
NO SCALE



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- PROPOSED BIKE PATH
- PROPOSED BRIDGE
- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

- ACOE

ARMY CORP OF ENGINEERS
- CB

CONCRETE BARRIER
- CCC

CALIFORNIA COASTAL COMMISSION
- CDFG

CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB

DOUBLE THRIE BEAM BARRIER
- ETW

EDGE OF TRAVELED WAY
- Med

MEDIAN
- OG

ORIGINAL GROUND
- RCP

REINFORCED CONCRETE PIPE
- RW 4

RETAINING WALL No.
- Shld

SHOULDER
- TBD

TO BE DETERMINED

\*\*\* MINIMUM CLEARANCE OVER WHARF ROAD

TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE

HOV-7



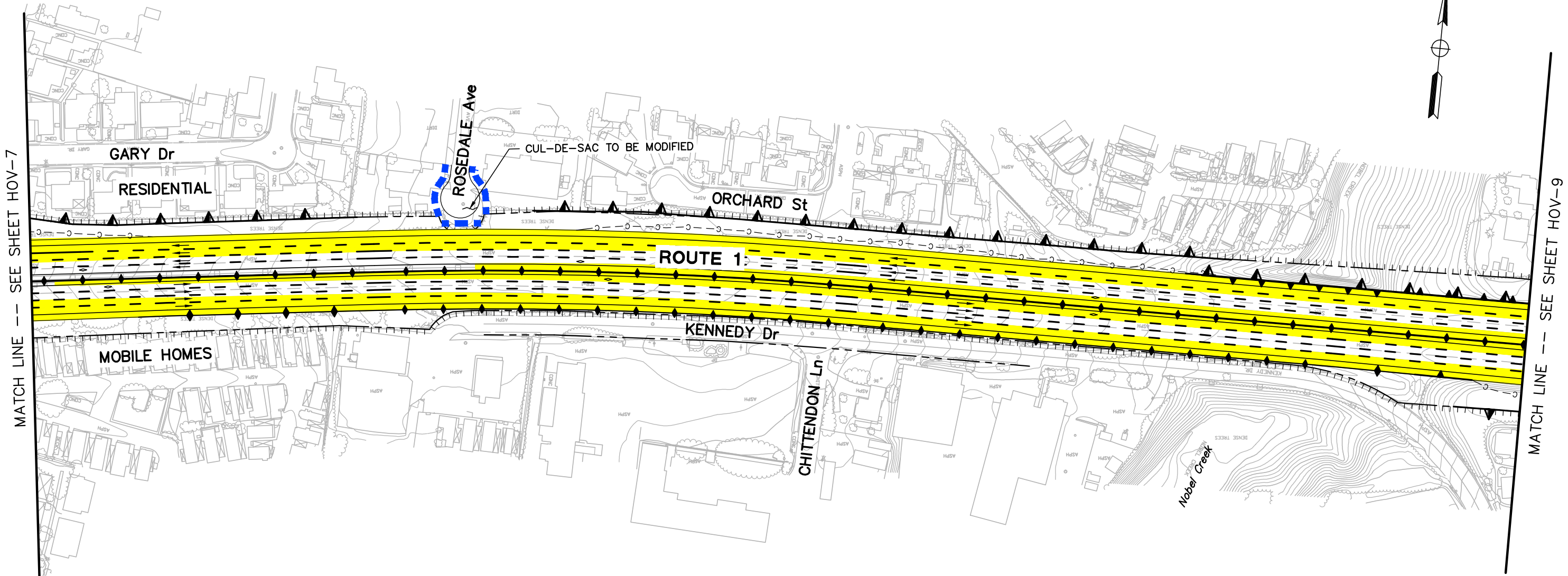
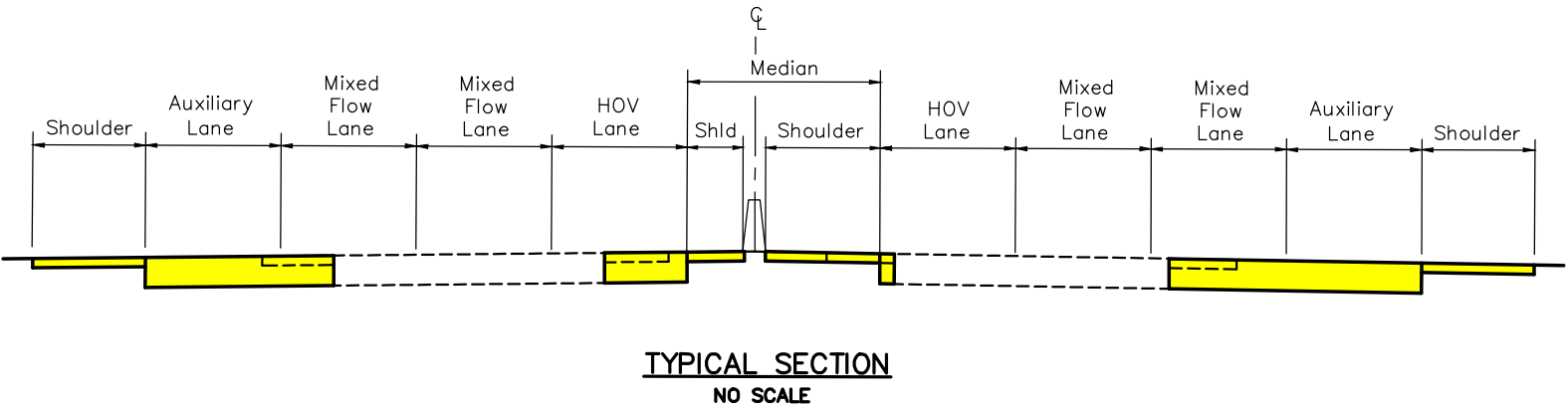


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	8	20

**CONCEPT NOTES:**

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**PLANNING CONCEPT LEGEND & ABBREVIATIONS:**

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	PROPOSED HIGHWAY PAVING		PROPOSED RETAINING WALL	CB	CONCRETE BARRIER
	PROPOSED RAMP PAVING		PROPOSED SOUND WALL ON RETAINING WALL	CCC	CALIFORNIA COASTAL COMMISSION
	PROPOSED LOCAL ROAD WORK		EXISTING HIGHWAY ACCESS CONTROL	CDFG	CALIFORNIA DEPARTMENT OF FISH & GAME
	PROPOSED BIKE PATH		PLANNING CONCEPT FOOTPRINT	DTBB	DOUBLE THRIE BEAM BARRIER
	PROPOSED BRIDGE		EXISTING CULVERT	ETW	EDGE OF TRAVELED WAY
			HOV LANE PAVEMENT MARKING	Med	MEDIAN
			PAVEMENT REMOVAL	OG	ORIGINAL GROUND
				RCP	REINFORCED CONCRETE PIPE
				RW 4	RETAINING WALL No.
				Shld	SHOULDER
				TBD	TO BE DETERMINED





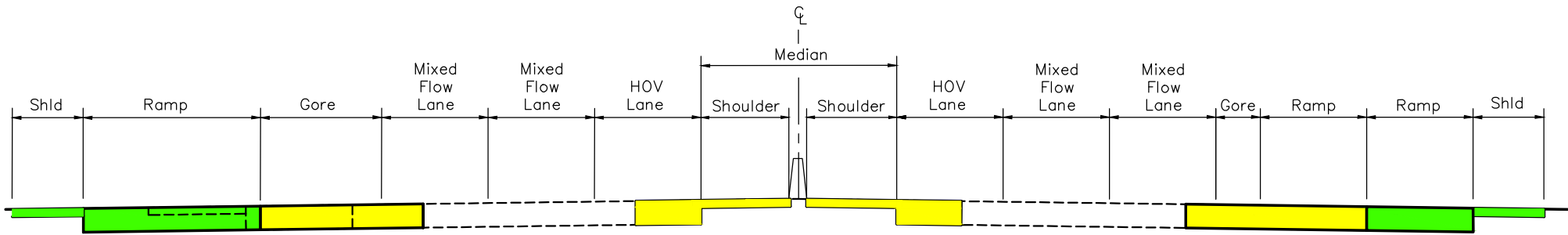
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**CONCEPT NOTES:**

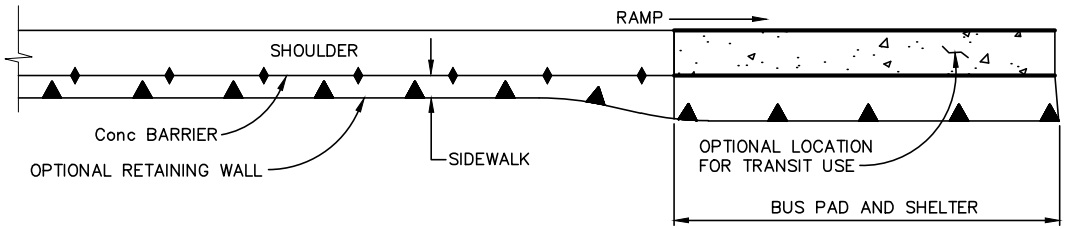
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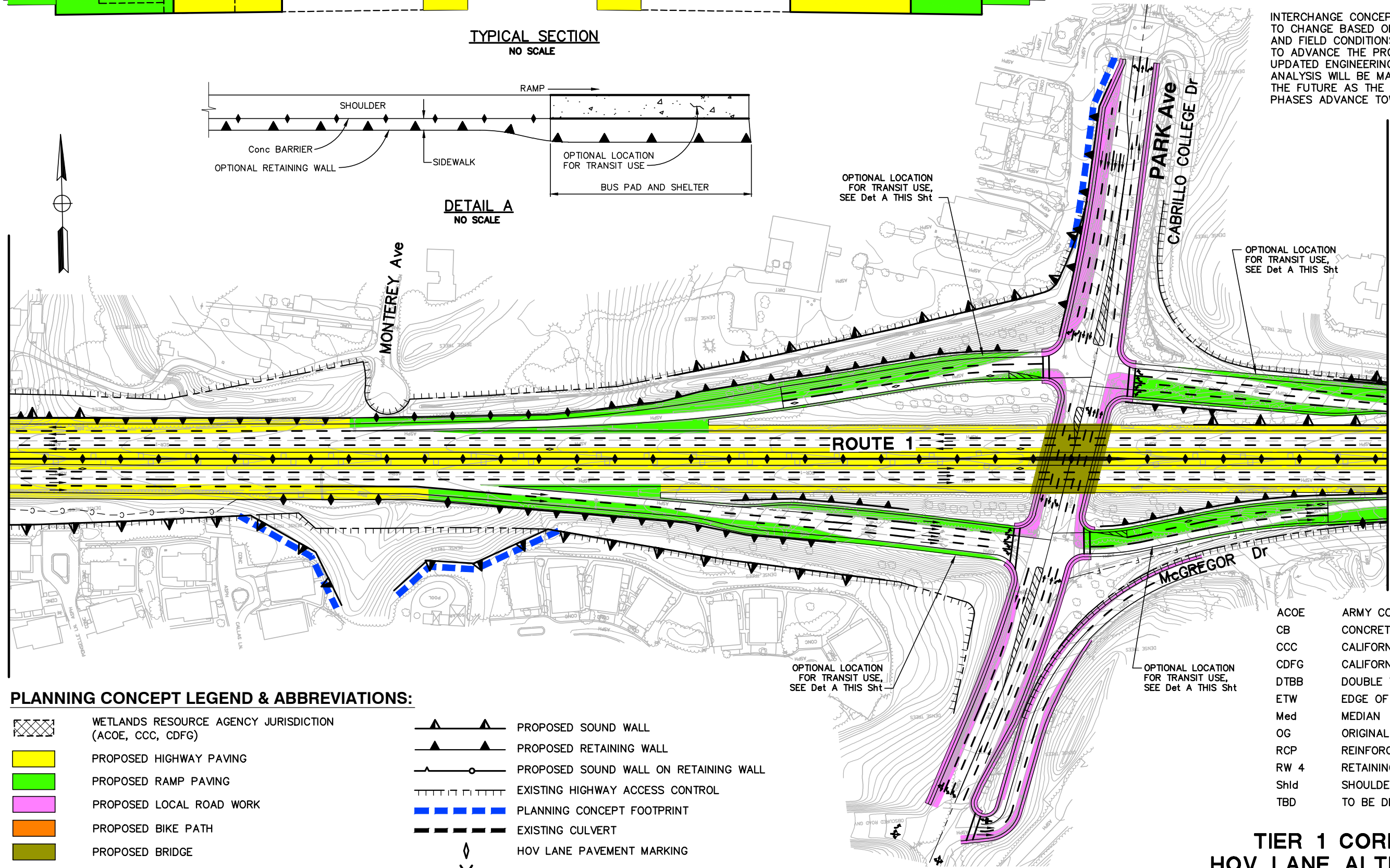
**TYPICAL SECTION**  
NO SCALE



**DETAIL A**  
NO SCALE



MATCH LINE --- SEE SHEET HOV-8



MATCH LINE --- SEE SHEET HOV-10

**PLANNING CONCEPT LEGEND & ABBREVIATIONS:**

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE

- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
- Med MEDIAN
- OG ORIGINAL GROUND
- RCP REINFORCED CONCRETE PIPE
- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED

**TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE**



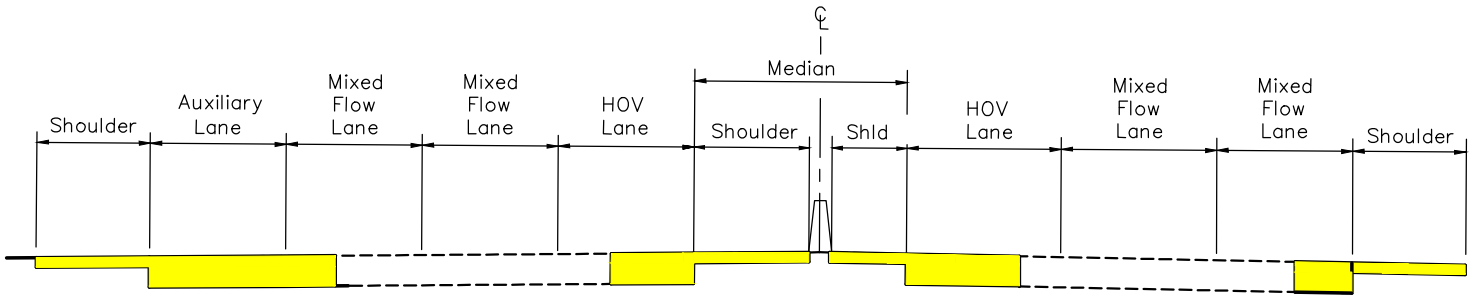


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
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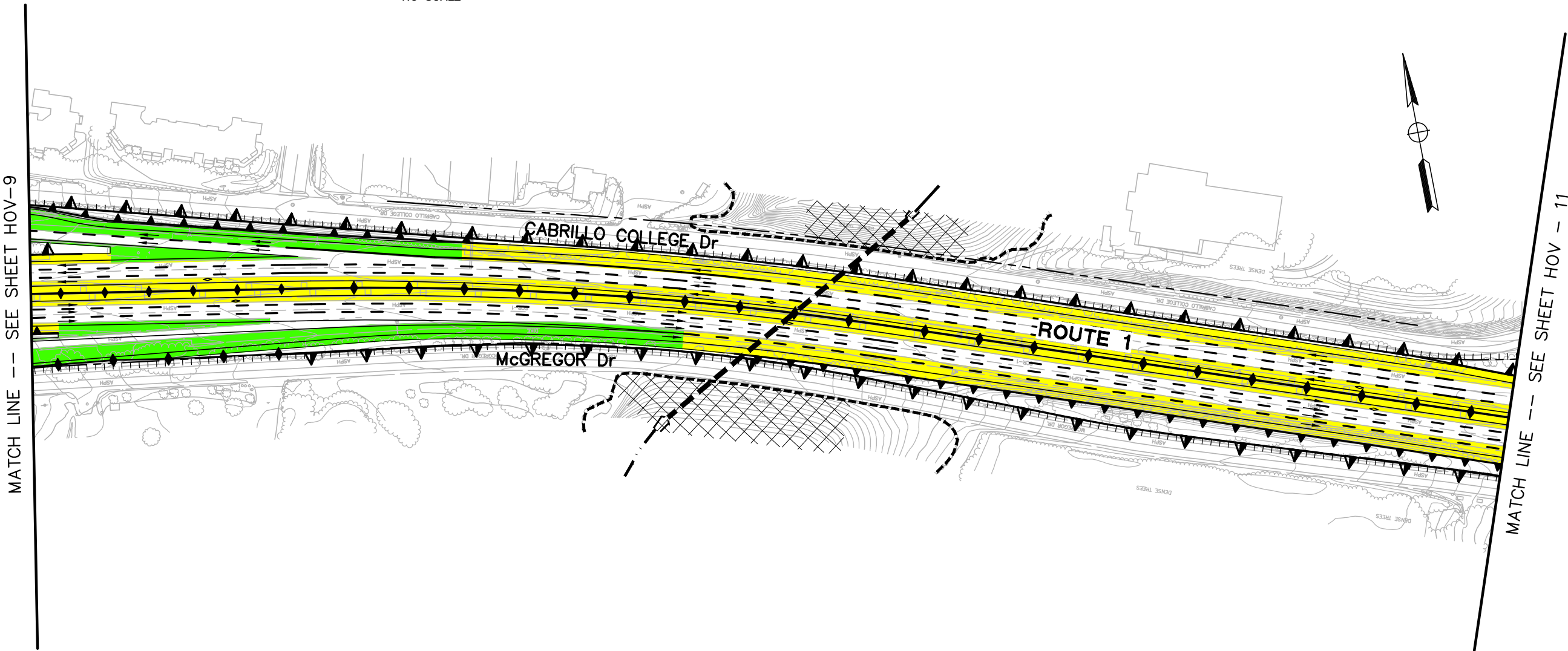
CONCEPT NOTES:

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TYPICAL SECTION  
NO SCALE



PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE

- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
- Med MEDIAN
- OG ORIGINAL GROUND
- RCP REINFORCED CONCRETE PIPE
- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED

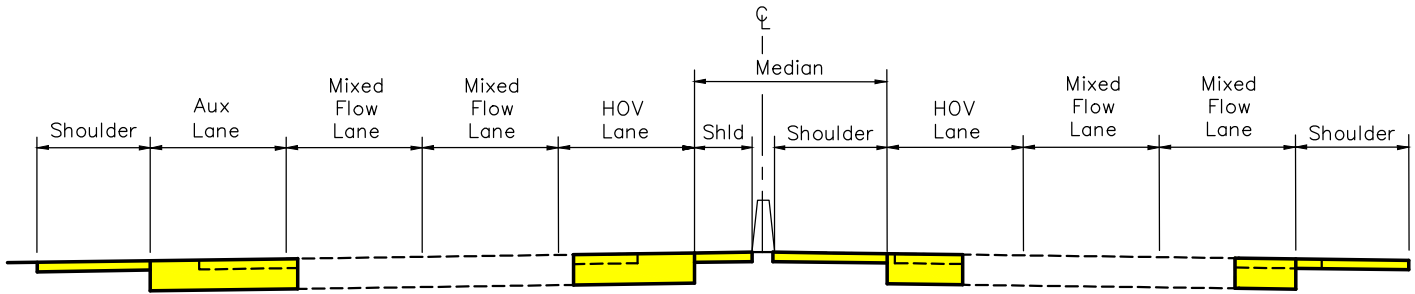


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	11	20

CONCEPT NOTES:

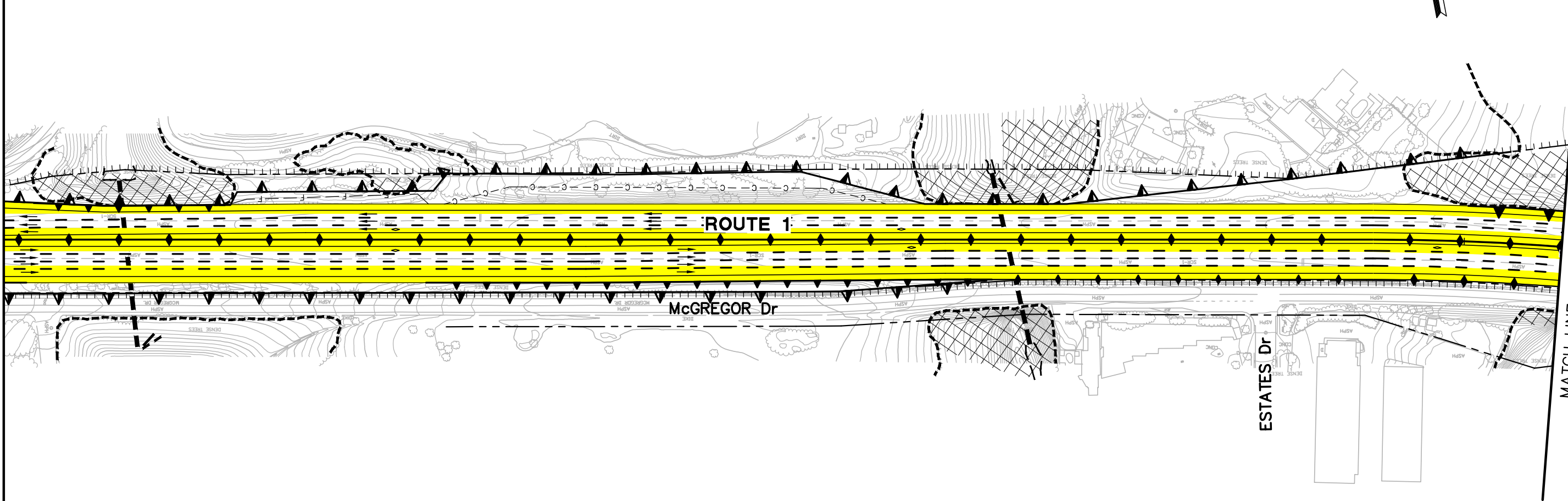
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TYPICAL SECTION  
NO SCALE

MATCH LINE -- SEE SHEET HOV-10



MATCH LINE -- SEE SHEET HOV-12

PLANNING CONCEPT LEGEND & ABBREVIATIONS:

	WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)		PROPOSED SOUND WALL	ACOE	ARMY CORP OF ENGINEERS
	PROPOSED HIGHWAY PAVING		PROPOSED RETAINING WALL	CB	CONCRETE BARRIER
	PROPOSED RAMP PAVING		PROPOSED SOUND WALL ON RETAINING WALL	CCC	CALIFORNIA COASTAL COMMISSION
	PROPOSED LOCAL ROAD WORK		EXISTING HIGHWAY ACCESS CONTROL	CDFG	CALIFORNIA DEPARTMENT OF FISH & GAME
	PROPOSED BIKE PATH		PLANNING CONCEPT FOOTPRINT	DTBB	DOUBLE THRIE BEAM BARRIER
	PROPOSED BRIDGE		EXISTING CULVERT	ETW	EDGE OF TRAVELED WAY
			HOV LANE PAVEMENT MARKING	Med	MEDIAN
			PAVEMENT REMOVAL	OG	ORIGINAL GROUND
				RCP	REINFORCED CONCRETE PIPE
				RW 4	RETAINING WALL No.
				Shld	SHOULDER
				TBD	TO BE DETERMINED



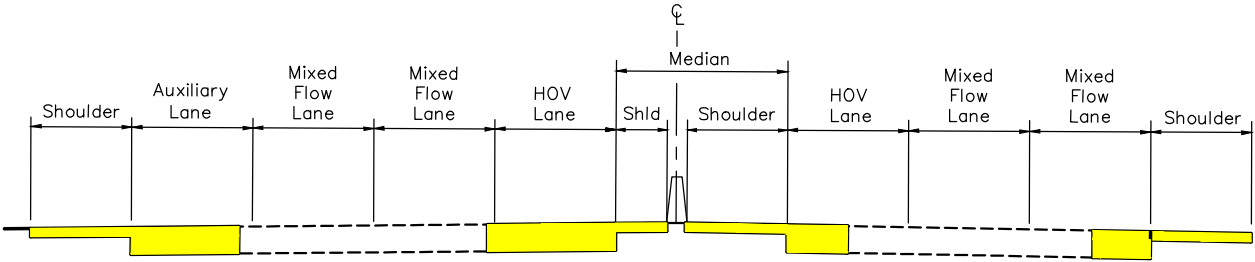


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	12	20

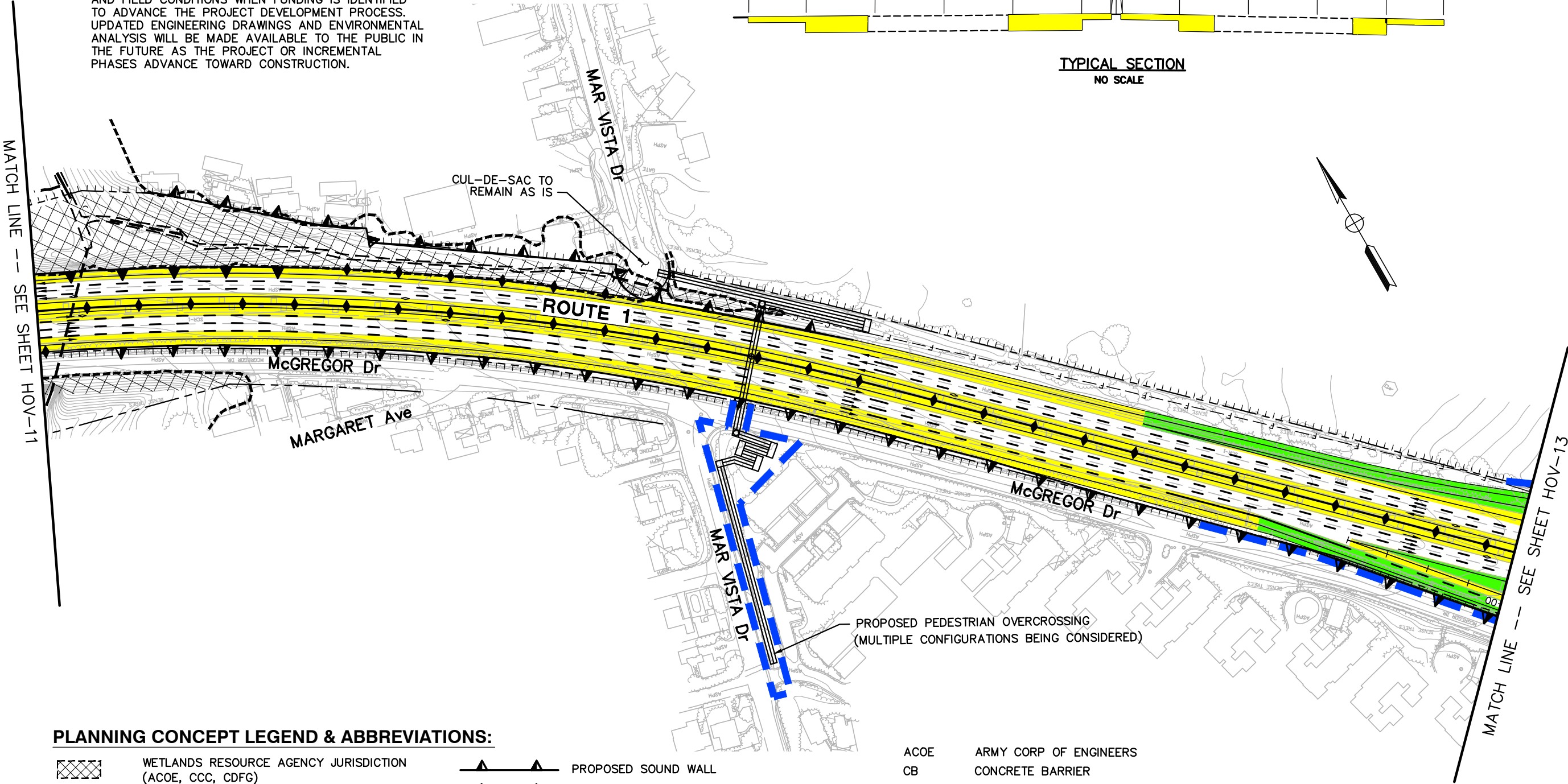
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TYPICAL SECTION  
NO SCALE



PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
 PROPOSED HIGHWAY PAVING
 PROPOSED RAMP PAVING
 PROPOSED LOCAL ROAD WORK
 PROPOSED BIKE PATH
 PROPOSED BRIDGE

PROPOSED SOUND WALL
 PROPOSED RETAINING WALL
 PROPOSED SOUND WALL ON RETAINING WALL
 EXISTING HIGHWAY ACCESS CONTROL
 PLANNING CONCEPT FOOTPRINT
 EXISTING CULVERT
 HOV LANE PAVEMENT MARKING
 PAVEMENT REMOVAL

- ACOE  
CB  
CCC  
CDFG  
DTBB  
ETW  
Med  
OG  
RCP  
RW 4  
Shld  
TBD

ARMY CORP OF ENGINEERS  
CONCRETE BARRIER  
CALIFORNIA COASTAL COMMISSION  
CALIFORNIA DEPARTMENT OF FISH & GAME  
DOUBLE THRIE BEAM BARRIER  
EDGE OF TRAVELED WAY  
MEDIAN  
ORIGINAL GROUND  
REINFORCED CONCRETE PIPE  
RETAINING WALL No.  
SHOULDER  
TO BE DETERMINED



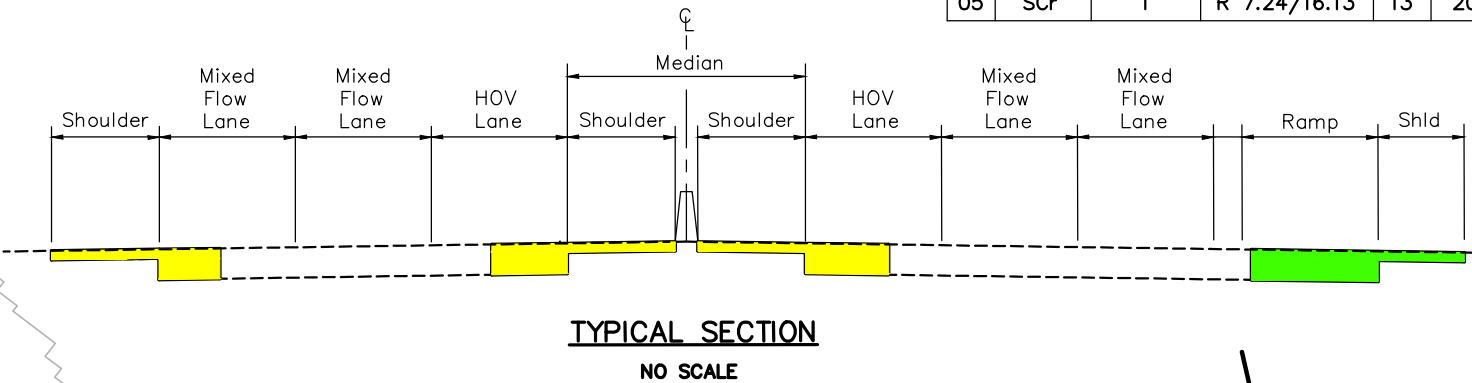


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DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	13	20



MATCH LINE -- SEE SHEET HOV-12

MATCH LINE -- SEE SHEET HOV-14

PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE

- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
- Med MEDIAN
- OG ORIGINAL GROUND
- RCP REINFORCED CONCRETE PIPE
- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED

TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE  
HOV-13

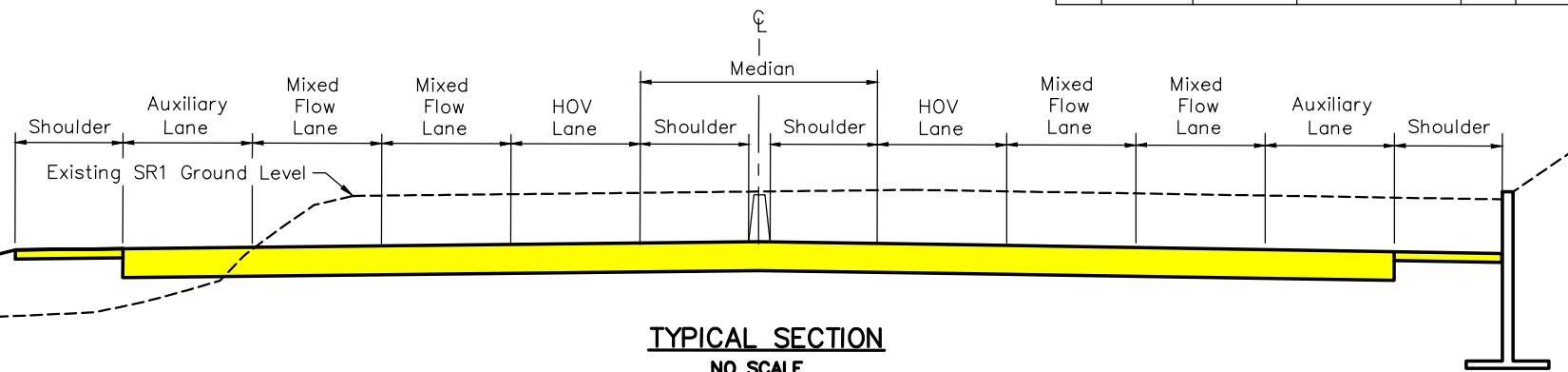




PLANNING CONCEPT LEGEND & ABBREVIATIONS:

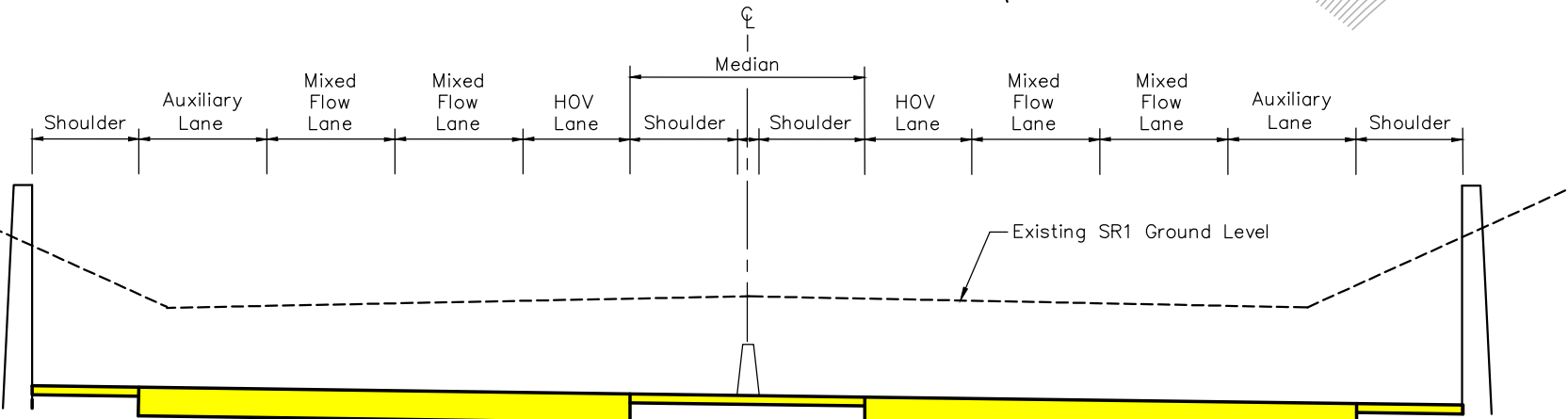
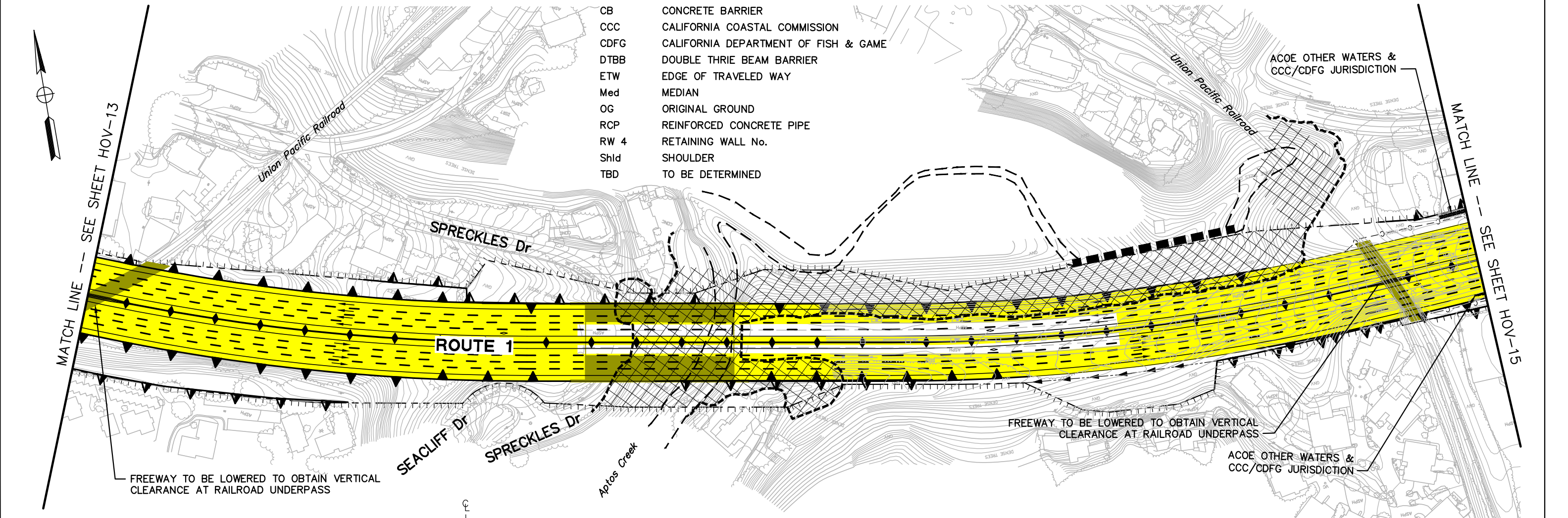
- WETLANDS RESOURCE AGENCY JURISDICTION  
(ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE
- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SCr	1	R 7.24/16.13	14	20



TYPICAL SECTION  
NO SCALE

- ACOE
- ARMY CORP OF ENGINEERS
- CB
- CONCRETE BARRIER
- CCC
- CALIFORNIA COASTAL COMMISSION
- CDFG
- CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB
- DOUBLE THRIE BEAM BARRIER
- ETW
- EDGE OF TRAVELED WAY
- Med
- MEDIAN
- OG
- ORIGINAL GROUND
- RCP
- REINFORCED CONCRETE PIPE
- RW 4
- RETAINING WALL No.
- Shld
- SHOULDER
- TBD
- TO BE DETERMINED



TYPICAL SECTION  
NO SCALE

CONCEPT NOTES:

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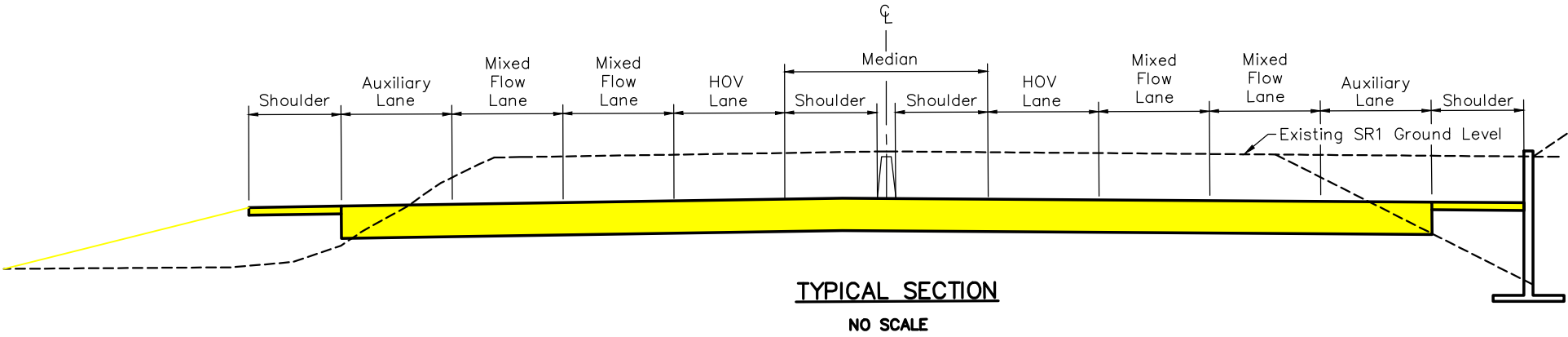


CONCEPT NOTES:

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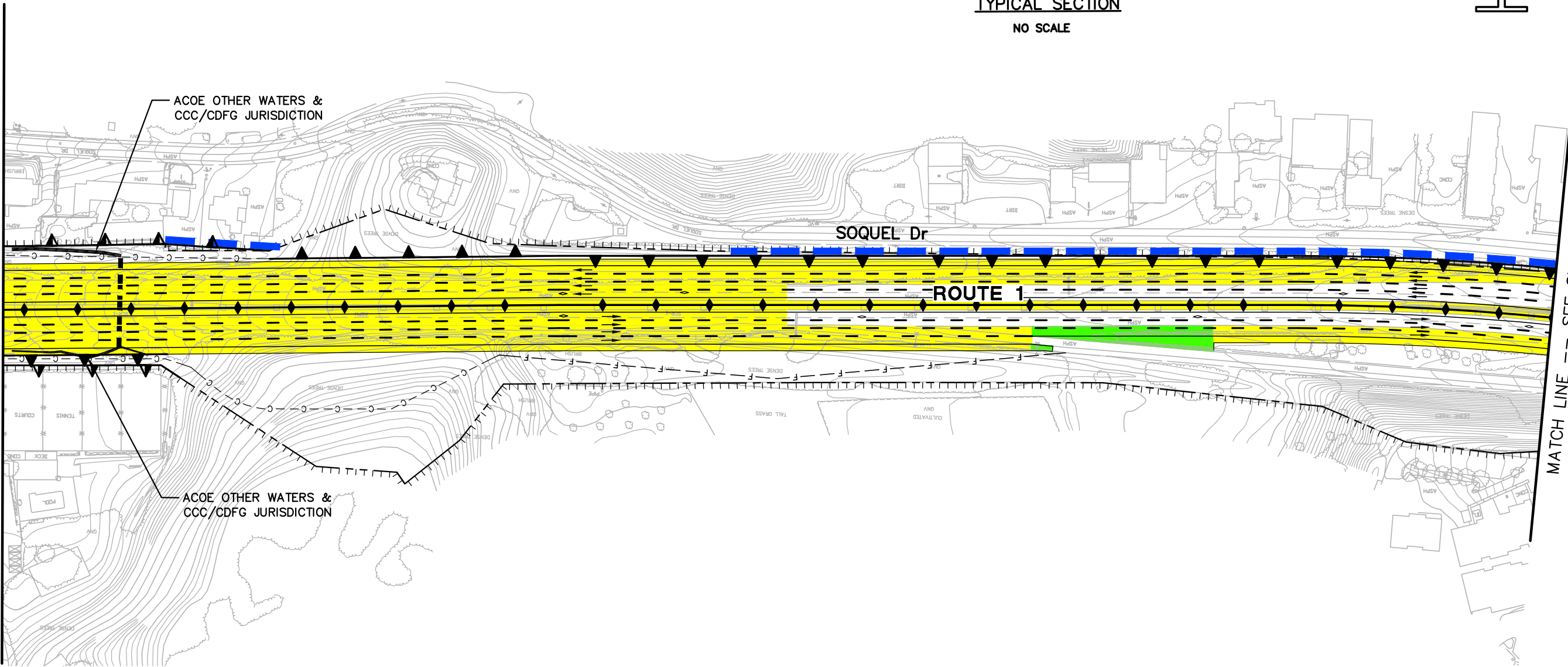
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DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	15	20



MATCH LINE -- SEE SHEET HOV-14

MATCH LINE -- SEE SHEET HOV-16



PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE

- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL








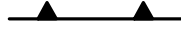






- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
- Med MEDIAN
- OG ORIGINAL GROUND
- RCP REINFORCED CONCRETE PIPE
- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED

TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE  
HOV-15

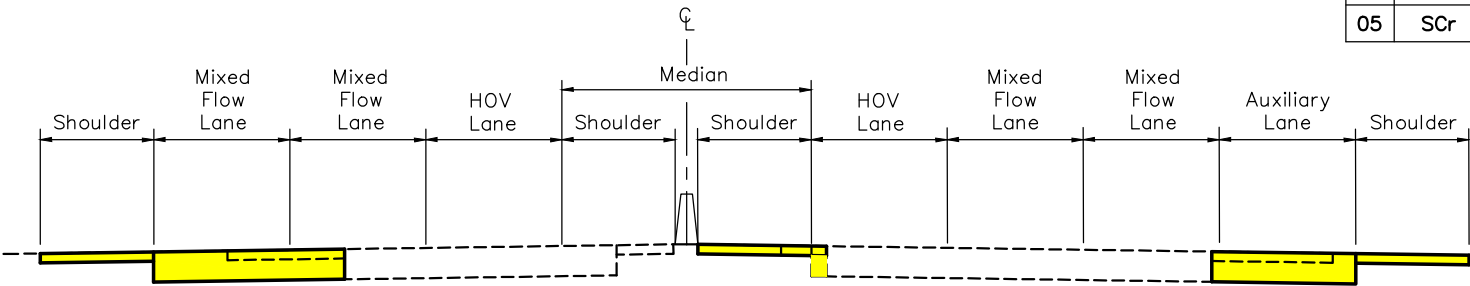




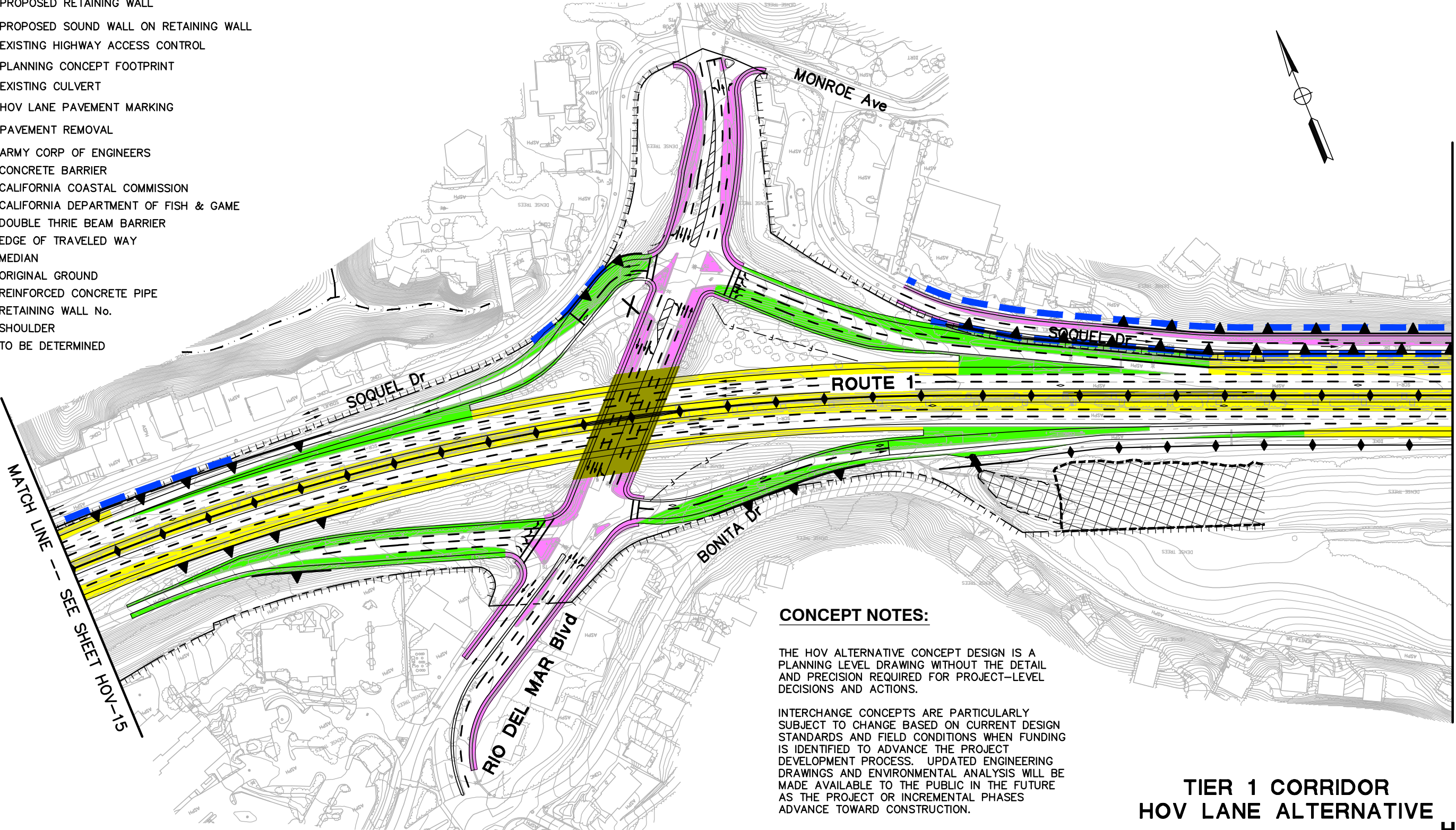
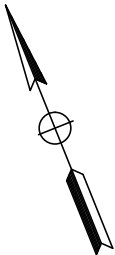
PLANNING CONCEPT LEGEND & ABBREVIATIONS:

-  WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
-  PROPOSED HIGHWAY PAVING
-  PROPOSED RAMP PAVING
-  PROPOSED LOCAL ROAD WORK
-  PROPOSED BIKE PATH
-  PROPOSED BRIDGE
-  PROPOSED SOUND WALL
-  PROPOSED RETAINING WALL
-  PROPOSED SOUND WALL ON RETAINING WALL
-  EXISTING HIGHWAY ACCESS CONTROL
-  PLANNING CONCEPT FOOTPRINT
-  EXISTING CULVERT
-  HOV LANE PAVEMENT MARKING
-  PAVEMENT REMOVAL
- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
- Med MEDIAN
- OG ORIGINAL GROUND
- RCP REINFORCED CONCRETE PIPE
- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED

DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	16	20



TYPICAL SECTION – NO RAMPS SHOWN  
NO SCALE



CONCEPT NOTES:

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TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE

HOV-16



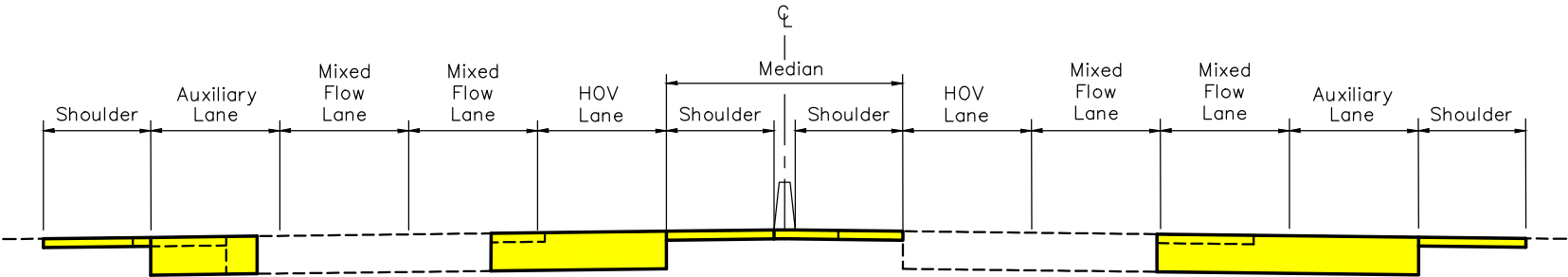


CONCEPT NOTES:

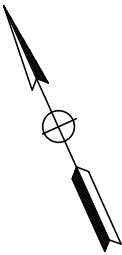
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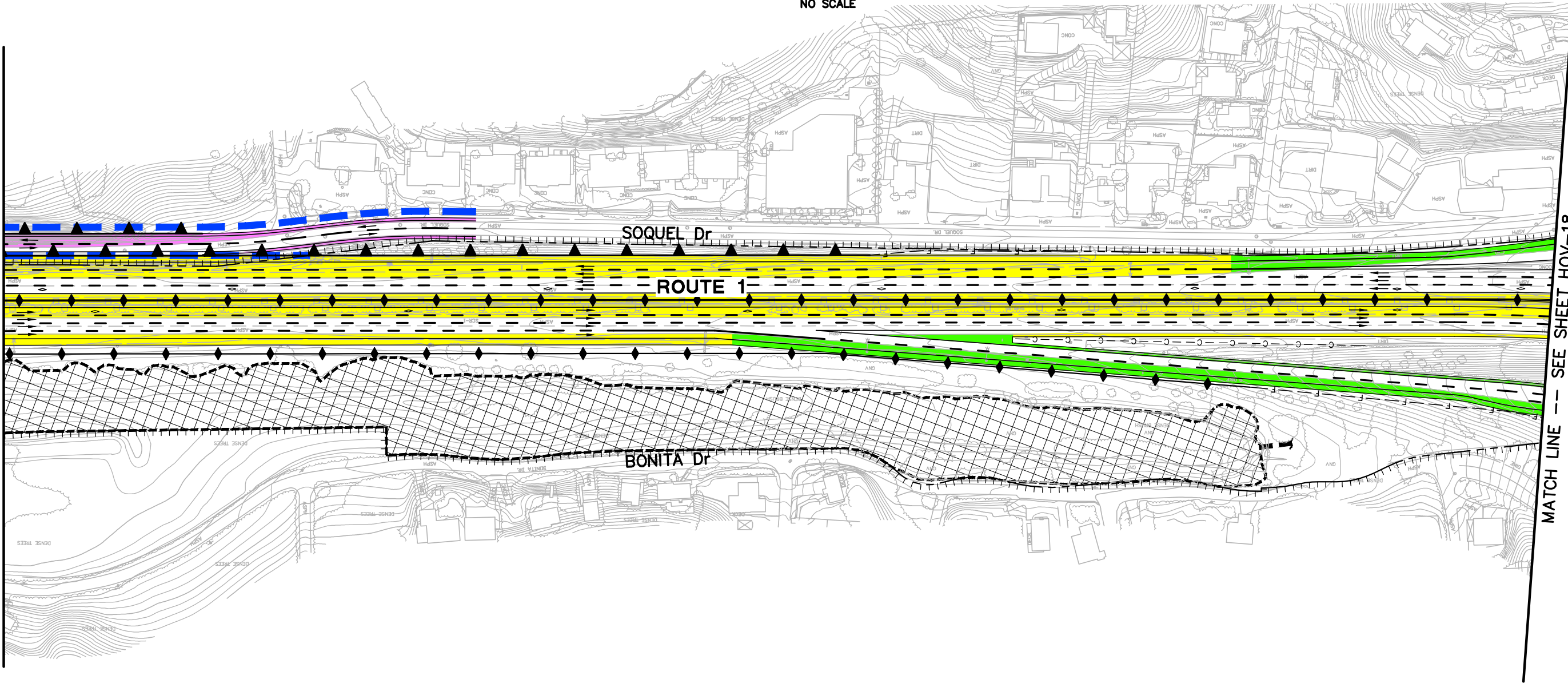
DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	17	20



TYPICAL SECTION  
NO SCALE



MATCH LINE --- SEE SHEET HOV-16



MATCH LINE --- SEE SHEET HOV-18

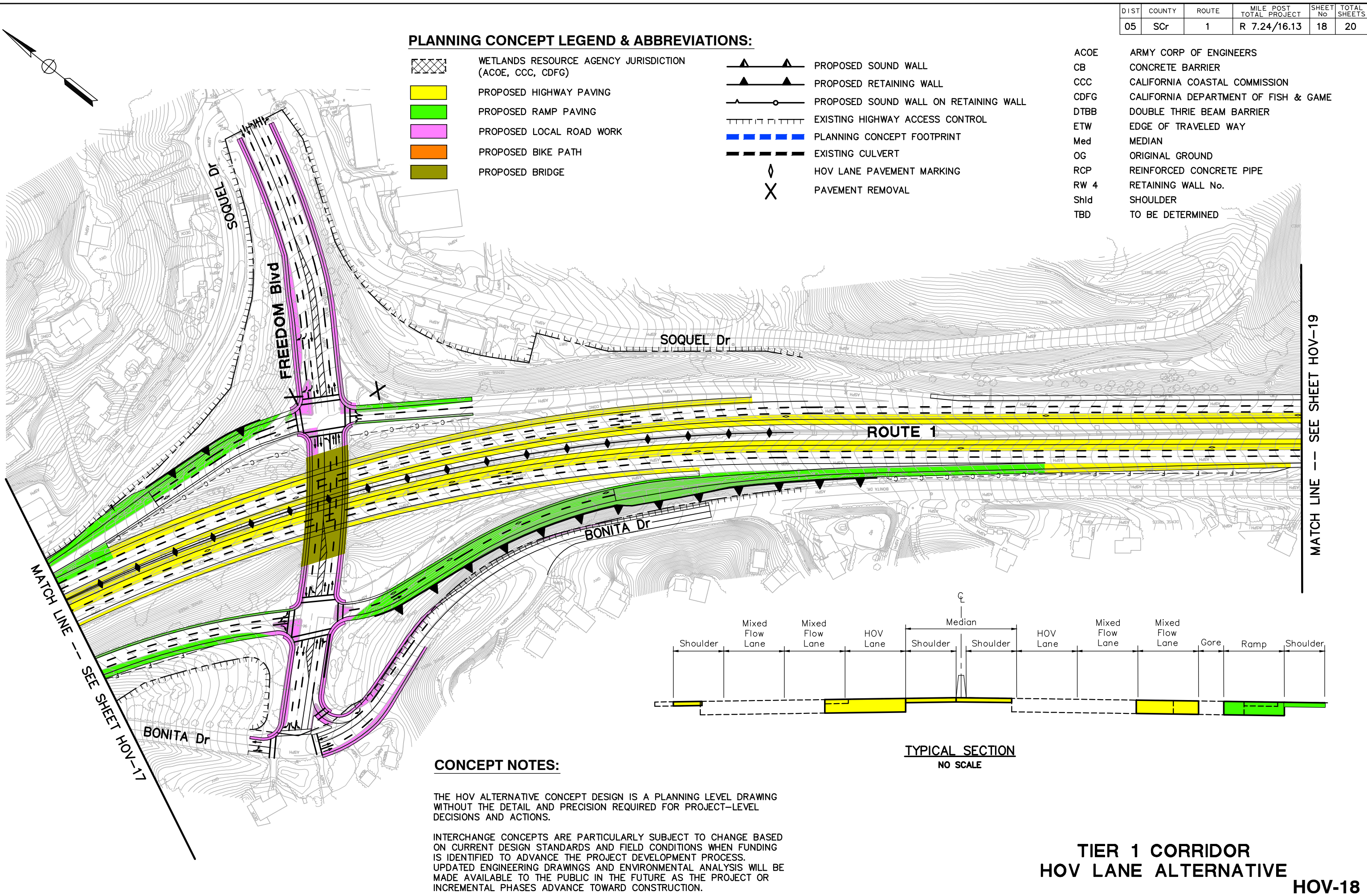
PLANNING CONCEPT LEGEND & ABBREVIATIONS:

	WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)		PROPOSED SOUND WALL	ACOE	ARMY CORP OF ENGINEERS
	PROPOSED HIGHWAY PAVING		PROPOSED RETAINING WALL	CB	CONCRETE BARRIER
	PROPOSED RAMP PAVING		PROPOSED SOUND WALL ON RETAINING WALL	CCC	CALIFORNIA COASTAL COMMISSION
	PROPOSED LOCAL ROAD WORK		EXISTING HIGHWAY ACCESS CONTROL	CDFG	CALIFORNIA DEPARTMENT OF FISH & GAME
	PROPOSED BIKE PATH		PLANNING CONCEPT FOOTPRINT	DTBB	DOUBLE THRIE BEAM BARRIER
	PROPOSED BRIDGE		EXISTING CULVERT	ETW	EDGE OF TRAVELED WAY
			HOV LANE PAVEMENT MARKING	Med	MEDIAN
			PAVEMENT REMOVAL	OG	ORIGINAL GROUND
				RCP	REINFORCED CONCRETE PIPE
				RW 4	RETAINING WALL No.
				Shld	SHOULDER
				TBD	TO BE DETERMINED





DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	18	20





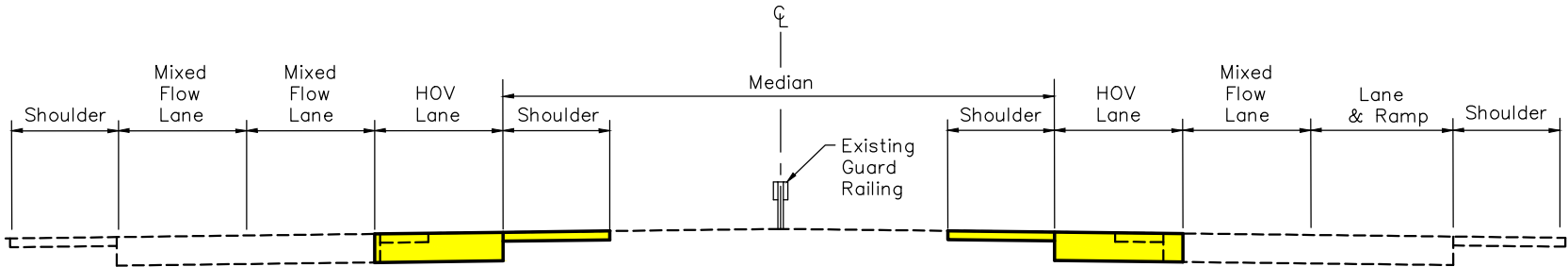


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	19	20

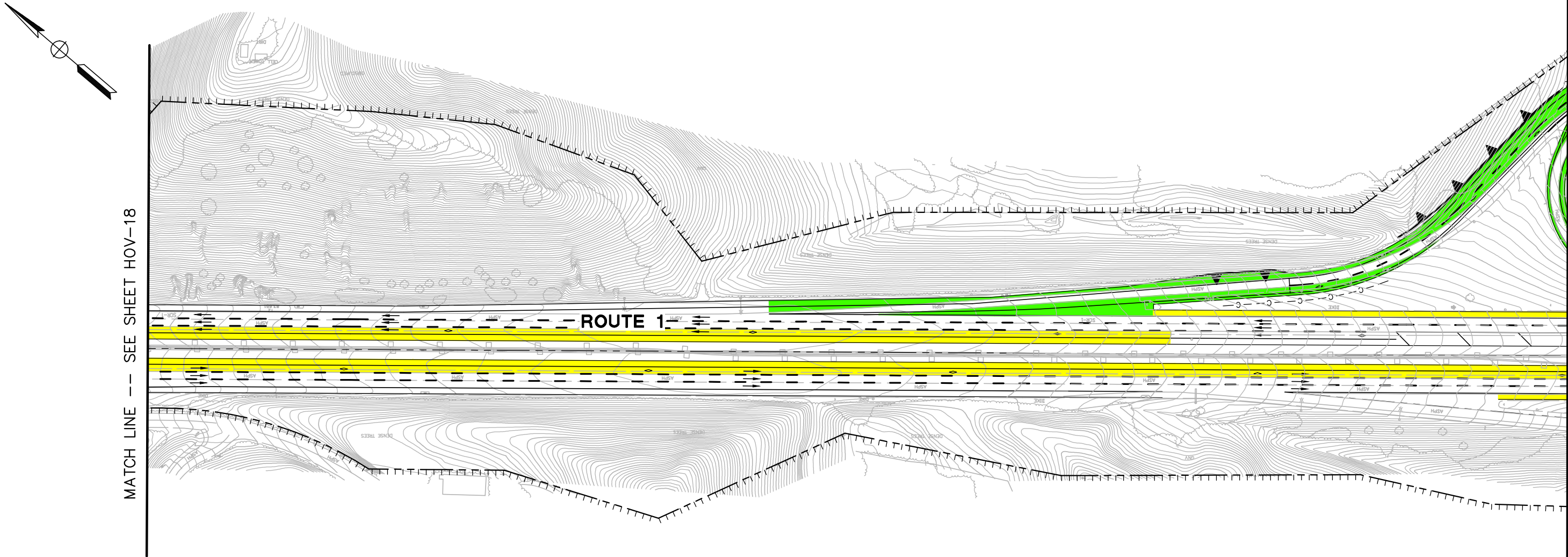
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TYPICAL SECTION  
NO SCALE



PLANNING CONCEPT LEGEND & ABBREVIATIONS:



WETLANDS RESOURCE AGENCY JURISDICTION  
(ACOE, CCC, CDFG)



PROPOSED HIGHWAY PAVING



PROPOSED RAMP PAVING



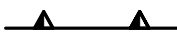
PROPOSED LOCAL ROAD WORK



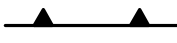
PROPOSED BIKE PATH



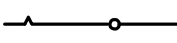
PROPOSED BRIDGE



PROPOSED SOUND WALL



PROPOSED RETAINING WALL



PROPOSED SOUND WALL ON RETAINING WALL



EXISTING HIGHWAY ACCESS CONTROL



PLANNING CONCEPT FOOTPRINT



EXISTING CULVERT



HOV LANE PAVEMENT MARKING



PAVEMENT REMOVAL

ACOE

ARMY CORP OF ENGINEERS

CB

CONCRETE BARRIER

CCC

CALIFORNIA COASTAL COMMISSION

CDFG

CALIFORNIA DEPARTMENT OF FISH & GAME

DTBB

DOUBLE THRIE BEAM BARRIER

ETW

EDGE OF TRAVELED WAY

Med

MEDIAN

OG

ORIGINAL GROUND

RCP

REINFORCED CONCRETE PIPE

RW 4

RETAINING WALL No.

Shld

SHOULDER

TBD

TO BE DETERMINED

TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE

HOV-19



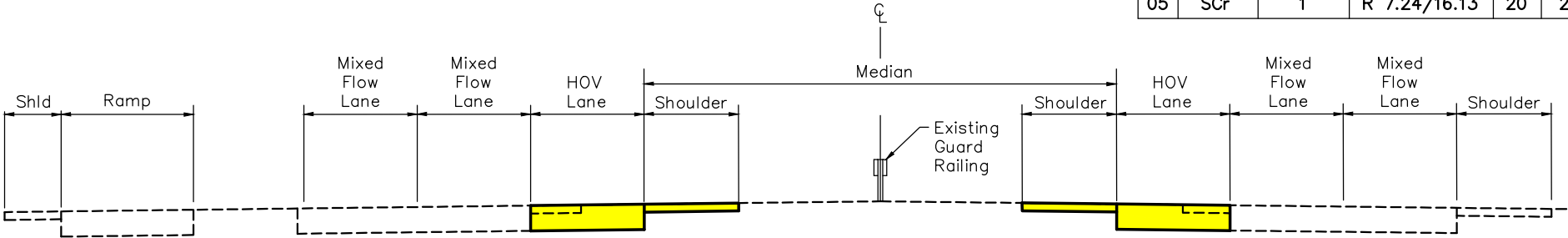


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	20	20

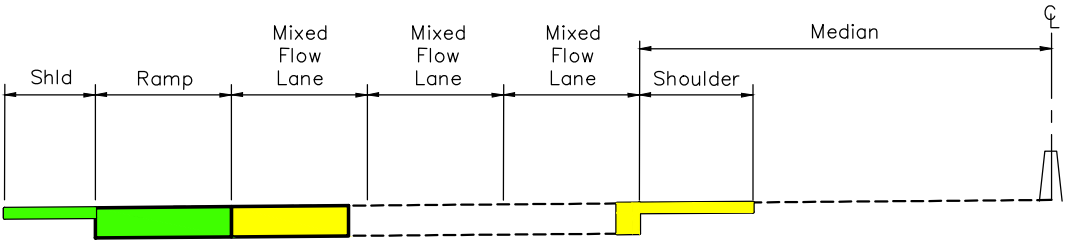
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TYPICAL SECTION – NO RAMPs SHOWN



TYPICAL SECTION  
NO SCALE

MATCH LINE -- SEE SHEET HOV-19

LIMITS OF IMPROVEMENTS  
MATCH EXISTING

PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE

- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
- Med MEDIAN
- OG ORIGINAL GROUND
- RCP REINFORCED CONCRETE PIPE
- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED

TIER 1 CORRIDOR  
HOV LANE ALTERNATIVE  
HOV-20



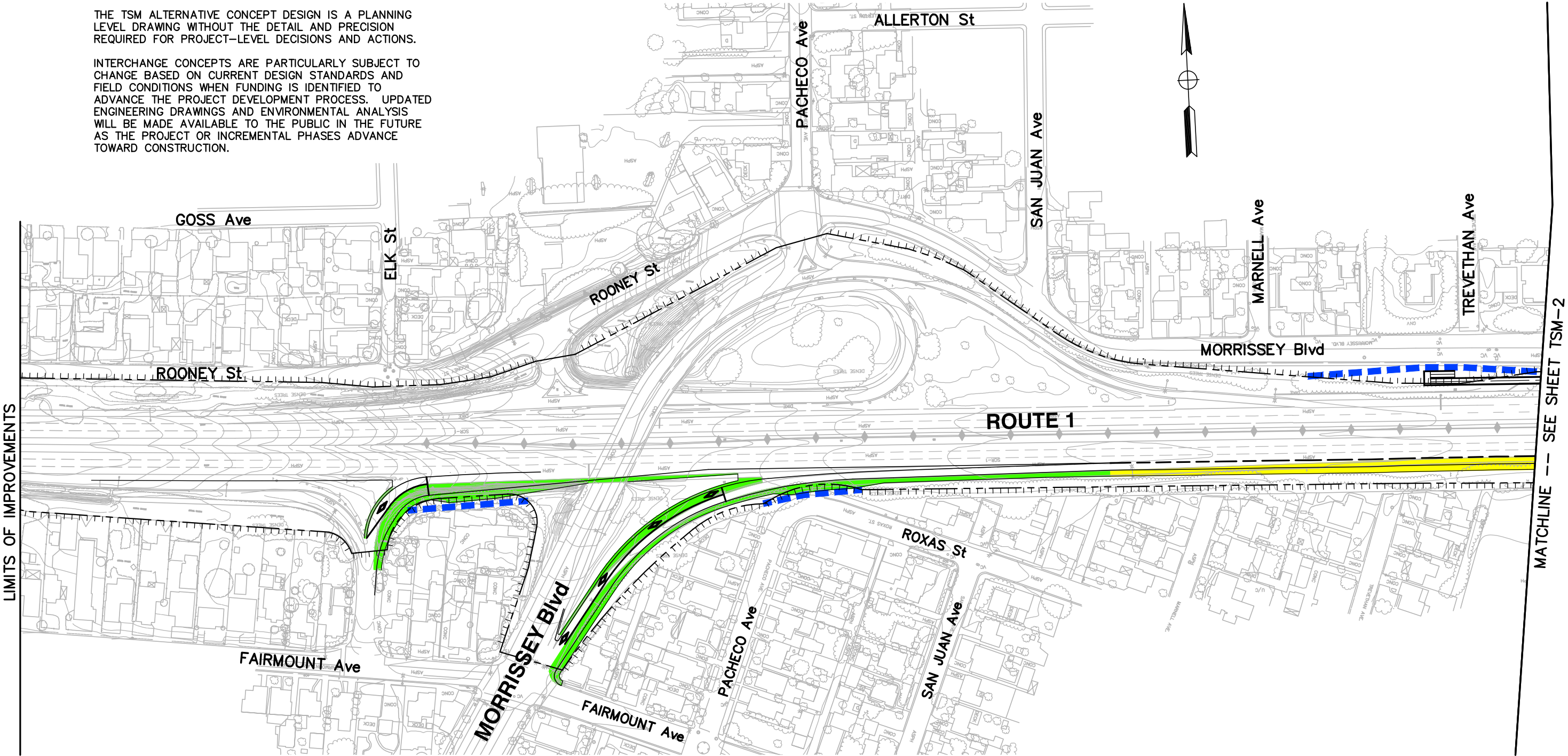


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	1	20

CONCEPT NOTES:

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PLANNING CONCEPT LEGEND & ABBREVIATIONS:

	WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)		PROPOSED SOUND WALL	ACOE	ARMY CORP OF ENGINEERS
	PROPOSED HIGHWAY PAVING		PROPOSED RETAINING WALL	CB	CONCRETE BARRIER
	PROPOSED RAMP PAVING		PROPOSED SOUND WALL ON RETAINING WALL	CCC	CALIFORNIA COASTAL COMMISSION
	PROPOSED LOCAL ROAD WORK		EXISTING HIGHWAY ACCESS CONTROL	CDFG	CALIFORNIA DEPARTMENT OF FISH & GAME
	PROPOSED BIKE PATH		PLANNING CONCEPT FOOTPRINT	DTBB	DOUBLE THRIE BEAM BARRIER
	PROPOSED BRIDGE		EXISTING CULVERT	ETW	EDGE OF TRAVELED WAY
			HOV LANE PAVEMENT MARKING	Med	MEDIAN
			PAVEMENT REMOVAL	OG	ORIGINAL GROUND
				RCP	REINFORCED CONCRETE PIPE
				RW 4	RETAINING WALL No.
				Shld	SHOULDER
				TBD	TO BE DETERMINED

TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE









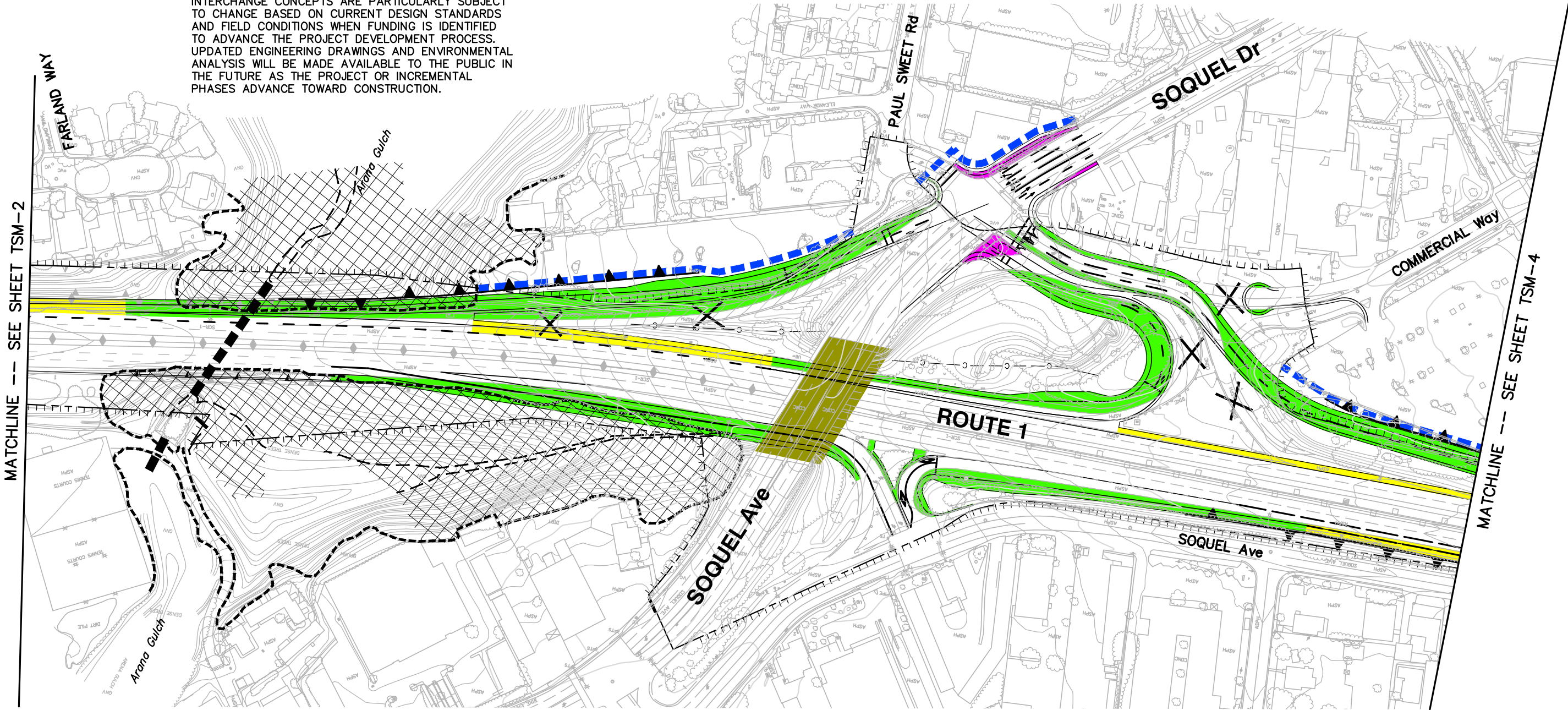


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	3	20

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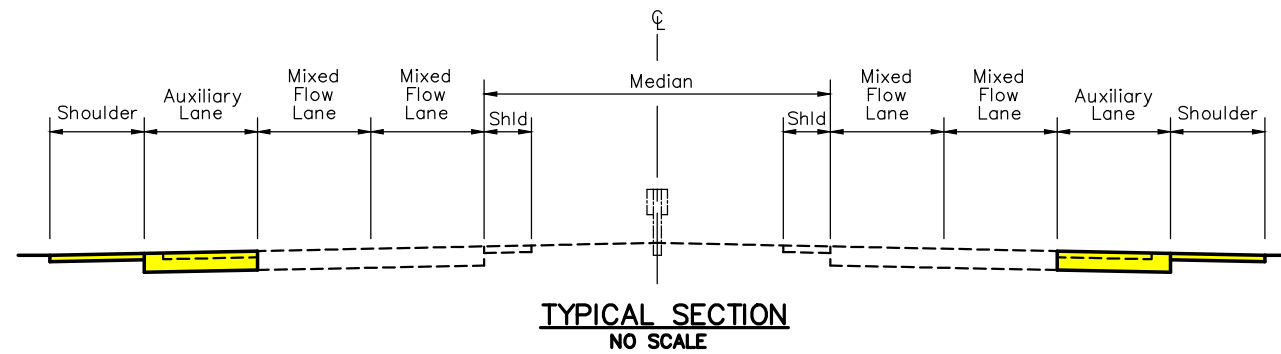
	WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)		PROPOSED SOUND WALL	ACOE	ARMY CORP OF ENGINEERS
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			HOV LANE PAVEMENT MARKING	Med	MEDIAN
			PAVEMENT REMOVAL	OG	ORIGINAL GROUND
				RCP	REINFORCED CONCRETE PIPE
				RW 4	RETAINING WALL No.
				Shld	SHOULDER
				TBD	TO BE DETERMINED

TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE





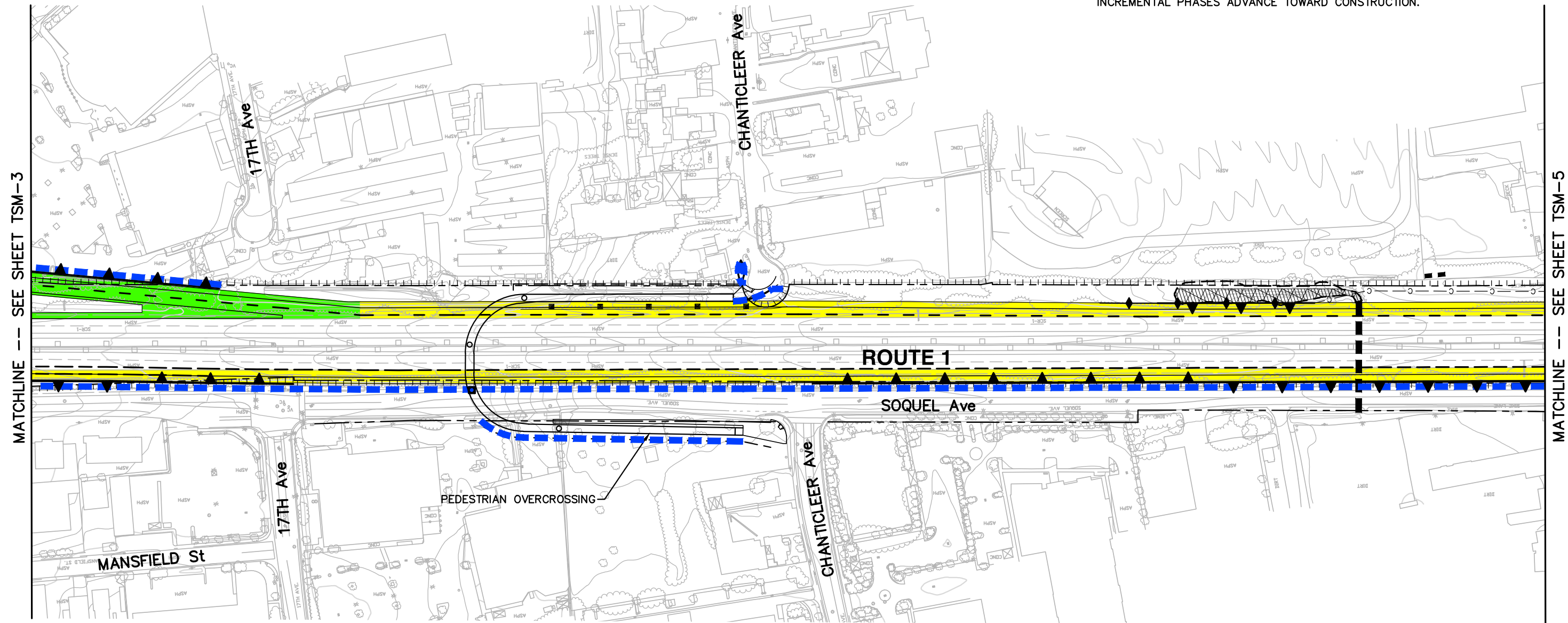
DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	4	20



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**PLANNING CONCEPT LEGEND & ABBREVIATIONS:**

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				RCP	REINFORCED CONCRETE PIPE
				RW 4	RETAINING WALL No.
				Shld	SHOULDER
				TBD	TO BE DETERMINED

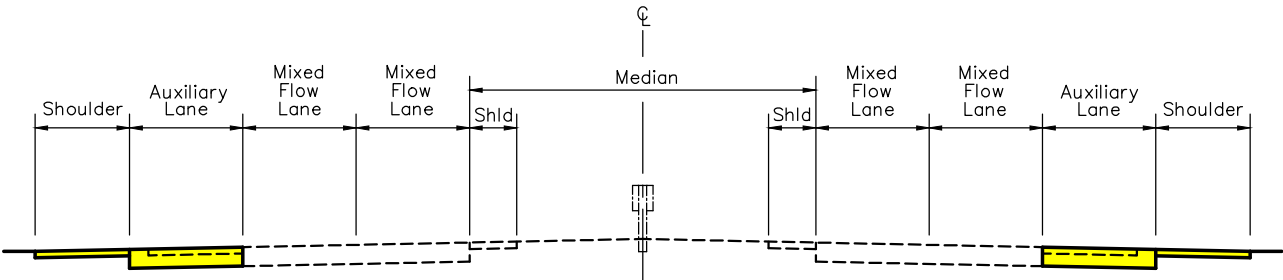
**TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE**



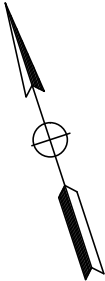
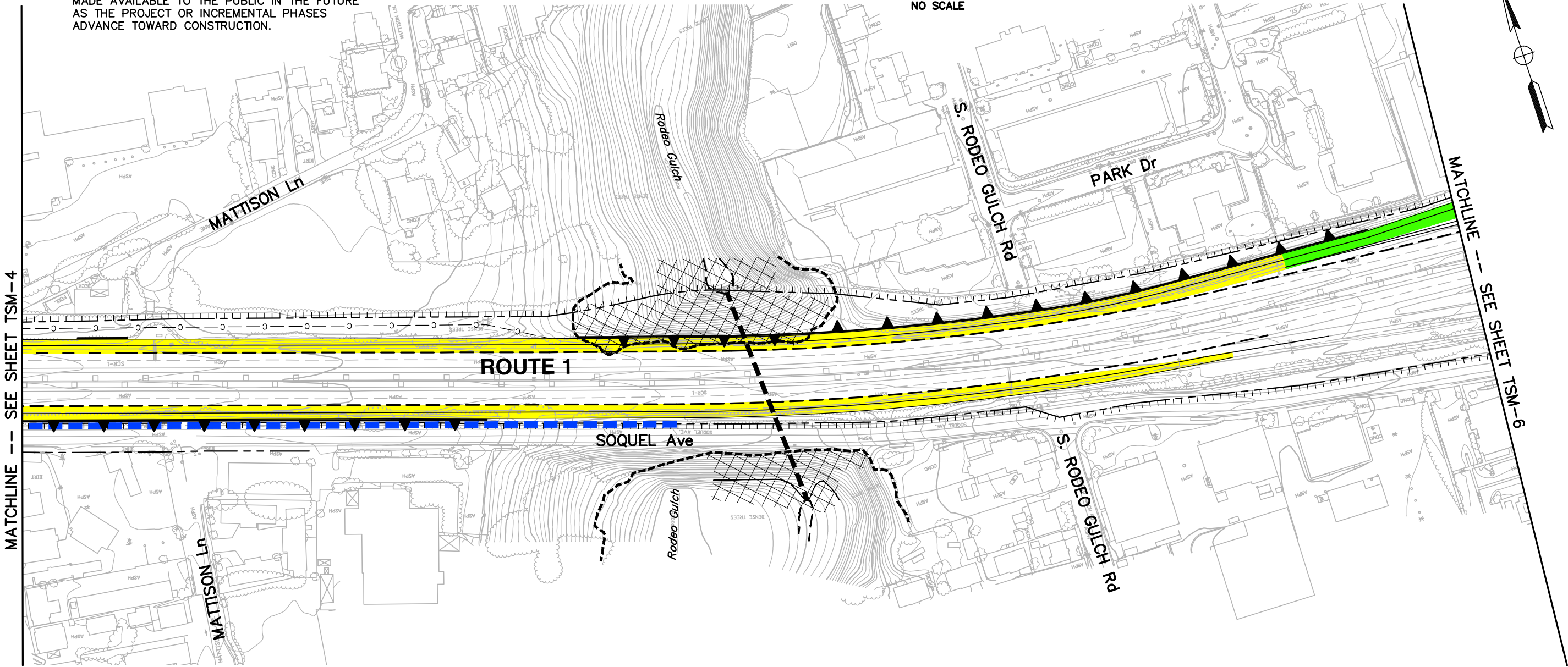
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TYPICAL SECTION  
NO SCALE



PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
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TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE

DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	5	20



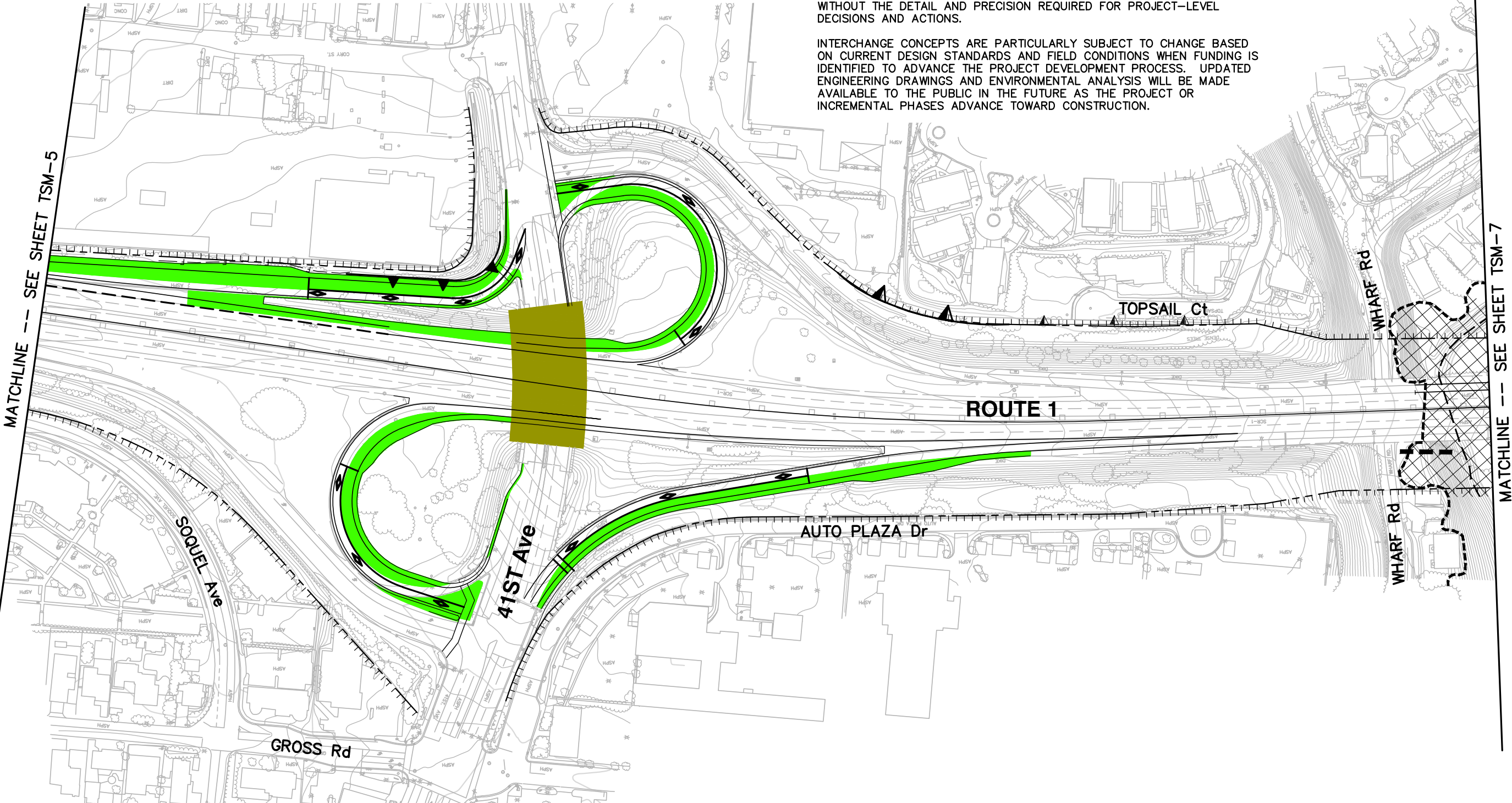


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SCr	1	R 7.24/16.13	6	20

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PLANNING CONCEPT LEGEND & ABBREVIATIONS:

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	PROPOSED RAMP PAVING		PROPOSED SOUND WALL ON RETAINING WALL	CCC	CALIFORNIA COASTAL COMMISSION
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			PAVEMENT REMOVAL	OG	ORIGINAL GROUND
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				Shld	SHOULDER
				TBD	TO BE DETERMINED

TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE



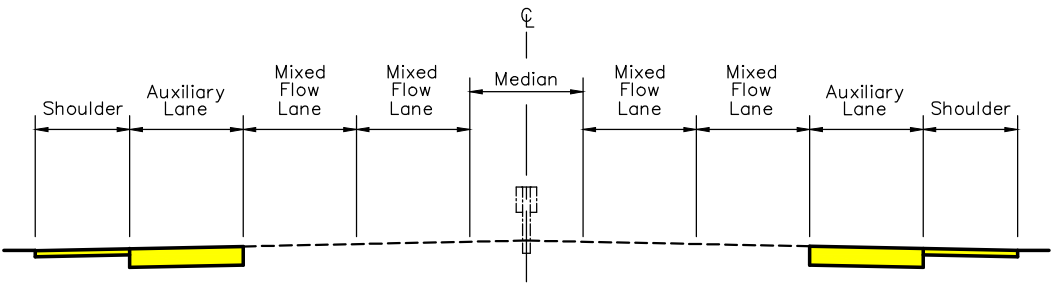


**CONCEPT NOTES:**

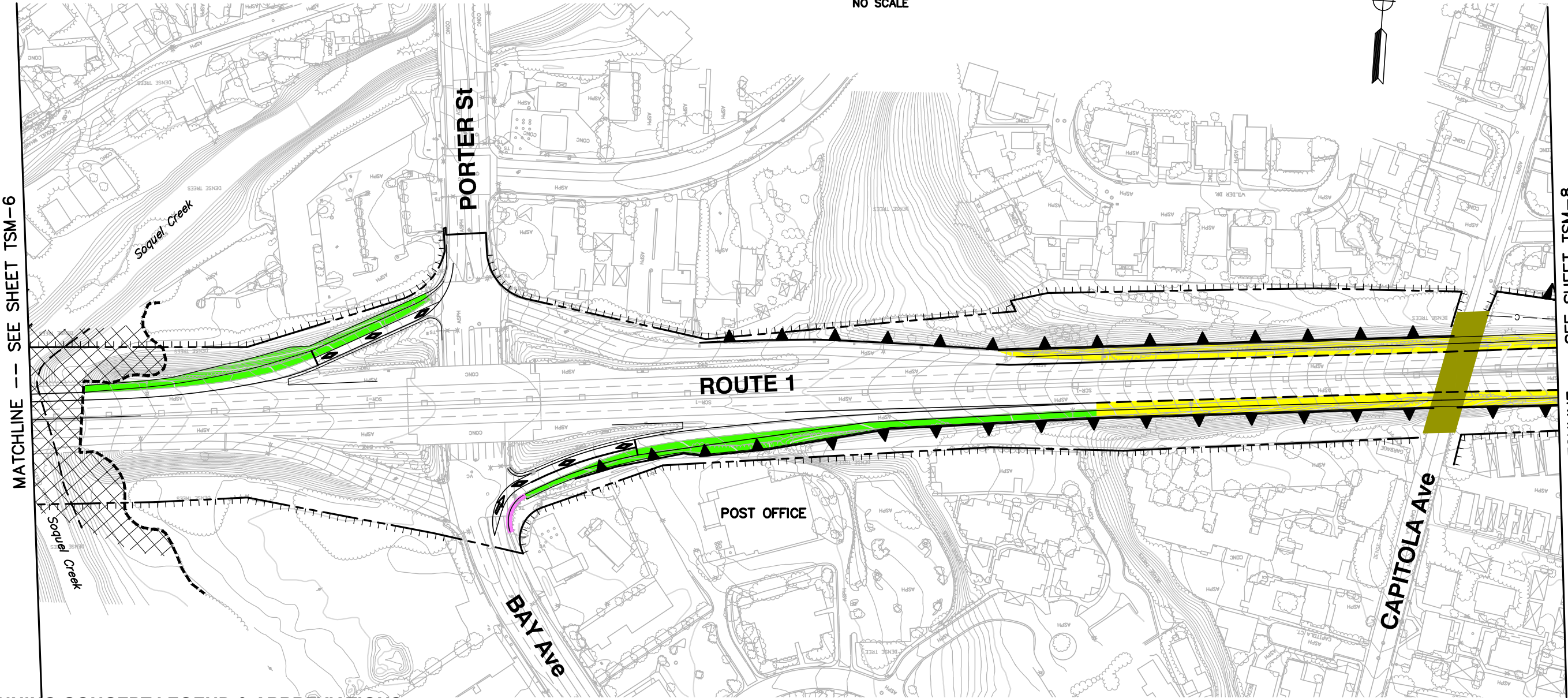
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DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	7	20





TYPICAL SECTION  
NO SCALE





PLANNING CONCEPT LEGEND & ABBREVIATIONS:



-   
WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)


  
PROPOSED HIGHWAY PAVING

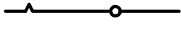
  
PROPOSED RAMP PAVING


  
PROPOSED LOCAL ROAD WORK


  
PROPOSED BIKE PATH


  
PROPOSED BRIDGE
-   
PROPOSED SOUND WALL


  
PROPOSED RETAINING WALL


  
PROPOSED SOUND WALL ON RETAINING WALL

  
EXISTING HIGHWAY ACCESS CONTROL

  
PLANNING CONCEPT FOOTPRINT

  
EXISTING CULVERT

  
HOV LANE PAVEMENT MARKING

  
PAVEMENT REMOVAL
- ACOE  
ARMY CORP OF ENGINEERS

CB  
CONCRETE BARRIER

CCC  
CALIFORNIA COASTAL COMMISSION

CDFG  
CALIFORNIA DEPARTMENT OF FISH & GAME

DTBB  
DOUBLE THRIE BEAM BARRIER

ETW  
EDGE OF TRAVELED WAY

Med  
MEDIAN

OG  
ORIGINAL GROUND

RCP  
REINFORCED CONCRETE PIPE

RW 4  
RETAINING WALL No.

Shld  
SHOULDER

TBD  
TO BE DETERMINED

TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE



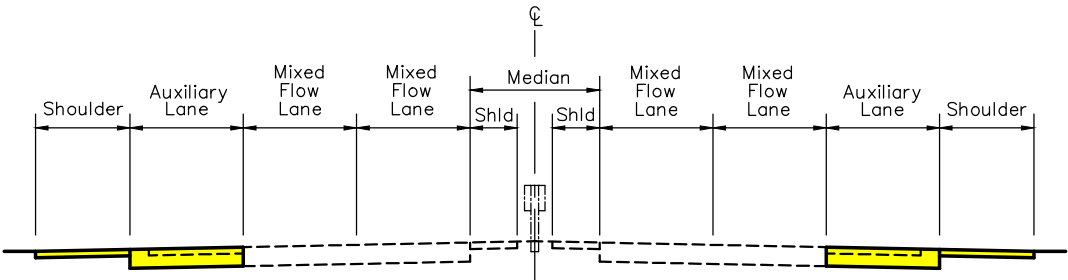


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	8	20

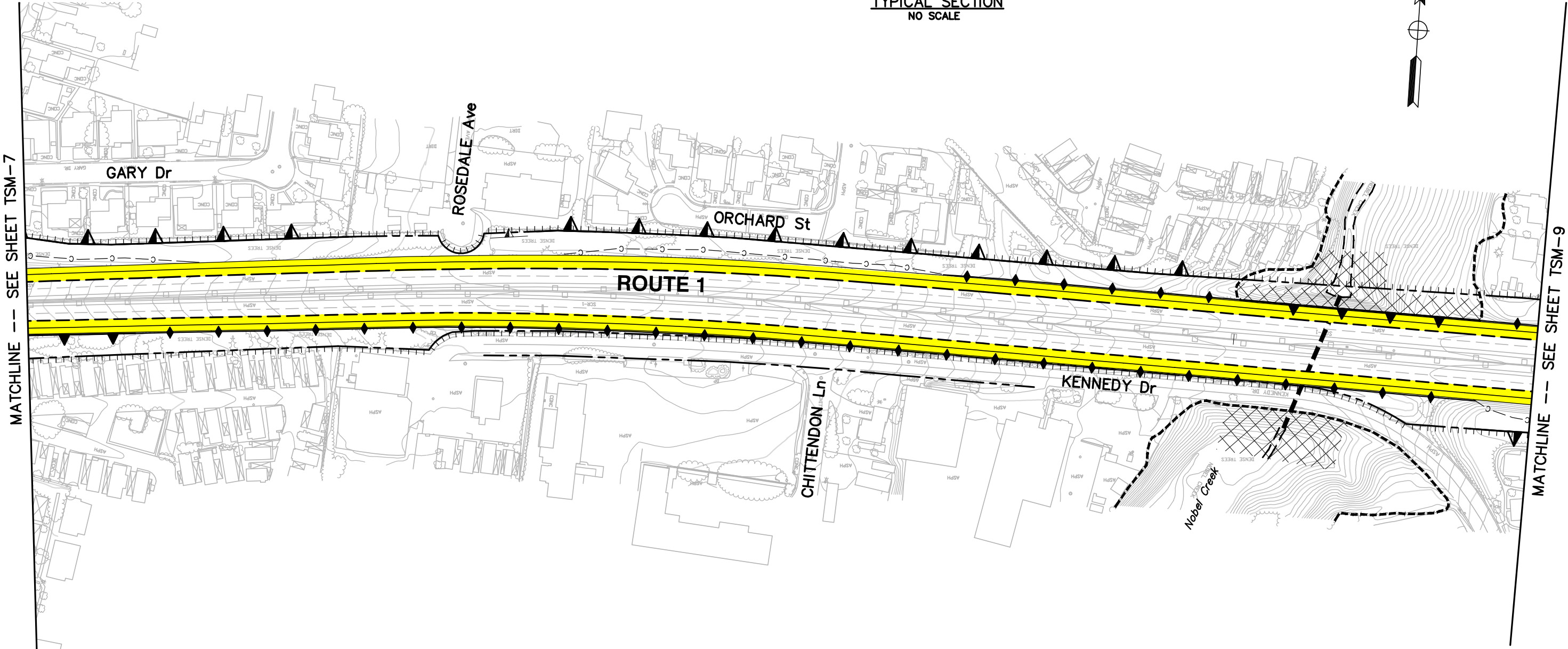
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TYPICAL SECTION  
NO SCALE



TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE



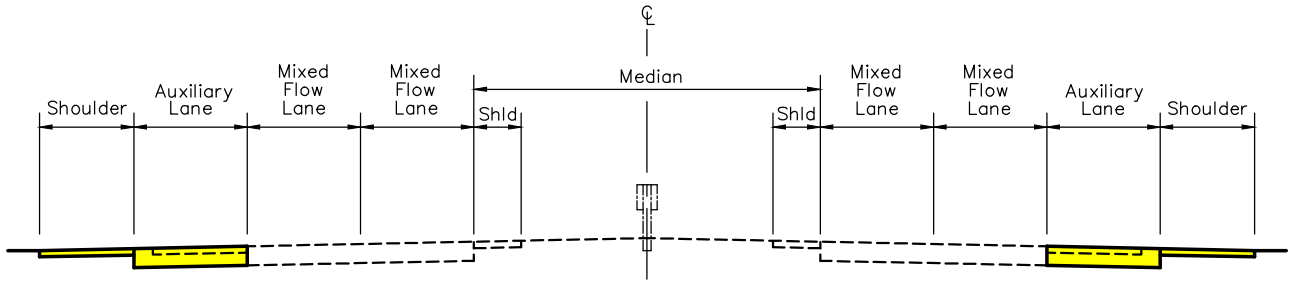


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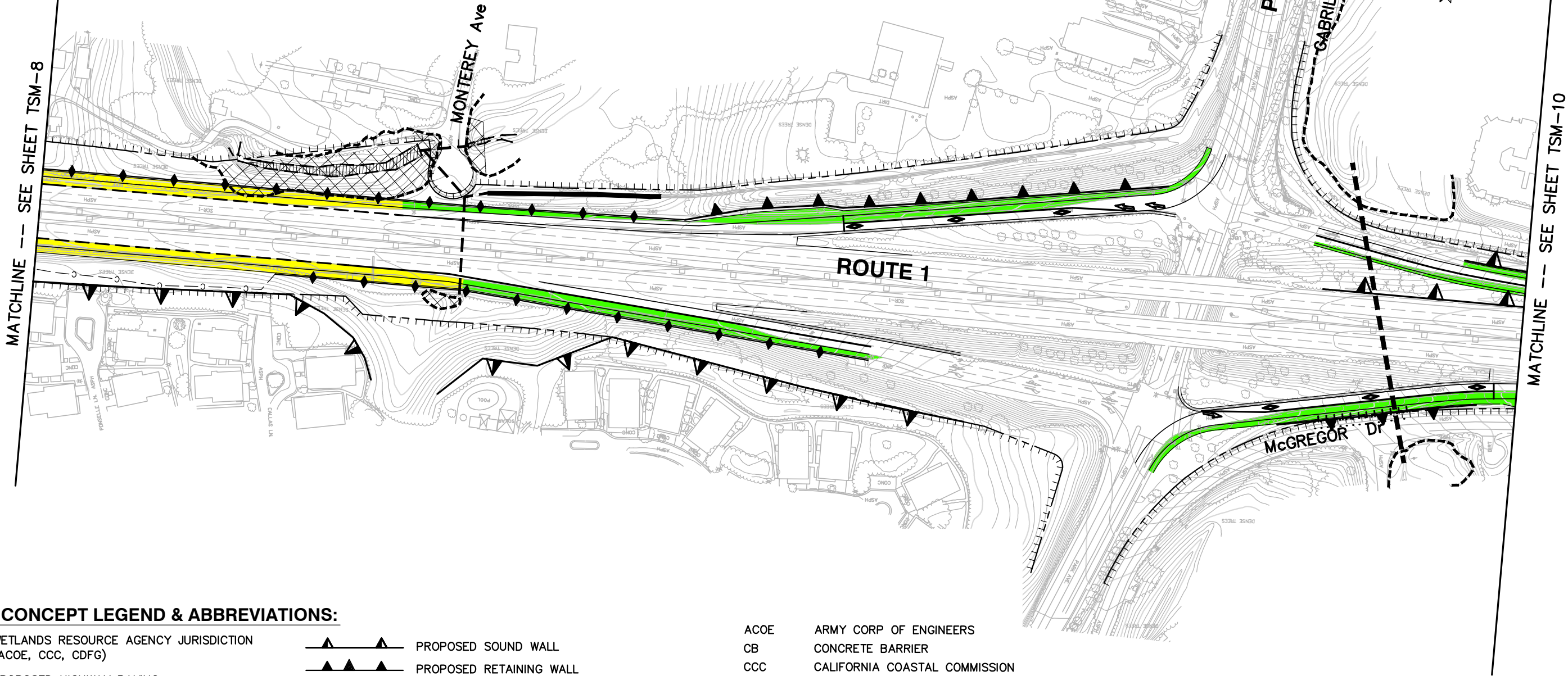
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DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	9	20



TYPICAL SECTION  
NO SCALE



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TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE

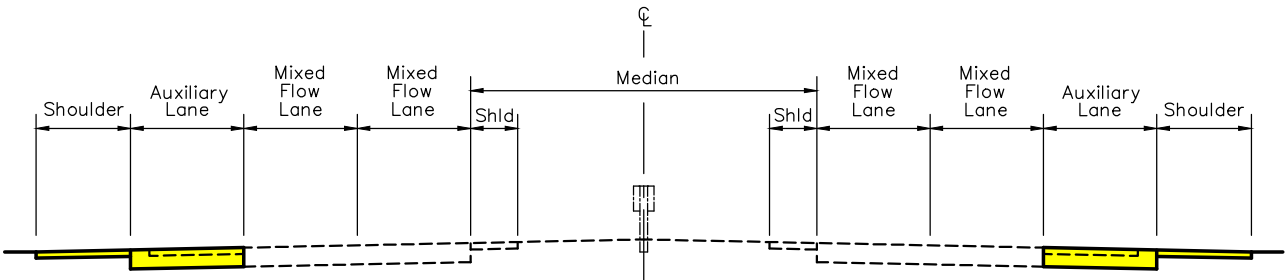


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SCr	1	R 7.24/16.13	10	20

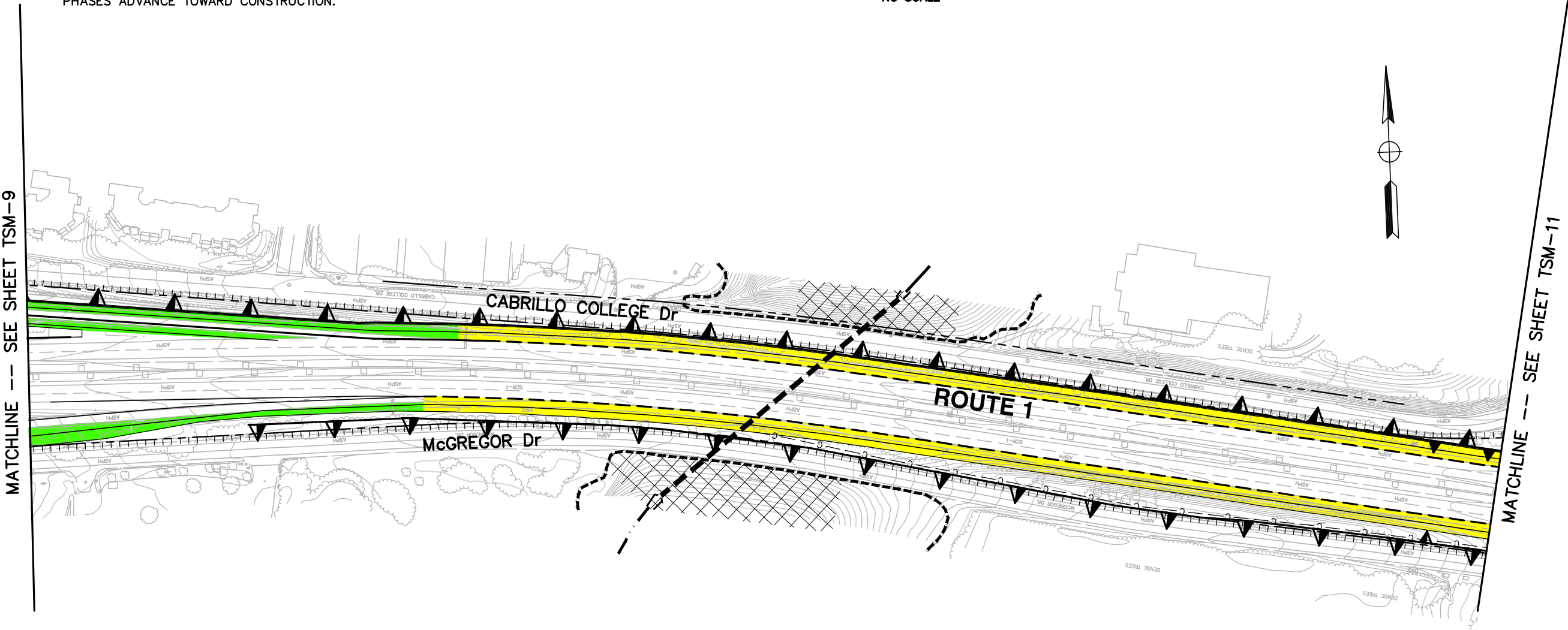
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MANAGEMENT ALTERNATIVE



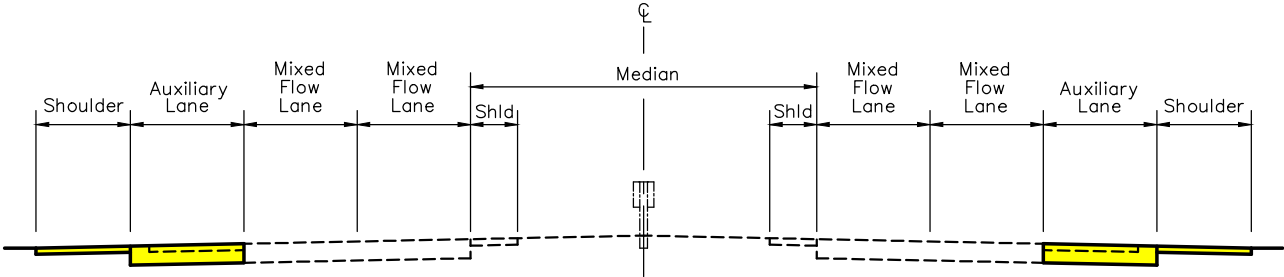


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	11	20

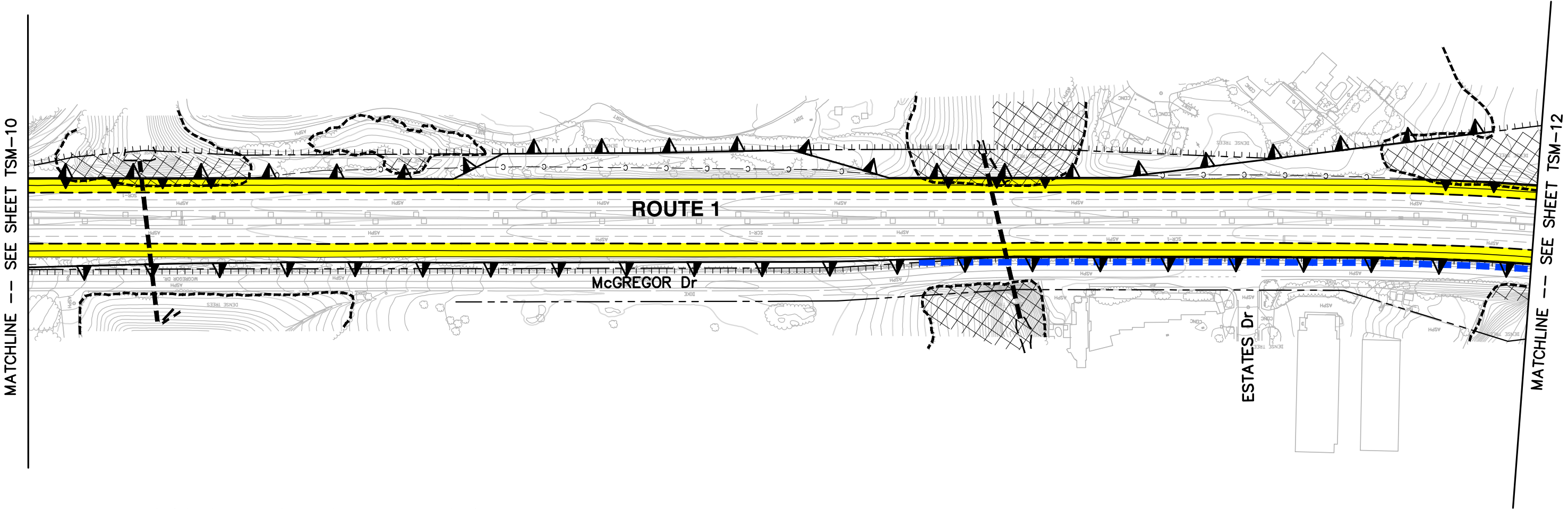
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TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE



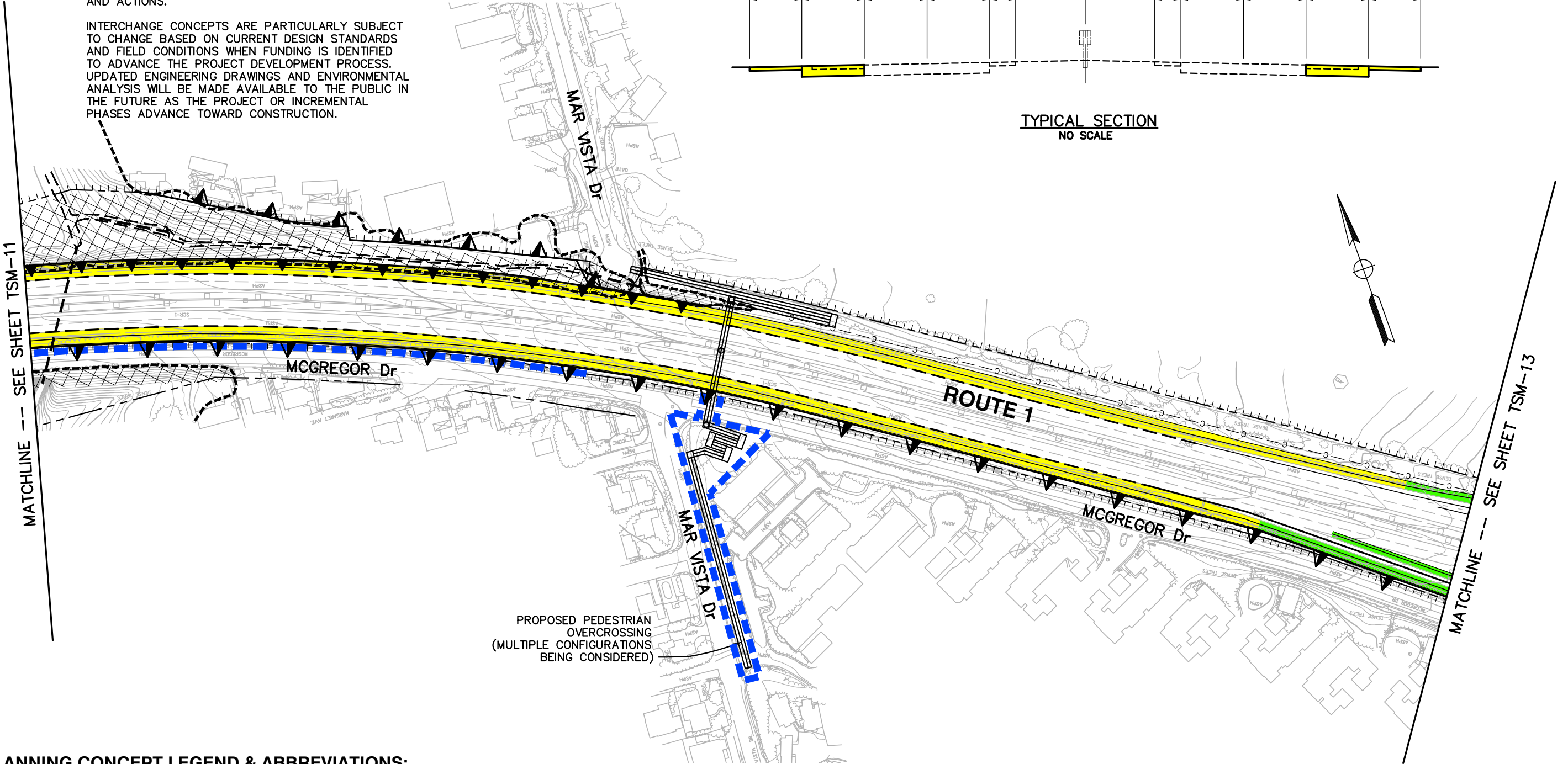
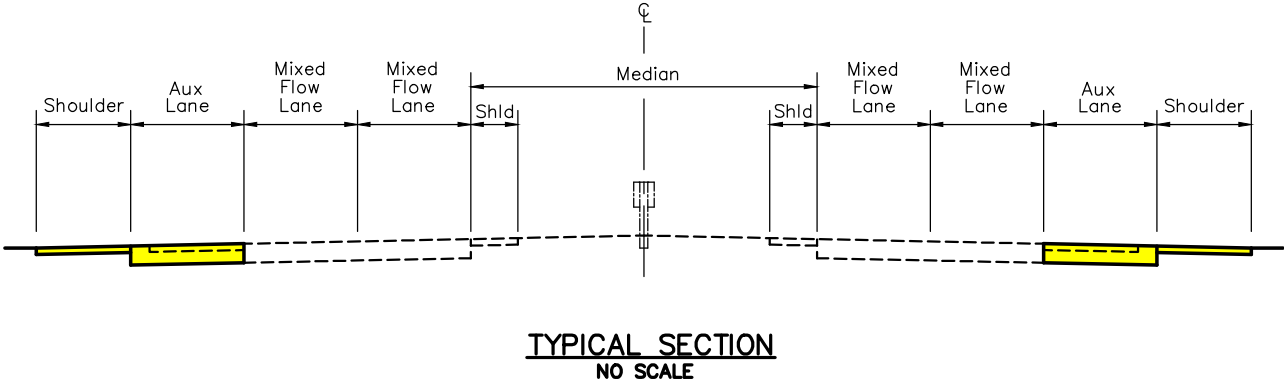


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	12	20

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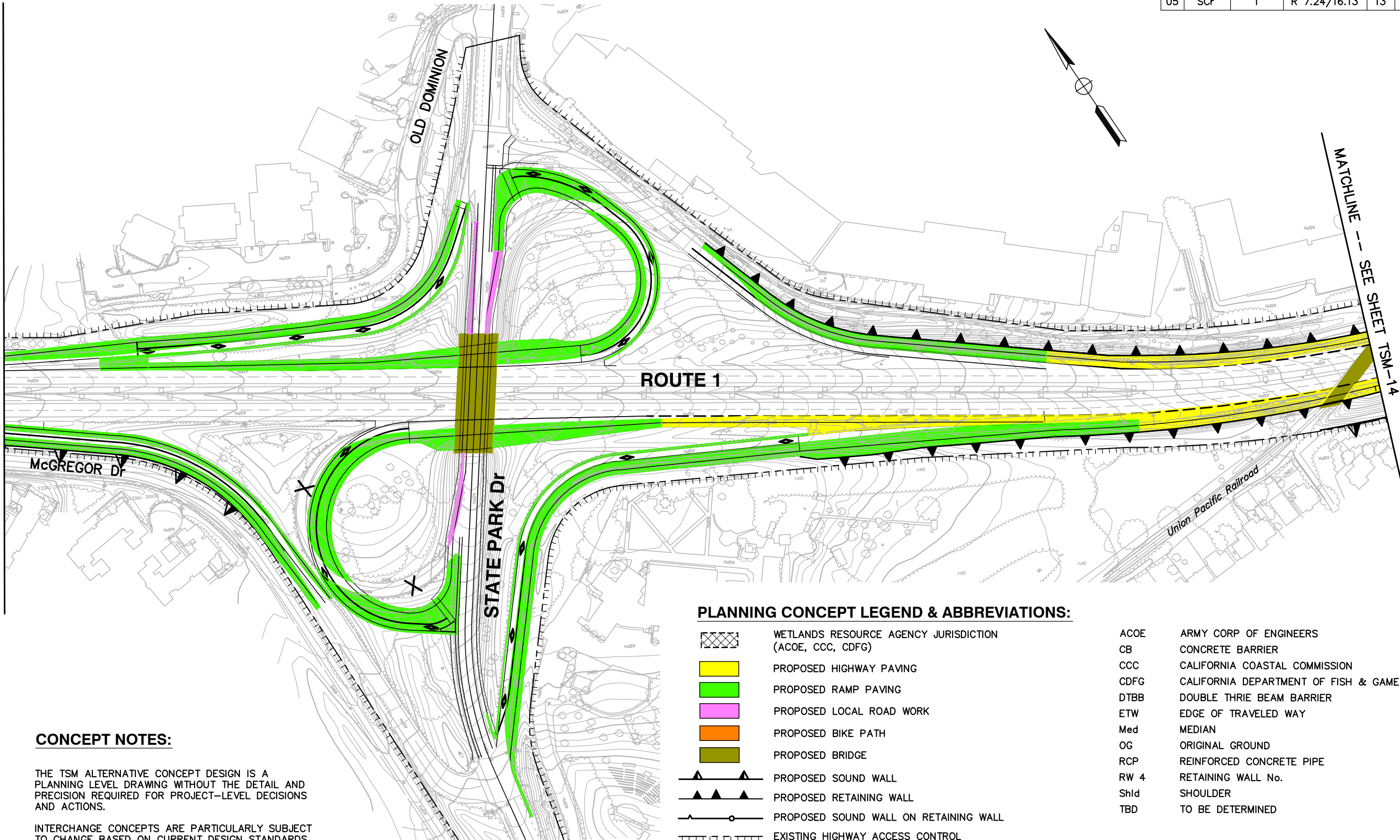
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TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE





DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SCr	1	R 7.24/16.13	13	20

MATCHLINE -- SEE SHEET TSM-12



### CONCEPT NOTES:

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### PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG)
- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE
- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL

- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
- Med MEDIAN
- OG ORIGINAL GROUND
- RCP REINFORCED CONCRETE PIPE
- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED

## TIER 1 CORRIDOR TRANSPORTATION SYSTEM MANAGEMENT ALTERNATIVE

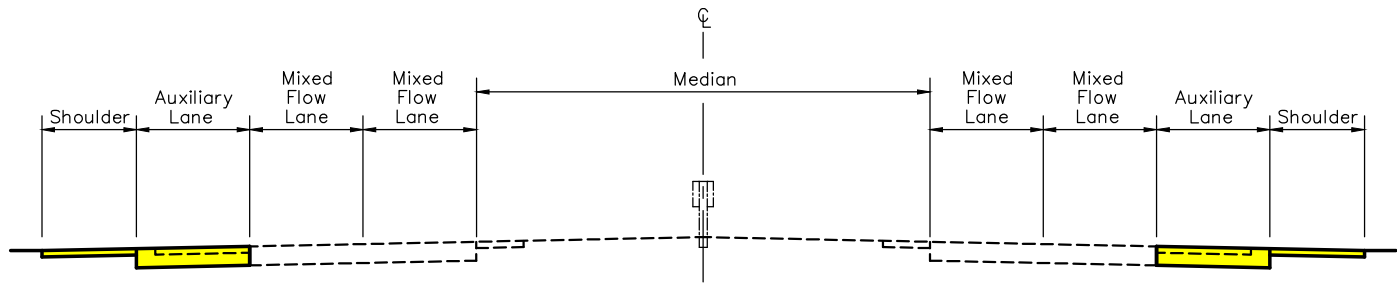




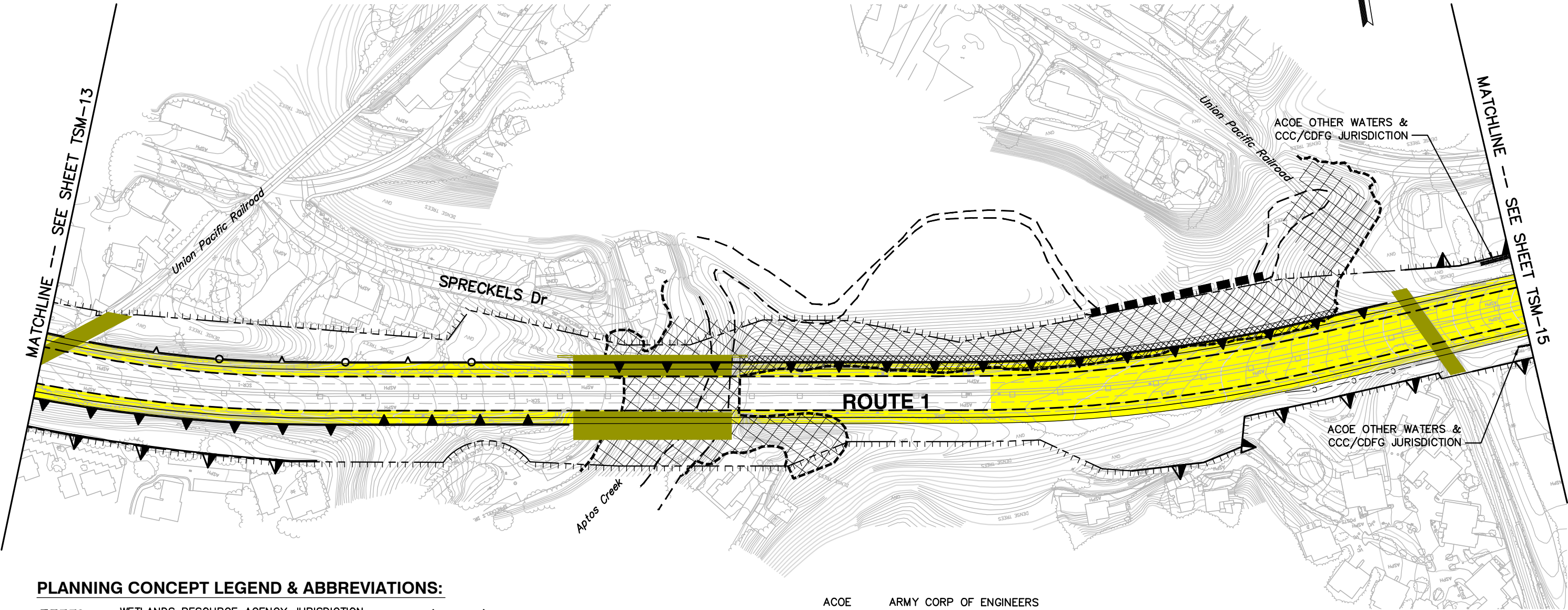
CONCEPT NOTES:

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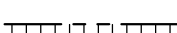






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TYPICAL SECTION  
NO SCALE



PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- |   |   |  |                                       |      |                                      |
|---|---|--|---------------------------------------|------|--------------------------------------|
|  | WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG) |  | PROPOSED SOUND WALL                   | ACOE | ARMY CORP OF ENGINEERS               |
|  | PROPOSED HIGHWAY PAVING                                 |  | PROPOSED RETAINING WALL               | CB   | CONCRETE BARRIER                     |
|  | PROPOSED RAMP PAVING                                    |  | PROPOSED SOUND WALL ON RETAINING WALL | CCC  | CALIFORNIA COASTAL COMMISSION        |
|  | PROPOSED LOCAL ROAD WORK                                |  | EXISTING HIGHWAY ACCESS CONTROL       | CDFG | CALIFORNIA DEPARTMENT OF FISH & GAME |
|  | PROPOSED BIKE PATH                                      |  | PLANNING CONCEPT FOOTPRINT            | DTBB | DOUBLE THRIE BEAM BARRIER            |
|  | PROPOSED BRIDGE   |  | EXISTING CULVERT                      | ETW  | EDGE OF TRAVELED WAY                 |
|   |   |  | HOV LANE PAVEMENT MARKING             | Med  | MEDIAN                               |
|   |   |  | PAVEMENT REMOVAL                      | OG   | ORIGINAL GROUND                      |
|   |   |  |                                       | RCP  | REINFORCED CONCRETE PIPE             |
|   |   |  |                                       | RW 4 | RETAINING WALL No.                   |
|   |   |  |                                       | Shld | SHOULDER                             |
|   |   |  |                                       | TBD  | TO BE DETERMINED                     |

TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE



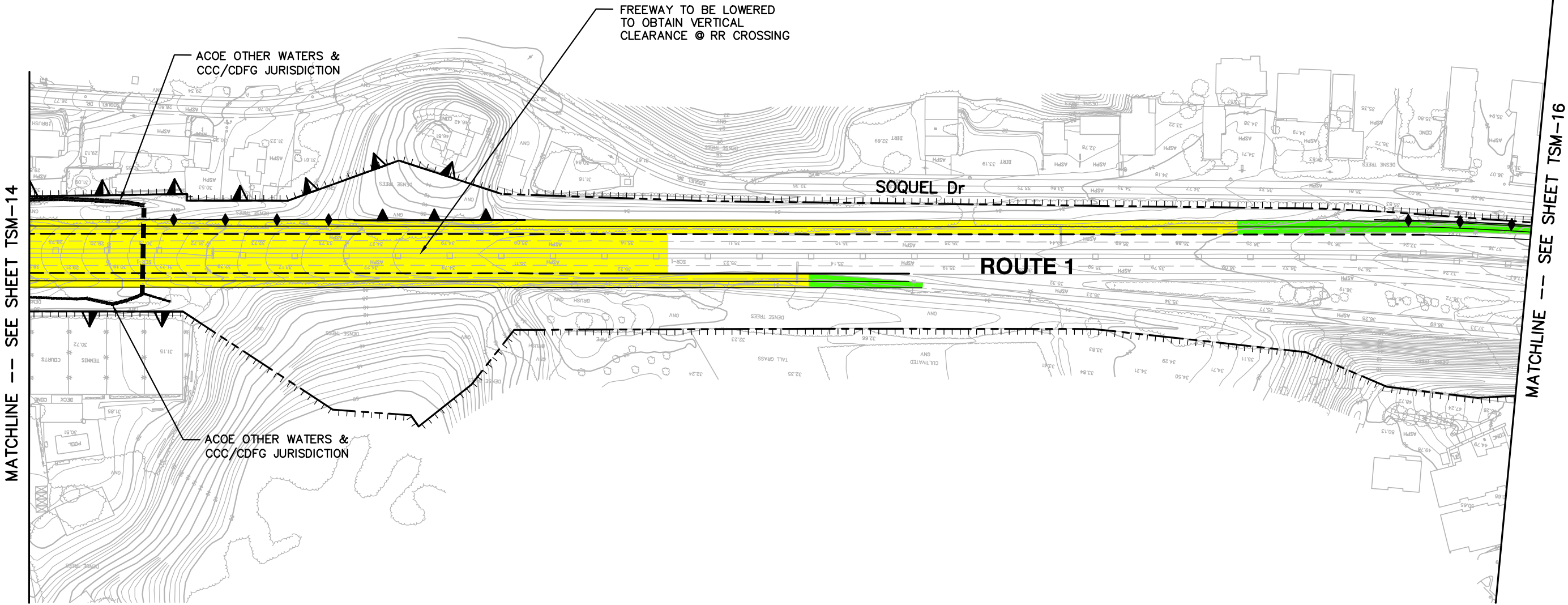
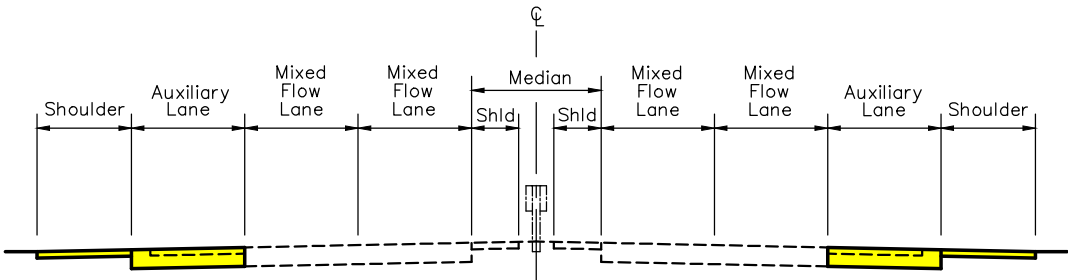


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	15	20

CONCEPT NOTES:

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- PROPOSED HIGHWAY PAVING
- PROPOSED RAMP PAVING
- PROPOSED LOCAL ROAD WORK
- PROPOSED BIKE PATH
- PROPOSED BRIDGE

- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
- EXISTING CULVERT
- HOV LANE PAVEMENT MARKING
- PAVEMENT REMOVAL


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- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
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- ETW EDGE OF TRAVELED WAY
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- OG ORIGINAL GROUND
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- RW 4 RETAINING WALL No.
- Shld SHOULDER
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TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE








PLANNING CONCEPT LEGEND & ABBREVIATIONS:


- 

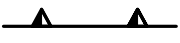
WETLANDS RESOURCE AGENCY JURISDICTION  
(ACOE, CCC, CDFG)
- 


PROPOSED HIGHWAY PAVING
- 


PROPOSED RAMP PAVING
- 


PROPOSED LOCAL ROAD WORK
- 


PROPOSED BIKE PATH
- 


PROPOSED BRIDGE
- 


PROPOSED SOUND WALL
- 


PROPOSED RETAINING WALL
- 

PROPOSED SOUND WALL ON RETAINING WALL
- 

EXISTING HIGHWAY ACCESS CONTROL
- 

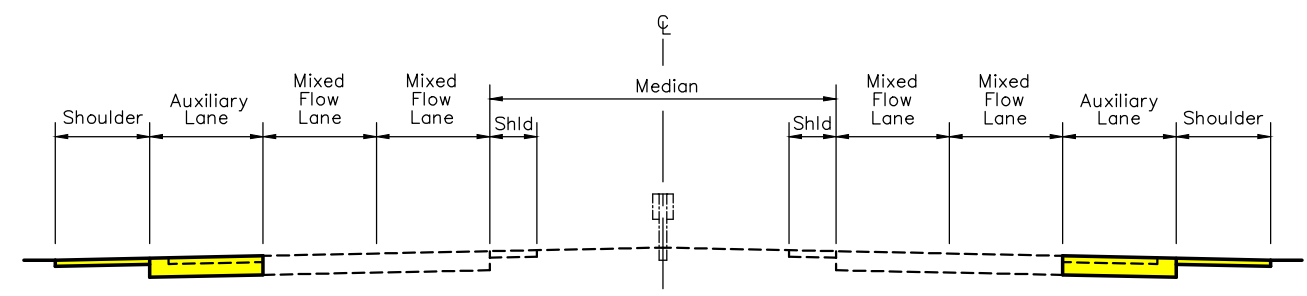
PLANNING CONCEPT FOOTPRINT
- 

EXISTING CULVERT
- 

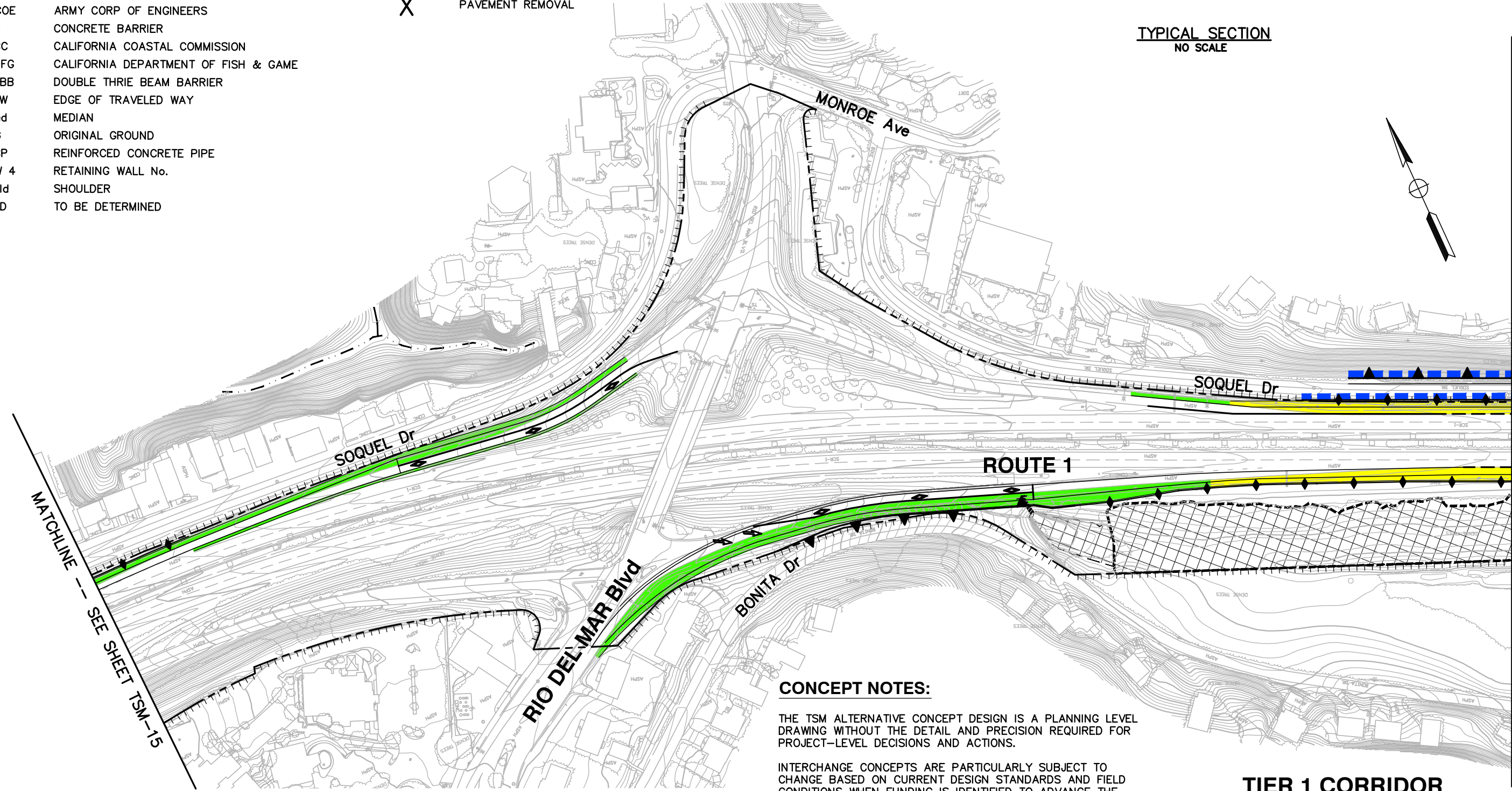
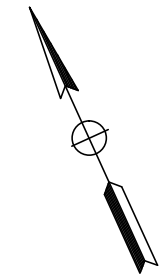
HOV LANE PAVEMENT MARKING
- 

PAVEMENT REMOVAL

- ACOE ARMY CORP OF ENGINEERS
- CB CONCRETE BARRIER
- CCC CALIFORNIA COASTAL COMMISSION
- CDFG CALIFORNIA DEPARTMENT OF FISH & GAME
- DTBB DOUBLE THRIE BEAM BARRIER
- ETW EDGE OF TRAVELED WAY
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- RW 4 RETAINING WALL No.
- Shld SHOULDER
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TYPICAL SECTION  
NO SCALE



CONCEPT NOTES:

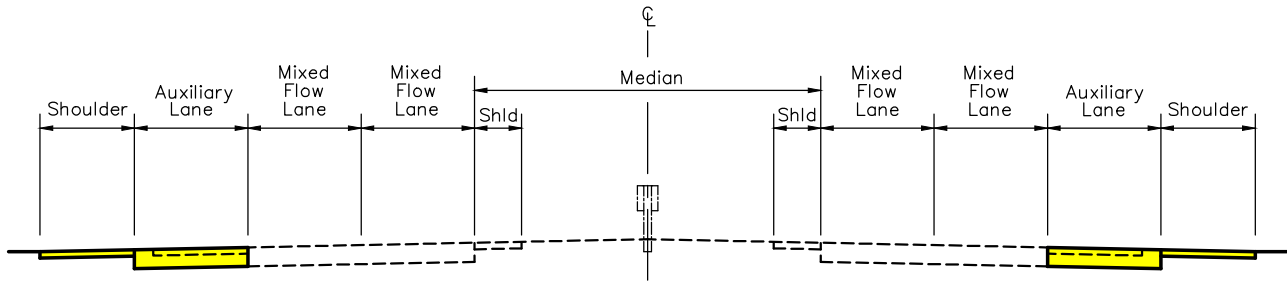
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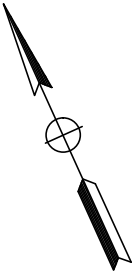




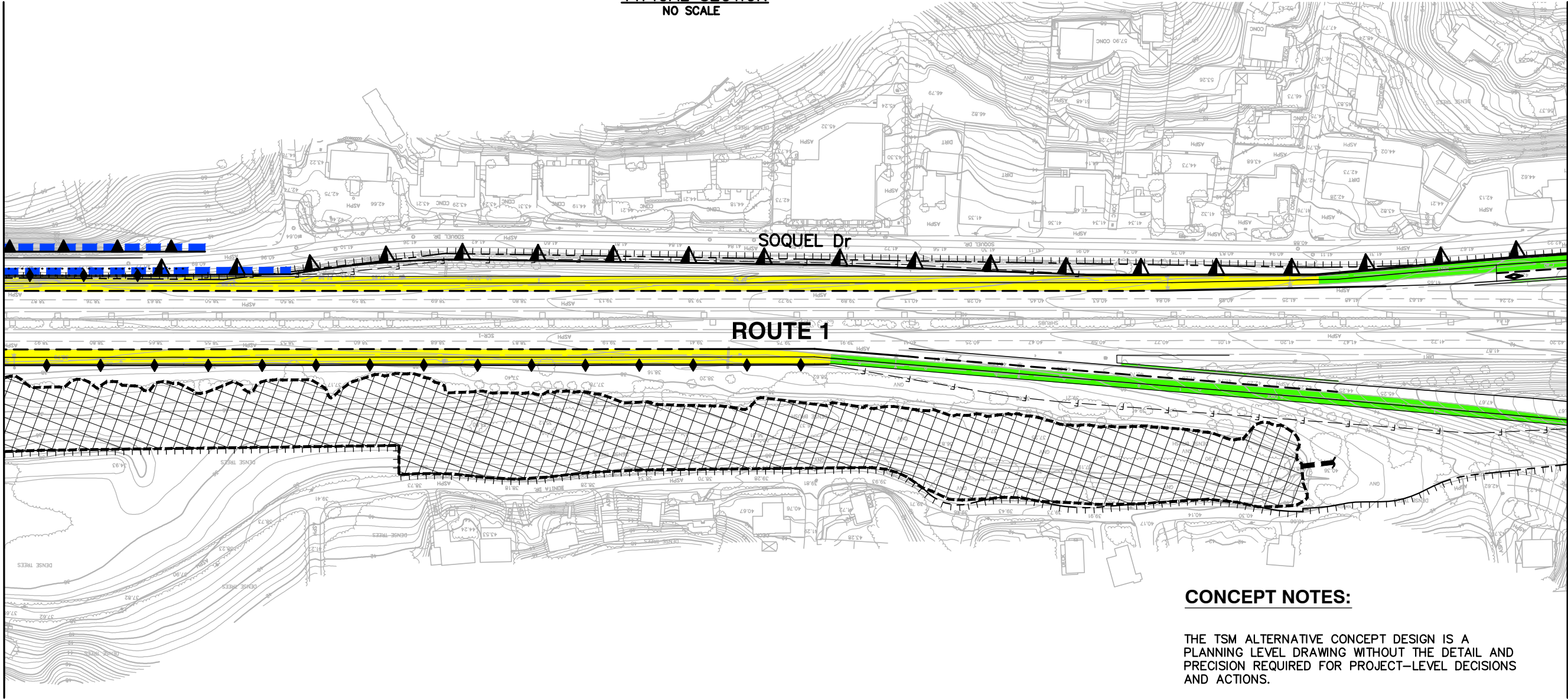
DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	17	20



TYPICAL SECTION  
NO SCALE



MATCHLINE -- SEE SHEET TSM-16



MATCHLINE -- SEE SHEET TSM-18

CONCEPT NOTES:

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PLANNING CONCEPT LEGEND & ABBREVIATIONS:

- |  |   |  |                                       |
|--|---|--|---------------------------------------|
|  | WETLANDS RESOURCE AGENCY JURISDICTION (ACOE, CCC, CDFG) |  | PROPOSED SOUND WALL                   |
|  | PROPOSED HIGHWAY PAVING                                 |  | PROPOSED RETAINING WALL               |
|  | PROPOSED RAMP PAVING                                    |  | PROPOSED SOUND WALL ON RETAINING WALL |
|  | PROPOSED LOCAL ROAD WORK                                |  | EXISTING HIGHWAY ACCESS CONTROL       |
|  | PROPOSED BIKE PATH                                      |  | PLANNING CONCEPT FOOTPRINT            |
|  | PROPOSED BRIDGE   |  | EXISTING CULVERT                      |
|  |   |  | HOV LANE PAVEMENT MARKING             |
|  |   |  | PAVEMENT REMOVAL                      |

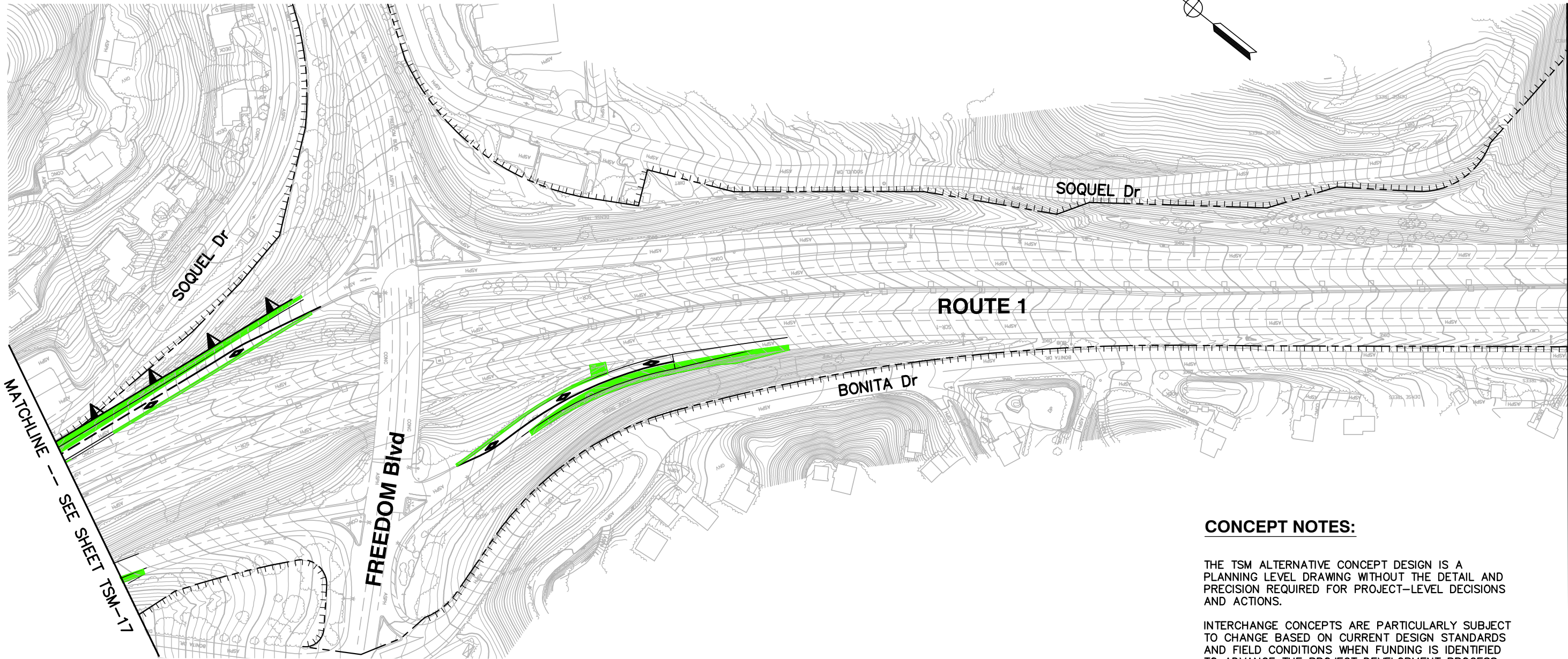
- |      |                                      |
|------|--------------------------------------|
| ACOE | ARMY CORP OF ENGINEERS               |
| CB   | CONCRETE BARRIER                     |
| CCC  | CALIFORNIA COASTAL COMMISSION        |
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| DTBB | DOUBLE THRIE BEAM BARRIER            |
| ETW  | EDGE OF TRAVELED WAY                 |
| Med  | MEDIAN                               |
| OG   | ORIGINAL GROUND                      |
| RCP  | REINFORCED CONCRETE PIPE             |
| RW 4 | RETAINING WALL No.                   |
| Shld | SHOULDER                             |
| TBD  | TO BE DETERMINED                     |

TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE





DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	18	20



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	PROPOSED HIGHWAY PAVING		PROPOSED RETAINING WALL
	PROPOSED RAMP PAVING		PROPOSED SOUND WALL ON RETAINING WALL
	PROPOSED LOCAL ROAD WORK		EXISTING HIGHWAY ACCESS CONTROL
	PROPOSED BIKE PATH		PLANNING CONCEPT FOOTPRINT
	PROPOSED BRIDGE		EXISTING CULVERT
			HOV LANE PAVEMENT MARKING
			PAVEMENT REMOVAL

ACOE	ARMY CORP OF ENGINEERS
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RW 4	RETAINING WALL No.
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**TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE**



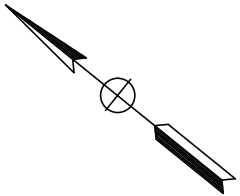


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	19	20

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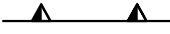
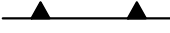






MATCHLINE --- SEE SHEET TSM-18

MATCHLINE --- SEE SHEET TSM-20

ROUTE 1

PLANNING CONCEPT LEGEND & ABBREVIATIONS:

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-  PROPOSED HIGHWAY PAVING
-  PROPOSED RAMP PAVING
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-  PROPOSED SOUND WALL
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- RW 4 RETAINING WALL No.
- Shld SHOULDER
- TBD TO BE DETERMINED

TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE

TSM-19



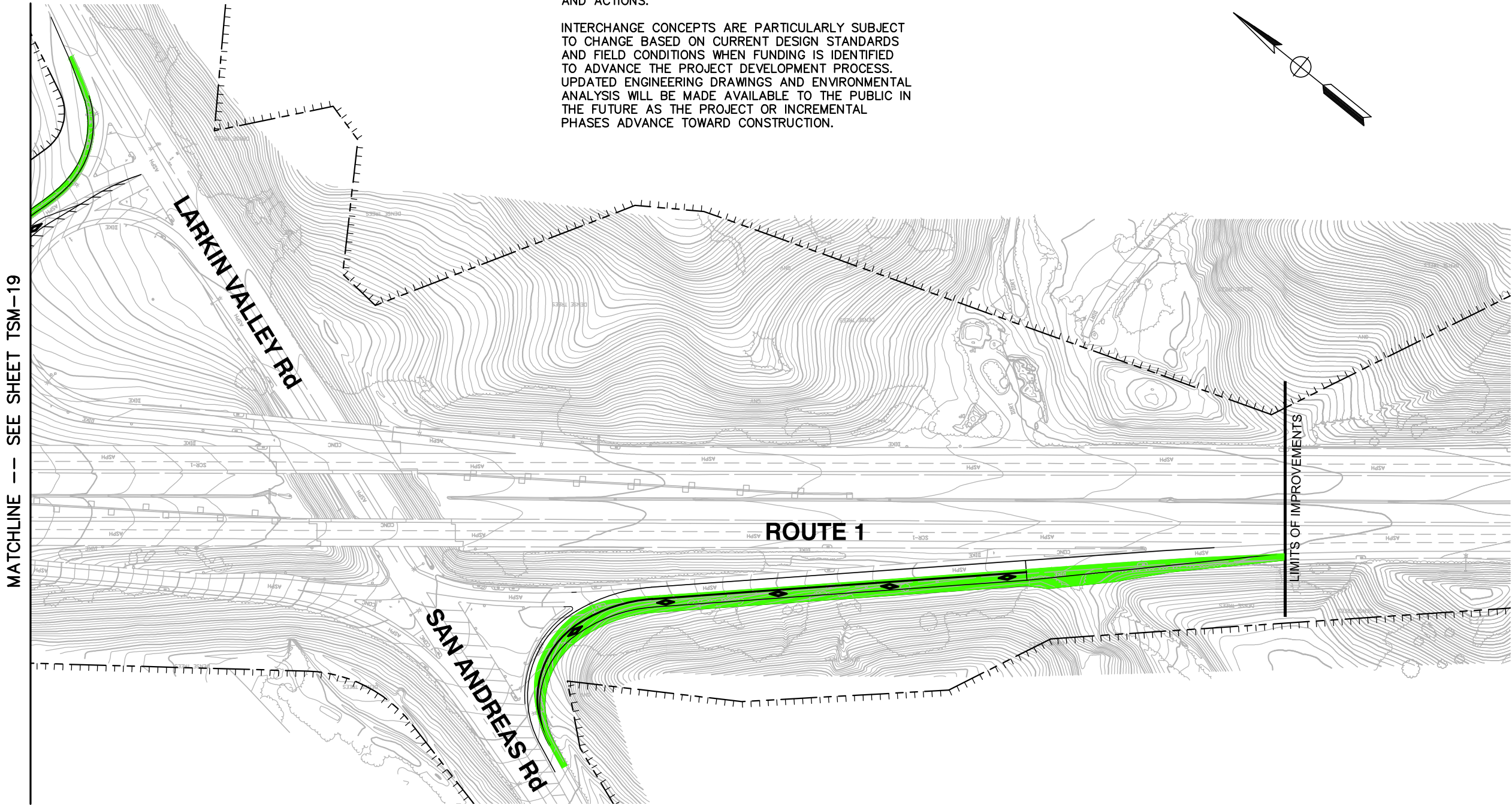
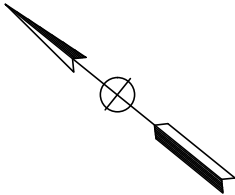


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	1	R 7.24/16.13	20	20

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- PROPOSED BIKE PATH
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- PROPOSED SOUND WALL
- PROPOSED RETAINING WALL
- PROPOSED SOUND WALL ON RETAINING WALL
- EXISTING HIGHWAY ACCESS CONTROL
- PLANNING CONCEPT FOOTPRINT
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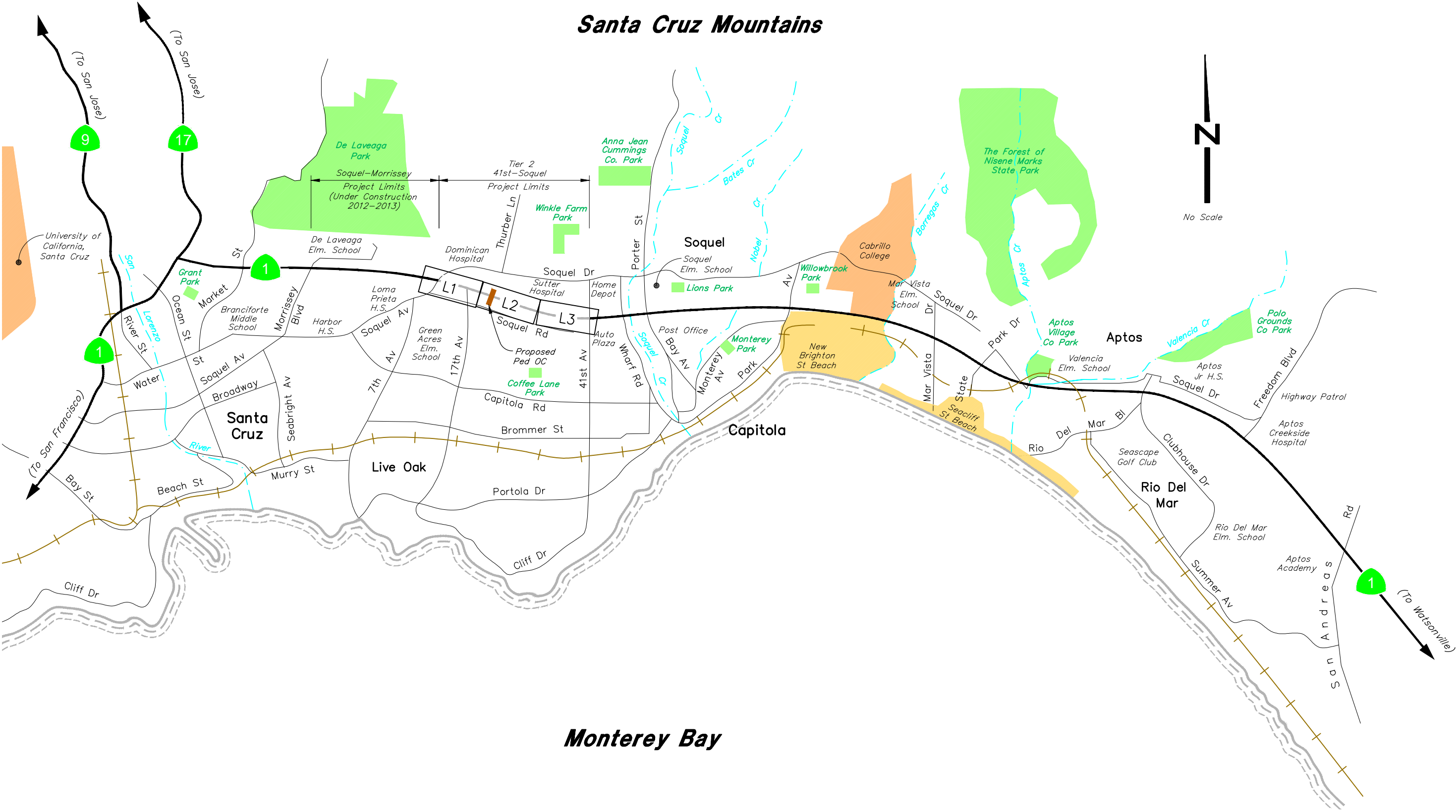
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TIER 1 CORRIDOR  
TRANSPORTATION SYSTEM  
MANAGEMENT ALTERNATIVE






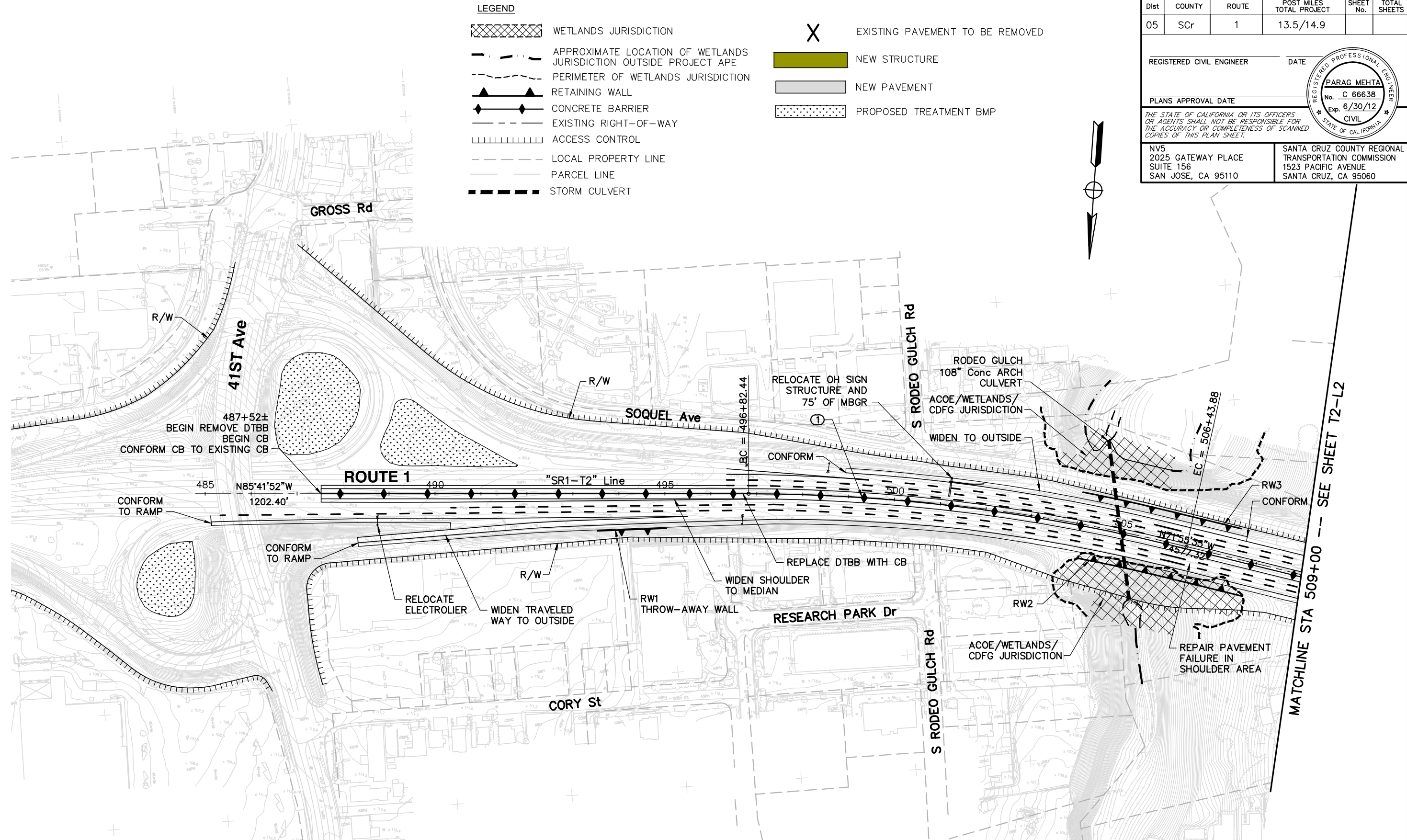
**Santa Cruz Mountains**



**KEYMAP  
TIER 2 CORRIDOR**



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCr	1	13.5/14.9		
REGISTERED CIVIL ENGINEER _____ DATE _____ PLANS APPROVAL DATE _____					
<p><i>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</i></p>					
NV5 2025 GATEWAY PLACE SUITE 156 SANTA JOSE, CA 95110			SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION 1523 PACIFIC AVENUE SANTA CRUZ, CA 95060		



CURVE TABLE				
No.	R	$\Delta$	T	L
①	4000'	13°46'18"	483.04'	961.43'

**ATTACHMENT C**  
**STATE ROUTE 1 HOV - TIER 2**  
**AUXILIARY LANES PROJECT**  
**LAYOUT PLAN**

SCALE 1:100

**T2-L1**





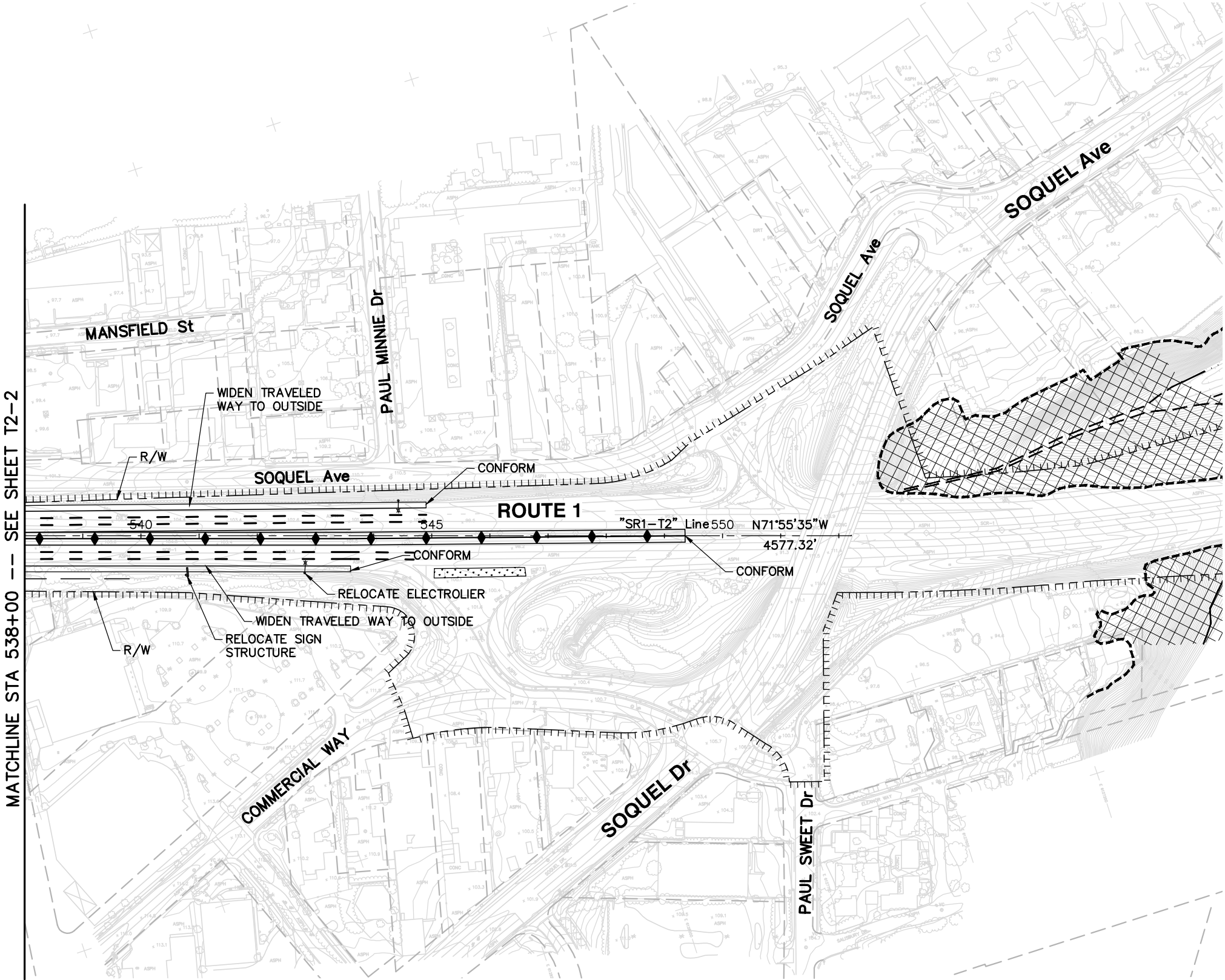






PATH ==> n:\s\086000\cadd\civil\tier 2\5' median offset

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION CONSULTANT FUNCTIONAL SUPERVISOR		CALCULATED-DESIGNED BY		REVISED BY	
Caltans		CHECKED BY		DATE REVISED	



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	13.5/14.9		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
NV5 2025 GATEWAY PLACE SUITE 156 SAN JOSE, CA 95110			SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION 1523 PACIFIC AVENUE SANTA CRUZ, CA 95060		

REGISTERED PROFESSIONAL ENGINEER

PARAG MEHTA

No. C 66638

Exp. 6/30/12

CIVIL

STATE OF CALIFORNIA

DRAFT

ATTACHMENT C  
STATE ROUTE 1 HOV - TIER 2  
AUXILIARY LANES PROJECT  
LAYOUT PLAN

SCALE 1:100

T2-L3



## **APPENDIX B**

### **ENVIRONMENTAL DATABASE SEARCH REPORT**

Provided on CD  
inserted in back cover



## **APPENDIX C**

### **SANTA CRUZ COUNTY SITE MITIGATION LIST**





# Santa Cruz County Site Mitigation List

4/8/2011

Street Address	City	Site Name	Dist	Lead	R Closed	L Closed	Substance
610 2nd Street	SC	Hackbarth Construction	3	L			Waste Oil
3rd St & Kaye St.	SC	PG&E Former Dolphin Station	2	L	9/13/2004		Arsenic
25 E. 5th St.	WAT	Oneto Property	5	L			PAH, TPH, Xylene
130 W. 5th St.	SC	Richard Halward	3	L			Drug Lab
565 6th Ave.	SC	Marine Engine	3	L		4/15/2002	Oil/Grease
7th & E Cliff Dr.	SC	Twin Lakes Beach	3	L			Arsenic/M
500 7TH Ave	SC	Leon Trust Property	3	L			Gas/Diesel/Oil
615 7th Ave.	SC	PG & E	3	R	6/15/1989	*	Oil/Grease
2200 7th Avenue	SC	Santa Cruz SPCA	3	R	1/15/2005	3/15/2005	Gasoline
979 17th Ave.	SC	Live Oak Comm.Swim Center	3	L		10/10/1995	HC
1005 17th Ave.	SC	Ledyard Company	3	R			Gasoline
1037 17th Ave.	SC	Austin Property (PCE Plume)	3	L			Perchloroethen (PCE) carbon tetrachloride (CTC)
1037 (1045) 17th Ave.	SC	El Dorado Meat	3	R			Gas/MtBE
1200 17th Ave.	SC	Live Oak American Gas	3	R	1/23/2003		Gasoline
1255-1305 17th Ave.	SC	California Tube Lab	3	R	1/2/2002	10/16/2001	Solvents
1890 17th Ave.	SC	Bozo Gera	3	L		8/19/1992	Oil
2035 17th Ave.	SC	Mark Elward	3	L		6/9/1990	Solvent
2450 17th Ave.	SC	West Marine Center	3	L		2/16/1995	HC
131 30th Ave.	SC	Elmer Isaac	3	L		*	Chemical

**Santa Cruz County Site Mitigation List**

4/8/2011

40th & Clares St.	CAP	Fresno Poultry	3	L		*	Diesel	
1115- 41st Ave.	CAP	Watts Masonry	3	L		7/30/1991	Gasoline	
1601 41st Ave.	CAP	King's Plaza Shopping Center	3	L			PCE	
1649 41st Ave.	CAP	Shell Station	3	R	9/27/1995		Gasoline	
1971 41st Ave.	CAP	Brown Bulb Ranch	3	L		1/13/1988	Diesel	
2178 41st Ave.	CAP	Mobile Oil Sta./BP Oil Fac.	3	R			HC/MtBE	
2195 (2255) 41st Ave	CAP	41st Avenue Station #4902	3	R			Gas/MtBE	
2435 41st Ave.	SC	San Lorenzo Lumber Co.	3	L		11/5/1991	Gasoline	
2660 41st Ave.	SOQ	Master Cleaners	3	R	12/11/2000	9/29/2000	PCE	
2700 41st Ave.	SOQ	USA Petroleum	3	R	8/2/2002	10/19/2004	Gasoline	
90 Airport Blvd.	WAT	Freedom Auto Center	4	L		*	HC	
455 Airport Blvd.	WAT	Southland Corp.-Unocal	5	R			Gas/MtBE	
581 Airport Blvd.	WAT	Charles Shikuma Farm	5	R			Gasoline	
595 Airport Blvd.	WAT	Maggiora Bros. Drilling, Inc.	5	R			Gasoline	
852 Airport Blvd.	WAT	Don Gilbertson	5	L		6/28/1996	Gas/D/Oil/M	
11455 Alba Rd.	BL	Sequoia Seminar	1	L		12/18/1995	Drug Lab	
815 Almar Ave.	SC	Radiac Abrasives	2	L			Metals	
857 Almar Ave.	SC	Almar Cleaners	2	L			PCE, TCE	
318 Amat (303 Potrero St)	SC	LeMar Co. (Unocal)	2	R			Gasoline	
1003 Amesti Rd.	WAT	Harvest Moon Market	4	R			Gasoline	
1054 Amesti Rd.	WAT	Valley View Market	4	R	6/12/1987	*	HC	

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490 Auto Center Drive	WAT	Century Chevrolet	5	R	6/30/2004	Gas/WO	
500 Auto Center Drive	WAT	Portola Motors	5	R	9/12/2006	Gasoline	
555 Auto Center Drive	WAT	Marty Franich CPDJE, Inc.	5	R		Gasoline	
100 Aviation Way	WAT	Watsonville Airport	5	R		Gas/Pest.	
120 Aviation Way	WAT	United Flight/Former Exxon	5	R		Gasoline	
25 Bafp Drive	WAT	Duane Allen Residence	4	R		Gasoline	
4667 Ball Dr.	SV	Former PG&E SV Substation	1	L	2/3/2003	Arsenic	
434 Barson St.	SC	Hal Masini Car Repair	2	R		Gasoline	
Behind 522 Barson St.	SC	Unknown	2	L		WO/Paint	
600 Bay St.	CAP	Former Chevron Station	4	R		Gasoline	
750 Bay Ave	CAP	Silvercrest Apartments	4	L		Pesticides, Metals	
809 Bay Ave.	CAP	Soquel Pump Station - PW	4	R	6/1/1995 9/15/1998	H-Chlorite	
819 Bay Ave.	CAP	Redtree Properties	4	R		Gas/MtBE	
836 Bay Ave.	CAP	Former Exxon Station #7-3604	4	R		Gas/MtBE	
400 Beach St.	SC	Santa Cruz Beach Boardwalk	2	L	*	Acetone	
405 W. Beach St.	WAT	Western Farm Service	5	R	12/5/2004	Gasoline	
525 W. Beach St.	WAT	Granite Construction	5	R	3/2/1999	Gas/D/Oil	
580 W. Beach St.	WAT	Granite Const. Service Center	5	R	4/16/1999	Diesel	
735 W. Beach St.	WAT	Green Giant Facility	5	R		Gasoline	
866 W. Beach St.	WAT	Granite Construction - Watsonville Facility	5	R		TPH gasoline, TPH motor oil, arsenic, cadmium, vanadium	
880 W. Beach St.	WAT	Phillips Driscopipe	5	R		Gasoline	

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890 W. Beach St.	WAT	Travers Cold Storage		5	R				HC	
950 W. Beach St. (SS Office)	WAT	Venture Oil (Ahlport Petro.)		5	R				Gas/D	
1000 W. Beach St.	WAT	Apple Growers		5	R	3/4/1994			Waste Oil	
1080 W. Beach St.	WAT	West Coast Circuits		5	L				Metal	
1340 W. Beach St.	WAT	Little Lake Industries		5	R	5/9/1997			Solvent	
1635 W. Beach St.	WAT	Green Farm LTD Partnership		5	L				Gasoline	
1715 W. Beach St.	WAT	Indalex		5	L				Aluminum	
1720 W. Beach St.	WAT	Del Mar Foods		5	L				Ammonia	
8 Bean Creek Rd.	SV	Scotts Valley Middle School		1	R	10/20/1993			Gasoline	
21811 Bear Creek Rd.	BC	Willis Ford Truck		1	L				Drug Lab	
21868 Bear Creek Rd.	BC	Angelica Mendez		1	L				Drug Lab	
425 Bear Valley Rd.	APT	Magic Farms Facility		4	L			8/24/1995	Diesel	
484 Beck St.	WAT	Rural Garbage/Moresco		4	R			8/18/2008	Gas/D	
11901 Bidawee Way	FEL	Barker		1	L			*	Propane	
13211 Big Basin Way (13211 Highway 9)	BC	Boulder Creek Texaco		1	L				Gas/D	
13250 Big Basin Way	BC	Olympic Oil Company		1	R				Gas/D/MtBE	
13265 Big Basin Way	BC	Schafir/Mountain Mechanics		1	R	3/1/2002		2/4/2003	Gasoline	
16901 Big Basin Hwy.	BC	Boulder Creek Golf		1	L			12/19/1989	Benzene	
16901 Big Basin Hwy.	BC	Boulder Creek Golf		1	R			2/22/2006	Gasoline	
18600 Big Basin Way	BC	Illegal Disposal		1	L				HazWaste	
20151 Big Basin Way (Old Big Basin Rd.)	BC	Jeanne Freiley/Robert Valdez		1	L			8/12/2002	Meth Lab	

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21401 Big Basin Hwy.	BC	Camp Hammer	1	L			12/6/1994	Gasoline	
205 Blackburn St.	WAT	PVUSD	4	R				Gas/MtBE	
Bloom Grade Rd	BC	Vehicle Dump Sites	1	L		*		D/Solvent	
4415 Bonny Doon Rd.	SC	Cameron / Zingale	1	R				HC	
6617 Bonny Doon Rd.	SC	Bonny Doon Vineyard	1	L				Gasoline	
966 Bostwick Lane	SC	Green Acres School	3	L		2/21/1997		HC	
30 Bradford Rd.	WAT	Sakimoto Nursery	5	L				Gasoline	
650 Branciforte Dr.	SC	Bruce Prather	3	L				Drug Lab	
2711 Branciforte Dr.	SC	Branciforte Fire Prot. Dist.	3	R				Diesel	
1358 Brommer St.	SC	Paradise Landscape	3	L				D/Asbestos	
1600 Brommer St.	SC	Bruce Canepa	3	L		*		Oil/Solv/M	
2700 Brommer St.	SC	Fleet Maintenance Facility	3	L				Sludge	
104 Bronson St.	SC	Pacific Coast Producers	3	L		9/11/1991		HC/D	
Brown's Valley Rd.	COR	Corralitos Area Drum Dump	4	L		*		Acid/HW	
1055 Brown's Valley Rd	WAT	Joe Burch	4	L		3/25/2002		Meth Lab	
Buena Vista Dr. (1400 Block)	WAT	Drug Lab	5	L				Drug Lab	
202 Buena Vista Dr.	WAT	Brothers Country Corner	5	R				Gasoline	
1231 Buena Vista Dr.	WAT	Buena Vista Landfill	5	L		*		Pesticides	
1232 Buena Vista Dr.	WAT	John & Villet Rocha	5	L				Diesel	
1630 Buena Vista Dr.	WAT	Kevin J. McDowell Res.	5	L		*		Gasoline	
500 Cabrillo Hwy 1	DAV	Arro's ARCO	1	R		10/20/1992	9/28/1992	Gasoline	

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Near 371 Calabasas Rd.	WAT	Wilsey Bennett Co.	5	L					Diesel	
California & Bay St.	SC	Neary Lagoon State Park Site	2	L					Study	
110 California St.	SC	City of S.C. Public Works	2	L					M/HC/Chlor	
321 Canham Rd.	SV	Cornell Williams	1	L				1/20/1995	D/Oil/HC	
Capitola Rd (Between 7th & 17th)	CAP	Capitola Road Sewer Project	3	L					Oil	
Capitola Rd & Capitola Rd Ext	SC	Rob Hussey/Beitler Co.	3	L				8/18/1998	Acetone	
426 Capitola Ave., #63	CAP	Pacific Cove Mobil Home Park	4	L					Gasoline	
705 Capitola Rd.	SC	Shell Station	3	R					Gas/MtBE	
Near 1115 Capitola Rd.	SC	Jack B. Kelly, Inc.	3	L				*	Argon	
1438 Capitola Rd.	SC	The Road Company	3	L				10/20/1994	D/Oil/Gas	
1671 Capitola Rd.	SC	Live Oak Texaco	3	R					Gasoline	
1701 Capitola Rd.	SC	Beacon Station #3529	3	L				3/3/1997	Gasoline	
1777 Capitola Rd.	SC	Live Oak School District	3	R					Gasoline	
2545 Capitola Rd.	SC	Capitola/Begonia Gardens	3	L				11/10/1999	DDT/Pest.	
3800 Capitola Rd.	CAP	Goodyear Tire & Rubber Co.	3	L				6/15/1998	W/O	
3908 Capitola Rd.	CAP	King's Cleaners	3	L					Perc	
195 Capitola Rd. Ext.	SC	CalTrans- S.C. Maint. Sta.	3	L					Diesel	
Carbonero Creek	SV	Petroleum Delivery, Inc.	1	R				*	Gasoline	
Carbonero Creek at Carbonero	SV	Scotts Valley Water District	1	L					Chlorine	
Carbonero Creek at Disc Dr.	SV	Scotts Valley Fire District	1	L				*	Chemical	
110 Carlton Road	WAT	Keft Ranch	4	R				12/15/2004	Gas/D	



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Carr St. & E. Lake Ave.	WAT	Pacific Coast Development	4	L				10/7/2002	Gas/WO	
134 Casserly Rd.	WAT	Lopez	4	L					Pesticides	
287 Casserly Rd.	WAT	Joe George Property	4	L				*	Gasoline	
908 Casserly Rd.	WAT	Suncrest Nursery	4	R		9/20/2001		9/25/2001	Gasoline	
209-211 Cedar St.	SC	Eurotechs	2	L				7/15/2004	WO/D/Gas	
912 Cedar St	SC	Sentinel Printers	3	L					Gasoline	
123 Center St.	SC	Santa Cruz Feed & Seed	2	L				10/18/2004	Gasoline	
130 Center St.	SC	Bergstrom Motors	2	L					Solvent	
155 & 185 Center St.	SC	City of S. C. Police Station	2	L					D/Gas	
709 Center St.	SC	Pacific Bell	2	R		2/17/1995		*	HC	
2185 Chanticleer Ave/1840 Rodriguez St	SC	Benias (Danco) Property	3	R				11/7/1997	Gasoline	
2230 Chanticleer Ave.	SC	Central County Garbage	3	L				5/7/1991	HC	
2338,2402,2464 Chanticleer	SC	Rod Seigle	3	L				10/7/2002	HC	
515 Chappel Rd.	WAT	Pacific Bell	4	L		12/2/1999		9/25/2000	Gas/Btex	
3999 Cherryvale Ave.	SOQ	Castillo Residence	3	L				11/15/1999	Diesel	
Chestnut Street & Union Street	SC	City of SC Water Dept	2	L				8/9/1999	HC	
101 Chestnut St.	SC	Santa Cruz City Pile Storage	2	L				5/7/1990	Gasoline	
125 Chestnut St.	SC	John Inglis Frozen Food	2	L				*	Ammonia	
155 Chestnut St. (2 Jenne St.)	SC	Union Ice House	2	R				4/2/2001	Gasoline	
208 Chestnut St.	SC	T. L. Anthony Group	2	R					Metal	

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207 Church St	SC	Former Santa Cruz Sentinel Building	3	R			Solvents in Groundwater, TCE, DCE, Vinyl Chloride
3825 Clares St	CAP	Mc Whorters	3	L			Paint/WO
Cliff Dr.	APT	Rio Del Mar Pump Station	5	R			Diesel
2-1503 E. Cliff Dr.	SC	East Cliff Dry Cleaners	3	L		10/22/2002	PCE
2-3010 E. Cliff Dr.	SC	Sarkis Khazadian	3	L			Metals
175 W. Cliff Dr.	SC	Dream Inn	2	L		*	Asbestos
610 Clubhouse Dr.	APT	Seascape Golf Course	5	L		12/15/1993	Gasoline
451 Coast Rd.	SC	Pacific Western Bank	1	L			HC/Metals
1401 Coast Rd.	SC	Wilder Ranch Burn Dump	1	L			M/Burnfish
2101 Coast Rd.	SC	State of California	1	L			Diesel
5322 Coast Rd.	SC	John Stephenson	1	L		6/30/1997	Drug Lab
5511 Coast Rd.	SC	Lorenzi Ranch Property	1	L		*	Gasoline
1505 Commercial Way	SC	Norm Bei	3	L			Metals
1524 Commercial Ave.	SC	Chevron Station	3	L		11/29/1995	HC
1650 Commercial Way	SC	Redtree Properties	3	R		*	Lead
1700 Commercial Way	SC	Lido Marietti	3	L			Gasoline
1720 Commercial Way	SC	Boulder Creek Flowers	3	L			Diesel
Cooper St. & Pacific Ave.	SC	J. Paul Co.	2	L		12/27/1995	Fuel Oil
Coral St.	SC	Santa Cruz Valle Volvo	2	L		*	HC
115 & 117 Coral St.	SC	Helen Sotero	2	L			Benzene
303 Coral St.	SC	Granite Rock Construction	2	R		8/6/1996	Gasoline

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320 Coral St.	SC	Jim Wylie Property	2	L	*	8/23/2005	Gas/D
350 Coral St.	SC	Bogard Construction Co.	2	L		3/11/1992	Gasoline
399 Coral St.	SC	Erik's Deli Cafe	2	L		11/18/1998	Gasoline
18 Crescent Dr.	WAT	Julia Hernandez/Meza	5	L		5/5/1993	Oil/Grease
130 Dalton Lane	WAT	Housing Authority	4	L		*	Gas/WO
179 Dalton Lane	WAT	Coastal Berry Farm Corp.	4	R	6/29/1995		Gasoline
De Laveaga Park - Brookwood	SC	Charles Derby Small Range	3	L			Metals
2120 Delaware Ave.	SC	Redtree Property	2	R			Possible VOC in soil vapor, GW
Next to 2200 Delaware Ave.	SC	Lipton Co	2	L		7/28/1997	Study
2200 Delaware Ave.	SC	Lipton	2	R	3/19/1997	10/21/1997	D/Gas
2300 Delaware Ave.	SC	Silicon Systems	2	L		*	Chemical
213 & 313 Dias Lane	WAT	Salsipuedes Auto Wrecking	4	L		12/17/1991	Gas/Oil
123 Doyle St	SC	Commercial Property/Prindle	2	L		1/8/2010	Motor Oil
132 Doyle St.	SC	Architectural Window Prod.	2	R		1/8/2010	Gasoline
134-136 Doyle St.	SC	Mc Common Property	2	R			Gasoline
231 Elinor St.	CAP	Nancy Divine	4	L			Solvents
El Pueblo Rd.	SV	El Pueblo Road Plume	1	R			Solvent
340 El Pueblo Rd.	SV	Tate Western	1	L			Solvents
1060- A Emeline Ave.	SC	Stepping Out House	3	L			D/Gas
Empire Grade Rd.	SC	Paul Chapman	1	L			Waste Oil
8647 Empire Grade Rd.	SC	Bonny Doon Airport	1	L			Gasoline

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12500 Empire Grade Rd	SC	Cingular Wireless							Diesel	
13575 Empire Grade Rd.	BL	Ben Lomond Cons. Camp	1	L					Pest/Gas/	
16020 Empire Grade Rd.	SC	Lockheed	1	L					Diesel	
139 Encinal St	SC	DEVCO Oil	2	R					Gas/MtBE	
345 Encinal St	SC	Plantronics	2	R					Solvents	
7 Erba Lane	SV	Scotts Valley Fire District	1	L	*				Diesel	
Errington Rd & Ford St	WAT	Watsonville Slough Study	5	L					Study	
425 Errington Rd.	WAT	DUC Housing Partners, Inc.	5	L					D/Gas	
520 Errington Rd.	WAT	Steve Mine	5	L					Study	
600 Errington Rd	WAT	Linda Richards	5	L					Gas/D/Lead	
460 Eureka Canyon Rd.	WAT	Alice Wheeler	4	L					Metal	
23060 Evergreen Lane	LG	B. Patrick Thompson	3	R	5/10/2006	8/8/2006			G/Oil	
Fair Ave. & Ingalls St.	SC	Tobey Trust Properties	2	L					Various	
1206 Fair Ave.	SC	E.V. Moceo Co.	2	R					Gasoline	
1211 Fair Ave.	SC	Stoller Company	2	L	11/3/1989				Diesel	
1310 Fair Ave. (Locker A-115)	SC	Crocker's Lockers	2	L					Drug Lab	
3211 Fairway Dr.	SOQ	Richard Zscheile	4	L					Drug Lab	
125 Fallen Leaf Rd.	SC	Chris Rudloff	1	L					Diesel	
129 Felker St	SC	Dyas Residence	2	L					WO/HW	
133 Fern St.	SC	Santa Cruz Petroleum	2	R					Gas/Diesel	
4761 Fern Flat Rd.	APT	Christine Andronico	4	L					Drug Lab	

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331 Ford St.	WAT	Cascade Foods/Norcal Crosetti	5	L					Oily Water
352 & 356 Ford St.	WAT	H & H Bottling	5	R	12/20/2004	17/2005			Gasoline
15860 Forest Hill Dr	BC	San Lorenzo Valley Water District	1	R					Gasoline
145 E. Forest St.	SC	Pacific Bell	1	L					Diesel
880 Foxglove Lane	BC	John Willott	1	L					Diesel
154 Franklin St.	SC	Deana & Brad Kelemen	2	L		3/16/1998			Diesel
156 Franklin St.	SC	Carl Holt	2	L		3/16/1998			Diesel
610 Frederick St.	SC	Dominican Property	3	L	9/9/2004				Diesel
Freedom Blvd. Next to 6250	APT	Former PG&E Valencia Substation	4	L		12/6/2003			Arsenic/HC
1114 Freedom Blvd.	WAT	J's Gas & Save	4	R					Gasoline
1350 Freedom Blvd.	WAT	Don Heim & Son Dry Cleaners	4	L					PCE
1428 Freedom Blvd.	WAT	UNOCAL Station #5535	4	R					Gas/D/MtBE
1455 Freedom Blvd.	WAT	Former Exxon Station #7-0115	4	R					Gas/MtBE
1482 Freedom Blvd.	WAT	Foppiano Property	4						Mixed Petroleum/ Hydocarbons Motor Oil
1484 Freedom Blvd	WAT	Mowery Property	4	L					TPH-Gasoline Benzene/MTBE
1488 Freedom Blvd.	WAT	Former Chevron #9-7517	4	R					Gas/WO
1509 Freedom Blvd.	WAT	Freedom Reservoir	4	L					HC
1597 Freedom Blvd.	WAT	Beacon Station #400	4	R					Gas/MtBE
1603, 1605, 1607 Freedom	WAT	Claire Rae Espindola Trust	4	R		3/5/2001			Gasoline

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1830 Freedom Blvd.	WAT	Freedom Reservoir	4	L			HC	
1902 Freedom Blvd	FRE	Freedom BP	4	R			Gasoline	
2001 Freedom Blvd.	FRE	Schiavon Property/Unocal Station	4	R			Gas/MtBE	
2111 Freedom Blvd.	WAT	Monument Lumber	4	L		8/23/1988	Gasoline	
2140 Freedom Blvd.	FRE	Quik Stop Market/Helen Hunt	4	R			Gas/MtBE	
2414 Freedom Blvd.	FRE	T. Larry Jones, Inc.	4	L			Gasoline	
2433- A Freedom Blvd.	FRE	Betz Paving & Sealing	4	R	12/6/2000	1/29/2001	Gasoline	
2482 Freedom Blvd.	FRE	H.A. Rider & Sons	4	L			Gas/WO	
2536 Freedom Blvd.	WAT	Mann's Apples	4	L		6/15/1993	Gasoline	
2783 Freedom Blvd.	FRE	A. Nagamine Nursery, Inc.	4	L			HC	
2904 Freedom Blvd.	COR	Five Mile House Market	4	R	7/14/2009	9/14/2009	Gasoline	
6100 Freedom Blvd.	APT	Mid-Peninsula Housing	4	L		5/10/2000	Oil/Gas/Ker	
33 W Front St.	WAT	City of Wats Redevelopment	5	L		12/24/2002	Zinc	
101 W Front St.	WAT	South County Housing Corporation5		L			SVOC/TPH/METALS	
Levee adjacent to 101 W. Front St	WAT	Leavee adjacent to 101 W Front St	5	L			SVOC/TPH/METALS	
35 Front St.	SC	Jeanne Meyers	2	R	10/25/1994		Gasoline	
100 E Front St.	WAT	City of Wats EHS Project #200	4	L		4/29/2002	Study	
201 Front St.	SC	Santa Cruz Seaside Co.	2	L		2/27/1996	Metal	
325 Front St. (812 Pacific Av)	SC	Putney & Perry	2	R	6/27/2000		Waste Oil	
425 Front St.	SC	Greyhound Property	2	L			Lead	
429-435 Front St.	SC	Chris Garwood Property	2	L			Oil, Grease	



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600-601 Front St	SC	San Lorenzo Park Plaza	2	R			TPH	
698-720 Front St	SC	San Lorenzo Park Plaza	2	R			TPH	
600-720 Front St.	SC	San Lorenzo Park Plaza	2	R			Oil	
601 Front St. and Soquel Ave.	SC	Front Street Parking Garage	2	R			HC	
705 Front St.	SC	Art Museum/McPherson Ctr.	2	R	10/26/1994		HC/Metal	
740 Front St.	SC	Galleria (Former French Laundry)	2	R			Oil/D	
17 Gaffey Rd.	WAT	Ruby Franzke	4	L			Gasoline	
262 Gaffey Rd.	WAT	Robert Goulding	4	L		5/17/1993	HC	
250 Geyer Rd.	SV	PCO-LLC	1	R			Diesel	
8205 Glen Haven Rd.	SOQ	Kennolyn Camp	3	L		10/25/1994	Gas/Chem	
120 Golf Club Dr.	SC	Metrol Base Project	2	L		1/13/2004	HC Mix	
715 Graham Hill Rd	SC	Graham Hill Water Treatment Plant	2	L			Arsenic	
5401 Graham Hill Rd.	FEL	Roaring Camp & Big Trees	1	R			Oil	
5700 Graham Hill Rd.	FEL	Mt. Hermon Conf. Center	1	L	10/2/2003	12/23/2003	Diesel	
5843 Graham Hill Rd.	FEL	San Lorenzo Lumber	1	L			D/HC	
5843 Graham Hill Rd.	FEL	S.C. Lumber	1	EPA	1/17/1989	6/15/1988	Gasoline	
6225 Graham Hill Rd.	FEL	Felton Exxon	1	L			Gasoline	
6440 Graham Hill Rd.	FEL	Rudy's Service	1	R	8/18/1992	*	Gasoline	
112 Grandview	SC	Aaron Dye	2	L		*	Waste Oil	
Near 304 Granite Creek Rd.	SV	Roberson Construction	1	L			Diesel	
1713 Granite Creek Rd.	SV	Jerry Thacker	1	L			Drug Lab	

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1500 Green Hills Rd.	SV	GEC Plessey, Inc.	1	L		1/26/1998	Gas/D/WO	
Green Valley Rd.	WAT	Ted Richardson	4	L		*	Chemical	
Green Valley Rd. & Apple Ln.	WAT	Unknown	4	L			Drug Lab	
Green Valley Rd. 1900 Block	WAT	Unknown	4	L			Drug Lab	
1 Green Valley Rd.	FRE	George Stone/E's Ranch Milk	4	R		1/27/1998	Gas/D	
298 Green Valley Rd.	WAT	Wats. Community Hospital	4	R	2/26/1997		Diesel/HC	
350 Green Valley Rd.	WAT	Don Peixoto	4	L		*	Waste Oil	
445 Green Valley Rd	WAT	Edwin Furtado & Kathleen Serrato	4	R			Gasoline	
1800 Green Valley Rd.	WAT	Mr. Conde	4	L			PCBs/Oil	
196 Grimmer Rd	WAT	Pajaro Valley USD Transp.	4	L			HC	
198 Grimmer Rd(Holohan Rd/Cottage Dr)	WAT	Roy Wilson Yard - P.W.	4	R			D/Gas/MtBE	
140 Grove St.	WAT	Mitchell Resetar	5	L		4/1/1999	Gasoline	
1 Hacienda Dr.	SV	Shell Station	1	R			Gas/MtBE	
2020 Halterman #A	SC	Property Management	3	L		*	HC	
218 Hames Rd.	WAT	Phil Taylor Trenching	4	L			Gas/D	
1176 Hames Rd.	APT	Ellen Thomas	4	R	3/17/2008	4/4/1997	Gasoline	
1311 Hames Rd.	APT	Former Paradise Nursery	4	R			Gasoline	
42 Hangar Way	WAT	Toxscan, Inc.	5	WF				
78 Hangar Way	WAT	Xitronics	5	L			M/Oil/WO	
Harkins Slough Rd. @ Lee Rd.	WAT	Proposed Landmark School	5	L			Study Only	
115 Harkins Slough Rd.	WAT	Unknown	5	L			HC	

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167 Harkins Slough Rd.	WAT	Proposed Elem. School Site	5	L				Study Only	
495 Harkins Slough Rd.	WAT	J & R Realty Company	5	L			8/9/1996	HazWaste	
320 Harvest Dr.	WAT	Municipal Service Center	5	R		11/16/2001		Gasoline	
620 Heather Dr.	WAT	Schwartz	4	L				Waste Oil	
3 Hecker Pass Rd.	WAT	Hecker Pass Market	4	R				Gas/MtBE	
20 Hecker Pass Rd	WAT	Ariel Mushroom Farm, Inc.	4	L			3/25/2002	Diesel	
215 Hecker Pass Rd.	WAT	Red & Sweet Farms	4	L			12/1/1998	D/Oil/Pest.	
130 Herman Ave.	WAT	Rolling Hills Middle School	5	L				Mercury	
High St.	SC	Land Mark Property	2	L			4/26/1988	Waste Oil	
260 High St.	SC	Piedmont Court Assoc.	2	L			5/30/1995	HC	
1035 High St.	SC	Landmark Development	2	L				Study	
1156 High St.	SC	U.C. Santa Cruz	1	L				D/WO	
1156 High St.	SC	U.C. Santa Cruz	1	L				Hydraulic Oil	
Highland Way	LG	Pelican Timber Co.	4	L			2/10/1994	Lead	
29500 Highland Way	LG	Property of Quinn Hill	3	L				D/Chem/M	
Highway 1	DAV	Davenport Burn Dump	1	L			1/6/1999	Lead	
Highway 1	DAV	Lonestar	1	L			10/1/1989	Diesel	
Highway 1 & Highway 129	WAT	Petro-Chemical Transport	5	R				Gasoline	
Highway 1 & Mar Monte Exit	APT	SC Metro Transit Dist	5	L				Oil/ATF	
Highway 1 & Scott Creek	SC	County of Santa Cruz	1	L				HC	
Highway 1 MM26.40 SW Side	SC	Fambrini Farms	1	L				Gas/Diesel	

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Highway 1 Right of Way at Mission St.	SC	Cal Trans Dist 5	2	L				Gas/Diesel
Highway 1 Southbound	WAT	Vendmart Trucking	5	L			8/5/2003	Oil/Diesel
490 Highway 1	DAV	Ocean View Gas	1	L				WO/HC
700 Highway 1	DAV	Lonestar (BD Quarry)	1	R		10/1/1989		HM Spills
1240 Highway 1	WAT	SpectraMat	5	R				Solvent
Highway 9 at Keystone	SC	Paradise Park	1	L				Gasoline
Highway 9 at Marker 10.9	BL	Charles Dobovsky	1	L				PCP Lab
Highway 9 at Marker 23	SC	Meth Lab	1	L				Meth Lab
4700 Highway 9	FEL	Toll House	1	L			8/14/1989	Gasoline
5960 Highway 9	FEL	Quik Stop Market #66	1	R		8/7/2001		Gasoline
6036 Highway 9	FEL	Rogers Feed/Winkler Plumbing	1	L			2/13/2003	D/Gas
6059 Highway 9	FEL	Felton Forest Fire Sta - CDF	1	R				D/Gas
6320 Highway 9	FEL	Cornerstone Auto	1	R		3/20/1997	*	Gasoline
6320 Highway 9	FEL	Cornerstone Automotive	1	R				Gasoline
6325 Highway 9	FEL	Chevron U.S.A. #9-4909	1	R				Gas/MtBE
6519 Highway 9	FEL	Valeteria Cleaners	1	EPA				PCE
6576 Highway 9	FEL	Felton Foreign Auto	1	R				PCE
7105 Highway 9	FEL	SLV Elementary School	1	L				Gasoline
7105 Highway 9	FEL	San Lorenzo Valley High	1	L			*	PCP
7155 Highway 9	FEL	San Lorenzo Valley Elementary School	1	L				Gasoline, benzene, toluene, ethylbenzene, xylene
8500 Highway 9	BL	Highland Park	1	L				Diesel

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9500 Highway 9	BL	Ben Lomond Texaco	1	L			4/18/2000	Waste Oil	
12804 Highway 9	BC	Rogers Feed & Supply	1	L			1/24/1990	Kerosene	
13057 Highway 9	BC	Former ARCO Station	1	L			7/7/1993	HC	
13060 Highway 9	BC	San Lorenzo Valley Water District	1	R				Gasoline	
13211 Highway 9 (Big Basin Way)	BC	Boulder Creek Texaco	1	L				Gasoline	
13230 Highway 9	BC	Boulder Creek Fire Prot Dist	1	L				Diesel	
14560 Highway 9	BC	Gram's Deli (Williams Prop)	1	L				Gasoline	
Highway 17 & Glenwood	SC	Williams Tank Lines	1	L				Gasoline/Diesel	
Highway 17 & Sims Rd.	SC	Davey Tree, Larry Evans	1	L			2/4/1993	Chemical	
Highway 129	WAT	Shaffer Trucking	5	L				D/Chem	
Highway 152 Parcel C (E Lake Ave.)	WAT	Vista Montana (Franich Property)	4	L			9/3/2003	Pest/Arsen	
201 Hihn St.	FEL	Hihn St. Maint. Yard - PW	1	R		3/8/1993		HC	
41 Holm Rd.	WAT	Jose & Emma Flores	5	L				Waste Oil	
118-A Holohan Rd.	WAT	Mrs. George Braycovich	4	L				Gas/MtBE	
196 Holohan Rd.	WAT	Pajaro Valley USD Transp.	4	L				D/WO	
198 Holohan Rd (198 Grimmer Rd)	WAT	Roy Wilson Yard - PW	4	R				D/Gas/MtBE	
116 Hubbard St.	SC	S.C. Ambulance	2	R		1/15/1992	*	Gasoline	
65 Hughes Rd.	WAT	Evelyn Johnson	4	L				WO/Solv	
24050 Hutchinson Rd.	LG	Stark Residence	3	L			7/2/1993	HC	
305 Industrial Way	WAT	Naturipe Berry Growers	5	R				HC	
320 Industrial Rd.	WAT	Roma Kool, Inc.	5	L				Gasoline/D	

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335 Industrial Rd	WAT	Mary Gonzalez Trucking	5	L					D/Oil/ATF
335 Industrial Rd.	WAT	New West Cooling Co.	5	L					Gasoline
375 Industrial Rd.	WAT	Wats Pre-Cool/VEC-Express	5	L					Waste Oil
328 Ingalls St.	SC	Bonny Doon Vineyard	2	L					Motor Oil
328 Ingalls St. In Front Of	SC	Unknown	2	L					Drug Lab
402 Ingalls St. (201 Kalkar)	SC	S.C. Artichoke	2	R	3/23/1993	12/13/1999			Gasoline
17 Janis Way	SV	Pettibone Signs/Gasoline USA	1	L		6/28/1996			Gasoline
50 Janis Way	SV	Roberson Keylock/Dassel's	1	R					D/Gas
577 Judd Rd.	WAT	Peter Radin	5	L					Diesel
274 Kearney St. Ext.	WAT	Farmers Cold Storage	5	R					Ethyl Glycol
420 Kennedy Dr.	CAP	Jefferson Desk & Furniture	4	L		12/17/1991			HC/Chem/M
430 Kennedy Dr.	CAP	Capitola Corp. Yard	4	L		7/28/1992			Diesel
232 Kings Village Rd	SV	Manana Woods Mutual Water Co.	1	R					Gas/Solvent
440 Kings Village Rd.	SV	Watkins Johnson	1	EPA					Solvent/TCE
495 Lake Ave.	SC	Harbor Marine	3	L		6/22/1994			Diesel
East Lake Ave.	WAT	City of Wats Park (Parcel C)	4	L					Arsenic
East Lake Ave./Refer to Highway 152	WAT	Franich Property Develop.	4	L		9/3/2003			Pest/Arsen
14 East Lake Ave. (458-460 Main St)	WAT	Marvin & Helen Van Laren	4	L					Ker/Solvent
261 East Lake Ave.	WAT	7-Eleven Store	4	R	9/15/2000				Gas/MtBE
601 East Lake Ave.	WAT	Scurich Property	4	R					Gasoline
676 East Lake Ave.	WAT	Unocal Station #3741	4	R		10/29/2009			Gas/MtBE



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753 East Lake Ave.	WAT	Former Exxon Station	4	R		12/21/1998	11/6/1998	Gas/WO	
753 East Lake Ave	Wats	Former Exxon Station	4	L				Waste Oil	
800 East Lake Ave.	WAT	Former Chevron Station	4	R				Gasoline	
982 East Lake Ave.	WAT	East Lake Dry Cleaners	4	R				PCE	
1007 & 1015 East Lake Ave.	WAT	Former Watsonville Farm Supply	4	L				MTBE/Arsenic	
2303 East Lake Ave.	WAT	Quik Stop Market #63	4	R				Gas/MtBE	
2400 East Lake Ave.	WAT	St. Francis High School	4	L				Study	
2601 East Lake Ave.	WAT	14th District Agric. Assoc.	4	L			11/9/1993	Gas/D/WO	
345 Encinal St	SC	Plantronics	2	R				Solvents	
40 West Lake Ave, 550 Rodriguez St	WAT	Radcliff School Expansion	5	L				Study	
5 Lakeview Rd.	WAT	Western Farm Service/Crop Prod	4	R				Nitrate	
475 Lakeview Rd.	WAT	Shikuma Bros., Inc.	4	L				Gasoline	
320 Larita Dr.	BL	John & Hilda Gallagher	1	L				Chemicals	
Larkin Valley Rd	WAT	Xanthus Landfill/Granite Const	5	R				HC/WO/M	
1141 Laurel Ave.	FEL	County Bank & Trust	1	L				Drug Lab	
3 Laurel Glen Rd.	SOQ	Casalegno's Market	3	L			12/5/2000	Gasoline	
16925 Laurel Rd.	LG	Rick Sharp Residence	1	L				Gasoline	
Laurel St.	SC	Laurel Street Bridge Project	2	L			*	Organic	
100 Laurel St.	SC	Shell Station	2	L		5/3/1995	12/19/1994	Gasoline	
721 Laurel St at Blackburn St	SC	Salvation Army Project	2	L		6/28/2000	9/4/2002	Oil	
101 Lee Rd.	WAT	Former Chevron #1001267	5	R				Gas/D/MtBE	

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103 Lee Rd.	WAT	Coast Oil		5	L				Gasoline	
103 Lee Rd.	WAT	G.N. Renn/TOSCO Bulk Plant		5	R				D/MtBE	
104 Lee Rd.	WAT	G.W. Davis, Inc.		5	L				HC	
120 Lee Rd.	WAT	Berman Steel		5	L				Gasoline	
200 Lee Rd. & Hwy 1	WAT	Chevron Station #9-1927		5	R				Gas/MtBE	
110 Lindberg St.	SC	Wilson Bro./Lindberg St Prop		2	L				PNA's	
784 Lockhart Gulch Rd.	SV	David Hunter		1	L			1/20/1995	Gasoline	
240 Locust St. Refer to 135 Walker ST.	WAT	Cal Spray		5	L				Poison	
2750 Lode St.	SC	East Cliff Trans Pump Station		3	R				D/MtBE	
Loma Prieta Dr. & Green Valley Rd.	WAT	Home Depot Site		5	L				Gasoline	
Longridge Rd.	LG	(Eric) Gelhard Hagedorn		3	L				HC/HM	
1840 Maciel Ave.	SC	Housing for Indep. People		2	L				DDT/Pest.	
Main St & Second St.	WAT	City of Wats Redevelopment		5	L			1/2/2001	Study	
3330 N Main St	Soq	Burgess/Murphy Property		3	L			3/23/2006	Arsenic/Pesticides	
153 Main St.	WAT	ARCO/Smog Pro		5	L				Gasoline	
175 Main St.	WAT	Alliance Gas		5	R				Gas/MtBE	
200 Main St Block/Refer to 215 Union St	WAT	City of Watsonville Police Dept.		5	L				Benzene	
222 Main St.	WAT	Chevron Station #9-0160		5	R				Gas/MtBE	
426-434 Main St.	WAT	Kalich Building		5	L				Fuel Oil	
458-460 Main St. (14E Lake)	WAT	Marvin & Helen Van Laren		5	L				Ker/Solv	
501 Main St.	WAT	Weldon Griffin Property		5	R			8/22/2000	Gas/D	

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570 Main St.	WAT	Desert Petroleum #780	5	R			10/13/2009	Gas/MtBE	
610 Main St.	WAT	PG&E Watsonville	5	R				HC	
618 Main St.	WAT	Pacific Gas & Electric	5	R				Misc.	
640 Main St.	WAT	Peter Dewares/AAMCO Auto	5	L	6/12/2002			Gasoline	
1180 Main St.	WAT	Kayo - Fast Gas - Beacon	5	R				Gas/MtBE	
1461 Main St.	WAT	7-Eleven Store #32323	5	R			12/14/2009	Gasoline	
2501 S. Main St.	SOQ	Former Exxon Station #7-0281	4	R				HC/MtBE	
9380 Manzanita Ave.	BL	Shree Gurudew Ashram	1	L				VOC's	
30 Maple St.	WAT	Recreation Building	4	R				Solvent	
2600 Mar Vista Dr.	APT	Par 3 Site, Sea Crest	4	L				DDT	
103 Marina Ave.	APT	Esplanade Pump Station	5	R	10/7/1988		6/14/2000	Diesel/HC	
2825 Mattison Lane	SC	Frito-Lay, Inc.	3	L			8/4/1989	HC	
9440 Mill St.	BL	Ben Lomond Super	1	L			7/17/1991	WO/HC	
15 Minto Rd	WAT	Minto Road Apple Orchard	5	L			12/26/2006	Chromium	
Mission St.	SC	Cal Transp Widening Project	2	R				Solvents	
Mission St.	SC	Mission Street Vault Installation	2	L				Gasoline	
335 Mission St.	SC	Beacon Station #528	2	R				Gas/MtBE	
406 Mission St.	SC	Robert Rittenhouse	2	L			7/15/1988	Gasoline	
823 Mission St.	SC	Chevron Station #9-3865	2	R				Gas/MtBE	
904 Mission St.	SC	Mission Street Unocal #4576	2	R				Gasoline	
1124 Misson St	SC	Mission Dry Cleaner	2	R				PCE/TCE/VC	

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1129 Mission St.	SC	Former Shell Station	2	R				Gasoline
1130 Mission St.	SC	Former Chevron Station	2	R				Gasoline
1203 Mission St.	SC	Westside Mobil #10-HMG	2	R		9/8/2006		Gasoline
1224 Mission St.	SC	One Hour Martinizing	2	R				PCE
1301 Mission St.	SC	Emma's Car Wash/Z's Properties	2	R	8/21/1996			HC
1504 Mission St.	SC	Former Service Station/Goodwill	2	R				Gasoline/Tphg
1520 Mission St.	SC	Former University Oil Gas Station	2	L				Gas/Benzene
1725 Mission St.	SC	HER Co. Service Station	2	R				Gas/MtBE
1906 Mission St.	SC	Rotten Robbie #35	2	L		9/12/1991		Oil/Grease
2003 Mission St.	SC	BP Service Station	2	R				Gas/MtBE
2202 Mission St.	SC	Beacon Station #734	2	R				Gas/MtBE
2203 Mission St.	SC	Tobey's Rasp Service	2	R				Gasoline
2403 Mission St.	SC	Tan's Chinese Food	2	L		*		Waste Oil
2429 Mission St.	SC	Robert N. Rudolph	2	R				Gasoline
2521 Mission St.	SC	Herman Mondo	2	R	3/25/1998	4/3/1998		Gasoline
2541 Mission St.	SC	Peggy Minier	2	L				Vol. Org.
2575 Mission St.	SC	S.C. Strippers	2	L		*		Solvents
2608 Mission St.	SC	Balloon Tycoon	2	L		*		Chemical
9360 Monroe Ave.	APT	Carmel Marina Corp.	4	L				Gas/D
23700 Morrel Cut Off	LG	P.J. Transportation Vehicle	3	L				Diesel/HC
Mt. Hermon Rd.	SV	Camp Evers	1	R				Gasoline

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Mt. Hermon Rd.	SV	Kaiser Pit	1	EPA		*	CERCLA
90 Mt. Hermon Rd.	SV	Shell Service Station	1	R			Gas/MtBE
99 Mt. Hermon Rd.	SV	Unocal Station/Refer Camp Evers	1	R			Gas/MtBE
200 Mt. Hermon Rd.	SV	Former Chevron Station	1	R			Gas/MtBE
201 Mt. Hermon Rd.	SV	BP Oil Facility #11239	1	R			Gas/MtBE
201 Mt. Hermon Rd.	SV	Scotts Valley Gas & Mart	1	L			Waste Oil
218 Mt. Hermon Rd.	SV	Coast to Coast Hardware	1	R	8/27/1996		Oil/Ker
222 Mt. Hermon Rd.	SV	Kings Cleaners	1	EPA			CERCLA
230 Mt. Hermon Rd.	SV	Kings Village Shopping Ctr.	1	L			Study
245 Mt. Hermon Rd. #G	SV	Art's Cleaners	1	R	6/11/1996	*	Chemical
263 Mt. Hermon Rd.	SV	Valley Gardens Golf Course	1	L			Org. Chem
272 Mt. Hermon Rd.	SV	Scotts Valley Dry Cleaners	1	R			PCE
400 Mt Hermon Rd (400-700 Kings Village)		Skypark Airport	1	R	9/13/1994		HC
662 Mt Hermon Rd	SV	Wescosa Property	1	L			
Mt. Madonna Rd.	WAT	Appropriate Technologies II	4	L		*	Chem/Solv
95 Mountain Springs Dr.	SC	Geogory Fyler	1	L		9/23/1996	Diesel
76 Murphy Crossing	WAT	Mid-Peninsula Housing Coalition	4	L		6/25/1996	Pesticides
80 Murphy Crossing	WAT	Banovac Farms	4	L		7/31/1996	DDT
14380 Nelson Ave.	WAT	H & H Bottling, Inc.	5	R			HC
255 Northridge Dr.	SV	Chris Blumenthal Residence	1	L			Diesel
433 Ocean St	SC	TOSCO (76) Station #0292	2	R	1/31/2008		Gas/MtBE

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500 Ocean St (was 411 Soquel)	SC	Best Western/Former ARCO	2	R		2/22/2005	Gasoline	
611/ 615 Ocean St.	SC	Former Gulf Station #1692	2	R			Gasoline	
691 Ocean St.	SC	S.C. Co. Fleet Operations	2	R			Gasoline	
701 Ocean St (745 Ocean St)	SC	County of S.C. Govt. Center	2	R			Gasoline	
701 Ocean St.	SC	S.C. County Government	2	L		*	HC	
745 Ocean St.	SC	Shell Station	2	R			Gas/MtBE	
805 Ocean St. / Water St.	SC	Chevron Station #9-1361	2	R			Gas/MtBE	
919 Ocean St.	SC	Budget Car Rental	2	L			Gas/Oil	
1104 Ocean St.	SC	Former Regal/Beach City Gas	2	R		3/20/2001	Gasoline	
1107 Ocean St.	SC	PG&E Transformer Oil Spill	2	L			Oil	
1319 Ocean St.	SC	Beacon Station	2	R			Gas/D/MtBE	
1415 Ocean St.	SC	Former Exxon Station #7-3176	2	R			Gas/MtBE	
1415 Ocean St.	SC	Sav-On Gasoline	2	R			Gasoline	
By 1515 Ocean St.	SC	Western Direct Transport	2	L			Diesel	
1927 Ocean St.	SC	S.C. Memorial Park	2	L		8/28/1989	Gasoline	
(20151 Old Big Basin) 20151 Big Basin	BC	Robert Valdez/Jeanne Freiley	1	L		8/12/2002	Meth Lab	
20220 Old Big Basin Rd.	BC	John King	1	L			Meth Lab	
66 Old El Pueblo Rd (Scotts Valley Dr)	SV	S V Circuits/El Pueblo Plume	1	R		11/14/2000	Solvent	
22293 Old Logging Rd.	LG	Butchko Residence	1	L		8/30/1995	Diesel	
1931 Old San Jose Rd.	SOQ	7th Day Adventist Church	3	L		9/10/1991	Gasoline	
4750 Old San Jose Rd.	SOQ	Soquel Station - CDF	3				Gasoline	



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17445 Old Summit Rd.	LG	Loma Prieta Fire & Rescue	3	L				10/21/1997	Gasoline	
1399 Olive Springs Rd.	SOQ	Olive Springs Quarry	4	L				10/16/2006	Diesel	
2630 Orchard St., #14	SOQ	Ed Farinsky	4	L				12/13/1999	Waste Oil	
302 Pacific Ave.	SC	Charles & Linda Rossi	2	L				2/6/1997	HC	
303 Pacific Ave (120 Washington St)	SC	Chevron #9-0801	2	R					Gas/MtBE	
413 Pacific Ave.	SC	Sanitary Plumbing & Heating	2	R		1/26/1996	*		Gasoline	
503 Pacific Ave.	SC	Former Prolo Chevrolet	2	R					Gas/D/Oil	
512 Pacific Ave.	SC	Auto Zone	2	L					Chemical	
812 Pacific Ave (325 Front St)	SC	Haber Brothers	2	R					Gasoline	
1010 Pacific Ave.	SC	Diesel Spill ER	2	L					Diesel	
1010/1018 Pacific Ave.	SC	Pacific Union Homes	2	\$					Gasoline	
1018 Pacific Ave.	SC	George Ow	2	L					Gasoline	
1100 Pacific Ave.	SC	Old Cat & Canary Building	2	R		2/7/2002	3/14/2002		Gas/MtBE	
1124 Pacific Ave	SC	Del Mar Theater Property	2	R		6/14/2001	4/9/2002		Solvent	
1128 Pacific Ave.	SC	Bank of America	2	R		6/29/1995	*		Gas/Oil/D	
1520 Pacific Ave.	SC	St. George Hotel	2	L			*		Asbestos	
2120 N Pacific Ave.	SC	El Rio Mobile Home Park	2	L					HC/Chem.	
401 Panabaker Lane	WAT	City of Watsonville	5	WF						
1500 Park Ave.	CAP	New Brighton State Beach	4	L					Gasoline	
740 N. Park Way	SC	Jack Levine (Deceased)	3	L					Chemicals	
220 Pine St.	WAT	Peggy Youmans	5	R		12/6/2000	11/21/2000		Gasoline	

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13215 Pine St.	BC	SLV Rental & Rockery	1	R				Gas/MtBE
1492 Pine Flat Rd.	BD	Bonny Doon Elementary	2	R				Gas/D
90 Pioneer Rd.	WAT	Sun Land Garden Products	4	R	7/17/2000	6/14/2000		Gasoline
336 Plateau Ave.	SC	Ezetta Dawson	2	L		12/10/1998		Drug Lab
855 Polo Ave.	APT	Pacific Bell	4	L		*		Diesel
3129 Porter Gulch Rd.	SOQ	Pacific Painting	4	R				Solvent
2407 Porter St.	SOQ	Pamela Santacroce	4	R	7/2/1997	2/12/1999		Gasoline
3131 Porter St.	SOQ	Ponza	4	R	10/19/1992	2/7/1996		Gasoline
Portola Dr. (CONFIDENTIAL)	SC	Rodeo Forcemain Replacement	3	L				Asbestos
3203 Portola Dr.	SC	Delores Edmonds	3	L				HW
3501 (3509) Portola Dr.	SC	Dettle Super Service	3	R	5/22/2000	6/5/2000		Gasoline
3690 Portola Dr.	SC	Neighborhood U-Serve-N-Save	3	R	6/10/1998	4/15/1998		Gasoline
3801 Portola Dr.	SC	Ed's Portola ARCO	3	R	9/24/2002			Gasoline
3912 Portola Dr.	SC	Walt Eller Properties	3	R				PCE
4000 Portola Dr.	SC	Former Chevron Sta #206651	3	R				Gasoline
4001 Portola Dr.	SC	Opal Cliffs Auto Center	3	R				Gasoline
303 Potrero St.	SC	Bio Systems Analysis	2	L				HazWaste
317 Potrero St.	SC	Former Standard Oil Bulk Plant	2	R				Gasoline
110 Quail Hollow Rd.	FEL	Mary Negri	1	L		4/25/1996		D/Fuel Oil
18 Rancho Del Mar	APT	Shell Station	4	L	10/15/1992			Gasoline
117 Rancho Rd.	WAT	Santa Cruz Composting	5	L				Waste Oil

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1485 Ranport Rd. (Highway 1)	WAT	Western Farm Service	5	R					Nitrates
1487 Ranport Rd.	WAT	Bencich Farms	5	L					Wastes
Redwood Dr.	SC	Michael & Marcelina Mahoney	2	L					Chemicals
Rider Rd.	COR	Greg Koppola/Tolford Prop.	4	L					Drug Lab
795 Rio Del Mar Blvd.	APT	ARCO Station #6105	5	L			5/3/2001		Gas/ WO
River St.	SC	Metro Base Project	2	L					EIR
River St.	SC	River Street Widening	2	L					HW/Oil/D/
River Street & N. Pacific Ave	SC	River Street & N. Pacific Ave/Former MGP Site	2	L					PAH
River St./Highway 1	SC	River Plaza Shopping Center	2	L					D/HC/PCE
River & Encinal Streets	SC	Santa Cruz City	2	L			*		Pois/HW
116 River St.	SC	Hennings Werkstatt	2	L			10/21/1997		Oil/Grease
116 River St.	SC	Bank of America	2	L			9/27/1999		Waste Oil
124 River St	SC	Ski Shop Santa Cruz	2	L					Metals
125 River St.	SC	Wilson Bros. Redevelopment	2	R					Gasoline
136 River St	SC	Outdoor World	2	L					Metals
318/320 River St.	SC	Vosti Properties	2	L			2/4/1997		Gas/Oil
511 River St	SC	Reese Construction Co	2	R		3/28/1988	*		Gasoline
602 River St.	SC	Scherer Property	2	L			9/9/1997		Gasoline
606 River St.	SC	ADCO Electric, Inc.	2	L					HC/Gasoline
1040 River St.	SC	Tannery Arts Center	2	DTSC					Diesel/Fuel Oil
									Arsenic/Lead
									Voc's/Hex-Chrome

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1040 River St.	SC	Salz Leather		2	R				Gas/MtBE
1111 River St.	SC	Las Animas Concrete		2	R	2/5/1988	2/8/1988		Gasoline
1111 River St.	SC	Salz Leather		2	R		10/16/1998		Metals
1122 River St.	SC	Metro Base Project		2	L		1/12/2004		HC Mix
1125 River St.	SC	City of SC Corporation Yard		2	L				Gas/D
1200 River St.	SC	SC Metro Transit District		2	L				Gas/D
133 Riverside	WAT	John Vennemeyer		4	L		12/19/1991		Waste Oil
159 Riverside Dr.	WAT	Fortenberry Property		4	L				Gasoline
212 Riverside Dr.	WAT	Borina Foundation		4	R				Gasoline
215 Riverside	WAT	Puregro (Wastewater)		4	R				Nitrate
619 Riverside	WAT	Boyer Fertilizer		4	R				Nitrate
660 Riverside	WAT	Bilco Transportation		4	L				Diesel
1144 Riverside Dr.	WAT	Buchwald's		4	L		7/12/1988		Gasoline
22 C Roache Rd.	FRE	S.C. Cabling		4	L		10/3/1986		Solvent
297 Robles Dr.	SC	Carole Fairbrother		1	L		*		Oil
Rodeo Gulch Rd (off of Laurel Glen)	SC	Drug Lab Waste		3	L				Drug Lab
2345 S. Rodeo Gulch Rd	SC	Jay & Joyce Powell		3	L				Waste Oil
550 Rodriguez St.	WAT	PVUSD - Radcliff School		5	L				Arsenic
1010 Rodriguez St.	SC	Cal Cruz Hatchery		3	R	10/5/1995	4/29/2002		Diesel
55 Ross Ave.	WAT	Holcomb Corporation		5	L				Gasoline
100 Roundtree Lane	WAT	County Jail Farm		5	L		*		HC

**Santa Cruz County Site Mitigation List**

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25 Sakata Lane	WAT	S.C. Metro Transit Dist.	5	R		2/18/1999	3/2/1999	D/Solv	
252 San Andreas Rd.	WAT	Telles Ranch	5	R			3/19/2003	HC	
295 San Andreas Rd.	WAT	San Andreas Labor Camp	5	L			6/20/2000	Oil/Asb	
655 San Andreas Rd.	WAT	Rainbow Fin/Monterey Bay Academy	5	R		7/9/1984	*	Solv/Chem	
783 San Andreas Rd.	WAT	Camp McQuaide	5	R				HW/PCB/HC	
783 San Andreas Rd.	WAT	Monterey Bay Academy	5	L				D/Oil/Gas	
1153 San Andreas Rd.	WAT	ENEXCO	5	L			8/24/1992	Diesel	
1254 San Andreas Rd.	WAT	Larry Delaney	5	L			3/1/1994	Gasoline	
San Lorenzo Ave.	FEL	Felton Quarry	1	L			1/21/1991	Diesel	
San Lorenzo River	SC	San Lorenzo River Fish Kill	2	L			*	HC	
Santa Cruz County	SC	Santa Cruz Branch Line		L				Arsenic	
100-120 Santa's Village Rd.	SV	Chevron/ Polo Ranch/Borland	1	R		10/13/1992	*	Gas/D/WO	
2 School Way	WAT	Monte Vista Christian School	4	L			4/1/2005	HC	
Schwan Lake	SC	Pacific Firewood	3	L				Waste Oil	
4253 Scotts Valley Dr.	SV	Johnson's Arco	1	R				Gasoline	
4556 Scotts Valley Dr	SV	Shaffer, Wayne, and Jo	1	L				Isomers of Dichlorobenzene & Trichlorobenzene	
4658 Scotts Valley Dr.	SV	Rank Electronics	1	EPA			*	Cercla	
5042 Scotts Valley Dr.	SV	Four by Four and More	1	L				Drug Lab	
5276 Scotts Valley Dr.	SV	Exxon Station/Sturdy Oil	1	R				Gasoline	
5451 Scotts Valley Dr.	SV	Beacon Station	1	L				Gasoline	

**Santa Cruz County Site Mitigation List**

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5620 Scotts Valley Dr.	SV	Exxon/ Sturdy Oil	1	R			Gasoline
6012 Scotts Valley Dr.	SV	Chevron Station #9-2623	1	R			Gas/MtBE
Seabright & Eaton	SC	Southern Pacific Transp. Co.	3	L		*	Diesel
727 Seabright Ave.	SC	George Blencoe	3	R	3/17/1999	3/31/1999	Gasoline
201 Searidge Rd.	APT	76 Service Station #5876	4	L	9/15/2000	10/18/2004	Waste Oil
100 Shaffer Rd.	SC	Long Marine Lab	1	L			Pest.
1280 Shaffer Rd.	SC	Granite Construction	2	L			HC/M/Asb
1280 Shaffer Rd.	SC	Pacific Union Homes	2	R	5/31/2006	6/27/2006	Arsenic
214 Shoreview Dr.	APT	Jennifer Renzel	5	L		4/24/1995	Diesel
13500 Skyline Blvd.	LG	CalTrans Saratoga Gap Maint.	1	L			Diesel
23498 Skyview Terrace	LG	Ted Faley Residence	1	L		2/5/1998	HC
260 Smith Rd.	WAT	Paul Strand	4	L			Solvent
Soda Lake/Riverside Road	WAT	Granite Rock Company	4	L			Oil
404 Soquel Ave.	SC	Chevron Station #9-0499	2	R	6/26/0006		Gas/MtBE
500 Soquel Ave.	SC	Blair-Foster	2	L			Oil/Solv
501 Soquel Ave.	SC	Foreign Auto Parts	2	L		*	WO/Gas
911 Soquel Ave	SC	Whole Foods Market	2	L			Motor Oil
1103 Soquel Ave.	SC	S.C. City Fire Station #2	2	L		*	Gasoline
1219 Soquel Ave.	SC	Santa Cruz Motors	2	R	12/29/1992	6/22/1994	HC
1219 Soquel Ave	SC	Subaru of Santa Cruz	2	L			TPH/BOC'S
1261 Soquel Ave.	SC	Bergstrom Motors	2	R	6/27/1995	7/20/1995	Gasoline



**Santa Cruz County Site Mitigation List**

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1266 Soquel Ave.	SC	Meikle Property	3	R	4/7/2010		Gasoline
1266 Soquel Ave.	SC	Staff of Life	3	R			TPH Gasoline and benzene
1505 Soquel Ave.	SC	Tosco Union Station #4818	3	R			Gasoline
1516 Soquel Ave.	SC	Beacon (was Kayo Fast Gas)	3	R			Gas/MtBE
1605 Soquel Ave.	SC	Wayne Merritt RV's	3	R			Gas/WO
1625 Soquel Ave.	SC	Former Gulf Station	3	L	12/2/2004		Gas/D
1705 Soquel Ave.	SC	Lewis Exxon	3	L	*		Gas/D
1800 Soquel Ave.	SC	Volkswagen of Santa Cruz	3	R	3/16/1989		WO/Solv/
1824 Soquel Ave.	SC	Carr Parts	3	L	2/25/1999		Waste Oil
1807-1833 Soquel Ave.	SC	Giubbini Trust	3	L			Kerosene
1999 Soquel Ave.	SC	North Bay Ford/Lincoln/Merc	3	L			Gas/WO
2001 Soquel Ave	SC	Whalers Carwash	3	R			Gasoline
2200 Soquel Ave	SC	H. G. Properties	3	R	9/11/1997	9/16/1997	Gasoline
2680 Soquel Ave.	SC	Gasamat #955	3	L			Gasoline
2776 Soquel Ave.	SC	Antolini Co.	3	R	4/15/1988	4/20/1988	Gasoline
2900 Soquel Ave.	SC	Giubbini	3	R	8/26/1997	7/25/1997	HC
6100 Soquel Ave.	SC	Coca Cola Enterprises	3	L		10/21/1991	D/Gas
7070 Soquel Ave.	SC	Pacific Bell	3	R	7/9/2001		Gasoline
Soquel Dr no of Freedom Blvd	APT	PG & E	4	L		*	M/Chem
1500 Soquel Dr.	SC	Unocal Station #6193	3	R	7/11/2006		Gasoline
1500 Soquel Dr.	SC	Steve's Union (Conoco Phillips)	3	R			MTBE

Santa Cruz County Site Mitigation List

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1555 Soquel Dr.	SC	Dominican S.C. Hospital	3	L		4/3/1997	Diesel
1835 Soquel Dr.	SC	Carhart Rentals	3	L		9/17/1992	HC
1975 Soquel Dr. & Thurber	SC	Former Shell Station	3	L		*	HC
2210 Soquel Dr.	SC	Beacon Service Station	3	L		2/10/1992	HC
2246 Soquel Dr.	SC	Redwood Auto/Beacon Video	3	L		*	Gasoline
3711, 3715 & 3801 Soquel Dr.	SOQ	Tom Markovich	3	L		5/24/2005	Gasoline
3921 Soquel Dr.	SOQ	Old Volks Home	3	L		*	HC
4100 Soquel Dr.	SOQ	R.L. Estewood	4	L		1/25/2001	Gas/Diesel
4747 Soquel Dr.	SOQ	Central Fire Prot. Dist. Sta. 3	4	L		10/4/2001	Gas/Diesel
4860 Soquel Dr.	SOQ	Tosco Unocal Station #2452	4	R			Gas/MtBE
4901 Soquel Dr.	SOQ	Former E-Z Serve	4	R		5/24/2002	Gasoline
5180 Soquel Dr.	SOQ	Soquel Creek Water District	4	L			Gasoline
5505 Soquel Dr.	SOQ	Quik Stop Market #78	4	R			Gas/MtBE
5955 Soquel Dr.	SOQ	A.J.'s Beacon Station	4	L		5/2/1995	Gas/Oil
6500 Soquel Dr.	APT	Cabrillo College	4	L		6/16/2003	Gas/Chem
7719 Soquel Dr.	APT	Chevron Station #9-4274	4	L			Gasoline
7960 Soquel Dr. #D2	APT	Certified Carpet Cleaning	4	L		*	Chemicals
8026-8028 Soquel Dr.	APT	Aptos Village Garage	4	L		6/19/2000	Gas/D
8060 Soquel Dr.	APT	Former Terrible Herbst	4	L		1/13/2003	HC
10395 Soquel Dr.	APT	California Highway Patrol	4	R			Pot. MTBE
25395 Spanish Ranch Rd.	LG	Randolph & Sandra Radonich	4	L		1/31/2005	Oil/Solvent

**Santa Cruz County Site Mitigation List**

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201 State Park Dr.	APT	Seacliff State Beach	4	L				Gas/D	
22930 Summit Rd.	LG	W.F. Anderson Electric	3	L		*		Oil	
23076 Summit Rd.	LG	William & Carol Lord	3	L		10/9/2001		Oil	
526 Sumner St.	SC	PRC Patterson, Inc.	3	L				Waste Oil	
240 Swanton Rd.	DAV	Big Creek CDF Station	1	L				Gas/D	
313 Swift St.	SC	ARK / Monarch School	2	L				Study	
411 Swift St.	SC	Santa Cruz Industries	2	R				Solvent	
601 Swift St.	SC	Mission Linen Supply	2	R	10/4/2000			Gas/D	
125 Sycamore St & (555) Pacific Ave	SC	Sycamore St Housing/Ocean Chev	2	L				D/Oil/Met	
464 Sylvan Way	BC	Walter Johnson	1	L				Drug Lab	
254 Teilh Dr.	BC	James and Jane Asher	1	L				Gasoline	
Terrace Point	SC	SC Coastal Marine Research	1	L				Pesticides	
113 Tierra Alta	WAT	S C Cruz Housing Authority	4	L		3/21/1997		Waste Oil	
1230 Thompson Ave.	SC	San Lorenzo Door Shop	3	L		11/18/2004		Gasoline	
2225 Trout Gulch Rd.	APT	Phil & Susan Page	4	L				Diesel/Oil	
2746 Trout Gulch Rd.	APT	Von Grey Residence	4	L				Diesel	
3855 Trout Gulch Rd.	APT	Miles Reiter	4	L				Diesel	
215 Union St. (200 Block of Main St.)	WAT	City of Watsonville Police Dept.	5	R				Gasoline	
475 Union St	WAT	Former Galaxy III Theaters	4	R				HC	
Valencia & Aptos School Rd.	APT	Sydco Construction	4	L		*		Paint	
5761 Valley Dr	Fel	Kingdom Hall Jehovah Witness	1	L				Hydraulic Oil	

**Santa Cruz County Site Mitigation List**

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745 Volz Ln.	SC	Kevin Carle	3	L		1/16/2003	Gasoline	
800 Waldeburg Rd.	BL	William Wilson	1	L			Drug Lab	
1010 Wallace Ave.	APT	John & Patricia Miller	4	L		*	WO/Paint	
11 Walker St.	WAT	PG&E	5	L			PAH	
14 Walker St	WAT	PG&E	5	DTSC			TPH/SVOC/Metals	
135 Walker St. Refer to 240 Locust St.	WAT	Richard Hammond	5	L			Poisons	
246 Walker St.	WAT	Peter Van Stennis Property	5	R	6/17/2004		Gasoline	
331 Walker St/555 Walker St/331 Ford St	WAT	Terminal Freezers, Inc	5	L			Oil/Grease/PCBs/Napthalene/Metals	
555 Walker St.	WAT	Wats. Cogeneration Facility	5	L			Oil/D/HC	
834 Walker St.	WAT	Moyer Chemical	5	R			Pesticide	
415 Walnut St.	SC	Santa Cruz High School	2	L		1/19/1990	Oil/Grease	
123 & 127 Washington St.	SC	S C Station/Southern Pacific	2	R		7/24/2001	Gasoline	
285 Water St.	SC	Vapor Cleaners	2	R			Solvent	
632 Water St.	SC	City of Santa Cruz	2	L			Study	
717 Water St.	SC	Sam Reed	2	R		1/30/1995	Gas/D	
719 Water St.	SC	Reed Supply	2	L		2/11/1989	Gasoline	
1024 Water St.	SC	Former Exxon Station #7-0114	2	R			Gas/MtBE	
1025 Water St.	SC	House of Sound	2	L		6/29/1995	HC	
1031 Water St.	SC	Williams Property	2	L			TPH Gasoline, Diesel, Motor Oil, Isopropylbenzene, PCE (tetrachloroethylene), Ethylbenzene in groundwater	
Watsonville Well	WAT	Steve Dautoff	4	L		*	HC	

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77 Webb Rd.	WAT	Glenn Battle	4	L			8/20/1986	HC	
911 Western Dr.	SC	Safety Specialists	2	L			*	Chem/Solv	
912 Western Dr	SC	Bell Property	2	L				Oil/Lead	
100 Westgate Dr.	WAT	Spectra-Mat	5	R				PCE	
3196 Whitehouse Canyon Rd.	SC	Skylark Girl Scout Camp	1	R				Gasoline	
110 Whiting Rd.	WAT	Watsonville Nurseries	4	R		5/11/2006	9/22/2006	Gasoline	
3098 Winkle Ave.	SC	Jimmie Smith Plumbing	2	L			*	Gasoline	
East Zayante Rd. (1988)	FEL	Drug Lab Waste	1	L				Drug Lab	
East Zayante Rd. (1989)	FEL	Drug Lab Waste	1	L				Drug Lab	

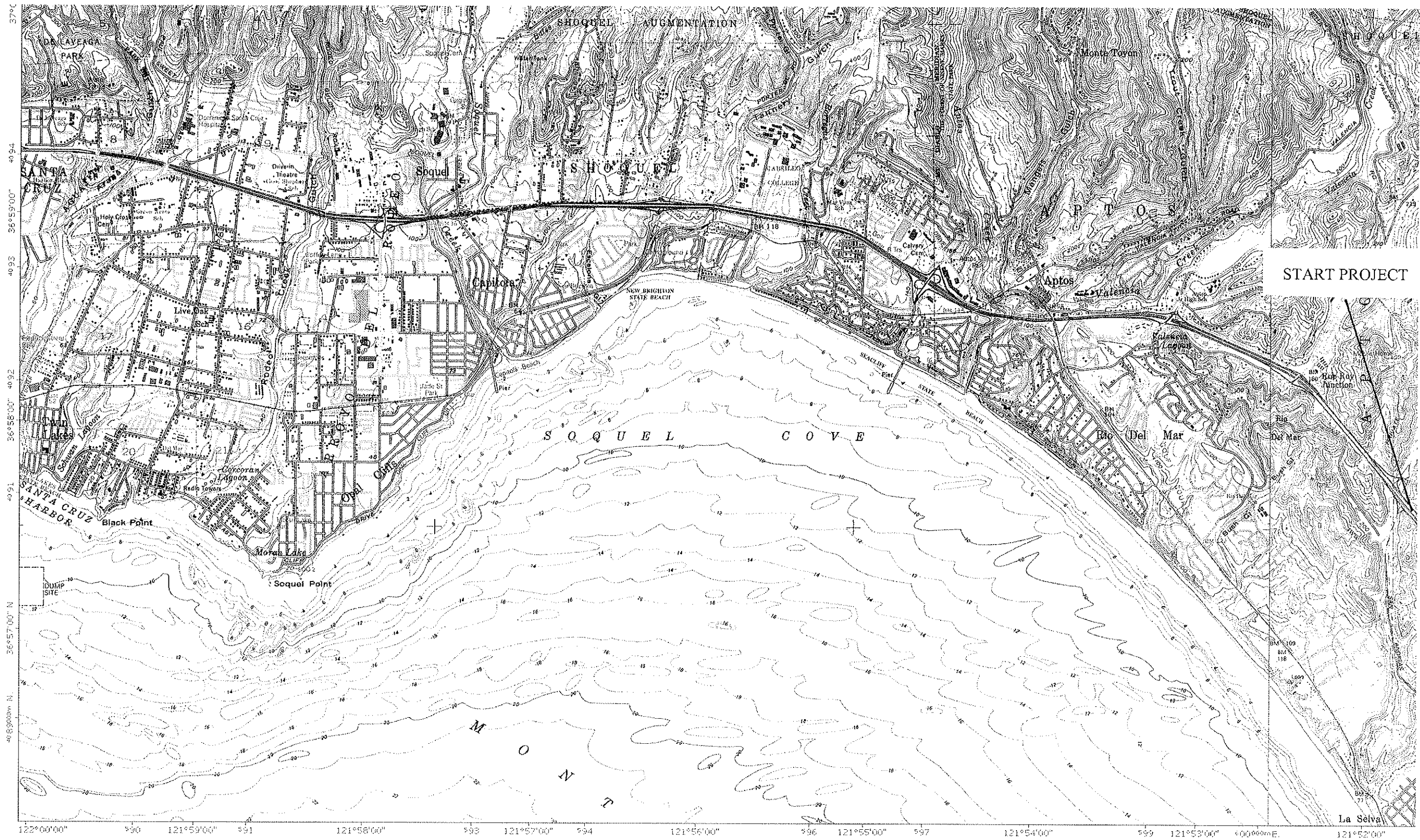


## **APPENDIX D**

### **USGS 7.5 MINUTE TOPOGRAPHIC MAPS OF THE PROJECT AREA**







START PROJECT

This map was prepared from a combination of data from the U.S. Coast and Geodetic Survey, the U.S. Army Corps of Engineers, and the U.S. Navy. It is not a nautical chart and should not be used for navigation.

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TN  
MN  
15°  
Magnetic Declination  
On 01/17/07

Scale 1:30,750  
Contour Interval Varies: 40 ft, 20 ft  
This map was printed by LHM

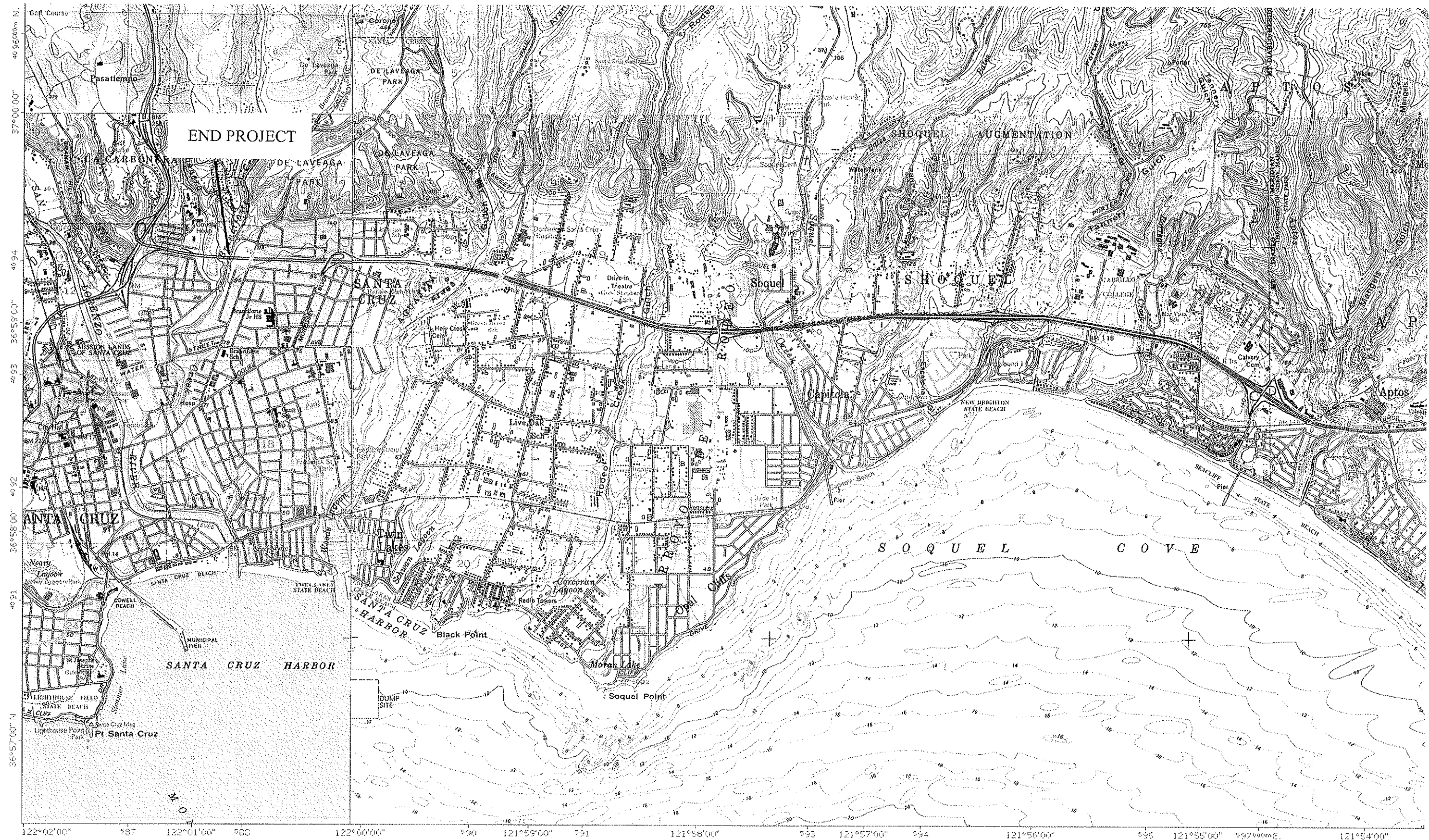


1	2	3
4	5	6
7	8	9

ADJOINING 7.5' QUADS

- 1 Felton, CA '98
- 2 Laurel, CA '96
- 3 Loma Prieta, CA '96
- 4 Santa Cruz, CA '94
- 5 Soquel, CA '97
- 6 Watsonville West, CA '95
- 7 Unknown
- 8 Unknown
- 9 Moss Landing, CA '97





This map was prepared from a combination of data from USGS maps of the Map Name  
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## **APPENDIX E**

### **HISTORICAL AERIAL PHOTOGRAPHS**







# **The EDR Aerial Photo Decade Package**

**Highway 1 MOV Lane Widening Project  
Highway MOV Lane Widening Project  
Santa Cruz, CA 95010**

**Inquiry Number: 1791652.1**

**November 09, 2006**

## **The Standard in Environmental Risk Management Information**

**440 Wheelers Farms Road  
Milford, Connecticut 06461**

### **Nationwide Customer Service**

Telephone: 1-800-352-0050  
Fax: 1-800-231-6802  
Internet: [www.edrnet.com](http://www.edrnet.com)

# EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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**Date EDR Searched Historical Sources:**

Aerial Photography November 09, 2006

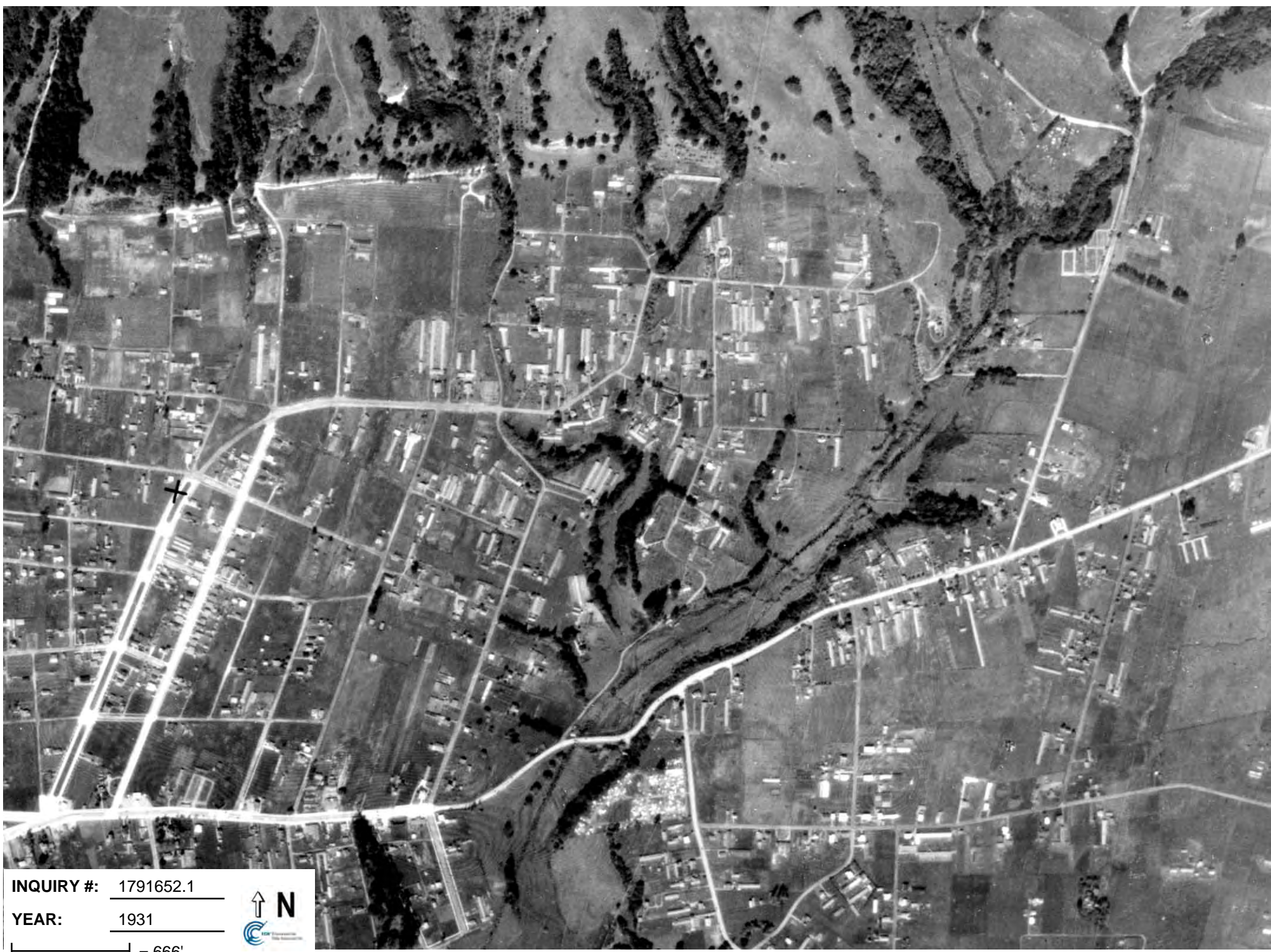
**Target Property:**

Highway MOV Lane Widening Project

Santa Cruz, CA 95010

<u><i>Year</i></u>	<u><i>Scale</i></u>	<u><i>Details</i></u>	<u><i>Source</i></u>
1931	Aerial Photograph. Scale: 1"=666'	Flight Year: 1931 Best Copy Available from original source	Fairchild
1948	Aerial Photograph. Scale: 1"=800'	Flight Year: 1948	Exxon
1948	Aerial Photograph. Scale: 1"=800'	Flight Year: 1948	Exxon
1948	Aerial Photograph. Scale: 1"=800'	Flight Year: 1948	Exxon
1948	Aerial Photograph. Scale: 1"=800'	Flight Year: 1948	Exxon
1948	Aerial Photograph. Scale: 1"=800'	Flight Year: 1948	Exxon
1956	Aerial Photograph. Scale: 1"=800'	Flight Year: 1956	Aero
1956	Aerial Photograph. Scale: 1"=800'	Flight Year: 1956	Aero
1956	Aerial Photograph. Scale: 1"=800'	Flight Year: 1956	Aero
1956	Aerial Photograph. Scale: 1"=800'	Flight Year: 1956	Aero
1956	Aerial Photograph. Scale: 1"=800'	Flight Year: 1956	Aero
1964	Aerial Photograph. Scale: 1"=666'	Flight Year: 1964	Mark Hurd
1964	Aerial Photograph. Scale: 1"=666'	Flight Year: 1964	Mark Hurd
1964	Aerial Photograph. Scale: 1"=666'	Flight Year: 1964	Mark Hurd
1964	Aerial Photograph. Scale: 1"=666'	Flight Year: 1964	Mark Hurd
1964	Aerial Photograph. Scale: 1"=666'	Flight Year: 1964	Mark Hurd
1964	Aerial Photograph. Scale: 1"=666'	Flight Year: 1964	Mark Hurd
1964	Aerial Photograph. Scale: 1"=666'	Flight Year: 1964	Mark Hurd
1977	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1977	NASA

<i><b>Year</b></i>	<i><b>Scale</b></i>	<i><b>Details</b></i>	<i><b>Source</b></i>
1977	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1977	NASA
1977	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1977	NASA
1977	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1977	NASA
1981	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1981	WSA
1981	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1981	WSA
1981	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1981	WSA
1981	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1981	WSA
1993	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1993 Best Copy Available from original source	USGS
1993	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1993 Best Copy Available from original source	USGS
1998	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1998	USGS
1998	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1998	USGS
1998	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1998	USGS
1998	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1998	USGS
2001	Aerial Photograph. Scale: 1"=333'	Flight Year: 2001 Best Copy Available from original source	IK Curtis
2001	Aerial Photograph. Scale: 1"=333'	Flight Year: 2001 Best Copy Available from original source	IK Curtis
2001	Aerial Photograph. Scale: 1"=333'	Flight Year: 2001 Best Copy Available from original source	IK Curtis



INQUIRY #: 1791652.1  
YEAR: 1931  
| = 666'









**INQUIRY #:** 1791652.1

**YEAR:** 1948

| = 800'









INQUIRY #: 1791652.1

YEAR: 1948

| = 800'









INQUIRY #: 1791652.1

YEAR: 1948

| = 800'









INQUIRY #: 1791652.1

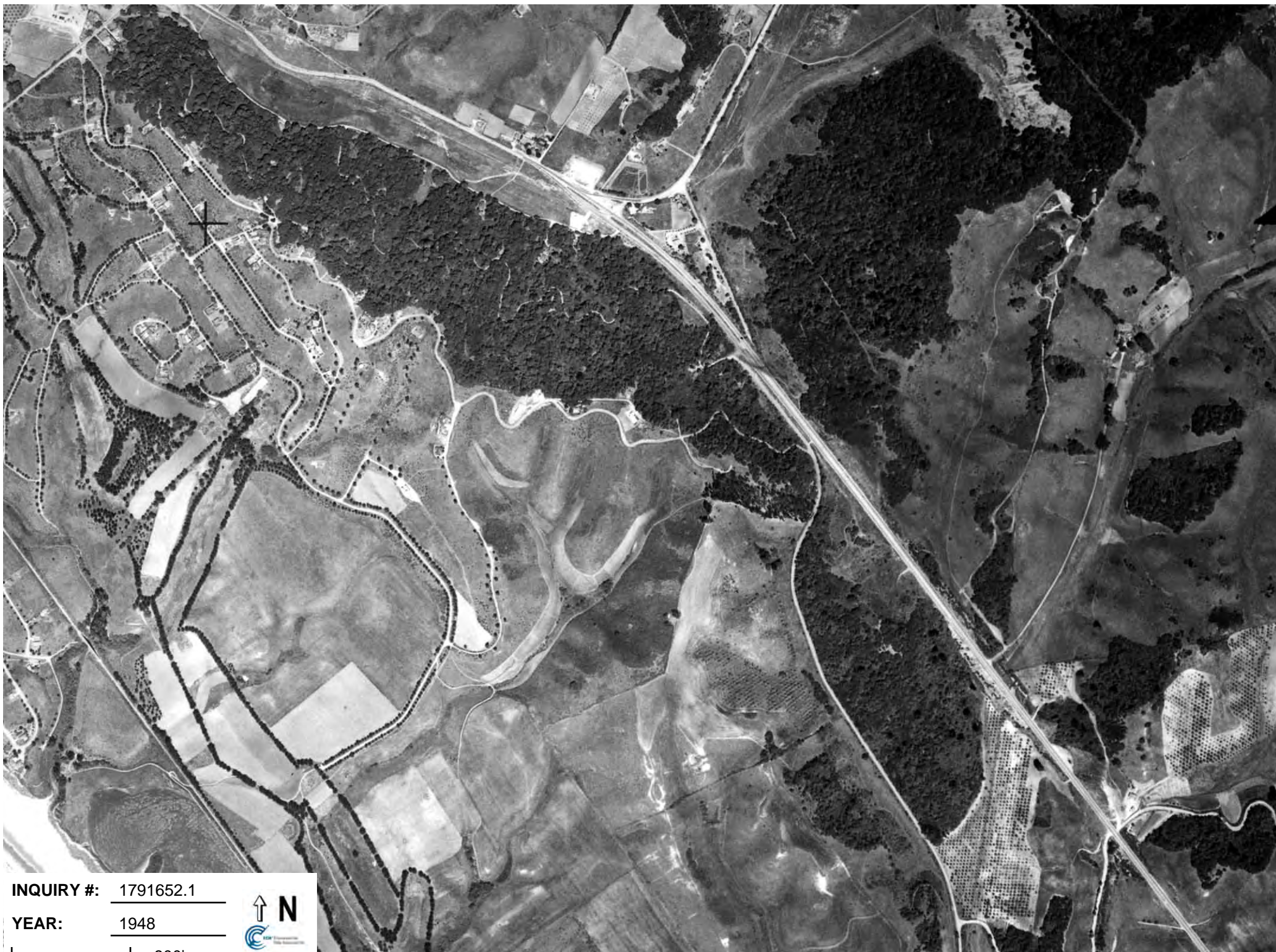
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| = 800'









**INQUIRY #:** 1791652.1

**YEAR:** 1948

| = 800'









INQUIRY #: 1791652.1

YEAR: 1956

| = 800'









**INQUIRY #:** 1791652.1

**YEAR:** 1956

| = 800'









INQUIRY #: 1791652.1

YEAR: 1956

| = 800'









**INQUIRY #:** 1791652.1

**YEAR:** 1956

| = 800'









**INQUIRY #:** 1791652.1

**YEAR:** 1956

| = 800'









**INQUIRY #:** 1791652.1

**YEAR:** 1964

| = 666'









INQUIRY #: 1791652.1

YEAR: 1964

| = 666'









INQUIRY #: 1791652.1

YEAR: 1964

| = 666'









**INQUIRY #:** 1791652.1

**YEAR:** 1964

| = 666'









INQUIRY #: 1791652.1

YEAR: 1964

1" = 666'









INQUIRY #: 1791652.1

YEAR: 1964

| = 666'









**INQUIRY #:** 1791652.1

**YEAR:** 1964

| = 666'









**INQUIRY #:** 1791652.1

**YEAR:** 1977

| = 1000'









INQUIRY #: 1791652.1

YEAR: 1977

| = 1000'









INQUIRY #: 1791652.1

YEAR: 1977

| = 1000'









INQUIRY #: 1791652.1

YEAR: 1977

| = 1000'









**INQUIRY #:** 1791652.1

**YEAR:** 1981

| = 1000'









INQUIRY #: 1791652.1

YEAR: 1981

| = 1000'









INQUIRY #: 1791652.1

YEAR: 1981

| = 1000'









INQUIRY #: 1791652.1

YEAR: 1981

| = 1000'









**INQUIRY #:** 1791652.1

**YEAR:** 1993

| = 1000'











INQUIRY #: 1791652.1

YEAR: 1993

— = 1000'

 N









INQUIRY #: 1791652.1

YEAR: 1998

| = 1000'









INQUIRY #: 1791652.1

YEAR: 1998

| = 1000'









INQUIRY #: 1791652.1

YEAR: 1998

| = 1000'









INQUIRY #: 1791652.1

YEAR: 1998

| = 1000'









INQUIRY #: 1791652.1

YEAR: 2001

| = 333'









INQUIRY #: 1791652.1

YEAR: 2001

| = 333'











**INQUIRY #:** 1791652.1

**YEAR:** 2001

| = 333'





## **APPENDIX F**

### **SITE RECONNAISSANCE PHOTOGRAPHS**





**Photo 1. Enclosure with Chlorine Signs Posted.**

Location: Standing on Soquel Dr. looking southwest. Freedom Blvd. is directly behind the enclosure. This enclosure is adjacent to the existing right of way.



**Photo 2. High Voltage Enclosure.**

Location: Standing on Soquel Dr. just southwest of Freedom Blvd. Highway 1 is located just beyond the trees. This enclosure is adjacent to the existing right of way.





**Photo 3. PG&E substation on Soquel Dr.**

Location: Adjacent to the existing right of way on the north side of Highway 1 just before the railroad overpass near the Rio Del Mar Blvd. Exit.



**Photo 4. One of Two Railroad Overpasses.**

Location: Railroad overpass on Highway 1 between Rio Del Mar Blvd. and State Park Dr.



**Photo 5. ASTs on the south side of Kennedy Dr.**

Location: ASTs at City of Capitola Maintenance Yard are adjacent to proposed Highway 1 right of way and are likely within the proposed local right of way for future alignment of Kennedy Dr.



**Photo 6. Equipment Storage Yard.**

Locations: Along the south side of Kennedy Dr. West of the Park Avenue exit.





**Photo 7. Second Equipment Storage Yard.**

Location: located on Kennedy Dr. located next door to the equipment yard shown in Photo 6.



**Photo 8. Gravel and Equipment Storage Yard**

Location: On the south side of Soquel Ave. South of Highway 1 adjacent to proposed right of way.

## **APPENDIX G**

### **CALTRANS ISA CHECKLIST**







## Initial Site Assessment (ISA) Checklist

### Project Information

District 05 County SC Route 1 Post Mile From PMR 7.33 to PM 16.13 EA EA 05-0C7300  
Description Caltrans and the Santa Cruz County Regional Transportation Commission (SCCRTC) propose to widen Highway 1 (designated State Route 1) a distance of approximately 9 miles from approximately 0.2 miles south of the San Andreas-Larkin Valley Road Interchange to 0.2 miles north of the Morrissey Boulevard Interchange to reduce encourage carpooling and use of alternative transportation modes as a means to increase transportation system capacity and improve safety. Three alternatives are currently under consideration and include: No Build, Transportation Systems Management (TSM) and HOV Lane.

Is the project on the HW Study Minimal-Risk Projects List (HW1)? No

Project Manager Luis Duazo phone # (805) 542-4678

Project Engineer Claudia Espino phone # (559) 230-3110

### Project Screening

Attach the project location map to this checklist to show location of all known and/or potential HW sites identified.

Please refer to Figure 1 in Appendix A of the ISA for a project location map. See EDR map for all known and/or potential HW sites relative to the project area in Appendix B. See photographs from November 13, 2006 site reconnaissance in Appendix G. See summary of site reconnaissance observations presented in Section 5 of the ISA report.

See Caltrans plans entitled "Route 1 HOV Lane Alternative" and "Transportation System Management Alternative" dated April 20, 2010 prepared by Nolte and Associates Inc.

1. Project Features: New R/W? Yes Excavation? Yes Railroad Involvement? Yes

Structure demolition/modification? Yes

Subsurface utility relocation? Likely in some areas.

2. Project Setting Santa Cruz County

Rural or Urban Urban and Rural

Current land uses Transportation for existing Caltrans right of way. Residential, open space, commercial, local transportation and light industrial.

Adjacent land uses Residential, open space, commercial, local transportation, and light industrial

3. Check federal, State, and local environmental and health regulatory agency records as necessary, to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets, as needed, to provide pertinent information for the proposed project.

## Initial Site Assessment (ISA) Checklist

(continued)

See EDR environmental database list identifying potential hazardous materials sites as defined by ASTM 1527.

The Santa Cruz County Environmental Health Services Website was reviewed for their status list of Hazardous Materials, Underground Storage Tanks, Hazardous Waste, and Site Mitigation table dated April 8, 2011. The list is provided in Appendix C to the ISA.

**4. Conduct Field Inspection.** Date November 13, 2006 and April 13 and 14, 2010.

**Use the attached map to locate potential or known HW sites.**

See EDR map as noted above for all sites of concern in the vicinity of the project area. The following is a list of items noted during the site reconnaissance:

**STORAGE STRUCTURES / PIPELINES:**

1) **Underground tanks:** One gas station exists within the proposed Caltrans right of way (AJ's Fuel Market of Capitola, 836 Bay Avenue #A, Capitola – APN 036-011-17)

Several gas stations exist in the vicinity of the project area. Adjacent to the project area, there is a gas station (Deer Park Arco, 795 Rio del Mar Boulevard, Aptos, CA) at the southwest corner of the intersection of Highway 1 and Rio del Mar Boulevard adjacent to the existing right of way (APN 044-295-01). Another gas station adjacent to Highway 1 is on the north side of the highway near the State Park Drive off-ramp (18 Rancho Del Mar Center, Aptos, CA). There also is a gas station (Steve's Union 76, 1500 Soquel Drive, Santa Cruz, CA) at the northbound off ramp to Highway 1 and Soquel Drive (APN 025-071-19). Other gas stations within approximately 305 meters (1,000 feet) of the project area include:

- 2) Valero, 2501 S. Main Street, Soquel
- 3) USA Gasoline, 2700 41<sup>st</sup> Avenue, Soquel
- 4) Capitola Union 76, 2178 41<sup>st</sup> Avenue, Capitola
- 5) Bobby's Pit Shop 2, 1655 Commercial Way, Santa Cruz
- 6) Aptos Chevron, 7719 Soquel Drive, Aptos
- 7) Union 76 Moultons, 201 Sea Ridge Road, Aptos

**Surface tanks:** Two ASTs on Kennedy Drive are adjacent to Caltrans right of way, but within the proposed local right of way of Kennedy Drive (APN 036-041-25)

**Sumps:** None observed

**Ponds:** Several marsh areas are present adjacent to and within the study area.

**Drums:** None observed

**Basins:** None observed

**Transformers:** A PG&E substation exists on Soquel Avenue adjacent to existing Caltrans right of way (APN 041-052-07). Overhead power lines exist in urban areas

**Landfill:** None observed

**Other Areas of Potential Concern Observed during Site Reconnaissance:**

- 1) A potential chlorine storage area exists on Freedom Boulevard near the California Highway Patrol Station
- 2) A dry cleaner exists in the shopping center next to the Arco Station on Rio Del Mar Boulevard in Aptos.

## Initial Site Assessment (ISA) Checklist

(continued)

- 3) On Soquel Drive, there is a section of businesses over several blocks that are adjacent to the existing and proposed right of way. Among these businesses are an auto body repair shop and a tool shop.
- 4) North of Park Avenue, Kennedy Drive runs adjacent to the southwest side of Highway 1. The City of Capitola public works maintenance yard is located along this section. Two ASTs filled with diesel and gasoline are located just inside the parking lot of this facility.
- 5) Further north on Kennedy Drive, there is a second storage yard within a fenced area. This parking lot within this fenced area is paved and is adjacent to a machine parts company.
- 6) Two more businesses are located on Kennedy Drive before it reaches a dead end. One of these two businesses contains a third storage yard.
- 7) Near the intersection of Bay Avenue-Porter Street and Highway 1 there is a postal facility within the proposed Caltrans right of way. Although postal facilities have been known to have ASTs or USTs for fueling postal delivery vehicles, there was no obvious indications of ASTs or USTs that could be seen from the perimeter of this facility.

### **CONTAMINATION: (spills, leaks, illegal dumping, etc.)**

**Surface staining** \_\_\_\_\_ **Not Observed**      **Oil sheen** \_\_\_\_\_ **Not Observed**

**Odors** \_\_\_\_\_ **Not observed**      **Vegetation damage** \_\_\_\_\_ **Not Observed**

**Other** An abandoned vehicle was observed in a marsh area owned by the California Department of Fish and Game along Bonita Drive (APN 044-042-01)

### **HAZARDOUS MATERIALS: (asbestos, lead, etc.)**

**Buildings** Overpasses on Highway 1 for roadway and trains are the structures that exist in the Caltrans right of way. These overpasses may be a source of asbestos and lead based paint. Within the proposed right of way, there are many different styles and ages of buildings that could contain asbestos and lead based paint.

**Spray-on fireproofing** Overpasses exist within the right of way and may be a source of spray-on fireproofing. Some of the larger commercial buildings in the proposed right of way may have spray-on fireproofing.

**Pipe wrap** \_\_\_\_\_ **Not observed**      **Friable tile** \_\_\_\_\_ **Not observed**

**Acoustical plaster** \_\_\_\_\_ **Not observed**      **Serpentine** \_\_\_\_\_ **Not observed**

**Paint** Lead Based Paint (LBP) is potentially present in roadway and train overpass structures. A LBP survey is recommended prior to activities that may disrupt these structures.

### **Other:**

- 1) Aerially Deposited Lead in soils is a possibility, particularly in high traffic areas. Naturally occurring asbestos is possible in the soils, although no outcrops of serpentine were observed where soil was exposed.
- 2) Two railroad overpasses exist within the project area. The Union Pacific Railroad crosses over Highway 1, twice between the Rio del Mar Boulevard exit and the State Park Drive exit. Both railroad crossings are on steel overpasses. These structures may be a source of lead based paint and asbestos.



## **Initial Site Assessment (ISA) Checklist**

(continued)

5. **Additional record search, as necessary, of subsequent land uses that could have resulted in a hazardous waste site. Use the attached map to show the location of potential hazardous waste sites.**  
See EDR Map.
6. **Other comments and/or observations:** No buildings exist within the current Caltrans right of way. Access was not granted to private property in the proposed right of way or adjacent to the existing or proposed right of way, therefore no site inspections were performed of these areas other than what could be observed from public access areas.

### **ISA Determination**

**Does the project have potential hazardous waste involvement? Yes**

**If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Investigation? Yes**

**If "YES," explain; then give an estimate of additional time required:**

See summary of sites of concern identified in the Findings and Opinion, Sections 6 and 7 of the ISA Report.

Access was not granted to private properties that are located within proposed Caltrans right of way that would be acquired by Caltrans, or sites that are adjacent to the existing or proposed Caltrans right of way. These properties were observed only from public access areas. Portions of these properties were blocked from public view by structures (e.g., buildings, fences).

An estimate of the additional time required to perform soil sampling on these private properties cannot be determined until such time access is provided to these private properties to perform a physical inspection.

**A brief memo should be prepared to transmit the ISA conclusions to the Project Manager and Project Engineer.**

**ISA Conducted by: Brynna McNulty**

**Date: April 13 and 14, 2010**

**ATTACHMENT A**

**TIER II CALTRANS ISA CHECKLIST**



## Initial Site Assessment (ISA) Checklist

### Project Information

**District** 05 **County** SC **Route** 1 **Post Mile** 05-SCr-1 – PM 13.5/14.9 **EA** 05-0C7300

**Description** It is proposed to widen State Route 1 to the north to accommodate the addition of auxiliary lanes to both the northbound and southbound sides between the 41st Avenue and Soquel Avenue/Drive interchanges. The total roadway widening would be approximately 2.2 km (1.4 miles) in length. Southbound, the auxiliary lane would begin at the existing Soquel Avenue onramp, and end at the existing offramp at 41st Avenue. Northbound, the auxiliary lane would begin just south of the 41st Avenue overcrossing, at the existing loop onramp to northbound 41st Avenue. North of the overcrossing, the onramp from southbound 41st Avenue to northbound State Route 1 would merge with the new auxiliary lane, beginning approximately 300m upstream at the bottom of the loop ramp. A new pedestrian overcrossing at Chanticleer Avenue spanning State Route 1 is proposed to accommodate pedestrians and bicyclists. At Chanticleer Avenue (south side of State Route 1) a new sidewalk would be constructed.

Is the project on the HW Study Minimal-Risk Projects List (HW1)? No

Project Manager	<u>Luis Duazo</u>	phone # <u>(805) 542-4678</u>
Project Engineer	<u>Claudia Espino</u>	phone # <u>(559) 230-3110</u>

### Project Screening

Attach the project location map to this checklist to show location of all known and/or potential HW sites identified. See Exhibit 1, Project Location Map in the attached ISA.

1. Project Features: New R/W? YES Excavation? YES Railroad Involvement? YES

Structure demolition/modification? YES Subsurface utility relocation? YES

2. Project Setting Santa Cruz County

Rural or Urban Urban and Rural

Current land uses Transportation for existing Caltrans right of way. Residential, open space, commercial, local transportation and light industrial

Adjacent land uses Commercial, light industrial, local transportation, open space, and residential.

3. Check federal, State, and local environmental and health regulatory agency records as necessary, to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets, as needed, to provide pertinent information for the proposed project. See Exhibit 1, Project Location Map in the attached ISA.

4. Conduct Field Inspection. Date April 13-14, 2010 Use the attached map to locate potential or known HW sites.

#### STORAGE STRUCTURES / PIPELINES:

Underground tanks YES Surface tanks YES

Sumps NO Ponds NO

Drums NO Basins NO

Transformers YES Landfill NO

Other

## Initial Site Assessment (ISA) Checklist

(Continued)

CONTAMINATION: (spills, leaks, illegal dumping, etc.)

Surface staining \_\_\_\_\_ NO \_\_\_\_\_ Oil sheen \_\_\_\_\_ NO \_\_\_\_\_

Odors \_\_\_\_\_ NO \_\_\_\_\_ Vegetation damage \_\_\_\_\_ NO \_\_\_\_\_

Other \_\_\_\_\_

HAZARDOUS MATERIALS: (asbestos, lead, etc.)

Buildings \_\_\_\_\_ YES \_\_\_\_\_ Spray-on fireproofing \_\_\_\_\_ YES \_\_\_\_\_

Pipe wrap \_\_\_\_\_ NO \_\_\_\_\_ Friable tile \_\_\_\_\_ NO \_\_\_\_\_

Acoustical plaster \_\_\_\_\_ NO \_\_\_\_\_ Serpentine \_\_\_\_\_ NO \_\_\_\_\_

Paint \_\_\_\_\_ Paint used on structures and for lane striping may contain lead. \_\_\_\_\_

Other \_\_\_\_\_ ACM may be present in the structures to be demolished. Aerially deposited lead (ADL) may be present along the shoulders of Highway 1.

5. Additional record search, as necessary, of subsequent land uses that could have resulted in a hazardous waste site. Use the attached map to show the location of potential hazardous waste sites. See Exhibit 1, Project Location Map in the attached ISA.

6. Other comments and/or observations: \_\_\_\_\_.

### **ISA Determination**

Does the project have potential hazardous waste involvement? YES If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Investigation? YES If "YES," explain; then give an estimate of additional time required:

ACM testing on the structures; ADL along the shoulders of Highway 1; and lead-based paint testing on paint used on structures and for lane striping. Expected duration would be 3 months for testing and a total of six months (from start to finish) for final results.

A brief memo should be prepared to transmit the ISA conclusions to the Project Manager and Project Engineer.

**ISA Conducted by: Brynna McNulty    Date    April 13-14, 2010**