

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017  
PROJECT BASELINE AGREEMENT

Route-91 – Rehab Pavement and Multi-Assets (12-0R313)

Resolution SHOPP-P-2122-02B

(will be completed by CTC)

**1. FUNDING PROGRAM**

- Active Transportation Program
- Local Partnership Program (Competitive)
- Solutions for Congested Corridors Program
- State Highway Operation and Protection Program
- Trade Corridor Enhancement Program

**2. PARTIES AND DATE**

- 2.1 This Project Baseline Agreement (Agreement) for the *Route-91 – Rehab Pavement and Multi-Assets (12-0R313)*, effective on, October 13, 2021 (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, *Caltrans*, and the Implementing Agency, *Caltrans*, sometimes collectively referred to as the “Parties”.

**3. RECITAL**

- 3.2 Whereas at its May 13, 2020 meeting the Commission approved the State Highway Operation and Protection Program, and included in this program of projects the *Route-91 – Rehab Pavement and Multi-Assets (12-0R313)*, the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as Exhibit A and the Project Report attached hereto as Exhibit B, as the baseline for project monitoring by the Commission.
- 3.3 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

**4. GENERAL PROVISIONS**

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

- 4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.
- 4.2 To adhere, as applicable, to the provisions of the Commission:
- Resolution *Insert Number*, “Adoption of Program of Projects for the Active Transportation Program”, dated
  - Resolution *Insert Number*, “Adoption of Program of Projects for the Local Partnership Program”, dated
  - Resolution *Insert Number*, “Adoption of Program of Projects for the Solutions for Congested Corridors Program”, dated
  - Resolution G-20-40, “Adoption of Program of Projects for the State Highway Operation and Protection Program”, dated May 13, 2020
  - Resolution *Insert Number*, “Adoption of Program of Projects for the Trade Corridor Enhancement Program”, dated

- 4.3 All signatories agree to adhere to the Commission's State Highway Operation and Protection Program, Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.
- 4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.
- 4.5 Caltrans agrees to secure funds for any additional costs of the project.
- 4.6 Caltrans agrees to report on a quarterly basis; after July 2019, reports will be on a semi-annual basis on the progress made toward the implementation of the project, including scope, cost, schedule, outcomes, and anticipated benefits.
- 4.7 Caltrans agrees to prepare program progress reports on a quarterly basis; after July 2019, reports will be on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.
- 4.8 Caltrans agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.
- 4.9 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits during the course of the project, and retain those records for four years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.
- 4.10 The Transportation Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for four years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

## **5. SPECIFIC PROVISIONS AND CONDITIONS**

### **5.1 Project Schedule and Cost**

See Project Programming Request Form, attached as Exhibit A.

### **5.2 Project Scope**

See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.

### **5.3 Other Project Specific Provisions and Conditions**

## **Attachments:**

Exhibit A: Project Programming Request Form

Exhibit B: Project Report

SIGNATURE PAGE  
TO  
PROJECT BASELINE AGREEMENT

Route-91 – Rehab Pavement and Multi-Assets (12-0R313)

Resolution

SHOPP-P-2122-02B

\_\_\_\_\_  
*Name* \_\_\_\_\_ *Date* \_\_\_\_\_

*Title*

Project Applicant

\_\_\_\_\_  
*Name* \_\_\_\_\_ *Date* \_\_\_\_\_

*Title*

Implementing Agency



\_\_\_\_\_  
Ryan Chamberlain

\_\_\_\_\_  
09/10/2021

Date

District Director

California Department of Transportation



\_\_\_\_\_  
Toks Omishakin

\_\_\_\_\_  
9.24.21

Date

Director

California Department of Transportation



\_\_\_\_\_  
Mitchell Weiss

\_\_\_\_\_  
10/25/21

Date

Executive Director

California Transportation Commission

Baseline agreement information was extracted from Caltrans' project data systems. Project description, funding and performance measures are from CTIPS. Project delivery milestones are from PRSM. All information is current and accurate.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

BASELINE AGREEMENT						Date:	07/28/21 07:29:24 AM
District	EA	Project ID		PPNO	Project Manager		
12	0R313	1220000025		4506H	SANTOS, BRIAN A		
County	Route	Begin Postmile	End Postmile	Implementing Agency			
ORA	91	6.4	R 9.2	PA&ED	Caltrans		
				PS&E	Caltrans		
				Right of Way	Caltrans		
				Construction	Caltrans		
Project Nickname							
12-0R313, Rte 091, Multi-Asset Project							
Location/Description							
In and near Anaheim, from La Palma Avenue to Route 55. Rehabilitate pavement, rehabilitate culverts, upgrade lighting, upgrade Transportation Management System (TMS) elements and make highway worker safety improvements. (G13 Contingency)							
Legislative Districts							
Assembly:	68	Senate:	37	Congressional:	39, 46		
PERFORMANCE MEASURES							
	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Pavement		18.6	0.3		18.9	Lane-miles
Programmed Condition	Pavement	18.9				18.9	Lane-miles
Project Milestone						Actual	Planned
Project Approval and Environmental Document Milestone						06/30/21	
Right of Way Certification Milestone							12/29/23
Ready to List for Advertisement Milestone							01/31/24
Begin Construction Milestone (Approve Contract)							06/28/24
FUNDING (Allocated amounts are shaded)							
Component	Fiscal Year	SHOPP					Total
PA&ED	20/21	2,070					2,070
PS&E	21/22	2,660					2,660
RW Support	21/22	20					20
Const Support	23/24	3,590					3,590
RW Capital	23/24	9					9
Const Capital	23/24	37,060					37,060
Total		45,409					45,409



## Project Report For Project Approval

On Route 91

Between La Palma Avenue Overcrossing (PM 6.4)

And Route 91/55 Separation (PM R9.2)

I have reviewed the right-of-way information contained in this report and the right-of-way data sheet attached hereto, and find the data to be complete, current and accurate:



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AHMED ABOU-ABDOU  
Acting Office Chief  
Office of Right of Way & Right of Way Engineering

APPROVAL RECOMMENDED:



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ANDREW OSHRIN  
Chief, Design Branch D



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BRIAN SANTOS  
Project Manager

CONCURRED:



*jj*  
ADNAN MAIAH  
Deputy District Director  
Single Focal Point  
Strategic Portfolio Management

PROJECT APPROVED:



for Matt Cugini 6/30/2021

---

MATTHEW CUGINI      DATE  
Deputy District Director  
Project Delivery

RYAN CHAMBERLAIN  
District Director

## Vicinity Map

**PROJECT LOCATION**  
SR-91 from La Palma Avenue OC (PM 6.4)  
to SR-91/SR-55 Separation (PM R9.2)



This project report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

*Joseph W. Sawtelle*  
REGISTERED CIVIL ENGINEER

6/30/2021  
DATE

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Attachment B	Proposed Improvements (19)
Attachment C	Utility Management Matrix (1)
Attachment D	Right-of-Way Data Sheet (7)
Attachment E	Project Cost Estimate (10)
Attachment F	Environmental Document (4)
Attachment G	Storm Water Data Report Cover Sheet (1)
Attachment H	Transportation Management Plan Data Sheet (2)
Attachment I	SHOPP Performance Output (1)
Attachment J	Risk Register (3)
Attachment K	TASAS Table B (2)

## List of Abbreviations and Acronyms

<b>ACM</b>	Asbestos Containing Material	<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>ADL</b>	Aerially Deposited Lead	<b>NSSP</b>	Nonstandard Special Provision
<b>ADT</b>	Average Daily Traffic	<b>OCTA</b>	Orange County Transportation Authority
<b>APCS</b>	Automated Pavement Condition Survey	<b>PA&amp;ED</b>	Project Approval and Environmental Document
<b>BMP</b>	Best Management Practice	<b>PDPM</b>	Project Development Procedures Manual
<b>CAPM</b>	Capital Preventive Maintenance	<b>PDT</b>	Project Development Team
<b>CCTV</b>	Closed Circuit Television	<b>PIR</b>	Project Initiation Report
<b>CE/CE</b>	Categorical Exemption/Categorical Exclusion	<b>PM</b>	Post Mile
<b>CEQA</b>	California Environmental Quality Act	<b>PS&amp;E</b>	Plans, Specifications, and Estimate
<b>CFR</b>	Code of Federal Regulations	<b>PVI</b>	Point of Vertical Intersection
<b>CHP</b>	California Highway Patrol	<b>PTZ</b>	Pan, Tilt, Zoom
<b>CMS</b>	Changeable Message Sign	<b>RCTC</b>	Riverside County Transportation Commission
<b>COZEEP</b>	Construction Zone Enforcement Enhancement Program	<b>RMS</b>	Ramp Metering System
<b>DD</b>	District Directive	<b>RTL</b>	Ready To List
<b>DOE</b>	District Office Engineer	<b>RWQCB</b>	Regional Water Quality Control Board
<b>DSA</b>	Disturbed Soil Area	<b>SHOPP</b>	State Highway Operation Protection Program
<b>DSMP</b>	District System Management Plan	<b>SHSP</b>	Strategic Highway Safety Plan
<b>DTSC</b>	Department of Toxic Substances Control	<b>SPIR</b>	Supplemental Project Initiation Report
<b>EA</b>	Expenditure Authorization	<b>SR</b>	State Route
<b>EB</b>	Eastbound	<b>SSD</b>	Stopping Sight Distance
<b>ECR</b>	Environmental Commitment Record	<b>SSP</b>	Standard Special Provision
<b>FHWA</b>	Federal Highway Administration	<b>SWDR</b>	Storm Water Data Report
<b>GP</b>	General Purpose	<b>SWMP</b>	Storm Water Management Plan
<b>HD</b>	High Definition	<b>SWPPP</b>	Stormwater Pollution Prevention Program
<b>HDM</b>	Highway Design Manual	<b>SWRCB</b>	State Water Resources Control Board
<b>HOV</b>	High Occupancy Vehicle	<b>TASAS</b>	Traffic Accident Surveillance and Analysis System
<b>IP</b>	Internet Protocol	<b>TMP</b>	Transportation Management Plan
<b>ITS</b>	Intelligent Transportation Systems	<b>TMS</b>	Traffic Management System
<b>MASH</b>	Manual for Assessing Safety Hardware	<b>TWW</b>	Treated Wood Waste
<b>MBGR</b>	Metal Beam Guard Railing	<b>WB</b>	Westbound
<b>MCCE</b>	Mitigation and Compliance Cost Estimate		
<b>MGS</b>	Midwest Guardrail System		
<b>MOU</b>	Memorandum of Understanding		
<b>NEPA</b>	National Environmental Policy Act		
<b>NIS</b>	New Impervious Surface		

## 1 INTRODUCTION

This project is located on SR-91 from the La Palma Avenue Overcrossing (PM 6.4) to the Route 91/55 Separation (PM R9.2), in the cities of Anaheim and Placentia, in Orange County. A project location map is included as Attachment A.

The project proposes to improve roadway conditions and transportation management system elements. The scope of work includes pavement rehabilitation, upgrading existing safety devices to be MASH compliant, loop detector replacement, lighting replacement, conduit replacement, landscape improvements, overhead sign panel replacement, upgrading existing CCTV cameras to HD CCTV, upgrading the existing switches in electrical cabinets, upgrading fiber optic communication systems, installing video detection cameras, installing Smart Street Lighting, installing non-PTZ cameras, installing centrally locking cabinet systems, and upgrading pull boxes with locking systems. No structure improvements are included as a part of this project.

This multi-asset project is state and federally funded through the SHOPP (program code 20.10.201.121) and will be programmed for a funding year of 2023/2024.

<b>Project Limits</b>	12-ORA-91 – PM 6.4/R9.2	
<b>Number of Alternatives</b>	2 (1 Build Alternative and 1 No Build Alternative)	
	<b>Current Cost Estimate:</b>	<b>Escalated Cost Estimate:</b>
<b>Capital Outlay Support</b>	\$7,972,000	\$8,340,000
<b>Capital Outlay Construction</b>	\$31,660,000	\$37,060,000
<b>Capital Outlay Right-of-Way</b>	\$8,000	\$9,000
<b>Funding Source</b>	20.10.201.121–SHOPP Pavement Rehabilitation (CAPM)	
<b>Funding Year</b>	2023/2024 Fiscal Year	
<b>Type of Facility</b>	5 to 6 Lane Freeway	
<b>Number of Structures</b>	None	
<b>SHOPP Project Output</b>	Refer to SHOPP Performance Measures Report (Attachment I)	
<b>Environmental Determination or Document</b>	Categorical Exemption (CEQA) Categorical Exclusion (NEPA)	
<b>Legal Description</b>	In the County of Orange, in Anaheim and Placentia, from La Palma Avenue Overcrossing (PM 6.4) to Route 91/55 Separation (PM R9.2)	
<b>Project Development Category</b>	Category 5, per PDPM Chapter 8, Section 5	

## 2 RECOMMENDATION

It is recommended that the project be approved based on the build alternative and that the project proceed to the design phase.

## 3 BACKGROUND

### Project History

This project was initiated under the District 12 Asset Management Program as the SR-91 Multi-Asset project (EA OR310) which spanned the entire Orange County from PM 0.0 to PM R18.9. The PIR was approved in June 2019. A Supplemental PIR was approved in August 2019 to update the project cost estimate. A second SPIR was approved in November 2019 to update a performance measure. A third SPIR was approved in April 2020 to split the project into five separate projects (EA OR311, OR312, OR313, OR314 and OR315), segmented in a linear, sequential fashion with limits coordinating with the OCTA SR-91 Improvement project (EA OK980). A fourth SPIR was approved in May 2020 to update the delivery schedule for projects EA OR312, OR313 and OR314. During the design phase, the proposed improvements of these three multi-asset projects will be incorporated into their respective SR-91 Improvement project segments. Any overlapping improvements that are included in the SR-91 Improvement project are removed from this project and adjacent multi-asset projects.

### Community Interaction

There is no known opposition to the proposed project from local agencies nor the general public. All traffic handling and detours must be coordinated with the cities of Anaheim and Placentia, CHP, and emergency responders prior to construction.

### Existing Facility

SR-91 is an access controlled, grade separated freeway that originates in southern Los Angeles County at the Harbor Freeway (I-110), passes through northern Orange County, and terminates at the SR-60/91/215 interchange in the City and County of Riverside. SR-91 is the only significant highway transportation facility connecting Orange County and Riverside County. In addition to its importance as a commuter route, it is heavily used for goods movement from the ports of Los Angeles and Long Beach to inland destinations.

From the westerly project limit through the project area, EB SR-91 provides three GP lanes, one HOV lane, and one auxiliary lane. The HOV lane becomes a GP lane 1,300 feet west of Tustin Avenue. One 91 Express Lane is added at the Santa Ana River, approximately 1,300 feet east of Tustin Avenue.



From the easterly project limit, WB SR-91 provides five GP lanes, one auxiliary lane, and one 91 Express Lane which becomes a GP lane 800 feet east of Tustin Avenue. The sixth GP lane is dropped at Tustin Avenue and one HOV lane is added 1,400 feet west of Tustin Avenue. At the SR-91/SR-57 interchange, two GP lanes diverge to the SR-57 connector.

#### **4 PURPOSE AND NEED**

**Purpose:** The project proposes to improve various types of roadway elements and upgrade the TMS on SR-91.

***Roadway Improvements:***

The primary purpose of the roadway improvements is to prevent further deterioration and improve ride quality, reduce recurrent roadside maintenance activities, provide safe work locations to highway workers, and provide safe transportation facilities to commuters.

***TMS Improvements:***

The primary purpose of the TMS program is to improve traffic flow for the overall corridor by connecting TMS elements to facilitate data transmission, to improve system-wide recurrent and non-recurrent congestion through system management techniques, to reduce the impacts of congestion and improve efficiency and operations of the freeway system by improving system performance and providing more accurate real time traveler information in the freeway system.

**Need:** SR-91 has experienced deteriorating roadway conditions and has been operating with incomplete and disconnected technological infrastructure systems.

***Deteriorating roadway conditions include:***

- Pavement
- Lighting and conduits
- Irrigation systems
- Maintenance accesses for highway workers
- Visibility of existing overhead sign panels

***Incomplete and disconnected technological infrastructure systems include:***

- Need for real-time management of the corridor to detect traffic congestion, vehicle collisions and incidents

- Need for IP based ethernet communication with field elements to allow for remote monitoring and management of ITS elements
- Need to upgrade the existing CMS to improve visibility and meet standard requirements
- Need to save energy, improve visibility, and enhance road safety with remote management in order to lower maintenance and operating cost
- Need for ITS to protect critical infrastructure systems

### **A. Problem, Deficiencies, Justification**

Based on the 2019 APCS data and field observation, the condition of the existing SR-91 pavement within the project limits is poor and exhibits a high percentage of cracking and damage. The continued deterioration of pavement will decrease the ride quality of the existing roadway and potentially adversely impact goods movement and the motoring public. Roadway deficiencies include lighting systems, irrigation systems, access for maintenance workers, and visibility of overhead sign panels which do not meet current standards.

This segment of SR-91 also has incomplete and disconnected technological infrastructure systems due to a need for real-time management of the corridor to detect traffic congestion, vehicle collisions and incidents; need for IP based ethernet communication with field elements to allow for remote monitoring and management of ITS elements; and need for ITS to protect critical infrastructure systems. An existing CMS needs to be upgraded to improve visibility and meet standard requirements.

The proposed roadway improvements of this project are expected to enhance safety, improve ride quality, increase pavement service life, reduce maintenance expenditures, and minimize maintenance worker exposure. The proposed upgrades to TMS elements are expected to improve traffic flow, reduce the impacts of congestion and improve efficiency and operations of the freeway system.

### **B. Regional and System Planning**

In preparation for future mobility demands based on trends for housing, population, job growth, and finance, the 2018 State Route 91 Implementation Program – a combined effort among OCTA, RCTC, and other local stakeholders – provides a planning document, identifying a list of proposed projects and programs that aim to enhance freeway capacity and improve mobility for one of the most congested segments of SR-91.

In alignment with Caltrans' mission and the purpose of the SHSP which is expected to provide a safe transportation system, the DSMP provides working guidelines aiming to enhance a safer, more sustainable, integrated and efficient transportation system. The DSMP states that continued addition of roadway capacity alone is not a viable solution to address congestion issues. Other efforts are needed such as investments in multimodal infrastructure as well as transportation demand management.

The 2016 SHOPP Asset Management Pilot Program refined project prioritization parameters and incorporated the Caltrans Strategic Management Plan. Under the 2020 SHOPP cycle, District 12 Management proposed a multi-asset project to address both roadway improvement and TMS improvement along SR-91. This project provides various upgrades and improvement to the existing roadway facilities, and transitions existing TMS facilities into a modernized system with a multimodal technological infrastructure. The ultimate approach is to provide efficient and proactive management of traffic movement and safety on SR-91.

Coordination among other on-going projects on SR-91 that overlap the project limits is critical to successfully deliver the project on schedule and within budget. Minimizing conflicts on scopes, construction staging, and TMPs between projects requires direct coordination between each project team. Continuous coordination and collaboration with the following projects is required. During the design phase, the proposed improvements of the SR-91 Multi-Asset projects will be incorporated into their respective SR-91 Improvement project segments.

**Table 1: Adjacent Projects**

EA	Begin PM	End PM	RTL	Description
0Q690	Varies	Varies	2022	TMS Routes 5, 22, 55, 57, 73, 91, 133, 261, 405, 605
OR312	4.8	6.4	2024	SR-91 Multi-Asset Segment 2
OR314	R9.2	R10.8	2023	SR-91 Multi-Asset Segment 4
OK981	R9.4	R10.8	2023	SR-91 Widening Project Segment 1 (design phase to include EA OR314 improvements)
OK982	6.4	R9.1	2023	SR-91 Widening Project Segment 2 (design phase to include EA OR313 improvements)
OK983	4.7	6.5	2024	SR-91 Widening Project Segment 3 (design phase to include EA OR312 improvements)
OR190	5.4	5.8	2022	Install new OH sign structure and remove and replace existing guide sign panels

### C. Traffic

#### Current Traffic

The 2019 traffic volumes on SR-91 within the project vicinity are shown below.

**Table 2: 2019 Traffic Volumes**

PM	Location	Back			Ahead		
		Peak Hour Vol	Peak Month ADT	Veh AADT	Peak Hour Vol	Peak Month ADT	Veh AADT
6.119	Junction Route 57	20,000	291,000	279,300	17,000	240,000	228,700
7.353	Kraemer Blvd/Glassell St	18,000	256,000	244,000	17,400	250,000	239,000
8.399	Tustin Avenue	17,400	250,000	239,000	17,000	240,000	228,500
R9.187	Junction Route 55	14,000	200,000	190,000	19,200	302,000	287,400

#### Collision Analysis

The TASAS Table B data are summarized below, which includes collisions that occurred during the three-year period from July 1, 2017 and June 30, 2020 along EB and WB SR-91. As shown in Table 3 below, the actual rates for EB SR-91 are higher than the statewide average for similar facilities, while the WB SR-91 actual collision rates are less than the statewide average for similar facilities.

**Table 3: TASAS Table B Collision Rates**

PM	Location	No. of Collisions			Actual Rates			Statewide Average Rates		
		Fat	F+I	Tot	Fat	F+I	Total	Fat	F+I	Total
6.400 to 9.199	EB SR-91	1	110	334	0.003	<b>0.31</b>	<b>0.96</b>	0.003	0.29	0.93
6.400 to 9.199	WB SR-91	1	64	253	0.003	0.19	0.72	0.003	0.29	0.93

*Boldface indicates that the actual collision rate is higher than the statewide average*

*Collision rates expressed as number of collisions per million vehicles*

*F+I = Fatality and injury*

TASAS Table B for the three-year period showed a total of 334 collisions in the EB direction and 253 total collisions in the WB direction, with one collision in each direction resulting in a fatality. The fatality that occurred in the WB direction (PM 8.12) was at 11:05 PM when a pedestrian that was walking in the HOV lane was struck by a vehicle. The primary collision factor was failure to yield and the collision occurred in the dark with street light and no other unusual conditions. The fatality that occurred in the EB direction (PM 8.53) was at 3:26 AM in the left shoulder area where a vehicle collided with a parked vehicle that was retrieving a temporary portable CMS. The primary collision factor was improper turn and the collision occurred in the dark with street light in a construction zone. The project improvements are not anticipated to affect the potential for fatalities or collisions of this nature.

The TASAS Table B data indicated that for EB SR-91, by Types of Collisions, 56.3% were rear end, 29.0% were sideswipe, 9.6% were hit object, 3.0% were overturn, 0.9% were other, 0.9% were broadside, and 0.3% were head-on.

The TASAS Table B data indicated that for WB SR-91, by Types of Collisions, 51.0% were rear end, 36.8% were sideswipe, 9.9% were hit object, 1.6% were overturn, 0.4% were auto-pedestrian, and 0.4% were other.

The TASAS Table B data indicated that for EB SR-91, by Primary Collision Factors, 53.0% were speeding, 25.1% were other violations, 12.0% were improper turn, 6.0% were influence of alcohol, 3.3% were other than driver, and 0.6% were unknown.

The TASAS Table B data indicated that for WB SR-91, by Primary Collision Factors, 45.8% were speeding, 28.5% were other violations, 16.2% were improper turn, 4.7% were other than driver, 2.8% were influence of alcohol, 1.6% were unknown, and 0.4% were failure to yield.

For EB SR-91, the highest concentration of collisions occurred during the evening peak hours. Additionally, the TASAS Table B data indicated that, by Lighting, 65.6% of the collisions occurred during day light hours and 25.1% during dark hours with street lightings, 5.7% occurred in the dark with no street light, and 3.6% occurred during dusk/dawn. The TASAS Table B data indicated that, by Road Surface, 98.5% occurred with dry roadway condition and 93.1% of the collisions involved no unusual roadway conditions.

For WB SR-91, the highest concentration of collisions occurred during the evening peak hours. Additionally, the TASAS Table B data indicated that, by Lighting, 70.0% of the collisions occurred during day light hours, 23.7% during dark hours with street lightings, 4.3% occurred in the dark with no street light, and 2.0% occurred during dusk/dawn. The TASAS Table B data indicated that, by Road Surface, 96.4% occurred with dry roadway condition and 95.3% of the collisions involved no unusual roadway conditions.

The current TASAS Table C listed one location on EB SR-91 that required investigation, from PM 8.020 to 8.220.

Overall, the proposed improvements are expected to enhance safety and potentially reduce the severity and number of collisions by improving traffic movement and operation, providing enhanced roadway illumination for improved visibility during the hours of darkness, reducing impacts of congestion through enhanced incident monitoring, and improving ride

quality to provide safe and efficient transportation facilities to commuters and highway workers.

## 5 ALTERNATIVES

### A. Viable Alternative

The Build Alternative, Alternative 1, proposes the roadway and TMS improvements listed below and as shown in Attachment B.

#### **Roadway Improvements:**

- Replace concrete panels with cast-in-place rapid strength concrete or precast panels (to be determined during PS&E phase), and cold plane and overlay existing asphalt concrete shoulders
- Replace existing lighting conduits
- Upgrade roadside paving, and upgrade, modify, or relocate highway irrigation systems
- Relocate the existing roadside facilities outside the clear recovery zone
- Replace overhead sign panels
- Upgrade existing safety devices to be MASH compliant

#### **TMS Improvements:**

- Upgrade CCTV to HD CCTV at various locations
- Install computer hardware (switches) at various hubs and controller cabinets for TMS, RMS, CCTV, and CMS at various locations
- Upgrade and replace existing fiber optics and conduits
- Install video detections cameras at off-ramp intersections
- Replace existing CMS at PM 7.35 west of Kraemer Blvd
- Install smart lighting at various locations
- Install non-PTZ cameras at on-ramp entrances or merging areas
- Upgrade existing cabinets with locking systems at various locations
- Upgrade existing pull boxes at various locations

#### **Nonstandard Design Features**

The project proposes to maintain the following existing nonstandard features along SR-91 as the project does not alter the existing roadway geometry and would refresh the existing pavement delineation in kind.

- HDM Index 201.1 – Sight Distance

Location/Description	Standard	Existing
Vertical SSD, SR-91 "A" 479+00	750'	424'

Location/Description	Standard	Existing
Horizontal SSD, WB SR-91 "A" 486+75 to 509+50	750'	410'
Vertical SSD, SR-91 "A" 486+60	750'	457'
Vertical SSD, SR-91 "A" 504+00	750'	546'
Vertical SSD, SR-91 "A" 524+32.33	750'	458'

- HDM Index 202.2(1) – Superelevation

Location/Description	Standard	Existing
SR-91 "A" Sta 390+88.39 to 428+74.24	4.4%	2%
SR-91 "A" Sta 484+04.00 to 504+59.54	9.4%	6%

- HDM Index 302.1 – Shoulder Width

Location/Description	Standard	Existing
EB SR-91 Left Shoulder "A" 391+50 to "A" 499+75	10'	2'-10'
EB SR-91 Left Shoulder "A" 508+83 to "B" 539+00	10'	2'-10'
WB SR-91 Left Shoulder "A" 391+50 to "B" 539+00	10'	2'-10'

- HDM Index 305.1 – Median Width

Location/Description	Standard	Existing
SR-91 "A" 391+50 to "B" 539+00	22'	6'-22'

- HDM Index 309.2(1)(a) – Vertical Clearance

Location/Description	Standard	Existing
North Olive Union Pacific Underpass "A" 486+10	16'-6"	15'-4"

- HDM Index 501.3 – Interchange Spacing

Location/Description	Standard	Existing
SR-57 to Kraemer Blvd/Glassell St	2 miles	1.23 miles
Tustin Ave to SR-55	2 miles	0.69 mile

- HDM Index 504.7 – Weaving Sections

Location/Description	Standard	Existing
EB SR-91 from NB SR-57 Connector to Kraemer Blvd/ Glassell St Off-Ramp	5,000'	3,305'
EB SR-91 from Glassell St On-Ramp to Tustin Ave Off- Ramp	2,000'	1,770'
EB SR-91 from Tustin Ave Loop On-Ramp to SB SR-55 Connector	5,000'	2,439'
WB SR-91 from Kraemer Blvd On-Ramp to NB SR-57 Connector	5,000'	3,200'
WB SR-91 NB SR-55 Connector to Tustin Ave Off-Ramp	5,000'	1,772'

- HDM Index 204.4 – Vertical Curve Length

<b>Location/Description</b>	<b>Standard</b>	<b>Existing</b>
SR-91 Crest Vertical Curve "A" 479+00 PVI	700'	500'
SR-91 Sag Vertical Curve "A" 486+60 PVI	700'	500'
SR-91 Sag Vertical Curve "A" 524+32.33 PVI	700'	600'

**Utility and Other Owner Involvement**

Preliminary utility verification research and mapping have been completed. The existing utility plan is included in Attachment B and Utility Management Matrix in Attachment C. Facilities owned by the following utility companies have been identified within the project limits, including overhead and underground lines: Anaheim Union Water, AT&T, Cable Com, CenturyLink, Charter Communication, City of Anaheim, Extenet Systems, Level 3 Communications, Orange County Sanitation District, Orange County Water District, Peralta Hills Water Company, Southern California Edison, Southern California Gas, and Verizon.

Eight test holes will be required during the design phase to verify depths and locations of the following existing underground utilities. Test holes costs are included in the Right-of-Way Data Sheet in Attachment D.

- Anaheim Union Water owned 30" Water line - 2 test holes for potential physical conflict
- AT&T owned underground telephone line - 2 test holes for potential physical conflict
- Southern California Gas owned 36" high pressure gas line - 2 test holes to meet Caltrans utility policy
- Orange County Water District owned 79" steel water line - 2 test holes for potential physical conflict

No public utility relocations are anticipated for this project.

**Cost Estimate**

A detailed cost estimate for Alternative 1 is included as Attachment E.

**B. Rejected Alternative**

Alternative 2 is the No Build Alternative which retains the existing conditions. This alternative does not satisfy the need and purpose of the project and is not recommended.



## **6 CONSIDERATIONS REQUIRING DISCUSSION**

### **A. Hazardous Waste**

Due to the nature and scope of this project, there is no potential hazardous waste involvement within the project area. However, since the project involves excavation, soil sampling will be conducted in the design phase for ADL. The analytical results of the soil sampling will determine the appropriate handling of the soil and disposal of surplus materials. This project involves replacement of seal joints at approach and departure slabs, which will require an ACM investigation. During the early stage of the design phase, the project engineer will send a formal request to the Environmental Engineering Branch for both ADL and ACM investigations.

Lead based paint and thermoplastic material were used until 1997 and 2004, respectively, for the traffic striping on the road. After these years, non-hazardous striping was used. Since as-built records show that the striping within the project limits was placed after that date under project EA 12-0R480 (October 2019), these materials are no longer considered to be hazardous. For non-hazardous traffic marking and striping removal, SSP 84-9.03B will be used.

The project improvements include removal of existing wood posts for MBGR supports and sign posts which contain chemical preservatives. The wood posts are considered TWW which must follow DTSC regulations for management and disposal. An NSSP for TWW will be followed for the disposal of TWW.

### **B. Value Analysis**

A Value Analysis is required for projects with total project costs (right-of-way, construction and support) over \$25 million per DD-92-R1. The Value Analysis for this project will be conducted early in the PS&E phase.

### **C. Resource Conservation**

No resource conservation was identified on this project.

### **D. Right-of-Way Issues**

#### **Right-of-Way Requirements**

All work is within the State's right-of-way and the acquisition of fee or temporary construction easements is not needed. Additionally, a MCCE will not be required as there are no permit or mitigation costs associated with this project. The Right-of-Way Data Sheet is included in Attachment D.

### **Railroad Involvement**

An existing railroad structure, the North Olive Underpass (Bridge No. 55-195, PM 8.19/8.40), crosses SR-91 west of Tustin Avenue within the project limits. The landowner of this line is OCTA and it is operated by the Southern California Regional Rail Authority (SCRRA/Metrolink). No railroad involvement is necessary as there is no proposed work within 25 feet of the railroad track. An Office of Engineer Railroad Clearance Memo with railroad short clauses is required for insertion into the Specifications.

### **Airspace Lease Areas**

No potential airspace lease areas have been identified for this project.

### **Relocation Impact Studies**

It has been determined there are no impacts to owners, tenants, businesses or persons in possession of real property to be acquired who would qualify for relocation assistance benefits or entitlements under the Uniform Relocation Assistance and Real Property Act of 1970. Therefore, a Relocation Impact Document is not needed.

## **E. Environmental Compliance**

Effective March 30, 2017, Caltrans continues to assume FHWA responsibilities under National Environmental Policy Act (NEPA), pursuant to the 23 USC 326 MOU, and as otherwise assumed under the Pilot Program, with minor changes. The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been carried out by Caltrans under its assumption of responsibility pursuant to 23 USC 327. Caltrans is the NEPA Lead Agency for this project and has determined this project is Categorical Excluded per 23 CFR 771.177 (C), Activity ( C ) ( 21 ). Additionally, Caltrans is the Lead Agency for this project under the California Environmental Policy Act (CEQA). It is determined, this project is Categorical Exempt per Class 15301 (1-d). No significant environmental consequences are anticipated with the proposed project. In addition to the Caltrans Standards and Measures relating to Construction Noise, Air Pollution Control, Erosion Control and Hazardous Waste, the following Measures are required:

- An Environmental Commitment Record (ECR) has been prepared. The ECR contains Measures that will be addressed and implemented during Design and Construction Phases.
- Some ECR Measures (including those for work windows) may affect Project Schedule. During Design and Construction, the Project

Development Team (PDT) in concert with Caltrans Project Manager and Caltrans Design Senior should pay particular attention to ECR Measures and monitor implementation of Measures per Schedule.

The CE/CE document is attached as Attachment F.

#### **F. Air Quality Conformity**

According to the CFR Title 40 Section 93.126, safety projects such as traffic control devices, pavement resurfacing/ rehabilitation are exempt projects. This exempt project does not require project submittal to the Transportation Conformity Working Group for interagency Consultation nor an operational quantitative air quality analysis.

#### **G. Climate Change / Greenhouse Gas Emissions Analysis**

The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2018) for reducing impacts from construction activities. Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

#### **H. Title VI Considerations**

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the United States shall, on the ground of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

#### **I. Noise Abatement Decision Report**

According to FHWA 23 CFR772, this project does not qualify as a Type I project and traffic noise study is not needed. However, the project would need to comply with Caltrans' Standard Specification 14-8.02 to control noise during construction.

### **7 OTHER CONSIDERATIONS AS APPROPRIATE**

#### **A. Public Hearing Process**

A public hearing is not proposed since the project is determined to be a CE/CE.

## **B. Stormwater Compliance**

The project is within the jurisdiction of the Santa Ana (Region 8) RWQCB. The receiving water body of runoff from the project is Santa Ana River Channel (Reach 2). There are no receiving water bodies on the 303(d) list and no established TMDL requirement within the project limit.

The project must conform to all applicable water quality regulations and/or permit requirements of the SWRCB, and the Santa Ana RWQCB, which include, but are not limited to, the Caltrans Statewide NPDES Permit (Order No. 2012-0011-DWQ, NPDES No. CAS000003 as amended in Order WQ 2014-0006-EXEC, in Order WQ 2014-0077-DWQ, in Order WQ 2015-0036-EXEC, and in Order WQ 2017-0026-EXEC), the Statewide General Permit for Storm Water Discharge Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended in Order No. 2010-0014-DWQ and in Order No. 2012-0006-DWQ, NPDES No. CAS000002), the Caltrans SWMP and any subsequent revisions and/or additional requirements at the time of construction. Should dewatering be required, dewatering must comply with Santa Ana RWQCB Order No. R8-2020-0006, NPDES Permit No. CAG998001.

The Caltrans Statewide Trash Implementation Plan was published in April 2019; the Trash Implementation Plan shows this project is within a Significant Trash Generating Area (STGA). There are no new drainage inlets proposed for this project; therefore, trash capture devices will not be installed. However, future projects proposing new drainage inlets within the STGAs will require trash capture devices.

The estimated DSA for this project is 3.28 acres which will require the development and implementation of a SWPPP to comply with the NPDES Statewide Construction General Permit. The SWPPP will identify and implement temporary BMPs during construction to address the temporary impacts to water quality. Specific temporary BMPs will be detailed during the PS&E phase. Since the project NIS area is less than one acre, consideration of permanent treatment BMPs is not required. The SWDR cover sheet is included as Attachment G.

## **C. Transportation Management Plan**

Prior to final project design approval, a final TMP report will be prepared to reduce potential construction-related traffic conflicts, detours, and delays. A Major TMP classification is anticipated for the proposed project. The TMP will address the manner and duration of planned construction that will impact traffic, including lane closures and temporary traffic handling, and other required windows of work for concrete pavement slab replacement such as nighttime closures and 55-hour weekend closures. Coordination with OCTA's

improvement projects on SR-91 between PM 4.8/R10.4 will be required for combining project staging within the corridor to minimize the combined impacts on the traveling public.

The TMP identifies methods to reduce traffic delay, maintain traffic flow through the project limits, and provide a safe environment for the work force and motorists. Elements in the project TMP include:

- Public Information
- Motorist Information
- Incident Management
- Construction Strategies
- Demand Management

A TMP Data Sheet that estimates cost for these strategies has been prepared for this project and is included as Attachment H.

#### **D. Stage Construction**

Stage construction and traffic handling plans will be prepared in the PS&E phase to show the sequence of work activities and maintaining vehicular traffic through the work zone. Nighttime lane closures would be required to allow for replacement of concrete slabs. Temporary striping, reduced lane widths and shoulder closures, or night work with closure of the outside lane and shoulder, would be required to cold plane and overlay asphalt pavement areas. Night work has been assumed in the cost estimate. Lane requirement charts will be prepared in the PS&E phase to specify the number of lanes that must be open to traffic each hour of the day during construction activities.

Potential contractor staging and storage areas have been identified at the SR-91/Kraemer Blvd.-Glassell St. interchange as shown in Attachment B. The area between the WB off-ramp and WB loop on-ramp is approximately 67,600 square feet. The area between the EB loop off-ramp and the EB on-ramp is approximately 57,800 square feet. The contractor must avoid impacting mature trees, maintenance roads, safety devices and drainages within these areas.

#### **E. Asset Management**

The project achieves the performance objectives as shown in Attachment I. The performance objectives are consistent with the Transportation Asset Management Plan, Ten Year SHOPP Plan, Ten-Year Project Book, and Five-Year Maintenance Plan.

**F. Wired Broadband and Advance Technologies**

Wired broadband accommodations are anticipated in this project. The cost for wired broadband conduits is included in the project cost estimate. The exact locations and limits of the wired broadband facility will be determined at the PS&E phase.

Accommodation of fueling opportunities for zero-emission vehicles is not included in this project. Construction of any charging stations would require extensive right of way acquisition as they need to be constructed outside the State right of way. There are no charging stations within the project proximity, however, travelers can use four local charging stations located in the Cities of Anaheim and Yorba Linda.

Accommodation of the Vehicle-to-Infrastructure (V2I) technologies is not included in this project. Construction of the back-office system development center as well as the communications backhaul infrastructure necessary for the installation of the V2I technologies would require extensive right of way acquisition.

**8 FUNDING, PROGRAMMING AND ESTIMATE**

**A. Funding**

This project is eligible for Federal-aid funding. This project will be funded through the 2020 SHOPP Pavement Rehabilitation (CAPM) Program. This project will be scheduled for construction in the fiscal year 2023/2024.

**B. Programming**

The following table shows the project funding consisting of 2020 SHOPP funds.

Fund Source	Fiscal Year Estimate				
	20/21	21/22	22/23	23/24	Total
20.10.201.010					
Component	In thousands of dollars (\$1,000)				
PA&ED Support	2,070				2,070
PS&E Support		2,660			2,660
Right-of-Way Support		20			20
Construction Support				3,590	3,590
Subtotal Support	2,070	2,680		3,590	8,340
Right-of-Way Capital				9	9
Construction Capital				37,060	37,060
Subtotal Capital				37,069	37,069
Total	2,070	2,680		40,659	45,409

\*Annual 3.2% Escalation

Total Escalated Support Cost:	\$8,340,000
Total Escalated Construction and Right of Way Cost:	\$37,069,000
<b>Support/Construction Cost Ratio:</b>	<b>23%</b>

To combine this project with the OCTA 91 Segment 2 widening project (EA 12-0K982), a project change request will be initiated and an accompanying Supplemental PR will be produced.

### C. Estimate

The cost estimate is included as Attachment E.

## 9 DELIVERY SCHEDULE

Table 4 lists the major project milestones for this project.

**Table 4: Project Milestones**

Project Milestones		Milestone Date (Month/Year)	Milestone Designation (Actual/Target)
PROGRAM PROJECT	M015	July 2020	Actual
PA & ED	M200	June 2021	Target
BEGIN DESIGN	M210	July 2021	Target
REGULAR RIGHT OF WAY REQUIREMENTS	M225	July 2021	Target
FINAL RIGHT OF WAY REQUIREMENTS	M265	October 2021	Target
PS&E TO DOE	M377	March 2023	Target
DRAFT STRUCTURES PS&E	M378	March 2023	Target
RIGHT OF WAY CERTIFICATION	M410	December 2023	Target
READY TO LIST	M460	January 2024	Target
FUND ALLOCATION	M470	March 2024	Target
HEADQUARTERS ADVERTISE	M480	April 2024	Target
AWARD	M495	May 2024	Target
APPROVE CONTRACT	M500	June 2024	Target
CONTRACT ACCEPTANCE	M600	October 2027	Target
END PROJECT	M800	October 2029	Target

## 10 RISKS

The project risk register includes the identified risks, qualitative risk analysis, and response strategy and risk prepared using the ranking method. The project risk register is based on a qualitative risk analysis approach to rank the risks into high, medium, and low risk categories based on their probability of occurrence and their impact on the project objectives such as schedule, cost, right of way impact, and quality. While probability and impact varies with each one, these risks require close attention throughout the project. These risks should be monitored and updated during the entire project development phase. The risk register is included as Attachment J.

## 11 FHWA COORDINATION

This project is eligible for Federal-aid funding. The project is considered to be an Assigned Project in accordance with the current FHWA and Caltrans Joint Stewardship and Oversight Agreement. It is exempt from FHWA review and oversight since SR-91 is not on the Interstate System.

## 12 REVIEWS

District Program Advisor	<u>Ben Nanjappa</u>	Date	<u>6/15/2021</u>
District Maintenance	<u>Hazel Lam</u>	Date	<u>6/15/2021</u>
Project Manager	<u>Brian Santos</u>	Date	<u>6/25/2021</u>
District Safety Review	<u>Thuan Nguyen</u>	Date	<u>6/29/2021</u>
Constructability Review	<u>Adil Mujtaba</u>	Date	<u>6/16/2021</u>

## 13 PROJECT KEY PERSONNEL

<u>Name, Title</u>	<u>Phone</u>
Brian Santos <i>Project Manager, Project Management</i>	(657) 328-6624
Andrew Oshrin <i>Branch Chief, Design "D"</i>	(657) 328-6088
Smita Deshpande <i>Branch Chief, Environmental Analysis</i>	(657) 328-6151
Evangelina Washington <i>Branch Chief, Right of Way Project Coordination</i>	(657) 328-6349
Vanessa Truong <i>Branch Chief, Electrical Design</i>	(657) 328-6130
Phi Dinh <i>Branch Chief, Hydraulics</i>	(657) 328-6172
Grace Pina-Garrett <i>Branch Chief, NPDES/Storm Water</i>	(657) 328-6159



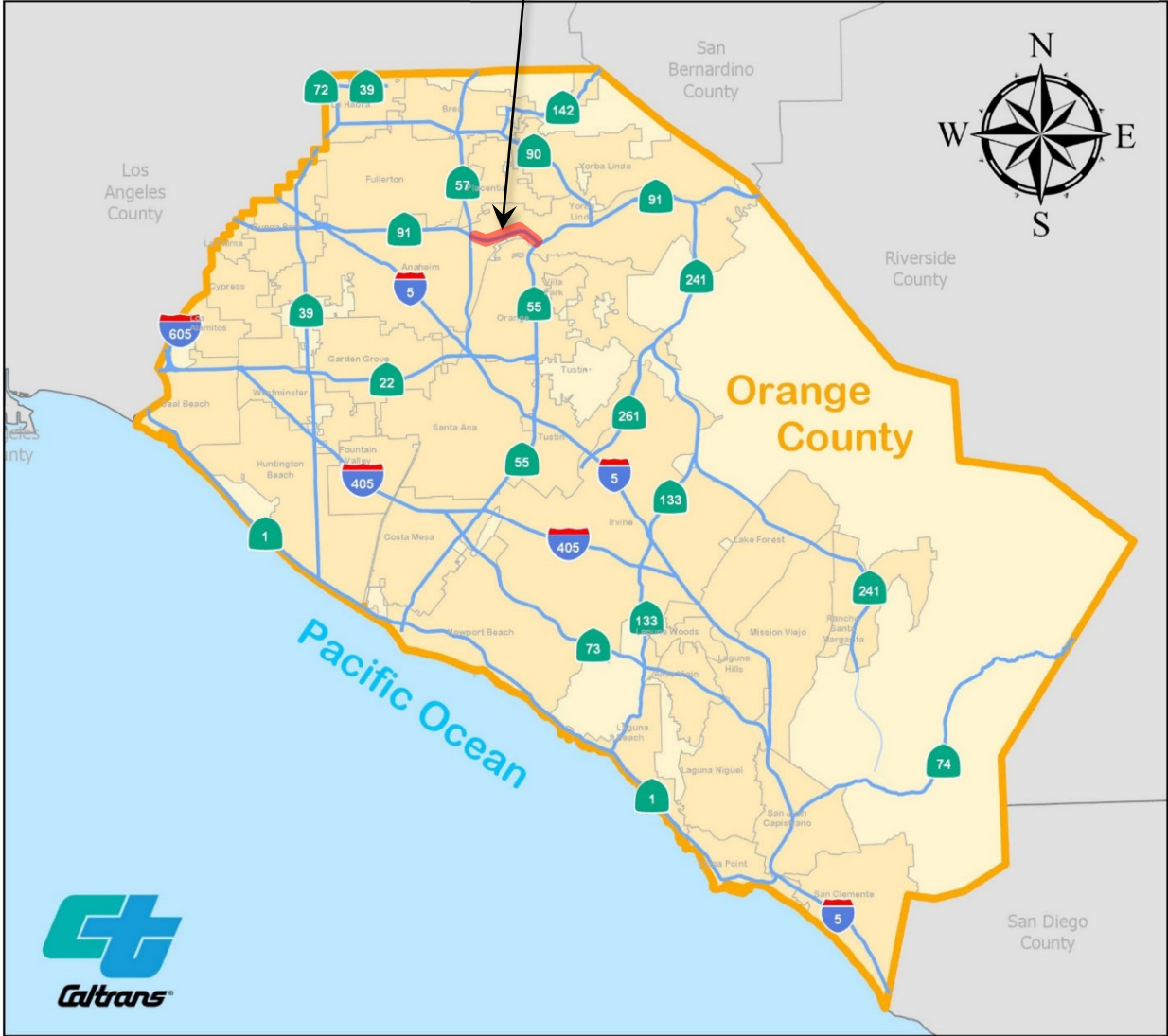
#### **14 ATTACHMENTS (Number of Pages)**

- Attachment A Project Location Map (1)**
- Attachment B Proposed Improvements (19)**
- Attachment C Utility Management Matrix (1)**
- Attachment D Right-of-Way Data Sheet (7)**
- Attachment E Project Cost Estimate (10)**
- Attachment F Environmental Document (4)**
- Attachment G Storm Water Data Report Cover Sheet (1)**
- Attachment H Transportation Management Plan Data Sheet (2)**
- Attachment I SHOPP Performance Output (1)**
- Attachment J Risk Register (3)**
- Attachment K TASAS Table B (2)**

**ATTACHMENT A**  
Project Location Map

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**PROJECT LOCATION**  
SR-91 from La Palma Avenue OC (PM 6.4)  
to SR-91/SR-55 Separation (PM R9.2)



**PROJECT LOCATION MAP**

**ATTACHMENT B**  
Proposed Improvements

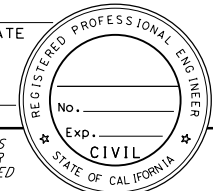
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	91	6.4/R9.2		

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_

PLANS APPROVAL DATE \_\_\_\_\_

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SANTA ANA, CA 92707

CALTRANS DISTRICT 12  
1750 E 4TH ST  
SUITE 100  
SANTA ANA, CA 92705

**NOTES:**

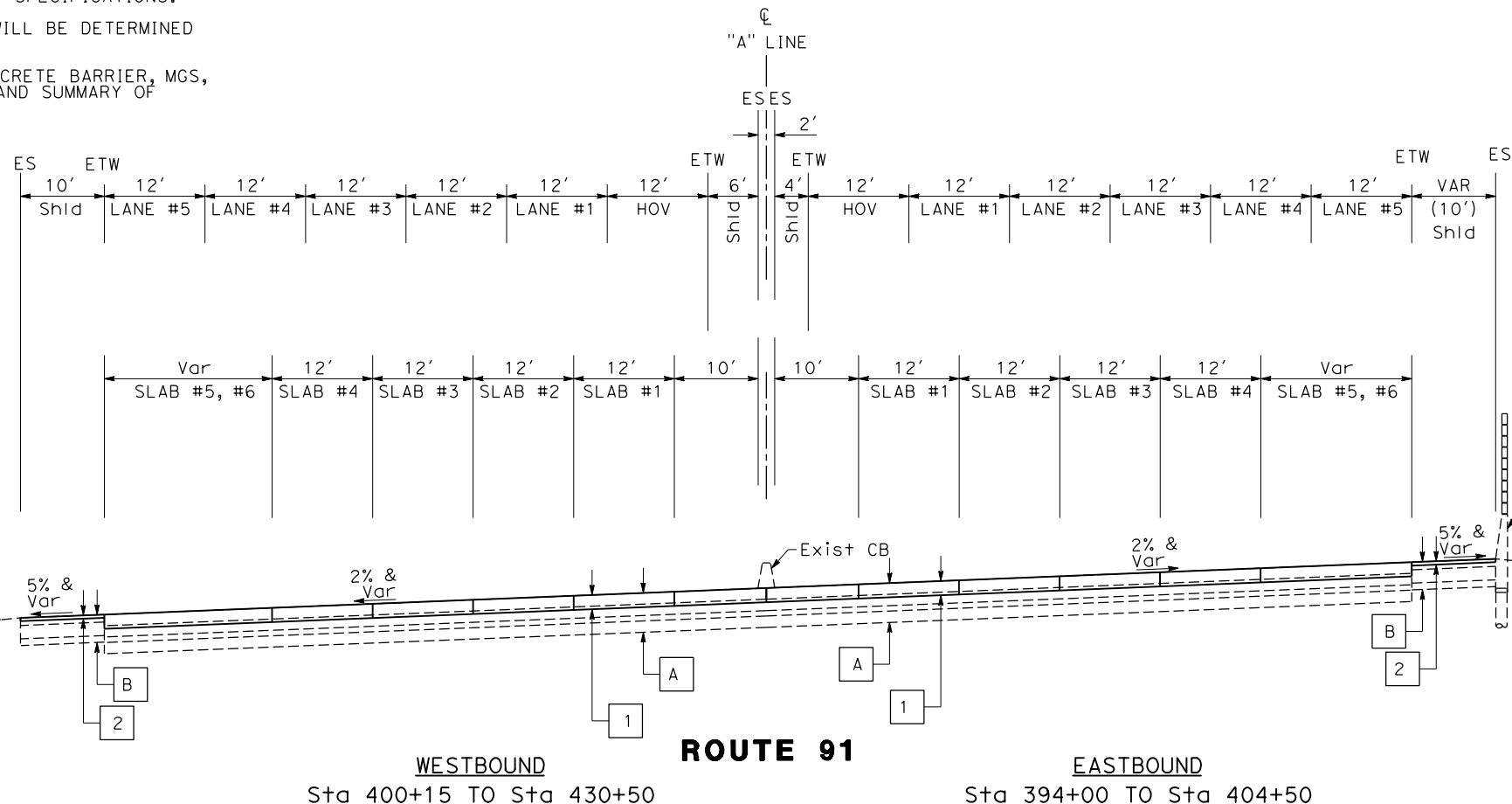
- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- EXACT LOCATIONS OF CONCRETE PANEL REPLACEMENT WILL BE DETERMINED BY THE ENGINEER.
- EXACT LOCATIONS AND TYPES OF HMA DIKE, CURB, CONCRETE BARRIER, MGS, AND CHAIN LINK FENCE ARE SHOWN ON THE LAYOUTS AND SUMMARY OF QUANTITIES SHEETS.
- THE CROSS SLOPE OF GUTTERS ON THE HIGH SIDE OF A ROADWAY SHALL MATCH THE CROSS SLOPE OF THE ROADWAY.
- NO WORK ON PCC RAMP TERMINI, AND PCC GORE AREAS UNLESS OTHERWISE SPECIFIED.

**EXISTING STRUCTURAL SECTIONS**

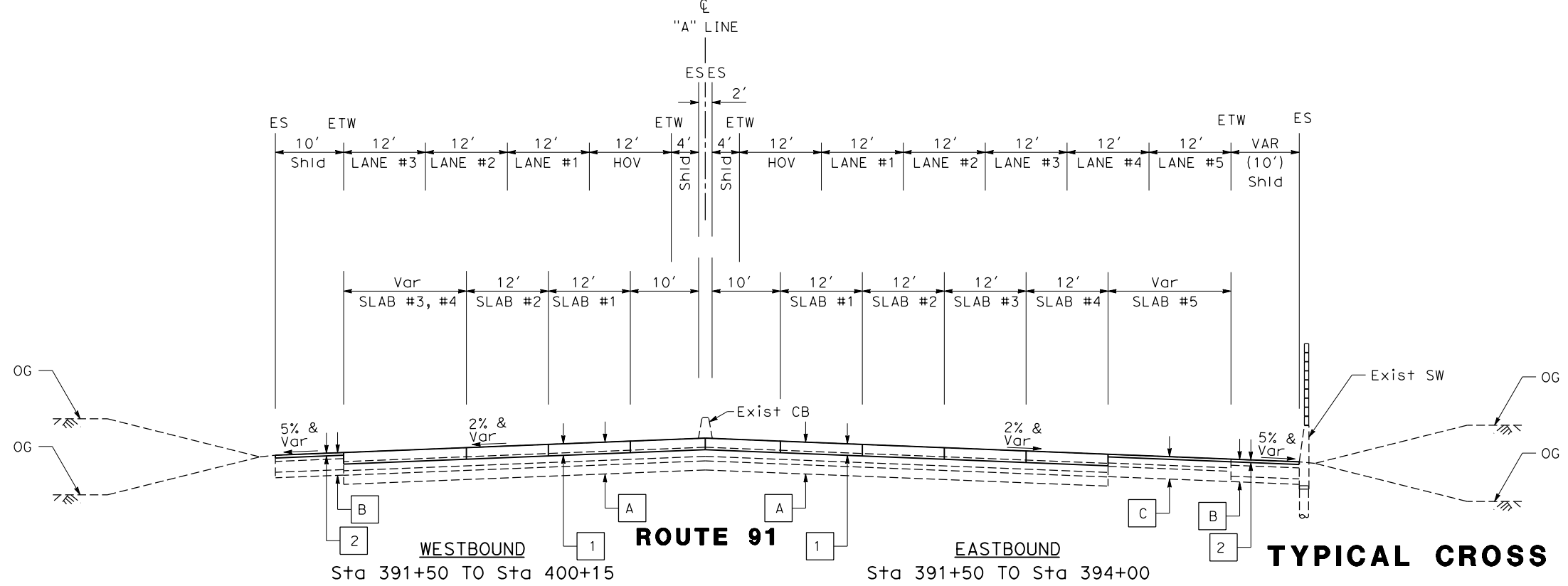
- A 0.67' PCC  
0.67' UB  
0.33' CTS  
0.67' SMT
- B 0.45' AC (TYPE B)  
0.80' CI 2 AB  
0.40' CI 3 AS
- C 0.65' AC  
0.25' ATPB  
0.75' CI 2 AB
- D 0.65' AC  
0.25' ATPN  
0.75' CI 2 AB
- F 0.80' AC  
0.40' AB  
0.45' CI 3 AB
- G 0.75' PCC  
0.45' CTB  
0.50' AB
- H 0.65' PCC  
0.45' CTB  
0.60' AB
- I 0.30' AC  
0.65' CTB  
0.75' AB

**TYPICAL STRUCTURAL SECTIONS**

- 1 0.85' INDIVIDUAL SLAB REPLACEMENT
- 2 0.20' COLD PLANE AC PAVEMENT



**ROUTE 91**  
WESTBOUND Sta 400+15 TO Sta 430+50  
EASTBOUND Sta 394+00 TO Sta 404+50



**ROUTE 91**  
WESTBOUND Sta 391+50 TO Sta 400+15  
EASTBOUND Sta 391+50 TO Sta 394+00

**TYPICAL CROSS SECTION**

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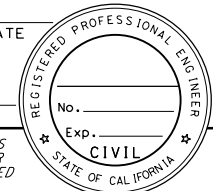
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
Caltrans

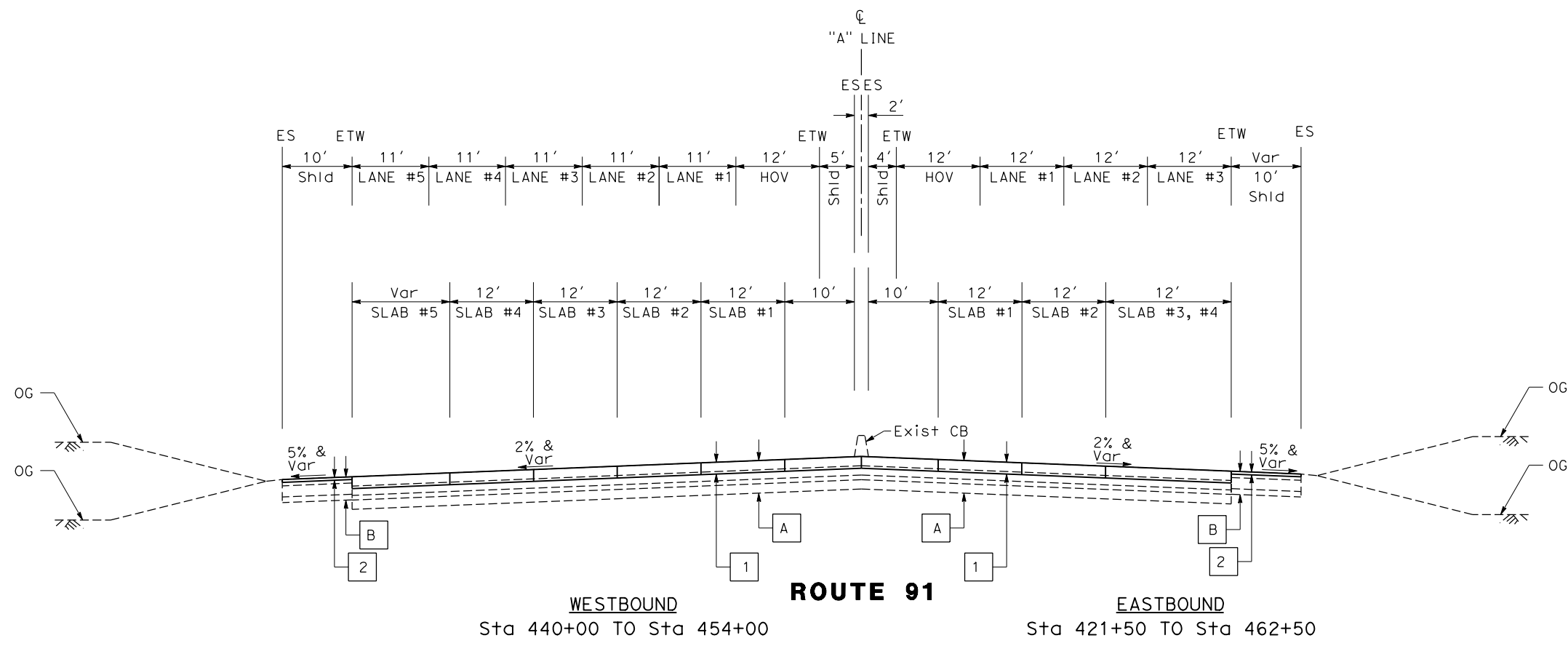
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12	Orca	91	6.4/R9.2		

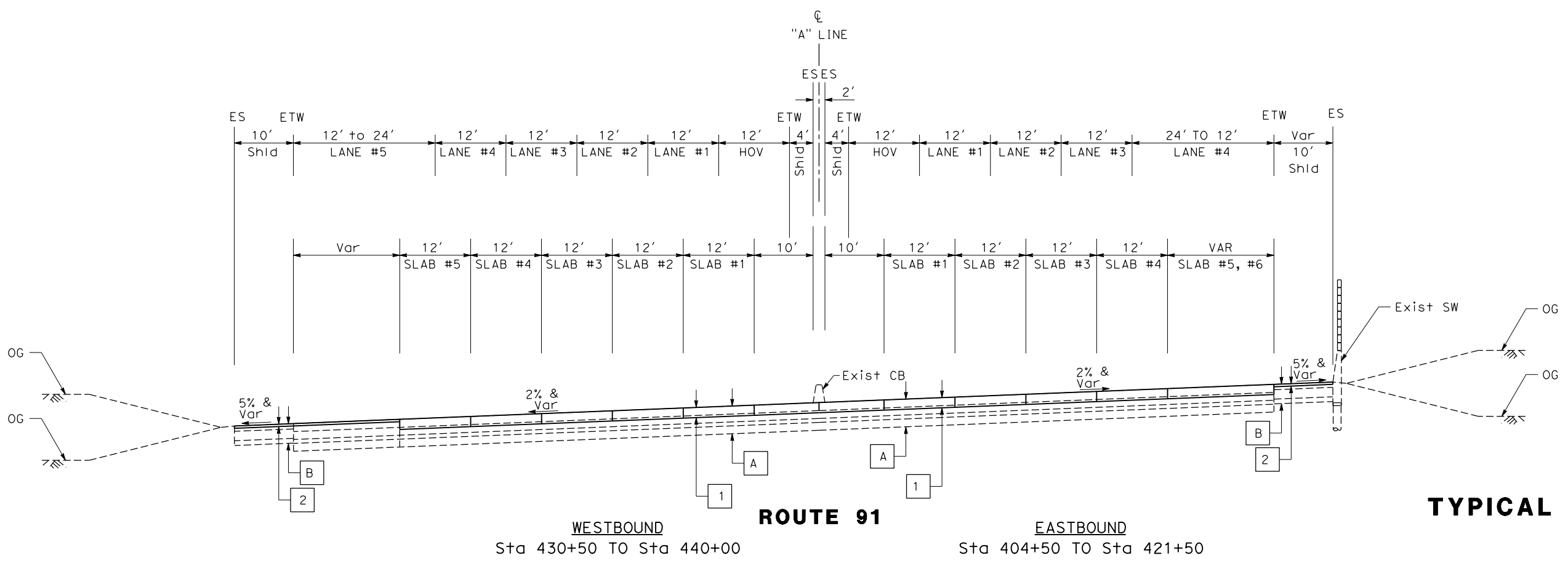
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 CALTRANS DISTRICT 12 1750 E 4TH ST SUITE 100 SANTA ANA, CA 92705



**ROUTE 91**  
 WESTBOUND Sta 440+00 TO Sta 454+00  
 EASTBOUND Sta 421+50 TO Sta 462+50



**ROUTE 91**  
 WESTBOUND Sta 430+50 TO Sta 440+00  
 EASTBOUND Sta 404+50 TO Sta 421+50

**TYPICAL CROSS SECTION**

NO SCALE

**X-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 CONSULTANT FUNCTIONAL SUPERVISOR  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 REVISOR BY  
 DATE REVISOR

USERNAME => chnguyen  
 DGN FILE => 1220000025ca003.dgn

RELATIVE BORDER SCALE 15 IN INCHES  
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UNIT 0000

PROJECT NUMBER & PHASE

12200000250

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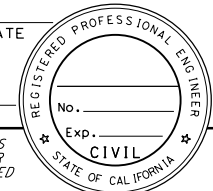


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	91	6.4/R9.2		

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_

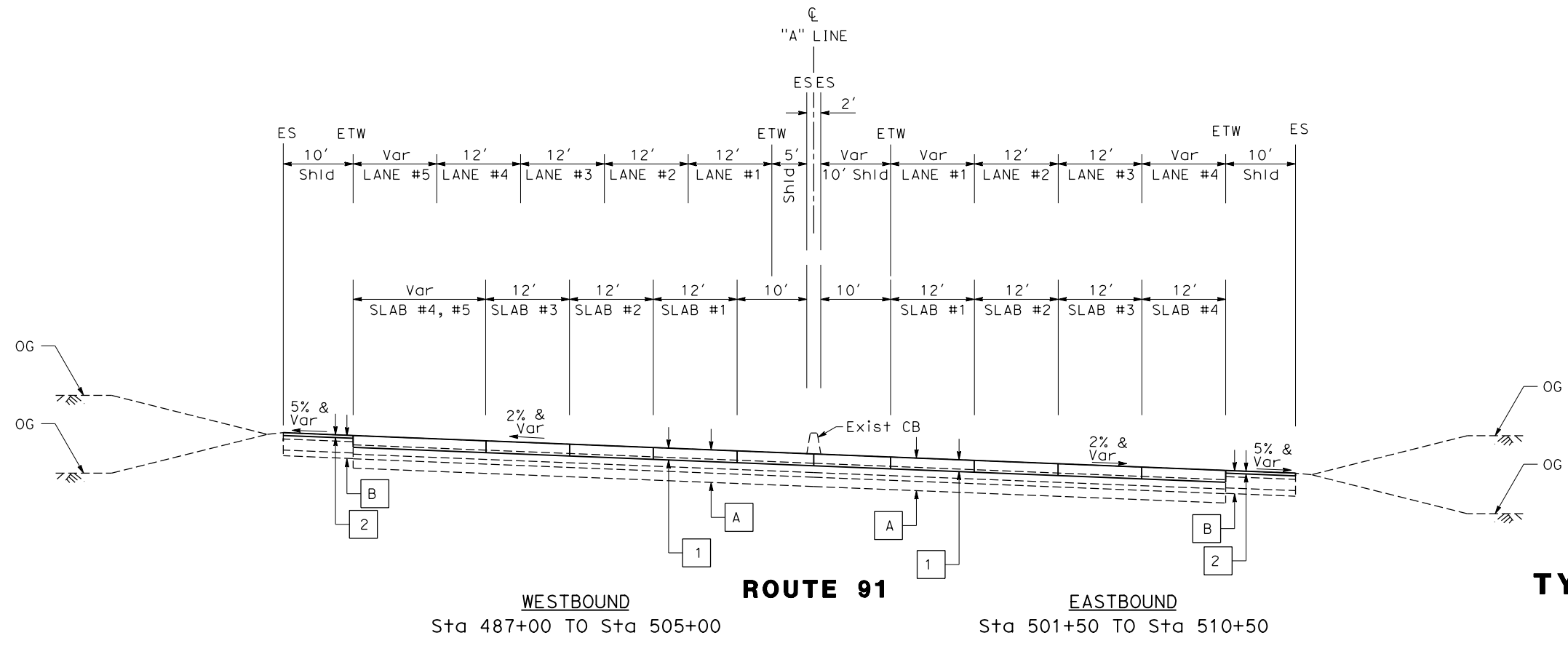
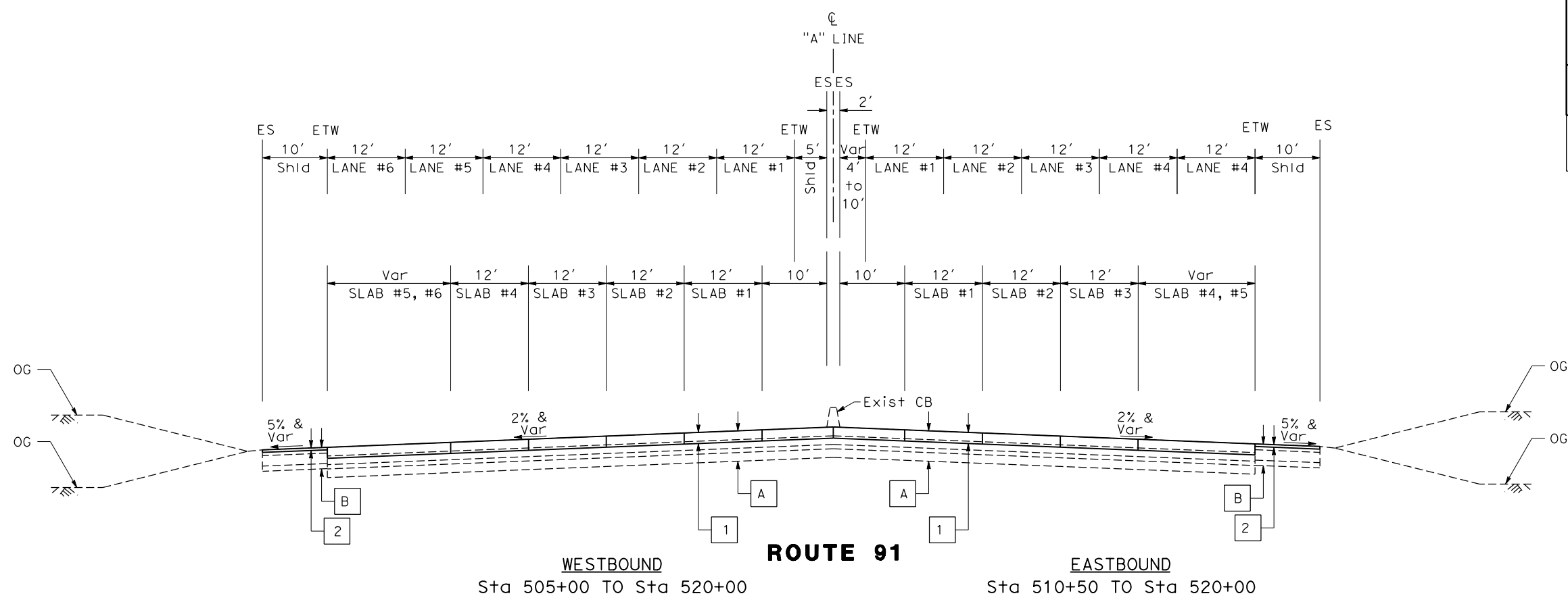
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1750 E 4TH ST  
SUITE 100  
SANTA ANA, CA 92705



**TYPICAL CROSS SECTION**

NO SCALE

**X-4**

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LAST REVISION DATE PLOTTED => 28-MAY-2021  
 00-00-00 TIME PLOTTED => 16:03



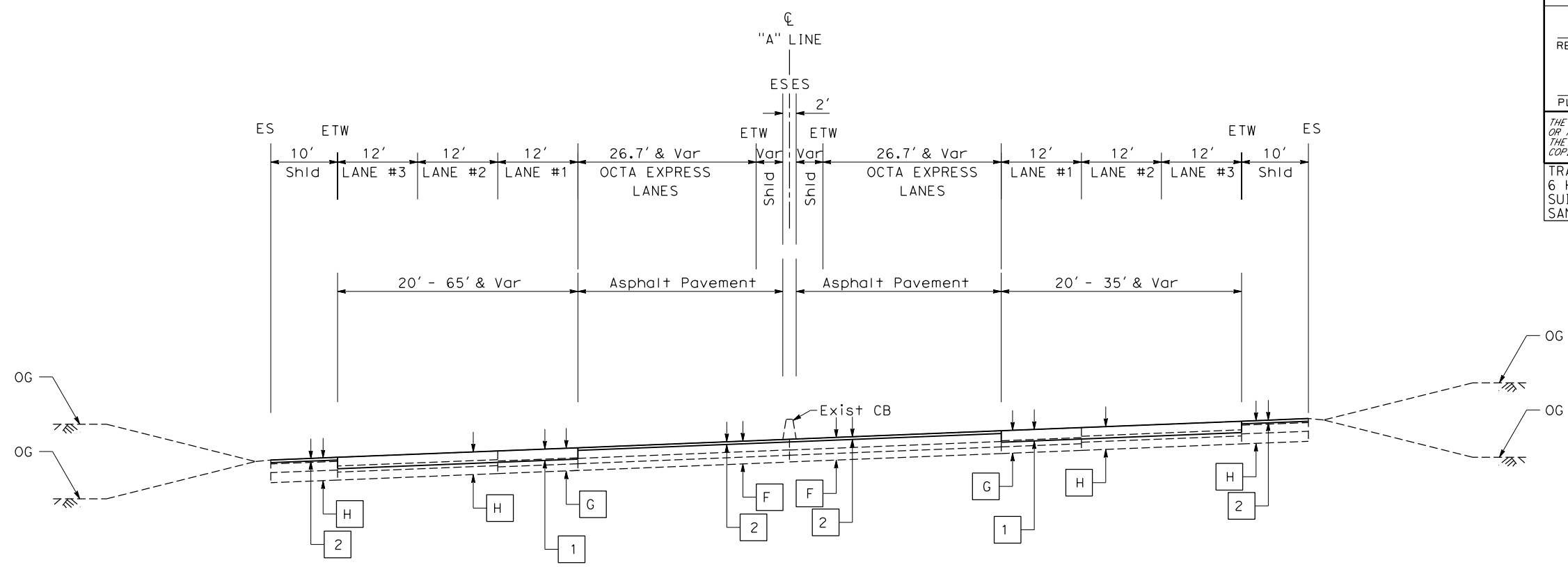
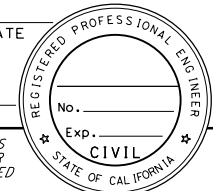
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	91	6.4/R9.2		

REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

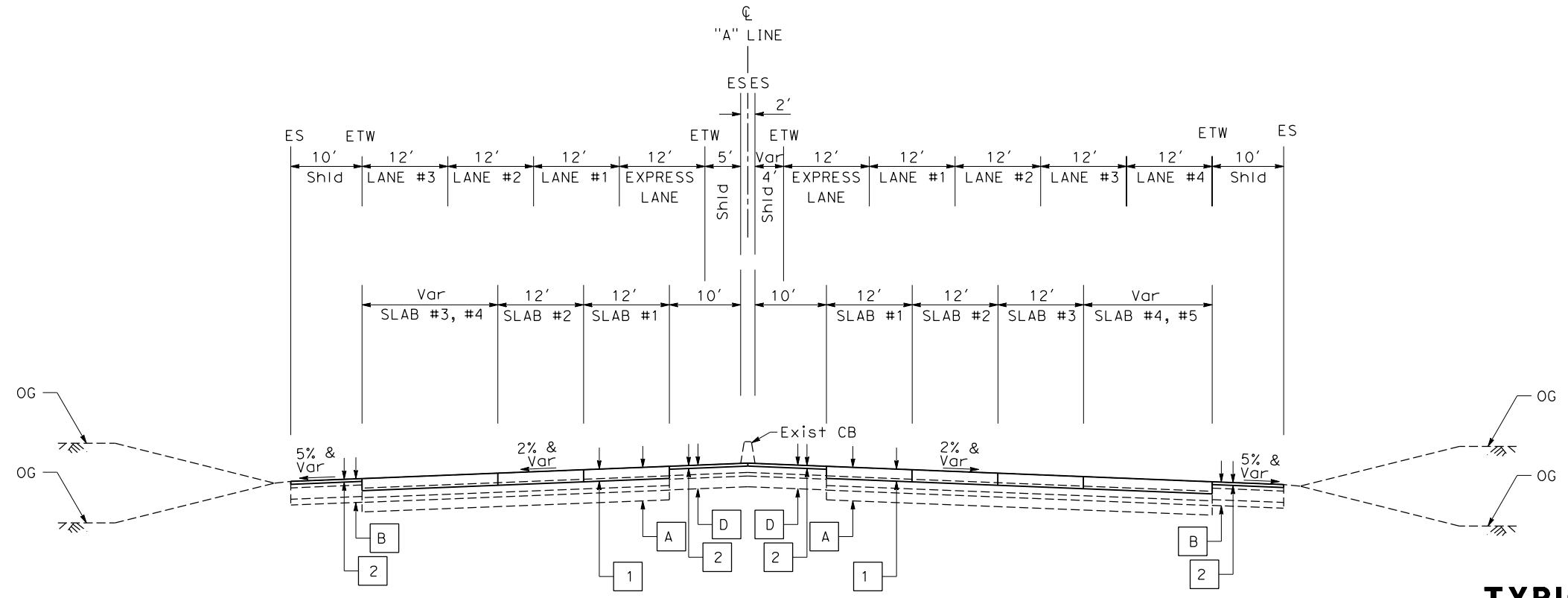
  

TRANSYSTEMS 6 HUTTON CENTRE DRIVE SUITE 800 SANTA ANA, CA 92707	CALTRANS DISTRICT 12 1750 E 4TH ST SUITE 100 SANTA ANA, CA 92705
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**ROUTE 91**

Sta 528+00 TO Sta 238+50



**ROUTE 91**

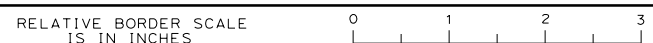
Sta 520+00 TO Sta 528+00

**TYPICAL CROSS SECTION**

NO SCALE

**X-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 CONSULTANT FUNCTIONAL SUPERVISOR  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 REVISED BY  
 DATE REVISED  
 USERNAME => chnguyen  
 DGN FILE => 1220000025ca006.dgn  
 BORDER LAST REVISED 7/2/2010



UNIT 0000 PROJECT NUMBER & PHASE 12200000250

LAST REVISION DATE PLOTTED => 28-MAY-2021  
 00-00-00 TIME PLOTTED => 16:03

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	91	6.4/R9.2		

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.

TRANSYSTEMS 6 HUTTON CENTRE DRIVE SUITE 800 SANTA ANA, CA 92707	CALTRANS DISTRICT 12 1750 E 4TH ST SUITE 100 SANTA ANA, CA 92705
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**NOTES:**

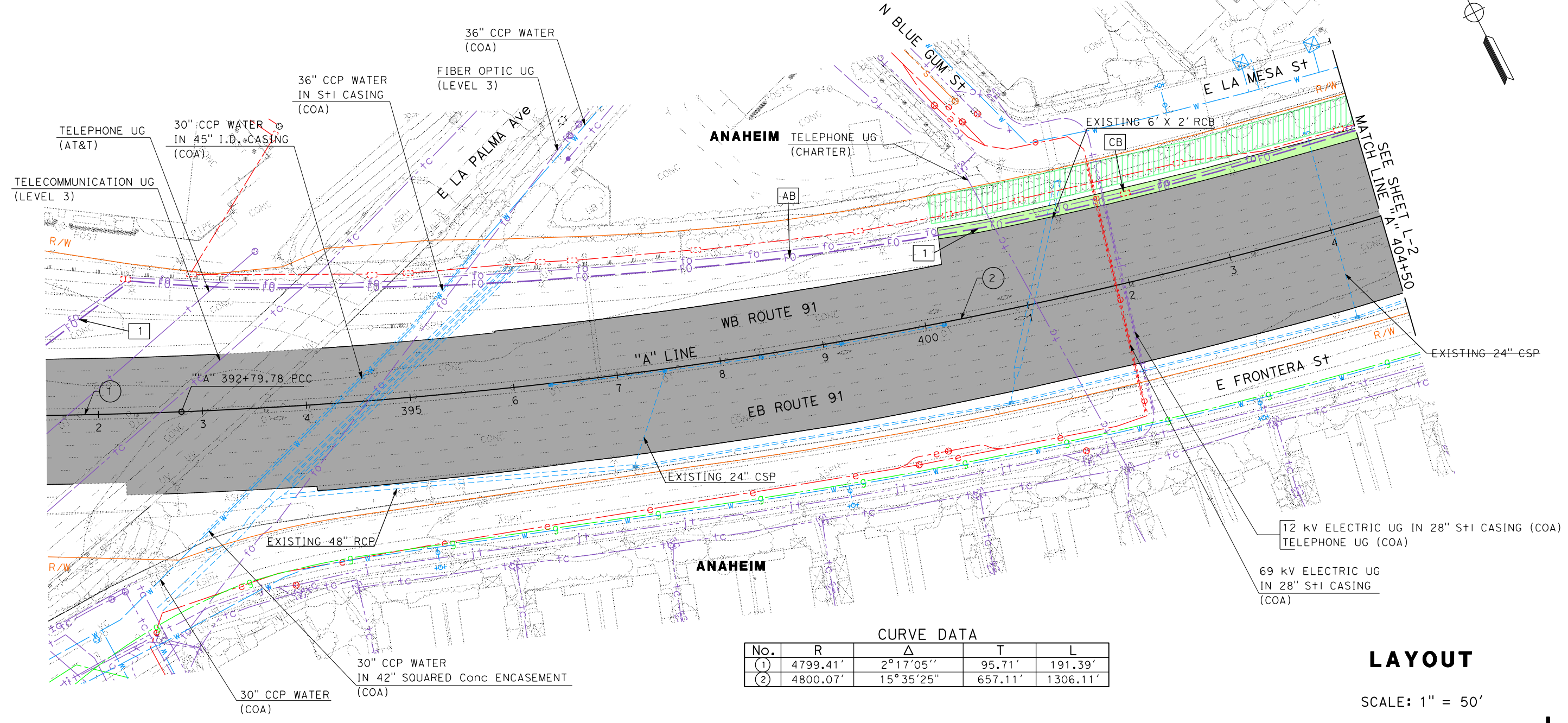
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- UTILITY OWNERSHIP:
  - SEWER CITY OF ANAHEIM (COA)
  - SEWER ORANGE COUNTY SANITATION DISTRICT (OCS D)
  - WATER ANAHEIM UNION WATER
  - WATER CITY OF ANAHEIM (COA)
  - WATER ORANGE COUNTY WATER DISTRICT (OCWD)
  - WATER PERALTA HILLS WATER CO
  - TELEPHONE AMERICAN TELEPHONE AND TELEGRAPH (AT&T)
  - TELEPHONE CABLE COM LLC
  - TELEPHONE CENTURYLINK (CTL)
  - TELEPHONE CHARTER COMMUNICATION (CHARTER)
  - TELEPHONE EXTENET SYSTEMS
  - TELEPHONE LEVEL 3 COMMUNICATIONS (LEVEL 3)
  - TELEPHONE VERIZON
  - ELECTRIC CITY OF ANAHEIM (COA)
  - ELECTRIC SOUTHERN CALIFORNIA EDISON (SCE)
  - GAS SOUTHERN CALIFORNIA GAS (SCG)

**LEGEND:**

- # LOCATION ID
- 0.85' INDIVIDUAL SLAB REPLACEMENT
- 0.20' COLD PLANE AC PAVEMENT
- CONTRACTOR STAGING AREA
- LANDSCAPE AREA
- Exist OH SIGN - SINGLE POST (PANEL REPLACEMENT ONLY)
- Exist DRAINAGE

**ANNOTATIONS: (THIS SHEET ONLY)**

- INSTALL 4"C WITH 4-1" INNERDUCTS. INSTALL TYPE A, B AND C CABLES.



**CURVE DATA**

No.	R	Δ	T	L
(1)	4799.41'	2°17'05"	95.71'	191.39'
(2)	4800.07'	15°35'25"	657.11'	1306.11'

**LAYOUT**  
SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
Caltrans

LAST REVISION DATE PLOTTED => 29-JUN-2021  
00-00-00 TIME PLOTTED => 08:54

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	91	6.4/R9.2		

REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

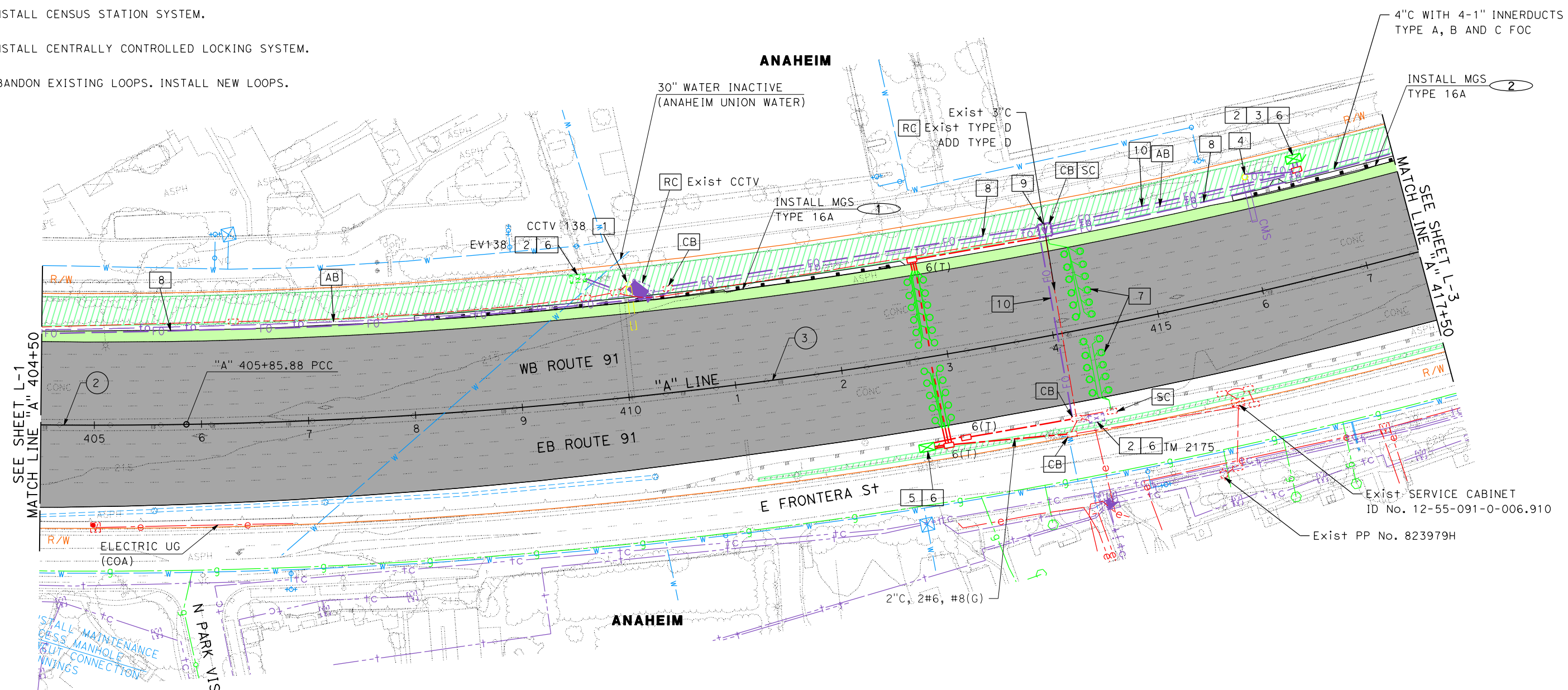
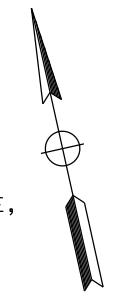
TRANSYSTEMS 6 HUTTON CENTRE DRIVE SUITE 800 SANTA ANA, CA 92707	CALTRANS DISTRICT 12 1750 E 4TH ST SUITE 100 SANTA ANA, CA 92705
--	---

**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATIONS: (THIS SHEET ONLY)**

- 1 INSTALL NEW HD CCTV ON EXISTING SIGN STRUCTURE. MOUNT NEW HD CCTV CONTROLLER ASSEMBLY AND ITS EQUIPMENT TO SIGN STRUCTURE.
- 2 INSTALL ETHERNET ACCESS SWITCH IN CABINET.
- 3 INSTALL DEPARTMENT-FURNISHED AVMS CONTROLLER IN NEW MODEL 334LC CABINET.
- 4 INSTALL DEPARTMENT-FURNISHED CMS MODEL 700C DISPLAY BOARD AND PANEL ON NEW SUPPORT STRUCTURE.
- 5 INSTALL CENSUS STATION SYSTEM.
- 6 INSTALL CENTRALLY CONTROLLED LOCKING SYSTEM.
- 7 ABANDON EXISTING LOOPS. INSTALL NEW LOOPS.
- 8 INSTALL 4"C WITH 4-1" INNERDUCTS. INSTALL TYPE A, B AND C CABLES.
- 9 RC EXISTING SPLICE VAULT. INSTALL SPLICE VAULT AND SPLICE ENCLOSURE,
- 10 INSTALL 3"C. INSTALL TYPE D CABLE.



SEE SHEET L-1  
MATCH LINE "A" 404+50

MATCH LINE "A" 417+50  
SEE SHEET L-3

**CURVE DATA**

No.	R	Δ	T	L
(2)	4800.07'	15° 35' 25"	657.11'	1306.11'
(3)	4799.99'	27° 18' 55"	1166.35'	2288.36'

**LAYOUT**

SCALE: 1" = 50'

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





STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 CONSULTANT FUNCTIONAL SUPERVISOR  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 REVISED BY  
 DATE REVISED

**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATIONS: (THIS SHEET ONLY)**

- 1 INSTALL NEW DEPARTMENT-FURNISHED CMS MODEL 700C DISPLAY BOARD AND PANEL ON EXISTING SUPPORT STRUCTURE.
- 2 INSTALL ETHERNET ACCESS SWITCH IN EXISTING CABINET.
- 3 INSTALL CENTRALLY CONTROLLED LOCKING SYSTEM.
- 4 INSTALL 4"C WITH 4-1" INNERDUCTS. INSTALL TYPE A, B AND C CABLES.
- 5 INSTALL 3"C. INSTALL TYPE D CABLE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	91	6.4/R9.2		

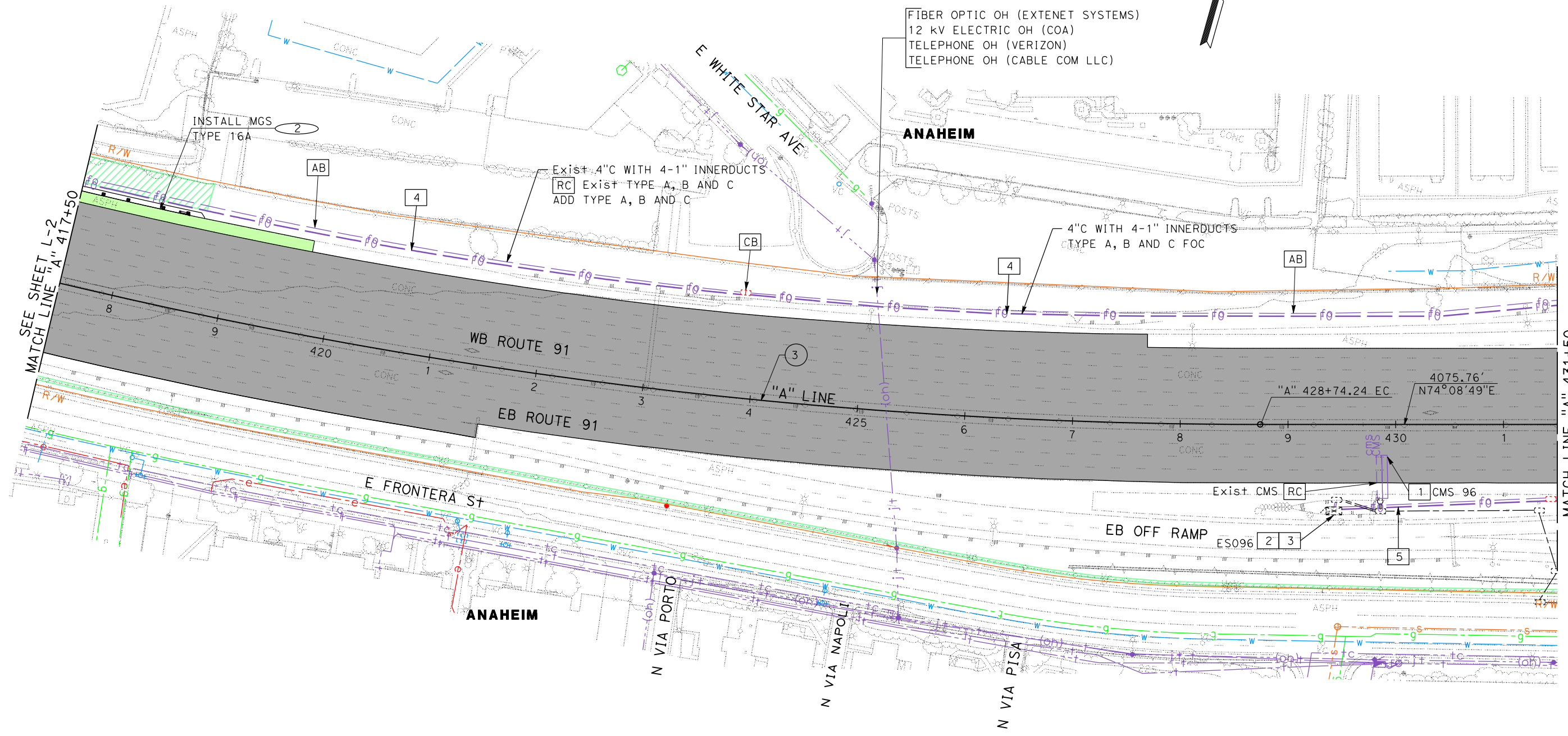
REGISTERED CIVIL ENGINEER DATE

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.

TRANSYSTEMS  
 6 HUTTON CENTRE DRIVE  
 SUITE 800  
 SANTA ANA, CA 92707

CALTRANS DISTRICT 12  
 1750 E 4TH ST  
 SUITE 100  
 SANTA ANA, CA 92705



**CURVE DATA**

No.	R	Δ	T	L
(3)	4799.99'	27°18'55"	1166.35'	2288.36'

**LAYOUT**  
 SCALE: 1" = 50'

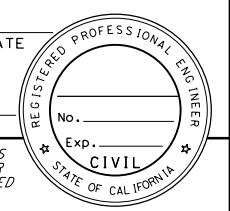
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	91	6.4/R9.2		

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.

TRANSYSTEMS CALTRANS DISTRICT 12  
 6 HUTTON CENTRE DRIVE 1750 E 4TH ST  
 SUITE 800 SUITE 100  
 SANTA ANA, CA 92707 SANTA ANA, CA 92705



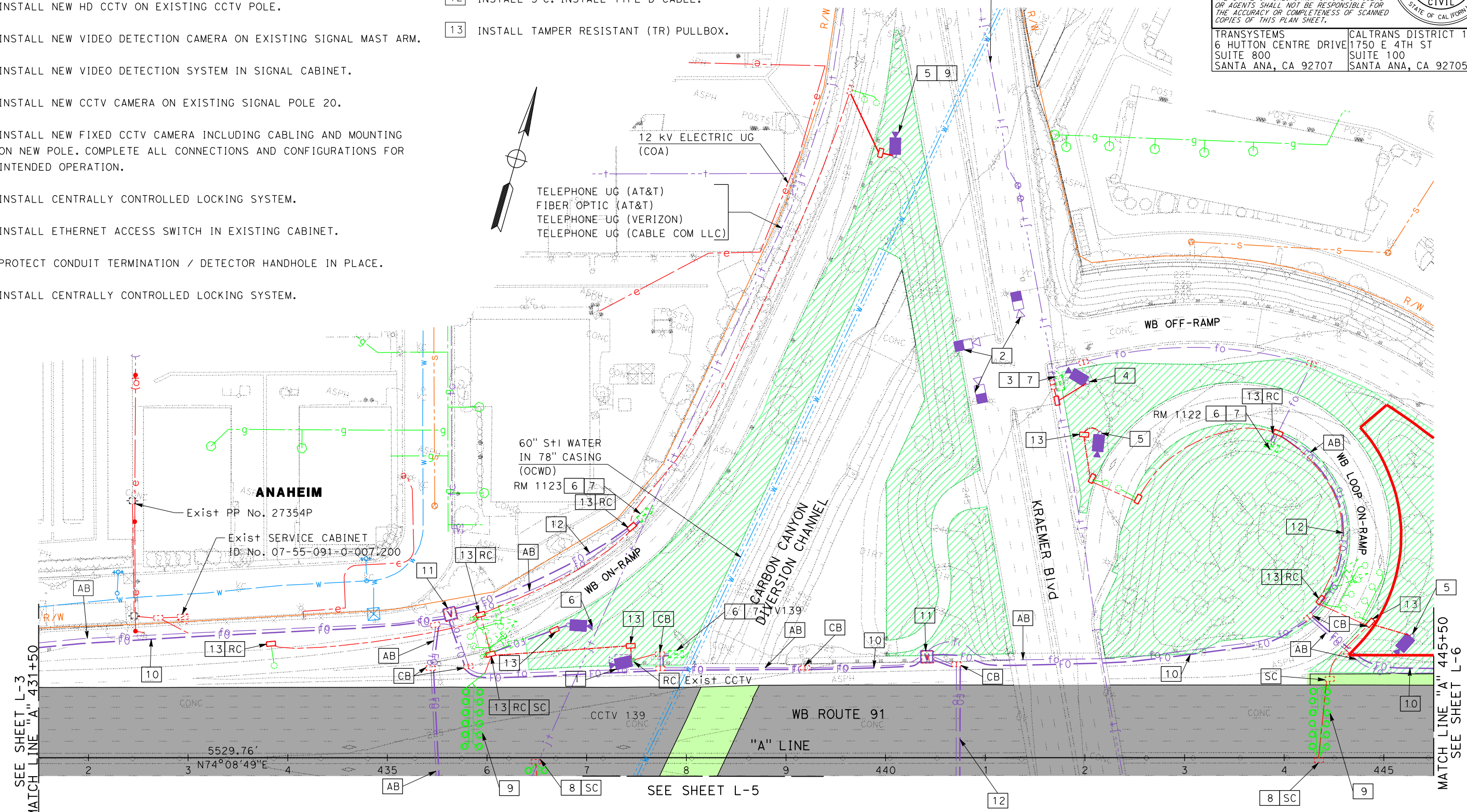
**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATIONS: (THIS SHEET ONLY)**

- 1 INSTALL NEW HD CCTV ON EXISTING CCTV POLE.
- 2 INSTALL NEW VIDEO DETECTION CAMERA ON EXISTING SIGNAL MAST ARM.
- 3 INSTALL NEW VIDEO DETECTION SYSTEM IN SIGNAL CABINET.
- 4 INSTALL NEW CCTV CAMERA ON EXISTING SIGNAL POLE 20.
- 5 INSTALL NEW FIXED CCTV CAMERA INCLUDING CABLING AND MOUNTING ON NEW POLE. COMPLETE ALL CONNECTIONS AND CONFIGURATIONS FOR INTENDED OPERATION.
- 6 INSTALL CENTRALLY CONTROLLED LOCKING SYSTEM.
- 7 INSTALL ETHERNET ACCESS SWITCH IN EXISTING CABINET.
- 8 PROTECT CONDUIT TERMINATION / DETECTOR HANDHOLE IN PLACE.
- 9 INSTALL CENTRALLY CONTROLLED LOCKING SYSTEM.

- 10 INSTALL 4"C WITH 4-1" INNERDUCTS. INSTALL TYPE A, B AND C CABLES.
- 11 RC EXISTING SPLICE VAULT. INSTALL SPLICE VAULT AND SPLICE ENCLOSURE,
- 12 INSTALL 3"C. INSTALL TYPE D CABLE.
- 13 INSTALL TAMPER RESISTANT (TR) PULLBOX.



SEE SHEET L-3  
MATCH LINE "A" 431+50

MATCH LINE "A" 445+50  
SEE SHEET L-6

SEE SHEET L-5

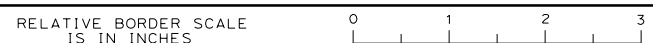
**LAYOUT**

SCALE: 1" = 50'

**L-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR	DATE
Et- <b>Caltrans</b>		CHECKED BY	DATE	

USERNAME => chnguyen  
DGN FILE => 122000025ea004.dgn



UNIT 0000 PROJECT NUMBER & PHASE 1220000250

LAST REVISION DATE PLOTTED => 29-JUN-2021 00-00-00 TIME PLOTTED => 08:54



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	91	6.4/R9.2		

REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	
<small>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.</small>	
TRANSYSTEMS 6 HUTTON CENTRE DRIVE SUITE 800 SANTA ANA, CA 92707	CALTRANS DISTRICT 12 1750 E 4TH ST SUITE 100 SANTA ANA, CA 92705

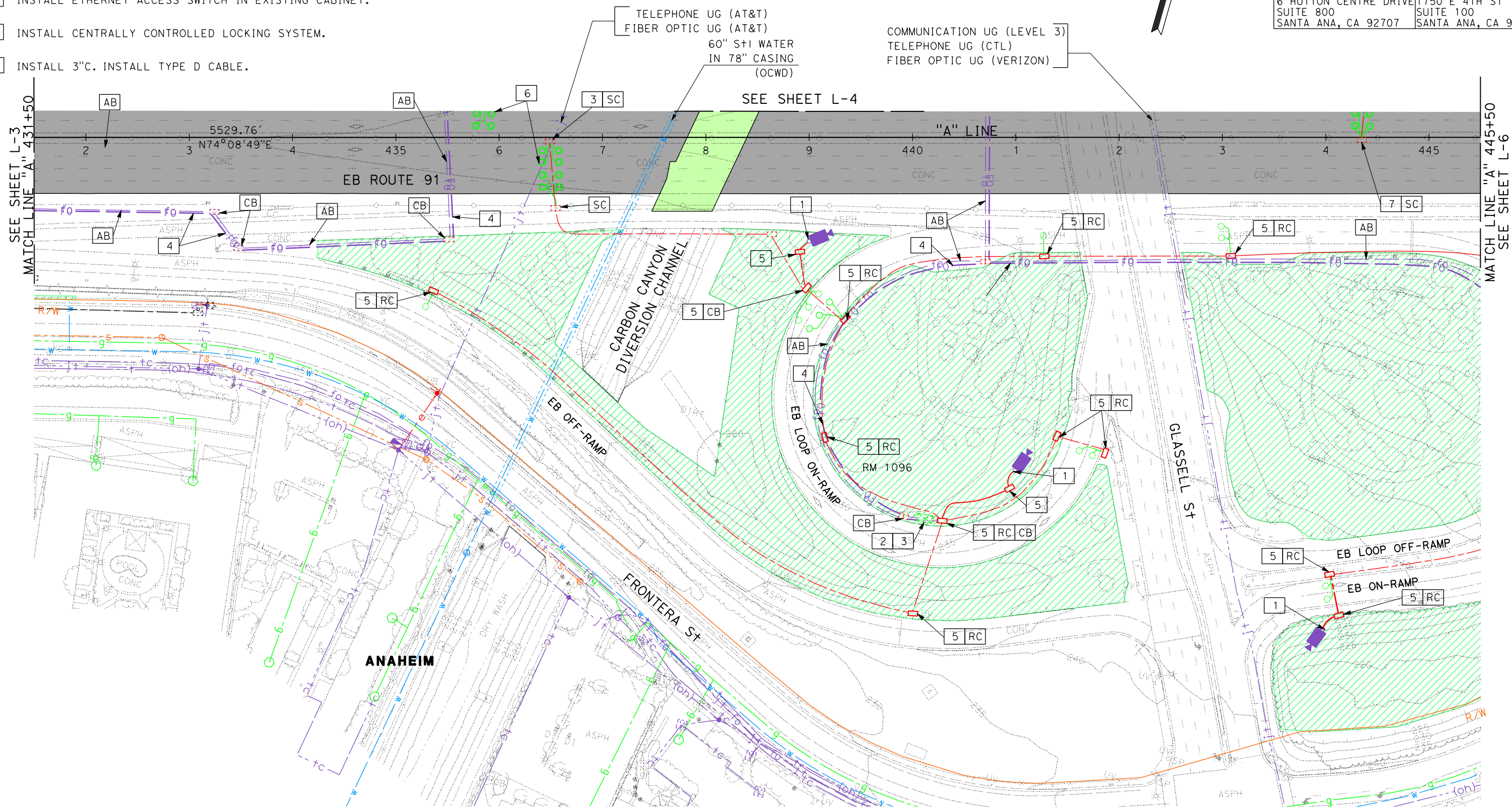
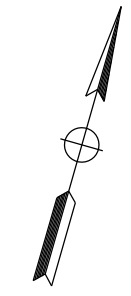
**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATIONS: (THIS SHEET ONLY)**

- 1 INSTALL NEW FIXED CCTV CAMERA INCLUDING CABLING AND MOUNTING ON NEW POLE. COMPLETE ALL CONNECTIONS AND CONFIGURATIONS FOR INTENDED OPERATION.
- 2 INSTALL ETHERNET ACCESS SWITCH IN EXISTING CABINET.
- 3 INSTALL CENTRALLY CONTROLLED LOCKING SYSTEM.
- 4 INSTALL 3"C. INSTALL TYPE D CABLE.

- 5 INSTALL TAMPER RESISTANT (TR) PULLBOX.
- 6 ABANDON EXISTING LOOPS. INSTALL NEW LOOPS.
- 7 PROTECT CONDUIT TERMINATION / DETECTOR HANDHOLE IN PLACE.



**LAYOUT**

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	REVISOR	DATE
Caltrans	DESIGNED BY	DATE
	CHECKED BY	DATE
	CONSULTANT FUNCTIONAL SUPERVISOR	DATE
	CALCULATED/DESIGNED BY	DATE
	REVISOR	DATE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**

**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATIONS: (THIS SHEET ONLY)**

- 1 INSTALL NEW FIXED CCTV CAMERA INCLUDING CABLING AND MOUNTING ON NEW POLE. COMPLETE ALL CONNECTIONS AND CONFIGURATIONS FOR INTENDED OPERATION.
- 2 INSTALL ETHERNET ACCESS SWITCH IN EXISTING CABINET.
- 3 INSTALL CENTRALLY CONTROLLED LOCKING SYSTEM.

- 4 ABANDON EXISTING LOOPS. INSTALL NEW LOOPS.
- 5 INSTALL 4" C WITH 4-1" INNERDUCTS. INSTALL TYPE A, B AND C CABLES.
- 6 INSTALL 3" C. INSTALL TYPE D CABLE.
- 7 INSTALL TAMPER RESISTANT (TR) PULLBOX.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	91	6.4/R9.2		

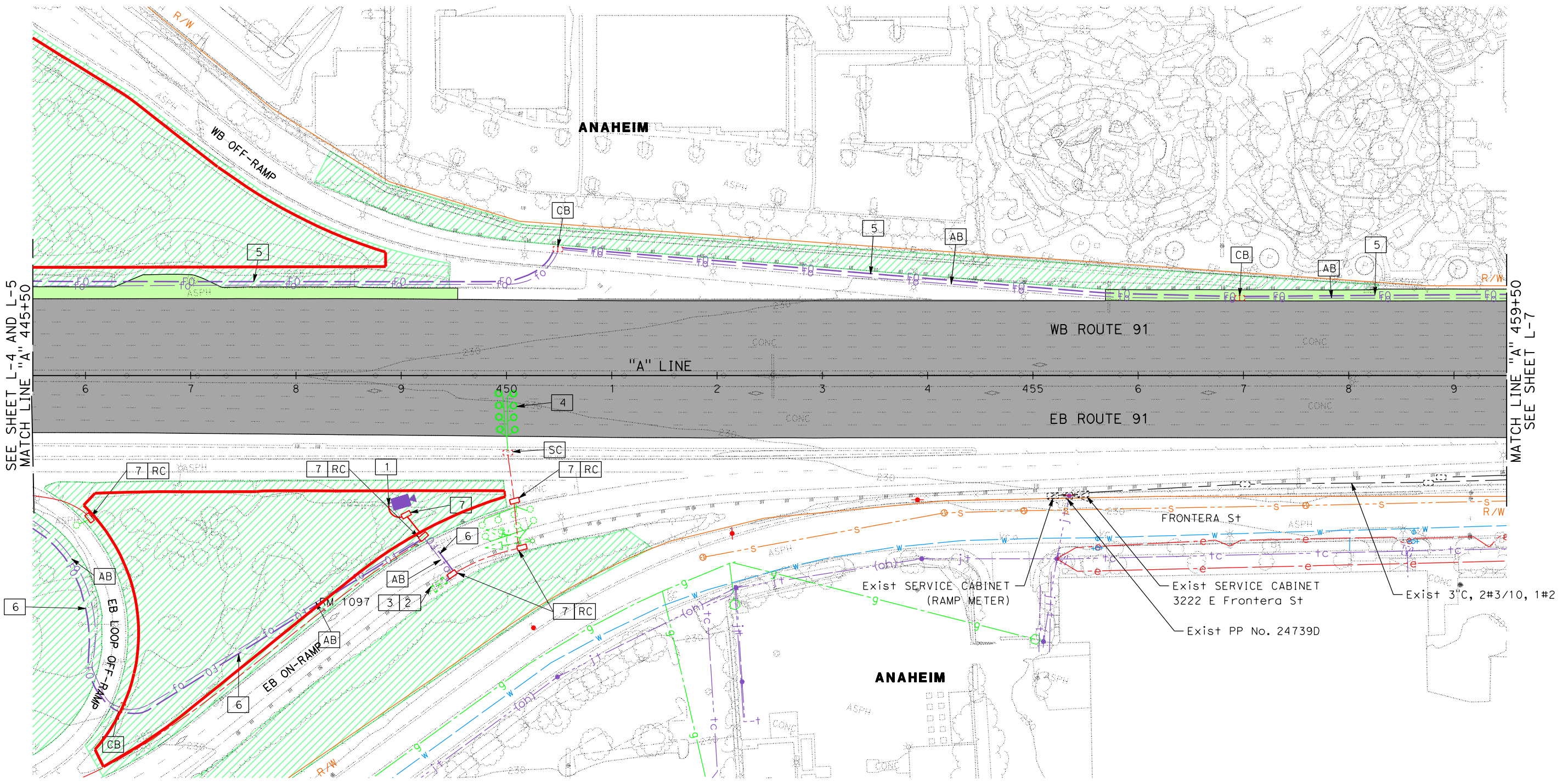
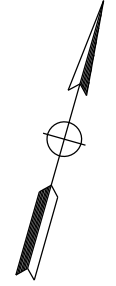
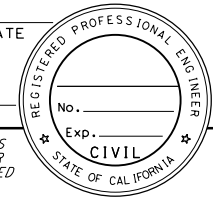
  

REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

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.

TRANSYSTEMS 6 HUTTON CENTRE DRIVE SUITE 800 SANTA ANA, CA 92707	CALTRANS DISTRICT 12 1750 E 4TH ST SUITE 100 SANTA ANA, CA 92705
--	---



**LAYOUT**

SCALE: 1" = 50'

LAST REVISION DATE PLOTTED => 29-JUN-2021 00-00-00 TIME PLOTTED => 08:55



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

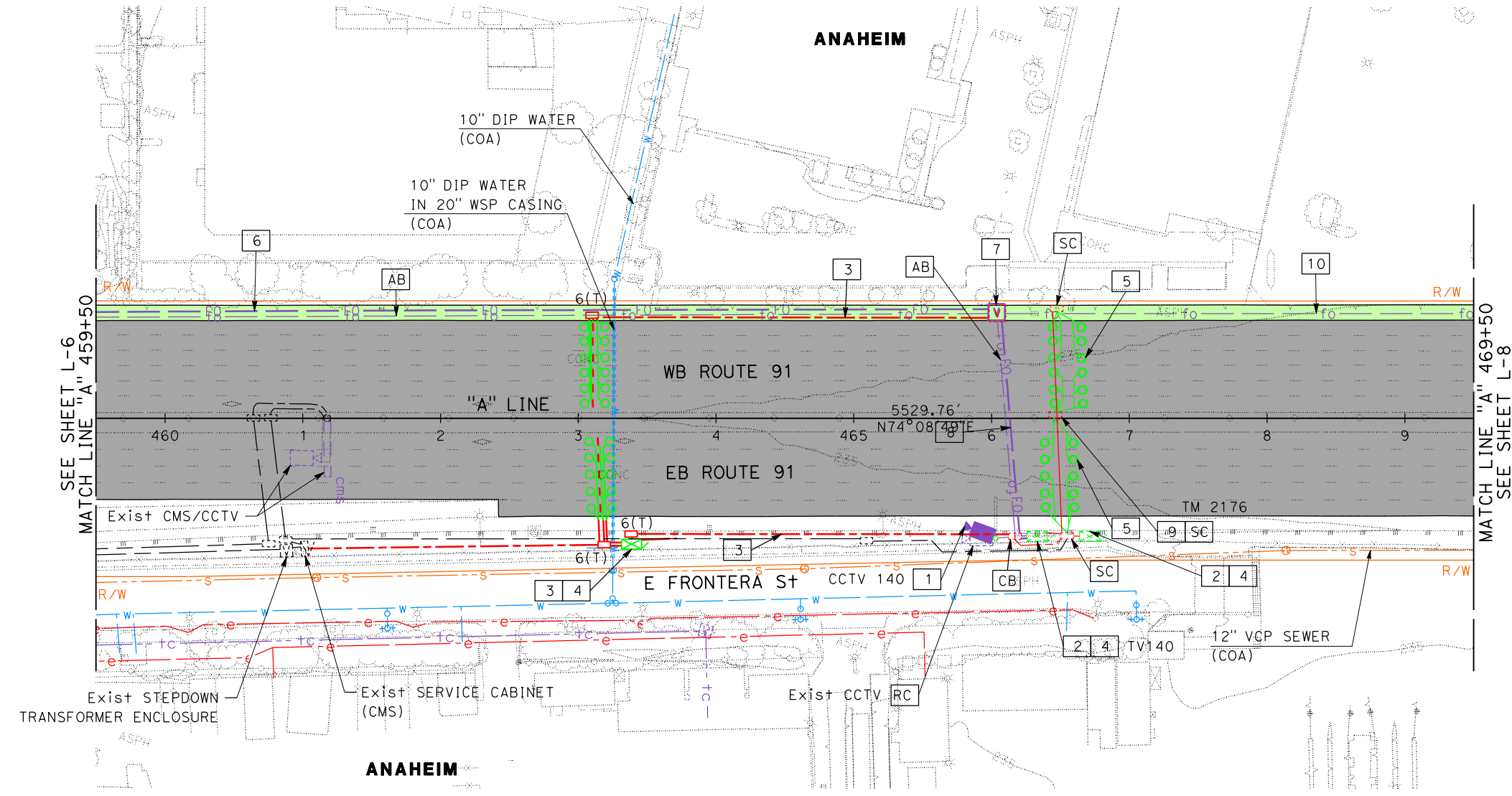
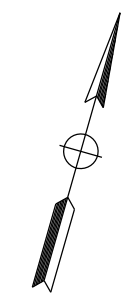
**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATIONS: (THIS SHEET ONLY)**

- 1 INSTALL NEW HD CCTV ON EXISTING SIGN STRUCTURE. MOUNT NEW HD CCTV CONTROLLER ASSEMBLY AND ITS EQUIPMENT TO SIGN STRUCTURE.
- 2 INSTALL ETHERNET ACCESS SWITCH IN EXISTING CABINET.
- 3 INSTALL CENSUS STATION SYSTEM.
- 4 INSTALL CENTRALLY CONTROLLED LOCKING SYSTEM.

- 5 ABANDON EXISTING LOOPS. INSTALL NEW LOOPS.
- 6 INSTALL 4"C WITH 4-1" INNERDUCTS. INSTALL TYPE A, B AND C CABLES.
- 7 RC EXISTING SPLICE VAULT. INSTALL SPLICE VAULT AND SPLICE ENCLOSURE, INSTALL 3"C. INSTALL TYPE D CABLE.
- 8 PROTECT CONDUIT TERMINATION / DETECTOR HANDHOLE IN PLACE.
- 9 RC EXISTING FOC. INSTALL TYPE A, B AND C CABLES.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	91	6.4/R9.2		

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.

TRANSYSTEMS 6 HUTTON CENTRE DRIVE SUITE 800 SANTA ANA, CA 92707	CALTRANS DISTRICT 12 1750 E 4TH ST SUITE 100 SANTA ANA, CA 92705
--	---

**LAYOUT**

SCALE: 1" = 50'



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

**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATIONS: (THIS SHEET ONLY)**

1 RC EXISTING FOC. INSTALL TYPE A, B AND C CABLES.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	91	6.4/R9.2		

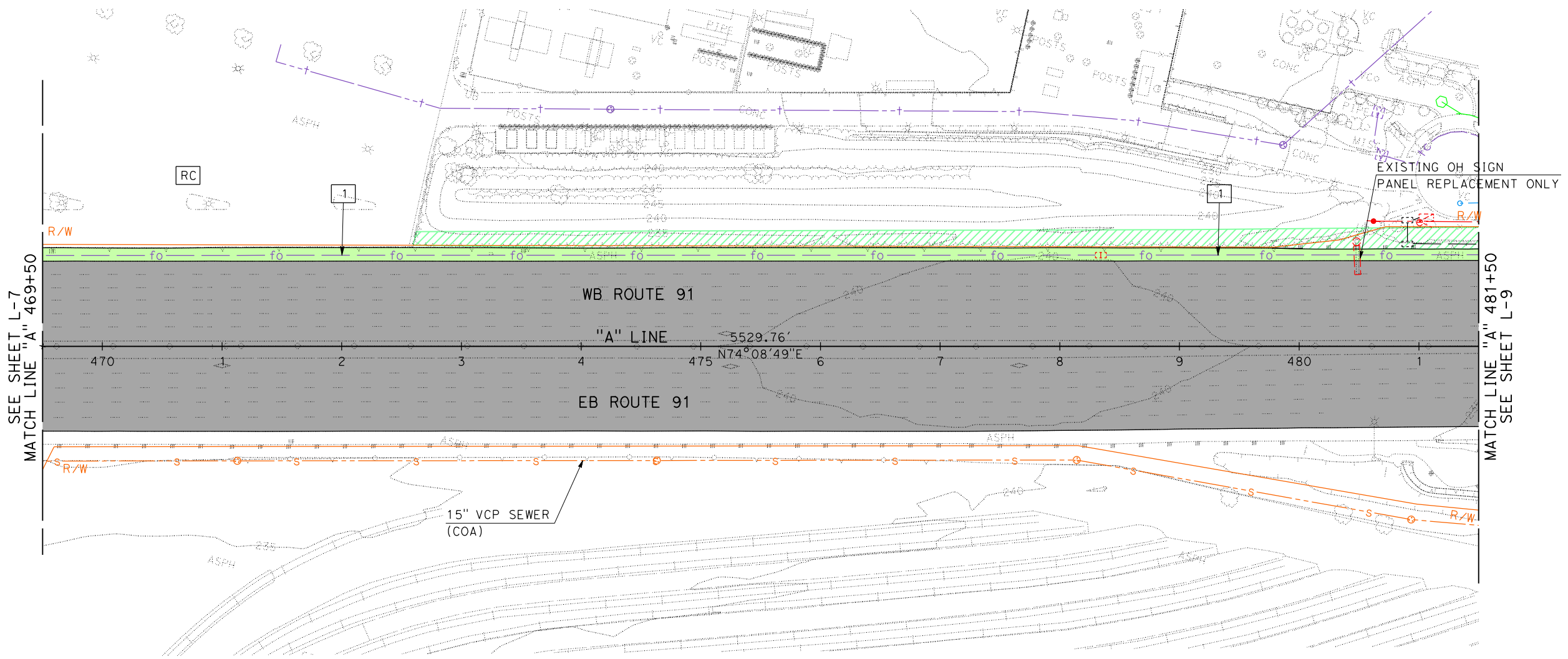
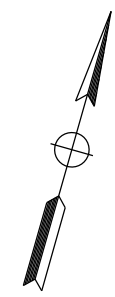
REGISTERED CIVIL ENGINEER DATE

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.

TRANSYSTEMS  
 6 HUTTON CENTRE DRIVE  
 SUITE 800  
 SANTA ANA, CA 92707

CALTRANS DISTRICT 12  
 1750 E 4TH ST  
 SUITE 100  
 SANTA ANA, CA 92705



**LAYOUT**

SCALE: 1" = 50'

**L-8**

LAST REVISION DATE PLOTTED => 29-JUN-2021 00-00-00 TIME PLOTTED => 08:55

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 REVISIONS: REVISED BY, DATE, CALCULATED/DESIGNED BY, CHECKED BY, CONSULTANT FUNCTIONAL SUPERVISOR

**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATION: (THIS SHEET ONLY)**

- 1 [RC] EXISTING LUMINAIRE AND INSTALL NEW SMART LIGHTING LUMINAIRE ON EXISTING POLE.
- 2 [RC] EXISTING FOC. INSTALL TYPE A, B AND C CABLES.
- 3 [RC] INSTALL TAMPER RESISTANT (TR) PULLBOX.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	91	6.4/R9.2		

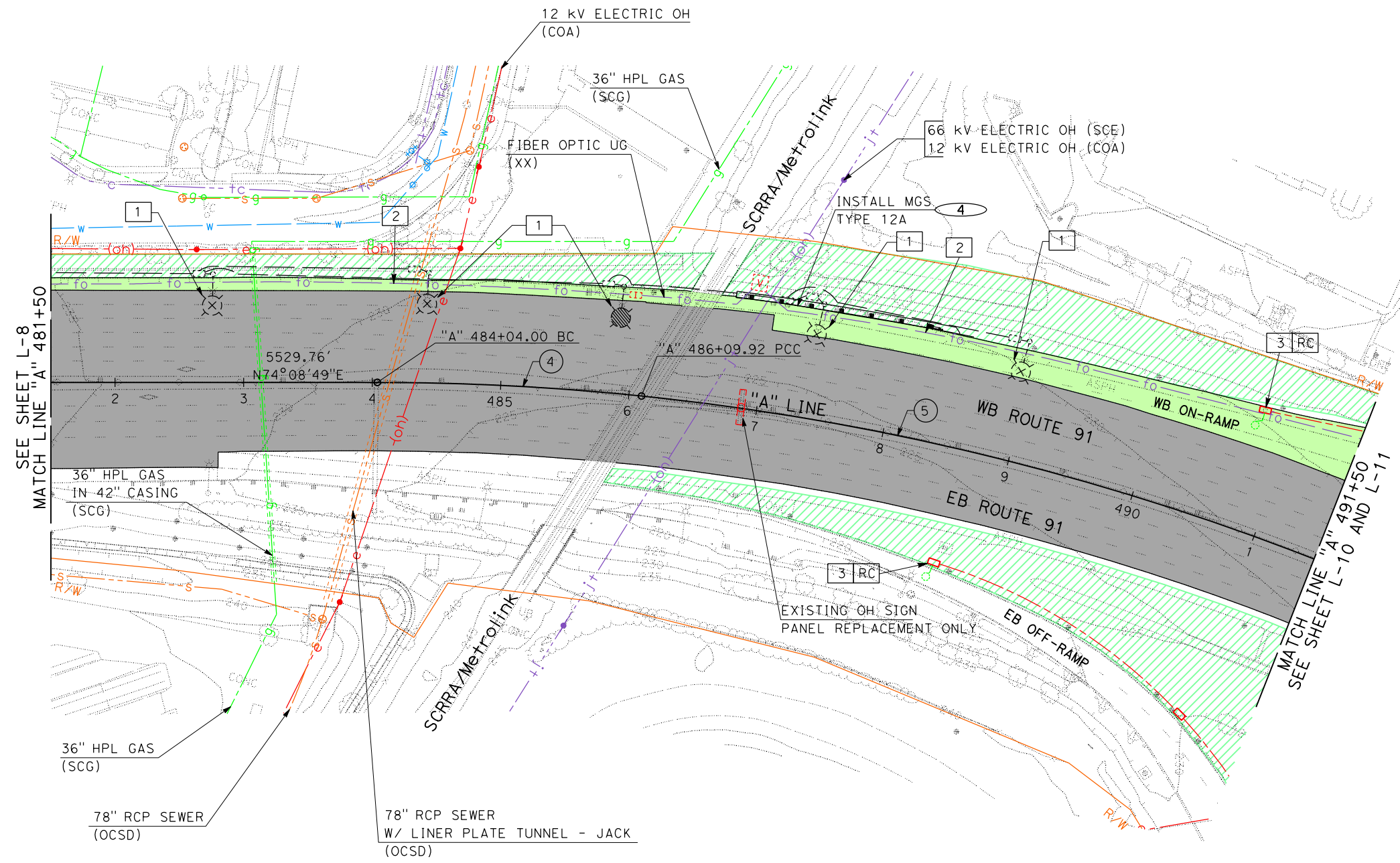
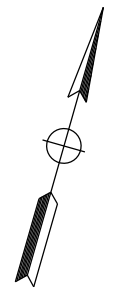
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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TRANSYSTEMS  
 6 HUTTON CENTRE DRIVE  
 SUITE 800  
 SANTA ANA, CA 92707

CALTRANS DISTRICT 12  
 1750 E 4TH ST  
 SUITE 100  
 SANTA ANA, CA 92705



**CURVE DATA**

No.	R	Δ	T	L
(4)	1999.78'	5°54'00"	103.05'	205.92'
(5)	1999.84'	31°31'42"	564.55'	1100.46'

**LAYOUT**  
 SCALE: 1" = 50'

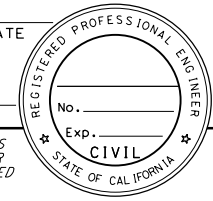
LAST REVISION DATE PLOTTED => 29-JUN-2021 00-00-00 TIME PLOTTED => 08:55

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	91	6.4/R9.2		

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.



TRANSYSTEMS  
6 HUTTON CENTRE DRIVE  
SUITE 800  
SANTA ANA, CA 92707

CALTRANS DISTRICT 12  
1750 E 4TH ST  
SUITE 100  
SANTA ANA, CA 92705

**NOTE:**

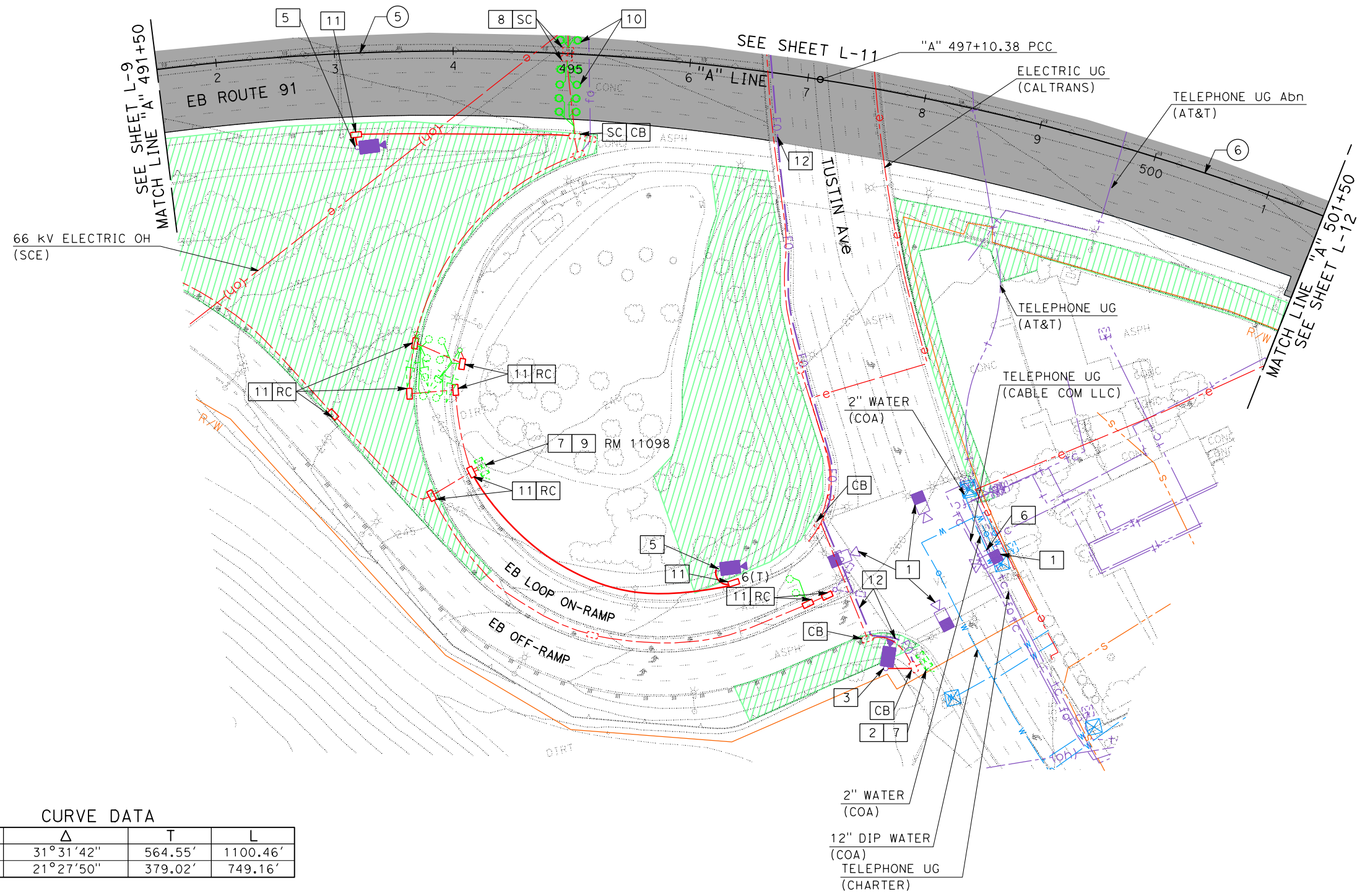
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATIONS: (THIS SHEET ONLY)**

- 1 INSTALL NEW VIDEO DETECTION CAMERA ON EXISTING SIGNAL MAST ARM.
- 2 INSTALL NEW VIDEO DETECTION SYSTEM IN SIGNAL CABINET.
- 3 INSTALL NEW CCTV CAMERA ON EXISTING SIGNAL POLE.
- 4 INSTALL NEW FIXED CCTV CAMERA INCLUDING CABLING AND MOUNTING ON EXISTING POLE. COMPLETE ALL CONNECTIONS AND CONFIGURATIONS FOR INTENDED OPERATION.

- 5 INSTALL NEW FIXED CCTV CAMERA INCLUDING CABLING AND MOUNTING ON NEW POLE. COMPLETE ALL CONNECTIONS AND CONFIGURATIONS FOR INTENDED OPERATION.
- 6 RC EXISTING VIDEO DETECTION CAMERA.
- 7 INSTALL ETHERNET ACCESS SWITCH IN EXISTING CABINET.
- 8 PROTECT CONDUIT TERMINATION / DETECTOR HANDHOLE IN PLACE.
- 9 INSTALL CENTRALLY CONTROLLED LOCKING SYSTEM.
- 10 ABANDON EXISTING LOOPS. INSTALL NEW LOOPS.

- 11 INSTALL TAMPER RESISTANT (TR) PULLBOX.
- 12 INSTALL 3" C. INSTALL TYPE D CABLE.



**CURVE DATA**

No.	R	Δ	T	L
5	1999.84'	31°31'42"	564.55'	1100.46'
6	1999.81'	21°27'50"	379.02'	749.16'

**LAYOUT**

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

REVISOR: [ ] REVISION: [ ]

DESIGNED BY: [ ] CHECKED BY: [ ]

FUNCTIONAL SUPERVISOR: [ ]

DATE: [ ]









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

**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ANNOTATION: (THIS SHEET ONLY)**

- 1 RC EXISTING LUMINAIRE AND INSTALL NEW SMART LIGHTING LUMINAIRE ON EXISTING POLE.
- 2 RC EXISTING FOC. INSTALL TYPE A, B AND C CABLES.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	91	6.4/R9.2		

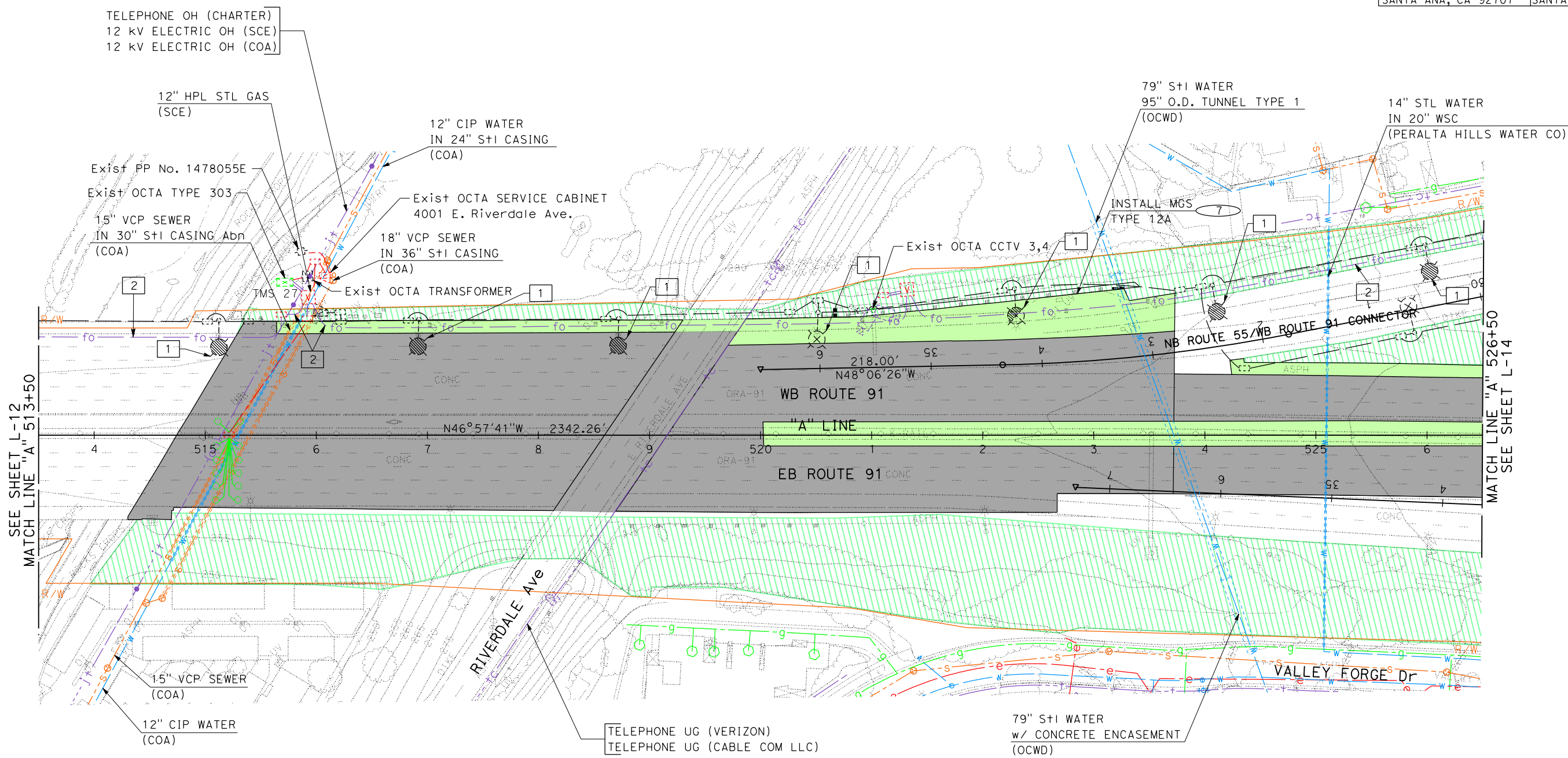
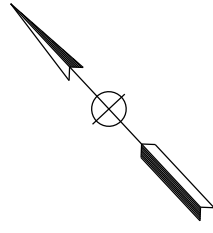
REGISTERED CIVIL ENGINEER DATE

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.

TRANSYSTEMS  
 6 HUTTON CENTRE DRIVE  
 SUITE 800  
 SANTA ANA, CA 92707

CALTRANS DISTRICT 12  
 1750 E 4TH ST  
 SUITE 100  
 SANTA ANA, CA 92705



**LAYOUT**

SCALE: 1" = 50'

LAST REVISION DATE PLOTTED => 29-JUN-2021 00-00-00 TIME PLOTTED => 08:55



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	91	6.4/R9.2		

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_

PLANS APPROVAL DATE \_\_\_\_\_

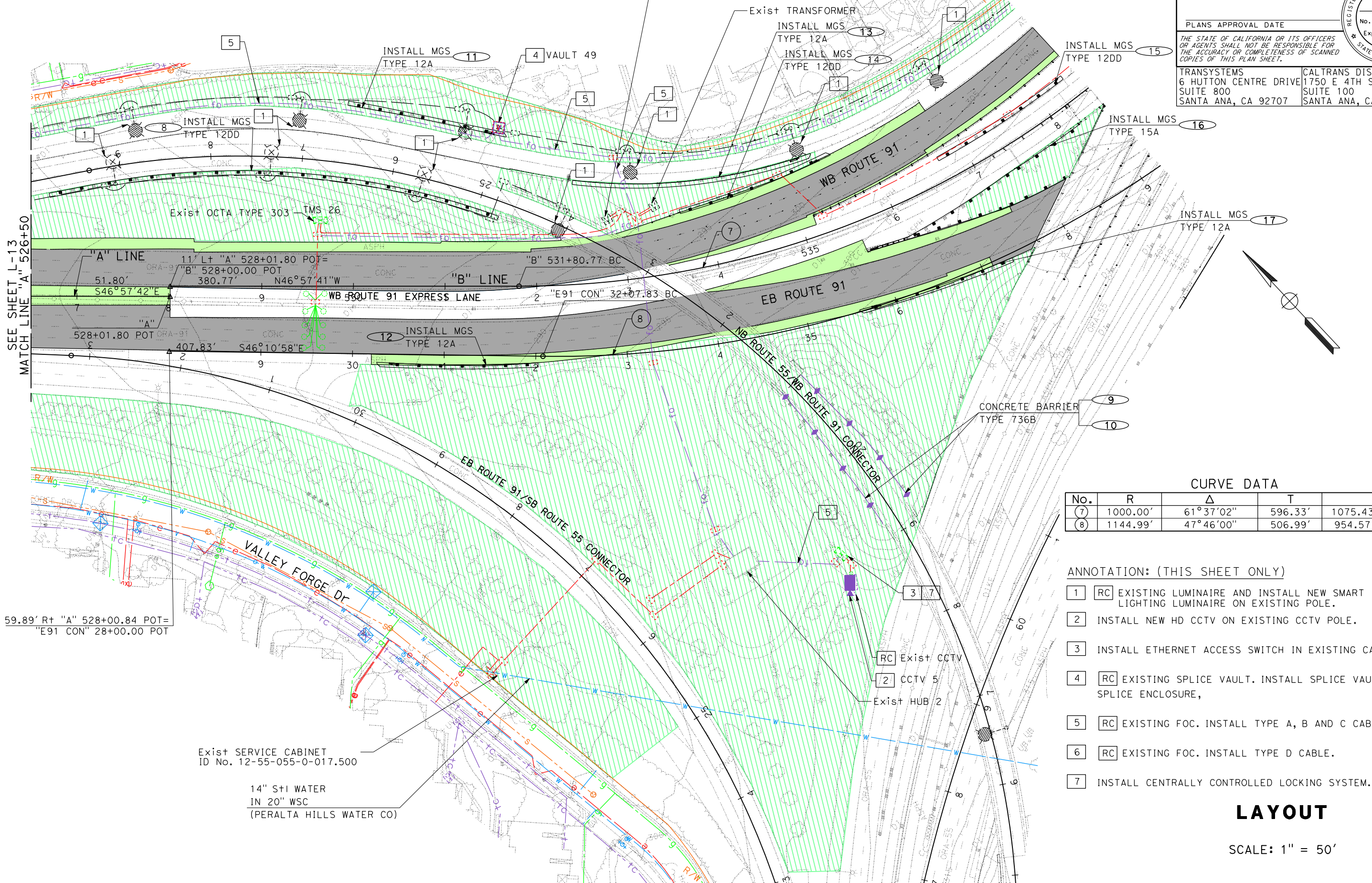
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TRANSYSTEMS  
6 HUTTON CENTRE DRIVE  
SUITE 800  
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CALTRANS DISTRICT 12  
1750 E 4TH ST  
SUITE 100  
SANTA ANA, CA 92705

**NOTE:**  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



**CURVE DATA**

No.	R	Δ	T	L
(7)	1000.00'	61°37'02"	596.33'	1075.43'
(8)	1144.99'	47°46'00"	506.99'	954.57'

- ANNOTATION: (THIS SHEET ONLY)
- 1 [RC] EXISTING LUMINAIRE AND INSTALL NEW SMART LIGHTING LUMINAIRE ON EXISTING POLE.
  - 2 INSTALL NEW HD CCTV ON EXISTING CCTV POLE.
  - 3 INSTALL ETHERNET ACCESS SWITCH IN EXISTING CABINET.
  - 4 [RC] EXISTING SPLICE VAULT. INSTALL SPLICE VAULT AND SPLICE ENCLOSURE,
  - 5 [RC] EXISTING FOC. INSTALL TYPE A, B AND C CABLES.
  - 6 [RC] EXISTING FOC. INSTALL TYPE D CABLE.
  - 7 INSTALL CENTRALLY CONTROLLED LOCKING SYSTEM.

**LAYOUT**

SCALE: 1" = 50'

**L-14**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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

CALCULATED BY: \_\_\_\_\_ DESIGNED BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

CONSULTANT FUNCTIONAL SUPERVISOR: \_\_\_\_\_

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



USERNAME => chnguyen  
DGN FILE => 122000025ea014.dgn

RELATIVE BORDER SCALE IS IN INCHES

0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 1220000250

BORDER LAST REVISED 7/2/2010

LAST REVISION DATE PLOTTED => 29-JUN-2021  
00-00-00 TIME PLOTTED => 08:55

**ATTACHMENT C**  
Utility Management Matrix

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### Utility Management Matrix

Project Owner: Caltrans  
 Project No. : 0R313  
 Project Description: SR 91 Multi Asset  
 Highway or Route: SR 91

Utility Conflict Matrix Developed/Revised By: Carter Nguyen  
 Date: 6/9/2021  
 Reviewed By: Courtney Endo  
 Date: 6/9/2021

Note: refer to subsheet for utility conflict cost analysis.

Utility Owner and/or Contact Name	Conflict ID	Drawing or Sheet No.	Utility Type	Size and/or Material	Start Station	Start Offset	End Station	End Offset	Utility Investigation Level Needed	Test Hole	Recommended Action or Resolution	
AT&T	1	L1	Telephone UG	Telephone UG	392+00	30'	L	394+00	150'	L	QLD	Remain In Place
Level 3 Communications	2	L-1	Telephone UG	Telecommunication UG	392+00	50'	R	395+00	150'	L	QLD	Remain In Place
City of Anaheim	3	L-1	Water	30"-36" CPP IN CASING	393+00	140'	R	396+00	140'	L	QLD	Remain In Place
Level 3 Communications	4	L-1	Fiber Optic UG	FO UG	394+00	80'	R	396+00	150'	L	QLD	Remain In Place
Charter Communications	5	L-1	Telephone UG	Spectrum UG	401+00	120'	L	401+00	90'	R	QLD	Remain In Place
City of Anaheim	6	L-1	Telephone UG	12 kV IN 28" Stl CASING	402+00	120'	R	402+00	90'	L	QLD	Remain In Place
City of Anaheim	7	L-1	Telephone UG	Telephone UG	402+00	120'	R	402+00	90'	L	QLD	Remain In Place
City of Anaheim	8	L-1	Electric UG	69 kV Electric UG IN 28" Stl CASING	402+00	120'	R	402+00	90'	L	QLD	Remain In Place
City of Anaheim	9	L-1	Electric UG	UG CONDUIT DUCK BANK	405+00	80'	R	407+01	79'	L	QLD	Remain In Place
Anaheim Union Water	10	L-2	Water	30" INACTIVE	407+00	100'	R	410+00	120'	L	QLD	2 Remain In Place
EXTENET SYSTEMS	11	L-3	Telephone OH	FO OH	425+00	120'	L	425+00	120'	R	QLC	Remain In Place
VERIZON	12	L-3	Telephone OH	Telephone OH	425+00	120'	L	425+00	120'	R	QLC	Remain In Place
CABLE COM LLC	13	L-3	Telephone OH	Telephone OH	425+00	120'	L	425+00	120'	R	QLC	Remain In Place
City of Anaheim	14	L-3	Electric OH	12 kV	425+00	120'	L	425+00	120'	R	QLC	Remain In Place
City of Anaheim	15	L-7	Water	10" DIP IN 20" WSP CASING	430+00	100'	R	430+00	90'	L	QLD	Remain In Place
AT&T	16	L-4, L-5	Telephone UG	Telephone UG	435+00	260'	R	639+00	650'	L	QLD	2 Remain In Place
AT&T	17	L-4, L-5	Fiber Optic UG	FO UG	435+00	260'	R	639+00	650'	L	QLD	Remain In Place
Orange County Water District	18	L-4, L-5	Water	60" Stl IN 78" CASING	436+00	300'	R	441+00	700'	L	QLD	Remain In Place
VERIZON	19	L-4, L-5	Fiber Optic UG	FO UG	441+00	800'	L	443+00	400'	R	QLD	Remain In Place
CENTURY LINK	20	L-4, L-5	Telephone UG	Telephone UG	441+00	800'	L	443+00	400'	R	QLD	Remain In Place
Level 3 Communications	21	L-4, L-6	Telephone UG	Communication UG	441+00	800'	L	443+00	400'	R	QLD	Remain In Place
SCG	22	L-9	Gas	36" HPL IN 42" CASING	483+00	150'	R	483+00	100'	L	QLD	2 Remain In Place
Orange County Water District	23	L-9	Sewer	78" RCP W/ LINER PLATE TUNNEL - JACK	484+00	140'	R	484+00	100'	L	QLD	Remain In Place
City of Anaheim	24	L-9	Electric OH	12 Kv	484+00	160'	R	484+00	100'	L	QLC	Remain In Place
City of Anaheim	25	L-9	Electric OH	12 kV	486+00	130'	R	487+00	130'	L	QLC	Remain In Place
SCE	26	L-9	Electric OH	66 kV	486+00	130'	R	487+00	130'	L	QLC	Remain In Place
City of Anaheim	27	L-10	Electric OH	66 kV	491+00	240'	R	498+00	300'	L	QLC	Remain In Place
AT&T	28	L-10, L-11	Telephone UG	Telephone UG	498+00	200'	R	499+00	100'	L	QLD	Remain In Place
City of Anaheim	29	L-11, L-12	Water	36" CPP Abn	498+00	250'	L	507+00	100'	R	QLD	Remain In Place
City of Anaheim	30	L-10	Water	12" DIP	499+00	350'	R	500+00	430'	R	QLD	Remain In Place
AT&T	31	L-10, L-11	Telephone UG	Telephone UG Abn	500+00	100'	R	500+00	100'	L	QLD	Remain In Place
EXTENET SYSTEMS	32	L-12	Fiber Optic OH	Fiber Optic OH	506+00	100'	R	506+00	100'	L	QLC	Remain In Place
VERIZON	33	L-12	Fiber Optic OH	Fiber Optic OH	506+00	100'	R	506+00	100'	L	QLC	Remain In Place
VERIZON	34	L-12	Telephone OH	MCI OH	506+00	100'	R	506+00	100'	L	QLC	Remain In Place
CABLE COM LLC	35	L-12	Telephone OH	MCI OH	506+00	100'	R	506+00	100'	L	QLC	Remain In Place
City of Anaheim	36	L-12	Electric OH	Transmission OH Conductor	506+00	100'	R	506+00	100'	L	QLC	Remain In Place
Orange County Water District	37	L-12	Water	36" HDPE CARRIER PIPE	507+00	100'	R	508+00	100'	L	QLD	Remain In Place
Orange County Water District	38	L-12	Water	3" PVC	507+00	100'	R	507+00	100'	L	QLD	Remain In Place
Orange County Water District	39	L-12	Water	4" PVC	507+00	100'	R	507+00	100'	L	QLD	Remain In Place
City of Anaheim	40	L-12	Water	36" CML&C Stl PIPE	507+00	100'	R	507+00	100'	L	QLD	Remain In Place
City of Anaheim	41	L-13	Water	12" CIP W/ 24" Stl CASING	515+00	130'	R	516+00	110'	L	QLD	Remain In Place
Charter Communications	42	L-13	Telephone OH	Telephone OH	515+00	100'	R	516+00	120'	L	QLC	Remain In Place
City of Anaheim	43	L-13	Sewer	15" VCP IN 30" Stl CASING Abn	515+00	150'	R	515+00	110'	L	QLD	Remain In Place
City of Anaheim	44	L-13	Sewer	18" VCP IN 36" Stl CASING	515+00	150'	R	515+00	110'	L	QLD	Remain In Place
City of Anaheim	45	L-13	Electric OH	12 kV	515+00	130'	R	516+00	110'	L	QLC	Remain In Place
SCE	46	L-13	Electric OH	66 kV	515+00	130'	R	516+00	110'	L	QLC	Remain In Place
VERIZON	47	L-13	Telephone UG	Telephone UG	518+00	140'	R	520+00	110'	L	QLD	Remain In Place
CABLE COM LLC	48	L-13	Telephone UG	Telephone UG	518+00	140'	R	520+00	110'	L	QLD	Remain In Place
Orange County Water District	49	L-13	Water	79" Stl W/ CONCRETE ENCASEMENT	523+00	160'	L	524+00	180'	R	QLD	2 Remain In Place
Peralta Hills Water Co	50	L-13	Water	14" Stl PIPE IN 20" WSC	525+00	180'	R	525+00	180'	L	QLD	Remain In Place
Peralta Hills Water Co	51	L-14	Water	14" Stl PIPE IN 20" WSC	32+00	340'	R	36+00	560'	R	QLD	Remain In Place

Key:  
 [List of acronyms used in the utility conflict matrix]

**ATTACHMENT D**  
Right of Way Data Sheet

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**RIGHT OF WAY DATA SHEET TRANSMITTAL**  
**MEMORANDUM**  
(Form #)

EXHIBIT  
4-EX-4 (REV 7/2016)

To: ANDREW OSHRIN, Branch Chief, Design "D" Date: June 29, 2021  
Dist. 12 Co. ORA Rte. 91 PM: 6.4/R9.2  
EA: 0R313 EFIS: 1220000025  
Attn: MONTASHEEMA AFROZE Project Engineer Project Description: Multi Asset Management Project  
R/W Project Coordination


From: EVANGELINA WASHINGTON, Branch Chief  
R/W Project Coordination

Subject: Current Estimated Right of Way Costs

We have completed an estimate of the right of way costs for the above referenced, and the following assumptions and limiting conditions.

- 1. The mapping did not provide sufficient detail to determine the limits of the right of way required.
- 2. The transportation facilities have not been sufficiently designed so our estimator could determine the damages to any of the remainder parcels affected by the project.
- 3. Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the early design requirements.
- 4. Data Sheet prepared based on information provided at this phase of the project
- 5. We have determined there are no right of way functional involvements in the proposed project at this time as designed.

**Right of Way Lead Time** will require a minimum of 4 months after we begin receiving final right of way requirements (PYPSCAN node No. 224), necessary environmental clearance has been obtained, and freeway agreements have been approved. From the date of receipt of final right of way requirements (PYPSCAN node no. 225), we will require a minimum of 6 months prior to the date of certification of the projects. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed, either of which may reflect adversely on the district's other programs.

  
EVANGELINA WASHINGTON, Branch Chief  
Project Coordination/Planning and Management

Attachments:

- Right of Way Data Sheet – Page One (always required)
- Right of Way Data Sheet – All Pages (required when interest in real property is being acquired)
- Railroad Information Sheet
- Utility Information Sheet



4. Are there any major items of construction contract work? Yes  No  (If "Yes," explain.)
5. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc...)  
No right of way required.
6. Any assumptions and/or limiting conditions used? Yes  Not Significant  No  (If "Yes," explain.)
7. Are utility facilities or rights of way affected?  
Yes  No  (If "Yes," attach Utility Information Sheet, Exhibit 4-EX-5.)
- The following checked items may seriously impact lead time for utility relocation:  
 Longitudinal policy conflict(s)  
 Environmental concerns impacting acquisition of potential easements  
 Power lines operating in excess of 50 KV and substations  
(See attached Exhibit 4-EX-5 for explanation.)
8. Are Railroad facilities or rights of way affected?  
Yes  No  (If "Yes," attach Railroad Information Sheet, Exhibit 4-EX-6.)
9. Were any previously unidentified sites with hazardous waste and/or material found?  
Yes  None Evident  (If "Yes," attach memorandum per R/W Manual, Chapter 4, Section 4.01.10.00.)
10. Are State or Federal rights of way affected?  
Yes  No  (If "Yes," provide the following information)

Agencies Involved:

_____ Army Corps of Engineers	_____ GSA	_____ US Postal Service
_____ BIA	_____ National Parks	_____ Veterans Administration
_____ BLM	_____ US Fish & Wildlife	_____ Other _____
_____ Dept. of Parks & Recreation	_____ US Forest Service	_____ Other _____

Rights/Permissions Required:

_____ Cooperative Work Agreement	_____ Letter of Concurrence	_____ Special Use Permit
_____ Cost Recovery	_____ Letter of Consent	_____ Timber Sale
_____ Courtesy Letter	_____ Mineral Agreement	_____ Transfer of Jurisdiction
_____ Easement	_____ Right of Entry	_____ Other _____
_____ Highway Easement	_____ Right of Way Grant	_____ Other _____

11. Are RAP displacements required? Yes  No  (If "Yes," provide the following information.)

No. of single family \_\_\_\_\_ No. of business/nonprofit \_\_\_\_\_

No. of multi-family \_\_\_\_\_ No. of farms \_\_\_\_\_

Based on Draft/Final Relocation Impact Statement/Study dated \_\_\_\_\_, it is anticipated that sufficient replacement housing (will/will not) be available without Last Resort Housing.

12. Are there any outdoor advertising signs impacted? Yes  No  (If "Yes," explain.)

13. Are Material Borrow and/or Disposal Sites required? Yes  No  (If "Yes," explain.)

14. Are there potential relinquishments and/or abandonments? Yes  No  (If "Yes," explain.)

15. Are there any existing and/or potential airspace sites? Yes  No  (If "Yes," explain.)

16. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if district proposes less than PMCS lead-time and/or if significant pressures for project advancement are anticipated.)

Based on the R/W requirements on Page 1 of this Data Sheet, R/W will require a lead-time of 6 months from the date regular appraisals can begin to project certification.

In any event, RW Maps will require 4 months from Final Maps to project certification.

17. Is it anticipated that Caltrans staff will perform all Right of Way work? Yes  No  (If "No," discuss.)



**RAILROAD INFORMATION SHEET**

1. Describe railroad facilities or right of way affected.

North Olive Underpass (Bridge No. 55-195, PM 8.19/8.40) on SR-91 operated by Southern California Regional Rail Authority (SCRRA)/Metrolink.

2. When branch lines or spurs are affected, would acquisition and/or payment of damages to business and/or industries served by the railroad facility be more cost effective than construction of a facility to perpetuate the rail service? Yes \_\_\_\_\_ No \_\_\_\_\_ (If yes, explain)

N/A

3. Discuss types of agreements and right required from the railroads. Are grade crossings requiring service Contracts or grade separations requiring construct and maintenance agreements involved?

An Office of Engineer Railroad Clearance Memo with railroad short clauses is required for insertion into the Specifications.

4. Remarks (non-operating railroad right of way involved?):

N/A

5. PMCS Input Information

<u>RR Involvements</u>	
None	_____
C&M Agreement	_____
Service Contract	_____
Design	_____
Const.	_____
Lic/RE/Clauses	N/A
OE Clearance	N/A

Prepared By:

  
TIM CHEUNG  
Right of Way Railroad Coordinator

06/29/2021  
Date



UTILITY INFORMATION SHEET

1. Name of utility companies involved in project:

Anaheim Union Water, AT&T, Southern California Gas, Orange County Water District

2. Types of facilities and agreements required:

Anaheim Union Water - underground water line.

AT&T - underground telephone line.

SCG - underground gas line.

OCWD - underground water line.

4 Positive Location Agreements and 4 Notices to Owner are required to perform test hole work. Two test holes for each Utility Owner are required for a total of 8 test holes.

3. Is any facility a longitudinal encroachment in existing or proposed access controlled right of way? Explain.  
No

Disposition of longitudinal encroachment(s):

Relocation required.

Exception to policy needed.

Other. Explain.

4. Additional information concerning utility involvements on this project, i.e., long lead-time materials, growing or species seasons, customer service seasons (no transmission tower relocations in summer).

No

5. PMCS Input Information

Total estimated cost of State's obligation for utility relocation on this project:

\$ 8,820.00 Escalated

Utility Involvements:

U4-1 \_\_\_\_\_ (Total number of expected owner expense involvements)

-2 \_\_\_\_\_ (Total number of expected State expense involvements – conventional highway, no Federal aid)

-3 4 (Total number of expected State expense involvements – freeway, no Federal aid)

-4 \_\_\_\_\_ (Total number of expected State expense involvements – conventional or freeway, with Federal aid)

U5-7 4 (Total number of expected utility verifications, which will not result in involvements)

-8 \_\_\_\_\_ (Total number of expected utility verifications – 50% will result in involvement and 50% will not)

-9 \_\_\_\_\_ (Total number of expected utility verifications, which will result in involvements)

Prepared By:

*Antonio Avila*

ANTONIO AVILA

Right of Way Utility Estimator

06/29/2021

Date

**ATTACHMENT E**  
Project Cost Estimate

---

**PROJECT**  
**PA/ED COST ESTIMATE** ©  
 EA: 0R313 PID: 122000025

EA: 0R313  
 PID: 122000025

District-County-Route: 12-ORA-91  
 PM: 6.4/R9.2

Type of Estimate : Project Report  
 Program Code : 20.10.201.121  
 Project Limits : 12-ORA-91 6.4/R9.2

Project Description: State Route 91 Multi-Asset Project - Segment 3

Scope : Various Roadway and Traffic Management System Improvements. Pavement Rehabilitation is the anchor asset.

Alternative : Preferred

**SUMMARY OF PROJECT COST ESTIMATE**

	Current Year Cost	Escalated Cost
TOTAL ROADWAY COST	\$ 31,659,400	\$ 37,059,637
TOTAL STRUCTURES COST	\$ -	\$ -
SUBTOTAL CONSTRUCTION COST	\$ 31,659,400	\$ 37,059,637
TOTAL RIGHT OF WAY COST	\$ 8,000	\$ 8,800
<b>TOTAL CAPITAL OUTLAY COSTS</b>	<b>\$ 31,668,000</b>	<b>\$ 37,069,000</b>
PA/ED SUPPORT	\$ 2,070,000	\$ 2,070,000
PS&E SUPPORT	\$ 2,578,000	\$ 2,660,000
RIGHT OF WAY SUPPORT	\$ 19,000	\$ 20,000
CONSTRUCTION SUPPORT	\$ 3,305,000	\$ 3,590,000
<b>TOTAL SUPPORT COST</b>	<b>\$ 7,972,000</b>	<b>\$ 8,340,000</b>

<b>TOTAL PROJECT COST</b>	<b>\$ 39,640,000</b>	<b>\$ 45,409,000</b>
---------------------------	----------------------	----------------------

Programmed Amount

Month / Year

Date of Estimate (Month/Year) \_\_\_\_\_ 6 / 2021

Estimated Construction Start (Month/Year) \_\_\_\_\_ 6 / 2024

Number of Working Days = 250

Estimated Mid-Point of Construction (Month/Year) \_\_\_\_\_ 8 / 2026

Estimated Construction End (Month/Year) \_\_\_\_\_ 11 / 2028

Number of Plant Establishment Days

*Estimated Project Schedule*

<i>PID Approval</i>	6/28/2019
<i>PA/ED Approval</i>	6/30/2021
<i>PS&amp;E</i>	3/1/2023
<i>RTL</i>	12/1/2023
<i>Begin Construction</i>	6/3/2024

Reviewed by Cost Estimate Certifier	Joe Sawtelle	6/30/2021	714-708-6881
	<b>Date</b>		<b>Phone</b>

Approved by Project Manager	Ayman Salama	6/30/2021	714-708-6871
	<b>Date</b>		<b>Phone</b>



**SECTION 1: EARTHWORK**

Item code		Unit	Quantity	Unit Price (\$)		Cost
100100	Develop Water Supply	LS	x	= \$		-
170103	Clearing And Grubbing	LS	x	= \$		-
190101	Roadway Excavation	CY	x	= \$		-
			x	= \$		-

<b>TOTAL EARTHWORK SECTION ITEMS</b>	<b>\$</b>	<b>-</b>
--------------------------------------	-----------	----------

**SECTION 2: PAVEMENT STRUCTURAL SECTION**

Item code		Unit	Quantity	Unit Price (\$)		Cost
032983	Individual Precast Slab Replacement	CY	5,887	x 1,500.00	= \$	8,830,500
280200	Replace Base	CY	1,697	x 300.00	= \$	509,100
390132	Hot Mix Asphalt (Type A)	TON	14	x 640.00	= \$	8,960
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	3,146	x 160.00	= \$	503,360
393004	Geosynthetic Pavement Interlayer (Paving Fabric)	SQYD	34,628	x 2.00	= \$	69,256
397005	Tack Coat	TON	4	x 1,380.00	= \$	5,520
398200	Cold Plane Asphalt Concrete Pavement	SQYD	18,909	x 5.40	= \$	102,109
410096	Drill And Bond (Dowel Bar)	EA	27,696	x 19.00	= \$	526,224
411105	Individual Slab Replacement (RSC)	CY	3,925	x 760.00	= \$	2,983,000
414222	Replace Joint Seal (Perform Compression 7/16" To 13/16")	FT	34,630	x 4.30	= \$	148,909
418002	Remove Concrete Pavement and Base	CY	9,811	x 85.00	= \$	833,935
420102	Groove Slab Replacement	SQYD	34,628	x 6.30	= \$	218,156
420201	Grind Slab Replacement	SQYD	34,628	x 7.00	= \$	242,396

<b>TOTAL PAVEMENT STRUCTURAL SECTION ITEMS</b>	<b>\$</b>	<b>14,981,500</b>
--	-----------	-------------------

**SECTION 3: DRAINAGE**

Item code	Unit	Quantity	Unit Price (\$)	Cost
		x	= \$	-
<b>TOTAL DRAINAGE ITEMS</b>				<b>\$ -</b>

**SECTION 4: SPECIALTY ITEMS**

Item code	Unit	Quantity	Unit Price (\$)	Cost
066610	Partnering	LS	1 x 50,000.00 = \$	50,000
070030	Lead Compliance Plan	LS	1 x 5,000.00 = \$	5,000
080050	Progress Schedule (Critical Path Method)	LS	1 x 10,000.00 = \$	10,000
090205	Dispute Resolution Board On-site Meeting	EA	2 x 6,000.00 = \$	12,000
090210	Hourly Off-site Dispute-Resolution-Board-Related Tasks	HR	40 x 200.00 = \$	8,000
141120	Treated Wood Waste	LB	41,233 x 0.45 = \$	18,555
394074	Place Hot Mix Asphalt Dike (Type C)	LF	150 x 24.00 = \$	3,600
394077	Place Hot Mix Asphalt Dike (Type F)	LF	1,912 x 5.00 = \$	9,560
810190	Guard Railing Delineator	EA	70 x 30.00 = \$	2,100
820130	Object Marker	EA	12 x 140.00 = \$	1,680
832005	Midwest Guardrail System	LF	2,875 x 37.00 = \$	106,375
832070	Vegetation Control (Minor Concrete)	SQYD	2,561 x 75.00 = \$	192,075
839543	Transition Railing (Type WB-31)	EA	11 x 4,500.00 = \$	49,500
839576	End Cap (Type A)	EA	2 x 450.00 = \$	900
839578	End Cap (Type TC)	EA	9 x 580.00 = \$	5,220
839581	End Anchor Assembly (Type SFT)	EA	6 x 1,200.00 = \$	7,200
839584	Alternate In-Line Terminal System	EA	11 x 4,400.00 = \$	48,400
839604	Alternative Crash Cushion (TL-3)	EA	1 x 44,400.00 = \$	44,400
839640	Concrete Rail (Type 736B)	LF	358 x 250.00 = \$	89,500
839752	Remove Guardrail	LF	4,447 x 10.00 = \$	44,470
839782	Remove Crash Cushion	EA	1 x 3,000.00 = \$	3,000
xxxxxx	Anchor Block	EA	15 x 15,000.00 = \$	225,000

<b>TOTAL SPECIALTY ITEMS</b>	<b>\$ 936,600</b>
------------------------------	-------------------

**SECTION 5: ENVIRONMENTAL**

**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
		x	= \$	-
<i>Subtotal Environmental Mitigation</i>				\$ -

**5B - LANDSCAPE AND IRRIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
036249	LS	1	10,000.00	= \$ 10,000
200002	LS	1	8,000.00	= \$ 8,000
200114	SQFT	31,600	25.00	= \$ 790,000
204096	LS	1	15,000.00	= \$ 15,000
206402	LS	1	11,400.00	= \$ 11,400
260301	CY	13,100	125.00	= \$ 1,637,500
394095	SQYD	0	125.00	= \$ -
721810	CY	31	1,000.00	= \$ 31,000
731518	SQFT	0	15.00	= \$ -
802180	EA	2	2,500.00	= \$ 5,000
20XXXX	LS	1	100,000.00	= \$ 100,000
<i>Subtotal Landscape and Irrigation</i>				\$ 2,607,900

**5C - EROSION CONTROL**

Item code	Unit	Quantity	Unit Price (\$)	Cost
		x	= \$	-
<i>Subtotal Erosion Control</i>				\$ -

**5D - NPDES**

Item code	Unit	Quantity	Unit Price (\$)	Cost
130100	LS	1	47,572.00	= \$ 47,572
130300	LS	1	15,333.00	= \$ 15,333
130310	EA	54	500.00	= \$ 27,000
130320	EA	91	1,054.00	= \$ 95,914
130330	EA	6	2,000.00	= \$ 12,000
130620	EA	75	165.00	= \$ 12,375
130710	EA	1	3,000.00	= \$ 3,000
130730	LS	1	15,620.00	= \$ 15,620
130900	LS	1	17,925.00	= \$ 17,925
<i>Subtotal NPDES</i>				\$ 246,739

<b>TOTAL ENVIRONMENTAL</b>	<b>\$ 2,854,700</b>
----------------------------	---------------------

**Supplemental Work for NPDES**

66595	LS	1	23,063.00	= \$ 23,063
66596	LS	1	6,000.00	= \$ 6,000
66597	LS	1	6,000.00	= \$ 6,000
<i>Subtotal Supplemental Work for NDPS</i>				\$ 35,063

\*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

\*\*Applies to both SWPPPs and WPCP projects.

\*\*\* Applies only to project with SWPPPs.

**SECTION 6: TRAFFIC ITEMS****6A - Traffic Electrical**

Item code	Unit	Quantity		Unit Price (\$)		Cost
870111	EA	116	x	400.00	= \$	46,400
872131	LS	1	x	94,000.00	= \$	72,000
872133	LS	1	x	150,000.00	= \$	150,000
872133	LS	1	x	39,000.00	= \$	39,000
872134	LS	1	x	174,735.00	= \$	174,735
872137	LS	1	x	621,000.00	= \$	621,000
87130X	LS	1	x	44,200.00	= \$	44,200
87190X	LS	1	x	1,007,000.00	= \$	1,007,000
XXXXXX	LS	1	x	7,600.00	= \$	7,600
XXXXXX	LS	1	x	57,090.00	= \$	57,090
XXXXXX	EA	3	x	75,000.00	= \$	225,000
<i>Subtotal Traffic Electrical</i>						<b>\$ 2,444,025</b>

**6B - Traffic Signing and Striping**

Item code	Unit	Quantity		Unit Price (\$)		Cost
141103	LF	26,000	x	1.00	= \$	26,000
810120	EA	4,200	x	1.00	= \$	4,200
810230	EA	4,200	x	3.00	= \$	12,600
840516	SQFT	1,600	x	5.00	= \$	8,000
840621	LF	290	x	1.50	= \$	435
840656	LF	214,000	x	0.25	= \$	53,500
846007	LF	48,500	x	0.80	= \$	38,800
846009	LF	11,600	x	1.20	= \$	13,920
846010	LF	6,700	x	0.90	= \$	6,030
846011	LF	19,300	x	0.90	= \$	17,370
846030	LF	141,500	x	0.35	= \$	49,525
846035	SQFT	1,600	x	2.00	= \$	3,200
847214	LF	81,100	x	2.00	= \$	162,200
xxxxxx	EA	2	x	9,000.00	= \$	18,000
xxxxxx	LS	1	x	52,000.00	= \$	52,000
<i>Subtotal Traffic Signing and Striping</i>						<b>\$ 465,780</b>

**6C - Traffic Management Plan**

Item code	Unit	Quantity		Unit Price (\$)		Cost
128650	LS	1	x	75,000.00	= \$	75,000
120090	LS	1	x	2,400.00	= \$	2,400
120100	LS	1	x	2,428,768.00	= \$	2,428,768
<i>Subtotal Traffic Management Plan</i>						<b>\$ 2,506,168</b>

**6C - Stage Construction and Traffic Handling**

Item code	Unit	Quantity		Unit Price (\$)		Cost
129000	LF	3,380	x	30.00	= \$	101,400
120101	DAY	275	x	900.00	= \$	247,500
<i>Subtotal Stage Construction and Traffic Handling</i>						<b>\$ 348,900</b>

<b>TOTAL TRAFFIC ITEMS</b>	<b>\$ 5,764,900</b>
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**SECTION 7: DETOURS**

Includes constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
			x	= \$ -
				<b>TOTAL DETOURS \$ -</b>

\* Includes constructing, maintaining, and removal

SUBTOTAL SECTIONS 1 through 7 \$ 24,537,700

**SECTION 8: MINOR ITEMS**

**8A - Americans with Disabilities Act Items**

ADA Items 0.00% \$ -

**8B - Bike Path Items**

Bike Path Items 0.0% \$ -

**8C - Other Minor Items**

Other Minor Items 0.6% \$ 147,226

Total of Section 1-7 \$ 24,537,700 x 0.6% = \$ 147,227

**TOTAL MINOR ITEMS \$ 147,300**

**SECTIONS 9: ROADWAY MOBILIZATION**

Item code				
999990	Total Section 1-8	\$ 24,685,000	x 4%	= \$ 987,400

**TOTAL ROADWAY MOBILIZATION \$ 987,400**

**SECTION 10: SUPPLEMENTAL WORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
66070	Maintain Traffic	1	x 801,494.00	= \$ 801,494

*Cost of NPDES Supplemental Work specified in Section 5D* = \$ 35,063

Total Section 1-8 \$ 24,685,000 1.00% = \$ 246,850

**TOTAL SUPPLEMENTAL WORK \$ 1,083,500**

**SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES**

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
66062	COZEEP Contract	LS	1	x	90,700.00	=	\$90,700
66063	Traffic Management Plan - Public Information	LS	1	x	18,100.00	=	\$18,100
66105	Resident Engineers Office	LS	1	x	164,000.00	=	\$164,000
66916	Annual Construction General Permit Fee	EA	6	x	1,243.00	=	\$7,458
Total Section 1-8			\$ 24,685,000		0%	=	\$ -

<b>TOTAL STATE FURNISHED</b>	<b>\$280,300</b>
------------------------------	------------------

**SECTION 12: TIME-RELATED OVERHEAD**

Total of Roadway and Structures Contract Items excluding Mobilization \$24,685,000 (used to calculate TRO)  
Total Construction Cost (excluding TRO and Contingency) \$27,036,200 (used to check if project is greater than \$5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **2.0000%**

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
090100	Time-Related Overhead	WD	250	X	\$1,975	=	\$493,700

<b>TOTAL TIME-RELATED OVERHEAD</b>	<b>\$493,700</b>
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**SECTION 13: ROADWAY CONTINGENCY**

Total Section 1-12 \$ 27,529,900 x **15.0%** = \$4,129,485

<b>TOTAL CONTINGENCY</b>	<b>\$4,129,500</b>
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**II. STRUCTURE ITEMS**

Bridge

Building

SELECT BRIDGE OR BUILDING

3

3

3

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Length (Feet)	0 LF		0 LF		0 LF
Total Number of Slabs	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0		\$0		\$0

<b>COST OF EACH</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	0	0	0	0	0
	3		3		3

DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0		\$0		\$0

<b>COST OF EACH</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	0	0	0	0	0

<b>TOTAL COST OF BRIDGES</b>	<b>\$0</b>
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<b>TOTAL COST OF BUILDINGS</b>	<b>\$0</b>
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<b>STRUCTURES MOBILIZATION</b>	0%	<b>\$0</b>
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Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total recommended percentages includes any quantified risk based contingency from the risk register.

<b>STRUCTURES CONTINGENCY</b>	0%	<b>\$0</b>
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<b>TOTAL COST OF STRUCTURES</b>	<b>\$0</b>
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Estimate Prepared By: \_\_\_\_\_  
XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

\_\_\_\_\_ Date

### III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1) Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	\$	0
	A2) SB-1210	\$	0
B)	Acquisition of Offsite Mitigation	\$	0
C)	C1) Utility Relocation (State Share)	\$	0
	C2) Potholing (Design Phase) - 8 Test Holes	\$	8,000
D)	Railroad Acquisition	\$	0
E)	Clearance / Demolition	\$	0
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)	\$	0
G)	Title and Escrow	\$	0
H)	Environmental Review (Project Permit Fee)	\$	0
I)	Condemnation Settlements <u>0%</u>	\$	0
J)	Design Appreciation Factor <u>0%</u>	\$	0
K)	Utility Relocation (Construction Cost)	\$	0

L) 

<b>TOTAL RIGHT OF WAY ESTIMATE</b>	<b>\$8,000</b>
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M) 

<b>TOTAL R/W ESTIMATE: Escalated</b>	<b>\$8,800</b>
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N) 

<b>RIGHT OF WAY SUPPORT</b>	<b>\$20,000</b>
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Support Cost Estimate Prepared By \_\_\_\_\_  
Project Coordinator<sup>1</sup> Phone \_\_\_\_\_

Utility Estimate Prepared By \_\_\_\_\_  
Utility Coordinator<sup>2</sup> Phone \_\_\_\_\_

R/W Acquisition Estimate Prepared By \_\_\_\_\_  
Right of Way Estimator<sup>3</sup> Phone \_\_\_\_\_

Note: Items G & H applied to items A + B

<sup>1</sup> When estimate has Support Costs only

<sup>2</sup> When estimate has Utility Relocation

<sup>3</sup> When R/W Acquisition is required

**ATTACHMENT F**  
Environmental Document

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**CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION  
DETERMINATION FORM (rev. 04/2021)**

**Project Information**

**Project Name:** SR-91 Multi-Asset/Pavement Rehabilitation & Drainage Improvements Project

**DIST-CO-RTE:** 12-ORA-91

**PM/PM:** 6.4/R9.2

**EA:** 0R3130

**Federal-Aid Project Number:** Not Applicable

**Project Description:**

As part of a State Route 91 (SR-91) Multi-Asset Program, Caltrans proposes a Pavement Rehabilitation, Drainage Improvements and work at the Kraemer Boulevard Over Crossing (OC) Bridge from 0.1 miles east of La Palma OC to the SR-91/SR-55 Separator, post miles 6.4/R9.2, in the cities of Anaheim and Placentia. Project is needed to address inadequate roadway conditions, improve drainage and transportation management system elements in the Eastbound (EB) and Westbound (WB) directions. Project is funded through the State Highway Operation and Protection Program (SHOPP) and is anticipated to be programmed for funding in FY 2023/2024. SHOPP utilizes State and Federal monies. Caltrans is the CEQA and NEPA Lead Agency for *project*. *Continued on page #3*

**Caltrans CEQA Determination** (Check one)

- Not Applicable** – Caltrans is not the CEQA Lead Agency
- Not Applicable** – Caltrans has prepared an IS or EIR under CEQA

Based on an examination of this proposal and supporting information, the project is:

- Exempt by Statute.** (PRC 21080[b]; 14 CCR 15260 et seq.)
- Categorically Exempt. Class 15301 1 (d).** (PRC 21084; 14 CCR 15300 et seq.)
  - No exceptions apply that would bar the use of a categorical exemption (PRC 21084 and 14 CCR 15300.2). See the [SER Chapter 34](#) for exceptions.
- Covered by the Common Sense Exemption.** This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (14 CCR 15061[b][3].)

**Senior Environmental Planner or Environmental Branch Chief**

Smita Deshpande	<i>Smita Deshpande</i>	June 21, 2021
Print Name	Signature	Date

**Project Manager**

Brian Santos	<i>Brian Santos</i>	June 22, 2021
Print Name	Signature	Date



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

Caltrans NEPA Determination (Check one)

Not Applicable

Caltrans has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). See SER Chapter 30 for unusual circumstances. As such, the project is categorically excluded from the requirements to prepare an EA or EIS under NEPA and is included under the following:

23 USC 326: Caltrans has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to 23 USC 326 and the Memorandum of Understanding dated April 18, 2019, executed between FHWA and Caltrans. Caltrans has determined that the project is a Categorical Exclusion under:

- 23 CFR 771.117(c): activity (c) (21)
23 CFR 771.117(d): activity (d)(Enter activity number)
Activity Enter activity number listed in Appendix A of the MOU between FHWA and Caltrans

23 USC 327: Based on an examination of this proposal and supporting information, Caltrans has determined that the project is a Categorical Exclusion under 23 USC 327. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Senior Environmental Planner or Environmental Branch Chief

Smita Deshpande
Signature: Smita Deshpande
Date: June 21, 2021

Project Manager/ DLA Engineer

Brian Santos
Signature: Brian Santos
Date: June 22, 2021

Date of Categorical Exclusion Checklist completion (if applicable): 6/16/21
Date of Environmental Commitment Record or equivalent: 6/16/21

Briefly list environmental commitments on continuation sheet if needed (i.e., not necessary if included on an attached ECR). Reference additional information, as appropriate (e.g., additional studies and design conditions).



## CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

### Continuation sheet:

*Project Description continued:*

#### Description of work:

The scope of work includes pavement rehabilitation and drainage improvements. Specifically: loop detector replacement, new lighting, lighting replacement, conduit replacement, landscape improvements, overhead sign panel replacement, upgrade existing closed circuit television (CCTV) cameras to high definition cameras (HD CCTV), upgrade existing switches in electrical cabinets, upgrade fiber optic communication systems, install video detection cameras, install Smart Street Lighting, install non-pan-tilt-rotate (PTZ) cameras, install central locking cabinet systems, upgrade pull boxes with locking systems. Potholing (approximately 10 borings), to identify underground utilities is anticipated. Staging areas for contractor use within State's existing Right of Way (R/W) have been identified. The Estimated Disturbed Soil Area (DSA) is 3.28 acres.

#### Proposed drainage work includes:

6.5	EB	400 feet east of La Palma, crossing from the median to the right shoulder	Cure-in-place pipe lining, install manhole
6.57	EB	400 feet east of La Palma, on the right shoulder	Extend reinforced concrete box or replace with reinforced concrete pipe
6.64	EB/WB	920 feet east of La Palma	Cure-in-place-pipe lining, install manhole
6.64	EB/WB	920 feet east of La Palma	Cure-in-place-pipe lining

#### OR3130 specifically entails:

- Roadway slabs
- Cold Plane & Overlay
- Grind & Groove
- Drainage Improvements
- Replace Loop Detectors
- Lighting/Conduit Improvement: Replace lights, Replace conduit
- Landscape Improvements
- Upgrade Overhead Signs
- Upgrade HD CCTVs
- Switch Cabinet Locking
- Upgrade Fiber Optics
- Install Video Detection
- Upgrade CMS
- Install CMS
- Install Smart Lighting
- Install Non-PTZ Cameras
- Install Central Locking
- Upgrade Pull Boxes





## CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

All work activities occur in State's existing R/W. While there is no work in Railroad R/W, Caltrans may utilize existing RR easement and will coordinate with RR in advance of Construction. A Multi-modal Transportation Management Plan (TMP) is needed and must be coordinated with Emergency Responders, as well as Cities of Anaheim and Placentia. School Districts in the cities with Bus Routes in and around La Palma Overcrossing must also be notified of any temporary detours and lane closures and established bus stops that might be temporarily impacted. Night work is possible and lane closures including detours are expected. Duration of construction is about 45 months. Anticipated construction start date is June 2024.

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No significant environmental consequences are anticipated with the proposed project. In addition to the Caltrans Standards and Measures relating to Construction Noise, Air Pollution Control, Erosion Control and Hazardous Waste, the following Measures are required:

- An Environmental Commitment Record (ECR) has been prepared. The ECR contains Measures that will be addressed and implemented during Design and Construction Phases.

The following technical studies/reports/e-mails support the CE/CE:

Air Quality Conformity Checklist, Dove, 6/16/2021

NES-MI w/JD, Baker/Sato, 5/17/2021

Cultural Screening Memo, Wright, 1/19/2021

Water Quality Memo, Salas, 3/29/2021

Floodplain Review No Impact e-mail, Dinh/Patel, 1/21/2021

VIA Questionnaire (Low-Score) e-mail, Godett, 4/21/2021

Community Impact Memo, Dove, 6/16/2021

Hazardous Waste: ISA Checklist/Supp. Memo, Updated ISA & Memo, Aurasteh/Bade, 2/25/2021 & 4/19/2021

ROW e-mail/RR Easement & Coordination, Irizarry, 12/22/2020

NEPA CE Checklist, Dove, 6/17/2021

**ATTACHMENT G**  
Storm Water Data Report Cover Sheet

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Dist-County-Route: 12-Ora-91  
Post Mile Limits: 6.4/R9.2  
Type of Work: Multi Asset Management Project  
Project ID (EA): 1220000025(OR3130)  
Program Identification: 20.10.201.121  
Phase:  PID  PA/ED  PS&E

Regional Water Quality Control Board(s): Santa Ana (Region 8)  
Total Disturbed Soil Area: 3.28 acres PCTA: Not Applicable  
Alternative Compliance (acres): 0 acres ATA 2 (50% Rule)? Yes  No   
Estimated Const. Start Date: 6/1/2024 Estimated Const. Completion Date: 11/1/2028  
Risk Level: RL 1  RL 2  RL 3  WPCP  Other: \_\_\_\_\_  
Is MWELo applicable? Yes  No   
Is the Project within a TMDL watershed? Yes  No   
TMDL Compliance Units (acres): \_\_\_\_\_  
Notification of ADL reuse (if yes, provide date): Yes  Date: \_\_\_\_\_ No

*This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E only.*

Ziyin Shen 06/25/21  
Ziyin (David) Shen, Registered Project Engineer Date

*I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:*

Brian Santos 6/27/21  
Brian Santos, Project Manager Date

Hilton Briggs 06/28/2021  
Hilton Briggs, Designated Maintenance Representative Date

Eric Dickson 6/28/21  
Eric Dickson, Designated Landscape Architect Representative Date

[Stamp Required at PS&E only] Grace Piña-Garrett 6/25/2021  
Grace Piña-Garrett, District Design SW Coordinator Date  
For Grace Pina-Garrett

**ATTACHMENT H**  
Transportation Management Plan Data Sheet

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4) Construction Strategies

<input checked="" type="checkbox"/> a. Lane Closure Chart	
<input type="checkbox"/> b. Reversible Lanes	
<input type="checkbox"/> c. Total Facility Closure	
<input type="checkbox"/> d. Contra Flow	
<input type="checkbox"/> e. Truck Traffic Restrictions	\$
<input checked="" type="checkbox"/> f. Reduced Speed Zone	\$37,500
<input checked="" type="checkbox"/> g. Connector and Ramp Closures	
<input type="checkbox"/> h. Incentive and Disincentive	\$
<input type="checkbox"/> i. Moveable Barrier	\$
<input checked="" type="checkbox"/> j. Others <u>Traffic Control System</u>	\$2,296,840

5) Demand Management

<input type="checkbox"/> a. HOV Lanes/Ramps (New or Convert)	\$
<input checked="" type="checkbox"/> b. Park and Ride Lots	\$0
<input type="checkbox"/> c. Rideshare Incentives	\$
<input type="checkbox"/> d. Variable Work Hours	
<input type="checkbox"/> e. Telecommute	
<input type="checkbox"/> f. Ramp Metering (Temporary Installation)	\$
<input type="checkbox"/> g. Ramp Metering (Modify Existing)	\$
<input checked="" type="checkbox"/> h. Others <u>Maintain Traffic</u>	\$734,989

6) Alternative Route Strategies

<input type="checkbox"/> a. Add Capacity to Freeway Connector	\$
<input type="checkbox"/> b. Street Improvement (widening, traffic signal... etc.)	\$
<input type="checkbox"/> c. Traffic Control Officers	\$
<input type="checkbox"/> d. Parking Restrictions	
<input type="checkbox"/> e. Others _____	\$

7) Other Strategies

<input type="checkbox"/> a. Application of New Technology	\$
<input type="checkbox"/> b. Others _____	\$

**TOTAL ESTIMATED COST OF TMP ELEMENTS =**

**\$3,255,529**

**ATTACHMENT I**  
SHOPP Performance Output

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### SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 12    Tool ID:     Project ID:     EA:     Co-Rte-PM:     [View/Print PIR \(Performance\) Report](#)

<input type="checkbox"/> Bridge	<input checked="" type="checkbox"/> Pavement	<input checked="" type="checkbox"/> Drainage <b>D</b>	<input type="checkbox"/> Facilities	<input checked="" type="checkbox"/> Safety	<input checked="" type="checkbox"/> Mobility	<input checked="" type="checkbox"/> Roadside	<input checked="" type="checkbox"/> Complete Streets	<input type="checkbox"/> Sustainability /Climate Change	<input type="checkbox"/> Advance Mitigation/Mitigation	<input type="checkbox"/> Major Damage	<input type="checkbox"/> Green-house Gases	<input type="checkbox"/> Relinquishment
---------------------------------	--	--	-------------------------------------	--	--	--	--	---	--	---------------------------------------	--	---

#### Performance & Accomplishments ( )

ActID	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Assets in Good Cond	Assets in Fair Cond	Assets in Poor Cond	New Asset Added	Comment
1	B06 Mainline Existing Concrete CAPM (e.g. Slab Replace, Grinding, Thin Overlay, Spall Repair) (201.121)	Pavement Class I	Lane Miles	18.910		18.630	0.280		
2	B09 Existing Ramps & Connectors (201.121, .122, .120)	No Performance Objective in the SHSMP	Lane Miles	0.100			0.100		
3	B10 Existing Shoulders (201.121, .122, .120)	No Performance Objective in the SHSMP	Square Feet	17635.000					
4	C05 Cure in Place Line Culvert (201.151)	No Performance Objective in the SHSMP	Each	3.000			3.000		
5	C06 Cure in Place Line Culvert (201.151)	Drainage Restoration	Linear Feet	265.000			265.000		
6	E24 Lighting - Rehabilitation (201.170)	Lighting Rehabilitation	Each	22.000			22.000		
7	E26 Sign Panel Replacement	Sign Panel Replacement	Each	17.000			17.000		
8	F02 Changeable Message Sign (201.315)	Transportation Management Systems	Each	2.000			2.000		
9	F02 Changeable Message Sign (201.315)	Transportation Management Systems	Each	4.000			4.000		Modify Existing Cameras to high resolution.
10	F05 Vehicle Detection (201.315)	Transportation Management Systems	Each	3.000			3.000		Detection system at Ramp/intersection.
11	F05 Vehicle Detection (201.315)	Transportation Management Systems	Each	4.000			4.000		Hardware in Controller Cabinets.
12	F06 Ramp Meter (201.315)	Transportation Management Systems	Each	10.000			10.000		Non PTZ cameras at ramps.
13	F99 Other Mobility Activity	No Performance Objective in the SHSMP	-	3.100			3.100		TMS - Fiber Optics/Conduits
14	F99 Other Mobility Activity	No Performance Objective in the SHSMP	-	18.000			18.000		TMS - Ramp Metering pull boxes with security covers
15	F99 Other Mobility Activity	No Performance Objective in the SHSMP	-	4.000			4.000		TMS - Switches
16	G07 Worker Safety - Safe Access	Roadside Safety Improvements	Locations	36.000			36.000		
17	H17 Led Lighting	No Performance Objective in the SHSMP	Each	50.000			50.000		

(Last Saved - 01/13/20 @ 11:19 AM by Jay Jison)

#### Programming Performance Summary (All Locations)

Program Code	Activity Category	Asset Class	Asset	Performance Value	Performance Measure	Unit	Pre-Good	Pre-Fair	Pre-Poor	Pre-Total	Post Good	New	Post Good+New	Post-Fair	Post-Poor	Post-Total
201.121	Pavement	Primary	Pavement	18.9	Lane mile(s)	Lane mile(s)	0.0	18.6	0.3	18.9	18.9	0.0	18.9	0.0	0.0	18.9



**ATTACHMENT J**  
Risk Register

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LEVEL 2 RISK REGISTER	Route(s):	12-ORA-91	Project Description: Multi-Asset - Pavement Rehabilitation, Roadside Safety Improvement, Drainage Modifications, Electrical and TOS, Signs and Landscape Rehab.	DIST-EA: 12-OR3130	Project Manager:	Brian Santos	Construction Capital Cost:	\$37,060,000	Total Capital Cost:	\$37,069,000
	Post Mile(s):	PM 6.4/R9.2			Risk Manager	TranSystems (Joe Sawtelle)	Right of Way Capital Cost:	\$9,000	Construction Duration:	500 total days (250 construction working days & 250 plant establishment days)

**Scope Summary:** This multi-asset project, on State Route 91 (SR-91) between the La Palma Avenue Overcrossing and the State Route 55 Interchange. The scope of work includes pavement rehabilitation, upgrade/extend the existing Metal Beam Guard Rail (MBGR) to Midwest Guardrail System (MGS), drainage improvements, loop detector replacement, lighting replacement, conduit replacement, landscape improvements, overhead sign panel replacement, upgrading existing CCTV cameras to HD CCTV, upgrading the existing switches in electrical cabinets, upgrading fiber optic communication systems, installing video detection cameras, installing Smart Street Lighting, installing non-PTZ cameras, installing centrally locking cabinet systems, and upgrading pull boxes with locking systems.

Risk Identification							Risk Assessment					Risk Response				
Risk No.	Status	Type	Category	Title	Risk Statement	Current Status/Assumptions	Probability	Cost Impact	Cost Score	Time Impact	Time Score	Rationale	Strategy	Response Actions	Risk Owner	Updated
1	Active	Threat	Dgn	Scope Changes	As a result of changes to the design during project development, additional project elements may be required, which would lead to increased project costs and duration.	During the Design Phase, changes and refinement may be made to better fit the purpose and need of the project.	1-Very Low	1-Very Low	1	1-Very Low	1	Control scoping elements.	Accept	Project Engineer to work with project development team to refine and finalize design and minimize changes to optimize cost and time impact.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021
2	Active	Threat	Dgn	OCTA Project Coordination	As a result of designing the project to be included in the PS&E package for the OCTA project, duplication of work and schedule delays in OE and HQ review of how the packages are combined could lead to increased project duration. <b>Note: This risk replaces PIR-level Risk Register ID #8.</b>	Scope of work between the two projects is being coordinated through regularly scheduled meetings.	2-Low	1-Very Low	2	2-Low	4	Refine scope of work to avoid duplicate scope with OCTA project and coordinate with OE on combining plans, specs and estimate into a single bid package.	Mitigate	Project Engineer to coordinate with OCTA Team to clearly divide the cost for the work while combining the specs and plans into a single document for the contractor to bid on.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021
3	Active	Threat	Dgn	Constructability	As a result of designing the project to ensure safe construction staging and construction, modifications to the design concepts and/or additional right-of-way may be required, which would lead to increased project costs and duration.	All work necessary to ensure safety, the rights necessary and the constructability of the project will be performed.	1-Very Low	1-Very Low	1	1-Very Low	1	Refine design concepts, finalize project footprint and secure a design standard decision document if needed.	Accept	Project Engineer to work with project development team to refine and finalize design and minimize changes to optimize cost and time impact.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021
4	Active	Threat	Dgn	Errors and Omission	As a result of missing crucial project information (Plans, Specs, Quantities, or Construction Details) uncovered during construction, additional items that were unintentionally overlooked or omitted during project design may be added, which would lead to contract change orders, potential claims, and schedule delays during construction.	Quality review will be comprehensive.	1-Very Low	1-Very Low	1	1-Very Low	1	Create standalone QC/QA activities on the project schedule.	Mitigate	Project Engineer to work with project development team to ensure adequate time for QC/QA activities.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021
5	Active	Threat	Con	Site Characterization	As a result of differences between survey design data and actual field conditions, design modifications may occur, which would lead to increased project costs and duration.	Detailed site investigation and observation during the development of the project may uncover site conditions that require changes.	1-Very Low	1-Very Low	1	1-Very Low	1	Clarification to contract language may be necessary	Accept	Resident engineer to work with contractor and all functionals to optimize changes and minimize cost and time impact.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021
6	Active	Threat	Con	Unidentified Structural Work	As a result of discovering a need for structural work during Construction, a requirement for additional analysis, design, and materials may occur, which would lead to increased project costs and schedule delays. <b>Note: This risk replaces PIR-level Risk Register ID #5.</b>	There may be unidentified structural work.	1-Very Low	1-Very Low	1	1-Very Low	1	Identify all structural work, to get them engaged right at the beginning of the project.	Accept	The Project Engineer along with the PDT will conduct a comprehensive review for the structural needs of the project as soon as the design phase is open.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021
7	Active	Threat	Con	Permits & Approvals	As a result of securing proper permits and approvals, additional delays and concessions may occur, which would lead to increased project costs and schedule delays. <b>Note: This risk replaces PIR-level Risk Register ID #3.</b>	Permits from external agencies are required.	1-Very Low	1-Very Low	1	1-Very Low	1	Time is of the essence and regular follow up especially since it involves externals.	Accept	Project Engineer to work with PDT and all functionals to involve all stakeholders and to secure their input or approval in a timely manner.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021
8	Active	Threat	Con	Unclear contract language	As a result of unclear or ambiguous contract language, differences in interpretation may occur, which would lead to additional compensation of money or time to the contractor; i.e., project cost increases and schedule delays.	The contract language will be clear and unambiguous.	1-Very Low	1-Very Low	1	1-Very Low	1	Plans must be Clear, Complete, Comprehensive and Consistent.	Accept	P.E and PDT must ensure that plans are Buildable and Biddable.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021
9	Active	Threat	Con	Hazardous Materials Handling	As a result of unanticipated Hazardous waste discovered during the Construction Phase, additional hazardous mitigation planning may occur, which would lead to design schedule delays and project cost increases. <b>Note: This risk replaces PIR-level Risk Register ID #4.</b>	Any additional hazardous material identified during construction will have to be handle appropriately.	1-Very Low	1-Very Low	1	1-Very Low	1	All hazardous materials must be safely disposed of.	Mitigate	Accelerate the preparation of hazardous materials clearance	Hazardous Materials Engineer (R. Aurasteh)	May. 26, 2021
10	Active	Threat	Con	Survey and Mapping information	As a result of delays in obtaining survey data and mapping information, adjustments and modification during construction may be required, which would lead to increased project costs and duration.	Issues uncovered from Survey and mapping information must be address.	1-Very Low	1-Very Low	1	1-Very Low	1	The accuracy of survey and mapping information may impact project.	Mitigate	P.E. must request survey and mapping information, if they not available or inadequate as soon as possible.	Resident Engineer (TBD)	May. 26, 2021
11	Active	Threat	Con	Traffic Handling and control	As a result of maintaining traffic through the construction zone, additional safety measures, detours, changes to construction staging may be required, which would lead to increased project costs and schedule delays.	Traffic flow must be maintained throughout the construction area.	1-Very Low	1-Very Low	1	1-Very Low	1	Flexibility is required to maintain traffic flow	Mitigate	P.E to work with traffic to identify construction windows and address constructability issues.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021

LEVEL 2 RISK REGISTER	Route(s):	12-ORA-91	Project Description: Multi-Asset - Pavement Rehabilitation, Roadside Safety Improvement, Drainage Modifications, Electrical and TOS, Signs and Landscape Rehab.	DIST-EA: 12-OR3130	Project Manager:	Brian Santos	Construction Capital Cost:	\$37,060,000	Total Capital Cost:	\$37,069,000
	Post Mile(s):	PM 6.4/R9.2			Risk Manager	TranSystems (Joe Sawtelle)	Right of Way Capital Cost:	\$9,000	Construction Duration:	500 total days (250 construction working days & 250 plant establishment days)

**Scope Summary:** This multi-asset project, on State Route 91 (SR-91) between the La Palma Avenue Overcrossing and the State Route 55 Interchange. The scope of work includes pavement rehabilitation, upgrade/extend the existing Metal Beam Guard Rail (MBGR) to Midwest Guardrail System (MGS), drainage improvements, loop detector replacement, lighting replacement, conduit replacement, landscape improvements, overhead sign panel replacement, upgrading existing CCTV cameras to HD CCTV, upgrading the existing switches in electrical cabinets, upgrading fiber optic communication systems, installing video detection cameras, installing Smart Street Lighting, installing non-PTZ cameras, installing centrally locking cabinet systems, and upgrading pull boxes with locking systems.

Risk Identification						Risk Assessment					Risk Response					
Risk No.	Status	Type	Category	Title	Risk Statement	Current Status/Assumptions	Probability	Cost Impact	Cost Score	Time Impact	Time Score	Rationale	Strategy	Response Actions	Risk Owner	Updated
12	Active	Threat	Con	Construction Windows & Public Accommodation	As a result of extending the construction duration to allow for public convenience or respond to traffic volumes, alterations to the project's contract documents may be required, which would lead to increased project costs and schedule delays.	Construction must be responsive to changes in traffic conditions and inconvenience to the motoring public.	1-Very Low	1-Very Low	1	1-Very Low	1	Effort must be made to respond appropriately to changing conditions during construction.	Mitigate	P.E to work with traffic to identify construction windows and address constructability issues.	Project Engineer (J. Sawtelle, TranSystems)	May. 26, 2021
13	Active	Threat	Con	Unknown Utility	As a result of a detailed site investigation, the need to relocate utilities may arise, which would lead to increased project cost and schedule delays. Note: This risk replaces PIR-level Risk Register ID #1.	No utility relocation is required.	1-Very Low	1-Very Low	1	1-Very Low	1	Project footprint is finalized and comprehensive review of utility plans has been completed.	Mitigate	Avoid utility relocations.	Right of Way Utility Relocations (E. Irizarry)	June 24, 2021
14	Active	Threat	Con	Right of Way Issues	As a result of inadequate right-of-way for construction and staging activities, additional right-of-way access or a right-of-way lease may be required, which would lead to increased project costs and schedule delays.	Additional Rights may be necessary.	1-Very Low	1-Very Low	1	1-Very Low	1	Finalize footprint and construction staging to ensure rights are adequate.	Mitigate	Facilitate and expedite all right of way issues by working right of way and all functional units.	Right of Way Agent (E. Washington)	June 24, 2021
15	Active	Threat	Con	Weather related and Non-working Days	As the result of construction starting during the winter and rainy season, Contractor's inability to perform work in inclement weather may occur, which would lead to increased project costs and schedule delays.	The contractor will have to be granted some weather related or non-working days.	1-Very Low	1-Very Low	1	1-Very Low	1	Develop quality plans and minimize changes during construction.	Accept	Project Manager to ensure that plans must be Clear, Complete, Comprehensive and Consistent.	Project Manager (B. Santos)	May. 26, 2021
16	Active	Threat	Con	Project Interruptions	As a result of construction interruptions due to owner responsibilities (such as design related issues or right of way issues), additional design and support work may be required, which would lead to increased project costs and schedule delays.	Contractor has to be compensated for interruptions caused by the Owner.	1-Very Low	1-Very Low	1	1-Very Low	1	Develop quality plans and minimize changes during construction.	Accept	Project Manager to ensure that plans must be Clear, Complete, Comprehensive and Consistent.	Project Manager (B. Santos)	May. 26, 2021
17	Active	Threat	Con	Prices and Economic Conditions	As a result of changes in the demand and supply of materials during the Contracting Phase, material price increases may occur, which would lead to increased project costs.	Competition in the market place affects bids and the cost of the project.	1-Very Low	1-Very Low	1	1-Very Low	1	Prices of the bids depends on market place competition.	Accept	Encourage maximum bidders participation.	Project Manager (B. Santos)	May. 26, 2021
18	Active	Threat	Env	Sub-Surface Discoveries	As a result of sub-surface conditions that are different from those described in the contract documents, changes in construction methods may occur, which would lead to increased project costs and duration. <b>Note: This risk replaces PIR-level Risk Register ID #6.</b>	No significant sub-surface discovery is anticipated.	1-Very Low	1-Very Low	1	1-Very Low	1	Sub-surface discoveries are possible.	Mitigate	If the existing electrical equipment containing hazardous waste requires disposal off-site, the electrical equipment will be packaged and transported to an appropriate permitted Class I hazardous waste disposal facility. If electrical equipment will be disposed, the requirements are contained in Standard Specifications 2018 RSS (4-17-20), Section 14-11.15 Disposal of Electrical Equipment Requiring Special Handling.	Hazardous Materials Engineer (R. Aurasteh)	May 26, 2021
19	Retired	Threat	Env	Nesting Birds	As a result of the high-level scoping during the PID phase, determination of seasonal restrictions for nesting birds and/or roosting bats is deferred until the next phase. Determination of these restrictions may impact schedule and cost. <b>Note: This risk replaces PIR-level Risk Register ID #2 and is retired.</b>	Costs for bird and bat exclusions are covered in the PID-level estimate for related items. Construction work can be scheduled such that restrictions will not be critical.	1-Very Low	1-Very Low	1	1-Very Low	1	Sub-surface discoveries are possible.	Avoid	Develop a conceptual construction critical path method schedule and construction staging plans in the PA&ED phase. If the risk occurs, increase the construction working days estimate to account for critical activities. If exclusion measure costs are beyond the programmed budget, initiate a project change request to revise.	Biology (C. Baker)	June 24, 2021
20	Retired	Threat	Env	Pedestrian Facility Upgrades	Because the scoping of traffic signals and pedestrian facilities upgrades was omitted from the K-phase, the scope of required R/W acquisitions and Design work is unknown. Determination of requirements in the next phase may lead to cost and schedule delays. Additional staffing may be required to deliver within the schedule. <b>Note: This risk replaces PIR-level Risk Register ID #7 and is retired per the R/W Data Sheet.</b>	The current R/W CCE does not include acquisitions for potential ADA work. ADA work is assumed to be accounted for in the current estimate.	1-Very Low	1-Very Low	1	1-Very Low	1	Sub-surface discoveries are possible.	Avoid	Get early buyoff to reogo ADA upgrades in this project. Issue a PD-26 as early as practicable in the PA&ED phase. If the risk occurs, compress the necessary right-of-way activities to maintain the project schedule.	Project Engineer (J. Sawtelle, TranSystems)	June 24, 2021

**ATTACHMENT K**  
TASAS Table B

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Location Description	Rate Group (RUS)	No. of Accidents / Significance							Pers Kld Inj	ADT Main X-St	Total MV+ or MVM	Accident Rates					
		Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark				Fat	F+I	Tot	Fat	F+I	Tot
12 ORA 091 006.400 - 12 ORA 091 R009.199 0001-0001 2017-07-01 2020-06-30	2.800 MI H 36 mo. EAST NA	334	1	109	110	302	5	115	1 147	113.9	349.47	0.003	.31	.96	0.003	.29	.93

Accident Rates expressed as: # of accidents / Million vehicle miles

+ denotes that Million Vehicles (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)

Location Description	Rate Group (RUS)	No. of Accidents / Significance							Pers Kld Inj	ADT Main X-St	Total MV+ or MVM	Accident Rates					
		Tot	Fat	Inj	F+I	Multi Veh	Wet	Dark				Fat	F+I	Tot	Fat	F+I	Tot
12 ORA 091 006.400 - 12 ORA 091 R009.199 0001-0002 2017-07-01 2020-06-30	2.800 MI H 36 mo. WEST NA	253	1	64	65	229	9	76	1 89	113.9	349.47	0.003	.19	.72	0.003	.29	.93

Accident Rates expressed as: # of accidents / Million vehicle miles

+ denotes that Million Vehicles (MV) used in accident rates instead (for intersections and ramps).

For Ramps RUS only considers R(Rural) U(Urban)