ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT
Rice Avenue & Fifth Street Grade Separation Project

Resolution TCEP-P-1819-02B
(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 *Rice Avenue & Fifth Street Grade Separation Project*, effective on, August 15, 2018 (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, District 4*, and the Implementing Agency, *City of Oxnard*, sometimes collectively referred to as the "Parties".

3. RECITAL

3.2 Whereas at its May 16, 2018 meeting the Commission approved the Trade Corridor Enhancement Program, and included in this program of projects the *Rice Avenue & Fifth Street Grade Separation Project*, 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 *Insert Number*, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated
- ☒ Resolution TCEP-P-1718-01, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated May 16, 2018

4.3 All signatories agree to adhere to the Commission's Trade Corridor Enhancement 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 The City of Oxnard and Caltrans agrees to secure funds for any additional costs of the project.

4.6 The City of Oxnard agrees to report to Caltrans 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 The City of Oxnard 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

Rice Avenue & Fifth Street Grade Separation Project

Resolution TLEP-P-1819-02B

Daniel E. Kopulsky — Date 7-18-18

Chief, Office of Multimodal System Planning

Project Applicant

Alexander Nguyen — Date 7/19/2018

City Manager, City of Oxnard

Implementing Agency

Shirley Choate, Interim — Date 7/18/18

District Director

California Department of Transportation

for: Laurie Berman — Date 7/24/18

Director

California Department of Transportation

Susan Bransen — Date 8/15/18

Executive Director

California Transportation Commission

Exhibit A

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
PROJECT PROGRAMMING REQUEST
DTP-0001 (Revised Mar, 1 2018 v7.08)

General Instructions

Amendment (Existing Project)	No	Date:	06/12/18

District	EA	Project ID	PPNO	MPO ID	Alt Proj. ID / prg.	
75	TC0001	0018000289	4961			

County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency	
VEN		6.3	6.8	Caltrans/City of Oxnard	
				MPO	Element
				SCAG	RAIL

Project Manager/Contact	Phone	E-mail Address
Justin Link	(805) 385-8308	justin.link@oxnard.org

Project Title

Rice Avenue & Fifth Street Grade Separation Project

Location (Project Limits), Description (Scope of Work)

The Rice Avenue & Fifth Street Grade Separation Project is located in the City of Oxnard, Ventura County, at the Rice Avenue, Fifth Street (Route 34), and Union Pacific Railroad (UPRR) intersection. Project scope is to construct a grade separation structure to elevate Rice Avenue over Fifth Street and the UPRR track to eliminate the existing at-grade railroad crossing. The Project also includes the construction of two connector roads, one in the southeast quadrant and another in the southwest quadrant of the Rice Avenue grade separation, to provide access between Rice Avenue and Fifth Street.

Component	Implementing Agency
PA&ED	City of Oxnard
PS&E	City of Oxnard
Right of Way	City of Oxnard
Construction	City of Oxnard

Legislative Districts

Assembly:	44	Senate:	19	Congressional:	26

Project Benefits

The project reduces congestion and vehicle emissions, and improves safety. When completed, the project will reduce congestion caused by delays from the existing traffic signal and passing trains, and will improve safety between vehicles traveling on Rice Avenue and the at-grade railroad crossing adjacent to SR-34. Continued on page 2

Purpose and Need

The purpose of this project is to eliminate the conflict between vehicles, pedestrians, bicylists, and trains at the Rice Avenue rail-highway crossing, to address future traffic congestion and circulation challenges forecasted for the project area. The Project is needed to increase safety, relieve vehicle congestion, reduce vehicle emissions, and reduce goods movement delays. From 2010 to 2016, there have been sixty-one separate accidents at the Rice Avenue/SR-34 (Fifth Street) Continued on page 2

Category	Outputs/Outcomes	Unit	Total
Intercity Rail/Mass Trans	Grade separations/ rail crossing improvements	Feet	420
Local streets and roads	Operational improvements	Each	6 lanes
Local streets and roads	Sidewalk	Feet	10,600
Local streets and roads	Bicycle lane linear feet	Feet	7,400

ADA Improvements Y	Bike/Ped Improvements Y	Reversible Lane analysis Y
Inc. Sustainable Communities Strategy Goals Y	Reduces Greenhouse Gas Emissions Y	

Project Milestone			Existing	Proposed
Project Study Report Approved			12/09/15	
Begin Environmental (PA&ED) Phase			12/15/2015	12/15/15
Circulate Draft Environmental Document	Document Type	EIR/FONSI	10/01/2017	10/01/17
Draft Project Report			04/01/2017	04/01/17
End Environmental Phase (PA&ED Milestone)			04/01/2018	05/16/18*
Begin Design (PS&E) Phase			06/01/2018	06/28/18*
End Design Phase (Ready to List for Advertisement Milestone)			12/01/2018	12/01/19*
Begin Right of Way Phase			05/01/2018	05/01/18
End Right of Way Phase (Right of Way Certification Milestone)			12/01/2019	12/01/19
Begin Construction Phase (Contract Award Milestone)			06/01/2020	06/01/20
End Construction Phase (Construction Contract Acceptance Milestone)			07/01/2022	12/31/23*
Begin Closeout Phase			07/01/2022	12/31/23*
End Closeout Phase (Closeout Report)			01/01/2023	06/30/24*

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Additional Information

Continued from page 1 - Project Benefits - The benefit from reduced accidents and emissions at the existing intersection is estimated at $2.4 million annually, and an annual reduction of 1,195 tons of CO2 emissions and over 4 tons of criteria pollutants (Cal-B/C results). The Project improves congestion, air quality and safety for all residents along Oxnard Boulevard in central Oxnard.

Continued from page 1 - Purpose and Need - and Rice Avenue/UPRR tracks intersections, averaging nine accidents per year in that area during that seven-year period. Two of the sixty-one accidents occurred on June 3, 2014, and February 24, 2015, and resulted in three fatalities from a Metrolink train hitting a car and a truck at the at-grade railroad crossing. The intersection is currently operating at Level of Service (LOS) D for vehicle traffic and will continue to deteriorate without the Project build, eventually resulting in LOS F in 2020 during the late day peak.

Explanation of the distance lengths -
The distance of the bridge is 420 feet long. The distance of the road lane is 3,400 feet long along Rice Avenue. The sidewalk and bike lane are on both sides of Rice Avenue; therefore the distance on Rice Avenue is 6,800 feet long and with an additional 600 feet long of tapers which require bike lane as well for a total distance of 7,400 feet long. The sidewalk is along both sides of Rice Avenue with a distance of 7,400 feet long, and an additional 3,200 feet long of sidewalk along Fifth Street and the connector roads.

Project Milestone dates changed to actual dates for certain milestones that have begun since the original project application was submitted.
Construction end dates changed to better align with the CTC's Timely Use of Funds Rule.
Design end date has been corrected from what was listed in the original PPR with the application.
The date of 12/01/18 was listed in error; the correct date to complete design is 12/01/19. The new PPR has 2.0 miles of sidewalk, instead of 2.5 miles in the submitted application. The submitted application listed the at-grade railroad crossing elimination of 0.5 mile instead of 0.64 mile, and the original total operational improvements of 1.4 miles, instead of the 3.5 miles of total new project improvements.

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Date: 7/19/18

Additional Information

Project Benefits (Continued from pg 2):

The results page from the Cal B/C v6.2 model is presented below.

INVESTMENT ANALYSIS
SUMMARY RESULTS

Life-Cycle Costs (mil. $)	$78.3
Life-Cycle Benefits (mil. $)	$132.5
Net Present Value (mil. $)	$54.3
Benefit / Cost Ratio:	1.7
Rate of Return on Investment:	8.9%
Payback Period:	11 years

ITEMIZED BENEFITS (mil. $)	Passenger Benefits	Freight Benefits	Total Over 20 Years	Average Annual
Travel Time Savings	$66.2	$12.2	$78.4	$3.9
Veh. Op. Cost Savings	$3.5	$0.6	$4.0	$0.2
Accident Cost Savings	$48.0	$0.0	$48.0	$2.4
Emission Cost Savings	$0.7	$1.3	$2.1	$0.1
TOTAL BENEFITS	$118.4	$14.1	$132.5	$6.6
Person-Hours of Time Saved			9,203,794	460,190

Should benefit-cost results include:

1) Induced Travel? (y/n)	Y	Default = Y
2) Vehicle Operating Costs? (y/n)	Y	Default = Y
3) Accident Costs? (y/n)	Y	Default = Y
4) Vehicle Emissions? (y/n) includes value for CO_2e	Y	Default = Y

EMISSIONS REDUCTION	Tons: Total Over 20 Years	Tons: Average Annual	Value (mil. $): Total Over 20 Years	Value (mil. $): Average Annual
CO Emissions Saved	44	2	$0.0	$0.0
CO_2 Emissions Saved	23,899	1,195	$0.7	$0.0
NO_X Emissions Saved	36	2	$1.3	$0.1
PM_{10} Emissions Saved	0.27	0.01	$0.1	$0.0
$PM_{2.5}$ Emissions Saved	0.25	0.01		
SO_X Emissions Saved	0.23	0.01	$0.0	$0.0
VOC Emissions Saved	6.06	0.30	$0.0	$0.0

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STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised Mar, 1 2018 v7.08)

Date: 06/12/18

District	County	Route	EA	Project ID	PPNO	Alt. ID
75	VEN, ,	, ,	TC0001	0018000289	4961	

Project Title: Rice Avenue & Fifth Street Grade Separation Project

Existing Total Project Cost ($1,000s)									
Component	Prior	18/19	19/20	20/21	21/22	22/23	23/24+	Total	Implementing Agency
E&P (PA&ED)	3,132							3,132	City of Oxnard
PS&E		6,860						6,860	City of Oxnard
R/W SUP (CT)									City of Oxnard
CON SUP (CT)									City of Oxnard
R/W		8,000						8,000	City of Oxnard
CON			61,200					61,200	City of Oxnard
TOTAL	3,132	14,860	61,200					79,192	
Proposed Total Project Cost ($1,000s)									**Notes**
E&P (PA&ED)	3,132							3,132	
PS&E	1,523	5,337						6,860	
R/W SUP (CT)									
CON SUP (CT)									
R/W		8,000						8,000	
CON			61,200					61,200	
TOTAL	4,655	13,337	61,200					79,192	

Fund No. 1:	State SB1 TCEP - Trade Corridors Enhancement Account (TCEA)								Program Code
	Existing Funding ($1,000s)								30.20.723.100
Component	Prior	18/19	19/20	20/21	21/22	22/23	23/24+	Total	Funding Agency
E&P (PA&ED)									Caltrans
PS&E		4,406						4,406	
R/W SUP (CT)									
CON SUP (CT)									
R/W		8,000						8,000	
CON			56,200					56,200	
TOTAL		12,406	56,200					68,606	
	Proposed Funding ($1,000s)								Notes
E&P (PA&ED)									Adopted in May 2018, Advance Allocation June 2018 - FY2017/2018
PS&E		4,406						4,406	
R/W SUP (CT)									
CON SUP (CT)									
R/W		8,000						8,000	
CON			56,200					56,200	
TOTAL		12,406	56,200					68,606	

Fund No. 2:	RSTP - STP Local Regional (STPL-R)								Program Code
	Existing Funding ($1,000s)								20.30.010.810
Component	Prior	18/19	19/20	20/21	21/22	22/23	23/24+	Total	Funding Agency
E&P (PA&ED)	2,773							2,773	City of Oxnard
PS&E		487						487	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	2,773	487						3,260	
	Proposed Funding ($1,000s)								Notes
E&P (PA&ED)	2,773							2,773	
PS&E		487						487	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	2,773	487						3,260	

Fund No. 3:	Federal Disc. - 2011 Federal Discretionary Grants (2011FDG)								Program Code
	Existing Funding ($1,000s)								30.20.725.000
Component	Prior	18/19	19/20	20/21	21/22	22/23	23/24+	Total	Funding Agency
E&P (PA&ED)									FRA STEP
PS&E		1,523						1,523	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL		1,523						1,523	
	Proposed Funding ($1,000s)								Notes
E&P (PA&ED)									Allocated June 2018
PS&E	1,523							1,523	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	1,523							1,523	

Fund No. 4:	Local Funds - FEE (FEE)								Program Code
	Existing Funding ($1,000s)								20.10.400.100
Component	Prior	18/19	19/20	20/21	21/22	22/23	23/24+	Total	Funding Agency
E&P (PA&ED)	359							359	Oxnard, City of
PS&E		444						444	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	359	444						803	
	Proposed Funding ($1,000s)								Notes
E&P (PA&ED)	359							359	
PS&E		444						444	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL	359	444						803	

Fund No. 5:	Section 190 State Funds								Program Code
	Existing Funding ($1,000s)								20.30.010.400
Component	Prior	18/19	19/20	20/21	21/22	22/23	23/24+	Total	Funding Agency
E&P (PA&ED)									Caltrans Sec 190
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			5,000					5,000	
TOTAL			5,000					5,000	
	Proposed Funding ($1,000s)								Notes
E&P (PA&ED)									Proposed funding is subject to Section 190 application approval
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			5,000					5,000	
TOTAL			5,000					5,000	

Exhibit B

07- VEN – SR 34, PM 6.3/6.8
EA 07317800, Project Number 0715000274, PPNO 4961
20.10.400.291 – HB1
May 2018

Project Report

On Route State Route 34 (Fifth Street) in the City of Oxnard

Between Rice Ave

And 0.5 miles east of Rice Ave

The Right-of-Way Data Sheet was completed by a consultant. I have reviewed the Right-of-Way Data Sheet attached hereto, and find the data to be complete as to form and procedures only. No inferences or assertions are made as to the validity of the data or the values implied by the R/W Data Sheet:

ANDREW P. NIERENBERG, *DEPUTY DISTRICT DIRECTOR, RIGHT OF WAY*

APPROVAL RECOMMENDED:

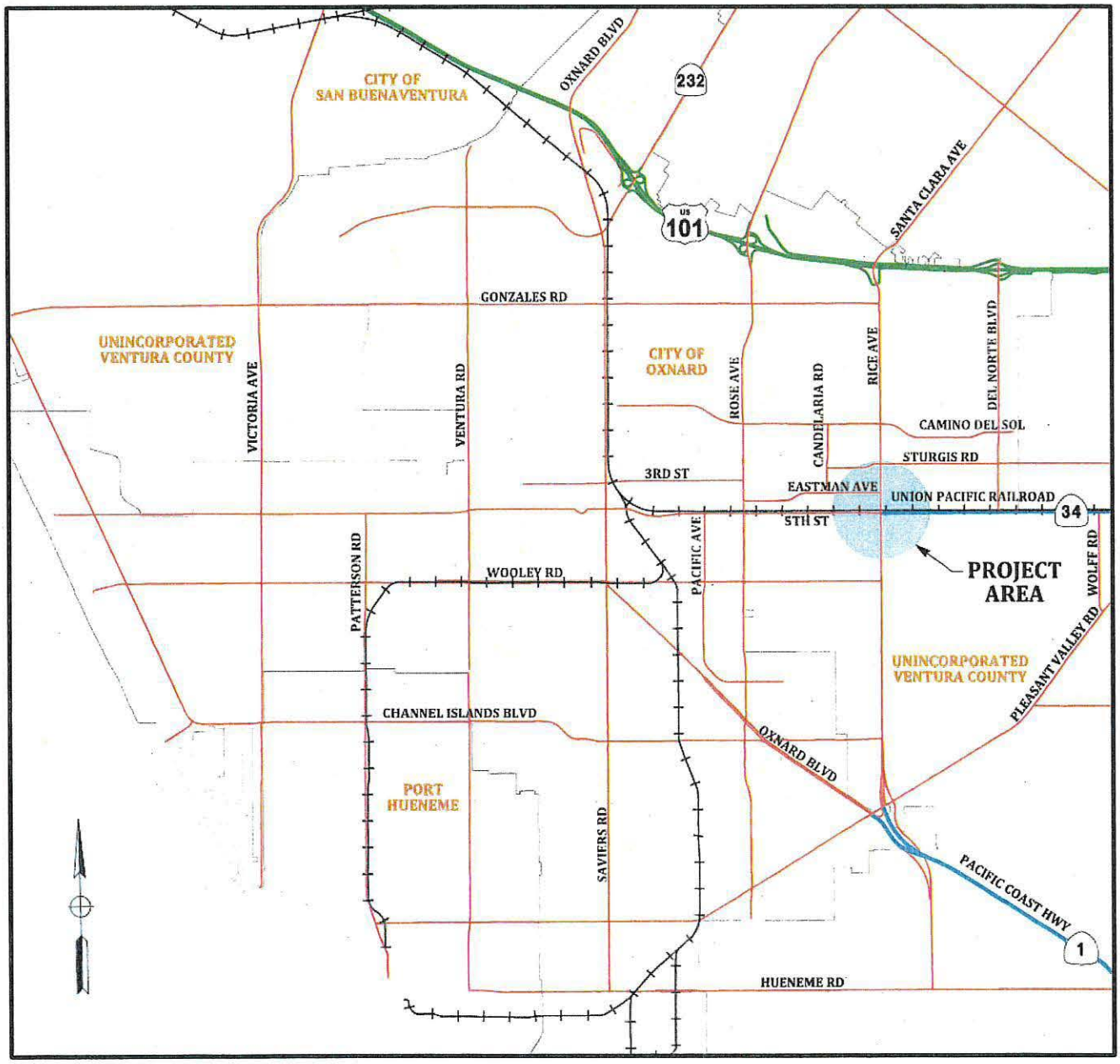
ZAREH SHAHBAZIAN, *PROJECT MANAGER*

APPROVED:

CARRIE BOWEN, *DISTRICT DIRECTOR*

5/17/18
DATE

Vicinity Map



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.

05/14/18

Henry Tong, REGISTERED CIVIL ENGINEER *DATE*

REGISTERED PROFESSIONAL ENGINEER
Henry Tong
No. C81357
Exp. 09/30/19
CIVIL
STATE OF CALIFORNIA

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1. INTRODUCTION

The city of Oxnard (City), in cooperation with the Ventura County Transportation Commission (VCTC), and the California Department of Transportation (Caltrans), is proposing to grade separate Rice Avenue with State Route 34 (SR 34) and the Union Pacific Railroad (UPRR) (Project). SR 34 (Fifth Street) is designated as a conventional highway running east-west, and Rice Avenue is an arterial roadway running north-south through the City and the county of Ventura (County).

The proposed improvement limits along SR 34 are proposed from Post Mile (PM) 6.3 to PM 6.8, and along Rice Avenue 0.4 miles north and south of SR 34. In 2010, Caltrans relinquished a section of SR 34 right-of-way (ROW) westerly of Rice Avenue to the City from PM 4.20 to PM 6.3. Therefore, the PM limits for this Project within SR 34 would be from PM 6.3 to PM 6.8 (See Attachment A – Vicinity Map).

The No Build Alternative and one Build Alternative are evaluated for the Project Report. The Build Alternative proposes to elevate Rice Avenue over SR 34 and UPRR. There are two options for the Build Alternative: Option A proposes a double connector road, and Option B proposes a single connector road to link Rice Avenue and SR 34 with signalized intersections. A cul-de-sac would be constructed at Eastman Avenue, and Eastman Avenue would no longer intersect with Rice Avenue following construction.

After the public hearing held on January 31, 2018, and after review of all stakeholders comments, Alternative 2, Option A was chosen as the Preferred Alternative in accord with the public, community, and government agencies' interest.

The Project has been assigned a Project Development Category 7 because it is a Federal-Aid Project initiated by a local agency, the City, on highways under its jurisdiction. The City is the project proponent and will advertise, award, and administer the construction contract. Upon completion, the roadway will be maintained by the City, while the bridge structure will be maintained by Caltrans. Preliminary engineering funds have been secured through Federal grant funds from the Regional Surface Transportation Program (RSTP). Funds have been committed for final design from the Federal Railroad Administration (FRA) STEP-Rail Program. Caltrans is the lead agency for both the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). The Project is proposed to be funded by programs from California Public Utilities Commission (CPUC) under the 190 Program, and the Trade Corridor Enhancement Program (TCEP), which is administered by the California Transportation Commission and derives its funding from the SB1 diesel excise tax and federal National Highway Freight Program funds. The Project would also receive local funds from the City's Traffic Impact Fees.

Project Limits	07-VEN-34 PM 6.3/6.8o	
Number of Alternatives	Two (One Build Alternative with Twoo options)o	
	Current Cost Estimate (2018):	**Escalated Cost Estimate (2020):**
Capital Outlay Support—Alternative 2, Option A (Preferred Alternative)	$17,192,000	$18,239,000
Capital Outlay Construction—Alternative 2, Option A (Preferred Alternative)	$57,566,000	$61,072,000
Capital Outlay ROW—Alternative 2, Option A (Preferred Alternative)	$9,742,000	$10,336,000
Capital Outlay Support—Alternative 2, Option B	$16,200,000	$17,187,000
eCapital Outlay Construction—Alternative 2, Option Be	$56,102,000	$59,519,000
Capital Outlay ROW—e Alternative 2, Option Be	$9,225,000	$9,787,000
Funding Sourcee	RSTP, UPRR, FRA STEP-Rail, TCEP, CPUC 190 Programs, and local funds	
Funding Yeare	2020	
Type of Facilitye	SR 34: Two lane conventional highway Rice Avenue: Six-lane arterial	
Number of Structurese	One	
Environmental Determinatione or Documente	Environmental Impact Report (EIR) (CEQA)/ Environmental Assessment/Finding of No Significant Impact (EA/FONSI) (NEPA)	
Legal Descriptione	CONSTRUCTION ON STATE HIGHWAY	
Project Development Categorye	Category 7	

2. RECOMMENDATION

Recommend that the Project be approved using the Preferred Alternative 2, Option A, and that the Project proceed to the design phase. The affected local agencies, Caltrans and City, have been consulted with respect to the recommended plan, their views have been considered, and they are in general accord with the Preferred Alternative as presented.

3. BACKGROUND

3A. Project History

The City completed a Feasibility Study in 2007 that examined various rail crossings with high accident rates throughout Oxnard. The study was completed and for safety reasons decision was made to eliminate the at-grade rail crossings at Rice Avenue/SR 34 (UPRR).

Grade separation alternatives were proposed at the Rice Avenue at-grade rail crossing location, which included an alternative to lower Rice Avenue under SR 34/UPRR, and an alternative to raise Rice Avenue over SR 34/UPRR. These were considered in the Project Study Report – Project Development Support (PSR-PDS) along with other alternatives identified as part of this work effort.

A PSR-PDS was approved on December 9, 2015, for the grade separation between SR 34 and Rice Avenue. The PSR-PDS identified two Build Alternatives and recommended that they be further studied. In both alternatives studied in the PSR-PDS, Rice Avenue remained along its present alignment. Alternative 2 would include a grade separation to raise Rice Avenue over SR 34 and UPRR, eliminating the existing at-grade rail road crossing. To link Rice Avenue and SR 34, a connector road would be placed at the southeast quadrant of the grade separation. Alternative 3 would be similar to Alternative 2, except that connector roads would be provided in both southeast and southwest quadrants. The double connector road design would require two signalized intersections on SR 34, but would eliminate the need for a signalized intersection on Rice Avenue, since all right-turn traffic movements from Rice Avenue would utilize the connector roads.

The Draft Project Report was approved on December 22, 2017. The Draft Project Report renames the two alternatives presented in the PSR-PDS. Alternative 2, Option A corresponds to the previous Alternative 3 (Double connector) and Option B corresponds to the previous Alternative 2 (Single connector). The Draft Environmental Document was released for public review on December 29, 2017. A public hearing was held on January 31, 2018, and the public comment period closed on February 12, 2018.

The Project is intended to implement recommendations in the City 2030 General Plan, which designates Rice Avenue for port-related trucking access to and from United States (US) Highway 101 (US 101), and is to be designated in the future by Caltrans as part of US Highway 1 (Pacific Coast Highway). VCTC has identified the Rice Avenue Grade Separation as a project to improve freight movement to and from the Port of Hueneme, which is to the south of the project location.

3B. Community Interaction

A public hearing was held on January 31, 2018 at the Oxnard City Hall. The public hearing was an open forum format where representatives from Caltrans, City, and their consultants were available to respond to questions. Meeting attendees were advised to review and comment on the Draft Environmental Document. After reviewing comments and input from the public hearing, Alternative 2, Option A was chosen as the Preferred Alternative.

3C. Local Agency Coordination

Caltrans, City, and VCTC participated in Project Development Team (PDT) meetings. All agencies were given the opportunity to review the alternatives and provide input on the proposed improvements.

Interactions with VCTC and City through monthly meetings and written/verbal communication provided opportunities to discuss any issues related to the Project. The

Rice Avenue Grade Separation plans submitted along with this Project Report address all the comments from Caltrans and City within their respective jurisdictions and on the Project in general. From these comments, design adjustments and further studies have been conducted to determine solutions that would best accommodate Caltrans' and City's interests, while meeting Project purpose and need.

The proposed improvements of the Project have been coordinated with UPRR, who has indicated that the bridge foundations shall not encroach into railroad ROW. Ongoing communication with UPRR has occurred since the start of the PSR-PDS preparation. A coordination meeting with UPRR was held on September 22, 2015, at the City.

An on-site utility coordination meeting was held on September 24, 2015. Design options for relocating existing utilities under Rice Avenue were presented to utility representatives for their input. An additional utility coordination meeting was held on November 4, 2015, with local representatives from all utility companies with facilities within the Project. In addition, United Water Conservation District (UWCD) representatives attended a PDT meeting on March 15, 2016, to discuss Project impacts on UWCD facilities. Follow-up utility meetings were held with City staff on January 31, 2018, the UWCD on January 31, 2018, and SCE on March 13, 2018, to discuss the master utility relocation plan, gain approvals for the alignments of individual relocation lines.

A summary of key agency and stakeholder interaction to date is provided below:

- September 20, 2017, Ventura County Coalition of Labor, Agriculture and Business (CoLab); Water, Housing, Energy, Environment, Land-use (WHEEL) Discussion
- September 21, 2017, Port Hueneme and Naval Base Ventura County (NBVC)
- September 28, 2017, City Transportation Policy Committee

3D. Existing Facility

SR 34 is an east-west route from Rice Avenue to SR 118 near Somis, with a design speed of 55 mph and posted speed of 50 mph. SR 34 is classified as a conventional highway with two lanes (one lane in each direction) for local commuters, with commercial and agricultural use. SR 34 is designated as SR 34 from Rice Avenue to US 101, and Lewis Road from US 101 to SR 118. Based on 2015 traffic counts, the Average Daily Traffic (ADT) for this segment of SR 34 within the project limit is 11,000 vehicles.

Rice Avenue is a north-south route through the City and the County with a design speed of 60 mph and posted speed of 55 mph. Rice Avenue is classified as a primary arterial with six lanes (three lanes in each direction) north of SR 34, within the City, and four lanes (two lanes in each direction) south of SR 34, within the County. Based on 2015 traffic counts, the ADT for this segment of Rice Avenue within the project limit is 35,000 vehicles. In the future, it is planned for Rice Avenue to be designated as US 1.

The UPRR track is located just north of the SR 34/Rice Avenue intersection with a separation of 58 feet between the center of the track to the intersection crosswalk on the

north side of SR 34. The UPRR track has joint use with Metrolink and it is estimated that one Union Pacific and one Metrolink train cross Rice Avenue every hour. The close spacing of the street intersection and the UPRR track has resulted in increased conflicts between trains and vehicles.

The roadway segments within the project area are currently designated as urbanized to the north of SR 34 and rural to the south of SR 34. Land uses adjacent to the Rice Avenue/SR 34 intersection are light industrial to the north and agricultural to the south. Major utility infrastructure is located at the intersection, including high risk utilities.

Opportunities to incorporate Context Sensitive Solutions and Complete Streets concepts have been considered for the Preferred Alternative. Further guidance was obtained from the 2011 City Bicycle and Pedestrian Facilities Master Plan. This Master Plan designates both SR 34 and Rice Avenue as planned bicycle and pedestrian routes. SR 34 is designated for a Class I Bikeway and Rice Avenue is designated for Class II Bike lane.

A number of major utility infrastructure and high-risk utilities are present within the project location:

- The Gas Company 8-inch, 12-inch and 30-inch gas lines;
- California Resources Corporation 6-inch and 10-inch gas lines;
- Southern California Edison high voltage overhead lines and underground conduits;
- United Water Conservation District 30-inch water line, and
- City of Oxnard 24-inch, 30-inch and 36-inch sewer lines.

4. PURPOSE AND NEED

Purpose

The purpose of the Project is to eliminate the conflict between vehicles and trains at the rail-highway crossing and to address future traffic and circulation issues forecasted for the project area. The Project will address this purpose by eliminating the Rice Avenue/UPRR/SR 34 at-grade crossing.

Need

Since 2010, there have been 59 separate accidents at the intersection of Rice Avenue and SR 34, which includes one fatal accident at the UPRR crossing. This averages to 12 accidents every year. The one fatal accident occurred on June 3, 2014, and involved a Metrolink train colliding with a vehicle at the Rice Avenue at-grade rail crossing that resulted in two fatalities. Without the removal of the at-grade railroad crossing, existing and projected increases in vehicular movements may increase the potential for future traffic accidents.

4A. Problem, Deficiencies, Justification

The problems of the project location are traffic accidents and increased future traffic circulation forecasted for the area.

From 2010 to 2016, there have been 59 separate accidents at the Rice Avenue/SR 34 intersection. One of these accidents occurred in 2014, and involved a Metrolink train hitting a vehicle at the railroad crossing, resulting in two fatalities. Projected increases in train and vehicular movements may increase the potential for future train and automobile collisions.

The 2015 existing conditions at the intersection operate at Level of Service (LOS) C and LOS D in the AM- and PM-peaks, respectively. The No-Build Alternative will yield LOS D and LOS E in the AM- and PM-peaks, respectively, by the build year (2022). By the horizon year (2042), the No-Build Alternative will result in LOS D and LOS F in the AM- and PM-peaks, respectively.

4B. Regional and System Planning

SR 34 is part of the National Highway System (NHS).

i. State Planning

SR 34 is functionally classified as a conventional highway and a rural minor arterial within the project limits. The SR 34 Transportation Concept Report (TCR) (Caltrans, December 2003) shows that four lanes (two lanes in both directions) are required on SR 34 east and west of US 101 to attain the minimum acceptable LOS D. The existing SR 34 includes two lanes (one lane in each direction) for the entire 14-mile length from Rice Avenue to SR 118. The Preferred Alternative meets the requirements in the TCR, given SR 34 would have two lanes in each direction under the proposed Rice Avenue structure.

Caltrans has also identified Rice Avenue as the future US 1.

ii. Regional and System Planning

The grade separation at Rice Avenue and SR 34 is one of the components for the Port Intermodal Corridor identified in the federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

The Project has been programmed in the Federal Transportation Improvement Program (FTIP), and will be programmed into the Regional Transportation Plan (RTP). Coordination has commenced with VCTC to amend the RTP.

iii. Local Planning

The City 2030 General Plan designates Rice Avenue for port-related trucking access to and from US 101. The Preferred Alternative evaluated in this report adhere to the City's long-range plan to improve traffic circulation along Rice Avenue.

A Joint Land Use Study for the Ventura County Naval Base was completed and approved in September 2015. The Joint Land Use Study identifies Rice Avenue as a route to and from the Naval Base to the US 101 for goods movement.

4C. Traffic

The Traffic Operations Analysis Report (TOAR) dated June 2016 provides an assessment of readily available traffic information, as well as traffic data recently collected for this Project. The TOAR provides existing and forecasted traffic conditions within the project area and at the Rice Avenue/SR 34 intersection. Detailed methodologies and analysis can be found in the TOAR, where key findings and recommendations are summarized herein. The construction year has been revised to 2020, and the opening year to 2022. Any difference in traffic volumes would be minimal between the two-year period, therefore, the information in the TOAR has been used to support conclusions in this section.

The study area for the TOAR included ten surrounding intersections to determine if the Project would cause any adverse impacts to the local network. It was determined that the grade separation would not cause any adverse effects to the surrounding intersection or segments. The ten intersection locations along with the traffic analysis are included in the TOAR and the following section provides a summary of the Rice Avenue/SR 34 intersection analysis for the No Build and Build conditions.

The TOAR analyzes the following five conditions for the Project:

- Existing (2015)
- No Build (Opening Year 2020)
- Build (Opening Year 2020)
- No Build (Design Year 2040)
- Build (Design Year 2040).

i. Existing Condition Traffic Analysis

Analysis of existing 2015 traffic conditions is based upon traffic counts collected in March 2015. The weekday peak-hour intersection traffic counts were collected between the hours of 7 a.m. and 9 a.m. (AM-peak), and 4 p.m. and 6 p.m. (PM-peak) on typical weekdays, while school was in session. The 2015 ADT for SR 34 and Rice Avenue within the project limit are 11,000 vehicles and 35,000 vehicles, respectively.

The Caltrans traffic analysis guidelines which requires the use of Highway Capacity Manual (HCM) methodology were used to calculate the intersection LOS. Table 1 indicates that the Rice Avenue/SR 34 intersection currently operates at a LOS C during the AM-peak and a LOS D in the PM-peak. Table 2 presents the year 2020 No-Build calculated delay and the corresponding LOS at Rice Avenue and SR 34, using the HCM methodology.

Table 1: 2015 Existing Intersection Analysis

Intersection	AM-Peak Hour		PM-Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
Rice Ave/SR 34	31.5	C	50.4	D

Rice Avenue and SR 34 operate at an acceptable LOS C or better with the exception of SR 34 in the west direction in the PM-peak, as well as SR 34 in the east direction in the AM-peak which operate at LOS E.

ii. Forecasted No Build Condition Traffic Analysis

The No Build conditions were analyzed for opening year (2020) and horizon year (2040). The following is a summary of the methods used to obtain the No Build traffic volumes and the resulting intersection analysis at Rice Avenue and SR 34.

The No Build condition traffic volumes for 2020 include a growth rate in traffic volumes that will naturally occur over the next five years based on the historical traffic data for the past ten years (according to the traffic counts from the City 2030 General Plan and existing 2015 traffic counts). The 2020 traffic volumes were determined by calculating the growth rate between 2005 and 2015 and applying this growth rate to 2020, which ranged from 1% to 3% depending on the study intersection and the type of movement. On average, the type of movement was 3% for through movements, and 1% for turning movements. Included in the 2020 traffic volumes are planned improvements as outlined in the City 2030 General Plan. The forecasted 2020 ADT for SR 34 and Rice Avenue are 12,800 and 40,600, respectively. Table 2 presents the calculated delay and the corresponding LOS at Rice Avenue and SR 34 for the 2020 No Build Condition. The Rice Avenue/SR 34 intersection would operate at a LOS D during the AM-peak and a LOS E in the PM-peak.

Table 2: Alternative 1 No Build 2020 Intersection Analysis

Intersection	AM-Peak Hour		PM-Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
Rice Ave/SR 34	38.0	D	57.6	E

Traffic volumes for the study area intersections for the 2040 No Build Condition were obtained from the City 2030 General Plan, except for the Rice Avenue/SR 34 intersection. These projections were compared to the 2020 traffic volumes to ensure there was consistency in traffic growth at the study intersections over the 20-year period. Given the City 2030 General Plan did not include forecast volumes for the Rice Avenue/SR 34 intersection, the through traffic volumes were derived by using a 3% annual growth factor based upon the information in the Ventura County Congestion Management Plan (CMP) and consultation with Caltrans staff. The turning movement volumes were consistent with the regional growth factor of 1%. The 3% and 1% growth factors were applied to the 2020 traffic volumes for the Rice Avenue/SR 34 intersection to obtain the 2040 traffic volumes. The forecasted 2040 ADT for SR 34 and Rice Avenue are 23,000 and 73,300,

respectively. Table 3 presents the calculated delay and the corresponding LOS at Rice Avenue and SR 34 for the 2040 No Build Condition. The Rice Avenue/SR 34 intersection would operate at a LOS D during the AM-peak and a LOS F in the PM-peak.

Table 3: Alternative 1 No Build 2040 Intersection Analysis

Intersection	AM-Peak Hour		PM-Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
Rice Ave/SR 34	51.5	D	180.9	F

iii. Collision Analysis

This section provides a collision analysis at the intersection of Rice Avenue and SR 34 for a recent three-year period.

Collision data was provided by Caltrans from the Traffic Accident Surveillance and Analysis System (TASAS) database occurring at the intersection of Rice Avenue and SR 34 between March 31, 2009 and March 31, 2014. The analysis shows that the primary causes for most collisions were failure to yield, unsafe speed, improper passing, and improper turning.

Table 4-1 provides the breakdown of the collision type and severity by year. Nearly 75% of all collisions were due to broadside and rear-end collisions. Of all the collisions, 18% were due to sideswipe, hit object, and other type collisions, and 10% were due to head on collisions. More than half of the collisions resulted in property damage only, and 41% of all collisions resulted in bodily injuries to the involved motorists.

Table 4-1: Summary of Collisions by Type and Severity (TASAS)

Year	Type							Severity		
	Head On	Sideswipe	Broad Side	Rear-End	Hit Object	Other	Not Reported	Property Damage	Injury	Fatality
2009	0	0	2	1	1	1	0	2	3	0
2010	3	1	5	7	1	1	0	12	6	0
2011	0	1	4	0	1	0	0	1	5	0
2012	1	0	4	1	0	0	0	5	1	0
2013	0	0	1	3	0	0	0	3	1	0
Total	4	2	16	12	3	2	0	23	16	0

More recent collision data was provided by the City from the Statewide Integrated Traffic Records System (SWITRS) database for collisions occurring at and in the vicinity of Rice Avenue and SR 34 between January 1, 2010 and February 28, 2015. The primary causes

for most collisions were unsafe lane changes, unsafe speed, traffic, improper passing, and improper turning. There were two fatalities at the intersection in 2014 attributed to a collision involving a train at the UPRR crossing north of the intersection.

TASAS and SWITRS data between January 1, 2011 and December 31, 2013, are combined in Table 4-2, which provides the breakdown of the collision type and severity by year. 79% of all collisions were due to broadside and rear-end collisions. Of all the collisions, 14% were due to side-swipe collisions, and 7% were due to head on and hit object collisions. Half of the collisions resulted in property damage only, and half resulted in bodily injuries to the involved motorists.

Table 4-2: Summary of Collisions and Severity (TASAS and SWITRS) between January 1, 2011 and December 31, 2013

Year	Type							Severity		
	Head On	Sideswipe	Broad Side	Rear-End	Hit Object	Other	Not Reported	Property Damage	Injury	Fatality
2011	0	2	6	2	1	0	0	3	8	0
2012	1	2	6	3	0	0	0	8	4	0
2013	0	0	2	4	0	0	0	4	2	0
Total	1	4	14	9	1	0	0	15	14	0

Based on Caltrans' method for determination of collision rate, the collision rate at the intersection of Rice Avenue and SR 34 is as follows:

$$Collision\ Rate = \frac{Number\ of\ Collisions\ \times 1{,}000{,}000}{ADT\ \times 365\ days\ per\ year\ \times Number\ of\ Years\ analyzed}$$

$$= \frac{29\ \times 1{,}000{,}000}{45{,}981\ \times 365\ \times 3} = 0.58\ collisions\ per\ million\ vehicles$$

The state average rate of collision is 0.42 based on Caltrans' 2011-2013 Collision Data on California State Highways. The accident rate at this location exceeds the statewide average that is typical for such a facility indicating a safety issue.

The existing close spacing of the street intersection and the UPRR track has resulted in an accident rate that is above the State average.

5. ALTERNATIVES

5A. Viable Alternatives

Two alternatives are proposed for this Project, including the No Build Alternative, and one Build Alternative with two options. Each alternative is described in the following pages.

i. PREFERRED ALTERNATIVE

On March 1, 2018, the PDT decided to identify Alternative 2, Option A as the Preferred Alternative. Alternative 2, Option A was selected as the Preferred Alternative based on public comment input and local government agencies' preference to best meet the need and purpose of the Project. Alternative 2, Option A has the following operational advantages compared to Alternative 2, Option B:

- Significantly lower delays and better levels of service
- Through traffic on Rice Avenue are not required to stop at the intersection with the connectors to SR 34 and Fifth Street

These operational advantages are especially beneficial for improving freight movement to and from the Port of Hueneme. Alternative 2, Option A is more consistent with future plans to dedicate Rice Avenue as part of the US 1.

ii. ALTERNATIVE 1: No Build

Under this Alternative, the current configuration of Rice Avenue and SR 34 would be maintained; the at-grade railroad crossing would remain at Rice Avenue to the north of the Rice Avenue/SR 34 intersection. This Alternative would not achieve the desired safety or circulation improvements, and would therefore not meet the Project purpose and need.

iii. ALTERNATIVE 2, Option A: Double Connector (Preferred Alternative)

Alternative 2, Option A would include the construction of a grade separation structure to elevate Rice Avenue over SR 34 and the UPRR track, which would eliminate the existing at-grade railroad crossing. This Alternative would also include the construction of two connector roads, one in the southeast quadrant of the Rice Avenue Grade Separation, and one in the southwest quadrant of the Rice Avenue Grade Separation, therefore providing access between Rice Avenue and SR 34 and between Rice Avenue and Fifth Street. The posted speed limit on the connection roads would be 25 mph. Under this Alternative, SR 34 connector road and Fifth Street. connector road intersections would be signalized. A signal is not required at the intersection of the connector roads and Rice Avenue since all traffic turns from Rice Avenue would be right turns.

The Project would be completed on portions of SR 34 within Caltrans (State) and City/County ROW.

Within State ROW

Within State ROW, the Rice Avenue Grade Separation structure would include six lanes (three lanes each in the northbound and southbound directions), 8-foot shoulders, and 6.5-foot barrier-separated sidewalks in each direction, and a 16-foot median. The 16-foot median would match the existing 16-foot median to the north and south of the project area on Rice Avenue within City and County ROW. The Rice Avenue Grade Separation structure would have a total width of 122 feet. The structure would provide a minimum vertical clearance of 24 feet, 0 inches, to accommodate trains on the UPRR tracks. The vertical clearance over SR 34 would be 21 feet, 10 inches.

Beneath the Rice Avenue Grade Separation structure, SR 34 would include four lanes (two lanes each in the eastbound and westbound directions) and 8-foot shoulders in each direction. The roadway would taper to the existing two-lane configuration approximately 0.45-mile to the east of the Rice Avenue Grade Separation at PM 6.8. A signalized intersection is proposed for the SR 34 connector road intersection, east of the proposed Rice Avenue Grade Separation. A 12-foot sidewalk would be added along the westbound side of SR 34, which would be converted to a Class I Bikeway in the future (a bike path or multi-use path that provides for bicycle and other non-motorized travel separated from any street or highway). The proposed sidewalk along the westbound side of SR 34 would be constructed from the Rice Avenue Grade Separation structure between PM 6.3 and PM 6.8.

Construction of Alternative 2, Option A within State ROW would require permanent acquisition of approximately three acres of ROW.

Within City and County ROW

Within City and County ROW, improvements on Rice Avenue would extend approximately 0.35 mile to the north and 0.35 mile to the south of the grade separation structure, with six lanes (three lanes each in the northbound and southbound directions), and 8-foot shoulders, and 8-foot sidewalks in each direction. The Rice Avenue roadway profile would be designed for 60 mph with a 3.50% maximum grade for the approaches to the Rice Avenue Grade Separation structure. The approaches are anticipated to require retaining walls at the northwest and northeast quadrants of the grade separation to avoid permanent industrial property impacts, and on the southwest quadrant to avoid impacts on an existing sewer line parallel to Rice Avenue. The existing "T" intersection at Rice Avenue and Eastman Avenue would be reconfigured to create a cul-de-sac at the end of Eastman Avenue. Through-traffic on Eastman Avenue would be redirected north along Candelaria Road to Sturgis Road.

To the west of the Rice Avenue Grade Separation structure, SR 34 would include four lanes (two lanes each in the eastbound and westbound directions) with 8-foot shoulders. The roadway would taper to the existing two-lane configuration approximately 0.40 mile to the west of the Rice Avenue Grade Separation structure. A signalized intersection is proposed for the SR 34 connector road intersection to the west of the Rice Avenue Grade Separation structure. A 12-foot sidewalk would be added along the westbound side of SR 34, which would be converted to a Class I Bikeway in the future. The proposed sidewalk would be

constructed from the Rice Avenue Grade Separation to the western boundary of the project area.

Alternative 2, Option A would include two connector roads, one in the southwest quadrant of the Rice Avenue Grade Separation, and one in the southeast quadrant. Both connector roads would include four lanes (two lanes in each direction), left-turn pockets, 8-foot shoulders in each direction, and 7-foot sidewalks in each direction.

Construction of Alternative 2, Option A within City and County ROW would require permanent acquisition of approximately 18 acres of ROW and temporary construction easements (TCE) of approximately 10 acres. TCEs would be required for a temporary detour road, which would be located approximately 200 feet east of and parallel to Rice Avenue. Additional easements would also be required for utility relocation work and a new access road for the UWCD facility.

iv. ALTERNATIVE 2, Option B: Single Connector

Under Alternative 2, Option B, a grade separation structure would be constructed to elevate Rice Avenue over SR 34 and the UPRR track, which would eliminate the existing at-grade railroad crossing. To provide access between Rice Avenue and SR 34, a single connector road would be constructed at the southeast quadrant of the grade separation. The posted speed limit of the connector road would be 25 mph. The single connector road would include a signalized intersection at the SR 34 connector road intersection, and a signalized intersection at the Rice Avenue connector road intersection.

The Project would be completed on portions of SR 34 within State and City/County ROW.

Within State ROW

Within State ROW, the Rice Avenue Grade Separation structure would include six lanes (three lanes each in the northbound and southbound directions), and 8-foot shoulders, and 6.5-foot barrier-separated sidewalks in each direction. The Rice Avenue Grade Separation structure would also include two left-turn lanes for traffic traveling southbound on Rice Avenue to eastbound on SR 34. The Rice Avenue Grade Separation structure would have a total width of 130 feet, and a minimum vertical clearance of 24 feet, 0 inches, to accommodate trains on the UPRR track. The vertical clearance over SR 34 would be 21 feet, 10 inches. Under this alternative, other improvements on SR 34 would be the same as Alternative 2, Option A within the State ROW, which would extend from PM 6.3 to PM 6.8.

Construction of Alternative 2, Option B within State ROW would require permanent acquisition of approximately four acres of ROW.

Within City and County ROW

Within City and County ROW, improvements on Rice Avenue would be the same as Alternative 2, Option A, except that the Rice Avenue connector road intersection to the south of the Rice Avenue Grade Separation structure would be signalized. SR 34

improvements would be the same as Alternative 2, Option A within the City and County ROW.

The single connector road that would provide access between Rice Avenue and SR 34 would be constructed at the southeast quadrant of the grade separation. The connector road, designed for 25 mph, would include four lanes (two lanes in each direction), a left-turn pocket, 8-foot shoulders, and 7-foot sidewalks in each direction.

Construction of Alternative 2, Option B within City and County ROW would require permanent acquisition of approximately 12 acres of ROW and TCEs of approximately 10 acres. TCEs would be required for a temporary detour road, which would be located approximately 200 feet east of and parallel to Rice Avenue. Additional easements would also be required for utility relocation work and a new access road for the UWCD facility.

v. Construction Schedule

Construction of the Project is currently planned to begin in 2020 after the design phase and is expected to be completed over an estimated 24-month period, with an open-to-traffic year of 2022.

vi. Analysis of Alternatives

Utilizing the 2020 and 2040 forecasted traffic volumes, the Build Condition intersection analysis was completed for Alternative 2, Option A and Alternative 2, Option B. Alternative 2, Option A proposes double connector roads to link Rice Avenue and SR 34 with two signalized intersections on SR 34. Alternative 2, Option B proposes a single connector road at the southeast quadrant to link Rice Avenue and SR 34 with signalized intersections on both Rice Avenue and SR 34.

Table 6A presents the calculated delay and the corresponding LOS for Alternative 2, Option A. For the 2020 build condition, the SR 34/Double Connector Road East Side intersection would operate at a LOS B during both AM-peak and PM-peak hours. The Rice Avenue/Double Connector Road West Side intersection would operate at a LOS B during both AM-peak and PM-peak hours.

Table 6A: Option A - Double Connector Road 2020 Intersection Analysis

Intersection	AM-Peak Hour		PM-Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
SR 34/Double Connector Road (East Side)	11.3	**B**	11.5	**B**
SR 34/Double Connector Road (West Side)	16.2	**B**	16.1	**B**

Table 6B presents the calculated delay and the corresponding LOS for Alternative 2, Option B – Single Connector Road. For the 2020 build condition, the SR 34/Single Connector Road intersection would operate at a LOS B during both AM-peak and PM-peak hours. The Rice Avenue/Single Connector Road intersection would operate at a LOS B both AM-peak and PM-peak hours.

Table 6B: Option B - Single Connector Road 2020 Intersection Analysis

Intersection	AM-Peak Hour		PM-Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
SR 34/Single Connector Road (East Side)	13.2	**B**	13.4	**B**
Rice Ave/Single Connector Road (East Side)	10.9	**B**	14.5	**B**

Table 7A presents the calculated delay and the corresponding LOS for Alternative 2, Option A – Double Connector Road. For the 2040 Build Condition, the SR 34/Connector Road East Side intersection would operate at a LOS B during both AM-peak and PM-peak hours. The SR 34/Connector Road West Side intersection would operate at a LOS C during the AM-peak hours and at a LOS B during the PM-peak hours.

Table 7A: 2040 Alternative 2, Option A - Double Connector Road 2040 Intersection Analysis

Intersection	AM-Peak Hour		PM-Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
SR 34/Connector Road (East Side)	12.7	**B**	17.2	**B**
SR 34/Connector Road (West Side)	20.6	**C**	17.0	**B**

Table 7B presents the calculated delay and the corresponding LOS for Alternative 2, Option B – Single Connector Road. For the 2040 Build Condition, the SR 34/Single Connector Road intersection would operate at a LOS B during both AM-peak and PM-peak hours. The Rice Avenue/Single Connector Road intersection would operate at a LOS D during the AM-peak hours and at a LOS E during the PM-peak hours.

Table 7B: Alternative 2, Option B - Single Connector Road 2040 Intersection Analysis

Intersection	AM-Peak Hour		PM-Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
SR 34/Single Connector Road (East Side)	16.8	**B**	18.3	**B**
Rice Ave/Single Connector Road	50.5	**D**	55.9	**E**

The intersection analysis shows that both Option A and Option B of Alternative 2 are projected to alleviate the potential traffic congestion at the intersections of SR 34 and Rice Avenue and Fifth Street and Rice Avenue. The Preferred Alternative, Alternative 2, Option A has the following operational advantages compared to Alternative 2, Option B:

- Significantly lower delays and better levels of service
- Through traffic on Rice Avenue are not required to stop at the intersection with the connectors to SR 34 and Fifth Street

These operational advantages are especially beneficial for improving freight movement to and from the Port of Hueneme. The Preferred Alternative is more consistent with future plans to dedicate Rice Avenue as part of the US 1.

Based upon a review of Federal Highway Administration (FHWA) and Manual on Uniform Traffic Control Devices (MUTCD) guidelines, reversible lanes are typically used along a section of roadway to increase capacity without additional widening when flows during peak periods are highly directional. Since the current and projected peak hour traffic volumes for Rice Avenue and Fifth Street and Rice Avenue and Fifth Street intersections are more balanced (i.e. do not vary significantly in north and south directions during different peak periods), reversible lane application was not warranted.

vii. Non-Standard Advisory Design Features

The Project has one non-standard design feature within Caltrans facility based on design standards described in the 2012 Highway Design Manual (HDM), Sixth Edition. Table 8 includes the non-standard design features that have been identified for the Build Alternative. The proposed project will not have any mandatory design exceptions within Caltrans facilities. Fact Sheet Exceptions for Advisory Design Standards were prepared to document the non-standard features (Attachment N). The Project is located adjacent to

prime farmland. Providing standard design features would require additional acquisition of prime farmland.

Table 8: Advisory Design Exceptions Required

HDM Index	HDM Index Heading	Design Standard	Alternative 2
304.1	Side Slope Standards	In light grading where normal slopes catch in a distance less than 18 feet from the edge of shoulder, a uniform catch point, at least 18 feet from the edge of the shoulder, should be used.	Options A & B

viii. Interim Features

The Project proposes to construct a 2,930-foot long, 12-foot-wide Class I Bikeway along the north side of SR 34 with a 5-foot separation. This Bikeway would serve as sidewalk in the interim condition, until the City constructs the bike path to the east and west of the Project on SR 34.

ix. High Occupancy Vehicle (HOV) Lanes

HOV lanes are not proposed as part of this Project.

x. Ramp Metering

Ramp metering is not proposed as part of this Project.

xi. CHP Enforcement Areas

CHP Enforcement Areas are not proposed as part of this Project.

xii. Park and Ride Facilities

Park and Ride Facilities are not proposed as part of this Project.

xiii. Utilities

A utility investigation was performed for the Project. Potential utility owners were contacted to obtain information about their existing facilities. Table 9 shows the types of facilities and owners that are present within the Project limits.

Table 9: Utilities within the Project Limits

Utility	Owner	Facility
Telephone	Verizon	OH and UG within UPRR
Telephone	CenturyLink (Qwest) Communications	Conduit within UPRR
Telephone	Sprint	Conduit within UPRR
Telephone	AT&T	Conduit within UPRR
Electrical	Southern California Edison	High Voltage OH and UG
Gas	Southern California Gas	6", 8", 12", 30" Gas Main
Gas	Unknown Owner	2", 4" Gas Main
Water	United Water Conservation District	30" Irrigation Line + Well
Water	City of Oxnard	12", 30" Potable Water Main
Sewer	City of Oxnard	24", 30", 36" Sanitary Sewer
Oil	Unknown Owner	4" Oil Line
Oil	California Resources Corporation	6", 10" Gas Line

Multiple utility facilities are anticipated to be impacted. Utilities that require relocation are listed in the ROW Data Sheet (Attachment E). Utility owners' existing property rights will be investigated during the PS&E phase. Prior rights will need to be determined during the PS&E phase to correctly allocate relocation costs. The current costs for utility involvements shown in the ROW Data Sheet conservatively assume that all costs will be paid by the Project.

Information provided by the Dig Alert website and utility as-built plans provided by each utility company were used to prepare this list. Further coordination with the identified utility companies will be carried out during the PS&E and construction phases. It is anticipated that all Options of the proposed Build Alternative will impact existing utilities.

An on-site utility coordination meeting was held on September 24, 2015. Design options of relocating existing utilities under Rice Avenue were presented to utility representatives for their input. In addition, a coordination meeting was held on November 4, 2015, with local utility representatives.

xiv. Railroad Involvement

There is a railroad track to the north of the Rice Avenue/SR 34 intersection. UPRR owns and maintains the rail ROW with a joint use agreement with Metrolink.

A coordination meeting with UPRR was held on September 22, 2015. A temporary rail crossing will be required for the Rice Avenue detour during the construction of Preferred Alternative of the grade separation. New crossing gates for the Rice Avenue detour would be installed for the duration of the construction. A Construction and Maintenance (C&M) agreement will be coordinated with UPRR during the PS&E phase, as identified in the ROW Data Sheet (Attachment E). A diagnostic meeting with UPRR will be arranged during the Final Design phase to finalize the temporary rail crossing design.

The existing UPRR ROW is 100-foot-wide and the proposed Rice Avenue structure foundations would be located outside the UPRR ROW.

xv. Highway Planting

Highway planting removed during construction would be replaced within the project limits and existing planting to remain would be enhanced. Specific planting and landscaping surfaces will be identified in the final design phase of the Project. An allowance for highway planting has been included in the Project cost estimate. Planting design will consider safety, maintainability, aesthetic compatibility with adjacent communities and existing plantings.

xvi. Erosion Control

The soils along the project alignment have the potential to be erosive. Erosion control measures will be implemented during and after construction activities and will be included with the final design during the PS&E phase. Provisions for temporary and permanent erosion control measures will be incorporated in the Project.

Storm water runoff requirements of the National Pollutant Discharge Elimination System (NPDES) are included and accounted for in the Project design and cost estimate. These measures addressing erosion control will include Best Management Practices (BMPs) for temporary control of runoff from the construction site such as the application of fertilizer-seed mulch to exposed soils during or soon after construction, punched-in straw or jute netting to protect soils during the re-vegetation period, and/or other established temporary and permanent erosion control methods.

xvii. Noise Barrier

Noise barriers were deemed not to be warranted.

xviii. Drainage

A Storm Water Data Report (SWDR) has been prepared to accompany this Project Report. Attachment G includes the SWDR cover. The anticipated storm water project risk level is Level 2. The SWDR recommends to maximize the use of design pollution prevention (DPP) infiltration areas to treat the project-targeted design pollutants. The SWDR will be updated during the PS&E phase to confirm the risk level, disturbed soil area, change in amount of impervious area and specific BMPs to be implemented for DPP and treatment. The contractor will prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) to address construction site BMPs. For this phase, permanent BMPs have been evaluated from a corridor scoping level. The Caltrans Corridor Storm Water Management Study for SR 34, SR 232, and SR 150 (dated September 2013) was used as a reference to identify proposed BMPs locations and types of treatment BMPs. The downstream receiving water body for the Project is generally the Calleguas Creek and ultimately the Pacific Ocean. The Calleguas Creek is on the 2010 303(d) list for sediment, nitrogen, and various metals, with required Total Maximum Daily Loads (TMDLs). The Calleguas Creek generally flows from the north to south collecting water from the Santa Clara Mountains.

The new impervious area for the Preferred Alternative within the Caltrans ROW is approximately 5.3 acres. The treatment BMPs are expected to provide 104% treatment of the new impervious surface. The new impervious area outside Caltrans ROW for the Preferred Alternative is approximately 20.3 acres.

xix. Non-Motorized and Pedestrian Features

There is existing sidewalk on the west side of Rice Avenue north of SR 34 within the project limits. The Project would improve pedestrian access on Rice Avenue by constructing an 8-foot sidewalk on each side of Rice Avenue through the entire project limits. Pedestrian safety at the intersections of Rice Avenue and SR 34 would be improved with the grade separation from the railroad crossing. New intersections constructed within the Project would feature crosswalk and curb ramps designed in compliance with Americans with Disabilities Act (ADA) requirements.

The 2011 City Bicycle and Pedestrian Facilities Master Plan designates both SR 34 and Rice Avenue as planned bicycle and pedestrian routes. SR 34 is designated for a Class I Bikeway and Rice Avenue is designated for a Class II Bike lane. The Project proposes to construct a 2,930-foot-long and 12-foot-wide interim sidewalk along the north side of SR 34. This interim sidewalk is expected to be converted into part of the Class I Bikeway in the future.

xx. Needed Roadway Rehabilitation and Upgrading

The existing pavement to be removed would be crushed to aggregate base materials and incorporated into the new pavement structural section of the proposed project. New pavement section would be constructed throughout the project limit.

xxi. Needed Structure Rehabilitation and Upgrading

No existing structure is in the vicinity of the project limits.

xxii. Right-of-Way (ROW) Data

ROW Data Sheets prepared for all options of the Build Alternative are included in Attachment E, which includes a cost estimate for ROW acquisition and utilities relocation.

xxiii. Cost Estimates

The preliminary capital cost estimate, which includes detailed roadway, structure, and ROW, was prepared for this project. A detailed cost breakdown can be found in Attachment D. The costs were prepared using standard percentages for the addition of minor items, supplemental work, mobilization, and contingencies. The project capital cost estimate in 2018 dollars is summarized below:

	Roadway	Structures	ROW	Total
Alt 2, Option A	$44,030,000	$13,536,000	$9,742,000	$67,308,000
Alt 2, Option B	$41,438,000	$14,664,000	$9,225,000	$65,327,000

xxiv. Effect of Projects Funded by Others on State Highway

The Project does not have adverse impacts to the state highway system. The Preferred Alternative contains a number of elements designed to improve state highway operations, including lane additions on SR 34. The traffic analysis results show that the Preferred Alternative would reduce intersection delay during peak hours, thus improving state highway operations.

5B. Rejected Alternatives

Several options for the Rice Avenue Grade Separation were rejected at different phases of the project development process. The following design options were rejected after being evaluated by the PDT during the feasibility, PSR-PDS and Project Approval/ Environmental Document (PA/ED) phases.

Lower Rice Avenue under SR 34 and UPRR

The City completed a Feasibility Study in 2007 that examined an Alternative to profile Rice Avenue under SR 34 and UPRR. This alternative was determined not to be feasible due to the high groundwater table. The construction cost would greatly increase given the retaining walls and the pavement section would need to be designed to keep the groundwater from seeping onto the roadway. The lowered profile would also create a sump condition requiring the need for a pump station, which would result in increased maintenance costs for the City and Caltrans.

Diamond Interchange Configuration

The 2007 Feasibility Study also studied an Alternative to raise Rice Avenue over SR 34 and UPRR and construct a diamond interchange with ramps connecting Rice Avenue and SR 34. The Alternative was determined not to be feasible for two reasons. Firstly, the closely spaced intersections on Rice Avenue resulted in a non-standard design feature that would require the approval of a mandatory design exception and to increase the intersection spacing, which would impact industrial buildings to the north and prime farmland to the south. Secondly, the forecasted traffic volumes do not warrant a diamond interchange configuration.

Roundabout Intersection

A roundabout option was studied for the intersection on SR 34 within State ROW during the PSR-PDS phase. A two-lane roundabout on SR 34 was considered geometrically to determine the project footprint. The traffic analysis was also completed to determine how the roundabout performed operationally. The project footprint for the roundabout would greatly increase in area given SR 34 would need to be shifted farther to the south away from UPRR, which also requires the lengthening of the proposed Rice Avenue structure. The traffic operational analysis was completed using the SIDRA software based upon the 2010 HCM guidelines. The results indicate that in the 2040 Build Conditions, a two-lane roundabout would operate at a LOS C during the AM-peak period and at an unacceptable LOS D during the PM-peak period. Therefore, given that the ROW impacts are much greater and the roundabout performs at an unacceptable LOS operationally, it was determined not to include the roundabout as part of the Project Alternatives.

Realigning Rice Avenue to the East

An option to realign Rice Avenue was studied during the PA/ED phase. Rice Avenue would be realigned by approximately 250 feet to the east to reduce utility relocation, bridge structure, retaining wall costs as well as eliminate the need for a temporary detour road. The project footprint for the realigned Rice Avenue would greatly increase in area due to providing standard superelevation transition lengths for the reverse curves. The construction cost increases due to the additional pavement and earthwork resulted in even higher construction costs compared to the straight alignment alternatives. Therefore, given the higher ROW and archaeological impacts, and lack of cost savings, it was determined not to include the Rice Avenue realignment option as part of the Project Alternatives.

Single Point Urban Interchange

A Single Point Urban Interchange (SPUI) option was studied during the PA/ED phase. A SPUI on SR 34 was considered geometrically to determine the project footprint. The project footprint for the SPUI would greatly increase in area given SR 34 would need to be shifted farther to the south away from UPRR to accommodate the four connector ramps. Additional structures are required for the north connectors between Rice Avenue and SR 34. Therefore, given that the ROW and environmental impacts are much greater and the structures costs are higher, it was determined not to include the SPUI as part of the Project Alternatives.

Single Connector

A single connector road option (Alternative 2, Option B) was studied during the PSR-PDS and PA/ED phases. This option would construct a grade separation structure to eliminate the existing at-grade railroad crossing similar to the Preferred Alternative. However, a single connector road would be constructed to provide access between Rice Avenue and SR 34. Compared to the single connector option, the Preferred Alternative has the operational advantages of significantly lower delays and better levels of service. In addition, through traffic on Rice Avenue are not required to stop at the intersection with

the connectors to SR 34. After the public hearing and public review comments, the PDT decided to reject the single connector option in favor of the Preferred Alternative, because of the operational advantages it provides.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

An Initial Site Assessment (ISA) was prepared for the Project. The ISA reported the following conclusions in the project area:

According to historical aerial photographs, the project area was primarily used for agricultural activities prior to 1985. However, there may have been a small fueling operation in the southeast quadrant of the Rice Avenue/SR 34 intersection between 1967 and 1977.

Two Historical Recognized Environmental Concerns (HRECs) were identified within three (3) locations in the project area. The three sites are located at the following locations: 278 Rice Avenue, 2401 Eastman, and 2450 Eastman. The first HREC is for the property located at 278 Rice Avenue, which is identified as a Leaking Underground Storage Tanks (LUST) site and listed as "Case Closed." The second HREC is for two properties. The property located at 2401 Eastman is identified as a previous dry cleaner and former auto repair shop; the property located at 2450 Eastman is identified as former dry cleaner. There is no data or additional remediation information available for these properties; therefore, all three sites will require additional Phase II investigation.

During the field survey, both non-hazardous and hazardous (e.g., paint, cans) trash and refuse were observed in the project area. Properties adjacent to roadways in the project area may contain concentrations of aerially deposited lead (ADL) due to historical use of motor vehicle fuels containing lead.

Based on the field survey and review of historical photographs and databases, there is potential for soil or groundwater contamination in the project area. Therefore, a Phase II environmental site investigation (SI) will be conducted during the PS&E phase for both soil and groundwater that may be encountered during excavation and any dewatering operations. The investigation shall be conducted in both the project area and construction detour areas. The Phase II SI must include an evaluation of total and soluble lead in near-surface soil, which will confirm whether there are ADL impacted soils in the project area. If soils test positive for levels of ADL, additional sampling investigations will be required to identify the depth and lateral extent of the soils, and a plan will be developed to properly remediate/handle the soils during project construction. Other contaminates that will be investigated for excavation and dewatering operations include cinder, coal ash, creosote, heavy metals, herbicides, nitrates, Polycyclic Aromatic Hydrocarbons (PAHs), pesticides, solvents, Total Petroleum Hydrocarbons (TPHs) and Volatile Organic Compounds (VOCs). The handling of these materials must comply with all local, State, and federal requirements.

Small structures to be demolished during project construction may contain asbestos containing materials (ACM) and/or lead-based paint (LBP). ACM may also be located on power poles in wire conduits. In addition, traffic striping and pavement marking residue may contain LBP. Therefore, a comprehensive survey for ACM and LBP is recommended to determine if abatement is required prior to construction activities. The handling of materials or soils containing lead must be managed following a standardized lead compliance plan (LCP) and work plan (WP) to address the health and safety of workers performing the work. In addition, monitoring of the ambient air by a certified industrial hygienist may also be required during soil excavation or removal of LBP or coatings. The handling of ACM must be managed following an Asbestos Compliance Plan and Asbestos Removal workplan to address the health and safety of the workers performing the work.

Based on the field survey of the project area, there are overhead power lines, and utility poles and transformers within the immediate surroundings. In addition, based on a review of the California Department of Conservation, Division of Oil, Gas & Geothermal Resources (DOGGR) database, there are several oil wells located in the project area: one oil well on Eastman Avenue, two oil wells on Rice Avenue to the north of the Rice Avenue/SR 34 intersection, one oil well in the southeast quadrant of the intersection, and one oil well on Rice Avenue to the south of the intersection. According to the United States Department of Transportation, National Pipeline Mapping System (NPMS), there are gas transmission pipelines along both sides of Rice Avenue and in between SR 34 and the UPRR tracks. Pipeline markers were also visible in the project area during the site survey.

The relocation of existing utilities in the project area, including oil wells, pipelines, and power poles, will involve excavation work. Overhead power lines were identified near the project area, and utility poles and transformers were observed within the immediate surroundings of the project area. Transformers should be identified/tested for possible Polychlorinated Biphenyls (PCBs) prior to relocation and/or disposal. Furthermore, a Dig Alert should be filed to determine the location of all underground utilities prior to commencement of any construction activity. For each area of excavation, an environmental SI will be conducted during the PS&E phase to determine the lateral or depth extent of any contaminated soils. Due to the shallow depth of groundwater, the SI must include groundwater grab samples to identify potential groundwater contamination.

The UPRR corridor may potentially be contaminated with the following: coal ash and cinder, creosote, fossil fuel combustion products PAHs, TPHs, VOCs, Semi Volatile Organic Compounds (SVOCs), ACMs, and metals. Railroad ties may contain creosote and are considered treated wood waste (TWW). The handling of these materials must comply with all local, State, and Federal requirements. Because TWW contains hazardous chemicals at elevated levels, TWW is subject to California's Hazardous Waste Control Law, and must be disposed of in accordance with these regulations.

Due to historical agricultural activities within and adjacent to the project area, soils may contain pesticides and herbicides. Phase II sampling for pesticides and herbicides is recommended.

A large municipal water pump house structure is located on S. Rice Avenue, south of the intersection. If moved or demolished, the contractor must follow Caltrans Unknown Hazards Procedures prior to any construction activity.

Contaminates of Concern (COCs) to be investigated/tested at the project area are listed as follows:

COCs	Location
ACMs	Railroad corridor, pipelines, APN 218-0-011-475
ADL	Project wide
Cinder	Railroad corridor
Coal ash	Railroad corridor
Creosote	Railroad corridor
Heavy metals	Project wide
Herbicides	Project wide
H2S	Oil fields
LBP	City/County, State, and CALTRANS ROW, APN 218-0-011-475
Methane	Oil fields
Nitrates	Project wide
PAHs	Railroad corridor
PCBs	Pipelines, utilities, APN 216-0-195-055
PCE	APN 216-0-195-055, APN 216-0-193-105
Pesticides	Project wide
Solvents	APN 216-0-195-055, APN 216-0-193-105
SVOCs	Railroad corridor, APN 216-0-195-055
TCE	APN 216-0-195-055, APN 216-0-193-105
TPH	Railroad corridor, pipelines, APN 216-0-195-055
VOCs	Railroad corridor, APN 216-0-195-055, APN 216-0-193-105

6B. Value Analysis

Value Analysis (VA) was conducted from October 3, 2016 to October 6, 2016. The VA team included members from Caltrans, City, VCTC, and the engineering consultant team. The framework of the Value Metrics process was utilized to evaluate the design alternatives as presented in this Project Report.

After reviewing the alternatives, the following VA design modifications were discussed:

1.0 Move the proposed realignment of Rice Avenue 50 feet to the west of the proposed realigned Rice Avenue and reduce side slopes from 4:1 to 2:1.

2.0 Reduce median width from 16 feet to 6 feet and include a raised median.

3.0 Eliminate the 50-foot end spans and replace with wing walls, taller abutments, and short roadway retaining walls.

4.0 Use a spliced girder design for continuous superstructure.

Design modification 1.0 was conditionally accepted. Providing 2:1 slopes could minimize ROW impact, reduce construction costs, and reduce the risk of disrupting sensitive archaeological resources in the area. However, the option to realign Rice Avenue to the east was rejected from further consideration and this value analysis recommendation is no longer relevant.

Design modification 2.0 was rejected. Caltrans HDM Table 302.1 specifies that for a conventional highway with six lanes or more, the left shoulder width is to be 8 feet (mandatory design standard). The total median width, which includes the combined widths from left shoulders of both directions, is to be 16 feet to meet design requirements once Rice Avenue is relinquished. In addition, the existing median width on Rice Avenue from SR 34 to US 101 is a minimum of 16 feet.

Design modification 3.0 was rejected. Recent projects show that savings from span reduction do not materialize, especially if there is any settlement waiting period for the Mechanically Stabilized Embankment (MSE) fill. Most importantly, if high fill is placed behind a tall abutment, it can cause movement of nearby railroad tracks. Precast girder spans are cost effective and can be installed quickly. Aesthetically, the end spans provide better lighting compared to the "visual dam" created by the tall abutments to drivers traveling on SR 34.

Design modification 4.0 was rejected. A drop cap option can be used in lieu of spliced girder. Since no falsework towers are needed, a drop cap option would not require lengthening the construction schedule. The drop cap can also provide additional aesthetics and allow the footings to be pinned.

6C. Resource Conservation

The proposed Project would not require the use of water, except for minor amounts during construction and in local landscaped areas. Therefore, the proposed Project would not have a significant impact to the public water supply.

The existing asphalt concrete pavement removed as part of the Project would be crushed to aggregate base materials and incorporated into the new pavement structural section of the proposed Project. The proposed Project intends to maximize the use of the existing hardware items. This can be achieved by relocating any usable existing signs and lighting poles. Any signs that will not be relocated would be available for recycling.

Operations of the proposed Project would not require additional supplies of energy or fuel. Minor amounts of energy and fuel would be used during construction. Long-term energy consumption will be reduced upon relieving traffic congestion through this Project by providing additional lanes and improving traffic operations.

6D. Right-of-Way (ROW) Issues

The Project would involve partial and full ROW acquisitions of agricultural and commercial properties. However, no businesses are expected to be relocated as a result of the partial acquisitions. It is anticipated that the ROW from agricultural land uses would result in a significant impact under CEQA.

Temporary and permanent construction and railroad easements would also be required for the Build Alternative. Nine TCEs would be required for both Alternative 2, Option A and Option B.

The ROW Data Sheet for Alternative 2, Option A and Option B have been prepared (see Attachment E), and includes all the associated costs. The Project ROW requirements are shown in Table 10 below.

Table 10—ROW Requirements

Description	Alternative 2, Option A		Alternative 2, Option B	
	Partial	Full	Partial	Full
Agricultural	6	0	6	0
Industrial	6	1	6	1
Total	12	1	12	1

6E. Environmental Compliance

An Environmental Impact Report (EIR) has been prepared to comply with CEQA, and an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) has been prepared to comply with the NEPA. The CEQA/NEPA document has been prepared jointly as an EIR/EA. The Draft EIR/EA was circulated to the public and reviewing agencies for 45 days, from December 29, 2017 to February 12, 2018, and a public hearing was held on January 31, 2018, at City of Oxnard Council Chambers to provide the public with an opportunity to review and comment on the environmental document.

The EIR/EA has been prepared in accordance with Caltrans' environmental procedures, as well as State and Federal environmental regulations. See Attachment J for the cover sheet of the environmental document.

Impacts related to existing and future land use, farmlands, community character and cohesion, relocations, environmental justice, utilities, traffic and transportation, cultural resources, water quality, hazardous waste/materials, air quality, noise, biological resources, and climate change have been identified. The following environmental technical reports have been prepared:

- Air Quality Study Report and Air Quality Conformity Analysis;
- Archaeological Survey Report, Extended Phase I (XPI) Proposal, and XPI Report;

- Community Impact Assessment and AD 1006 Form;
- Geotechnical Study;
- Historic Property Survey Report and Historic Resource Evaluation Report;
- Phase I Initial Site Assessment;
- Natural Environment Study (Minimal Impacts);
- Noise Study Report;
- Relocation Impact Memorandum, and
- Traffic Impact/Circulation Study.

Environmental Commitments for the Project are identified below:

Land Use	
LU-1	Before land acquisitions occur, coordination will be conducted with affected communities and the City to arrange for meetings with affected property and business owners and tenants; and to provide counseling and assistance in applying for funding, including research to summarize loans, grants, and federal aid available.
Air Quality	
AQ-1	Water or dust palliative will be applied to the site and equipment as frequently as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emission or at the right-of-way line depending on local regulations.
AQ-2	Soil binder will be spread on any unpaved roads used for construction purposes, and all Project construction parking areas.
AQ-3	Trucks will be washed off as they leave the right-of-way, as necessary, to control fugitive dust emissions.
AQ-4	A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts on existing communities.
AQ-5	Equipment and materials storage sites will be located as far away from residential and park uses as practical. Keep construction areas clean and orderly.
AQ-6	Track-out reduction measures, such as gravel pads, will be used at Project access points to minimize dust and mud deposits on roads affected by construction traffic.
AQ-7	All transported loads of soils and wet materials will be covered prior to transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation.
AQ-8	Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter.
AQ-9	Mulch or plant vegetation will be installed as soon as practical after grading to reduce windblown particulates in the area. The contractor will

	be made aware that certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues and may need to include controls such as dampened straw.
AQ-10	Construction equipment and vehicles will be properly tuned and maintained. Low-sulfur fuel will be used in all construction equipment as provided in California Code of Regulations (CCR) Title 17, Section 93114
AQ-11	Extended idling of diesel equipment will be prohibited, to the extent feasible.
AQ-12	Construction traffic will be routed and scheduled to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads.
Animal Species	
B-1	Construction in areas with trees or vegetation that may provide nesting habitat for birds and raptors would be reduced to the maximum extent feasible.
B-2	Trimming and removal of vegetation and trees would be minimized and performed outside of the nesting season (typically February 15 to September 15) to the extent feasible.
B-3	In the event that trimming or removal of vegetation and trees must be conducted during the nesting season, nesting bird surveys would be completed by a qualified biologist no more than 48 hours prior to trimming or clearing activities to determine if nesting birds are within the affected vegetation. Nesting bird surveys would be repeated if trimming or removal activities are suspended for five days or more.
B-4	In the event construction is scheduled during bird nesting season, nesting bird surveys would be completed no more than 48 hours prior to construction to determine if nesting birds, raptors, or active nests are in or within 500 feet of the construction area. Surveys would be repeated if construction activities are suspended for five days or more.
B-5	In the event nesting birds or raptors are found within 500 feet of the construction area, appropriate buffers (typically up to 300 feet for songbirds and up to 500 feet for raptors) would be implemented, in coordination with the California Department of Fish and Wildlife (CDFW), to ensure that nesting birds and active nests are not harmed. Buffers would include fencing or other barriers around the nests to prevent any access to these areas and would remain in place until birds have fledged and/or the nest is no longer active, as determined through coordination with the CDFW.

Cultural Resources	
C-1	If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.
C-2	If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California Public Resources Code (CA PRC) Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), which will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains would contact Garrett Damrath, Office Chief of Environmental Planning, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of CA PRC 5097.98 are to be followed as applicable.
C-3	Two prehistoric archaeological sites within the APE are assumed eligible for the National and California Registers for this Project only, as allowed by Stipulation VIII.C.3. of the Section 106 PA and Environmentally Sensitive Areas (ESAs) will be established for these sites. In addition, an ESA Action Plan will be prepared for these sites. All sites have been described in both the project ASR and XPI/PhII.
Utilities/Emergency Services	
U-1	To avoid impacts on United Water Conservation District (UWCD) Well Number 4, the well would be protected in place and an access road off of Rice Avenue would be constructed as part of the Project.
U-2	Coordination with the California Public Utilities Commission (CPUC) would be conducted during final design and throughout construction of the Project.
Traffic/Transportation	
T-1	Flagging would occur during construction of the temporary detour road and the railroad crossing and during construction of the grade separation over the UPRR tracks and ROW. Close coordination with UPRR would begin during the final design phase and outages would be planned through UPRR.
T-2	A traffic management plan would be developed and implemented, and coordination with the local emergency service would be conducted as part of the plan.
Hazardous Waste	
H-1	A Phase II SI would be conducted to determine the presence of ACMs, ADL, and LBP in the Project Area and further investigate identified hazardous waste sites. The Project would be implemented in compliance with applicable federal, state, and local hazardous material/waste regulations, which would minimize potential impacts; therefore, impacts would not be expected to result from the Project.

Climate Change	
RTP-1	Use energy and fuel-efficient vehicles and equipment. Project proponents are encouraged to meet and exceed all Environmental Protection Agency (EPA)/National Highway Traffic Safety Administration (NHTSA)/California Air Resources Board (CARB) standards relating to fuel efficiency and emission reduction.
RTP-2	Use lighting systems that are energy efficient, such as LED technology.
RTP-3	Use the minimum feasible amount of greenhouse gas (GHG)-emitting construction materials that is feasible.
RTP-4	Incorporate design measures like Water Sense fixtures and water capture to reduce water consumption.
RTP-5	Recycle construction debris to maximum extent feasible.

6F. Air Quality Conformity

This Project conforms to, and is compatible with, the State Implementation Plan (SIP) for air quality because it was included in the 2015 FTIP, as prepared by the Southern California Association of Governments (SCAG) and approved by the FHWA.

The Build Alternative is fully compatible with the design concept and scope described in the current regional transportation plan.

The Project was proposed and is included in the 2012 RTP, which was found to be conforming by the FHWA/Federal Transit Administration (FTA) on June 4, 2012. The Project (Project ID #VEN040401) is included in the 2015 FTIP approved by SCAG on September 11, 2014, which was found conforming by the FHWA/FTA on December 15, 2014.

An analysis of localized carbon monoxide (CO) and particulate matter (PM), commonly referred to as "hot-spot analysis," is required for federal project-level conformity purposes. The Project is located in an area that is attainment/unclassifiable for the federal CO and PM standards. Based on the "hot-spot analysis" conducted for the Project, predicted CO concentrations for existing conditions, Opening Year 2022, and Design Year 2042 conditions would not exceed federal or State CO standards. Therefore, the proposed Build Alternative would not contribute to existing CO violations of federal or State CO standards, nor would they contribute to future CO concentrations that are projected to exceed federal or State CO standards. In addition, based on ambient air quality monitoring data obtained from the nearest representative station (El Rio-Rio Mesa School #2 monitoring station), no exceedance of the federal PM (PM10 or PM2.5) standards has been identified for the last three years of available data. Therefore, no additional project-level conformity analysis is required for PM. In addition, the proposed Build Alternative, when compared to the No Build Alternative, would result in overall reductions in vehicle idling and associated emissions at nearby intersections. In comparison to the No Build Alternative, the proposed Build Alternative would not result in a substantial change in mobile-source PM emissions within the project area for either Opening Year 2022 or Design Year 2042 conditions.

The EIR/EA identified two minimization measures required to be implemented as part of the Project. The minimization measures are to implement Caltrans' Standard Specifications (2015), Section 14-9 "Air Quality," and to comply with the VCAPCD's Regulation IV requirements to control construction emissions of fugitive dust.

6G. Title VI Considerations

A Community Impact Analysis (CIA) was prepared and approved in November 2016. The CIA concluded that the Project would not result in significant long-term adverse impacts on communities or neighborhoods within the study area. There are no schools, libraries, places of worship, or other community facilities within the project study area, but there are Environmental Justice populations. There is one block group with a median household income below the United States Department of Health and Human Services poverty guidelines, and there are greater percentages of minority populations in the project study area compared to the rest of Oxnard, however, all members of the public would benefit equally from the proposed improvements. In addition, impacts borne by Environmental Justice populations would not be appreciably more severe or greater in magnitude than impacts borne by non-Environmental Justice populations. Therefore, the Project would not result in disproportionately high and adverse impacts on Environmental Justice populations. The Build Alternative would require the relocation of parking/storage areas on three agricultural properties. The parking/storage areas would be relocated in compliance with the Uniform Act, Caltrans' Relocation Assistance Program, and Title VI of the Civil Rights Act. Therefore, no disproportionately high or adverse impacts are expected from the agricultural relocations.

Access through the site for low mobility individuals would be maintained through the Project during and after construction. The proposed sidewalks and curb ramps along Rice Avenue and SR 34 would be constructed to meet the requirements of the ADA.

6H. Noise Study Report

A Noise Study Report was prepared on July 29, 2016, and approved on August 9, 2016. Short-term noise monitoring was conducted at four locations (ST1 through ST4) on Thursday, October 29, 2015. Daytime noise levels along Rice Avenue and SR 34 generally range from approximately 58 to 75 dBA equivalent sound level. Ambient noise levels vary depending on various factors, including distance from the roadway and time of day. The highest noise levels tend to occur during the peak-commute hours, with the highest noise level occurring during the AM-peak hour. Nighttime noise levels are roughly 10 dB lower than peak-hour daytime noise levels.

Under the Build Alternative, predicted design-year noise levels at nearby office land uses would range from 58 to 69 dBA hourly equivalent sound level (Leq(h)). Predicted noise levels at these land uses would not approach or exceed the noise abatement criterion (NAC) of 72 dBA Leq(h). No NAC are applicable for the nearby industrial and agricultural land uses. In addition, implementation of the Build Alternative would not result in a substantial increase in traffic noise levels at nearby land uses, in comparison to existing conditions. As a result, no noise abatement is required.

7. OTHER CONSIDERATIONS AS APPROPRIATE

A. Public Hearing Process

Public circulation of the Draft EIR/EA began on December 29, 2018, and ended on February 12, 2018. A public hearing was held on January 31, 2018, at the Oxnard City Hall. The public hearing was an open forum format where representatives from Caltrans, City, and their consultants were available to respond to questions. Meeting attendees were advised to review and comment on the Draft Environmental Document. The Preferred Alternative did not require modification due to comments received from the Draft Environmental Document circulation and the public hearing process.

B. Route Matters

Since the Rice Avenue bridge elevates above SR 34 and maintenance would be needed, a highway agreement will be required between Caltrans and the City, and will be developed during the PS&E phase.

C. Permits

The permits, reviews, and approvals listed in Table 11 would be required for project construction.

Table 11—Permitting Requirements

Agency	Permit/Approval
State Water Resource Control Board	Clean Water Act, Section 402 NPDES Construction General Permit and Caltrans Statewide Permit
Los Angeles Regional Water Quality Control Board	401 Certification
UPRR	Encroachment Permit
Ventura County	Right-of-Way Encroachment Permit
FHWA, Caltrans	Clean Air Act Transportation Conformity Determination
Caltrans	Right-of-Way Encroachment Permit Cooperative Agreement
City of Oxnard	Right-of-Way Encroachment Permit
U. S. Department of Conservation	Form AD 1006
State Historic Preservation Office	National Historic Preservation Act, Section 106

D. Cooperative Agreements

Cooperative Agreement No. 07-5065 was executed on February 9, 2016 between Caltrans and City, for Caltrans to provide technical oversight over the PA/ED, PS&E, ROW Support, ROW Capital, and Construction Support and Construction Capital phases for the Project.

E. Other Agreements

The UPRR requires execution of a Construction and Maintenance agreement during the PS&E phase of the proposed Rice Avenue Grade Separation.

Construction and Maintenance Agreements will be developed and executed between City and Caltrans, as well as between City and County during the PS&E phase.

F. Report on Feasibility of Providing Access to Navigable Rivers

There are no navigable waterways within the project area.

G. Transportation Management Plan for use During Construction

Transportation Management Plan (TMP) Data Sheets have been prepared based upon the planned stage construction presented below to reduce potential construction related traffic conflicts and delays. Based on the TMP Data Sheets, lane closure impacts will be required, and lane closure charts will be included in the specifications during final design. It may be necessary to temporarily close lanes during the intersection construction. Pedestrian and bicycle travel during construction will be accommodated. The PS&E package will include detour plans, staging plans, and traffic handling plans. Supporting traffic counts for rerouting traffic during construction have been developed. The TMP identifies several elements to handle traffic on the existing highways and local streets during construction including the following strategies:

- Public Awareness Campaign—Development of a public awareness campaign to sufficiently inform residents and motorists prior to construction. This campaign, utilizing local media, telephone hotline mailers, direct advertising, and internet updates would inform the public of construction related congestion.
- Real-time communications—Real-time communications with motorists advising them of construction activities, closures, and delays would be conducted using portable changeable message signs and fixed changeable message signs.
- Construction Zone Enhanced Enforcement Program (COZEEP)—Implementation of COZEEP to provide police assistance for worker safety and the safe movement of traffic within construction zone. The officers can enforce speed reductions within work zones and provide emergency response support.

The costs associated with implementing these TMP strategies are included in the TMP Data Sheet as Attachment Q. The construction staging traffic control and detour and signing plans for the Project would be developed as part of the PS&E phase.

The construction of this Project is anticipated to take approximately 24 months.

H. Stage Construction

A preliminary construction staging concept for the Preferred Alternative was prepared to ensure there were no fatal flaws and that the improvements are constructible. Attachment K includes the construction staging concept plans. Detailed stage construction plans and

traffic handling plans will be developed in the PS&E phase. The following is a summary of the construction staging concept:

STAGE 1 – Construction of the temporary detour road east of Rice Avenue and the pavement for the widening and realignment of SR 34 would be completed. Overnight closures would be required to complete the temporary SR 34 intersection. Temporary railroad gates and signals and intersection signals would be installed for the Rice Avenue detour road.

STAGE 2A – Rice Avenue traffic would be shifted onto the temporary detour road to begin construction of the re-profiled Rice Avenue and the structure. SR 34 will be restriped and reduced to one through-right lane and one left-turn lane in each direction to construct the widening of SR 34. Construction of the west connector road would commence in this stage.

STAGE 2B – Rice Avenue traffic would remain on the temporary traffic detour as construction continues for the structure and approaches. Construction of the bridge structure over SR 34 would be completed in this stage. In order to allow space for pile excavation, SR 34 will operate with one through-right lane and one left-turn lane in each direction.

STAGE 3 – Traffic would be shifted onto the newly constructed Rice Avenue and SR 34. Traffic between Rice Avenue and SR 34 would be connected by the newly constructed west connector. The temporary detour road would be removed and construction would proceed to complete the east connector road. Once this is complete final striping can be installed on the west connector and the construction of the Project is complete.

I. Accommodation of Oversize Loads

The proposed Project would construct new lanes with standard lane widths, and standard vertical and horizontal clearances. Currently, Rice Avenue and SR 34 have locations with non-standard lane widths. Existing non-standard lane widths would be improved. As such, the Project would not reduce the ability of Rice Avenue and SR 34 to transport oversized loads.

J. Graffiti Control

Rice Avenue north of SR 34 is identified as urban area and thus may be graffiti-prone. Standard deterrent techniques would be used as part of the proposed design. The Project would utilize vine planting and architectural treatments, such as fracture rib texture, on the face of retaining walls. To prevent vandalism and theft of electrical systems, theft deterrent security pull boxes would be installed. Proposed signs would also be coated with premium anti-graffiti film for easier cleanup.

K. Disposition of Existing Facility

None of the existing State ROW would be disposed of. There is no abandonment of existing Rice Avenue ROW under the Build Alternative being considered.

8. FUNDING, PROGRAMMING, AND ESTIMATE

Funding

It has been determined that this Project is eligible for Federal-aid funding. The City is the lead agency for this Project. Preliminary engineering funds have been secured through Federal grant funds from the RSTP, which is being administered by Caltrans through Local Assistance. The Project complies with the procedures in the Caltrans Local Assistance Procedures Manual, and the City will pursue funding from CPUC under the 190 Program, FAST Act Freight funds, and additional Federal Funds through VCTC. Additional funds will be acquired through the FRA, and the Project would also receive local funds from City Traffic Impact Fees.

Programming

The Project was programmed in the SCAG adopted 2017 FTIP and 2012 RTP, ID# VEN040401. Funding sources are shown in Table 12.

Table 12—Project Funding Sources

Fund Source	Fiscal Year Estimate								
20.10.400.291	15/16	16/17	17/18	18/19	19/20	20/21	21/22	Future	Total
Component	In thousands of dollars ($1,000)								
PA&ED Support	700	1000	300						2000
PS&E Support			2000	4000					6000
ROW Support				600	600				1200
Construction Support						4000	4000		8000
ROW				5000	5000				9700
Construction						29000	29000		57600
Total	700	1000	2300	9600	5600	33000	33000		84500

The support cost ratio is approximately 25.6%.

Estimate

The most significant aspect of the grade separation construction is the roadway costs at $44,030,000.

Another significant aspect of the construction cost estimate is the cost of the overhead structure, which costs approximately $13,536,000.

9. DELIVERY SCHEDULE

Project Milestones		Milestone Date (Month/Year)
PROGRAM PROJECT	M015	11/2015
BEGIN ENVIRONMENTAL	M020	11/2015
CIRCULATE DED EXTERNALLY	M120	12/2017
PA&ED	M200	5/2018
PS&E TO OVERSIGHT ENGINEER	M377	11/2019
STRUCTURES PS&E TO OVERSIGHT ENGINEER	M378	11/2019
RIGHT-OF-WAY CERTIFICATION	M410	3/2020
ENCROACHMENT PERMIT	M460	4/2020
FUND ALLOCATION	M470	7/2020
ADVERTISE	M480	7/2020
BID OPENING	M495	10/2020
AWARD	M495	12/2020
APPROVE CONTRACT	M500	12/2020
CONTRACT ACCEPTANCE	M600	12/2022
END PROJECT	M800	12/2022

10. RISKS

Caltrans Project Delivery Direction PD-09 requires that risk management be applied to all capital outlet projects and major maintenance projects delivered by Caltrans. A risk register has been prepared and is included in Attachment H. While probability and impact vary with each one, these risks require close attention throughout the Project. These risks should be monitored and updated during the PS&E and the construction phases.

11. EXTERNAL AGENCY COORDINATION

Federal Highway Administration (FHWA)

This Project is determined to be a Delegated Project and is administered per the Project Responsibilities List in the Joint Stewardship and Oversight Agreement between FHWA and Caltrans. The Strategic Project Oversight Selection Process flowchart for this Project is shown as Attachment M - FHWA Oversight.

The project requires the following coordination:

State Water Resource Control Board
Clean Water Act, Section 402 NPDES Construction General Permit and Caltrans Statewide Permit

Los Angeles Regional Water Quality Control Board
Clean Water Act, Section 401 Water Quality Certification

UPRR
Encroachment Permit

Ventura County
Right of Way Encroachment Permit

Caltrans
Clean Air Act
Transportation Conformity Determination
Right of Way Encroachment Permit
Cooperative Agreement
National Historic Preservation Act Section 106

City of Oxnard
Right of Way Encroachment Permit

U.S. Department of Conservation
Form AD 1006

12. PROJECT REVIEWS

This Project has been reviewed by the PDT during a series of PDT meetings. All proposed non-standard features are under review by Caltrans. Attachment N includes the advisory non-standard design features requested for approval.

Additional reviews were completed by the following:

Reviewer	Unit	Date
Barnabas Vorreiter	Design C	September 29, 2016 thru May 10, 2018
Susan Tse	Environmental Planning	September 29, 2016 thru May 10, 2018
Ramnik Chabra	Traffic Operations	September 26, 2016

13. PROJECT PERSONNEL

Principal contacts for the Project are as follows:

Justin Link, Transportation Services Managers City of Oxnard	(805) 385-8308
Zareh Shahbazian, Senior Transportation Engineer Caltrans Division of Program/Project Management	(213) 897-4255
Carlos Cadena, Consultant Project Manager WKE, Inc.	(714) 955-7186

Henry Tong, Consultant Engineering Manager WKE, Inc.	(714) 953-1005
John Ballas, Railroad WKE, Inc.	(714) 581-4918
Rich Galvin, Principal Environmental Planner GPA Consulting	(310) 792-2624
Robert McDowell, Right-of-Way Hamner-Jewell & Associates	(805) 658-8844

14. ATTACHMENTS

Attachment A – Vicinity Map (1)

Attachment B – Alternative 2, Option A and Option B Geometrics (45)

Attachment C – Advanced Planning Studies (4)

Attachment D – Project Cost Estimate (40)

Attachment E – Right-of-Way Data Sheet (26)

Attachment F – Right-of-Way Acquisition Exhibits (2)

Attachment G – Storm Water Data Report (Cover Page) (1)

Attachment H – Risk Register (1)

Attachment I – FHWA Air Quality Project Level Conformity Letter (2)

Attachment J – EIR/EA Cover Sheet (1)

Attachment K – Construction Staging Concept Plans (Including Temporary Rail Crossing) (5)

Attachment L – Utility Plans (16)

Attachment M – FHWA Oversight (1)

Attachment N – Fact Sheet for Exceptions to Advisory Design Standards (19)

Attachment O – Value Analysis Report (Cover Page) (1)

Attachment P – Life Cycle Cost Analysis (56)

Attachment Q – Transportation Management Plan Data Sheet (3)

ATTACHMENT A

VICINITY MAP

ATTACHMENT A - VICINITY MAP

ATTACHMENT B

ALTERNATIVE 2 GEOMETRICS

Dist	COUNTY	ROUTE	POST MILES TOTAL	POST MILES PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8			

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OXNARD, CA 93030

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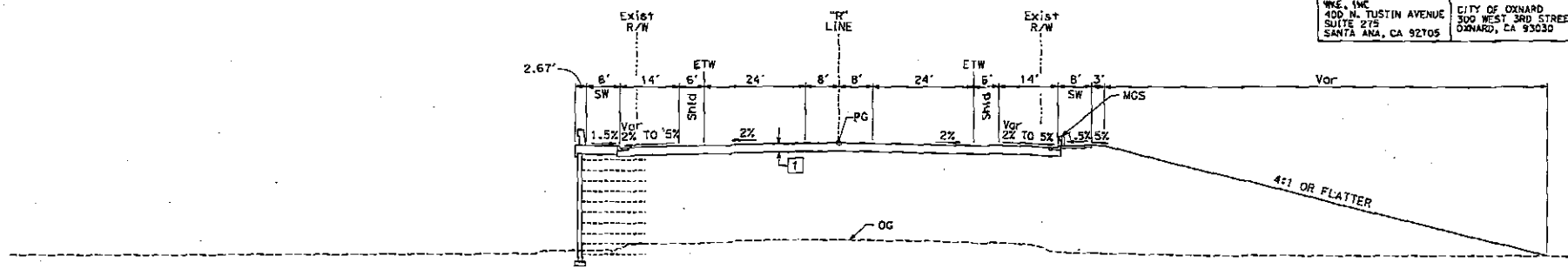
0.38' LCB
0.71' ABCL2



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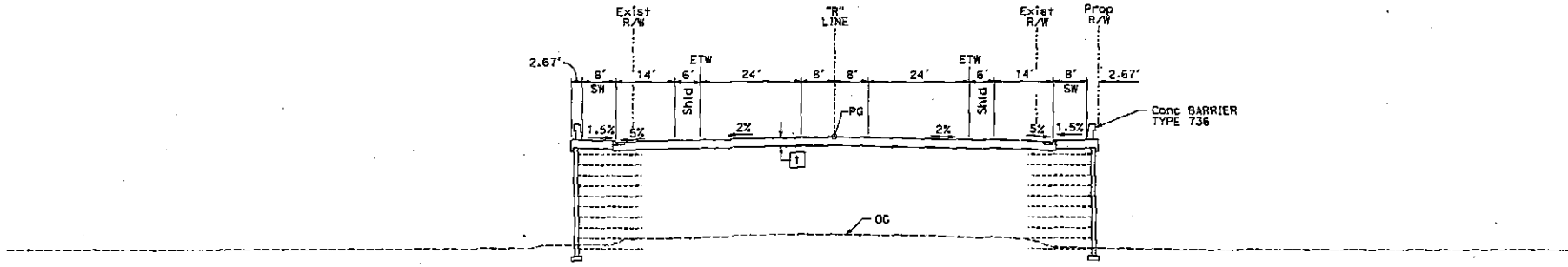

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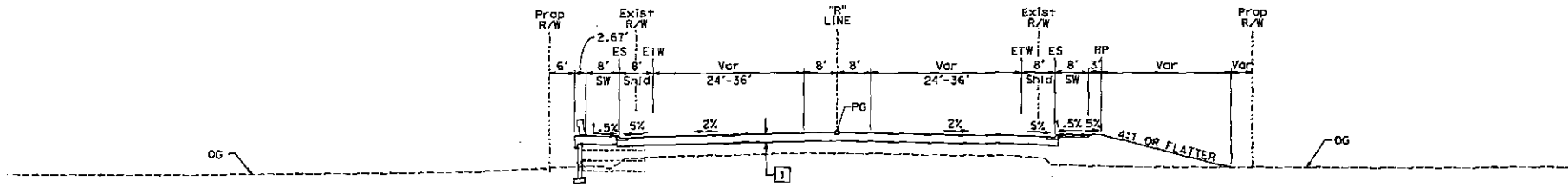

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RICE AVENUE

ALTERNATIVE 2A
TYPICAL CROSS SECTIONS

NO SCALE

X-1

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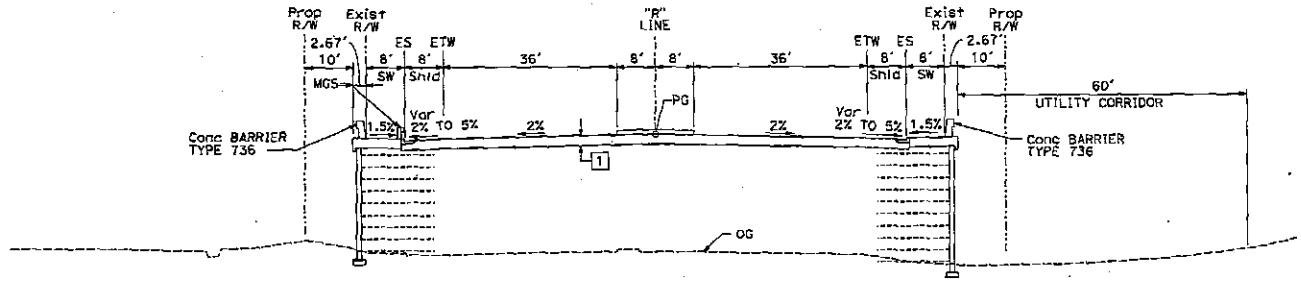

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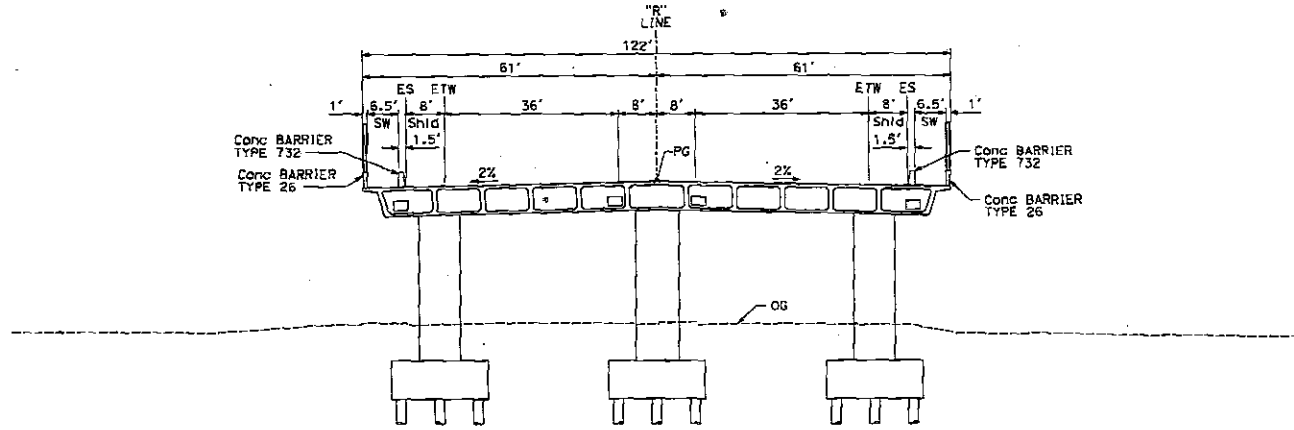

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RICE AVENUE

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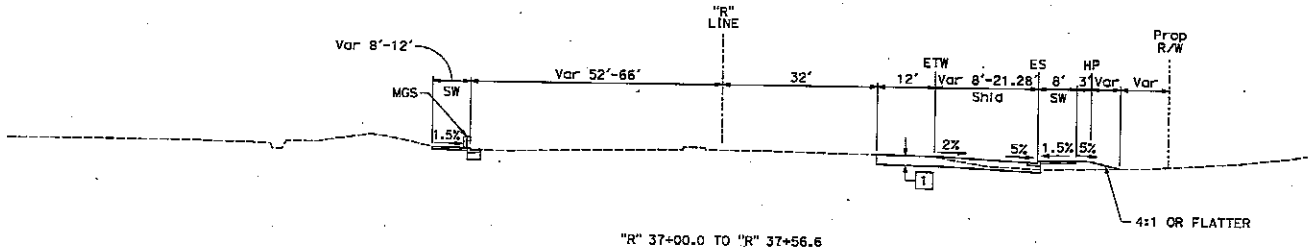

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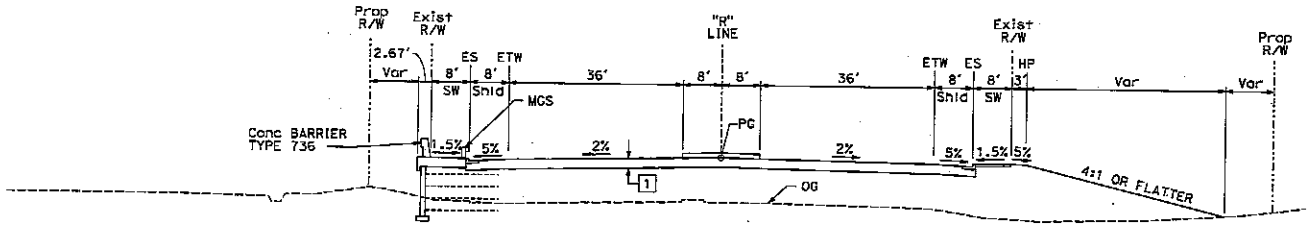

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RICE AVENUE

ALTERNATIVE 2A
TYPICAL CROSS SECTIONS

NO SCALE

X-3

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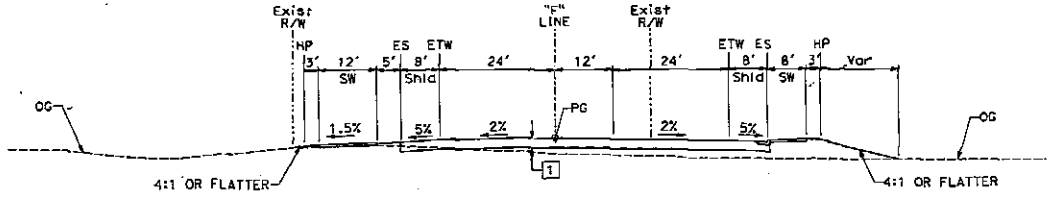

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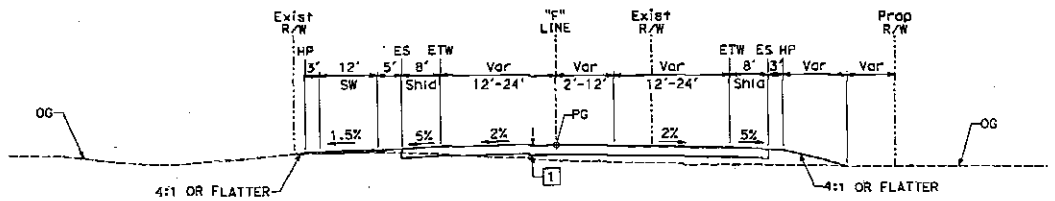

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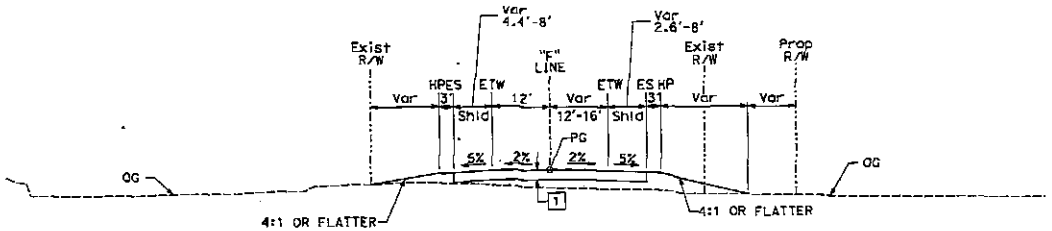

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SR-34/FIFTH STREET

ALTERNATIVE 2A
TYPICAL CROSS SECTIONS

NO SCALE **X-4**

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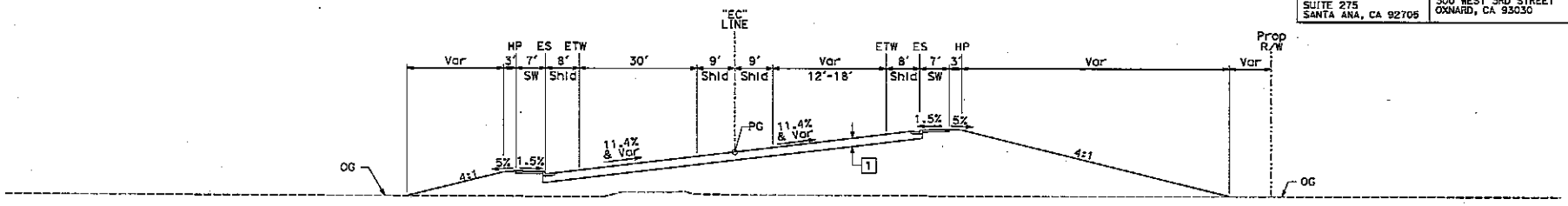

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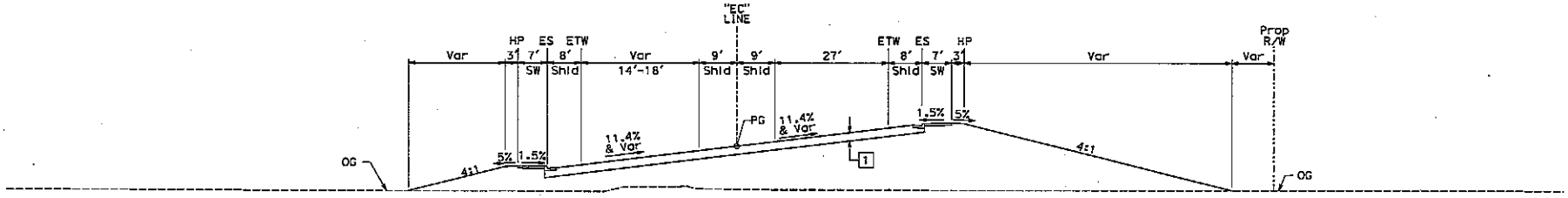
WEST CONNECTOR ROAD



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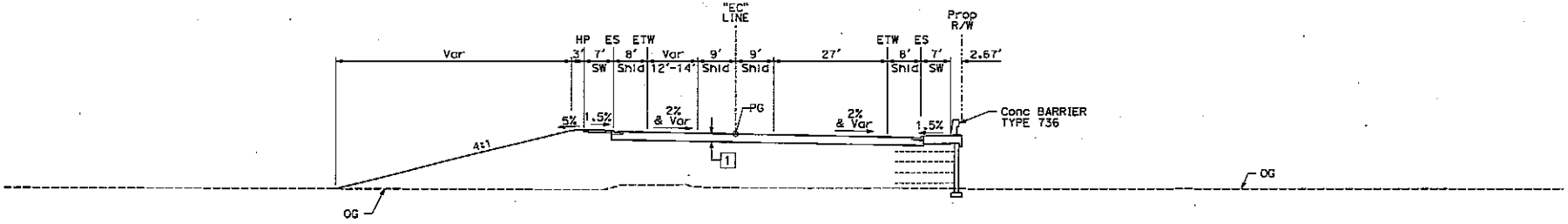

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EAST CONNECTOR ROAD

ALTERNATIVE 2A
TYPICAL CROSS SECTIONS

NO SCALE

X-5

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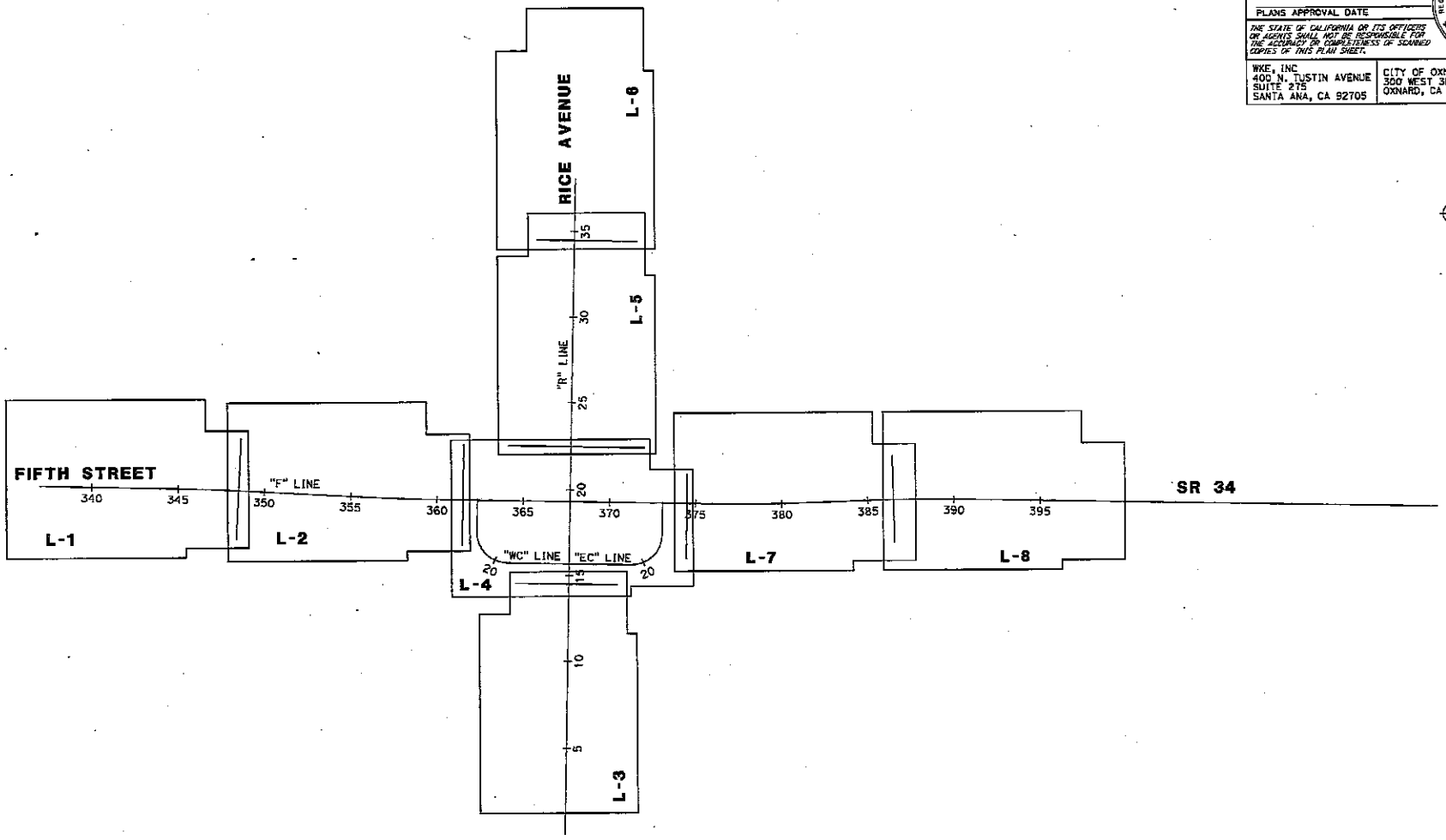

ALTERNATIVE 2A
KEY MAP AND LINE INDEX

NO SCALE

K-1

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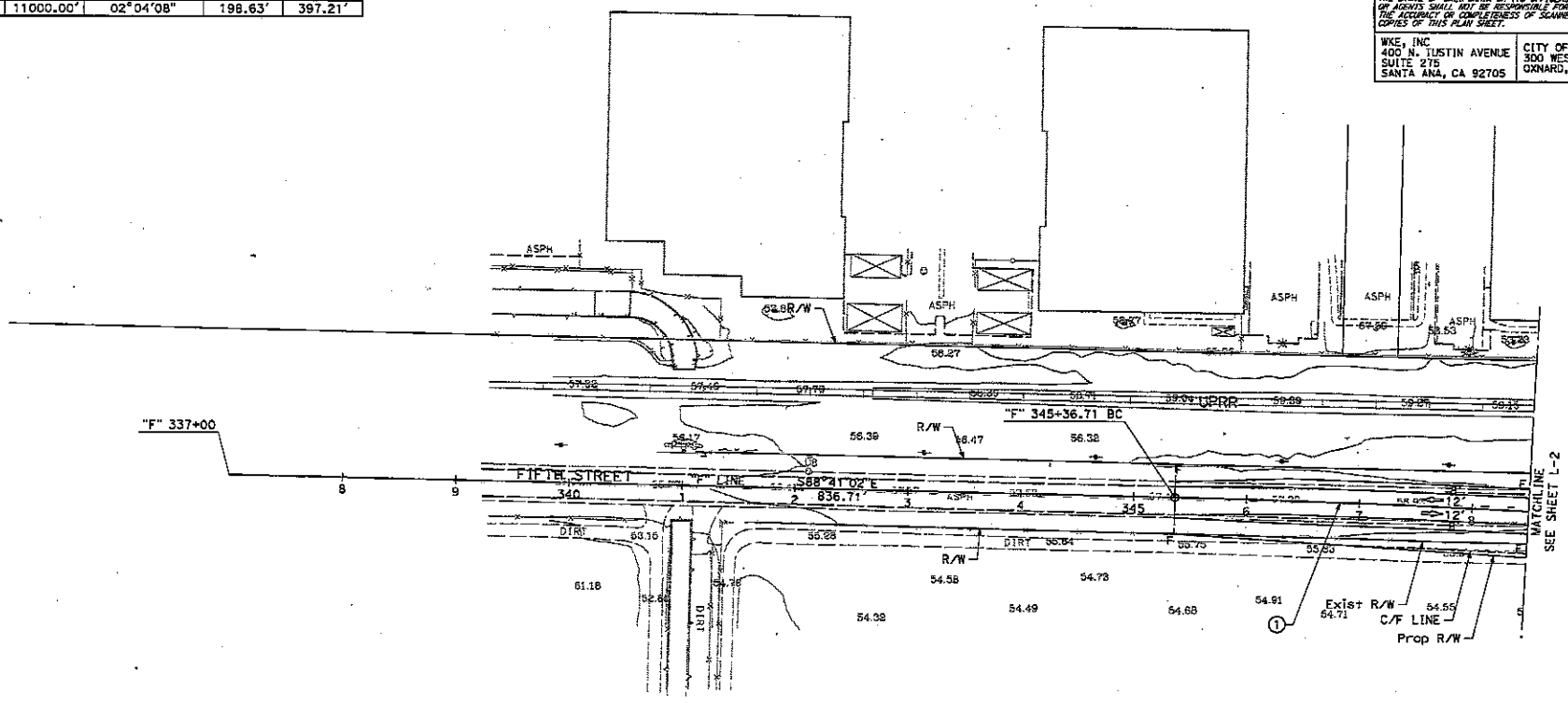
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

CURVE DATA

No.	R	Δ	T	L
(1)	11000.00'	02°04'08"	198.63'	397.21'



ALTERNATIVE 2A LAYOUT

SCALE: 1" = 100'

L-1

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CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 12-APR-2018 | TIME PLOTTED => 08:55

BORDER LAST REVISED 7/2/2010 | USERNAME => HTong | DGN FILE => A1+2a_ea001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

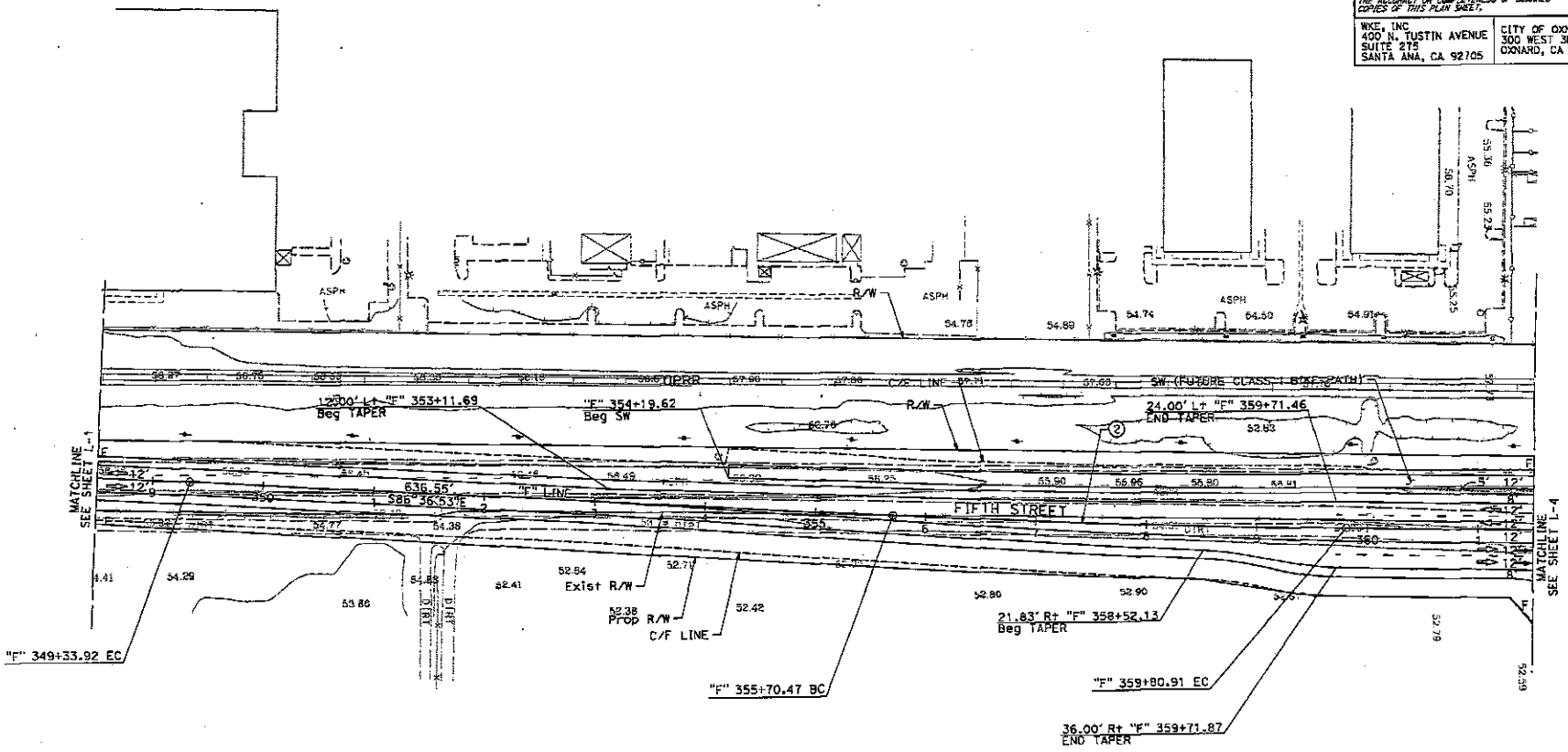
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WKE, INC
400 N. TUSTIN AVENUE
SUITE 215
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



CURVE DATA

No.	R	Δ	T	L
2	11000.00'	02°08'16"	205.24'	410.44'

ALTERNATIVE 2A LAYOUT

SCALE: 1" = 100'

L-2

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CALCULATED-DESIGNED BY | CHECKED BY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR

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BORDER LAST REVISED 7/2/2010 | USERNAME => HTong | DGN FILE => A1+2a_ec002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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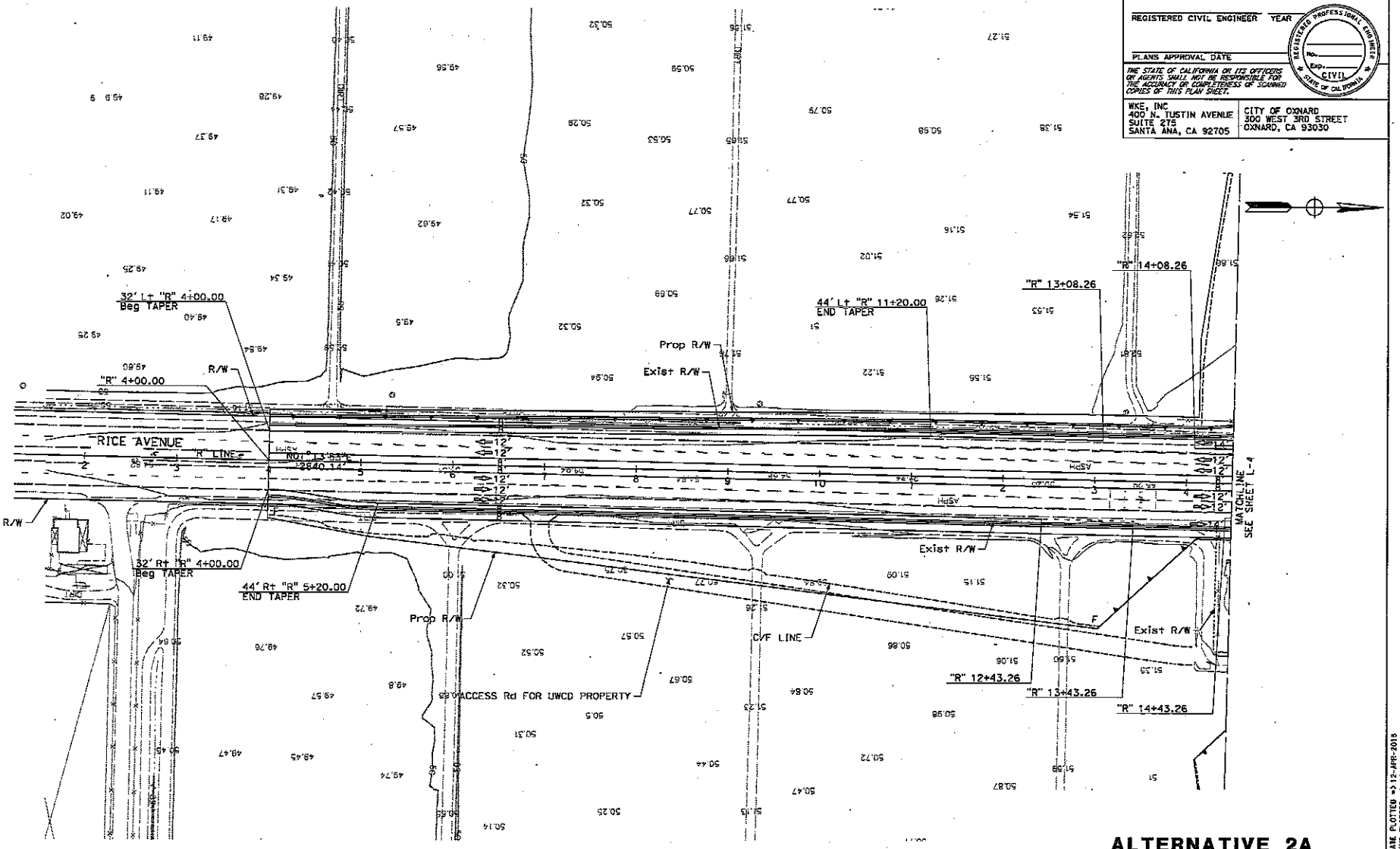
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2A LAYOUT

SCALE: 1" = 100'

L-3

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CALCULATED-DESIGNED BY | CHECKED BY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR

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BORDER LAST REVISED 7/2/2010 | USERNAME => HTong | DGN FILE => A1t2c_ec003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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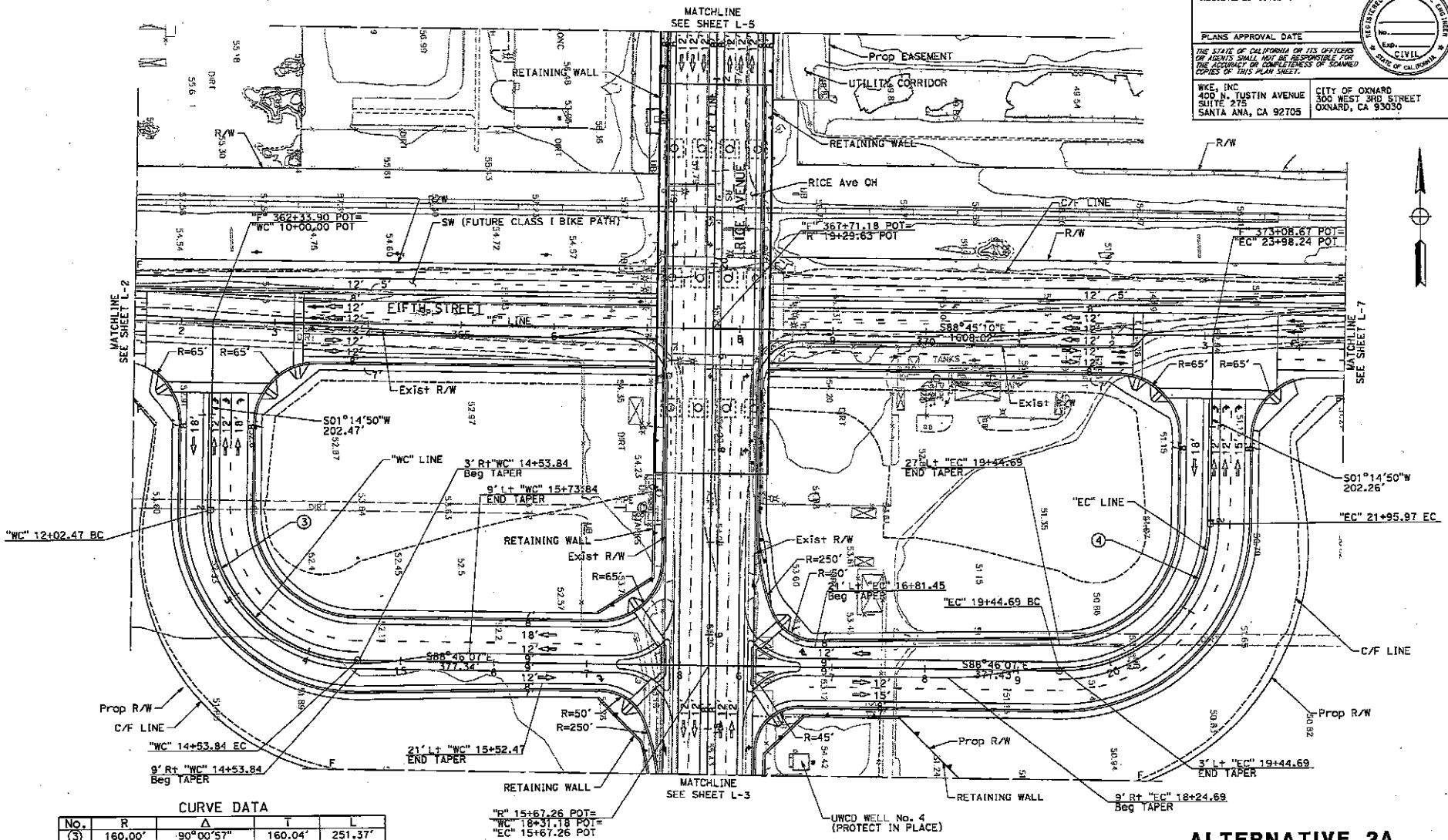
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



CURVE DATA

No.	R	Δ	T	L
3	160.00'	90°00'57"	160.04'	251.37'
4	160.00'	89°59'03"	159.96'	251.28'

ALTERNATIVE 2A LAYOUT

SCALE: 1" = 100'

L-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR

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DATE PLOTTED => 12-APR-2018

TIME PLOTTED => 09:55

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A112c_ec004.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

District	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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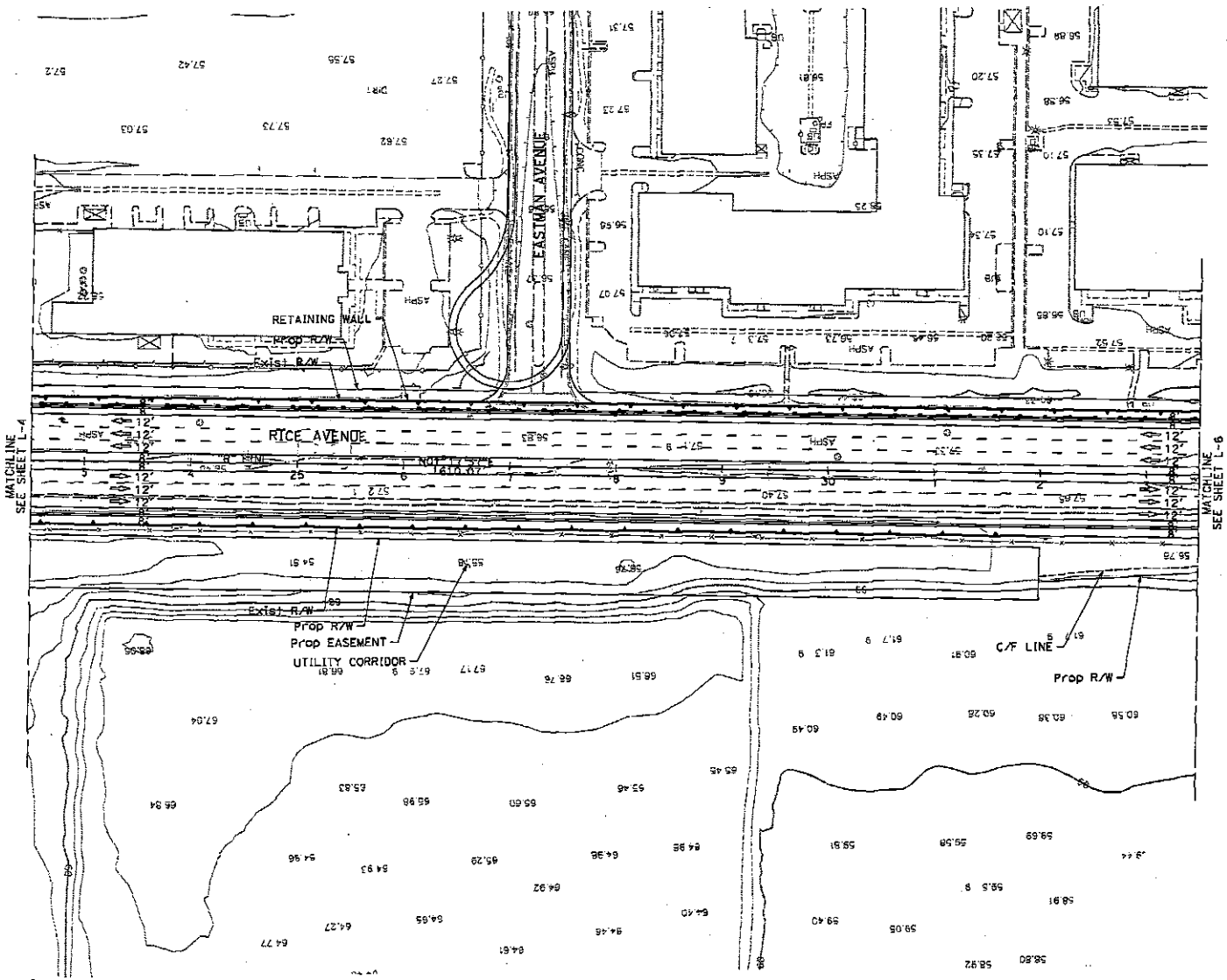
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2A LAYOUT

SCALE: 1" = 100'

L-5

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

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BORDER LAST REVISED 7/2/2010

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DGN FILE => A172c_ac005.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

LAST REVISION 00-00-00 DATE PLOTTED => 12-APR-2018 TIME PLOTTED => 08:55

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. EXP. CIVIL STATE OF CALIFORNIA

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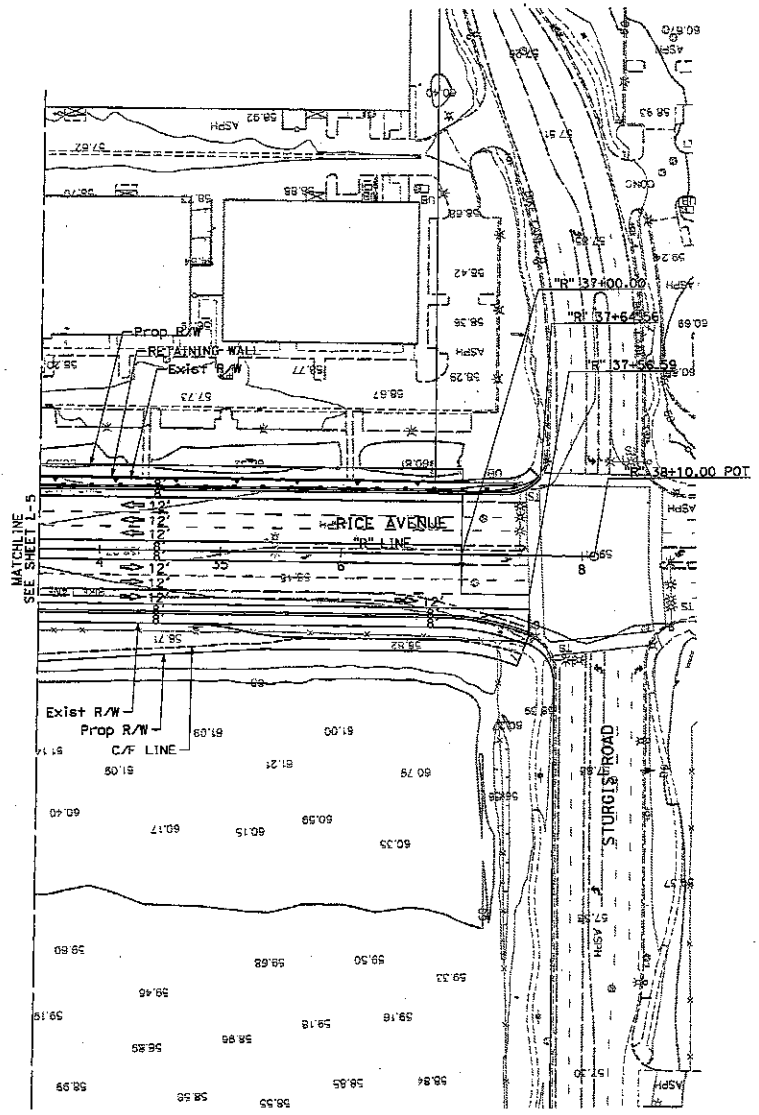
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2A LAYOUT

SCALE: 1" = 100'

L-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1-2a_ea005.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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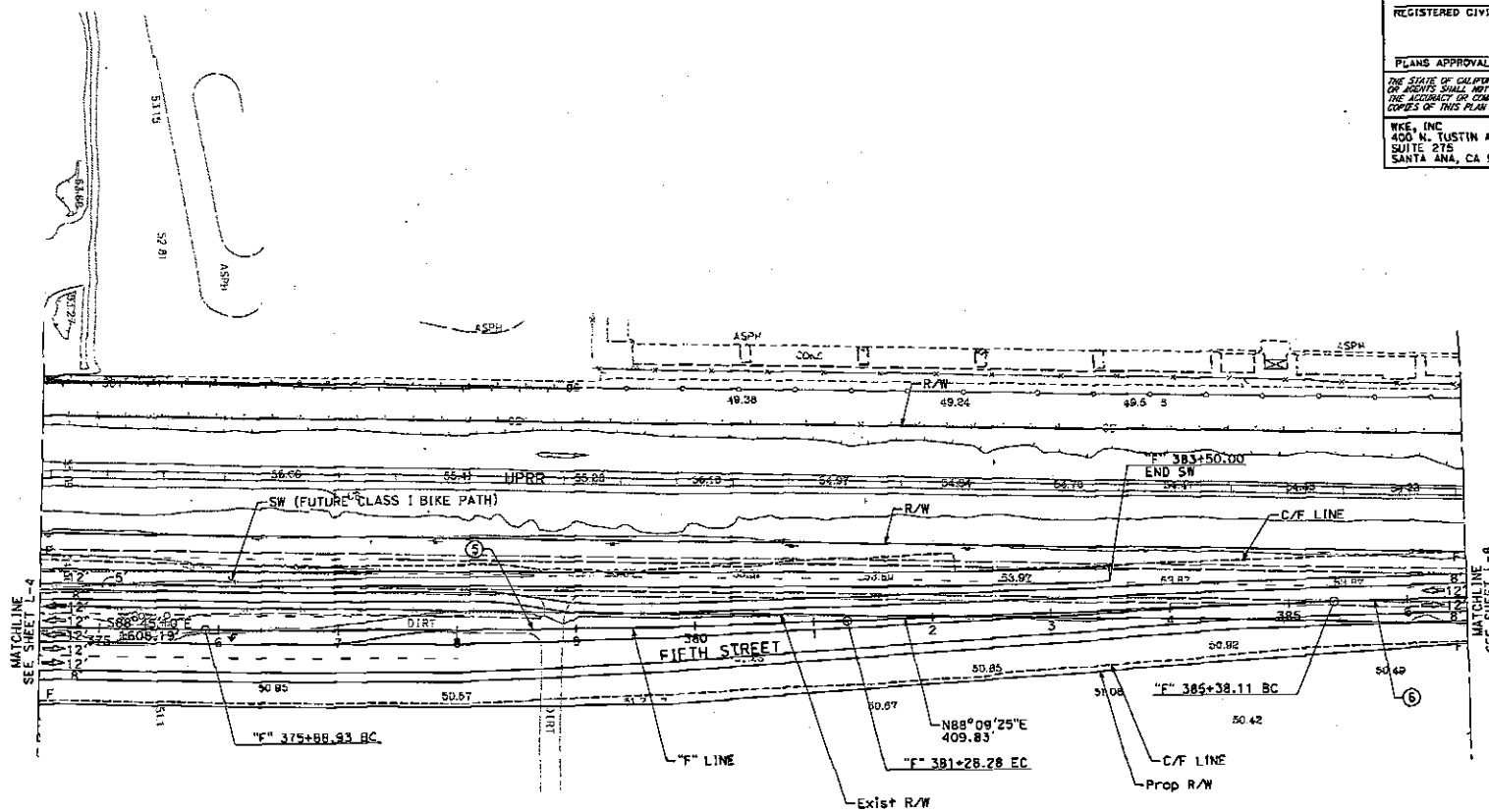
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



CURVE DATA

No.	R	Δ	T	L
5	10000.00'	03°05'25"	269.74'	539.35'
6	10000.00'	03°01'19"	263.78'	527.43'

ALTERNATIVE 2A LAYOUT

SCALE: 1" = 100'

L-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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DATE REVISED

USE REVISION DATE PLOTTED => 12-APR-2018
TIME PLOTTED => 09:56
00-00-00

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1r2a_eg001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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WKE, INC
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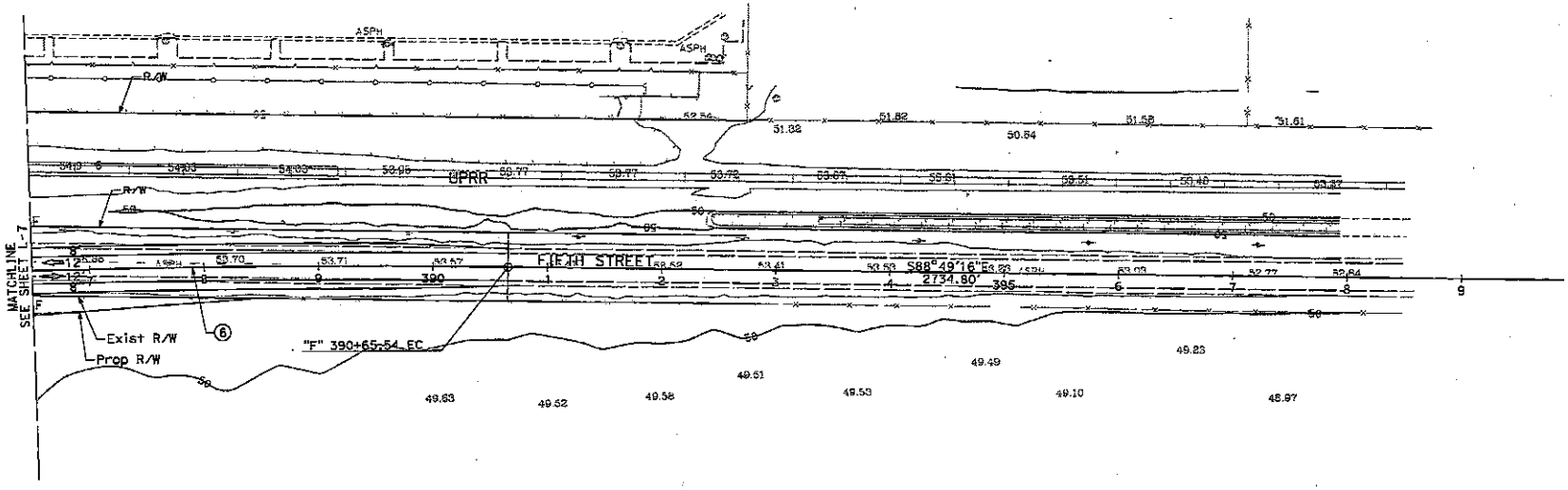
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



CURVE DATA

No.	R	Δ	T	L
6	10000.00'	03°01'19"	263.78'	527.43'

ALTERNATIVE 2A LAYOUT

SCALE: 1" = 100'

L-8

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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BORDER LAST REVISED 7/2/2010 | USERNAME => HTong DGN FILE => A172c_ea008.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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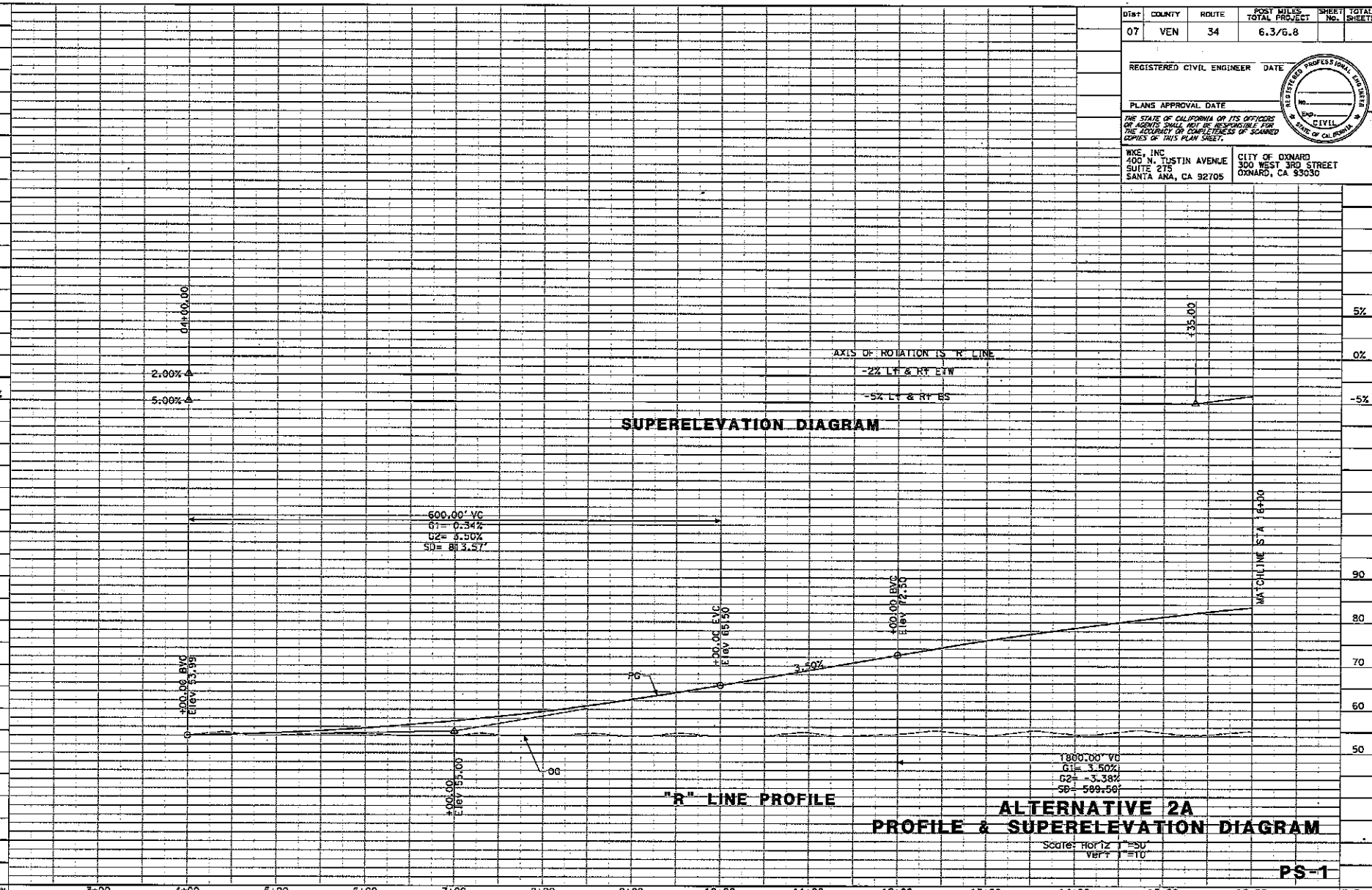
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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CONSULTANT FUNCTIONAL SUPERVISOR

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DATE REVISED

LAST REVISION 00-00-00

DATE PLOTTED => 12-APR-2018

TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1T2a_fb001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

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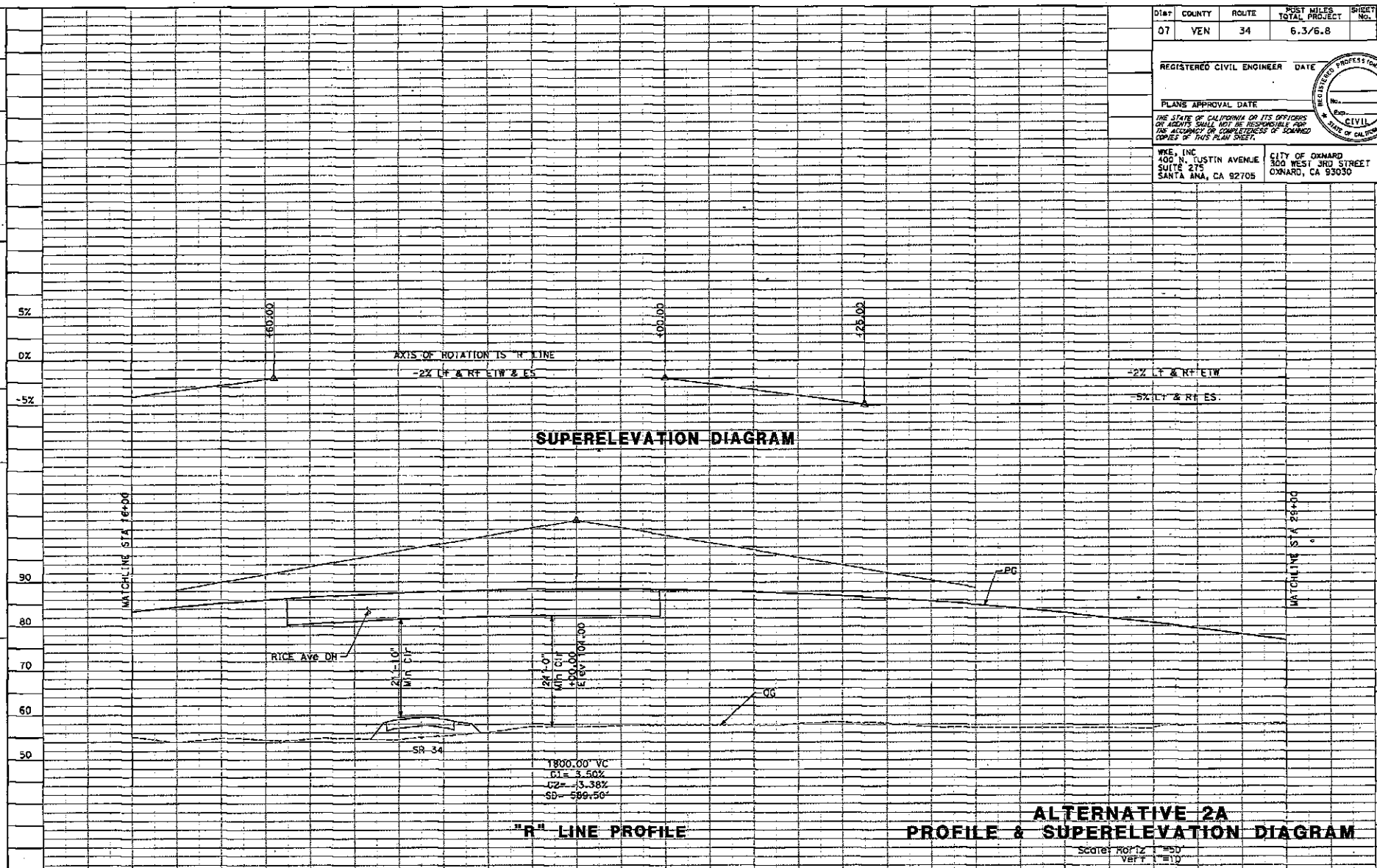
CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans



ALTERNATIVE 2A
PROFILE & SUPERELEVATION DIAGRAM

Scale: Horiz 1"=50'
Vert 1"=10'

PS-2

LAST REVISION | DATE PLOTTED => 12-APR-2018

BORDER LAST REVISED 7/2/2010 | USERNAME => HTong | DGN FILE => A1t2a_fb002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

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PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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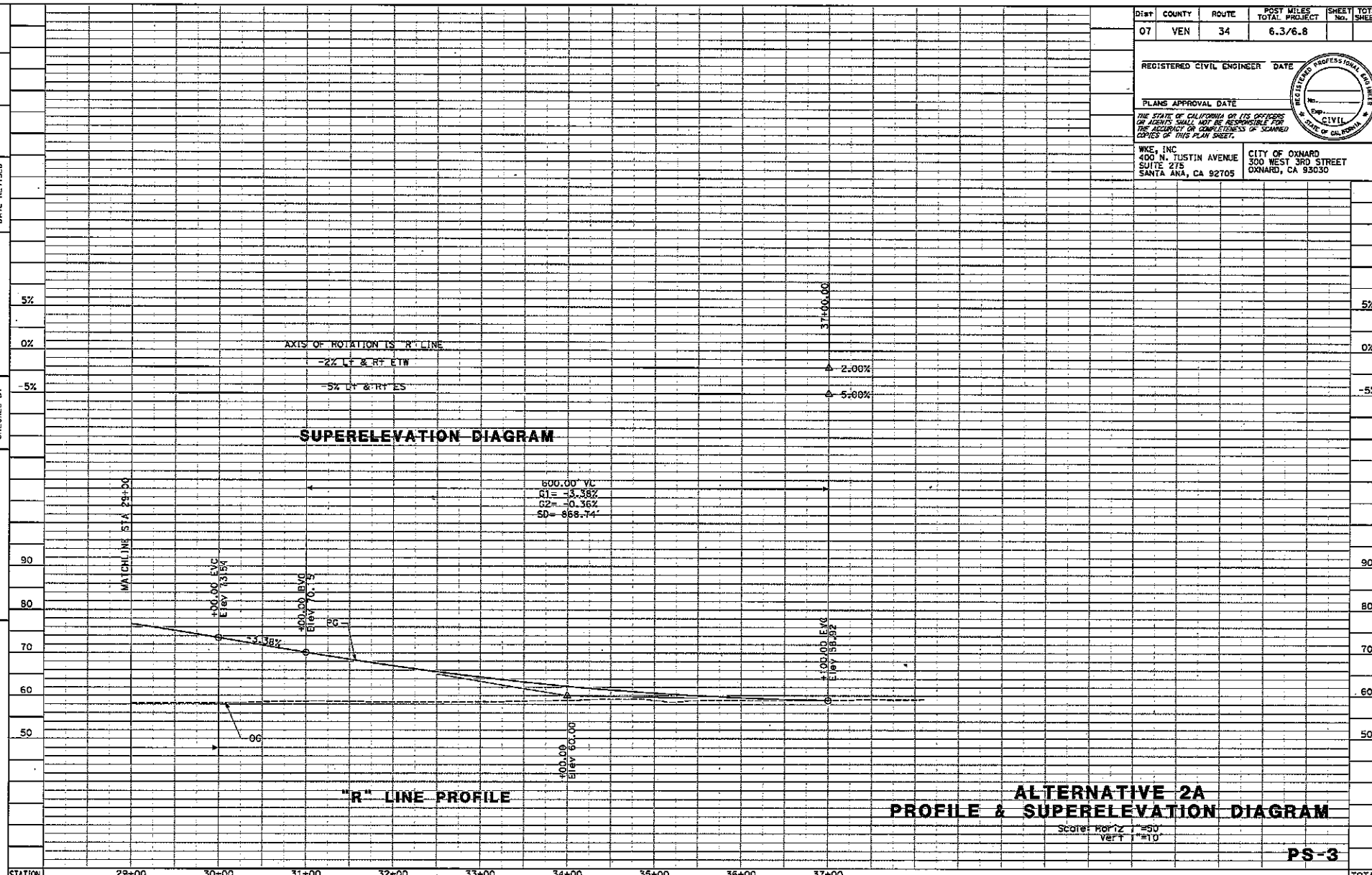
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



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CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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DATE PLOTTED => 12-APR-2018
TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => Alt2a_fp003.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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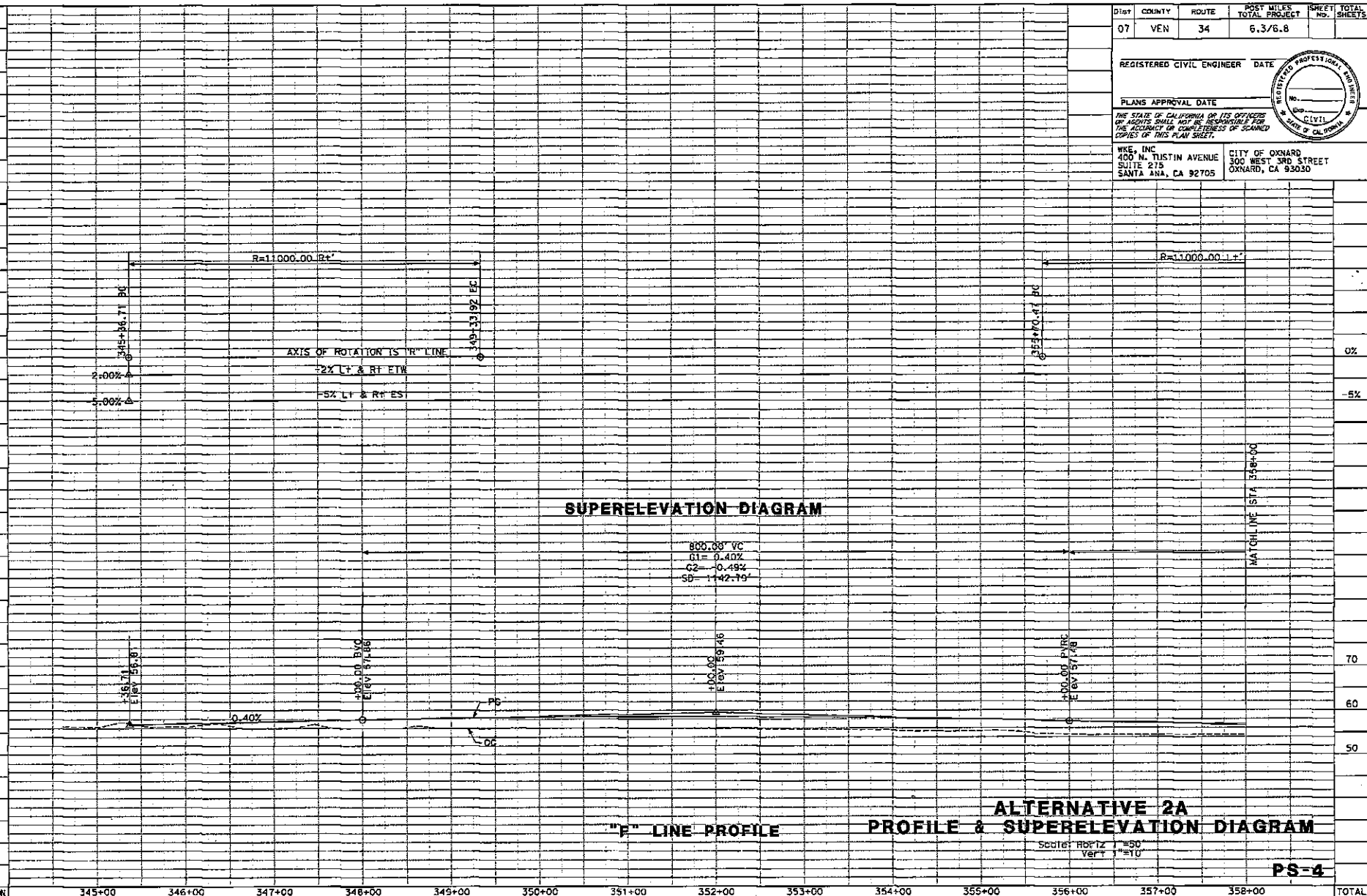
REGISTERED PROFESSIONAL ENGINEER No. CIVIL STATE OF CALIFORNIA

WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2A
PROFILE & SUPERELEVATION DIAGRAM

Scale: Horiz 1"=50'
Vert 1"=10'

PS-4

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 12-APR-2018 | TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010 | USERNAME => HTang | DGN FILE => A172a_fb004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. EXP. CIVIL STATE OF CALIFORNIA

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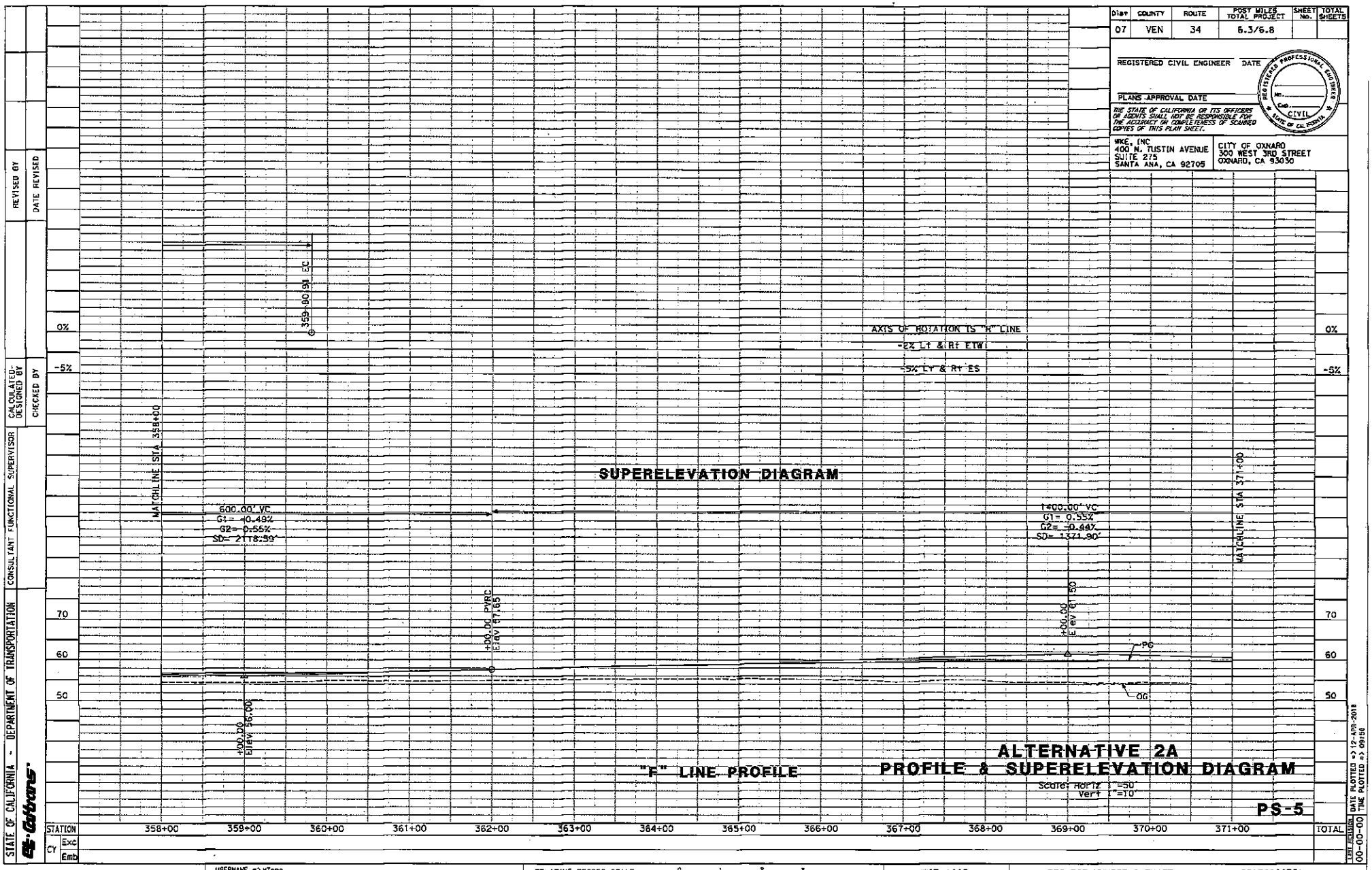
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2A
PROFILE & SUPERELEVATION DIAGRAM

PS-5

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CALCULATED-DESIGNED BY | CHECKED BY

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Caltrans

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DATE PLOTTED => 12-APR-2018
TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => xTong
DGN FILE => a172a_fb005.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. EXP. CIVIL STATE OF CALIFORNIA

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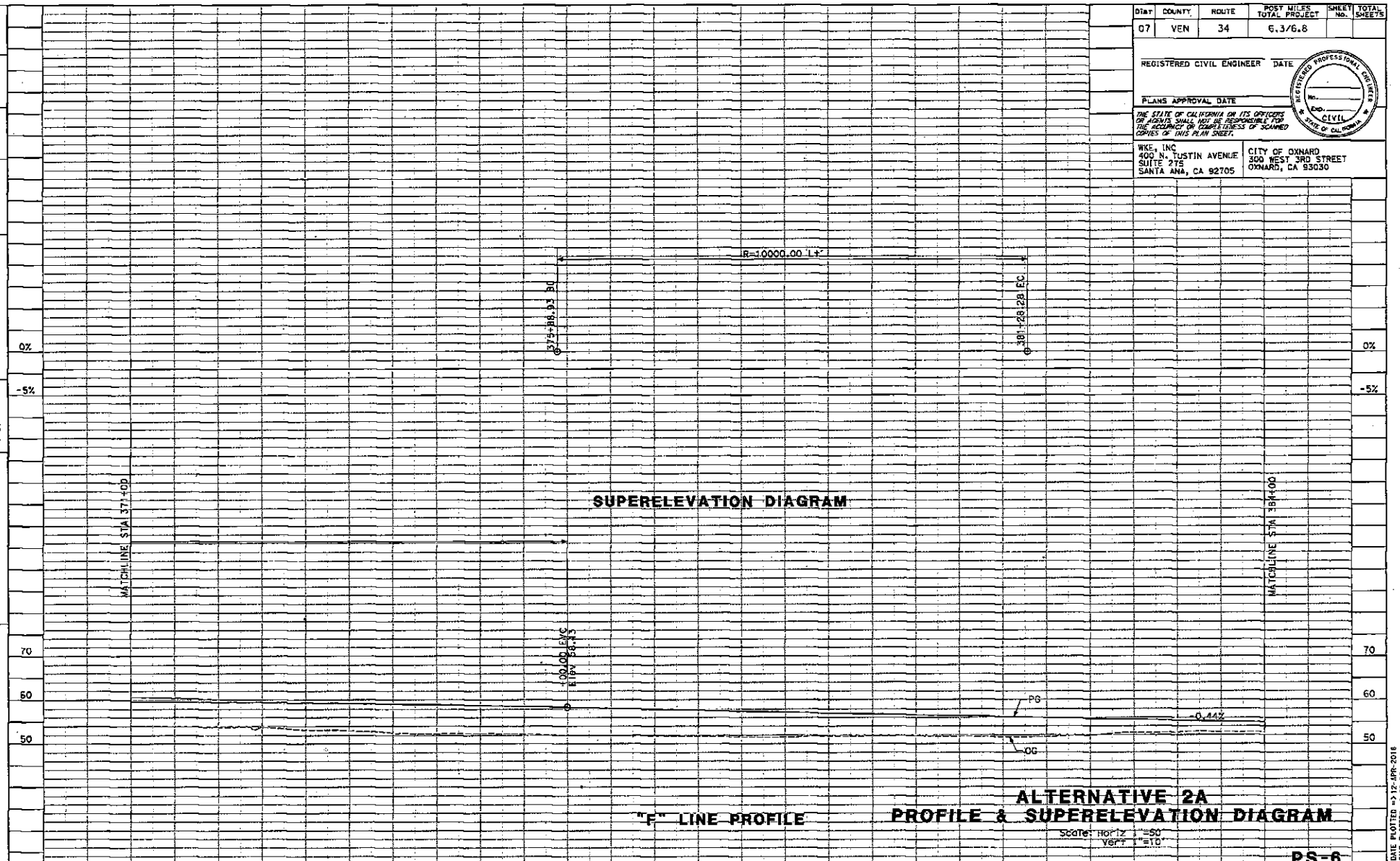
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



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CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION DATE PLOTTED => 12-APR-2016

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1r2a_fb006.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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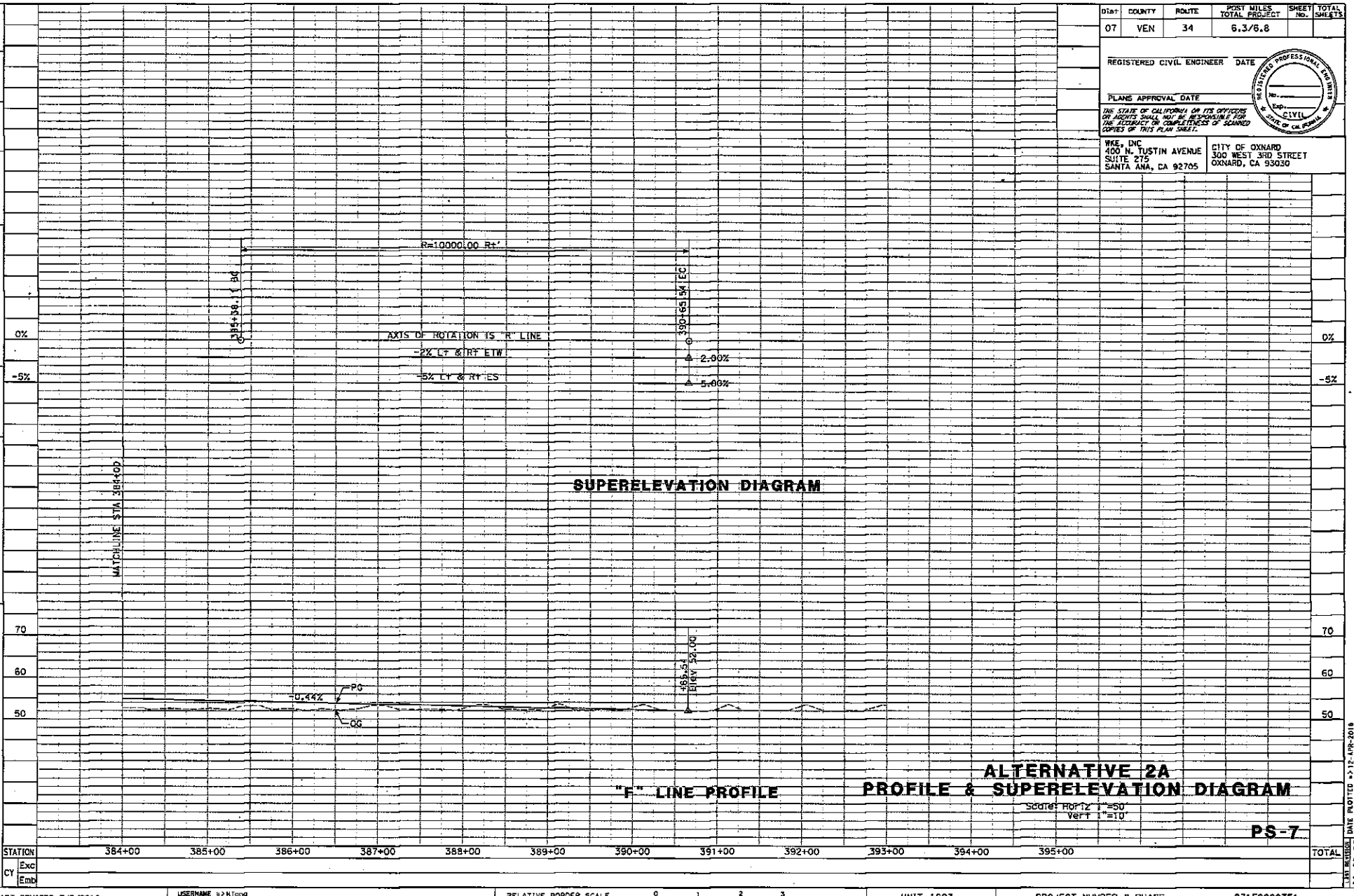
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



"F" LINE PROFILE

ALTERNATIVE 2A
PROFILE & SUPERELEVATION DIAGRAM

Scale: Horiz 1"=50'
Vert 1"=10'

PS-7

REVISED BY
DATE REVISED
CALCULATED-DESIGNED BY
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CONSULTANT FUNCTIONAL SUPERVISOR

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Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 12-APR-2016
TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => NTorvg
DGN FILE => A1t2a_fp007.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

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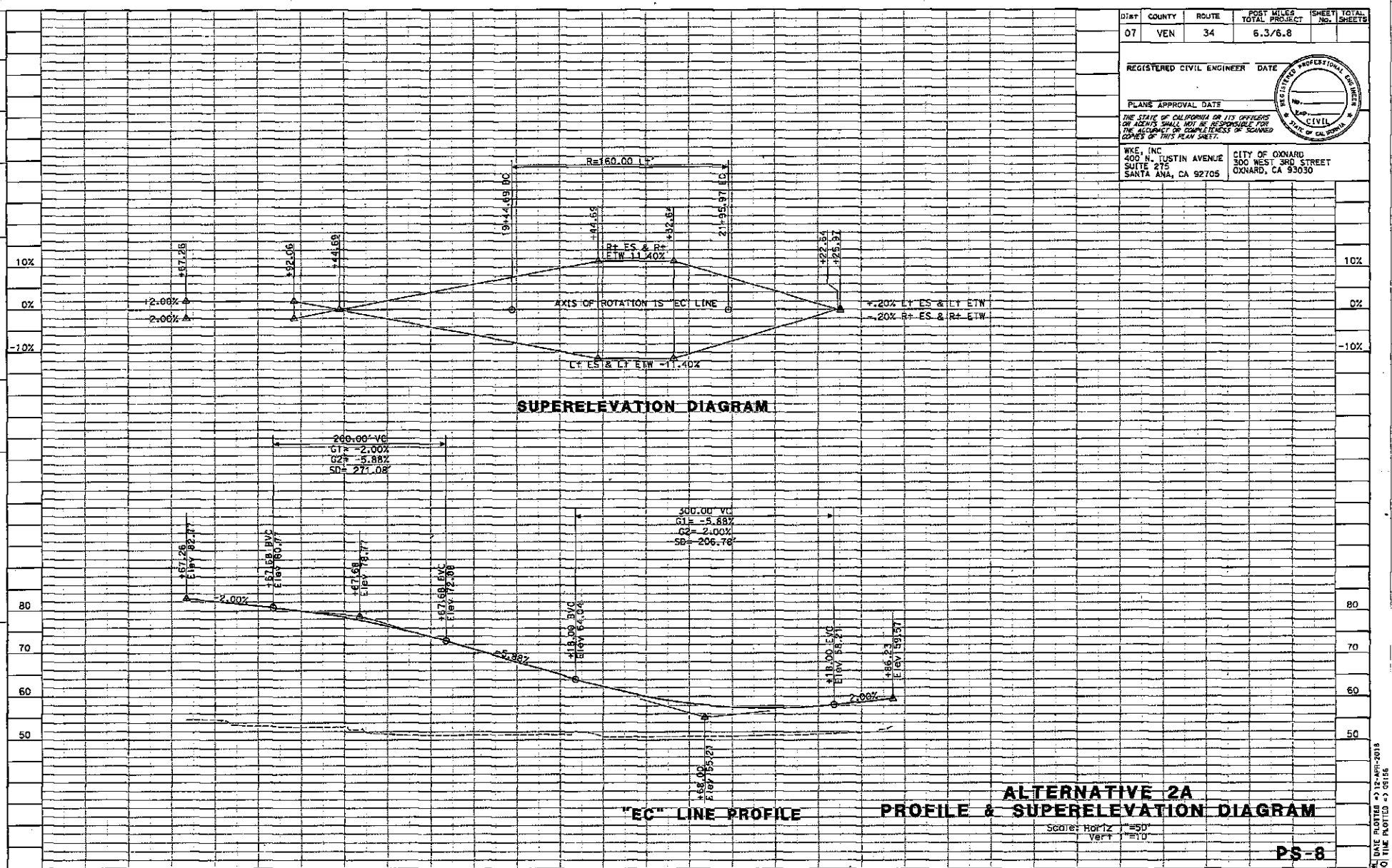
REGISTERED PROFESSIONAL ENGINEER — NO. — EXP. — CIVIL — STATE OF CALIFORNIA

WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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DATE REVISED

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DATE PLOTTED => 12-APR-2018

TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1t2a_fb008.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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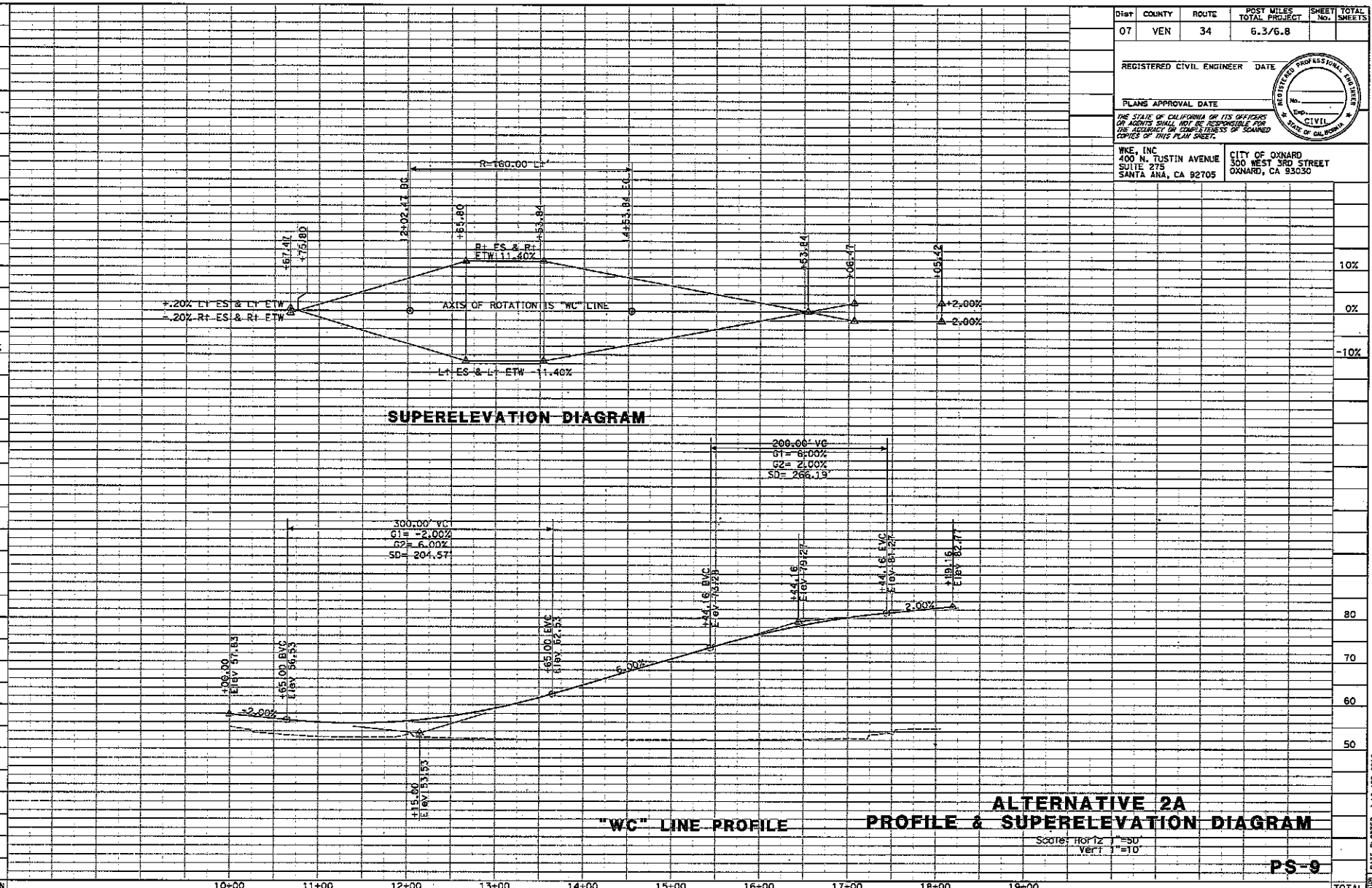
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



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LAST REVISION 00-00-00

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BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1t2g_fb009.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER NO. EXP. CIVIL STATE OF CALIFORNIA

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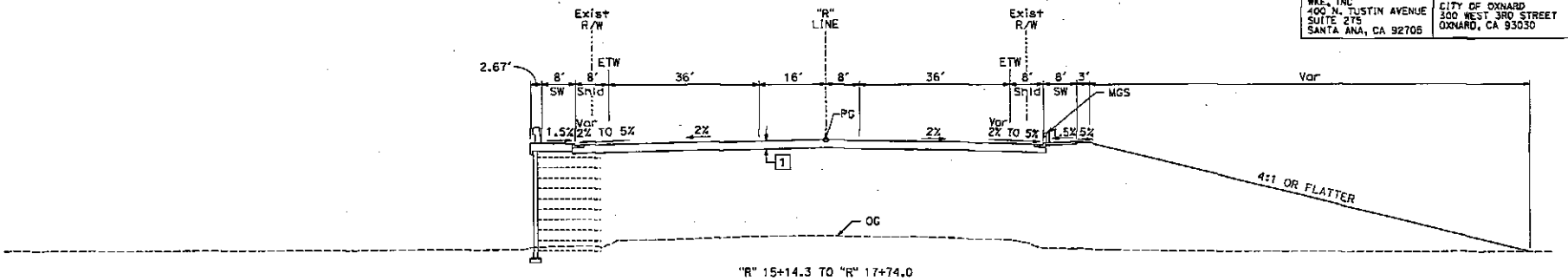
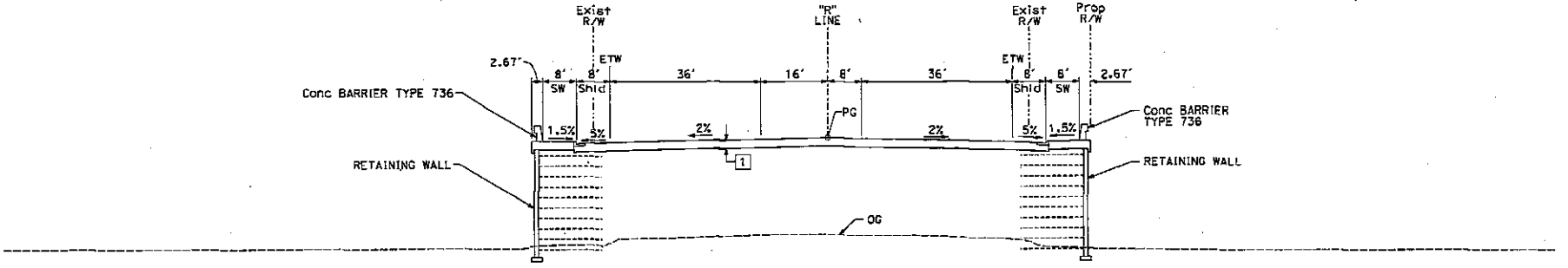
CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

TYPICAL PAVEMENT STRUCTURAL SECTIONS

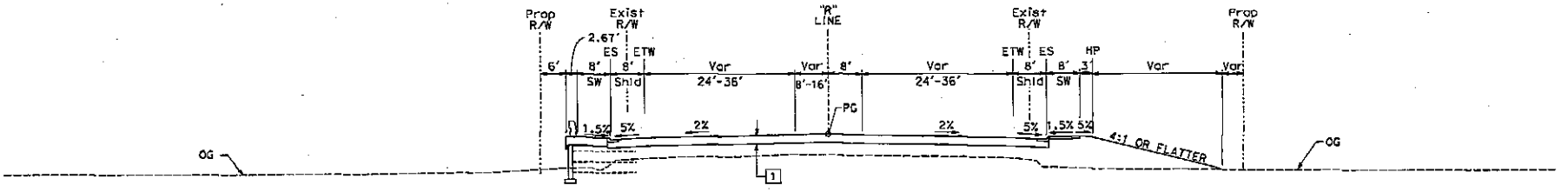
1 — 0.96' JPCP
0.38' LCB
0.71' ABCL2



"R" 15+14.3 TO "R" 17+74.0



"R" 14+12.0 TO "R" 15+14.3



"R" 4+00.0 TO "R" 14+12.0

RICE AVENUE

ALTERNATIVE 2B
TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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BORDER LAST REVISED 7/2/2010

USERNAME => KTong
DGN FILE => A172b_co001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

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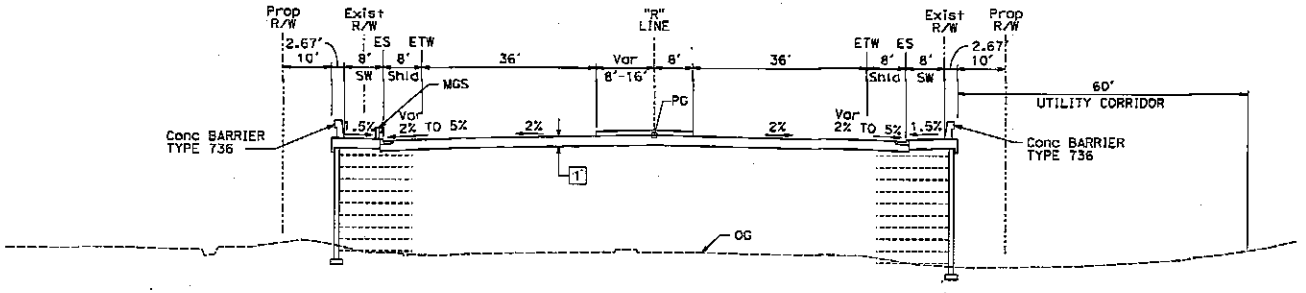
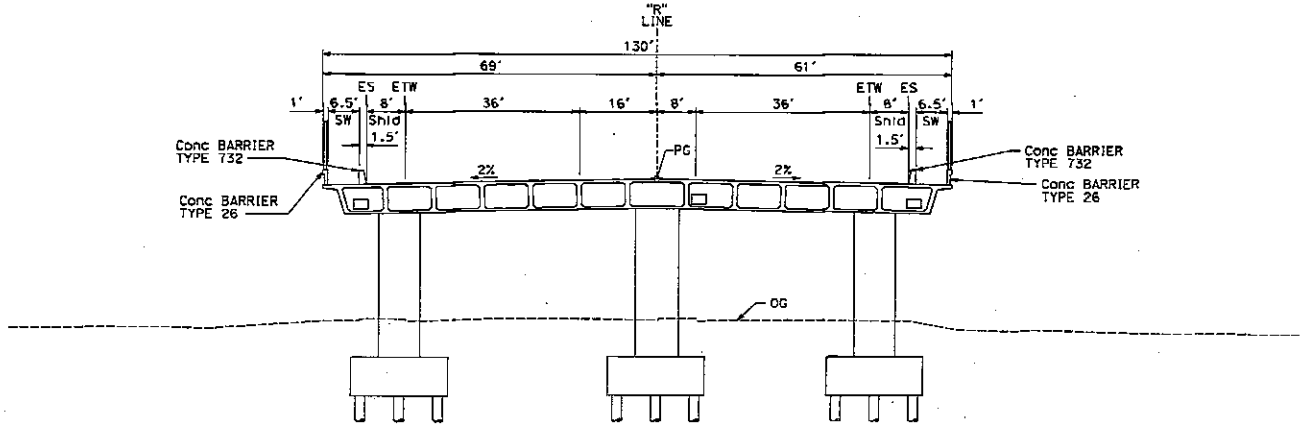
OXNARD, CA 93030



"R" 21+94.0 TO "R" 32+00.0



"R" 17+74.0 TO "R" 21+94.0

RICE AVENUE

ALTERNATIVE 2B
TYPICAL CROSS SECTIONS

NO SCALE

X-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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DGN FILE => A1Y2P_00002.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

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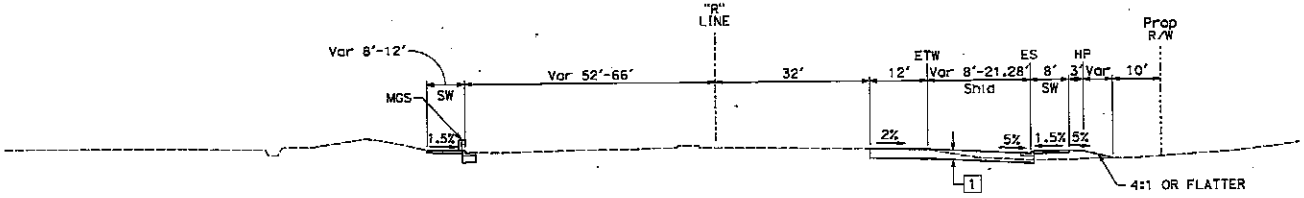
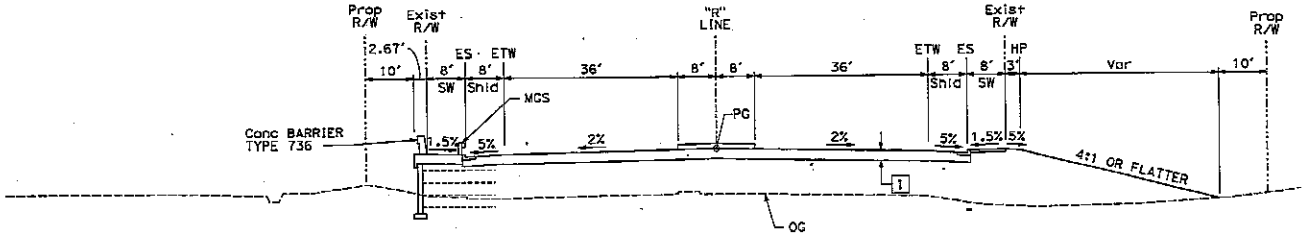
OXNARD, CA 93030



"R" 37+00.0 TO "R" 37+56.6



"R" 32+00.0 TO "R" 37+00.0

RICE AVENUE

ALTERNATIVE 2B
TYPICAL CROSS SECTIONS

NO SCALE

X-3

REVISED BY	DATE REVISED

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

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WKE, INC
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SANTA ANA, CA 92705

CITY OF OXNARD
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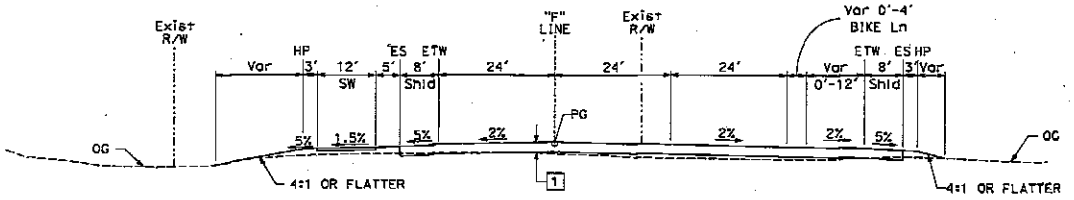
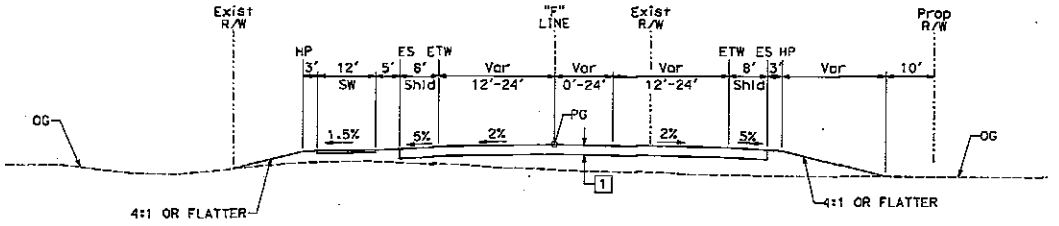
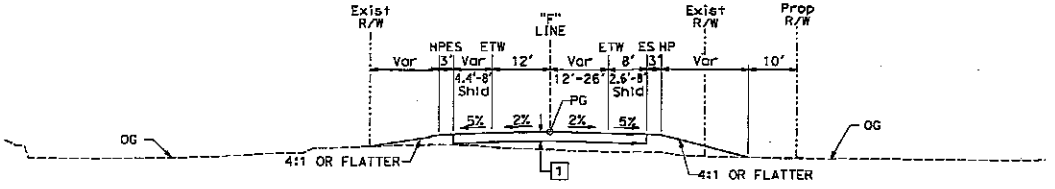
OXNARD, CA 93030



"F" 368+31.4 TO "F" 372+21.8



"F" 354+20.0 TO "F" 368+31.4
"F" 373+81.7 TO "F" 383+50.0



"F" 345+36.7 TO "F" 354+20.0
"F" 383+50.0 TO "F" 390+65.54

SR-34/FIFTH STREET

ALTERNATIVE 2B
TYPICAL CROSS SECTIONS

NO SCALE

X-4

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

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LAST REVISION 00-00-00 | DATE PLOTTED => 15-APR-2010 | TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010 | USERNAME => HTong | DGN FILE => A1t2b_cc004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		-

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

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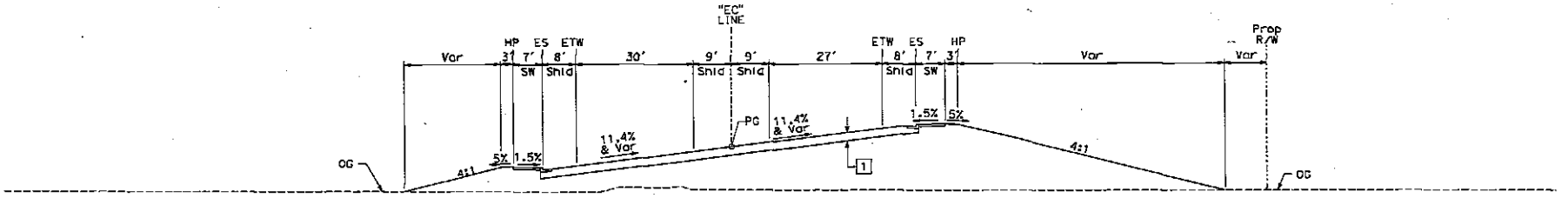
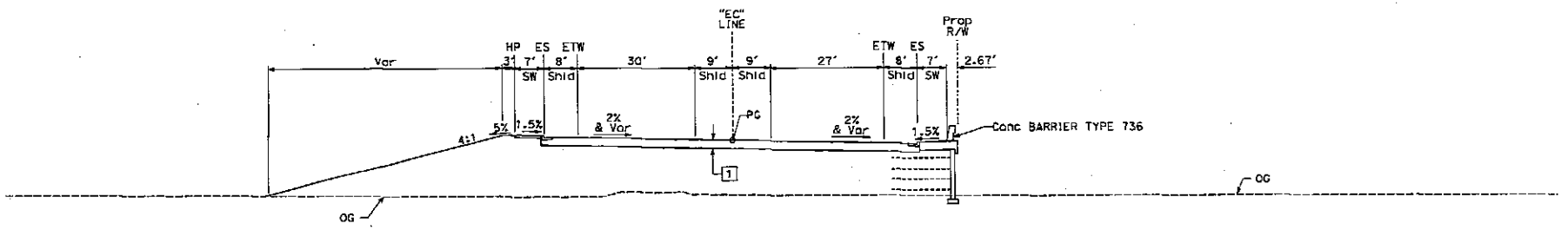
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



"EC" 17+73.6 TO "EC" 23+06.3



"EC" 16+52.4 TO "EC" 17+73.6

EAST CONNECTOR ROAD

ALTERNATIVE 2B
TYPICAL CROSS SECTIONS

NO SCALE

X-5

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BORDER LAST REVISED 7/2/2010 | USERNAME => HTong DGN FILE => A1t2b_co005.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

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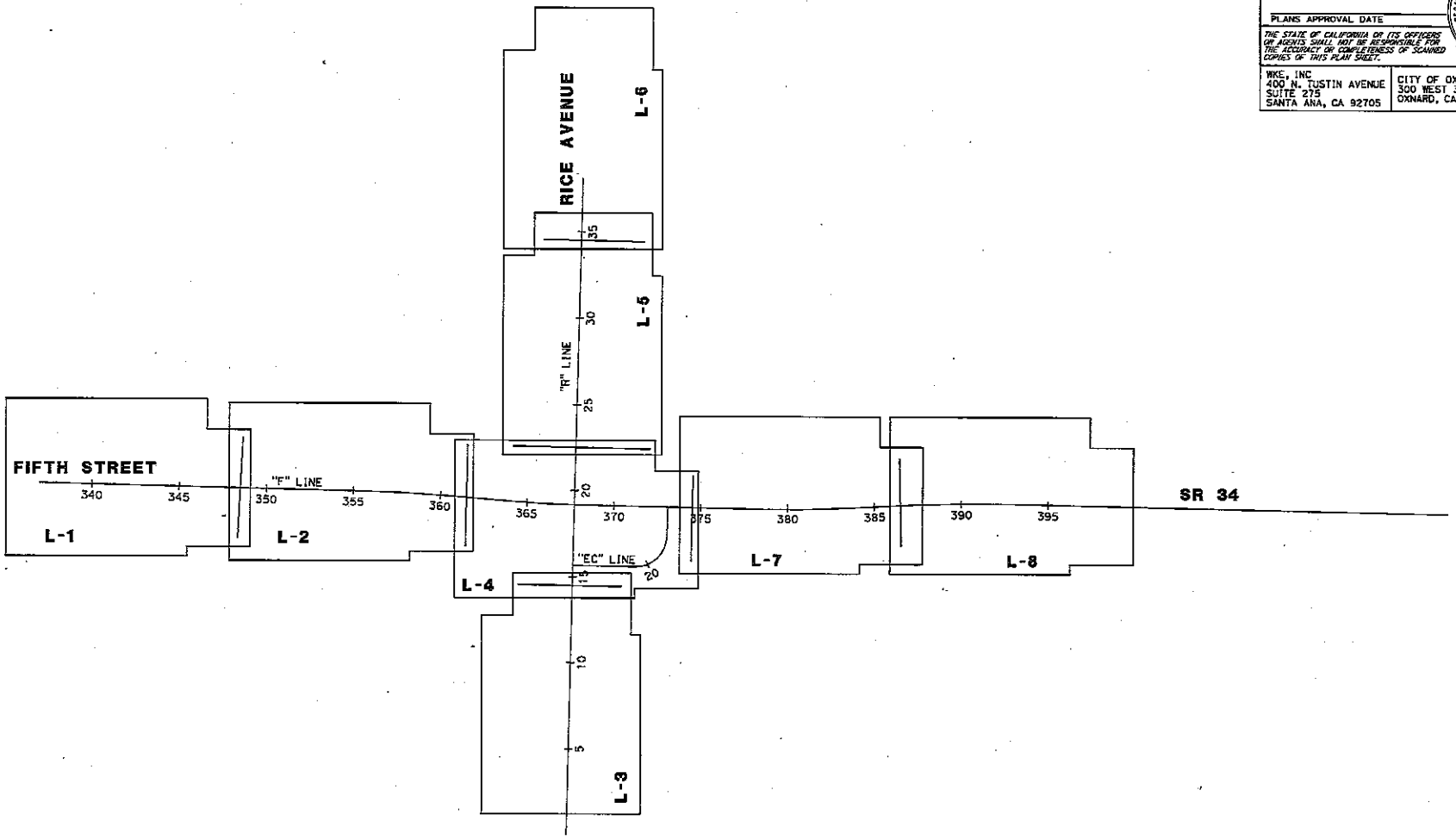
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2B
KEY MAP AND LINE INDEX

NO SCALE

K-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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DATE REVISED

LAST REVISION 00-00-00

DATE PLOTTED => 12-APR-2018
TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1K2B_00001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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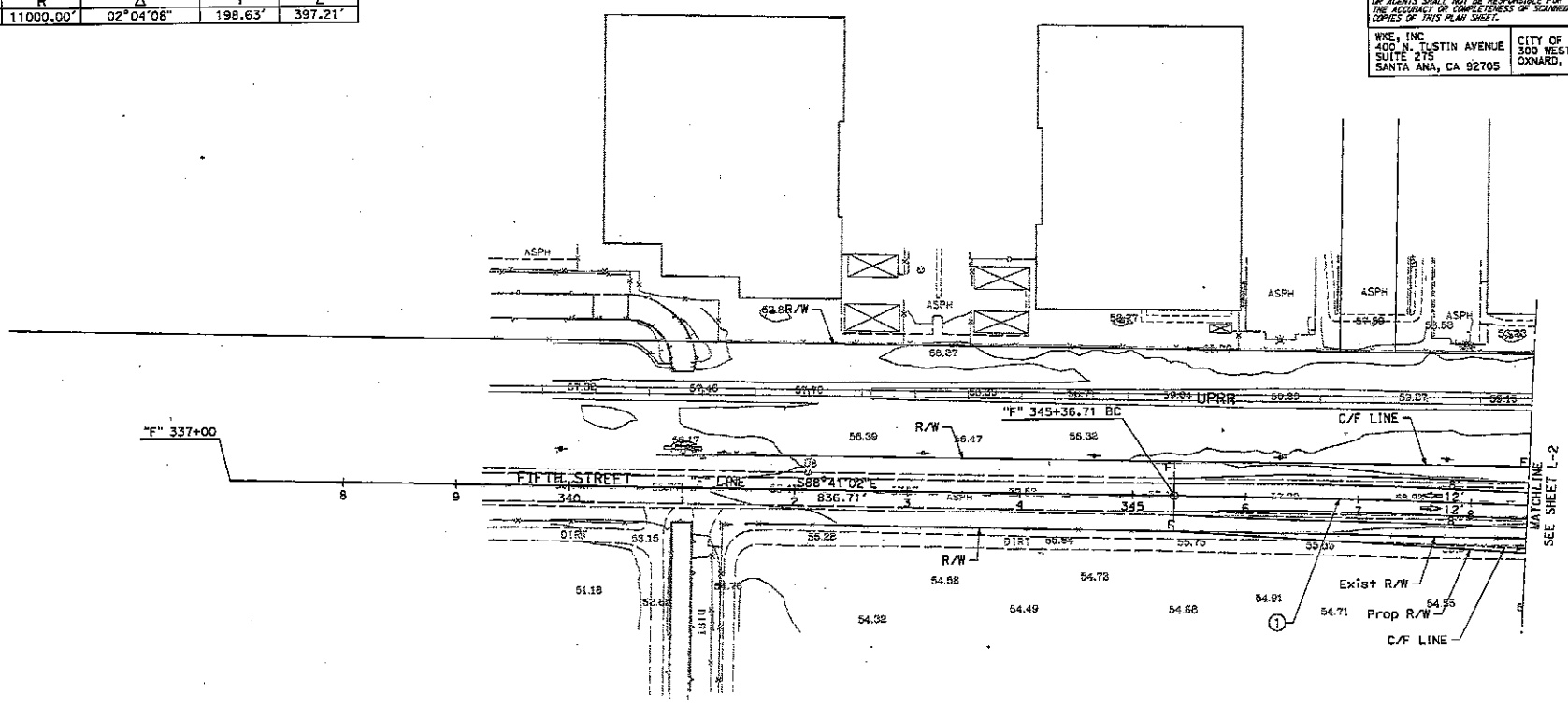
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

CURVE DATA

No.	R	Δ	T	L
(1)	11000.00'	02°04'08"	198.63'	397.21'



ALTERNATIVE 2B LAYOUT

SCALE: 1" = 100'

L-1

REVISED BY | DATE REVISED | CALCULATED-DESIGNED BY | CHECKED BY | CONSULTANT FUNCTIONAL SUPERVISOR

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LAST REVISION 00-00-00 | DATE PLOTTED => 12-APR-2016 | TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010 | USERNAME => HTong | DGN FILE => A112b_ed001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

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PLANS APPROVAL DATE

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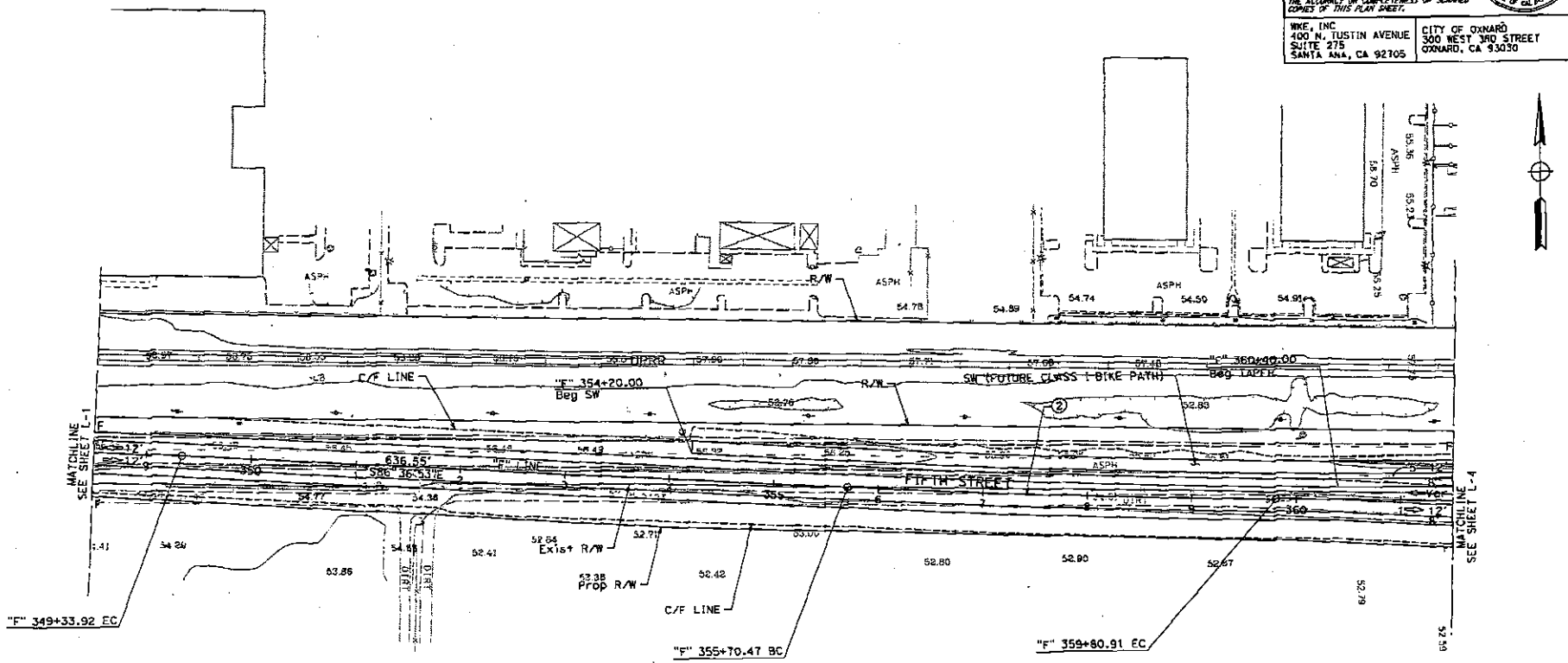

CURVE DATA

No.	R	Δ	T	L
(2)	11000.00'	02°08'16"	205.24'	410.44'

ALTERNATIVE 2B LAYOUT

SCALE: 1" = 100'

L-2

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DATE REVISED

BORDER LAST REVISED 7/2/2010

USERNAME => KTong
DGN FILE => A1V2D_wp00E.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

LAST REVISION 00-00-00

DATE PLOTTED => 12-APR-2019
TIME PLOTTED => 09:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

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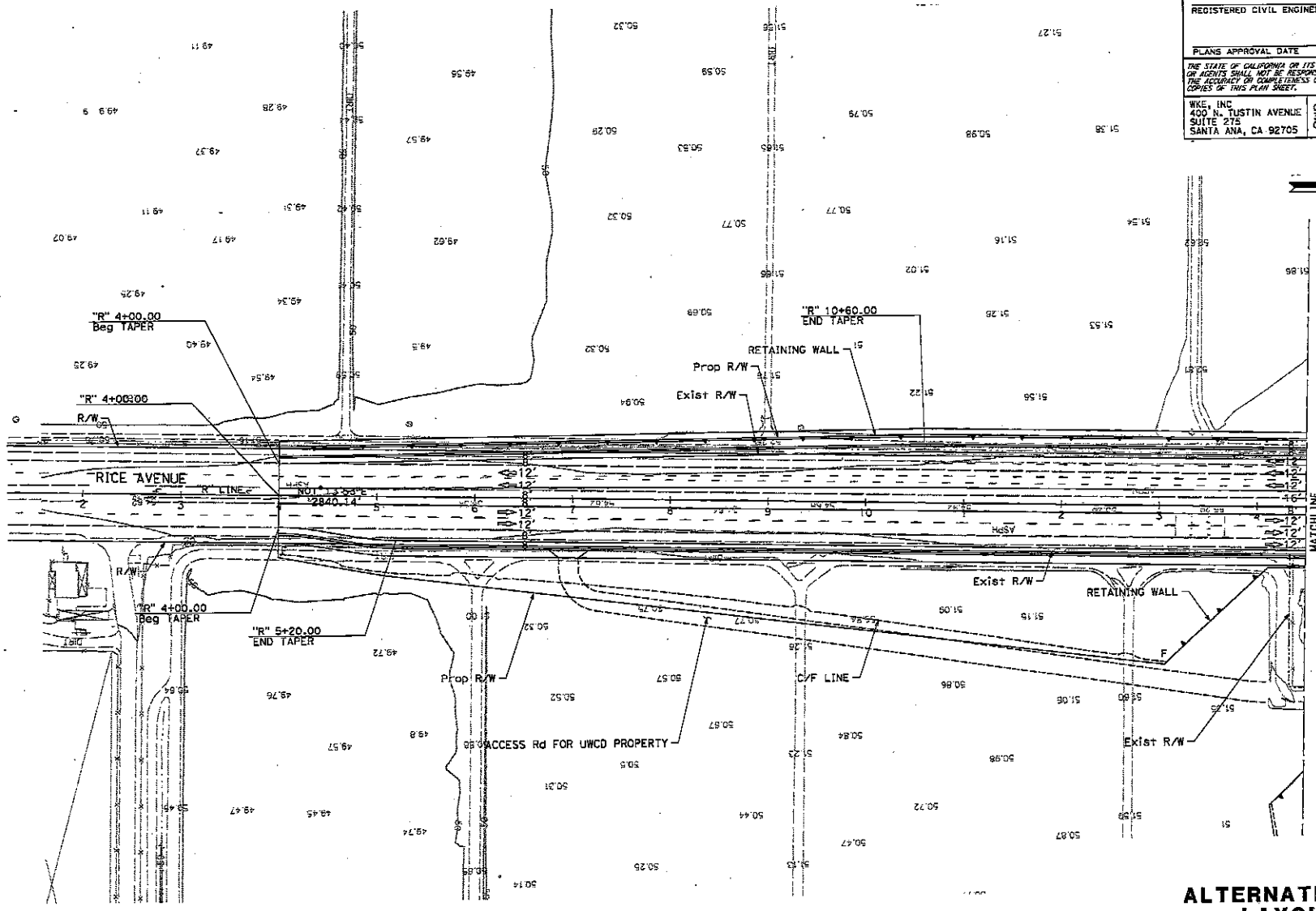

ALTERNATIVE 2B LAYOUT

SCALE: 1" = 100'

L-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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USERNAME => HYong
DGN FILE => A1t2b_e0003.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

LAST REVISION 00-00-00

DATE PLOTTED => 12-APR-2019
TIME PLOTTED => 09:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

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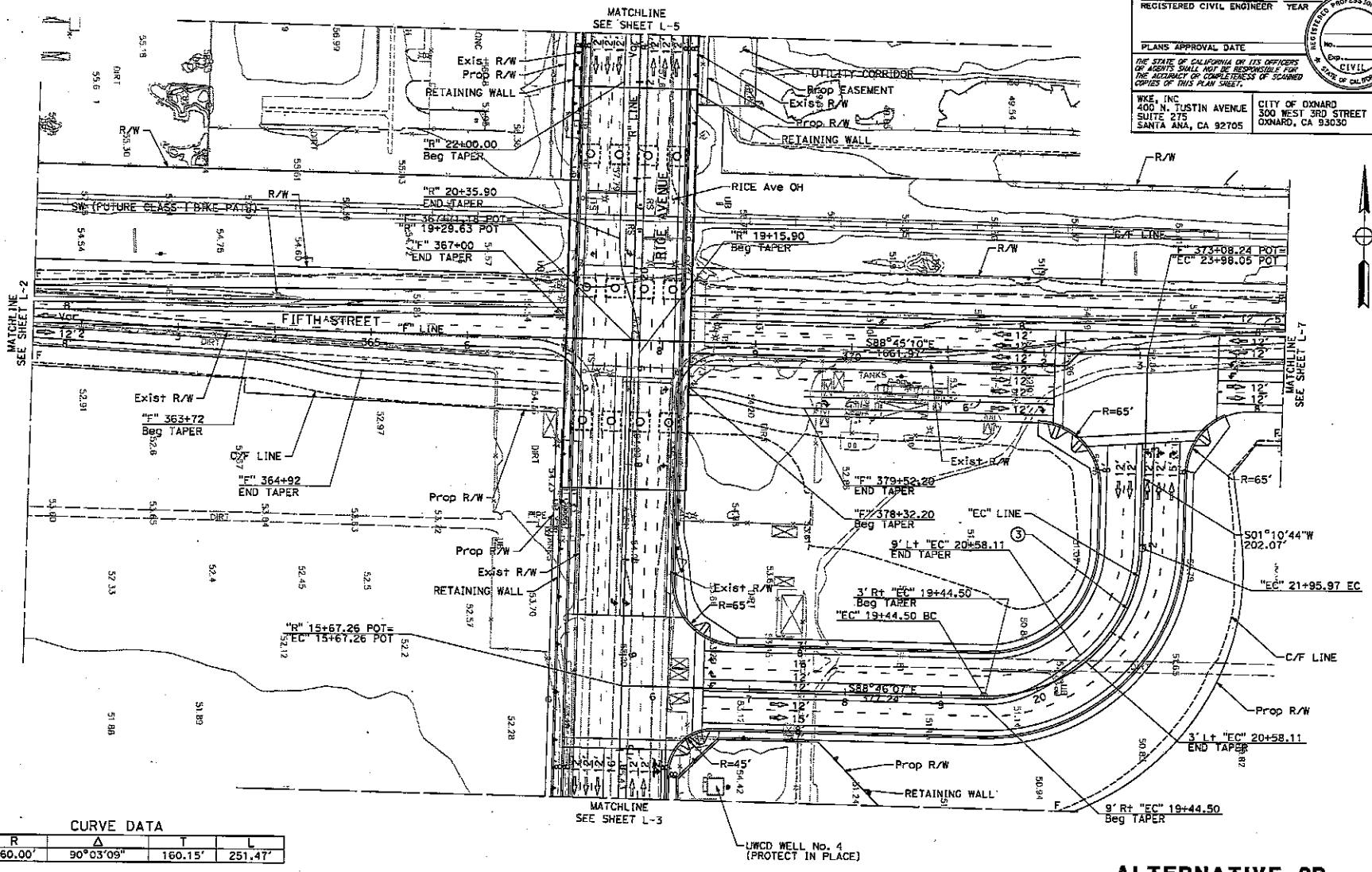
OXNARD, CA 93030



CURVE DATA

No.	R	Δ	T	L
3	160.00'	90°03'09"	160.15'	251.47'

ALTERNATIVE 2B LAYOUT

SCALE: 1" = 100'

L-4

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BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => Alt2b_ec004.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

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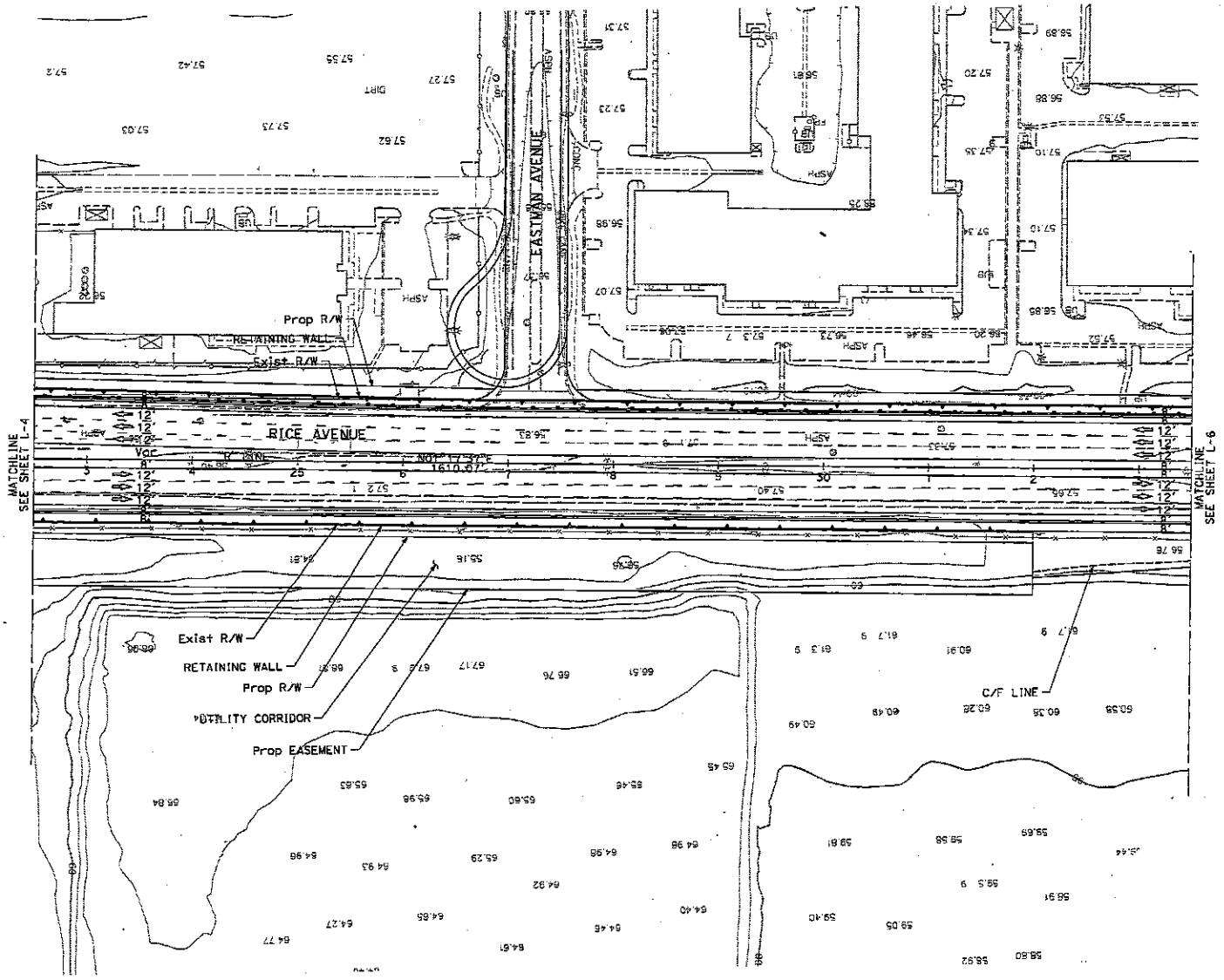

ALTERNATIVE 2B LAYOUT

SCALE: 1" = 100'

L-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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DATE REVISED

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1t2b_ec005.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

LAST REVISION 00-00-00

DATE PLOTTED => 12-APR-2018
TIME PLOTTED => 09:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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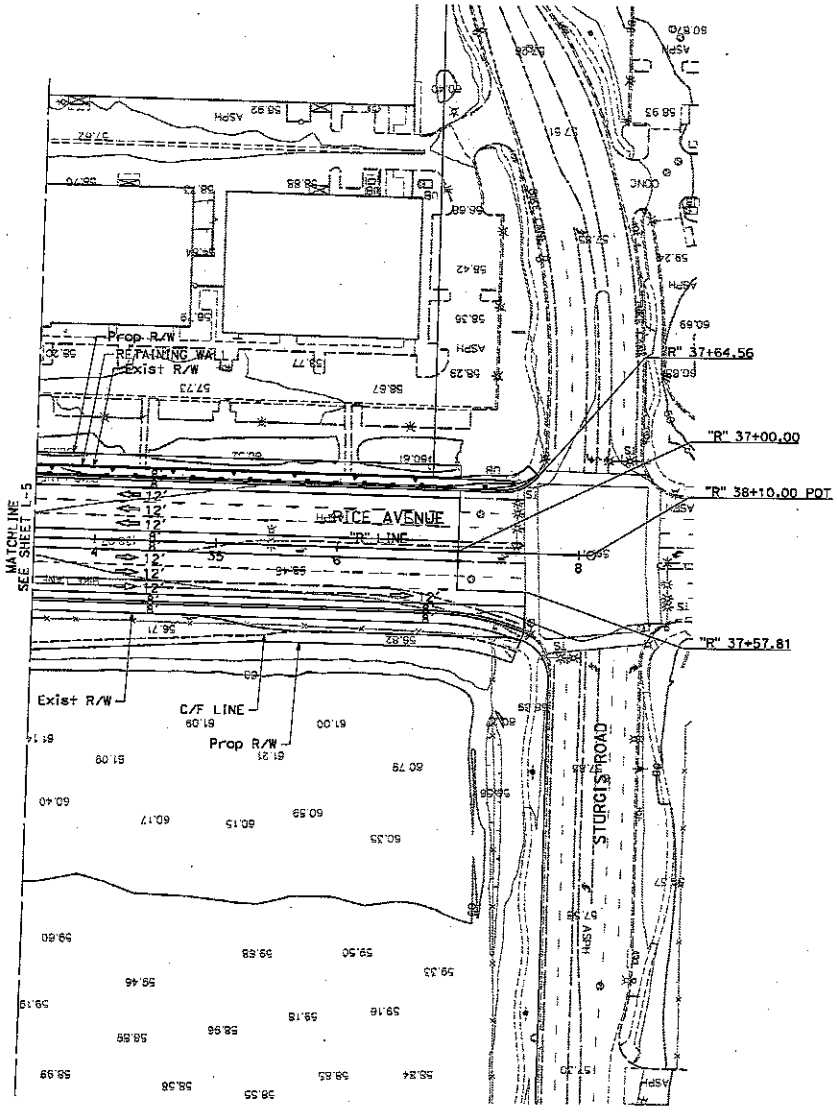
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2B LAYOUT

SCALE: 1" = 100'

L-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 00-00-00

DATE PLOTTED => 12-MAR-2018
TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1r2b_ec006.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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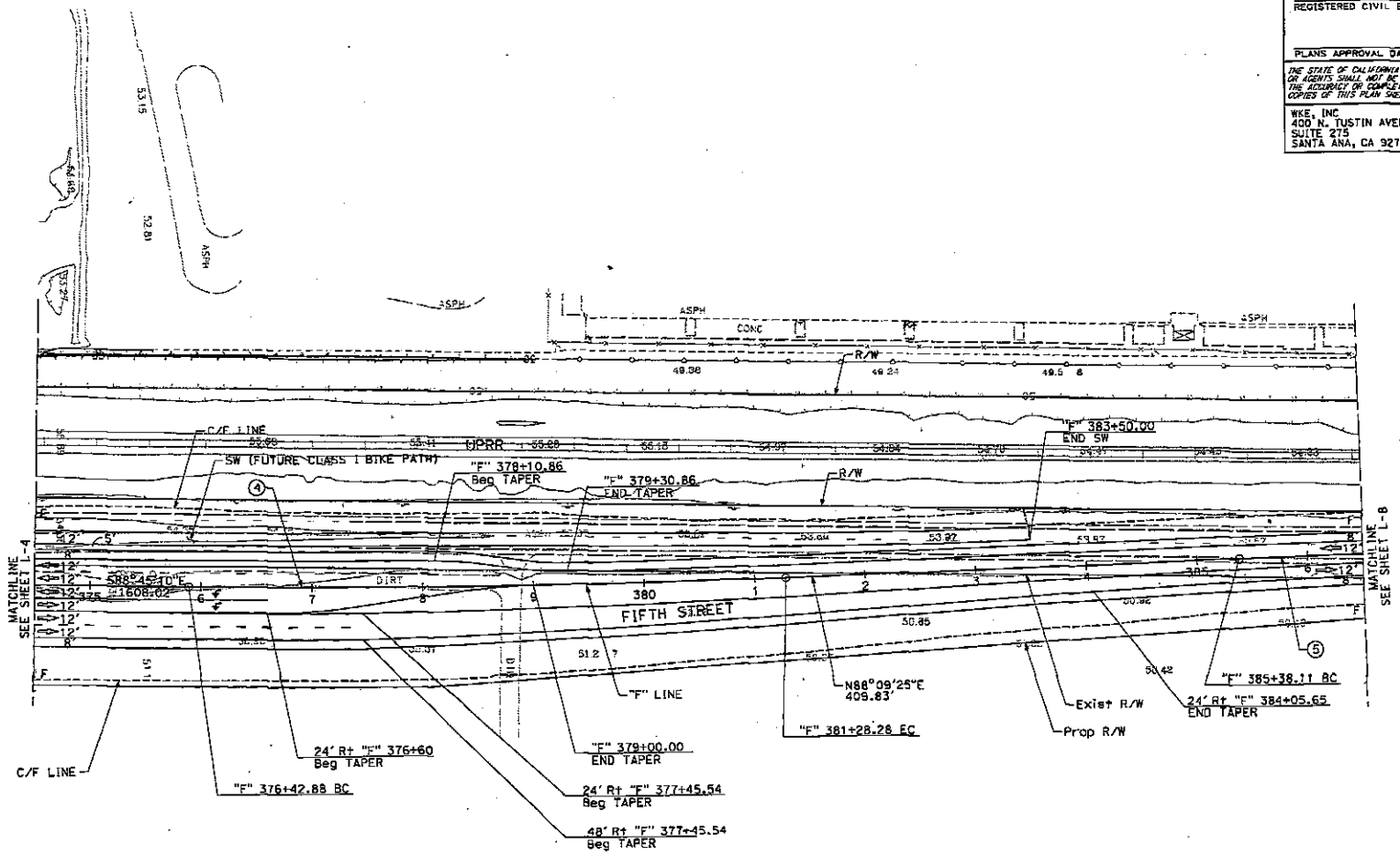
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



CURVE DATA

No.	R	Δ	T	L
4	10000.00'	03°05'25"	269.74'	539.35'
5	10000.00'	03°01'19"	263.78'	527.43'

ALTERNATIVE 2B LAYOUT

SCALE: 1" = 100'

L-7

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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USERNAME => HTong
DGN FILE => A1+2B_ec007.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

ATTACHMENT C

ADVANCED PLANNING STUDIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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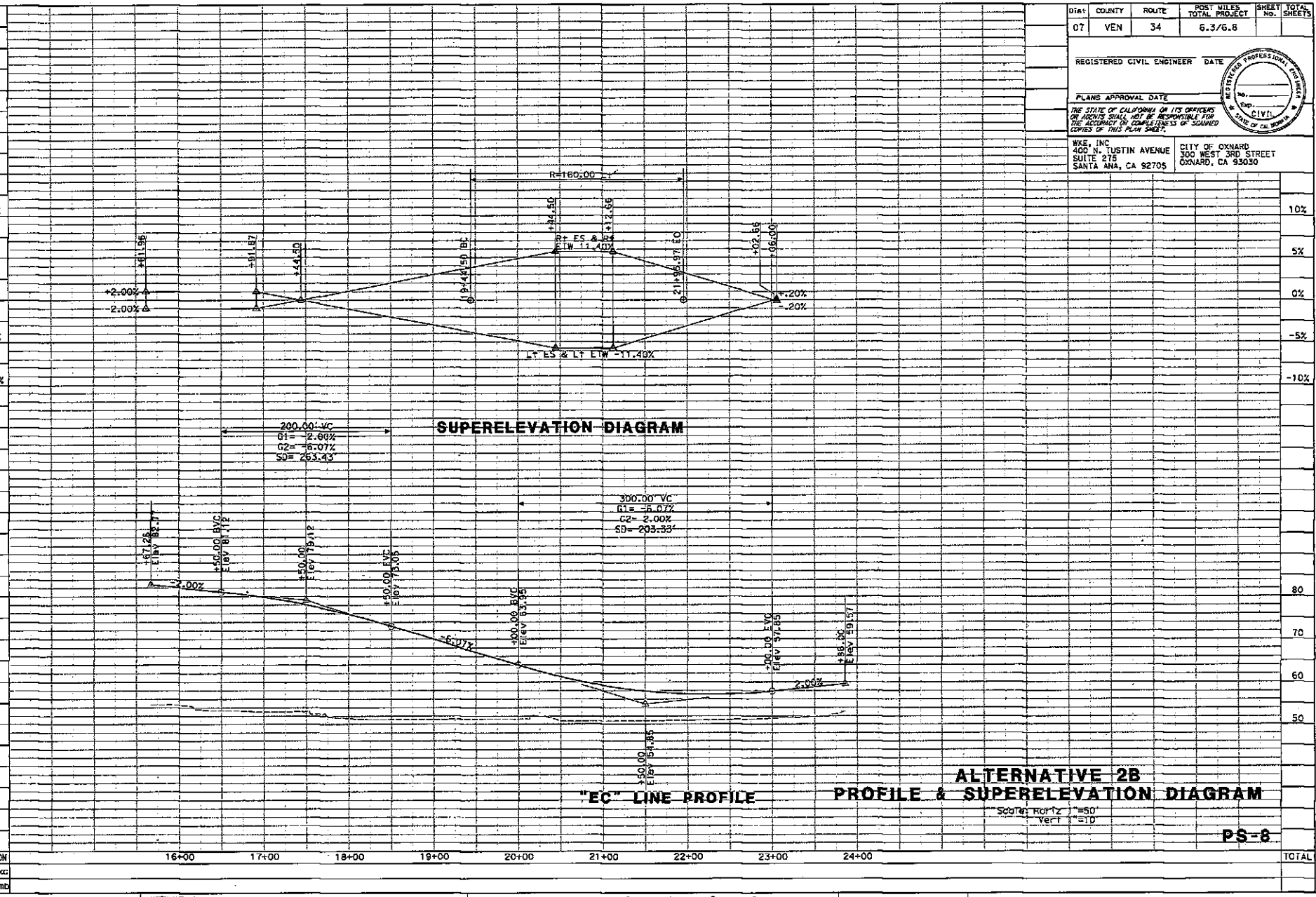
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



SUPERELEVATION DIAGRAM

"EC" LINE PROFILE

ALTERNATIVE 2B
PROFILE & SUPERELEVATION DIAGRAM

Scale: Horiz 1"=50'
Vert 1"=10'

PS-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

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DATE REVISED

LAST REVISION DATE PLOTTED => 13-APR-2018
TIME PLOTTED => 15:56

00-00-00

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1t2b_fb008.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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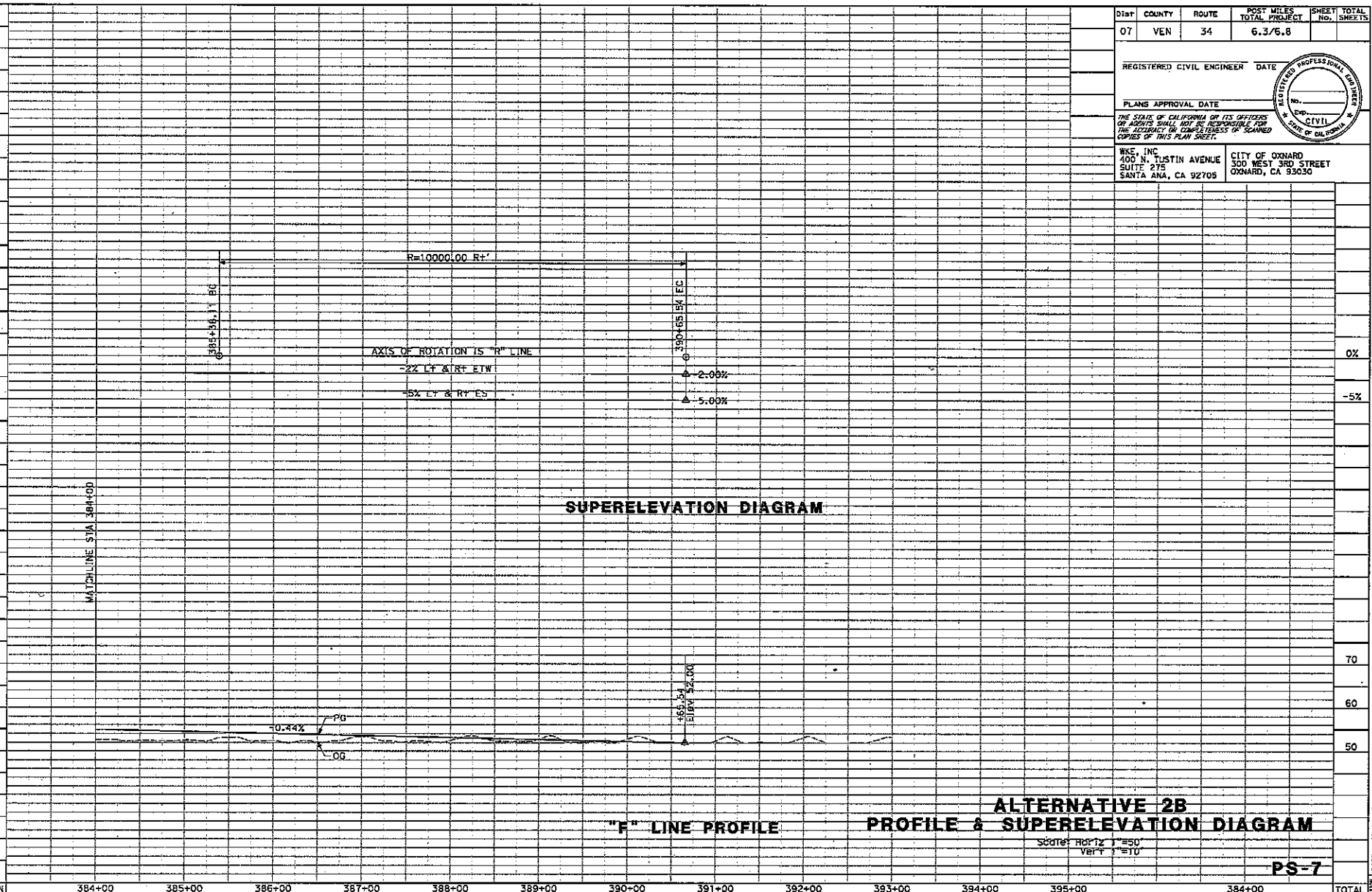
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2B
PROFILE & SUPERELEVATION DIAGRAM

Scale: Horiz 1"=50'
Vert 1"=10'

PS-7

STATION		384+00	385+00	386+00	387+00	388+00	389+00	390+00	391+00	392+00	393+00	394+00	395+00	384+00	TOTAL
CY	Exc														
	Emb														

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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DATE PLOTTED => 12-APR-2018
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USERNAME => HTong
DGN FILE => A142b_fb007.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER NO. EXP. CIVIL STATE OF CALIFORNIA

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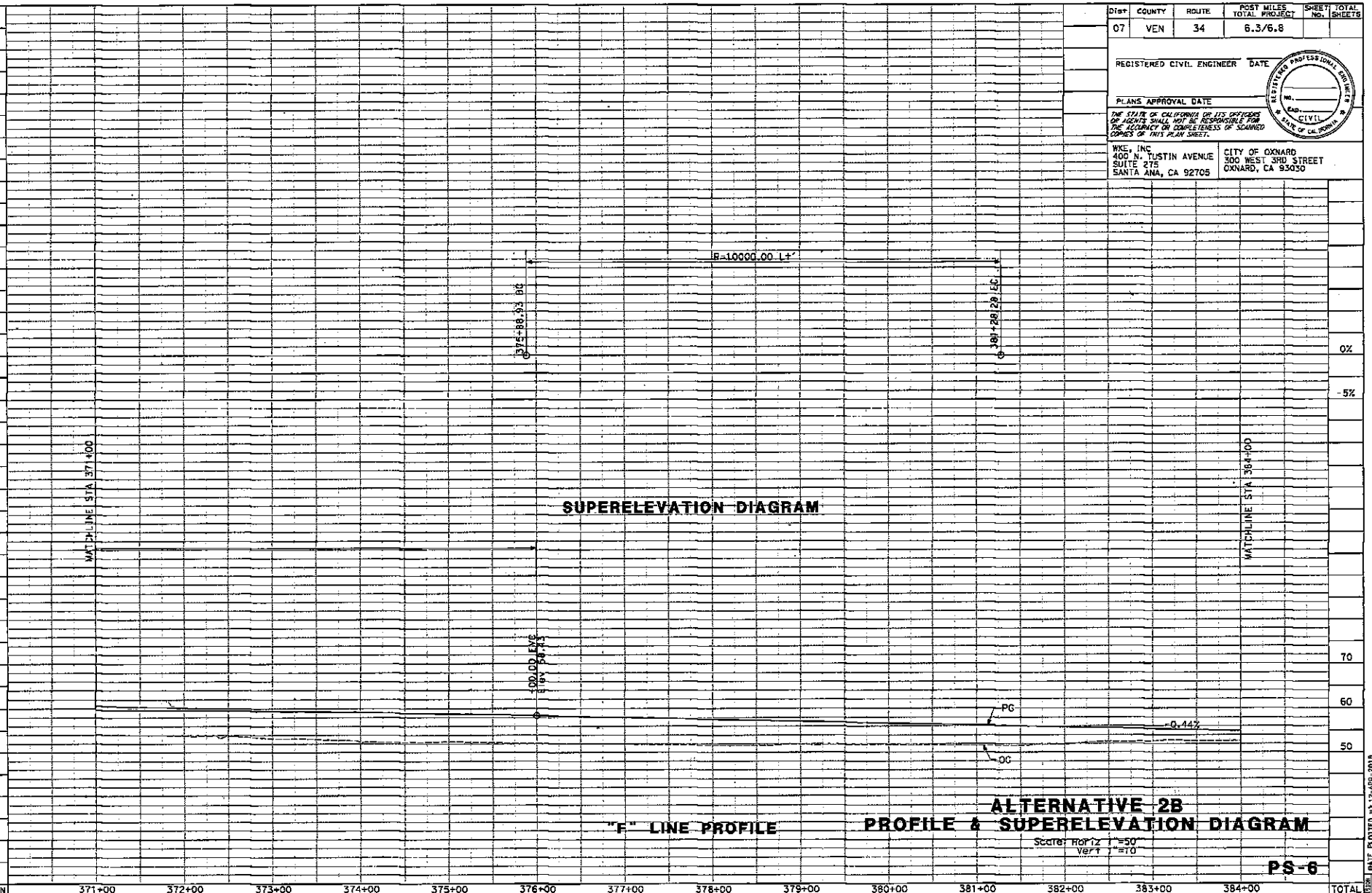
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2B
PROFILE & SUPERELEVATION DIAGRAM

Scale: Horiz 1"=50'
Vert 1"=10'

PS-6

REVISED BY | DATE REVISED

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BORDER LAST REVISED 7/2/2010 | USERNAME => KTang | DGN FILE => A112b_PD006.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1823 | PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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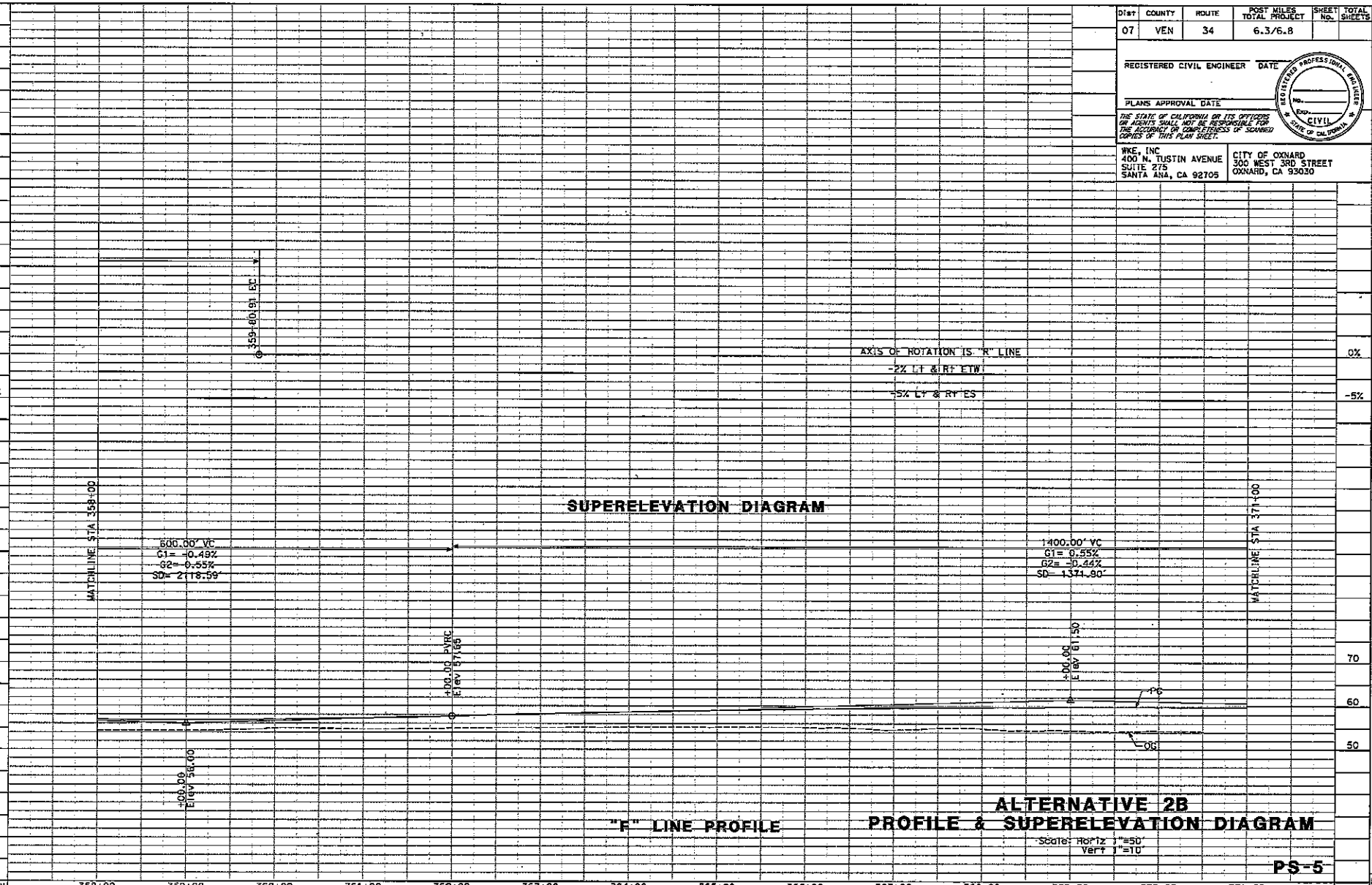
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



"F" LINE PROFILE

ALTERNATIVE 2B
PROFILE & SUPERELEVATION DIAGRAM

Scale: Horiz 1"=50'
Vert 1"=10'

PS-5

REVISED BY
DATE REVISED
CALCULATED-DESIGNED BY
CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISED 00-00-00
DATE PLOTTED => 12-APR-2018
TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010
USERNAME => HTang
DGN FILE => A1+2b_fb005.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1823
PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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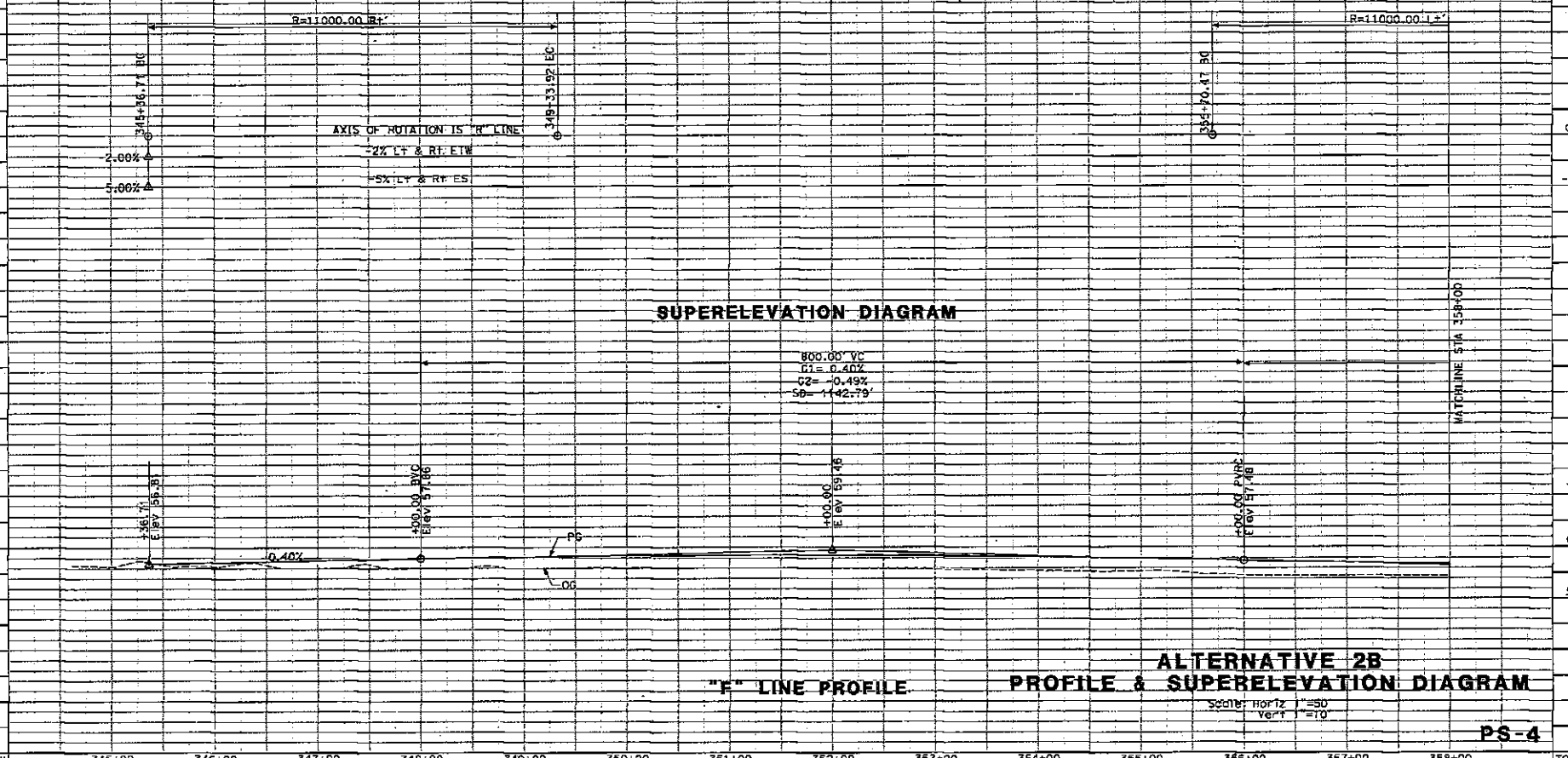
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



"F" LINE PROFILE

ALTERNATIVE 2B
PROFILE & SUPERELEVATION DIAGRAM

Scale: Horiz 1"=50
Vert 1"=10

PS-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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DATE PLOTTED => 12-APR-2018
TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1T2B_fb004.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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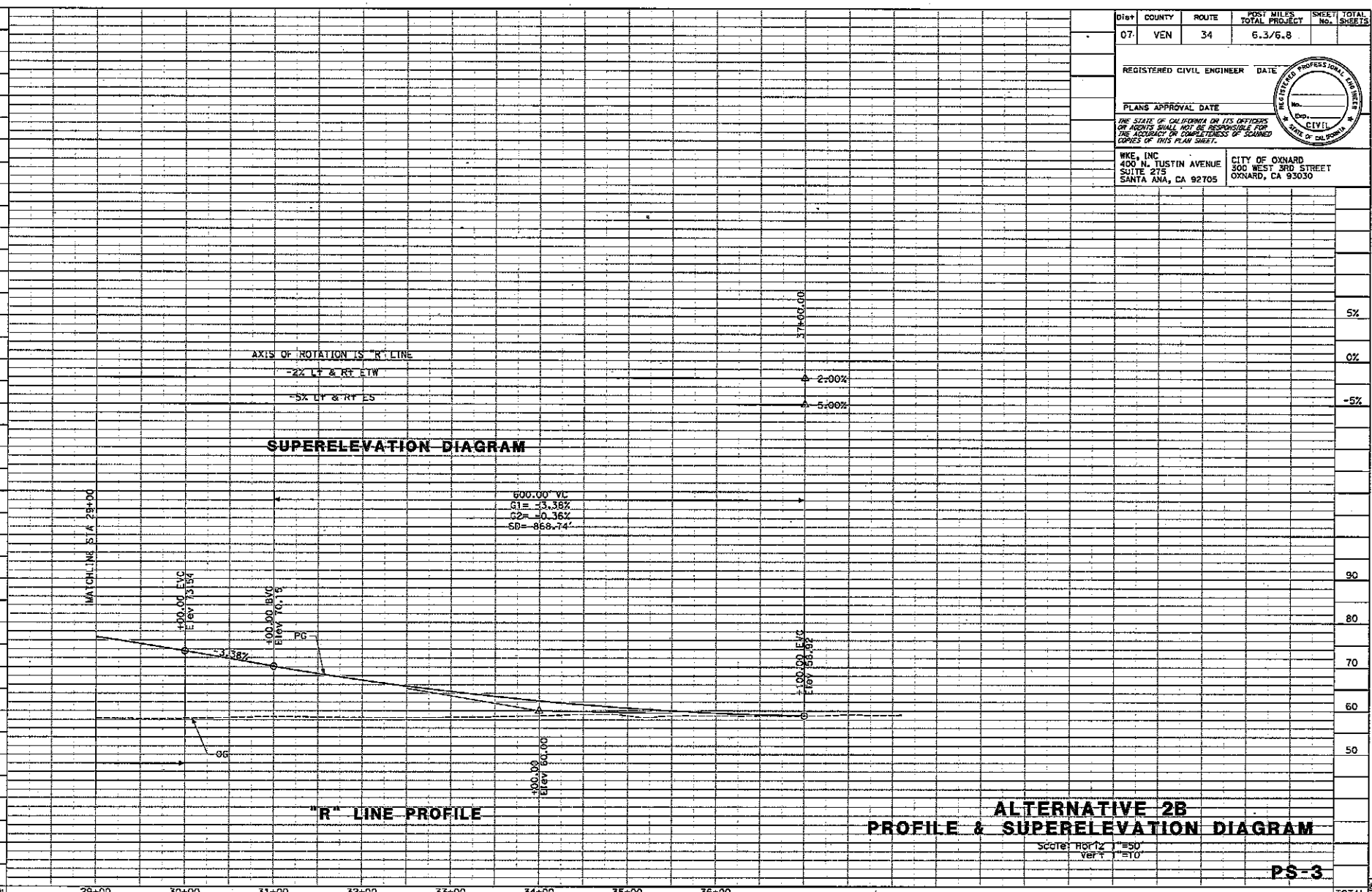
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



ALTERNATIVE 2B
PROFILE & SUPERELEVATION DIAGRAM

Scale: Horiz 1"=50'
Vert 1"=10'

PS-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 00-00-00

DATE PLOTTED => 12-APR-2018
TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A172b_fb003.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

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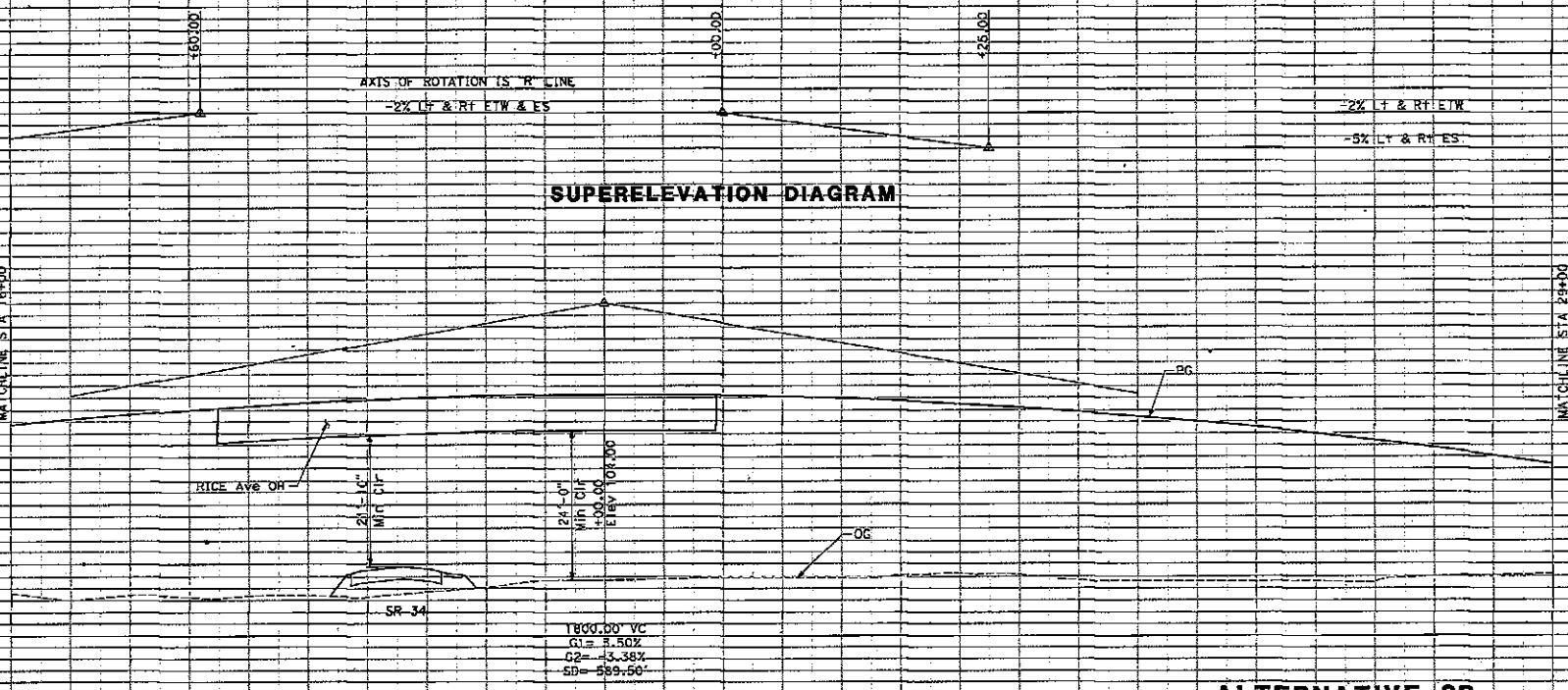
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 12-JUN-2018 TIME PLOTTED => 09:55

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

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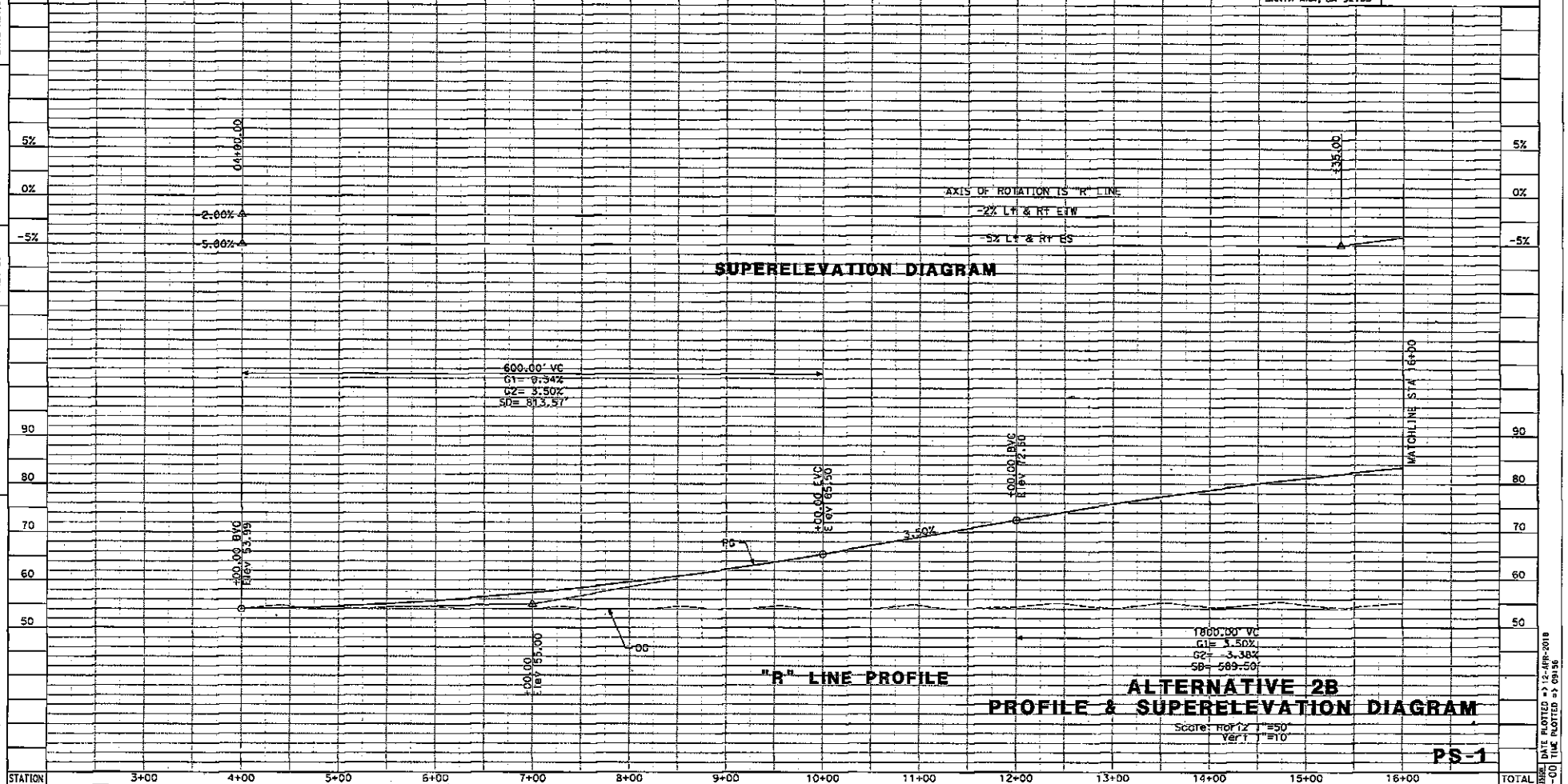
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

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DATE REVISED

LAST REVISION 00-00-00

DATE PLOTTED => 12-APR-2010
TIME PLOTTED => 09:56

BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1T2B_PD001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.3/6.8		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — EXP. — CIVIL — STATE OF CALIFORNIA

WKE, INC
400 N. TUSTIN AVENUE
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SANTA ANA, CA 92705

CITY OF OXNARD
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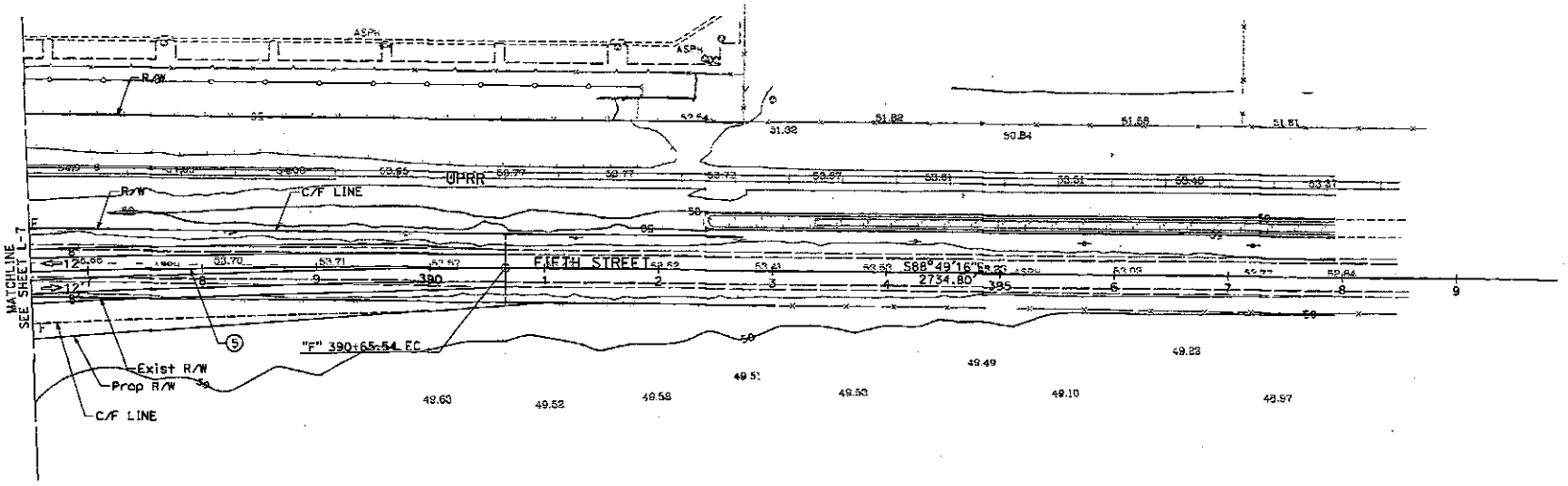
OXNARD, CA 93030



CURVE DATA

No.	R	Δ	T	L
5	10000.00'	03°01'19"	263.78'	527.43'

ALTERNATIVE 2B LAYOUT

SCALE: 1" = 100'

L-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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BORDER LAST REVISED 7/2/2010

USERNAME => HTong
DGN FILE => A1725_eq008.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 0715000274

Consultant Prepared Advance Planning Study (APS) Checklist

Date: 7/18/2016	Consultant Firm (for structures): JACOBS		Phone No: 714-835-6355
Designed by: D. Haghighi			Phone No: 714-835-6355
EA: 07-31780	County: Ventura	Rte: 34	KP(PM) 6.27/6.70
Project Description: Advance Planning Study-Rice Avenue Grade Separation			
Bridge No(s):	Bridge Name(s): Rice Avenue Grade Separation		
Total number of bridges in project: 1	APS Alternative Letter or Number (if more than one): 2B		
Purpose of this APS:	Initial APS Cost & Feasibility ☒	Revised scope ☐	Update cost ☐

Part A Items to collect and considerations prior to beginning the APS

All items listed in Part A are to be made available and submitted if requested by the Liaison Engineer. (Mark **N/A** if not applicable)

- ☒ Preliminary profile grade of proposed structure.
- ☒ Typical section of the proposed structure. (Including barrier type, sidewalks, cross slope %, etc.)
- ☒ Grades or spot elevations of roadway below the structure.
- ☒ Typical section of roadway below the structure. (Including shoulders, gutters, embankment slope.)
- ☒ Site map: including horizontal alignment of new structure and the roadway below, topo, contours, etc.
- N/A Stage construction or detour plan for traffic on the structure. (number of lanes to remain open, Temp Railing, etc.)
- ☒ Stage construction or detour plan for the roadway below the structure. (falsework openings for each stage and any restrictions.)
- N/A "As Built" plans for existing structures.
- ☒ Future widening plans of upper and lower roadway (verify with Route Concept Report).
- ☒ Site aerial photograph (at the proposed structure).
- N/A Environmental and/or permit requirements (areas of potential impact, construction windows, etc.)
- ☒ Overhead and underground utility plans
- N/A Any other information that you feel is necessary to complete the study. (Other concerns that may affect the APS: local agency requirements such as aesthetics, improvements in vicinity of structure, airspace usage, other obstructions, etc.)

Consultant Prepared Advance Planning Study (APS) Checklist

Part B Considerations during the APS design and cost estimate preparation

1. Has this project been discussed with:
   - the OSFP Liaison Engineer? Yes ☒ No ☐
   - the Caltrans District Project Manager? Yes ☒ No ☐
   - the roadway consultant? Yes ☒ No ☐

2. Have the Caltrans Structures Maintenance records been reviewed? Yes ☐ N/A
   If the records recommend any work for the structure, is it included in the APS? Yes ☐ N/A

3. Are there special aesthetic considerations? Yes ☒ No ☐

4. (Widenings and Modifications)
   Has this project been reviewed for seismic retrofit requirements? Yes ☐ N/A
   Are seismic retrofit requirements included in the APS? Yes ☐ N/A

5. Any special Railroad requirements? Yes ☐ No ☒
   Shoofly required? Yes ☐ No ☒
   Cost of shoofly included as a separate item in the project cost estimate? Yes ☐ No ☐

6. Any special foundation requirements, including scour critical work, special excavation such as Type A, Type D, and/or hazardous or contaminated material? Yes ☒ No ☒

7. Any special construction requirements, including limited site accessibility or seasonal work? Yes ☐ No ☒

8. Other items to be included in the cost such as slope paving, approach slabs, and/or adjacent retaining walls? Yes ☒ No ☐

9. Remove existing bridge? Yes ☐ N/A
   Total Deck Area:

10. Any other unusual or special requirements? Yes ☐ No ☒

11. Provide and attach a consultant prepared Design Memo to summarize and document any important assumptions, discussions, decisions, unusual items, local agency requirements such as aesthetics, improvements in vicinity of the structure, airspace usage, other obstructions, or any items noted above. Summary attached? Yes ☐ No ☒

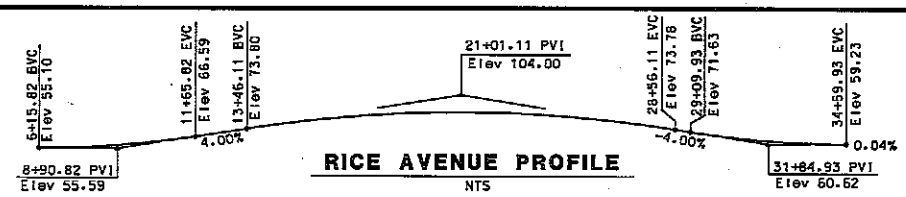
Designer: (Printed Name)	Designer's Signature:	Date:
Daryoush Haghighi	Daryoush Haghighi	12/16/2016

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
7	VEN	34	6.27/6.70

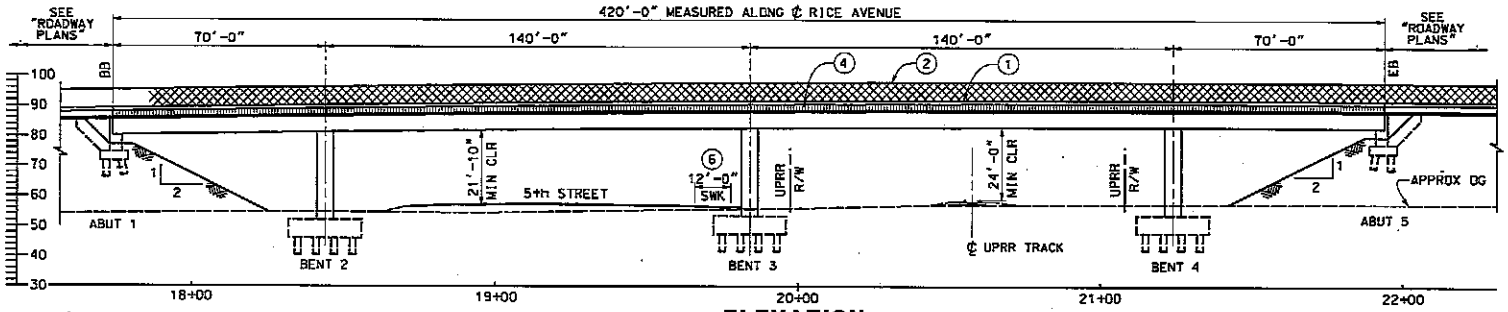
CITY OF OXNARD
214 SOUTH C STREET
OXNARD, CA 93030

WKE, INC.
400 N. TUSTIN AVE. SUITE 275
SANTA ANA, CA 92705



RICE AVENUE PROFILE

NTS



ELEVATION

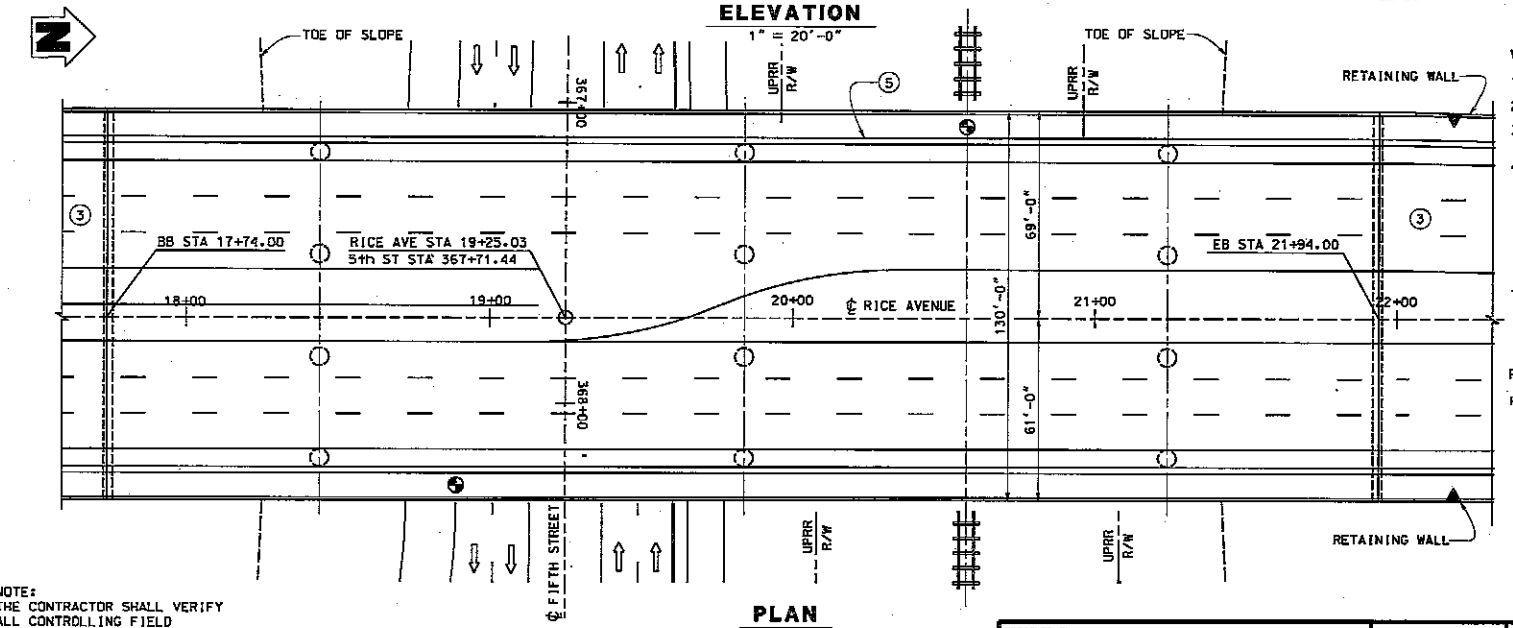
1" = 20'-0"

KEY NOTES:

1. Concrete Barrier (Type 26)
2. Chain Link Railing (Type 7)
3. Structure Approach Type N130S1
4. Architectural Treatment
5. Concrete Barrier (Type 27)
6. Future Type 1 Bike Path

LEGEND:

- Direction of traffic
- Point of minimum vertical clearance
- Indicates UPRR Track



PLAN

1" = 20'-0"

VEHICULAR TRAFFIC

1. X NEW ALIGNMENT. NO TRAFFIC ON RICE AVE.
2. X TRAFFIC WILL BE DETOURED AWAY FROM RICE AVE.
3. ___ TRAFFIC WILL BE CARRIED ON THE STRUCTURE. STAGE CONSTRUCTION WILL NOT BE REQUIRED.
4. X TRAFFIC WILL PASS UNDER THE STRUCTURE ON 5TH STREET
   - A. ___ NO FALSEWORK ALLOWED OVER TRAFFIC.
   - B. X FALSEWORK OPENING(S) REQUIRED:

	TEMPORARY VERTICAL CLEARANCE	WIDTH OF TRAFFIC OPENING
TWO WAY	15'-0" MIN.	64'-0"

   - C. X TEMPORARY TRAFFIC LANES SHARED WITH PEDESTRIANS.

RAILROAD TRAFFIC

FALSEWORK OPENING REQUIRED OVER UPRR TRACK.

VERTICAL CLEARANCE	HORIZONTAL CLEAR WIDTH
21 FT	12 FT

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

X
DESIGN OVERSIGHT
X
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/18/13)

DESIGNED BY	D. HAGHIGHI	DATE	7-18-16
DRAWN BY	P. ZUCCHI	DATE	7-18-16
CHECKED BY	K. PIRBAZARI	DATE	7-18-16
APPROVED		DATE	

D. HAGHIGHI
PROJECT ENGINEER

FILE => $REQUEST

ALTERNATIVE 2B

RICE AVE GRADE SEPARATION

PLANNING STUDY 1 OF 2

BRIDGE NO.	UNIT:
SCALE: AS NOTED	PROJECT NUMBER: EA07-31780

CONTRACT NO.:

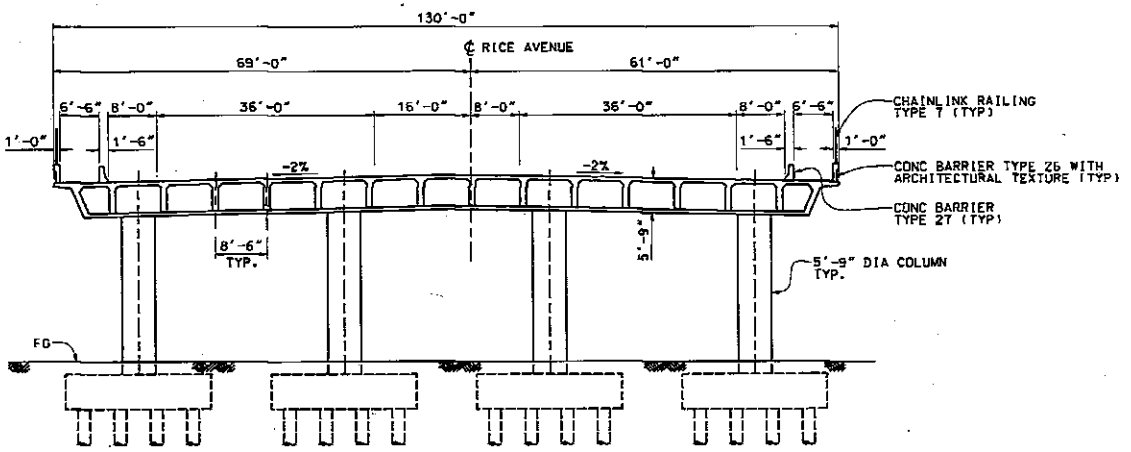
USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME

PREPARED FOR THE STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
7	VEN	34	6.27/6.70

CITY OF OXNARD
214 SOUTH C STREET
OXNARD, CA 93030

WKE, INC.
400 N. TUSTIN AVE, SUITE 275
SANTA ANA, CA 92705



TYPICAL SECTION

1" = 10'

PLANING ESTIMATE:

DATE OF ESTIMATE	
STRUCTURE DEPTH	= 5'-9"
LENGTH	= 420'-0"
WIDTH	= 130'-0"
AREA	= 54,600 SQ FT
COST/SQ FT INCLUDING:	
10% MOBILIZATION &	
25% CONTINGENCY	= 268.57
TOTAL COST	= 14,664,000

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

X
DESIGN OVERSIGHT
X
SIGN OFF DATE

ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 7/16/10)

DESIGNED BY	D. HAGHIGHI	DATE	7-18-16
DRAWN BY	P. ZUCCHI	DATE	7-18-16
CHECKED BY	K. PIRBAZARI	DATE	7-18-16
APPROVED		DATE	

D. HAGHIGHI
PROJECT ENGINEER

FILE => $REQUEST

ALTERNATIVE 2B

RICE AVE GRADE SEPARATION

PLANNING STUDY 2 OF 2

BRIDGE NO.	UNIT:
SCALE: AS NOTED	PROJECT NUMBER: EA07-31780

CONTRACT NO.:

USERNAME => $USER DATE PLOTTED => $DATE TIME PLOTTED => $TIME

ATTACHMENT D

PROJECT COST ESTIMATE

Planning Cost Estimate

Project ID: 0715000274

Type of Estimate :	Planning
Program Code :	
Project Limits :	SR 34, PM 6.3/6.8
Description:	Rice Ave Grade Separation
Scope :	Grade separation
Alternative :	2A - CALTRANS

		Current Cost		Escalated Cost
ROADWAY ITEMS	$	7,051,000	$	7,480,400
STRUCTURE ITEMS	$	13,536,000	$	14,360,300
SUBTOTAL CONSTRUCTION COST	$	20,587,000	$	21,840,700
RIGHT OF WAY	$	496,000	$	526,200
TOTAL CAPITAL OUTLAY COST	$	21,083,000	$	22,367,000
PR/ED SUPPORT	$	-	$	-
PS&E SUPPORT	$	-	$	-
RIGHT OF WAY SUPPORT	$	-	$	-
CONSTRUCTION SUPPORT	$	-	$	-
TOTAL CAPITAL OUTLAY SUPPORT COST*	$	-	$	-
TOTAL PROJECT COST	$	21,100,000	$	22,400,000

If Project has been programmed enter Programmed Amount $ -

	Month / Year
Date of Estimate (Month/Year)	8 / 2017
Estimated Date of Construction Start (Month/Year)	12 / 2020
Number of Working Days	500 Working Days
Estimated Mid-Point of Construction (Month/Year)	12 / 2021
Number of Plant Establishment Days	Days

Estimated Project Schedule	Month / Year
PID Approval	12 / 2015
PA/ED Approval	5 / 2018
PS&E	11 / 2019
RTL	4 / 2020
Begin Construction	12 / 2020

Approved by Project Manager	Carlos Cadena	5/10/2018	714-953-1003
	Project Manager	**Date**	**Phone**

ALTERNATIVE 2A COST ESTIMATE

I. ROADWAY ITEMS

Section			Cost
1	Earthwork		$ 475,000
2	Structural Section		$ 1,468,000
3	Drainage		$ 61,000
4	Specialty Items		$ 82,000
5	Environmental		
	5A Environmental Mitigation		
	5B Landscape and Irrigation		
	5C NPDES		$ 1,300,000
6	Traffic Items		
	6A Electrical		$ 400,000
	6B Signing and Striping		$ 75,000
	6C Traffic Management Plan		$ -
	6D Traffic Control		$ 164,000
7	Detours		$ 187,000
8	Minor Items		$ 211,000
9	Roadway Mobilization		$ 354,000
10	Supplemental Work (Utilities)		$ 234,000
11	State Furnished		$222,000
12	Contingencies		$920,000
13	Overhead		$898,000
	TOTAL ROADWAY ITEMS		**$ 7,051,000**

Estimate Prepared By :	Henry Tong, Project Engineer	5/10/2018	714-953-1005
	Name and Title	Date	Phone
Estimate Reviewed By :	Michael Hynes, Engineering Manager	5/10/2018	714-953-2639
	Name and Title	Date	Phone

ALT 2A

SECTION 1 EARTHWORK

Item code		Unit	Quantity		Unit Price ($)		Cost
190101	Roadway Excavation	CY	261	x	30.00	=	$ 7,830
190105	Roadway Excavation (Type Z-2) ADL	CY	100	x	230.00	=	$ 23,000
198010	Imported Borrow	CY	31,445	x	12.00	=	$ 377,340
160102	Clearing & Grubbing	LS	1	x	60,000.00	=	$ 60,000
170101	Develop Water Supply	LS	1	x	6,500.00	=	$ 6,500

TOTAL EARTHWORK SECTION ITEMS $ 475,000

Section 2 STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)		Cost
280000	Lean Concrete Base	CY	1,953	x	135.00	=	$ 263,655
390129	Hot Mix Asphalt (Type A)	TON	0	x	95.00	=	$ -
260203	Class 2 Aggregate Base	CY	0	x	35.00	=	$ -
250401	Class 4 Aggregate Subbase	CY	0	x	40.00	=	$ -
250201	Class 2 Aggregate Subbase	CY	3,689	x	31.00	=	$ 114,359
401050	Jointed Plain Concrete Pavement	CY	4,991	x	205.00	=	$ 1,023,155
731502	Minor Concrete (Misc. Const) Curb, Sidewalk	CY	100	x	575.00	=	$ 57,500
394090	Place Hot Mix Asphalt (Misc. Area)	SQFT	3,000	x	3.00	=	$ 9,000

TOTAL STRUCTURAL SECTION ITEMS $ 1,468,000

ALT 2A

SECTION 3 DRAINAGE

Drainage	LS	1	3% Roadway	$	60,750	
			TOTAL DRAINAGE ITEMS	**$**		**61,000**

SECTION 4 SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)		Cost
190110	Lead Compliance Plan	LS	1	x	6,000.00	=	$ 6,000
800360	Chain Link Fence (Type CL-6)	LF	1,750	x	35.00	=	$ 61,250
832001	Metal Beam Guard Railing	LF	360	x	40.00	=	$ 14,400
839736	Concrete Barrier (Type 742A)	LF	0	x	120.00	=	$ -
839706	Concrete Barrier (Type 60G)	LF	0	x	110.00	=	$ -
839704	Concrete Barrier (Type 60D)	LF	0	x	55.00	=	$ -
477020	MSE Wall	SQFT	0	x	75.00	=	$ -

TOTAL SPECIALTY ITEMS	**$**	**82,000**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
	Biological Mitigation	LS		x		=	$	-
071325	TEMPORARY REINFORCED SILT FENCE	LF		x		=	$	-
071325	Temporary Fence (Type ESA)	LF		x		=	$	-
	Hazardous Waste Remediation	LS	1	x	729,972.00	=	$	729,972

Subtotal Environmental $ *729,972*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
200001	Highway Planting	LS	1	x	134,766.25	=	$	134,766
20XXXX	XXX" (*Insert Type*) Conduit *(Use for*	LF		x		=	$	-
20XXXX	Extend XXX" *(Insert Type)* Conduit	LF		x		=	$	-
201700	Imported Topsoil	CY		x		=	$	-
2030XX	Erosion Control (Type __)	SQYD		x		=	$	-
203021	Fiber Rolls	LF		x		=	$	-
203026	Move In/ Move Out (Erosion Control)	EA		x		=	$	-
204099	Plant Establishment Work	LS		x		=	$	-
204101	Extend Plant Establishment (X Years)	LS		x		=	$	-
208000	Irrigation System	LS	1	x	296,485.75	=	$	296,486
208304	Water Meter	EA		x		=	$	-
209801	Maintenance Vehicle Pullout	EA		x		=	$	-
XXXXXX	Some Item							

Subtotal Landscape and Irrigation $ *431,252*

5C - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost
130100	Job Site Management	LS	1	x	26,950.00	=	$	26,950
130300	Prepare SWPPP	LS	1	x	7,980.00	=	$	7,980
130310	Rain Event Action Plan	EA	1	x	4,042.50	=	$	4,043
130320	Storm Water Sampling and Analysis Day	EA	1	x	864.15	=	$	864
130330	Storm Water Annual Report	EA	1	x	2,100.00	=	$	2,100
130520	Temporary Hydraulic Mulch	SQYD	3,557	x	0.40	=	$	1,423
130620	Temporary Drainage Inlet Protection	EA	1	x	200.00	=	$	200
130640	Temporary Fiber Rolls	LF	12,250	x	3.60	=	$	44,100
130680	Temporary Silt Fence	LF	8,816	x	3.00	=	$	26,448
130710	Temporary Construction Entrance	EA	1	x	4,000.00	=	$	4,000
130730	Street Sweeping	LS	1	x	15,000.00	=	$	15,000
130900	Temporary Concrete Washout Facility	EA	1	x	5,000.00	=	$	5,000

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595	Water Pollution Control Maintenance Sharing	LS	1	x	9,566.44	=	$	9,566
066596	Additional Water Pollution Control**	LS	1	x	2,100.00	=	$	2,100
066916	Annual Construction General Permit Fees	LS	1	x	1,039.79	=	$	1,040
XXXXXX	Some Item							

Subtotal NPDES (Without Supplemental Work) $ *138,107*

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

**Applies to both SWPPPs and WPCP projects.

TOTAL ENVIRONMENTAL $ 1,300,000

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
150760	Remove Sign Structure	EA		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
5602XX	Furnish Sign Structure	LB		x		=	$	-
5602XX	Install Sign Structure	LB		x		=	$	-
56XXXX	XXX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
860090	Maintain Existing Traffic Management	LS		x		=	$	-
860810	Inductive Loop Detectors	EA		x		=	$	-
86055X	Lighting & Sign Illumination	LS		x		=	$	-
8607XX	Interconnection Facilities	LS		x		=	$	-
8609XX	Traffic Monitoring Stations	LS		x		=	$	-
860XXX	Signals & Lighting	LS	1	x	375,000.00	=	$	375,000
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
	Misc Items	LS	1	x	25,000.00	=	$	25,000

Subtotal Traffic Electrical $ *400,000*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
120090	Construction Area Signs	LS		x		=	$	-
141120	Treated Wood Waste	LB	5,000	x	1.00	=	$	5,000
150701	Remove Yellow Painted Traffic Stripe	LF		x		=	$	-
150710	Remove Traffic Stripe	LF		x		=	$	-
150713	Remove Pavement Marking	SQFT		x		=	$	-
150742	Remove Roadside Sign	EA		x		=	$	-
152320	Reset Roadside Sign	EA		x		=	$	-
152390	Relocate Roadside Sign	EA		x		=	$	-
566011	Roadside Sign (One Post)	EA	0	x	25,000.00	=	$	-
566012	Roadside Sign (Two Post)	EA	1	x	25,000.00	=	$	25,000
560XXX	Furnish Sign Panels	SQFT		x		=	$	-
560XXX	Install Sign Panels	SQFT		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
84XXXX	Permanent Pavement Delineation	LS	1	x	45,000.00	=	$	45,000

Subtotal Traffic Signing and Striping $ *75,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	92,500.00	=	$	92,500
120120	Type III Barricade	EA		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
12016X	Channelizer	EA		x		=	$	-
128650	Portable Changeable Message Signs	EA	1	x	21,000.00	=	$	21,000
129000	Temporary Railing (Type K)	LF		x		=	$	-
129100	Temp. Crash Cushion Module	EA		x		=	$	-
129099A	Traffic Plastic Drum	EA		x		=	$	-
839603A	Temporary Crash Cushion (ADIEM)	EA		x		=	$	-
	Traffic Management Plan	LS	1	x	50,000.00	=	$	50,000

Subtotal Stage Construction and Traffic Handling $ *164,000*

TOTAL TRAFFIC ITEMS $ 639,000

SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
0713XX	Temporary Fence (Type X)	LF		x		=	$	-
07XXXX	Temporary Drainage	LS		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
1286XX	Temporary Signals	EA	1	x	125,000.00	=	$	125,000
129000	Temporary Railing (Type K)	LF		x		=	$	-
190101	Roadway Excavation	CY	400	x	30.00	=	$	12,000
198001	Imported Borrow	CY		x		=	$	-
198050	Embankment	CY		x		=	$	-
250401	Class 4 Aggregate Subbase	CY	250	x	25.00	=	$	6,250
260203	Class 2 Aggregate Base	CY	180	x	50.00	=	$	9,000
390132	Hot Mix Asphalt (Type A)	TON	260	x	115.00	=	$	29,900
	Traffic Management Plan	LS	1	x	1,250.00	=	$	1,250
	Temp Sign & Striping	LS	1	x	1,500.00		$	1,500
	Misc Costs	LS	1	x	2,000.00		$	2,000

TOTAL DETOURS $ 187,000

SUBTOTAL SECTIONS 1-7 $ **4,212,000**

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items								
ADA Items					0.0%		$	-
8B - Bike Path Items								
Bike Path Items					0.0%		$	-
8C - Other Minor Items								
Other Minor Items					0.0%		$	-
Total of Section 1-7	$	4,212,000	x		5.0%	=	$	210,600

TOTAL MINOR ITEMS $ 211,000

SECTIONS 9: MOBILIZATION

Item code								
999990	Total Section 1-8	$	4,423,000	x	8%	=	$	353,840

TOTAL MOBILIZATION $ 354,000

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066015	Federal Trainee Program	LS		x		=	$	-
066063	Traffic Management Plan - Public Informatio	LS		x		=	$	-
066090	Maintain Traffic	LS		x		=	$	-
066094	Value Analysis	LS		x		=	$	-
066204	Remove Rock & Debris	LS		x		=	$	-
066222	Locate Existing Cross-Over	LS		x		=	$	-
066670	Payment Adjustments For Price Index Fluctu	LS		x		=	$	-
066700	Partnering	LS		x		=	$	-
066866	Operation of Existing Traffic Management S	LS		x		=	$	-
066920	Dispute Review Board	LS		x		=	$	-
XXXXXX	Some Item			x		=	$	-
	*Cost of **NPDES** Supplemental Work specified in Section 5C*					=	$	12,706
	Total Section 1-8	$	4,423,000		5%	=	$	221,150

TOTAL SUPPLEMENTAL WORK $ 234,000

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Public Information	LS		x		=	$0
066105	RE Office	LS		x		=	$0
066803	Padlocks	LS		x		=	$0
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066901	Water Expenses	LS		x		=	$0
066062A	COZEEP Expenses	LS		x		=	$0
06684X	Ramp Meter Controller Assembly	LS		x		=	$0
06684X	TMS Controller Assembly	LS		x		=	$0
06684X	Traffic Signal Controller Assembly	LS		x		=	$0
XXXXXX	Some Item						
	Total Section 1-8	$	4,423,000		5%	=	$ 221,150

TOTAL STATE FURNISHED $222,000

SECTION 12: TIME-RELATED OVERHEAD

Estiamted Time-Releated Overhead (TRO) Percentage (0% to 10%) = 5%

Item code		Unit	Quantity		Unit Price ($)		Cost	
					Total of All Contract Items Only	$	17,959,000	(used to calculate TR
					Total Project Cost	$	18,769,000	(used to check if proj
070018	Time-Related Overhead	WD	500	X	1795.9	=	$897,950	

TOTAL TIME-RELATED OVERHEAD $898,000

SECTION 13: CONTINGENCY

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11	$	6,131,000	x	15%	=	$919,650

TOTAL CONTINGENCY $920,000

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	07/08/16	00/00/00	00/00/00
Bridge Name	Rice Ave Bridge	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	120.00 LF	0.00 LF	0.00 LF
Total Bridge Length (Feet)	420.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	50400 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	6.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	Pile	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$268.57	$0.00	$0.00
COST OF EACH STRUCTURE	**$13,536,000.00**	**$0.00**	**$0.00**

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0.00	$0.00	$0.00
COST OF EACH STRUCTURE	**$0.00**	**$0.00**	**$0.00**

TOTAL COST OF BRIDGES	**$13,536,000.00**
TOTAL COST OF BUILDINGS	**$0.00**
TOTAL COST OF STRUCTURES[1]	**$13,536,000**

Estimate Prepared By: Daryoush Haghighi (Print Name) 5/10/2018 (Date)

[1]Structure's Estimate includes Overhead and Mobilization.
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc

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,	$	313,948
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	0
	C2)	Potholing (Design Phase)	$	0
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	$	0
I)		Condemnation Settlements 0% (Items G & H applied to items A + B)	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	182,000

L) **TOTAL RIGHT OF WAY ESTIMATE $496,000**

(Excluding Item #8 - Hazardous Waste)

M) **TOTAL R/W ESTIMATE: Escalated $0**

N) **Right of Way Support $ 0**

Support Cost Estimate Prepared By	Henry Tong Project Coordinator[1]	714-953-1005 Phone
Utility Estimate Prepared By	Henry Tong Utilly Coordinator[2]	714-953-1005 Phone
R/W Acquisition Estimate Prepared By	Henry Tong Right of Way Estimator[3]	714-953-1005 Phone

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Planning Cost Estimate

Project ID: 0715000274

Type of Estimate : Planning
Program Code :
Project Limits : SR 34, PM 6.3/6.8
Description: Rice Ave Grade Separation
Scope : Grade separation
Alternative : 2A CITY

		Current Cost		Escalated Cost
ROADWAY ITEMS	$	36,979,000	$	39,232,000
STRUCTURE ITEMS	$	-	$	-
SUBTOTAL CONSTRUCTION COST	$	36,979,000	$	39,232,000
RIGHT OF WAY	$	9,246,000	$	9,810,000
TOTAL CAPITAL OUTLAY COST	**$**	**46,225,000**	**$**	**49,042,000**
PR/ED SUPPORT	$	-	$	-
PS&E SUPPORT	$	-	$	-
RIGHT OF WAY SUPPORT	$	-	$	-
CONSTRUCTION SUPPORT	$	-	$	-
TOTAL CAPITAL OUTLAY SUPPORT COST*	**$**	**-**	**$**	**-**
TOTAL PROJECT COST	**$**	**46,250,000**	**$**	**49,050,000**

If Project has been programmed enter Programmed Amount $ -

	Month / Year
Date of Estimate (Month/Year)	8 / 2017
Estimated Date of Construction Start (Month/Year)	12 / 2020
Number of Working Days	500 Working Days
Estimated Mid-Point of Construction (Month/Year)	12 / 2021
Number of Plant Establishment Days	Days

Estimated Project Schedule	Month / Year
PID Approval	12 / 2015
PA/ED Approval	5 / 2018
PS&E	11 / 2019
RTL	4 / 2020
Begin Construction	12 / 2020

Approved by Project Manager	Carlos Cadena	5/10/2018	714-953-1003
	Project Manager	**Date**	**Phone**

ALTERNATIVE 2A COST ESTIMATE

I. ROADWAY ITEMS

Section			Cost
1	**Earthwork**	$	4,472,000
2	**Structural Section**	$	5,958,000
3	**Drainage**	$	469,000
4	**Specialty Items**	$	5,180,000
5	**Environmental**		
	5A Environmental Mitigation		
	5B Landscape and Irrigation		
	5C NPDES	$	5,305,000
6	**Traffic Items**		
	6A Electrical	$	400,000
	6B Signing and Striping	$	75,000
	6C Traffic Management Plan	$	-
	6D Traffic Control	$	438,000
7	**Detours**	$	2,516,000
8	**Minor Items**	$	1,265,000
9	**Roadway Mobilization**	$	2,087,000
10	**Supplemental Work**	$	1,382,000
11	**State Furnished**		$1,304,000
12	**Contingencies**		$4,824,000
13	**Overhead**		$1,304,000
	TOTAL ROADWAY ITEMS	**$**	**36,979,000**

Estimate Prepared By :	Henry Tong, Project Engineer	5/10/2018	714-953-1005
	Name and Title	Date	Phone
Estimate Reviewed By :	Michael Hynes, Engineering Manager	5/10/2018	714-953-2639
	Name and Title	Date	Phone

ALT 2A

SECTION 1 EARTHWORK

Item code		Unit	Quantity		Unit Price ($)		Cost
190101	Roadway Excavation	CY	730	x	30.00	=	$ 21,900
190105	Roadway Excavation (Type Z-2) ADL	CY	200	x	230.00	=	$ 46,000
198010	Imported Borrow	CY	346,558	x	12.00	=	$ 4,158,696
160102	Clearing & Grubbing	LS	1	x	47,100.00	=	$ 49,968
170101	Develop Water Supply	LS	1	x	68,500.00	=	$ 72,672
							$ 122,640
							$ -

TOTAL EARTHWORK SECTION ITEMS $ 4,472,000

Section 2 STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)		Cost
280000	Lean Concrete Base	CY	7,315	x	135.00	=	$ 987,525
390129	Hot Mix Asphalt (Type A)	TON	0	x	95.00	=	$ -
260203	Class 2 Aggregate Base	CY	0	x	35.00	=	$ -
250401	Class 4 Aggregate Subbase	CY	0	x	40.00	=	$ -
250201	Class 2 Aggregate Subbase	CY	13,818	x	31.00	=	$ 428,358
401050	Jointed Plain Concrete Pavement	CY	18,068	x	205.00	=	$ 3,703,940
731502	Minor Concrete (Misc. Const) Curb, Sidewalk	CY	1,400	x	575.00	=	$ 805,000
394090	Place Hot Mix Asphalt (Misc. Area)	SQFT	11,000	x	3.00	=	$ 33,000

TOTAL STRUCTURAL SECTION ITEMS $ 5,958,000

ALT 2A

SECTION 3 DRAINAGE

Drainage	LS	1	3% Roadway	$	468,300	
			TOTAL DRAINAGE ITEMS	**$**		**469,000**

SECTION 4 SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
190110	Lead Compliance Plan	LS	1	x	64,000.00	=	$	64,000
800360	Chain Link Fence (Type CL-6)	LF	2,200	x	35.00	=	$	77,000
832001	Metal Beam Guard Railing	LF	840	x	40.00	=	$	33,600
839736	Concrete Barrier (Type 742A)	LF	4,160	x	120.00	=	$	499,200
839706	Concrete Barrier (Type 60G)	LF	0	x	110.00	=	$	-
839704	Concrete Barrier (Type 60D)	LF	0	x	55.00	=	$	-
477020	MSE Wall	SQFT	60,080	x	75.00	=	$	4,506,000

TOTAL SPECIALTY ITEMS	**$**	**5,180,000**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
	Biological Mitigation	LS		x		=	$	-
071325	TEMPORARY REINFORCED SILT FENCE	LF		x		=	$	-
071325	Temporary Fence (Type ESA)	LF		x		=	$	-
	Hazardous Waste Remediation	LF	1	x	2,919,888.00	=	$	2,919,888

Subtotal Environmental $ 2,919,888

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
200001	Highway Planting	LS	1	x	659,087.50	=	$	659,088
20XXXX	XXX" (*Insert Type*) Conduit *(Use for*	LF		x		=	$	-
20XXXX	Extend XXX" *(Insert Type)* Conduit	LF		x		=	$	-
201700	Imported Topsoil	CY		x		=	$	-
2030XX	Erosion Control (Type __)	SQYD		x		=	$	-
203021	Fiber Rolls	LF		x		=	$	-
203026	Move In/ Move Out (Erosion Control)	EA		x		=	$	-
204099	Plant Establishment Work	LS		x		=	$	-
204101	Extend Plant Establishment (X Years)	LS		x		=	$	-
208000	Irrigation System	LS	1	x	1,449,992.50	=	$	1,449,993
208304	Water Meter	EA		x		=	$	-
209801	Maintenance Vehicle Pullout	EA		x		=	$	-
XXXXXX	Some Item							

Subtotal Landscape and Irrigation $ 2,109,080

5C - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost
130100	Job Site Management	LS	1	x	50,050.00	=	$	50,050
130300	Prepare SWPPP	LS	1	x	14,820.00	=	$	14,820
130310	Rain Event Action Plan	EA	1	x	7,507.50	=	$	7,508
130320	Storm Water Sampling and Analysis Day	EA	1	x	1,604.85	=	$	1,605
130330	Storm Water Annual Report	EA	1	x	3,900.00	=	$	3,900
130520	Temporary Hydraulic Mulch	SQYD	105,227	x	0.40	=	$	42,091
130620	Temporary Drainage Inlet Protection	EA	3	x	200.00	=	$	600
130640	Temporary Fiber Rolls	LF	22,750	x	3.60	=	$	81,900
130680	Temporary Silt Fence	LF	16,372	x	3.00	=	$	49,116
130710	Temporary Construction Entrance	EA	1	x	4,000.00	=	$	4,000
130730	Street Sweeping	LS	1	x	15,000.00	=	$	15,000
130900	Temporary Concrete Washout Facility	EA	1	x	5,000.00	=	$	5,000

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595	Water Pollution Control Maintenance Sharing'	LS	1	x	17,766.25	=	$	17,766
066596	Additional Water Pollution Control**	LS	1	x	3,900.00	=	$	3,900
066916	Annual Construction General Permit Fees	LS	1	x	1,931.04	=	$	1,931
XXXXXX	Permanent Storm Water Treatment	LS	1	x	20,534.00	=	$	20,534
XXXXXX	Permanent Design Pollution Prevention	LS	1	x	33,889.00	=	$	33,889

Subtotal NPDES (Without Supplemental Work) $ 275,589

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

**Applies to both SWPPPs and WPCP projects.

TOTAL ENVIRONMENTAL $ 5,305,000

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
150760	Remove Sign Structure	EA		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
5602XX	Furnish Sign Structure	LB		x		=	$	-
5602XX	Install Sign Structure	LB		x		=	$	-
56XXXX	XXX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
860090	Maintain Existing Traffic Management	LS		x		=	$	-
860810	Inductive Loop Detectors	EA		x		=	$	-
86055X	Lighting & Sign Illumination	LS		x		=	$	-
8607XX	Interconnection Facilities	LS		x		=	$	-
8609XX	Traffic Monitoring Stations	LS		x		=	$	-
860XXX	Signals & Lighting	LS	1	x	375,000.00	=	$	375,000
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
	Misc Items	LS	1	x	25,000.00	=	$	25,000

Subtotal Traffic Electrical $ *400,000*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
120090	Construction Area Signs	LS		x		=	$	-
141120	Treated Wood Waste	LB	5,000	x	1.00	=	$	5,000
150701	Remove Yellow Painted Traffic Stripe	LF		x		=	$	-
150710	Remove Traffic Stripe	LF		x		=	$	-
150713	Remove Pavement Marking	SQFT		x		=	$	-
150742	Remove Roadside Sign	EA		x		=	$	-
152320	Reset Roadside Sign	EA		x		=	$	-
152390	Relocate Roadside Sign	EA		x		=	$	-
566011	Roadside Sign (One Post)	EA	0	x	25,000.00	=	$	-
566012	Roadside Sign (Two Post)	EA	1	x	25,000.00	=	$	25,000
560XXX	Furnish Sign Panels	SQFT		x		=	$	-
560XXX	Install Sign Panels	SQFT		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
84XXXX	Permanent Pavement Delineation	LS	1	x	45,000.00	=	$	45,000

Subtotal Traffic Signing and Striping $ *75,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	92,500.00	=	$	92,500
120120	Type III Barricade	EA		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
12016X	Channelizer	EA		x		=	$	-
128650	Portable Changeable Message Signs	EA	3	x	21,000.00	=	$	63,000
129000	Temporary Railing (Type K)	LF		x		=	$	-
129100	Temp. Crash Cushion Module	EA		x		=	$	-
129099A	Traffic Plastic Drum	EA		x		=	$	-
839603A	Temporary Crash Cushion (ADIEM)	EA		x		=	$	-
	Railroad Flagging Service	LS	1	x	56,000.00	=	$	56,000
	Traffic Management Plan	LS	1	x	226,000.00	=	$	226,000

$ *438,000*

Subtotal Stage Construction and Traffic Handling

$ 913,000

SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)		Cost
0713XX	Temporary Fence (Type X)	LF		x		=	$ -
07XXXX	Temporary Drainage	LS		x		=	$ -
120143	Temporary Pavement Delineation	LF		x		=	$ -
1286XX	Temporary Signals	EA	1	x	50,000.00	=	$ 50,000
129000	Temporary Railing (Type K)	LF		x		=	$ -
190101	Roadway Excavation	CY	50,000	x	30.00	=	$ 1,500,000
198001	Imported Borrow	CY		x		=	$ -
198050	Embankment	CY		x		=	$ -
250401	Class 4 Aggregate Subbase	CY	5,300	x	25.00	=	$ 132,500
260203	Class 2 Aggregate Base	CY	3,620	x	50.00	=	$ 181,000
390132	Hot Mix Asphalt (Type A)	TON	5,300	x	115.00	=	$ 609,500
	Traffic Management Plan	LS	1	x	11,250.00	=	$ 11,250
	Temp Sign & Striping	LS	1	x	13,500.00		$ 13,500
	Misc Costs	LS	1	x	18,000.00		$ 18,000

TOTAL DETOURS $ 2,516,000

SUBTOTAL SECTIONS 1-7 **$ 24,813,000**

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items							
Curb Ramps and Crosswalks	LS		1		$ 24,000.00		$ 24,000
8B - Bike Path Items							
Bike Path Items					$ -		$ -
8C - Other Minor Items							
Other Minor Items					$ -		$ -
Total of Section 1-7	$	24,813,000		x	5.0%	=	$ 1,264,650

TOTAL MINOR ITEMS $ 1,265,000

SECTIONS 9: MOBILIZATION

Item code							
999990	Total Section 1-8	$	26,078,000	x	8%	=	$ 2,086,240

TOTAL MOBILIZATION $ 2,087,000

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)		Cost
066015	Federal Trainee Program	LS		x		=	$ -
066063	Traffic Management Plan - Public Informatio	LS		x		=	$ -
066090	Maintain Traffic	LS		x		=	$ -
066094	Value Analysis	LS		x		=	$ -
066204	Remove Rock & Debris	LS		x		=	$ -
066222	Locate Existing Cross-Over	LS		x		=	$ -
066670	Payment Adjustments For Price Index Fluctu	LS		x		=	$ -
066700	Partnering	LS		x		=	$ -
066866	Operation of Existing Traffic Management S	LS		x		=	$ -
066920	Dispute Review Board	LS		x		=	$ -
XXXXXX	Some Item			x		=	$ -
	*Cost of **NPDES** Supplemental Work specified in Section 5C*					=	$ 78,020
	Total Section 1-8	$	26,078,000		5%	=	$ 1,303,900

TOTAL SUPPLEMENTAL WORK $ 1,382,000

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Public Information	LS		x		=	$0
066105	RE Office	LS		x		=	$0
066803	Padlocks	LS		x		=	$0
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066901	Water Expenses	LS		x		=	$0
066062A	COZEEP Expenses	LS		x		=	$0
06684X	Ramp Meter Controller Assembly	LS		x		=	$0
06684X	TMS Controller Assembly	LS		x		=	$0
06684X	Traffic Signal Controller Assembly	LS		x		=	$0
XXXXXX	Some Item						
	Total Section 1-8	$	26,078,000		5%	=	$ 1,303,900

TOTAL STATE FURNISHED $1,304,000

SECTION 12: TIME-RELATED OVERHEAD

Estiamted Time-Releated Overhead (TRO) Percentage (0% to 10%) = 5%

Item code		Unit	Quantity		Unit Price ($)		Cost	
				Total of All Contract Items Only		$	26,078,000	(used to calculate TR
				Total Project Cost		$	30,851,000	(used to check if proj
070018	Time-Related Overhead	WD	500	X	$2,608	=	$1,303,900	

TOTAL TIME-RELATED OVERHEAD $1,304,000

SECTION 13: CONTINGENCY

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11	$	32,155,000	x	15%	=	$4,823,250

TOTAL CONTINGENCY $4,824,000

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	07/08/16	00/00/00	00/00/00
Bridge Name	Rice Ave Bridge	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	120.00 LF	0.00 0	0.00 LF
Total Bridge Length (Feet)	420.00 LF	0.00 0	0.00 LF
Total Area (Square Feet)	0 SQFT	0 0	0 SQFT
Structure Depth (Feet)	5.75 LF	0.00 0	0.00 LF
Footing Type (pile or spread)	Pile	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$268.57	$0.00	$0.00

COST OF EACH STRUCTURE	**$0.00**	**$0.00**	**$0.00**

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0.00	$0.00	$0.00

COST OF EACH STRUCTURE	**$0.00**	**$0.00**	**$0.00**

TOTAL COST OF BRIDGES	**$0.00**
TOTAL COST OF BUILDINGS	**$0.00**

TOTAL COST OF STRUCTURES[1]	**$0**

Estimate Prepared By: Daryoush Haghighi (Print Name) 5/10/2018 (Date)

[1]Structure's Estimate includes Overhead and Mobilization.
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc

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,	$	3,019,506
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	0
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	1,000,000
E)		Clearance / Demolition	$	0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	0
G)		Title and Escrow	$	0
H)		Environmental Review	$	0
I)		Condemnation Settlements (Items G & H applied to items A + B) 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	5,226,000

L) **TOTAL RIGHT OF WAY ESTIMATE $9,246,000**

(Excluding Item #8 - Hazardous Waste)

M) **TOTAL R/W ESTIMATE: Escalated $9,810,000**

N) **Right of Way Support $ 0**

Support Cost Estimate Prepared By	Henry Tong Project Coordinator[1]	714-953-1005 Phone
Utility Estimate Prepared By	Henry Tong Utilly Coordinator[2]	714-953-1005 Phone
R/W Acquisition Estimate Prepared By	Henry Tong Right of Way Estimator[3]	714-953-1005 Phone

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Planning Cost Estimate

Project ID: 0715000274

Type of Estimate :	Planning
Program Code :	
Project Limits :	SR 34, PM 6.3/6.8
Description:	Rice Ave Grade Separation
Scope :	Grade separation
Alternative :	2B - CALTRANS

		Current Cost		Escalated Cost
ROADWAY ITEMS	$	7,570,300	$	8,031,331
STRUCTURE ITEMS	$	14,664,000	$	15,557,038
SUBTOTAL CONSTRUCTION COST	$	22,234,300	$	23,588,369
RIGHT OF WAY	$	635,000	$	673,672
TOTAL CAPITAL OUTLAY COST	$	22,870,000	$	24,263,000
PR/ED SUPPORT	$	-	$	-
PS&E SUPPORT	$	-	$	-
RIGHT OF WAY SUPPORT	$	-	$	-
CONSTRUCTION SUPPORT	$	-	$	-
TOTAL CAPITAL OUTLAY SUPPORT COST*	$	-	$	-
TOTAL PROJECT COST	$	22,900,000	$	24,300,000

If Project has been programmed enter Programmed Amount	$	-
	Month	/ Year
Date of Estimate (Month/Year)	8	/ 2017
Estimated Date of Construction Start (Month/Year)	12	/ 2020
Number of Working Days	500	Working Days
	Month	/ Year
Estimated Mid-Point of Construction (Month/Year)	12	/ 2021
Number of Plant Establishment Days		Days
Estimated Project Schedule	Month	/ Year
PID Approval	12	/ 2015
PA/ED Approval	5	/ 2018
PS&E	11	/ 2019
RTL	4	/ 2020
Begin Construction	12	/ 2020

Approved by Project Manager	Carlos Cadena	5/10/2018	714-953-1003
	Project Manager	**Date**	**Phone**

ALTERNATIVE 2B COST ESTIMATE

I. ROADWAY ITEMS

Section			Cost
1	**Earthwork**	$	485,000
2	**Structural Section**	$	1,787,000
3	**Drainage**	$	71,000
4	**Specialty Items**	$	87,000
5	**Environmental**		
	5A Environmental Mitigation		
	5B Landscape and Irrigation		
	5C NPDES	$	1,261,300
6	**Traffic Items**		
	6A Electrical	$	400,000
	6B Signing and Striping	$	75,000
	6C Traffic Management Plan	$	-
	6D Traffic Control	$	164,000
7	**Detours**	$	187,000
8	**Minor Items**	$	226,000
9	**Roadway Mobilization**	$	380,000
10	**Supplemental Work (Utilities)**	$	250,000
11	**State Furnished**		$238,000
12	**Contingencies**		$988,000
13	**Overhead**	$	971,000
	TOTAL ROADWAY ITEMS	**$**	**7,570,300**

Estimate Prepared By :	Henry Tong, Project Engineer	5/10/2018	714-953-1005
	Name and Title	Date	Phone
Estimate Reviewed By :	Michael Hynes, Engineering Manager	5/10/2018	714-953-2639
	Name and Title	Date	Phone

ALT 2B

SECTION 1 EARTHWORK

Item code		Unit	Quantity		Unit Price ($)		Cost
190101	Roadway Excavation	CY	265	x	30.00	=	$ 7,950
190105	Roadway Excavation (Type Z-2) ADL	CY	100	x	230.00	=	$ 23,000
198010	Imported Borrow	CY	36,824	x	12.00	=	$ 441,888
160102	Clearing & Grubbing	LS	1	x	3,900.00	=	$ 3,900
170101	Develop Water Supply	LS	1	x	8,000.00	=	$ 8,000

TOTAL EARTHWORK SECTION ITEMS $ 485,000

Section 2 STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)		Cost
280000	Lean Concrete Base	CY	2,474	x	135.00	=	$ 333,990
390129	Hot Mix Asphalt (Type A)	TON	0	x	95.00	=	$ -
260203	Class 2 Aggregate Base	CY	0	x	35.00	=	$ -
250401	Class 4 Aggregate Subbase	CY	0	x	40.00	=	$ -
250201	Class 2 Aggregate Subbase	CY	4,673	x	31.00	=	$ 144,863
401050	Jointed Plain Concrete Pavement	CY	6,322	x	205.00	=	$ 1,296,010
731502	Minor Concrete (Misc. Const) Curb, Sidewalk	CY	0	x	575.00	=	$ -
394090	Place Hot Mix Asphalt (Misc. Area)	SQFT	4,000	x	3.00	=	$ 12,000

TOTAL STRUCTURAL SECTION ITEMS $ 1,787,000

ALT 2B

SECTION 3 DRAINAGE

Drainage	LS	1	3% Roadway	$	70,770	
			TOTAL DRAINAGE ITEMS	**$**		**71,000**

SECTION 4 SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)		Cost
190110	Lead Compliance Plan	LS	1	x	6,000.00	=	$ 6,000
800360	Chain Link Fence (Type CL-6)	LF	1,900	x	35.00	=	$ 66,500
832001	Metal Beam Guard Railing	LF	360	x	40.00	=	$ 14,400
839736	Concrete Barrier (Type 742A)	LF	0	x	120.00	=	$ -
839706	Concrete Barrier (Type 60G)	LF	0	x	110.00	=	$ -
839704	Concrete Barrier (Type 60D)	LF	0	x	55.00	=	$ -
477020	MSE Wall	SQFT	0	x	75.00	=	$ -

TOTAL SPECIALTY ITEMS	**$**	**87,000**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
	Biological Mitigation	LS		x		=	$	-
071325	TEMPORARY REINFORCED SILT FENCE	LF		x		=	$	-
071325	Temporary Fence (Type ESA)	LF		x		=	$	-
	Hazardous Waste Remediation	LS	1	x	688,115.25	=	$	688,115

Subtotal Environmental $ *689,000*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
200001	Highway Planting	LS	1	x	134,767.50	=	$	134,768
20XXXX	XXX" (*Insert Type*) Conduit *(Use for*	LF		x		=	$	-
20XXXX	Extend XXX" *(Insert Type)* Conduit	LF		x		=	$	-
201700	Imported Topsoil	CY		x		=	$	-
2030XX	Erosion Control (Type __)	SQYD		x		=	$	-
203021	Fiber Rolls	LF		x		=	$	-
203026	Move In/ Move Out (Erosion Control)	EA		x		=	$	-
204099	Plant Establishment Work	LS		x		=	$	-
204101	Extend Plant Establishment (X Years)	LS		x		=	$	-
208000	Irrigation System	LS	1	x	296,488.50	=	$	296,489
208304	Water Meter	EA		x		=	$	-
209801	Maintenance Vehicle Pullout	EA		x		=	$	-
XXXXXX	Some Item							

Subtotal Landscape and Irrigation $ *431,256*

5C - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost
130100	Job Site Management	LS	1	x	26,950.00	=	$	26,950
130300	Prepare SWPPP	LS	1	x	7,980.00	=	$	7,980
130310	Rain Event Action Plan	EA	1	x	4,042.50	=	$	4,043
130320	Storm Water Sampling and Analysis Day	EA	1	x	864.15	=	$	864
130330	Storm Water Annual Report	EA	1	x	2,100.00	=	$	2,100
130520	Temporary Hydraulic Mulch	SQYD	35,591	x	0.40	=	$	14,236
130620	Temporary Drainage Inlet Protection	EA	1	x	200.00	=	$	200
130640	Temporary Fiber Rolls	LF	10,303	x	3.60	=	$	37,091
130680	Temporary Silt Fence	LF	7,700	x	3.00	=	$	23,100
130710	Temporary Construction Entrance	EA	1	x	4,000.00	=	$	4,000
130730	Street Sweeping	LS	1	x	15,000.00	=	$	15,000
130900	Temporary Concrete Washout Facility	EA	1	x	5,000.00	=	$	5,000

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595	Water Pollution Control Maintenance Sharing	LS	1	x	9,022.18	=	$	9,022
066596	Additional Water Pollution Control**	LS	1	x	2,100.00	=	$	2,100
066916	Annual Construction General Permit Fees	LS	1	x	1,318.00	=	$	1,318
XXXXXX	Some Item							

Subtotal NPDES (Without Supplemental Work) $ *141,000*

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

**Applies to both SWPPPs and WPCP projects.

TOTAL ENVIRONMENTAL $ 1,261,300

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
150760	Remove Sign Structure	EA		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
5602XX	Furnish Sign Structure	LB		x		=	$	-
5602XX	Install Sign Structure	LB		x		=	$	-
56XXXX	XXX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
860090	Maintain Existing Traffic Management	LS		x		=	$	-
860810	Inductive Loop Detectors	EA		x		=	$	-
86055X	Lighting & Sign Illumination	LS		x		=	$	-
8607XX	Interconnection Facilities	LS		x		=	$	-
8609XX	Traffic Monitoring Stations	LS		x		=	$	-
860XXX	Signals & Lighting	LS	1	x	375,000.00	=	$	375,000
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
	Misc Items	LS	1	x	25,000.00	=	$	25,000

Subtotal Traffic Electrical $ *400,000*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
120090	Construction Area Signs	LS		x		=	$	-
141120	Treated Wood Waste	LB	5,000	x	1.00	=	$	5,000
150701	Remove Yellow Painted Traffic Stripe	LF		x		=	$	-
150710	Remove Traffic Stripe	LF		x		=	$	-
150713	Remove Pavement Marking	SQFT		x		=	$	-
150742	Remove Roadside Sign	EA		x		=	$	-
152320	Reset Roadside Sign	EA		x		=	$	-
152390	Relocate Roadside Sign	EA		x		=	$	-
566011	Roadside Sign (One Post)	EA	0	x	25,000.00	=	$	-
566012	Roadside Sign (Two Post)	EA	1	x	25,000.00	=	$	25,000
560XXX	Furnish Sign Panels	SQFT		x		=	$	-
560XXX	Install Sign Panels	SQFT		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
84XXXX	Permanent Pavement Delineation	LS	1	x	45,000.00	=	$	45,000

Subtotal Traffic Signing and Striping $ *75,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	92,500.00	=	$	92,500
120120	Type III Barricade	EA		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
12016X	Channelizer	EA		x		=	$	-
128650	Portable Changeable Message Signs	EA	1	x	21,000.00	=	$	21,000
129000	Temporary Railing (Type K)	LF		x		=	$	-
129100	Temp. Crash Cushion Module	EA		x		=	$	-
129099A	Traffic Plastic Drum	EA		x		=	$	-
839603A	Temporary Crash Cushion (ADIEM)	EA		x		=	$	-
	Traffic Management Plan	LS	1	x	50,000.00	=	$	50,000

$ *164,000*

Subtotal Stage Construction and Traffic Handling

$ 639,000

SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
0713XX	Temporary Fence (Type X)	LF		x		=	$	-
07XXXX	Temporary Drainage	LS		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
1286XX	Temporary Signals	EA	1	x	125,000.00	=	$	125,000
129000	Temporary Railing (Type K)	LF		x		=	$	-
190101	Roadway Excavation	CY	400	x	30.00	=	$	12,000
198001	Imported Borrow	CY		x		=	$	-
198050	Embankment	CY		x		=	$	-
250401	Class 4 Aggregate Subbase	CY	250	x	25.00	=	$	6,250
260203	Class 2 Aggregate Base	CY	180	x	50.00	=	$	9,000
390132	Hot Mix Asphalt (Type A)	TON	260	x	115.00	=	$	29,900
	Traffic Management Plan	LS	1	x	1,250.00	=	$	1,250
	Temp Sign & Striping	LS	1	x	1,500.00		$	1,500
	Misc Costs	LS	1	x	2,000.00		$	2,000

TOTAL DETOURS $ 187,000

SUBTOTAL SECTIONS 1-7 **$ 4,517,300**

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items								
ADA Items					0.0%		$	-
8B - Bike Path Items								
Bike Path Items					0.0%		$	-
8C - Other Minor Items								
Other Minor Items					0.0%		$	-
Total of Section 1-7	$	4,517,300	x		5.0%	=	$	225,865

TOTAL MINOR ITEMS $ 226,000

SECTIONS 9: MOBILIZATION

Item code								
999990	Total Section 1-8	$	4,743,300	x	8%	=	$	379,464

TOTAL MOBILIZATION $ 380,000

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066015	Federal Trainee Program	LS		x		=	$	-
066063	Traffic Management Plan - Public Informatio	LS		x		=	$	-
066090	Maintain Traffic	LS		x		=	$	-
066094	Value Analysis	LS		x		=	$	-
066204	Remove Rock & Debris	LS		x		=	$	-
066222	Locate Existing Cross-Over	LS		x		=	$	-
066670	Payment Adjustments For Price Index Fluctu	LS		x		=	$	-
066700	Partnering	LS		x		=	$	-
066866	Operation of Existing Traffic Management S	LS		x		=	$	-
066920	Dispute Review Board	LS		x		=	$	-
XXXXXX	Some Item			x		=	$	-
	*Cost of **NPDES** Supplemental Work specified in Section 5C*					=	$	12,440
	Total Section 1-8	$	4,743,300		5%	=	$	237,165

TOTAL SUPPLEMENTAL WORK $ 250,000

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Public Information	LS		x		=	$0
066105	RE Office	LS		x		=	$0
066803	Padlocks	LS		x		=	$0
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066901	Water Expenses	LS		x		=	$0
066062A	COZEEP Expenses	LS		x		=	$0
06684X	Ramp Meter Controller Assembly	LS		x		=	$0
06684X	TMS Controller Assembly	LS		x		=	$0
06684X	Traffic Signal Controller Assembly	LS		x		=	$0
XXXXXX	Some Item						
	Total Section 1-8	$	4,743,300		5%	= $	237,165

TOTAL STATE FURNISHED $238,000

SECTION 12: TIME-RELATED OVERHEAD

Estiamted Time-Releated Overhead (TRO) Percentage (0% to 10%) = 5%

Item code		Unit	Quantity		Unit Price ($)		Cost	
					Total of All Contract Items Only	$	19,407,300	(used to calculate TR
					Total Project Cost	$	20,275,300	(used to check if proj
070018	Time-Related Overhead	WD	500	X	1940.73	= $	970,365	

TOTAL TIME-RELATED OVERHEAD $ 971,000

SECTION 13: CONTINGENCY

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11	$	6,582,300	x	15%	=	$987,345

TOTAL CONTINGENCY $988,000

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	06/13/16	00/00/00	00/00/00
Bridge Name	Rice Ave Bridge	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	130.00 LF	0.00 LF	0.00 LF
Total Bridge Length (Feet)	420.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	54600 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	5.75 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	Pile	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$268.57	$0.00	$0.00
COST OF EACH STRUCTURE	**$14,664,000.00**	**$0.00**	**$0.00**

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0.00	$0.00	$0.00
COST OF EACH STRUCTURE	**$0.00**	**$0.00**	**$0.00**

TOTAL COST OF BRIDGES	**$14,664,000.00**
TOTAL COST OF BUILDINGS	**$0.00**
TOTAL COST OF STRUCTURES[1]	**$14,664,000**

Estimate Prepared By: Daryoush Haghighi (Print Name) 5/10/2018 (Date)

[1]Structure's Estimate Includes Overhead and Mobilization.
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc

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,	$	452,711
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	0
	C2)	Potholing (Design Phase)	$	0
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	$	0
I)		Condemnation Settlements (Items G & H applied to items A + B) 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	182,000

L) **TOTAL RIGHT OF WAY ESTIMATE $635,000**

(Excluding Item #8 - Hazardous Waste)

M) **TOTAL R/W ESTIMATE: Escalated $0**

N) **Right of Way Support $ 0**

Support Cost Estimate Prepared By	Henry Tong Project Coordinator[1]	714-953-1005 Phone
Utility Estimate Prepared By	Henry Tong Utility Coordinator[2]	714-953-1005 Phone
R/W Acquisition Estimate Prepared By	Henry Tong Right of Way Estimator[3]	714-953-1005 Phone

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Planning Cost Estimate

Project ID: 0715000274

Type of Estimate :	Planning
Program Code :	
Project Limits :	SR 34, PM 6.3/6.8
Description:	Rice Ave Grade Separation
Scope :	Grade separation
Alternative :	2B - CITY

		Current Cost		Escalated Cost
ROADWAY ITEMS	$	33,868,000	$	35,930,561
STRUCTURE ITEMS	$	-	$	-
SUBTOTAL CONSTRUCTION COST	$	33,868,000	$	35,930,561
RIGHT OF WAY	$	8,590,000	$	9,113,131
TOTAL CAPITAL OUTLAY COST	$	42,458,000	$	45,044,000
PR/ED SUPPORT	$	-	$	-
PS&E SUPPORT	$	-	$	-
RIGHT OF WAY SUPPORT	$	-	$	-
CONSTRUCTION SUPPORT	$	-	$	-
TOTAL CAPITAL OUTLAY SUPPORT COST*	$	-	$	-
TOTAL PROJECT COST	$	42,500,000	$	45,050,000

If Project has been programmed enter Programmed Amount	$ -
	Month / Year
Date of Estimate (Month/Year)	8 / 2017
Estimated Date of Construction Start (Month/Year)	12 / 2020
Number of Working Days	500 Working Days
	Month / Year
Estimated Mid-Point of Construction (Month/Year)	12 / 2021
Number of Plant Establishment Days	Days
Estimated Project Schedule	Month / Year
PID Approval	12 / 2015
PA/ED Approval	5 / 2018
PS&E	11 / 2019
RTL	4 / 2020
Begin Construction	12 / 2020

Approved by Project Manager	Carlos Cadena	5/10/2018	714-953-1003
	Project Manager	**Date**	**Phone**

ALTERNATIVE 2B COST ESTIMATE

I. ROADWAY ITEMS

Section			Cost
1	Earthwork	$	3,821,000
2	Structural Section	$	5,200,000
3	Drainage	$	426,000
4	Specialty Items	$	5,159,000
5	Environmental		
	5A Environmental Mitigation		
	5B Landscape and Irrigation		
	5C NPDES	$	4,491,000
6	Traffic Items		
	6A Electrical	$	600,000
	6B Signing and Striping	$	75,000
	6C Traffic Management Plan	$	-
	6D Traffic Control	$	438,000
7	Detours	$	2,516,000
8	Minor Items	$	1,153,000
9	Roadway Mobilization	$	1,911,000
10	Supplemental Work (Utilities)	$	1,272,000
11	State Furnished		$1,194,000
12	Contingencies		$4,418,000
13	Overhead		$1,194,000
	TOTAL ROADWAY ITEMS	**$**	**33,868,000**

Estimate Prepared By :	Henry Tong, Project Engineer	5/10/2018	714-953-1005
	Name and Title	Date	Phone
Estimate Reviewed By :	Michael Hynes, Engineering Manager	5/10/2018	714-953-2639
	Name and Title	Date	Phone

ALT 2B

SECTION 1 EARTHWORK

Item code		Unit	Quantity		Unit Price ($)		Cost
190101	Roadway Excavation	CY	578	x	30.00	=	$ 17,340
190105	Roadway Excavation (Type Z-2) ADL	CY	100	x	230.00	=	$ 23,000
198010	Imported Borrow	CY	305,521	x	12.00	=	$ 3,666,252
160102	Clearing & Grubbing	LS	1	x	47,100.00	=	$ 47,100
170101	Develop Water Supply	LS	1	x	67,000.00	=	$ 67,000

TOTAL EARTHWORK SECTION ITEMS $ 3,821,000

Section 2 STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)		Cost
280000	Lean Concrete Base	CY	6,402	x	135.00	=	$ 864,270
390129	Hot Mix Asphalt (Type A)	TON	0	x	95.00	=	$ -
260203	Class 2 Aggregate Base	CY	0	x	35.00	=	$ -
250401	Class 4 Aggregate Subbase	CY	0	x	40.00	=	$ -
250201	Class 2 Aggregate Subbase	CY	12,092	x	31.00	=	$ 374,852
401050	Jointed Plain Concrete Pavement	CY	15,805	x	205.00	=	$ 3,240,025
731502	Minor Concrete (Misc. Const) Curb, Sidewalk	CY	1,200	x	575.00	=	$ 690,000
394090	Place Hot Mix Asphalt (Misc. Area)	SQFT	10,000	x	3.00	=	$ 30,000

TOTAL STRUCTURAL SECTION ITEMS $ 5,200,000

ALT 2B

SECTION 3 DRAINAGE

Drainage	LS	1	3% Roadway	$	425,400	
			TOTAL DRAINAGE ITEMS	**$**		**426,000**

SECTION 4 SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)		Cost
190110	Lead Compliance Plan	LS	1	x	64,000.00	=	$ 64,000
800360	Chain Link Fence (Type CL-6)	LF	2,100	x	35.00	=	$ 73,500
832001	Metal Beam Guard Railing	LF	940	x	40.00	=	$ 37,600
839736	Concrete Barrier (Type 742A)	LF	4,045	x	120.00	=	$ 485,400
839706	Concrete Barrier (Type 60G)	LF	0	x	110.00	=	$ -
839704	Concrete Barrier (Type 60D)	LF	0	x	55.00	=	$ -
477020	MSE Wall	SQFT	59,980	x	75.00	=	$ 4,498,500

TOTAL SPECIALTY ITEMS	**$**	**5,159,000**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
	Biological Mitigation	LS		x		=	$	-
071325	TEMPORARY REINFORCED SILT FENCE	LF		x		=	$	-
071325	Temporary Fence (Type ESA)	LF		x		=	$	-
	Hazardous Waste Remediation	LS	1	x	2,752,461.00	=	$	2,752,461

Subtotal Environmental $ 2,753,000

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost
200001	Highway Planting	LS	1	x	464,712.50	=	$	464,713
20XXXX	XXX" (*Insert Type*) Conduit *(Use for*	LF		x		=	$	-
20XXXX	Extend XXX" *(Insert Type)* Conduit	LF		x		=	$	-
201700	Imported Topsoil	CY		x		=	$	-
2030XX	Erosion Control (Type __)	SQYD		x		=	$	-
203021	Fiber Rolls	LF		x		=	$	-
203026	Move In/ Move Out (Erosion Control)	EA		x		=	$	-
204099	Plant Establishment Work	LS		x		=	$	-
204101	Extend Plant Establishment (X Years)	LS		x		=	$	-
208000	Irrigation System	LS	1	x	1,022,367.50	=	$	1,022,368
208304	Water Meter	EA		x		=	$	-
209801	Maintenance Vehicle Pullout	EA		x		=	$	-
XXXXXX	Some Item							

Subtotal Landscape and Irrigation $ 1,488,000

5C - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost
130100	Job Site Management	LS	1	x	50,050.00	=	$	50,050
130300	Prepare SWPPP	LS	1	x	14,820.00	=	$	14,820
130310	Rain Event Action Plan	EA	1	x	7,507.50	=	$	7,508
130320	Storm Water Sampling and Analysis Day	EA	1	x	1,604.85	=	$	1,605
130330	Storm Water Annual Report	EA	1	x	3,900.00	=	$	3,900
130520	Temporary Hydraulic Mulch	SQYD	87,351	x	0.40	=	$	34,940
130620	Temporary Drainage Inlet Protection	EA	3	x	200.00	=	$	600
130640	Temporary Fiber Rolls	LF	19,134	x	3.60	=	$	68,882
130680	Temporary Silt Fence	LF	14,300	x	3.00	=	$	42,900
130710	Temporary Construction Entrance	EA	1	x	4,000.00	=	$	4,000
130730	Street Sweeping	LS	1	x	15,000.00	=	$	15,000
130900	Temporary Concrete Washout Facility	EA	1	x	5,000.00	=	$	5,000

Supplemental Work for NPDES

(These costs are not accounted in total here but under Supplemental Work on sheet 7 of 11).

066595	Water Pollution Control Maintenance Sharing*	LS	1	x	16,755.47	=	$	16,755
066596	Additional Water Pollution Control**	LS	1	x	3,900.00	=	$	3,900
066916	Annual Construction General Permit Fees	LS	1	x	2,133.33	=	$	2,133
XXXXXX	Permanent Storm Water Treatment	LS	1	x	20,534.00	=	$	20,534
XXXXXX	Permanent Design Pollution Prevention	LS	1	x	33,889.00	=	$	33,889

Subtotal NPDES (Without Supplemental Work) $ 250,000

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

**Applies to both SWPPPs and WPCP projects.

TOTAL ENVIRONMENTAL $ 4,491,000

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
150760	Remove Sign Structure	EA		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
5602XX	Furnish Sign Structure	LB		x		=	$	-
5602XX	Install Sign Structure	LB		x		=	$	-
56XXXX	XXX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
860090	Maintain Existing Traffic Management	LS		x		=	$	-
860810	Inductive Loop Detectors	EA		x		=	$	-
86055X	Lighting & Sign Illumination	LS		x		=	$	-
8607XX	Interconnection Facilities	LS		x		=	$	-
8609XX	Traffic Monitoring Stations	LS		x		=	$	-
860XXX	Signals & Lighting	LS	1	x	575,000.00	=	$	575,000
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
8611XX	Ramp Metering System (Location X)	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
	Misc Items	LS	1	x	25,000.00	=	$	25,000

Subtotal Traffic Electrical $ 600,000

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
120090	Construction Area Signs	LS		x		=	$	-
141120	Treated Wood Waste	LB	5,000	x	1.00	=	$	5,000
150701	Remove Yellow Painted Traffic Stripe	LF		x		=	$	-
150710	Remove Traffic Stripe	LF		x		=	$	-
150713	Remove Pavement Marking	SQFT		x		=	$	-
150742	Remove Roadside Sign	EA		x		=	$	-
152320	Reset Roadside Sign	EA		x		=	$	-
152390	Relocate Roadside Sign	EA		x		=	$	-
566011	Roadside Sign (One Post)	EA	0	x	25,000.00	=	$	-
566012	Roadside Sign (Two Post)	EA	1	x	25,000.00	=	$	25,000
560XXX	Furnish Sign Panels	SQFT		x		=	$	-
560XXX	Install Sign Panels	SQFT		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
84XXXX	Permanent Pavement Delineation	LS	1	x	45,000.00	=	$	45,000

Subtotal Traffic Signing and Striping $ 75,000

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	92,500.00	=	$	92,500
120120	Type III Barricade	EA		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
12016X	Channelizer	EA		x		=	$	-
128650	Portable Changeable Message Signs	EA	3	x	21,000.00	=	$	63,000
129000	Temporary Railing (Type K)	LF		x		=	$	-
129100	Temp. Crash Cushion Module	EA		x		=	$	-
129099A	Traffic Plastic Drum	EA		x		=	$	-
839603A	Temporary Crash Cushion (ADIEM)	EA		x		=	$	-
	Railroad Flagging Service	LS	1	x	56,000.00	=	$	56,000
	Traffic Management Plan	LS	1	x	226,000.00	=	$	226,000

Subtotal Stage Construction and Traffic Handling $ 438,000

TOTAL TRAFFIC ITEMS $ 1,113,000

SECTION 7: DETOURS

Include constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
0713XX	Temporary Fence (Type X)	LF		x		=	$	-
07XXXX	Temporary Drainage	LS		x		=	$	-
120143	Temporary Pavement Delineation	LF		x		=	$	-
1286XX	Temporary Signals	EA	1	x	50,000.00	=	$	50,000
129000	Temporary Railing (Type K)	LF		x		=	$	-
190101	Roadway Excavation	CY	50,000	x	30.00	=	$	1,500,000
198001	Imported Borrow	CY		x		=	$	-
198050	Embankment	CY		x		=	$	-
250401	Class 4 Aggregate Subbase	CY	5,300	x	25.00	=	$	132,500
260203	Class 2 Aggregate Base	CY	3,620	x	50.00	=	$	181,000
390132	Hot Mix Asphalt (Type A)	TON	5,300	x	115.00	=	$	609,500
	Traffic Management Plan	LS	1	x	11,250.00	=	$	11,250
	Temp Sign & Striping	LS	1	x	13,500.00		$	13,500
	Misc Costs	LS	1	x	18,000.00		$	18,000

TOTAL DETOURS $ 2,516,000

SUBTOTAL SECTIONS 1-7 **$ 22,726,000**

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items							
Curb Ramps and Crosswalks	LS		1		$ 16,500.00	$	16,500
8B - Bike Path Items							
Bike Path Items					$ -	$	-
8C - Other Minor Items							
Other Minor Items					$ -	$	-
Total of Section 1-7	$	22,726,000	x		5.0%	= $	1,152,800

TOTAL MINOR ITEMS $ 1,153,000

SECTIONS 9: MOBILIZATION

Item code							
999990	Total Section 1-8	$	23,879,000	x	8%	= $	1,910,320

TOTAL MOBILIZATION $ 1,911,000

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066015	Federal Trainee Program	LS		x		=	$	-
066063	Traffic Management Plan - Public Informatio	LS		x		=	$	-
066090	Maintain Traffic	LS		x		=	$	-
066094	Value Analysis	LS		x		=	$	-
066204	Remove Rock & Debris	LS		x		=	$	-
066222	Locate Existing Cross-Over	LS		x		=	$	-
066670	Payment Adjustments For Price Index Fluctu	LS		x		=	$	-
066700	Partnering	LS		x		=	$	-
066866	Operation of Existing Traffic Management S	LS		x		=	$	-
066920	Dispute Review Board	LS		x		=	$	-
XXXXXX	Some Item			x		=	$	-

*Cost of **NPDES** Supplemental Work specified in Section 5C* = $ 77,212

Total Section 1-8	$	23,879,000			5%	= $	1,193,950

TOTAL SUPPLEMENTAL WORK $ 1,272,000

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Public Information	LS		x		=	$0
066105	RE Office	LS		x		=	$0
066803	Padlocks	LS		x		=	$0
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066901	Water Expenses	LS		x		=	$0
066062A	COZEEP Expenses	LS		x		=	$0
06684X	Ramp Meter Controller Assembly	LS		x		=	$0
06684X	TMS Controller Assembly	LS		x		=	$0
06684X	Traffic Signal Controller Assembly	LS		x		=	$0
XXXXXX	Some Item						
	Total Section 1-8	$	23,879,000		5%	=	$ 1,193,950

TOTAL STATE FURNISHED $1,194,000

SECTION 12: TIME-RELATED OVERHEAD

Estiamted Time-Releated Overhead (TRO) Percentage (0% to 10%) = 5%

Item code		Unit	Quantity		Unit Price ($)		Cost	
					Total of All Contract Items Only	$	23,879,000	(used to calculate TR
					Total Project Cost	$	28,256,000	(used to check if proj
070018	Time-Related Overhead	WD	500	X	2387.9	=	$1,193,950	

TOTAL TIME-RELATED OVERHEAD $1,194,000

SECTION 13: CONTINGENCY

(Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

Total Section 1-11	$	29,450,000	x	15%	=	$4,417,500

TOTAL CONTINGENCY $4,418,000

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	06/13/16	00/00/00	00/00/00
Bridge Name	Rice Ave Bridge	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	130.00 LF	0.00 LF	0.00 LF
Total Bridge Length (Feet)	290.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	6.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	Pile	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$314.00	$0.00	$0.00
COST OF EACH STRUCTURE	**$0.00**	**$0.00**	**$0.00**

DATE OF ESTIMATE	00/00/00	00/00/00	00/00/00
Name	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0.00 LF	0.00 LF	0.00 LF
Total Length (Feet)	0.00 LF	0.00 LF	0.00 LF
Total Area (Square Feet)	0 SQFT	0.00 SQFT	0.0 SQFT
Structure Depth (Feet)	0.00 LF	0.00 LF	0.00 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0.00	$0.00	$0.00
COST OF EACH STRUCTURE	**$0.00**	**$0.00**	**$0.00**

TOTAL COST OF BRIDGES	**$0.00**
TOTAL COST OF BUILDINGS	**$0.00**
TOTAL COST OF STRUCTURES[1]	**$0**

Estimate Prepared By: Daryoush Haghighi (Print Name) 5/10/2018 (Date)

[1]Structure's Estimate Includes Overhead and Mobilization.
Add more sheets if needed. Call them 9a, 9b, 9c, ..., etc

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,	$	2,363,664
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	0
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	1,000,000
E)		Clearance / Demolition	$	0
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	0
G)		Title and Escrow	$	0
H)		Environmental Review	$	0
I)		Condemnation Settlements 0% (Items G & H applied to items A + B)	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	5,226,000

L) **TOTAL RIGHT OF WAY ESTIMATE $8,590,000**

(Excluding Item #8 - Hazardous Waste)

M) **TOTAL R/W ESTIMATE: Escalated $0**

N) **Right of Way Support $ 0**

Support Cost Estimate Prepared By	Henry Tong Project Coordinator[1]	714-953-1005 Phone
Utility Estimate Prepared By	Henry Tong Utiliy Coordinator[2]	714-953-1005 Phone
R/W Acquisition Estimate Prepared By	Henry Tong Right of Way Estimator[3]	714-953-1005 Phone

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

ATTACHMENT E

RIGHT OF WAY DATA SHEET

To: District Division Chief
Division of Right of Way and Land Surveys

Date: 04/27/2018

Co. VEN Rte. 34
Expense Authorization 07317800

Attention: District Branch Chief
R/W Local Programs

Subject: **RIGHT OF WAY DATA SHEET - LOCAL PUBLIC AGENCIES**

Project Description: Alternative 2A—Construct grade separation structure to elevate Rice Avenue of SR-34 and the UPRR track to eliminate the existing at-grade railroad crossing. This alternative includes the construction of two connector roads in the southeast and southwest quadrants that provide access between Rice Avenue and SR-34.

Right of way necessary for the subject project will be the responsibility of City of Oxnard.

The information in this data sheet was developed by WKE, INC.

I. ***Right of Way Engineering***

Will Right of Way Engineering be required for this project?
- No ____
- Yes x

• Hard copy (base map)	x
• Appraisal map	x
• Acquisition Documents	x
• Property Transfer Documents	x
• R/W Record Map	x
• Record of Survey	x

II. ***Engineering Surveys***

1. Is any surveying or photogrammetric mapping required?

No ____ Yes x (Complete the following.)

2. Datum Requirements

Yes x Project will adhere to the following criteria:
- Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English system of units and measures.
- Vertical - datum policy is NAVD 88.
- Units - metric is not required.

No ____ Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

Yes x

No ____ Provide explanation on additional page.

III. ***Parcel Information (Land and Improvements)***

Are there any property rights required within the proposed project limits?

No ____ Yes __x__ (Complete the following.)

	Part Take	Full Take	Estimate $
A. Number of Vacant Land Parcels			$
B. Number of Single Family Residential Units			$
C. Number of Multifamily Residential Units			$
D. Number of Commercial/Industrial Parcels	6	1	$ 536,182
E. Number of Farm/Agricultural Parcels	6		$ 2,085,174
F. Permanent and/or Temporary Easements	9		$ 712,098
G. Other Parcels (define in "Remarks" section)			$
Totals	21	1	$ 3,333,454

Provide a general description of the right of way and excess lands required (zoning, use, improvements, critical, or sensitive parcels, etc.).

A total of one potential full acquisition is anticipated to accommodate the proposed grade separation. The acquisition of parcel 21601600285 is anticipated to leave the parcel legally landlocked, resulting in full acquisition.

Additional R/W requirements involve partial acquisitions at 6 industrial and 6 agricultural properties throughout the project limits to accommodate the grade separation.

A total of 9 permanent and temporary easements are also required to accommodate the detour road and temporary intersection throughout the project limits as well as for the United Water Conservation District access road.

IV. ***Dedications***

Are there any property rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No __x__ Yes ____ (Complete the following.)

Number of dedicated parcels _____

Have the dedication parcel(s) been accepted by the municipality involved?

V. ***Excess Lands / Relinquishments***

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No __x__ Yes _____ (Provide an explanation on additional page.)

VI. ***Relocation Information***

Are relocation displacements anticipated?

No __x__ Yes _____ (Complete the following.)

A. Number of Single Family Residential Units _____
Estimated RAP Payments $ _____

B. Number of Multifamily Residential Units _____
Estimated RAP Payments $ _____

C. Number of Business/Nonprofit _____
Estimated RAP Payments $ _____

D. Number of Farms _____
Estimated RAP Payments $ _____

E. Other (define in the "Remarks" section) _____
Estimated RAP Payments $ _____

Totals _____ $ _____

VII. ***Utility Relocation Information***

Do you anticipate any utility facilities or utility rights of way to be affected?

No _____ Yes __x__ (Complete the following.)

		Estimated Relocation Expense		
Facility	Owner	State Obligation	Local Obligation	Utility Owner Obligation
A. OH 66 kV Elec Trans Line	Southern California Edison	$ 0	$ 429,000	$ 0
B. UH 16 kV Elec Trans Line	Southern California Edison	$ 0	$ 136,500	$ 0
C. OH 160 V Elec Distribution Line	Southern California Edison	$ 0	$ 195,000	$ 0
D. Special Elec Antenna on T Pole	Southern California Edison	$ 0	$ 6,500	$ 0
E. OH Elec Comm. Line	Southern California Edison	$ 0	$ 84,500	$ 0

F. OH telephone Cables	Southern California Edison - Leased	$ 0	$ 84,500	$ 0
G. 4-5" Conduit E SCE 12"x100' Casing (Bored) w/Transformer	Southern California Edison	$ 0	$ 302,250	$ 0
H. 1-5" Conduit E SCE 8"x100' Casing (Bored)	Southern California Edison	$ 0	$ 50,050	$ 0
I. Ug. Elec. Conduit	Southern California Edison	$ 0	$ 6,760	$ 0
J. 30" W 40"x100' Casing (Bored)	United Water Conservation District	$ 0	$ 617,500	$ 0
K. 36" W 48"x100' Casing (Bored)	Calleguas Municipal Water District	$ 0	$ 351,000	$ 0
L. 12" W 24"x100' Casing (Bored)	City of Oxnard	$ 0	$ 251,550	$ 0
N. 6" W 12"x100' Casing (Bored)	Unknown	$ 0	$ 127,400	$ 0
O. 4" W 12"x100' Casing (Bored)	Unknown	$ 0	$ 91,000	$ 0
P. 30" SS 40"x100' Casing (Bored)	City of Oxnard	$ 0	$ 682,500	$ 0
Q. 21" SS 30"x100' Casing (Bored)	City of Oxnard	$ 0	$ 13,000	$ 0
R. 24" SS Pump Station	City of Oxnard	$ 0	$ 19,500	$ 0
S. 30" G 40"x100' Casing (Bored)	Southern California Gas	$ 0	$ 546,000	$ 0
T. 8" G 18"x100' Casing (Bored)	Southern California Gas	$ 0	$ 538,200	$ 0
U. 4" G SCG 12"x100' Casing (Bored)	Southern California Gas	$ 0	$ 243,750	$ 0
V. Ug. Fiber/ Telephone Cable	Verizon	$ 0	$ 80,275	$ 0
W. Street Lighting Conduits	City of Oxnard	$ 0	$ 357,500	$ 0

X. Fire Hydrants	City of Oxnard	$ 0	$ 25,350	$ 0
Y. 4" Oil	Unknown	$ 0	$ 110,825	$ 0
Totals		$* 0	$ 5,350,410	$ 0
Number of Facilities				

*This amount reflects the estimated total financial obligation by the State.

Any additional information concerning utility involvement on this project?

VIII. ***Rail Information***

Are railroad facilities or railroad rights of way affected?

No _____ Yes __x__ (Complete the following.)

Describe railroad facilities or railroad rights of way affected.

UPRR currently owns and operates on a 100-foot wide segment parallel to SR-34 with a joint use agreement with Metrolink. The proposed Rice Avenue grade separation structure will be constructed to cross over SR-34 and the UPRR R/W. The foundations of the overhead structure will not encroach into railroad R/W. The temporary at grade crossing signal and gates will be constructed by railroad forces, which are estimated to be $1 million.

Owner's Name	Transverse Crossing	Longitudinal Encroachment
A. Union Pacific Railroad	Rice Avenue to cross over RR	
B.		

Discuss types of agreements and rights required from the railroads. Are grade crossings that require services contracts, or grade separations that require construction and maintenance agreements involved?

A grade separation structure will be constructed over the UPRR R/W. A Construction and Maintenance (C&M) Agreement would be required from UPRR for the overhead bridge and temporary at-grade crossing.

IX. ***Clearance Information***

Are there improvements that require clearance?

No __x__ Yes _____ (Complete the following.)

A. Number of Structures to be Demolished _____
Estimated Cost of Demolition $ _____

X. ***Hazardous Materials/Waste***

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain *hazardous materials*? None __x__ Yes _____ (Explain in the "Remarks" section.)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain *hazardous waste*? None _____ Yes __x__ (Explain in the "Remarks" section.)

XI. ***Project Scheduling***

	Proposed lead time	Completion date
* Preliminary Engineering, Surveys	3 (months)	June 2018
* R/W Engineering Submittals	3 (months)	September 2018
* R/W Appraisals/Acquisition	17 (months)	February 2020
Proposed Environmental Clearance	- (months)	May 2018
Proposed R/W Certification	- (months)	March 2020

XII. ***Proposed Funding***

	Local	State	Federal	Other
Acquisition	x			
Utilities	x		x	
Relocation Assistance Program				
R/W Support	x			
Cost (Eng. Appraisals, etc.)	x	x	x	

XIII. ***Remarks***

Small structures and power poles to be demolished may contain asbestos containing materials (ACM) and lead based paint (LBP). LBP may also be present in traffic striping and pavement marking residue. Several oil wells are located in the project area. Treated wood waste (TWW) may also be present in UPRR railroad ties as well as wooden roadside sign posts.

Project Sponsor Consultant
Prepared by:

Robert McDowell
Hamner, Jewell and Associates

04/27/2018
Date

Project Sponsor
Reviewed and Approved by:

Justin Link, PE
City of Oxnard

04/27/2018
Date

EA/Project ID: 07317800

The Right-of-Way Data Sheet was completed by the City and/or its consultants. I have reviewed the right-of-way information contained therein and find the data to be complete as to form and procedures only and consistent with the project as scoped and approved in the project environmental documents. No inferences or assertions are made as to the validity of the data or values implied by the right of way data sheets.

Caltrans District Branch Chief
Local Programs
Division of Right of Way

Date

PROPOSED RIGHT-OF-WAY ACQUISITIONS – ALTERNATIVE 2A

APN	Address	Area (SF)	Acquisition Type	Full/Partial	Classification
2170020095	2151 Wooley Road	8,334	Fee	Partial	Agricultural
2170020105	Fifth Street	49,770	Fee	Partial	Agricultural
2170020125	Fifth Street	281,142	Fee	Partial	Agricultural
2170020135	Fifth Street	1,493	Fee	Partial	Agricultural
2180011435	910 S Rice Avenue	2,650	Fee	Partial	Agricultural
2180011475	Unavailable	408,084	Fee	Partial	Agricultural
2160160285	Unavailable	3,840	Fee	Full	Industrial
2160193105	2450 Eastman Avenue	11,803	Fee	Partial	Industrial
2160195055	2401 Eastman Avenue	4,499	Fee	Partial	Industrial
2160195105	121 S Rice Avenue	1,989	Fee	Partial	Industrial
2160195095	111 S Rice Avenue	1,560	Fee	Partial	Industrial
2160195145	101 S Rice Avenue	1,983	Fee	Partial	Industrial
2160160525	2600 Challenger Place	77,025	Fee	Partial	Industrial
2180011475	Unavailable	27,876	Access Road Easement	Partial	Agricultural
2180011475	Unavailable	118,643	Easement	Partial	Agricultural
2170020125	Fifth Street	25,975	Easement	Partial	Agricultural
2160193105	2450 Eastman Avenue	6,275	Easement	Partial	Industrial
2160160165	Unavailable	24,985	Easement	Partial	Industrial
2160160575	2600 Challenger Place	154,295	Easement	Partial	Industrial
2160160565	2600 Challenger Place	33,740	Easement	Partial	Industrial
2160160555	2600 Challenger Place	30,036	Easement	Partial	Industrial
2160160545	2600 Challenger Place	4,062	Easement	Partial	Industrial
2160160525	2600 Challenger Place	7,721	Easement	Partial	Industrial

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY ESTIMATE WORKSHEET

(Form #)

DISTRICT	COUNTY	ROUTE	P/M (K/P)
7	VEN	34	6.3-6.8

ALTERNATIVE	EA/Project ID
2A	07317800

PREPARED BY	DATE	PAGE	OF
Henry Tong	04/27/2018	1	1

PARCEL TYPE	PARCEL NO.	P/M (K/P)	Classification	ESTIMATED COST	RAP COST	CLEAR/DEMO COST	NO. RAP DISPL.	NO. CLEAR/ DEMO	NO. CONST PERMITS	CCW COST	ESCROW COST	NAME - OTHER INFO.	R/W AREA	EXCESS AREA
(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)
C	2170020095	6.3	Agricultural	$ 22,958.68							$ 2,500.00		8334	
C	2170020105	6.3	Agricultural	$ 137,107.44							$ 2,500.00		49770	
C	2170020125	6.3	Agricultural	$ 774,495.87							$ 2,500.00		281142	
C	2170020135	6.3	Agricultural	$ 4,112.95							$ 2,500.00		1493	
C	2180011435	6.3	Agricultural	$ 7,300.28							$ 2,500.00		2650	
C	2180011475	6.3	Agricultural	$ 1,124,198.35							$ 2,500.00		408084	
B	2160160285	6.3	Industrial	$ 19,393.94							$ 2,500.00		3840	
C	2160193105	6.3	Industrial	$ 59,611.11							$ 2,500.00		11803	
C	2160195055	6.3	Industrial	$ 22,722.22							$ 2,500.00		4499	
C	2160195105	6.3	Industrial	$ 10,045.45							$ 2,500.00		1989	
C	2160195095	6.3	Industrial	$ 7,878.79							$ 2,500.00		1560	
C	2160195145	6.3	Industrial	$ 10,015.15							$ 2,500.00		1983	
B	2180160525	6.3	Industrial	$ 389,015.15							$ 2,500.00		77025	
C	2180011475	6.3	Agricultural	$ 4,479.61							$ 2,500.00		27876	
C	2180011475	6.3	Agricultural	$ 19,065.68							$ 2,500.00		118643	
C	2170020125	6.3	Agricultural	$ 4,174.13							$ 2,500.00		25975	
C	2160193105	6.3	Industrial	$ 15,845.96							$ 2,500.00		6275	
C	2160160165	6.3	Industrial	$ 63,093.43							$ 2,500.00		24985	
B	2160160575	6.3	Industrial	$ 389,633.84							$ 2,500.00		154295	
B	2160160565	6.3	Industrial	$ 85,202.02							$ 2,500.00		33740	
B	2160160555	6.3	Industrial	$ 75,848.48							$ 2,500.00		30036	
B	2160160545	6.3	Industrial	$ 10,257.58							$ 2,500.00		4062	
B	2160160525	6.3	Industrial	$ 19,497.47							$ 2,500.00		7721	
		TOTAL		$ 3,275,953.58							$ 57,500.00			
	GRAND TOTAL		$ 3,333,453.58	$ 3,275,953.58							$ 57,500.00			
	FROM ALL PAGES		$ 3,333,453.58											

PROJECT PERMIT FEES

PERMITTER		ESTIMATED COST	TYPE OF PERMIT	DATE TO EXPEND
(14)		(15)	(16)	(17)
TOTAL				
GRAND TOTAL FROM ALL PAGES				

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

R/W UTILITY ESTIMATE WORKSHEET AND R/W DATA SHEET INSTRUCTIONS

(Form #)

EXHIBIT
13-EX-6 (REV 1/2014)

Date	10-03-2017
Post Mile	6.3-6.8
Project ID No.	0715000274
EA	07317800

Description of Project:

Alternative 2A—Construct grade separation structure to elevate Rice Avenue of SR-34 and the UPRR track to eliminate the existing at-grade railroad crossing. This alternative includes the construction of two connector roads in the southeast and southwest quadrants that provide access between Rice Avenue and SR-34.

Estimate for: ☒ Preliminary Route Estimate (Alternate No. 2A)
☐ R/W Data Sheet (Preferred Alternate)

Evidence of Utilities:

☒ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☒ Water ☒ Public Drainage/Irrigation
☒ Sewer ☒ Fiber Optics ☒ Other (Explain in "Remarks")

Estimated Cost of Utility Relocations:

3,000	OH 66 kV Electic Line	@ $ 143/L.F.	=	$	429,000
1,500	UG 16 kV Electic Line	@ $ 91/L.F.	=	$	136,500
2,500	OH 160 V Electic Line	@ $ 78/L.F.	=	$	195,000
1	Spec Elec Antenna on pole	@ $ 6,500/E.A.	=	$	6,500
1,300	OH Electric Comm Line	@ $ 65/L.F.	=	$	84,500
1,300	OH Telephone Cables	@ $ 65/L.F.	=	$	84,500
3,100	4-5" Conduit SCE	@ $ 97.5/L.F.	=	$	302,250
1,100	1-5" Conduit SCE	@ $ 45.5/L.F.	=	$	50,050
130	Underground Elec Conduit	@ $ 52/L.F.	=	$	6,760
3,800	30" Water	@ $ 162.5/L.F.	=	$	617,500
1,800	36" Water	@ $ 195/L.F.	=	$	351,000
2,150	12" Water	@ $ 117/L.F.	=	$	251,550
1,400	6" Water	@ $ 91/L.F.	=	$	127,400
1,400	4" Water	@ $ 95/L.F.	=	$	91,000
4,200	30" Sewer	@ $ 162.5/L.F.	=	$	682,500
100	21" Sewer	@ $ 130/L.F.	=	$	13,000
1	24" Sewer Pump Station	@ $ 19,500/E.A.	=	$	19,500
2,800	30" Gas	@ $ 195/L.F.	=	$	546,000
4,600	8" Gas	@ $ 117/L.F.	=	$	538,200
2,500	6" Gas	@ $ 97.5/L.F.	=	$	243,750
950	Underground Fiber/Phone	@ $ 84.5/L.F.	=	$	80,275
5,000	Street Lighting Conduits	@ $ 71.5/L.F.	=	$	357,500
3	Fire Hydants	@ $ 8,450/E.A.	=	$	23,350
1,550	4" Oil	@ $ 71.5/L.F.	=	$	110,825
	TOTAL ESTIMATE (State's Share)		=	$	0

Remarks:
4" oil line

INSTRUCTIONS FOR PREPARING THE UTILITIES PORTION OF THE RIGHT OF WAY DATA SHEET

(Fill in all blank spaces and explain where necessary.)

The Right of Way Data Sheet (R/W Data Sheet) is prepared by R/W P&M with assistance from the District Utility Coordinator. The District Utility Coordinator must provide the following information to R/W P&M:

Item 1. Right of Way Cost Estimate: (Capital)

B. Utility Relocation (State Share)

Current Value (Future Use)	Escalation Rate	Escalated Value
$ 0	3%	$ 0

2a. Enter the total estimated dollar amount which the State will need to pay the affected utility owners for relocation of their facilities. Estimates can be obtained from the owners or the Utility Coordinator's best guess. The estimate must be as accurate as possible, but should always be based on the most probable "worst case" and "highest cost" assumptions.

2b. Enter the escalation rate as a percentage. The escalation rate is the expected yearly average increase in utility relocation costs to the year of utility construction completion. Escalation rates can be obtained from construction and building cost indices, past trends in utility relocation projects, etc.

2c. Enter the total dollar amount using 2a. escalated to the year of utility construction completion by 2b., i.e.:

$100,000.00	(Current relocation costs--2a.)
x 1.05	(Escalation rate of 5%--2b.)
$105,000.00	(Escalated Value--2c.)

Item 3. Parcel Data: (Support)

Utilities

U4-1 10 = The total number of expected owner expense involvements.

-2 _____ = The total number of expected State expense involvements; conventional highway (no access control) and no Federal aid for the project.

-3 _____ = The total number of expected State expense involvements; freeway (access control) and no Federal aid for the project.

-4 _____ = The total number of expected State expense involvements; conventional highway or freeway and Federal aid for the project.

U5-7 _____ = The total number of expected utility verifications, which will not result in involvements.

-8 4 = The total number of expected utility verifications, anticipating 50% of the verifications will have involvements and 50% will not.

-9 8 = The total number of expected utility verifications, which will result in involvements.

NOTE: The sum of the U4s must equal the sum of 1/2 of the U5-8s and all of the U5-9s.

Item 7. Are utility facilities or rights of way affected?
☒ Yes ☐ No (If "Yes," explain.)

1. Southern California Edison
   a. Notice to owner to relocate 66kV overhead and 16kV underground electrical transmission lines along Rice Avenue for the Rice Avenue bridge construction
   b. Notice to owner to relocate 160V overhead electrical distribution line along Rice Avenue for the Rice Avenue bridge construction
   c. Notice to owner to relocate overhead electrical communication and phone line along Rice Avenue for the Rice Avenue bridge construction
   d. Notice to owner to relocate underground electrical conduit along Rice Avenue for the Rice Avenue bridge construction
2. United Water Conservation District
   a. Notice to owner to relocate 30" water line along Rice Avenue for the Rice Avenue bridge construction
3. Calleguas Municipal Water District
   a. Notice to owner to relocate 36" water line along Rice Avenue for the Rice Avenue bridge construction
4. City of Oxnard
   a. Notice to owner to relocate 12", 6", and 4" water lines along Rice Avenue for the Rice Avenue bridge construction
   b. Notice to owner to relocate 30" and 21" sewer lines along Rice Avenue for the Rice Avenue bridge construction
   c. Notice to owner to relocate street lighting conduits along Rice Avenue for the Rice Avenue bridge construction
5. Southern California Gas
   a. Notice to owner to relocate 30", 8" and 4" gas lines along Rice Avenue for the Rice Avenue bridge construction
6. Verizon
   a. Notice to owner to relocate Underground fiber optics/phone cables for the Rice Avenue bridge construction
7. California Resource Corporation
   a. Notice to owner to relocate oil line along Rice Avenue for the Rice Avenue bridge construction

NOTE: The comments mentioned above must be reflected in the number of involvements in U4s and U5s in "Item 3., Parcel Data."

Item 14. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if the District proposes less than formula lead time and/or if significant pressures for project advancement are anticipated.)

The project has a total construction time of 24 months.

NOTE: It is always a good idea to remind the project engineer that lead time starts for relocation of utilities when they supply adequate plans for requesting relocation plans from utility owners.

Item 15. Is it anticipated that all Right of Way work will be performed by CALTRANS staff?
☐ Yes ☒ No (If "No," discuss.)
City of Oxnard is the project proponent. The majority of construction work including utility relocation takes place within City right-of-way. City will perform right-of-way work related to this project.

*Evaluations prepared by:

Utilities: Name_____ Date 10/03/17

*The Utility Coordinator must sign and date the R/W Data Sheet.

NOTE: Return the R/W Data Sheet to R/W P&M via the District Utility Coordinator for input into PMCS and forwarding to the project engineer.

To: District Division Chief
Division of Right of Way and Land Surveys

Date: 04/27/2018

Co. VEN Rte. 34
Expense Authorization 07317800

Attention: District Branch Chief
R/W Local Programs

Subject: **RIGHT OF WAY DATA SHEET - LOCAL PUBLIC AGENCIES**

Project Description: Alternative 2B—Construct grade separation structure to elevate Rice Avenue of SR-34 and the UPRR track to eliminate the existing at-grade railroad crossing. This alternative includes the construction of a connector road in the southeast quadrant that provides access between Rice Avenue and SR-34.

Right of way necessary for the subject project will be the responsibility of City of Oxnard.

The information in this data sheet was developed by WKE, INC.

I. *Right of Way Engineering*

Will Right of Way Engineering be required for this project?

- No ____
- Yes x

• Hard copy (base map)	x
• Appraisal map	x
• Acquisition Documents	x
• Property Transfer Documents	x
• R/W Record Map	x
• Record of Survey	x

II. *Engineering Surveys*

1. Is any surveying or photogrammetric mapping required?

   No ____ Yes x (Complete the following.)

2. Datum Requirements

   Yes x Project will adhere to the following criteria:
   - Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English system of units and measures.
   - Vertical - datum policy is NAVD 88.
   - Units - metric is not required.

   No ____ Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

   Yes x

   No ____ Provide explanation on additional page.

III. ***Parcel Information (Land and Improvements)***

Are there any property rights required within the proposed project limits?

No _____ Yes __x__ (Complete the following.)

	Part Take	Full Take	Estimate $
A. Number of Vacant Land Parcels			$
B. Number of Single Family Residential Units			$
C. Number of Multifamily Residential Units			$
D. Number of Commercial/Industrial Parcels	6	1	$ 548,121
E. Number of Farm/Agricultural Parcels	6		$ 1,553,388
F. Permanent and/or Temporary Easements	9		$ 714,866
G. Other Parcels (define in "Remarks" section)			$
Totals	21	1	$ 2,816,375

Provide a general description of the right of way and excess lands required (zoning, use, improvements, critical, or sensitive parcels, etc.).

A total of one potential full acquisition is anticipated to accommodate the proposed grade separation. The acquisition of parcel 2180011435 is anticipated to leave the parcel legally landlocked, resulting in full acquisition.

Additional R/W requirements involve partial acquisitions at 6 industrial and 6 agricultural properties throughout the project limits to accommodate the grade separation.

A total of 9 permanent and temporary easements are also required to accommodate the detour road and temporary intersection throughout the project limits as well as for the United Water Conservation District access road.

IV. ***Dedications***

Are there any property rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No __x__ Yes _____ (Complete the following.)

Number of dedicated parcels _____

Have the dedication parcel(s) been accepted by the municipality involved?

V. ***Excess Lands / Relinquishments***

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No __x__ Yes ____ (Provide an explanation on additional page.)

VI. ***Relocation Information***

Are relocation displacements anticipated?

No __x__ Yes ____ (Complete the following.)

A. Number of Single Family Residential Units _____
Estimated RAP Payments $ _____

B. Number of Multifamily Residential Units _____
Estimated RAP Payments $ _____

C. Number of Business/Nonprofit _____
Estimated RAP Payments $ _____

D. Number of Farms _____
Estimated RAP Payments $ _____

E. Other (define in the "Remarks" section) _____
Estimated RAP Payments $ _____

Totals _____ $ _____

VII. ***Utility Relocation Information***

Do you anticipate any utility facilities or utility rights of way to be affected?

No ____ Yes __x__ (Complete the following.)

		Estimated Relocation Expense		
Facility	Owner	State Obligation	Local Obligation	Utility Owner Obligation
A. OH 66,000 Kv Elec Trans Line	Southern California Edison	$ 0	$ 429,000	$ 0
B. UG 16,000 Kv Elec Trans Line	Southern California Edison	$ 0	$ 136,500	$ 0
C. OH 160 V Elec Distribution Line	Southern California Edison	$ 0	$ 195,000	$ 0
D. Special Elec Antenna on T Pole	Southern California Edison	$ 0	$ 6,500	$ 0
E. OH Elec Comm. Line	Southern California Edison	$ 0	$ 84,500	$ 0

F. OH telephone Cables	Southern California Edison - Leased	$ 0	$ 84,500	$ 0
G. 4-5" Conduit E SCE 12"x100' Casing (Bored) w/Transformer	Southern California Edison	$ 0	$ 302,250	$ 0
H. 1-5" Conduit E SCE 8"x100' Casing (Bored)	Southern California Edison	$ 0	$ 50,050	$ 0
I. Ug. Elec. Conduit	Southern California Edison	$ 0	$ 6,760	$ 0
J. 30" W 40"x100' Casing (Bored)	United Water Conservation District	$ 0	$ 617,500	$ 0
K. 36" W 48"x100' Casing (Bored)	Calleguas Municipal Water District	$ 0	$ 351,000	$ 0
L. 12" W 24"x100' Casing (Bored)	City of Oxnard	$ 0	$ 251,550	$ 0
N. 6" W 12"x100' Casing (Bored)	Unknown	$ 0	$ 127,400	$ 0
O. 4" W 12"x100' Casing (Bored)	Unknown	$ 0	$ 91,000	$ 0
P. 30" SS 40"x100' Casing (Bored)	City of Oxnard	$ 0	$ 682,500	$ 0
Q. 21" SS 30"x100' Casing (Bored)	City of Oxnard	$ 0	$ 13,000	$ 0
R. 24" SS Pump Station	City of Oxnard	$ 0	$ 19,500	$ 0
S. 30" G 40"x100' Casing (Bored)	Southern California Gas	$ 0	$ 546,000	$ 0
T. 8" G 18"x100' Casing (Bored)	Southern California Gas	$ 0	$ 538,200	$ 0
U. 4" G SCG 12"x100' Casing (Bored)	Southern California Gas	$ 0	$ 243,750	$ 0
V. Ug. Fiber/ Telephone Cable	Verizon	$ 0	$ 80,275	$ 0
W. Street Lighting Conduits	City of Oxnard	$ 0	$ 357,500	$ 0

X. Fire Hydrants	City of Oxnard	$ 0	$ 25,350	$ 0
Y. 4" Oil	Unknown	$ 0	$ 110,825	$ 0
Totals		$* 0	$ 5,350,410	$ 0
Number of Facilities				

*This amount reflects the estimated total financial obligation by the State.

Any additional information concerning utility involvement on this project?

VIII. ***Rail Information***

Are railroad facilities or railroad rights of way affected?

No _____ Yes __x__ (Complete the following.)

Describe railroad facilities or railroad rights of way affected.

UPRR currently owns and operates on a 100-foot wide segment parallel to SR-34 with a joint use agreement with Metrolink. The proposed Rice Avenue grade separation structure will be constructed to cross over SR-34 and the UPRR R/W. The foundations of the overhead structure will not encroach into railroad R/W. The temporary at grade crossing signal and gates will be constructed by railroad forces, which are estimated to be $1 million.

Owner's Name	Transverse Crossing	Longitudinal Encroachment
A. Union Pacific Railroad	Rice Avenue to cross over RR	
B.		

Discuss types of agreements and rights required from the railroads. Are grade crossings that require services contracts, or grade separations that require construction and maintenance agreements involved?

A grade separation structure will be constructed over the UPRR R/W. A Construction and Maintenance (C&M) Agreement would be required from UPRR for the overhead bridge and temporary at-grade crossing.

IX. ***Clearance Information***

Are there improvements that require clearance?

No __x__ Yes _____ (Complete the following.)

A. Number of Structures to be Demolished _____
Estimated Cost of Demolition $ _____

X. ***Hazardous Materials/Waste***

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain *hazardous materials*? None __x__ Yes _____ (Explain in the "Remarks" section.)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain *hazardous waste*? None _____ Yes __x__ (Explain in the "Remarks" section.)

XI. ***Project Scheduling***

	Proposed lead time	Completion date
* Preliminary Engineering, Surveys	3 (months)	June 2018
* R/W Engineering Submittals	3 (months)	September 2018
* R/W Appraisals/Acquisition	17 (months)	February 2020
Proposed Environmental Clearance	- (months)	May 2018
Proposed R/W Certification	- (months)	March 2020

XII. ***Proposed Funding***

	Local	State	Federal	Other
Acquisition	x			
Utilities	x		x	
Relocation Assistance Program				
R/W Support	x			
Cost (Eng. Appraisals, etc.)	x	x	x	

XIII. ***Remarks***

Small structures and power poles to be demolished may contain asbestos containing materials (ACM) and lead based paint (LBP). LBP may also be present in traffic striping and pavement marking residue. Several oil wells are located in the project area. Treated wood waste (TWW) may also be present in UPRR railroad ties as well as wooden roadside sign posts.

Project Sponsor Consultant Prepared by:	Project Sponsor Reviewed and Approved by:
Robert McDowell Hamner, Jewell and Associates	Justin Link, PE City of Oxnard
04/27/2018 Date	04/27/2018 Date

EA/Project ID: 07317800

The Right-of-Way Data Sheet was completed by the City and/or its consultants. I have reviewed the right-of-way information contained therein and find the data to be complete as to form and procedures only and consistent with the project as scoped and approved in the project environmental documents. No inferences or assertions are made as to the validity of the data or values implied by the right of way data sheets.

Caltrans District Branch Chief Local Programs Division of Right of Way	Date

PROPOSED RIGHT-OF-WAY ACQUISITIONS – ALTERNATIVE 2B

APN	Address	Area (SF)	Acquisition Type	Full/Partial	Classification
2170020095	2151 Wooley Road	8,334	Fee	Partial	Agricultural
2170020105	Fifth Street	41,517	Fee	Partial	Agricultural
2170020125	Fifth Street	65,522	Fee	Partial	Agricultural
2170020135	Fifth Street	1,641	Fee	Partial	Agricultural
2180011435	910 S Rice Avenue	2,650	Fee	Full	Agricultural
2180011475	Unavailable	438,771	Fee	Partial	Agricultural
2160160285	Unavailable	3,840	Fee	Full	Industrial
2160193105	2450 Eastman Avenue	14,167	Fee	Partial	Industrial
2160195055	2401 Eastman Avenue	4,499	Fee	Partial	Industrial
2160195105	121 S Rice Avenue	1,989	Fee	Partial	Industrial
2160195095	111 S Rice Avenue	1,560	Fee	Partial	Industrial
2160195145	101 S Rice Avenue	1,983	Fee	Partial	Industrial
2160160525	2600 Challenger Place	77,025	Fee	Partial	Industrial
2180011475	Unavailable	27,876	Access Road Easement	Partial	Agricultural
2180011475	Unavailable	118,484	Easement	Partial	Agricultural
2170020125	Fifth Street	43,355	Easement	Partial	Agricultural
2160193105	2450 Eastman Avenue	6,275	Easement	Partial	Industrial
2160160165	Unavailable	24,985	Easement	Partial	Industrial
2160160575	2600 Challenger Place	154,295	Easement	Partial	Industrial
2160160565	2600 Challenger Place	33,740	Easement	Partial	Industrial
2160160555	2600 Challenger Place	30,036	Easement	Partial	Industrial
2160160545	2600 Challenger Place	4,062	Easement	Partial	Industrial
2160160525	2600 Challenger Place	7,721	Easement	Partial	Industrial

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY ESTIMATE WORKSHEET

(Form #)

DISTRICT	COUNTY	ROUTE	P/M (K/P)
7	VEN	34	6.3-6.8

ALTERNATIVE	EA/Project ID
2B	07317800

PREPARED BY	DATE	PAGE	OF
Henry Tong	04/27/2018	1	1

PARCEL TYPE	PARCEL NO.	P/M (K/P)	Classification	ESTIMATED COST	RAP COST	CLEAR/DEMO COST	NO. RAP DISPL.	NO. CLEAR/ DEMO	NO. CONST PERMITS	CCW COST	ESCROW COST	NAME - OTHER INFO.	R/W AREA	EXCESS AREA
(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)
C	2170020095	6.3	Agricultural	$ 22,958.68							$ 2,500.00		8334	
C	2170020105	6.3	Agricultural	$ 114,371.90							$ 2,500.00		41517	
C	2170020125	6.3	Agricultural	$ 180,501.38							$ 2,500.00		65522	
C	2170020135	6.3	Agricultural	$ 4,520.66							$ 2,500.00		1641	
C	2180011435	6.3	Agricultural	$ 7,300.28							$ 2,500.00		2650	
C	2180011475	6.3	Agricultural	$ 1,208,735.54							$ 2,500.00		438771	
B	2160160285	6.3	Industrial	$ 19,393.94							$ 2,500.00		3840	
C	2160193105	6.3	Industrial	$ 71,550.51							$ 2,500.00		14167	
C	2160195055	6.3	Industrial	$ 22,722.22							$ 2,500.00		4499	
C	2160195105	6.3	Industrial	$ 10,045.45							$ 2,500.00		1989	
C	2160195095	6.3	Industrial	$ 7,878.79							$ 2,500.00		1560	
C	2160195145	6.3	Industrial	$ 10,015.15							$ 2,500.00		1983	
B	2160160525	6.3	Industrial	$ 389,015.15							$ 2,500.00		77025	
C	2180011475	6.3	Agricultural	$ 4,479.61							$ 2,500.00		27876	
C	2180011475	6.3	Agricultural	$ 19,040.13							$ 2,500.00		118484	
C	2170020125	6.3	Agricultural	$ 6,967.06							$ 2,500.00		43355	
C	2160193105	6.3	Industrial	$ 15,845.96							$ 2,500.00		6275	
C	2160160165	6.3	Industrial	$ 63,093.43							$ 2,500.00		24985	
B	2160160575	6.3	Industrial	$ 389,633.84							$ 2,500.00		154295	
B	2160160565	6.3	Industrial	$ 85,202.02							$ 2,500.00		33740	
B	2160160555	6.3	Industrial	$ 75,848.48							$ 2,500.00		30036	
B	2160160545	6.3	Industrial	$ 10,257.58							$ 2,500.00		4062	
B	2160160525	6.3	Industrial	$ 19,497.47							$ 2,500.00		7721	
		TOTAL		$ 2,758,875.23							$ 57,500.00			
	GRAND TOTAL		$ 2,816,375.23	$ 2,758,875.23							$ 57,500.00			
	FROM ALL PAGES		$ 2,816,375.23											

PROJECT PERMIT FEES

PERMITTER		ESTIMATED COST	TYPE OF PERMIT	DATE TO EXPEND
(14)		(15)	(16)	(17)
TOTAL				
GRAND TOTAL FROM ALL PAGES				

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

R/W UTILITY ESTIMATE WORKSHEET AND R/W DATA SHEET INSTRUCTIONS

(Form #)

EXHIBIT
13-EX-6 (REV 1/2014)

Date	10-03-2017
Post Mile	6.3-6.8
Project ID No.	0715000274
EA	07317800

Description of Project:

Alternative 2B—Construct grade separation structure to elevate Rice Avenue of SR-34 and the UPRR track to eliminate the existing at-grade railroad crossing. This alternative includes the construction of a connector road in the southeast quadrant that provides access between Rice Avenue and SR-34.

Estimate for: ☒ Preliminary Route Estimate (Alternate No. 2B ___)
☐ R/W Data Sheet (Preferred Alternate)

Evidence of Utilities:

☒ Gas ☒ Electric ☒ Telephone ☐ Cable TV ☒ Water ☒ Public Drainage/Irrigation
☒ Sewer ☒ Fiber Optics ☒ Other (Explain in "Remarks")

Estimated Cost of Utility Relocations:

3,000	OH 66 kV Electic Line	@ $ 143/L.F.	=	$	429,000
1,500	OH 16 kV Electic Line	@ $ 91/L.F.	=	$	136,500
2,500	OH 160 V Electic Line	@ $ 78/L.F.	=	$	195,000
1	Spec Elec Antenna on pole	@ $ 6,500/E.A.	=	$	6,500
1,300	OH Electric Comm Line	@ $ 65/L.F.	=	$	84,500
1,300	OH Telephone Cables	@ $ 65/L.F.	=	$	84,500
3,100	4-5" Conduit SCE	@ $ 97.5/L.F.	=	$	302,250
1,100	1-5" Conduit SCE	@ $ 45.5/L.F.	=	$	50,050
130	Underground Elec Conduit	@ $ 52/L.F.	=	$	6,760
3,800	30" Water	@ $ 162.5/L.F.	=	$	617,500
1,800	36" Water	@ $ 195/L.F.	=	$	351,000
2,150	12" Water	@ $ 117/L.F.	=	$	251,550
1,400	6" Water	@ $ 91/L.F.	=	$	127,400
1,400	4" Water	@ $ 95/L.F.	=	$	91,000
4,200	30" Sewer	@ $ 162.5/L.F.	=	$	682,500
100	21" Sewer	@ $ 130/L.F.	=	$	13,000
1	24" Sewer Pump Station	@ $ 19,500/E.A.	=	$	19,500
2,800	30" Gas	@ $ 195/L.F.	=	$	546,000
4,600	8" Gas	@ $ 117/L.F.	=	$	538,200
2,500	6" Gas	@ $ 97.5/L.F.	=	$	243,750
950	Underground Fiber/Phone	@ $ 84.5/L.F.	=	$	80,275
5,000	Street Lighting Conduits	@ $ 71.5/L.F.	=	$	357,500
3	Fire Hydants	@ $ 8,450/E.A.	=	$	23,350
1,550	4" Oil	@ $ 71.5/L.F.	=	$	110,825
	TOTAL ESTIMATE (State's Share)		=	$	0

Remarks:
4" oil line

INSTRUCTIONS FOR PREPARING THE UTILITIES PORTION OF THE RIGHT OF WAY DATA SHEET

(Fill in all blank spaces and explain where necessary.)

The Right of Way Data Sheet (R/W Data Sheet) is prepared by R/W P&M with assistance from the District Utility Coordinator. The District Utility Coordinator must provide the following information to R/W P&M:

Item 1. Right of Way Cost Estimate: (Capital)

B. Utility Relocation (State Share)

Current Value (Future Use)	Escalation Rate	Escalated Value
$ 0	3%	$ 0

2a. Enter the total estimated dollar amount which the State will need to pay the affected utility owners for relocation of their facilities. Estimates can be obtained from the owners or the Utility Coordinator's best guess. The estimate must be as accurate as possible, but should always be based on the most probable "worst case" and "highest cost" assumptions.

2b. Enter the escalation rate as a percentage. The escalation rate is the expected yearly average increase in utility relocation costs to the year of utility construction completion. Escalation rates can be obtained from construction and building cost indices, past trends in utility relocation projects, etc.

2c. Enter the total dollar amount using 2a. escalated to the year of utility construction completion by 2b., i.e.:

$100,000.00	(Current relocation costs--2a.)
x 1.05	(Escalation rate of 5%--2b.)
$105,000.00	(Escalated Value--2c.)

Item 3. Parcel Data: (Support)

Utilities

U4-1 10 = The total number of expected owner expense involvements.

-2 _____ = The total number of expected State expense involvements; conventional highway (no access control) and no Federal aid for the project.

-3 _____ = The total number of expected State expense involvements; freeway (access control) and no Federal aid for the project.

-4 _____ = The total number of expected State expense involvements; conventional highway or freeway and Federal aid for the project.

U5-7 _____ = The total number of expected utility verifications, which will not result in involvements.

-8 4 = The total number of expected utility verifications, anticipating 50% of the verifications will have involvements and 50% will not.

-9 8 = The total number of expected utility verifications, which will result in involvements.

NOTE: The sum of the U4s must equal the sum of 1/2 of the U5-8s and all of the U5-9s.

Item 7. Are utility facilities or rights of way affected?
☒ Yes ☐ No (If "Yes," explain.)

1. Southern California Edison
    a. Notice to owner to relocate 66kV overhead and 16kV underground electrical transmission lines along Rice Avenue for the Rice Avenue bridge construction
    b. Notice to owner to relocate 160V overhead electrical distribution line along Rice Avenue for the Rice Avenue bridge construction
    c. Notice to owner to relocate overhead electrical communication and phone line along Rice Avenue for the Rice Avenue bridge construction
    d. Notice to owner to relocate underground electrical conduit along Rice Avenue for the Rice Avenue bridge construction
2. United Water Conservation District
    a. Notice to owner to relocate 30" water line along Rice Avenue for the Rice Avenue bridge construction
3. Calleguas Municipal Water District
    a. Notice to owner to relocate 36" water line along Rice Avenue for the Rice Avenue bridge construction
4. City of Oxnard
    a. Notice to owner to relocate 12", 6", and 4" water lines along Rice Avenue for the Rice Avenue bridge construction
    b. Notice to owner to relocate 30" and 21" sewer lines along Rice Avenue for the Rice Avenue bridge construction
    c. Notice to owner to relocate street lighting conduits along Rice Avenue for the Rice Avenue bridge construction
5. Southern California Gas
    a. Notice to owner to relocate 30", 8" and 4" gas lines along Rice Avenue for the Rice Avenue bridge construction
6. Verizon
    a. Notice to owner to relocate Underground fiber optics/phone cables for the Rice Avenue bridge construction
7. California Resource Corporation
    a. Notice to owner to relocate oil line along Rice Avenue for the Rice Avenue bridge construction

NOTE: The comments mentioned above must be reflected in the number of involvements in U4s and U5s in "Item 3., Parcel Data."

Item 14. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if the District proposes less than formula lead time and/or if significant pressures for project advancement are anticipated.)

The project has a total construction time of 24 months.

NOTE: It is always a good idea to remind the project engineer that lead time starts for relocation of utilities when they supply adequate plans for requesting relocation plans from utility owners.

Item 15. Is it anticipated that all Right of Way work will be performed by CALTRANS staff?
☐ Yes ☒ No (If "No," discuss.)
City of Oxnard is the project proponent. The majority of construction work including utility relocation takes place within City right-of-way. City will perform right-of-way work related to this project.

*Evaluations prepared by:

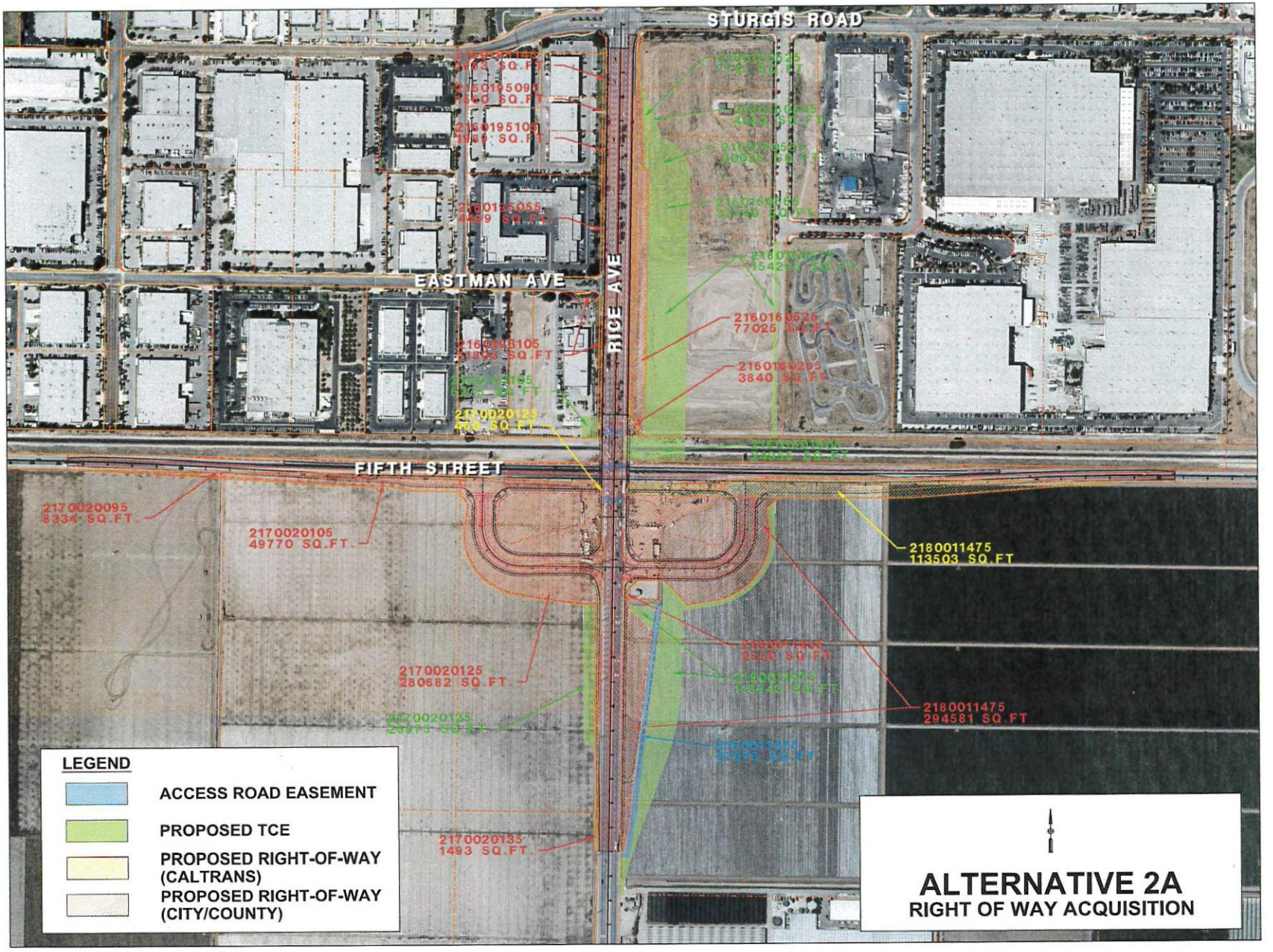
Utilities: Name_____ Date 10/03/17

*The Utility Coordinator must sign and date the R/W Data Sheet.

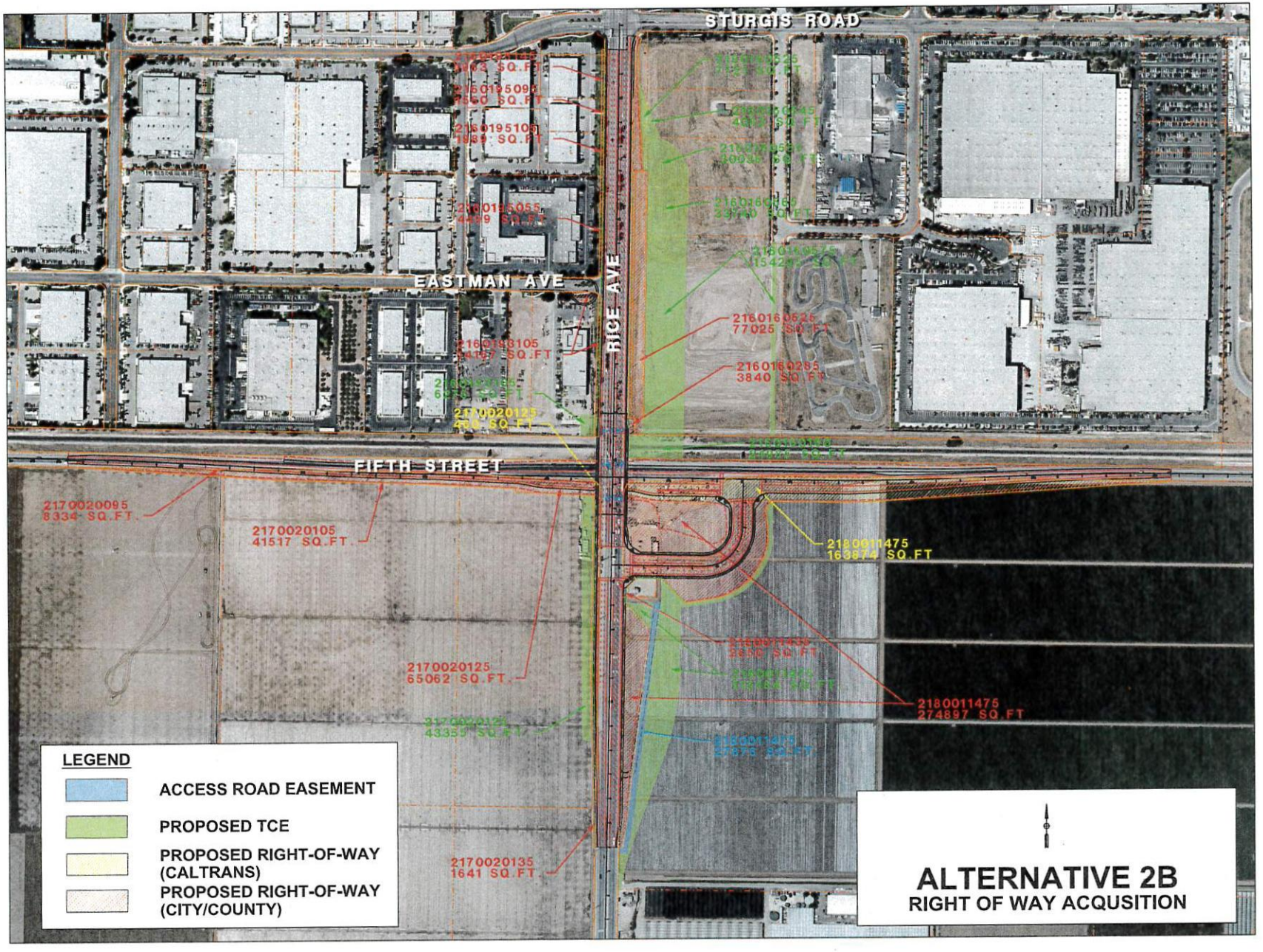
NOTE: Return the R/W Data Sheet to R/W P&M via the District Utility Coordinator for input into PMCS and forwarding to the project engineer.

ATTACHMENT F

RIGHT-OF-WAY ACQUISITION EXHIBITS



ALTERNATIVE 2A
RIGHT OF WAY ACQUISITION



ALTERNATIVE 2B
RIGHT OF WAY ACQUSITION

ATTACHMENT G

STORM WATER DATA REPORT
(COVER PAGE)

Dist-County-Route: 07-VEN-34
Post Mile Limits: 6.3-6.8
Type of Work: Grade Separation
Project ID (EA): 0715000274(07-317800)
Program Identification: HB1
Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): Los Angeles-Region 4

Total Disturbed Soil Area: 5.90 acres PCTA: 4.93 acres

Alternative Compliance (acres): 0.37 acres ATA 2 (50% Rule)? Yes ☐ No ☒

Estimated Const. Start Date: 09/01/2020 Estimated Const. Completion Date: 09/01/2022

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): 4.68 acres

Notification of ADL reuse (if yes, provide date): Yes ☐ Date: TBD 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.

Michael Hynes — Michael Hynes, P.E., Registered Project Engineer

FOR — Orlanee C. Lee, P.E., Caltrans Designated Oversight Representative — 11-30-17 Date

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

Zareh Shahbazian, Project Manager — 12/1/17 *Date*

David Lawrence, Designated Maintenance Representative — 12/1/17 *Date*

Ron Russak, Designated Landscape Architect Representative — 12/01/17 *Date*

[Stamp Required at PS&E only] *Shirley Pak, District/Regional Design SW Coordinator* — 12/1/2017 *Date*

ATTACHMENT H

RISK REGISTER

LEVEL 2 - RISK REGISTER						Project Name:	Rice Avenue Grade Separation over 5th Street/UPRR		DIST- EA	07-31780K	Project Manager	Carlos Cadena						
Risk Identification									Risk Assessment						Risk Response			
Status	ID #	Type	Category	Date Risk Identified	Cost or Schedule Risk?	Title	Risk Statement	Current status/assumptions	Probability	Cost Impact	Cost Score	Time Impact	Time Score	Rationale	Strategy	Response Actions	Risk Owner	Updated
Active	2	Threat	Design	5/20/2015	Schedule	New or revised design standard	As a result of new design standards in the HDM, significant modifications and/or enhancements to the design are required, which would require additional time than allocated in the baseline schedule.		2-Low	2 -Low	4	4 -Moderate	8	Significant changes were made to the design standards in the most recent HDM which affect designs completed prior to this release.	Accept	Cross check current design against HDM as a first step in design to determine if any changes to HDM would affect geometrics.		
Active	3	Threat	Organizational	5/20/2015	Schedule	Deliverable reviews by Caltrans	Due to other commitments by key Caltrans staff, Caltrans reviews of project deliverables exceed allocated 3 week period, delaying project schedule.		3-Moderate	2 -Low	6	4 -Moderate	12	Availability of necessary review staff has been an issue on past projects.	Mitigate	Work early with Caltrans to define dates for review periods so that they can program these commitments into their work plan.		
Active	4	Threat	Design	5/20/2015	Schedule	Future build traffic model forecasts	Future year traffic forecasts are based on the 2030 City of Oxnard Master Plan, which assumes certain developments within the city and county.		3-Moderate	2 -Low	6	4 -Moderate	12	The project is a safety project and not a project that will add significant capacity to Rice Avenue or Fifth Street.	Mitigate	Coordinate with the City and Caltrans so that they agree with the volumes used for the traffic analysis.		
Active	5	Threat	ROW	5/20/2015	Both	Utility Relocations	There are high risk utilities within the project limits, including high voltage electrical, high pressure gas and valued water/irrigation facilities that will require relocation or protection.		3-Moderate	8 -High	24	8 -High	24	Hold utility focus meeting to develop consensus on utility relocation requirements (i.e. technical design features, schedule construction window lead times.).	Mitigate	Engage utility companies to obtain relocation concurrence.		
Active	7	Threat	ROW	5/20/2015	Schedule	Special railroad requirements during construction are required.	A Rice Avenue detour with a temporary rail crossing will be required during the bridge construction for Alternative 2		3-Moderate	4 -Moderate	12	4 -Moderate	12	In order to keep Rice Ave open during construction, a detour road and temp crossing will be required.	Accept	A diagnostic meeting with UPRR will be held to discuss the rail crossing design requirements.		
Active	8	Threat	Environmental	5/23/2015	Schedule	Delays in regulatory permitting	If the review time for regulatory permitting takes more time than expected, the schedule would be delayed.		3-Moderate	4 -Moderate	12	4 -Moderate	12	Regulatory agencies may need a longer review time to process permit applications.	Mitigate	Initiate formal application process with each regulatory agency as early as possible, and continue to follow up with each agency to minimize review time.		
Active	11	Threat	Environmental	5/20/2015	Schedule and cost	Discovery of hazardous materials	If hazardous materials are discovered during construction, the materials would need to be removed and disposed of in accordance with environmental regulations, resulting in schedule delays and disposal costs.		3-Moderate	4 -Moderate	12	4 -Moderate	12	Several hazardous release sites are located in proximity to the project area. Excavation and structure demolition could disturb hazardous materials.	Accept	Prepare and implement a hazardous materials removal plan, and adjust schedule.		
Active	12	Threat	Environmental	5/20/2015	Schedule	Discovery of Aerially Deposited Lead (ADL)	If hazardous ADL (Type Z material) is identified in the state right of way, this material would need to be addressed through mitigation or avoidance measures, resulting in schedule delays.		3-Moderate	4 -Moderate	12	4 -Moderate	12	Hazardous ADL may be located in the state right of way.	Mitigate	Identify locations within state right of way for burialsites.		
Active	14	Threat	Environmental	5/20/2015	Schedule	Project Funding	Funding is limited or becomes unavailable for the project.		2-Low	4 -Moderate	8	4 -Moderate	8	Seek Project Funding.	Mitigate	Assist agency in securing project funding.		
Active	15	Threat	Design	6/28/2016	Schedule, Cost	UWCD Well No. 4	United Water Conservation District has indicated that Well No. 4 should not be impacted by the construction		2-Low	8 -High	16	4 -Moderate	8	UWCD No. 4 is located adjacent to section of Rice Avenue which is to become part of the structure approach to the new grade separation	Mitigate	Identify early whether design will cause impact to Well No. 4 operations		
Active	16	Threat	Environmental	6/28/2016	Schedule, Cost	Prime Farmland	Acquiring the prime farmland south of Fifth Street may require additional time and cost		3-Moderate	4 -Moderate	12	4 -Moderate	12	The farmland at the project location is of national importance and may have additional acquisition requirements.	Mitigate	Negotiate with property owners as early as possible to avoid delays.		
Active	17	Threat	ROW	4/27/2018	Cost	Right of way cost	Acquiring the required right of way for the project may require higher than expected cost		3-Moderate	4 -Moderate	12	2 -Low	6	Cost estimate of right of way may be too low and thus the actual cost may be much higher.	Mitigate	Prepare right of way appraisals as early as possible		

ATTACHMENT I

FHWA AIR QUALITY PROJECT LEVEL CONFORMITY LETTER

2017 FTIP Conformity Determination

U.S. Department of Transportation
Federal Highway Administration

California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001

December 16, 2016

In Reply Refer To:
HDA-CA

Mr. Hasan Ikhrata, Executive Director
Southern California Association of Governments (SCAG)
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017

Attention: Ms. Maria Lopez

SUBJECT: CONFORMITY DETERMINATION FOR SCAG's 2017 FTIP through AMENDMENT NO. 17-01 and RTP/SCS – A PLAN FOR MOBILTY, ACCESSIBILITY, SUSTAINABILITY, and HIGH QUALITY OF LIFE

Dear Mr. Ikhrata:

The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) have completed our reviews of the conformity determination for the Southern California Association of Governments' (SCAG) 2017-20 Federal Transportation Improvement Program (FTIP) through Amendment No. 17-01. A FTA/FHWA air quality conformity determination is required for SCAG's new FTIP through Amendment No. 17-01 pursuant the Environmental Protection Agency's (EPA) Transportation Conformity Rule, 40 CFR Parts 51 and 93, and the United States Department of Transportation's Metropolitan Planning Rule, 23 CFR Part 450.

On September 1, 2016, SCAG adopted the 2017-20 FTIP and made the corresponding conformity determination via Resolution No. 16-582-2. The conformity analysis submitted indicates that all air quality conformity requirements have been met. Based on our review, and after consultation with the EPA Region IX office, we find that SCAG's 2017-20 FTIP conforms to the applicable state implementation plan in accordance with the provisions of 40 Code of Federal Regulations (CFR) Parts 51 and 93. In accordance with the December 15, 2014 *Memorandum of Understanding (MOU) between the FHWA California Division and the FTA Region IX*, FTA has concurred with this conformity determination.

In accordance with the above MOU, the FHWA's single signature constitutes FHWA and FTA's joint air quality conformity determination for SCAG's 2017-20 FTIP through Amendment No. 17-01. If you have any questions pertaining to this conformity finding, please contact Michael Morris of the FHWA at (213) 894-4014.

If you have any questions pertaining to this conformity finding, please contact Michael Morris of the FHWA at (213) 894-4014.

Sincerely,

For: Vincent P. Mammano
Division Administrator

ATTACHMENT J

ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT COVER SHEET

Rice Avenue Grade Separation Project

OXNARD, CALIFORNIA
07 – VEN – 34 PM 6.27/6.77
EA 07-317800/ EFIS 0715000274

Final Environmental Impact Report/ Environmental Assessment with Finding of No Significant Impact

Prepared by the
State of California Department of Transportation
and the City of Oxnard

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.

Caltrans

May 2018

SCH # 2017091040
07 – VEN – 34 PM 6.27/6.77
EA 07-317800
EFIS 0715000274

Construct a grade separation structure at the existing Rice Avenue and Fifth Street intersection. The northern portion is in the City of Oxnard and the southern portion is in Ventura County. The Rice Avenue overpass would be constructed over Fifth Street and UPRR eliminating the existing at grade crossing.

FINAL ENVIRONMENTAL IMPACT REPORT/ ENVIRONMENTAL ASSESSMENT WITH FINDING OF NO SIGNIFICANT IMPACT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

COOPERATING AGENCY
Federal Railroad Administration

May 16, 2018
Date of Approval

Ronald Kosinski
RON KOSINSKI
Deputy District Director
Division of Environmental Planning, District 7
California Department of Transportation

For additional information concerning this environmental document, contact:

Susan Tse, Senior Environmental Planner
Caltrans District 7
Division of Environmental Planning
100 South Main Street, MS 16A
Los Angeles, CA 90012
Phone: (213) 897-9116

CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

RICE AVENUE GRADE SEPARATION PROJECT (PM 6.27/6.77)

FOR

The California Department of Transportation (Caltrans) has determined that Build Alternative 2A will have no significant impact on the human environment. This FONSI is based on the attached Environmental Assessment (EA) which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA.

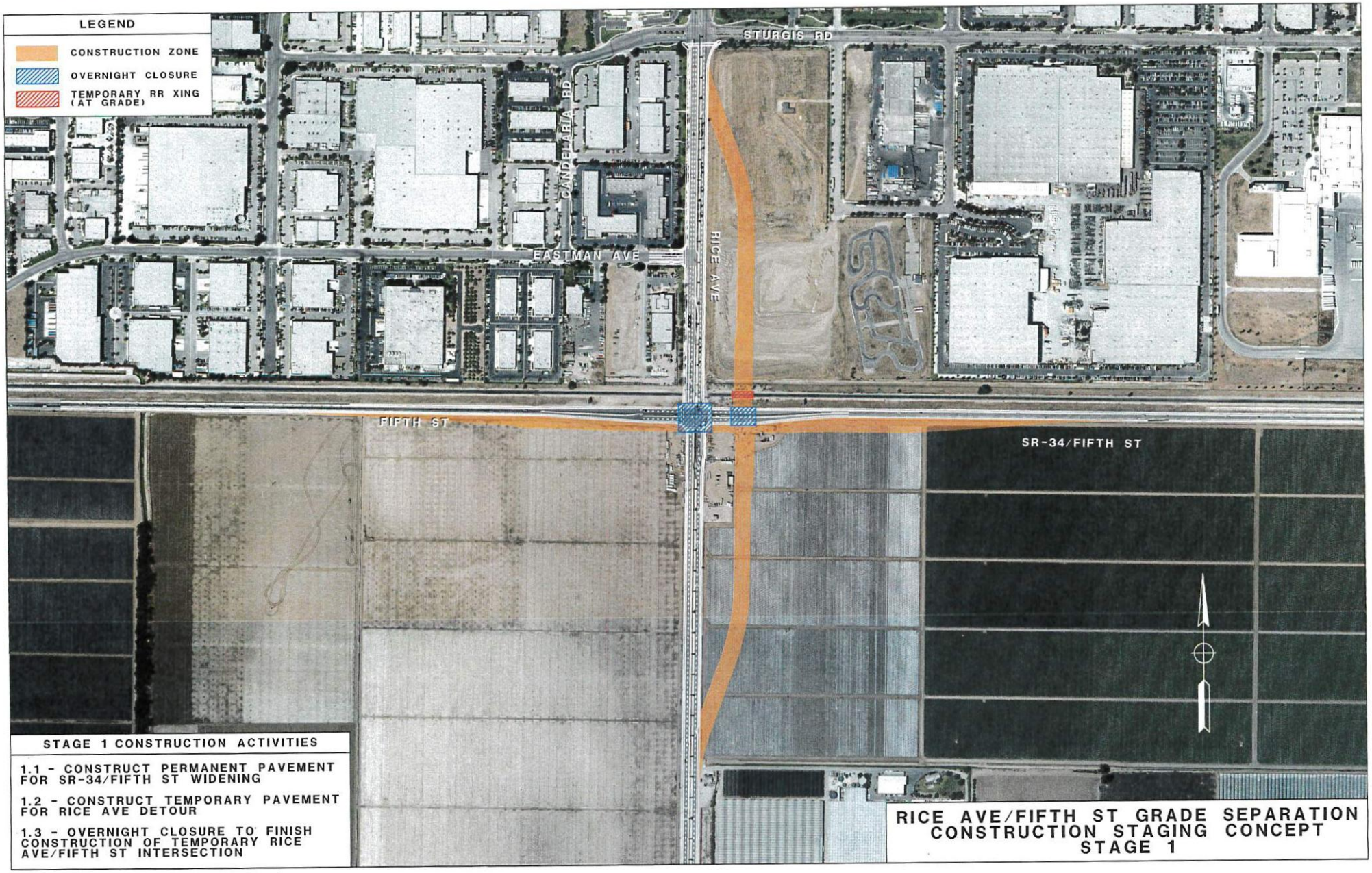
The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

May 16, 2018
Date

Ronald Kosinski
RONALD KOSINSKI
Deputy District Director
Division of Environmental Planning
Caltrans District 7

ATTACHMENT K

CONSTRUCTION STAGING CONCEPT PLANS (INCLUDING TEMPORARY RAIL CROSSING)



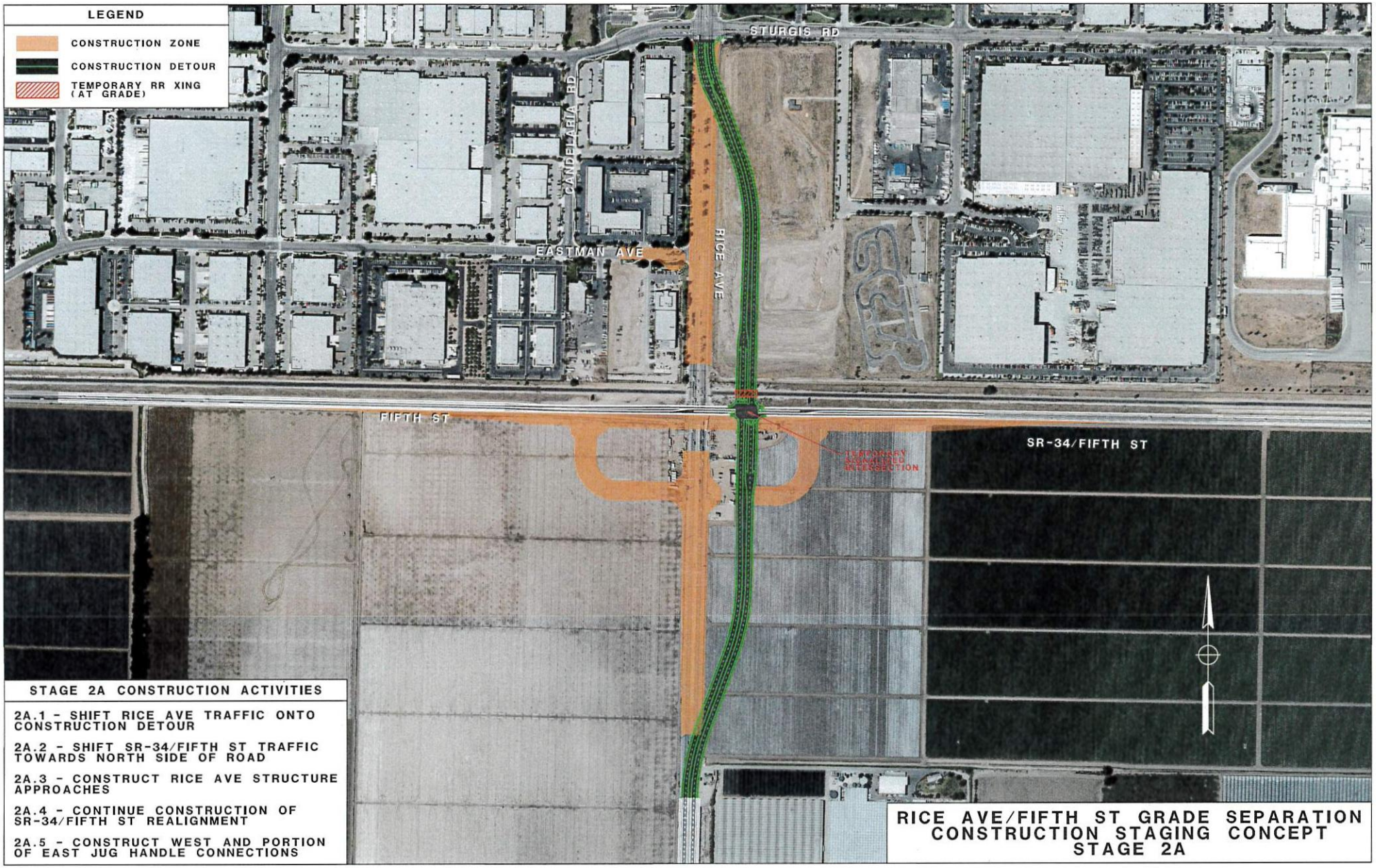
STAGE 1 CONSTRUCTION ACTIVITIES

1.1 - CONSTRUCT PERMANENT PAVEMENT FOR SR-34/FIFTH ST WIDENING

1.2 - CONSTRUCT TEMPORARY PAVEMENT FOR RICE AVE DETOUR

1.3 - OVERNIGHT CLOSURE TO FINISH CONSTRUCTION OF TEMPORARY RICE AVE/FIFTH ST INTERSECTION

RICE AVE/FIFTH ST GRADE SEPARATION
CONSTRUCTION STAGING CONCEPT
STAGE 1



STAGE 2A CONSTRUCTION ACTIVITIES

2A.1 - SHIFT RICE AVE TRAFFIC ONTO CONSTRUCTION DETOUR

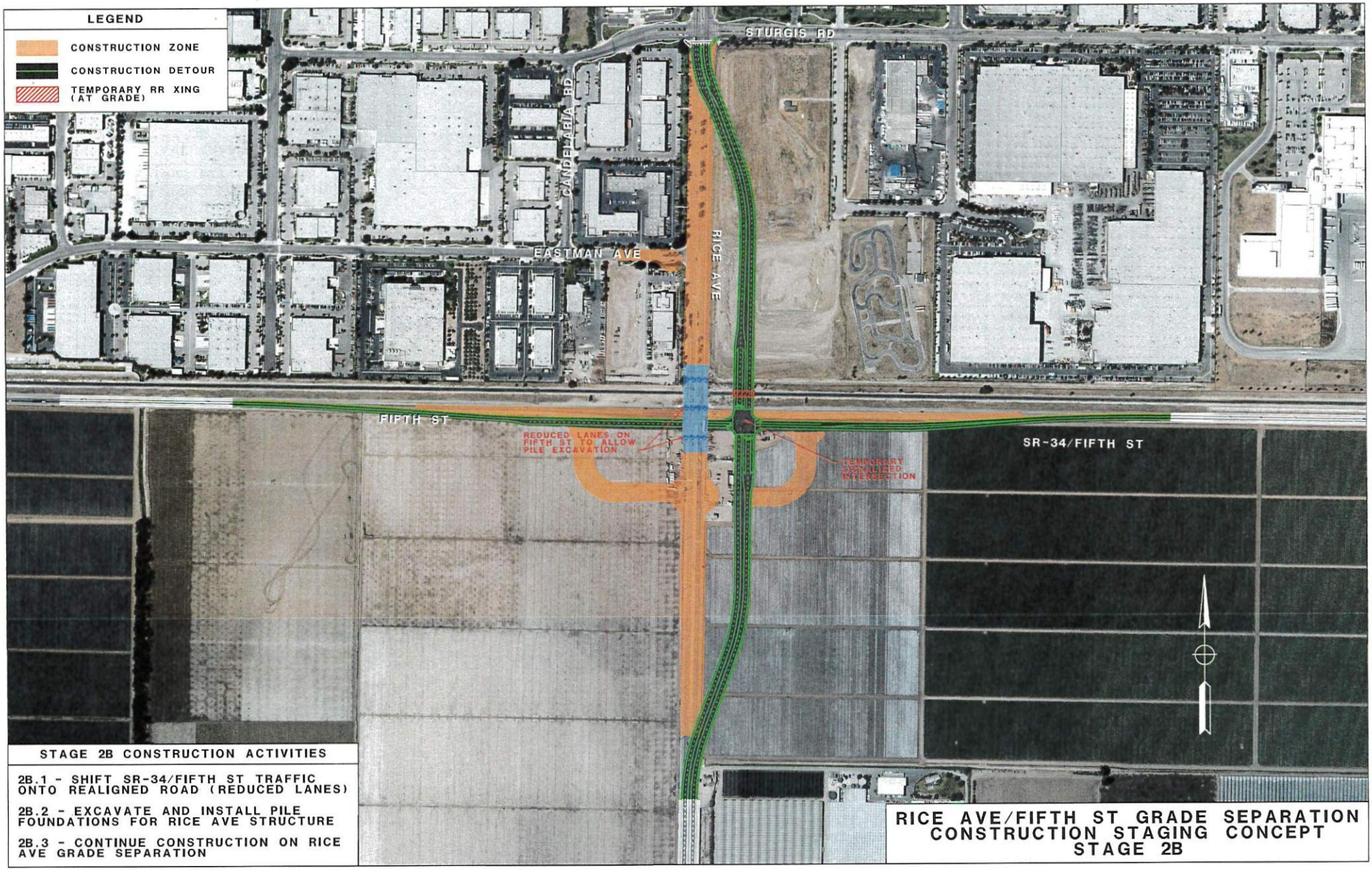
2A.2 - SHIFT SR-34/FIFTH ST TRAFFIC TOWARDS NORTH SIDE OF ROAD

2A.3 - CONSTRUCT RICE AVE STRUCTURE APPROACHES

2A.4 - CONTINUE CONSTRUCTION OF SR-34/FIFTH ST REALIGNMENT

2A.5 - CONSTRUCT WEST AND PORTION OF EAST JUG HANDLE CONNECTIONS

RICE AVE/FIFTH ST GRADE SEPARATION
CONSTRUCTION STAGING CONCEPT
STAGE 2A



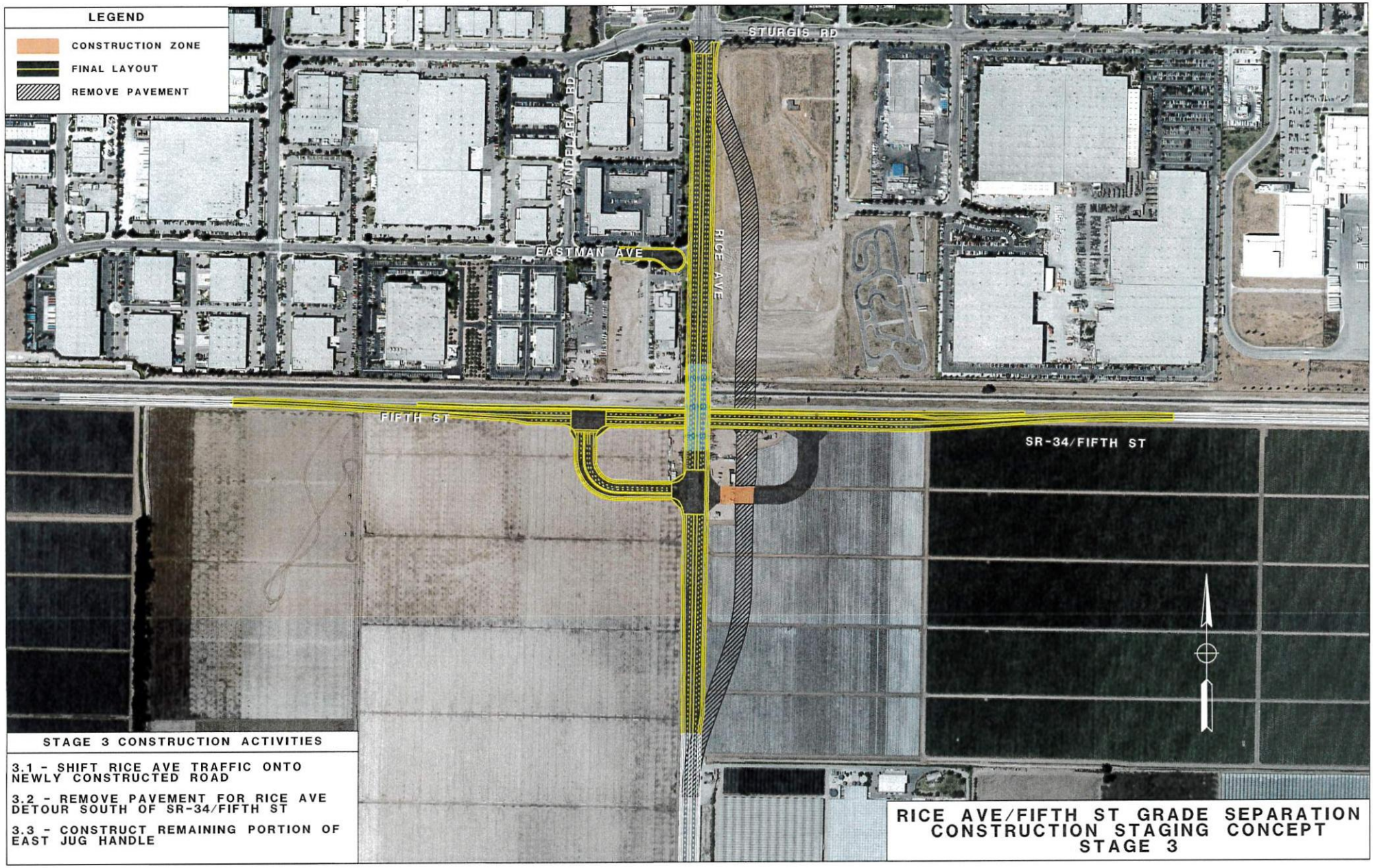
STAGE 2B CONSTRUCTION ACTIVITIES

2B.1 - SHIFT SR-34/FIFTH ST TRAFFIC ONTO REALIGNED ROAD (REDUCED LANES)

2B.2 - EXCAVATE AND INSTALL PILE FOUNDATIONS FOR RICE AVE STRUCTURE

2B.3 - CONTINUE CONSTRUCTION ON RICE AVE GRADE SEPARATION

RICE AVE/FIFTH ST GRADE SEPARATION
CONSTRUCTION STAGING CONCEPT
STAGE 2B



STAGE 3 CONSTRUCTION ACTIVITIES

3.1 - SHIFT RICE AVE TRAFFIC ONTO NEWLY CONSTRUCTED ROAD

3.2 - REMOVE PAVEMENT FOR RICE AVE DETOUR SOUTH OF SR-34/FIFTH ST

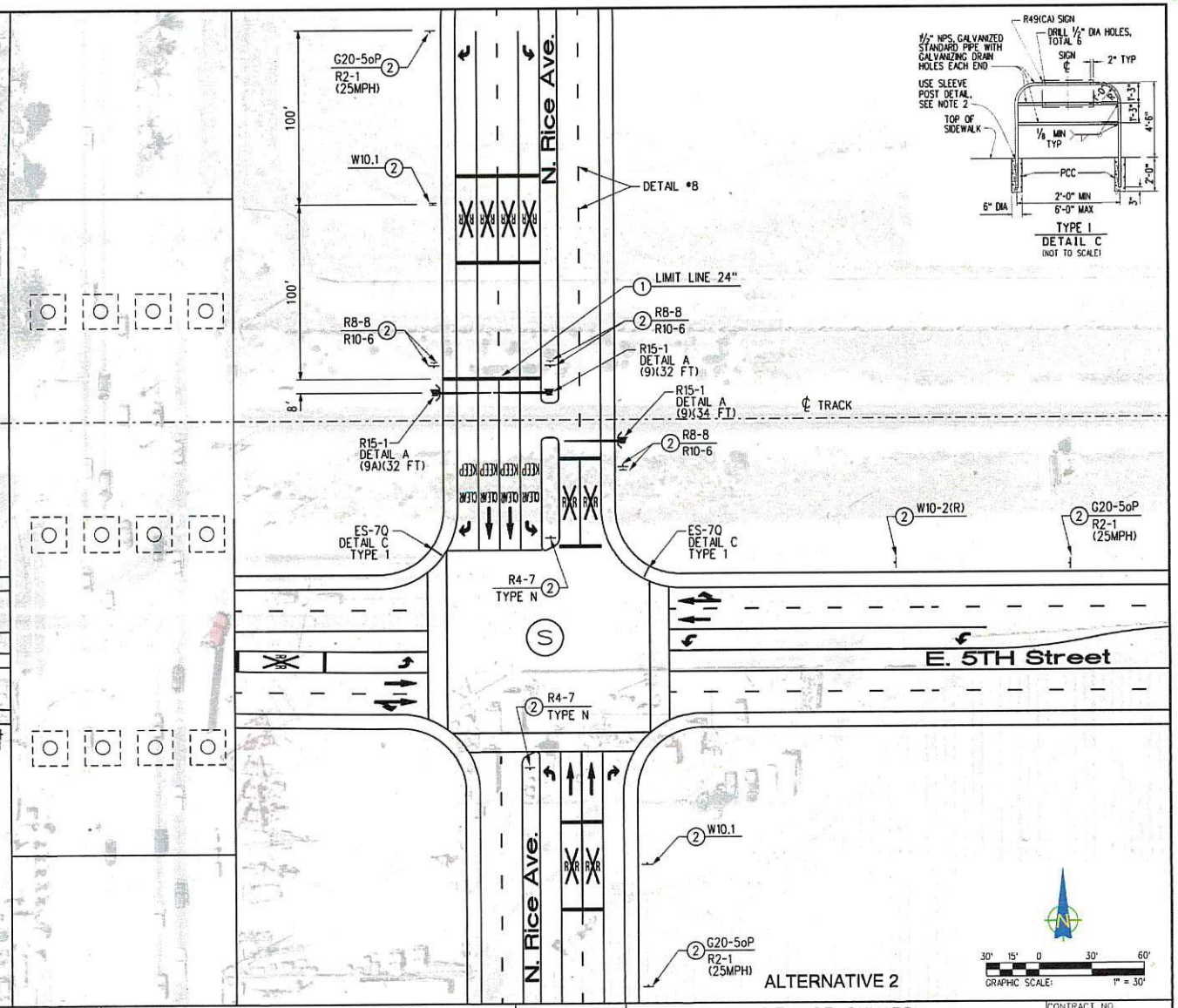
3.3 - CONSTRUCT REMAINING PORTION OF EAST JUG HANDLE

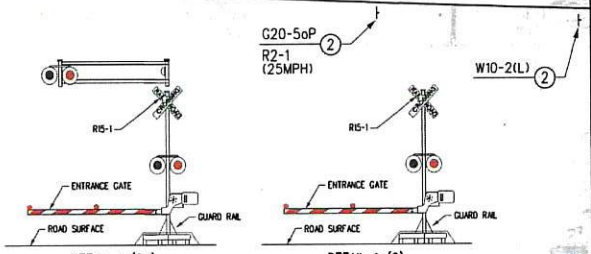
RICE AVE/FIFTH ST GRADE SEPARATION
CONSTRUCTION STAGING CONCEPT
STAGE 3

CONSTRUCTION NOTES:

1. INSTALL 24" SOLID WHITE STOP LINE PER CALTRANS STD DETAIL A24B
2. INSTALL ROAD SIDE SIGN AND POST
3. INSTALL STRIPPING PER CALTRANS STD

SIGNAGE REFERENCES:





EXHIBIT

REV.	DATE	DESCRIPTION	BY	APP.

Information confidential, proprietary, classified, sensitive, and/or information furnished herewith shall remain the property of the Southern California Regional Rail Authority and shall be held confidential and shall not be used for any purpose other than in connection with the Southern California Regional Rail Authority.

DESIGNED BY A. YALDA
DRAWN BY P. ZUCCHI
CHECKED BY -
APPROVED BY
DATE MAY 26, 2015

PATTERSON & ASSOCIATES, INC. (DBA: PATTERSON ENGINEERING)
725 TOWN & COUNTRY ROAD - SUITE 300
ORANGE, CA 92868

CITY OF OXNARD
GRADE SEPARATION
DETOUR

N RICE AVENUE & E 5TH STREET
(DOT) 745855H; (CPUC) 001E-406.25

CONTRACT NO.
DRAWING NO. EXH-01
REVISION
SHEET NO. 1
SCALE AS SHOWN

USER: PENTABLE FILE
TIME:
DATE:

PROJECT NUMBER | COST ELEMENT | LINE ITEM | CONTRACT DESIGNATOR | PHYSICAL ENTITY | WORK ELEMENT

ATTACHMENT L

UTILITY PLANS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.27/6.77		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. EXP. CIVIL STATE OF CALIFORNIA

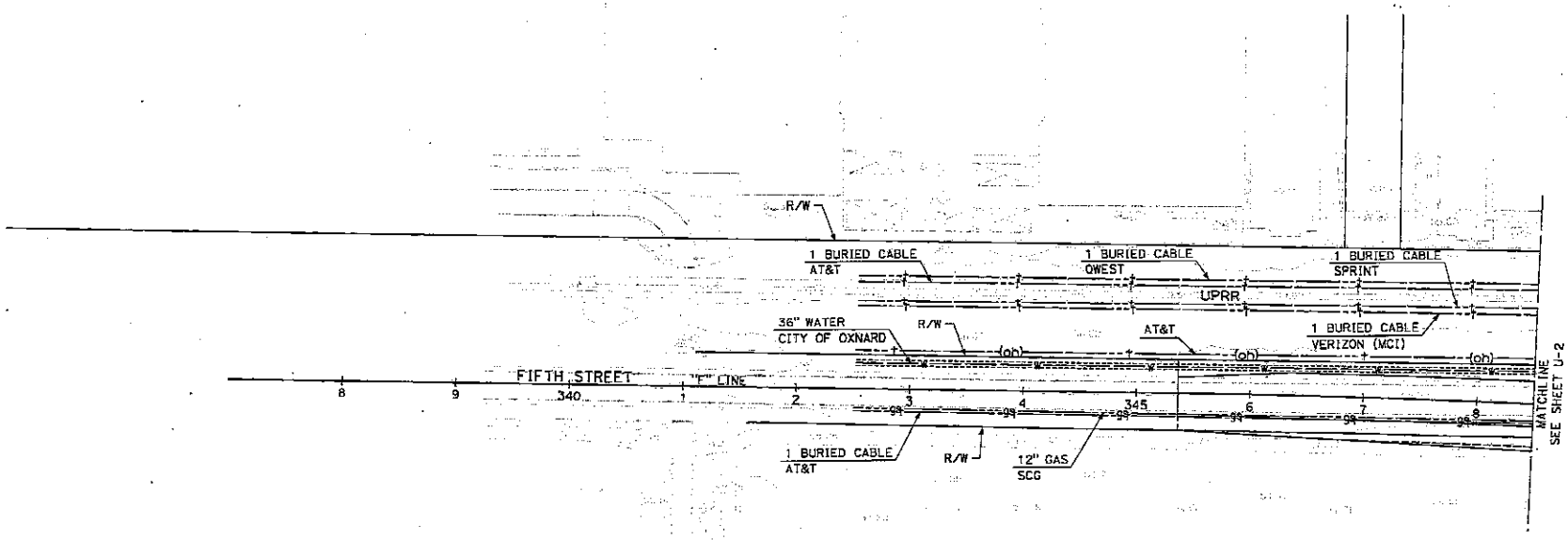
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

NOTE:

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



LEGEND:

AT&T	AMERICAN TELEPHONE & TELEGRAPH
CRC	CALIFORNIA RESOURCE CORPORATION
SCE	SOUTHERN CALIFORNIA EDISON
SCG	SOUTHERN CALIFORNIA GAS COMPANY
UWCD	UNITED WATER CONSERVATION DISTRICT

ALTERNATIVE 2A UTILITIES

SCALE: 1" = 100'

U-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 00-00-00

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TIME PLOTTED => 16:26

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.27/6.77		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

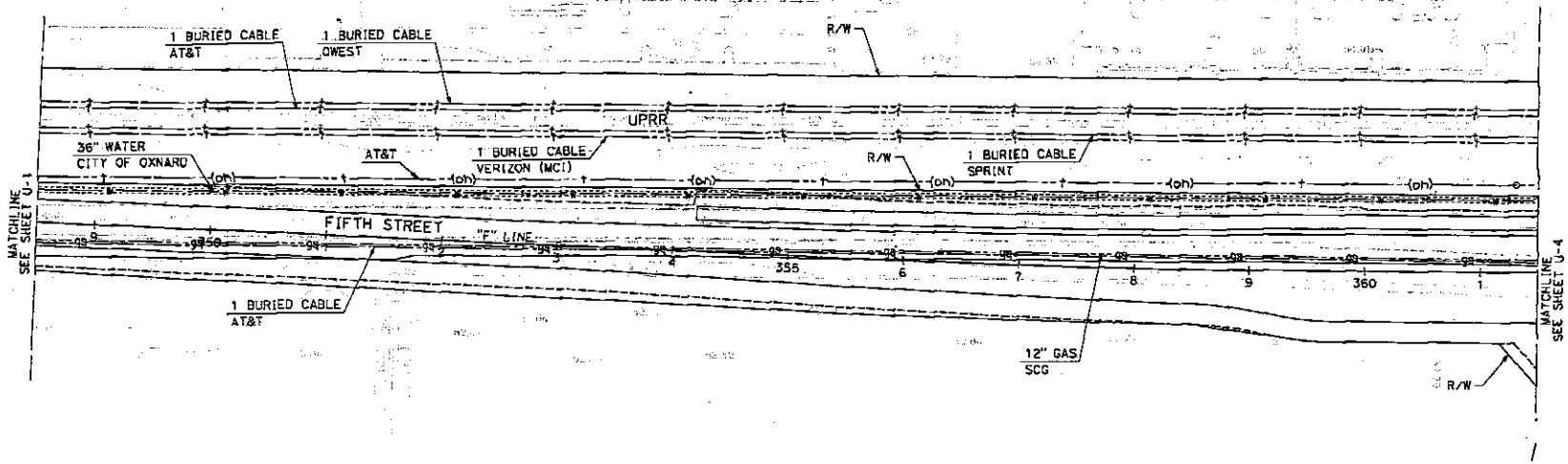
REGISTERED PROFESSIONAL ENGINEER — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WKE, INC
400 N. TUSTIN AVENUE
SUITE 215
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

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



ALTERNATIVE 2A
UTILITIES

SCALE: 1" = 100'

U-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 00-00-00

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TIME PLOTTED => 16:26

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.27/6.77		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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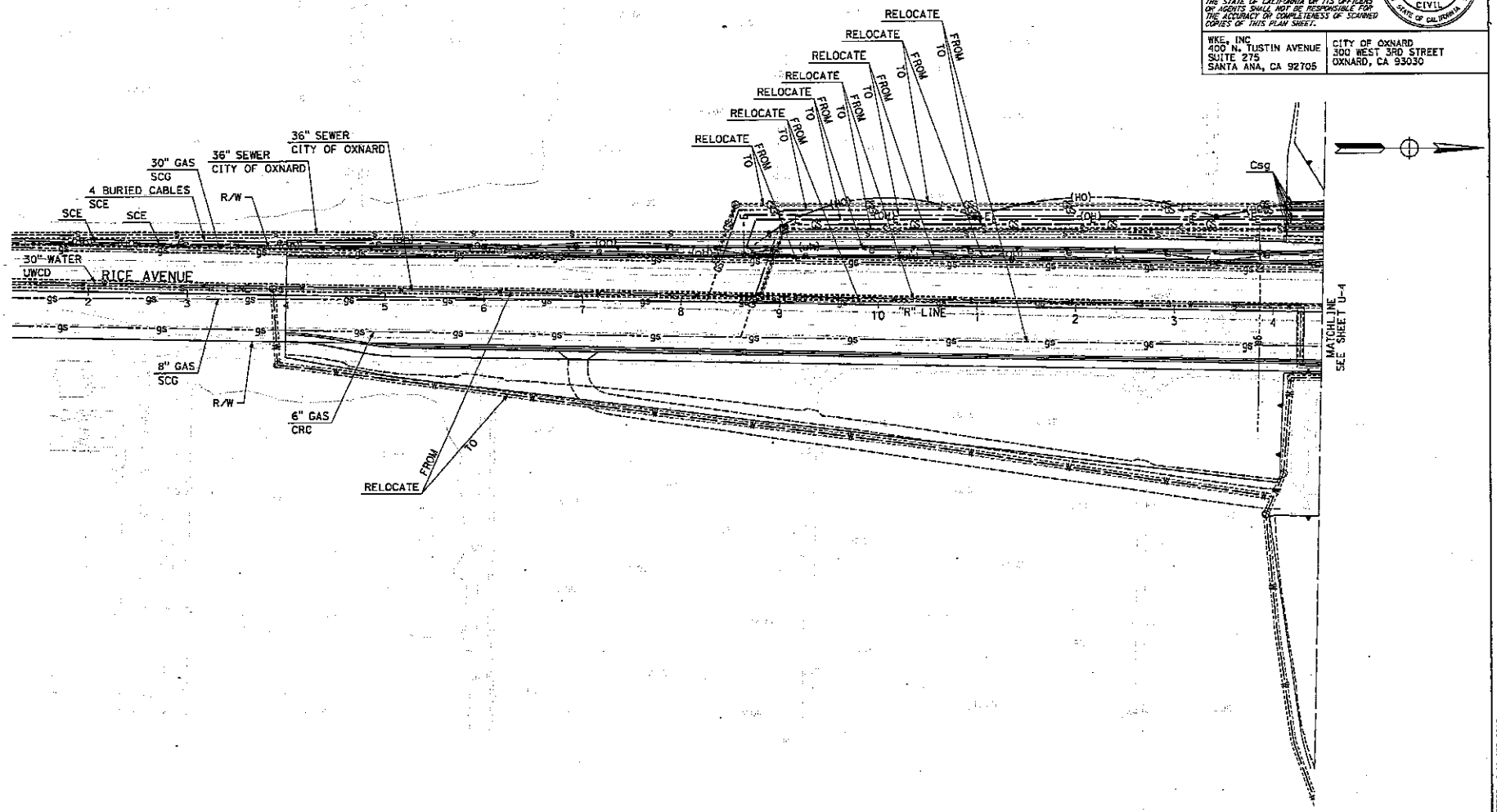
WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

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



ALTERNATIVE 2A
UTILITIES

SCALE: 1" = 100'

U-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED/DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

LAST REVISION 00-00-00

DATE PLOTTED => 01-APR-2017
TIME PLOTTED => 16:26

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.27/6.77		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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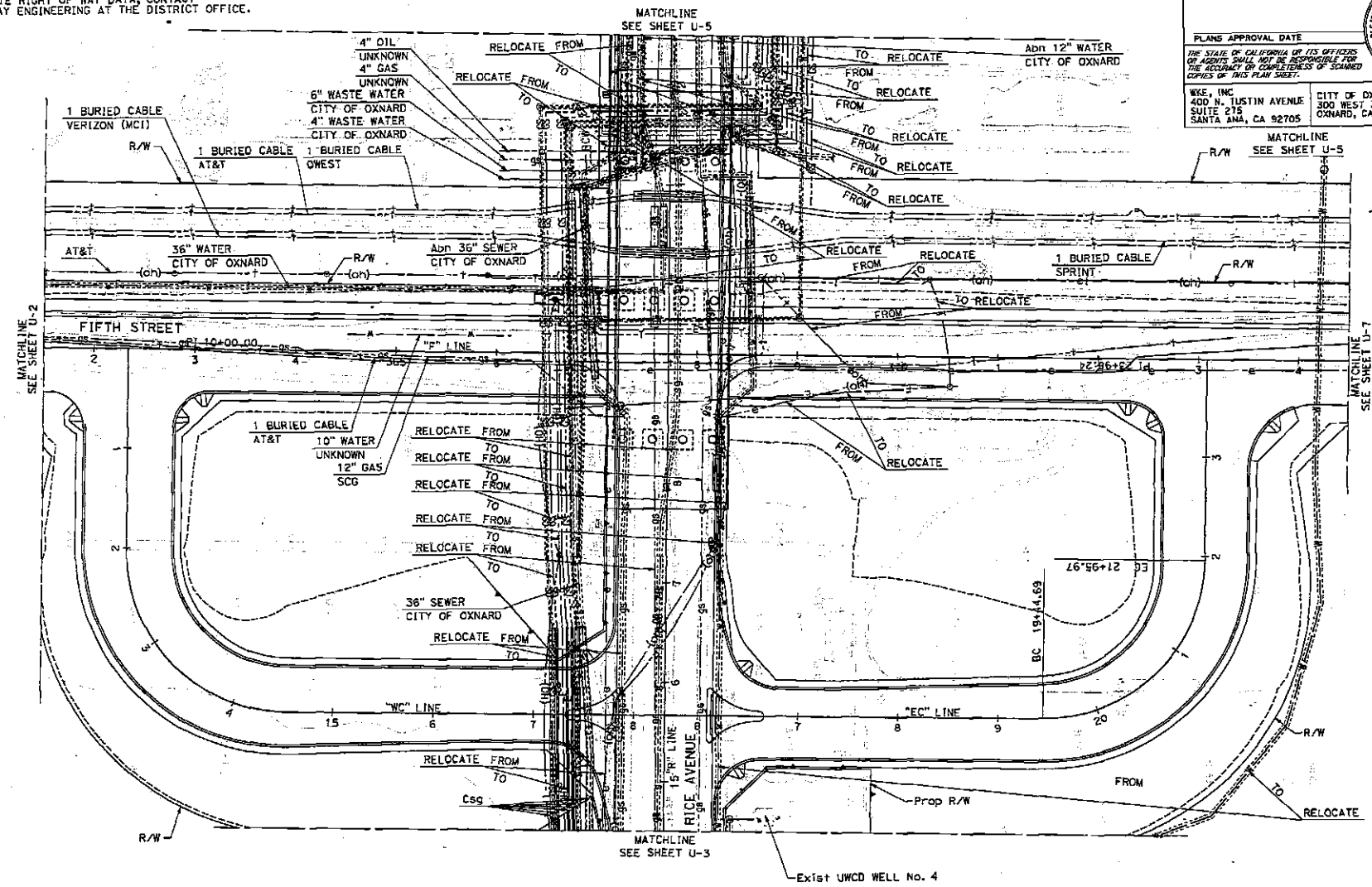
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

WKE, INC
400 N. TUSTIN AVENUE
SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

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



ALTERNATIVE 2A UTILITIES

SCALE: 1" = 100'

U-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONSULTANT FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

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BORDER LAST REVISED 7/2/2010

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1823

PROJECT NUMBER & PHASE 07150000751

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.27/6.77		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

NOTE:
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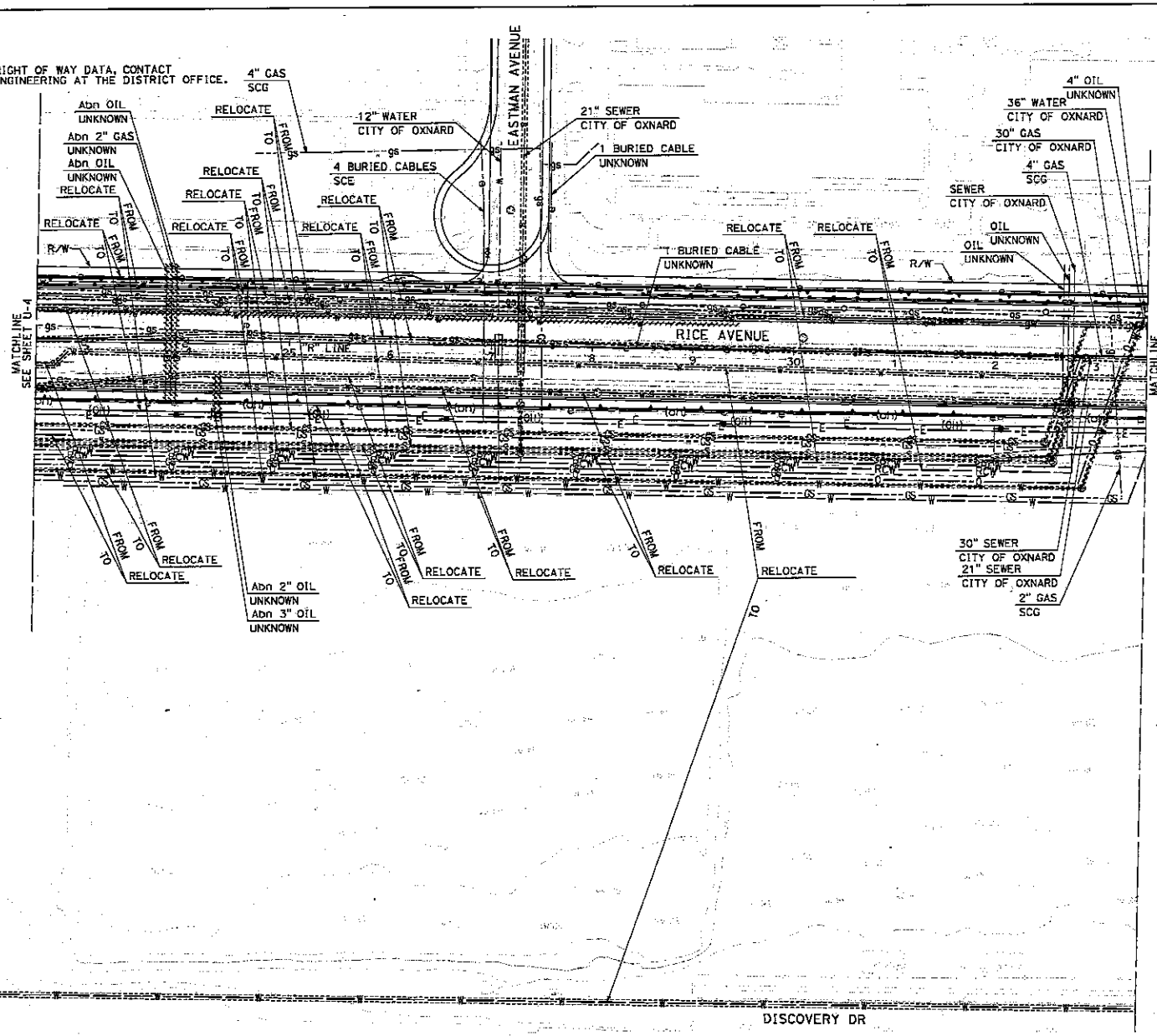

ALTERNATIVE 2A UTILITIES

SCALE: 1" = 100'

U-5

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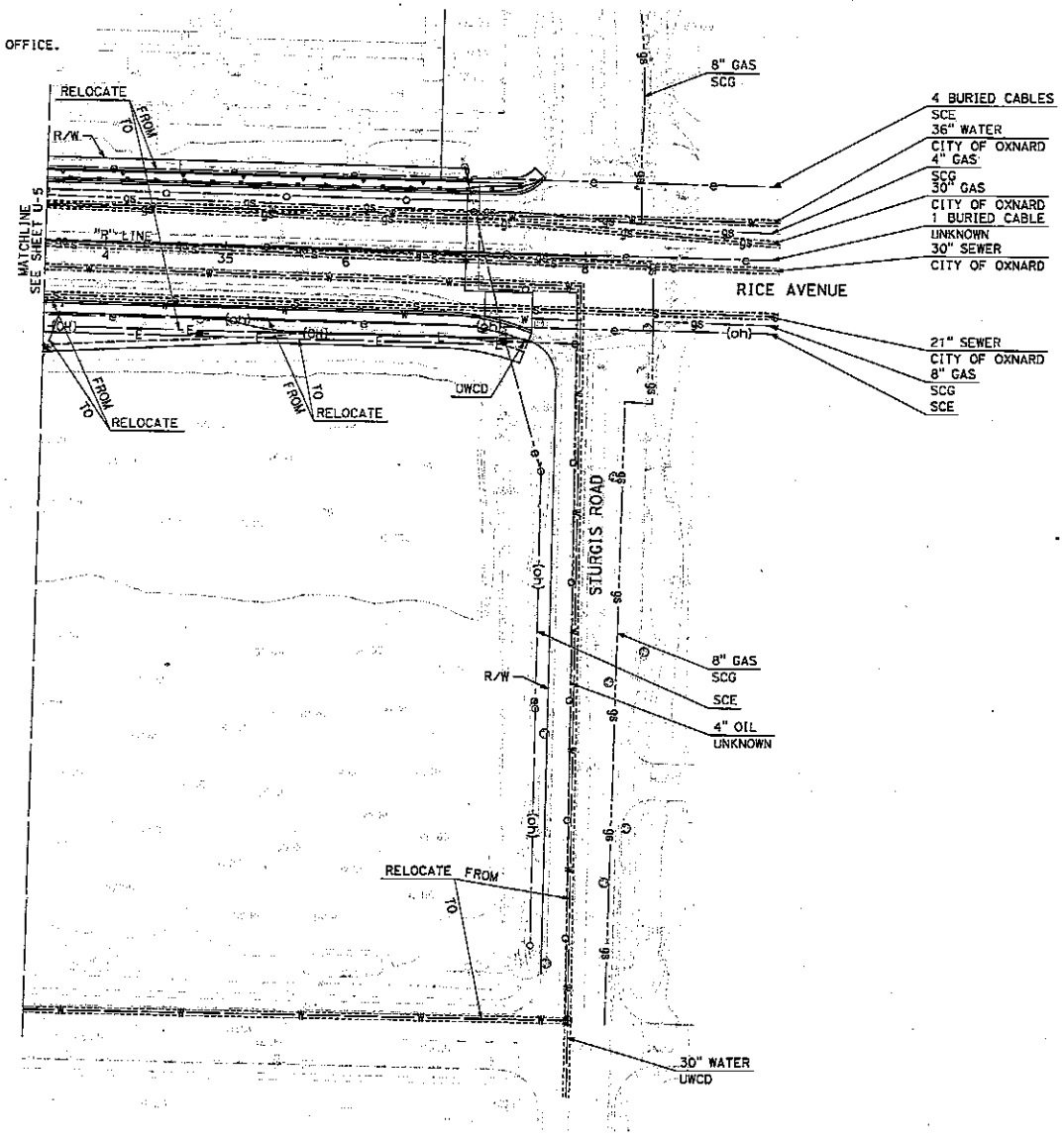

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ALTERNATIVE 2A UTILITIES

SCALE: 1" = 100'

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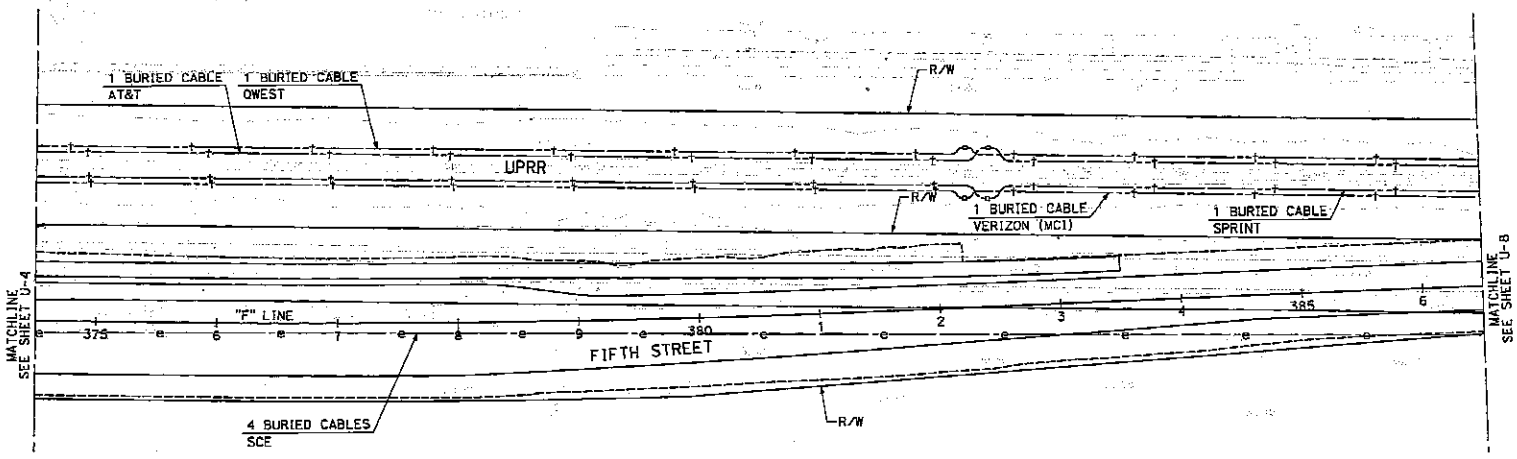

ALTERNATIVE 2A
UTILITIES

SCALE: 1" = 100'

U-7

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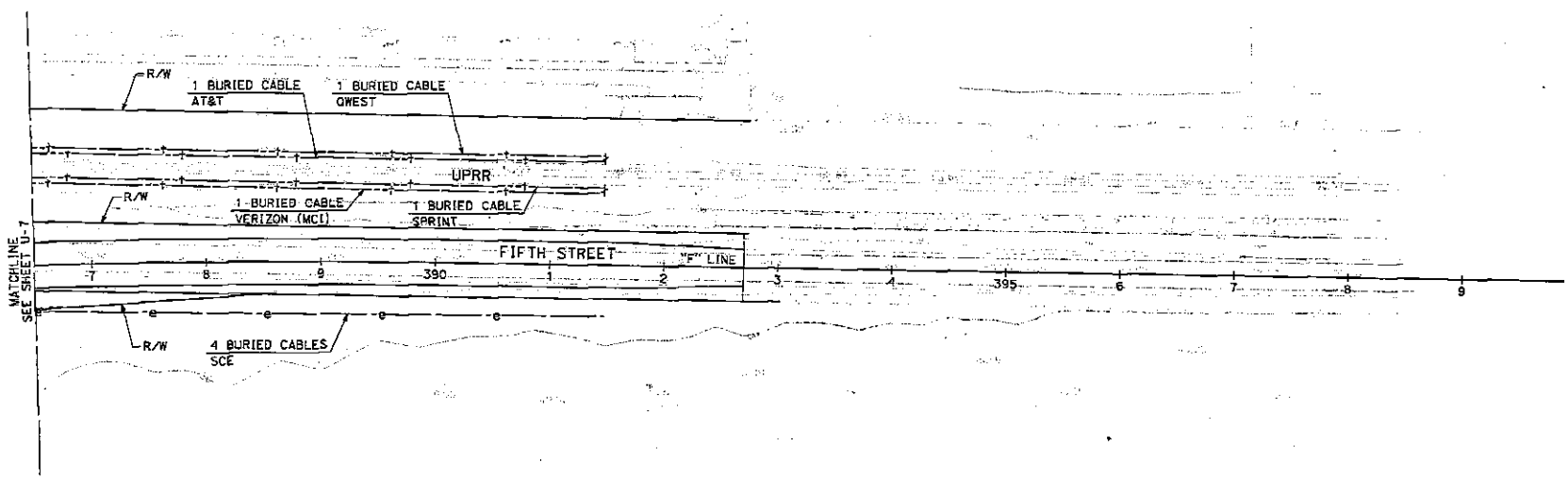

ALTERNATIVE 2A
UTILITIES

SCALE: 1" = 100'

U-8

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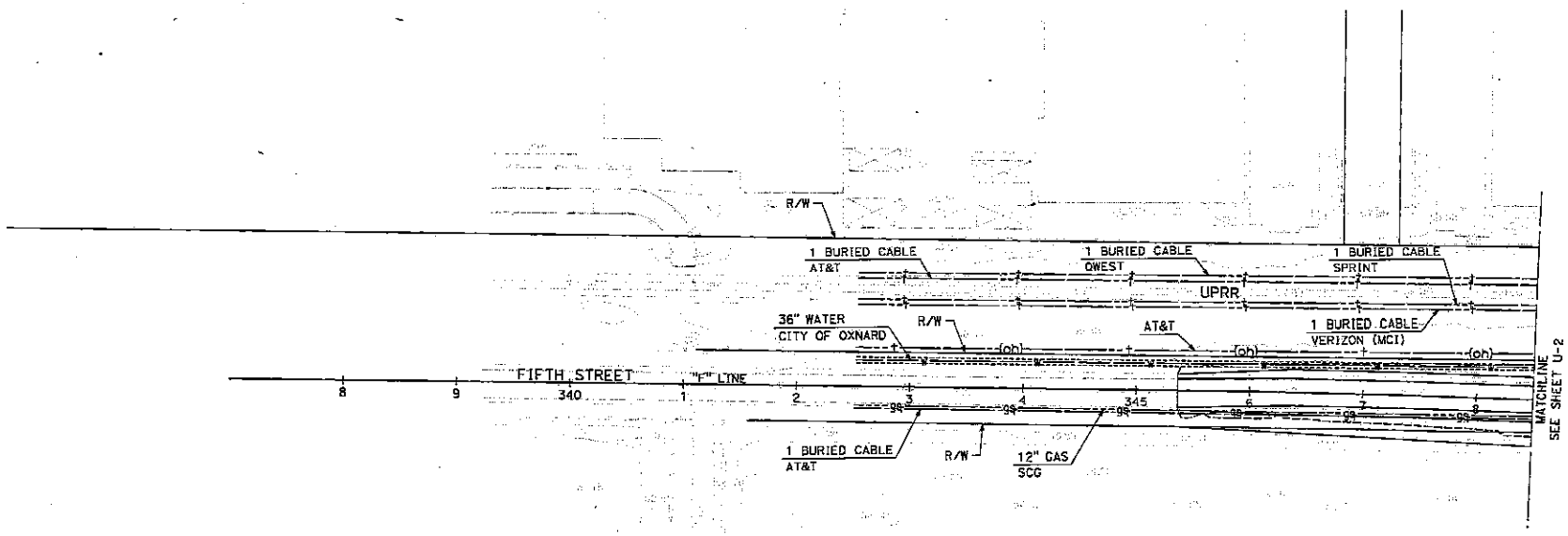

ALTERNATIVE 2B UTILITIES

SCALE: 1" = 100'

U-1

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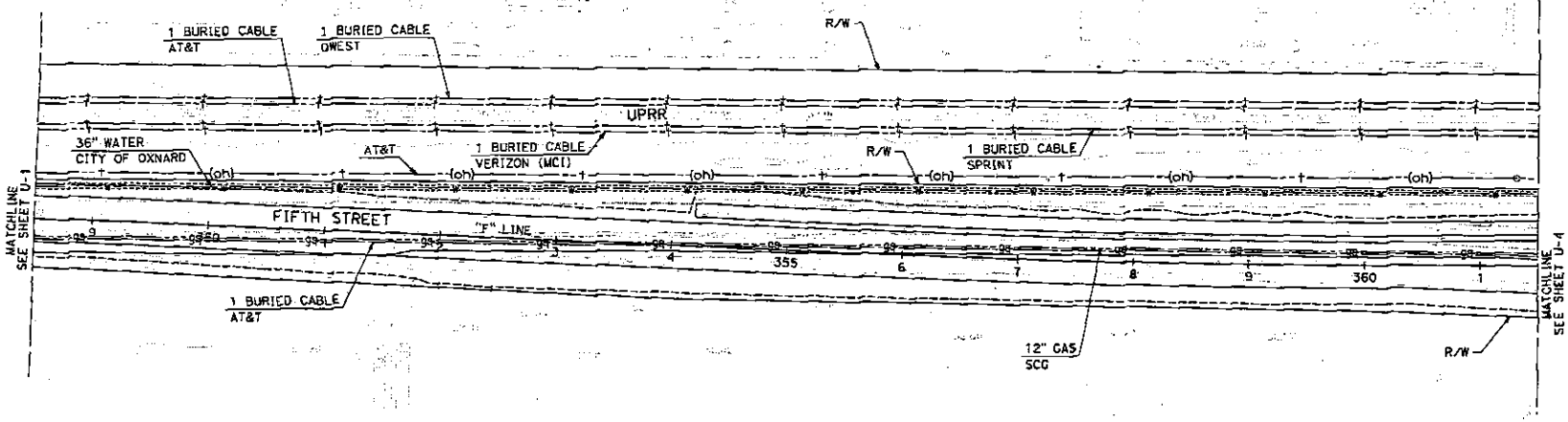

ALTERNATIVE 2B
UTILITIES

SCALE: 1" = 100'

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UNIT 1823

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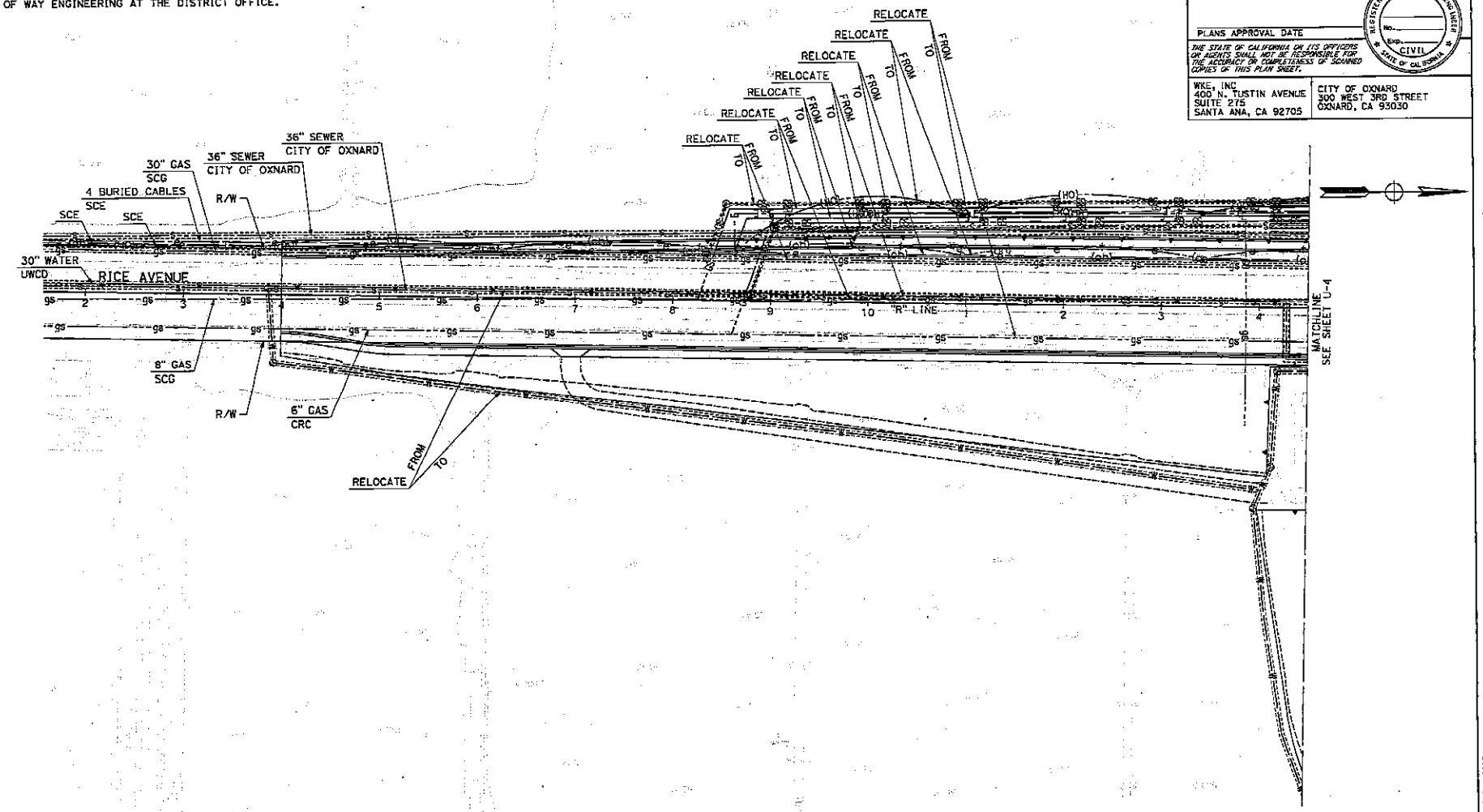

ALTERNATIVE 2B
UTILITIES

SCALE: 1" = 100'

U-3

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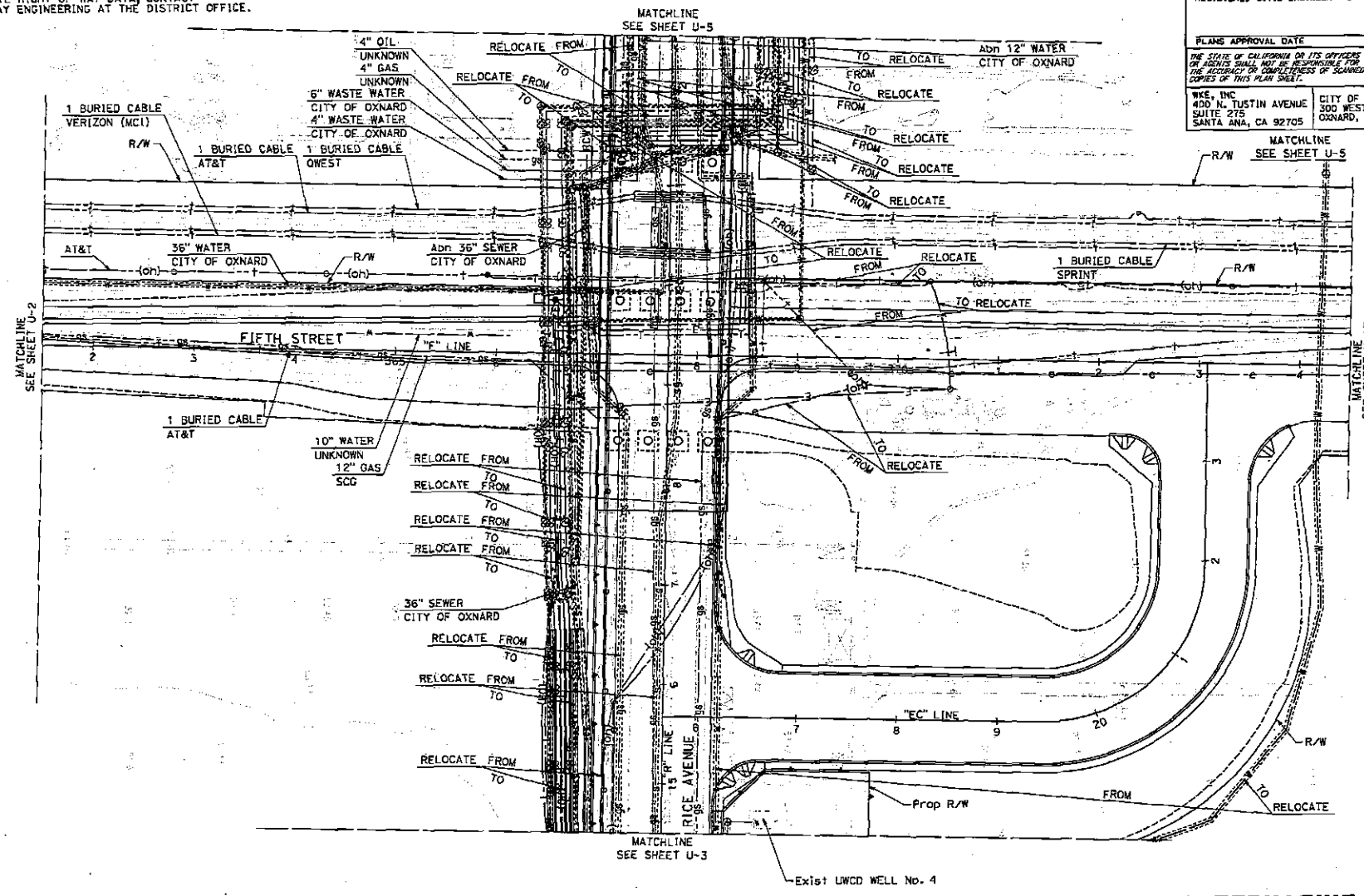

ALTERNATIVE 2B
UTILITIES

SCALE: 1" = 100'

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UNIT 1823

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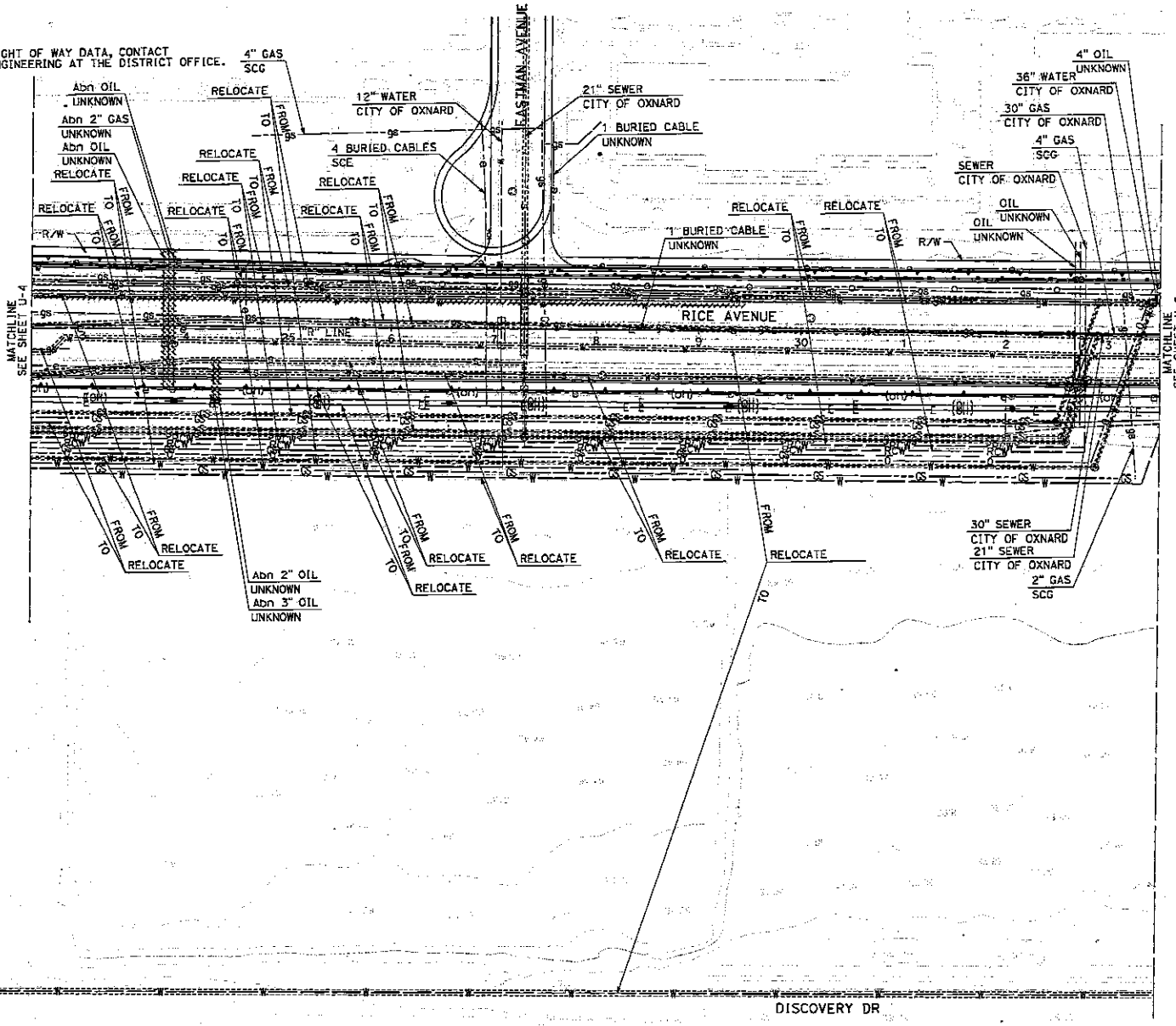

ALTERNATIVE 2B UTILITIES

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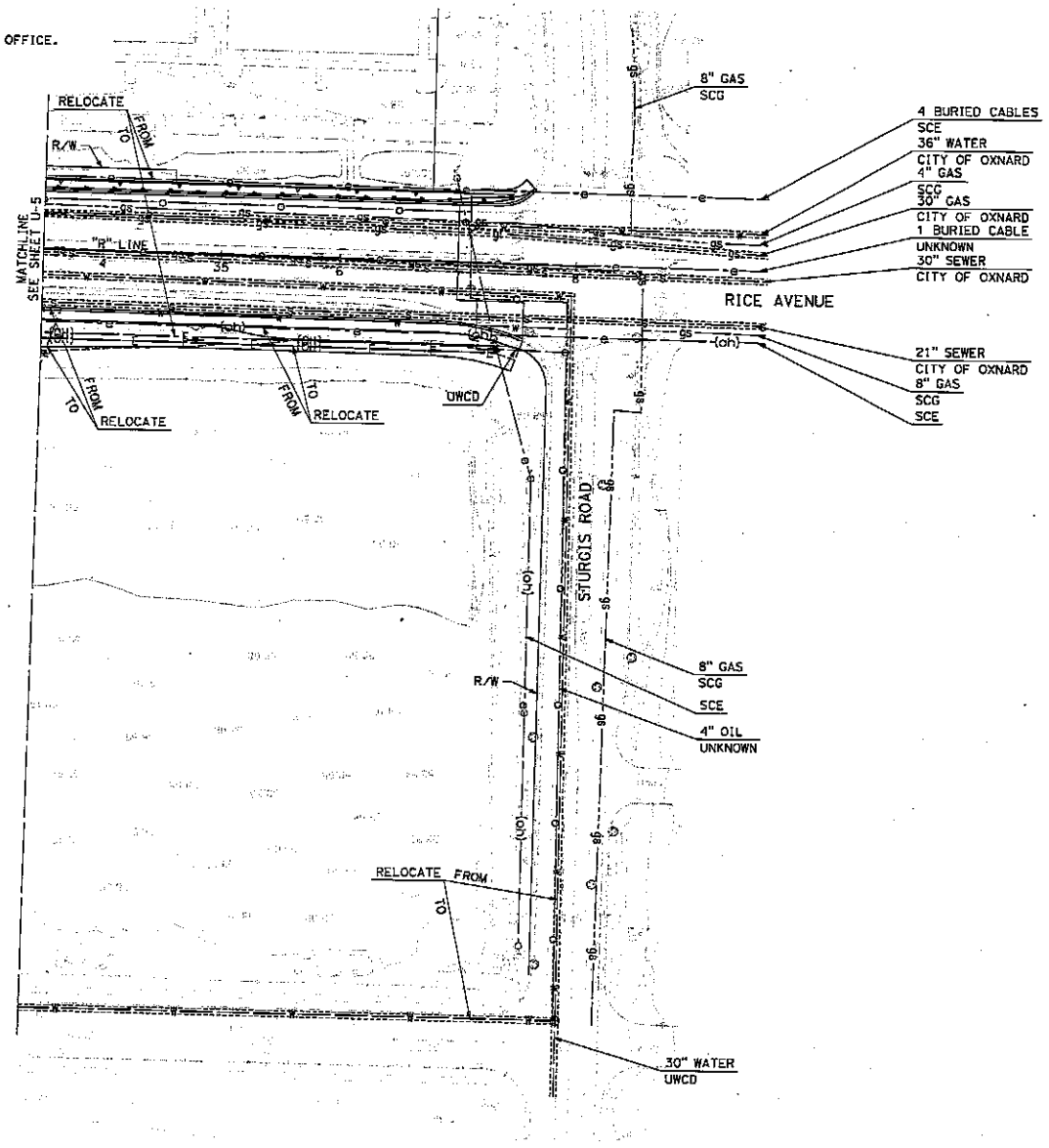

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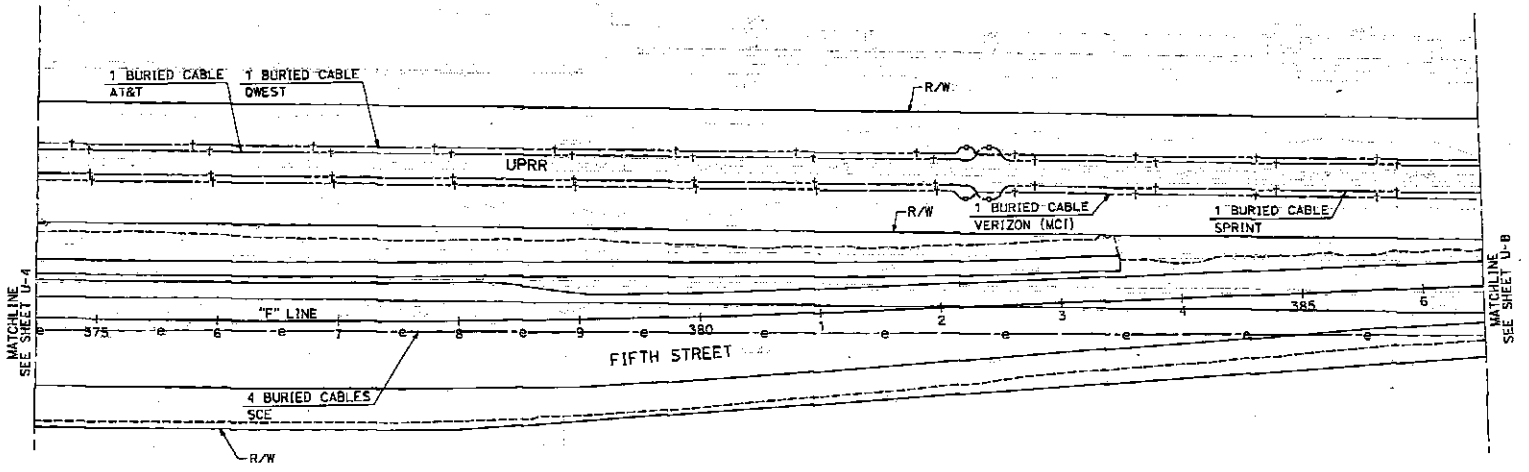

ALTERNATIVE 2B
UTILITIES

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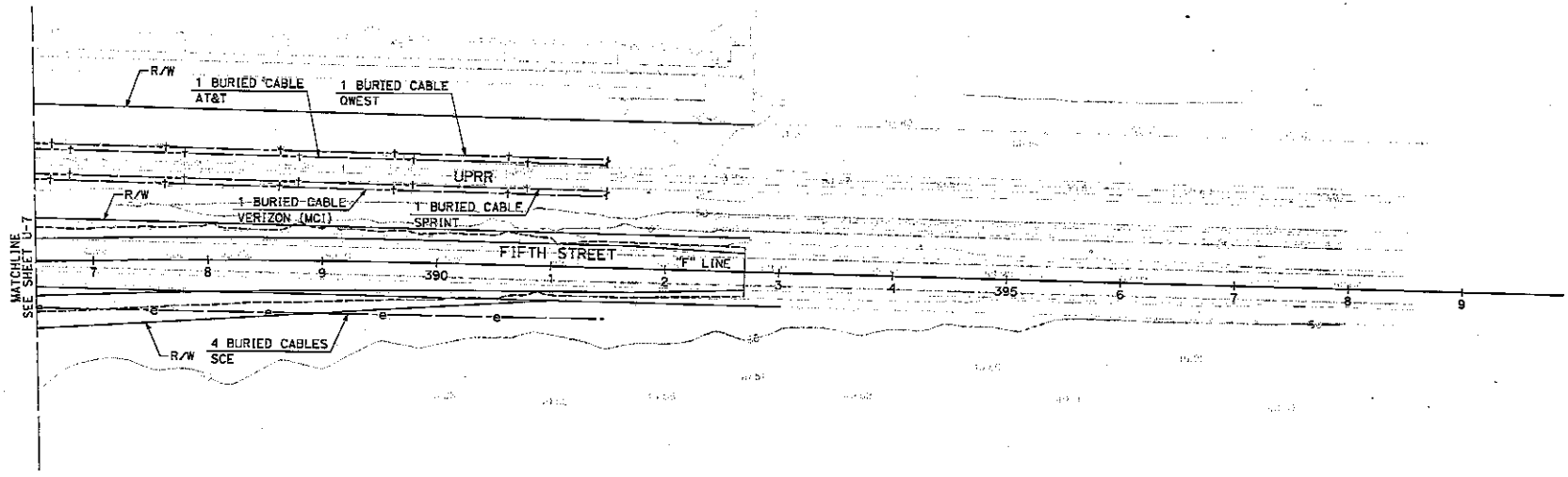

ALTERNATIVE 2B
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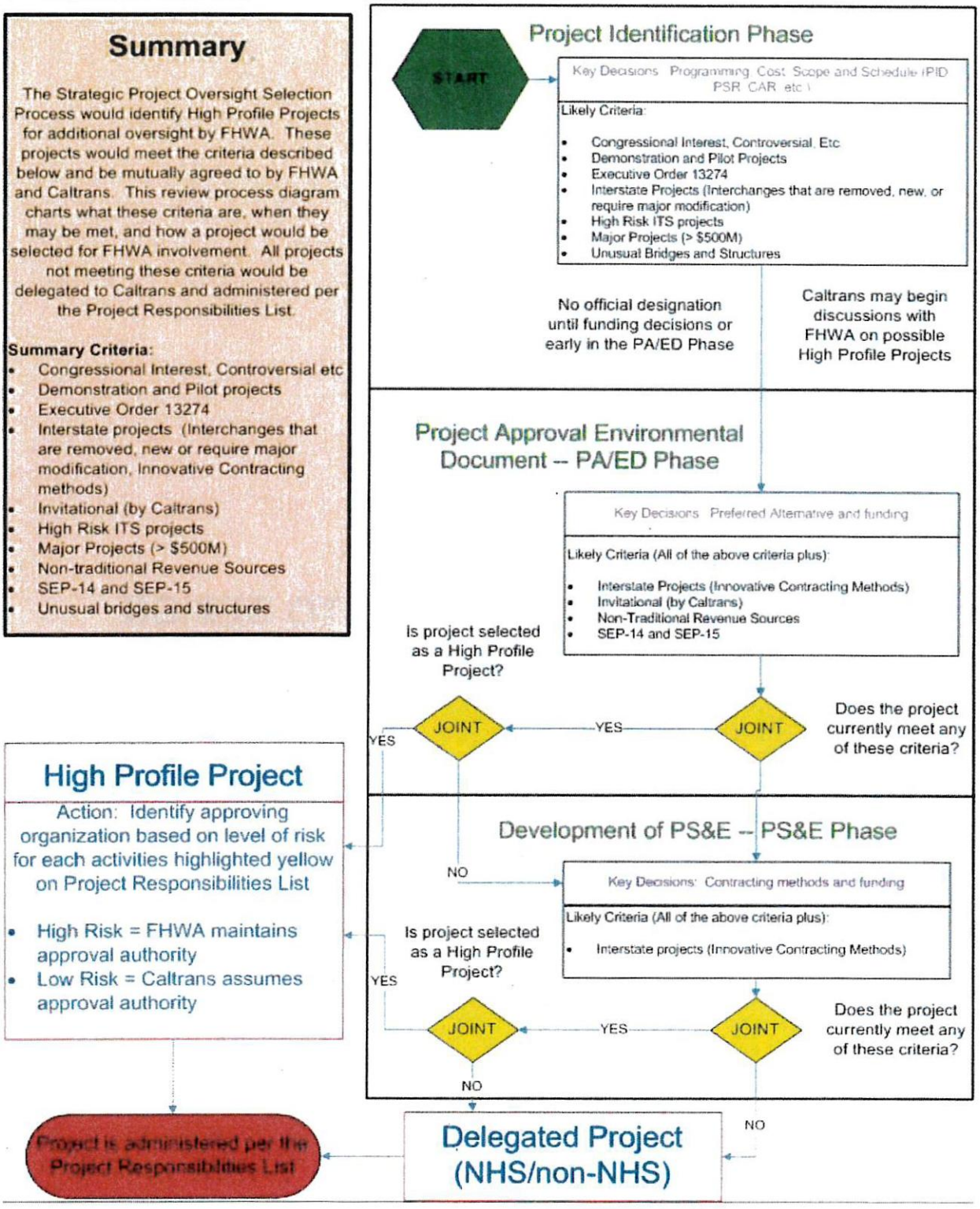
ATTACHMENT M

FHWA OVERSIGHT

ATTACHMENT 4: STRATEGIC PROJECT OVERSIGHT SELECTION PROCESS
(CAPITAL PROJECTS)



ATTACHMENT N

ADVISORY FACT SHEET TO DESIGN EXCEPTIONS

September 21, 2017
07 – VEN - 34 – 6.3/6.8
EA 07317800, Project Number 0715000274, PPNO 4961

Fact Sheet
Exceptions to Advisory Design Standards

Prepared by:

HENRY TONG, *REGISTERED CIVIL ENGINEER*

REGISTERED PROFESSIONAL ENGINEER
Henry Tong
No. C81357
Exp. 09/30/19
CIVIL
STATE OF CALIFORNIA

Submitted by:

For **ORLANCE LEE**, *SENIOR TRANSPORTATION ENGINEER*

9-26-17
DATE

213-897-0717
TELEPHONE

Concurrence by:

ZAREH SHAHBAZIAN, *PROJECT MANAGER*

10-11-17
DATE

213-897-4255
TELEPHONE

Approved by:

REFUGIO DOMINGUEZ, *ACTING OFFICE CHIEF*
OFFICE OF DESIGN C

10-17-17
DATE

1. PROPOSED PROJECT

A. Project Description:

The city of Oxnard (City) in cooperation with the Ventura County Transportation Commission (VCTC) is proposing to grade separate Rice Avenue with State Route 34 (SR 34) and the Union Pacific Railroad (UPRR). SR 34 (Fifth Street) is designated as a conventional highway running east-west, and Rice Avenue is an arterial roadway running north-south through the City and the county of Ventura (County).

The proposed improvement limits along SR 34 are proposed from Post Mile (PM) 6.3 to PM 6.8, and along Rice Avenue 0.4 miles north and south of SR 34. In 2010, Caltrans relinquished a section of SR 34 right-of-way westerly of Rice Avenue to the City from PM 4.20 to PM 6.3. Therefore, the PM limits for this Project would be from PM 6.3 to PM 6.8 (See Attachment A – Vicinity Map).

A No Build Alternative and one Build Alternative are evaluated for the Draft Project Report. The Build Alternative (Alternative 2) proposes to elevate Rice Avenue over SR 34 and UPRR and maintains the existing horizontal alignment of Rice Avenue. There are two options for the Build Alternative. Option A proposes a double connector road, on the west and east sides of Rice Avenue, and Option B proposes a single connector road on the east side of Rice Avenue to link Rice Avenue and SR 34 with signalized intersections. A cul-de-sac would be constructed at Eastman Avenue. Eastman Avenue no longer intersects with Rice Avenue after construction.

B. Existing Highway:

SR 34 is an east-west route from Rice Avenue to SR 118 near Somis, with a design speed of 55 mph and posted speed of 50 mph. SR 34 is classified as a conventional highway with two lanes (one lane in each direction) for local commuters, with commercial and agricultural use. SR 34 is designated as SR 34 from Rice Avenue to US 101, and Lewis Road from US 101 to SR 118. Based on 2015 traffic counts, the Average Daily Traffic (ADT) for this segment of SR 34 within the project limit is 11,000 vehicles.

Rice Avenue is a north-south route through the City and the County with a design speed of 60 mph and posted speed of 55 mph. Rice Avenue is classified as a primary arterial with six lanes (three lanes in each direction) north of SR 34, within the City, and four lanes (two lanes in each direction) south of SR 34, within the County. Based on 2015 traffic counts, the ADT for this segment of Rice Avenue within the project limit is 35,000 vehicles. In the future, it is planned for Rice Avenue to be designated as US 1.

The UPRR track is located just north of the SR 34/Rice Avenue intersection with a separation of 58 feet between the center of the track to the intersection crosswalk on the north side of SR 34. The UPRR track has joint use with Metrolink and it is estimated that one UP and one Metrolink train cross Rice Avenue every hour. The close spacing of the street intersection and the UPRR track has resulted in increased conflicts between trains and vehicles.

The roadway segments within the project area are currently designated as urbanized to the north of SR 34 and rural to the south of SR 34. Land uses adjacent to the Rice Avenue/SR 34 intersection are light industrial to the north and agricultural to the south. Major utility infrastructure is located at the intersection, including high risk utilities.

Opportunities to incorporate Context Sensitive Solutions and Complete Streets concepts have been considered for the Build Alternative. Further guidance was obtained from the 2011 City of Oxnard Bicycle and Pedestrian Facilities Master Plan. The Master Plan designates both SR 34 and Rice Avenue as planned bicycle and pedestrian routes. SR 34 is designated for a Class I Bikeway and Rice Avenue is designated for Class II Bike lane. The Class I Bikeway on SR 34 would be constructed by the 5th Street Widening Project. This project is in the City's planning Master Plan but not currently programmed.

C. Safety Improvements:

Multiple safety improvements are to be implemented for this project, including, but not limited to, the following items: separation of the existing at-grade crossing between Rice Avenue and the UPRR railroad/SR 34, and providing 8-feet sidewalks on both sides of Rice Avenue. The Build Alternative proposes to connect Rice Avenue and SR 34 with connector roads that terminate with signalized intersections to provide better connectivity and improved safety. Adding Americans with Disabilities Act (ADA) compliant sidewalks, curb ramps, and bicycle lanes to provide safe access facilities through the grade separation would largely improve pedestrian and bicycle mobility. Signalizing the intersection and channelization would also contribute to operational efficiency and safety.

D. Total Project Cost:

The project capital cost estimate in 2017 dollars is summarized below:

Alternative		Alt 1 No Build	Alt 2 Option A	Alt 2 Option B
Capital Outlay Construction Cost	**State R/W**	$0	$20,157,000	$21,827,000
	City R/W	$0	$34,890,000	$31,506,000
Capital Outlay Right-of-Way Cost (including utilities)	**State R/W**	$0	$367,000	$184,000
	City R/W	$0	$7,316,000	$6,694,000
Total Capital Outlay Cost		$0	$62,730,000	$60,211,000

2. FEATURES REQUIRING AN EXCEPTION

A. Design Exception Feature #A1

Nonstandard Feature(s):

A non-uniform catch point of less than 18 feet from the edge of shoulder is proposed for the 4:1 (H:V) or flatter slopes on the eastbound and westbound side of SR 34, where only light grading is required. See Sheets 1 and 2 of Attachment B.

Table 2A-1: Non-uniform Catch Point

Alternative 2	Location	Line	Description	Station Limits		Standard Catch Point	Existing Catch Point	Proposed Catch Point	Proposed Maximum Catch Slope (H:V)	Attachment B
				From	To					
Option A/B	1a	"F"	WB-SR 34	386+53.77	390+65.54	18' from ES	5' to 12' from ES	9.1' to 18' from ES	9:1	Sheet 1, 2
Option A/B	1b	"F"	EB-SR 34	386+87.55	390+65.54	18' from ES	6' to 12' from ES	8.4' to 18' from ES	10:1	Sheet 1, 2

Standard for Which Exception Is Requested:

HDM 304.1(e) states that in light grading where normal slopes catch in a distance less than 18 feet from the edge of the shoulder, a uniform catch point, at least 18 feet from the edge of the shoulder, should be used.

Reason for Requesting Exception:

Locations 1a and 1b: Non-uniform catch point of less than 18 feet from the edge of shoulder is proposed on both sides of SR 34 in order to avoid impacts to the UPRR railroad to the north and the agricultural property to the south at the east end of construction where the catch points taper back to existing conditions. The embankment slopes are less than 2.5 feet in height at locations where the catch point is less than 18 feet away from the edge of shoulder. In order to provide a uniform catch point of at least 18 feet from the edge of shoulder, an additional 10-foot maximum encroachment into the adjacent farmlands to the south and the railroad right of way to the north will be required, increasing the impacts to the prime farmland in the area.

The farmland adjacent to the south of SR 34 are designed as "Prime Farmland" or "Farmland of Statewide Importance" according to the California Department of

Conservation (CDOC) (See Attachment C) and is protected by the Save Open-Space and Agricultural Resource (SOAR) Ordinance. The SOAR Ordinance requires voter approval before any land protected by the Ordinance can be developed for urban purposes. Providing a uniform catch point would substantially increase the impact to the existing protected farmland.

Added Cost to Make Standard:

Table 2A-2: Cost to Make Standard

Alternative 2	Location	Roadway	Structures and Walls	Right of Way	Estimated Total Cost
Option A	1a	$ 50,000	$ 0	$ 2,150,000	$ 2,200,000
Option A	1b	$ 50,000	$ 0	$ 480,000	$ 530,000
Option A	Total	$ 100,000	$ 0	$ 2,630,000	$ 2,730,000
Option B	1a	$ 50,000	$ 0	$ 2,150,000	$ 2,200,000
Option B	1b	$ 50,000	$ 0	$ 480,000	$ 530,000
Option B	Total	$ 100,000	$ 0	$ 2,630,000	$ 2,730,000

3. TRAFFIC DATA

The Traffic Operations Analysis Report (TOAR) (dated June 2016) prepared for the Project Report (under separate cover) provides an assessment of readily available traffic information, as well as data recently collected for this project. The TOAR provides existing and forecasted traffic conditions at the Rice Avenue/SR 34 intersection and within the project area. Detailed methodologies and analysis can be found in the TOAR, where key findings and recommendations are summarized herein.

The TOAR analyzes the following five conditions for the Rice Avenue/SR 34 intersection:

- Existing (2015)
- No Build (Opening 2020)
- Build (Opening 2020)
- No Build (Design Year 2040)
- Build (Design Year 2040)

Existing Condition Traffic Analysis

Analysis of existing (2015) traffic conditions is based upon traffic counts collected in March 2015. The weekday peak-hour intersection traffic counts were collected between

the hours of 7 a.m. and 9 a.m. (AM peak), and 4 p.m. and 6 p.m. (PM peak) on typical weekdays while school was in session.

The results of the peak hour intersection analysis are shown in Table 6 of the TOAR for the project study area. The Caltrans traffic analysis guidelines require the use of Highway Capacity Manual (HCM) methodology to calculate the intersection Level of Service (LOS). Table 3-1 presents the calculated delay and the corresponding LOS at Rice Avenue and SR 34, using the HCM methodology. Table 3-1 indicates that the Rice Avenue/SR 34 intersection currently operates at a LOS C during the AM peak and a LOS D in the PM peak.

Table 3-1: 2015 Existing Intersection Analysis

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
Rice Ave/SR 34	31.5	C	50.4	D

The segment traffic analysis was also completed for the existing condition and Table 7 within the TOAR shows that on Rice Avenue and SR 34 operate at an acceptable LOS C or better with the exception of SR 34 in the west direction in the PM peak, as well as SR 34 in the east direction in the AM peak operating at LOS E.

Forecasted No Build Condition Traffic Analysis

The No Build conditions were analyzed for opening year (2020) and horizon year (2040). The following is a summary of the methods to obtain the No Build traffic volumes and the resulting intersection analysis at Rice Avenue and SR 34.

The No Build condition traffic volumes for 2020 include a growth rate in traffic volumes that will naturally occur over the next five years based on the historical traffic data for the past ten years (based on the traffic counts from the City of Oxnard 2030 General Plan and existing 2015 traffic counts). The 2020 traffic volumes were determined by calculating the growth rate between 2005 and 2015 and applying this growth rate to 2020, which ranged from 1% to 3% depending on the study intersection, and the type of movement which was on average 3% for through movements and 1% for turning movements. Included in the 2020 traffic volumes are planned improvements as outlined in the City of Oxnard 2030 General Plan. Table 3-2 presents the calculated delay and the corresponding LOS at Rice Avenue and SR 34 for the 2020 No Build condition. The Rice Avenue/SR 34 intersection would operate at a LOS D during the AM peak and a LOS E in the PM peak.

Table 3-2: Alternative 1 No Build 2020 Intersection Analysis

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
Rice Ave/SR 34	38.0	D	57.6	E

Traffic volumes for the study area intersections for the 2040 No Build condition were obtained from the City of Oxnard 2030 General Plan, except for Rice Avenue/SR 34 intersection. These projections were compared to the 2020 traffic volumes to ensure there was consistency in traffic growth at the study intersections over the 20-year period. Given the City of Oxnard 2030 General Plan did not include forecast volumes for the Rice Avenue/SR 34 intersection, the through traffic volumes were derived by using a 3% annual growth factor based upon the information in the Ventura County Congestion Management Plan (VCMP) and consultation with Caltrans staff. The turning movement volumes were consistent with the regional growth factor of 1%. The 3% and 1% growth factors were applied to the 2020 traffic volumes for the Rice Avenue/SR 34 intersection to obtain the 2040 traffic volumes. Table 3-3 presents the calculated delay and the corresponding LOS at Rice Avenue and SR 34 for the 2040 No Build condition. The Rice Avenue/SR 34 intersection would operate at a LOS D during the AM peak and a LOS F in the PM peak.

Table 3-3: Alternative 1 No Build 2040 Intersection Analysis

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
Rice Ave/SR 34	51.5	D	180.9	F

Forecasted Build Condition Traffic Analysis

Utilizing the 2020 and 2040 traffic volumes, the build condition intersection analysis was completed for Option A – Double Connector Road and Option B – Single Connector Road. Option A proposes double connector roads to link Rice Avenue and SR 34 with two signalized intersections on SR 34. The intersection on Rice Avenue will be un-signalized with free right turn movements. Option B proposes the single connector road at the southeast quadrant to link Rice Avenue and SR 34 with signalized intersections on both Rice Avenue and SR 34.

Table 3-4 presents the calculated delay and the corresponding LOS for Option A – Double Connector Road. For the 2020 build condition, the SR 34/Double Connector Road East Side intersection would operate at a LOS B during both the AM peak and PM peak. The Rice Avenue/Double Connector Road West Side intersection would operate at a LOS B during both the AM peak and PM peak.

Table 3-4: Option A - Double Connector Road 2020 Intersection Analysis

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
SR 34/Double Connector Road (East Side)	11.3	B	11.5	B
SR 34/Double Connector Road (West Side)	16.2	B	16.1	B

Table 3-5 presents the calculated delay and the corresponding LOS for Option B – Single Connector Road. For the 2020 build condition, the SR 34/Single Connector Road intersection would operate at a LOS B during both the AM peak and PM peak. The Rice Avenue/Single Connector Road intersection would operate at a LOS B both the AM peak and PM peak.

Table 3-5: Option B - Single Connector Road 2020 Intersection Analysis

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
SR 34/Single Connector Road (East Side)	13.2	B	13.4	B
Rice Ave/Single Connector Road (East Side)	10.9	B	14.5	B

Table 3-6 presents the calculated delay and the corresponding LOS for Option A – Double Connector Road. For the 2040 build condition, the SR 34/Double Connector Road East Side intersection would operate at a LOS B during both the AM peak and PM peak. The SR 34/Double Connector Road West Side intersection would operate at a LOS C during the AM peak and at a LOS B during the PM peak.

Table 3-6: Option A - Double Connector Road 2040 Intersection Analysis

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
SR 34/Double Connector Road (East Side)	12.7	B	17.2	B
SR 34/Double Connector Road (West Side)	20.6	C	17.0	B

Table 3-7 presents the calculated delay and the corresponding LOS for Option B – Single Connector Road. For the 2040 build condition, the SR 34/Single Connector Road intersection would operate at a LOS B during both the AM peak and PM peak. The Rice Avenue/Single Connector Road intersection would operate at a LOS D during the AM peak and at a LOS E during the PM peak.

Table 3-7: Option B - Single Connector Road 2040 Intersection Analysis

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec)	LOS	Delay (sec)	LOS
SR 34/Single Connector Road (East Side)	16.8	B	18.3	B
Rice Ave/Single Connector Road (East Side)	50.5	D	55.9	E

4. COLLISION ANALYSIS

This section provides a collision analysis at the intersection of Rice Avenue and SR 34 for a recent 3-year period.

Collision data was provided by Caltrans from Traffic Accident Surveillance and Analysis System (TASAS) database occurring at the intersection of Rice Avenue and SR 34 between March 31, 2009 and March 31, 2014. The analysis shows that the primary causes for most collisions were failure to yield, unsafe speed, improper passing, and improper turning.

Table 4-1 provides the breakdown of the collision type and severity by year. Nearly 75% of all collisions were due to broadside and rear-end collisions. Of all the collisions, 18% were due to sideswipe, hit object, and other type collisions and 10% were due to head on collisions. More than half of the collisions resulted in property damage only and 41% of all collisions resulted in bodily injuries to the involved motorists.

Table 4-1: Summary of Collisions by Type and Severity (TASAS)

Year	Type							Severity		
	Head On	Side Swipe	Broad Side	Rear End	Hit Object	Other	Not Reported	Property Damage	Injury	Fatality
2009	0	0	2	1	1	1	0	2	3	0
2010	3	1	5	7	1	1	0	12	6	0
2011	0	1	4	0	1	0	0	1	5	0
2012	1	0	4	1	0	0	0	5	1	0
2013	0	0	1	3	0	0	0	3	1	0
Total	4	2	16	12	3	2	0	23	16	0

More recent collision data was provided by the City from the Statewide Integrated Traffic Records System (SWITRS) database for collisions occurring at and in the vicinity of Rice Avenue and SR 34 between January 1, 2010 and February 28, 2015. The primary causes for most collisions were unsafe lane changes, unsafe speed, traffic, improper passing, and improper turning. There were two fatalities at the intersection in 2014 attributed to collision involving a train at UPRR crossing north of the intersection.

TASAS and SWITRS data between January 1, 2011 and December 31, 2013 were combined in Table 4-2, which provides the breakdown of the collision type and severity by year. 79% of all collisions were due to broadside and rear-end collisions. Of all the collisions, 14% were due to side-swipe collisions and 7% were due to head on and hit object collisions. Half of the collisions resulted in property damage only, and half resulted in bodily injuries to the involved motorists.

Table 4-2: Summary of Collisions and Severity (TASAS and SWITRS)

between January 1, 2011 and December 31, 2013

Year	Type							Severity		
	Head On	Side Swipe	Broad Side	Rear End	Hit Object	Other	Not Reported	Property Damage	Injury	Fatality
2011	0	2	6	2	1	0	0	3	8	0
2012	1	2	6	3	0	0	0	8	4	0
2013	0	0	2	4	0	0	0	4	2	0
Total	1	4	14	9	1	0	0	15	14	0

Based on Caltrans method for determination of collision rate, the collision rate at the intersection of Rice Avenue and SR 34 is as follows:

$$Collision\ Rate = \frac{Number\ of\ Collisions\ \times 1{,}000{,}000}{ADT\ \times 365\ days\ per\ year\ \times Number\ of\ Years\ analyzed}$$

$$= \frac{29\ \times 1{,}000{,}000}{45{,}981\ \times 365\ \times 3} = 0.58\ collisions\ per\ million\ vehicles$$

The state average rate of collision is 0.42 based on Caltrans' 2011-2013 Collision Data on California State Highways. The accident rate at this location exceeds the statewide average that is typical for such a facility indicating a safety issue.

The existing close spacing of the street intersection and the UPRR track has resulted in an accident rate that is above the State average.

5. INCREMENTAL IMPROVEMENTS

There are no practical intermediate improvements that can be implemented for the listed features requiring exceptions.

6. FUTURE CONSTRUCTION

The 2017 Transportation Concept Report (TCR) for SR-34 indicates that other than SHOPP sourced ten year CAPM/roadway preservation future projects, there are no capacity increasing or mainline improvements planned or programmed in the SCAG's 2016-2040 RTP/SCS for this route.

7. PROJECT REVIEWS, CONCURRENCE

This fact sheet exceptions to advisory design standards has been reviewed and concurred by Zebunnesa Tareque, District Design Liaison, on May 18, 2017.

8. FEDERAL ACTION

This project is part of the National Highway System and fact sheet approval is not the only federal administration action on this project. This project is delegated to the state. The project will use federal-aid funding and a federal environmental determination/document will be approved specifically for this project.

9. ATTACHMENTS

A Vicinity Map
B Geometric Exhibits
C CDOC Farmland Designation Map

ATTACHMENT A

VICINITY MAP

ATTACHMENT A - VICINITY MAP

ATTACHMENT B

GEOMETRIC EXHIBITS

DIst	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	VEN	34	6.27/6.77		

REGISTERED CIVIL ENGINEER YEAR

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER NO. EXP. CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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SUITE 275
SANTA ANA, CA 92705

CITY OF OXNARD
300 WEST 3RD STREET
OXNARD, CA 93030

REVISED BY | DATE REVISED

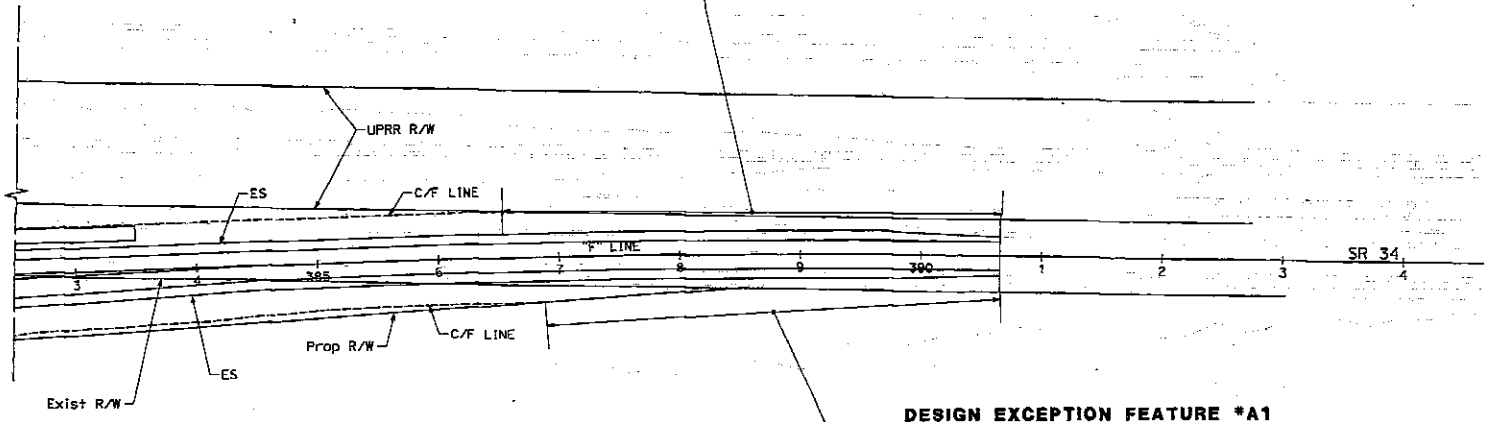
CALCULATED BY / DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN EXCEPTION FEATURE *A1

ADVISORY DESIGN EXCEPTION
LOCATION 1a HDM 304.1 EMBANKMENT SLOPE STANDARD: 18' PROPOSED: 9.1' TO 18' "F" 386+53.77 TO "F" 390+65.54



DESIGN EXCEPTION FEATURE *A1

ADVISORY DESIGN EXCEPTION
LOCATION 1b HDM 304.1 EMBANKMENT SLOPE STANDARD: 18' PROPOSED: 7.8' TO 18' "F" 386+87.55 TO "F" 390+65.54

ALTERNATIVE 2
OPTIONS A & B

ATTACHMENT B
SHEET 1

SCALE: 1" = 100'

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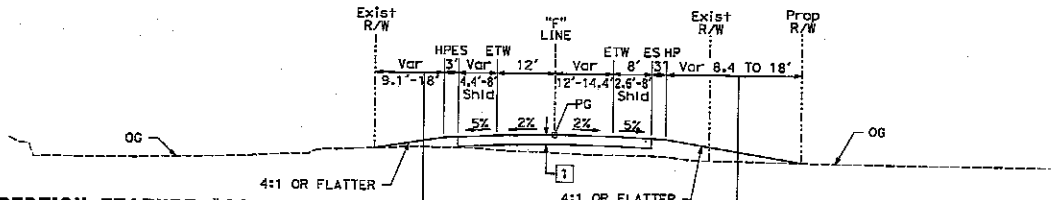


"F" 386+50.0 TO "F" 390+65.6 (WB)
"F" 386+80.0 TO "F" 390+65.6 (EB)

DESIGN EXCEPTION FEATURE #A1

ADVISORY DESIGN EXCEPTION
LOCATION 1a HDM 304.1 EMBANKMENT SLOPE STANDARD: 18' PROPOSED: 9.1' TO 18' "F" 386+53.77 TO "F" 390+65.54

DESIGN EXCEPTION FEATURE #A1

ADVISORY DESIGN EXCEPTION
LOCATION 1b HDM 304.1 EMBANKMENT SLOPE STANDARD: 18' PROPOSED: 7.8' TO 18' "F" 386+87.55 TO "F" 390+65.54

SR-34/ FIFTH STREET

ALTERNATIVE 2
OPTIONS A & B

ATTACHMENT B
SHEET 2

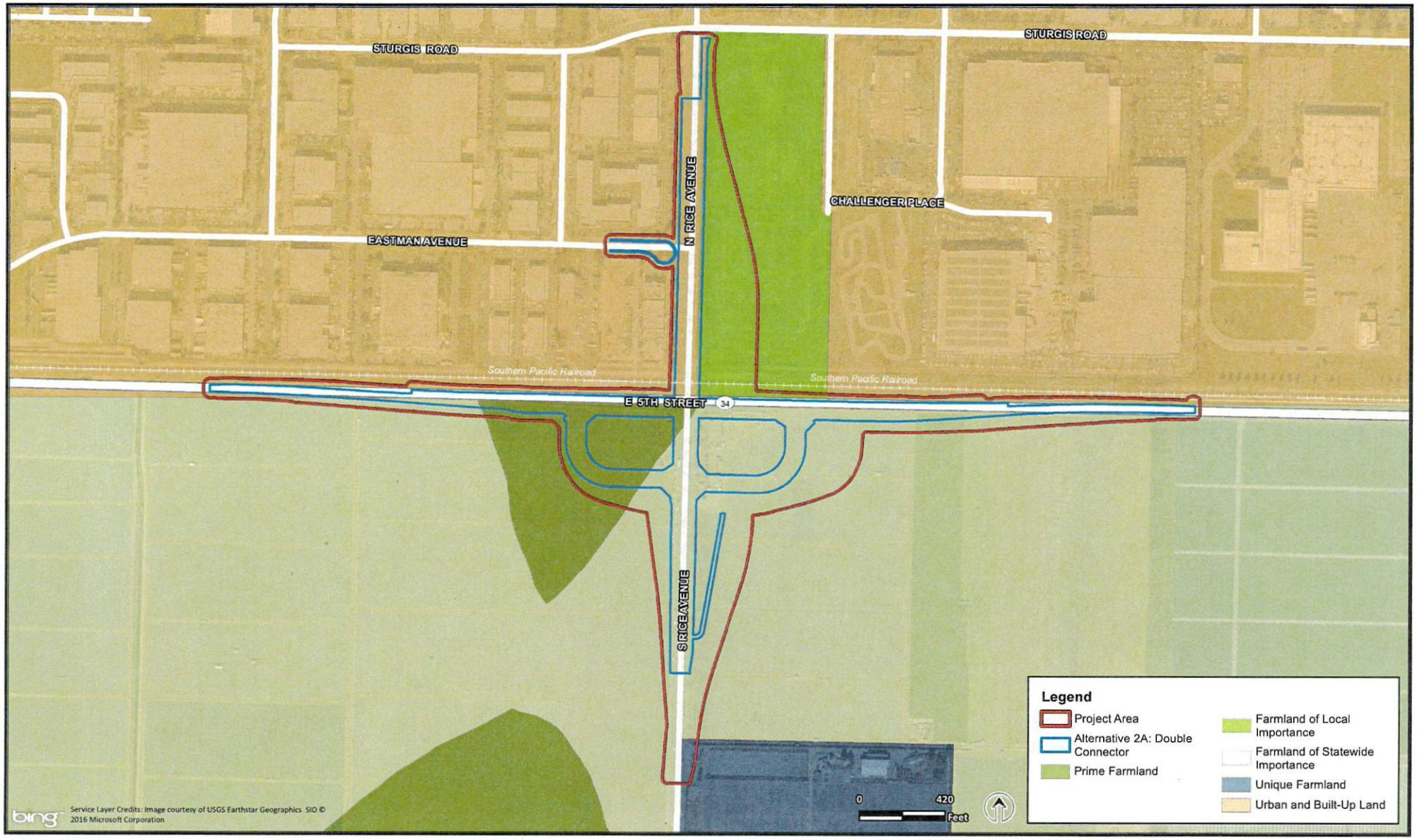
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION 00-00-00
DATE PLOTTED => 19-JUL-2017
TIME PLOTTED => 18:55

BORDER LAST REVISED 7/2/2010
USERNAME => HTong
DGN FILE => A Sheet 2 A1.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1823
PROJECT NUMBER & PHASE 07150000751

ATTACHMENT C

CALIFORNIA DEPARTMENT OF CONSERVATION FARMLAND DESIGNATION MAP



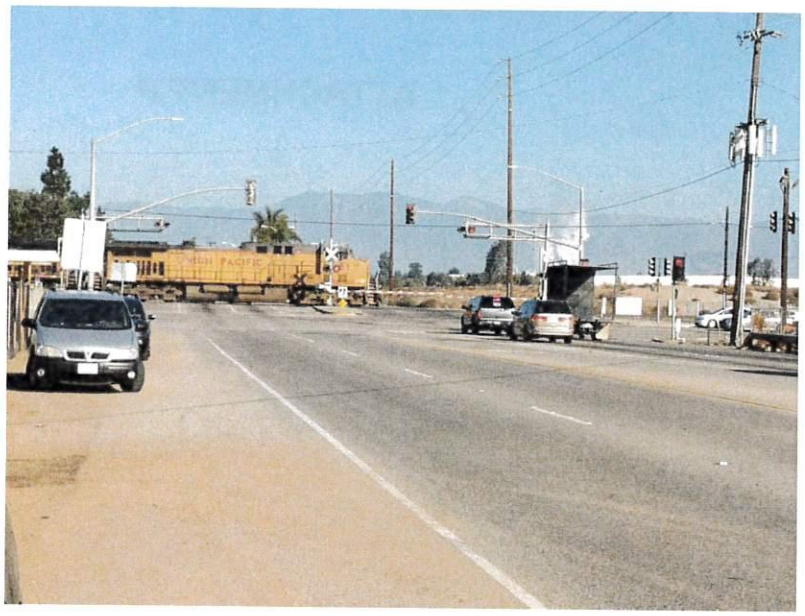
CITY OF OXNARD CALIFORNIA

CDOC FARMLAND DESIGNATIONS (ALTERNATIVE 2A)
Rice Avenue Grade Separation Project

ATTACHMENT O

VALUE ANALYSIS REPORT (COVER PAGE)

Final Value Analysis Study Report



Rice Avenue/SR 34/UPRR Overcrossing

PN 0715000274

07-VEN-34-PM 6.27/6.77

Task Order No. 237

December 2016

Prepared by

Value Management Strategies, Inc.

ATTACHMENT P

LIFE CYCLE COST ANALYSIS

Pavement Life-Cycle Cost Analysis (LCCA)

RealCost Version 2.5.2CA

Rice Avenue Grade Separation Project

Oxnard, California

07 – VEN – 24 PM 6.3/6.8

Caltrans EA No. 07-317800, PN 0715000274

Prepared for City of Oxnard, CA

Submitted to

Prepared by

April 14, 2017

This Life Cycle Cost Analysis 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.

08/04/17

HENRY Y. TONG
REGISTERED CIVIL ENGINEER

DATE

REGISTERED PROFESSIONAL ENGINEER
Henry Tong
No. C81357
Exp. 09/30/17
CIVIL
STATE OF CALIFORNIA

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1 Introduction

The city of Oxnard (City) in cooperation with the Ventura County Transportation Commission (VCTC) is proposing to grade separate Rice Avenue with State Route 34 (SR 34) and the Union Pacific Railroad (UPRR). SR 34 (Fifth Street) is designated as a conventional highway running east-west, and Rice Avenue is an arterial roadway running north-south through the City and the county of Ventura (County).

The proposed improvement limits along SR 34 are proposed from Post Mile (PM) 6.27 to PM 6.77, and along Rice Avenue 0.4 miles north and south of SR 34. In 2010, Caltrans relinquished a section of SR 34 right-of-way westerly of Rice Avenue to the City from PM 4.20 to PM 6.27. Therefore, the PM limits for this Project would be from PM 6.27 to PM 6.77.

The No Build alternative and one Build Alternative are evaluated for the Draft Project Report. The Build Alternative proposes to elevate Rice Avenue over SR 34 and UPRR. There are two options for the Build Alternative: Option A proposes a double connector road, and Option B proposes a single connector road to link Rice Avenue and SR 34 with signalized intersections. A cul-de-sac would be constructed at Eastman Avenue. Eastman Avenue no longer intersects with Rice Avenue after construction.

The purpose of this report is to compare the total costs of several possible pavement structural sections for this project in terms of initial construction, future maintenance costs and user costs in order to determine the most cost-effective alternative.

2 Existing Facility and Proposed Planning

SR 34 is an east-west route from Rice Avenue to SR 118 near Somis, with a design speed of 55 mph and posted speed of 50 mph. SR 34 is classified as a conventional highway with two lanes (one lane in each direction) for local commuters, with commercial and agricultural use. SR 34 is designated as SR 34 from Rice Avenue to US 101, and Lewis Road from US 101 to SR 118. Based on 2015 traffic counts, the Average Daily Traffic (ADT) for this segment of SR 34 within the project limit is 11,000 vehicles.

Rice Avenue is a north-south route through the City and the County with a design speed of 60 mph and posted speed of 55 mph. Rice Avenue is classified as a primary arterial with six lanes (three lanes in each direction) north of SR 34, within the City, and four lanes (two lanes in each direction) south of SR 34, within the County. Based on 2015 traffic counts, the ADT for this segment of Rice Avenue within the project limit is 35,000 vehicles. In the future, it is planned for Rice Avenue to be designated as US 1.

Figure 1 shows the project location and improvement limits.

Figure 1: Project Location Map

The UPRR track is located just north of the SR 34/Rice Avenue intersection with a separation of 58 feet between the center of the track to the intersection crosswalk on the north side of SR 34. The UPRR track has joint use with Metrolink and it is estimated that one UP and one Metrolink train cross Rice Avenue every hour. The close spacing of the street intersection and the UPRR track has resulted in increased conflicts between trains and vehicles.

The roadway segments within the project area are currently designated as urbanized to the north of SR 34 and rural to the south of SR 34. Land uses adjacent to the Rice Avenue/SR 34 intersection

are light industrial to the north and agricultural to the south. Major utility infrastructure is located at the intersection, including high risk utilities.

Opportunities to incorporate Context Sensitive Solutions and Complete Streets concepts have been considered for the Build Alternatives. Further guidance was obtained from the 2011 City of Oxnard Bicycle and Pedestrian Facilities Master Plan. The Master Plan designates both SR 34 and Rice Avenue as planned bicycle and pedestrian routes. SR 34 is designated for a Class I Bikeway and Rice Avenue is designated for Class II Bike lane.

Alternatives

Two alternatives are proposed for this Project, including the No Build Alternative, and one Build Alternative. The Build Alternative, Alternative 2, has two options, and is described below.

Alternative 2, Option A: Double Connector

Alternative 2A would include the construction of a grade separation structure to elevate Rice Avenue over SR 34 and the UPRR track (Rice Avenue Grade Separation), which would eliminate the existing at-grade railroad crossing. This alternative would also include the construction of two connector roads, one in the southeast quadrant of the Rice Avenue Grade Separation, and one in the southwest quadrant of the Rice Avenue Grade Separation, that would provide access between Rice Avenue and SR 34. The posted speed limit on the connection roads would be 25 mph. Under this alternative, each SR 34/connector road intersection would be signalized. A signal is not required at the intersection of the connector roads and Rice Avenue since all traffic turns from Rice Avenue would be right turns.

Alternative 2, Option B: Single Connector

Under Alternative 2B, a grade separation structure would be constructed to elevate Rice Avenue over SR 34 and the UPRR track, which would eliminate the existing at-grade railroad crossing. To provide access between Rice Avenue and SR 34, a single connector road would be constructed at the southeast quadrant of the grade separation. The posted speed limit of the connector road would be 25 mph. The single connector road would include a signalized intersection at the SR 34/connector road intersection, and a signalized intersection at the Rice Avenue/connector road intersection.

Alternative 2, Option A is used as the representative design for this report.

3 Traffic

Traffic memorandum traffic indices (TI) of 13.0 and 14.0 were used for the 20-year and 40-year designs, respectively, for the LCCA of SR 34. For Rice Avenue, TIs of 12.0 and 13.0 were used for the 20-year and 40-year designs, respectively. See Appendix B for the Preliminary Pavement Memorandum.

Tables 3-1 and 3-2 show the average daily traffic (ADT) and TI used for the LCCA, respectively. Table 3-3 shows the traffic inputs used for the LCCA.

Table 3-1: ADT used for Rice Avenue Grade Separation LCCA

Location	2015 ADT	2035 ADT	% Trucks
SR 34	12,268	22,158	20.00
Rice Avenue	36,411	65,763	10.00

Table 3-2: 20-year and 40-year TI for Rice Avenue Grade Separation LCCA

Location	Design Life	Design Traffic Index
SR 34	40-year	14.0
Rice Avenue	40-year	13.0

Table 3-3: LCCA Inputs

	SR 34	Rice Avenue
ADT	12,268	36,411
Percent Trucks	20.00%	10.00%
Single Unit Trucks	11.60%	9.20%
Combination Trucks	8.40%	0.80%
Annual Growth Rate	3.00%	3.00%

4 Pavement Alternative

The LCCA for this project was performed for the reconstruction of Rice Avenue and SR 34. The LCCA Manual, Figure 2-1 New Construction/Reconstruction Flow Chart, as shown in Appendix 5, Figure A5-2, was used to select the LCCA alternatives for the two locations. The 40-year JPCP alternative is also studied in addition to the alternatives recommended in the flowchart. Table 4-1 summarizes the pavement type alternatives that are to be analyzed in the LCCA.

Table 4-1: Pavement Alternatives for LCCA

	Design Alternative	LCCA Flow Chart
SR 34	Alternative 1A: 40-year CRCP	Figure 2-1
	Alternative 2A: 40-year Flexible (HMA w/ RHMA)	Figure 2-1
	Alternative 3A: 40-year Flexible (HMA w/ OGFC)	Figure 2-1
	Alternative 4A: 40-year JPCP	
Rice Avenue	Alternative 1B: 40-year CRCP	Figure 2-1
	Alternative 2B: 40-year Flexible (HMA w/ RHMA)	Figure 2-1
	Alternative 3B: 40-year Flexible (HMA w/ OGFC)	Figure 2-1
	Alternative 4B: 40-year JPCP	

Table 4-2 shows the pavement sections used for the LCCA with corresponding TI and subgrade R-value.

Table 4-2: Pavement Sections used for the Project

Alternative	Pavement Thickness	Source	Subgrade R-value
SR 34			
Alternative 1A: 40-year CRCP TI=14.0	0.96 ft CRCP 0.38 ft LCB 0.71 ft ABCL2	From Preliminary Pavement Memorandum	25.0
Alternative 2A: 40-year HMA w/ RHMA TI=14.0	0.21 ft RHMA 2.33 ft HMA-A 0.50 ft AB	From Preliminary Pavement Memorandum	25.0
Alternative 3A: 40-year HMA w/ OGFC TI=14.0	0.13 ft HMA w/ OGFC 2.33 ft HMA-A 0.50 ft AB	From Preliminary Pavement Memorandum	25.0
Alternative 4A: 40-year JPCP TI=14.0	0.96 ft JPCP 0.38 ft LCB 0.71 ft ABCL2	From Preliminary Pavement Memorandum	25.0
Rice Avenue			
Alternative 1B: 40-year CRCP TI=13.0	0.92 ft CRCP 0.38 ft LCB 0.71 ft ABCL2	From Preliminary Pavement Memorandum	25.0
Alternative 2B: 40-year HMA w/ RHMA TI=13.0	0.21 ft RHMA 2.08 ft HMA-A 0.50 ft AB	From Preliminary Pavement Memorandum	25.0
Alternative 3B: 40-year HMA w/ OGFC TI=13.0	0.13 ft HMA w/ OGFC 2.08 ft HMA-A 0.50 ft AB	From Preliminary Pavement Memorandum	25.0
Alternative 4B: 40-year JPCP TI=13.0	0.92 ft JPCP 0.38 ft LCB 0.71 ft ABCL2	From Preliminary Pavement Memorandum	25.0

AB aggregate base
AS aggregate subbase
CRCP continuously reinforced concrete pavement
HMA hot mix asphalt
JPCP jointed plain concrete pavement
LCB lean concrete base
OGFC open graded friction course
RHMA rubberized hot mix asphalt

5 Analysis

The LCCA was performed using RealCost software V 2.5.2.CA and the LCCA Procedure Manual dated August 2013. Procedures, assumptions, input data, and LCCA screenshots are provided in Appendices A to G.

The initial construction costs, future maintenance and rehabilitation (M&R) costs, total agency cost, user cost, and total life cycle costs for the two analyses are shown in Tables 5-1 and 5-2 for

SR 34 and Rice Avenue, respectively. For both analyses, the 40-year JPCP alternative provides the lowest agency and user cost.

Table 5-1: Life Cycle Cost Analysis for SR 34

	Initial Construction cost ($1000)	Future Maintenance & Rehabilitation Cost	Total Agency Cost ($1000)	User Cost ($1000)	Grand Total Cost ($1000)	Ranking by Lowest Initial Cost	Ranking by Lowest Future M&R Cost	Ranking by Total Agency Cost	Ranking by Lowest User Cost	Ranking by Lowest Grand Total Cost	Cost Difference – Grand Total ($1000)	Percentage Difference – Grand Total (%)
40-year CRCP	3,790	9	3,799	26	3,825	2	1	2	1	2	334	10
40-year HMA w/RHMA	4,958	491	5,449	166	5,615	4	4	4	2	3	2,124	61
40-year HMA w/OGFC	4,832	370	5,202	728	5,930	3	3	3	4	4	2,439	70
40-year JPCP	2,919	114	3,033	458	3,491	1	2	1	3	1	-	-

Table 5-2: Life Cycle Cost Analysis for Rice Avenue

	Initial Construction cost ($1000)	Future Maintenance & Rehabilitation Cost	Total Agency Cost ($1000)	User Cost ($1000)	Grand Total Cost ($1000)	Ranking by Lowest Initial Cost	Ranking by Lowest Future M&R Cost	Ranking by Total Agency Cost	Ranking by Lowest User Cost	Ranking by Lowest Grand Total Cost	Cost Difference – Grand Total ($1000)	Percentage Difference – Grand Total (%)
40-year CRCP	3,757	26	3,783	54	3,837	2	1	2	1	2	193	5
40-year HMA w/RHMA	4,604	1,004	5,608	711	6,319	4	3	3	3	3	2,675	73
40-year HMA w/OGFC	4,474	1,153	5,627	717	6,344	3	4	4	4	4	2,700	74
40-year JPCP	2,904	156	3,060	584	3,644	1	2	1	2	1	-	-

6 Conclusion

Alternative 4A: 40-year JPCP provided the lowest life cycle and total agency costs for SR 34. Alternative 1A: 40-year CRCP provided the lowest user and future M&R costs. Table 6-1 shows the deterministic results.

Table 6-1: Deterministic Results for SR 34

Total Cost								
Total Cost	Alternative 1A: 40-year CRCP		Alternative 2A: 40-year HMA w/ RHMA		Alternative 3A: 40-year HMA w/ OGFC		Alternative 4A: 40-year CRCP	
	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)
Undiscounted Sum	3,811.59	25.93	6,092.30	684.55	6,052.05	3,344.77	3,473.90	2,576.09
Present Value	3,798.80	25.93	5,283.60	165.67	5,202.23	727.63	3,032.64	458.27
EUAC	171.82	1.17	238.98	7.49	235.30	32.91	137.17	20.73
Lowest Present Value Agency Cost	Alternative 4A: 40-year JPCP							
Lowest Present Value User Cost	Alternative 1A: 40-year CRCP							

Alternative 4A: 40-year JPCP provided the lowest life cycle and total agency costs for SR 34. Alternative 1A: 40-year CRCP provided the lowest user and future M&R costs. Table 6-2 shows the deterministic results.

Table 6-2: Deterministic Results for Rice Avenue

Total Cost								
Total Cost	Alternative 1B: 40-year CRCP		Alternative 2B: 40-year HMA w/ RHMA		Alternative 3B: 40-year HMA w/ OGFC		Alternative 4B: 40-year CRCP	
	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)
Undiscounted Sum	3,821.80	54.43	6,689.80	3,103.79	6,849.08	3,147.59	3,467.70	3,183.15
Present Value	3,783.39	54.43	5,305.07	711.38	5,317.55	716.45	3,059.51	584.40
EUAC	171.13	2.46	239.96	32.18	240.52	32.41	138.39	26.43
Lowest Present Value Agency Cost	Alternative 4B: 40-year JPCP							
Lowest Present Value User Cost	Alternative 1B: 40-year CRCP							

Appendix A Life Cycle Cost Analysis Forms

Life Cycle Cost Analysis Form – SR 34

Alternative 1A:

40-year CRCP

Pavement Design Life: 40 Years				
Initial Construction Cost:	$	$3,790,000		
Future Maintenance & Rehabilitation Cost:	$	$8,800		
TOTAL AGENCY COST:			$	$3,798,800
TOTAL USER COST:			$	$25,930
TOTAL LIFE-CYCLE COST:			$	$3,824,730

Alternative 2A:

40-year HMA w/ RHMA40

Pavement Design Life: 40 Years				
Initial Construction Cost:	$	4,958,000		
Future Maintenance & Rehabilitation Cost:	$	$325,600		
TOTAL AGENCY COST:			$	$5,283,600
TOTAL USER COST:			$	$165,670
TOTAL LIFE-CYCLE COST:			$	$5,449,270

Alternative 3A:

40-year HMA w/ OGFC

Pavement Design Life: 40 Years				
Initial Construction Cost:	$	$4,832,000		
Future Maintenance & Rehabilitation Cost:	$	$370,230		
TOTAL AGENCY COST:			$	$5,202,230
TOTAL USER COST:			$	$727,630
TOTAL LIFE-CYCLE COST:			$	$5,929,860

Alternative 4A:

40-year JPCP

Pavement Design Life: 40 Years				
Initial Construction Cost:	$	$2,919,403		
Future Maintenance & Rehabilitation Cost:	$	$113,237		
TOTAL AGENCY COST:			$	$3,032,640
TOTAL USER COST:			$	$458,270
TOTAL LIFE-CYCLE COST:			$	$3,490,910

Is the lowest life cycle cost option selected as the recommended alternative? If not, why?:

Yes

Life Cycle Cost Analysis Form – Rice Avenue

Alternative 1A:

40-year CRCP

Pavement Design Life: 40 Years				
Initial Construction Cost:	$	$3,757,000		
Future Maintenance & Rehabilitation Cost:	$	$26,390		
TOTAL AGENCY COST:			$	$3,783,390
TOTAL USER COST:			$	$54,430
TOTAL LIFE-CYCLE COST:			$	$3,837,820

Alternative 2A:

40-year HMA w/ RHMA40

Pavement Design Life: 40 Years				
Initial Construction Cost:	$	4,604,000		
Future Maintenance & Rehabilitation Cost:	$	$701,070		
TOTAL AGENCY COST:			$	$5,305,070
TOTAL USER COST:			$	$711,380
TOTAL LIFE-CYCLE COST:			$	$6,016,450

Alternative 3A:

40-year HMA w/ OGFC

Pavement Design Life: 40 Years				
Initial Construction Cost:	$	$4,474,000		
Future Maintenance & Rehabilitation Cost:	$	$843,550		
TOTAL AGENCY COST:			$	$5,317,550
TOTAL USER COST:			$	$716,450
TOTAL LIFE-CYCLE COST:			$	$6,034,000

Alternative 4A:

40-year JPCP

Pavement Design Life: 40 Years				
Initial Construction Cost:	$	$2,903,855		
Future Maintenance & Rehabilitation Cost:	$	$155,655		
TOTAL AGENCY COST:			$	$3,059,510
TOTAL USER COST:			$	$584,400
TOTAL LIFE-CYCLE COST:			$	$3,643,910

Is the lowest life cycle cost option selected as the recommended alternative? If not, why?:

Yes

Appendix B Preliminary Pavement Memorandum

MEMORANDUM
FUGRO CONSULTANTS, INC.
4820 McGrath Street, Suite 100 Tel: 805/650-7000
Ventura, CA 93003-7778 Fax: 805/650-7010

To:	Michael Hynes (WKE)	Date:	July 8, 2016
From:	Loree Berry (Fugro)	Project No:	04.62150036
Subject:	Preliminary Pavement Design Sections, Rice Avenue and Fifth Street, Oxnard, California	Copy to:	Henry Tong and Carlos Cadena (WKE)

GENERAL

This memorandum provides preliminary structural section thicknesses for both flexible and rigid pavements in support of the Rice Avenue over Fifth Street and UPRR Grade Separation Project in Oxnard, California. Since design-phase geotechnical work has not been completed as of the date of this memo, the preliminary recommendations provided herein are based on a single R-value test result published in ESSC (2003)[1] for near surface soils from a commercial lot located on the southwest side of Rice Avenue and Sturgis Road.

Due to the limited amount of available geotechnical data along the project alignment, the information provided herein should be considered preliminary and used for planning purposes only. During the design phase geotechnical study, we will collect near surface soils at select locations along the project alignments and run laboratory tests to evaluate the underlying soils' properties relative to pavement design. Our Foundation Design report for the project will include refined recommendations for both roadways and the approach segments to the bridge.

Preliminary Flexible Pavement Design

We utilized design methods from the Caltrans Highway Design Manual, dated May 7, 2012 to develop the recommendations herein. WKE provided Traffic Indices (TI) of 12 for Fifth Street and 13 for Rice Avenue for use in flexible pavement design assuming a 20-year pavement design life. We assumed a subgrade R-value of 25.

[1] "Earth Systems Southern California (ESSC) (2003), "Geotechnical Engineering Report for Northfield Business Park, Lot 28, Sturgis Road and Rice Avenue, Oxnard, California," ESSC Project No. VT-22930-01, dated June 13.

20-Year Pavement Design Life. Table 1 provides recommended flexible pavement sections for a 2-layer structural section and a proposed 20-year pavement design life. For roadway segments where soil subgrades have a measured R-value result less than 50, a separation filter fabric layer should be placed between the compacted subgrade soils and the first aggregate base coarse. We also recommend 4.2 inches of aggregate subbase be placed on the filter fabric to act as a "working table" between the native subgrade and aggregate base coarse.

Table 1. Recommendations for Flexible Pavement Design, 20-Year Design Life

Traffic Index	R-value	Asphaltic Concrete (inches)	Aggregate Base (inches)	Aggregate Subbase (inches)
12	25	16.0	8.0	4.2
13	25	17.5	9.5	4.2

40-Year Pavement Design Life. We evaluated flexible pavement sections for a 40-year design life for traffic indices of 13, 14, and 15. The roadway designer for this project should use a projected traffic index representing a 40-year pavement design life for this application. According to Caltrans (2012), flexible pavement design for a design life over 20 years should be consistent with the recommended thickness of a single-layer, full thickness asphaltic concrete based on the projected 40-year traffic index in addition to several other *enhancements* including the following, which shall be incorporated in the design:

- Minimum of 6 inches of Class 2 Aggregate Base underneath the flexible asphaltic concrete pavement;
- Minimum 1.5 inches of a non-structural wearing course such as Open Graded Friction Course (OGFC) above the surface layer;
- The upper 2.5 inches of the asphaltic concrete surface layer should be comprised of a rubberized hot mix asphalt or enhanced with a Performance Graded Polymer Modified (PM-PG) binder;
- A separation filter fabric layer should be placed between compacted soil subgrade and lowest base course; and
- A geogrid reinforcing layer should be placed directly above and below the aggregate base layer.

In addition to the enhancements listed above, Table 2 provides a summary of the recommended structural pavement section thicknesses for a 40-year flexible pavement design.

Table 2. Recommendations for Flexible Pavement Design, 40-Year Design Life

Traffic Index	R-value	Asphaltic Concrete (inches)	Aggregate Base (inches)
13	25	25.0	6.0
14	25	28.0	6.0
15	25	30.0	6.0

Preliminary Rigid Pavement Design, 40-year Pavement Design Life

We evaluated rigid pavement design sections for a 40-year design life based on traffic indices of 13, 14, and 15. The roadway designer for this project should use a projected traffic index representing a 40-year pavement design life for this application. Pavement sections provided in Table 3 incorporate design recommendations from Table 623.1E of the Highway Design Manual for the south Coast/Central Coast region and Type II subgrade soils (R-value between 10 and 40). The recommendations below assume that the structural section is not laterally supported.

Table 3. Recommendations for Rigid Pavement Design, 40-Year Design Life

Traffic Index	R-value	Jointed Plain Concrete Pavement (Inches)	Lean Concrete Base (Inches)	Class 2 Aggregate Subbase (inches)
13	25	11.0	4.5	8.5
14	25	11.5	4.5	8.5
15	25	12.0	4.5	8.5

Notes: 1) Thicknesses shown for JPCP are for doweled pavements only
2) A bond breaker shall be placed between the JPCP and LCB
3) A separation filter fabric layer shall be placed between compacted soil subgrade and lowest base course
4) A geogrid reinforcing layer shall be placed directly above and below the aggregate subbase layer

Additional Recommended Material Specifications

All materials referenced herein should conform to Caltrans Standard Specifications for their intended use.

Appendix C Traffic Data

Using information from the Caltrans 2014 Traffic Volumes on California State Highway System and traffic counts, the following calculations were performed to determine information required for the LCCA:

Single Unit Trucks (SUT):

$$\mathrm{SUT} = \mathrm{T} \times \frac{\mathrm{TA}}{100}$$

T = Total Truck % = 20% (SR 34)

T = Total Truck % = 10% (Rice Avenue)

TA = 2 axle % Truck AADT = 58% (SR 34)

TA = 2 axle % Truck AADT = 92% (Rice Avenue)

$$\mathrm{SUT} = 20 \times \frac{58}{100} = 11.6\% \text{ (SR 34)}$$

$$\mathrm{SUT} = 10 \times \frac{92}{100} = 9.2\% \text{ (Rice Avenue)}$$

Combination Truck (CT) as a percentage of Annual Average Daily Traffic (AADT):

$$\mathrm{CT} = \mathrm{T} - \mathrm{SUT}$$

$$= 20 - 11.6 = 8.4\% \text{ (SR 34)}$$

$$= 10 - 9.2 = 0.8\% \text{ (Rice Avenue)}$$

Annual Growth Rate of Traffic = 3%

From: Chakravarthy, Srikanth
Sent: Friday, July 22, 2016 11:06 AM
To: 'Michael Hynes' <MHynes@wke-inc.com>
Cc: Henry Tong <HTong@wke-inc.com>; Shaw, David <david.shaw@kimley-horn.com>
Subject: RE: Rice/5th Traffic Additional Services Request

Michael,

1. Based on Caltrans 2014 Traffic Volumes on California State Highway System, the AADT for SR-34 (Fifth Street) is 11,700. Because Rice Avenue is within the City right-of-way, Caltrans does not report AADT for Rice Avenue.

However, we do have ADT per direction based on tube counts conducted in March 2015.

Street	Direction	2015 ADT
SR-34 (5th St)	EB	6,006
	WB	6,262
Rice Ave	NB	18,398
	SB	18,013

2. The following table shows total truck % based on classification counts conducted in March 2015.

Street	Truck %
SR-34 (5th St)	20%
Rice Ave	10%

3. Based on Caltrans 2014 Truck Traffic Volumes on California State Highway System, the 2-axle % truck AADT for SR-34 (Fifth Street) is 46.8% of the overall truck volume. Because Rice Avenue is within the City right-of-way, Caltrans does not report truck AADT for Rice Avenue.

The following table shows 2-axle % truck ADT based on classification counts conducted in March 2015.

Street	2-axle Truck %
SR-34 (5th St)	58%
Rice Ave	92%

4. The annual growth rate is 3%.

Appendix D Cost-related Items

Pavement Areas and Lane Miles

The areas of paving are shown in Table D-1 and were also converted to lane miles.

Table D-1: Pavement Areas

Location	Area (sf)
SR 34	288,600
Rice Avenue	295,400

$$\text{Lane} - \text{miles} = \frac{288{,}600\ \text{ft}^2}{5280\,\frac{\text{ft}}{\text{mile}} \times 12\text{ft (Average lane width)}} = 4.56\ \text{lane} - \text{miles (SR 34)}$$

$$\text{Lane} - \text{miles} = \frac{295{,}400\ \text{ft}^2}{5280\,\frac{\text{ft}}{\text{mile}} \times 12\text{ft (Average lane width)}} = 4.66\ \text{lane} - \text{miles (Rice Avenue)}$$

Initial Construction Costs

The initial construction costs for the alternatives do not include the following items:

- Add-on costs, such as minor items, supplemental work, mobilization, and contingencies
- Structure and right-of-way costs
- Project support costs for design, environmental, project management, construction administration, inspection costs, etc.
- Common cost between pavement alternatives

Unit prices of $270, $100, $85, and $185 were used for initial construction cost of CRCP, RHMA-G, HMA-A, and JPCP, respectively. Tables D-2A and D-2B show the breakdown of the initial construction costs for SR 34 and Rice Avenue, respectively. D-3 summarizes the costs used for the LCCA of each alternative.

Table D-2A: Breakdown of Initial Construction Costs for SR 34

SR 34 (40 year) Rigid - TI = 14						
Item	Thickness (INCH)	Area (SQFT)	Unit	Quantity	Unit Cost	Item Cost
CRCP (400050)	11.5	288,600	CY	10,244	$ 270.00	$ 2,765,750.00
LCB (280000)	4.5	288,600	CY	4,008	$ 180.00	$ 721,500.00
ABCL2 (260203)	8.5	288,600	CY	7,571	$ 40.00	$ 302,851.85
Total	24.5					$ 3,790,101.85
SR 34 (40 year) Flexible - TI = 14						
Item	Thickness (INCH)	Area (SQFT)	Unit	Quantity	Unit Cost	Item Cost
RHMA (GAP Graded) (390137)	2.5	288,600	TON	4,509	$ 100.00	$ 450,937.50
HMA (Type A) (390132)	28	288,600	TON	50,505	$ 85.00	$ 4,292,925.00
ABCL2 (260203)	6	288,600	CY	5,344	$ 40.00	$ 213,777.78
Total	34					$ 4,957,640.28
SR 34 (40 year) Flexible - TI = 14						
Item	Thickness (INCH)	Area (SQFT)	Unit	Quantity	Unit Cost	Item Cost
HMA Open Graded (390401)	1.5	288,600	TON	2,706	$ 120.00	$ 324,675.00
HMA (Type A) (390132)	28	288,600	TON	50,505	$ 85.00	$ 4,292,925.00
ABCL2 (260203)	6	288,600	CY	5,344	$ 40.00	$ 213,777.78
Total	34					$ 4,831,377.78
SR 34 (40 year) Flexible - TI = 14						
Item	Thickness (INCH)	Area (SQFT)	Unit	Quantity	Unit Cost	Item Cost
JPCP (401050)	11.5	288,600	CY	10,244	$ 185.00	$ 1,895,50.93
LCB (280000)	4.5	288,600	CY	4,008	$ 180.00	$ 721,500.00
ABCL2 (260203)	8.5	288,600	CY	7,571	$ 40.00	$ 302,851.85
Total	24.5					$ 2,919,402.78

Table D-2B: Breakdown of Initial Construction Costs for Rice Avenue

Rice (40 year) Rigid - TI = 13						
Item	Thickness (INCH)	Area (SQFT)	Unit	Quantity	Unit Cost	Item Cost
CRCP (400050)	11	295,400	CY	10,029	$ 270.00	$ 2,707,833.33
LCB (280000)	4.5	295,400	CY	4,103	$ 180.00	$ 738,500.00
ABCL2 (260203)	8.5	295,400	CY	7,750	$ 40.00	$ 309,987.65
Total	24					$ 3,756,320.99
Rice (40 year) Flexible - TI = 13						
Item	Thickness (INCH)	Area (SQFT)	Unit	Quantity	Unit Cost	Item Cost
RHMA (GAP Graded) (390137)	2.5	295,400	TON	4,616	$ 100.00	$ 461,562.50
HMA (Type A) (390132)	25	295,400	TON	46,156	$ 85.00	$ 3,923,281.25
ABCL2 (260203)	6	295,400	CY	5,470	$ 40.00	$ 218,814.81
Total	31					$ 4,603,658.56
Rice (40 year) Flexible - TI = 13						
Item	Thickness (INCH)	Area (SQFT)	Unit	Quantity	Unit Cost	Item Cost
HMA Open Graded (390401)	1.5	295,400	TON	2,769	$ 120.00	$ 332,325.00
HMA (Type A) (390132)	25	295,400	TON	46,156	$ 85.00	$ 3,923,281.25
ABCL2 (260203)	6	295,400	CY	5,470	$ 40.00	$ 218,814.81
Total	31					$ 4,474,421.06
Rice (40 year) Flexible - TI = 13						
Item	Thickness (INCH)	Area (SQFT)	Unit	Quantity	Unit Cost	Item Cost
CRCP (400050)	11	295,400	CY	10,029	$ 185.00	$ 1,855,367.28
LCB (280000)	4.5	295,400	CY	4,103	$ 180.00	$ 738,500.00
ABCL2 (260203)	8.5	295,400	CY	7,750	$ 40.00	$ 309,987.65
Total	24					$ 2,903,854.94

Table D-3: Initial Construction Costs

SR 34	
Alternative 1A: 40-year CRCP	$3,790,101.85
Alternative 2A: 40-year HMA w/RHMA	$4,957,640.28
Alternative 3A: 40-year HMA w/OGFC	$4,831,377.78
Alternative 4A: 40-year JPCP	$2,919,402.78
Rice Avenue	
Alternative 1B: 40-year CRCP	$3,756,320.99
Alternative 2B: 40-year HMA w/RHMA	$4,603,658.56
Alternative 3B: 40-year HMA w/OGFC	$4,474,421.06
Alternative 4B: 40-year JPCP	$2,903,854.94

Appendix E Procedures, Assumptions, and Input Data Files Preparation

The LCCA for this project was performed for SR 34 and Rice Avenue. The LCCA flowchart, Figure 2-1 New Construction and Reconstruction Flow Chart, was used to select the project alternatives for both locations. This flow chart is shown in Figure E-1.

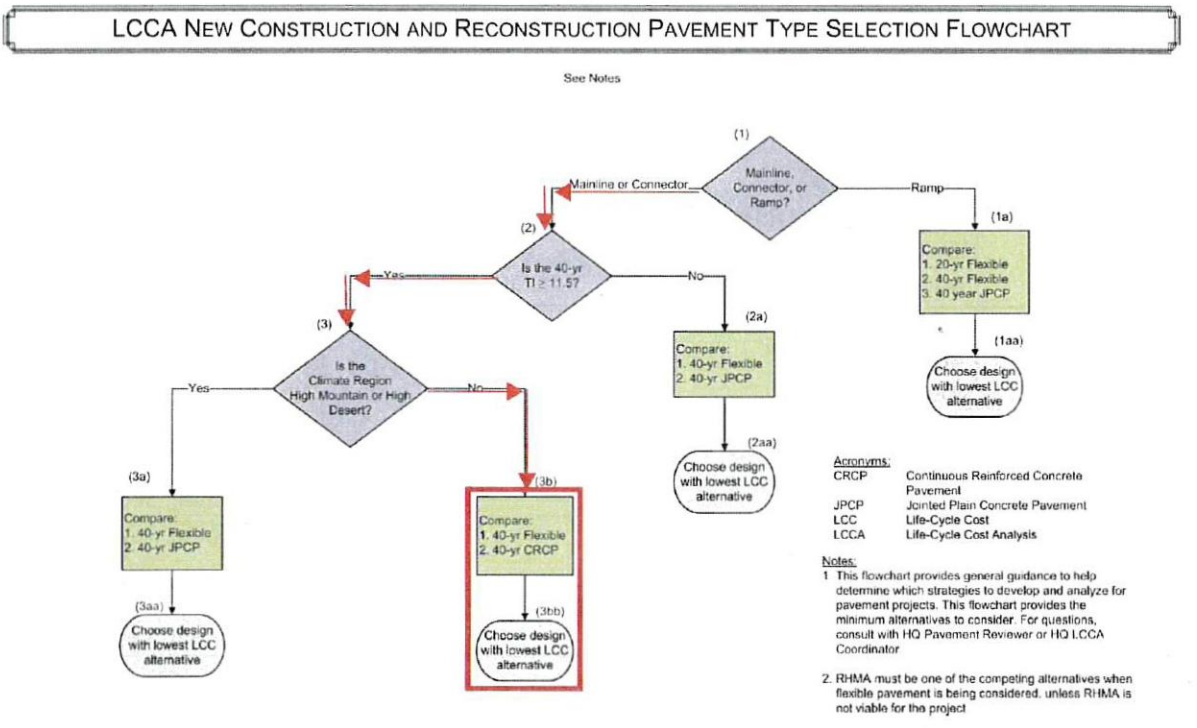


Figure E-1: LCCA Flow Chart Used for LCCA Alternative Selection

Table E-1 shows the additional inputs used for the LCCA.

Table E-1: Additional Inputs Used for LCCA

Design Inputs	Values/Inputs	Comments
Pavement Design Alternatives	**SR 34** 40-year CRCP 40-year HMA w/RHMA 40-year HMA w/OGFC 40-year JPCP **Rice Avenue** 40-year CRCP 40-year HMA w/RHMA 40-year HMA w/OGFC 40-year JPCP	Per LCCA Procedure Manual, Figure 2-1
Traffic Index	**SR 34** 40-year TI: 14 **Rice Avenue** 40-year TI: 13	Calculated per AADT and traffic counts
Analysis Period	55 years	LCCA Procedures Manual, Table 2-1
Discount Rate	4%	LCCA Procedures Manual, Section 2.6.
Maintenance Service Level	MSL 2	LCCA Procedures Manual, Table 2-3
Maintenance and Rehabilitation Type and Schedules	**40-year CRCP** Year 0: New/Reconstruct	South Coast Region LCCA Procedures Manual, Table R-1(a)
	40-year HMA w/ RHMA Year 0: New/Reconstruct Year 40: CAPM HMA w/ RHMA Year 50: Rehab HMA w/ RHMA (23-Year)	South Coast Region LCCA Procedures Manual, Table F-1(c)
	40-year HMA w/ OGFC Year 0: New/Reconstruct Year 40: CAPM HMA w/ RHMA Year 50: Rehab HMA w/ RHMA (22-Year)	South Coast Region LCCA Procedures Manual, Table F-1(b)
	40-year JPCP Year 0: New/Reconstruct Year 45: CAPM (CPR C) Year 50: CAPM (CPR B)	South Coast Region LCCA Procedures Manual, Table R-1(a)
Cost Estimates	Initial Construction Costs	Shown in Appendix 4
	Annual Maintenance Costs	Per LCCA Procedures Manual, Table F-1(b), F-1(c) and R-1(a)
Production Rate	Work Zone Duration (days) = $\frac{\text{Total Project Lane} - \text{Miles}}{\text{Productivity Rate}}$	Productivity rates obtained from LCCA Procedures Manual, Tables 3-4 through 3-7.

Agency Maintenance Cost and Work Zone Duration:

Pavement maintenance and rehabilitation (M&R) type, schedule, and costs specified in the LCCA Procedure Manual Tables R-1(a), F-2(b) and F-2(c) were used for the M&R costs for the inside lane. The M&R schedule is dependent on pavement type, climate region, project type, final surface type, pavement design life, and maintenance service level.

The agency maintenance costs were calculated by the following equation:

$$AMC = \frac{A \times L}{1{,}000}$$

Where:

A = Annual Maintenance Cost (Table R-1(a), Table F-2(b) and Table F-2(c))

L = Project Lane-Miles

Work zone duration is the estimated number of days lane closures are in effect for the entire project's construction work. The LCCA Manual was used to determine the work zone duration for the M&R activities associated with each alternative. LCCA Procedure Manual Tables 3-4 through 3-7 were used to calculate the work zone duration. The initial construction work zone duration was assumed to be the same for all alternatives. For future rehabilitation alternatives, one lane closure was assumed.

The work zone duration days were calculated by the following equation:

$$WZD = \frac{L}{PR}$$

Where:

L = Project Lane-Miles

PR = Productivity Rates (assuming 10 p.m. – 5 a.m. lane closures) (Table 3-4 through 3-7)

Tables E-2A and E-2B show the annual costs and productivity rates obtained from the LCCA procedures manual and the calculated agency costs and work zone duration.

Table E-2A: Agency Costs and Work Zone Duration for SR 34

Activity	Annual Cost ($/lane-mile)	Agency Cost ($1000)	Productivity Rate	Work Zone Duration (Days)
40-year CRCP Alternative				
1-New/Reconstruction	200	1	-	-
40-year HMA w/ RHMA Alternative				
1-New/Reconstruction	4000	19	-	-
2-CAPM	3500	16	0.61	8
3-Rehab	2700	13	0.28	17
40-year HMA w/ OGFC Alternative				
1-New/Reconstruction	5200	24	-	-
2-CAPM	3700	17	0.61	8
3-Rehab	2300	11	0.28	17
40-year JPCP Alternative				
1-New/Reconstruction	800	5	-	-
2-CAPM (CPR C)	3000	15	1.67	8
3- CAPM (CPR B)	1500	8	0.67	3

Table E-2B: Agency Costs and Work Zone Duration for Rice Avenue

Activity	Annual Cost ($/lane-mile)	Agency Cost ($1000)	Productivity Rate	Work Zone Duration (Days)
40-year CRCP Alternative				
1-New/Reconstruction	200	1	-	-
40-year HMA w/ RHMA Alternative				
1-New/Reconstruction	4000	19	-	-
2-CAPM	3500	17	0.61	8
3-Rehab	2700	13	0.28	17
40-year HMA w/ OGFC Alternative				
1-New/Reconstruction	5200	25	-	-
2-CAPM	3700	17	0.61	8
3-Rehab	2300	11	0.28	17
40-year JPCP Alternative				
1-New/Reconstruction	800	5	-	-
2-CAPM (CPR C)	3000	15	1.67	8
3- CAPM (CPR B)	1500	8	0.67	3

Appendix F RealCost Reports – SR 34

Probabilistic Life Cycle Cost Analysis Worksheet

INPUT WORKSHEET	
1. Economic Variables	
Value of Time for Passenger Cars ($/hour)	$13.00
Value of Time for Single Unit Trucks ($/hour)	$29.60
Value of Time for Combination Trucks ($/hour)	$29.60
2. Analysis Options	
Include User Costs in Analysis	Yes
Include User Cost Remaining Service Life Value	Yes
Use Differential User Costs	Yes
User Cost Computation Method	Calculated
Include Agency Cost Remaining Service Life Value	Yes
Traffic Direction	Both
Analysis Period (Years)	55
Beginning of Analysis Period	2018
Discount Rate (%)	4.0
Number of Alternatives	4
3. Project Details and Quantity Calculations	
State Route	34
Project Type	New/Reconstruction/Widen
Project Name	Rice Avenue Grade Separation - SR 34
Maintenance Service Level	2
Local Region	
County	Ven/6.27-6.77
Climate Region	South Coast
Analyzed By	Henry Tong
Mileposts	
Begin	
End	
Length of Project (miles)	1.00
Comments	
4. Traffic Data	
AADT Construction Year (total for both directions)	12,668
Cars as Percentage of AADT (%)	80.0
Single Unit Trucks as Percentage of AADT (%)	11.6
Combination Trucks as Percentage of AADT (%)	8.4
Annual Growth Rate of Traffic (%)	3.0
Speed Limit Under Normal Operating Conditions (mph)	55
No of Lanes in Each Direction During Normal Conditions	1
Free Flow Capacity (vphpl)	1620
Queue Dissipation Capacity (vphpl)	1620
Maximum AADT (total for both directions)	80,000
Maximum Queue Length (miles)	7
5. Maintenance and Rehabilitation Sequence	
Alternative 1	
Final Pavement Surface	

Probabilistic Life Cycle Cost Analysis Worksheet

Design Life			
Activity 1 Name	NEW/RECONST CRCP (40YR)		
Activity 1 Year of Action	2018		
Activity 1 Annual Maintenance Cost ($1000)	0.4		
Activity 1 Activity Service Life (Year)	55		
Activity 2 Name			
Activity 2 Year of Action	2073		
Activity 2 Annual Maintenance Cost ($1000)	0		
Activity 2 Activity Service Life (Year)	0		
Activity 3 Name			
Activity 3 Year of Action	2073		
Activity 3 Annual Maintenance Cost ($1000)	0		
Activity 3 Activity Service Life (Year)	0		
Activity 4 Name			
Activity 4 Year of Action	2073		
Activity 4 Annual Maintenance Cost ($1000)	0		
Activity 4 Activity Service Life (Year)	0		
Activity 5 Name			
Activity 5 Year of Action	2073		
Activity 5 Annual Maintenance Cost ($1000)	0		
Activity 5 Activity Service Life (Year)	0		
Activity 6 Name			
Activity 6 Year of Action	2073		
Activity 6 Annual Maintenance Cost ($1000)	0		
Activity 6 Activity Service Life (Year)	0		
Alternative 2			
Final Pavement Surface			
Design Life			
Activity 1 Name	NEW/RECONST HMA W/RHMA (40YR)		
Activity 1 Year of Action	2018		
Activity 1 Annual Maintenance Cost ($1000)	8		
Activity 1 Activity Service Life (Year)	40.0		
Activity 2 Name	CAPM HMW W/ RHMA		
Activity 2 Year of Action	2058		
Activity 2 Annual Maintenance Cost ($1000)	7		
Activity 2 Activity Service Life (Year)	10.0		
Activity 3 Name	REHAB HMA W/ RHMA (20YR)		
Activity 3 Year of Action	2068		
Activity 3 Annual Maintenance Cost ($1000)	5.4		
Activity 3 Activity Service Life (Year)	23		
Activity 4 Name			
Activity 4 Year of Action	2091		
Activity 4 Annual Maintenance Cost ($1000)	0		
Activity 4 Activity Service Life (Year)	0		
Activity 5 Name			
Activity 5 Year of Action	2091		
Activity 5 Annual Maintenance Cost ($1000)	1		
Activity 5 Activity Service Life (Year)	0		
Activity 6 Name			
Activity 6 Year of Action	2091		
Activity 6 Annual Maintenance Cost ($1000)	0		
Activity 6 Activity Service Life (Year)	0		
Alternative 3			
Final Pavement Surface			
Design Life			

Probabilistic Life Cycle Cost Analysis Worksheet

Activity 1 Name	NEW/RECONST W/OGFC (40YR)	
Activity 1 Year of Action	2018	
Activity 1 Annual Maintenance Cost ($1000)	10.4	
Activity 1 Activity Service Life (Year)	40	
Activity 2 Name	CAPM HMA W/ OGFC	
Activity 2 Year of Action	2058	
Activity 2 Annual Maintenance Cost ($1000)	7	
Activity 2 Activity Service Life (Year)	10	
Activity 3 Name	REHAB HMA W/ OGFC (20YR)	
Activity 3 Year of Action	2068	
Activity 3 Annual Maintenance Cost ($1000)	5	
Activity 3 Activity Service Life (Year)	22	
Activity 4 Name		
Activity 4 Year of Action	2090	
Activity 4 Annual Maintenance Cost ($1000)	0	
Activity 4 Activity Service Life (Year)	0	
Activity 5 Name		
Activity 5 Year of Action	2090	
Activity 5 Annual Maintenance Cost ($1000)	0	
Activity 5 Activity Service Life (Year)	0	
Activity 6 Name		
Activity 6 Year of Action	2090	
Activity 6 Annual Maintenance Cost ($1000)	0	
Activity 6 Activity Service Life (Year)	0	
Alternative 4		
Final Pavement Surface		
Design Life		
Activity 1 Name	NEW/RECONST JPCP (40YR)	
Activity 1 Year of Action	2018	
Activity 1 Annual Maintenance Cost ($1000)	1.6	
Activity 1 Activity Service Life (Year)	45	
Activity 2 Name	CAPM (CPR C)	
Activity 2 Year of Action	2063	
Activity 2 Annual Maintenance Cost ($1000)	6	
Activity 2 Activity Service Life (Year)	5	
Activity 3 Name	CAPM (CPR B)	
Activity 3 Year of Action	2068	
Activity 3 Annual Maintenance Cost ($1000)	3	
Activity 3 Activity Service Life (Year)	10	
Activity 4 Name		
Activity 4 Year of Action	2078	
Activity 4 Annual Maintenance Cost ($1000)	0	
Activity 4 Activity Service Life (Year)	0	
Activity 5 Name		
Activity 5 Year of Action	2078	
Activity 5 Annual Maintenance Cost ($1000)	0	
Activity 5 Activity Service Life (Year)	0	
Activity 6 Name		
Activity 6 Year of Action	2078	
Activity 6 Annual Maintenance Cost ($1000)	0	
Activity 6 Activity Service Life (Year)	0	

Probabilistic Life Cycle Cost Analysis Worksheet

6. Construction			
Alternative 1	40-year CRCP		
Number of Activities	1		
Activity 1	NEW/RECONST CRCP (40YR)		
Agency Construction Cost ($1000)	$3,790.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	50		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	55.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	0.4		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Probabilistic Life Cycle Cost Analysis Worksheet

Alternative 2	40-year HMA w/ RHMA		
Number of Activities	3		
Activity 1	NEW/RECONST HMA W/RHMA (40YR)		
Agency Construction Cost ($1000)	$4,956.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	50		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	40.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	8		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 2	CAPM HMW W/ RHMA		
Agency Construction Cost ($1000)	$596.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	2		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	10.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	7		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Probabilistic Life Cycle Cost Analysis Worksheet

Activity 3	REHAB HMA W/ RHMA (20YR)		
Agency Construction Cost ($1000)	$661.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	2		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	23.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	5.4		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Probabilistic Life Cycle Cost Analysis Worksheet

Alternative 3	40-year HMA w/OGFC		
Number of Activities	3		
Activity 1	NEW/RECONST W/OGFC (40YR)		
Agency Construction Cost ($1000)	$4,830.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	50		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	40.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	10.4		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 2	CAPM HMA W/ OGFC		
Agency Construction Cost ($1000)	$596.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	10		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	10.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	7.4		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 3	REHAB HMA W/ OGFC (20YR)		

Probabilistic Life Cycle Cost Analysis Worksheet

Agency Construction Cost ($1000)	$596.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	10		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	22.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	4.6		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Probabilistic Life Cycle Cost Analysis Worksheet

Alternative 4	40-year JPCP		
Number of Activities	3		
Activity 1	NEW/RECONST JPCP (40YR)		
Agency Construction Cost ($1000)	$2,919.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	50		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	45.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	1.6		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 2	CAPM (CPR C)		
Agency Construction Cost ($1000)	$212.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	6		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	5.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	6		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 3	CAPM (CPR B)		

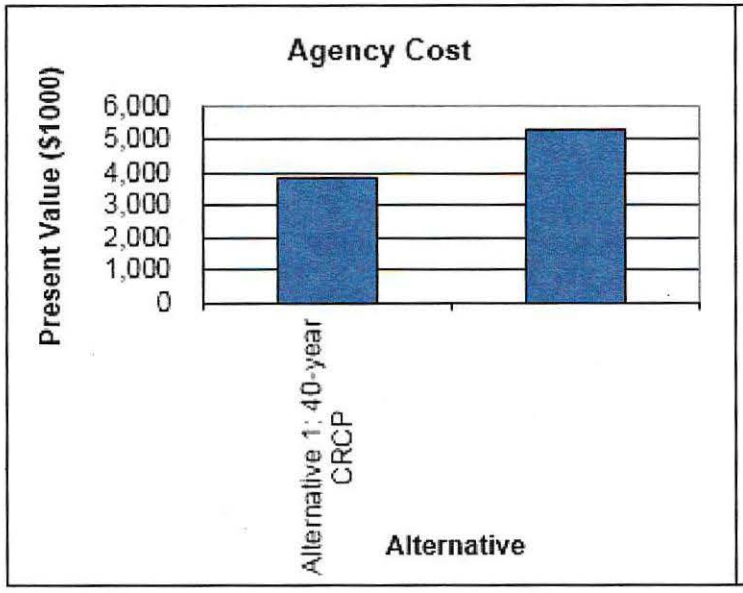
Probabilistic Life Cycle Cost Analysis Worksheet

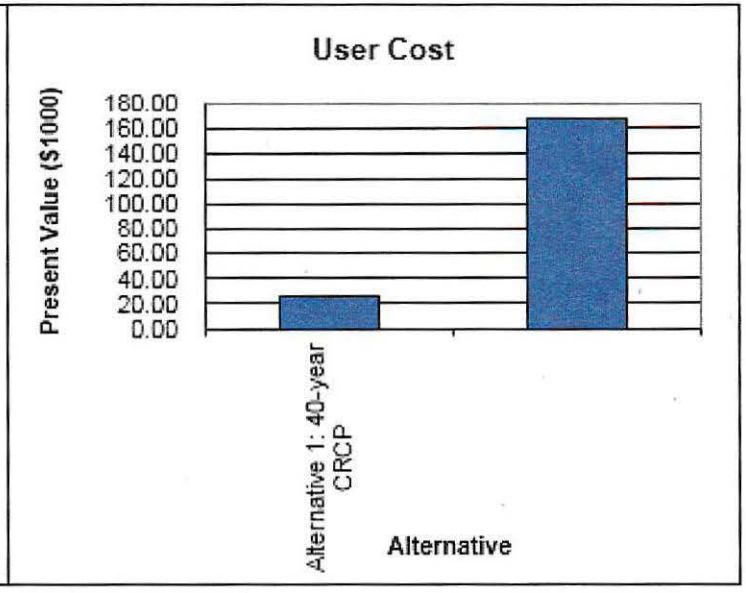
Agency Construction Cost ($1000)	$473.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	6		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	10.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	3		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	500		
Traffic Hourly Distribution	Weekday Double-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Update Results

	Total Cost							
	Alternative 1: 40-year CRCP		Alternative 2: 40-year HMA w/ RHMA		Alternative 3: 40-year HMA w/OGFC		Alternative 4: 40-year JPCP	
Total Cost	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)
Undiscounted Sum	*$3,811.59*	*$25.93*	*$6,092.30*	*$684.55*	*$6,052.05*	*$3,344.77*	*$3,473.90*	*$2,576.09*
Present Value	**$3,798.80**	**$25.93**	**$5,283.60**	**$165.67**	**$5,202.23**	**$727.63**	**$3,032.64**	**$458.27**
EUAC	$171.82	$1.17	$238.98	$7.49	$235.30	$32.91	$137.17	$20.73

Lowest Present Value Agency Cost	Alternative 4: 40-year JPCP
Lowest Present Value User Cost	Alternative 1: 40-year CRCP





Appendix G RealCost Reports – Rice Avenue

Probabilistic Life Cycle Cost Analysis Worksheet

INPUT WORKSHEET			
1. Economic Variables			
Value of Time for Passenger Cars ($/hour)	$13.00		
Value of Time for Single Unit Trucks ($/hour)	$29.60		
Value of Time for Combination Trucks ($/hour)	$29.60		
2. Analysis Options			
Include User Costs in Analysis	Yes		
Include User Cost Remaining Service Life Value	Yes		
Use Differential User Costs	Yes		
User Cost Computation Method	Calculated		
Include Agency Cost Remaining Service Life Value	Yes		
Traffic Direction	Both		
Analysis Period (Years)	55		
Beginning of Analysis Period	2018		
Discount Rate (%)	4.0		
Number of Alternatives	4		
3. Project Details and Quantity Calculations			
State Route	34		
Project Type	New/Reconstruction/Widen		
Project Name	Rice Avenue Grade Separation - Rice Avenue		
Maintenance Service Level	2		
Local Region			
County	Ven/6.27-6.77		
Climate Region	South Coast		
Analyzed By	Henry Tong		
Mileposts			
Begin			
End			
Length of Project (miles)	1.00		
Comments			
4. Traffic Data			
AADT Construction Year (total for both directions)	36,411		
Cars as Percentage of AADT (%)	90.0		
Single Unit Trucks as Percentage of AADT (%)	9.2		
Combination Trucks as Percentage of AADT (%)	0.8		
Annual Growth Rate of Traffic (%)	3.0		
Speed Limit Under Normal Operating Conditions (mph)	55		
No of Lanes in Each Direction During Normal Conditions	3		
Free Flow Capacity (vphpl)	2170		
Queue Dissipation Capacity (vphpl)	2170		
Maximum AADT (total for both directions)	80,000		
Maximum Queue Length (miles)	7		
5. Maintenance and Rehabilitation Sequence			
Alternative 1			
Final Pavement Surface			

Probabilistic Life Cycle Cost Analysis Worksheet

Design Life			
Activity 1 Name	NEW/RECONST CRCP (40YR)		
Activity 1 Year of Action	2018		
Activity 1 Annual Maintenance Cost ($1000)	1.2		
Activity 1 Activity Service Life (Year)	55		
Activity 2 Name			
Activity 2 Year of Action	2073		
Activity 2 Annual Maintenance Cost ($1000)	0		
Activity 2 Activity Service Life (Year)	0		
Activity 3 Name			
Activity 3 Year of Action	2073		
Activity 3 Annual Maintenance Cost ($1000)	0		
Activity 3 Activity Service Life (Year)	0		
Activity 4 Name			
Activity 4 Year of Action	2073		
Activity 4 Annual Maintenance Cost ($1000)	0		
Activity 4 Activity Service Life (Year)	0		
Activity 5 Name			
Activity 5 Year of Action	2073		
Activity 5 Annual Maintenance Cost ($1000)	0		
Activity 5 Activity Service Life (Year)	0		
Activity 6 Name			
Activity 6 Year of Action	2073		
Activity 6 Annual Maintenance Cost ($1000)	0		
Activity 6 Activity Service Life (Year)	0		
Alternative 2			
Final Pavement Surface			
Design Life			
Activity 1 Name	NEW/RECONST HMA W/RHMA (40YR)		
Activity 1 Year of Action	2018		
Activity 1 Annual Maintenance Cost ($1000)	24		
Activity 1 Activity Service Life (Year)	40.0		
Activity 2 Name	CAPM HMW W/ RHMA		
Activity 2 Year of Action	2058		
Activity 2 Annual Maintenance Cost ($1000)	21		
Activity 2 Activity Service Life (Year)	10.0		
Activity 3 Name	REHAB HMA W/ RHMA (20YR)		
Activity 3 Year of Action	2068		
Activity 3 Annual Maintenance Cost ($1000)	16.2		
Activity 3 Activity Service Life (Year)	23		
Activity 4 Name			
Activity 4 Year of Action	2091		
Activity 4 Annual Maintenance Cost ($1000)	0		
Activity 4 Activity Service Life (Year)	0		
Activity 5 Name			
Activity 5 Year of Action	2091		
Activity 5 Annual Maintenance Cost ($1000)	1		
Activity 5 Activity Service Life (Year)	0		
Activity 6 Name			
Activity 6 Year of Action	2091		
Activity 6 Annual Maintenance Cost ($1000)	0		
Activity 6 Activity Service Life (Year)	0		
Alternative 3			
Final Pavement Surface			
Design Life			

Probabilistic Life Cycle Cost Analysis Worksheet

Activity 1 Name	NEW/RECONST W/OGFC (40YR)	
Activity 1 Year of Action	2018	
Activity 1 Annual Maintenance Cost ($1000)	31.2	
Activity 1 Activity Service Life (Year)	40	
Activity 2 Name	CAPM HMA W/ OGFC	
Activity 2 Year of Action	2058	
Activity 2 Annual Maintenance Cost ($1000)	22	
Activity 2 Activity Service Life (Year)	10	
Activity 3 Name	REHAB HMA W/ OGFC (20YR)	
Activity 3 Year of Action	2068	
Activity 3 Annual Maintenance Cost ($1000)	14	
Activity 3 Activity Service Life (Year)	22	
Activity 4 Name		
Activity 4 Year of Action	2090	
Activity 4 Annual Maintenance Cost ($1000)	0	
Activity 4 Activity Service Life (Year)	0	
Activity 5 Name		
Activity 5 Year of Action	2090	
Activity 5 Annual Maintenance Cost ($1000)	0	
Activity 5 Activity Service Life (Year)	0	
Activity 6 Name		
Activity 6 Year of Action	2090	
Activity 6 Annual Maintenance Cost ($1000)	0	
Activity 6 Activity Service Life (Year)	0	
Alternative 4		
Final Pavement Surface		
Design Life		
Activity 1 Name	NEW/RECONST JPCP (40YR)	
Activity 1 Year of Action	2018	
Activity 1 Annual Maintenance Cost ($1000)	4.8	
Activity 1 Activity Service Life (Year)	45	
Activity 2 Name	CAPM (CPR C)	
Activity 2 Year of Action	2063	
Activity 2 Annual Maintenance Cost ($1000)	18	
Activity 2 Activity Service Life (Year)	5	
Activity 3 Name	CAPM (CPR B)	
Activity 3 Year of Action	2068	
Activity 3 Annual Maintenance Cost ($1000)	9	
Activity 3 Activity Service Life (Year)	10	
Activity 4 Name		
Activity 4 Year of Action	2078	
Activity 4 Annual Maintenance Cost ($1000)	0	
Activity 4 Activity Service Life (Year)	0	
Activity 5 Name		
Activity 5 Year of Action	2078	
Activity 5 Annual Maintenance Cost ($1000)	0	
Activity 5 Activity Service Life (Year)	0	
Activity 6 Name		
Activity 6 Year of Action	2078	
Activity 6 Annual Maintenance Cost ($1000)	0	
Activity 6 Activity Service Life (Year)	0	

Probabilistic Life Cycle Cost Analysis Worksheet

6. Construction			
Alternative 1	40-year CRCP		
Number of Activities	1		
Activity 1	NEW/RECONST CRCP (40YR)		
Agency Construction Cost ($1000)	$3,757.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	50		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	55.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	1.2		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Probabilistic Life Cycle Cost Analysis Worksheet

Alternative 2	40-year HMA w/ RHMA		
Number of Activities	3		
Activity 1	NEW/RECONST HMA W/RHMA (40YR)		
Agency Construction Cost ($1000)	$4,604.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	50		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	40.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	24		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 2	CAPM HMW W/ RHMA		
Agency Construction Cost ($1000)	$736.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	8		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	10.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	21		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Probabilistic Life Cycle Cost Analysis Worksheet

Activity 3	REHAB HMA W/ RHMA (20YR)		
Agency Construction Cost ($1000)	$736.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	17		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	23.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	16.2		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Probabilistic Life Cycle Cost Analysis Worksheet

Alternative 3	40-year HMA w/OGFC		
Number of Activities	3		
Activity 1	NEW/RECONST W/OGFC (40YR)		
Agency Construction Cost ($1000)	$4,474.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	50		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	40.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	31.2		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 2	CAPM HMA W/ OGFC		
Agency Construction Cost ($1000)	$736.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	8		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	10.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	22.2		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 3	REHAB HMA W/ OGFC (20YR)		

Probabilistic Life Cycle Cost Analysis Worksheet

Agency Construction Cost ($1000)	$736.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	17		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	22.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	13.8		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Probabilistic Life Cycle Cost Analysis Worksheet

Alternative 4	40-year JPCP		
Number of Activities	3		
Activity 1	NEW/RECONST JPCP (40YR)		
Agency Construction Cost ($1000)	$2,904.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	50		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	45.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	4.8		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 2	CAPM (CPR C)		
Agency Construction Cost ($1000)	$104.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	8		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	5.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	18		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Activity 3	CAPM (CPR B)		

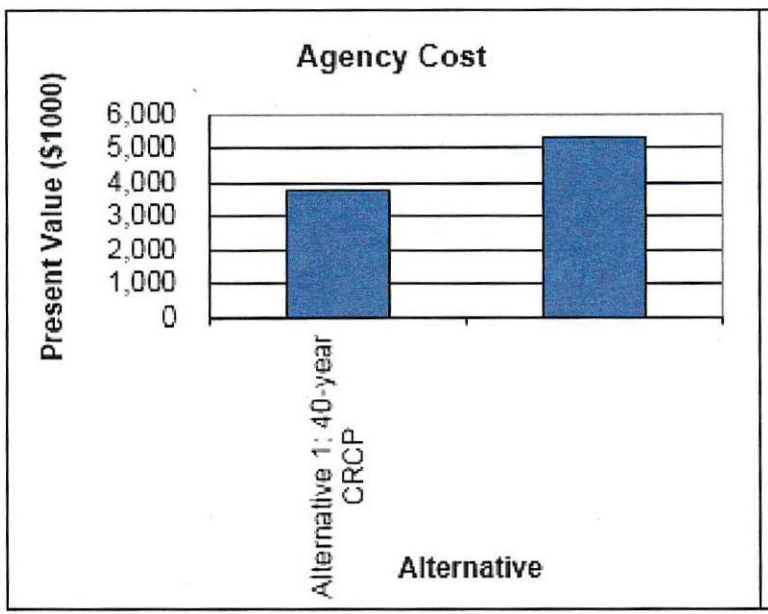
Probabilistic Life Cycle Cost Analysis Worksheet

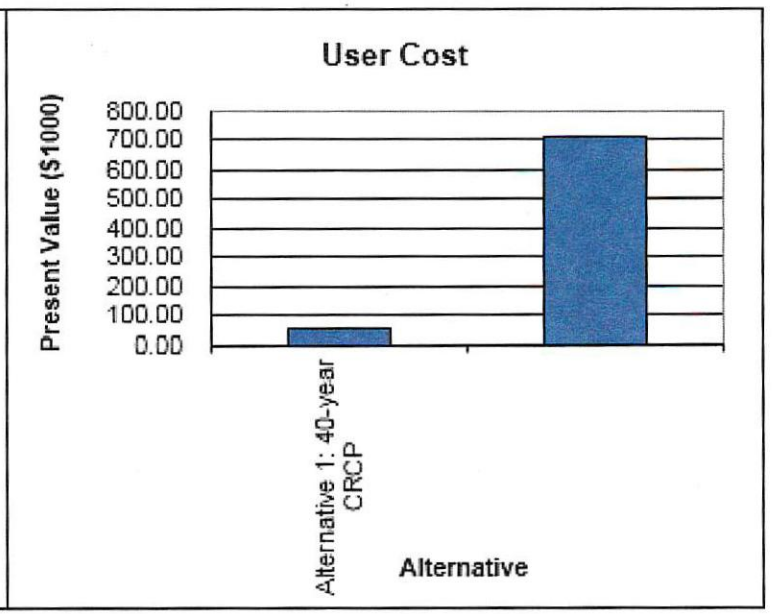
Agency Construction Cost ($1000)	$281.00		
User Work Zone Costs ($1000)			
Work Zone Duration (days)	8		
No of Lanes Open in Each Direction During Work Zone	1		
Activity Service Life (years)	10.0		
Activity Structural Life (years)			
Maintenance Frequency (years)	1		
Agency Maintenance Cost ($1000)	9		
Work Zone Length (miles)	1.00		
Work Zone Speed Limit (mph)	50		
Work Zone Capacity (vphpl)	2000		
Traffic Hourly Distribution	Weekday Single-Peak		
Time of Day of Lane Closures (use whole numbers based on a 24-hour clock)			
Inbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			
Outbound	Start	End	
First period of lane closure	8	18	
Second period of lane closure			
Third period of lane closure			

Update Results

Total Cost	Alternative 1: 40-year CRCP		Alternative 2: 40-year HMA w/ RHMA		Alternative 3: 40-year HMA w/OGFC		Alternative 4: 40-year JPCP	
Total Cost	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)	Agency Cost ($1000)	User Cost ($1000)
Undiscounted Sum	*$3,821.80*	*$54.43*	*$6,689.80*	*$3,103.79*	*$6,849.08*	*$3,147.59*	*$3,467.70*	*$3,183.15*
Present Value	**$3,783.39**	**$54.43**	**$5,305.07**	**$711.38**	**$5,317.55**	**$716.45**	**$3,059.51**	**$584.40**
EUAC	$171.13	$2.46	$239.96	$32.18	$240.52	$32.41	$138.39	$26.43

Lowest Present Value Agency Cost	Alternative 4: 40-year JPCP
Lowest Present Value User Cost	Alternative 1: 40-year CRCP





ATTACHMENT Q

TRANSPORTATION MANAGEMENT PLAN DATA SHEET

TRANSPORTATION MANAGEMENT PLAN DATA SHEET
(Preliminary TMP Elements and Costs)

Co/Rte/PM 07-VEN-34 PM-6.3/6.8 EA 317800 Alternative No. ALL

Project Limit In Ventura County of Route 34: 0.5 miles west and east of Rice Avenue

Project Description Grade Separation of Rice Avenue over SR-34 (Fifth Street) and UPRR

1) Public Information

☒ a. Brochures and Mailers	$7,170
☒ b. Press Release	$4,000
☐ c. Paid Advertising	$
☒ d. Public Information Center/Kiosk	$12,000
☒ e. Public Meeting/Speakers Bureau	$40,000
☒ f. Telephone Hotline	$1,440
☒ g. Internet (Planned Lane Closure Website, Project Website)	$2,000
☐ h. Others	$

2) Motorists Information Strategies

☐ a. Changeable Message Signs (Fixed)	$
☒ b. Changeable Message Signs (Portable)	$60,000
☒ c. Ground Mounted Signs	$6,000
☐ d. Highway Advisory Radio	$
☐ e. Caltrans Highway Information Network (CHIN)	$
☒ f. Others Temporary Motorist Info Signs	$5,000

3) Incident Management

☒ a. Construction Zone Enhanced Enforcement Program (COZEEP)	$57,600
☐ b. Freeway Service Patrol	$
☐ c. Traffic Management Team	$
☐ d. Helicopter Surveillance	$
☐ e. Traffic Surveillance Stations (Loop Detector and CCTV)	$
☐ f. Others	$

4) Construction Strategies

☒ a. Lane Closure Chart	$5,000
☐ b. Reversible Lanes	$
☒ c. Total Facility Closure	$5,000
☐ d. Contra Flow	$
☐ e. Truck Traffic Restrictions	$
☒ f. Reduced Speed Zone	$5,000
☐ g. Connector and Ramp Closures	$
☐ h. Incentive and Disincentive	$
☒ i. Moveable Barrier	$5,000
☐ j. Others _____	$

5) Demand Management

☐ a. HOV Lanes/Ramps (New or Convert)	$
☐ b. Park and Ride Lots	$
☐ c. Rideshare Incentives	$
☐ d. Variable Work Hours	$
☐ e. Telecommute	$
☐ f. Ramp Metering (Temporary Installation)	$
☐ g. Ramp Metering (Modify Existing)	$
☐ h. Others _____	$

6) Alternative Route Strategies

☐ a. Add Capacity to Freeway Connector	$
☒ b. Street Improvement (widening, traffic signal... etc)	$60,000
☐ c. Traffic Control Officers	$
☐ d. Parking Restrictions	
☐ e. Others _____	$

7) Other Strategies

☐ a. Application of New Technology	$
☐ b. Others _____	$

TOTAL ESTIMATED COST OF TMP ELEMENTS = $276,000

Project Notes:

1. The lead agency will be responsible for developing and implementing the public awareness campaign with input from Caltrans Office of Media Relations and Public Affairs.
1(a): Brochures: (10000 units) x ($1/1000 mailers (printing)) x ($65 (cost to distribute 1000 brochures)) = $650
1(a): Mailers: (10000 units) x ($1/1000 mailers (printing)) x ($0.65 brochure (cost to distribute per mailer)) = $6500
1(b): Press Release: (50 hours) x ($80/hour) = $4000
1(d): Public Information Center/Kiosk: (10 months) x ($1200/month) = $12000
1(f): Telephone Hotline: (24 months) x ($60/month) = $1440
2(b): Changeable Message Signs (Portable): (4 units) x ($15000/unit) = $60,000
3(a): COZEEP: (40 nights) x (8 hrs) x (2 officers @ $90/hr/officer) = $57,600
6(b): Street Improvements: (4 intersections) x ($15,000/intersection) = $60,000
6(c): Traffic control officers: (20 days) x (4 hrs) x (2 officers @ $90/hr/officer) = $14,400

PREPARED BY _____ DATE 9/25/2017
Henry Tong, P.E.
WKE, Inc.

APPROVAL RECOMMENDED BY _____ DATE 11/12/2017
Dyari Ahmed,
District Traffic Manager, STE

APPROVED BY _____ DATE 11/12/2017
Morteza Fahrtash,
District Traffic Manager, Chief

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT BENEFITS
ROUTE 34/RICE AVENUE GRADE SEPARATION

TRADE CORRIDOR IMPROVEMENT FUND
PROJET BENEFITS FORM

PROJECT TITLE: ROUTE 34/RICE AVENUE GRADE SEPARATION

PROJECT CATEGORY: Grade Separation, Rail

OUTPUTS/OUTCOMES:

- Elimination of at-grade vehicle/rail crossing where 35,000 vehicles per day and up to 26 trains per day interface.
    - Collision rates at the intersection are higher than average for similar facilities.
    - Three fatalities at the intersection in the last four years
- Improved intersection Level of Service (reduced control delay) from LOS F for the no-build alternative in 2040, to LOS B for the preferred alternative in 2040.
- Elimination of the "stop" condition on Rice Avenue, allowing free-flow of heavy vehicle/freight traffic.
- Addition of a third travel lane in both the north and southbound directions on Rice Avenue for increased throughput/better traffic flow.
- Provision of pedestrian and bicycle facilities within the proposed project, including a multi-use path on the north side of 5th Street.
- No impacts to air quality; slight reduction in greenhouse gas emissions due to a reduction in idling at controlled intersections.

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT
Mathilda Avenue Improvements at SR 237 and US 101

Resolution _____
(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 *Mathilda Avenue Improvements at SR 237 and US 101*, effective on, _____ (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, *Santa Clara Valley Transportation Authority (VTA)* , and the Implementing Agency, *Santa Clara Valley Transportation Authority (VTA)* , sometimes collectively referred to as the "Parties".

3. RECITAL

3.2 Whereas at its May 16, 2018 meeting the Commission approved the Local Partnership Program (Competitive), and included in this program of projects the *Mathilda Avenue Improvements at SR 237 and US 101*, 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 LLP-P-1718-01, "Adoption of Program of Projects for the Local Partnership Program", dated May 16, 2018

☐ Resolution *Insert Number* , "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated

☐ Resolution *Insert Number* , "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated

☐ 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 Local Partnership Program (Competitive), 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 The Santa Clara Valley Transportation Authority (VTA) agrees to secure funds for any additional costs of the project.

4.6 The Santa Clara Valley Transportation Authority (VTA) agrees to report to Caltrans 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 The Santa Clara Valley Transportation Authority (VTA) 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

Link to electronic copy of (Exhibit B) Project Report - https://www.dropbox.com/s/hi042awp701kwh8/Signed%20PR_Mathilda.pdf?dl=0

Attachments:

Exhibit A: Project Programming Request Form
Exhibit B: Project Report

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

Mathilda Avenue Improvements at SR 237 and US 101

Resolution _____

Nuria I. Fernandez — Date: 6-13-18

General Manager, Santa Clara Valley Transportation Authority

Project Applicant

Nuria I. Fernandez — Date: 6-13-18

General Manager, Santa Clara Valley Transportation Authority

Implementing Agency

James E. Davis — Date: 6/27/18

District Director

California Department of Transportation

Laurie Berman — Date: 7-17-18

Director

California Department of Transportation

Susan Bransen — Date

Executive Director

California Transportation Commission

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2017)

General Instructions

Amendment (Existing Project)	No					Date:	7/17/18
District	EA	Project ID	PPNO	MPO ID		Alt Proj. ID	
04							

County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency	
SCL	US 101	2.7	3.3	VTA	
SCL	SR 237	45.8	45.2	**MPO**	**Element**
				MTC	Capital Outlay

Project Manager/Contact	Phone	E-mail Address
Gene Gonzalo	408-925-4236	gene.gonzalo@vta.org

Project Title

Mathilda Avenue Improvements at SR 237 and US 101

Location (Project Limits), Description (Scope of Work)

In the City of Sunnyvale, on Mathilda Avenue from Almanor Avenue to Innovation Way, construct improvements including on and off ramp improvements at SR 237 (from the interchange to 0.3 miles in each direction) and US 101 (from the interchange to 0.3 miles in each direction). The project also proposes to improve local roadway operations and construct new complete streets improvements. The total lenghth of the project is about one mile on Mathilda Avenue.

Component	Implementing Agency
PA&ED	VTA
PS&E	VTA
Right of Way	VTA
Construction	VTA

Legislative Districts

Assembly:	22	Senate:	11	Congressional:	15

Project Benefits

The Build alternative results in a significant reduction in vehicle delay during the AM peak and PM peak. The project wil result in a decrease of 15,850 daily VMT at open to traffic (2020) and a 61,133 reduction in the horizon year (2040). The project reduces GHG (nearly 5,000 metric tonnes annualy in the horizon year as well as other criteria pollutants - all consistent with the RTP/SCS for the region.

Purpose and Need

The primary purpose of the project is to improve traffic operations and traffic flow on Mathilda Avenue, reducing congestion and improving mobility for all modes of traffic. The project wil also improve traffic safety, particularly at the freeway interchanges by eliminating weaving movements. The project will also provide new complete streets improvements in the corridor. The project's primary need is based on current congestion and safety as well as a lack of complete bicycle and pedestrian facilities.

Category	Outputs/Outcomes	Unit	Total
Local streets and roads	Operational Improvements	Miles	1
State Highway Road Construction	Modified / Improved Interchanges	each	2
Local streets and roads	Pedestrian/Bicycle Facilities miles constructed	Miles	1
Local streets and roads	Intersections Modified	each	6

ADA Improvements Yes	Bike/Ped Improvements Yes	Reversible Lane analysis No
Includes Sustainable Communities Strategy Goals Yes	Reduces Greenhouse Gas Emissions Yes	

Project Milestone			Existing	Proposed
Project Study Report Approved			02/13/15	
Begin Environmental (PA&ED) Phase				02/26/15
Circulate Draft Environmental Document	Document Type			08/12/16
Draft Project Report				08/11/16
End Environmental Phase (PA&ED Milestone)				01/20/17
Begin Design (PS&E) Phase				01/21/17
End Design Phase (Ready to List for Advertisement Milestone)				06/15/18
Begin Right of Way Phase				02/01/17
End Right of Way Phase (Right of Way Certification Milestone)				06/10/18
Begin Construction Phase (Contract Award Milestone)				12/01/18
End Construction Phase (Construction Contract Acceptance Milestone)				12/01/20
Begin Closeout Phase				12/01/20
End Closeout Phase (Closeout Report)				12/01/21

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PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2017)

Date: 7/17/18

Additional Information

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STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2017)

Date: 7/17/18

District	County	Route	EA	Project ID	PPNO	Alt Proj. ID
04	SCL, SCL	US 101, SR 237				

Project Title: Mathilda Avenue Improvements at SR 237 and US 101

Existing Total Project Cost ($1,000s)									Implementing Agency
Component	Prior	18/19	19/20	20/21	21/22	22/23	23/24+	Total	
E&P (PA&ED)									VTA
PS&E									VTA
R/W SUP (CT)									VTA
CON SUP (CT)									VTA
R/W									VTA
CON									VTA
TOTAL									
Proposed Total Project Cost ($1,000s)									**Notes**
E&P (PA&ED)	4,000							4,000	
PS&E	3,200							3,200	
R/W SUP (CT)									
CON SUP (CT)									
R/W	800							800	
CON		34,000						34,000	
TOTAL	8,000	34,000						42,000	

Fund No. 1:	Local Funds								Program Code
Existing Funding ($1,000s)									
Component	Prior	18/19	19/20	20/21	21/22	22/23	23/24+	Total	Funding Agency
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding ($1,000s)									**Notes**
E&P (PA&ED)	4,000							4,000	VTA and Sunnyvale
PS&E	3,200							3,200	
R/W SUP (CT)									
CON SUP (CT)									
R/W	800							800	
CON		17,000						17,000	
TOTAL	8,000	17,000						25,000	

Fund No. 2:	SB-1 LPP Competitive								Program Code
Existing Funding ($1,000s)									
Component	Prior	18/19	19/20	20/21	21/22	22/23	23/24+	Total	Funding Agency
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding ($1,000s)									**Notes**
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		17,000						17,000	
TOTAL		17,000						17,000	

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2017)

Complete this page for amendments only **Date:** 7/17/18

District	County	Route	EA	Project ID	PPNO	Alt Proj.
04	SCL SCL	US 101 SR 237				

SECTION 1 - All Projects

Project Background

Programming Change Requested

Reason for Proposed Change

If proposed change will delay one or more components, clearly explain 1) reason the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

Other Significant Information

SECTION 3 - All Projects

Approvals

I hereby certify that the above information is complete and accurate and all approvals have been obtained for the processing of this amendment request.*

Name (Print or Type)	Signature	Title	Date

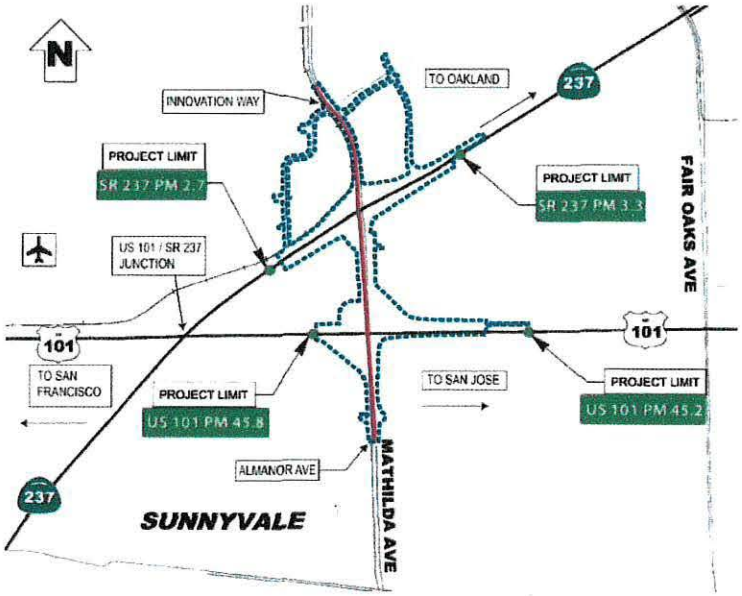
Attachments

1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
2) Project Location Map

EXHIBIT B

04-SCL-237 PM 2.7/3.3; SCL-101-PM 45.2/45.8
EA 04-4H2900
Project No.: 0413000204
Program Code 20.10.400
January 2017

PROJECT REPORT



on Mathilda Avenue from Almanor Avenue to Innovation Way; on SR 237 from 0.3 mile east of US 101/SR 237 Junction to 0.3 mile east of Mathilda Avenue Undercrossing; and on US 101 from 0.5 mile south of Mathilda Avenue Overcrossing to 0.3 mile south of SR 237/US 101 Junction in City of Sunnyvale, in Santa Clara County

I have reviewed the right of way information contained in this report and the R/W Data Sheet attached hereto, and find the data to be complete, current, and accurate:

MARK L. WEAVER, *DEPUTY DISTRICT DIRECTOR*
RIGHT OF WAY AND LAND SURVEYS

APPROVAL RECOMMENDED

Dina El-Tawansy

DINA EL-TAWANSY, *CALTRANS PROJECT MANAGER*

APPROVED

for

HELENA "LENKA" CULIK-CARO — 1/20/2017 Date
DEPUTY DISTRICT DIRECTOR, DESIGN

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.

12/21/2016

REGISTERED CIVIL ENGINEER
TIMOTHY J. LEE
WMH CORPORATION

DATE

Vicinity Map

1. INTRODUCTION

The State of California, Department of Transportation (Caltrans), in cooperation with the Santa Clara Valley Transportation Authority (VTA) and the City of Sunnyvale, is proposing the "Mathilda Avenue Improvements at SR 237 and US 101 Project" (Project) to improve Mathilda Avenue in the City of Sunnyvale from Almanor Avenue/Ahwanee Avenue to Innovation Way, including on- and off-ramp improvements at the State Route (SR) 237/Mathilda Avenue and U.S. Highway 101 (US 101)/Mathilda Avenue interchanges. On SR 237, the Project limits are from 0.3 mile east of the US 101/SR 237 interchange (post mile [PM] 2.7) to 0.3 mile east of the Mathilda Avenue Undercrossing (PM 3.3). On US 101, the Project limits are from 0.5 mile south of the Mathilda Avenue Overcrossing (PM 45.2) to 0.3 mile south of the SR 237/US 101 interchange (PM 45.8). The total length of the Project on Mathilda Avenue is approximately one mile.

Project Limits	04-SCL-237 PM 2.7/3.3; SCL-101-PM 45.2/45.8	
Number of Alternatives	Two	
	Current Cost Estimate:	Escalated Cost Estimate:
Capital Outlay Support	$11.59 million	$11.59 million
Capital Outlay Construction	$23.25 million	$24.67 million
Capital Outlay Right-of-Way	$3.58 million	$3.69 million
Funding Source	Local Funds	
Funding Year	2017/2018, see Section 8 for more Information	
Type of Facility	Mathilda Avenue: 6 Lane Arterial SR 237: Varies 4-6 Lane Freeway US 101: 8 Lane Freeway	
Number of Structures	One structure. Also includes new retaining walls and sound wall reconstruction at various locations	
Environmental Determination or Document	Environmental Impact Report (EIR)	
Legal Description	In Santa Clara County in Sunnyvale on Mathilda Avenue from Almanor Avenue to Innovation Way; on SR 237 from 0.3 mile east of US 101/SR 237 Junction to 0.3 mile east of Mathilda Avenue Undercrossing; and on US 101 from 0.5 mile south of the Mathilda Avenue Overcrossing to 0.3 mile south of the SR 237/US 101 Junction	
Project Development Category	3	

The current estimated total project cost is $38.45 million, which includes Capital Outlay and Support costs. This project is proposed to be fully funded by the City of Sunnyvale and from other local sources. The proposed project is listed in the 2016 Transportation Improvement Program (TIP) (TIP ID: SCL130001, RTP ID: 240443).

The project is consistent with the Metropolitan Transportation Commission's (MTC) Transportation 2040 Plan for the San Francisco Bay Area, adopted in July 2013.

This project has been assigned the Project Development Category 3 because it requires new right of way, but does not require a new route adoption.

For the full project report, go to:
https://www.dropbox.com/s/hi042awp701kwh8/Signed%20PR_Mathilda.pdf?d1=0