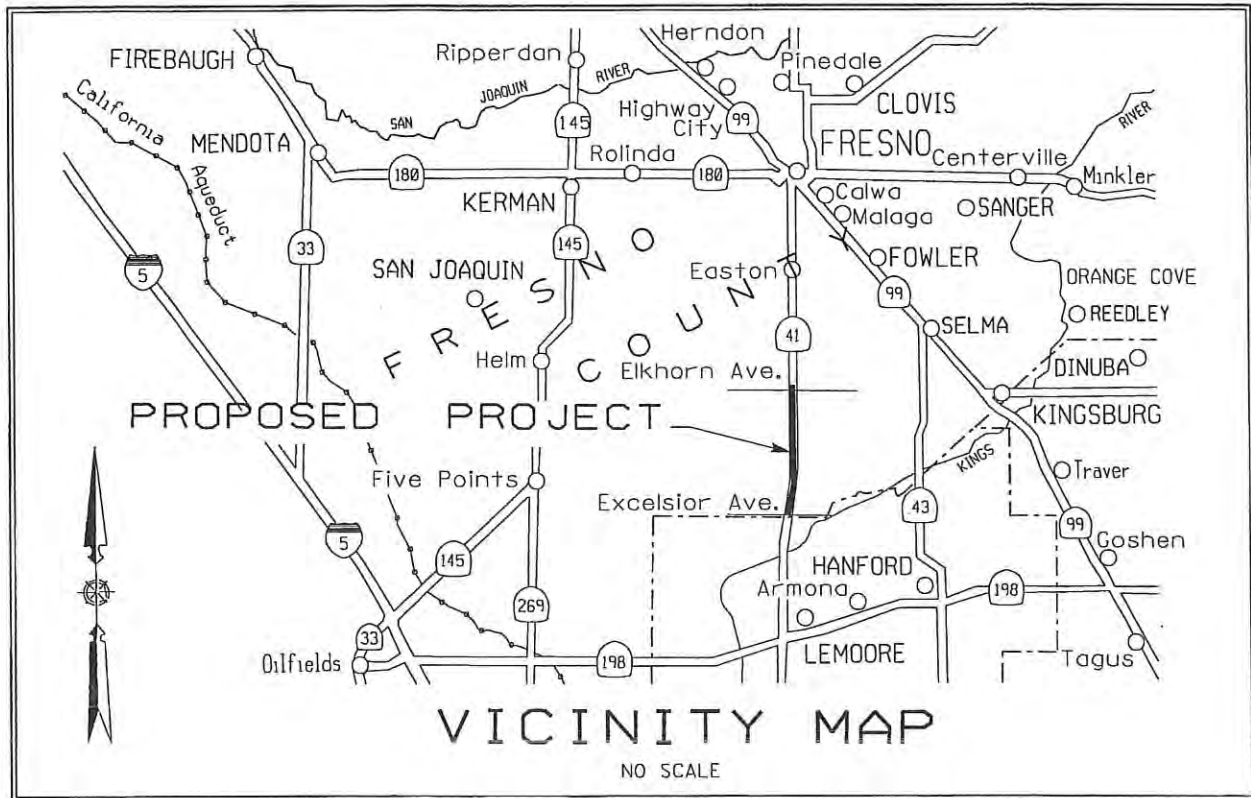


PROJECT STUDY REPORT (PROJECT DEVELOPMENT SUPPORT)



On Route 41
Between Excelsior Avenue
And 1.3 km North of Elkhorn Avenue

SUBMITTED BY:

Charles M. Nguyen

APPROVAL

RECOMMENDED

Jim Bane

JIM BANE
PROJECT MANAGER

APPROVED:

Bart Bohn 12/1/00
BART B. BOHN DATE

DISTRICT DIRECTOR
CENTRAL REGION-DISTRICT 6

November 2000

This Project Study Report (Project Development Support) has been prepared under the direction of the following Registered Engineer. The registered Civil Engineer attests to the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.



Yi Pan

REGISTERED CIVIL ENGINEER

12-1-00

DATE



1. INTRODUCTION

It is proposed to upgrade the existing Route 41 between the Kings County line (Excelsior Avenue) and 1.3 km north of Elkhorn Avenue from a two-lane expressway to a four-lane expressway facility (Please see Attachment A, Location Map).

There are two build alternatives. The total estimated project costs are \$34 million and \$31 million. This report is for programming the PA/ED support component of this 2000 STIP candidate project under the HE-13 program.

2. BACKGROUND

Route 41 in its entirety, from Morro Bay to Yosemite National Park, serves through traffic and local communities between coastal and mountain recreational areas, as well as commercial trucking.

Traffic volumes along the route have continued to increase as the state has experienced a rapid growth in its population. With the heavy demand placed on the highway, it has long been recognized that capacity improvements to the corridor are needed.

During the late sixties and early seventies, funding for major improvements to the State Highway System was not available, especially for the construction of new facilities on new alignments. Without funding, the plans to improve State Route 41 were shelved.

In 1986, the Measure C Transportation Improvement Sales Tax Initiative was approved. With the Measure C program funding, the segment of Route 41 from Elkhorn Avenue to State Route 99 was completed in 1998 as a two to four-lane expressway/freeway.

To the north of this proposed project, project EA 342151 will add two new northbound lanes to the existing two-lane expressway from 1.2 km north of Elkhorn Avenue to 0.2 km south of Adams Avenue. The construction is scheduled to start in the winter of 2000. To the south of the proposed project is an existing four-lane expressway facility.

There is substantial support in the community and from local government for upgrading this segment of Route 41 to a four-lane expressway. A freeway agreement between the State of California and the County of Fresno was executed on September 14, 1982, for the segment between the Kings/Fresno County line and 0.8 kilometers north of Elkhorn Avenue.

Traffic Data:

ADT (2026)	21,000
ADT (2016)	15,300
DHV (2026)	2,500
D	53%
T	8%
TI	12

Trucks comprise 15 % of the ADT. The breakdown by axle is the following:

<u>Axles</u>	
2	39.9%
3	8.1%
4	5.7%
5+	46.3%

2. NEED AND PURPOSE

- A. **Increase capacity:** The existing two-lane facility is currently operating at a level of service (LOS) "D" and would deteriorate to "F" in 2026 (design year). A four-lane expressway would bring the level of service to "B" during the 20-year design period.
- B. **Improve traffic safety:** Accident rates are expected to be lower on expressway facilities than on two-lane highways, because of a reduced potential for head-on collision.
- C. **Maintain route consistency:** Upgrading the existing facility to a four-lane expressway would be consistent with the existing four-lane expressway portion to the south and a four-lane expressway facility to the north which will be completed in 2003.

4. ALTERNATIVES

Alternatives I and II, the build alternatives and Alternative III, the no-build alternative are evaluated for the project:

Alternative I: Widening roadway to the west

Two new northbound lanes would be constructed as 3.6-m Portland Cement Concrete (PCC) lanes with 1.5 m inside PCC shoulders and 3 m outside PCC shoulders, along an 18.6 m wide median. (Please See Attachment B1, Typical Cross-Section). The two existing asphalt concrete (AC) lanes would be replaced with two new 3.6 m PCC lanes with 1.5 m inside and 3.0 m outside PCC shoulders. The new pavement profile would be higher than the existing profile to improve cross drainage.

Two new bridges would be constructed at the Murphy Slough: a new NB bridge and a replacement for the existing bridge No. 42-36. Also, the existing Laguna Irrigation Canal box culvert would be extended.

For the majority of the project, the existing easterly right of way line would be maintained. Additional right of way would need to be purchased along the westerly side of the route. Slight additional right of way would also be required and some utility poles (power and telephone poles) would need to be relocated at the intersections of Laguna, Mount Whitney and Harlan Avenues due to proposed intersection geometric improvements. Pipes for the Settlers Ditch and the Liberty Canal would also be extended.

The current total cost for Alternative I is estimated at \$ 34 million as detailed below:

Construction Cost	\$ 28 million
Structures Cost	\$ 2 million
Right of Way /Utility relocation	\$ 4 million (escalated to year 2005)

Alternative II: Widening roadway on both sides

Two new northbound PCC lanes would be constructed with PCC shoulders and a standard median as in Alternative I. The proposed profile would be higher than the existing profile to improve cross drainage. However, the two existing AC lanes would remain to serve as the southbound lanes of the completed project. The existing 2.4-m outside shoulder would be widened to 3.0 m standard.

A new bridge would be constructed at Murphy Slough for the northbound direction of the four-lane expressway. The Laguna Irrigation Canal box culvert would be extended.

The frontage road on the east side of the route would need to be realigned. The high-pressure gas main along the frontage road needs to be relocated. The existing Murphy Slough Bridge on the frontage road would also have to be reconstructed.

Additional right of way would be acquired on both sides of the existing route corridor. Also slight additional right of way would be needed and some utility poles (power and telephone)

would be relocated to improve intersections at Laguna, Mount Whitney and Harlan Avenues. Pipes for the Settlers Ditch and the Liberty Canal would also be extended.

The current total cost for Alternative 2 is estimated at \$31 millions as detailed below:

Construction Cost	\$ 22 million
Structures Cost	\$ 2 million
Right of Way / Utility relocation	\$ 7 million (escalated to year 2005)

Alternative III: No Build

ANALYSIS OF PROPOSAL

Alternative III, the No Build Alternative:

For the no build alternative, the existing two-lane expressway facility would not have sufficient capacity for traffic to operate at an acceptable level of service, which is "C" or better for a rural highway. In fact, the level of service would deteriorate from the current LOS "D" to a LOS "F" by 2026.

Following are the advantages and disadvantages of the two build alternatives:

Alternative I:

Advantages:

1. The frontage road along the east side would not need to be realigned. The County bridge over the Murphy Slough would not need to be replaced and the high-pressure gas line along the frontage road would not be impacted.
2. Right of way acquisition and environmental impact would be less for this alternative, because the highway widening would occur only along the west side of the existing facility for the majority of the project.
3. This alternative would provide a totally new four-lane expressway facility.
4. It would provide a higher profile with improved cross drainage.

Disadvantages:

1. It is more expensive than Alternative II.
2. The existing roadbed and the existing Murphy Slough Bridge would have to be replaced.

Alternative II:

Advantages:

1. Less expensive than Alternative I.
2. Ability to salvage the existing two-lane roadbed and the existing two-lane Murphy Slough Bridge.

Disadvantages:

1. It would cause major impact to the existing frontage road: realignment of the road, construction of a new bridge over the Murphy Slough, potential relocation of the high-pressure gas line, and closure of the frontage road during construction.
2. It would result in more right of way acquisition and more environmental impact, since the highway widening would occur on both sides of the existing right of way.
3. The existing two-lane pavement will need major, expensive pavement rehabilitation soon.
4. The drainage system would not be improved. Although it would remain functional, it would operate under an undesirable condition with existing cross pipes not placed at proper elevations.

5. SYSTEM PLANNING

This project is consistent with the District Draft 2000 Transportation Concept Report, which describes the concept facility as a four-lane expressway with LOS "C". The project is also consistent with the plans of the Regional Transportation Planning Agency.

Project EA 342151 will construct two northbound lanes to provide for a four-lane expressway from 1.2 km north of Elkhorn Avenue to 0.2 km south of Adams Avenue. Construction is planned to start in the winter of 2000.

Project EA 398001 will start in the summer of 2002 to overlay the existing AC pavement from north of Harlan Avenue (KP 4.8) to north of Kingston Avenue (KP 8.9).

Project EA 453401 will start in the fall of 2001 to install a traffic signal at the Route 41 and Mount Whitney Avenue intersection.

Also, a Conceptual Report is being submitted by the District Traffic Operations Branch to request approval for installing a traffic signal at the Route 41 and Elkhorn Avenue intersection.

6. HAZARDOUS WASTE

As a result of record searches and a field inspection, the Central California Environmental Technical Branch (CCETB) has concluded that there is a significant potential for hazardous waste/material at several locations within the proposed project limits. Therefore, a Preliminary Site Investigation (PSI) would be required for this project.

The CCETB has also determined a study of aerially deposited lead in the soil adjacent to State Route 41 in Fresno County would be needed. The results of this investigation would indicate if aerially deposited lead in the soil within the project limits exceed the regulatory standard threshold outlined in the Title 22, California Code of Regulations (CCR).

7. ENVIRONMENTAL DETERMINATION

The anticipated environmental document for the proposed project would be Negative Declaration/Finding of No Significant Impact (ND/FONSI). The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) would act as lead agencies in preparation of a joint California Environmental Quality Act/Nation Environmental Policy Act (CEQA/NEPA) environmental document. The final environmental determination would be projected to occur within 36 months from the start of environmental studies.

8. RIGHT OF WAY

Alternative I: 28 parcels would be partially acquired along the western side of the route based on our preliminary study. Some power poles and telephone poles would be relocated due to

intersection improvement. The box culvert at Laguna Irrigation Canal would be extended as well as pipes for the Settlers Ditch and the Liberty Canal. Coordination with local Irrigation Districts will be required. Preliminary cost estimate for right of way acquisition is \$3 millions and for utility relocation is \$1 million.

Alternative II: Approximately 62 parcels would be partially acquired along both eastern and western sides of the route. Some power poles and telephone poles would be relocated due to intersection improvement. The box culvert at Laguna Irrigation canal would be extended as well as pipes for the Settlers Ditch and the Liberty Canal. Coordination with local Irrigation Districts will be required. Additional right of way needs to be purchased for relocation of the frontage road. Preliminary cost estimate for right of way acquisition is \$3 million and for utility relocation is \$4 million.

8. FUNDING SCHEDULING

This report is for programming PA&ED support cost in the 2000 STIP (HE 13 program). The recommended budgetary description is as follows:

06-Fre-41, KP 0.0 / 11.4

In Fresno County from Excelsior Avenue to 1.3 km north of Elkhorn Avenue, convert 2-lane expressway to 4-lane expressway.

Project Cost Component	Fiscal Years								Total
	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	
R/W Capital					7,500				7,500
Constr. Capital								30,000	30,000
PA&ED	1,080								1,080
PS&E					1,500				1,500
R/W Support					1,000				1,000
Constr. Support								1,500	1,500
Total	1,080				10,000			31,500	42,580

Note: (1) All costs X\$1,000. Construction Capital and Support Costs escalated 3.5% per year. Right of Way Capital costs escalated at 6 % per year.

(2) Support Categories are the same as those identified by SB 45.

The tentative project schedule is as follows:

Project Study Report (PDS) Approval	12/00
Project Report	07/05
PA&ED	07/05
District PS&E	07/07
Right of Way Certification	09/07
Advertisement	12/07
Begin Construction	04/08
Construction Completion	07/10

9. RECOMMENDATION

It is recommended that PA/ED support component cost of this project be programmed.

10. DISTRICT CONTACT

For further information contact:

Project Manager - Jim Bane	(559) 243-3469
Design Engineer- Thanh Nguyen	(559) 243-3813
Project Engineer - <i>Yi-Pan Steve Niemi</i>	(559) 243-3586 <i>3588</i>
Environmental Manager - Christine Cox	(559) 243-8151
Right of Way Reviewer -Larry Steelman	(559) 243-3806

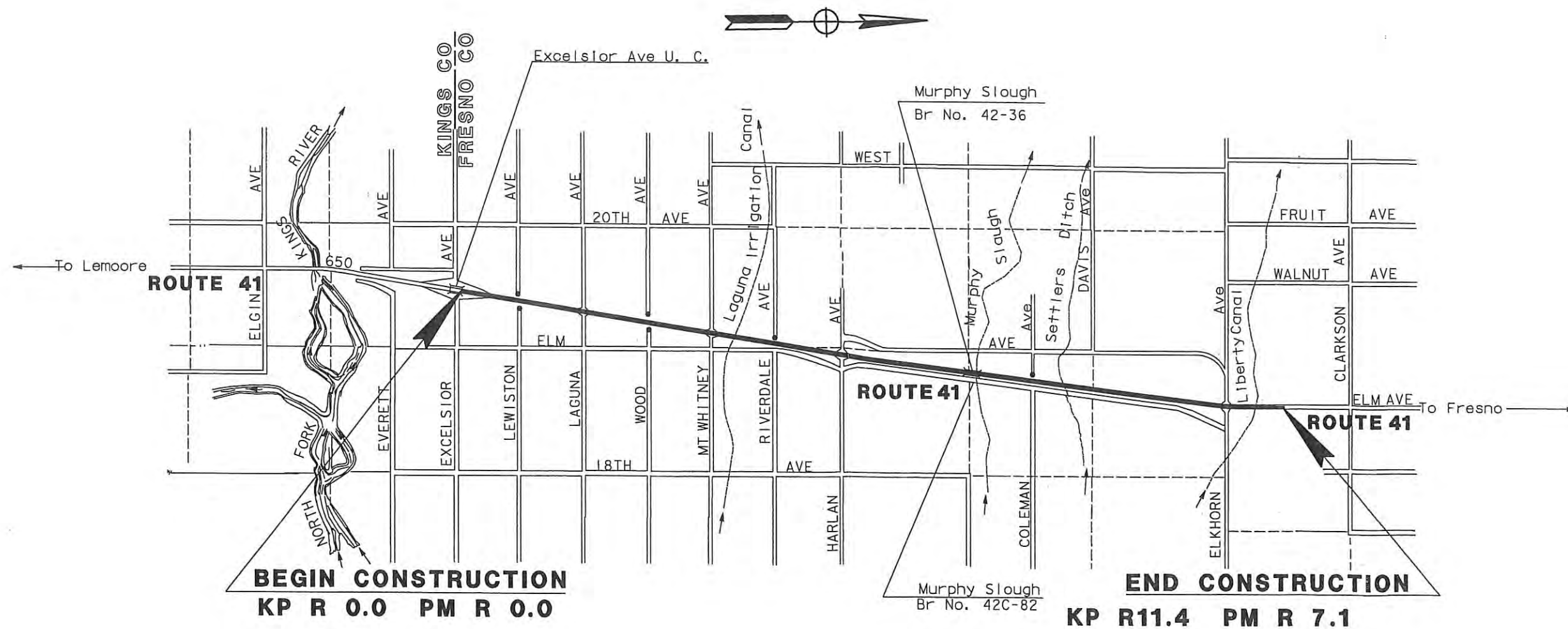
11. ATTACHMENTS

Attachment A	Location Map
Attachment B1	Typical Cross Section(Alternative 1)
Attachment B2	Typical Cross Section(Alternative 2)
Attachment C1	Project Preliminary Cost Estimate (Alternative 1)
Attachment C2	Project Preliminary Cost Estimate (Alternative 2)
Attachment D	Design Scoping Checklist
Attachment E	Environmental Scoping Checklist

Attachment F Traffic Scoping Checklist

Attachment G R/W Data Sheet

**PROPOSED PROJECT ON ROUTE 41
IN FRESNO COUNTY
FROM EXCELSIOR AVENUE
TO 1.3 km NORTH OF ELKHORN AVENUE**



LOCATION MAP

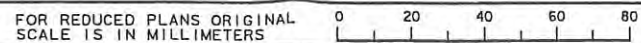
ATTACHMENT A

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



Caltrans
Metric

**TYPICAL CROSS SECTION
ALTERNATIVE 1
(WIDENING TO THE WEST)**



```

USERNAME => $USER
DGN FILE => $REQUEST

```

CU 00000

EA 44240K

ATTACHMENT B1

ALL DIMENSIONS ARE IN
METER UNLESS OTHERWISE SHOWN
NO SCALE

DATE PLOTTED => \$DATE
TIME PLOTTED => \$TIME

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Fre	41	0.0/11.4		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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

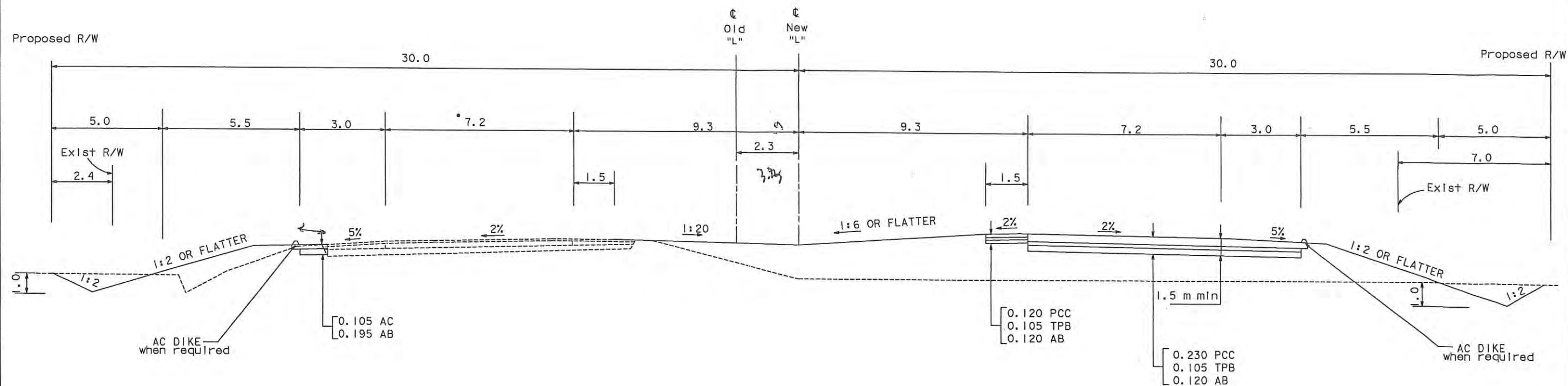


NOTES:

1. DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.

DESIGN DESIGNATION

2026 ADT	21,200
2026 DHV	2,500
D	53%
% TRUCK	8%
TI	12



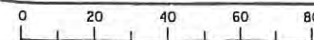
**TYPICAL CROSS SECTION
ALTERNATIVE 2
(Widening to both sides)**

- Existing traveled way is 7.3 m and will be restriped to 7.2 m

ATTACHMENT B-2

ALL DIMENSIONS ARE IN
METER UNLESS OTHERWISE SHOWN
NO SCALE

FOR REDUCED PLANS ORIGINAL
SCALE IS IN MILLIMETERS



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CU 06245

EA 4424OK

DATE PLOTTED => \$DATE	LAST REVISION
TIME PLOTTED => \$TIME	09-07-00

PRELIMINARY PROJECT COST ESTIMATE



Dist-Co-Rte 06-Fre-41
KP (PM) KP R0.0/R11.4 (PM R0.0/R7.1)
EA 06245-44240K
Program Code

Project Description:

Limits: In Fresno County
from Excelsior Avenue to 1.3 km north of Elkhorn Avenue

Proposed Upgrade two-lane expressway to four-lane expressway
Improvement (Scope):

Alternative: Alternative 1
Construct all new four lanes and purchase additional right of way along the western side of the route.

TOTAL ROADWAY ITEMS	\$ 27,738,909
TOTAL STRUCTURE ITEMS	\$ 2,000,000
SUBTOTAL CONSTRUCTION COSTS	\$ 29,738,909
TOTAL RIGHT OF WAY ITEMS	\$ 4,000,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ 33,738,909

Calc. By : Yi Pan, PE
Date: 11/28/00

Reviewed by _____
Program Manager (Signature) (Date)

Approved by _____
Project Manager (Signature) (Date)

PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte	06-Fre-41
KP (PM)	KP R0.0/R11.4 (PM R0.0/R7.1)
EA	06245-44240K

I. ROADWAY ITEMS

Section 1 Earthwork	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Roadway Excavation	70,000	m ³	\$ 10	\$ 700,000	
Imported Borrow	750,000	m ³	\$ 8	\$ 6,000,000	
Clearing & Grubbing	1	LS	\$ 80,000	\$ 80,000	
Shoulder backing					
Develop Water Supply	1	LS	\$ 30,000	\$ 30,000	
Total Earthwork					\$ 6,810,000

Section 2 Struc. Section	Quantity	Unit	Unit Price	Unit Cost	Section Cost
PCC Pavement (____Depth)	59,000	m ³	\$ 80	\$ 4,720,000	
Cold Plane			\$	\$	
Asphalt Concrete	10,800	tonnes	\$ 40	\$ 432,000	
Lean Concrete		m ³	\$	\$	
Cement-Treated Base			\$	\$	
Aggregate Base (Class 2)	35,000	m ³	\$ 25	\$ 875,000	
Treated Permeable Base	31,000	m ³	\$ 25	\$ 775,000	
Aggregate Subbase			\$	\$	
Permeable Material Blanket					
Edge Drains	1	LS	\$ 23,000	\$ 23,000	
Total Structural Items					\$ 6,825,000

Section 3 Drainage	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Drainage facilities			\$	\$	
Storm Drains	1	LS	\$ 225,000	\$ 225,000	
Pumping Plants			\$	\$	
Project Drain			\$	\$	
CMPS			\$	\$	
Open Channel			\$	\$	
Total Drainage					\$ 225,000

PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte	06-Fre-41
KP (PM)	KP R0.0/R11.4 (PM R0.0/R7.1)
EA	06245-44240K

Section 4 Specialty Items	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Unit Cost</u>	<u>Section Cost</u>
Concrete Barrier (Type 60)			\$	\$	
Double Thrie Beam Barrier			\$	\$	
Replace Utility Poles			\$	\$	
With Box Beams			\$	\$	
Extend Irrigation culvert	1	LS	\$ 10,400	\$ 10,400	
Landscaping			\$	\$	
Erosion Control	1	LS	\$ 8,000	\$ 8,000	
Slope Protection			\$	\$	
Approach and Guardrails			\$	\$	
Hazardous Waste Investigation					
Hazardous Waste Disposal	1	LS	\$ 1,050,000	\$ 1,050,000	
Temp Crash Cushion			\$	\$	
Improvements			\$	\$	
Remove Oleanders			\$	\$	
Oleander Replacement			\$	\$	
Cable Anchor Assembly			\$	\$	
Total Specialty Items					\$ 1,068,400

Section 5 Traffic Items	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Unit Cost</u>	<u>Section Cost</u>
Striping	1	LS	\$ 180,000	\$ 180,000	
Traffic Control System	1	LS	\$ 150,000	\$ 150,000	
Permanent Signing	1	LS	\$ 4,400	\$ 4,400	
Traffic Monitoring Station	1	EA	\$ 24,000	\$ 24,000	
Signal & Lighting	1	LS	\$ 130,000	\$ 130,000	
Maintain Traffic Flagging	1	LS	\$ 80,000	\$ 80,000	
Construction Signs	1	LS	\$ 5,500	\$ 5,500	
Portable CMS	1	LS	\$ 22,000	\$ 22,000	
Lighting	3	EA	\$ 12,500	\$ 37,500	
Total Traffic Items					\$ 633,400

SUBTOTAL SECTIONS 1 thru 5 \$ **15,561,800**

PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte 06-Fre-41
 KP (PM) KP R0.0/R11.4 (PM R0.0/R7.1)
 EA 06245-44240K

Section 6 Minor Items

	Item Cost	Section Cost
\$ 15,561,800	X 0.15	
(Subtotal Sections 1 thru 5)	Total Minor Items	\$ 2,334,270

Section 7 Roadway Mobilization

Subtotal Sections 1-5	\$ 15,561,800	
Minor Items	\$ 2,334,270	
Sum	\$ 17,896,070	
	X 0.10	
	Total Roadway Mobilization	\$ 1,789,607

Section 8 Roadway Additions

I. Supplemental

Subtotal Sections 1-5	\$ 15,561,800	
Minor Items	\$ 2,334,270	
Sum	\$ 17,896,070	
	X 0.10	\$ 1,789,607

II. Contingencies

Subtotal Sections 1-5	\$ 15,561,800	
Minor Items	\$ 2,334,270	
Sum	\$ 17,896,070	
	X 0.35	\$ 6,263,625
	Total Roadway Additions	\$ 8,053,232

TOTAL ROADWAY ITEMS \$ 27,738,909
 (Total of Sections 1-8)

PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte	06-Fre-41
KP (PM)	KP R0.0/R11.4 (PM R0.0/R7.1)
EA	06245-44240K

II. STRUCTURE ITEMS

	STRUCTURE		
	No. 1	No. 2	No. 3
Bridge Name	42-36 R	42-36L	
Structure Type	NEW	NEW	
Width m. (out to out)	13	13	
Span Lengths m.	43	43	
Total Area Sq. m.	559	559	
Footing Type (pile/spread)			
Cost Per Sq. Ft. (incl. 10% mobilization and 25% contingency)	1,500	1,500	
Total Cost for Structure	838,500	838,500	
Other			

SUBTOTAL STRUCTURES ITEMS \$ 1,677,000

Railroad Related Costs \$

TOTAL STRUCTURES ITEMS \$

PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte	06-Fre-41
KP (PM)	KP R0.0/R11.4 (PM R0.0/R7.1)
EA	06245-44240K

III. RIGHT OF WAY

	Current Values (Future Use)	Escalation Rates	Escalated Values*
Acquisition, including excess lands and damages to remainder(s)	\$ _____	% _____	\$ 3,000,000
Utility Relocation (State share)	\$ _____	% _____	\$ 1,000,000
Clearance/Demolition	\$ _____	% _____	\$ _____
RAP	\$ _____	% _____	\$ _____
Title and Escrow Fees	\$ _____	% _____	\$ _____
CONSTRUCTION CONTRACT WORK	\$ _____	% _____	\$ _____
TOTAL RIGHT OF WAY (CURRENT VALUE)**	\$ 0	TOT. R/W	\$ 4,000,000

* Escalated to assumed year of advertising of 2001.

** Current total value for use on Sheet 1 of 6

PRELIMINARY PROJECT COST ESTIMATE



Dist-Co-Rte 06-Fre-41
 KP (PM) KP R0.0/R11.4 (PM R0.0/R7.1)
 EA 06245-44240K
 Program Code

Project Description:

Limits: In Fresno County
 from Excelsior Avenue to 1.3 km north of Elkhorn Avenue

Proposed Improvement (Scope): Upgrade two-lane expressway to four-lane expressway

Alternative: Alternative 2
 Construct two northbound lanes and purchase additional right of way along west and east of the existing R/W.

TOTAL ROADWAY ITEMS	\$ 21,949,349
TOTAL STRUCTURE ITEMS	\$ 1,548,000
SUBTOTAL CONSTRUCTION COSTS	\$ 23,497,349
TOTAL RIGHT OF WAY ITEMS	\$ 7,131,000
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ 30,628,349

Calc. By: Yi Pan, PE
 Date: 11/28/00

Reviewed by	_____	_____
Program Manager	(Signature)	(Date)
Approved by	_____	_____
Project Manager	(Signature)	(Date)

Attachment C2

PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte	06-Fre-41
KP (PM)	KP R0.0/R11.4 (PM R0.0/R7.1)
EA	06245-44240K

I. ROADWAY ITEMS

Section 1 Earthwork

	Quantity	Unit	Unit Price	Unit Cost	Section Cost
Roadway Excavation	73,000	m ³	\$ 10	\$ 730,000	
Imported Borrow	510,000	m ³	\$ 8	\$ 4,080,000	
Clearing & Grubbing	1	LS	\$ 80,000	\$ 80,000	
Shoulder backing					
Develop Water Supply	1	LS	\$ 30,000	\$ 30,000	
				Total Earthwork	\$ 4,920,000

Section 2 Struc. Section

PCC Pavement (___Depth)	32,000	m ³	\$ 80	\$ 2,560,000	
Cold Plane			\$	\$	
Asphalt Concrete	38,000	tonnes	\$ 40	\$ 1,520,000	
Lean Concrete		m ³	\$	\$	
Cement-Treated Base			\$	\$	
Aggregate Base (Class 2)	41,000	m ³	\$ 25	\$ 1,025,000	
Treated Permeable Base	15,400	m ³	\$ 25	\$ 385,000	
Aggregate Subbase					
Permeable Material Blanket			\$	\$	
Edge Drains	1	LS	\$ 12,000	\$ 12,000	
			\$	\$	
				Total Structural Items	\$ 5,502,000

Section 3 Drainage

Drainage facilities			\$	\$	
Storm Drains	1	LS	\$ 202,000	\$ 202,000	
Pumping Plants			\$	\$	
Project Drain	1	LS	\$ 40,000	\$ 40,000	
CMPS			\$	\$	
Open Channel			\$	\$	
			\$	\$	
				Total Drainage	\$ 242,000

PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte	06-Fre-4I
KP (PM)	KP R0.0/R11.4 (PM R0.0/R7.1)
EA	06245-44240K

<u>Section 4 Specialty Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Unit Cost</u>	<u>Section Cost</u>
Concrete Barrier (Type 60)			\$	\$	
Double Thrie Beam Barrier			\$	\$	
Replace Utility Poles			\$	\$	
With Box Beams			\$	\$	
Extend irrigation culvert	1	LS	\$ 10,400	\$ 10,400	
Landscaping			\$	\$	
Erosion Control	1	LS	\$ 6,000	\$ 6,000	
Slope Protection			\$	\$	
Approach and Guardrails			\$	\$	
Hazardous Waste Investigation					
Hazardous Waste Disposal	1	LS	\$ 1,050,000	\$ 1,050,000	
Temp Crash Cushion			\$	\$	
Improvements			\$	\$	
Remove Oleanders			\$	\$	
Oleander Replacement			\$	\$	
Cable Anchor Assembly			\$	\$	
Total Specialty Items					\$ 1,066,400

<u>Section 5 Traffic Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Unit Cost</u>	<u>Section Cost</u>
Striping	1	LS	\$ 180,000	\$ 180,000	
Traffic Control System	1	LS	\$ 100,000	\$ 100,000	
Permanent Signing	1	LS	\$ 4,400	\$ 4,400	
Traffic Monitoring Station	1	EA	\$ 24,000	\$ 24,000	
Signal & Lighting	1	LS	\$ 130,000	\$ 130,000	
Maintain Traffic Flagging	1	LS	\$ 80,000	\$ 80,000	
Construction Signs	1	LS	\$ 5,500	\$ 5,500	
Portable CMS	1	LS	\$ 22,000	\$ 22,000	
Lighting	3	EA	\$ 12,500	\$ 37,500	
Total Traffic Items					\$ 583,400

SUBTOTAL SECTIONS 1 thru 5						\$ 12,313,800
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PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte	06-Fre-41
KP (PM)	KP R0.0/R11.4 (PM R0.0/R7.1)
EA	06245-44240K

Section 6 Minor Items

\$	<u>12,313,800</u>
(Subtotal Sections 1 thru 5)	

Item Cost	Section Cost
x15%	\$ <u>0.15</u>
Total Minor Items	\$ <u>1,847,070</u>

Section 7 Roadway Mobilization

Subtotal Sections 1-5	\$ <u>12,313,800</u>
Minor Items	\$ <u>1,847,070</u>
Sum	\$ <u>14,160,870</u>

x10%	\$ <u>0.10</u>
Total Roadway Mobilization	\$ <u>1,416,087</u>

Section 8 Roadway Additions

I. Supplemental

Subtotal Sections 1-5	\$ <u>12,313,800</u>
Minor Items	\$ <u>1,847,070</u>
Sum	\$ <u>14,160,870</u>

x10%	\$ <u>0.10</u>	\$ <u>1,416,087</u>
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II. Contingencies

Subtotal Sections 1-5	\$ <u>12,313,800</u>
Minor Items	\$ <u>1,847,070</u>
Sum	\$ <u>14,160,870</u>

0.35	\$ <u>4,956,305</u>
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Total Roadway Additions	\$ <u>6,372,392</u>
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TOTAL ROADWAY ITEMS	\$ <u>21,949,349</u>
(Total of Sections 1-8)	

PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte	06-Fre-41
KP (PM)	KP R0.0/R11.4 (PM R0.0/R7.1)
EA	06245-44240K

II. STRUCTURE ITEMS

	No. 1	No. 2	No. 3
Bridge Name	42-36 R	42C-82	
Structure Type	NEW	NEW	
Width m. (out to out)	13	11	
Span Lengths m.	43	43	
Total Area Sq. m.	559	473	
Footing Type (pile/spread)			
Cost Per Sq. m. (incl. 10% mobilization and 25% contingency)	1,500	1,500	
Total Cost for Structure	838,500	709,500	
Other			

SUBTOTAL STRUCTURES ITEMS \$ 1,548,000

Railroad Related Costs \$

TOTAL STRUCTURES ITEMS \$

PRELIMINARY PROJECT COST ESTIMATE

Dist-Co-Rte	06-Fre-41
KP (PM)	KP R0.0/R11.4 (PM R0.0/R7.1)
EA	06245-44240K

III. RIGHT OF WAY

	Current Values (Future Use)	Escalation Rates	Escalated Values*
Acquisition, including excess lands and damages to remainder(s)	\$ 2,000,000	6.00%	\$ 2,675,000
Utility Relocation (State share)	\$ 3,000,000	6.00%	\$ 4,000,000
Relocation Assistance	\$ 130,000	6.00%	\$ 175,000
Clearance/Demolition	\$ 100,000	6.00%	\$ 134,000
Title and Escrow Fees	\$ 110,000	6.00%	\$ 147,000
CONSTRUCTION CONTRACT WORK	\$	-	\$
 TOTAL RIGHT OF WAY (CURRENT VALUE)**	 \$ 5,340,000	 TOT. R/W	 \$ 7,131,000

* Escalated to assumed year of advertising of 2001.

** Current total value for use on Sheet 1 of 6



Design Scoping Checklist

Project Information

District 6 County Fresno Route 41 Kilometer Post (Post Mile) KP R0.0/R11.4 (PM R0.0/R7.1).

EA 44240K

Description From the Kings Co. Line (Excelsior Avenue) to north of Elkhorn Avenue, upgrade an existing two-lane expressway to a four-lane expressway.

Project Manager Jim Bane Phone # (559) 243-3469

Project Engineer Annie Pan Phone # (559) 243-3586

Design Functional Manager Thanh Nguyen Phone # (559) 243-3813

Project Development Coordinator Ken Cozad Phone # (916) 653-0971

Design Scoping

This project is proposed to upgrade the existing Route 41 between the Kings County line (Excelsior Avenue) and 1.3 km north of Elkhorn Avenue from a two-lane expressway to a four-lane expressway facility.

Attachment D

Project Screening

See attachment of the project location map.

1. Project Description as Noted in Regional Transportation Plan:

2. Project Setting

Rural or Urban Rural

Current land uses Agricultural

Adjacent land uses Agricultural
(industrial, light industry, commercial, agricultural, residential, etc.)

Existing landscaping/planting

Description of the Transportation Problem

The exist two-lane facility is currently operating at LOS "D". The level of service would deteriorate to "F" prior to the year 2026 (design year) if the facility is not upgraded from two-lane to four-lane expressway.

Proposed Scope of Work

Upgrade the segment from an existing two-lane expressway to a four-lane expressway facility on Route 41 between 0.2 Km north of the Kings County line (Excelsior Avenue) and 1.3 km north of Elkhorn Avenue.

Design Criteria

Design Speed for highway facilities within the project limit?

Freeway 110 km/h

Highway _____

Local Street 55 km/h

Design Period: Construction year is 2006 Design year is 2026

Design Capacity: Level of Service to be maintained over the design period is?

Mainline C

Ramp N/A

Local Street C

Weaving Sections N/A

Design Vehicle Selection?

STAA X

California _____

Bus _____

Proposed Roadbed and Structure Widths

Forecasted Average Daily Traffic Volumes _____

	Roadbed Width		Structure Width	
	Proposed	Standard	Proposed	Standard
State highway				
Lane Widths	<u>3.6</u>	<u>3.6</u>	<u>3.6</u>	<u>3.6</u>
Left Shoulder	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>
Right Shoulder	<u>3.0</u>	<u>3.0</u>	<u>3.0</u>	<u>3.0</u>
Median Width	<u>18.6</u>	<u>18.6</u>	<u>18.6</u>	<u>18.6</u>
Bicycle Lane	_____	_____	_____	_____
Local Street				
Lane Widths	<u>3.6</u>	_____	_____	_____
Left Shoulder	_____	_____	_____	_____
Right Shoulder	<u>0.6</u>	_____	_____	_____
Median Width	<u>0</u>	_____	_____	_____
Bicycle Lane	_____	_____	_____	_____

Roadway Design Scoping

Mainline Operations

Mainline Highway Widening

Existing pavement to be rehabilitated with _____ mm overlay.

Widen existing 2 lane facility to 4 lanes. R/W acquisition for 6 lanes.

Local street structures to span N/A lanes of highway (for future requirements).

Upgrade existing facility to:

☒ Expressway Standards

☐ Controlled Access Conventional Highway

☐ Freeway Standards

☐ Vertical Clearance Deficiencies ☐ Adequate Falsework Clearance

Ramp / Street Intersection Improvements

☐ New Signals

☒ Modify Signals

☒ Right Turn Lanes

☐ Widening For Localized Through Lanes

☐ Merging Lanes

☐ Deceleration / Acceleration Lanes

☒ Left Turn Lanes

☐ > 300 Left Turn Vph (Requires Double Left Turn)

☐ Interchange Spacing

☐ Ramps Intersect Local Street < 4 % Grade

☐ Intersection Spacing

☐ Single Lane Ramps Exceeding 300 M Widened To Two Lanes

☐ Exit Ramps > 1,500 Vph Designed As Two Lane Exit

☐ Other _____

Operational Improvements

Truck Climbing Lane

☐ Sustained Grade Exceeding 2% And Total Rise Exceeds 15 M.

Auxiliary Lanes

☐ When , 600 M Between Successive On-Ramps.

☐ Two Lane Exit Ramps Have 400 M Auxiliary Lane.

☐ Weaving < 500 M between Off-Ramp and On-Ramp.

☐ Other _____

Right of Way Access Control

☐ Existing access control extends at least 15 m beyond end of curb return, radius or taper.

☒ New construction access control extends at least 30 m (urban areas) or 100 m (rural areas) beyond end of curb returns, radius or taper.

☐ Other _____

Roadside Design Scoping

Highway Planting

- ☐ Replacement
- ☐ Median
- ☒ Mitigation

Safety

- ☐ Off-Freeway Access
- ☐ Maintenance Vehicle Pull-Out

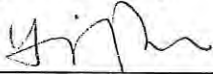
Roadside Management

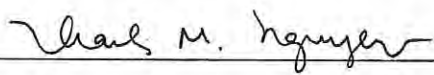
- ☐ Slope paving
- ☐ Gore paving
- ☐ Roadside paving

Stormwater

- ☒ Erosion control
- ☒ Drainage
- ☐ Slope design

Preliminary Evaluation provided by:

Project Engineer  Date 11/28/00

Design Manager  Date 11/28/00

Design Concept approved by:

Project Development Coordinator  Date 1-2-01

Reviewed by:

Project Manager  For Jim Bane Date 11/28/00

Roadside Design Scoping

Highway Planting

- ☐ Replacement
- ☐ Median
- ☒ Mitigation

Safety

- ☐ Off-Freeway Access
- ☐ Maintenance Vehicle Pull-Out

Roadside Management

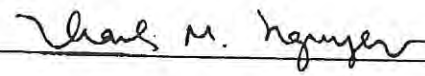
- ☐ Slope paving
- ☐ Gore paving
- ☐ Roadside paving

Stormwater

- ☒ Erosion control
- ☒ Drainage
- ☐ Slope design

Preliminary Evaluation provided by:

Project Engineer  Date 11/28/00

Design Manager  Date 11/28/00

Design Concept approved by:

Project Development Coordinator  Date 1-2-01

Reviewed by:

Project Manager  Date 11/28/00
Jim Bane



Environmental Scoping Checklist (STIP)

Project Information

District 06 County FRE Route 41 KP (PM) 0.0/11.4 (0.0/7.1) EA 06-44240K

Description: This project proposes to upgrade the existing State Route 41 from a 2-lane expressway to a 4-lane expressway. The upgrade would take place between Excelsior Avenue to 1.3 km north of Elkhorn Avenue. There are two alternatives for this project.

Alternative 1: Build new expressway with 18.6 m median two feet above original expressway. Keep the existing right of way and add 9.4 m to the west of the alignment.

Alternative 2: Build new expressway with 18.6 m median two feet above the original expressway. Keep the existing Centerline and add 4.7 m of right of way to both west and east of the alignment.

Purpose and Need: To increase traffic capacity, improve traffic operation and safety, and maintain route consistency.

Project Manager Jim Bane Phone # (559) 243-3469

Project Engineer Than Nguyen Phone # (559) 243-3813

Environmental Functional Manager Christine Cox Phone # (559) 243-8151

Environmental Scoping

The anticipated environmental document for the proposed project would be an Initial Study/Environmental Assessment (IS/EA) with an anticipated Negative Declaration/Finding Of No Significant Impact (ND/FONSI). The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) would act as lead agencies in the preparation of a joint California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) environmental document. The final environmental determination would be projected to occur within 45 months from the start of environmental studies. Assuming a start date of October 1, 2001, the Environmental Document would be completed by July 1, 2005.

Attachment E

Methodology and Findings:

Central Region environmental specialists completed technical studies. These studies included windshield surveys, literature searches, computer database searches and field surveys. The environmental study area was based upon mapping provided by the design engineer. **Any change in these assumptions, or in the scope of the project, would require additional studies.**

Impacts

BIOLOGICAL ISSUES:

The California Natural Diversity Database (CNDDB) and the California Native Plant Society Electronic Inventory (CNPSEI) were searched to locate recorded element occurrences (EO) for special-status species in areas within, or proximal to, the proposed project area. A preliminary biological field survey was conducted on May 4, 2000 to identify potential impacts. The following list summarizes the proposed project's potential impact to sensitive biological resources and the agencies that would be involved in the permitting process.

WETLANDS: Wetlands may occur within the project area along the banks of Murphy Slough. Wetlands may also be present within the proposed right of way (i.e., vernal pools). Wetland delineation is required to determine if wetlands are present. If impacts to wetlands are unavoidable, minimization or mitigation would need to meet the requirements established by U.S. Army Corps of Engineers (in the form of habitat replacement).

OAKS: Oaks occur within the project's right of way. Senate Concurrent Resolution No. 17 (SCR #17) may be applicable if oaks are adversely impacted by proposed project activities. If avoidance is not feasible, impacts to oaks may require replacement plantings in coordination with jurisdictional agencies. If oaks would be removed as a result of this proposed project, further impact studies would be necessary. Mitigation for Heritage Oaks is set at 10:1 at a cost of \$250 per tree. Mitigation for all other trees is 4:1 at a cost of \$250 per tree.

ELDERBERRIES: Elderberries were observed within the right of way. Biological surveys should be conducted within the study limits to provide an updated and accurate inventory of elderberries and to determine if they are hosts for the federally threatened Valley Elderberry Longhorn Beetle. Mitigation costs for elderberries may reach \$2000 per stem greater than 1-inch in diameter at ground level.

NESTING BIRDS: Trees within or adjacent to the proposed project area could provide suitable nesting or roosting habitat for raptors and other migratory birds. Shrubs, trees, and structures in or adjacent to the right of way should be inspected for nests prior to disturbance and/or removal. Furthermore, it is recommended that the migratory bird special provisions (Attachment D) be included in the Contract Special Provisions. Swallows currently utilize the underside of Murphy Bridge for nesting. It is

recommended that measures be taken prior to construction activities to avoid impact to this species.

SWAINSON'S HAWK: The Swainson's Hawk, as well as its habitat and foraging areas occurs within/near the proposed project area. Pre-construction surveys are recommended to avoid potential impacts to this species.

BATS: Federal and state laws protect bats. Bats may occur in the project area, especially under the Murphy Slough Bridge. Biological surveys would need to be performed to determine the presence of bats and, if they were present, avoidance measures would need to be implemented during construction.

BURROWING OWLS: Although the CNBBD does not show element occurrences (EO) for burrowing owls to occur within the proposed project footprint, habitat and foraging areas do exist within the project right of way. The burrowing owl is a federal species of concern. Pre-construction surveys are recommended to avoid potential impacts to this species.

REPTILES/AMPHIBIANS: Although the CNDDDB does not show EOs for reptiles and amphibians to occur within the proposed project footprint, it is recommended that wet-season surveys be performed for vernal pools to confirm amphibian absence. Furthermore, the Murphy Slough Association utilizes Murphy Slough for irrigation water and it is recommended that the banks of the slough be surveyed during wet periods for sensitive reptiles and amphibians.

OTHER SPECIAL STATUS ANIMALS AND PLANTS: Table 1 summarizes the element occurrences for sensitive plant and animal species that demonstrate the potential to be impacted by proposed project construction activities. The list includes only those species documented in the CNDDDB and/or CNPSEI (Attachment E). The list is not necessarily comprehensive, additional species may be added as new biological data are submitted to the jurisdictional agencies. The timing of field surveys would vary according to season and project changes.

Permits Needed:

<u>Permit Name</u>	<u>Issuing Agency</u>
1601	California Department of Fish and Game
401	Regional Water Quality Control Board
404 (Nationwide)	US Army Corps of Engineers

Permit Costs **\$5000**

Comments: Proposed construction activities are likely to impact Murphy Slough and may require consultation with the Army Corps of Engineers and the California Department of Fish and Game (CDFG) for required permits. Under the Fish and Game Code, 1601 Agreement, Caltrans is required to notify the Department of Fish and Game

when work would divert, obstruct or change the natural flow, bed, channel or bank of any river, stream or lake. 404 and 401 permits are necessary for work in stream channels and canals.

VISUAL IMPACTS:

A Visual Impact Assessment would be required for this project. Any oaks or elderberries removed or disturbed would require mitigation. Replacement planting rates and sizes would be determined by the District Landscape Architect. This would include preservation of the natural environment, scenic resource determination, location, alignment, and profile of the highway and contour grading and slope treatment.

CULTURAL RESOURCES:

Resources employed to prepare this scope of work included a record search of Caltrans cultural resources, Southern San Joaquin Valley Information Center (Record Search #00-204 results had negative findings), engineering maps depicting existing and proposed roadway, parcel boundaries, structure outlines and the Caruthers and Riverdale 7.5' USGS Quadrangles.

Although two Caltrans surveys covering 3.7 miles of the project's limits have been conducted with negative findings, it has been 10 years since the last investigation. Therefore, the entire Area of Potential Effects (APE) and right of way, especially the area around Murphy Slough, should receive a Phase I archaeological survey and completion of an Archaeological Survey Report (ASR) (negative or positive).

It is anticipated that extended Phase I may be undertaken to determine a site's potential for further study or its non-eligibility. An extended Phase I may also determine if a potentially eligible site extends into the Area of Potential Effects or if enough subsurface remains are present to warrant a Phase II excavation. If a site within the APE cannot be determined eligible or ineligible on background study and surface observation alone, and an extended Phase I suggests the site may be eligible for the NRHP, then a Phase II excavation is undertaken to determine site integrity and research potential. If the site were prehistoric, the Caltrans Native American coordinator would consult with a Native American representative.

An architectural historian should visit each building and structure (e.g. homes, business, bridges) impacted by the proposed right of way. Although a Historic Architectural Survey Report (HASR) should be prepared, the likelihood of eligible resources is considered low for the proposed project. The Murphy Slough Bridge (#42 0036) at PM 3.94 was built in 1964 and therefore remains not eligible for the National Register of Historic Places (NRHP).

Historic sites or non-archaeological historical resources (e.g., canal) may require a Historic Study Report (HSR) or Historic Resource Evaluation Report (HRER) to determine the site's eligibility to the NRHP. However, the probability is low in the present project for discovering eligible historical non-archaeological resources.

After preparation of the above listed documents, A Historic Property Survey Report (HPSR) would be required to obtain concurrence on A finding of No Effect, a Finding of No Adverse Effect (FNAE), or a Finding of Adverse Effect (FAE) for the project. Any finding must be prepared and processed for concurrence by FHWA and State Historic Preservation Officer (SHPO). For a Finding of Adverse Effect, a Memorandum of Agreement must also be prepared with the finding.

Completion of cultural resources compliance may require up to 44 months from the initiation of full studies. However, it is anticipated studies for this project will range from 18 to 24 months. If significant cultural resources are unearthed through surveys additional time and mitigation costs may be required.

HAZARDOUS WASTE:

The Central California Environmental Technical Branch (CCETB) has reviewed the Regional Water Quality Control Board's "Leaking Underground Storage Tank Information System (LUSTIS), VISTA Information Solutions, Inc. database search and Fresno County's "Hazardous Waste Division files. In addition, a field inspection of the project area was conducted on April 26, 2000. As a result of these activities, CCETB has concluded that there is a significant potential for hazardous waste/material within the proposed project limits.

The Central California Environmental Technical Branch has determined that the following properties will require further investigation:

- *Myers Ward Tractors Equipment, 131 W. Riverdale Avenue*
- *Electrical Substation located on the northeast corner of Harlen Avenue*
- *Diesel Pump and above ground fertilizer tanks located on the northwest corner of Harlen Avenue*
- *Bill J. Gallium (farm equipment storage yard), 255 Highway 41 (Elm Avenue)*
- *PM 5.0 farm equipment storage yard and above ground storage tanks*
- *PM 5.5 diesel pump and above ground fertilizer tanks*

The Central California Environmental Technical Branch has determined a study of aerially deposited lead in soil adjacent to SR 41 in Fresno County within the post miles of the project would be needed. The result of this investigation would indicate if aerially deposited lead in soil within the project limits exceeds the regulatory standard threshold outlined in the Title 22, California Code of Regulations (CCR).

Soil found to exceed the regulatory threshold may be classified as hazardous waste and may be required to be disposed at a permitted hazardous waste landfill. Other soil would be managed at the project location according to the conditions of a variance issued by the Department of Toxic Substances Control. If the aerially deposited lead in soil is non-hazardous (below regulatory standard threshold) it may be managed with no restrictions.

AIR QUALITY:

The project area is located in the San Joaquin Valley Air Basin. According to Federal standards, this is in a nonattainment area for particulate matter (PM 10) and attainment area for carbon monoxide (CO). Under State standards, it is in an attainment area for carbon monoxide (CO), and a nonattainment area for ozone and for particulate matter (PM10). This project is not exempt for conformity under 40 CFR 93.126, 40 CFR 93.127 and 40 CFR 93.128.

Under NEPA/CEQA requirements, a project level analysis for conformity is required. This conformity includes a quantitative and qualitative analysis of carbon monoxide (CO) and a qualitative analysis for particulate matter (PM10). In addition, the proposed project would need to be included in the approved Fresno County Regional Transportation Plan and Transportation Improvement Program (Federal and Regional) in order to conform with the State Implementation Plan as required by the 1990 Federal Clean Air Act.

An air quality study would be required for the completion of the environmental document.

NOISE IMPACTS:

There are several receptors located within the project limits. These receptors have the potential to be impacted by the project. This project is defined as Type I under Federal Highway Administration (FHWA) National Environmental Policy Act (NEPA) regulations (23 CFR 772). Caltrans extends the Type I definition in 23 CFR 772 to State highway projects without Federal funding. A traffic noise analysis would need to be completed for this project.

WATER QUALITY:

Since more than 2 hectares (5 acres) of land will be disturbed, coverage under the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) permit is necessary. A "Notification of Construction" must be submitted to the Regional Water Quality Control Board at least 30 days prior to start of construction. The tentative start date, tentative duration, location of construction, description of project, an estimate of the number of affected areas, resident engineer in charge of the project, and the telephone number of the resident engineer shall be reported. A "Notice of Completion" must be submitted to the Regional Water Quality Control Board at the end of construction and stabilization of the site. Any permits or reviews required from various agencies (Department of Fish and Game, Federal Bureau of Reclamation, Department of Water Resources, U.S. Fish and Wildlife Service and Fresno County) need to be resolved prior to construction.

Potential impacts such as erosion, litter, site-generated wastes, and accidental spills of hazardous materials and disruption of natural drainage patterns must also be addressed in both the design and construction phases of the project. At the design phase, plans must be made to insure that there would not be direct discharges into any bodies of water. During the construction phase, the contractor has the responsibility, as stated in the Caltrans Standard Specifications, section 7-1.01G, to take steps to eliminate potential

impacts during construction of the job. Water quality would not be adversely affected if adequate measures and precautions were taken for this project.

Fresno County is an area that has been designated as a sole source aquifer. Under Section 1424(e) of the Safe Drinking Water Act, once an area has been designated as a sole aquifer, the Environmental Protection Agency (EPA) must review Federally funded projects in the area for which an EIS (Environmental Impact Statement) is prepared for effect on the aquifer. Flood control and water or irrigation districts in the area, and the EPA should be consulted as part of the environmental document review process.

FLOODPLAIN IMPACTS:

The potential effects of the additional lanes on floodplains and drainage need to be addressed. The studies required by 23 CFR 650 Subpart A would identify and evaluate longitudinal/transverse encroachments of project alternatives on flood plains, include a summary of the "Location Hydraulic Study" and reflect the coordination with the Federal Emergency Management Agency (FEMA) and the appropriate State and local government agencies for each floodway encroachment. In addition, a discussion of the consistency of the project with the Regulatory floodway and the practicable alternatives if there is a significant encroachment would also be included.

RIGHT OF WAY:

Although additional right of way acquisition is not anticipated for this project, utilities are located within the proposed project limits. In addition, the project would impact Murphy Slough. Coordination with utility companies and water/flood control district(s) would be necessary.

FARMLAND:

Conversion of farmland would be required within the existing right of way. This area is currently used for agricultural activities such as cotton and grains. Coordination with the Fresno area office of the Natural Resources Conservation Service would be necessary to evaluate project impacts under the Farmland Protection Policy Act. Additional studies would be required to ensure the County's minimum acreage requirement for the agricultural preserve and Williamson Act contract program are maintained.

COMMUNITY IMPACTS:

The proposed project would impact business and residential properties in and around the project limits. A Community Impact Assessment would be required to evaluate the impacts caused by the proposed project. The Community Impact Assessment would examine community cohesion, relocation impacts to residences, farmland impacts, economic impacts, and the area of environmental justice. Mitigation measures would be required to reduce the magnitude of any significant impacts.

CUMULATIVE EFFECTS:

Cumulative effects are those that are produced by the aggregation of individual environmental impacts resulting from either the accumulation of impacts from a single project or from several projects in conjunction. While physical, biological, social and economic impacts of the proposed improvements taken individually may not be significant, in concert, they may be. Due to the number of projects currently under study or construction in the Fre-41 Corridor and in the area of potential impacts for the project, the proposed project would require study to characterize cumulative impacts.

Anticipated Environmental Approval**CEQA**

- ☐ Categorical/Statutory Exemption
☒ Negative Declaration
☐ Environmental Impact Report

NEPA

- ☐ Categorical Exclusion
☒ Finding of No Significant Impact
☐ Environmental Impact Statement

Why? Community and business impacts, hazardous waste issues and biological and cultural resources which may be mitigated or remediated below a level of significance.

Project Screening

- Project Features: New R/W? _____ Excavation? ☒ Railroad Involvement? _____
 Structure demolition/modification? ☒ Subsurface utility relocation ☒
- Project Setting: The proposed project is located in a rural setting.
 Current land uses: Agricultural, Commercial
 Adjacent land uses: Agricultural, Commercial, Residential
 (industrial, light industry, commercial, agricultural, residential, etc.)
 Existing landscaping/planting: Native plants and grasses

Cultural Resources Screening

- Check Federal, state, and local environmental records and databases as necessary, to see if any known cultural resources site is in or near the project area.
- Conduct Field Inspection. Date: 5/1/00
- Other comments and/or observations: Since most of the area has been unsurveyed, more studies will be required for the more extensive APE of this project.

Hazardous Waste Screening

Is the project on the Hazardous Waste Study Minimal-Risk Projects List (HW1)? NO

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

2. Conduct Field Inspection. Date 4/26/2000

STORAGE STRUCTURES / PIPELINES:

Underground tanks ✓ Surface tanks ✓
 Sumps _____ Ponds _____
 Drums ✓ Basins _____
 Transformers ✓ Landfill _____
 Other Wrecking Yards/Farm Equipment Repair Shop.

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

Surface staining ✓ Oil sheen ✓
 Odors _____ Vegetation damage _____
 Aerial lead ✓ Other _____

HAZARDOUS MATERIALS: (asbestos, lead, etc.)

Structures ✓ Spray-on fireproofing _____
 Pipe wrap/Asbestos Cement Pipe _____ Friable tile _____
 Yellow thermoplastic paint _____ Serpentine _____
 Lead paint _____ Other Bridges may contain asbestos

3. Additional record search, as necessary, of subsequent land uses that could have resulted in a hazardous waste site. Use the attached map to show the location of potential hazardous waste

4. Other comments and/or observations: The Central California Environmental Technical Branch has reviewed the Regional Water Quality Control Board's Leaking Underground Storage Tank Information System (LUSTIS), VISTA Information Solutions, Inc., database search, Fresno County's Hazardous Waste Division files and conducted thorough field inspections. Based upon these activities, the Central California Environmental Technical Branch has concluded that there are major hazardous waste concerns associated with the SR 41.

Determination: Does the project have potential hazardous waste involvement? Yes If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Preliminary Site Investigation? Yes If "YES," then give an estimate of additional time required: It is estimated that it will require approximately nine (9) months to investigate hazardous waste issues associated with the SR 41 in Fresno County.

Biological Resources Screening

3. Other comments and/or observations: See Attached Table 1 – Special Status Species

Environmental Technical Reports or Studies Required/Anticipated

Cultural			
ASR	✓	☐	☐
HSR	✓	☐	☐
HASR	✓	☐	☐
HPSR	✓	☐	☐
Section 106 / SHPO	✓	☐	☐
Section 4(f) Evaluation	☐	☐	✓
Other			
<u>HRER</u>	☐	☐	✓

	Study/ Report	Document Text Only	Not Anticipated
Hazardous Waste			
ISA (Additional)	✓	☐	☐
PSI	✓	☐	☐
Other	☐	☐	☐
	☐	☐	☐

Biological

Endangered/Threatened Species (Federal)	✓	☐	☐
Endangered/Threatened Species (State)	✓	☐	☐
Biological Opinion / USFWS	✓	☐	☐
Wetlands	✓	☐	☐
401 Permit Coordination	✓	☐	☐
404 Permit Coordination	✓	☐	☐
1601 Permit Coordination	✓	☐	☐
NPDES Coordination	✓	☐	☐
Natural Environment Study	✓	☐	☐
Biological Assessment	✓	☐	☐
NEPA 404 Coordination	✓	☐	☐
Other			
_____	☐	☐	☐
_____	☐	☐	☐

Anticipated Project Mitigation

Hazardous waste remediation is estimated at \$750,000

Cultural Resources mitigation is estimated at \$150,000

Biological mitigation is estimated at \$150,000

Estimate of Total Project Mitigation Costs Are: \$1,050,000

Hazardous Waste Scoping by Ahmad Kashkoli Date 5/10/00

Biological Scoping by Geoffrey Gray Date 5/8/00

Cultural Scoping by Bill Ray Date 5/15/00

Air, Noise, and Water Scoping by Abdul Chafi Date 4/26/00

Environmental Checklist by Scott Shelley Date 11/20/00

Reviewed by Christine Cox Date 11/20/00
Vickie Traylor acting for
Environmental Planning Office Chief

Table 1. Special-status Species List as per CNDDB and CNPSEI

Scientific Name	Common Name	Status	Quad(s)		
BIRDS					
<i>Buteo swainsoni</i> (nesting)	Swainson's Hawk	ST	Riverdale		
REPTILES					
None		NA	NA	NA	NA
AMPHIBIANS					
None		NA	NA	NA	NA
PLANTS					
<i>Lepidium jaredii</i> ssp. <i>album</i>	Panoche Pepper-grass	FSC, 1B	Riverdale		
<i>Atriplex depressa</i>	Brittlescale	1B	Laton		
MAMMALS					
<i>Vulpes macrotis</i> ssp. <i>mutica</i>	San Joaquin Kit Fox	FE, ST	Laton	Riverdale	Conejo
INSECTS					
<i>Desmocerus californicus dimorphus</i>	Valley Elderberry Longhorn Beetle	FT	Riverdale		

ABBREVIATIONS

CNPS

1A	Presumed extinct in California
1B	Rare or endangered in California and elsewhere
2	Rare or endangered in California, more common elsewhere
3	Plants for which we need more information - Review list
4	Plants of limited distribution - Watch list

STATE

SCT	State Candidate for listing as Threatened
SCE	State Candidate for listing as Endangered
ST	State-listed as Threatened
SE	State-listed as Endangered

FEDERAL

FSC	Federal Special Concern species
FC	Federal Candidate species (former Category 1 candidates)
FPD	Federally Proposed for Delisting
FPT	Federally Proposed for listing as Threatened
FPE	Federally Proposed for listing as Endangered
FT	Federally listed as Threatened
FE	Federally listed as Endangered

Attachment D

Migratory Bird Special Provision

Migratory Bird Special Provision

It is anticipated that migratory birds may try to nest in vegetation or on structures within Caltrans' right-of-way or easement. If any work will alter vegetation or structures, within Caltrans' right-of-way or easement, the Contractor shall take measures as necessary to prevent impacts to migratory birds, including any part, nest, or egg or any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, or any such bird or any part, nest, or egg thereof. Federal and State laws protect migratory birds, their occupied nests, and their eggs from destruction. The applicable Federal law is the Migratory Bird Treaty Act (15 USC 703-711), 50 CFR Part 21, and 50 CFR Part 10. Protection under California Law is found in the Fish Game Code Sections 3503, 3513, and 3800. Any persons responsible for violating these laws may be arrested by a representative of the Department of the Interior (U.S. Fish and Wildlife Service) or a California Department of Fish and Game warden. Any person found guilty shall be fined up to \$10,000 or serve a six month imprisonment, or both.

No extension of time nor compensation will be granted for a suspension of work due to nesting migratory birds.

Full compensation for preventing nesting and for conforming to the requirements in these special provisions shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

Attachment E

CNDDDB and CNPSEI Database Search Results

Selected E/ Scientific Name

Scientific Name	Common Name	Federal Status	State Status	Site Date	UT UTM N	UTM E	Quads	Counties
ATRIPLEX DEPRESSA	BRITTLESCALE	None	None	XXXX-XX-XX 11	4035379	259057	LATON	FRESNO (FRE) KINGS (KNG)
BUTEO SWAINSONI (NESTING)	SWAINSON'S HAWK	None	Threatened	1979-07-30 11	4032381	249678	RIVERDALE	FRESNO (FRE)
				1979-07-30 11	4034387	247517	RIVERDALE	FRESNO (FRE)
DESMOCERUS CALIFORNICUS DIMORPHIUS	VALLEY ELDERBERRY LONGHORN BEETLE	Threatened	None	1991-07-09 11	4031962	253240	RIVERDALE	FRESNO (FRE)
LEPIDIUM JAREDII SSP ALBUM	PANOCHE PEPPER-GRASS	Species of Concern	None	1893-05-XX 11	4035482	243605	RIVERDALE	FRESNO (FRE)
VULPES MACROTIS MUTICA	SAN JOAQUIN KIT FOX	Endangered	Threatened	1998-08-24 11	3951055	289081	PASTORIA CREEK, GRAPEVINE, TEJON RANCH, TEJON HILLS, METTLER, BEAR MOUNTAIN, ARVIN, WEED PATCH, BENA, EDISON, LAMONT, COAL OIL CANYON, CONNER SW, PENTLAND, MARICOPA, CONNER, MILLUX, MOUTH OF KERN, TAFT, GOSFORD, STEVENS, TUPMAN, EAST ELK HILLS, WEST ELK HILLS, OILDALE, ROSEDALE, RIO BRAVO, BUTTONWILLOW, LOKERN, BELRIDGE, FAMOSO, WASCO, WASCO SW, SEMITROPIC, LAST HILLS, MCFARLAND, POND, WASCO NW, LAST HILLS NE, LAST HILLS NW, ANTELOPE PLAIN, DELANO EAST, DELANO WEST, ALLENSWORTH, HACIENDA RANCH, LONE TREE WELL, WEST CAMP, AVENAL GAP, PIXLEY, ALPAUGH, HACIENDA RANCH NE, DUDLEY RIDGE, LOS VIEJOS, TIPTON, TAYLOR WEIR, CORCORAN, EL RICO RANCH, KETTLEMAN CITY, TULARE, PAIGE, WAUKEHA, GUERNSEY, STRATFORD, GOSHEN, REMNOY, HANFORD, LEMOORE, TRAVER, BURRIS PARK, LATON	KINGS (KNG) KERN (KRN) TULARE (TUL)

fresno - 41

Selected by Scientific Name

Scientific Name	Common Name	Federal Status	State Status	Site Date	UT	UTM N	UTM E	Quads	Counties
VULPES MACROTIS MUTICA (cont.)									
				1982-XX-XX 11	4026275	235773		LEMOORE, VANGUARD, RIVERDALE, BURREL, CALFLAX, FIVE POINTS	FRESNO (FRE) KINGS (KNG)
				1975-XX-XX 11	4038248	256412		LATON, RIVERDALE, CONEJO	FRESNO (FRE) KINGS (KNG)

California Native Plant Society's
Inventory of Rare and Endangered Vascular Plants of California

Selected CNPS Plants by Scientific Name

Scientific/Common Name	CNPS	R-E-D	State	Federal
<i>ATRIPLEX DEPRESSA</i> "brittlescale"	1B	2-2-3	None	None
<i>LEPIDIUM JAREDII</i> SSP. <i>ALBUM</i> "Panoche pepper-grass"	1B	3-2-3	None	SOC



Traffic Forecasting, Analysis and Operations Scoping Checklist

Project Information

District 6 County Fre Route SR 41 Kilometer Post (Post Mile) 0.0/11.4 (0.0/7.1) EA 44240K

Description Widen Route 41 from an existing 2-lane expressway to a 4-lane expressway. Upgrade intersection configurations to accommodate future signals at Route 41/Elkhorn and Route 41/Whitney.

Project Manager Jim Bane Phone # 559-243-3469

Project Engineer Annie Pan (Design Engr. Thanh Nguyen) Phone # 559-243-3586 (243-3813)

Traffic Forecasting Functional Manager Sharri Bender Ehlert Phone # 559-488-4334

Traffic Engineering Functional Manager John Liu Phone # 559-488-4331

Traffic Forecasting, Traffic Analysis Scoping

Describe and identify in the following sections a general description of the existing traffic and forecasted traffic (using existing data). Analyze traffic data and determine what traffic operational deficiencies are anticipated. Identify any additional studies needed to accurately forecast and fully analyze the traffic operations as part of the preparation of the environmental document.

Existing ADT on Route 41 is 8,700 vehicles. Traffic is expected to increase to 11,200 ADT vehicles by 2006 (opening day) and 21,000 ADT vehicles by 2026 (design year). Route 41 is currently operating at a LOS "D". The LOS would drop to "F" prior to the year 2026 (design year).

Traffic Operations Scoping

Based on the traffic analysis, describe and identify in the following sections a general description of the traffic operational improvements required (auxiliary lanes, signalized intersections, etc.). The traffic operation improvements should be discussed in sufficient detail to identify the project's major geometric features and operations issues. Also discuss in detail traffic management system improvements (ramp metering, CMS, HOV lanes, etc.) to be incorporated. Discuss any components of the traffic management system that may be controversial during development of the environmental document.

By the year 2026, Traffic demand along Route 41 would approximately double existing traffic volume. In order to accommodate the increased traffic volume, Route 41 would need to be widened from a 2-lane expressway to a 4-lane expressway.

Project Screening

1. Project Features: New R/W? X Excavation? X
New Signalization? X CMS work outside project limits?
2. Project Setting _____
Rural or Urban Rural
Current land uses Agricultural
Adjacent land uses Agricultural
(industrial, light industry, commercial, agricultural, residential, etc.)

Existing Traffic Data Deficiencies

Attach the project location map to this checklist to show locations where existing and forecasted traffic operations are calculated to be below an acceptable level of service. Discuss potential scope of improvements to improve traffic operation deficiencies.

Mainline highway deficiencies Route 41 is currently operating at a LOS "D". The LOS would drop to "F" prior to the year 2026 (design year)

Ramp intersection deficiencies None

Merge / diverge deficiencies None

Street intersection deficiencies None

Weaving / merging (spacing) deficiencies None

Traffic Study and Analysis Anticipated

Traffic Modeling Assumptions

- | | | |
|---|--|---|
| ☒ Use Local Model | ☐ Update New Model | ☒ New Model |
| ☒ Existing Traffic Counts | ☐ New Traffic Counts | ☒ Historical Growth |
| ☒ GP Buildout | ☒ Pro-Rate GP Growth | |
| ☐ Existing Year () | ☒ Design Year () | ☐ Interim Year () |

Other _____

Traffic Analysis

- | | | |
|---|--|---|
| ☒ Mainline LOS | ☐ Merge / Diverge LOS | ☐ Ramp Int. LOS |
| ☐ Adjacent IC LOS | ☐ Ramp Metering (open) | ☐ Ramp Metering (later) |
| ☒ Left/Right Turn Storage | ☒ Accident / Safety Analysis | ☒ Intersection Queues |
| ☒ Construction Staging | ☐ Project Staging | |

Other _____

Traffic Operations Scoping

Traffic Operational Improvements

Attach the project location map to this checklist to show location of all traffic operations improvements anticipated.

- | | | |
|---|---|---|
| ☐ Auxiliary Lanes | ☒ Intersection Improvements | ☐ Truck Climbing Lane |
| ☒ New Signals | ☒ Modify Signals | ☐ Merging Improvements |
| ☐ Weaving Improvements | ☒ Deceleration / Acceleration Lanes | |

Other _____

Traffic Management Systems

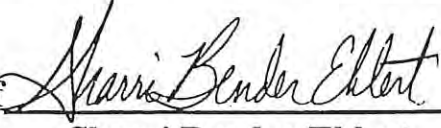
Attach the project location map to this checklist to show location of all traffic management systems identified.

- | | | |
|--|---|---|
| ☐ Ramp Meters | ☐ HOV Ramp Bypass | ☐ Mainline HOV Lanes |
| ☒ Detector Loops | ☒ Communication Networks (fiber optic, telephone, etc.) | |
| ☐ Closed Circuit Television | ☐ Changeable Message Sign | ☐ Highway Advisory Radio |

Other Phone lines for signals at Elkhorn and Mt. Whitney

Discuss strategies (technical analysis, public outreach, etc.) to secure local agency and public support to implement HOV lanes and ramp metering:

Preliminary Traffic Forecasting Evaluation provided by:

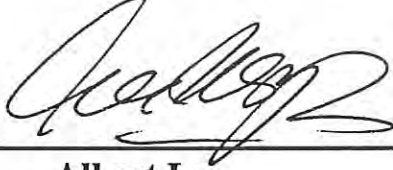
Traffic Forecasting Chief  Date 11-27-00
Sharri Bender-Ehlert

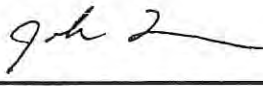
Preliminary Traffic Operations Evaluation provided by:

Traffic Operation Engineer  Date 11/21/00
Daniel Lum

Traffic Electrical Engineer  Date 11/21/00
Diana Gomez

Reviewed by:

Traffic Operations Chief  Date 11/22/00
Albert Lee

Traffic Engineering Chief  Date 11-21-00
John Liu

M e m o r a n d u m

To: Thanh Nguyen
Design senior
Design M

Date: November 30, 2000

File Reference: 6 FRE 41 PM 0.0/7.1
EA: 44240
R/W Req. No:
Alternate No:

From: **DEPARTMENT OF TRANSPORTATION**
Division of Right of Way, Central Region

Subject: Right of Way Data Sheet

We have completed an estimate of the right of way costs for the above-referenced project based on the Right of Way Data Sheet Request Form dated 8/29/00. The following assumptions and limiting conditions were identified:

1. Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the early design requirements.
2. Certification in XPM is 3/05 . This estimate is escalated to that date.
3. *This estimate is for PDS costs only.*
4. Right of Way lead-time is an estimate only and will be revised when more definitive parcel information is available.

Right of Way Lead-Time will require a minimum of 25 months after we receive certified Appraisal Maps, the necessary environmental clearance has been obtained, and freeway agreements have been approved.


Larry L. Steelman
Right of Way Project Coordinator
District 6

Attachments

Attachment G

RIGHT OF WAY DATA SHEET

DIST: 6 CO: FRE RTE: 41 KP: EA:44240 ALTERNATE NO: REVISION DATE: 11/30/00
PM: 0.0/7.1

REQUEST DATE: 11/30/00

1. Right of Way Cost Estimate:

	Current Value (Year 12/00)	Rate of Escalation	Escalated Value (Year 3/05)
Acquisition, including Excess Lands, Damages and Goodwill	\$2,000,000	6%	\$2,675,000
Utility Relocation (State share)	\$3,000,000	6%	\$4,000,000
Relocation Assistance	\$130,000	6%	\$175,000
Clearance/Demolition	\$100,000	6%	\$134,000
Title and Escrow Fees	\$110,000	6%	\$147,000
TOTAL CURRENT VALUE	\$5,340,000		\$7,130,000
R/W SUPPORT COSTS			rounded
Construction Contract Work			

2. Items of construction contract work: YES ☒ NO ☐

3. ANTICIPATED RIGHT OF WAY LEAD-TIME REQUIREMENTS: -25- MONTHS.

4. Parcel Data:

TYPE	NUMBER	DUAL/APPR	UTILITIES	RR INVOLVEMENT
X			U4-1	None X
A	25		-2	C & M Agmt
B	25		-3	Service Contract
C	5		-4 3	Lic/RE/Clauses
D			U5-7	MISC. R/W WORK
TOTAL	42		-8	RAP Displacement 5
			-9 3	Clear/Demo 5
EXCESS				Const Permits
				Cond 5

Parcel Area: Right of Way [23.21 ac.]

Excess [-0-]

5. Utility facilities or rights of way affected: YES ☒ NO ☐

6. Railroad facilities or rights of way affected: YES ☐ NO ☒
If YES - Railroad involvement requires _____ month's lead-time.

7. Provide a general description of the right of way and excess lands required (zoning, use, major improvements, critical or sensitive parcels, etc.): Rural area south of Fresno on SR 41. Zoning is agricultural and there does not appear to be any critical or sensitive parcels. Three SFR's will be affected as well as utilities. **This estimate is for PDS costs only.**
RIGHT OF WAY REQUIRED Yes

8. Effect on assessed valuation: No NOT SIGNIFICANTLY ☒

9. Previously unidentified sites with hazardous waste and/or material found:
YES ☐ NONE EVIDENT ☒

Date: 11/30/00

EA: 44240K

Alternate No: 2

RAP displacements required: YES If YES, provide the following information:

Number of single family residences: 5

Number of business/nonprofit:

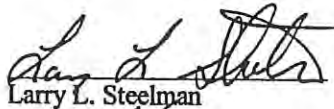
Number of multifamily units:

Number of farms:

Based on Draft/Final Relocation Impact Statement/Study dated _____, it is anticipated that sufficient replacement housing will be available without Last Resort Housing.

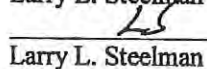
11. Material borrow and/or disposal sites required: YES ☐ NO ☒
12. Potential relinquishments and/or abandonments: YES ☐ NO ☒
13. Existing and/or potential Airspace sites: YES ☐ NO ☒
14. Environmental mitigation parcels required: YES ☐ NO ☒
15. All Right of Way work will be performed by Caltrans staff: YES ☒ NO ☐
16. Data for evaluation provided by:

Estimator


Larry L. Steelman

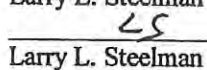
Date: 11-30-00

Railroad Liaison


Larry L. Steelman

Date: 11-30-00

Utility Relocation Coordinator


Larry L. Steelman

Date: 11-30-00

I have personally reviewed this Right of Way Data Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.

12-30-00
Date


RITA MASON
Chief, P & M Right of Way
CENTRAL REGION

Entered PMCS (Event, Cost, Agree) By: _____ Date: _____