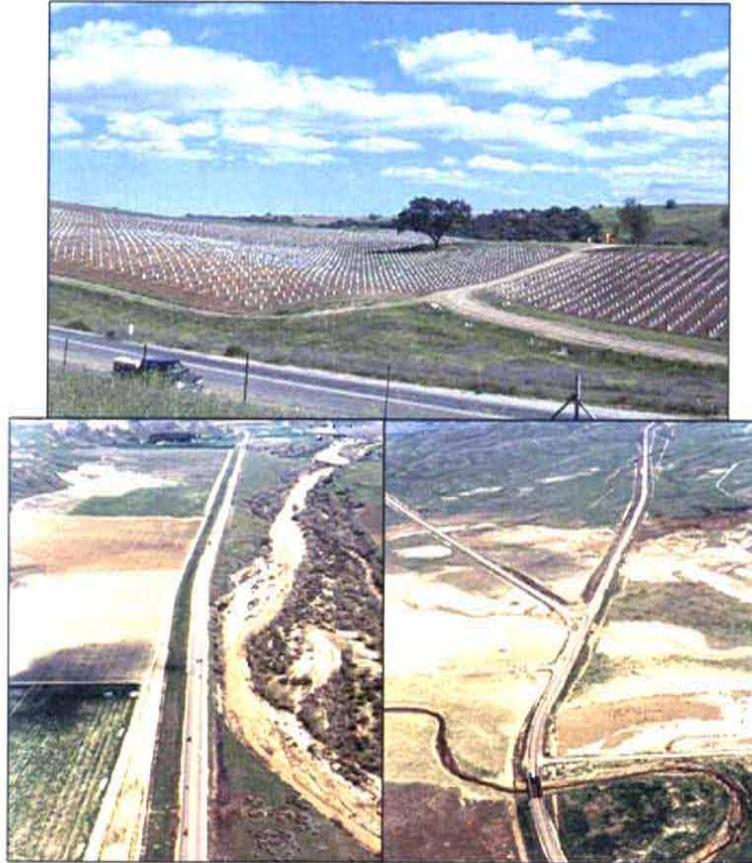


Route 46 – Corridor Improvement Project

SAN LUIS OBISPO COUNTY, CALIFORNIA
DISTRICT 5 – SLO – 46, KP 51.8/90.6 (PM 32.2/56.3)
3307U0 & 330800

Environmental Assessment with Finding of No Significant Impact/Final Environmental Impact Report: Volume II



by the
U.S. Department of Transportation
Federal Highway Administration
and
State of California Department of Transportation



May, 2006



List of Appendices

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- A.2 Shandon Section, Alternatives 1 and 2
- A.3 Cholame Section, Alternatives 1 and 2
- A.4 Wye Section, Alternatives 4, 5, 7, 8, 8b, and 9

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Appendix C: Noise Barrier Worksheets A and B

Appendix D: Floodplain Evaluation Report Summaries and Wye Section Flood Extent Maps

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Appendix F: Farmland Conversion Impact Rating Sheets & Preserve and Contract Lands Map

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Appendix H: Wetlands / Other Waters of the United States Maps

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Appendix K: National Environmental Policy Act 404 Memorandum of Understanding Concurrence Letters

Appendix L: Analysis of Appropriate Size for the Cholame Creek Overflow Structure

Introduction

Volume II of the Environmental Assessment/Final Environmental Impact Report for the Route 46 Corridor Improvement Project contains the alternative mapping and additional information referenced in the main document (Volume I). This volume will probably be most useful for its information contained in Appendix A, Project Alternatives Mapping. The mapping for this project has been simplified from detailed engineering design drawings to provide a visual representation of the proposed project and its affects on the surrounding lands.

Appendices B, C, and D contain noise and floodplain technical information referenced in the main document. Appendix D also contains some new mapping showing backwater elevations in the Wye area. Appendix E contains visual simulations of the proposed project and would be useful for “seeing” how the project would appear in different locations for the proposed alternatives. These simulations were computer generated and as such would not be completely accurate in their portrayal of the end result of the project. Appendix F contains worksheets used to evaluate impacts to farmland resources and was completed with the assistance of the Natural Resources Conservation Service in Paso Robles, California.

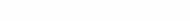
Appendix G contains copies of the response letters received when the Notice of Preparation (NOP) was sent to reviewing agencies in January, 2000 to let them know that the California Department of Transportation was preparing a Draft Environmental Impact Report. The guidance in these responses helped to define the scope of studies performed for this project. Appendix H contains a map of the different areas of jurisdictional wetlands and other waters of the United States. These areas represent the locations where Caltrans will be required to obtain Section 404 permits from the United States Army Corps of Engineers prior to the beginning of any construction activities. Appendix I contains the concurrence letter from the State Office of Historic Preservation on the Determination of Eligibility of cultural resources for the Route 46 Corridor Improvement Project. Appendix J contains the species list obtained from the United States Fish and Wildlife Service. This list is the first step in the consultation process under the Federal Endangered Species Act with the United States Fish and Wildlife Service. Appendix K contains copies of the concurrence letters from the Environmental Protection Agency, the United States Army Corps of Engineers, and the United States Fish and Wildlife Service on the purpose and need for the project and on the reasonable range of alternatives for study for this project. These concurrence letters are the result of early involvement and coordination between these agencies and Caltrans and are products of the National Environmental Policy Act 404 Memorandum of Understanding process, a cornerstone of sound project development. Appendix L contains the analysis conducted to determine the appropriate undercrossing length and height to promote the crossing of wildlife species, specifically the pronghorn antelope.

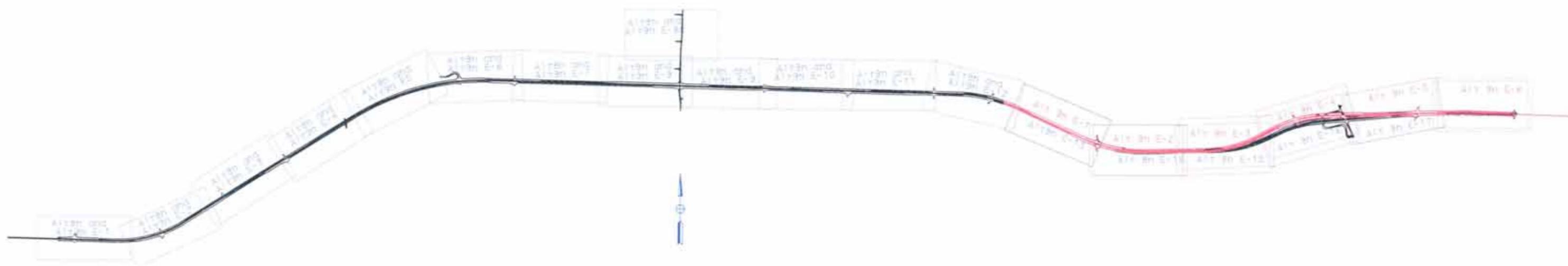
Appendix A: Project Alternative Mapping

Appendix A: Project Alternative Mapping

A.1 Estrella Section, Alternatives 8N and 9N

LEGEND

| | |
|---|-------------------------|
|  | Existing Right of Way |
|  | Proposed Right of Way |
|  | Property Line |
|  | Easement Line |
|  | Existing Feature |
|  | Existing Waterway |
|  | Proposed Mainline |
|  | Proposed Connector |
|  | County Road |
|  | Proposed Structure |
|  | Access Opening |
|  | Earthen Berm |
|  | Sound Wall |
|  | State Route |
|  | Noise Receptor Location |
|  | Traffic Movement |
|  | North Arrow |
|  | Appraisal Parcel Number |



Estrella Section Key Map

**Estrella Section
Alternatives
8n and 9n
E1 of 18**



Airport Road

Proposed 6 meter Utility Easement
for Southern California Gas

025-431-023

025-431-024

Proposed 6 meter Utility Easement
for Pacific-Bell

026-191-084

46

STREET LIGHT LANE

ROUTE 46

Match-Line Alt 8n and 9n E-2

Access Opening

025-371-019

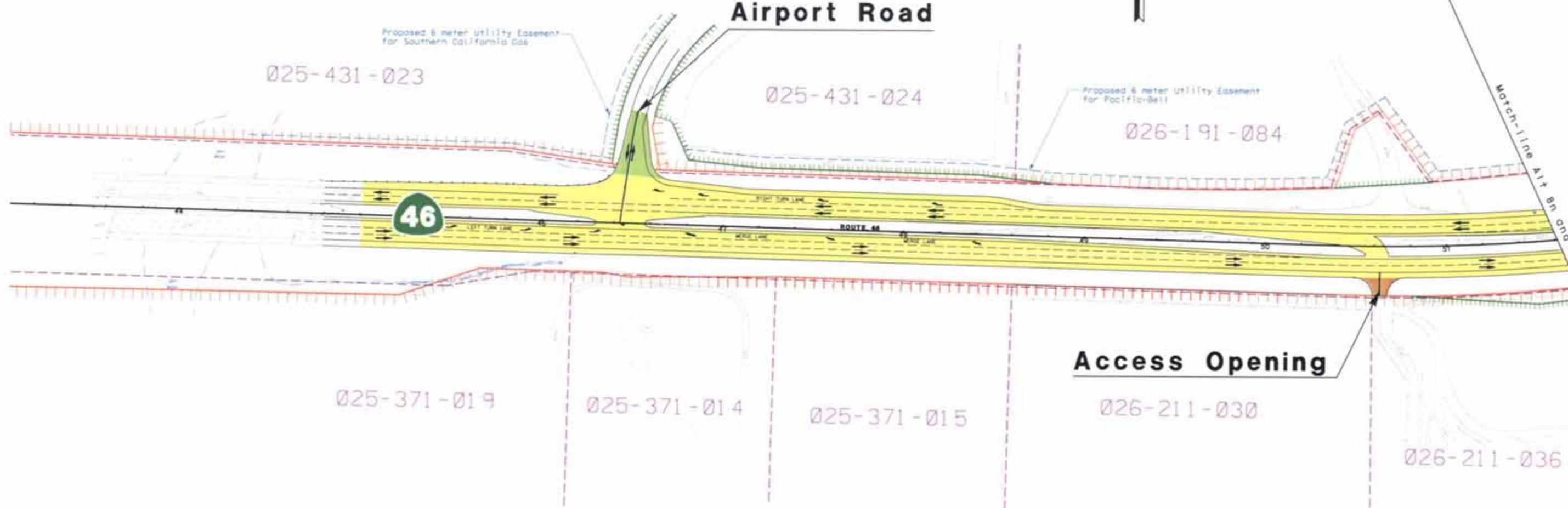
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025-371-015

026-211-030

026-211-036

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**Estrella Section
Alternatives
8n and 9n
E2 of 18**



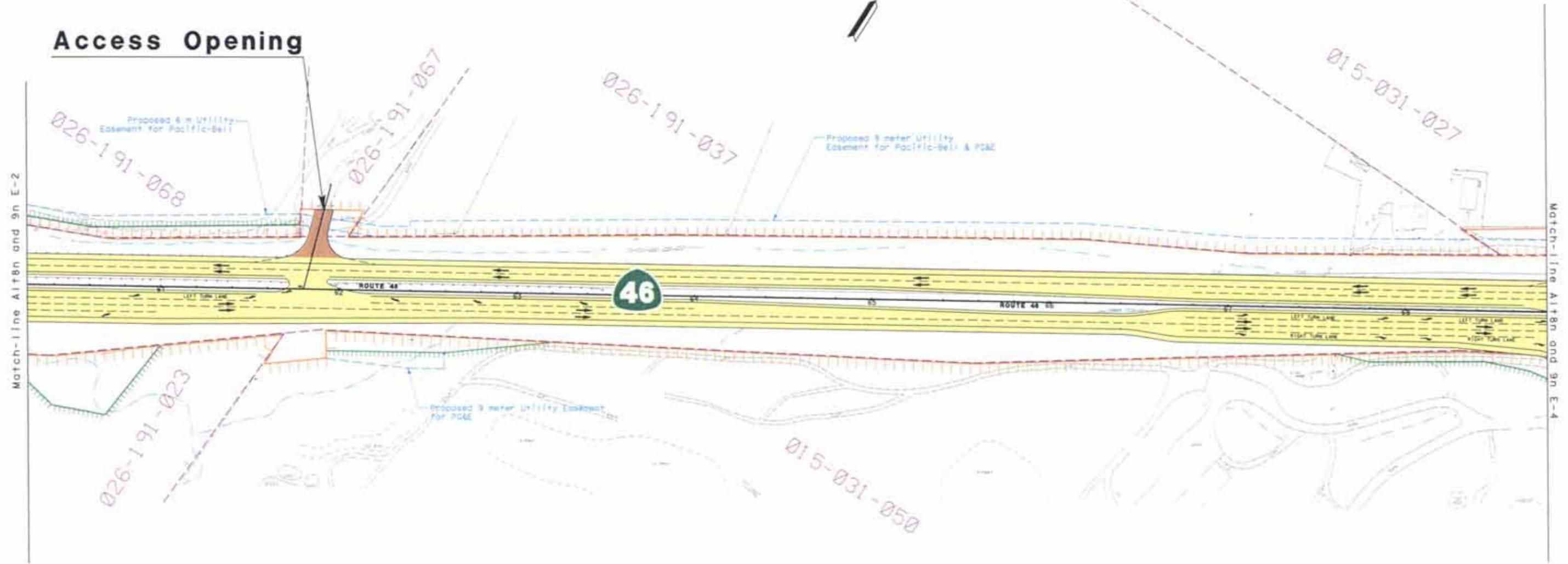
Wildlife Crossing RCB No.1

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**Estrella Section
Alternatives
8n and 9n
E3 of 18**

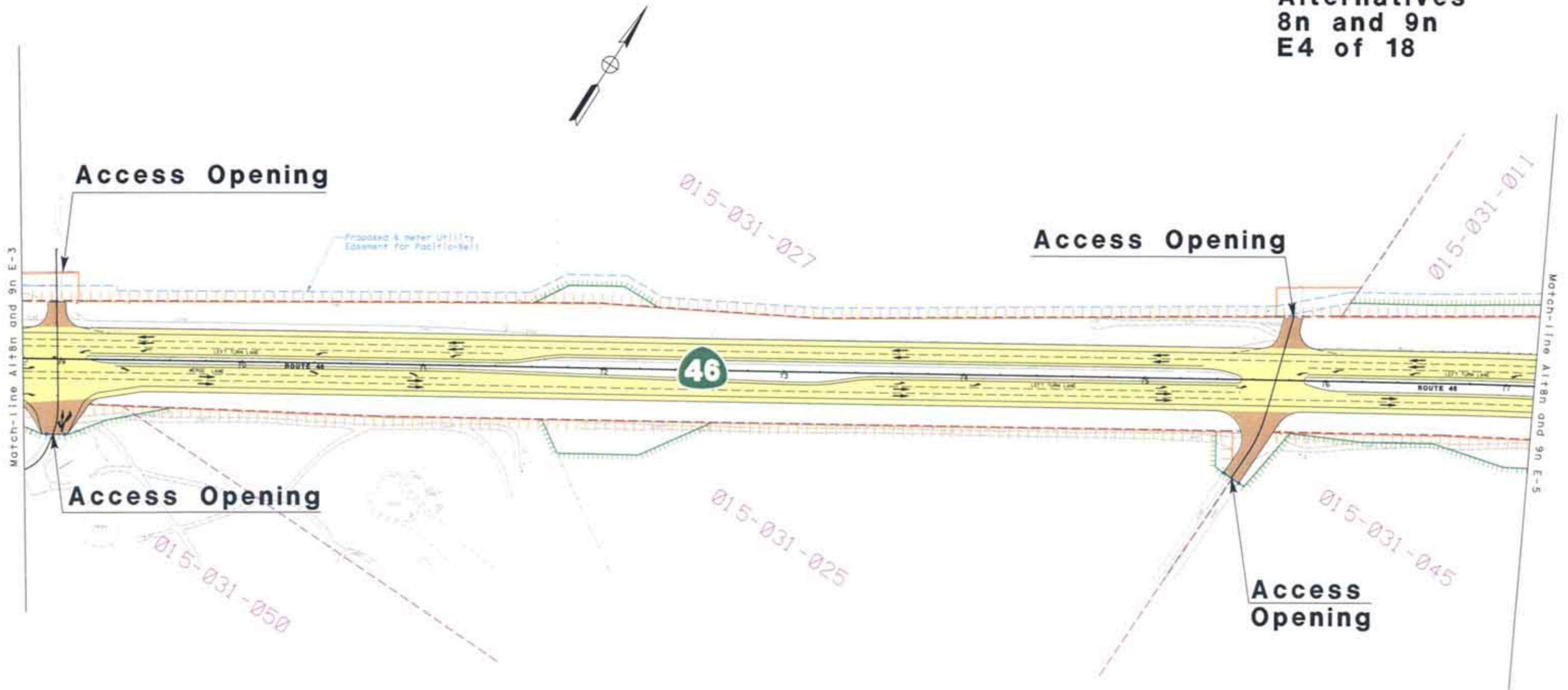


Access Opening



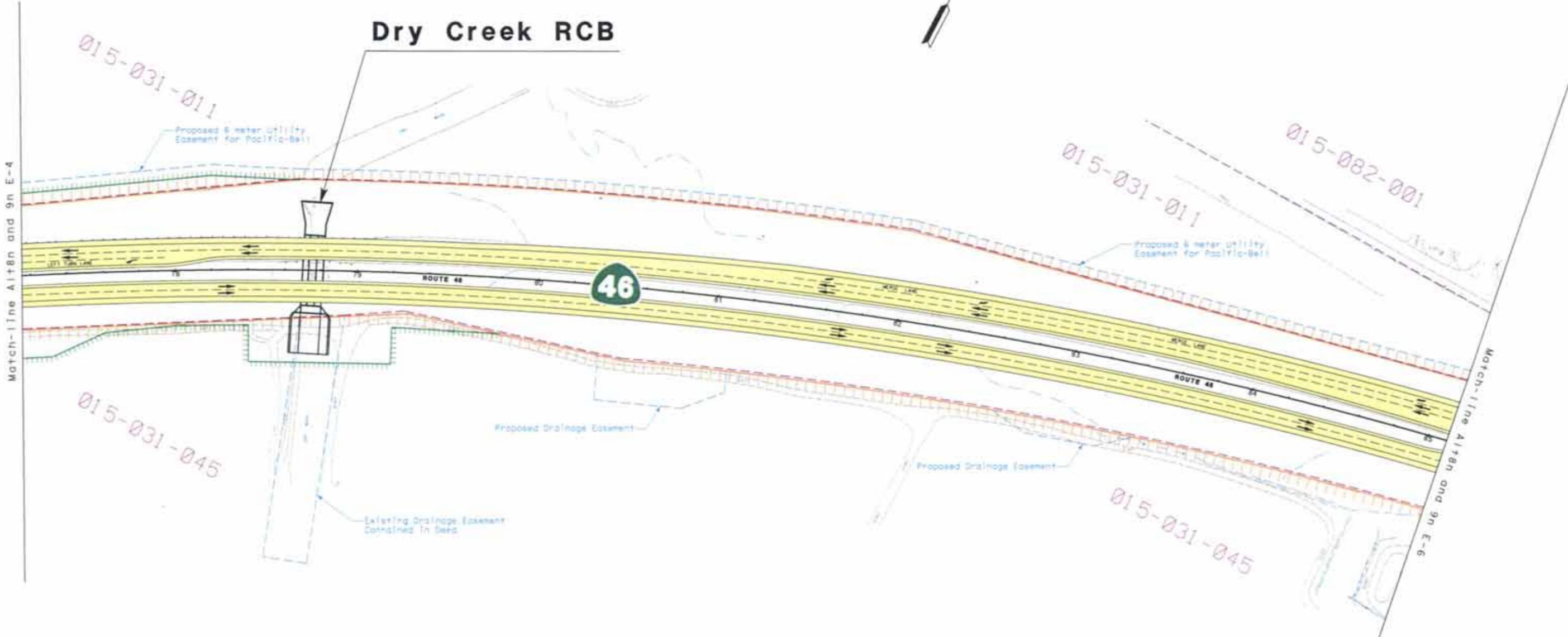
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**Estrella Section
Alternatives
8n and 9n
E4 of 18**



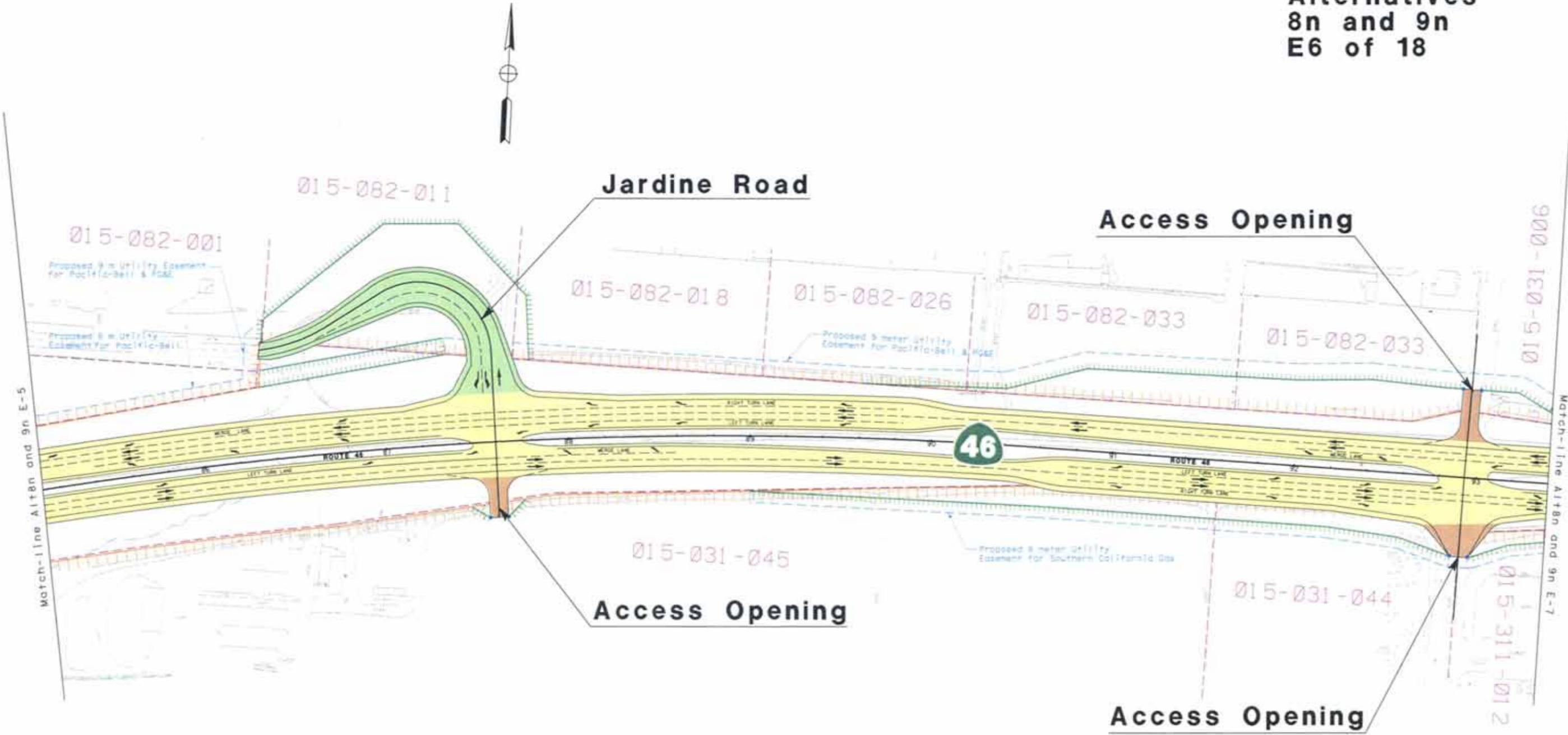
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**Estrella Section
Alternatives
8n and 9n
E5 of 18**



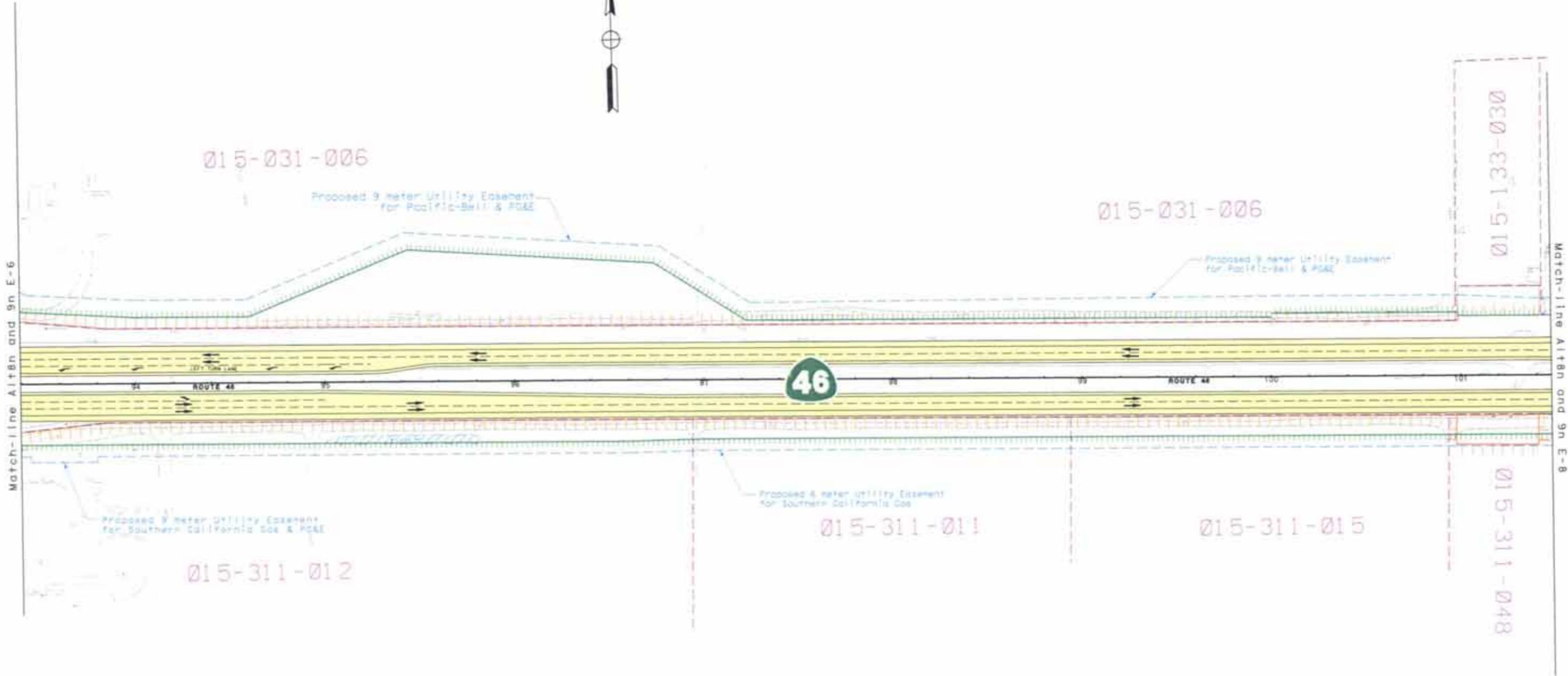
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**Estrella Section
Alternatives
8n and 9n
E6 of 18**



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**Estrella Section
Alternatives
8n and 9n
E7 of 18**



SCALE 1:2200

Estrella Section Alternatives 8n and 9n E8 of 18

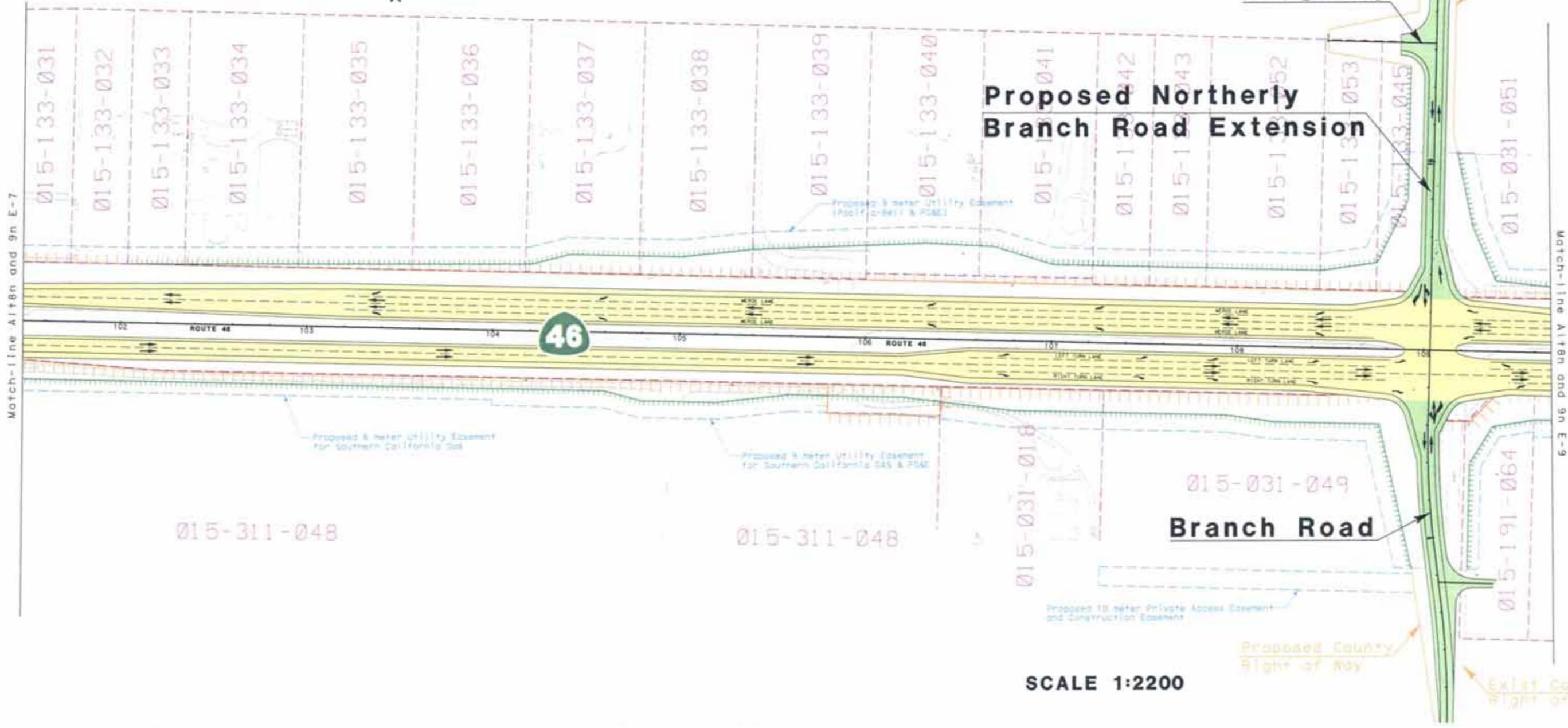


Burgundy

**Proposed Northerly
Branch Road Extension**

Branch Road

SCALE 1:2200



Match-line Alt8n and 9n E-7

Match-line Alt8n and 9n E-9

Proposed Road Easement

Proposed Road Easement

Proposed 8 meter Utility Easement for Southern California Gas

Proposed 8 meter Utility Easement for Southern California Gas & PG&E

Proposed 18 meter Private Access Easement and Construction Easement

Proposed County Right of Way

Exist County Right of Way

**Estrella Section
Alternatives
8n and 9n
E8a of 18**

VINTAGE HILLS

Champagne

Proposed Road Easement

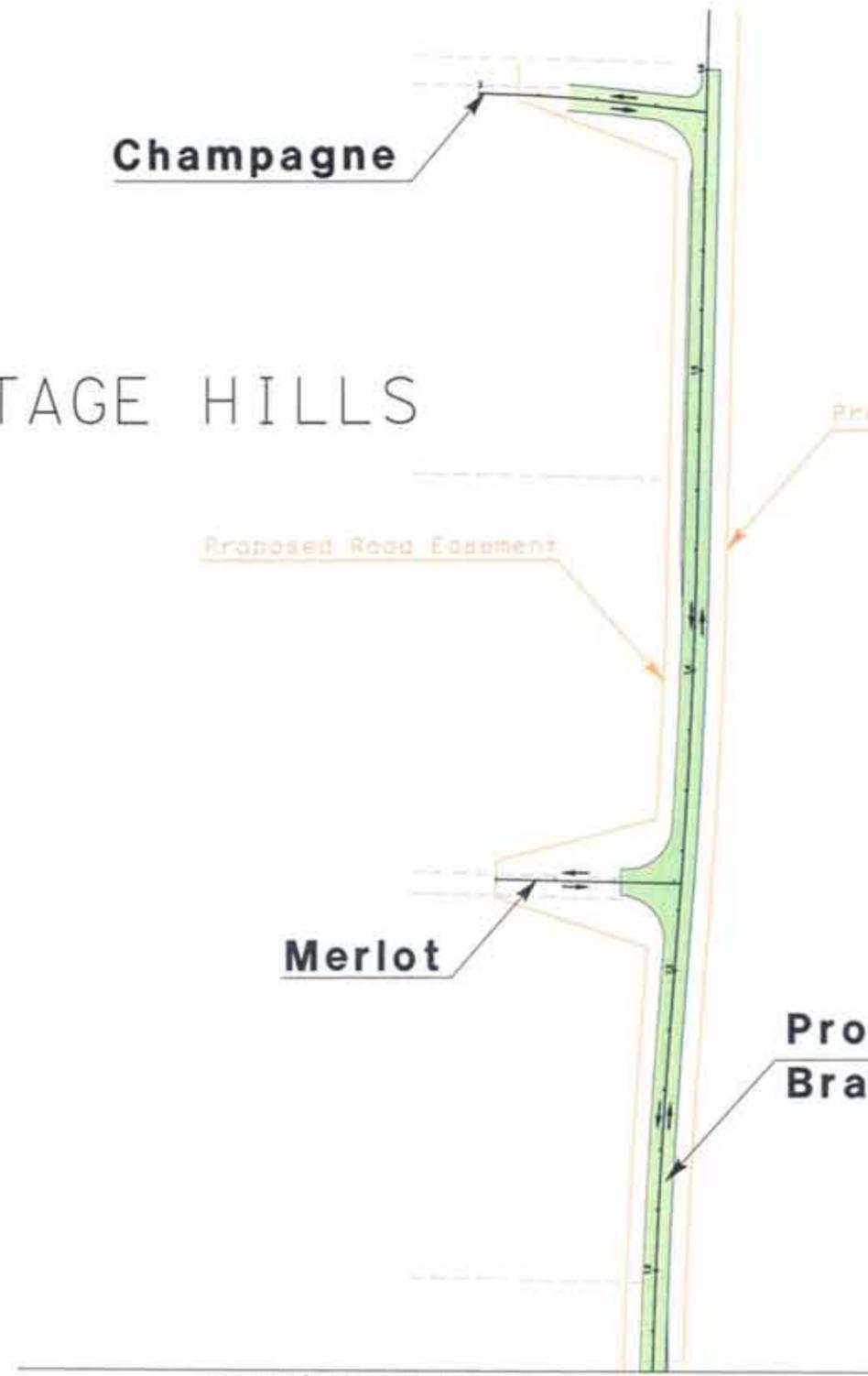
Proposed Road Easement

Merlot

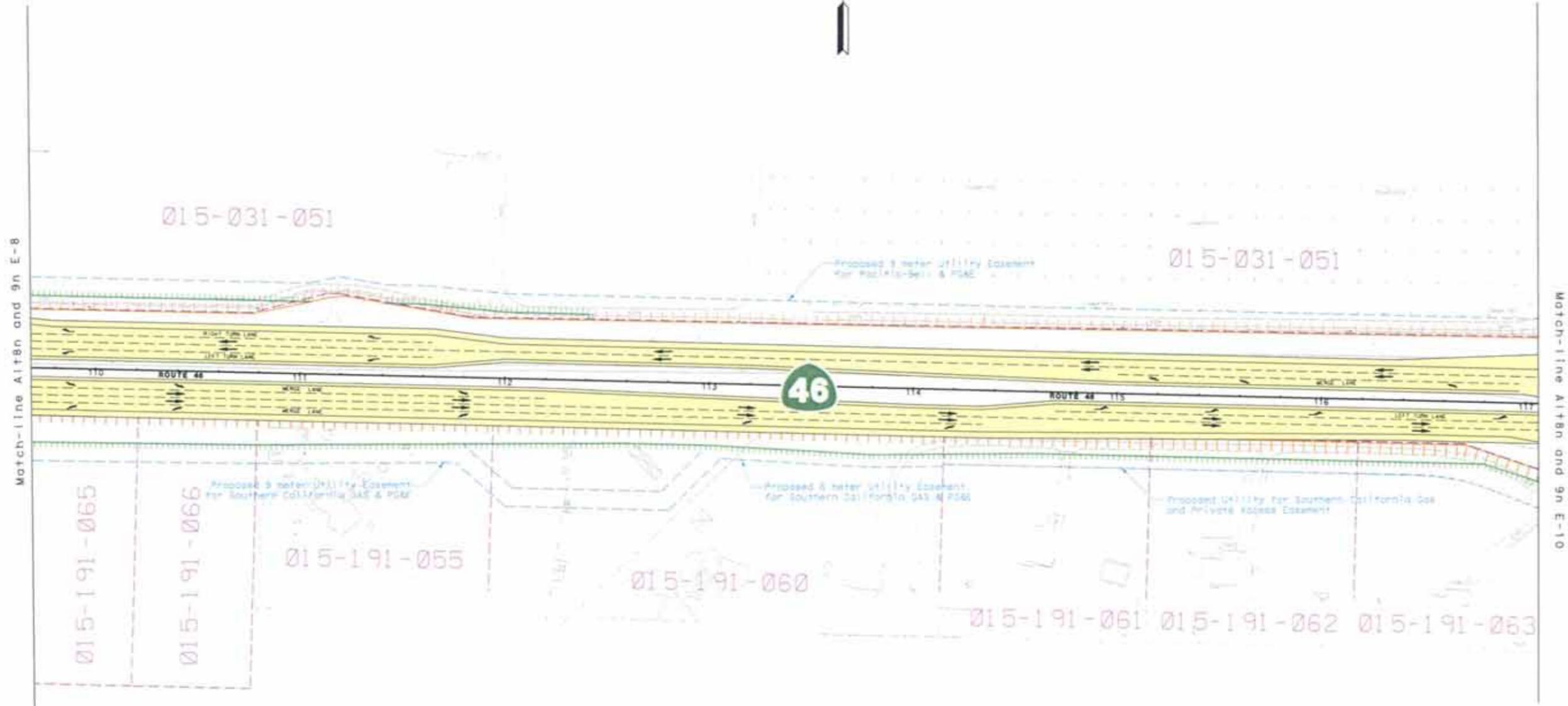
**Proposed Northerly
Branch Road Extension**

Match-line Alt8n and 9n E-8

SCALE 1:2200

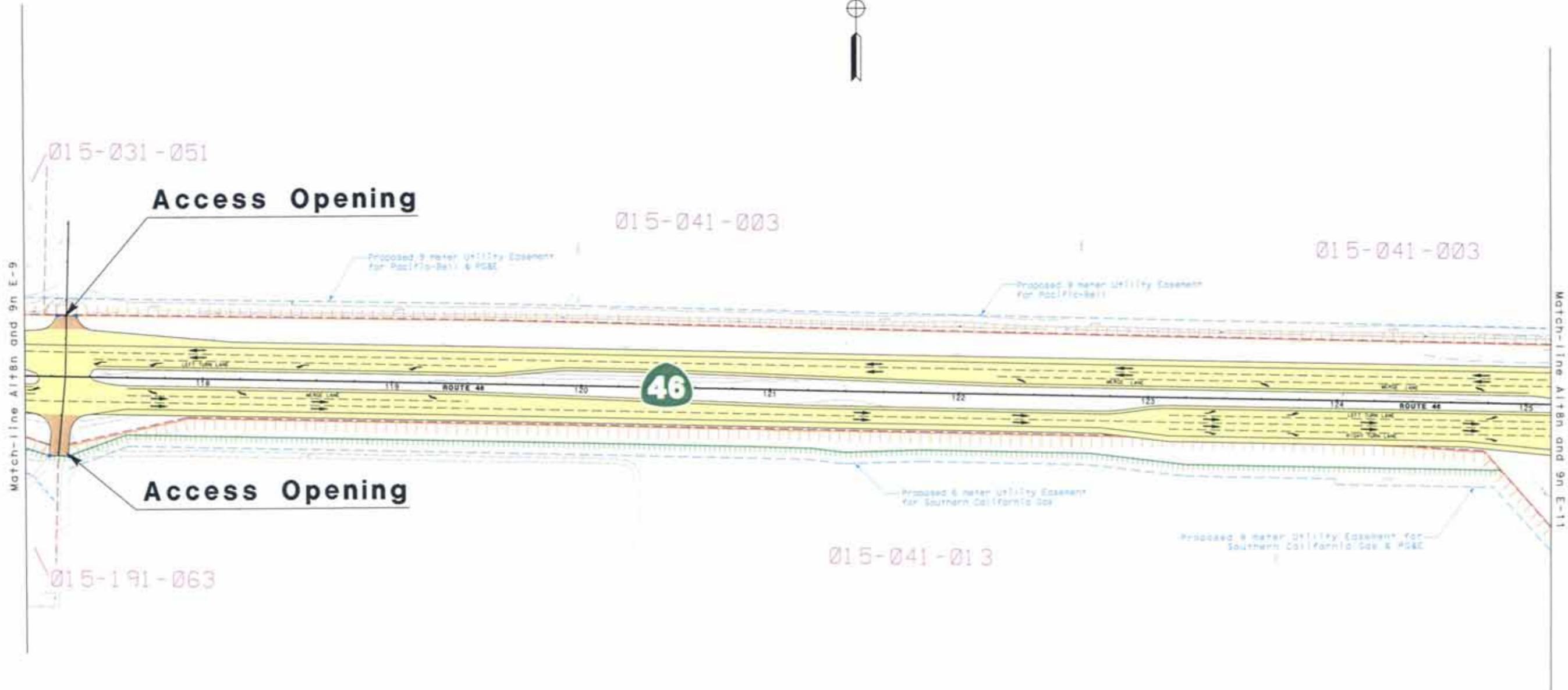


**Estrella Section
Alternatives
8n and 9n
E9 of 18**



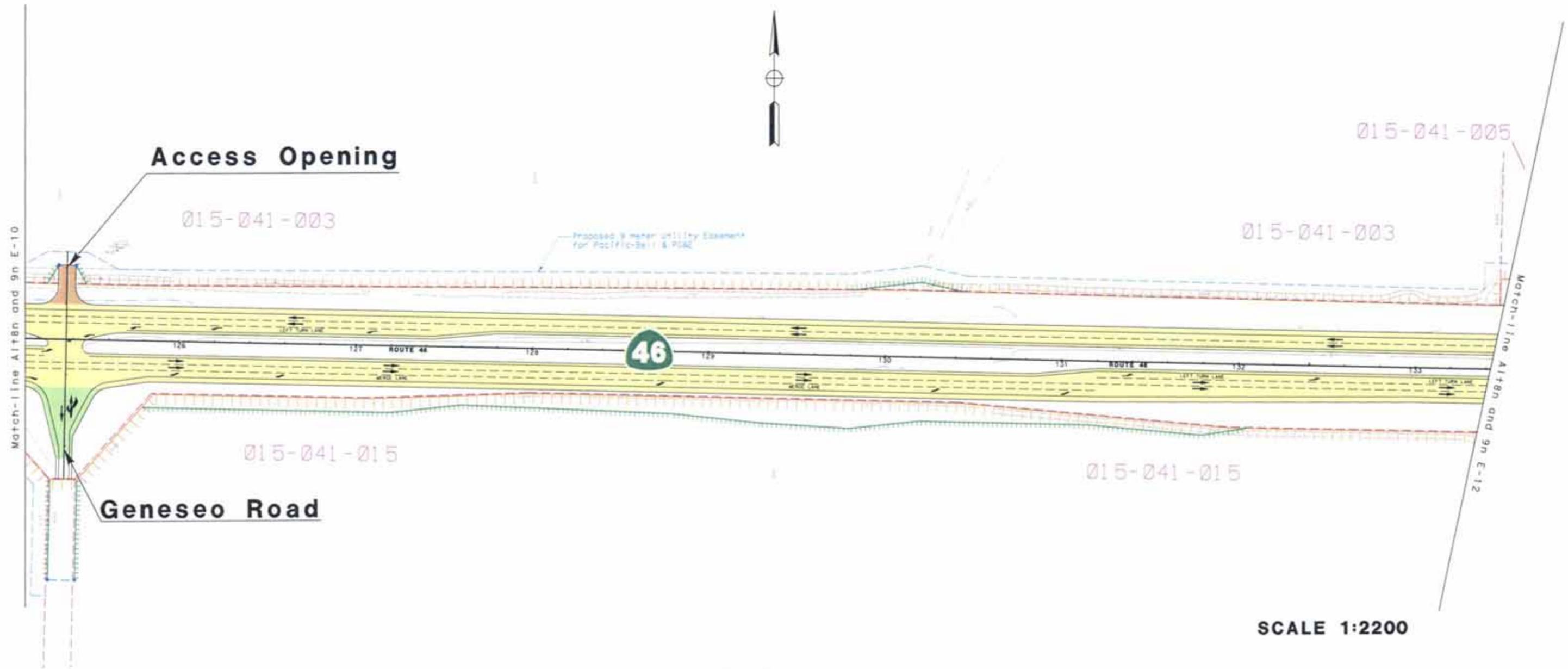
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**Estrella Section
Alternatives
8n and 9n
E10 of 18**



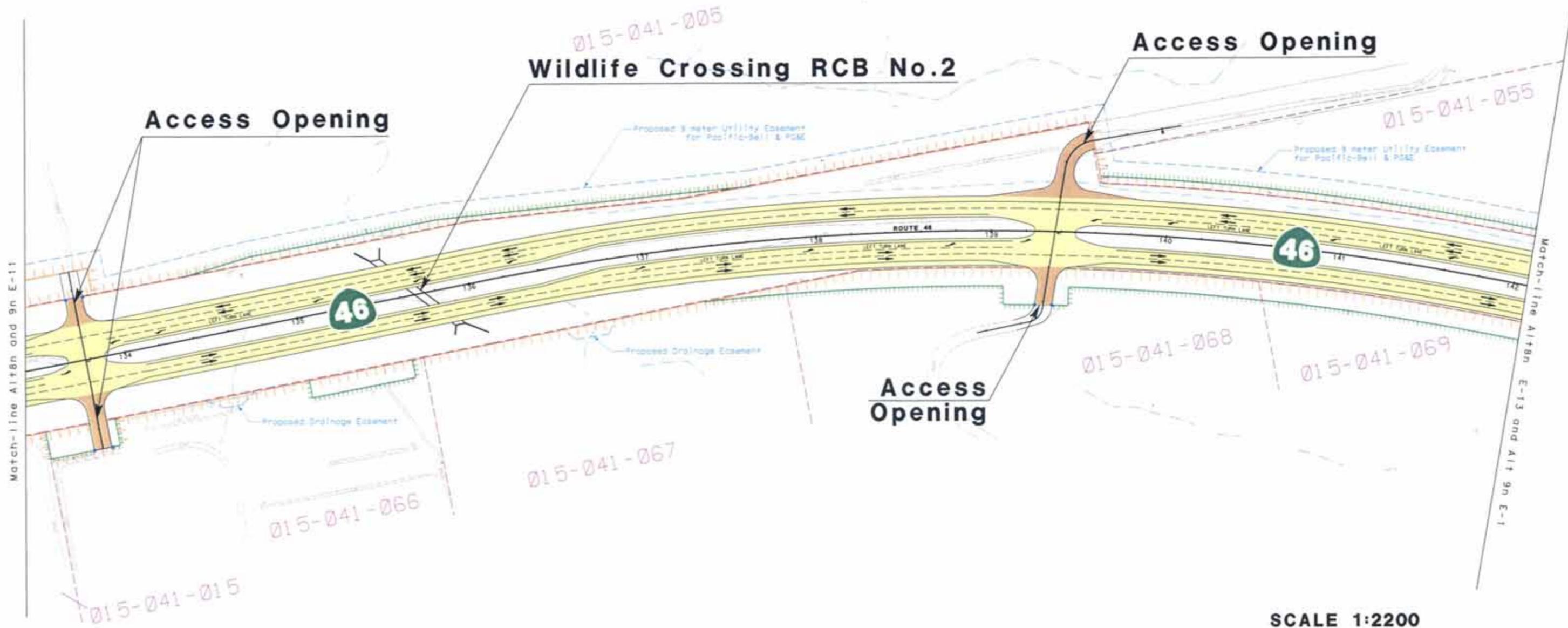
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**Estrella Section
Alternatives
8n and 9n
E11 of 18**



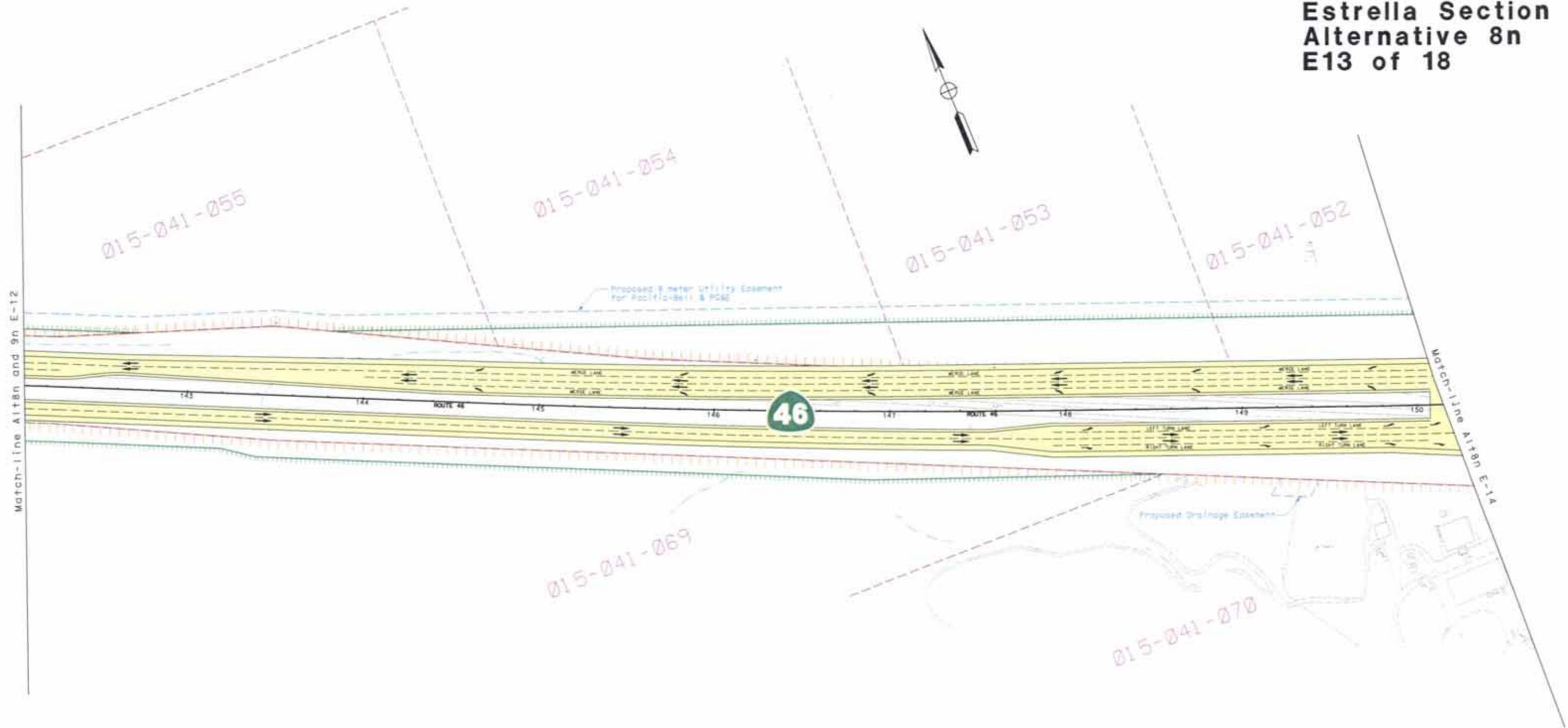
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**Estrella Section
Alternatives
8n and 9n
E12 of 18**



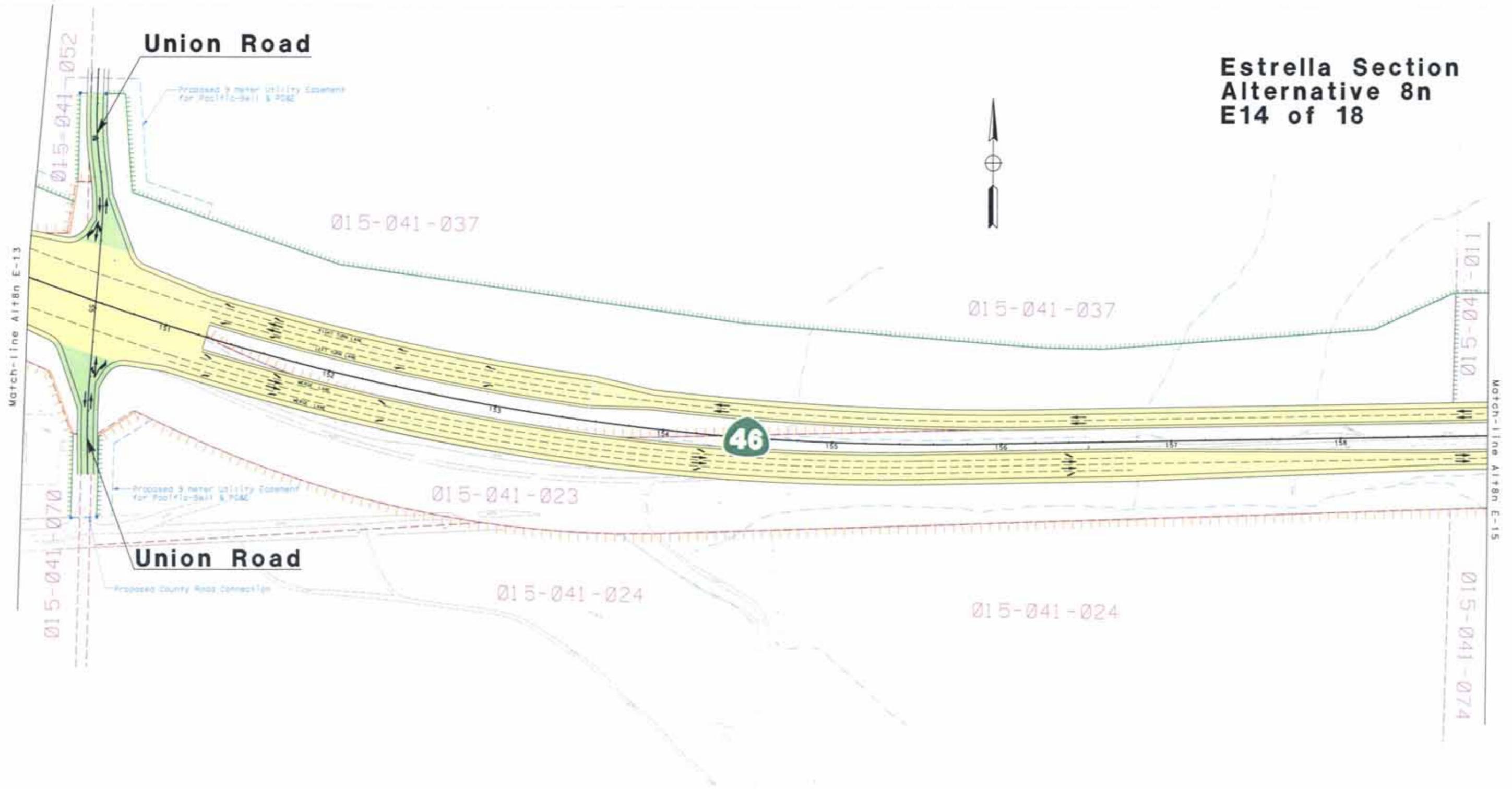
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**Estrella Section
Alternative 8n
E13 of 18**



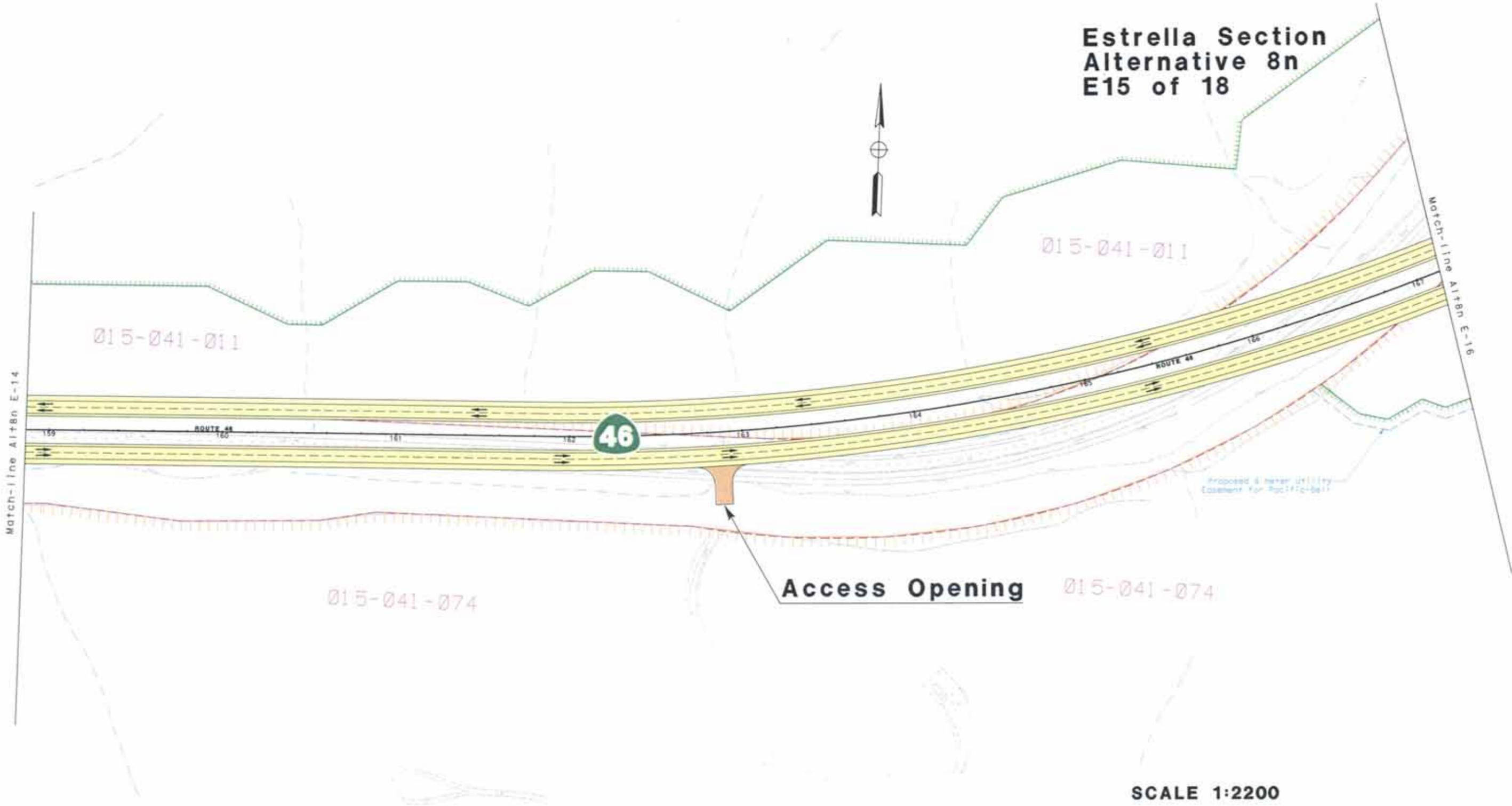
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**Estrella Section
Alternative 8n
E14 of 18**

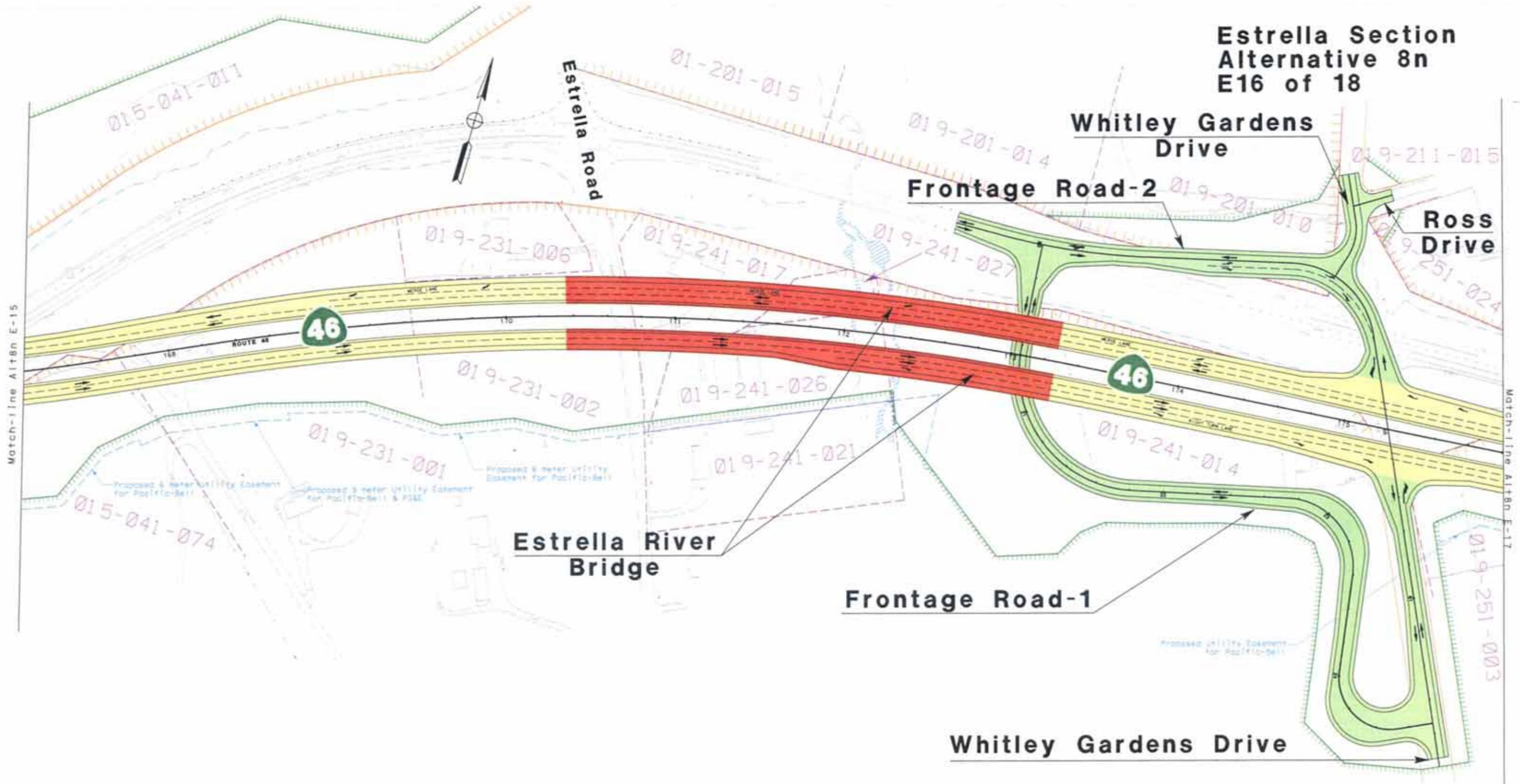


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**Estrella Section
Alternative 8n
E15 of 18**

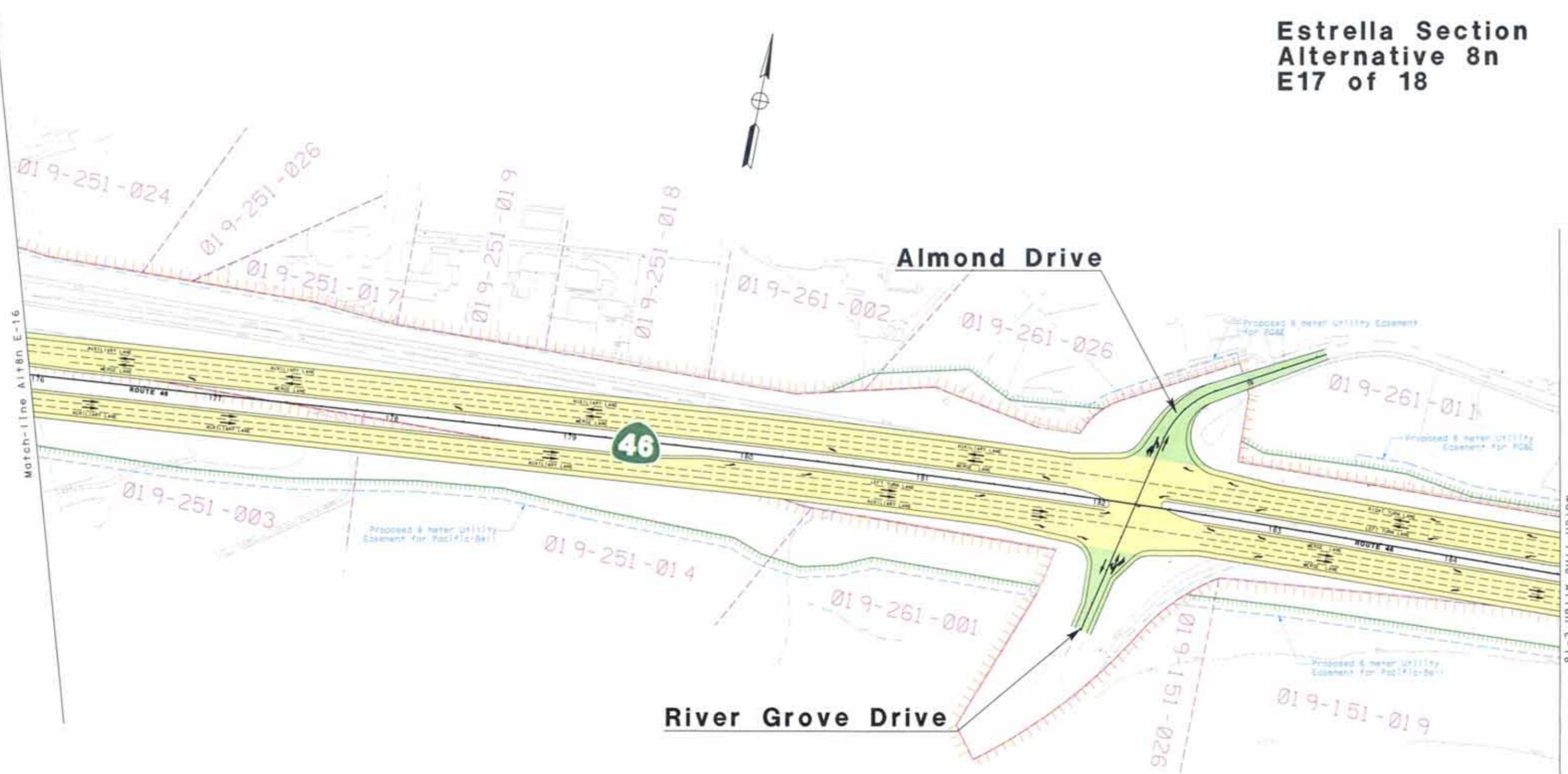


**Estrella Section
Alternative 8n
E16 of 18**



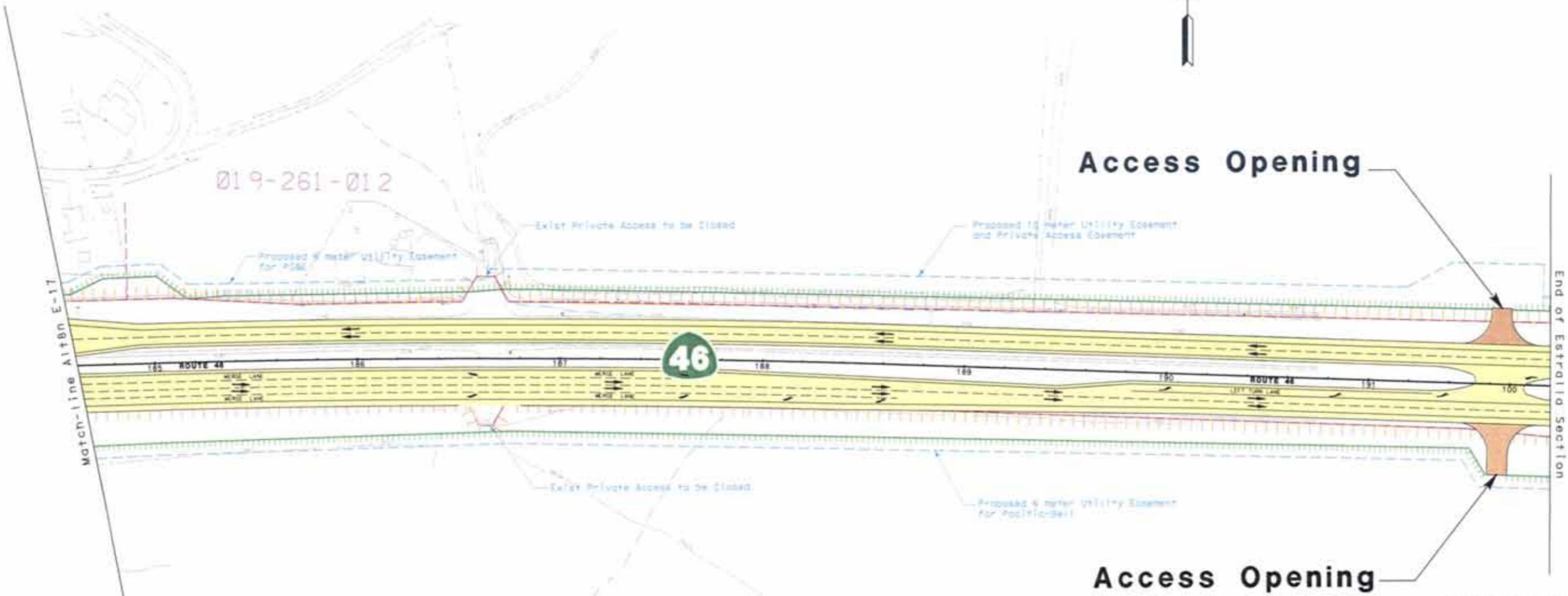
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**Estrella Section
Alternative 8n
E17 of 18**



SCALE 1:2200

**Estrella Section
Alternative 8n
E18 of 18**

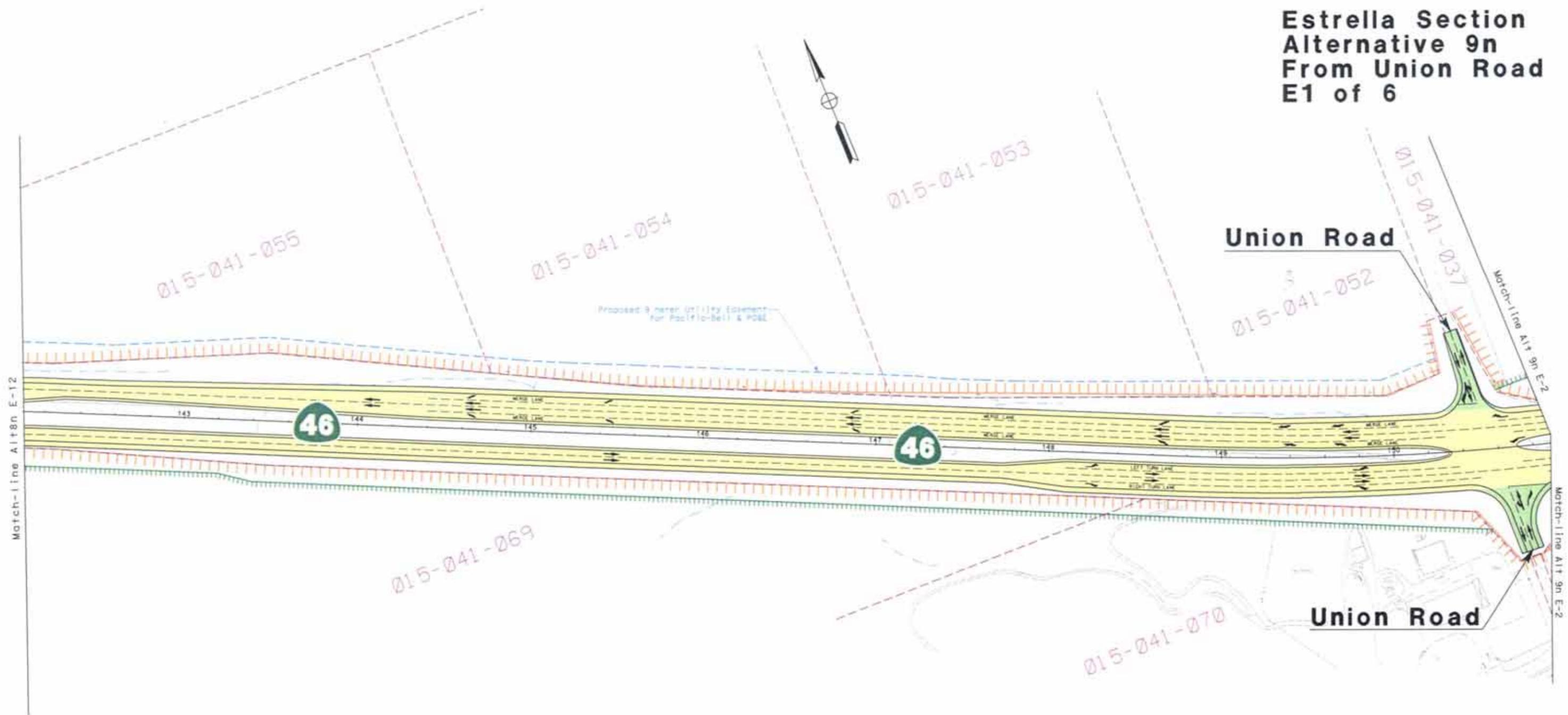


Access Opening

Access Opening

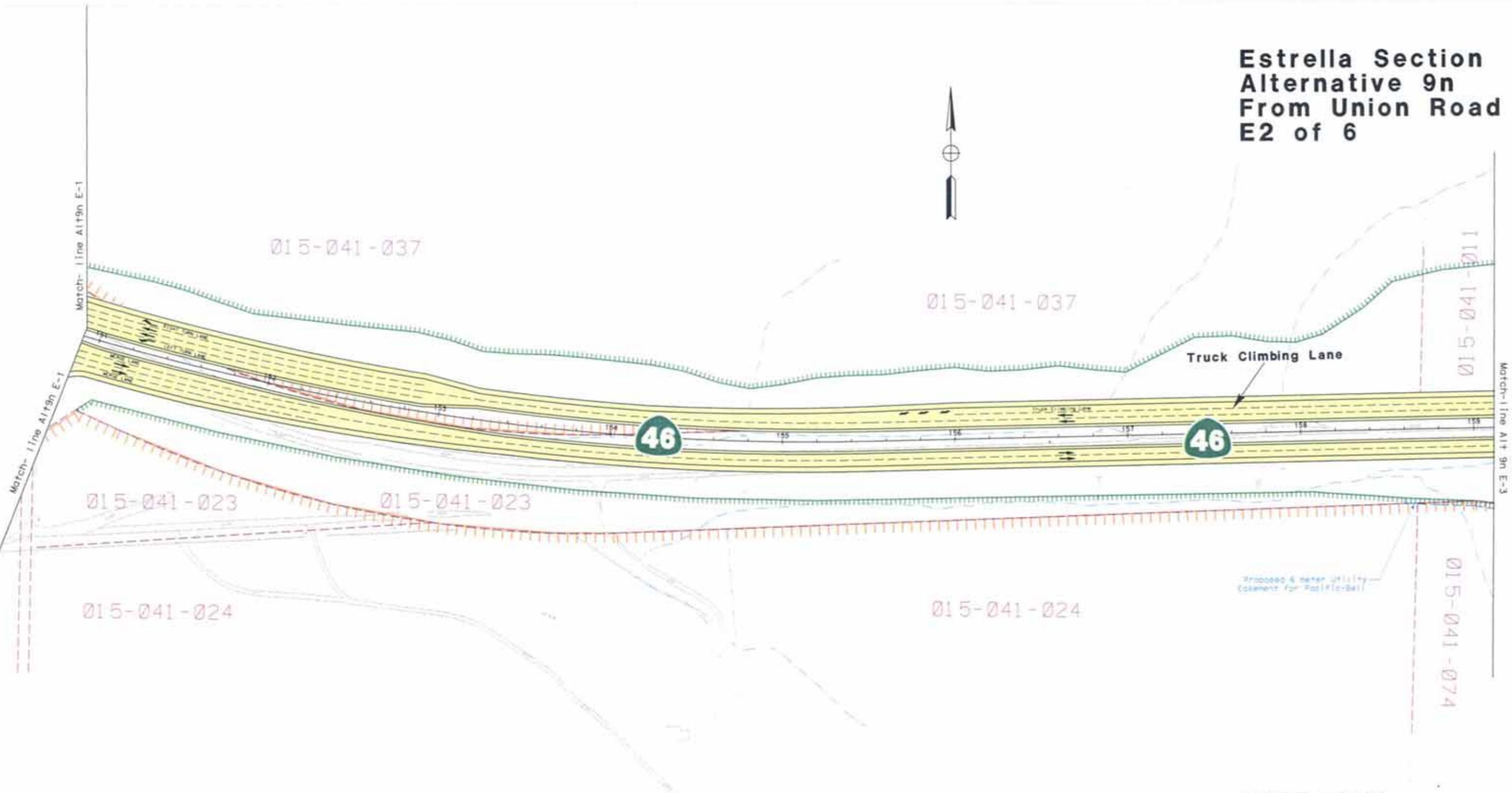
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**Estrella Section
Alternative 9n
From Union Road
E1 of 6**



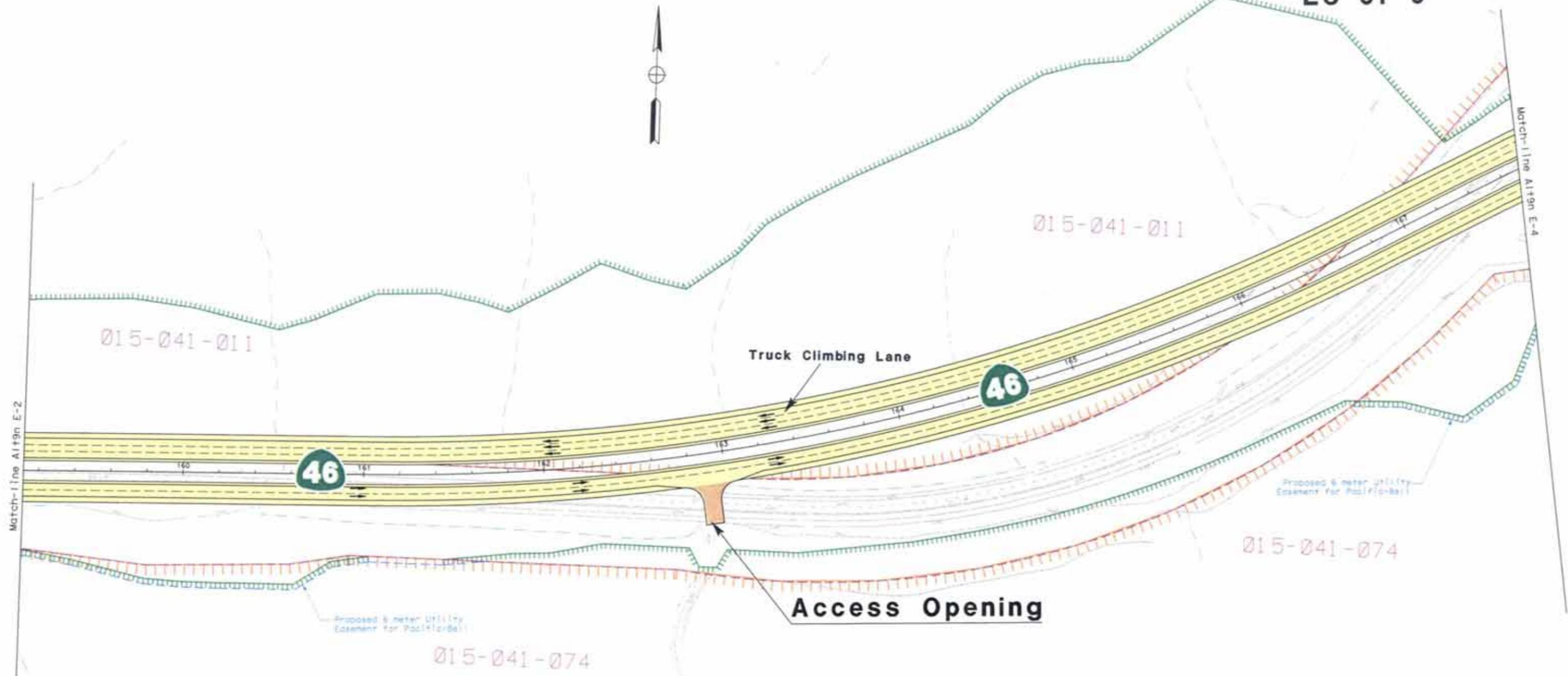
SCALE 1:2200

**Estrella Section
Alternative 9n
From Union Road
E2 of 6**



SCALE 1:2200

**Estrella Section
Alternative 9n
From Union Road
E3 of 6**



SCALE 1:2200

**Estrella Section
Alternative 9n
From Union Road
E4 of 6**



Estrella Road

Whitley Gardens Drive

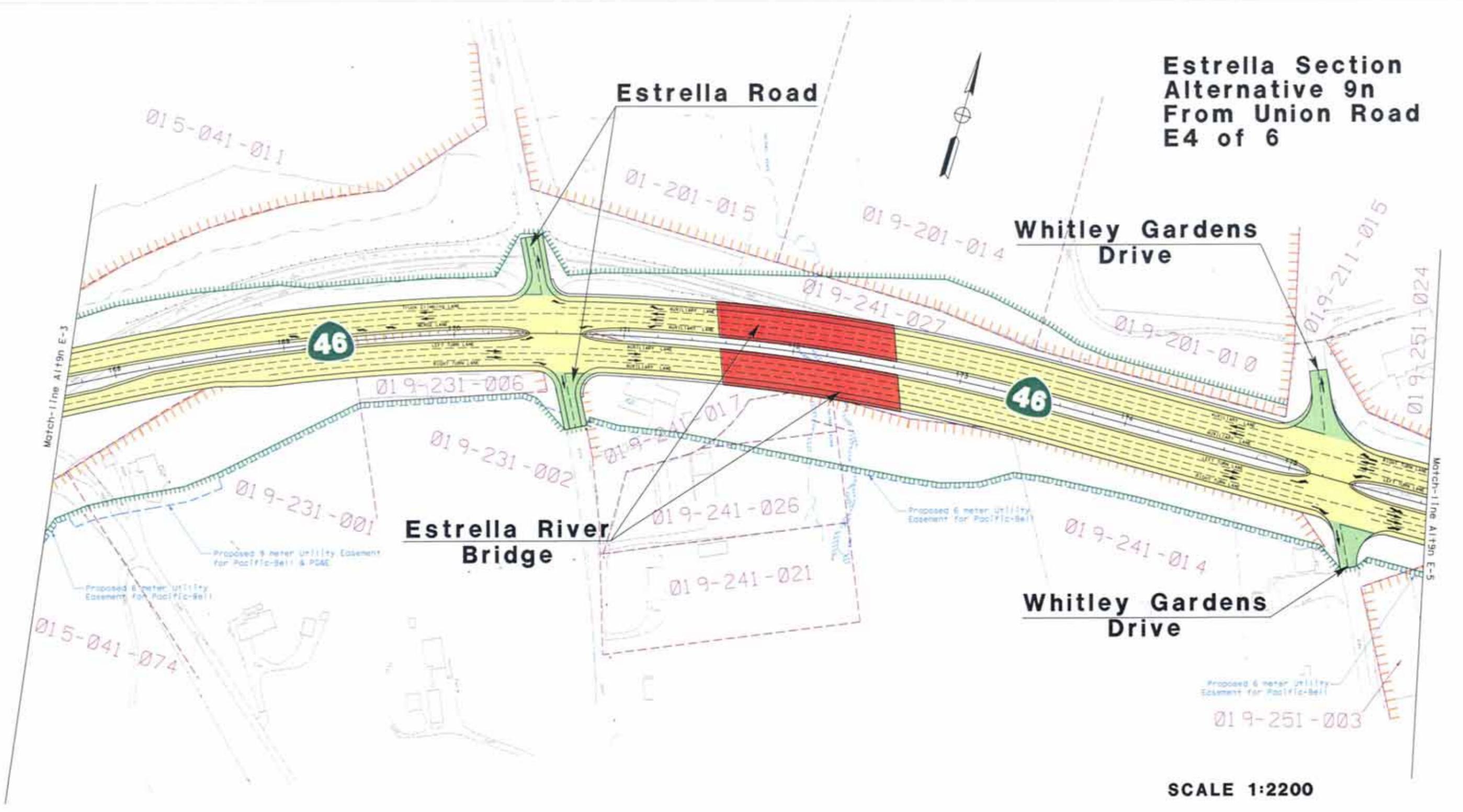
Estrella River Bridge

Whitley Gardens Drive

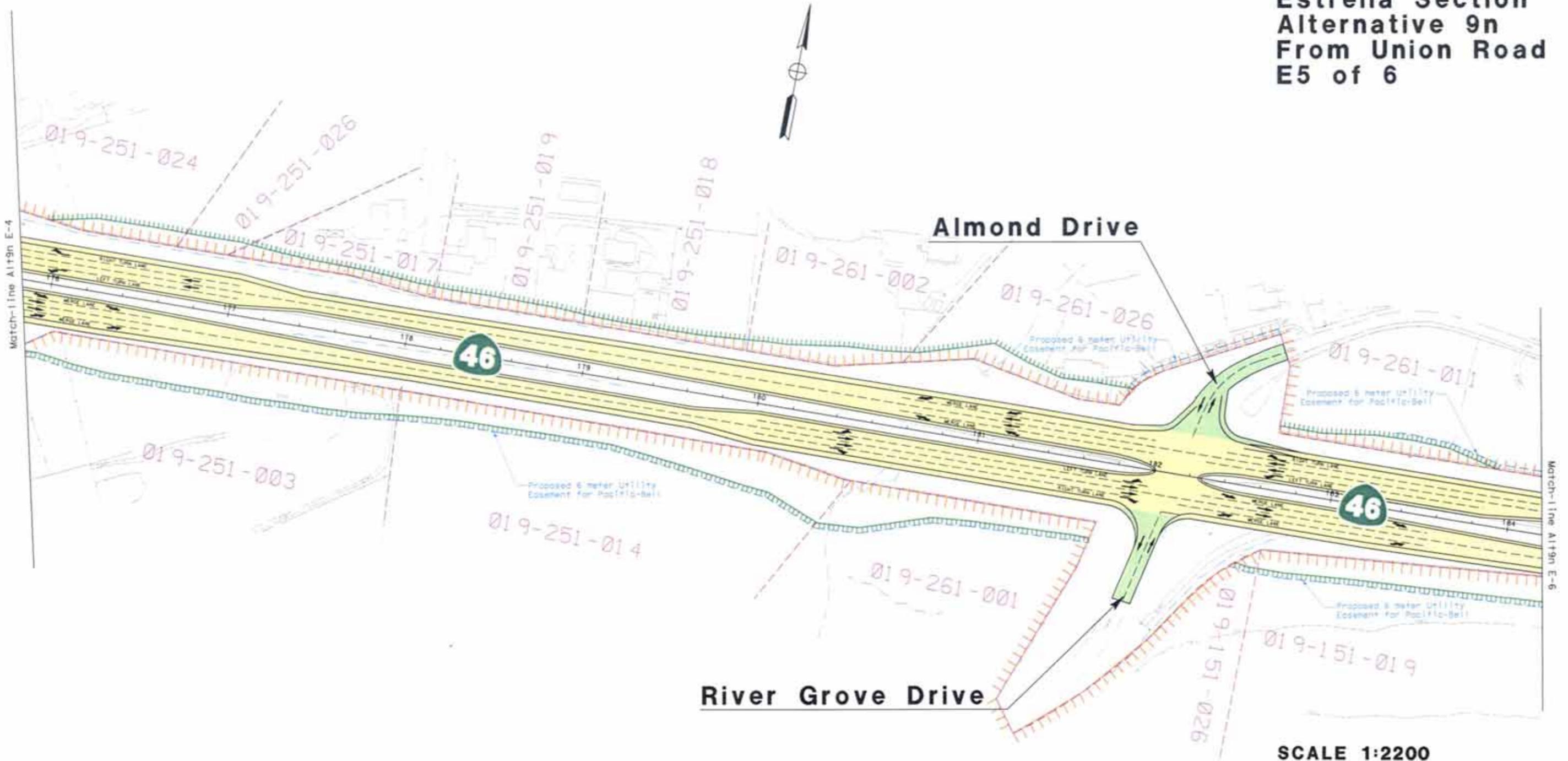
46

46

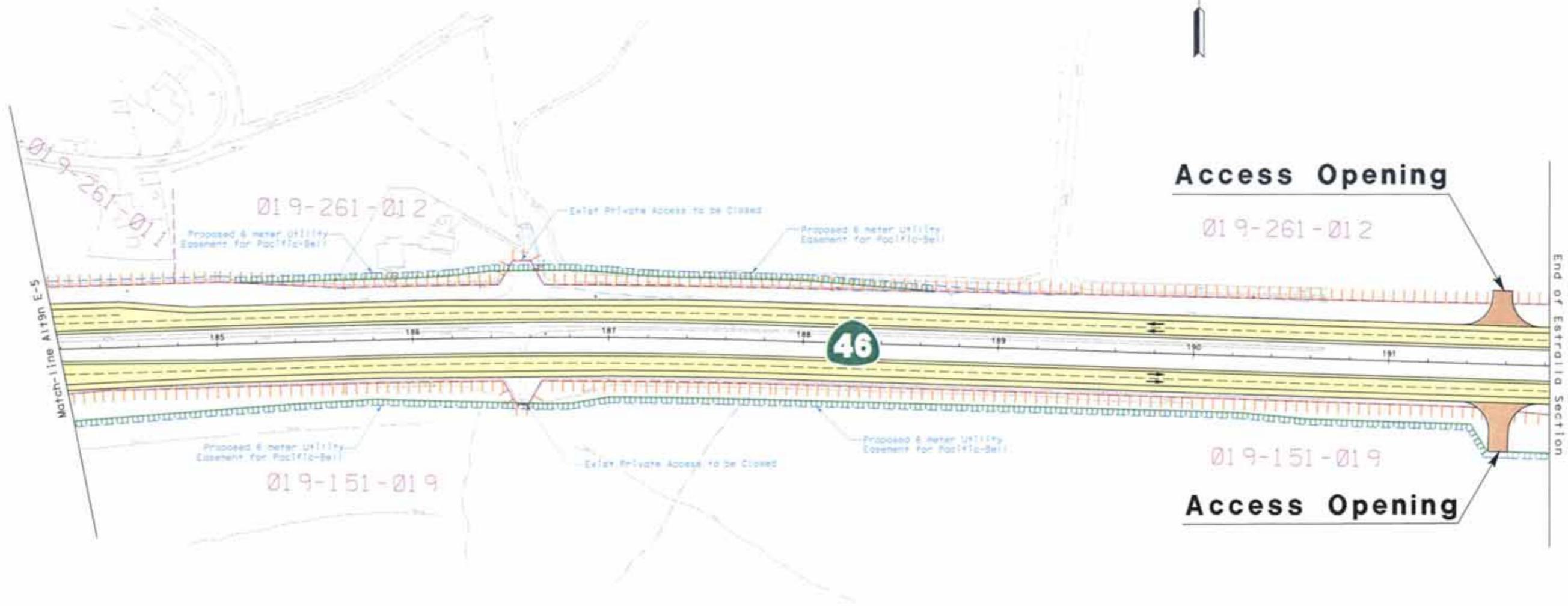
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**Estrella Section
Alternative 9n
From Union Road
E5 of 6**



Estrella Section
Alternative 9n
From Union Road
E6 of 6



Access Opening

019-261-012

Access Opening

019-151-019

SCALE 1:2200

Appendix A: Project Alternative Mapping

A.2 Shandon Section, Alternatives 1 and 2

LEGEND



Existing Right of Way



Proposed Right of Way



Property Line



Easement Line



Existing Feature



Existing Waterway



Proposed Mainline



Proposed Connector



County Road



Proposed Structure



Access Opening



Earthen Berm



Sound Wall



State Route



Noise Receptor Location



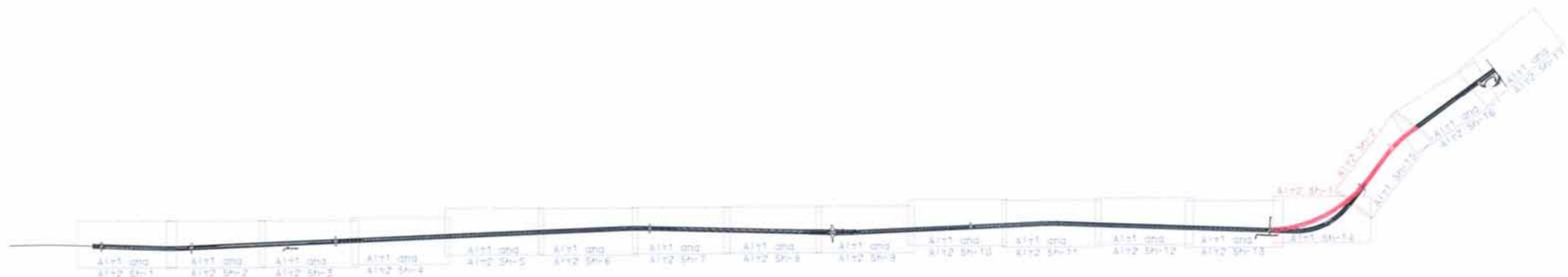
Traffic Movement



North Arrow

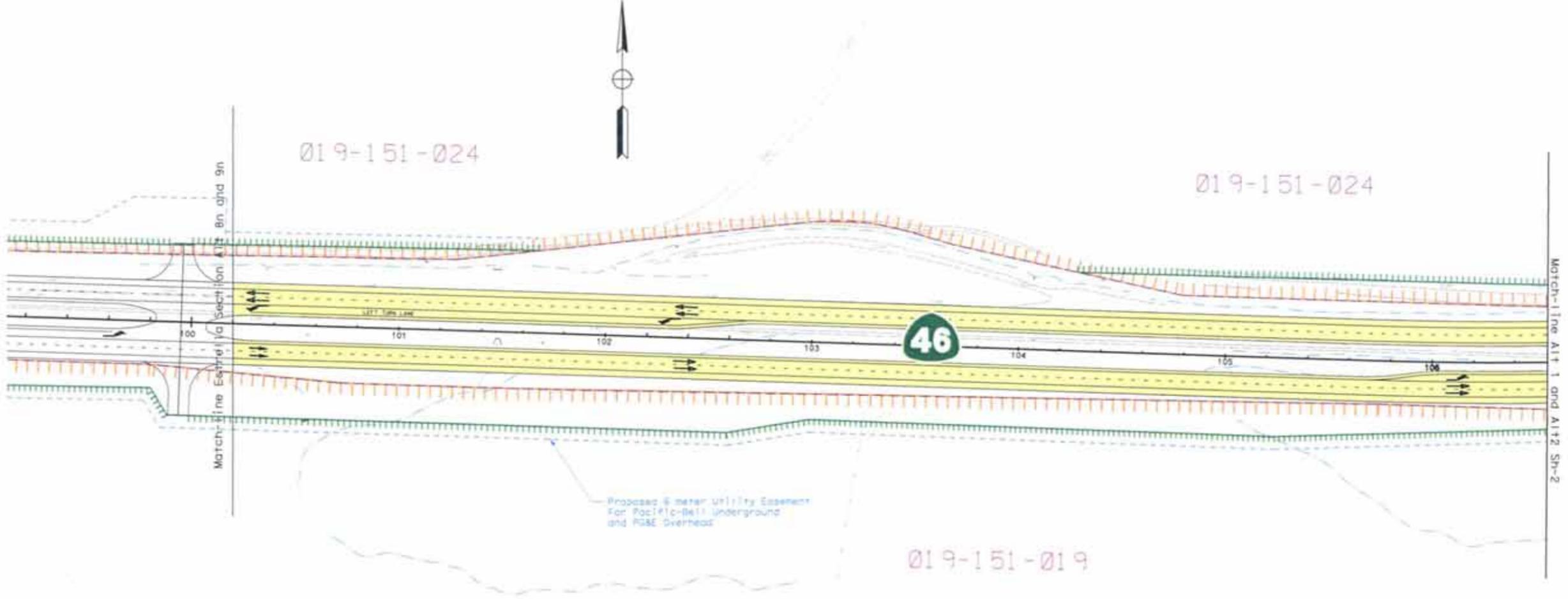


Appraisal Parcel Number



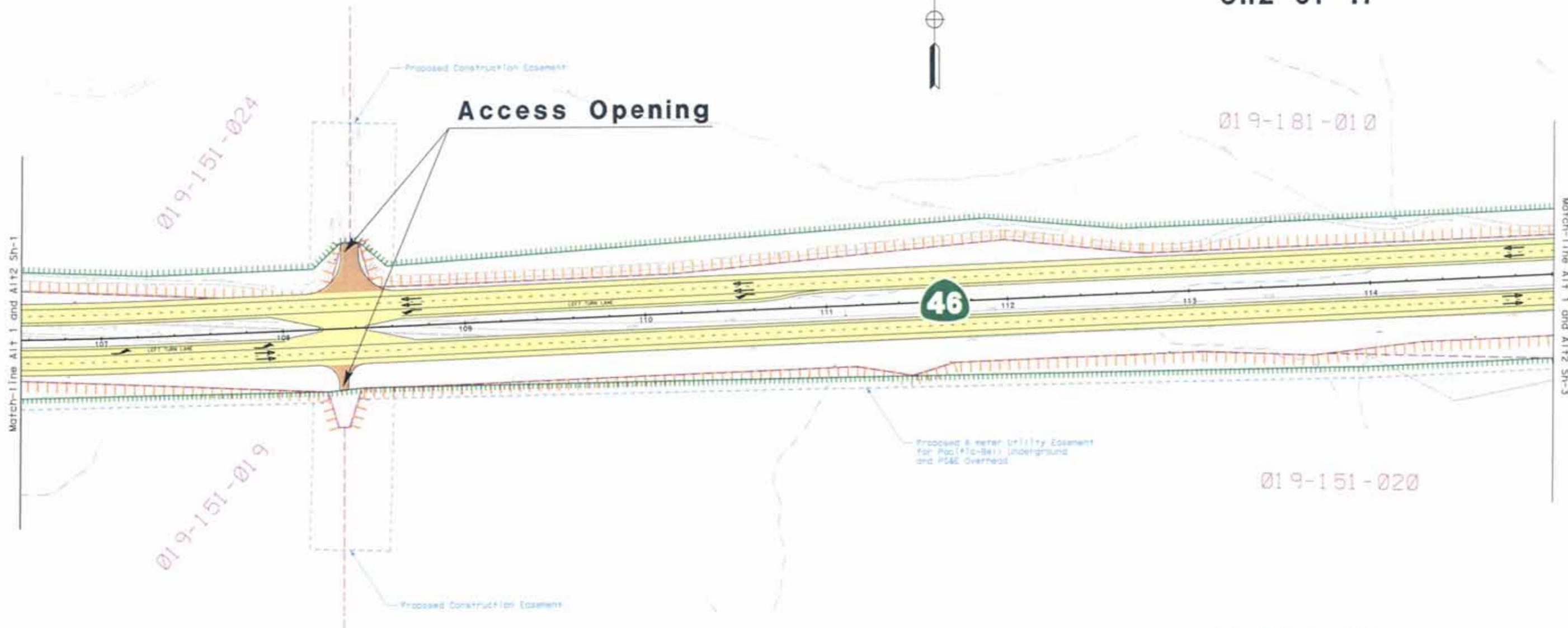
Shandon Section Keymap

**Shandon Section
Alternatives 1 and 2
Sh1 of 17**



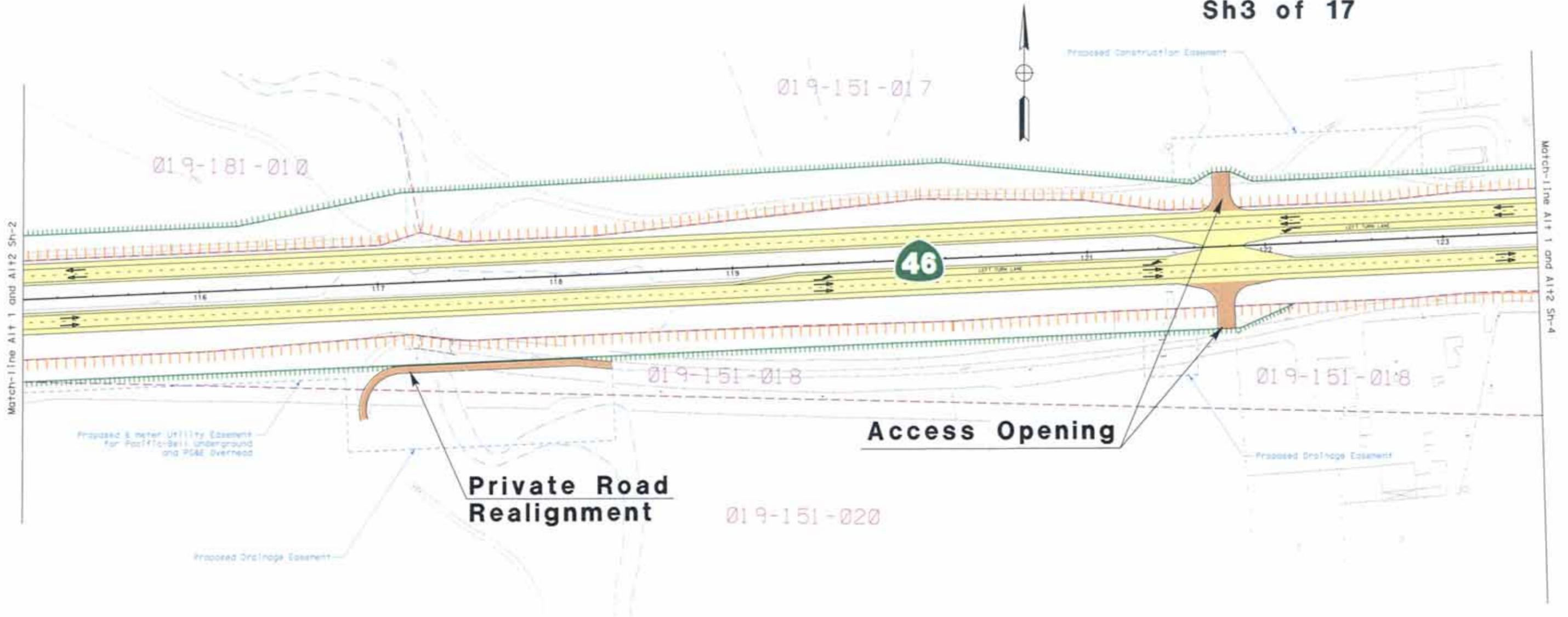
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Shandon Section
Alternatives 1 and 2
Sh2 of 17



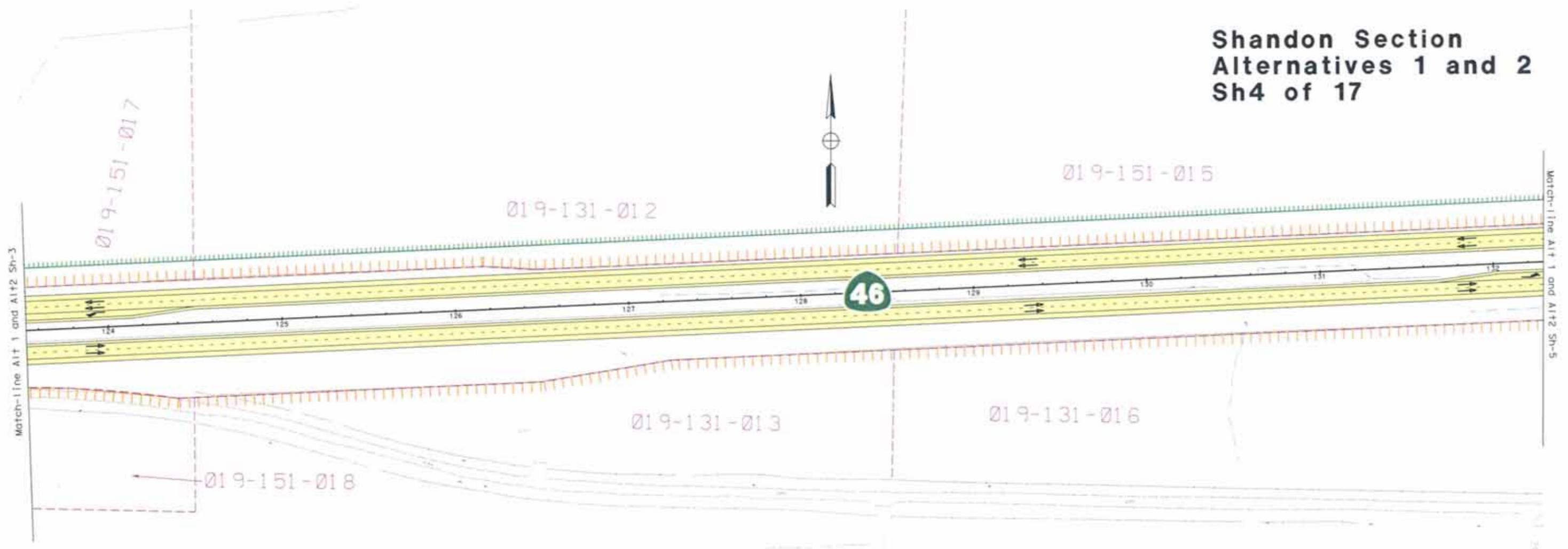
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Shandon Section Alternatives 1 and 2 Sh3 of 17



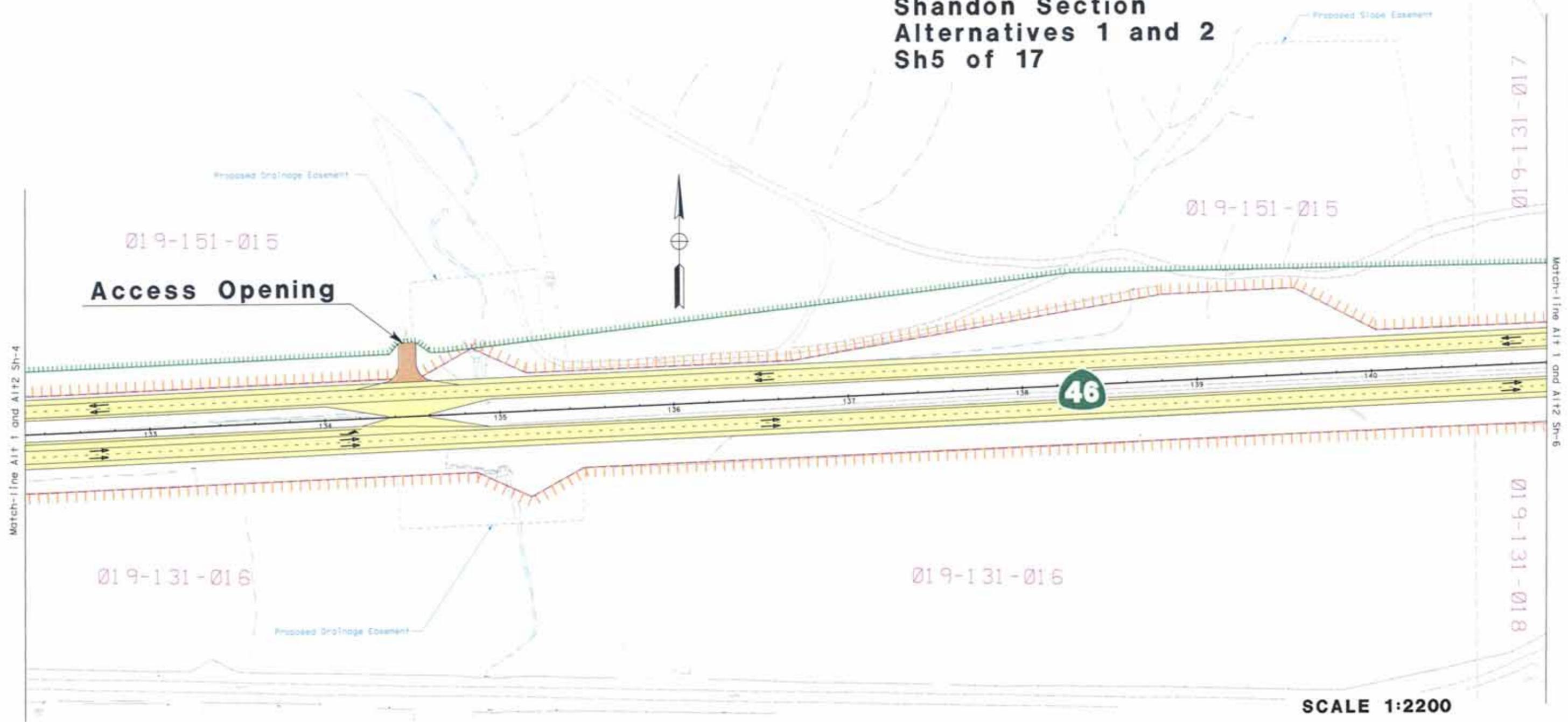
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**Shandon Section
Alternatives 1 and 2
Sh4 of 17**



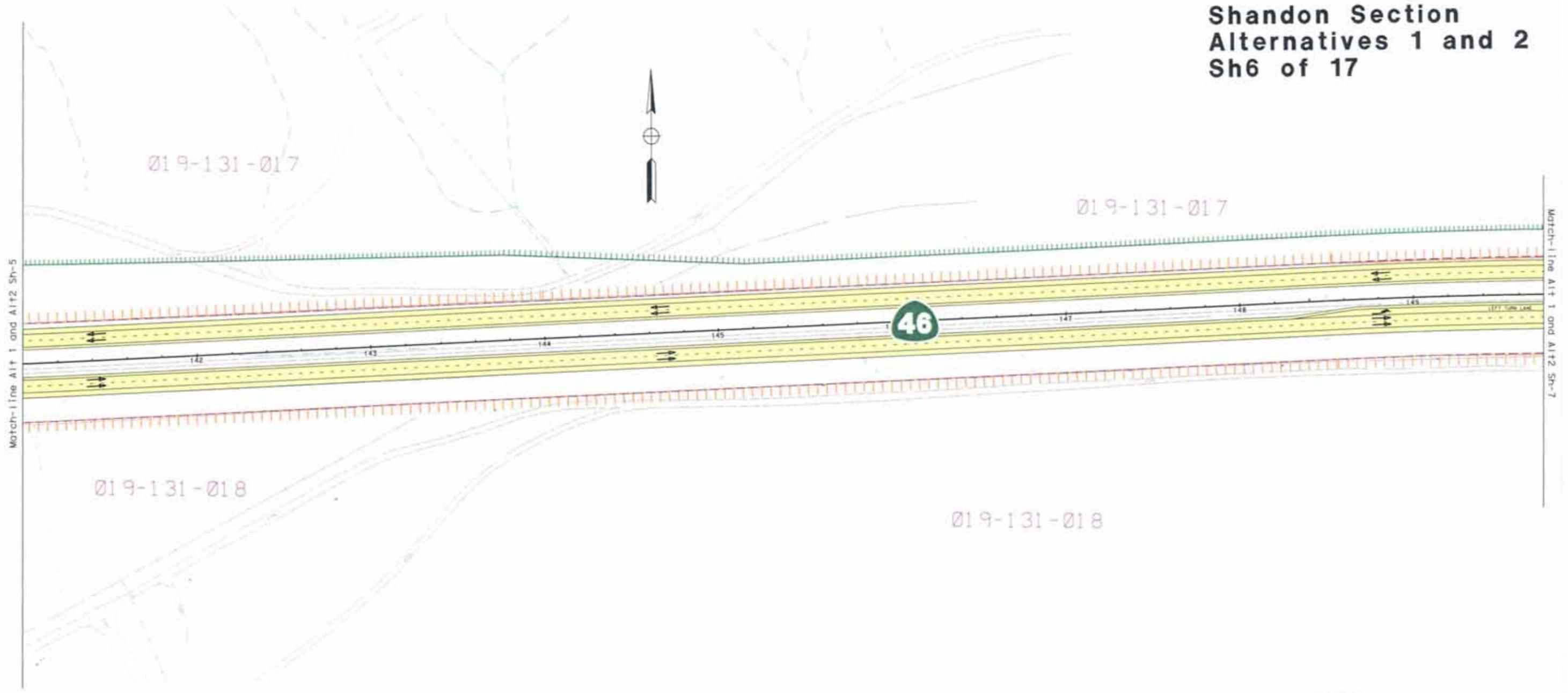
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Shandon Section Alternatives 1 and 2 Sh5 of 17



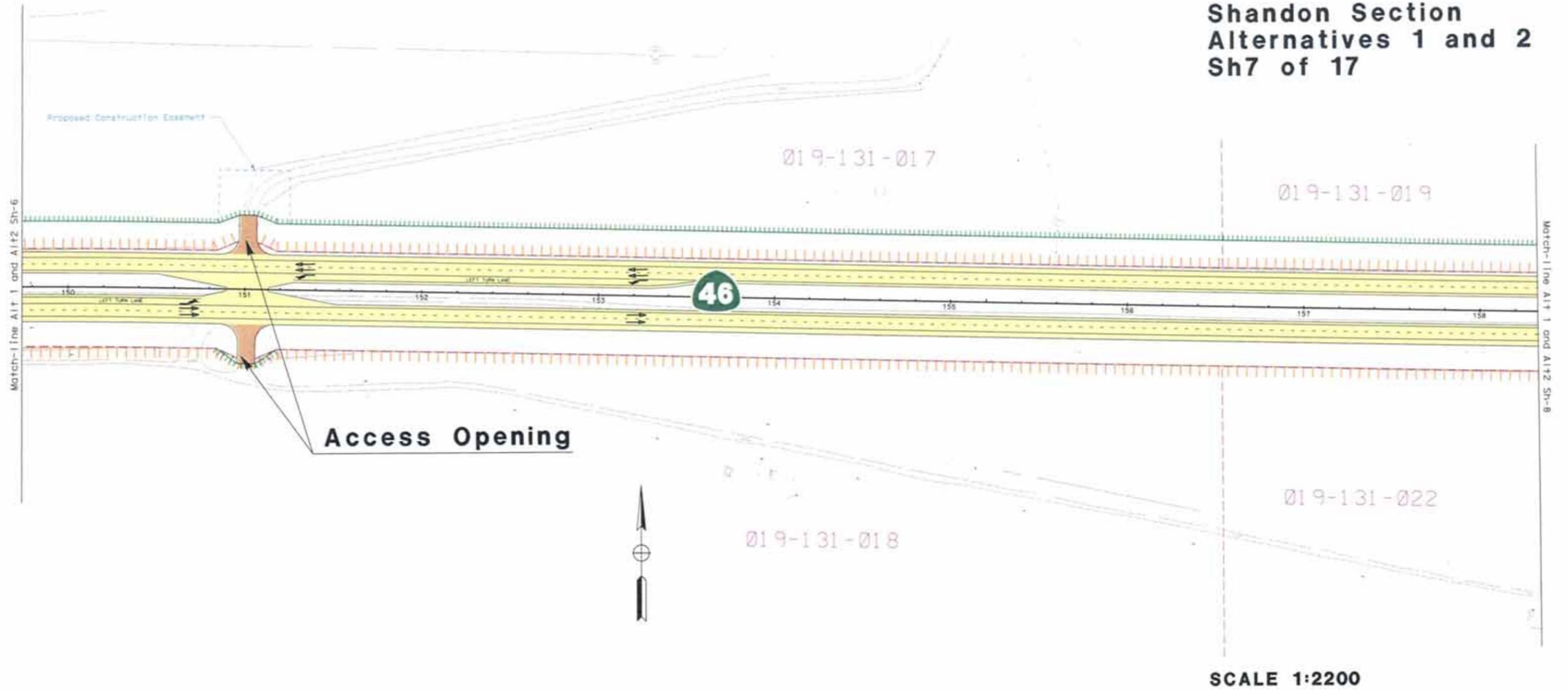
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**Shandon Section
Alternatives 1 and 2
Sh6 of 17**

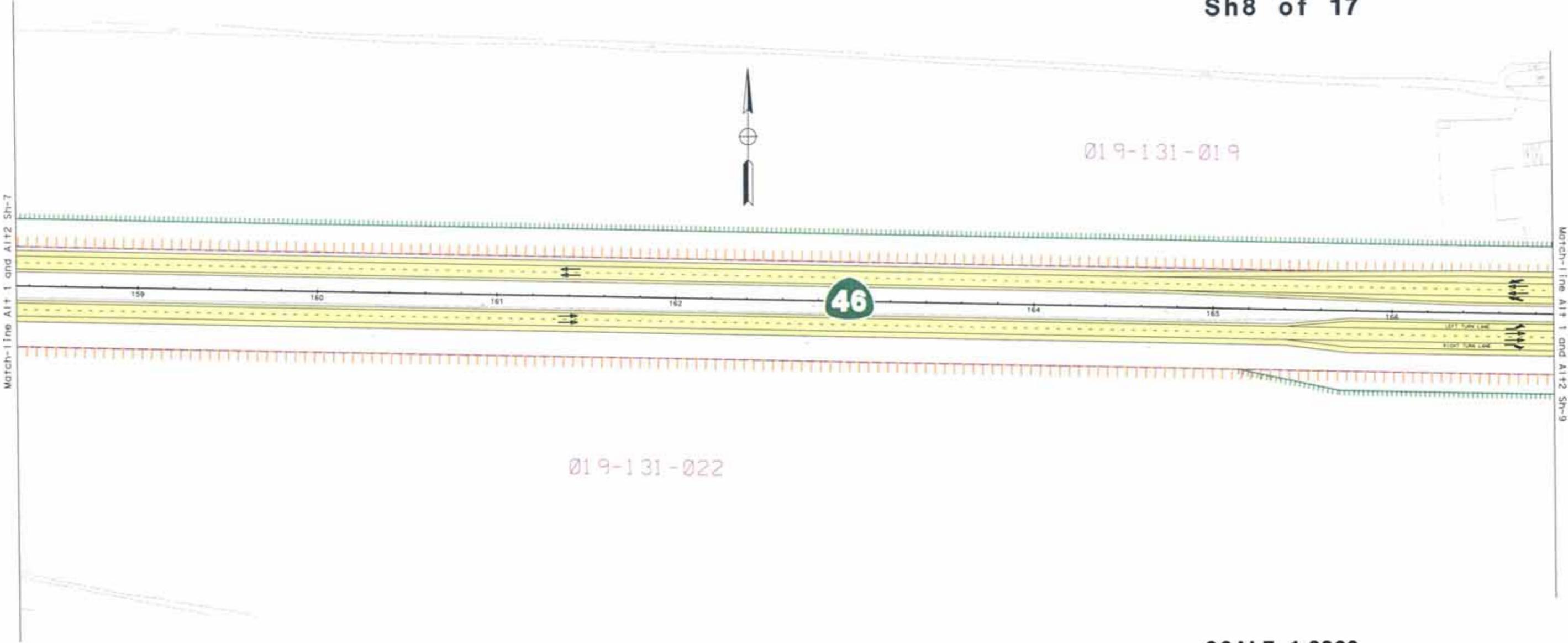


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**Shandon Section
Alternatives 1 and 2
Sh7 of 17**

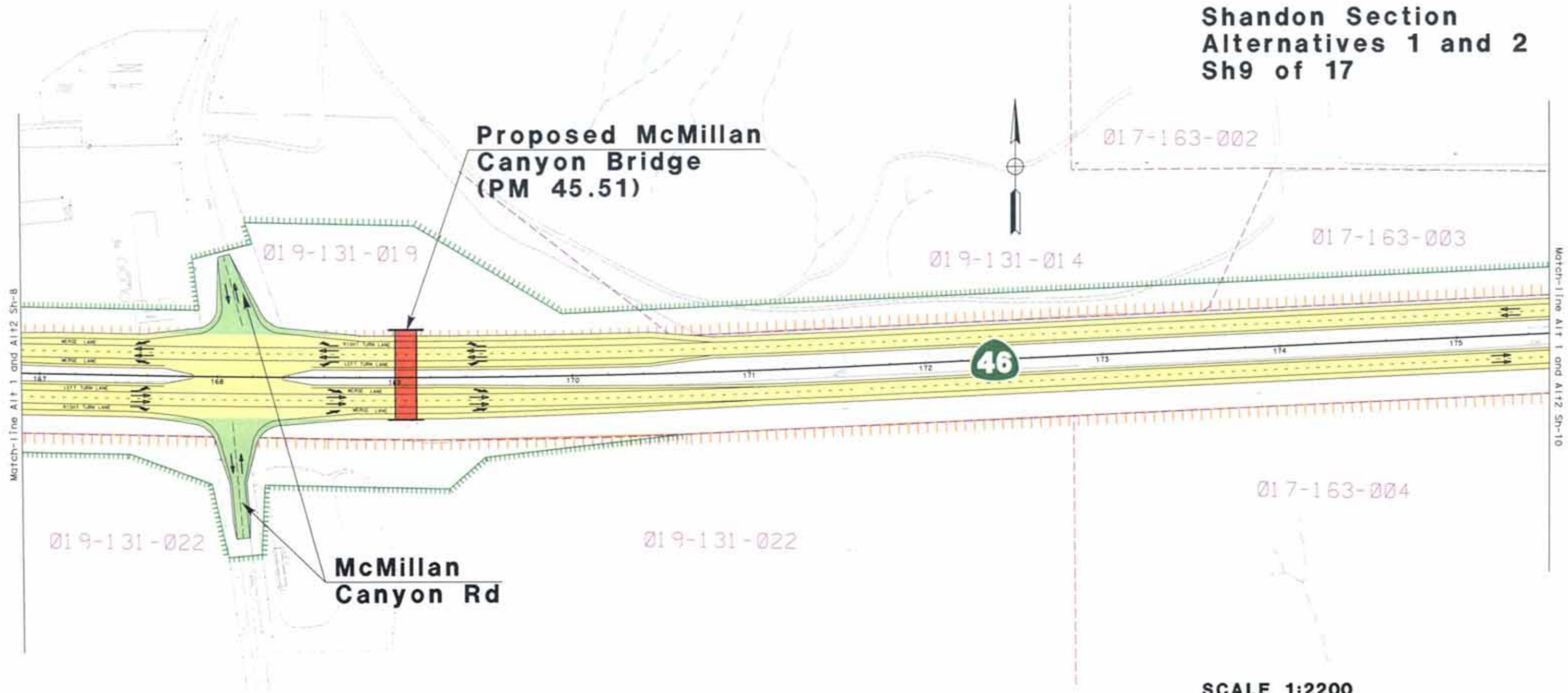


**Shandon Section
Alternatives 1 and 2
Sh8 of 17**



SCALE 1:2200

**Shandon Section
Alternatives 1 and 2
Sh9 of 17**

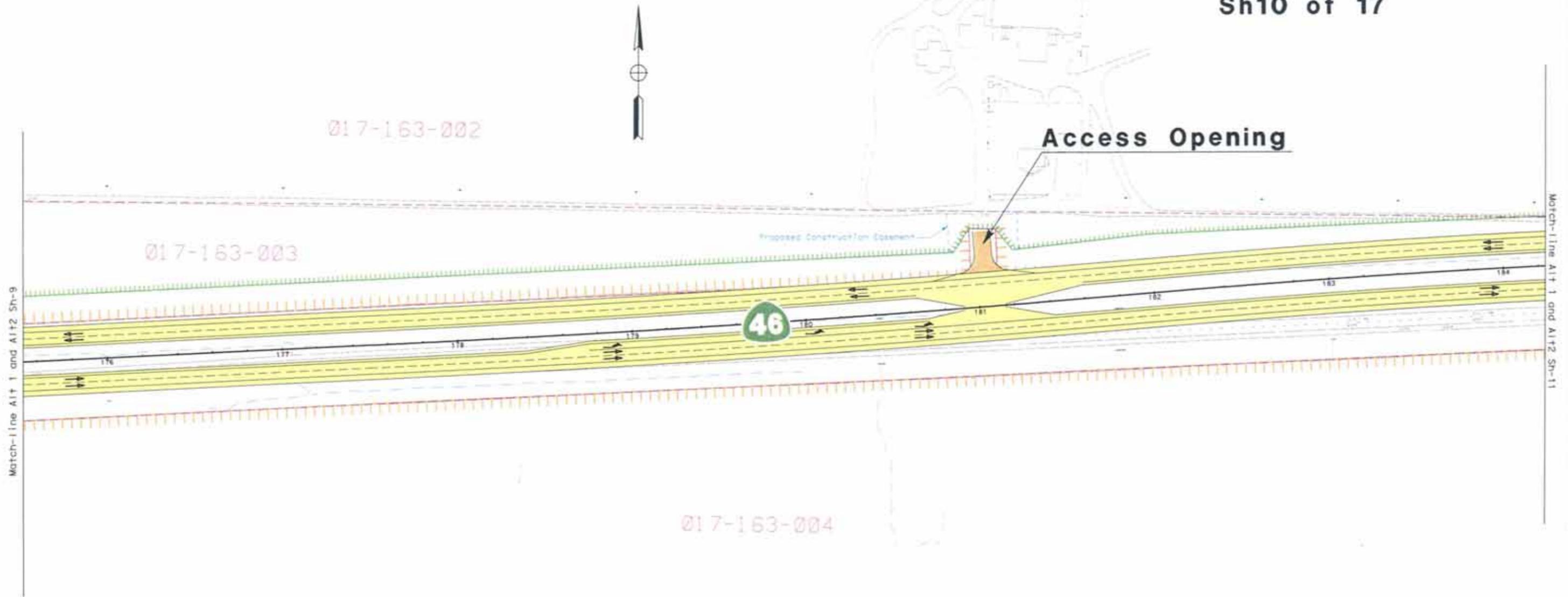


**Proposed McMillan
Canyon Bridge
(PM 45.51)**

**McMillan
Canyon Rd**

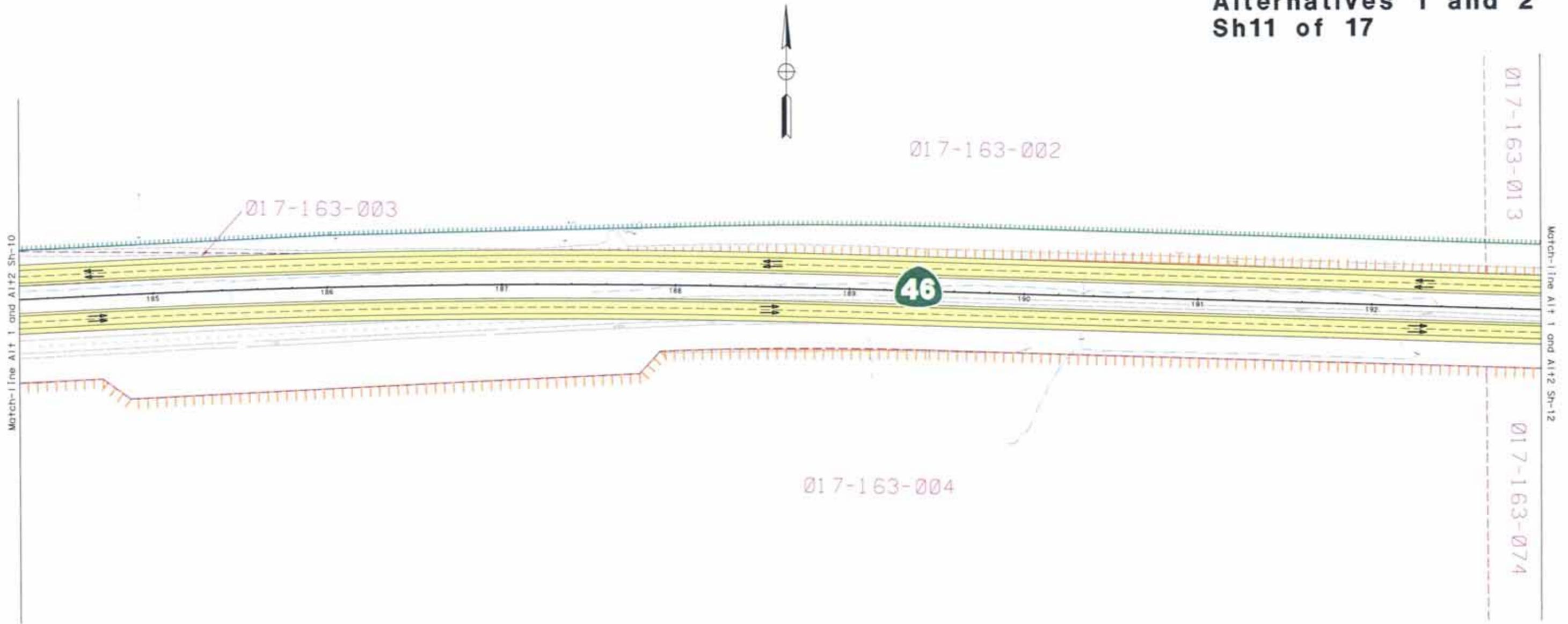
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Shandon Section
Alternatives 1 and 2
Sh10 of 17



SCALE 1:2200

Shandon Section
Alternatives 1 and 2
Sh11 of 17



SCALE 1:2200

Shandon Section
Alternatives 1 and 2
Sh12 of 17



017-163-013

017-163-074

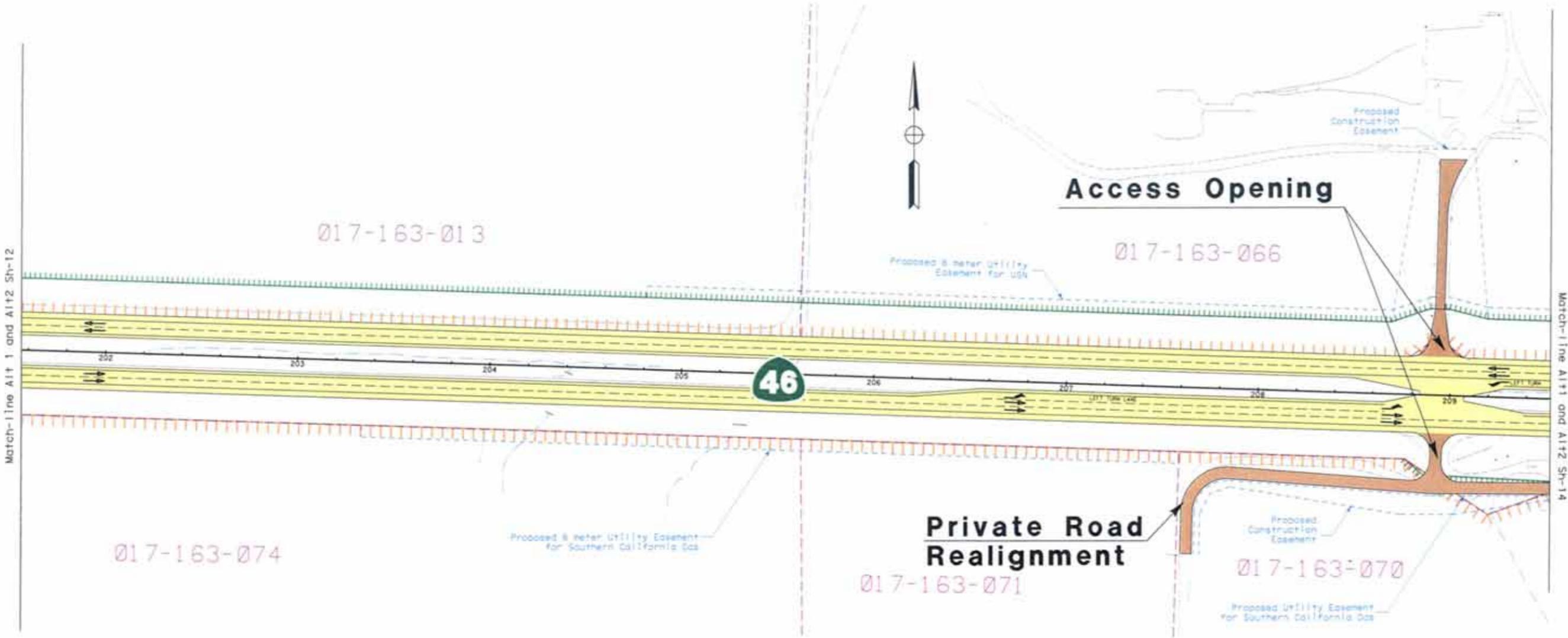
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Match-line Alt 1 and Alt 2 Sh-11

Match-line Alt 1 and Alt 2 Sh-13

SCALE 1:2200

**Shandon Section
Alternatives 1 and 2
Sh13 of 17**



SCALE 1:2200



Processed Easement
For Slope, Drainage, and Utility

017-163-054

Match-line Alt 1 Sh-15

**Proposed Westbound
Cholame Creek Bridge**

017-163-066

Proposed 6 meter
utility Easement
For USN

46

017-163-059

017-163-060

**Shandon Section
Alternative 1
Sh14 of 17**

ROUTE 41

Match-line Alt 1 and Alt 2 Sh-13

46

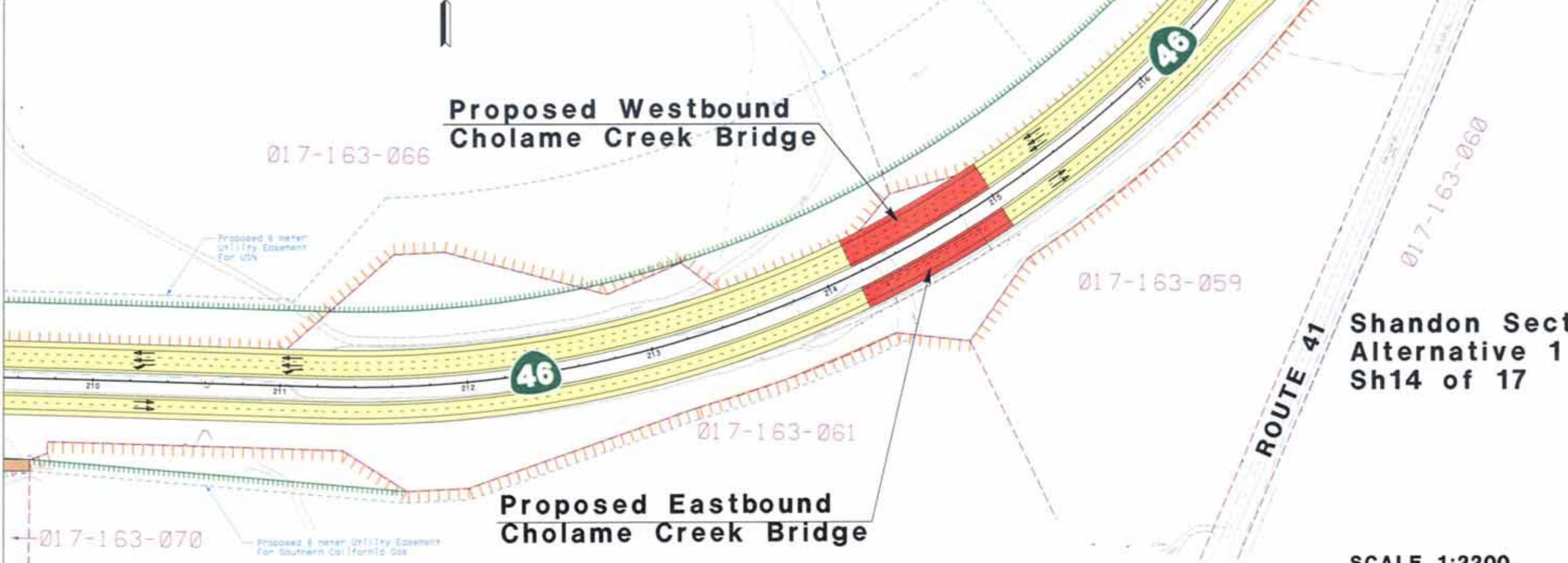
017-163-061

**Proposed Eastbound
Cholame Creek Bridge**

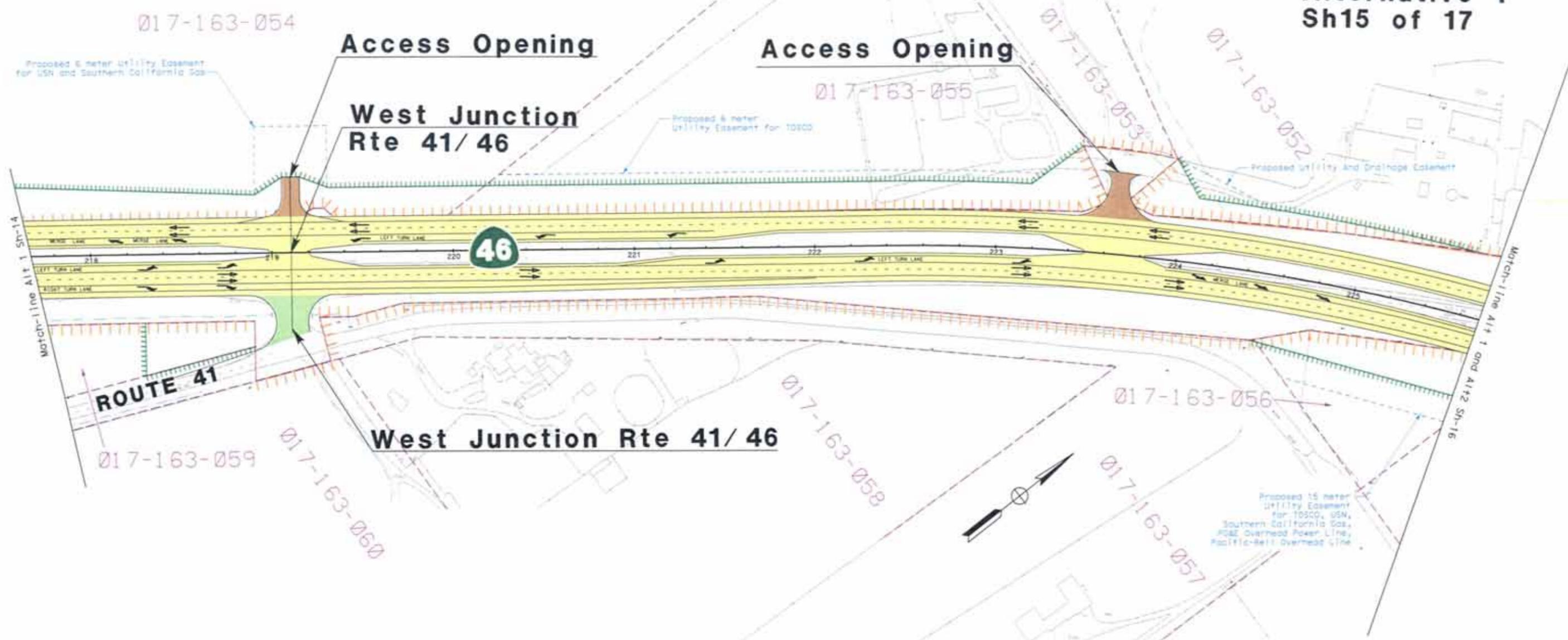
017-163-070

Proposed 6 meter Utility Easement
For Southern California Gas

SCALE 1:2200

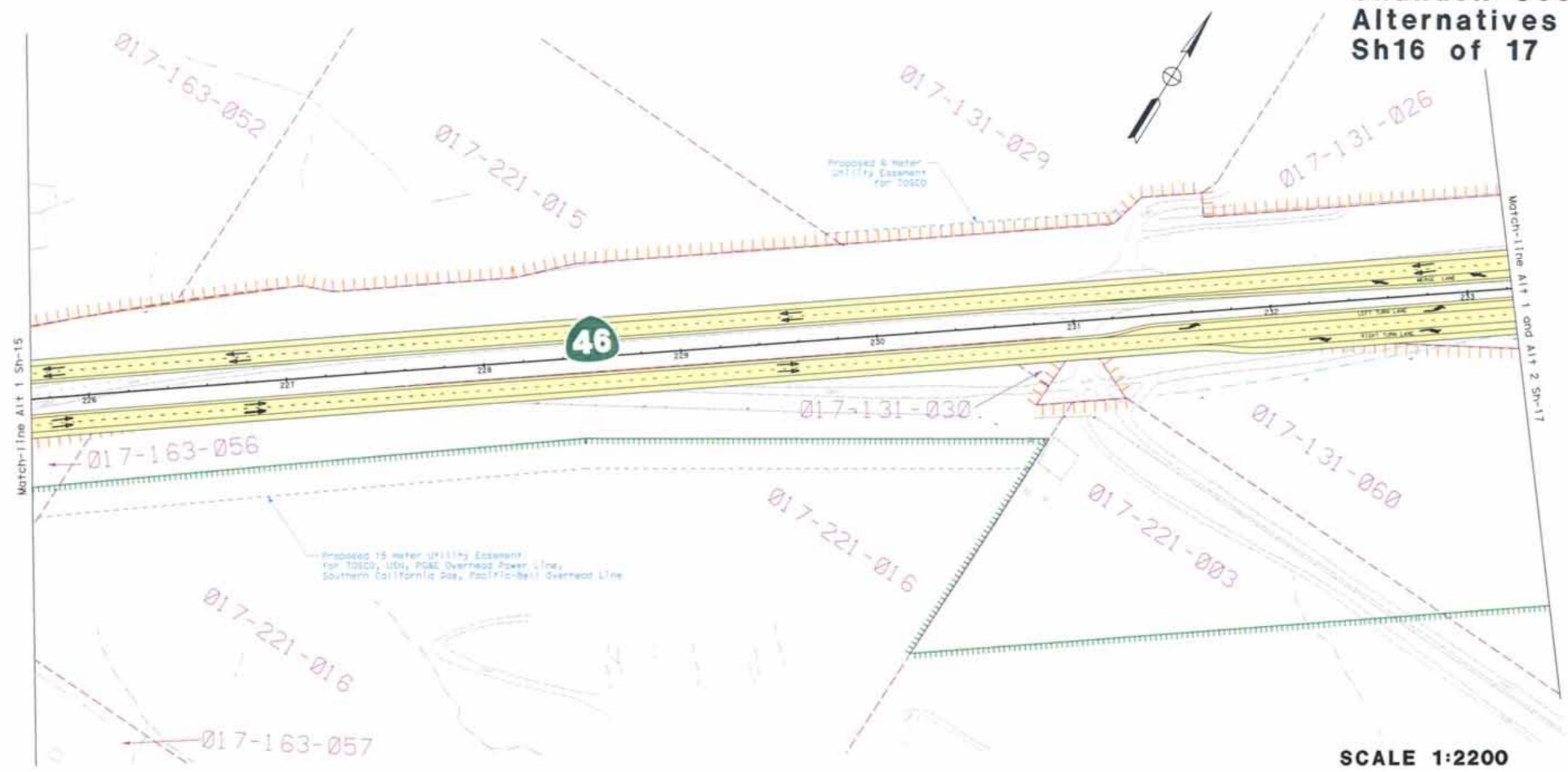


**Shandon Section
Alternative 1
Sh15 of 17**



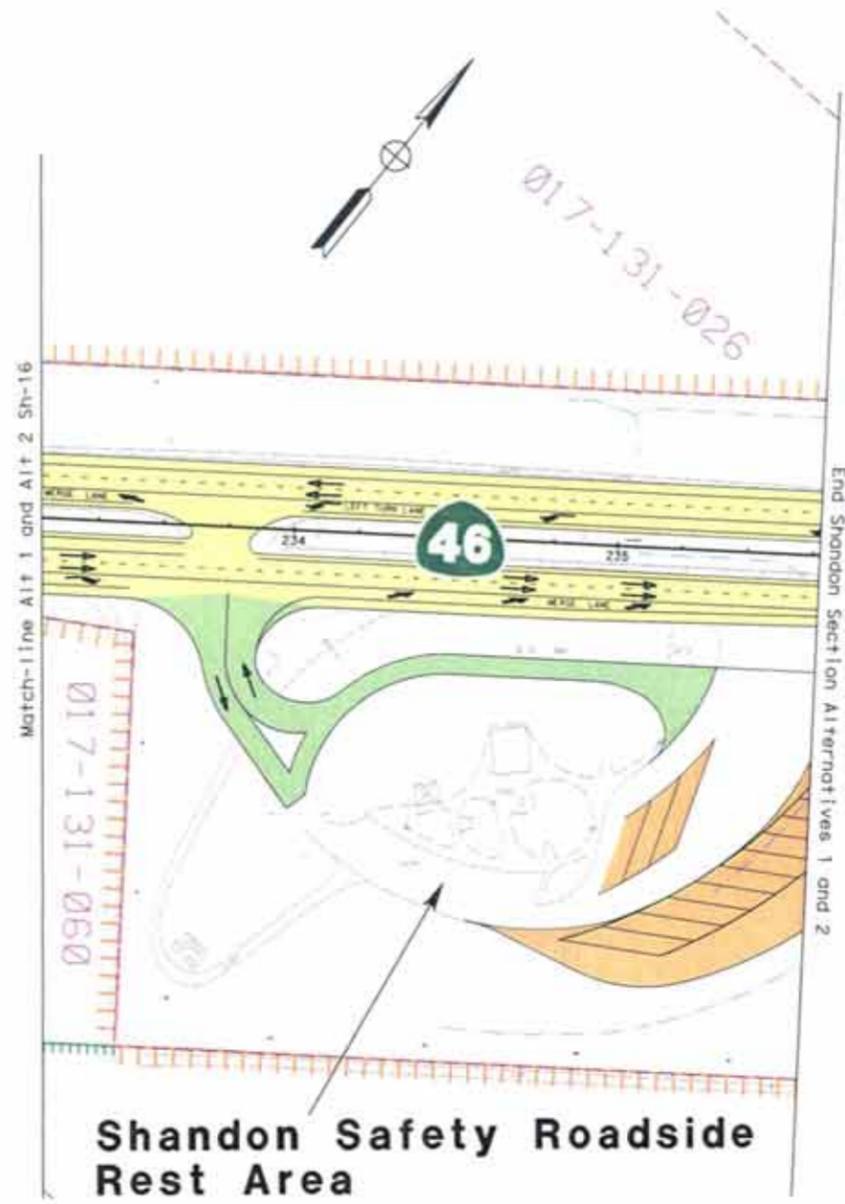
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Shandon Section Alternatives 1 and 2 Sh16 of 17

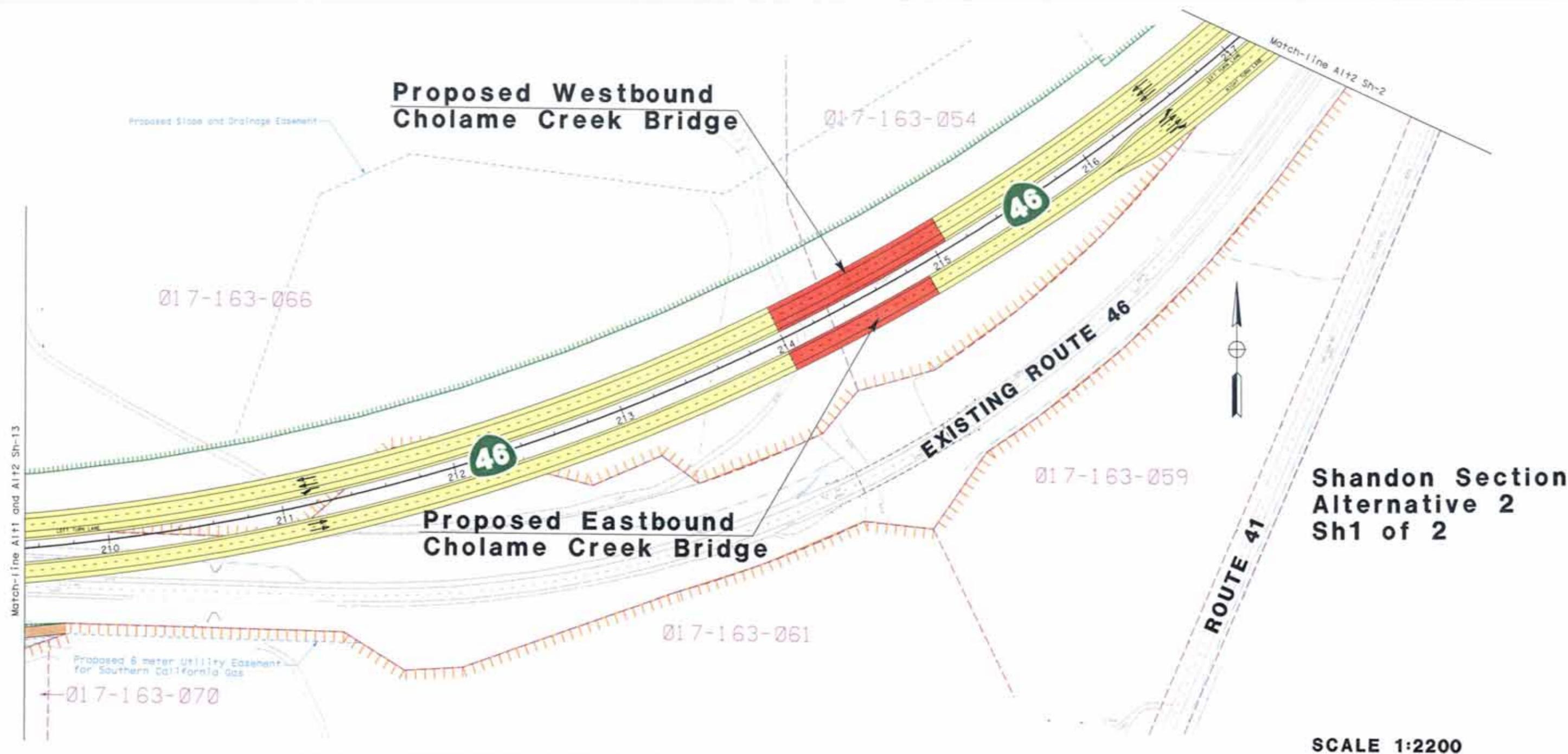


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**Shandon Section
Alternatives 1 and 2
Sh17 of 17**



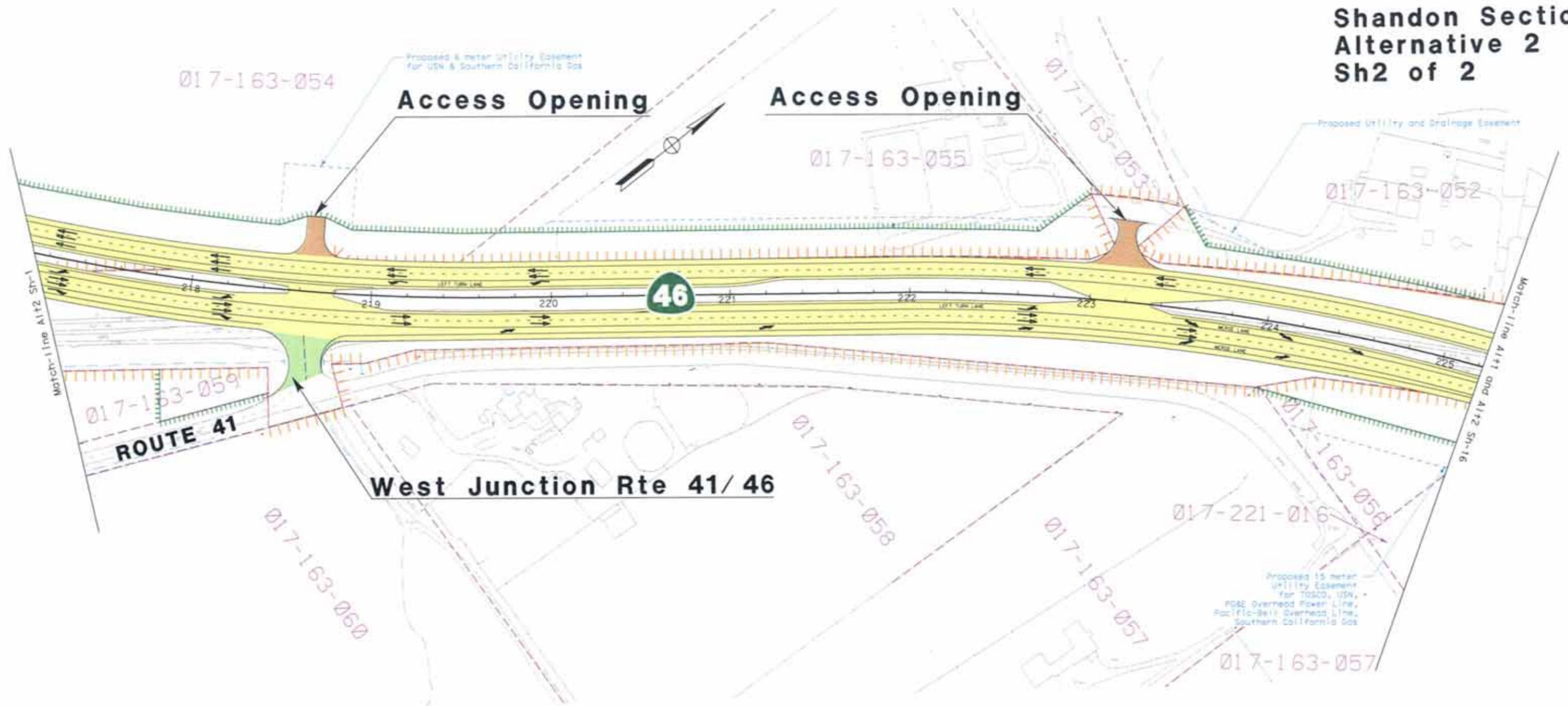
SCALE 1:2200



**Shandon Section
Alternative 2
Sh1 of 2**

SCALE 1:2200

**Shandon Section
Alternative 2
Sh2 of 2**



SCALE 1:2200

Appendix A: Project Alternative Mapping

A.3 Cholame Section, Alternatives 1 and 2

LEGEND



Existing Right of Way



Proposed Right of Way



Property Line



Easement Line



Existing Feature



Existing Waterway



Proposed Mainline



Proposed Connector



County Road



Proposed Structure



Access Opening



Earthen Berm



Sound Wall



State Route



Noise Receptor Location



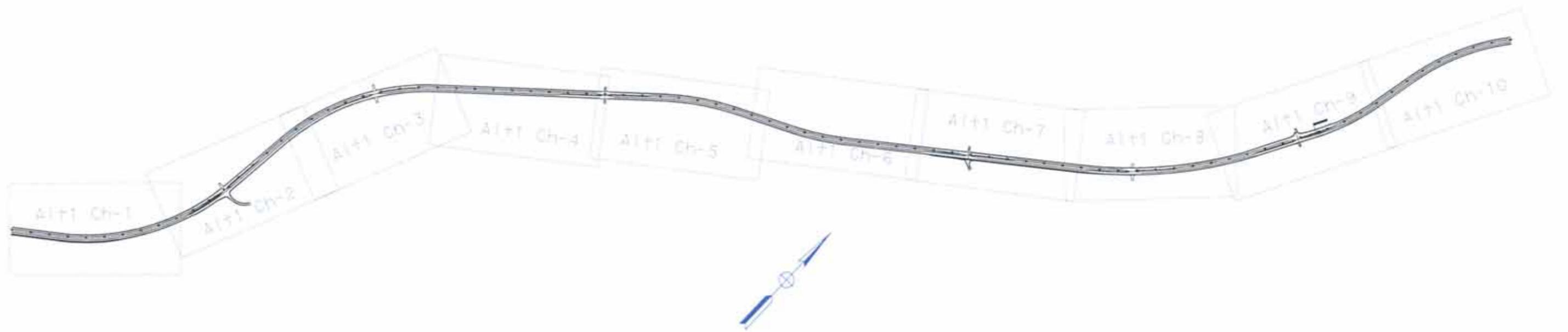
Traffic Movement



North Arrow

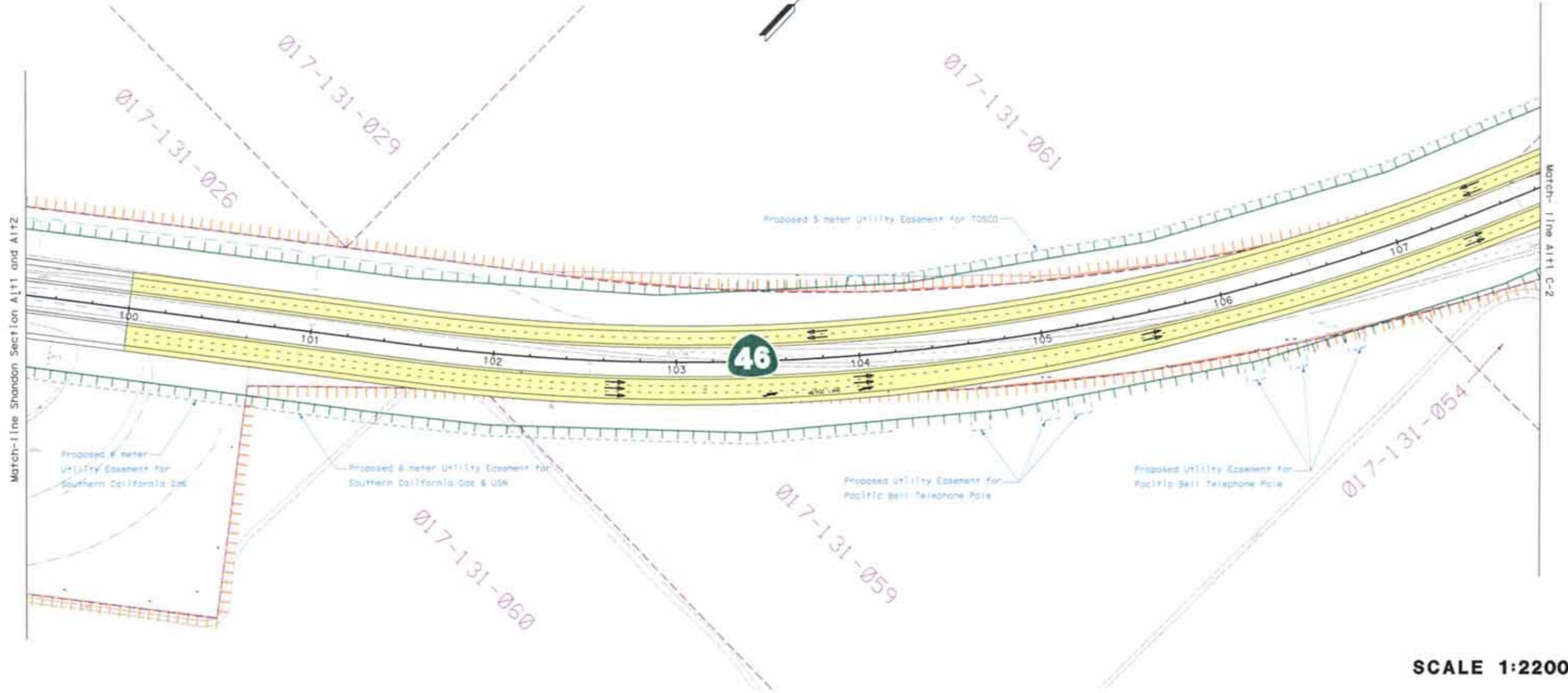
XXXX-YYYY-ZZZ

Appraisal Parcel Number



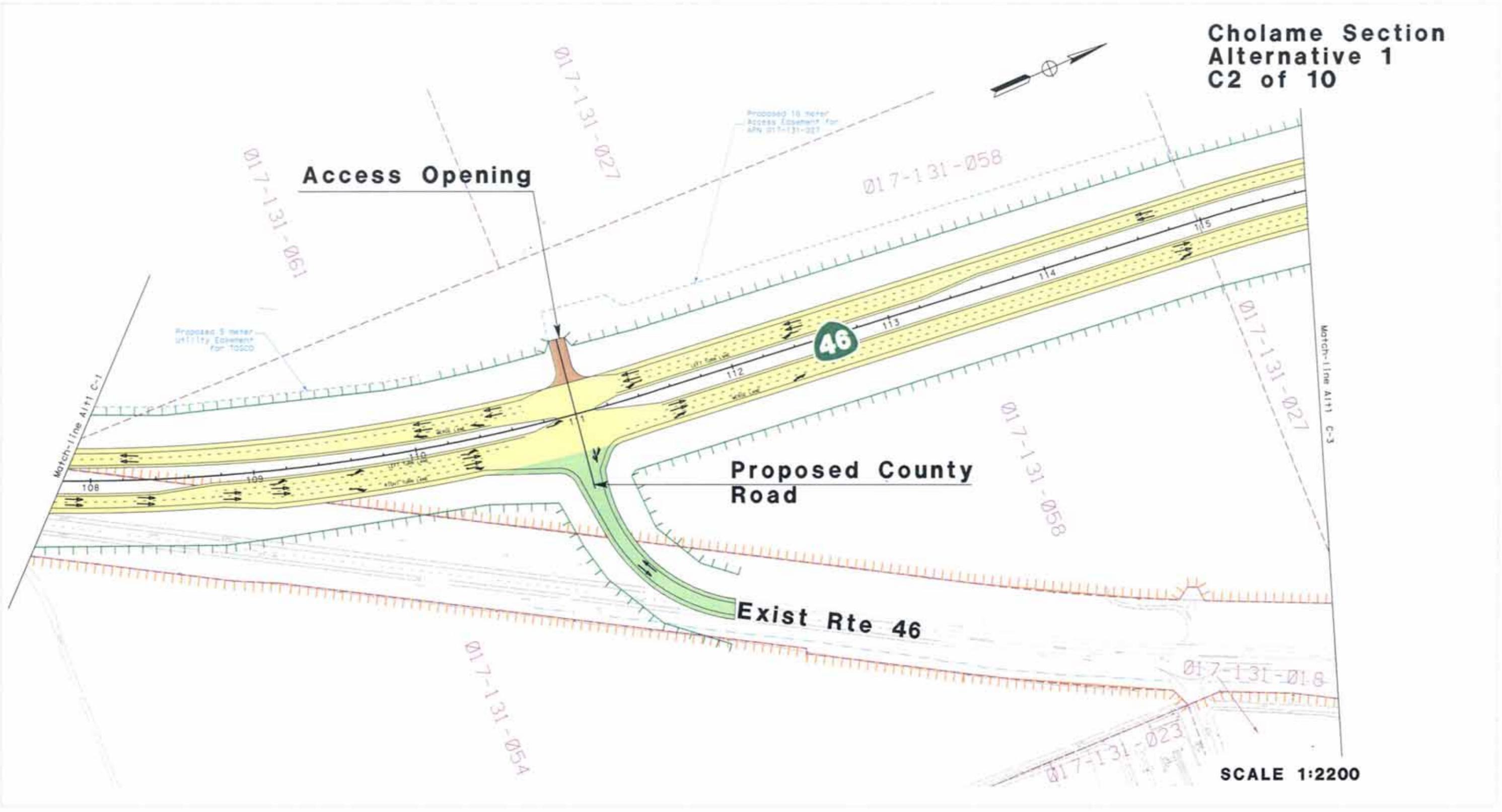
Cholame Alternative 1 Keymap

**Cholame Section
Alternative 1
C1 of 10**



SCALE 1:2200

**Cholame Section
Alternative 1
C2 of 10**



Access Opening

Proposed County Road

Exist Rte 46

SCALE 1:2200

**Proposed Westbound
Cholame Creek Bridge**

Ø17-131-027

Proposed Access Easement
for APN Ø17-131-048



**Cholame Section
Alternative 1
C3 of 10**

46

**Proposed Eastbound
Cholame Creek Bridge**

Proposed 6 m Utility Easement
For Chevron

Access Opening

Match-line Alt1 C-2

Match-line Alt1 C-4

Ø17-131-048

Ø17-131-027

Ø17-131-048

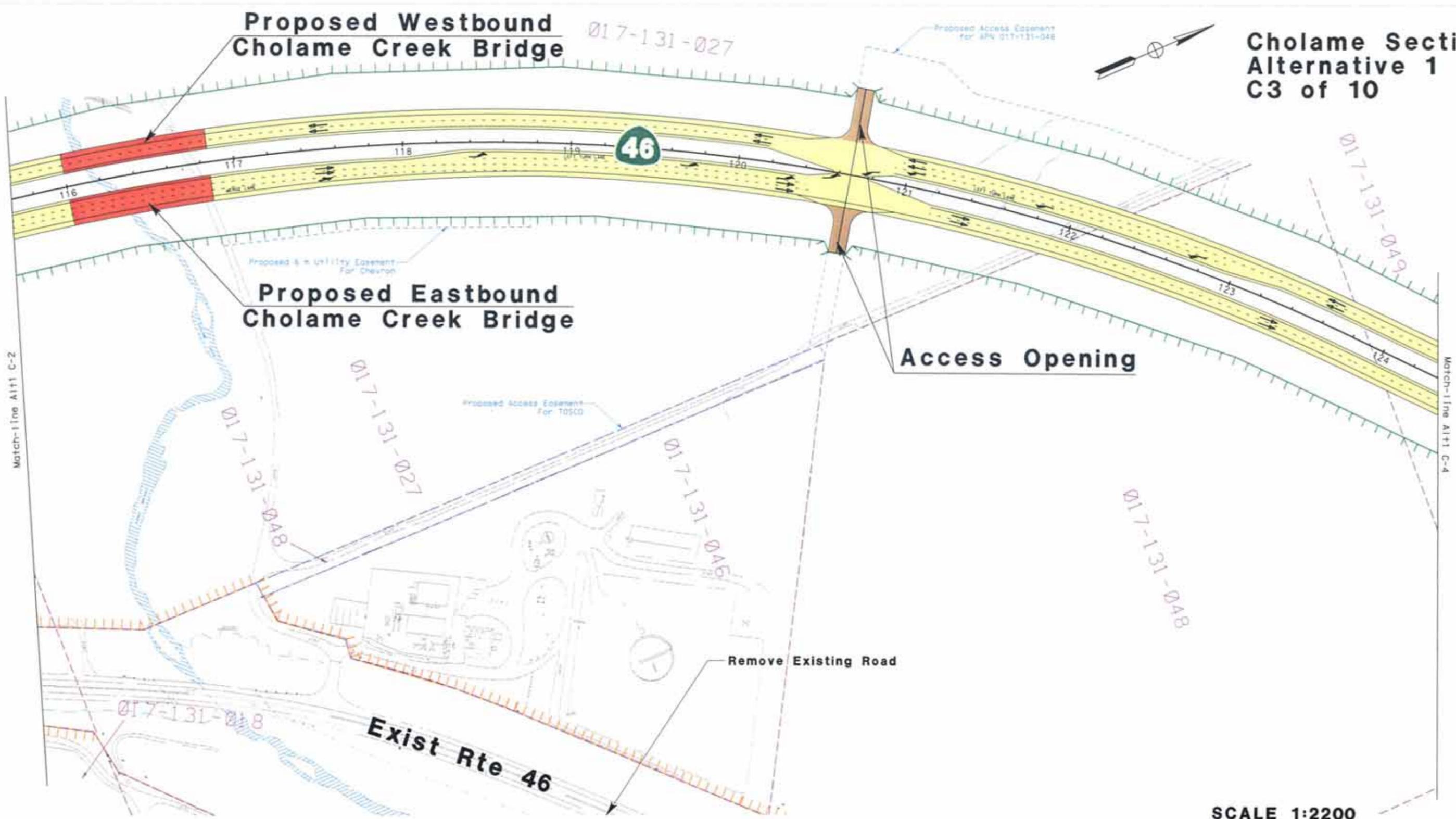
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Ø17-131-048

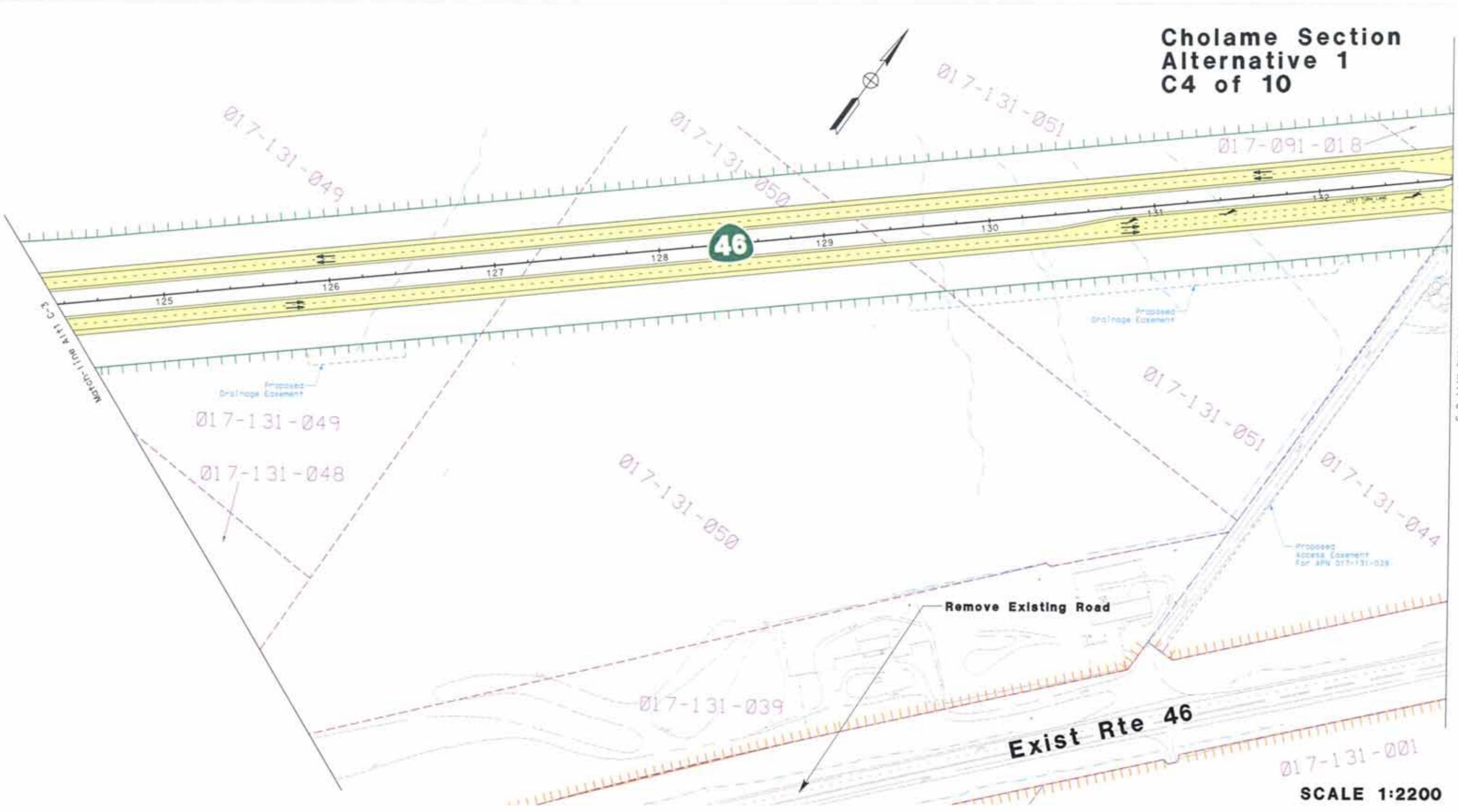
Exist Rte 46

Remove Existing Road

SCALE 1:2200



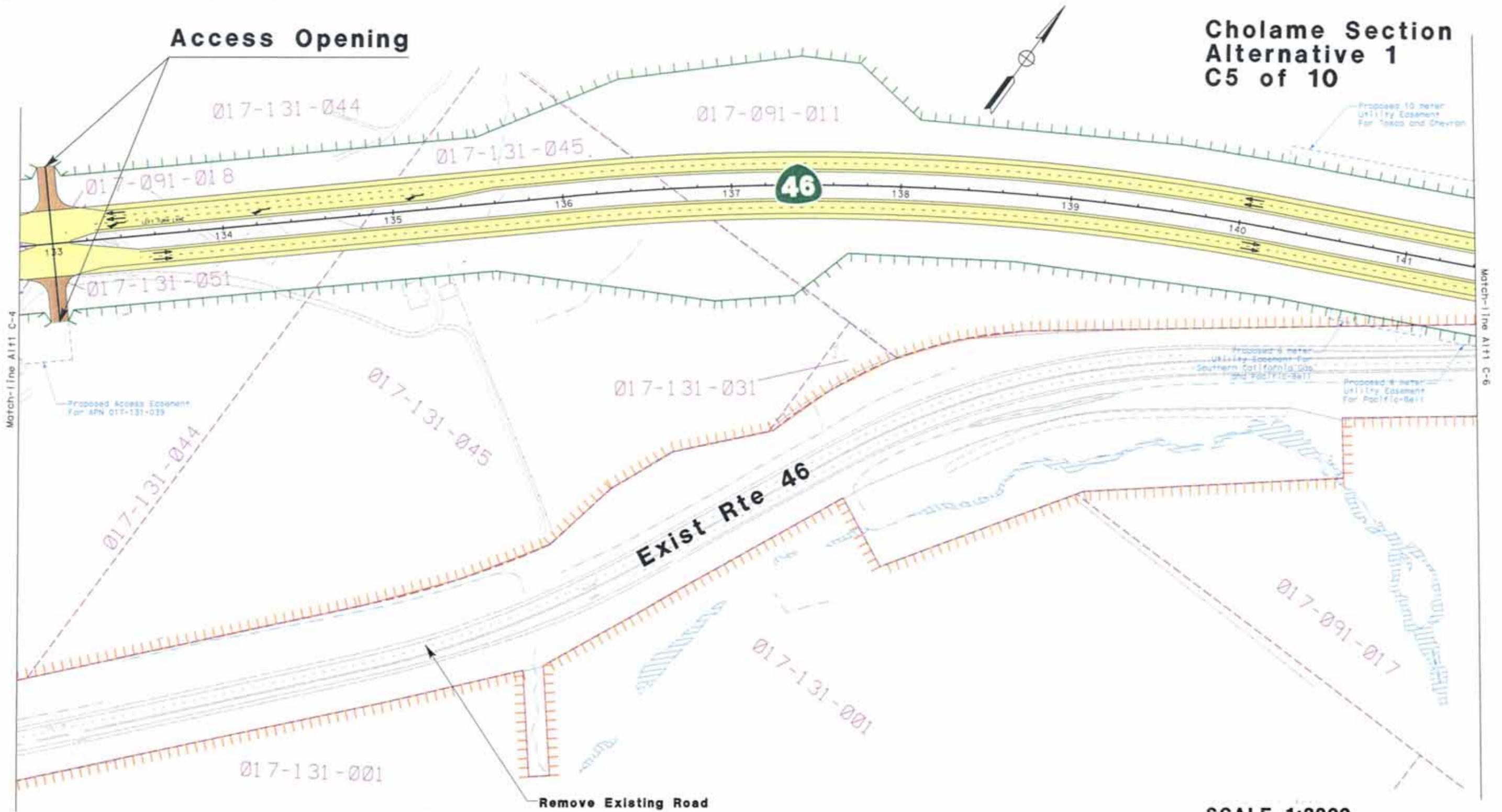
Cholame Section Alternative 1 C4 of 10



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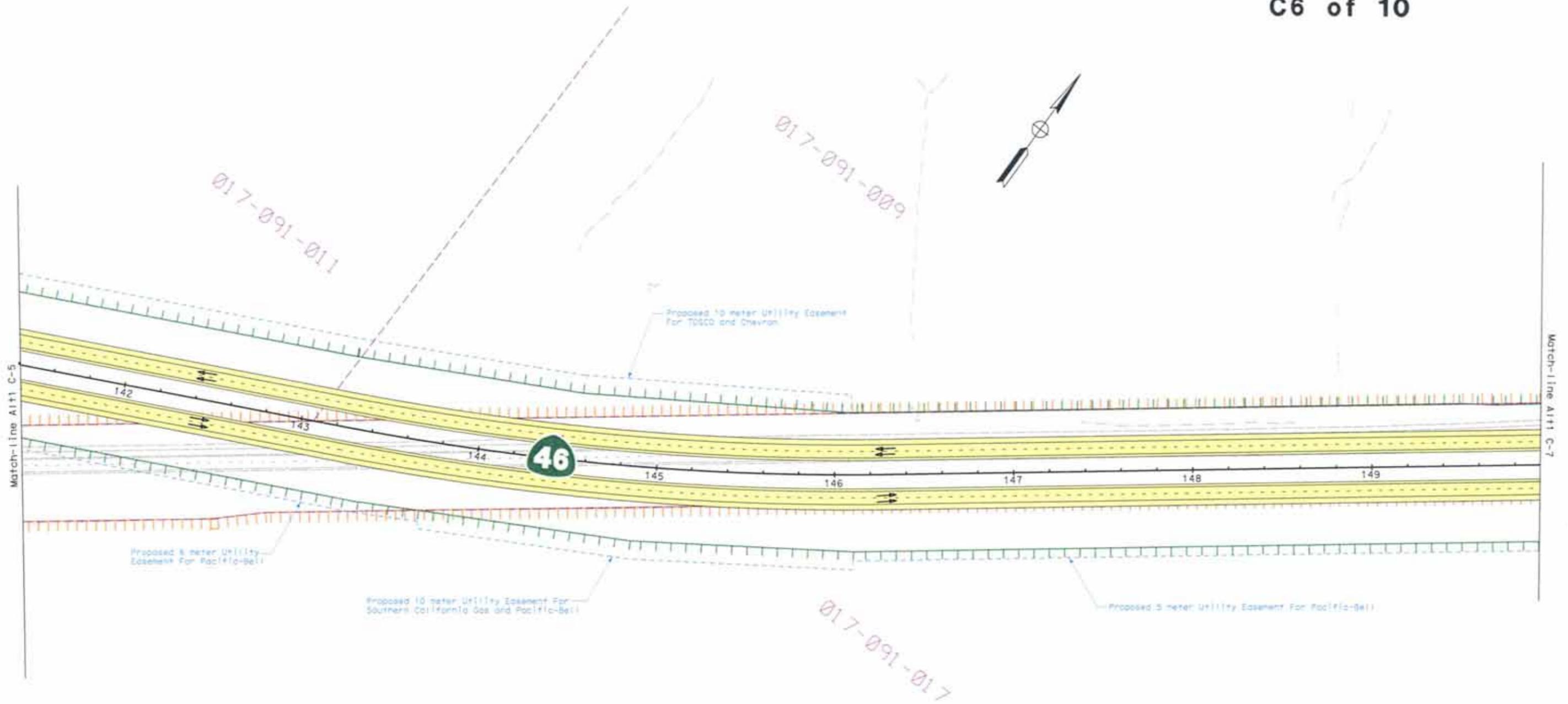
Access Opening

Cholame Section Alternative 1 C5 of 10



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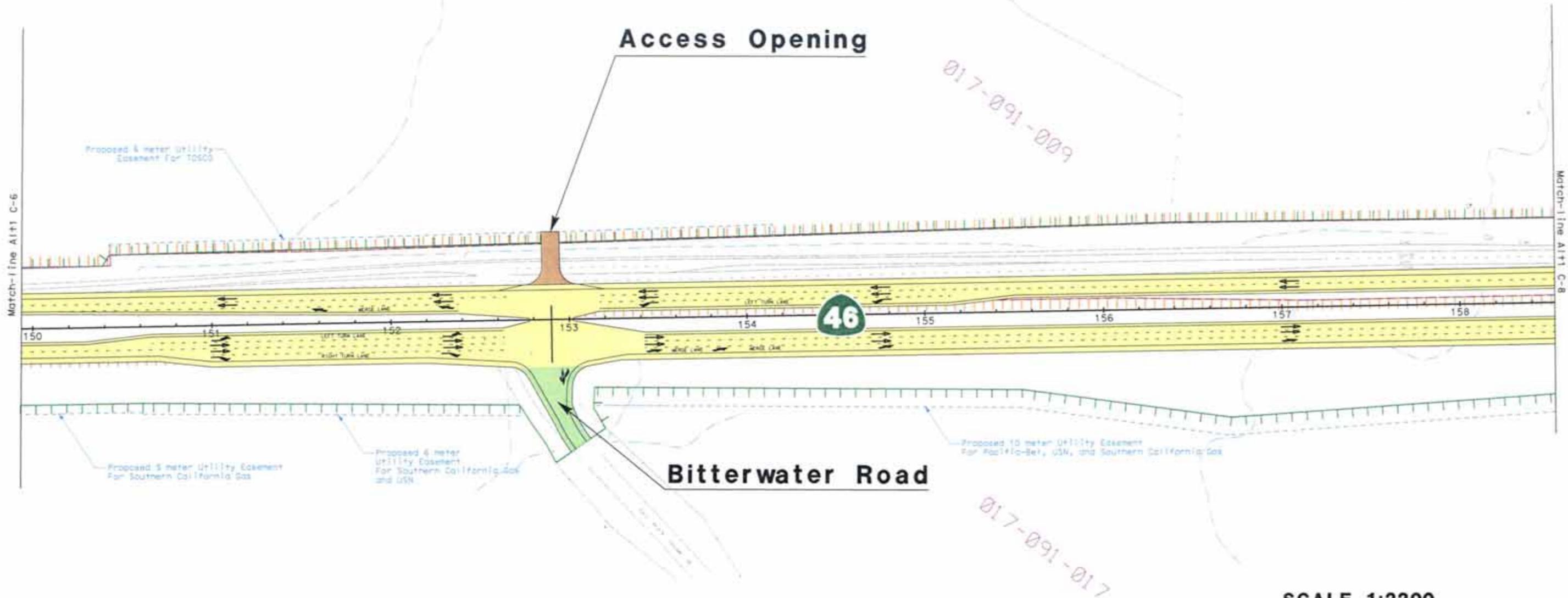
**Cholame Section
Alternative 1
C6 of 10**



SCALE 1:2200

**Cholame Section
Alternative 1
C7 of 10**

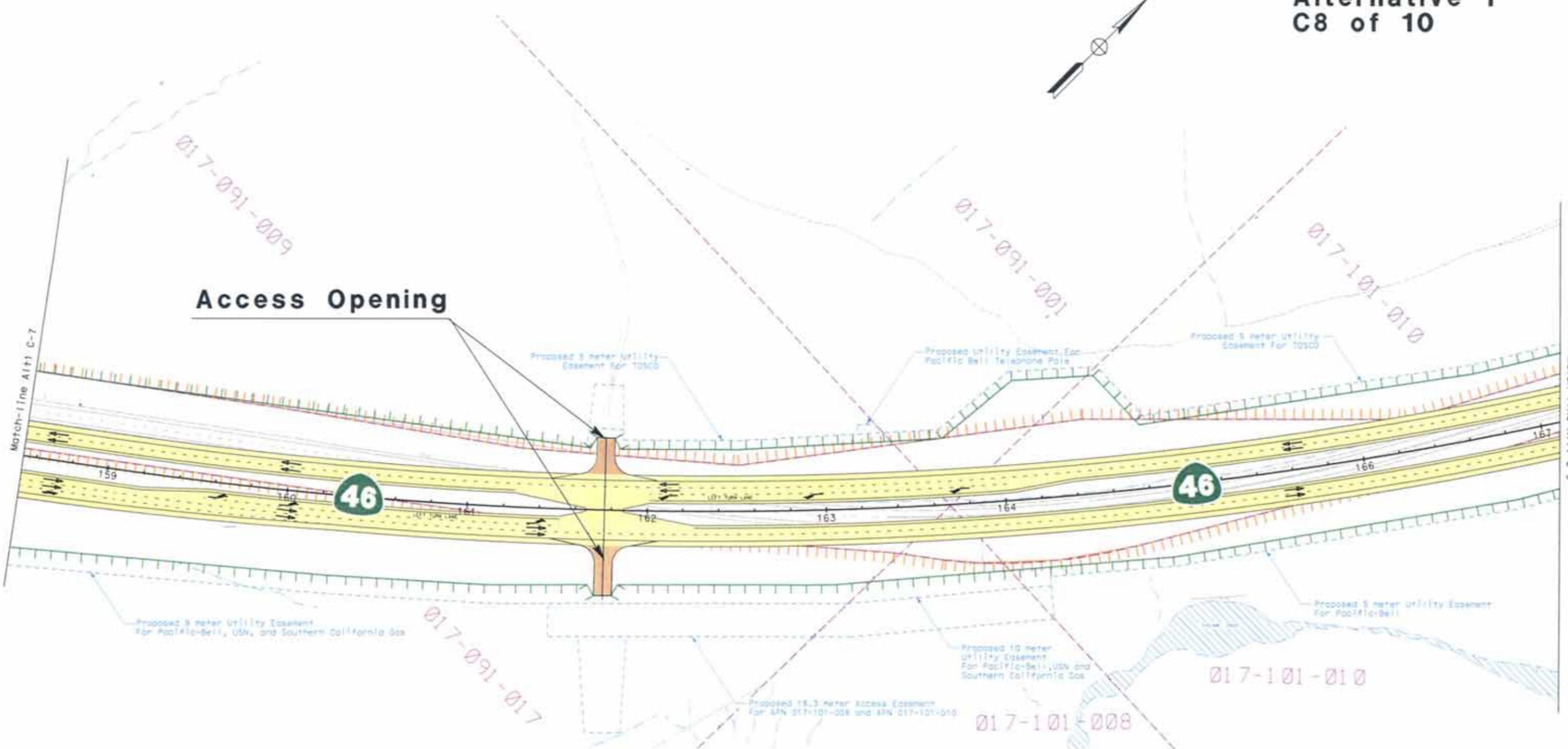
Access Opening



Bitterwater Road

SCALE 1:2200

**Cholame Section
Alternative 1
C8 of 10**



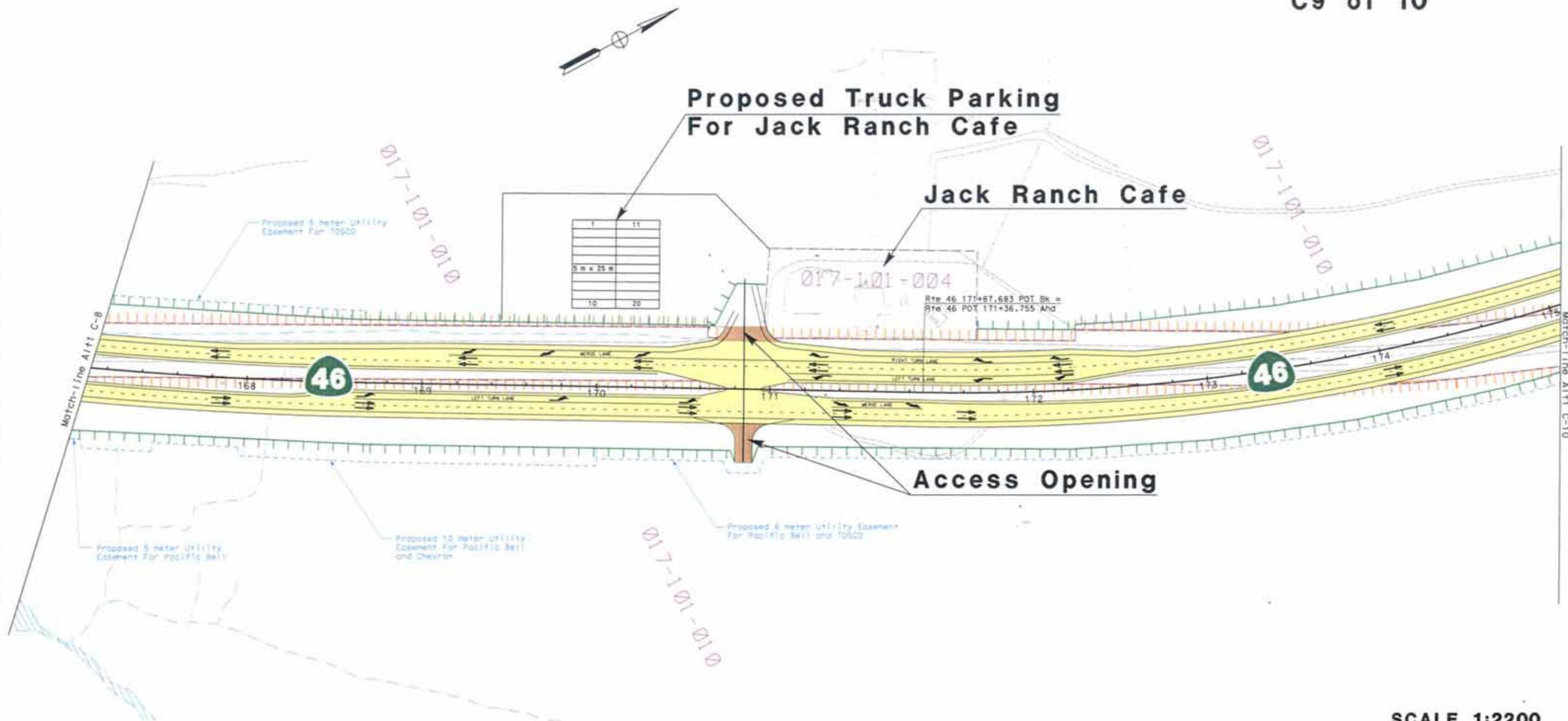
Access Opening

46

46

SCALE 1:2200

**Cholame Section
Alternative 1
C9 of 10**



SCALE 1:2200

Cholame Section Alternative 1 C10 of 10



SCALE 1:2200

LEGEND



Existing Right of Way



Proposed Right of Way



Property Line



Easement Line



Existing Feature



Existing Waterway



Proposed Mainline



Proposed Connector



County Road



Proposed Structure



Access Opening



Earthen Berm



Sound Wall



State Route



Noise Receptor Location



Traffic Movement



North Arrow

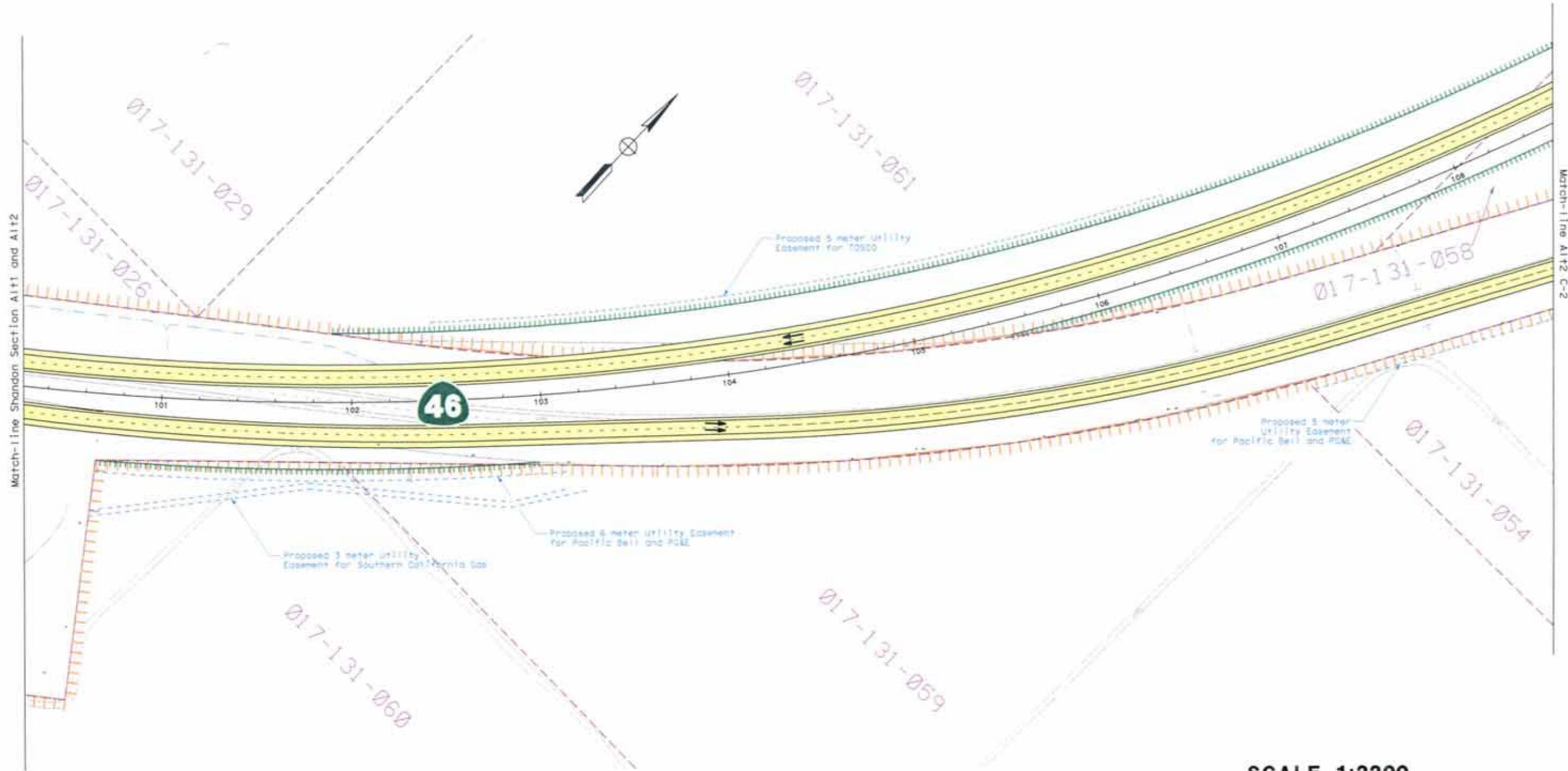
APPRAISAL PARCEL NUMBER

Appraisal Parcel Number



Cholame Alternative 2 Keymap

Cholame Section Alternative 2 C1 of 12



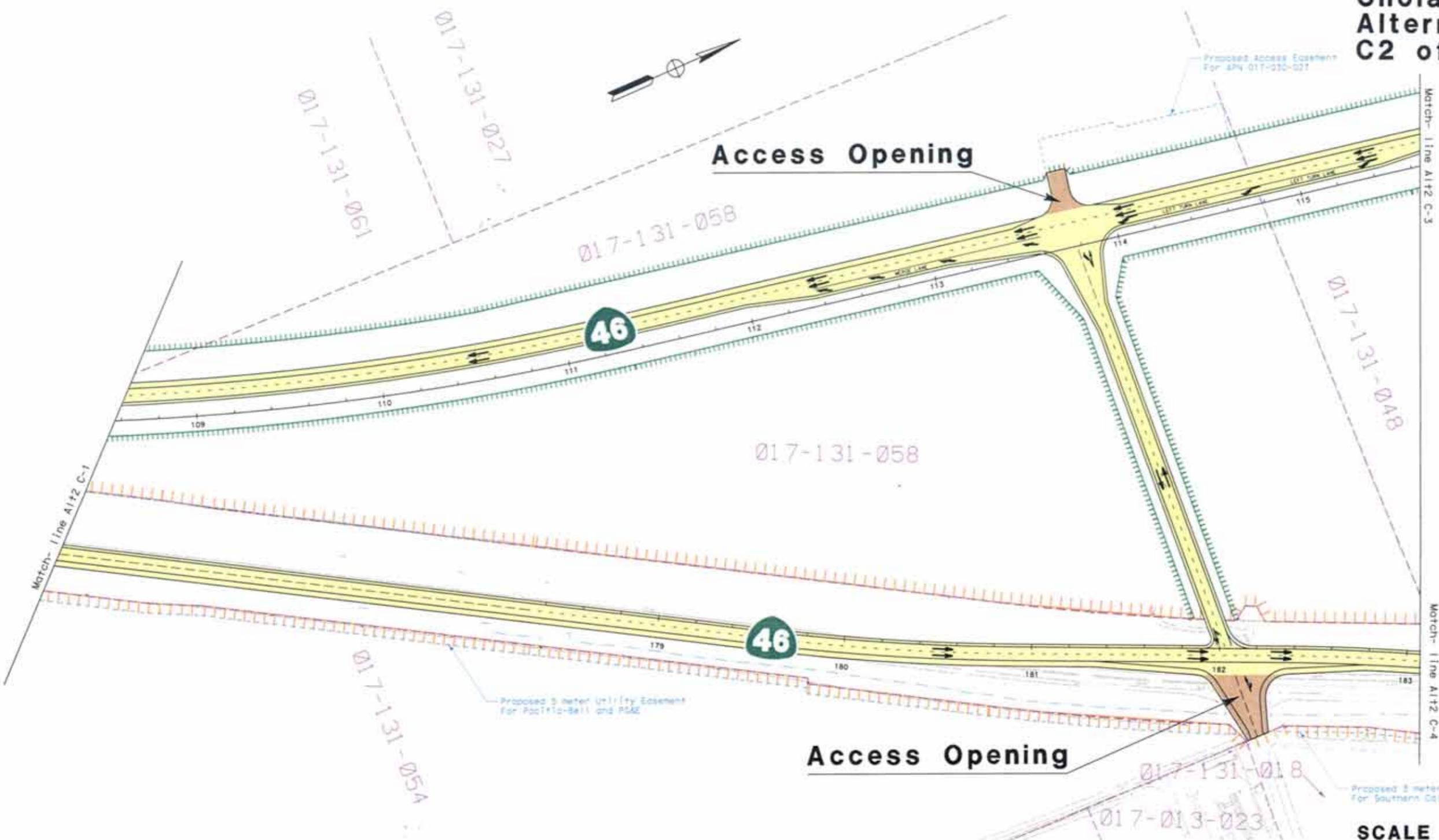
SCALE 1:2200

**Cholame Section
Alternative 2
C2 of 12**



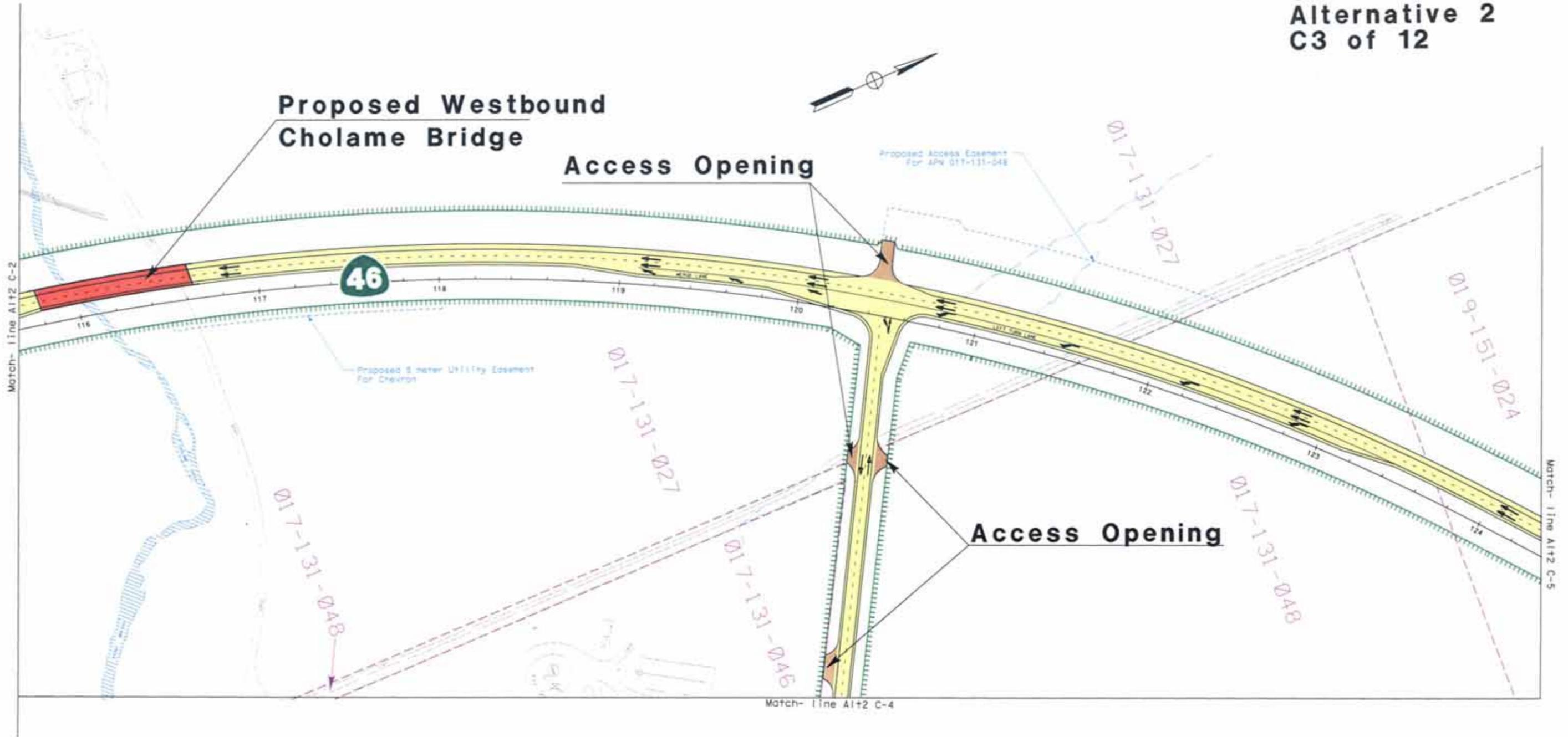
Access Opening

Access Opening



SCALE 1:2200

**Cholame Section
Alternative 2
C3 of 12**



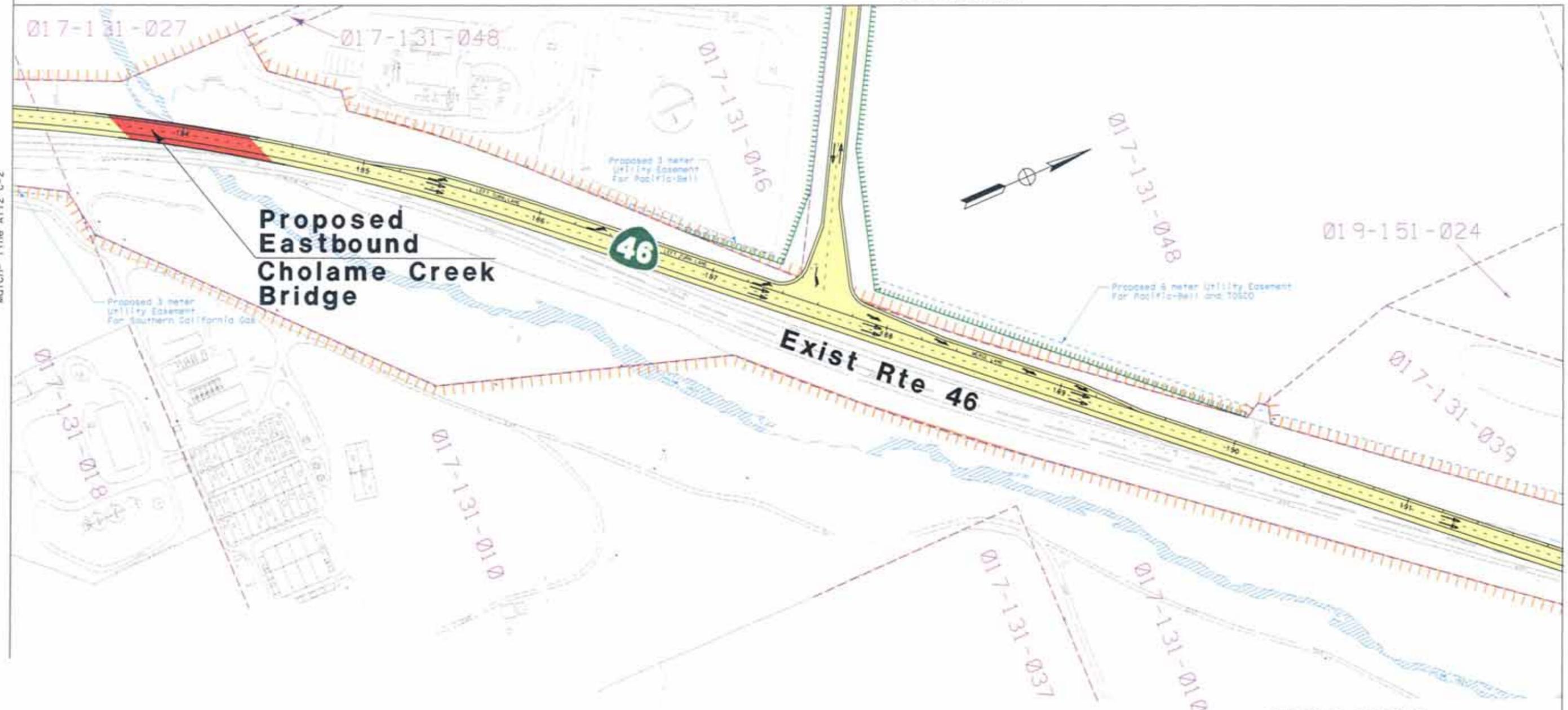
SCALE 1:2200

**Cholame Section
Alternative 2
C4 of 12**

Match- line A112 C-3

Match- line A112 C-2

Match- line A112 C-5

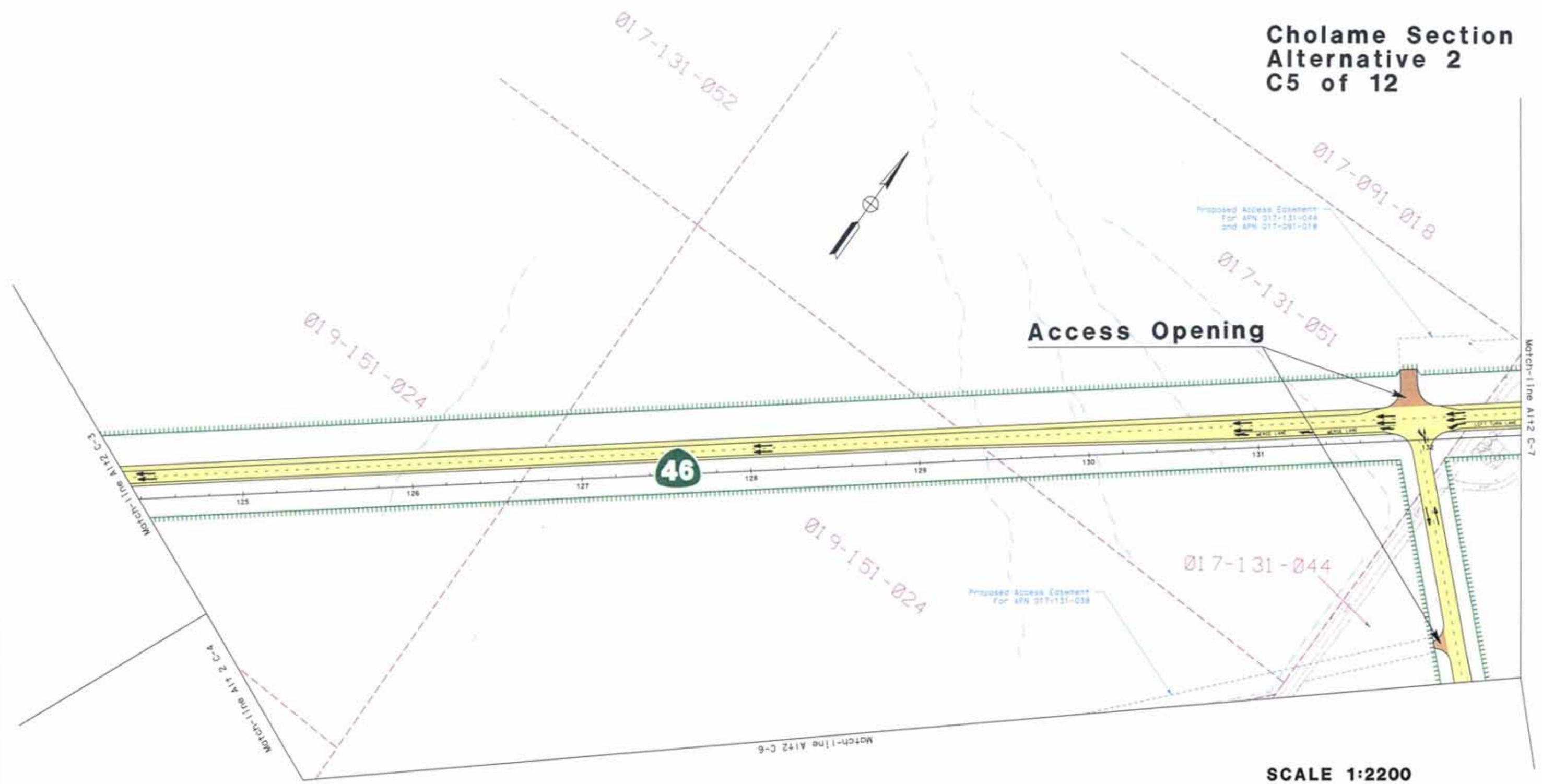


**Proposed
Eastbound
Cholame Creek
Bridge**

Exist Rte 46

SCALE 1:2200

Cholame Section Alternative 2 C5 of 12



Access Opening

46

017-131-044

017-091-018

017-131-052

019-151-024

019-151-024

017-131-051

Match-line Alt 2 C-3

Match-line Alt 2 C-4

Match-line Alt 2 C-6

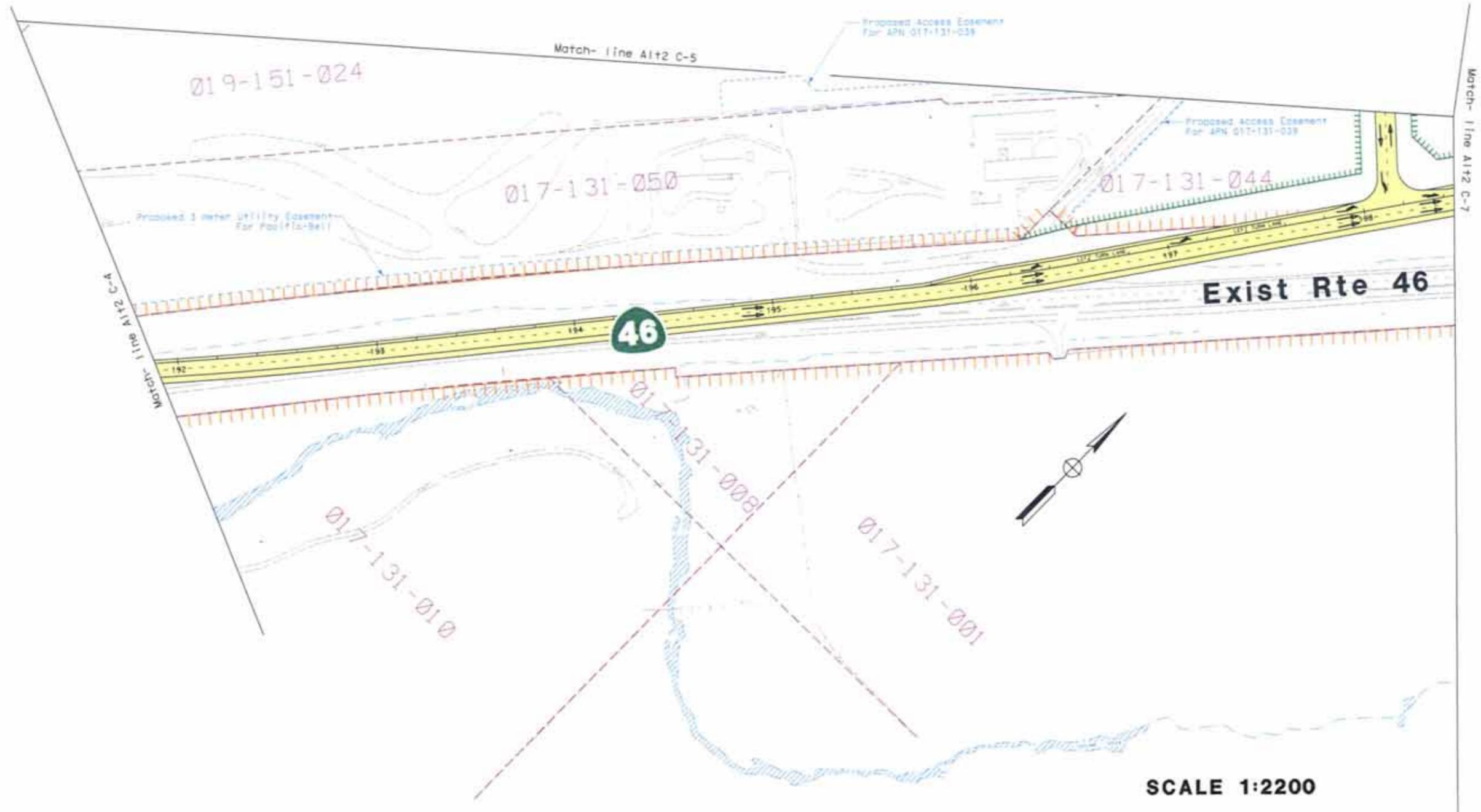
Match-line Alt 2 C-7

Proposed Access Easement
For APN 017-131-044
and APN 017-091-018

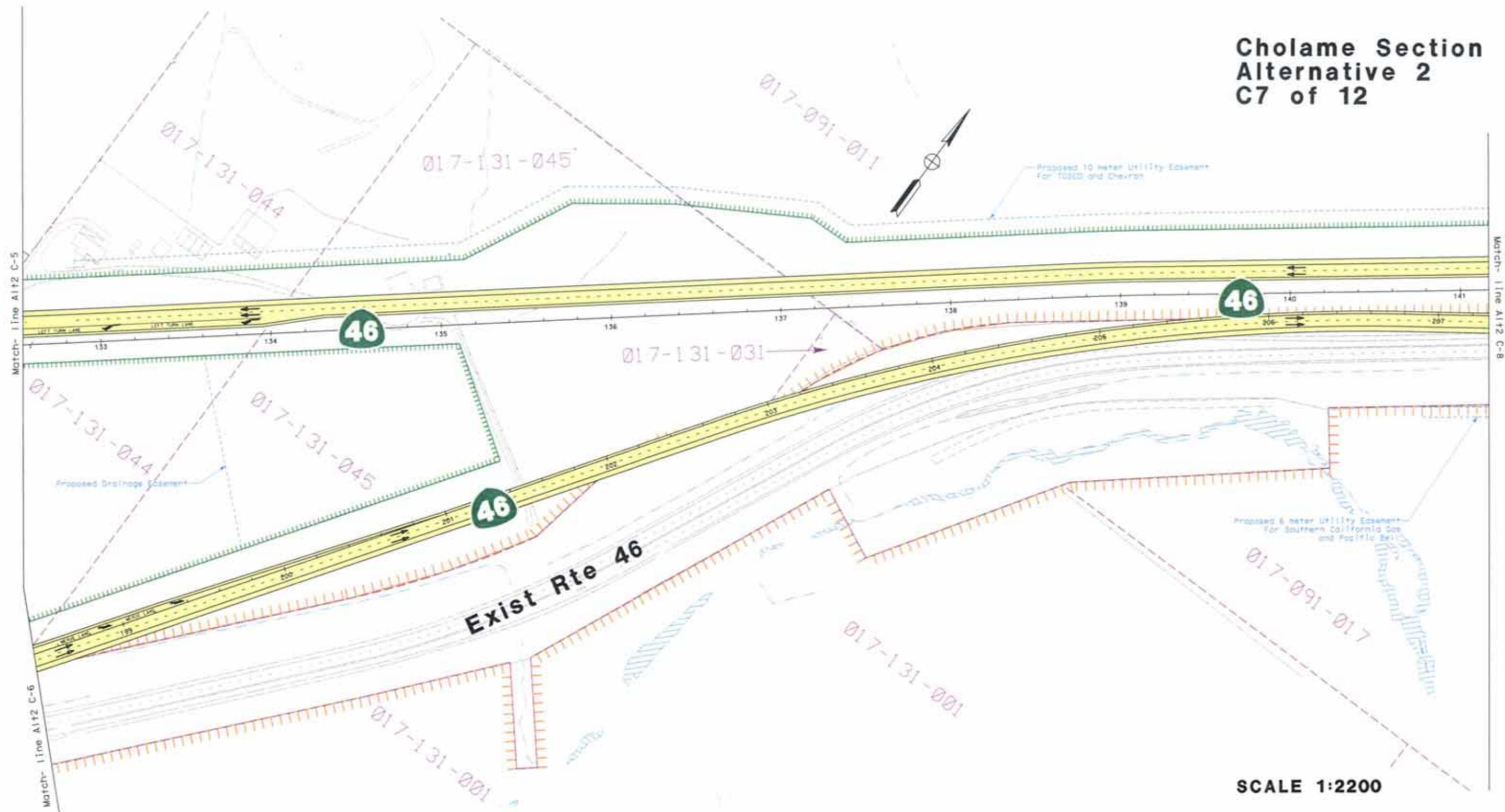
Proposed Access Easement
For APN 017-131-038

SCALE 1:2200

Cholame Section Alternative 2 C6 of 12

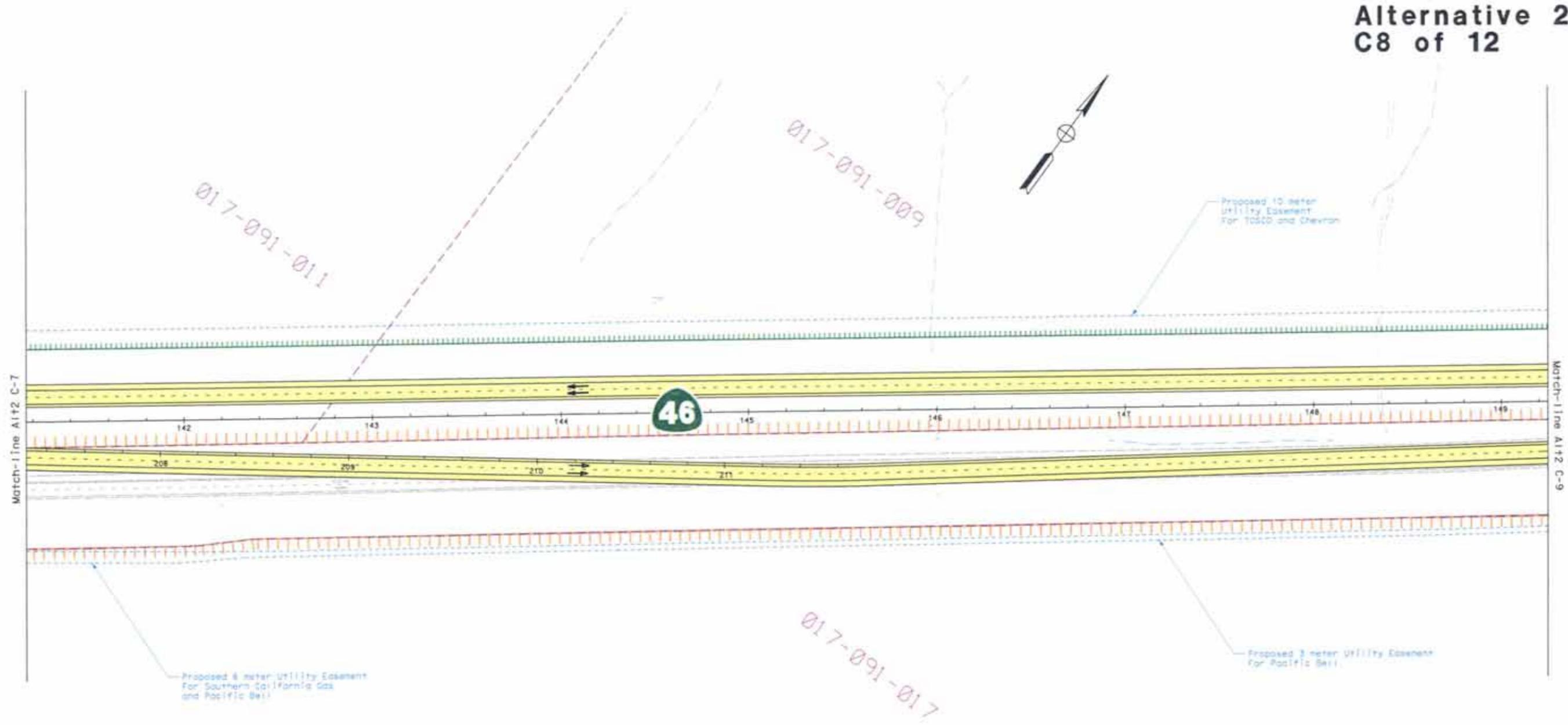


Cholame Section Alternative 2 C7 of 12



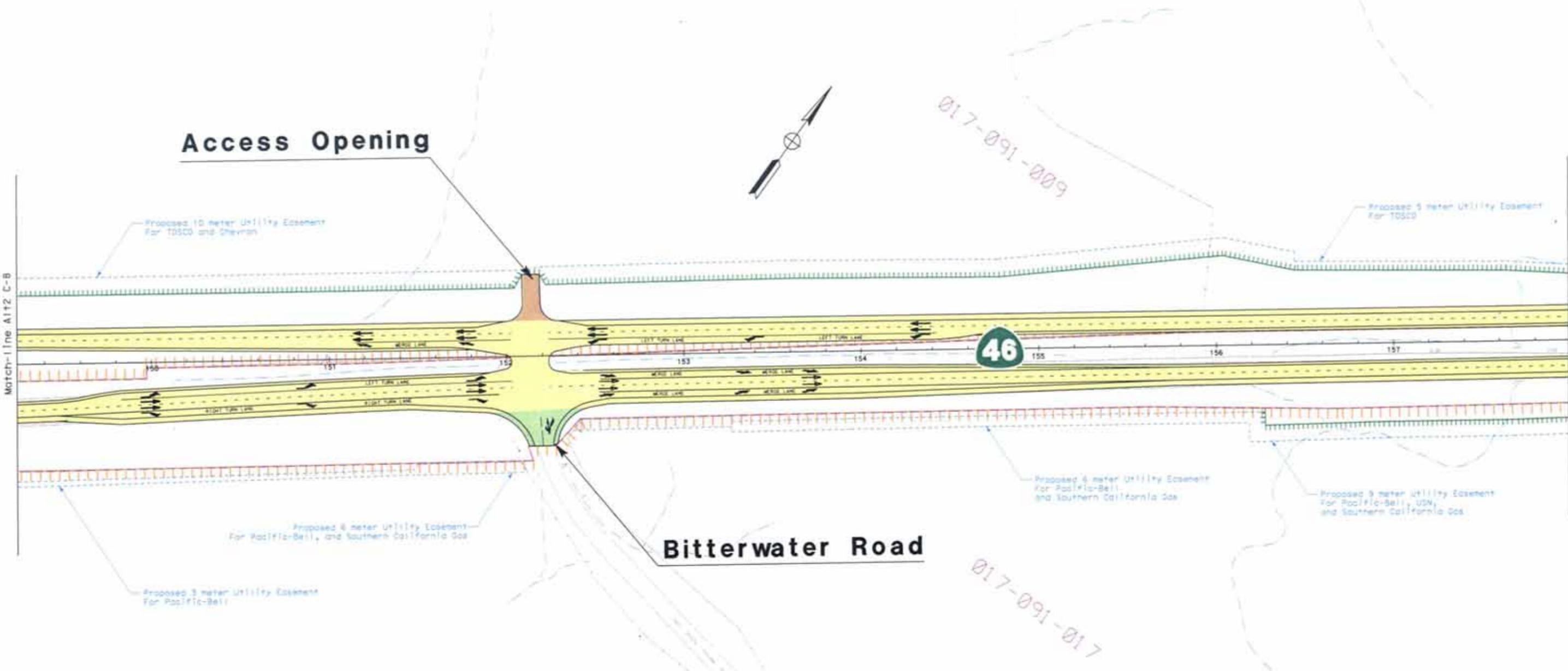
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**Cholame Section
Alternative 2
C8 of 12**



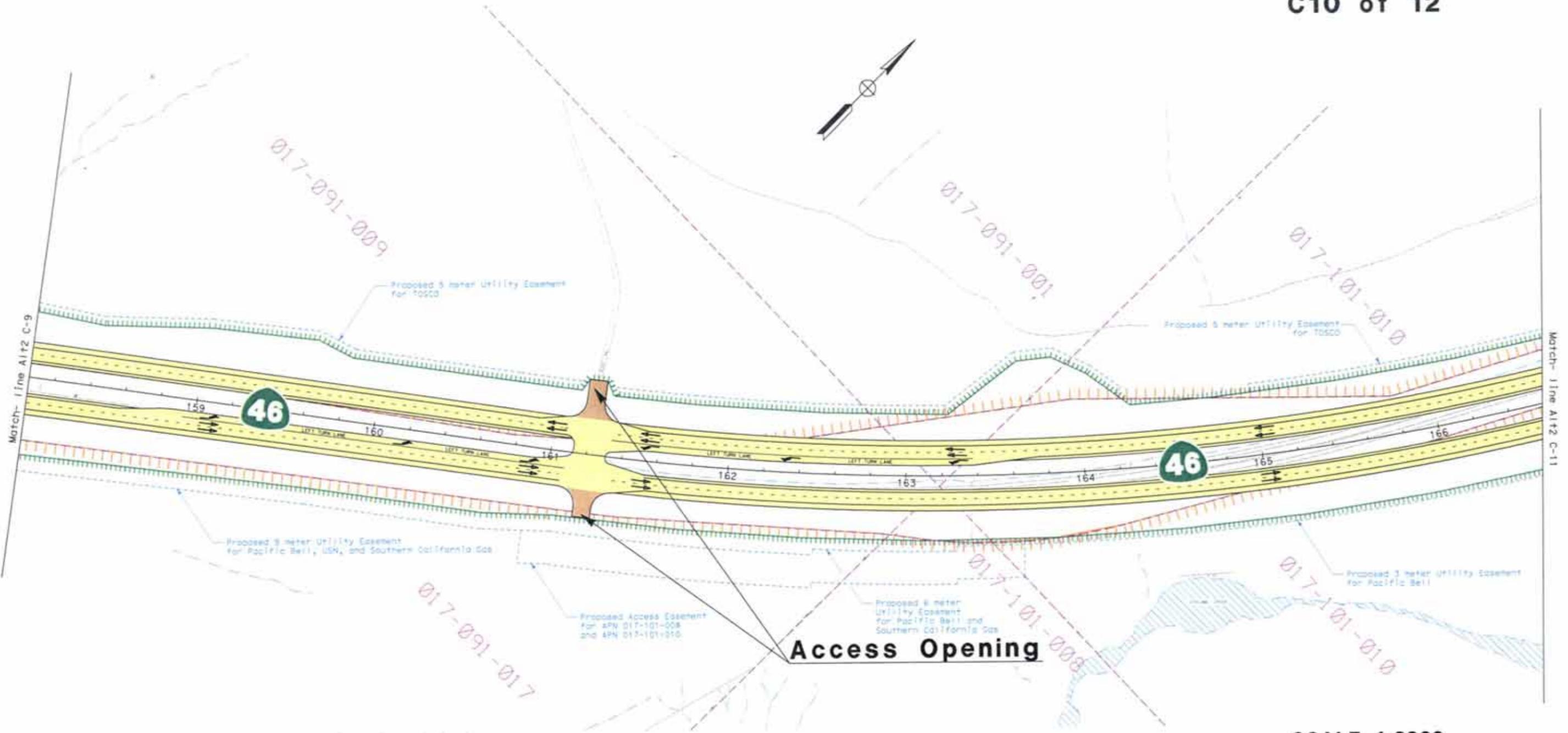
SCALE 1:2200

**Cholame Section
Alternative 2
C9 of 12**



SCALE 1:2200

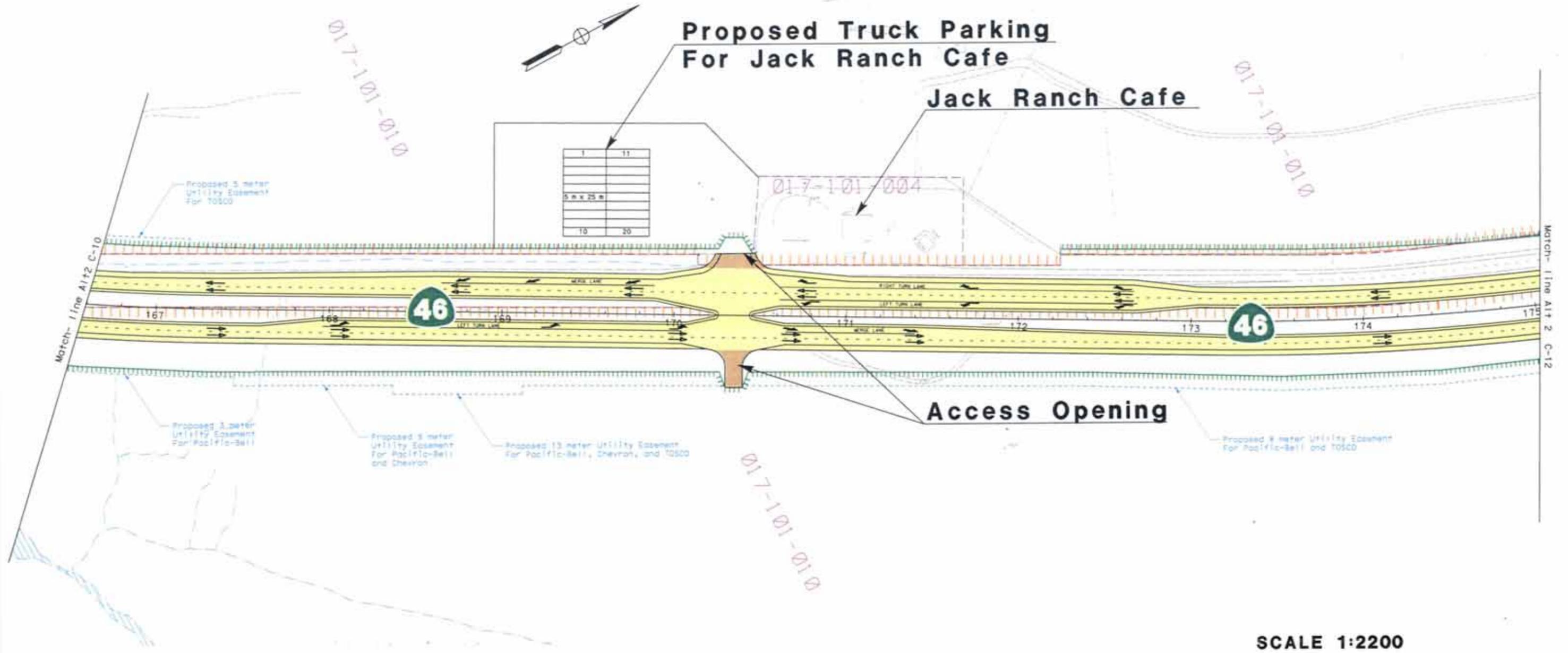
Cholame Section Alternative 2 C10 of 12



Access Opening

SCALE 1:2200

**Cholame Section
Alternative 2
C11 of 12**



**Cholame Section
Alternative 2
C12 of 12**

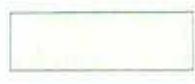


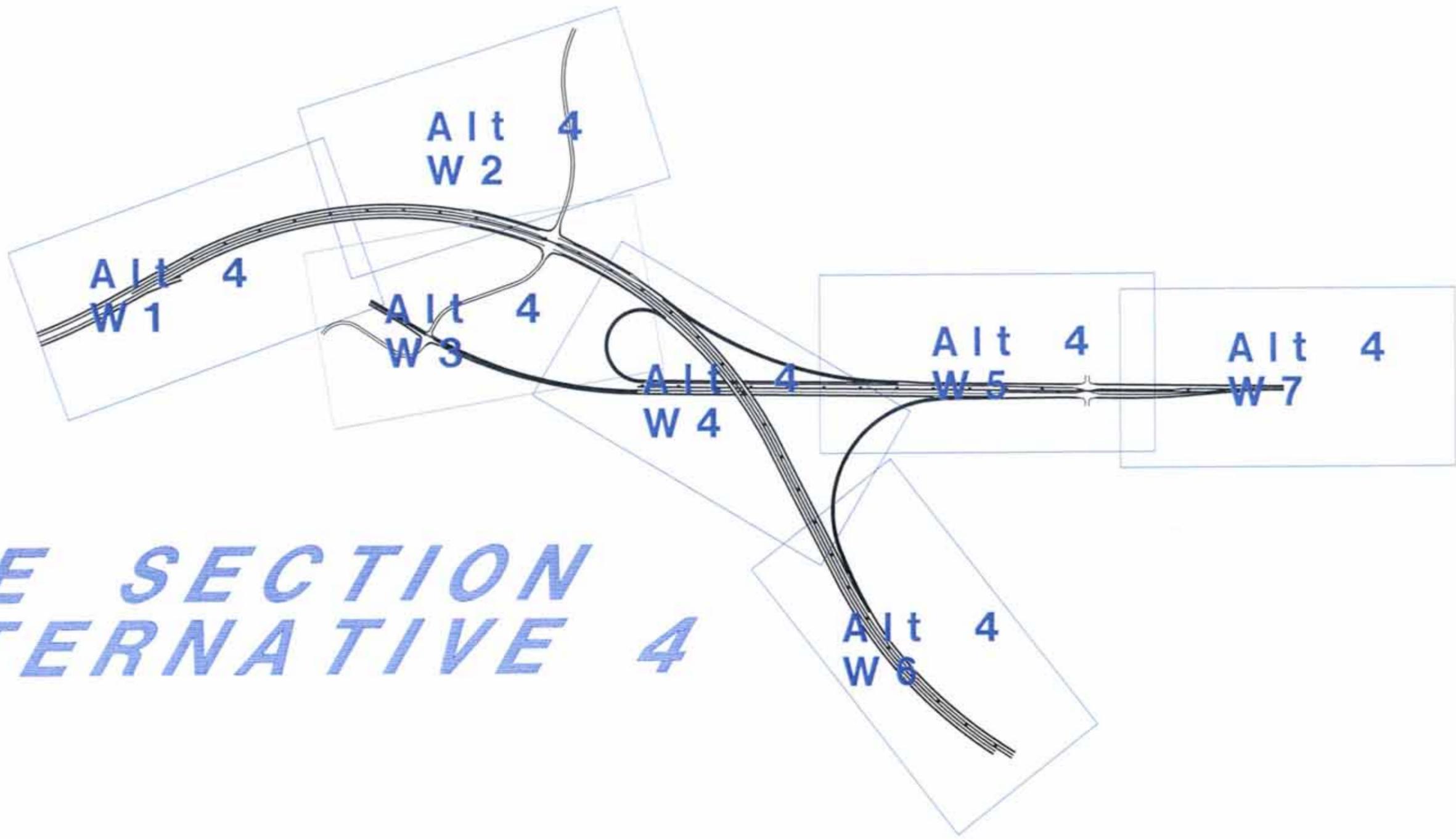
SCALE 1:2200

Appendix A: Project Alternative Mapping

A.4 Wye Section, Alternatives 4, 5, 7, 8, 8b, and 9

LEGEND

| | |
|---|-------------------------|
|  | Existing Right of Way |
|  | Proposed Right of Way |
|  | Property Line |
|  | Easement Line |
|  | Existing Feature |
|  | Existing Waterway |
|  | Proposed Mainline |
|  | Proposed Connector |
|  | County Road |
|  | Proposed Structure |
|  | Access Opening |
|  | Earthen Berm |
|  | Sound Wall |
|  | State Route |
|  | Noise Receptor Location |
|  | Traffic Movement |
|  | North Arrow |
|  | Appraisal Parcel Number |



***WYE SECTION
ALTERNATIVE 4***

Wye Section
Alternative 4
W1 of 7



Match-Line Cholame Section Alt1 and Alt2

Match-Line Alt 4 W-2

017-101-010

017-031-006

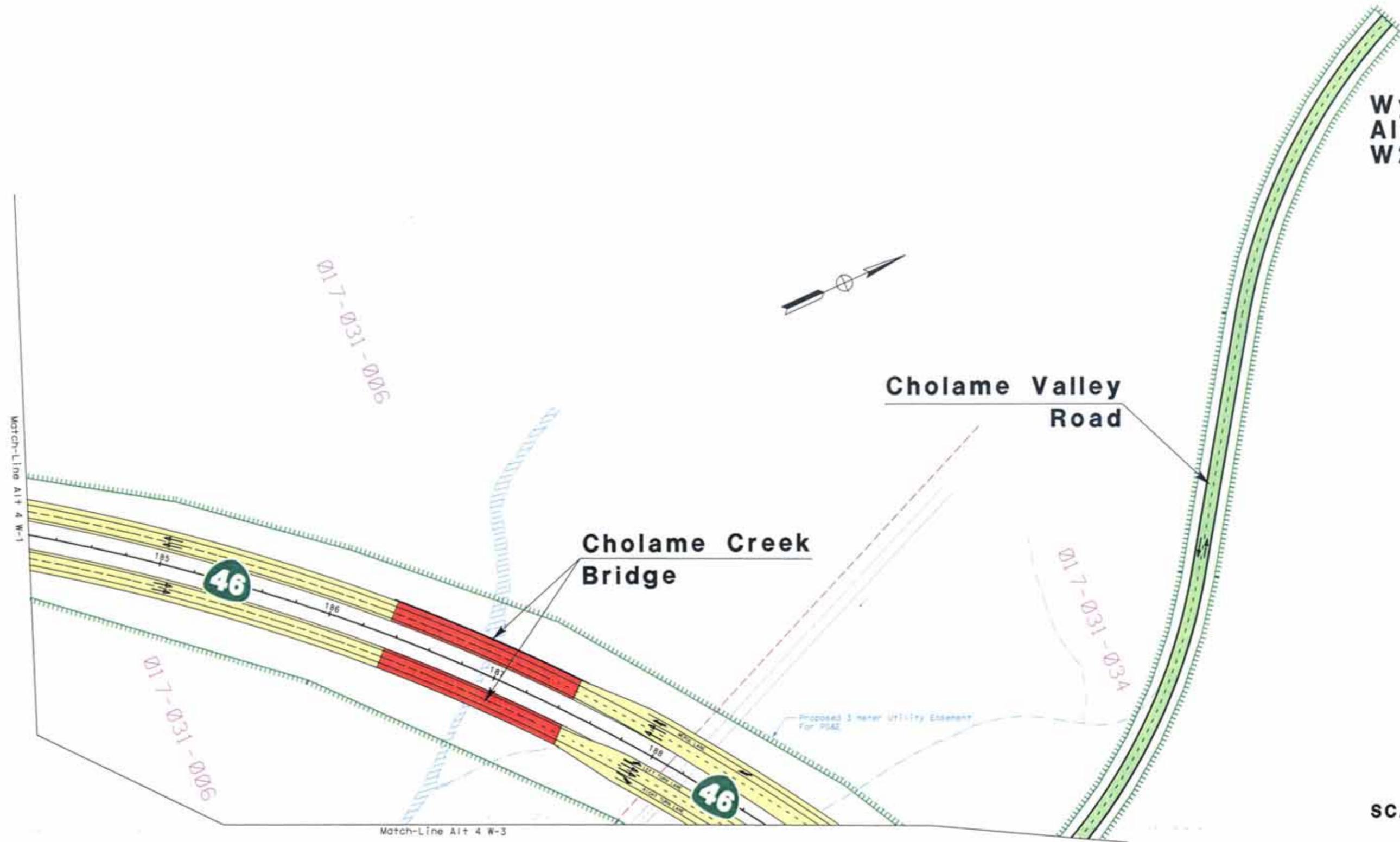
017-101-010

017-311-030



SCALE 1:2200

**Wye Section
Alternative 4
W2 of 7**



Match-Line Alt 4 W-1

Match-Line Alt 4 W-3



**Cholame Valley
Road**

**Cholame Creek
Bridge**

017-031-034

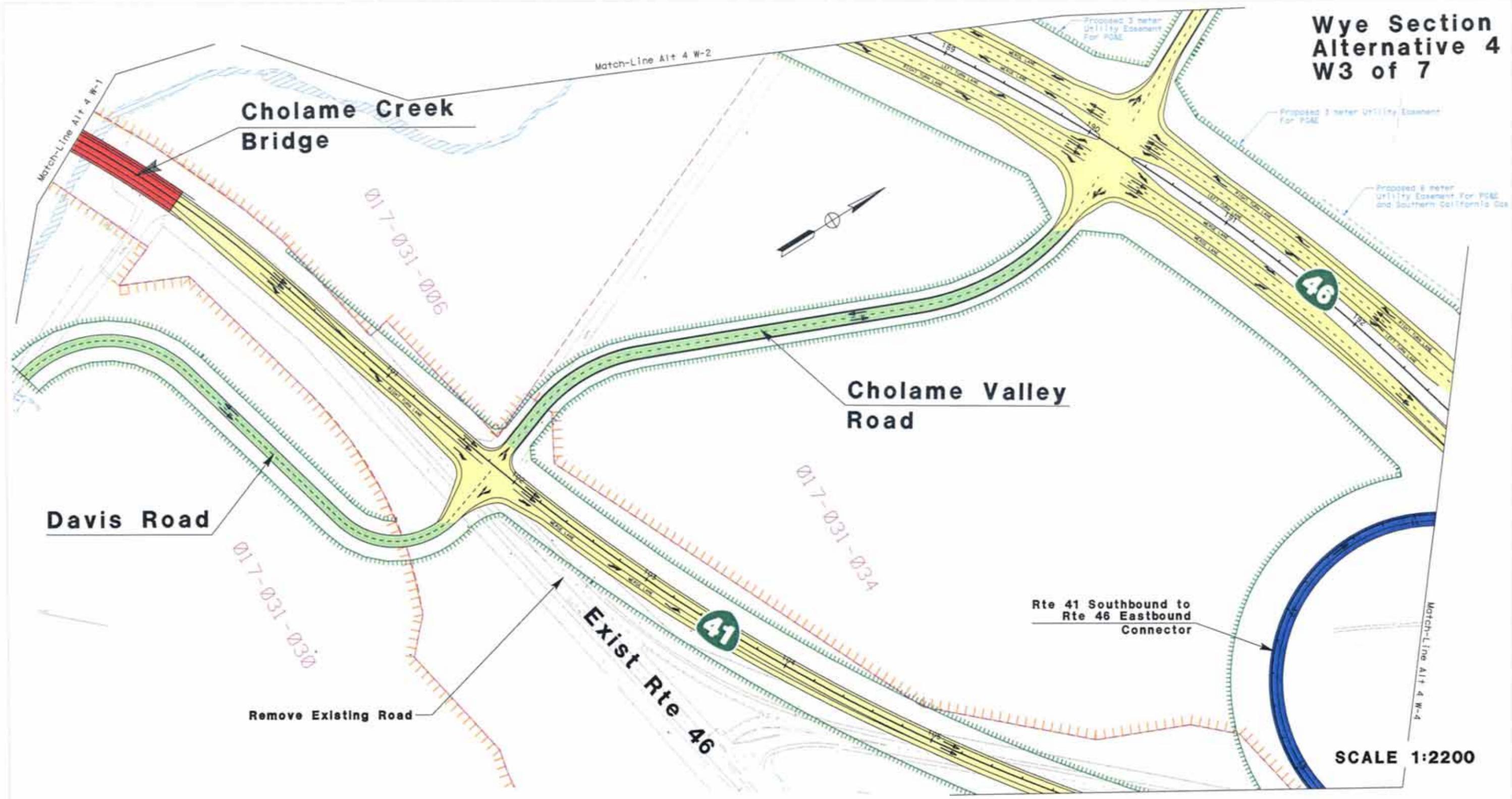
017-031-006

017-031-006

Proposed 3 meter Utility Easement
For PS&E

SCALE 1:2200

Wye Section Alternative 4 W3 of 7



Wye Section Alternative 4 W4 of 7

Rte 41 Southbound to
Rte 46 Westbound
Connector

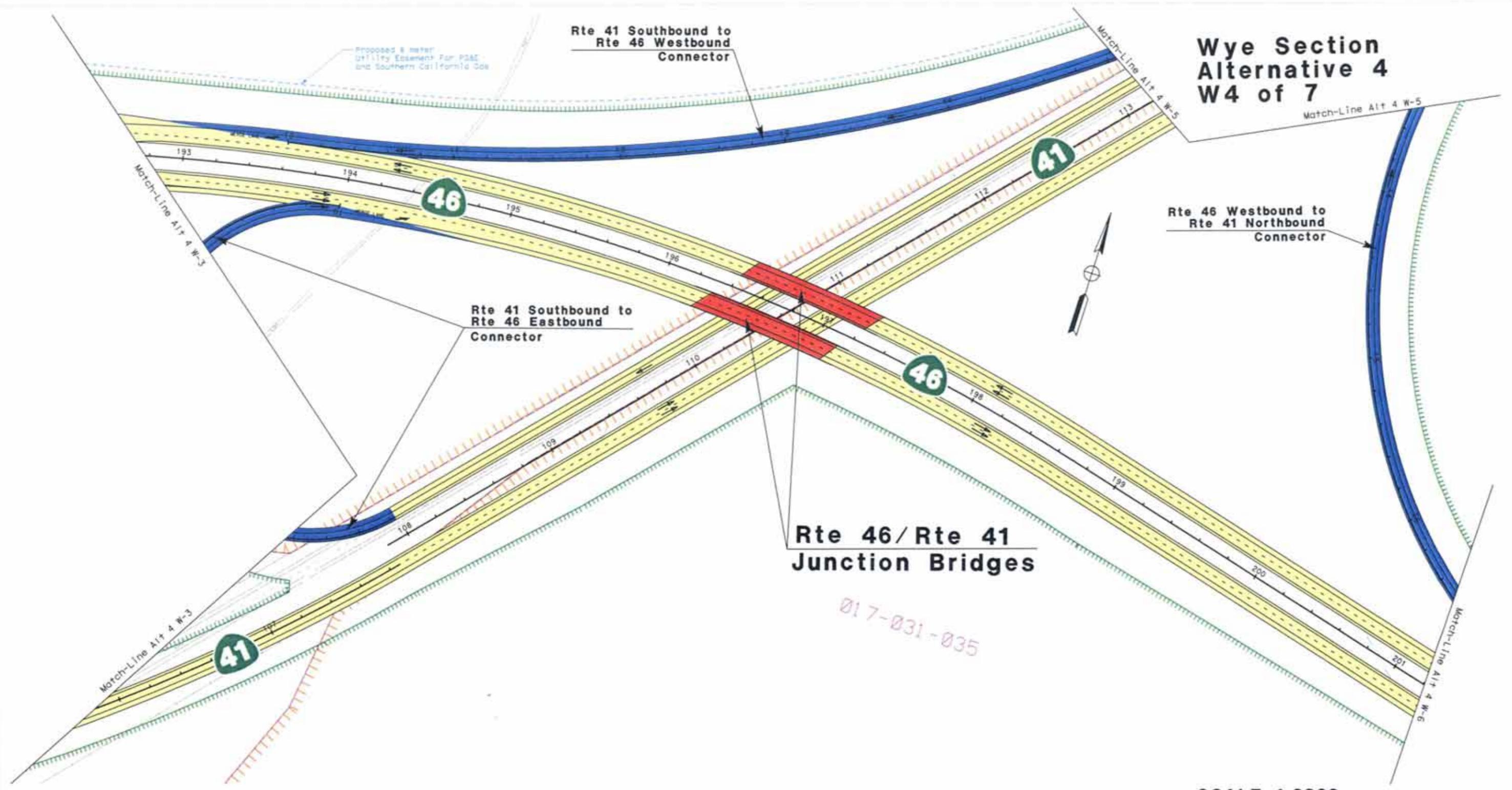
Rte 46 Westbound to
Rte 41 Northbound
Connector

Rte 41 Southbound to
Rte 46 Eastbound
Connector

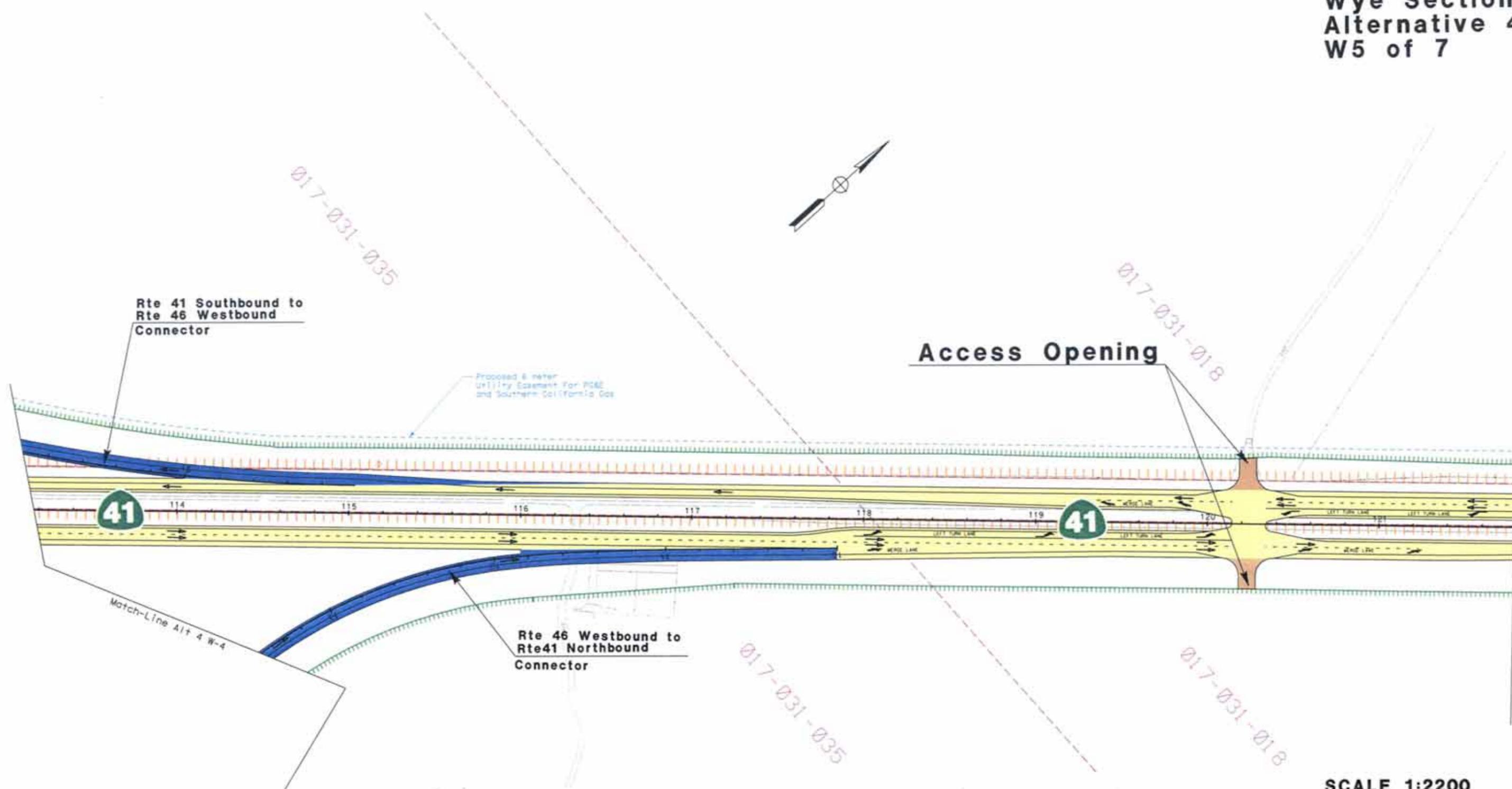
Rte 46/Rte 41
Junction Bridges

017-031-035

SCALE 1:2200

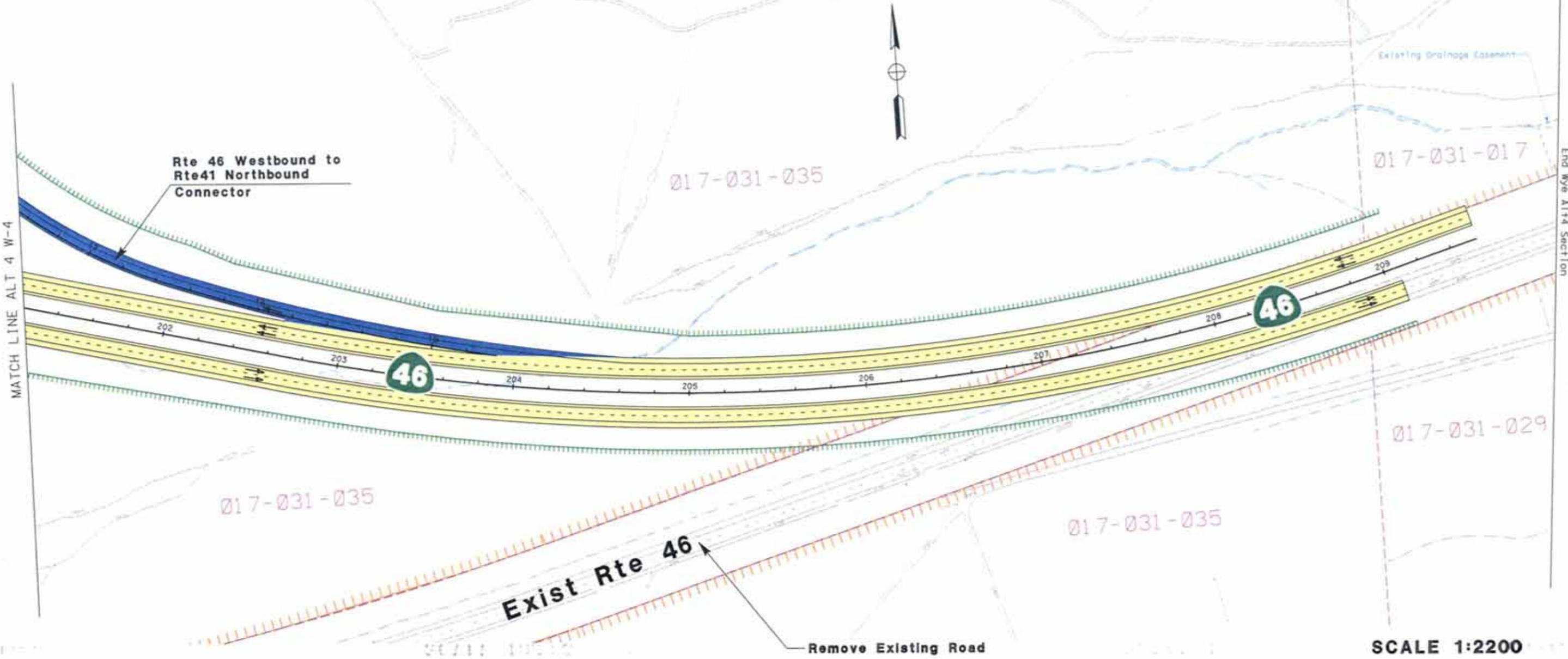


**Wye Section
Alternative 4
W5 of 7**



SCALE 1:2200

**Wye Section
Alternative 4
W6 of 7**



Rte 46 Westbound to
Rte41 Northbound
Connector

017-031-035

017-031-017

End Wye Alt 4 Section

MATCH LINE ALT 4 W-4

017-031-035

Exist Rte 46

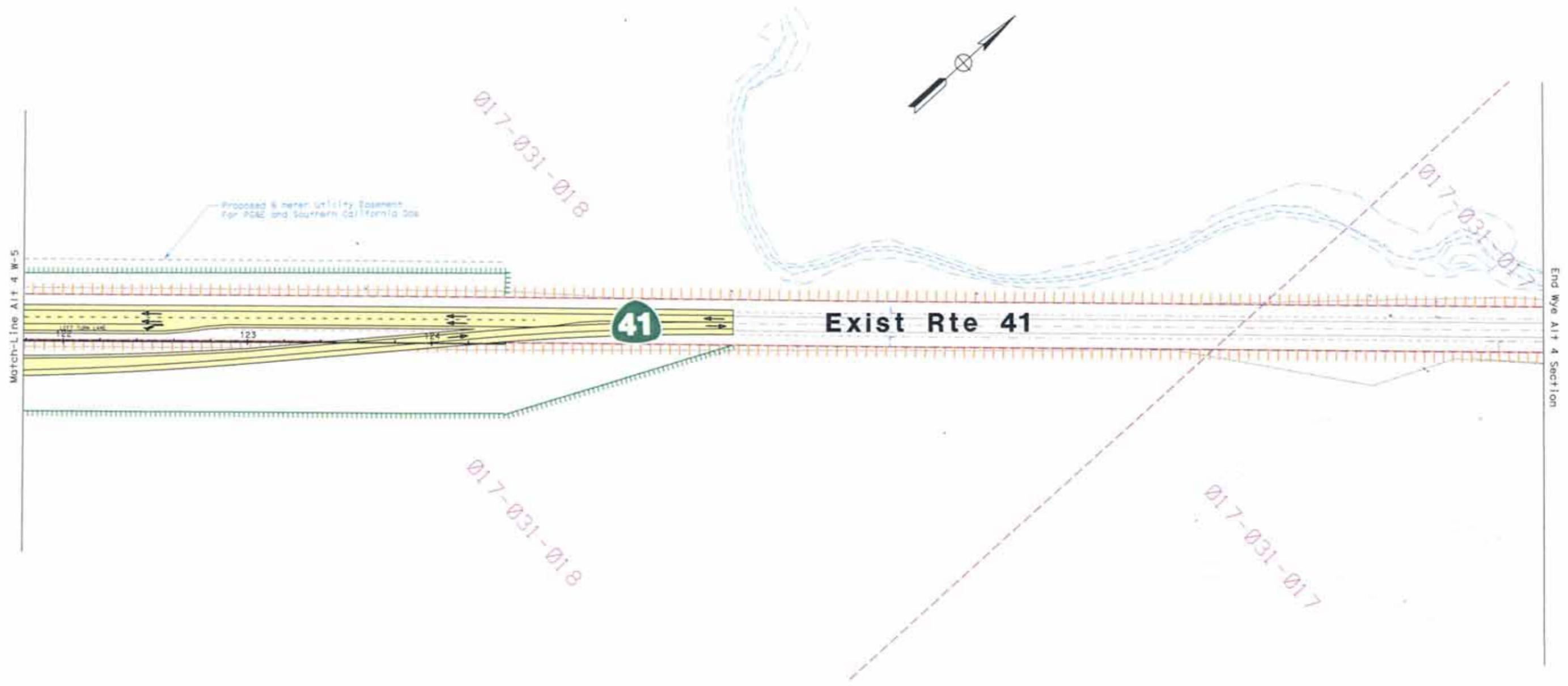
Remove Existing Road

017-031-035

017-031-029

SCALE 1:2200

Wye Section
Alternative 4
W7 of 7



SCALE 1:2200

LEGEND



Existing Right of Way



Proposed Right of Way



Property Line



Easement Line



Existing Feature



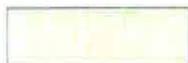
Existing Waterway



Proposed Mainline



Proposed Connector



County Road



Proposed Structure



Access Opening



Earthen Berm



Sound Wall



State Route



Noise Receptor Location



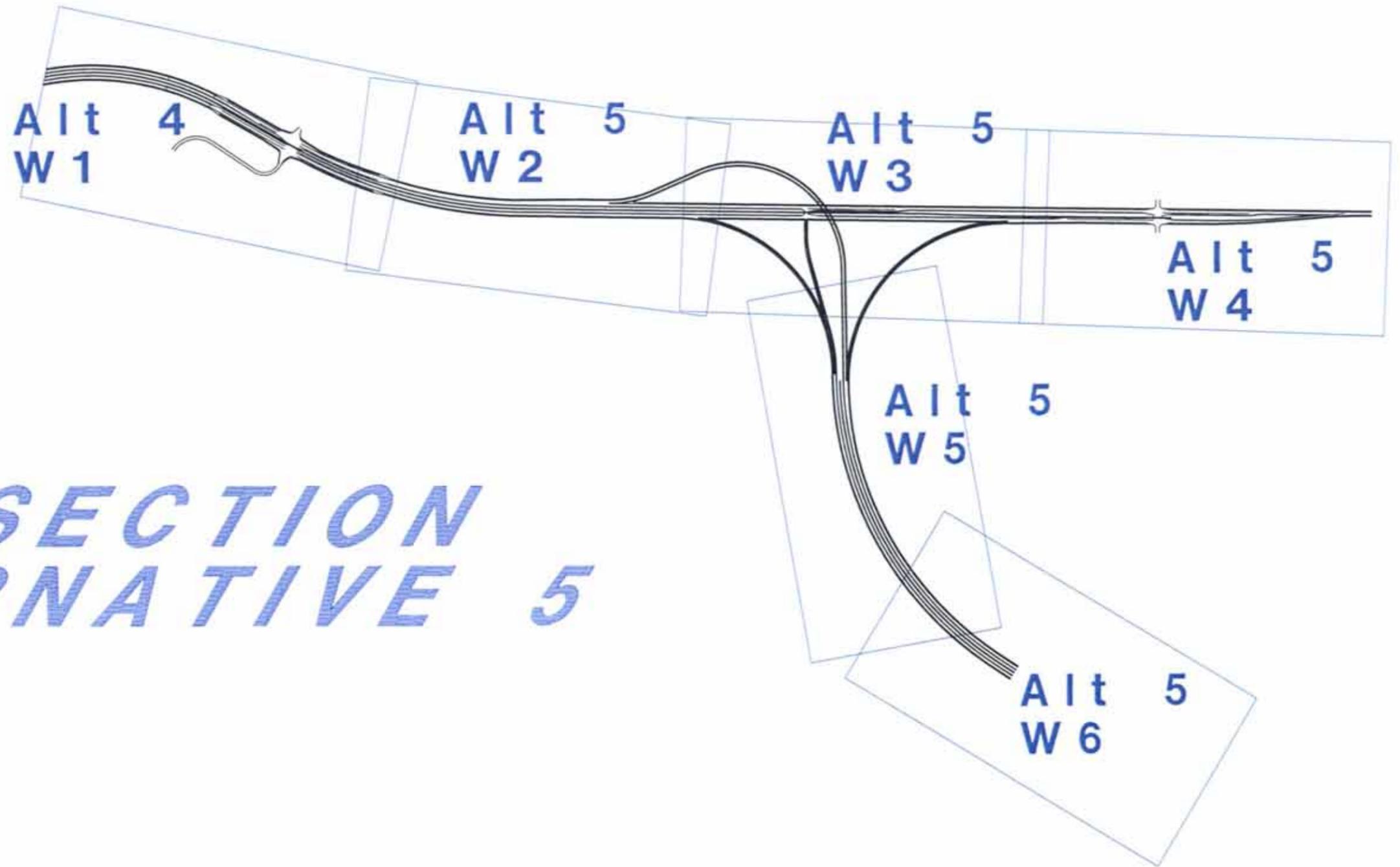
Traffic Movement



North Arrow

XXX-XXX-XXX

Appraisal Parcel Number



***WYE SECTION
ALTERNATIVE 5***

017-101-004

017-031-037

Cholame Creek

Wye Section
Alternative 5
W1 of 6

Cholame Valley
Road

46

017-031-034

Proposed
Cholame Creek
Bridges

017-101-010

Davis Road

017-031-037

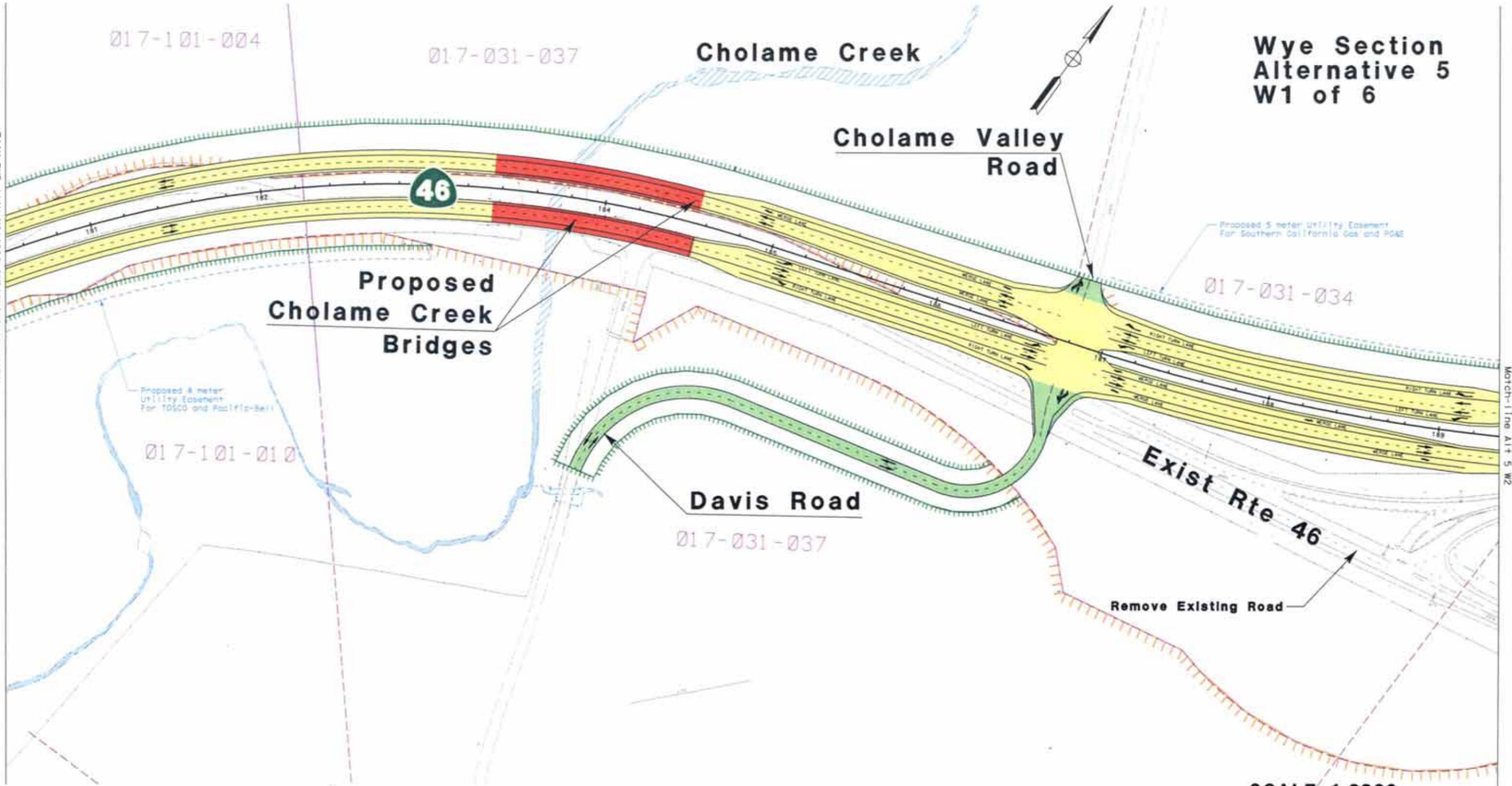
Exist Rte 46

Remove Existing Road

SCALE 1:2200

Match-line Cholame Section A1+1 and A1+2

Match-line A1+5 W2



Wye Section Alternative 5 W2 of 6

017-031-034



Rte 46 Westbound

Proposed 8 meter Utility Easement
For Southern California Gas and PG&E

46

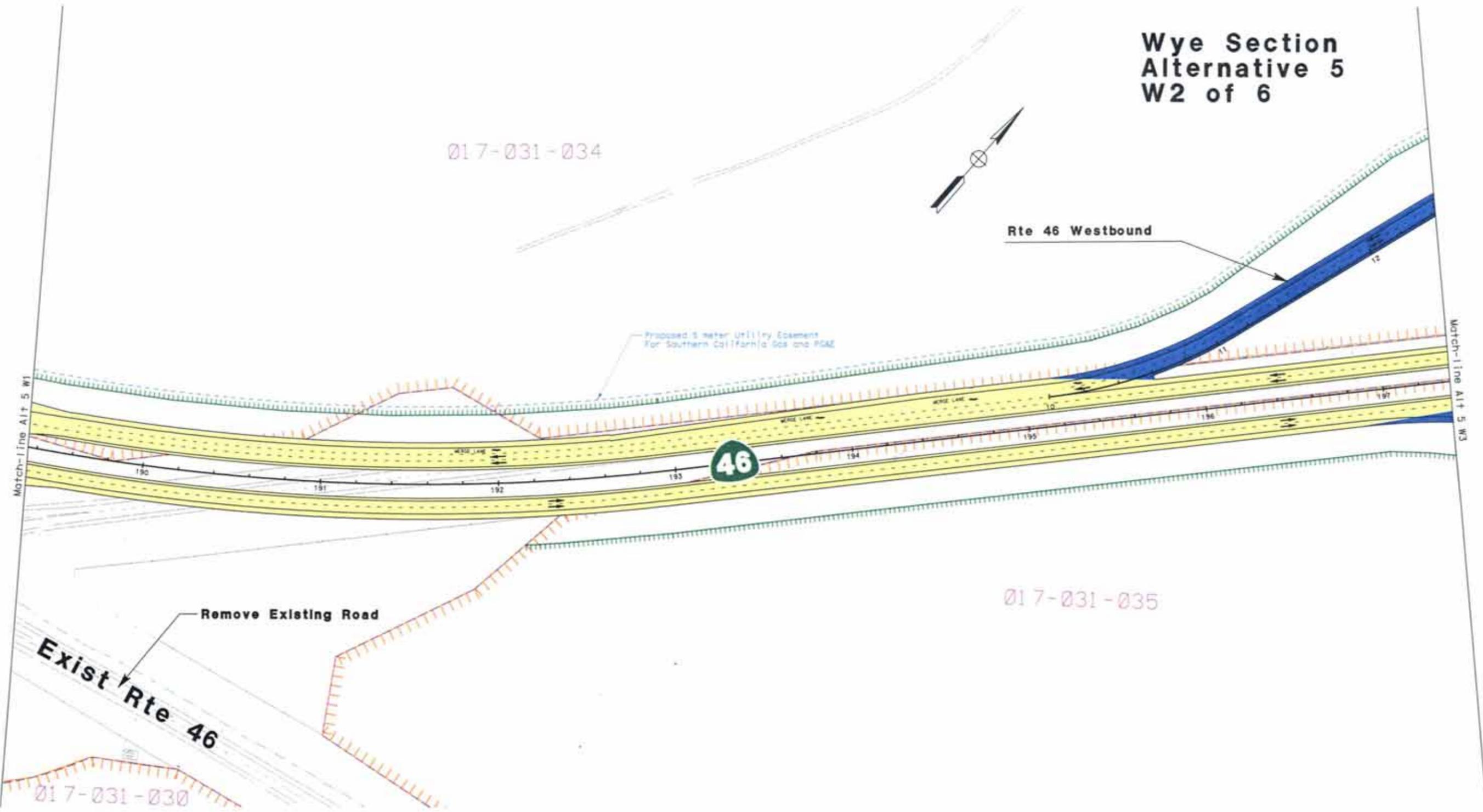
017-031-035

Remove Existing Road

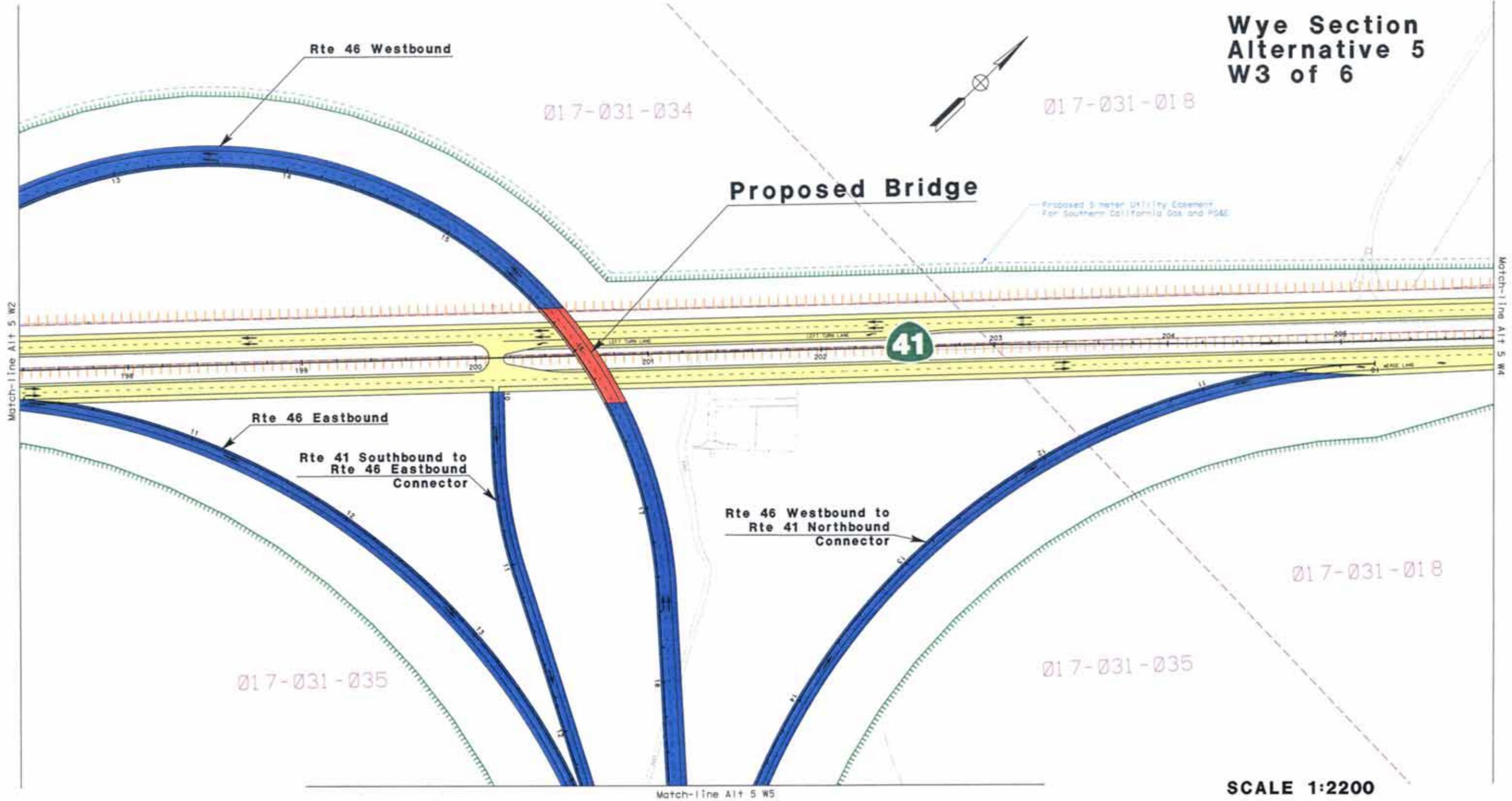
Exist Rte 46

017-031-030

SCALE 1:2200



**Wye Section
Alternative 5
W3 of 6**



**Wye Section
Alternative 5
W4 of 6**

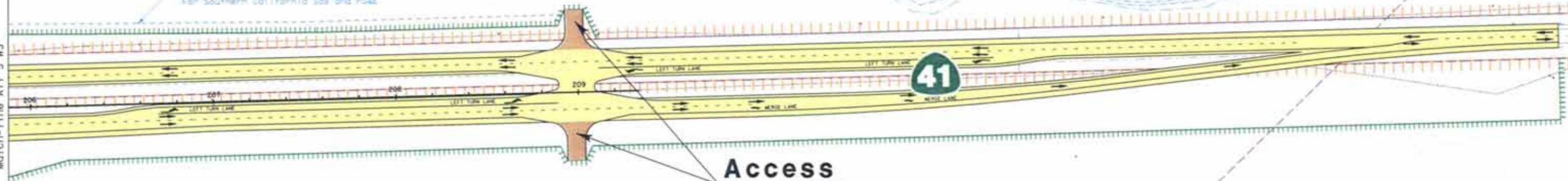
017-031-018



Proposed 5 meter Utility Easement
For Southern California Gas and PG&E

Match-Line A1+5 W3

End Wye Section A1+5



**Access
Opening**

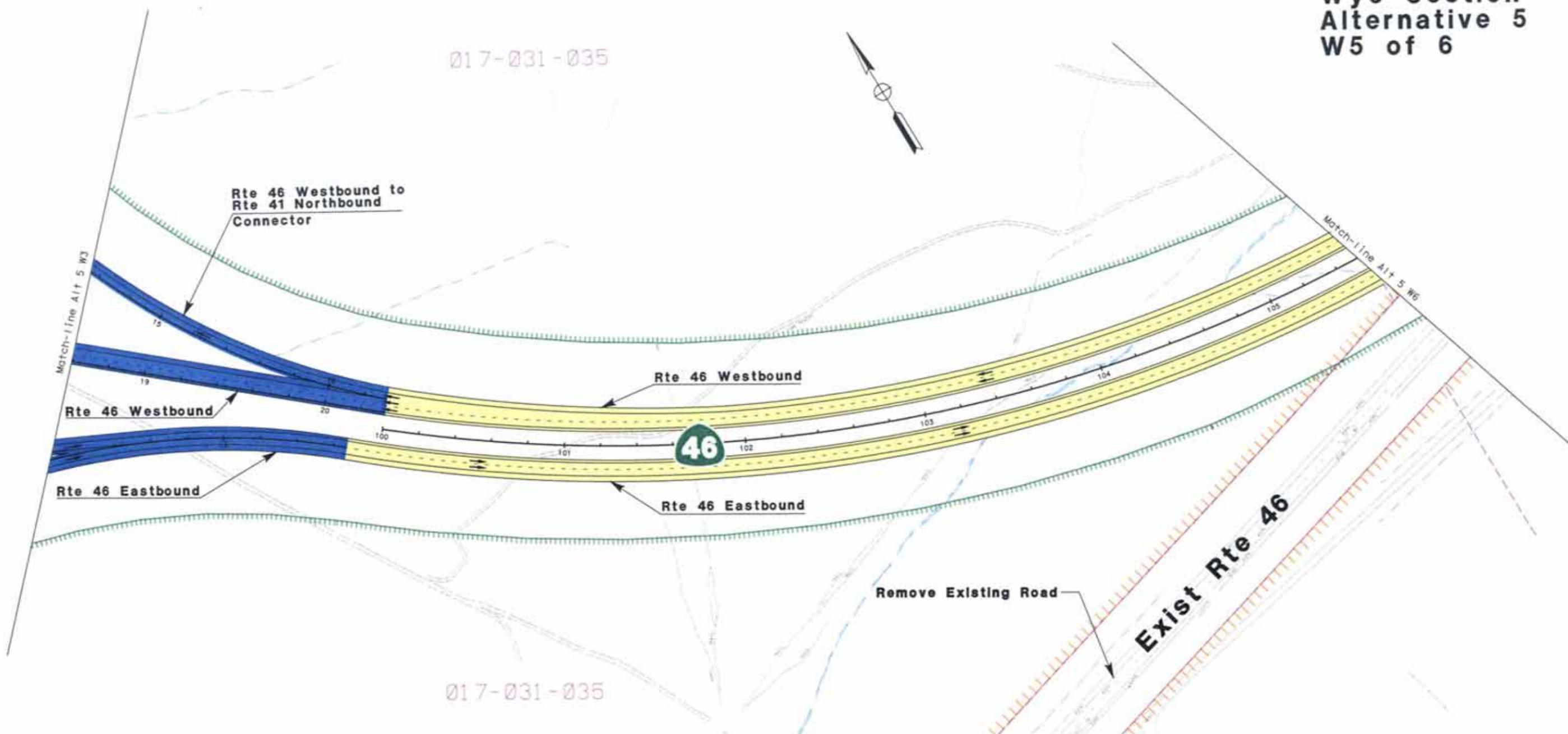
017-031-017

017-031-018

SCALE 1:2200

**Wye Section
Alternative 5
W5 of 6**

017-031-035



017-031-035

SCALE 1:2200

Wye Section
Alternative 5
W6 of 6



017-031-035

Existing Drainage Easement

Match-Line Alt 5 W5

End Wye Section Alt 5

46

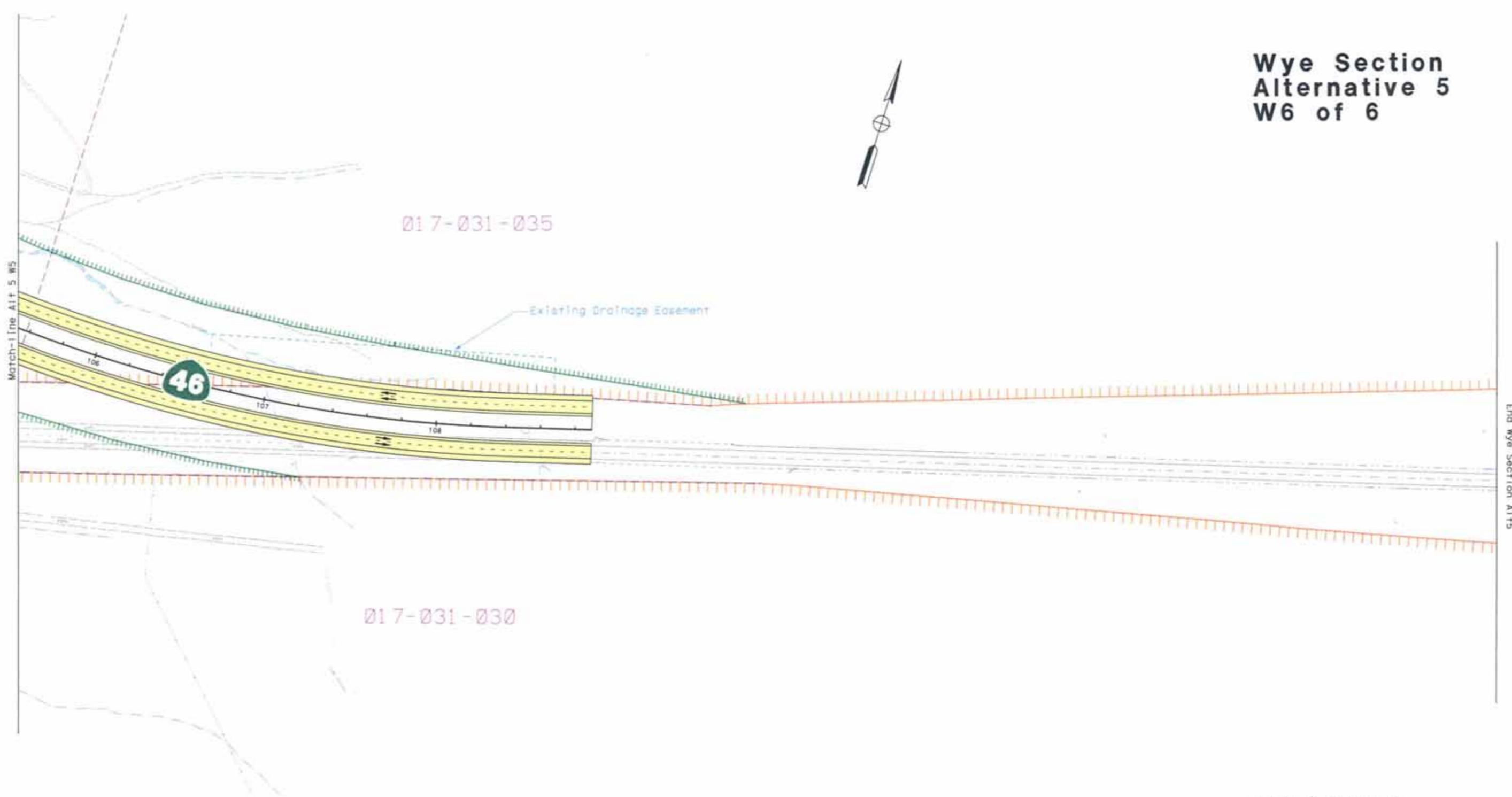
106

107

108

017-031-030

SCALE 1:2200



LEGEND



Existing Right of Way



Proposed Right of Way



Property Line



Easement Line



Existing Feature



Existing Waterway



Proposed Mainline



Proposed Connector



County Road



Proposed Structure



Access Opening



Earthen Berm



Sound Wall



State Route



Noise Receptor Location



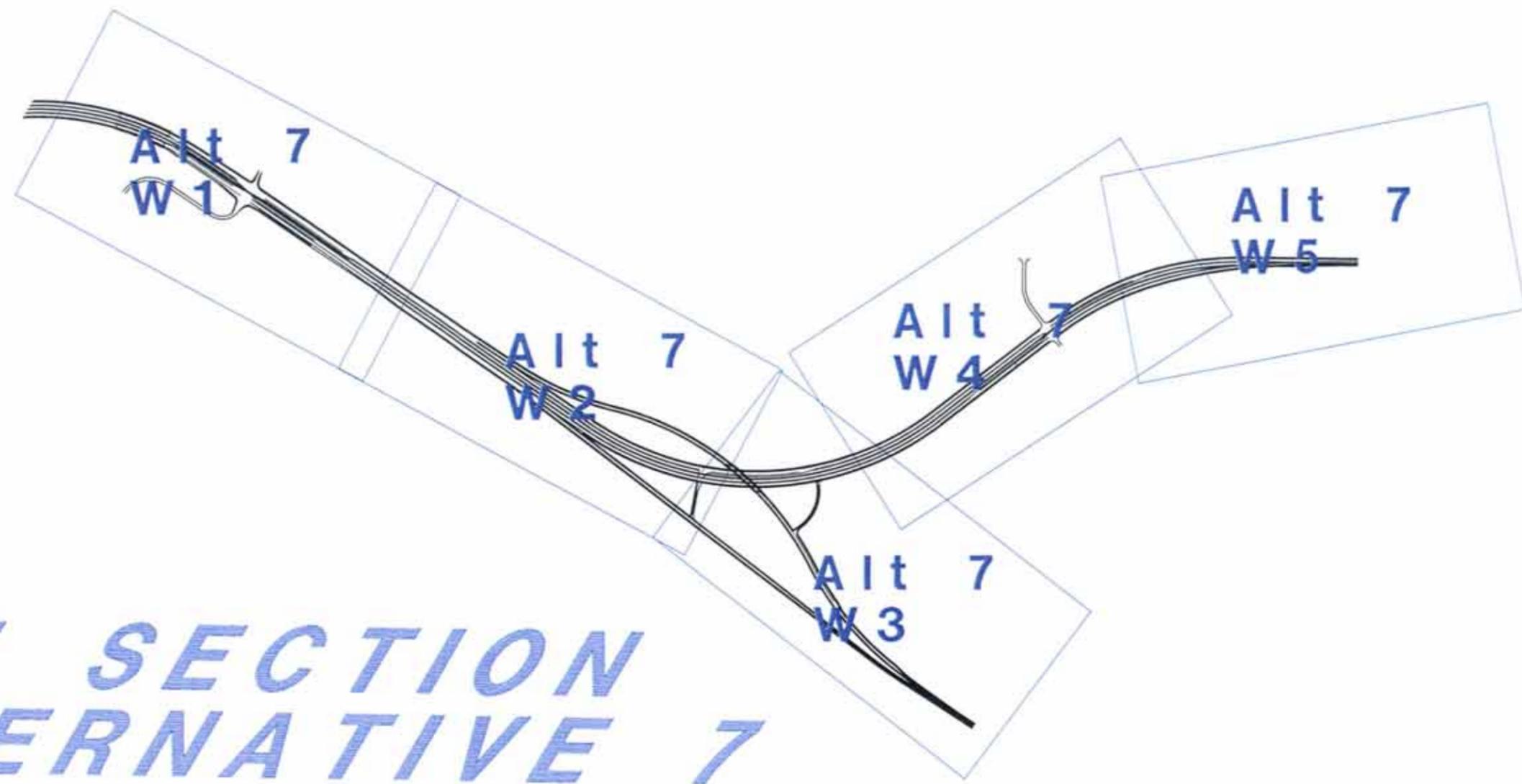
Traffic Movement



North Arrow

XXX-XXX-XXX

Appraisal Parcel Number



***WYE SECTION
ALTERNATIVE 7***

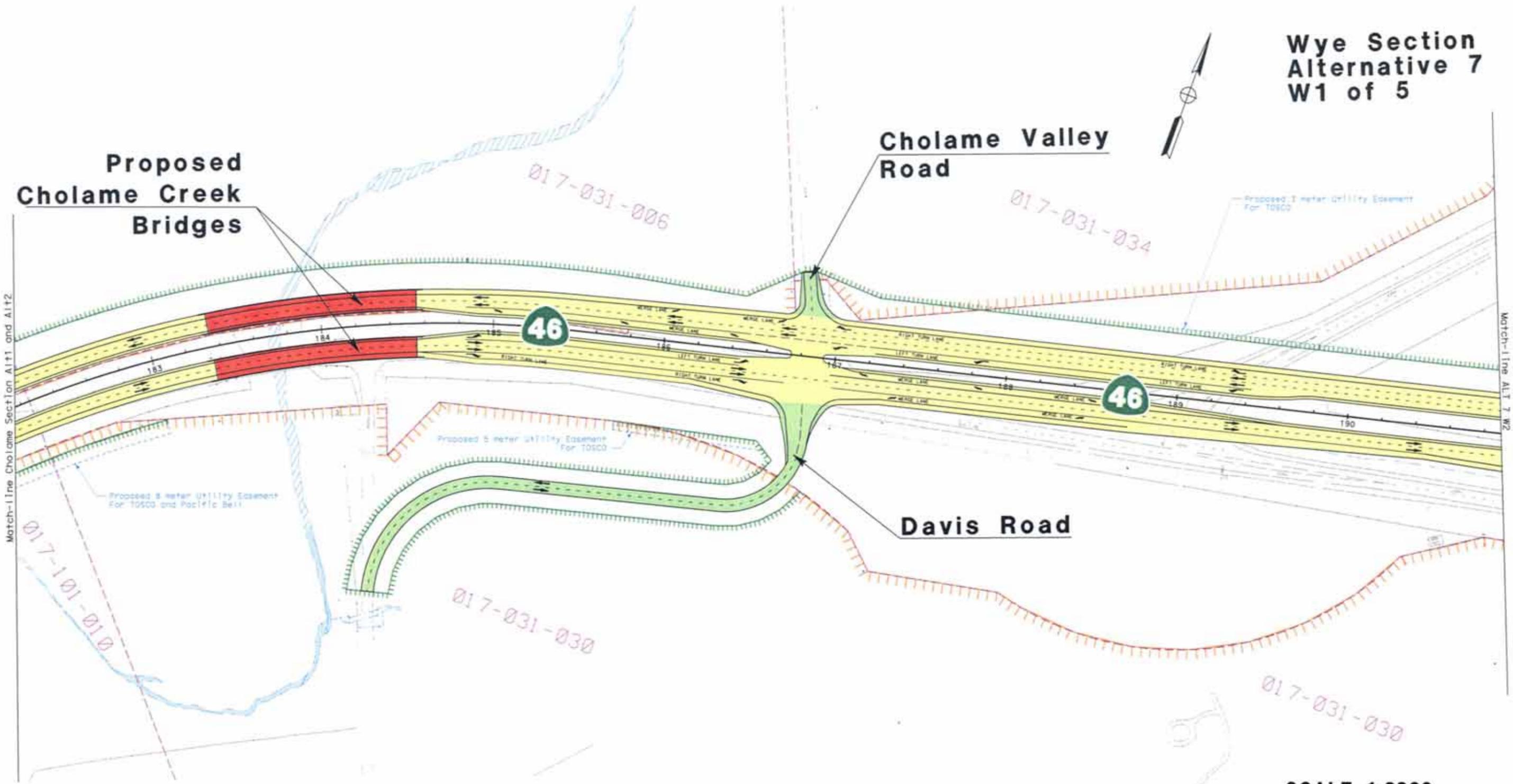
**Wye Section
Alternative 7
W1 of 5**



**Proposed
Cholame Creek
Bridges**

**Cholame Valley
Road**

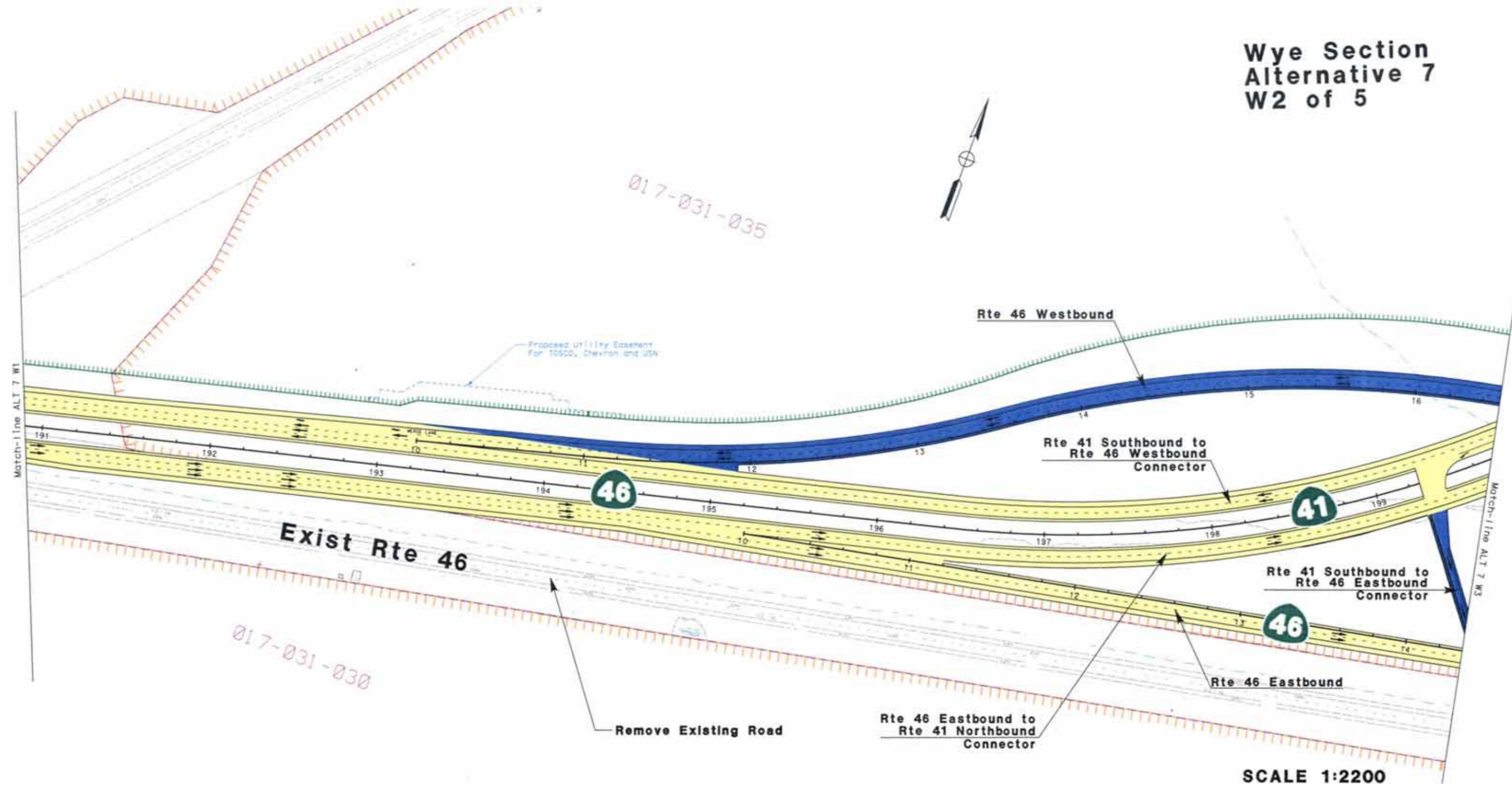
Davis Road



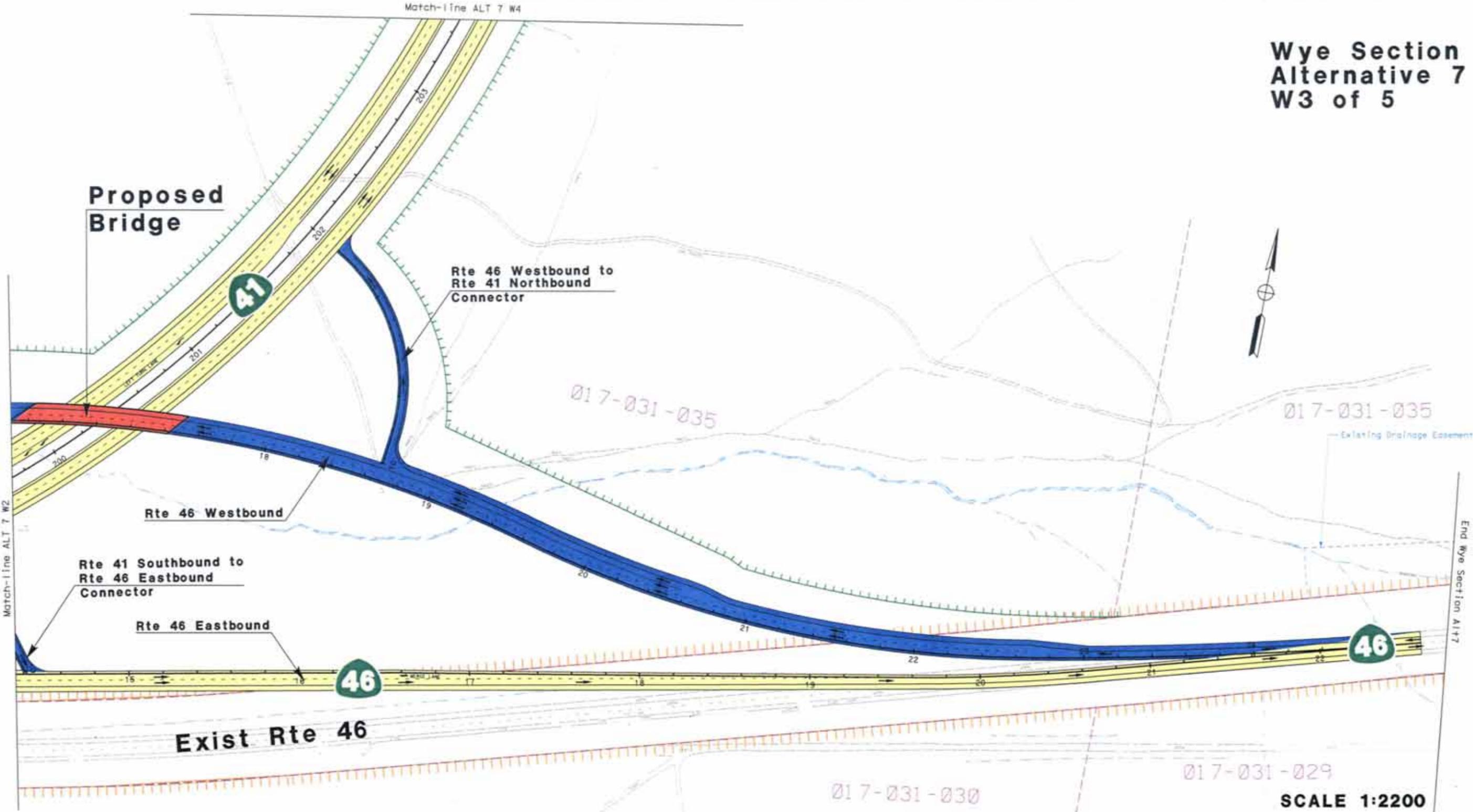
SCALE 1:2200

**Wye Section
Alternative 7
W2 of 5**

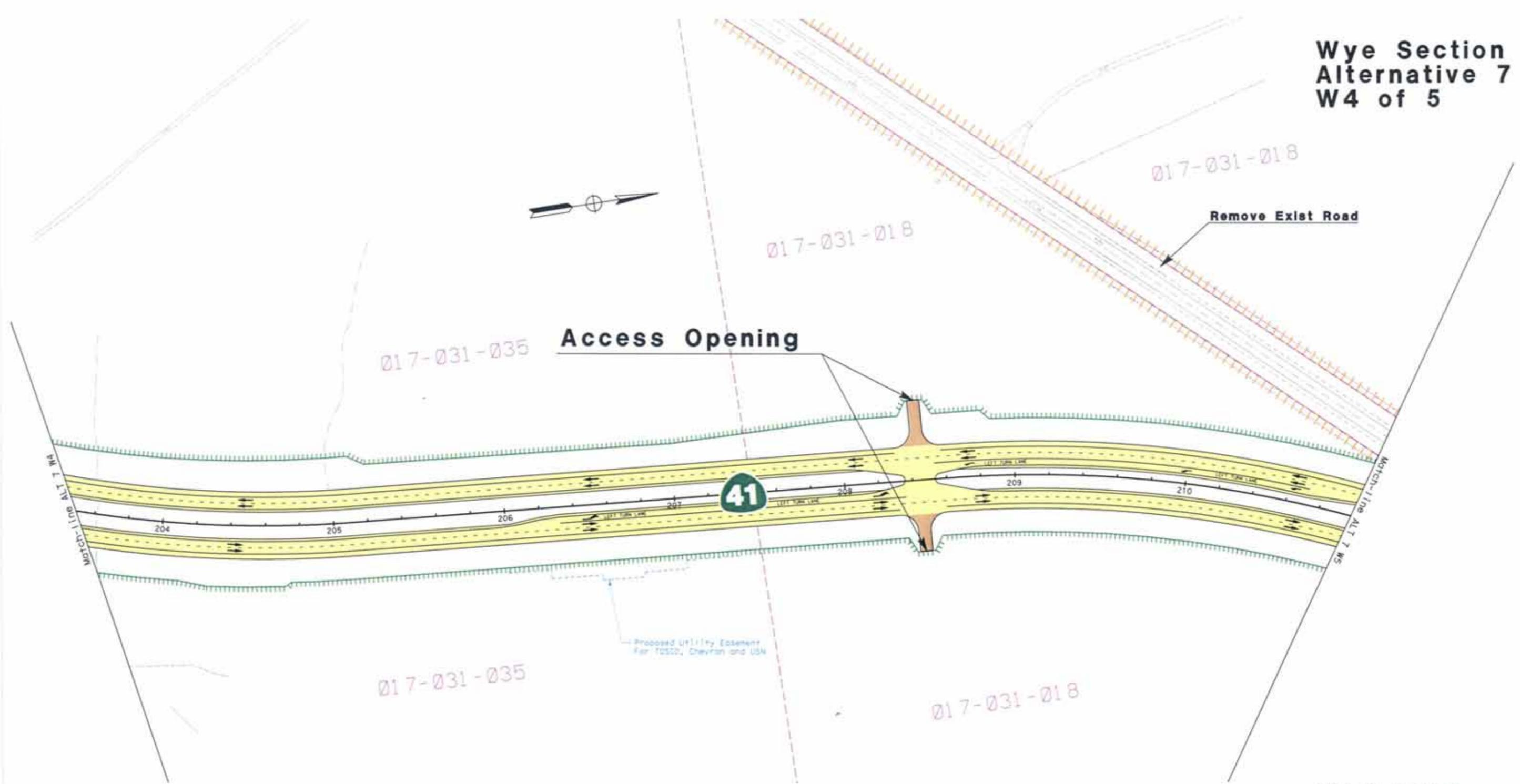
017-031-035



**Wye Section
Alternative 7
W3 of 5**

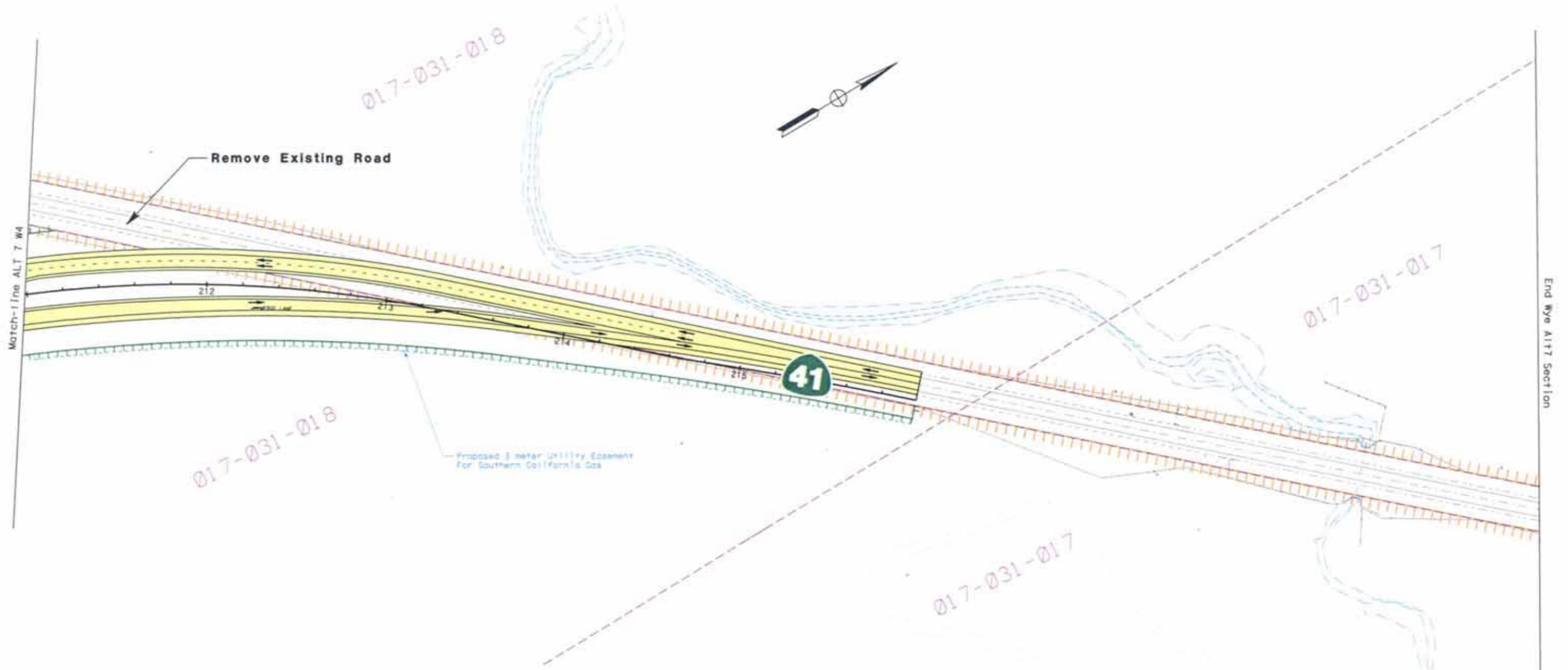


**Wye Section
Alternative 7
W4 of 5**



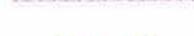
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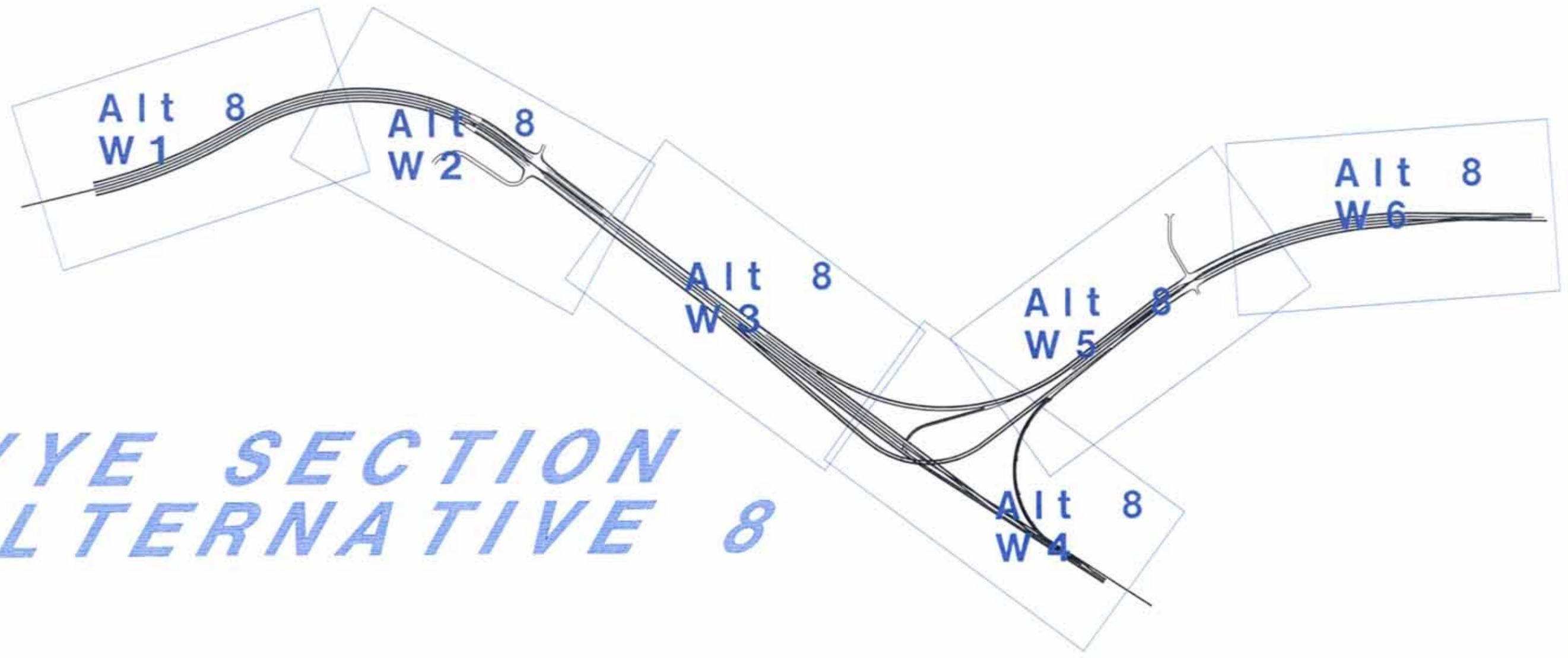
**Wye Section
Alternative 7
W5 of 5**



SCALE 1:2200

LEGEND

| | |
|---|-------------------------|
|  | Existing Right of Way |
|  | Proposed Right of Way |
|  | Property Line |
|  | Easement Line |
|  | Existing Feature |
|  | Existing Waterway |
|  | Proposed Mainline |
|  | Proposed Connector |
|  | County Road |
|  | Proposed Structure |
|  | Access Opening |
|  | Earthen Berm |
|  | Sound Wall |
|  | State Route |
|  | Noise Receptor Location |
|  | Traffic Movement |
|  | North Arrow |
|  | Appraisal Parcel Number |



***WYE SECTION
ALTERNATIVE 8***

Wye Section Alternative 8 W1 of 6

017-101-010

017-101-010



Match-Line Chalame Section A111 and A112



017-101-010

017-101-010

SCALE 1:2200

**Wye Section
Alternative 8
W2 of 6**

**Proposed Westbound
Cholame Creek Bridge**

Cholame Valley Road

**Proposed Eastbound
Cholame Creek Bridge**

Davis Road

46

SCALE 1:2200

017-031-006

017-101-010

017-031-034

017-101-010

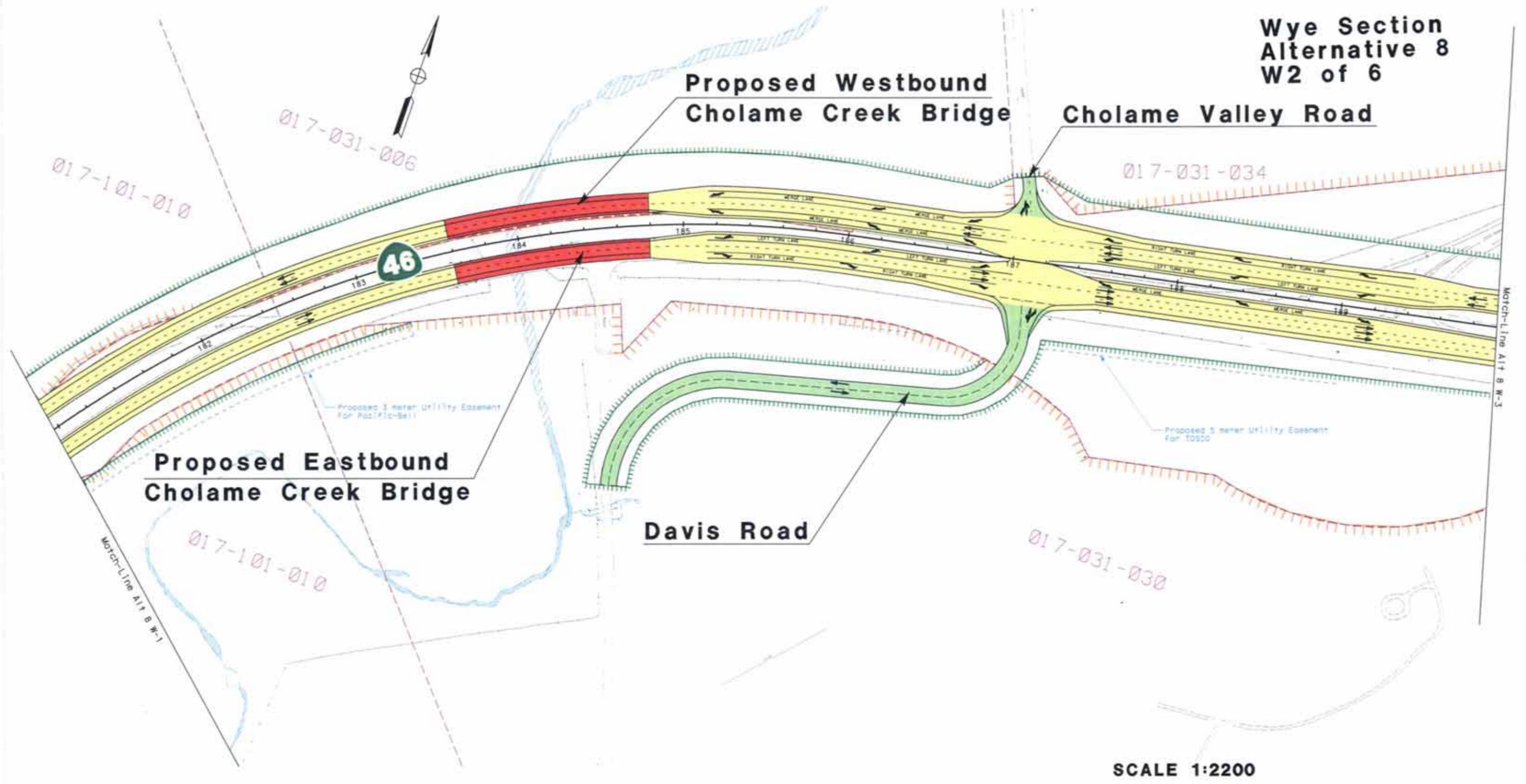
017-031-030

Proposed 3 meter Utility Easement
for ROSTAR-Bell

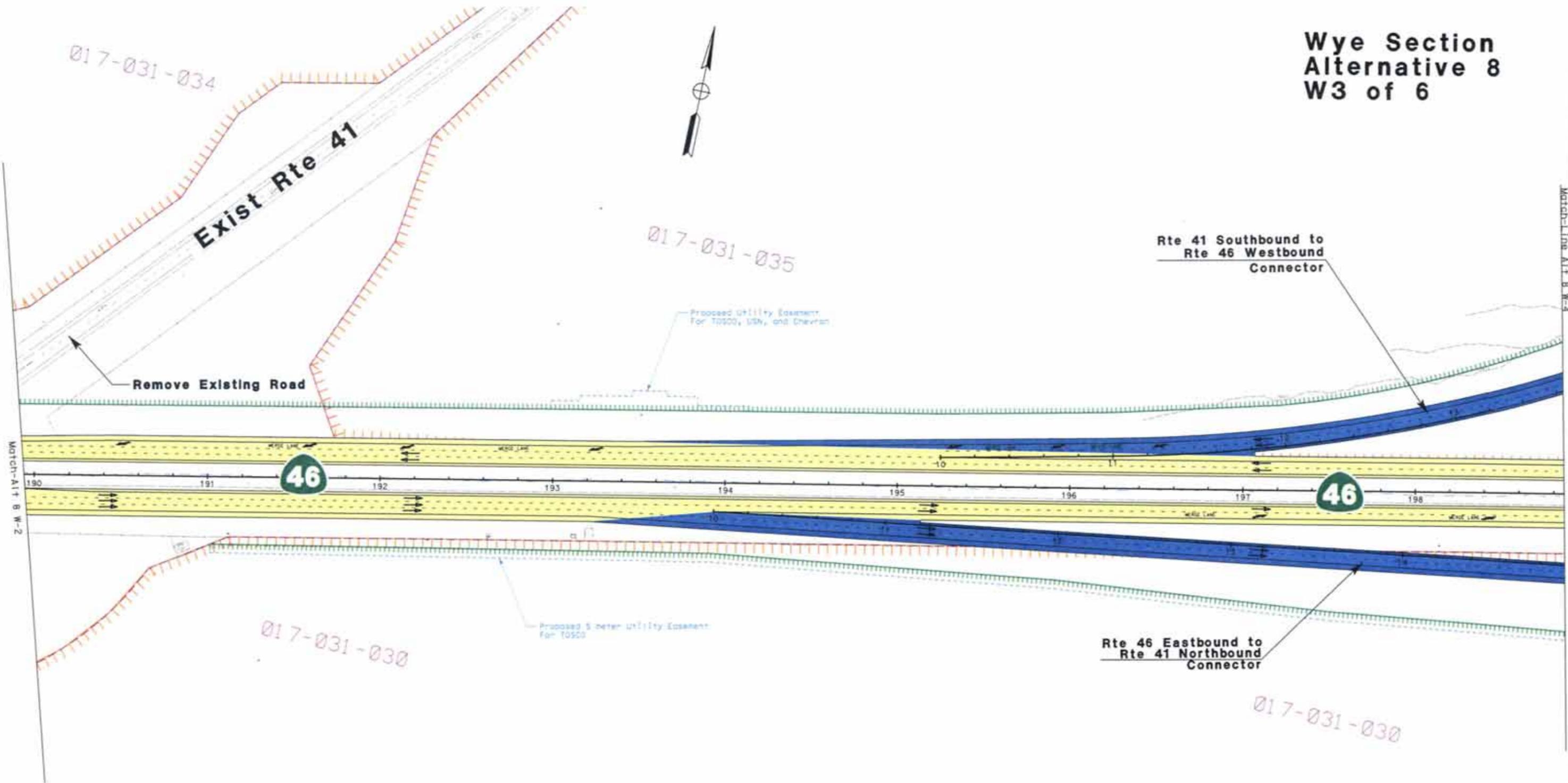
Proposed 3 meter Utility Easement
for TOSCO

Match-Line A17 B W-1

Match-Line A17 B W-3

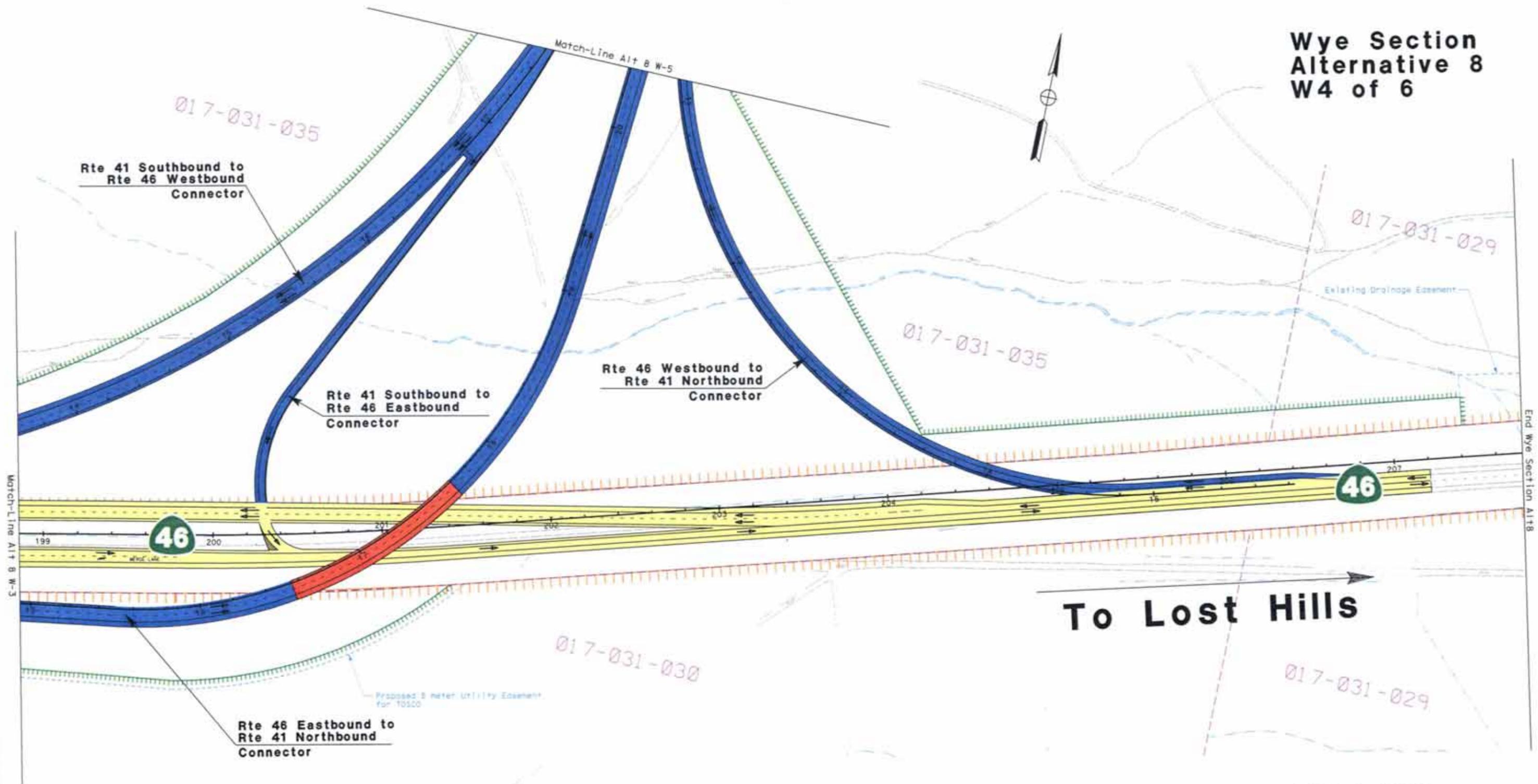


**Wye Section
Alternative 8
W3 of 6**



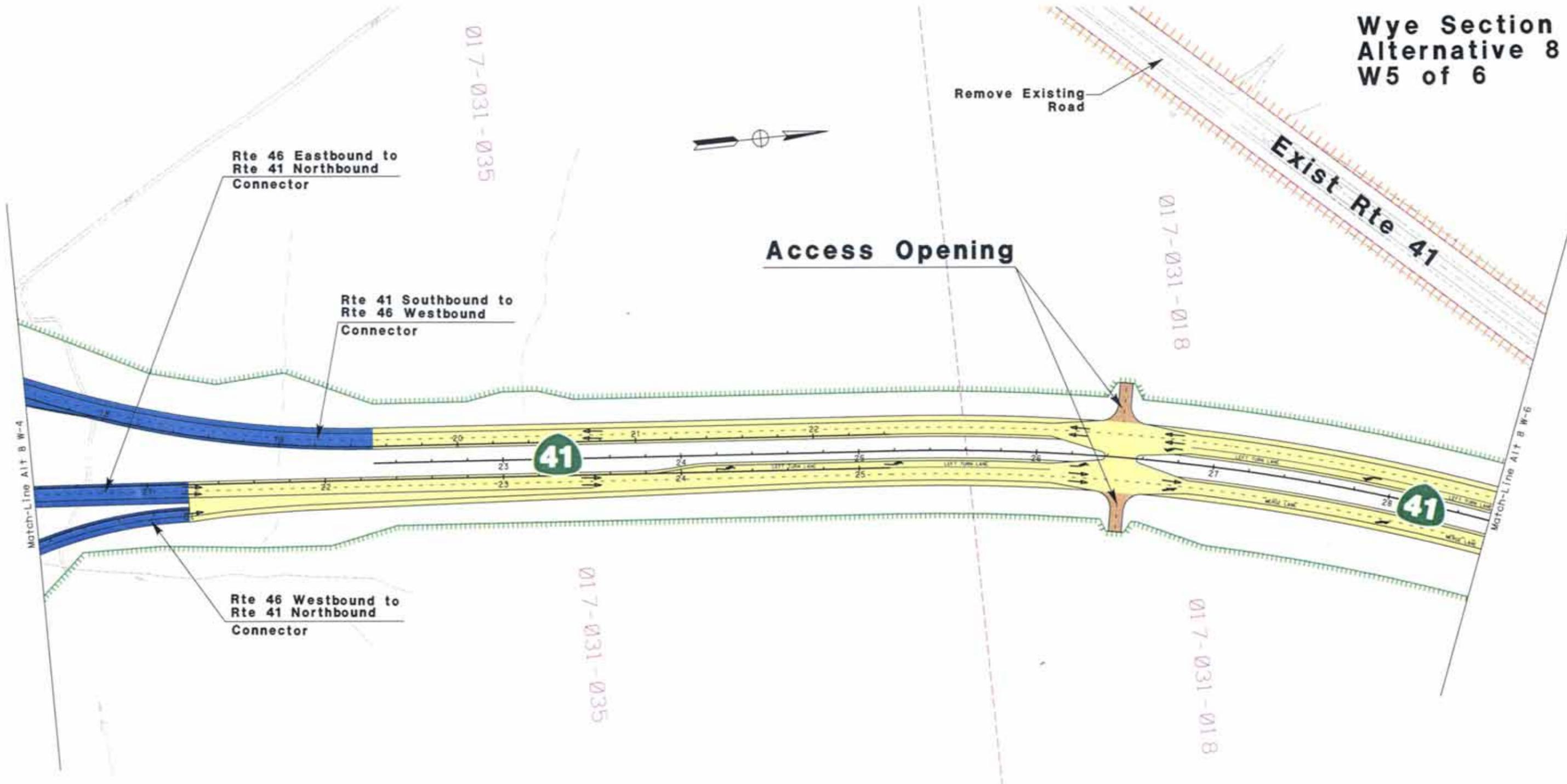
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**Wye Section
Alternative 8
W4 of 6**



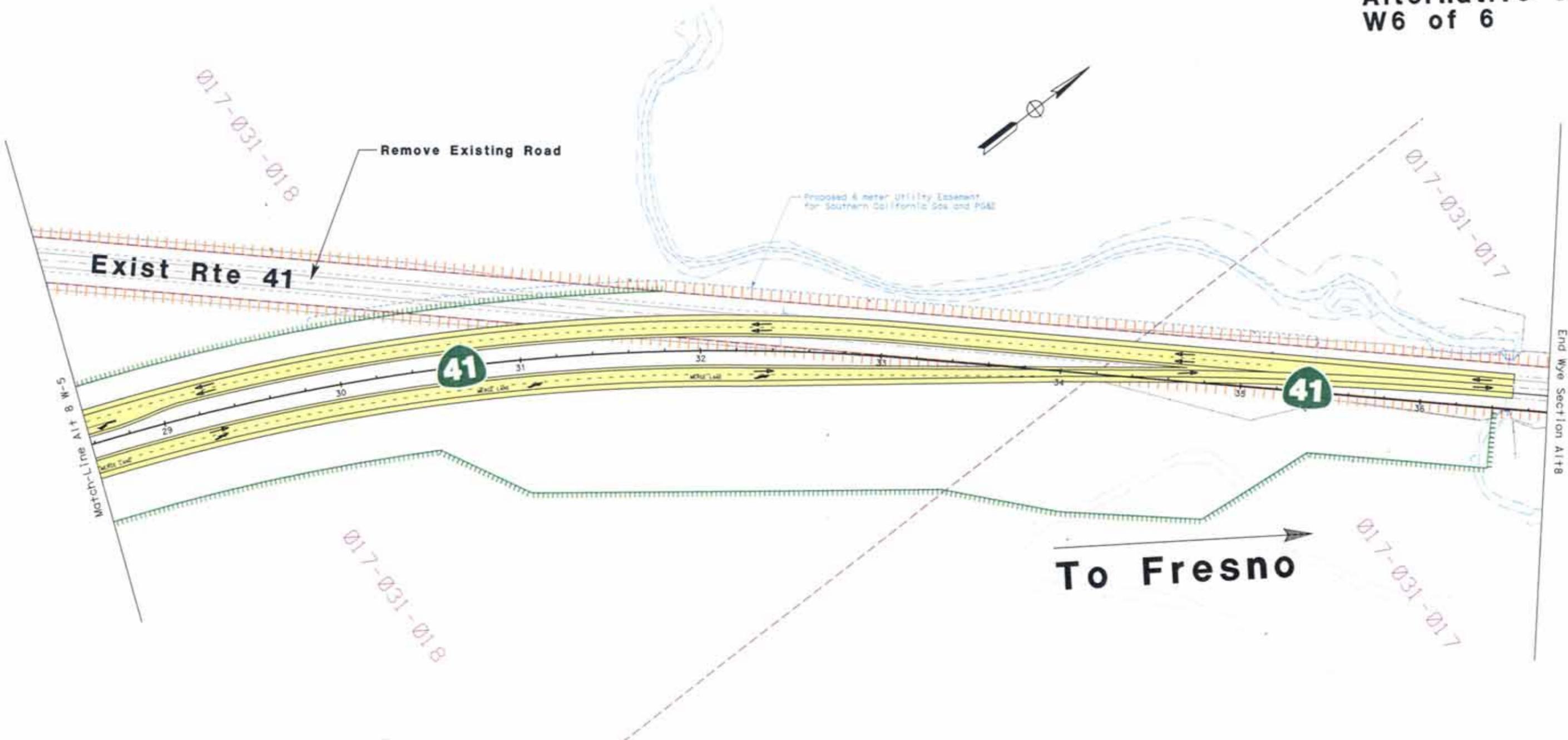
SCALE 1:2200

Wye Section
Alternative 8
W5 of 6



SCALE 1:2200

**Wye Section
Alternative 8
W6 of 6**



SCALE 1:2200

LEGEND



Existing Right of Way



Proposed Right of Way



Property Line



Easement Line



Existing Feature



Existing Waterway



Proposed Mainline



Proposed Connector



County Road



Proposed Structure



Access Opening



Earthen Berm



Sound Wall



State Route



Noise Receptor Location



Traffic Movement

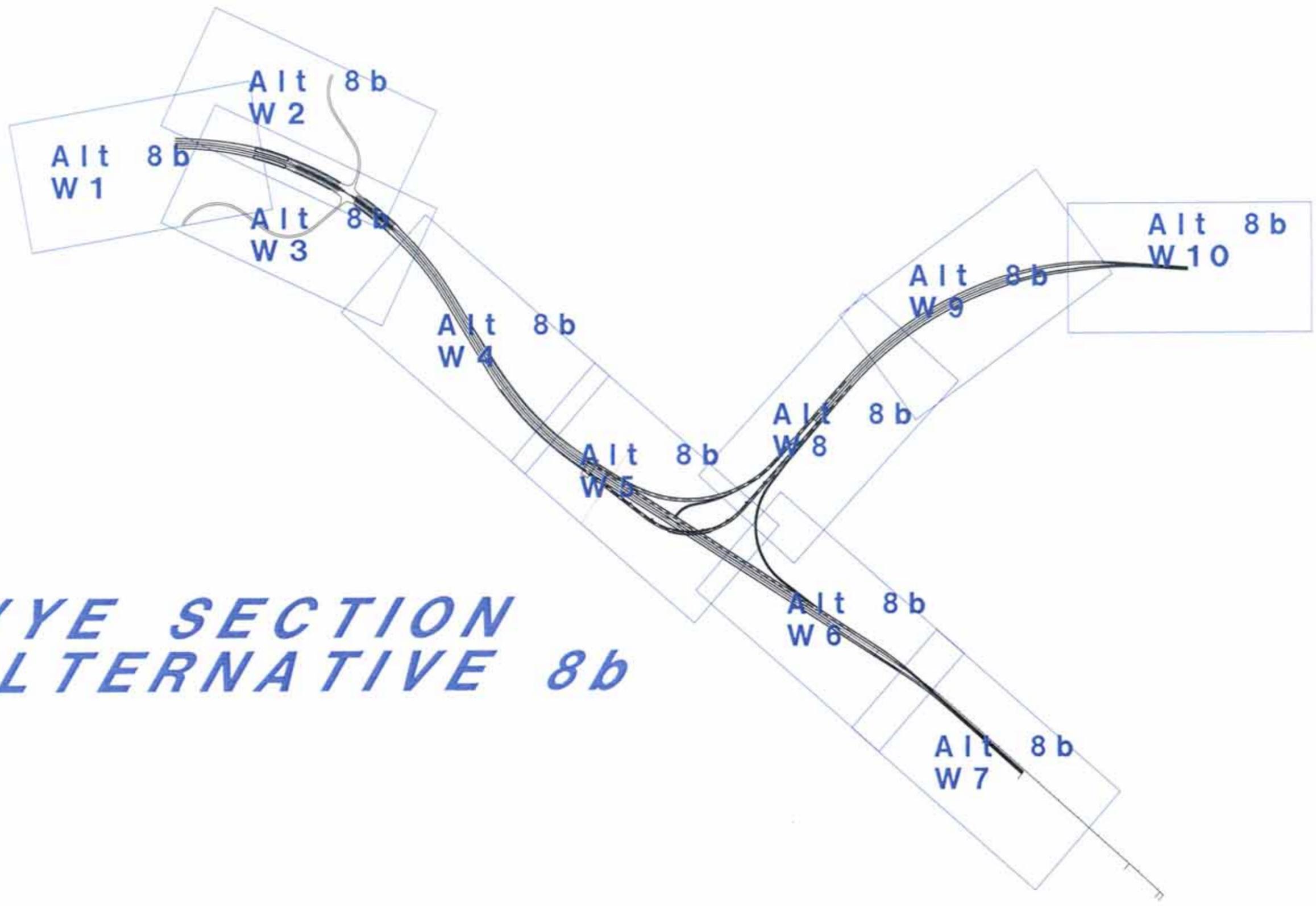


North Arrow

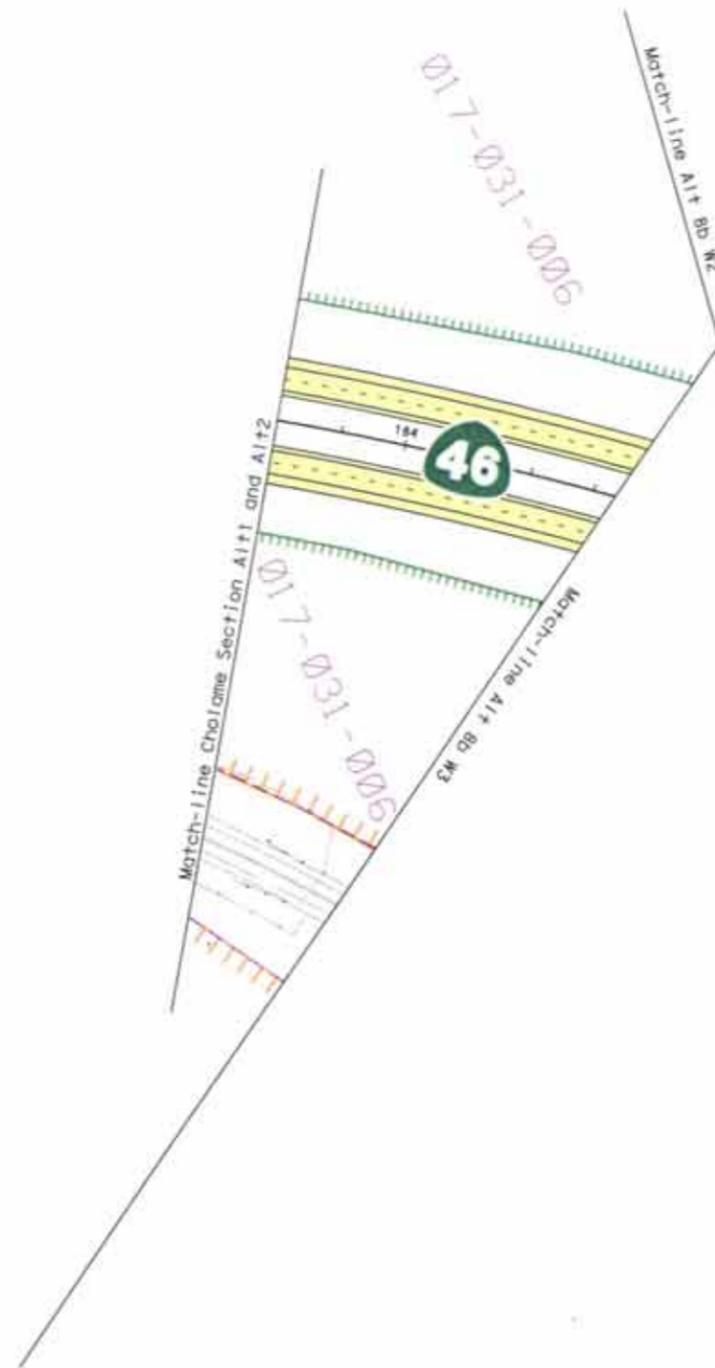


Appraisal Parcel Number

***WYE SECTION
ALTERNATIVE 8b***

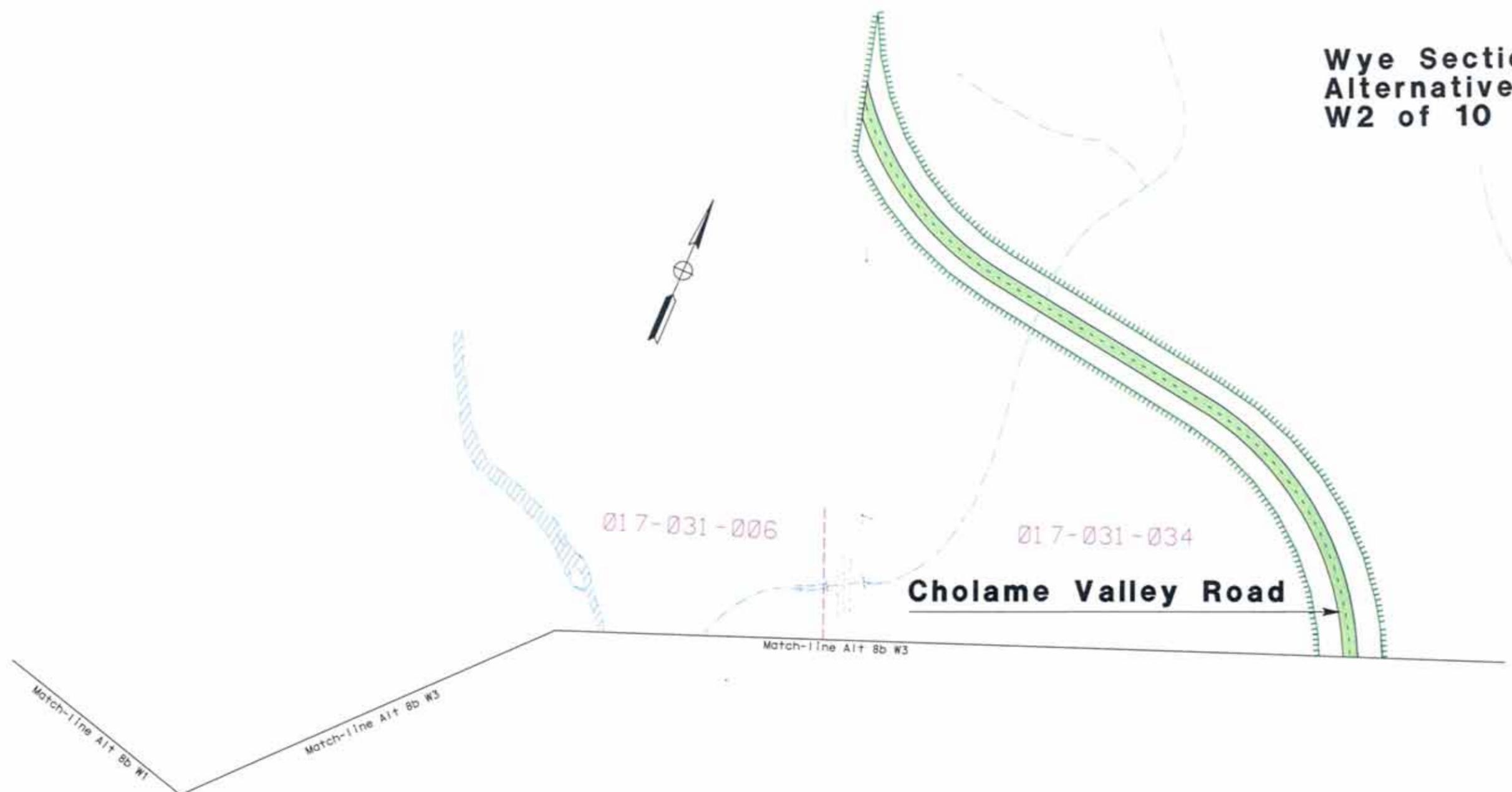


**Wye Section
Alternative 8b
W1 of 10**



SCALE 1:2200

**Wye Section
Alternative 8b
W2 of 10**

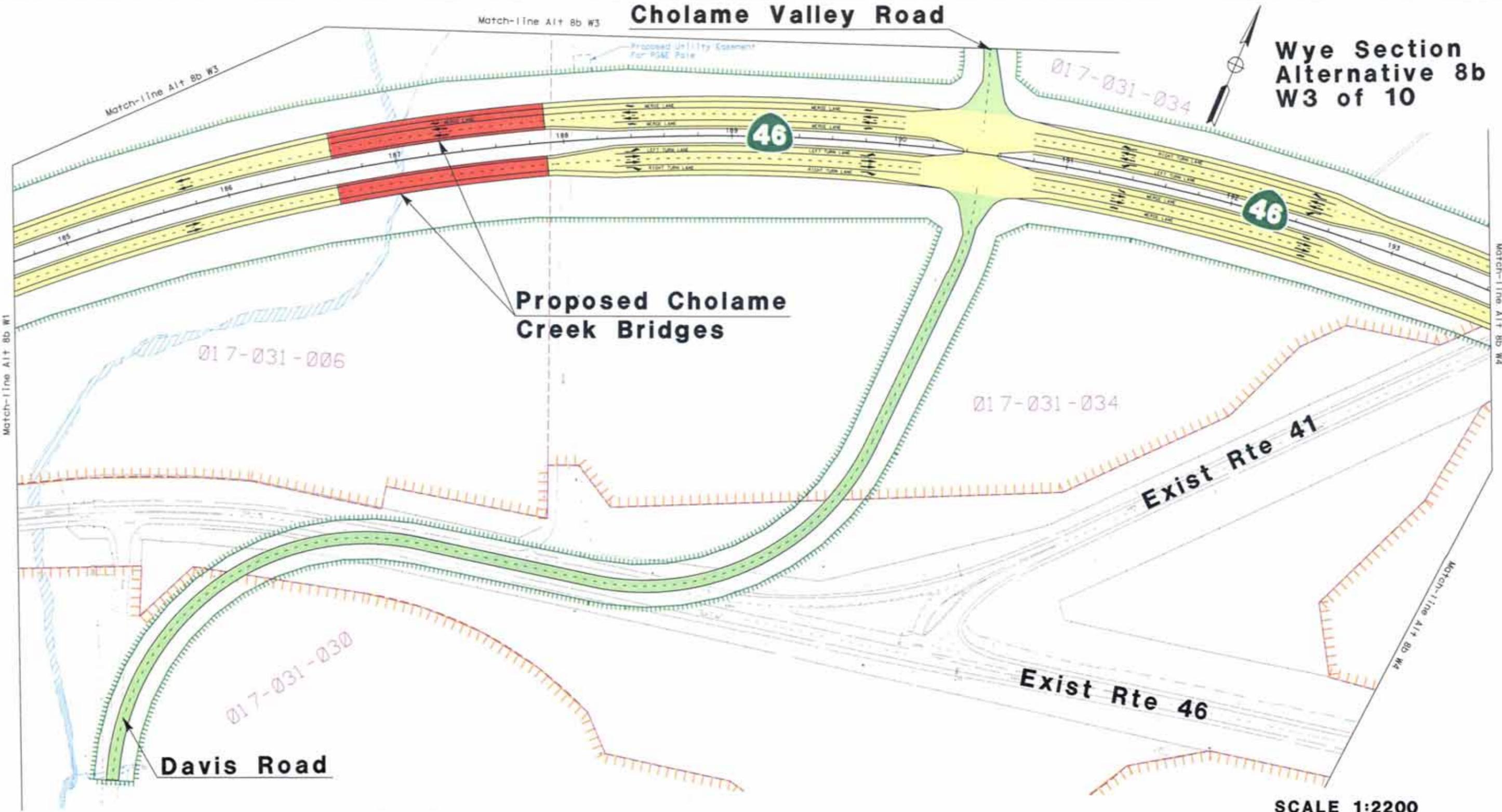


Cholame Valley Road

SCALE 1:2200

Match-line Alt 8b W3 **Cholame Valley Road**

**Wye Section
Alternative 8b
W3 of 10**



**Proposed Cholame
Creek Bridges**

Exist Rte 41

Exist Rte 46

Davis Road

SCALE 1:2200

**Wye Section
Alternative 8b
W4 of 10**

**Proposed Cholame
Creek Overflow Bridges**

Remove Existing Road

**Proposed Cholame Creek
Overflow Bridges**



017-031-035

017-031-035

Remove Existing Road

Exist Rte 46

017-031-030

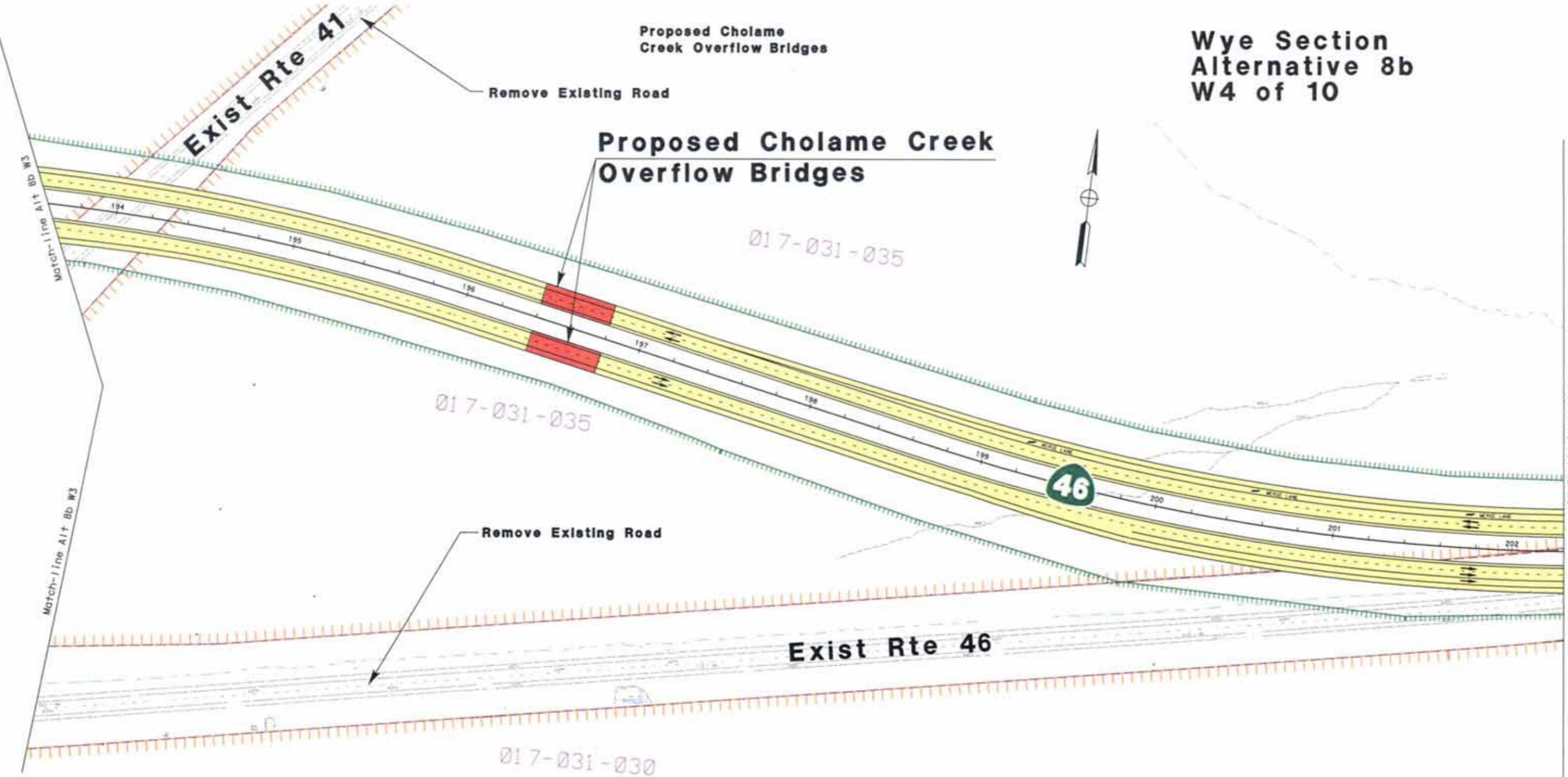
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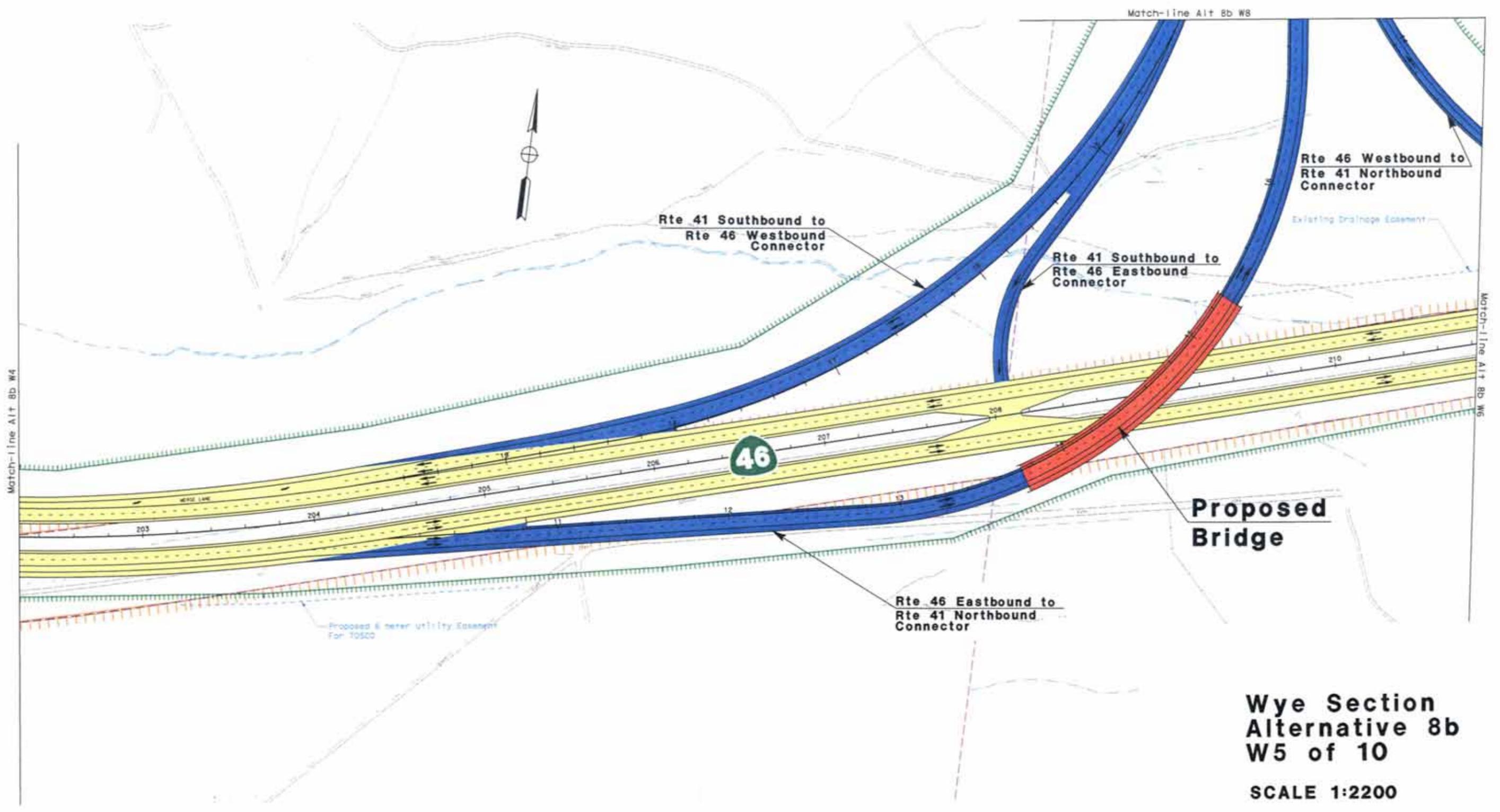
Exist Rte 41

Match-line A1+ 8b W3

Match-line A1+ 8b W3

Match-line A1+ 8b W5





**Wye Section
Alternative 8b
W5 of 10**

SCALE 1:2200

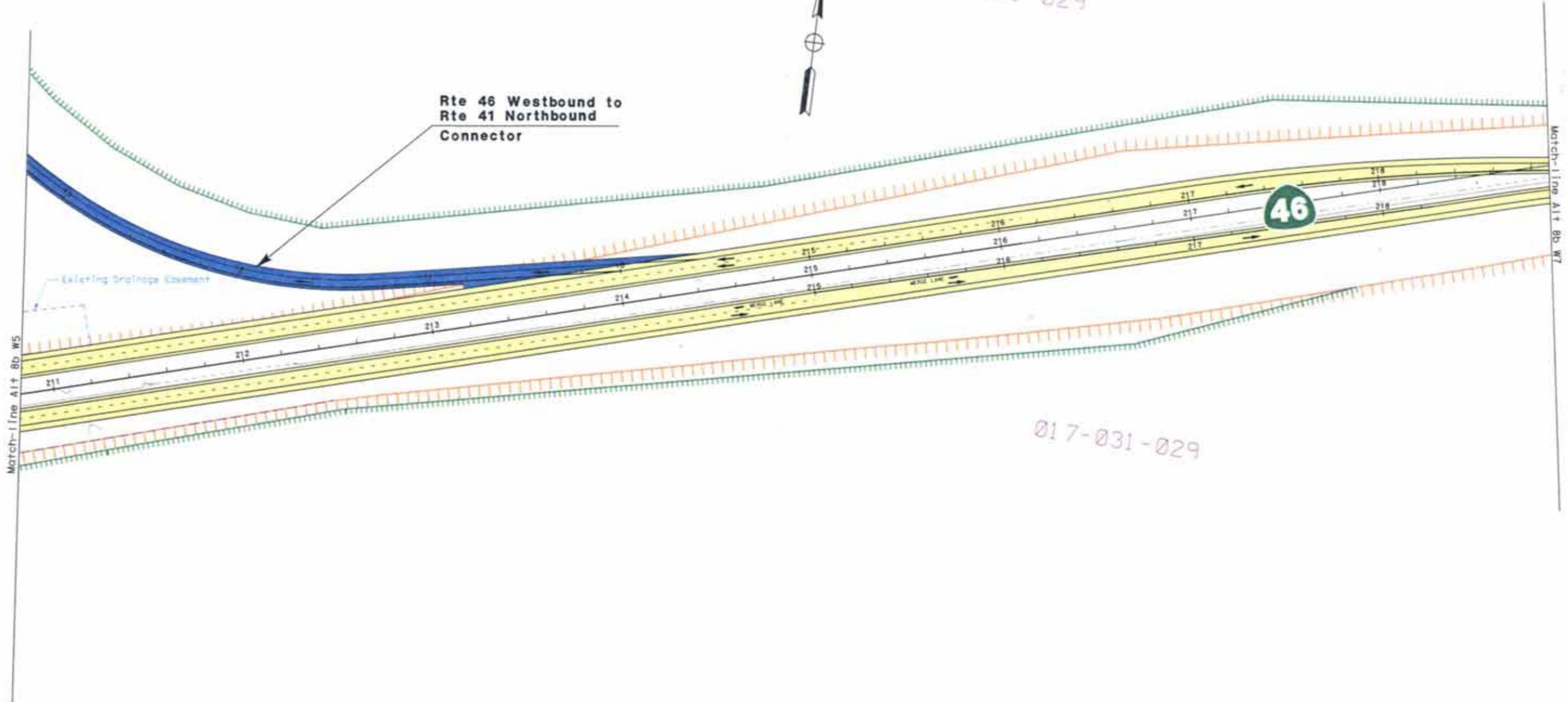
Wye Section
Alternative 8b
W6 of 10

017-031-029



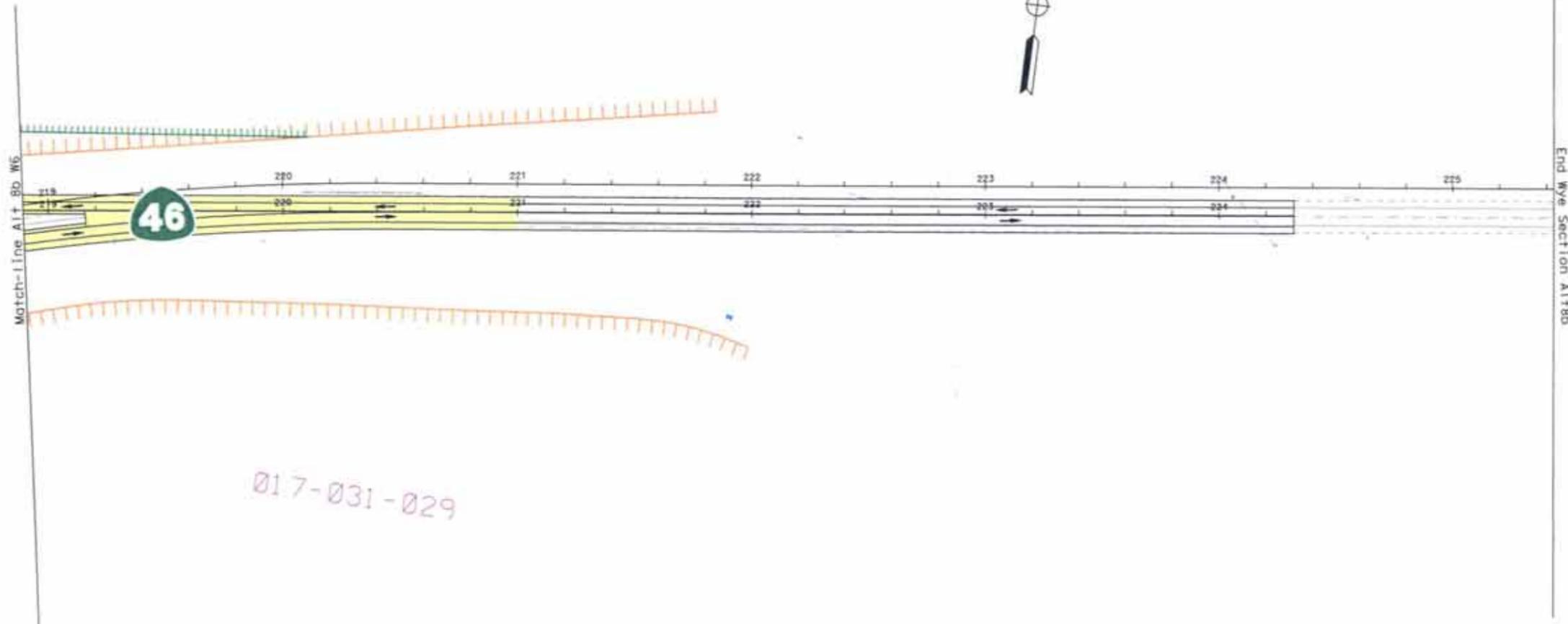
Rte 46 Westbound to
Rte 41 Northbound
Connector

46



SCALE 1:2200

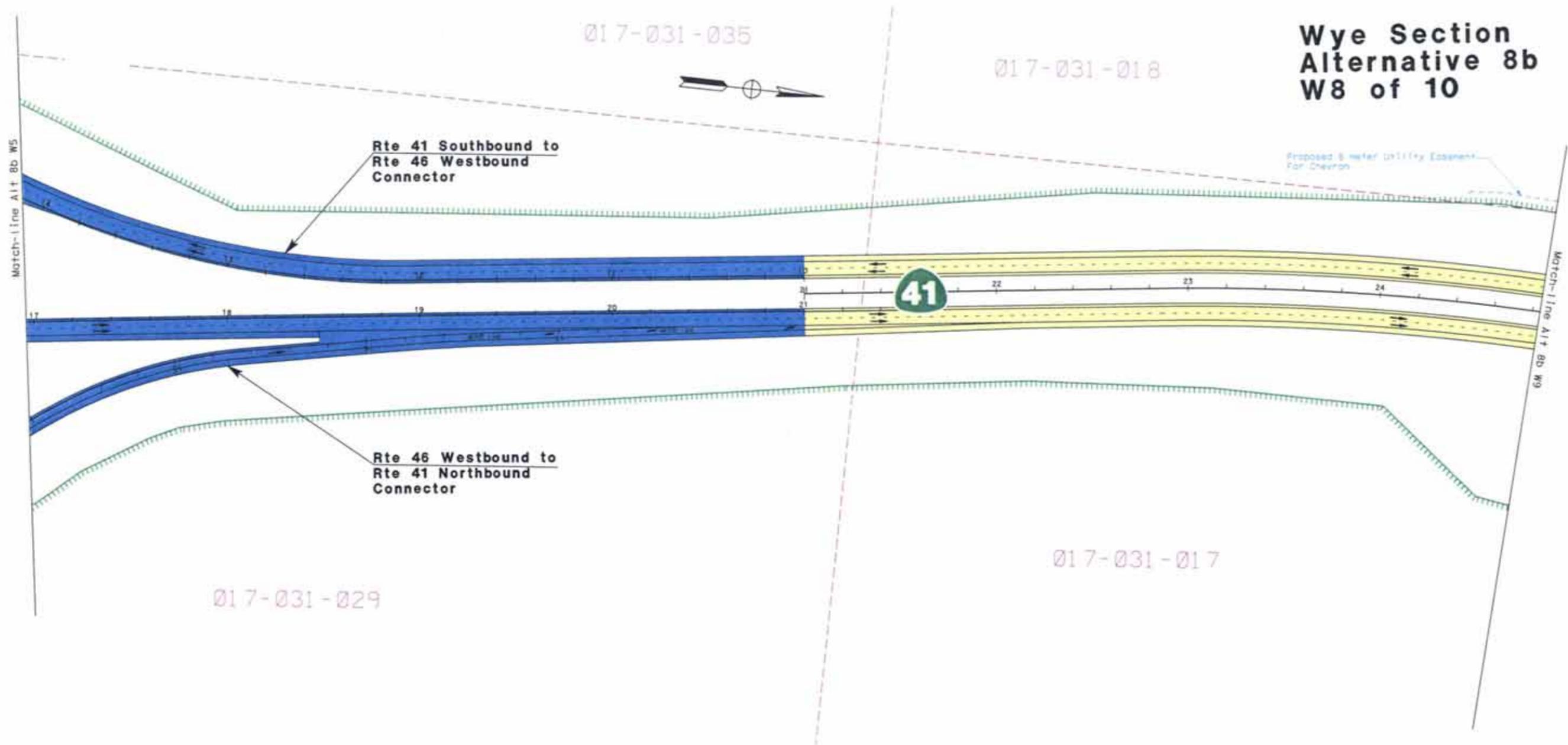
**Wye Section
Alternative 8b
W7 of 10**



01.7-031-029

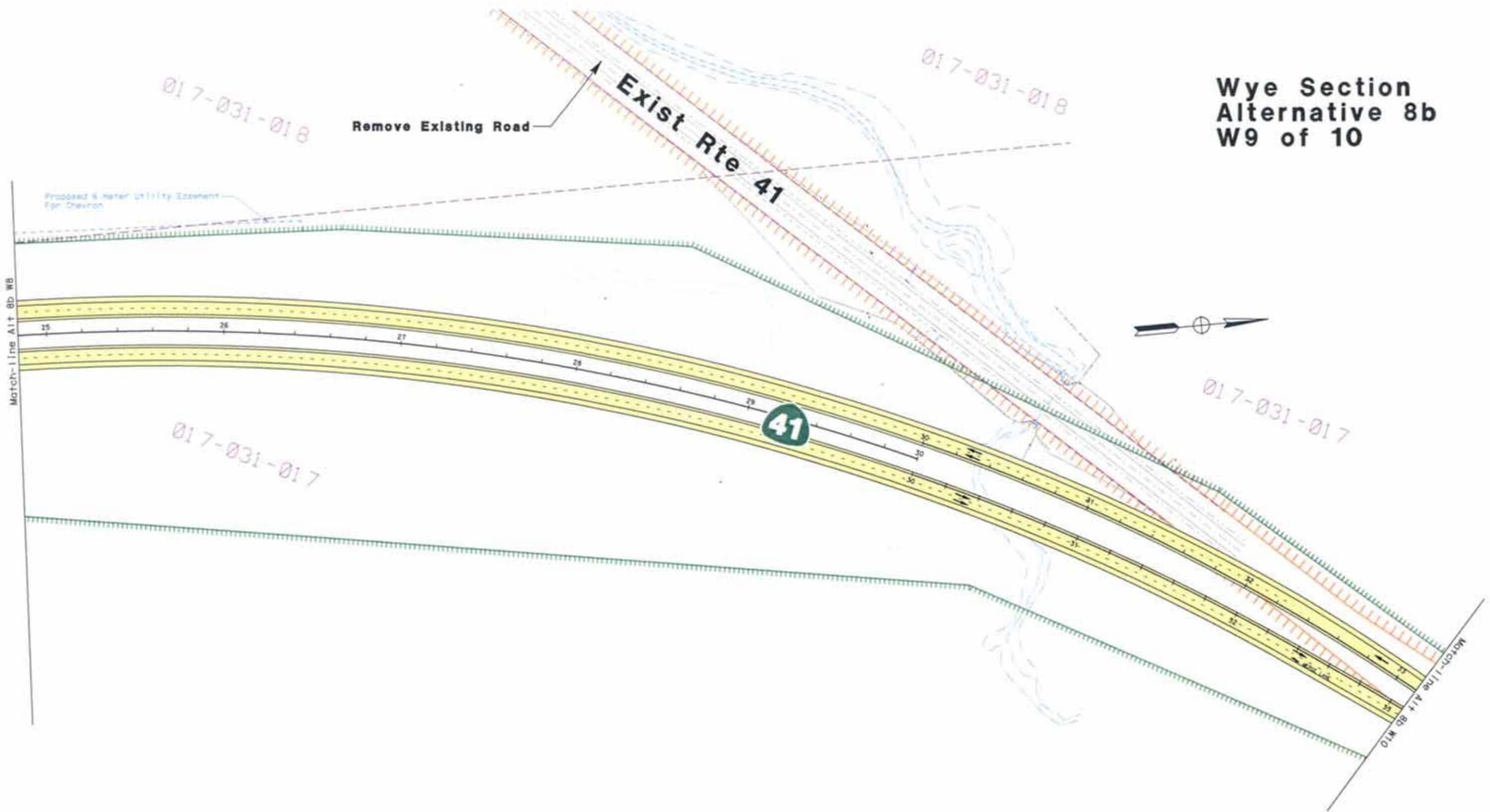
SCALE 1:2200

**Wye Section
Alternative 8b
W8 of 10**



SCALE 1:2200

**Wye Section
Alternative 8b
W9 of 10**



017-031-018

Remove Existing Road

Exist Rte 41

017-031-018

Proposed 6 meter Utility Easement For Chevron

Match-Line A17 8b WB

25 26 27 28 29 30 31 32 33 34 35

017-031-017

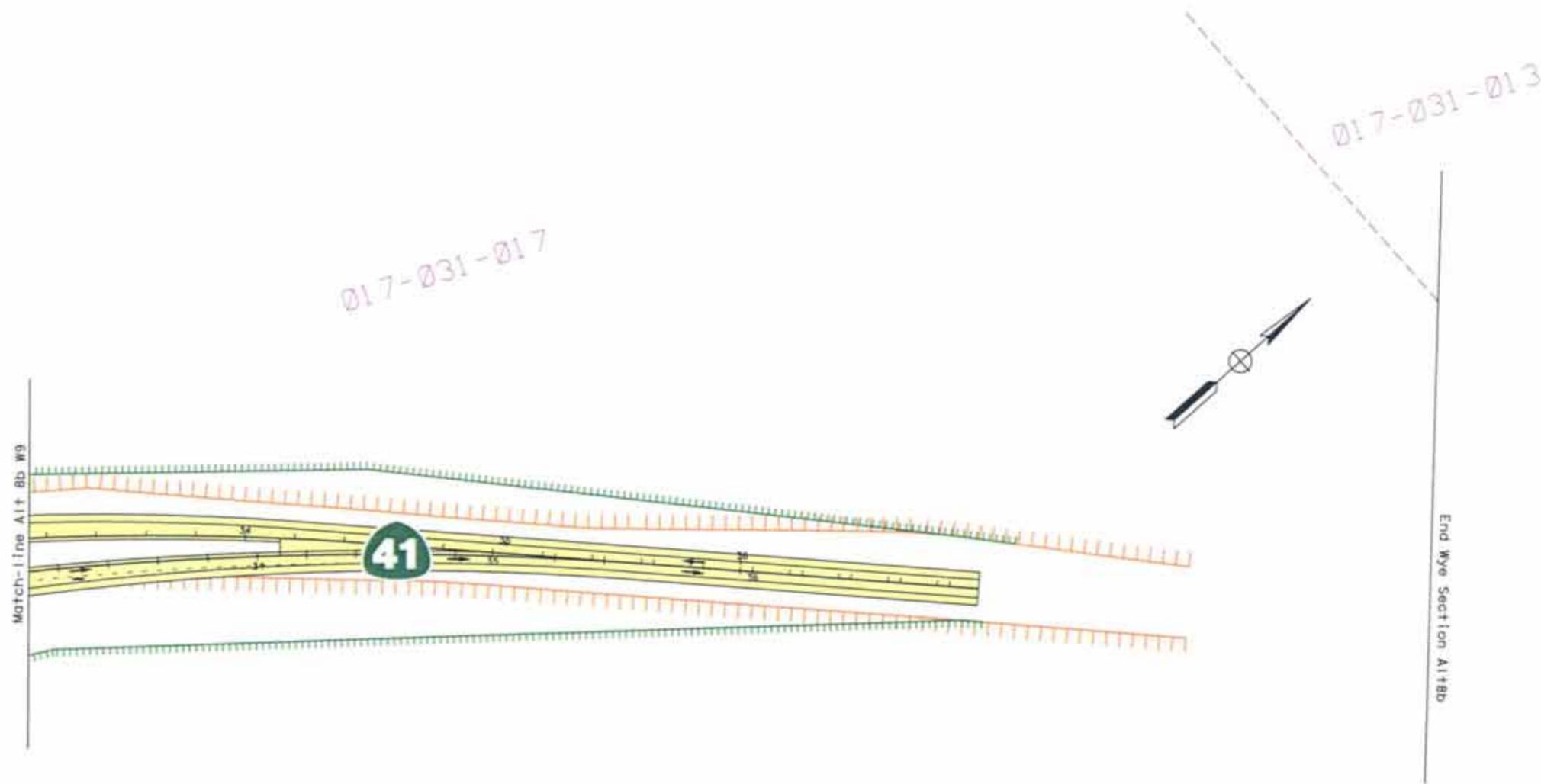
41

017-031-017

Match-Line A18 8b W10

SCALE 1:2200

**Wye Section
Alternative 8b
W10 of 10**



SCALE 1:2200

LEGEND



Existing Right of Way



Proposed Right of Way



Property Line



Easement Line



Existing Feature



Existing Waterway



Proposed Mainline



Proposed Connector



County Road



Proposed Structure



Access Opening



Earthen Berm



Sound Wall



State Route



Noise Receptor Location



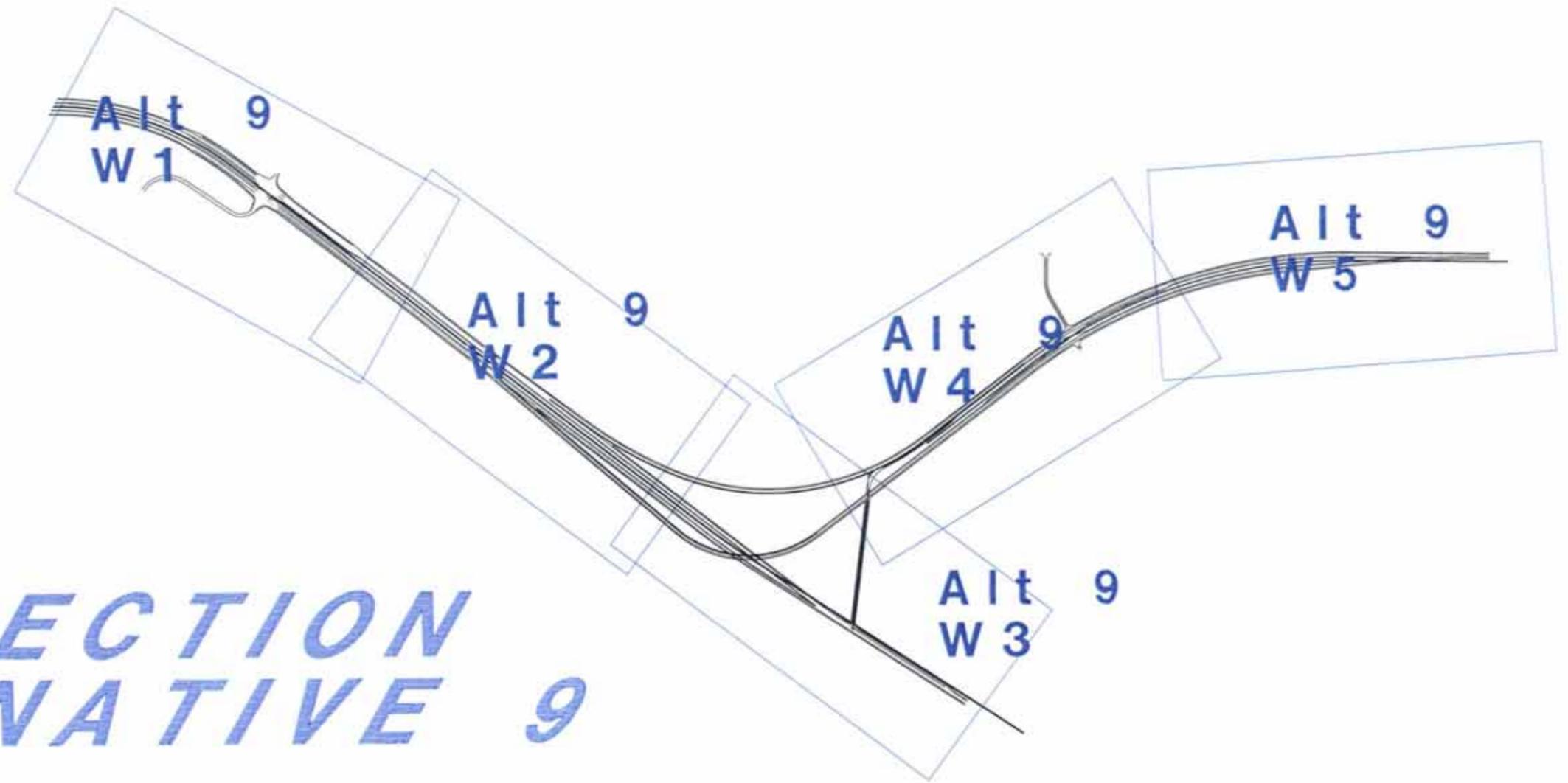
Traffic Movement



North Arrow

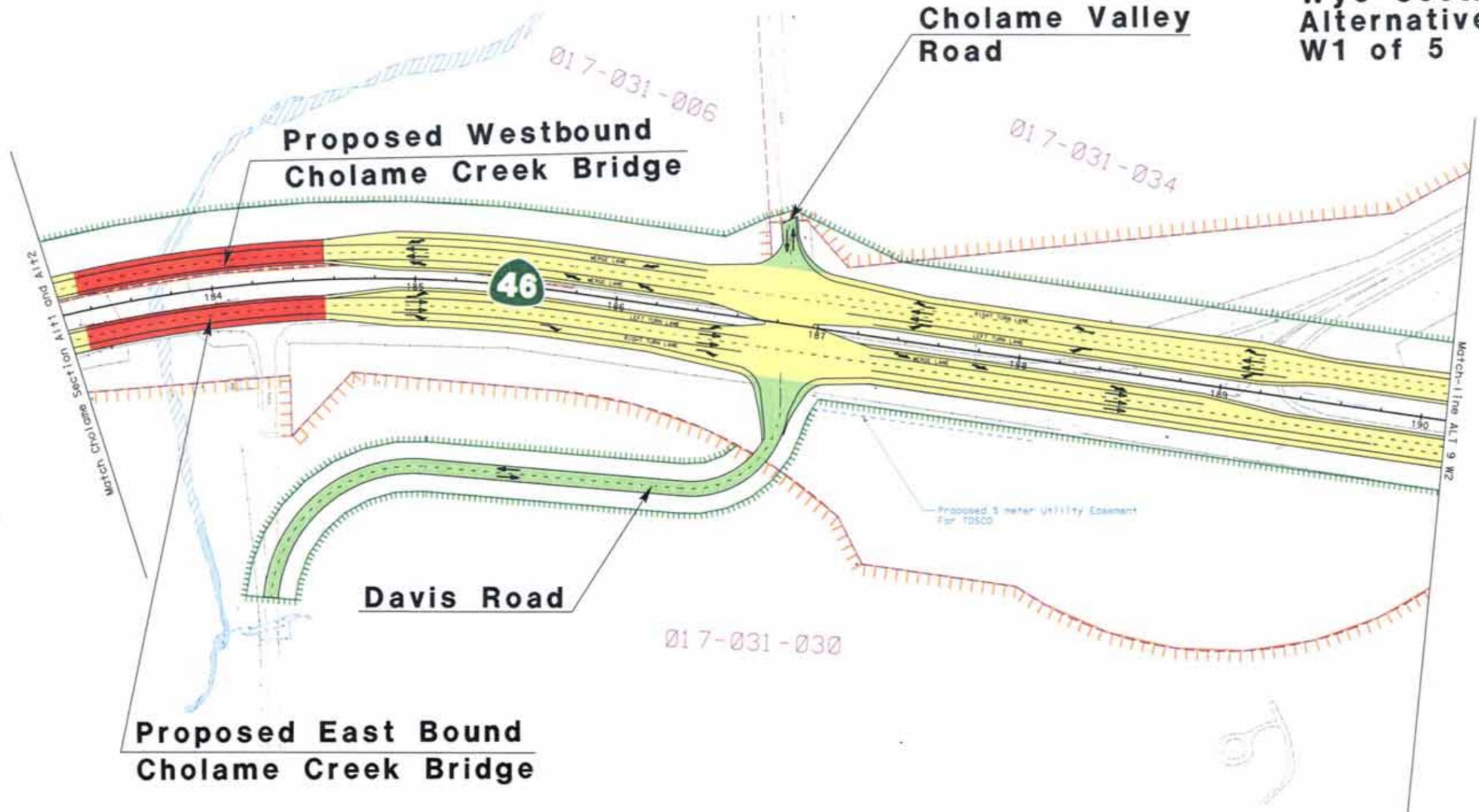
XXX-XXZ-XXX

Appraisal Parcel Number



***WYE SECTION
ALTERNATIVE 9***

**Wye Section
Alternative 9
W1 of 5**



SCALE 1:2200

Wye Section Alternative 9 W2 of 5

017-031-035



Rte 41 Southbound to
Rte 46 Westbound
Connector

Proposed Utility Easement
For TQSCQ, Chevron and USN

Match-line ALT 9 W1

Match-line ALT 9 W3

191 192 193 194 195 196 197 198

46

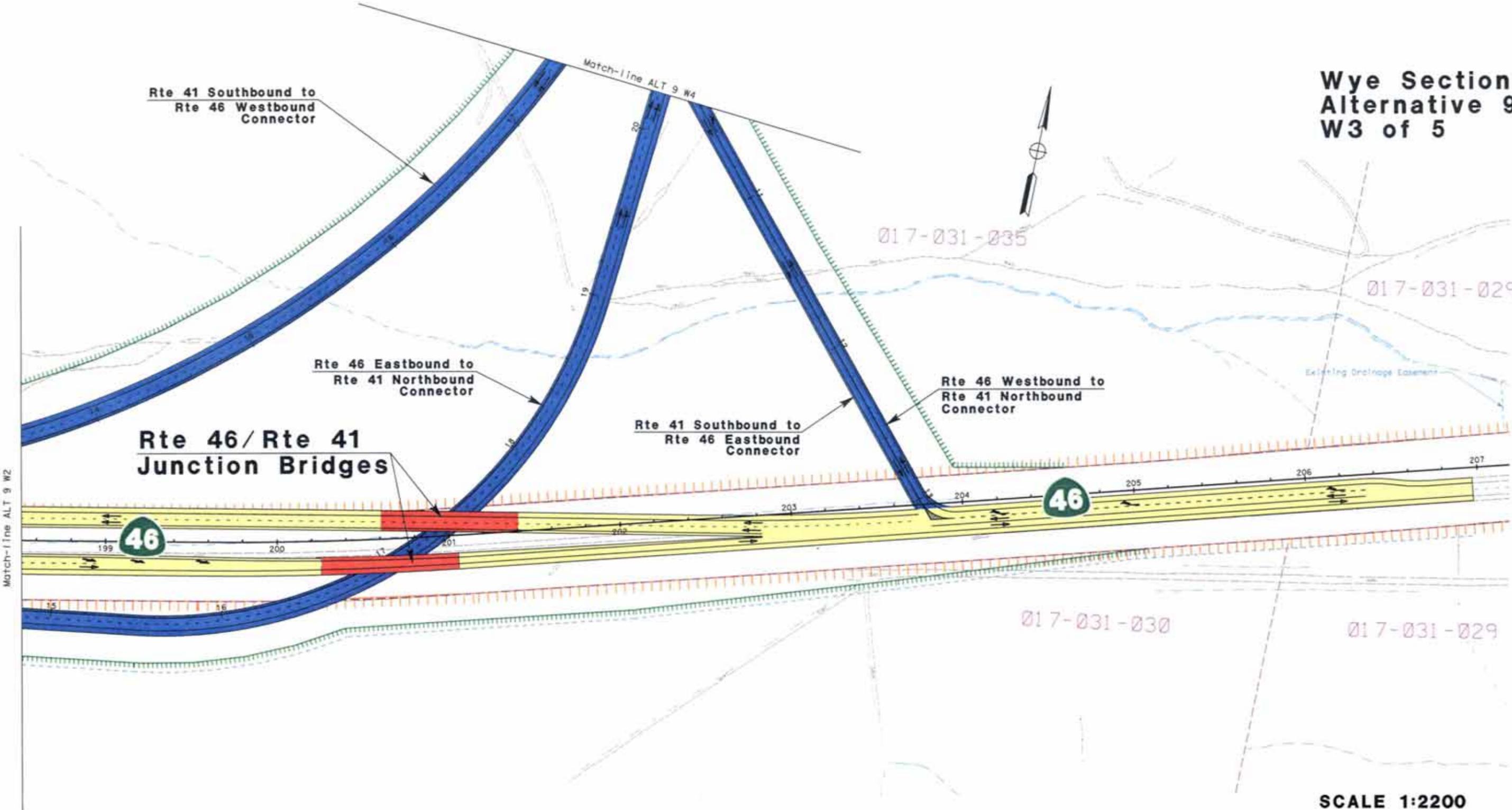
017-031-030

Proposed 8 meter Utility Easement
for TQSCQ

Rte 46 Eastbound to
Rte 41 Northbound
Connector

SCALE 1:2200

Wye Section Alternative 9 W3 of 5



Wye Section Alternative 9 W4 of 5



Remove Existing Road

Access Opening

Rte 41 Southbound to
Rte 46 Westbound
Connector

Rte 46 Eastbound to
Rte 41 Northbound
Connector

Proposed Utility Easement
For TOSCO, Chevron and USN

017-031-035

017-031-018

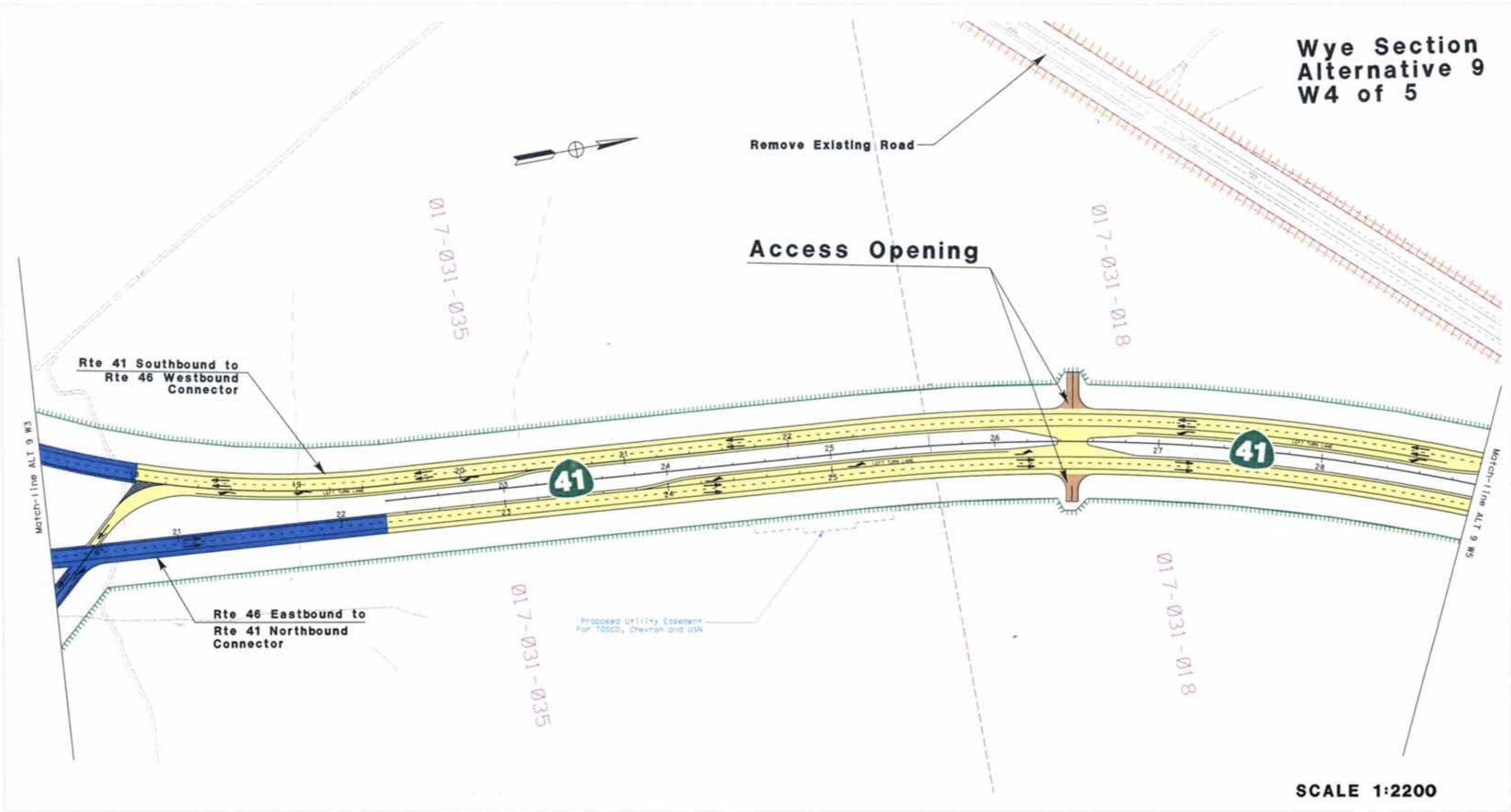
017-031-035

017-031-018

Match-line ALT 9 W3

Match-line ALT 9 W5

SCALE 1:2200



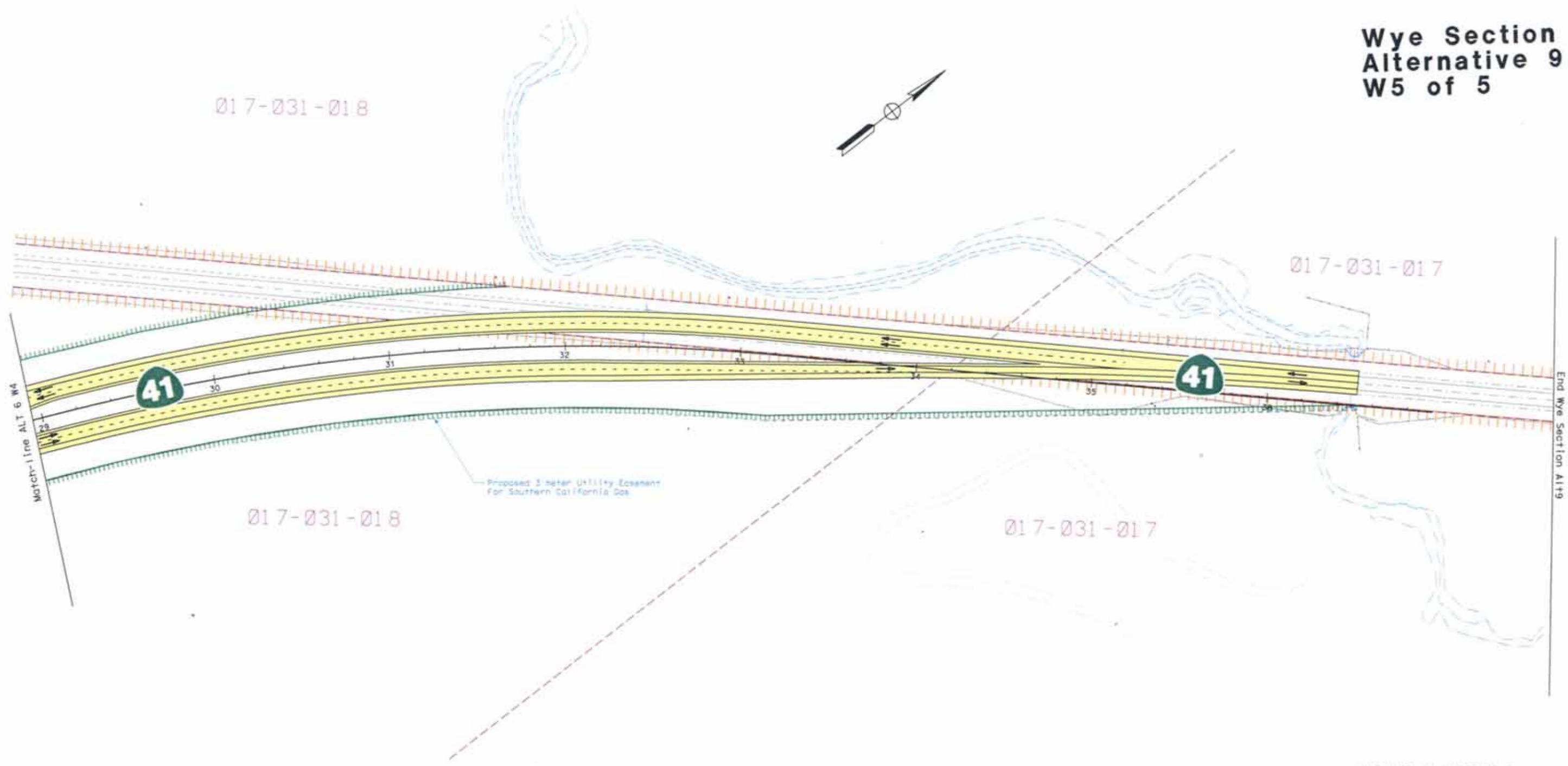
**Wye Section
Alternative 9
W5 of 5**

017-031-018

017-031-017

017-031-018

017-031-017



SCALE 1:2200

Appendix B: Noise Receptor / Proposed Barrier Maps

LEGEND



Existing Right of Way



Proposed Right of Way



Property Line



Easement Line



Existing Feature



Existing Waterway



Proposed Mainline



Proposed Connector



County Road



Proposed Structure



Access Opening



Earthen Berm



Sound Wall



State Route



Noise Receptor Location



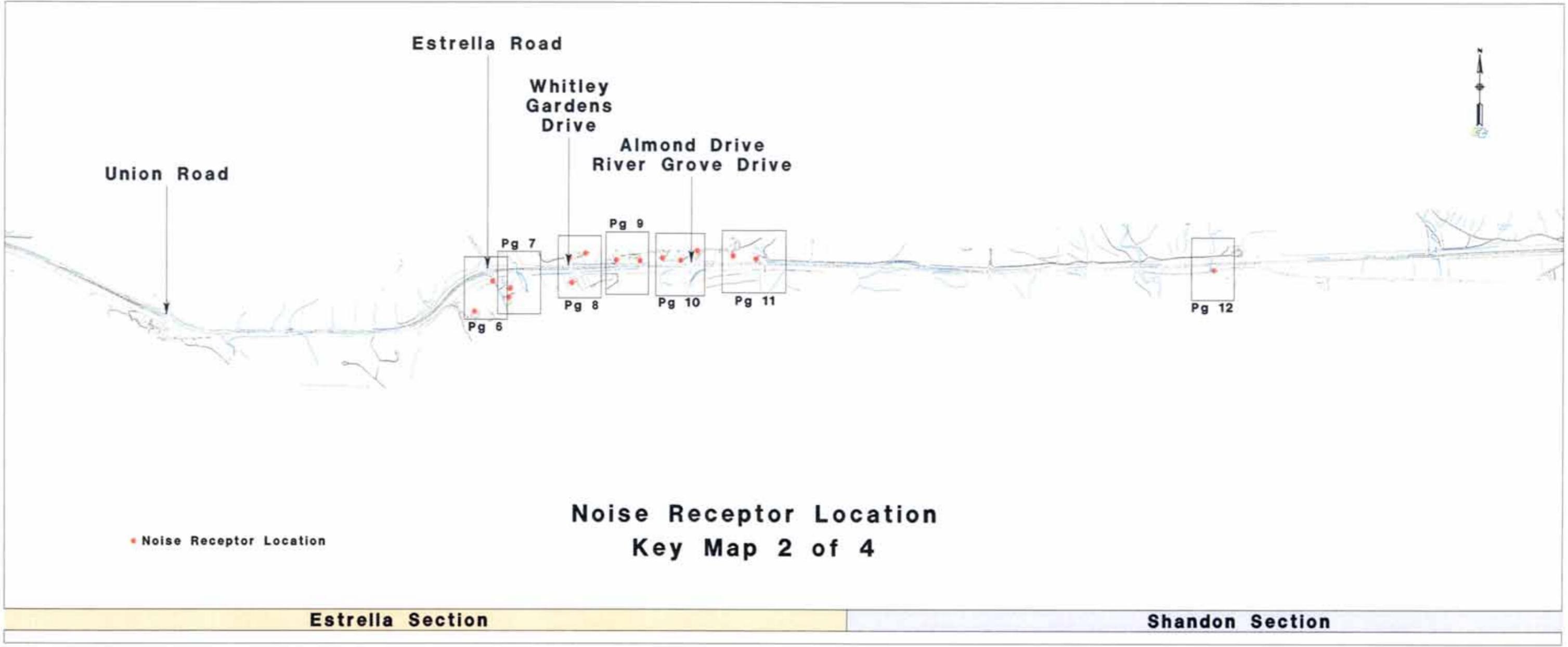
Traffic Movement



North Arrow



Appraisal Parcel Number



Union Road

Estrella Road

Whitley Gardens Drive

Almond Drive
River Grove Drive

Pg 6
Pg 7

Pg 8

Pg 9

Pg 10

Pg 11

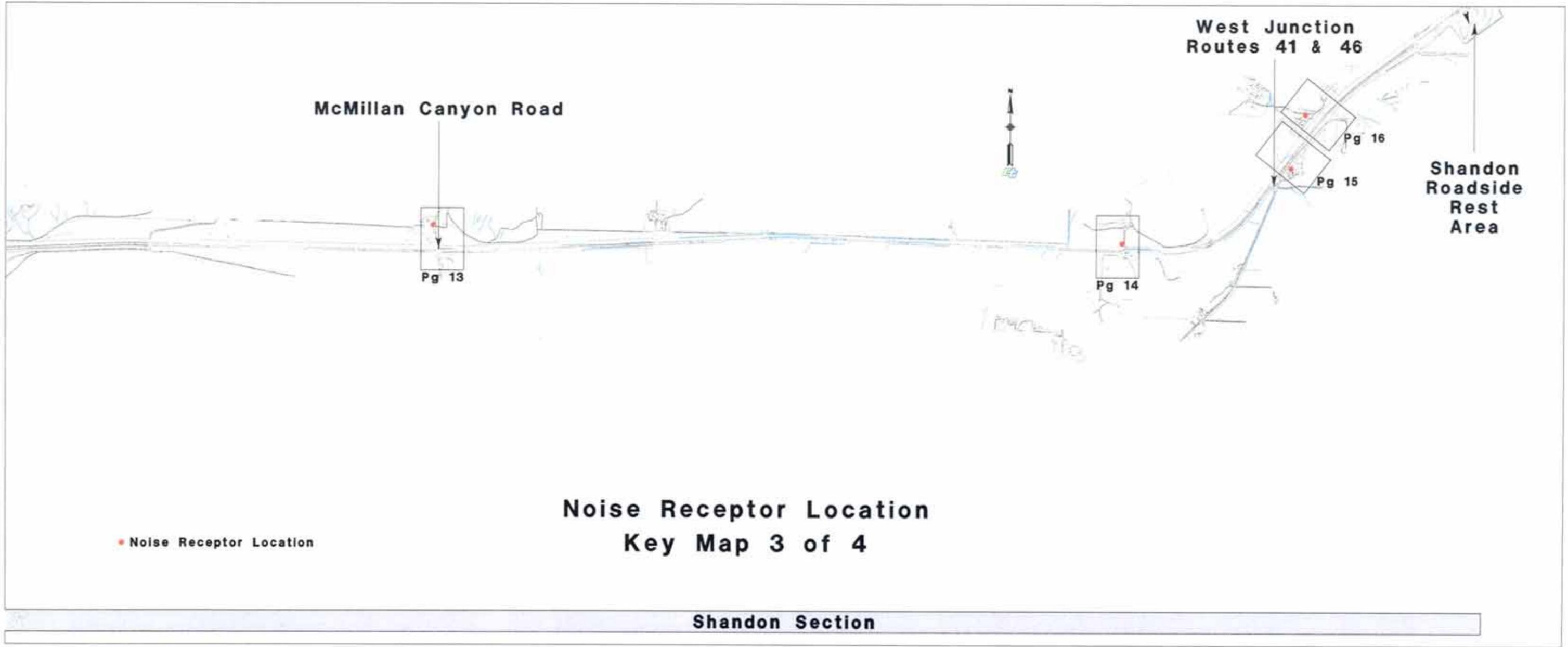
Pg 12

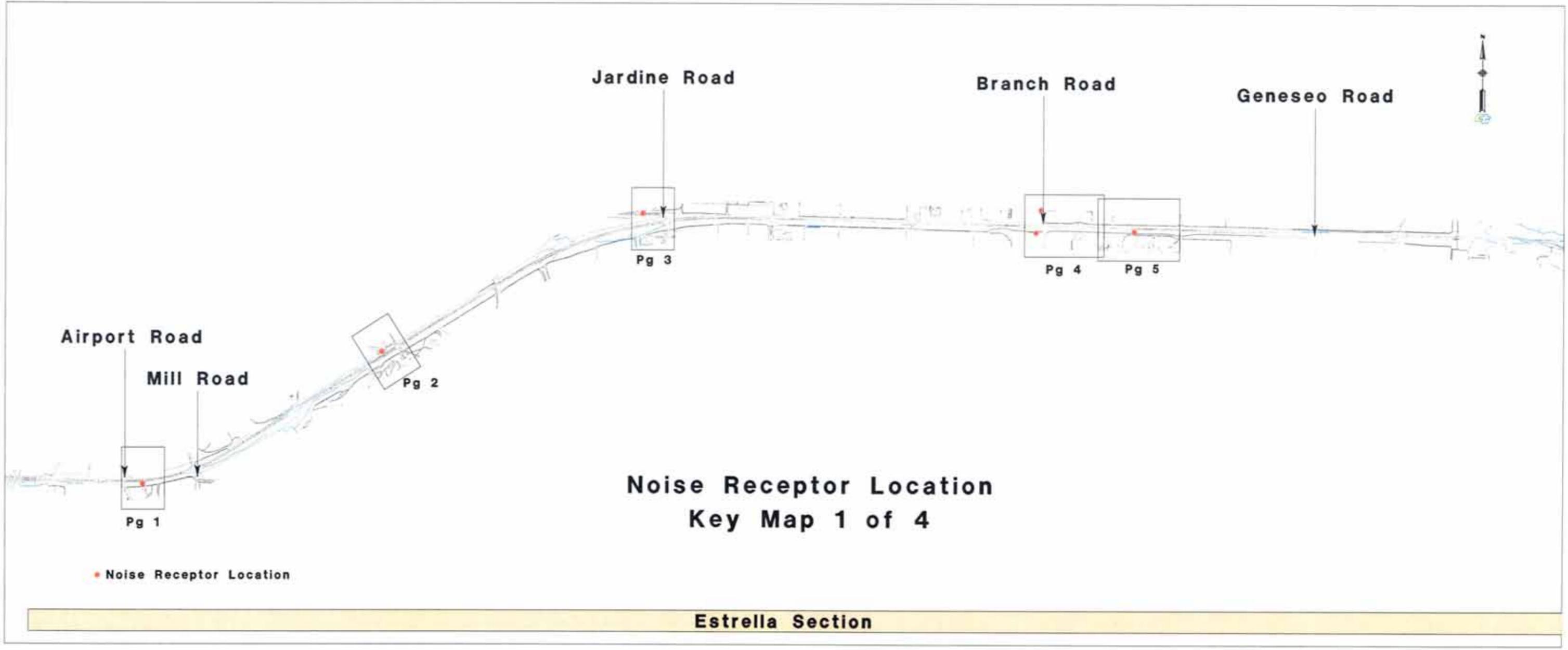
• Noise Receptor Location

Noise Receptor Location
Key Map 2 of 4

Estrella Section

Shandon Section





Airport Road

Mill Road

Jardine Road

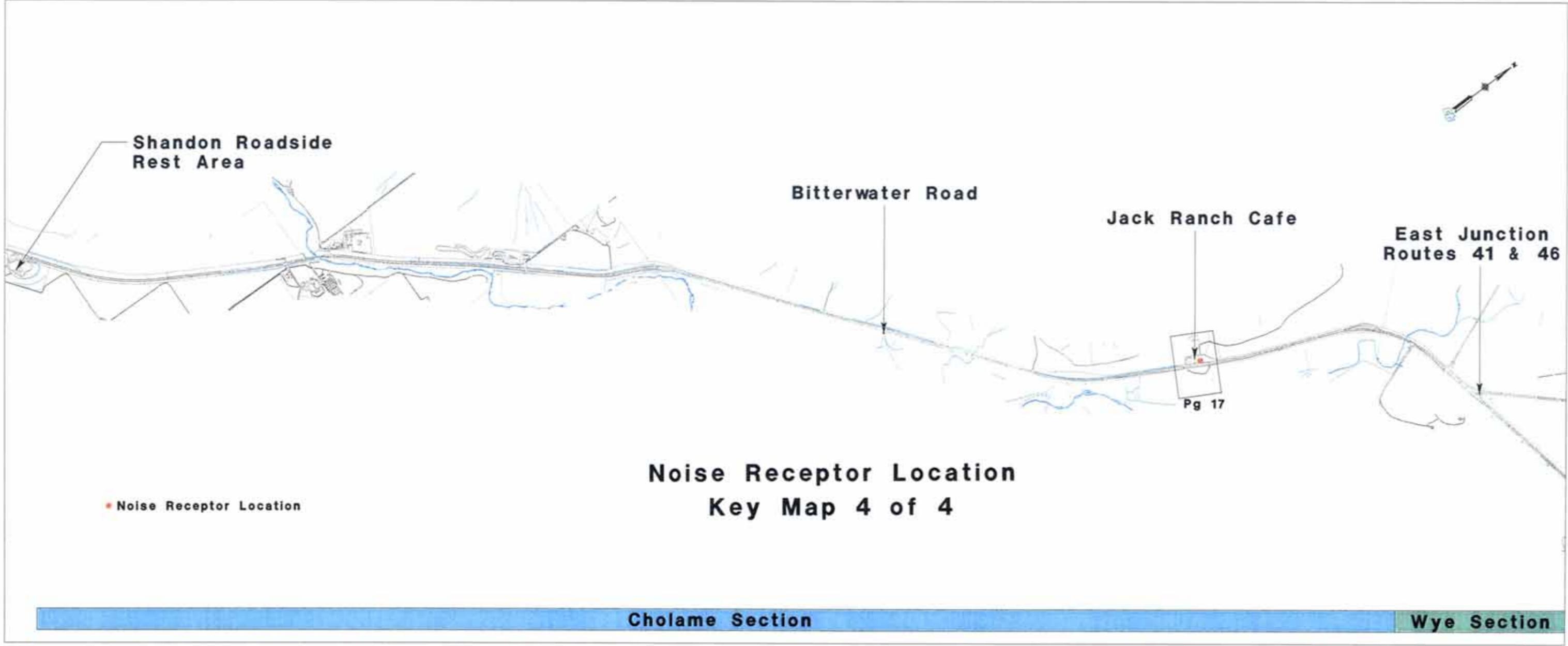
Branch Road

Geneseo Road

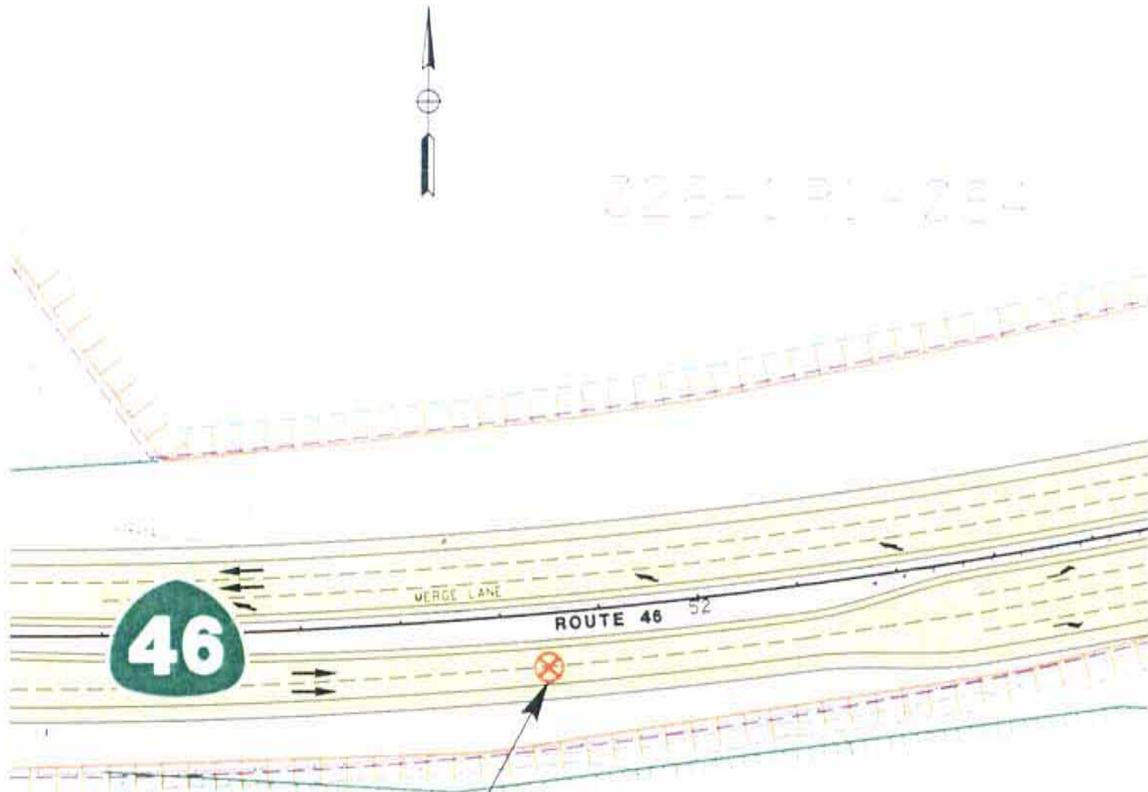
Noise Receptor Location
Key Map 1 of 4

• Noise Receptor Location

Estrella Section

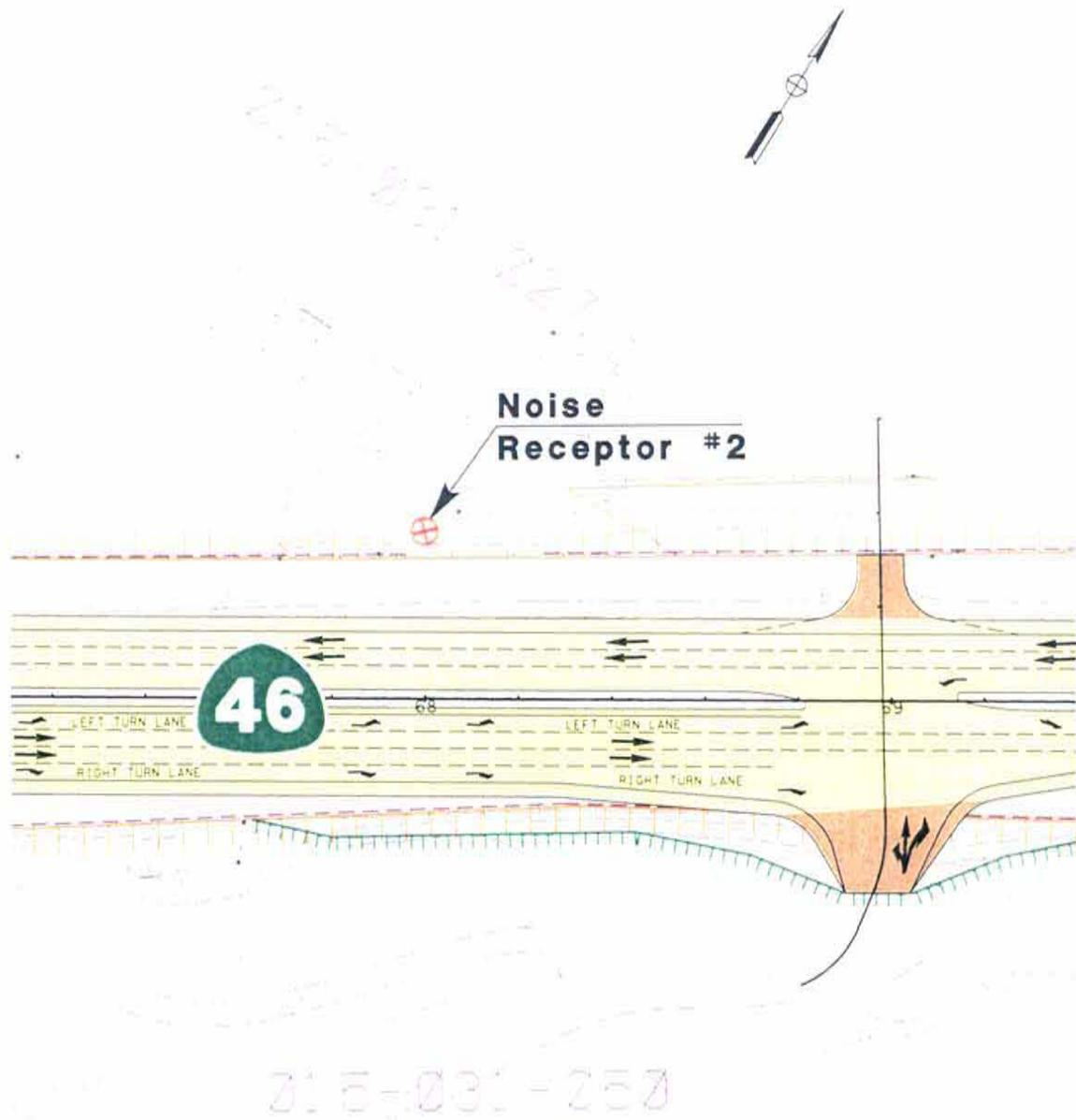


**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Estrella Section, West of Mill Road**

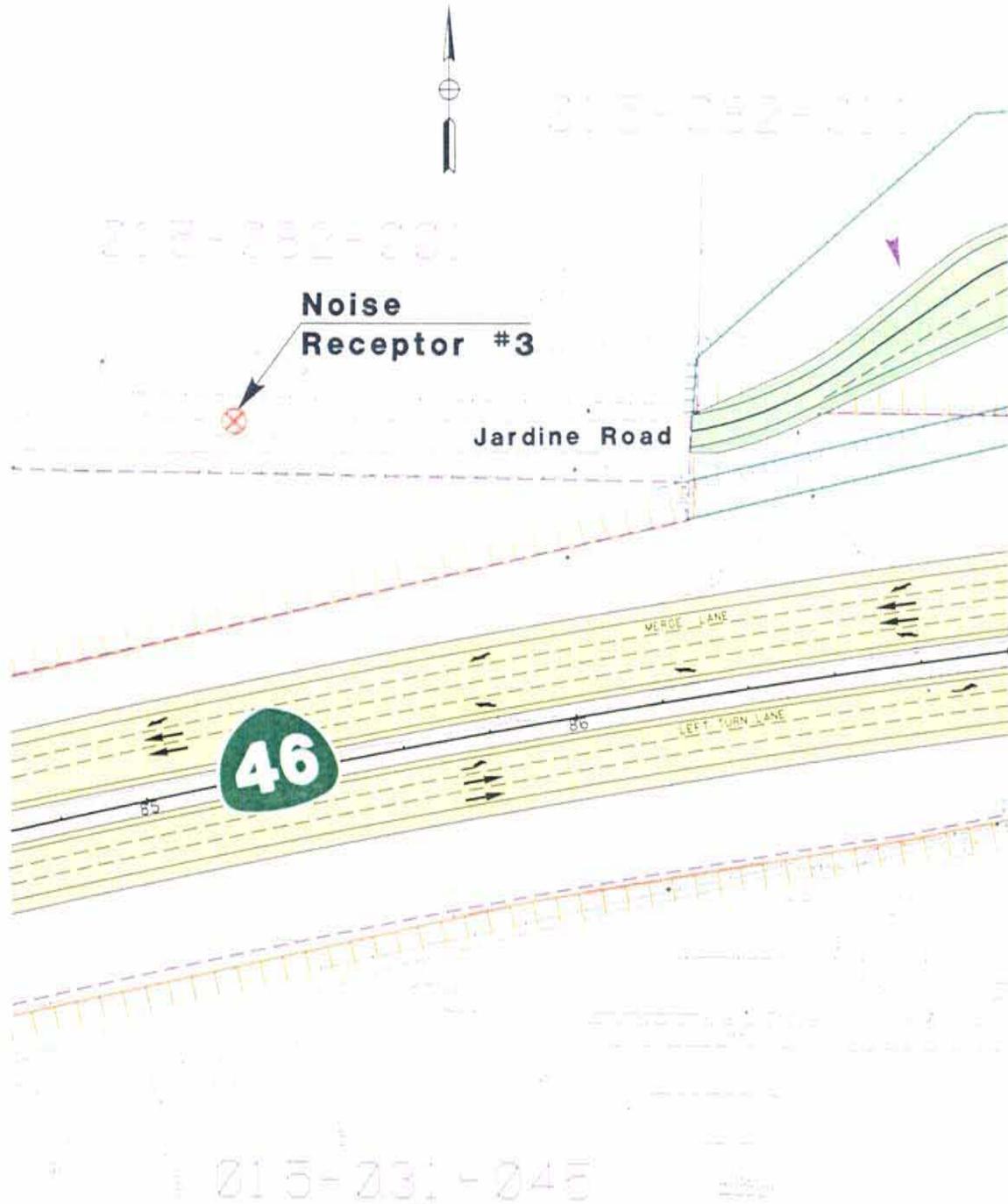


**Noise
Receptor #1**

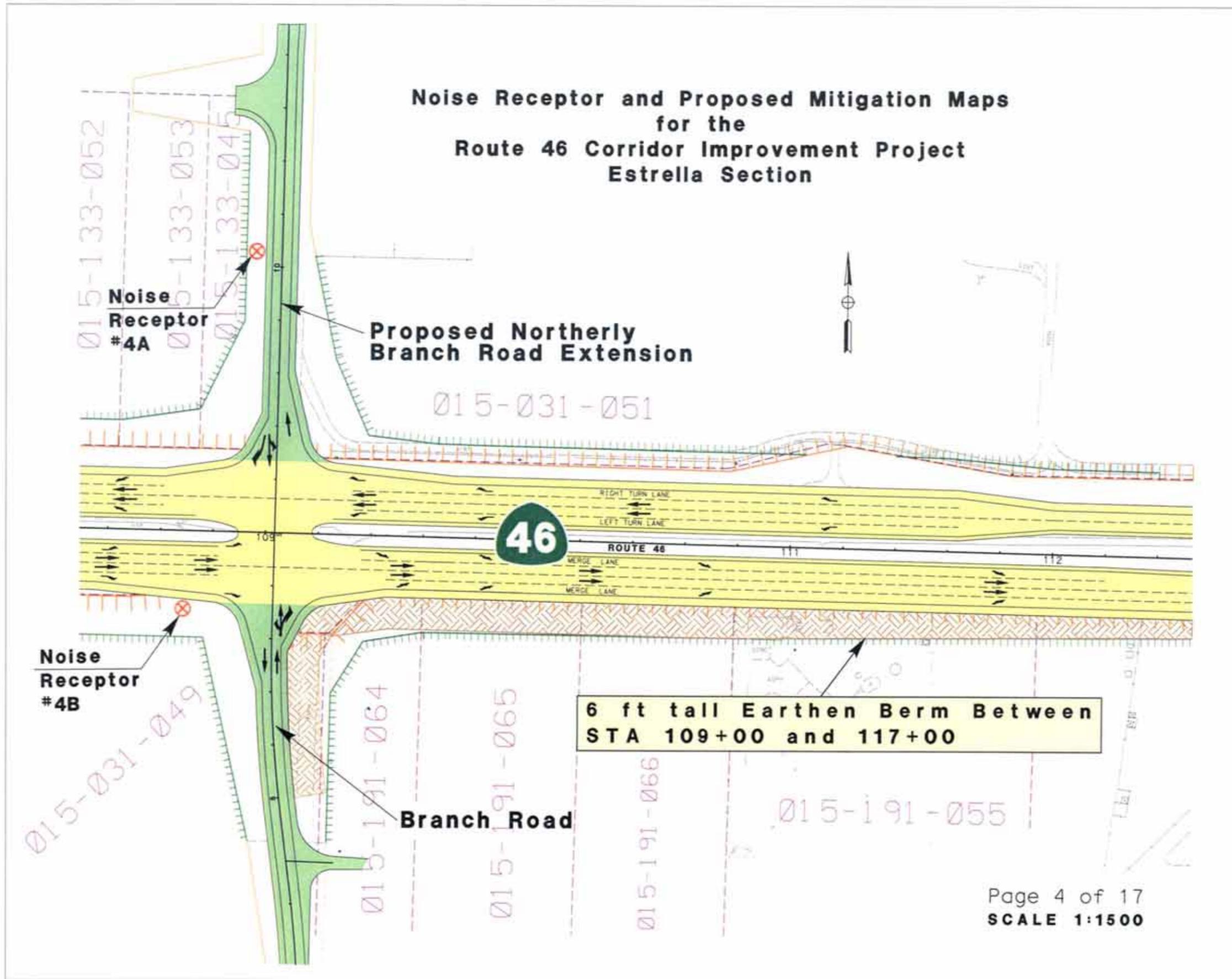
**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Estrella Section, East of Mill Road**



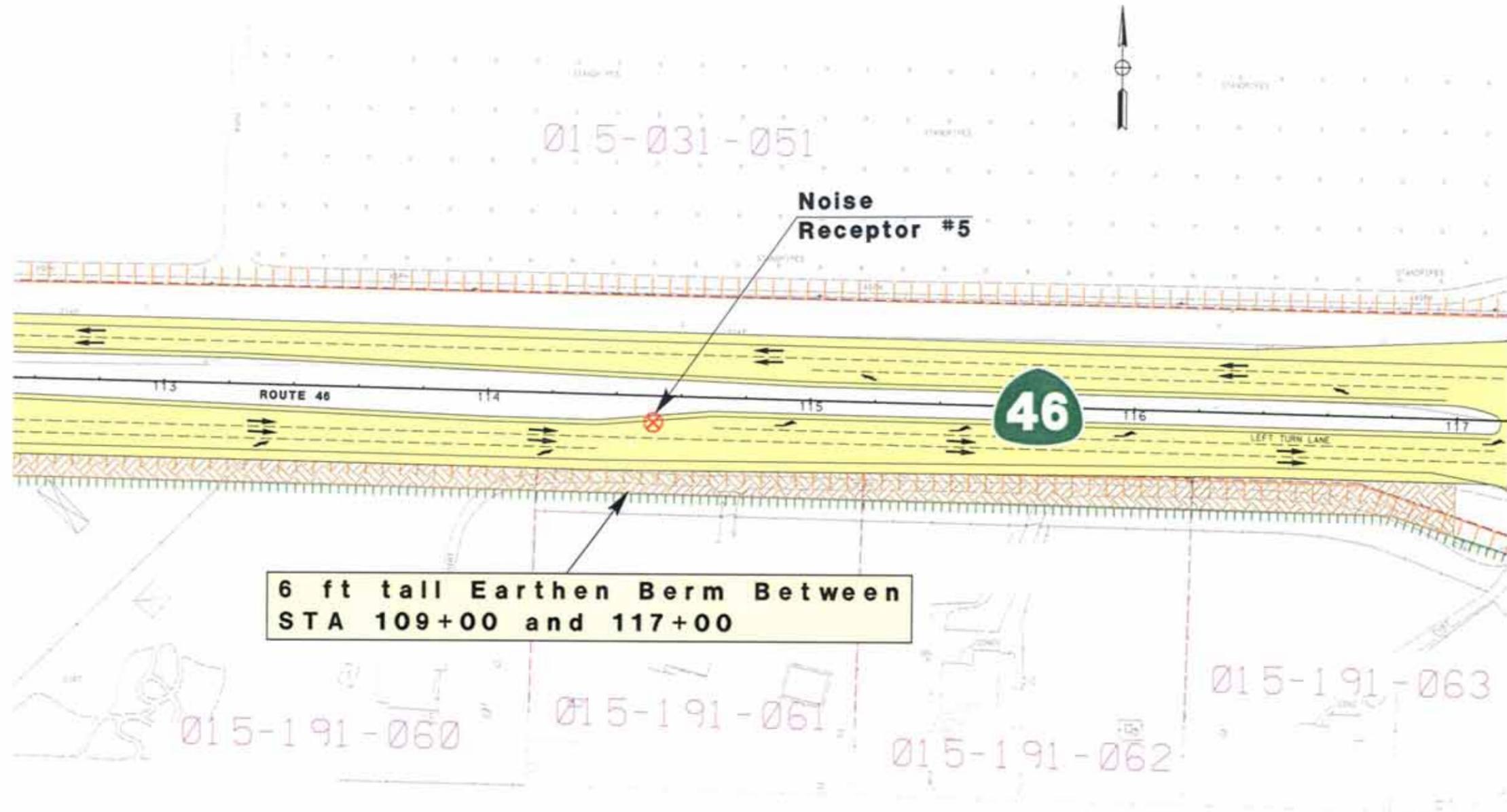
Noise Receptor and Proposed Mitigation Maps for the Route 46 Corridor Improvement Project Estrella Section



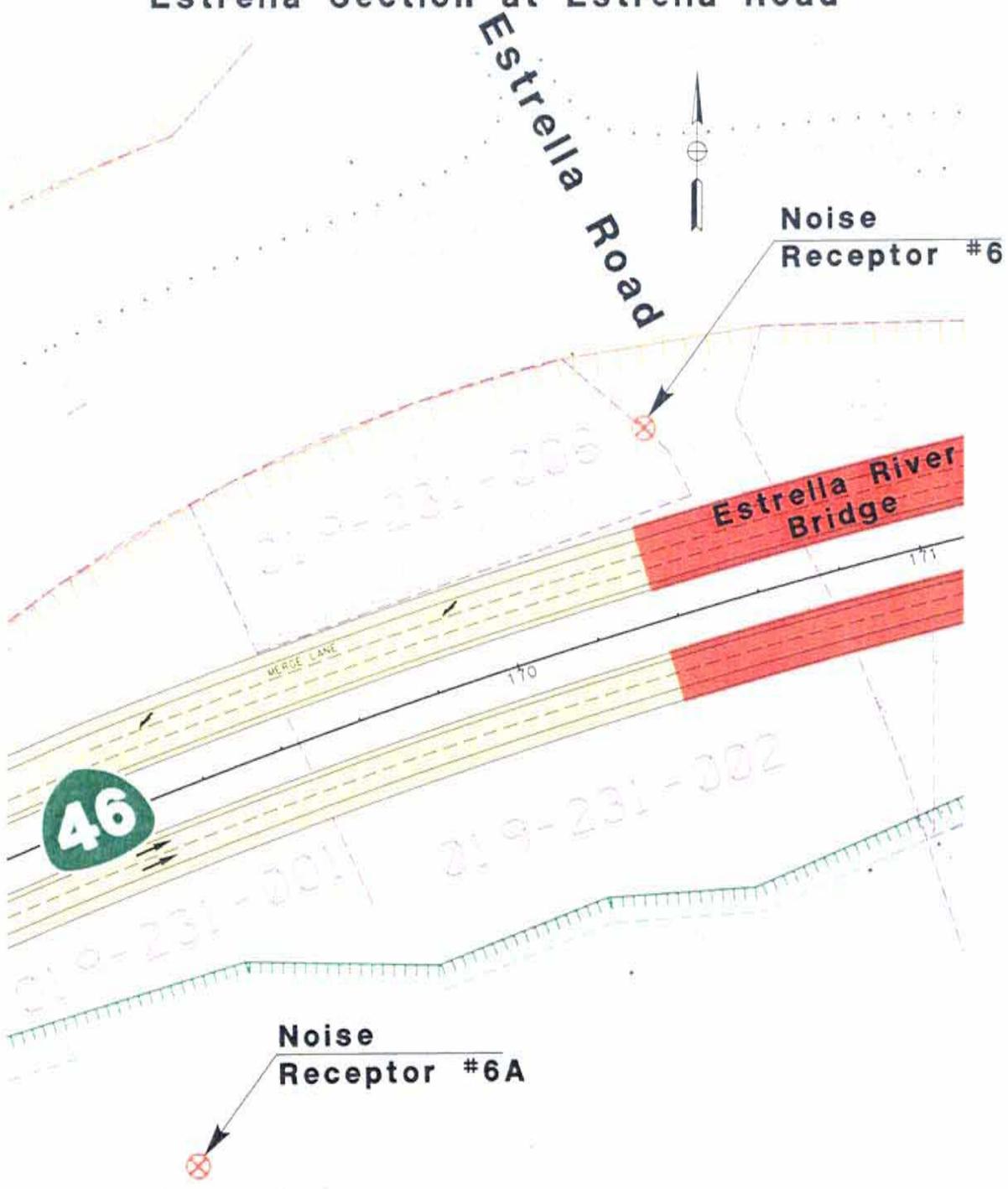
**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Estrella Section**



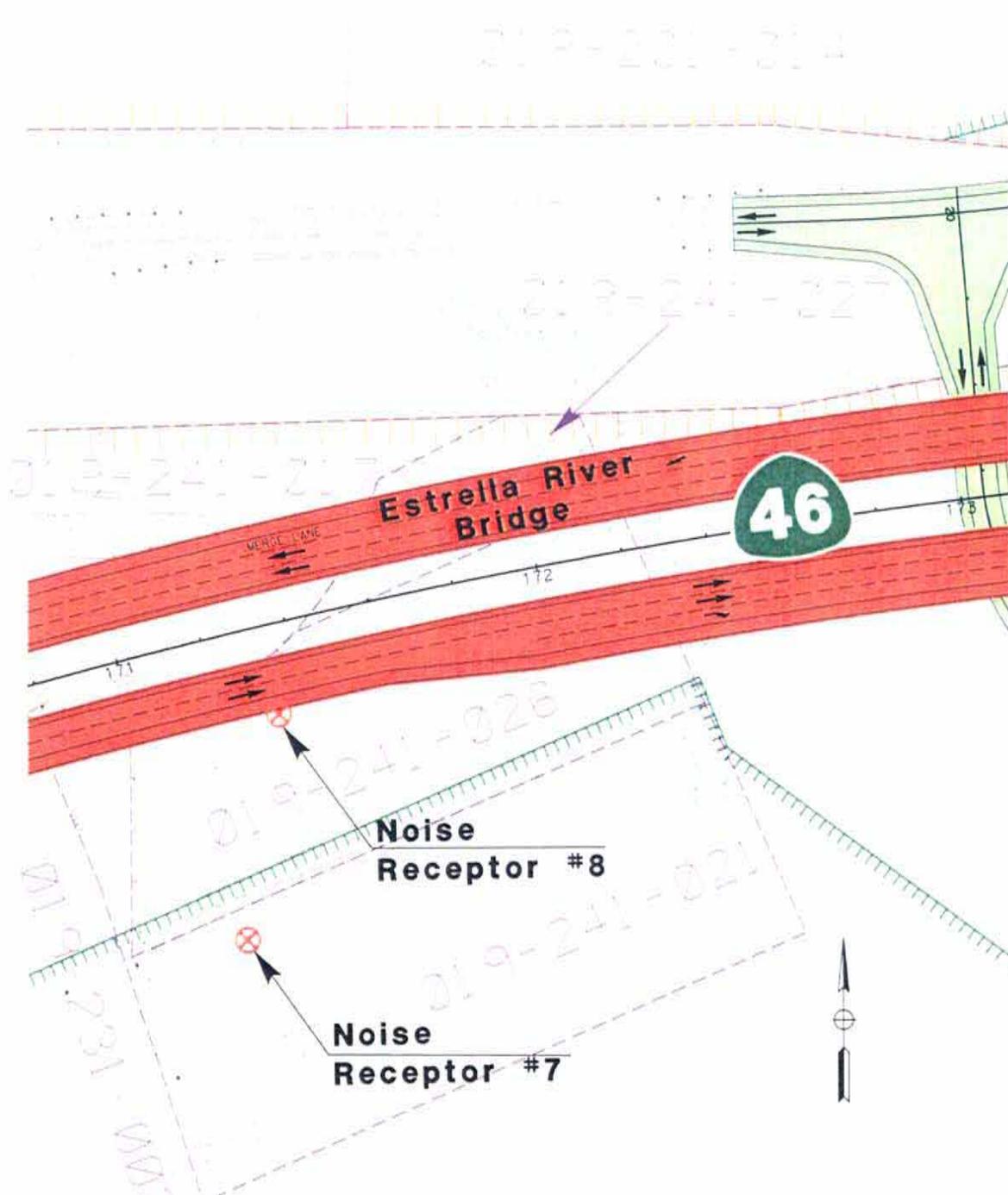
**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Estrella Section, East of Branch Road**



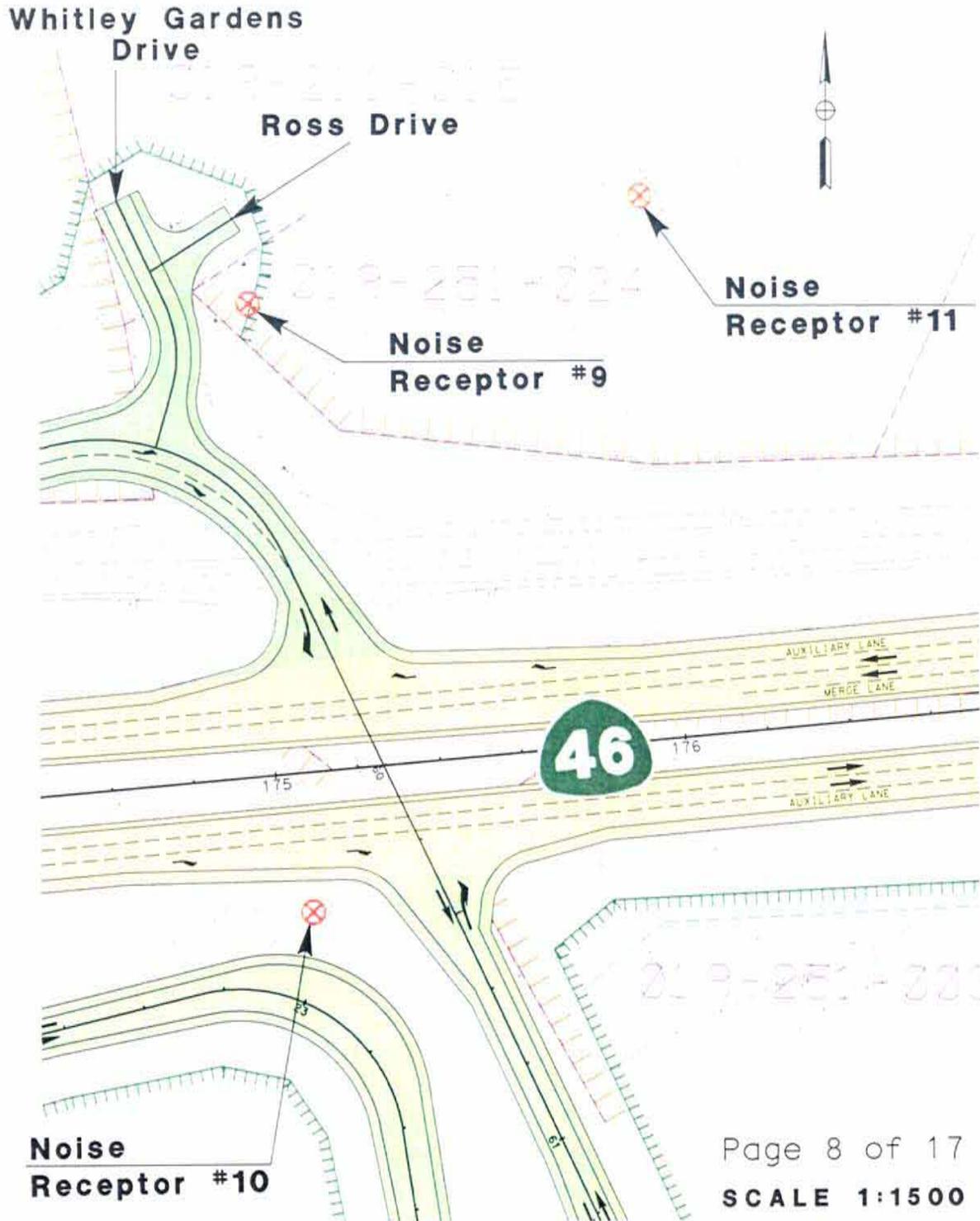
**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Estrella Section at Estrella Road**



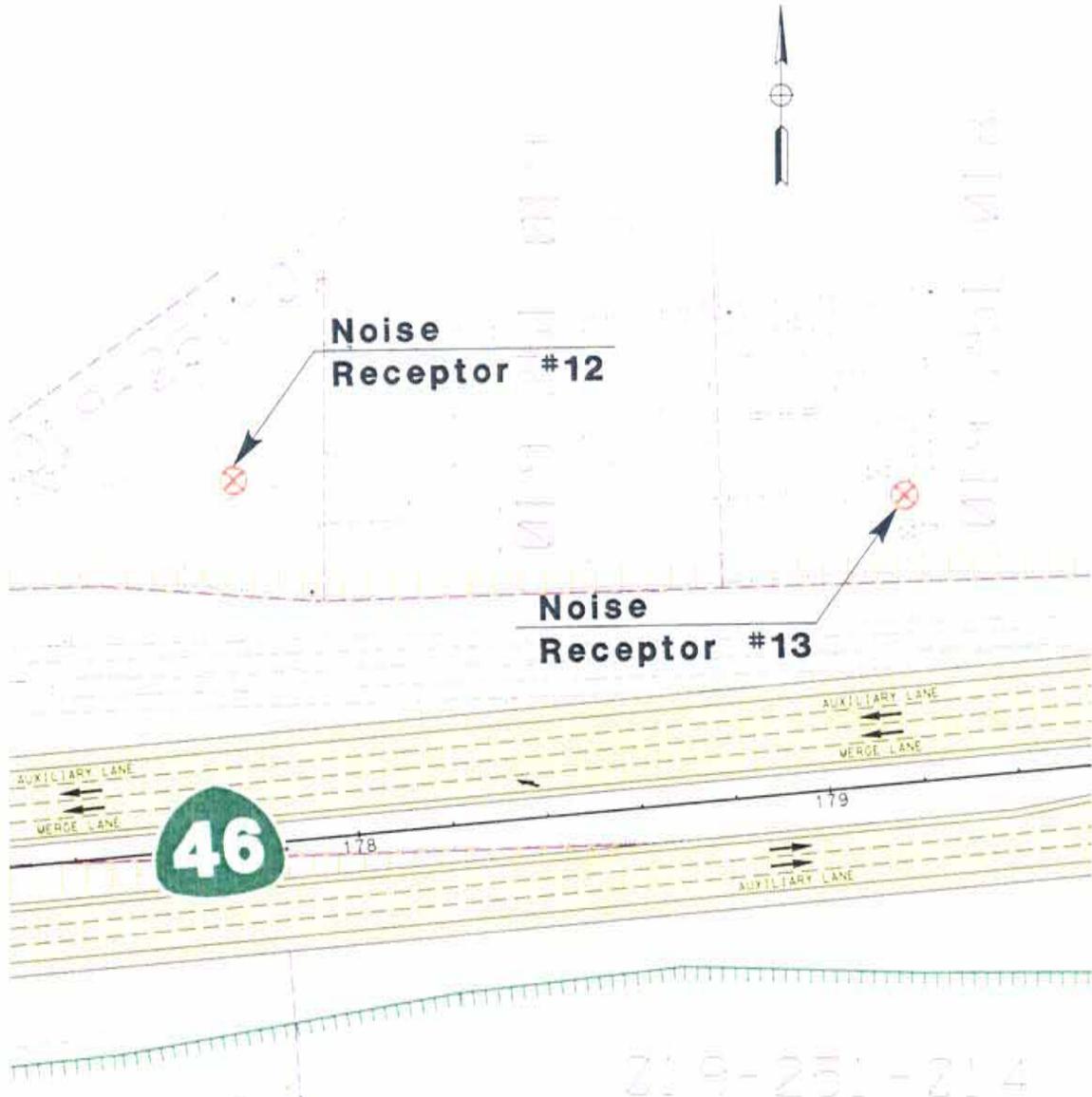
**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Estrella Section, East of Estrella Road**



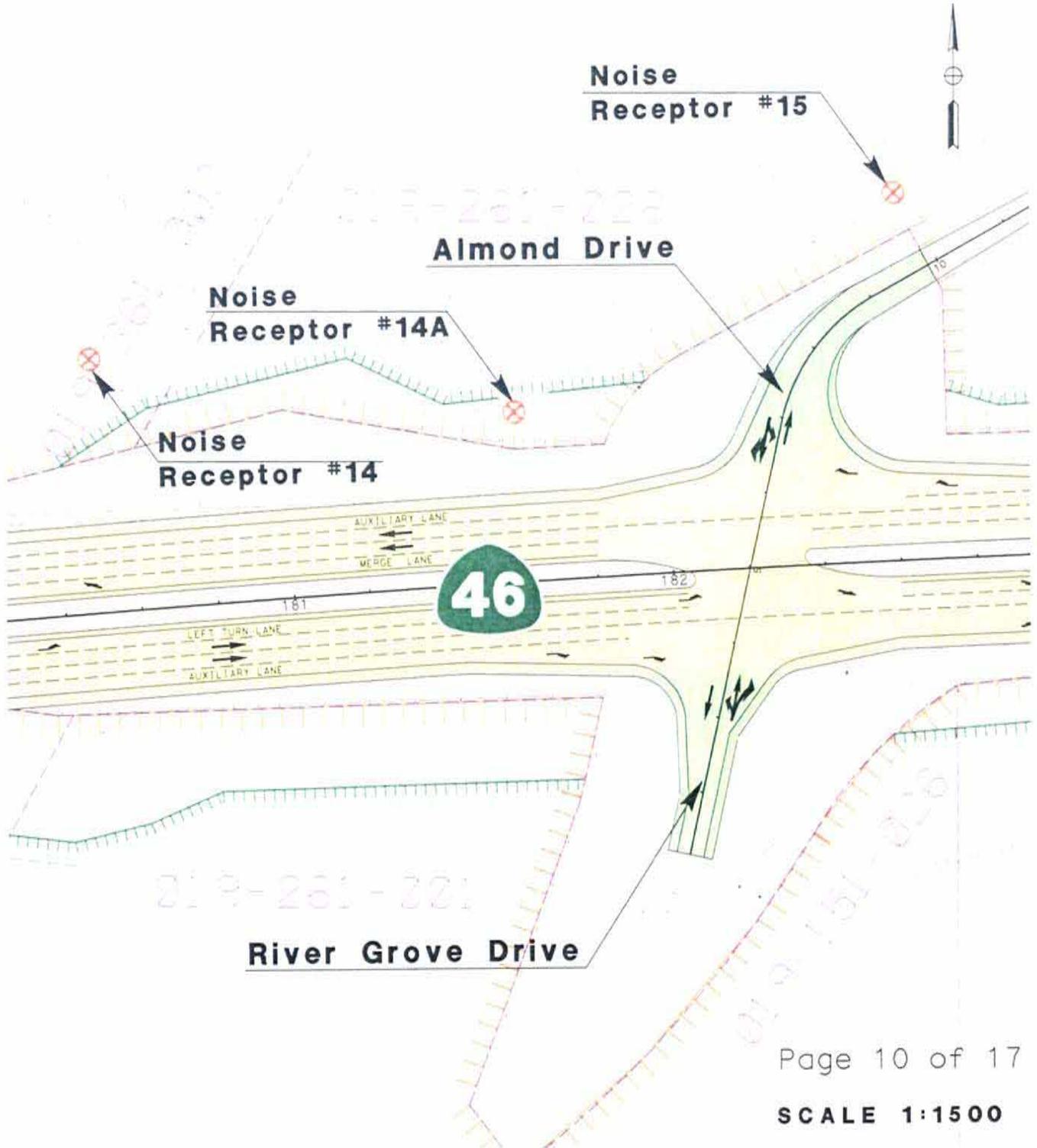
Noise Receptor and Proposed Mitigation Maps for the Route 46 Corridor Improvement Project Estrella Section



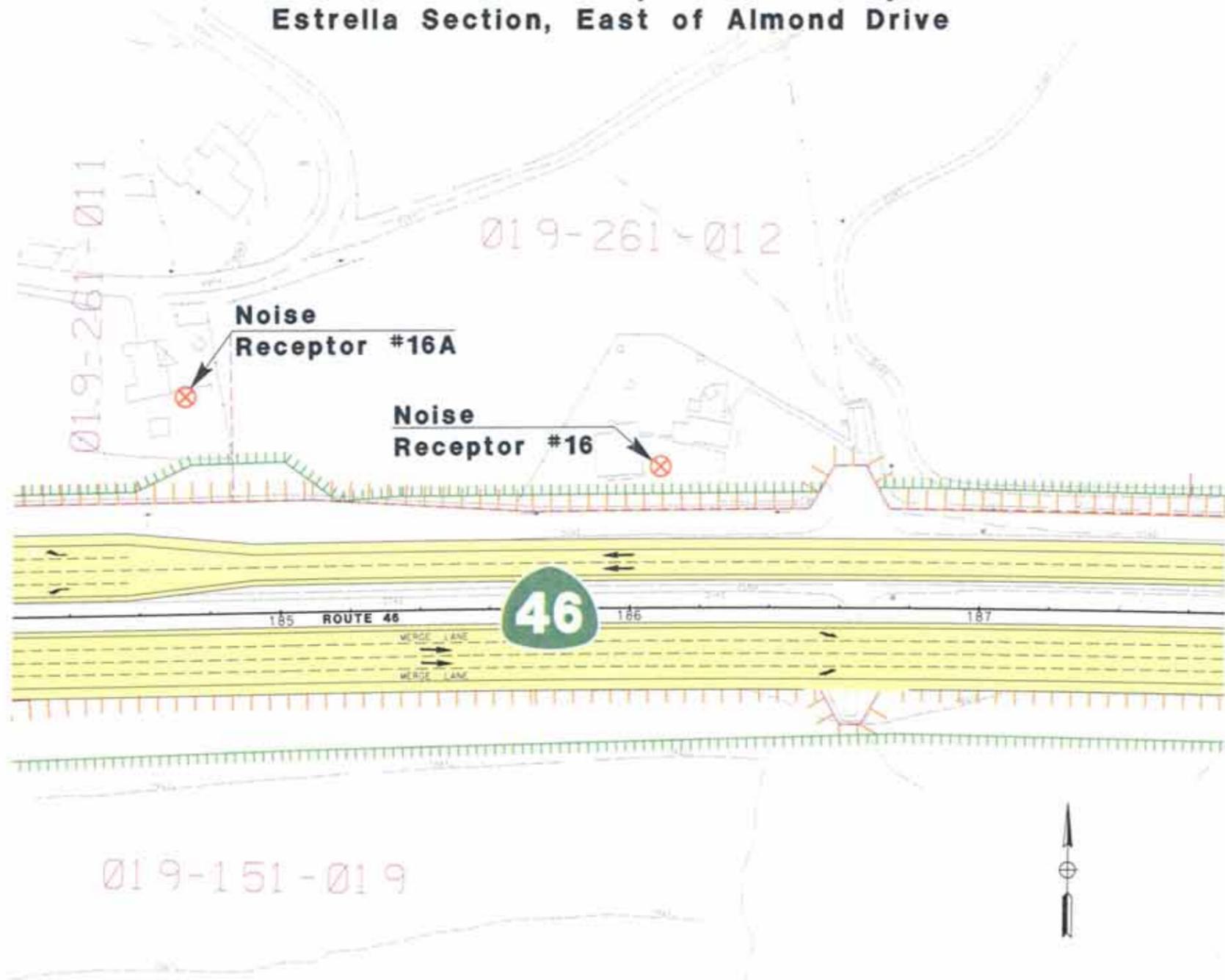
**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Estrella Section, East of Whitley Gardens Drive**



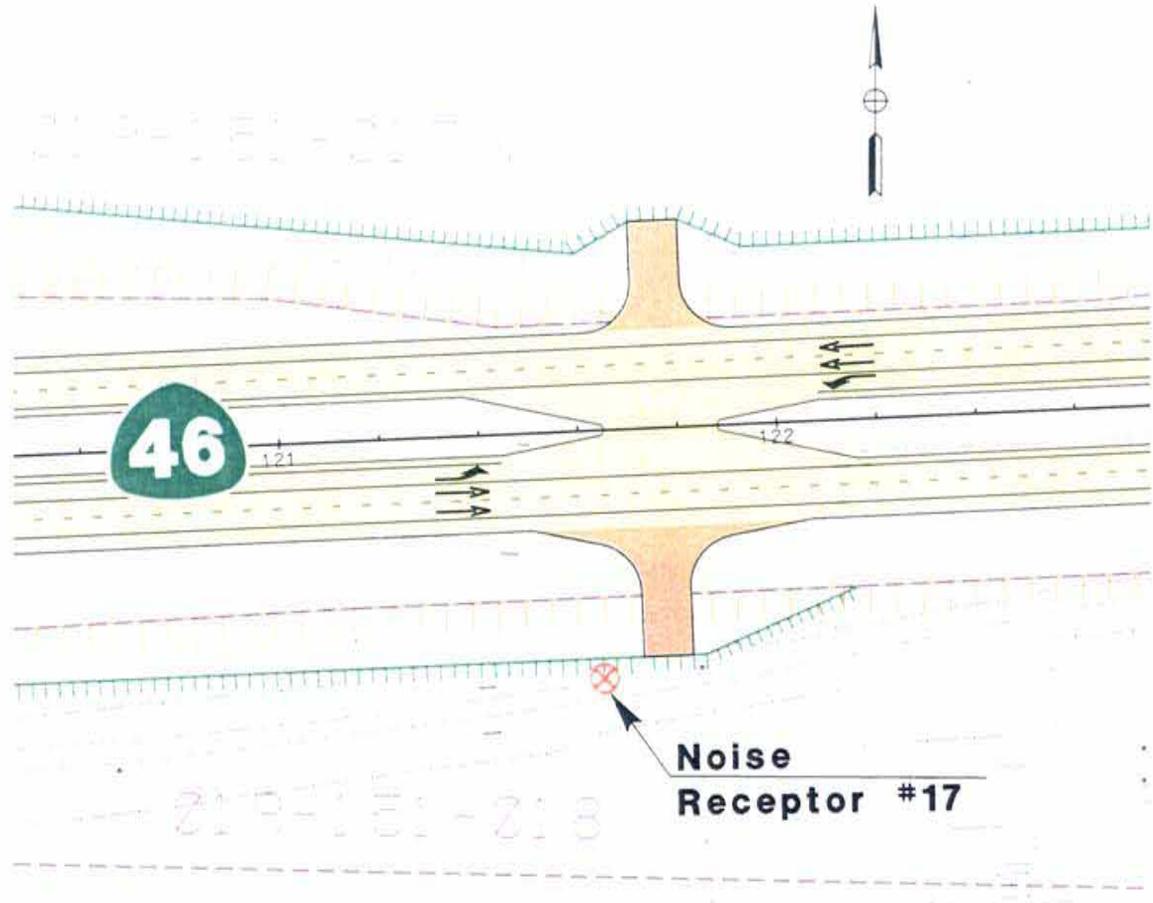
**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Estrella Section at Almond Drive**



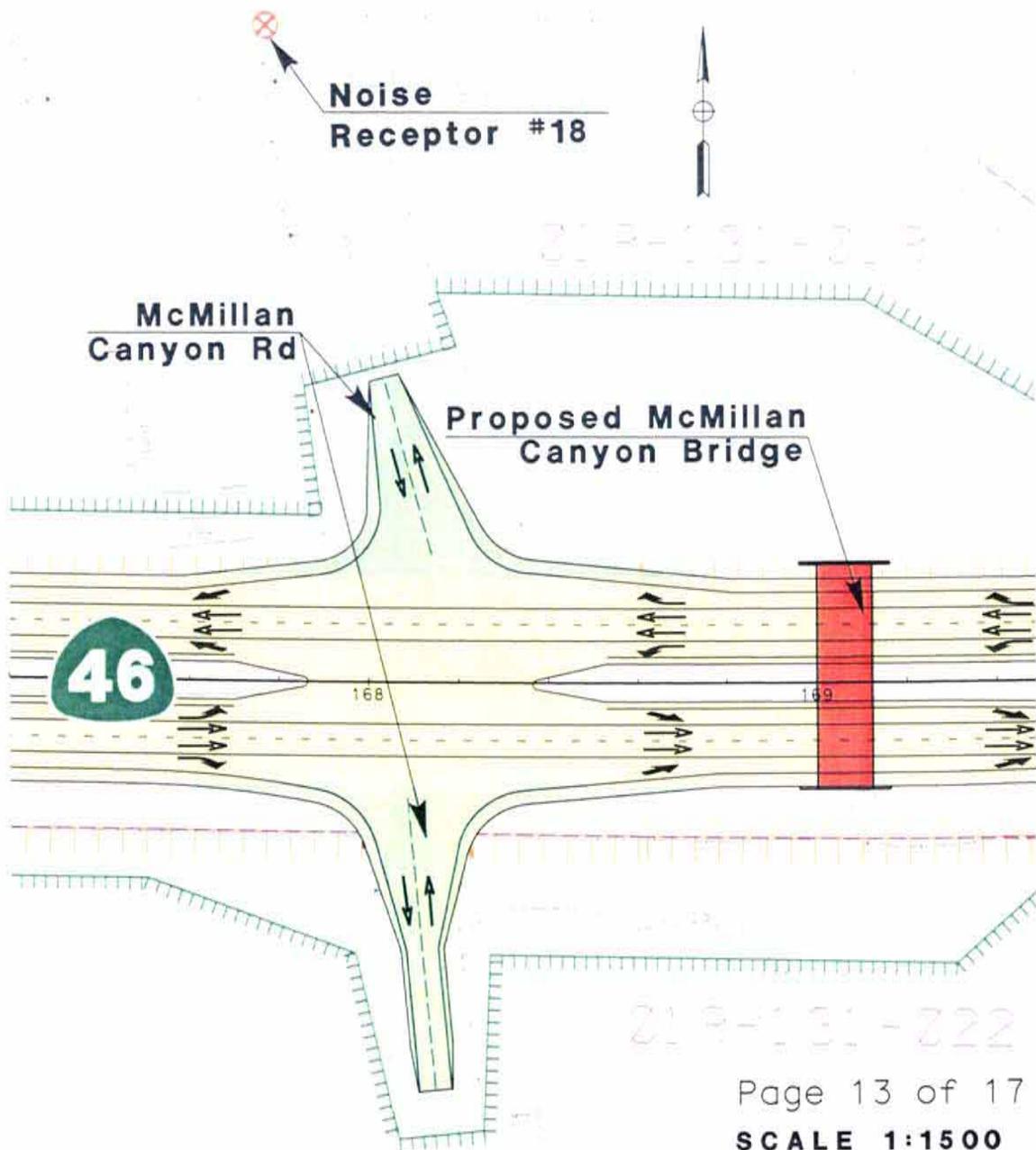
**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Estrella Section, East of Almond Drive**



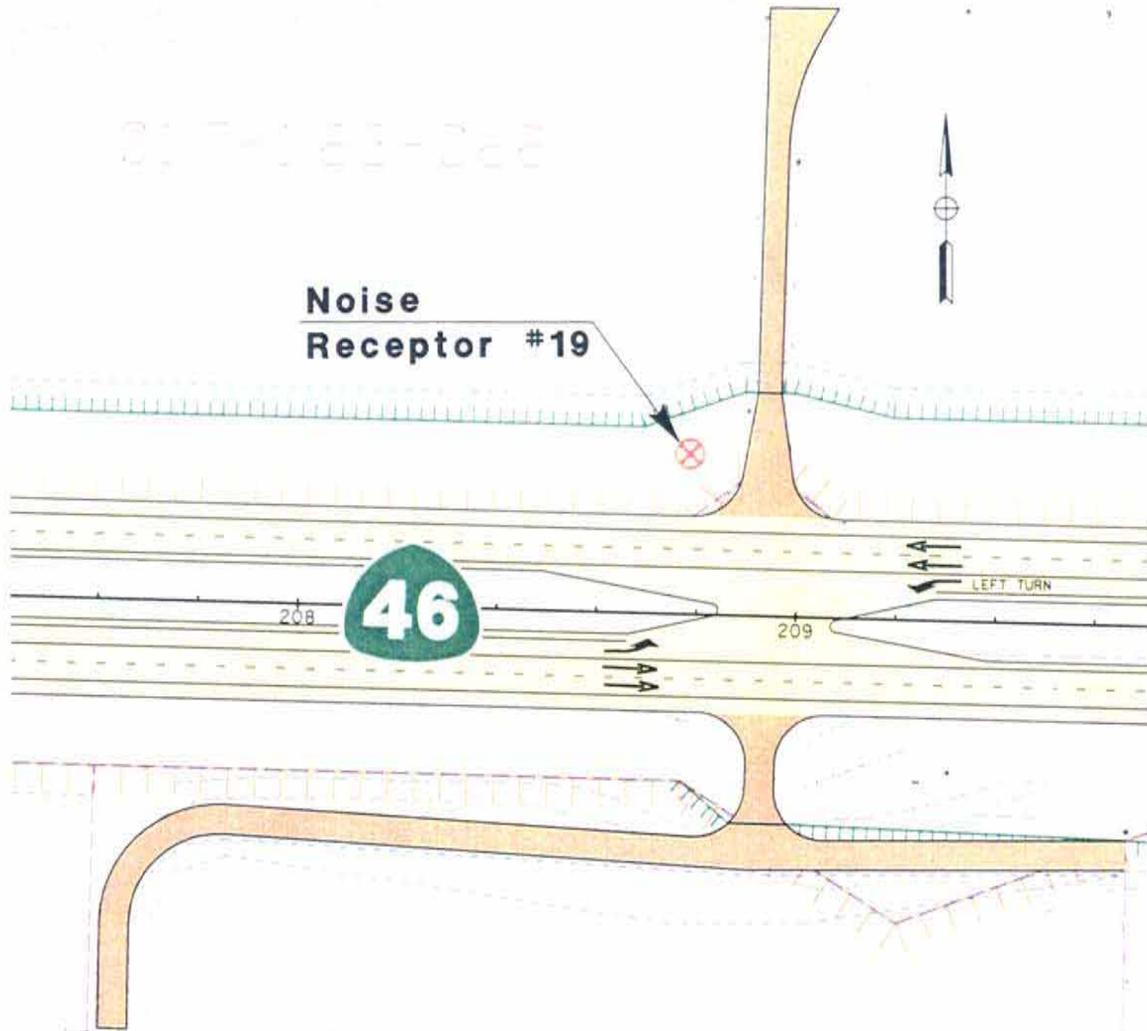
Noise Receptor and Proposed Mitigation Maps for the Route 46 Corridor Improvement Project Shandon Section



**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Shandon Section at McMillan Canyon Road**

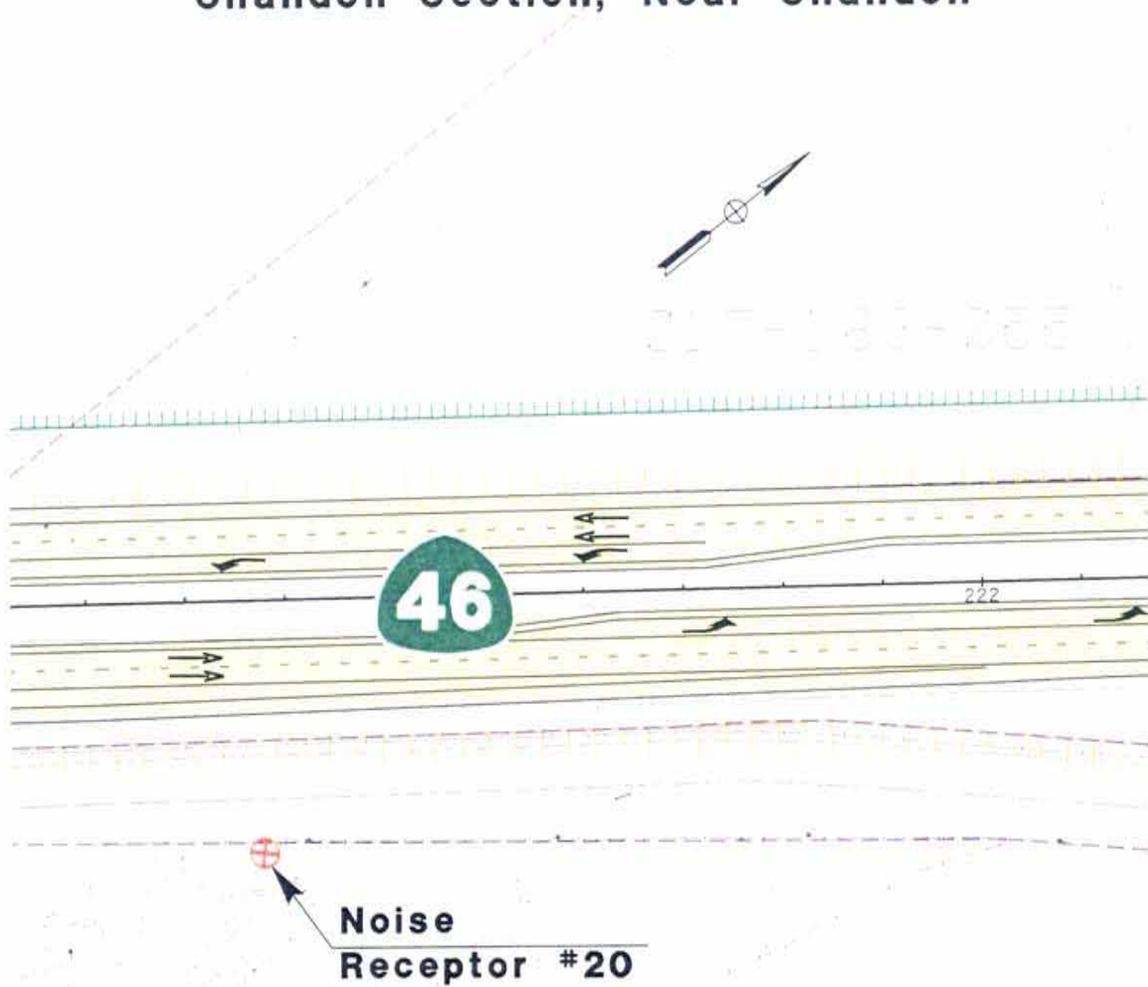


**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Shandon Section, East of McMillan Canyon Road**

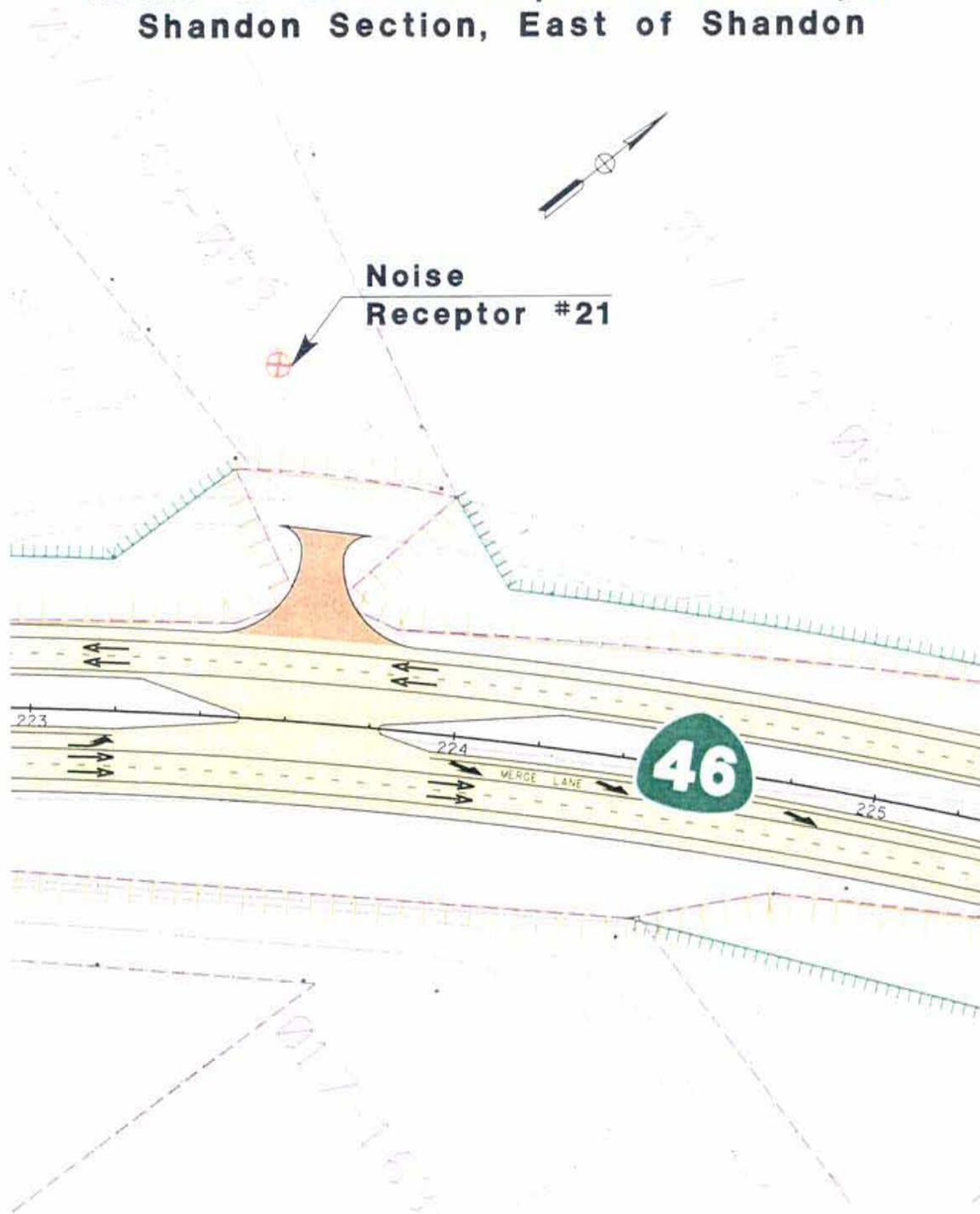


8:7-163-272

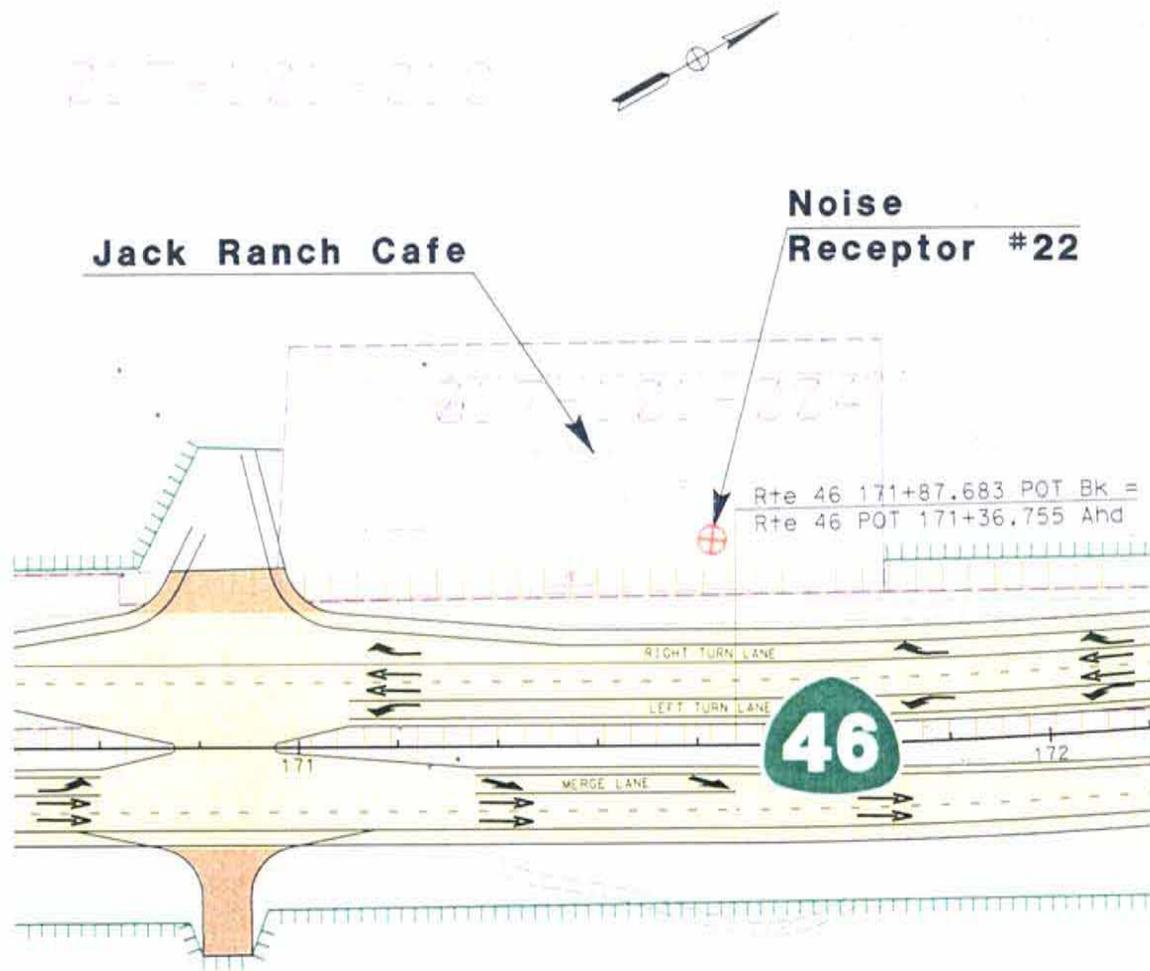
**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Shandon Section, Near Shandon**



**Noise Receptor and Proposed Mitigation Maps
for the
Route 46 Corridor Improvement Project
Shandon Section, East of Shandon**



Noise Receptor and Proposed Mitigation Maps for the Route 46 Corridor Improvement Project Cholame Section, at Jack Ranch Cafe



Appendix C: Noise Barrier Worksheets A and B

**WORKSHEET "A" FOR CALCULATING
REASONABLE ALLOWANCE PER RESIDENCE**

| | | | |
|--------------------------------|---------------------|--------------|----------|
| PROJECT: Co. Rte.PM. | PROJECT LOCATION: | Page 1 of | 3 |
| EA: 05-3307U0 | SLO-46-PM 32.1/56.3 | | |
| NOISE BARRIER I.D. & LOCATION: | | R1 | B-7 |
| PROJECT ENGINEER: | J Arguello | Date: 5/8/06 | |
| Base allowance (2000 Dollars) | | | \$32,000 |

| 1) Absolute noise levels (Choose one) | | Check (x) | |
|---------------------------------------|-------------|-----------|-------------|
| 69 dBA or less: | Add \$3,000 | x | \$ 3,000.00 |
| 70-74 dBA: | Add \$5,000 | | \$ - |
| 75-78 dBA: | Add \$7,000 | | \$ - |
| More than 78 dBA: | Add \$9,000 | | \$ - |

| 2) "Build" vs Existing noise levels (Choose one) | | Check (x) | |
|--|-------------|-----------|------|
| Less than 3 dBA | Add \$0 | x | \$ - |
| 4-7 dBA | Add \$3,000 | | \$ - |
| 8-11 dBA | Add \$5,000 | | \$ - |
| 12 dBA or more | Add \$7,000 | | \$ - |

| 3) Achievable noise reduction (Choose one) | | Check (x) | |
|--|-------------|-----------|-------------|
| Less than 6 dBA: | Add \$0 | | \$ - |
| 6-9 dBA: | Add \$3,000 | x | \$ 3,000.00 |
| 9-11 dBA: | Add \$5,000 | | \$ - |
| 12 dBA or more: | Add \$7,000 | | \$ - |

| 4) Either new construction or pre-date 1978? (Choose yes or no) | | Check (x) | |
|--|--------------|-----------|--------------|
| YES on either | Add \$10,000 | x | \$ 10,000.00 |
| NO on both | Add \$0 | | |
| Unmodified Reasonable allowance per residence | | | \$ 48,000.00 |

Continue on Worksheet B

**WORKSHEET "A" FOR CALCULATING
REASONABLE ALLOWANCE PER RESIDENCE**

| | | | |
|--------------------------------|---------------------|--------------|----------|
| PROJECT: Co. Rte.PM. | PROJECT LOCATION: | Page 2 of | 3 |
| EA: 05-3307U0 | SLO-46-PM 32.1/56.3 | | |
| NOISE BARRIER I.D. & LOCATION: | | R17 | B-8 |
| PROJECT ENGINEER: | J Arguello | Date: 5/8/06 | |
| Base allowance (2000 Dollars) | | | \$32,000 |

| 1) Absolute noise levels (Choose one) | | Check (x) | |
|---------------------------------------|-------------|-----------|-------------|
| 69 dBA or less: | Add \$3,000 | x | \$ 3,000.00 |
| 70-74 dBA: | Add \$5,000 | | \$ - |
| 75-78 dBA: | Add \$7,000 | | \$ - |
| More than 78 dBA: | Add \$9,000 | | \$ - |

| 2) "Build" vs Existing noise levels (Choose one) | | Check (x) | |
|--|-------------|-----------|------|
| Less than 3 dBA | Add \$0 | x | \$ - |
| 4-7 dBA | Add \$3,000 | | \$ - |
| 8-11 dBA | Add \$5,000 | | \$ - |
| 12 dBA or more | Add \$7,000 | | \$ - |

| 3) Achievable noise reduction (Choose one) | | Check (x) | |
|--|-------------|-----------|------|
| Less than 6 dBA: | Add \$0 | x | \$ - |
| 6-9 dBA: | Add \$3,000 | | \$ - |
| 9-11 dBA: | Add \$5,000 | | \$ - |
| 12 dBA or more: | Add \$7,000 | | \$ - |

| 4) Either new construction or pre-date 1978? (Choose yes or no) | | Check (x) | |
|--|--------------|-----------|---------------------|
| YES on either | Add \$10,000 | x | \$ 10,000.00 |
| NO on both | Add \$0 | | |
| Unmodified Reasonable allowance per residence | | | \$ 45,000.00 |

Continue on Worksheet B

WORKSHEET B FOR CALCULATING REASONABLE ALLOWANCE PER RESIDENCE

| Co/Rte/PM: SLO-46-Pm 32.1/56.3 EA: 05-3307U0 | | | Date: 5/4/06 | | Page 3 of | | 3 |
|--|--|---|---|--|--------------|--------------|----------|
| NOISE BARRIER ID (From Worksheet A) | REASONABLE ALLOWANCE PER BENEFITTED RESIDENCE (From Worksheet A) Ai (a) | NO. OF BENEFITTED RESIDENCES (Ni) (b) | REASONABLE ALLOWANCE PER NOISE BARRIER (Ai x Ni) ⊗ (c=axb) | FRACTION OF TOTAL REASONABLE ALLOWANCE (d) (d=c/box 1) | REDUCTION OF | REDUCTION OF | MODIFIED |
| B-7 | \$48,000 | 1 | \$48,000 | 52% | | | |
| B-8 | \$45,000 | 1 | \$45,000 | 48% | | | |
| | | | | | | | |
| | | | | | | | |

| | |
|--|---------------|
| TOTAL REASONABLE ALLOWANCE FOR ABATEMENT (Box 1) | \$93,000 |
| ESTIMATED PROJECT COST X .05 (Box 2) | \$82,000,000 |
| SUBTRACT BOX 2 FROM BOX 1 (Box 3) | -\$81,907,000 |
| <p>- If the result is zero or less, STOP. Use the reasonable allowances per residence in column (a) above.</p> <p>- If the result is greater than zero, The amount is TOTAL ALLOWANCE excess (Et) continue with columns (d) thru (g)</p> | |

Enter information requested in yellow highlight.

**WORKSHEET "A" FOR CALCULATING
REASONABLE ALLOWANCE PER RESIDENCE**

| | | | |
|--------------------------------|---------------------|--------------|----------|
| PROJECT: Co. Rte.PM. | PROJECT LOCATION: | Page 1 of | 5 |
| EA: 05-3307U0 | SLO-46-PM 32.1/56.3 | | |
| NOISE BARRIER I.D. & LOCATION: | | R2 | B-1 |
| PROJECT ENGINEER: | J Arguello | Date: 5/8/06 | |
| Base allowance (2006 Dollars) | | | \$32,000 |

| 1) Absolute noise levels (Choose one) | | Check (x) | |
|---------------------------------------|-------------|-----------|-------------|
| 69 dBA or less: | Add \$3,000 | | \$ - |
| 70-74 dBA: | Add \$5,000 | x | \$ 5,000.00 |
| 75-78 dBA: | Add \$7,000 | | \$ - |
| More than 78 dBA: | Add \$9,000 | | \$ - |

| 2) "Build" vs Existing noise levels (Choose one) | | Check (x) | |
|--|-------------|-----------|------|
| Less than 3 dBA | Add \$0 | x | \$ - |
| 4-7 dBA | Add \$3,000 | | \$ - |
| 8-11 dBA | Add \$5,000 | | \$ - |
| 12 dBA or more | Add \$7,000 | | \$ - |

| 3) Achievable noise reduction (Choose one) | | Check (x) | |
|--|-------------|-----------|------|
| Less than 6 dBA: | Add \$0 | x | \$ - |
| 6-9 dBA: | Add \$3,000 | | \$ - |
| 9-11 dBA: | Add \$5,000 | | \$ - |
| 12 dBA or more: | Add \$7,000 | | \$ - |

| 4) Either new construction or pre-date 1978? (Choose yes or no) | | Check (x) | |
|--|--------------|-----------|--------------|
| YES on either | Add \$10,000 | x | \$ 10,000.00 |
| NO on both | Add \$0 | | |
| Unmodified Reasonable allowance per residence | | | \$ 47,000.00 |

Continue on Worksheet B

**WORKSHEET "A" FOR CALCULATING
REASONABLE ALLOWANCE PER RESIDENCE**

| | | | |
|--------------------------------|---------------------|--------------|----------|
| PROJECT: Co. Rte.PM. | PROJECT LOCATION: | Page 2 of | 5 |
| EA: 05-3307U0 | SLO-46-Pm 32.1/56.3 | | |
| NOISE BARRIER I.D. & LOCATION: | | R4b, 5 | B-2 |
| PROJECT ENGINEER: | J Arguello | Date: 5/8/06 | |
| Base allowance (2006 Dollars) | | | \$32,000 |

| 1) Absolute noise levels (Choose one) | | Check (x) | |
|---------------------------------------|-------------|-----------|-------------|
| 69 dBA or less: | Add \$3,000 | x | \$ 3,000.00 |
| 70-74 dBA: | Add \$5,000 | | \$ - |
| 75-78 dBA: | Add \$7,000 | | \$ - |
| More than 78 dBA: | Add \$9,000 | | \$ - |

| 2) "Build" vs Existing noise levels (Choose one) | | Check (x) | |
|--|-------------|-----------|------|
| Less than 3 dBA | Add \$0 | x | \$ - |
| 4-7 dBA | Add \$3,000 | | \$ - |
| 8-11 dBA | Add \$5,000 | | \$ - |
| 12 dBA or more | Add \$7,000 | | \$ - |

| 3) Achievable noise reduction (Choose one) | | Check (x) | |
|--|-------------|-----------|-------------|
| Less than 6 dBA: | Add \$0 | | \$ - |
| 6-9 dBA: | Add \$3,000 | x | \$ 3,000.00 |
| 9-11 dBA: | Add \$5,000 | | \$ - |
| 12 dBA or more: | Add \$7,000 | | \$ - |

| 4) Either new construction or pre-date 1978? (Choose yes or no) | | Check (x) | |
|--|--------------|-----------|---------------------|
| YES on either | Add \$10,000 | x | \$ 10,000.00 |
| NO on both | Add \$0 | | |
| Unmodified Reasonable allowance per residence | | | \$ 48,000.00 |

Continue on Worksheet B

**WORKSHEET "A" FOR CALCULATING
REASONABLE ALLOWANCE PER RESIDENCE**

| | | | |
|--------------------------------|---------------------|--------------|----------|
| PROJECT: Co. Rte.PM. | PROJECT LOCATION: | Page 3 of | 5 |
| EA: 05-3307U0 | SLO-46-PM 32.1/56.3 | | |
| NOISE BARRIER I.D. & LOCATION: | | R13 | B-4 |
| PROJECT ENGINEER: | J Arguello | Date: 5/8/06 | |
| Base allowance (2006 Dollars) | | | \$32,000 |

| 1) Absolute noise levels (Choose one) | | Check (x) | |
|---------------------------------------|-------------|-----------|-------------|
| 69 dBA or less: | Add \$3,000 | x | \$ 3,000.00 |
| 70-74 dBA: | Add \$5,000 | | \$ - |
| 75-78 dBA: | Add \$7,000 | | \$ - |
| More than 78 dBA: | Add \$9,000 | | \$ - |

| 2) "Build" vs Existing noise levels (Choose one) | | Check (x) | |
|--|-------------|-----------|------|
| Less than 3 dBA | Add \$0 | x | \$ - |
| 4-7 dBA | Add \$3,000 | | \$ - |
| 8-11 dBA | Add \$5,000 | | \$ - |
| 12 dBA or more | Add \$7,000 | | \$ - |

| 3) Achievable noise reduction (Choose one) | | Check (x) | |
|--|-------------|-----------|-------------|
| Less than 6 dBA: | Add \$0 | | \$ - |
| 6-9 dBA: | Add \$3,000 | x | \$ 3,000.00 |
| 9-11 dBA: | Add \$5,000 | | \$ - |
| 12 dBA or more: | Add \$7,000 | | \$ - |

| 4) Either new construction or pre-date 1978? (Choose yes or no) | | Check (x) | |
|--|--------------|-----------|---------------------|
| YES on either | Add \$10,000 | x | \$ 10,000.00 |
| NO on both | Add \$0 | | |
| Unmodified Reasonable allowance per residence | | | \$ 48,000.00 |

Continue on Worksheet B

**WORKSHEET "A" FOR CALCULATING
REASONABLE ALLOWANCE PER RESIDENCE**

| | | | |
|--------------------------------|---------------------|--------------|----------|
| PROJECT: Co. Rte.PM. | PROJECT LOCATION: | Page 4 of | 5 |
| EA: 05-3307U0 | SLO-46-PM 32.1/56.3 | | |
| NOISE BARRIER I.D. & LOCATION: | | R16 | B-6 |
| PROJECT ENGINEER: | J Arguello | Date: 5/8/06 | |
| Base allowance (2006 Dollars) | | | \$32,000 |

| 1) Absolute noise levels (Choose one) | | Check (x) | |
|---------------------------------------|-------------|-----------|-------------|
| 69 dBA or less: | Add \$3,000 | x | \$ 3,000.00 |
| 70-74 dBA: | Add \$5,000 | | \$ - |
| 75-78 dBA: | Add \$7,000 | | \$ - |
| More than 78 dBA: | Add \$9,000 | | \$ - |

| 2) "Build" vs Existing noise levels (Choose one) | | Check (x) | |
|--|-------------|-----------|------|
| Less than 3 dBA | Add \$0 | x | \$ - |
| 4-7 dBA | Add \$3,000 | | \$ - |
| 8-11 dBA | Add \$5,000 | | \$ - |
| 12 dBA or more | Add \$7,000 | | \$ - |

| 3) Achievable noise reduction (Choose one) | | Check (x) | |
|--|-------------|-----------|-------------|
| Less than 6 dBA: | Add \$0 | | \$ - |
| 6-9 dBA: | Add \$3,000 | x | \$ 3,000.00 |
| 9-11 dBA: | Add \$5,000 | | \$ - |
| 12 dBA or more: | Add \$7,000 | | \$ - |

| 4) Either new construction or pre-date 1978? (Choose yes or no) | | Check (x) | |
|--|--------------|-----------|---------------------|
| YES on either | Add \$10,000 | x | \$ 10,000.00 |
| NO on both | Add \$0 | | |
| Unmodified Reasonable allowance per residence | | | \$ 48,000.00 |

Continue on Worksheet B

WORKSHEET B FOR CALCULATING REASONABLE ALLOWANCE PER RESIDENCE

| Co/Rte/PM: | | Date: 5/8/06 | | | Page 5 of | | 5 |
|--|--|---|---|--|--------------|--------------|----------|
| SLO-46-PM 32.1/56.3 | | | | | | | |
| EA: 05-3307U0 | | | | | | | |
| NOISE BARRIER ID (From Worksheet A) | REASONABLE ALLOWANCE PER BENEFITTED RESIDENCE (From Worksheet A) A1 (a) | NO. OF BENEFITTED RESIDENCES (Ni) (b) | REASONABLE ALLOWANCE PER NOISE BARRIER (A1 x Ni) c (c=axb) | FRACTION OF TOTAL REASONABLE ALLOWANCE (d) (d=c/box 1) | REDUCTION OF | REDUCTION OF | MODIFIED |
| B-1 | \$47,000 | 2 | \$94,000 | 15% | | | |
| B-2 | \$48,000 | 8 | \$384,000 | 62% | | | |
| B-4 | \$48,000 | 1 | \$48,000 | 8% | | | |
| B-6 | \$48,000 | 2 | \$96,000 | 15% | | | |

| | |
|--|---------------|
| TOTAL REASONABLE ALLOWANCE FOR ABATEMENT (Box 1) | \$622,000 |
| ESTIMATED PROJECT COST X .05 (Box 2) | \$82,000,000 |
| SUBTRACT BOX 2 FROM BOX 1 (Box 3) | -\$81,378,000 |
| <p>- If the result is zero or less, STOP. Use the reasonable allowances per residence in column (a) above.</p> <p>- If the result is greater than zero, The amount is TOTAL ALLOWANCE excess (Et) continue with columns (d) thru (g)</p> | |

Enter information requested in yellow highlight.

**Appendix D: Floodplain Evaluation
Report Summaries and Wye Section
Flood Extent Maps**

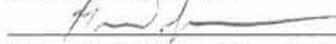
FLOODPLAIN EVALUATION REPORT SUMMARY

District: 05 **County:** San Luis Obispo **Route:** 46 **KP:** 54.88
Project No.: 05-3307u0 **Bridge No.:** 49-138 (Box Culvert)
Limits: Creek centerline crossing (existing 7.32-meter culvert span) at KP 54.88, located 6.92 km east of Paso Robles

Floodplain Description: Dry Creek- Zone A Designation

- | | Yes | No |
|---|----------|----------|
| 1. Is the proposed action a longitudinal encroachment of the base floodplain? | — | <u>X</u> |
| 2. Are the risks associated with the implementation of the proposed action significant? | — | <u>X</u> |
| 3. Will the proposed action support probable incompatible floodplain development? | — | <u>X</u> |
| 4. Are there any significant impacts on natural and beneficial floodplain values? | — | <u>X</u> |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain. | — | <u>X</u> |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | — | <u>X</u> |
| 7. Are Location Hydraulics Studies that document the above answers on file? If not explain. | <u>X</u> | — |

PREPARED BY:

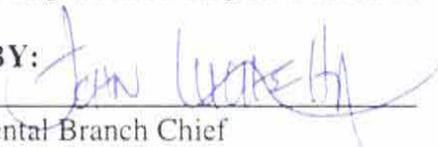


 Sig.-Hydraulics Eng. (Central Region-Branch B)

2/22/2001

 Date

REVIEWED BY:



 Sig.-Environmental Branch Chief

4/9/01

 Date



 Sig.-Project Engineer

3/26/01

 Date

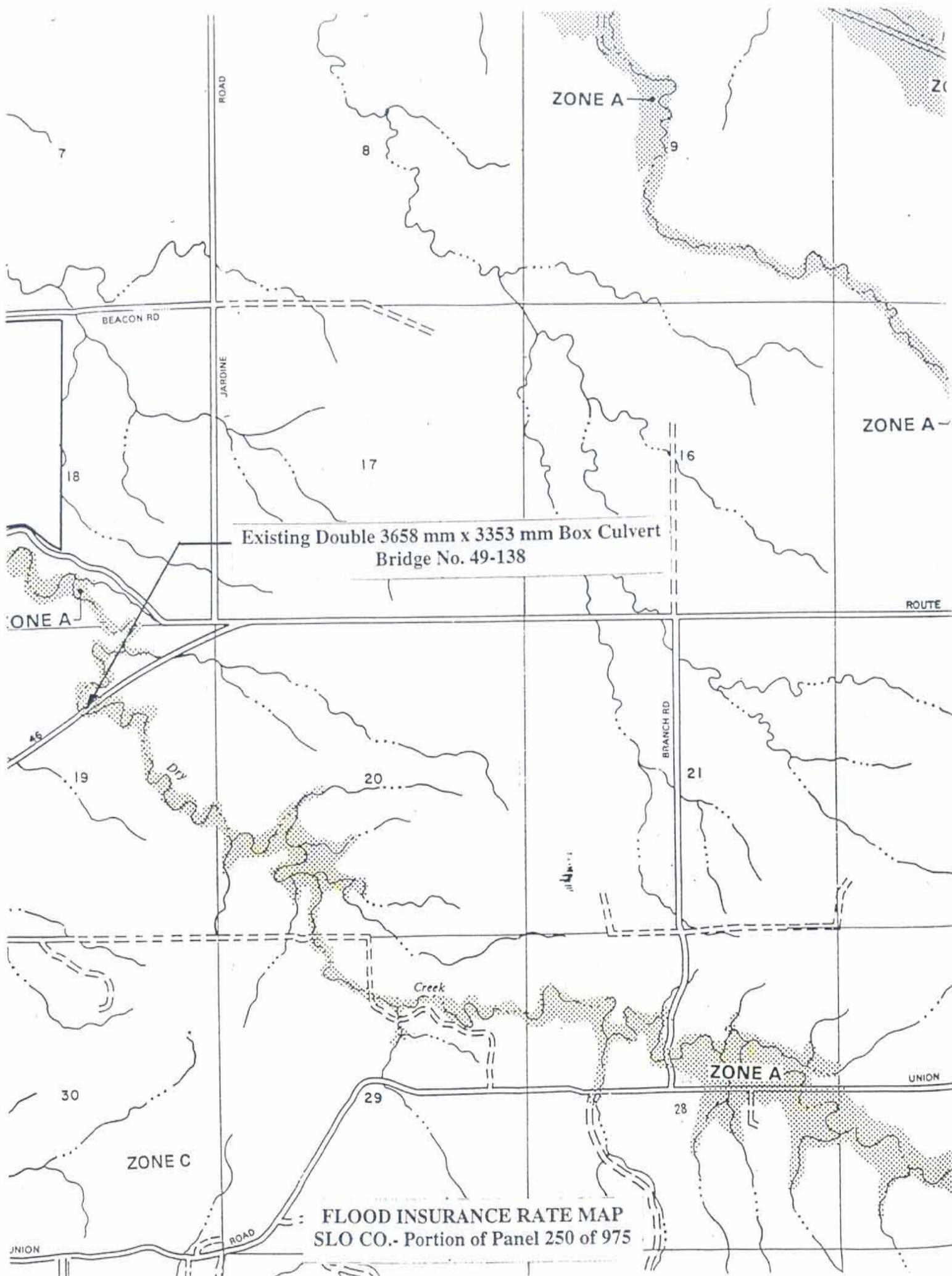
I CONCUR:



 Sig.-FHWA

10/10/01

 Date



ZONE A

ZONE A

Existing Double 3658 mm x 3353 mm Box Culvert
Bridge No. 49-138

ZONE A

ZONE A

ZONE C

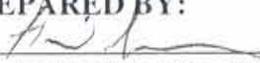
FLOOD INSURANCE RATE MAP
SLO CO.- Portion of Panel 250 of 975

FLOODPLAIN EVALUATION REPORT SUMMARY

District: 05 **County:** San Luis Obispo **Route:** 46 **KP:** 64.31
Project No.: 05-3307u0 **Bridge No.:** 49-33
Limits: River crossing (existing 76.20-meter bridge length) beginning at KP 64.31 and ending at KP 64.39, located 17.7 km east of Paso Robles
Floodplain Description: Estrella River- Zone A Designation

- | | Yes | No |
|---|----------|----------|
| 1. Is the proposed action a longitudinal encroachment of the base floodplain? | — | <u>X</u> |
| 2. Are the risks associated with the implementation of the proposed action significant? | — | <u>X</u> |
| 3. Will the proposed action support probable incompatible floodplain development? | — | <u>X</u> |
| 4. Are there any significant impacts on natural and beneficial floodplain values? | — | <u>X</u> |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain. | — | <u>X</u> |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | — | <u>X</u> |
| 7. Are Location Hydraulics Studies that document the above answers on file? If not explain. | <u>X</u> | — |

PREPARED BY:



 Sig.-Hydraulics Eng. (Central Region-Branch B)

2/22/2001

 Date

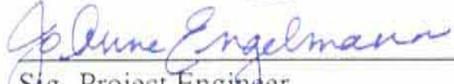
REVIEWED BY:



 Sig.-Environmental Branch Chief

4/9/01

 Date

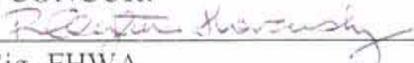


 Sig.-Project Engineer

3/29/01

 Date

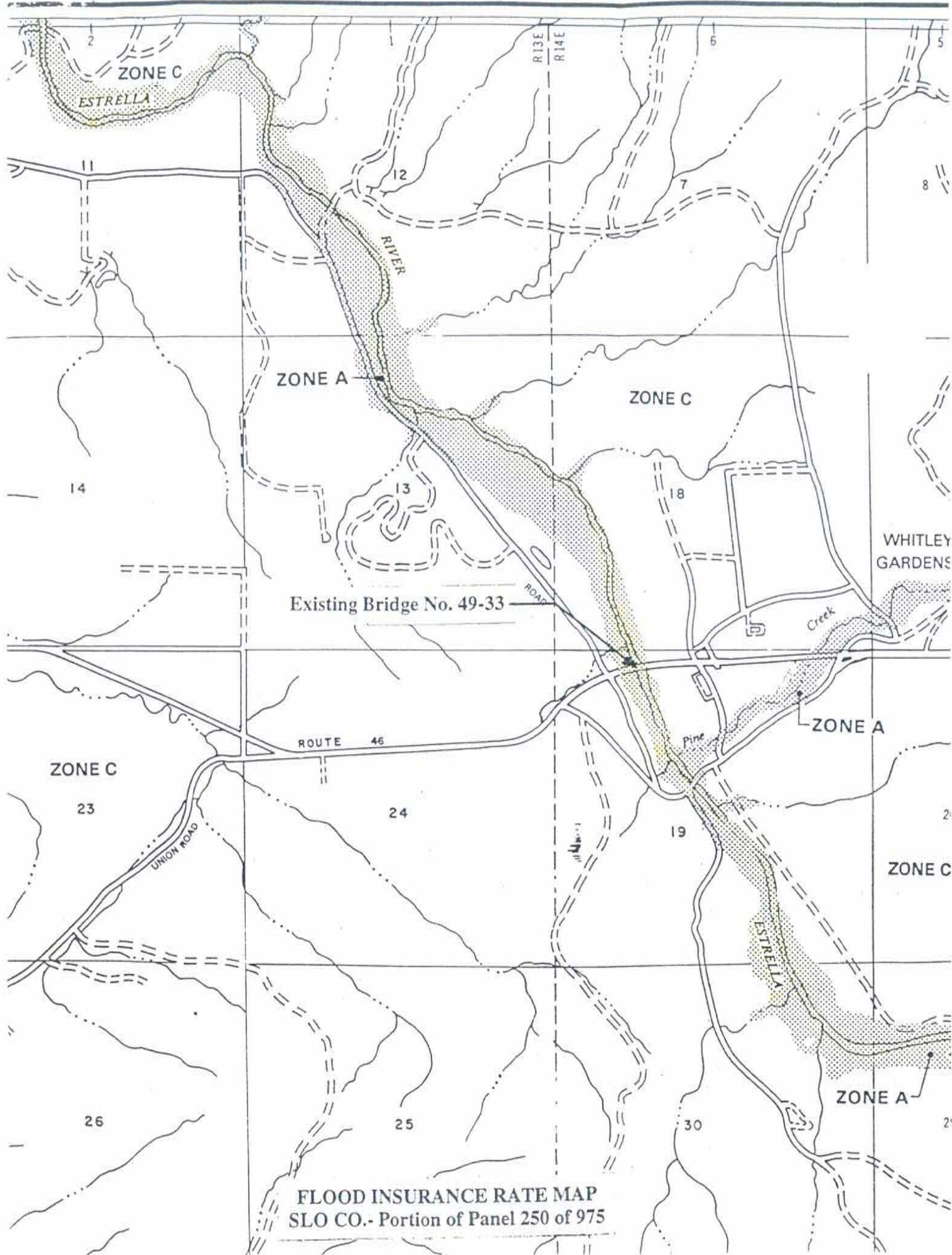
I CONCUR:



 Sig.-FHWA

10/10/01

 Date

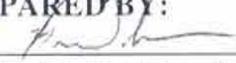


FLOODPLAIN EVALUATION REPORT SUMMARY

District: 05 **County:** San Luis Obispo **Route:** 46 **KP:** 65.24
Project No.: 05-3307u0 **Bridge No.:** N/A
Limits: Creek centerline crossing (existing 3.50-meter culvert diameter) at KP 65.24, located 18.63 km east of Paso Robles
Floodplain Description: Pine Creek- Zone A Designation

| | Yes | No |
|---|----------|----------|
| 1. Is the proposed action a longitudinal encroachment of the base floodplain? | — | <u>X</u> |
| 2. Are the risks associated with the implementation of the proposed action significant? | — | <u>X</u> |
| 3. Will the proposed action support probable incompatible floodplain development? | — | <u>X</u> |
| 4. Are there any significant impacts on natural and beneficial floodplain values? | — | <u>X</u> |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain. | — | <u>X</u> |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | — | <u>X</u> |
| 7. Are Location Hydraulics Studies that document the above answers on file? If not explain. | <u>X</u> | — |

PREPARED BY:

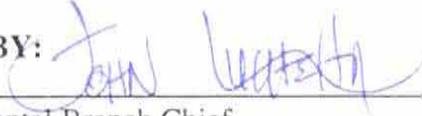


 Sig.-Hydraulics Eng. (Central Region-Branch B)

2/22/2001

 Date

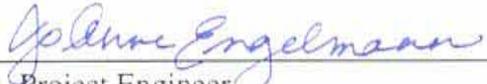
REVIEWED BY:



 Sig.-Environmental Branch Chief

4/9/01

 Date

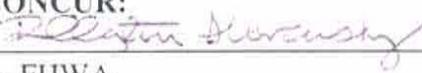


 Sig.-Project Engineer

3/26/01

 Date

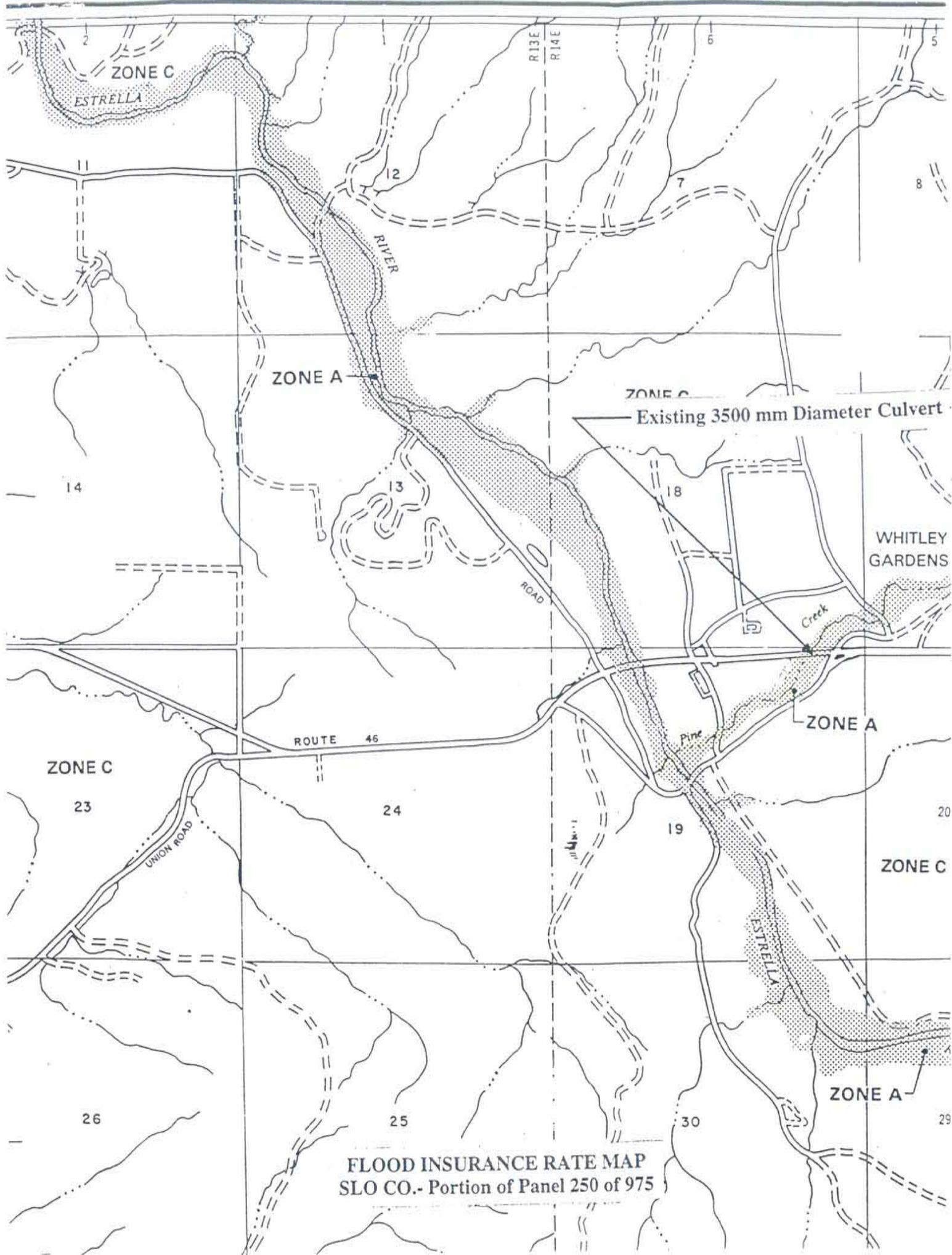
I CONCUR:



 Sig.-FHWA

10/16/01

 Date



FLOODPLAIN EVALUATION REPORT SUMMARY

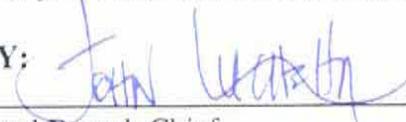
District: 05 **County:** San Luis Obispo **Route:** 46 **KP:** 68.04
Project No.: 05-3307u0 **Bridge No.:** N/A
Limits: Canyon centerline crossing (existing 3.50-meter box culvert span) at KP 68.04, located 21.43 km east of Paso Robles

Floodplain Description: Shimmin Canyon- Zone A Designation

| | Yes | No |
|---|----------|----------|
| 1. Is the proposed action a longitudinal encroachment of the base floodplain? | — | <u>X</u> |
| 2. Are the risks associated with the implementation of the proposed action significant? | — | <u>X</u> |
| 3. Will the proposed action support probable incompatible floodplain development? | — | <u>X</u> |
| 4. Are there any significant impacts on natural and beneficial floodplain values? | — | <u>X</u> |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain. | — | <u>X</u> |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | — | <u>X</u> |
| 7. Are Location Hydraulics Studies that document the above answers on file? If not explain. | <u>X</u> | — |

PREPARED BY: 
 Sig.-Hydraulics Eng. (Central Region-Branch B)

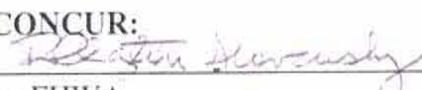
2/22/2001
 Date

REVIEWED BY: 
 Sig.-Environmental Branch Chief

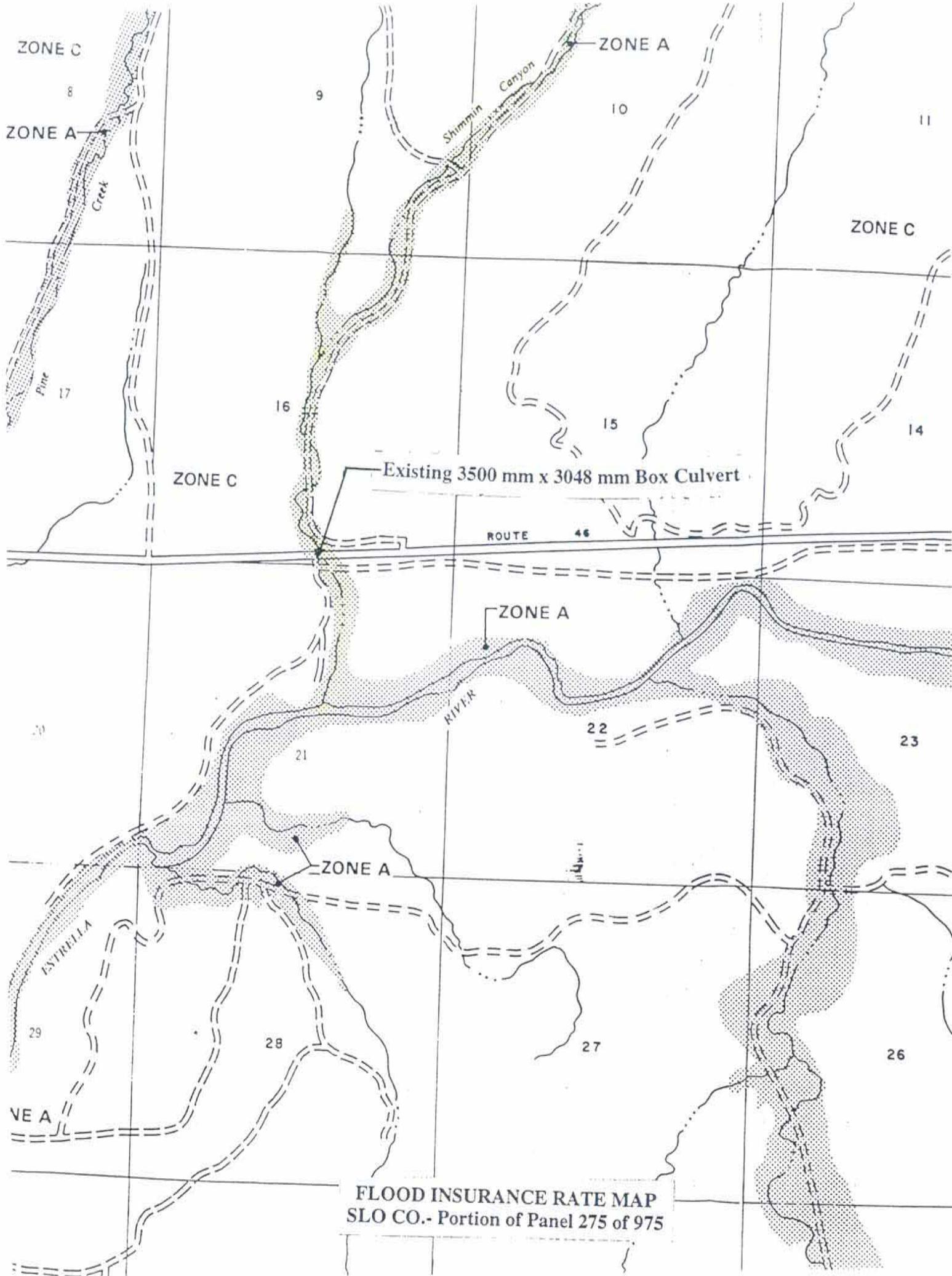
4/9/01
 Date


 Sig.-Project Engineer

3/21/01
 Date

I CONCUR: 
 Sig.-FHWA

10/16/01
 Date



FLOOD INSURANCE RATE MAP
SLO CO.- Portion of Panel 275 of 975

FLOODPLAIN EVALUATION REPORT SUMMARY

District: 05 **County:** San Luis Obispo **Route:** 46 **KP:** 73.22
Project No.: 05-3307u0 **Bridge No.:** 49-31 (Box Culvert)
Limits: Canyon centerline crossing (existing 3.50-meter box culvert span) at KP 73.22, located 26.61 km east of Paso Robles

Floodplain Description: McMillan Canyon- Zone A Designation

- | | Yes | No |
|---|----------|----------|
| 1. Is the proposed action a longitudinal encroachment of the base floodplain? | — | <u>X</u> |
| 2. Are the risks associated with the implementation of the proposed action significant? | — | <u>X</u> |
| 3. Will the proposed action support probable incompatible floodplain development? | — | <u>X</u> |
| 4. Are there any significant impacts on natural and beneficial floodplain values? | — | <u>X</u> |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain. | — | <u>X</u> |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | — | <u>X</u> |
| 7. Are Location Hydraulics Studies that document the above answers on file? If not explain. | <u>X</u> | — |

PREPARED BY: [Signature]

 Sig.-Hydraulics Eng. (Central Region-Branch B)

2/22/2001

 Date

REVIEWED BY: [Signature]

 Sig.-Environmental Branch Chief

4/9/01

 Date

[Signature]

 Sig.-Project Engineer

3/31/01

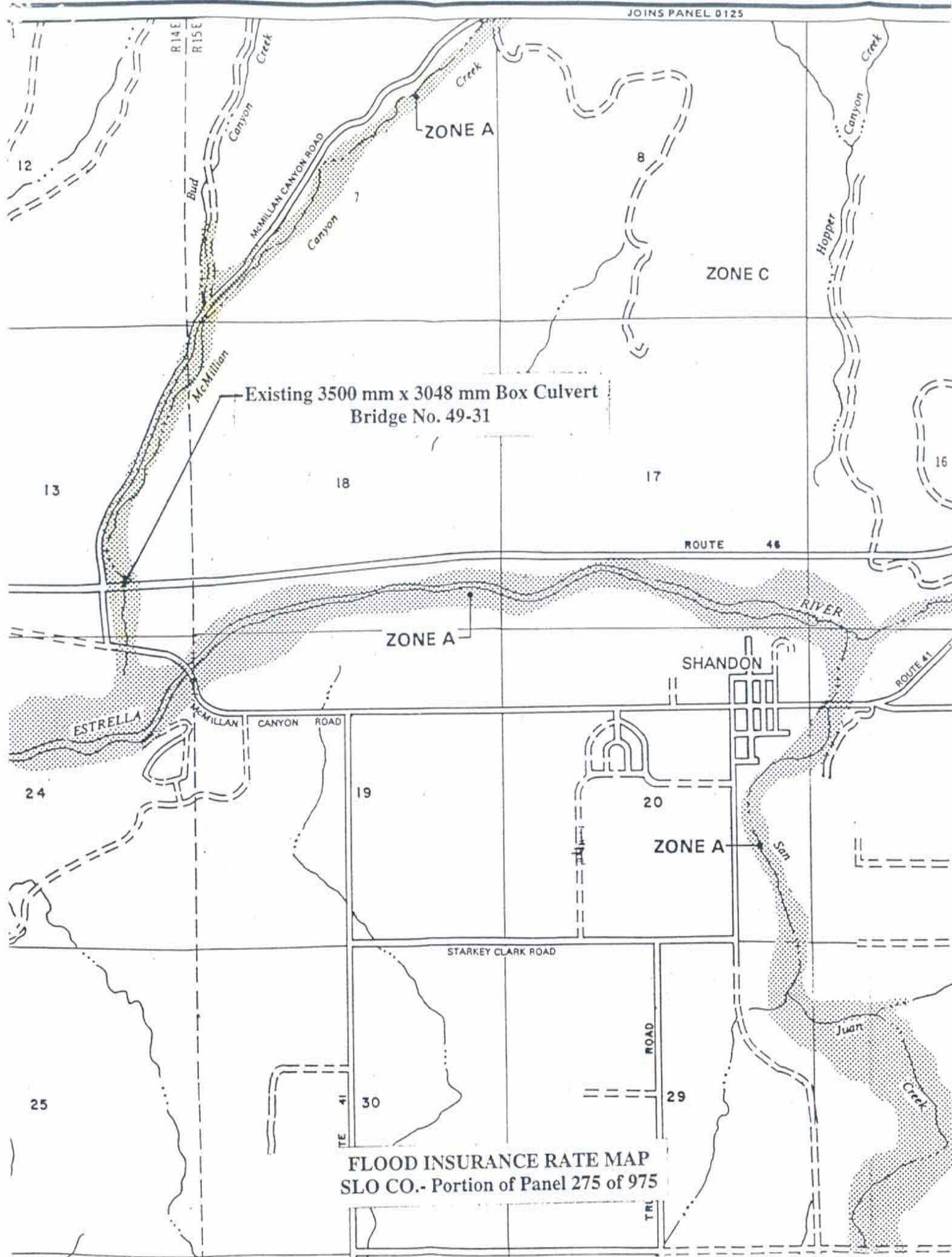
 Date

I CONCUR: [Signature]

 Sig.-FHWA

10/10/01

 Date



FLOOD INSURANCE RATE MAP
SLO CO.- Portion of Panel 275 of 975

FLOODPLAIN EVALUATION REPORT SUMMARY

District: 05 **County:** San Luis Obispo **Route:** 46 **KP:** 77.73
Project No.: 05-3307u0 **Bridge No.:** 49-95
Limits: River crossing (existing 54.86-meter bridge length) beginning at KP 77.73
and ending at KP 77.81, located 1.77 km east of Shandon
Floodplain Description: Cholame Creek (West Crossing)- Zone A Designation

- | | Yes | No |
|---|-----|----|
| 1. Is the proposed action a longitudinal encroachment of the base floodplain? | — | X |
| 2. Are the risks associated with the implementation of the proposed action significant? | — | X |
| 3. Will the proposed action support probable incompatible floodplain development? | — | X |
| 4. Are there any significant impacts on natural and beneficial floodplain values? | — | X |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain. | — | X |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | — | X |
| 7. Are Location Hydraulics Studies that document the above answers on file? If not explain. | X | — |

PREPARED BY:

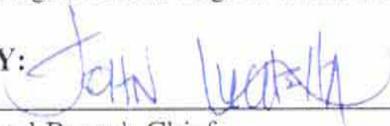


 Sig.-Hydraulics Eng. (Central Region-Branch B)

2/22/2001

 Date

REVIEWED BY:



 Sig.-Environmental Branch Chief

4/9/01

 Date

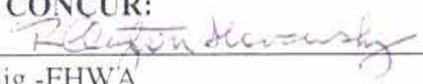


 Sig.-Project Engineer

3/21/01

 Date

I CONCUR:



 Sig.-FHWA

10/10/01

 Date

ONE A

ZONE A

ZONE C

E A

ROUTE 46

Existing Bridge No. 49-95

ZONE A

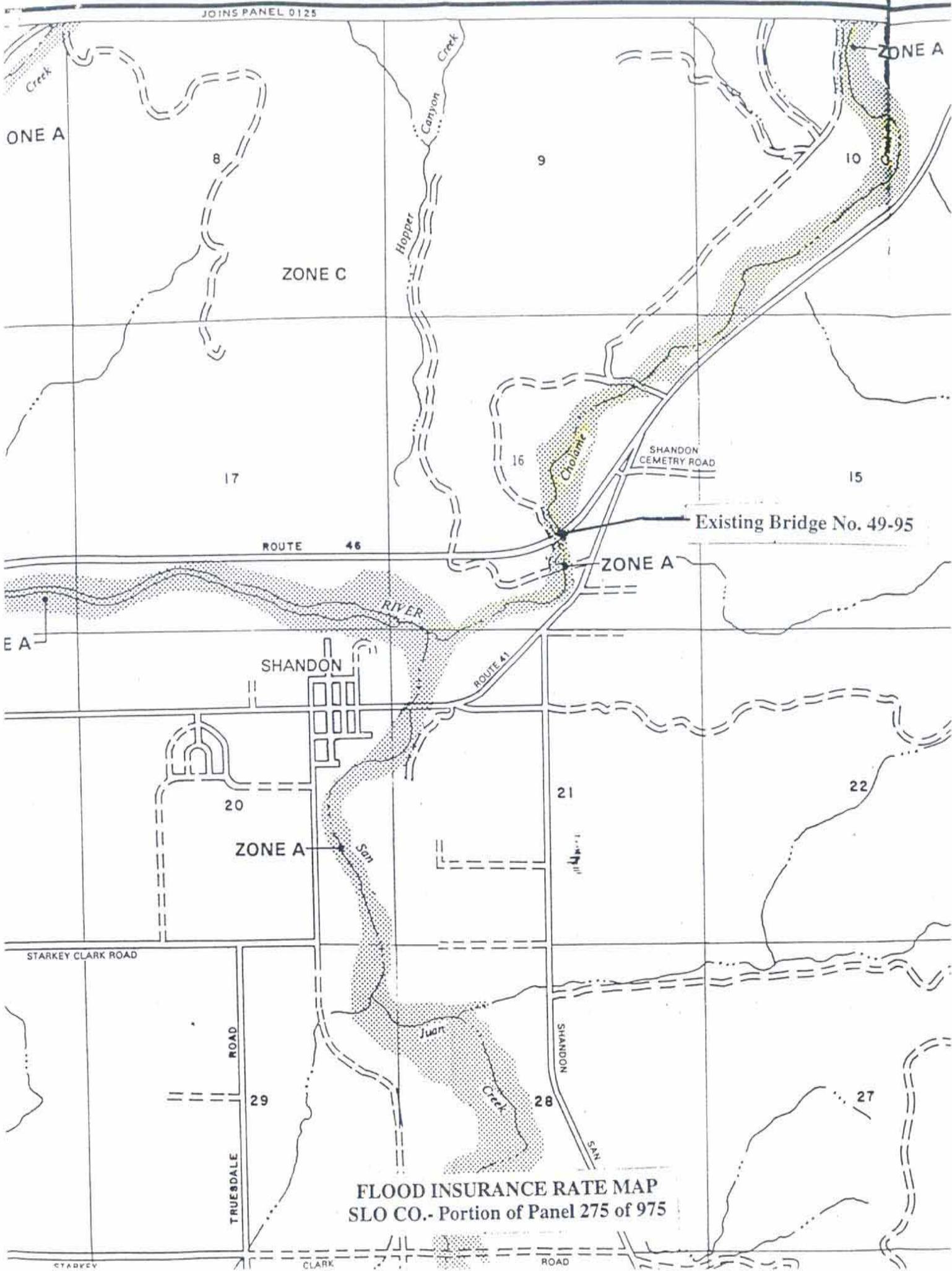
SHANDON

ZONE A

STARKEY CLARK ROAD

TRUESDALE ROAD

FLOOD INSURANCE RATE MAP
SLO CO.- Portion of Panel 275 of 975



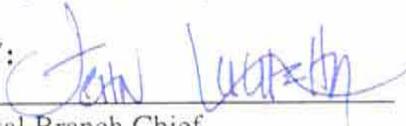
FLOODPLAIN EVALUATION REPORT SUMMARY

District: 05 **County:** San Luis Obispo **Route:** 46 **KP:** 81.53
Project No.: 05-330800 **Bridge No.:** 49-29
Limits: River crossing (existing 64.31-meter bridge length) beginning at KP 81.53
and ending at KP 81.59, located 5.57 km east of Shandon
Floodplain Description: Cholame Creek (Intermediate Crossing)- Zone A Designation

| | Yes | No |
|---|----------|----------|
| 1. Is the proposed action a longitudinal encroachment of the base floodplain? | — | <u>X</u> |
| 2. Are the risks associated with the implementation of the proposed action significant? | — | <u>X</u> |
| 3. Will the proposed action support probable incompatible floodplain development? | — | <u>X</u> |
| 4. Are there any significant impacts on natural and beneficial floodplain values? | — | <u>X</u> |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain. | — | <u>X</u> |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | — | <u>X</u> |
| 7. Are Location Hydraulics Studies that document the above answers on file? If not explain. | <u>X</u> | — |

PREPARED BY: 
 Sig.-Hydraulics Eng. (Central Region-Branch B)

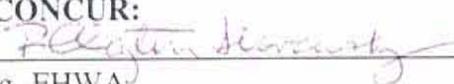
2/22/2001
 Date

REVIEWED BY: 
 Sig.-Environmental Branch Chief

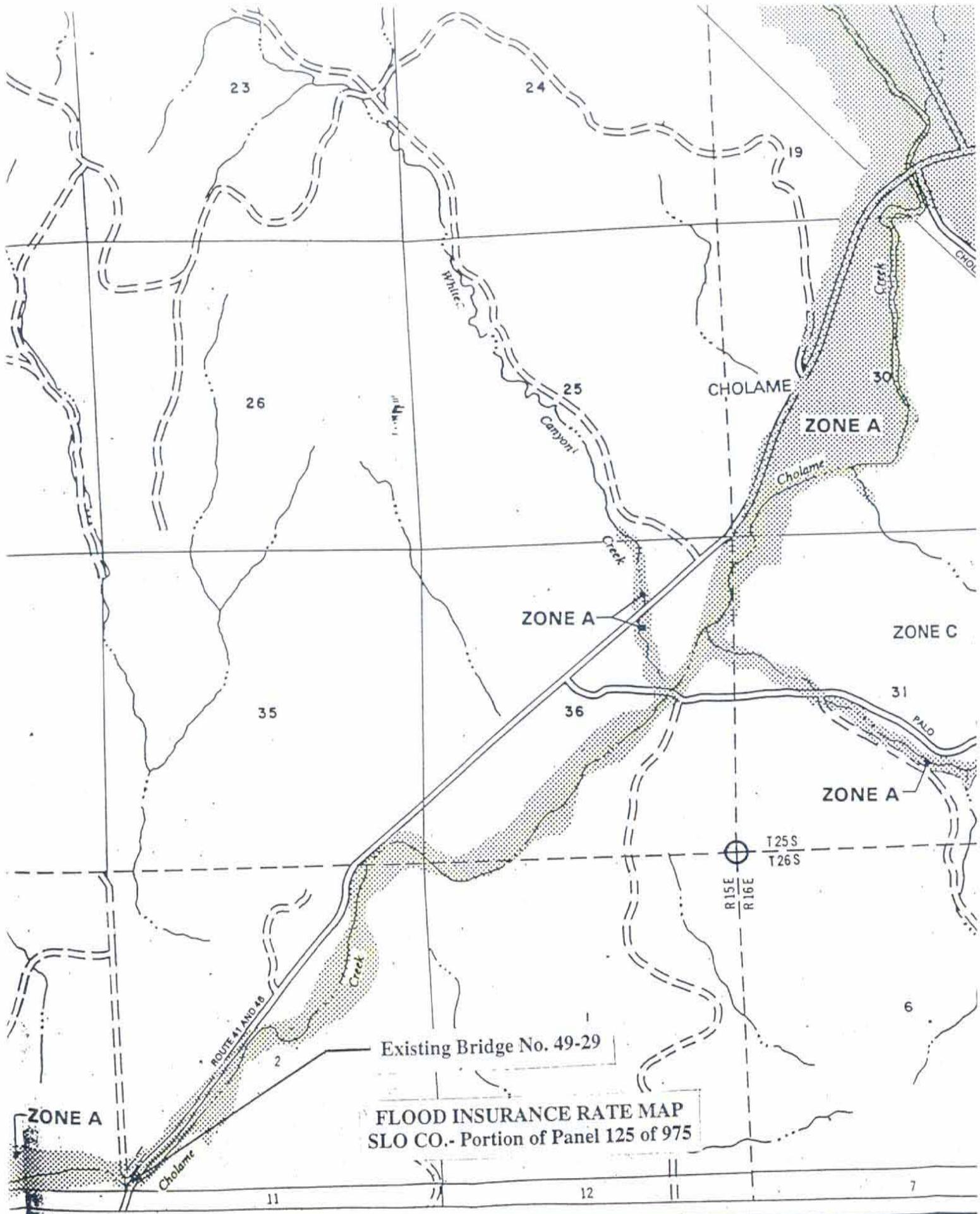
4/9/01
 Date


 Sig.-Project Engineer

3/26/01
 Date

I CONCUR: 
 Sig.-FHWA

10/16/01
 Date



FLOOD INSURANCE RATE MAP
SLO CO.- Portion of Panel 125 of 975

ZONE A

ZONE A

ZONE A

ZONE C

ZONE A

Existing Bridge No. 49-29

ROUTE 41 AND 46

Cholame

White

Canyon

Creek

CHOLAME

Cholame

Creek

CHOL

PALO

T25S
T26S

R15E
R16E

11

12

7

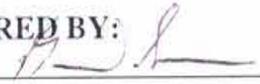
FLOODPLAIN EVALUATION REPORT SUMMARY

District: 05 **County:** San Luis Obispo **Route:** 46 **KP:** 85.50
Project No.: 05-330800 **Bridge No.:** N/A
Limits: Canyon centerline crossing (existing 4.27-meter box culvert span) at KP 85.50, located 9.54 km east of Shandon

Floodplain Description: White Canyon- Zone A Designation

- | | Yes | No |
|---|----------|----------|
| 1. Is the proposed action a longitudinal encroachment of the base floodplain? | — | <u>X</u> |
| 2. Are the risks associated with the implementation of the proposed action significant? | — | <u>X</u> |
| 3. Will the proposed action support probable incompatible floodplain development? | — | <u>X</u> |
| 4. Are there any significant impacts on natural and beneficial floodplain values? | — | <u>X</u> |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain. | — | <u>X</u> |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | — | <u>X</u> |
| 7. Are Location Hydraulics Studies that document the above answers on file? If not explain. | <u>X</u> | — |

PREPARED BY:


 Sig.-Hydraulics Eng. (Central Region Branch B)

2/22/2001

Date

REVIEWED BY:


 Sig.-Environmental Branch Chief

4/9/01

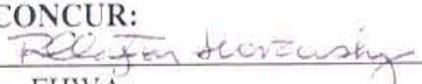
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 Sig.-Project Engineer

3/20/01

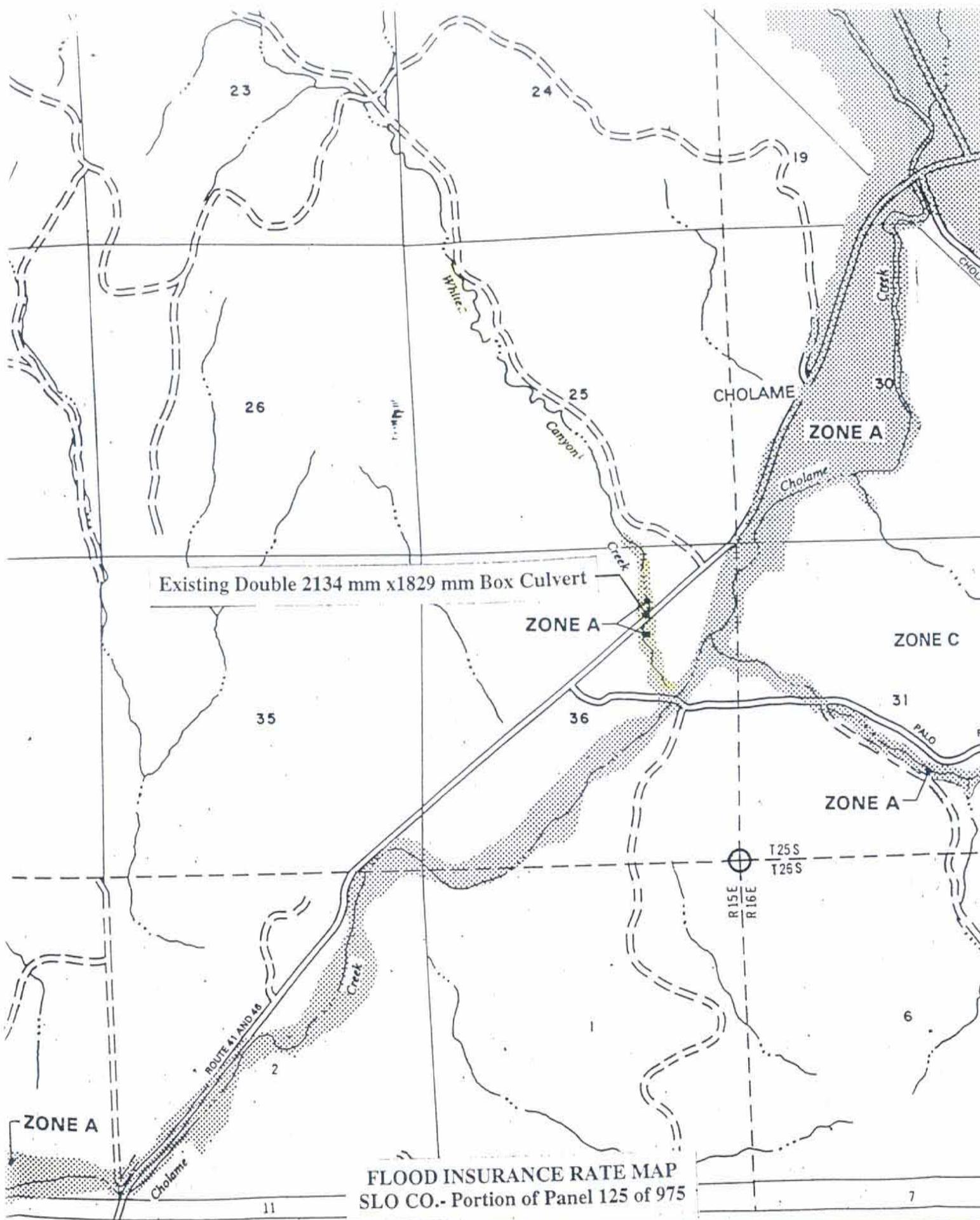
Date

I CONCUR:


 Sig.-FHWA

10/10/01

Date

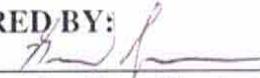


FLOODPLAIN EVALUATION REPORT SUMMARY

District: 05 **County:** San Luis Obispo **Route:** 46 **KP:** 88.13
Project No.: 05-330800 **Bridge No.:** 49-36
Limits: River crossing (existing 36.58-meter bridge length) beginning at KP 88.13
and ending at KP 88.17, located 10.06 km west of Kern County line
Floodplain Description: Cholame Creek (East Crossing)- Zone A Designation

- | | Yes | No |
|---|----------|----------|
| 1. Is the proposed action a longitudinal encroachment of the base floodplain? | — | <u>X</u> |
| 2. Are the risks associated with the implementation of the proposed action significant? | — | <u>X</u> |
| 3. Will the proposed action support probable incompatible floodplain development? | — | <u>X</u> |
| 4. Are there any significant impacts on natural and beneficial floodplain values? | — | <u>X</u> |
| 5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain. | — | <u>X</u> |
| 6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)? | — | <u>X</u> |
| 7. Are Location Hydraulics Studies that document the above answers on file? If not explain. | <u>X</u> | — |

PREPARED BY:


 Sig.-Hydraulics Eng. (Central Region-Branch B)

2/22/2001

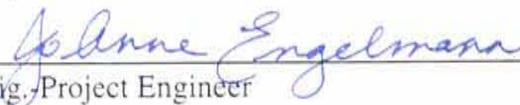
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REVIEWED BY:


 Sig.-Environmental Branch Chief

4/9/01

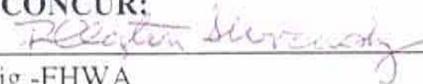
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 Sig.-Project Engineer

3/26/01

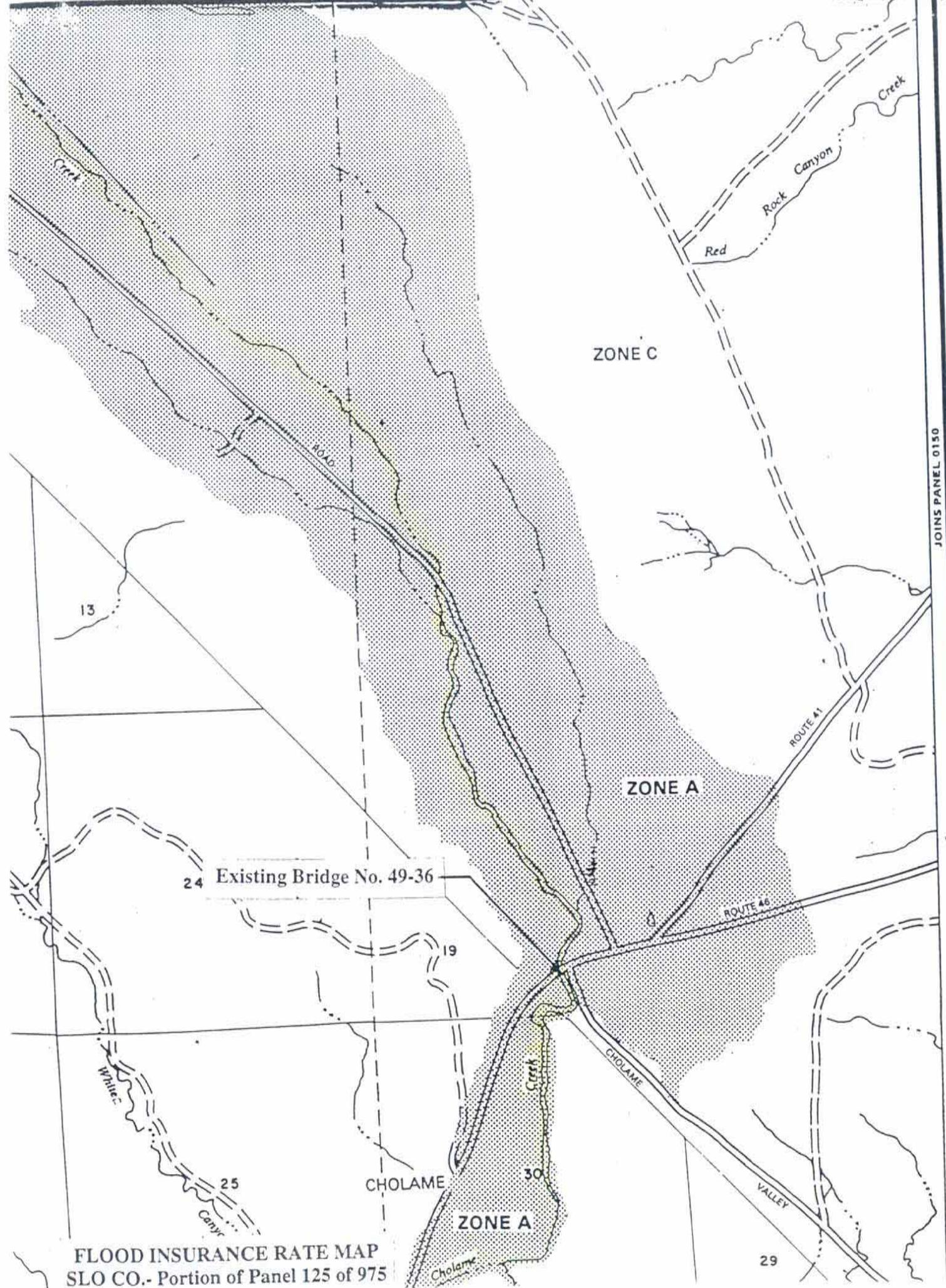
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I CONCUR:


 Sig.-FHWA

10/10/01

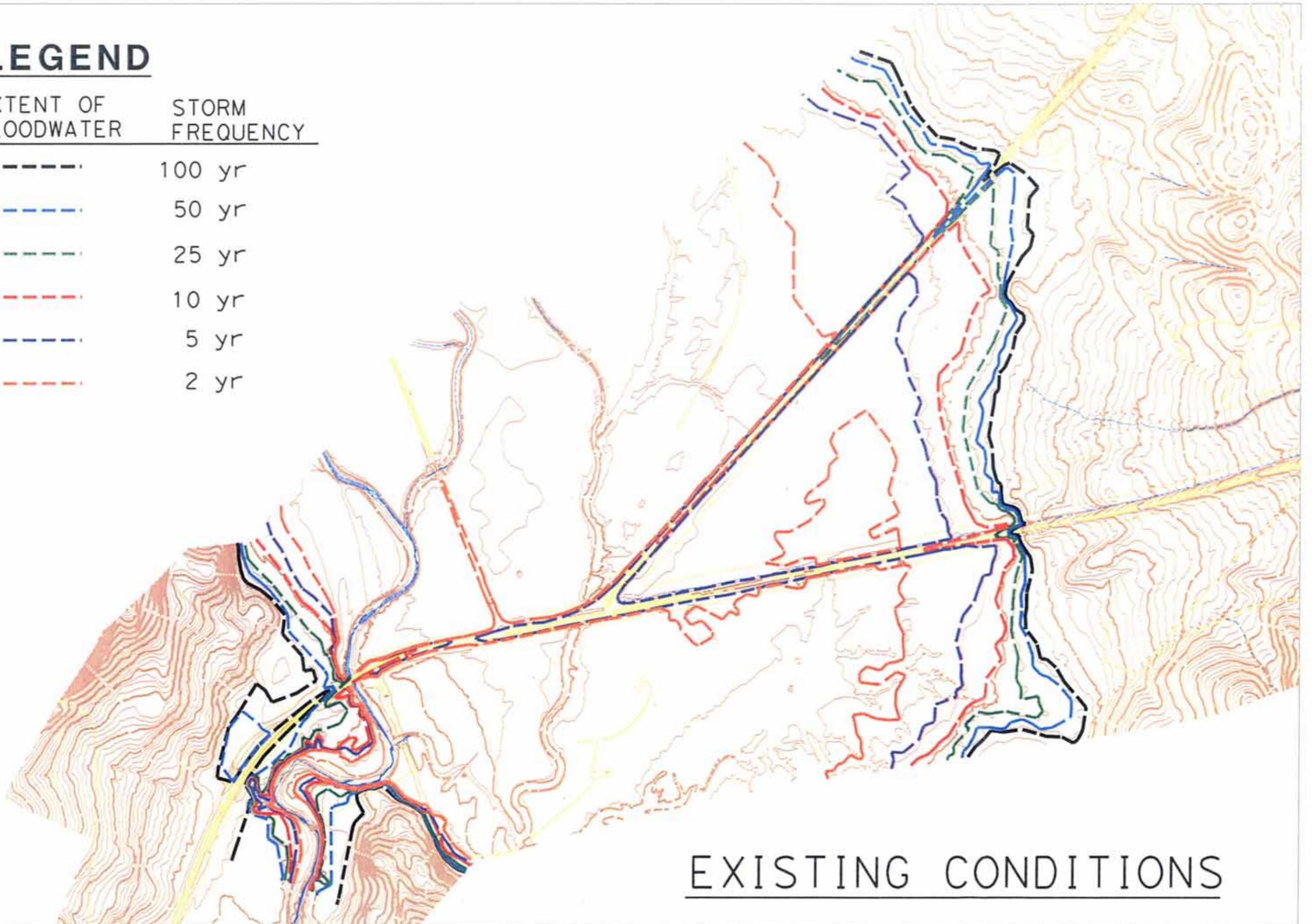
Date



FLOOD INSURANCE RATE MAP
 SLO CO.- Portion of Panel 125 of 975

LEGEND

| <u>EXTENT OF FLOODWATER</u> | <u>STORM FREQUENCY</u> |
|-----------------------------|------------------------|
| ----- | 100 yr |
| ----- | 50 yr |
| ----- | 25 yr |
| ----- | 10 yr |
| ----- | 5 yr |
| ----- | 2 yr |



EXISTING CONDITIONS

LEGEND

| EXTENT OF FLOODWATER | STORM FREQUENCY |
|----------------------|-----------------|
| ----- | 100 yr |
| ----- | 50 yr |
| ----- | 25 yr |
| ----- | 10 yr |
| ----- | 5 yr |
| ----- | 2 yr |

Cholame Creek Bridge

Cholame Creek Bridge

ALTERNATIVE 4

LEGEND

| EXTENT OF FLOODWATER | STORM FREQUENCY |
|----------------------|-----------------|
| ----- | 100 yr |
| - - - - - | 50 yr |
| - · - · - | 25 yr |
| - · - · - | 10 yr |
| - · - · - | 5 yr |
| - · - · - | 2 yr |

Cholame Creek Bridge

ALTERNATIVE 5

LEGEND

| EXTENT OF FLOODWATER | STORM FREQUENCY |
|----------------------|-----------------|
| ----- | 100 yr |
| ----- | 50 yr |
| ----- | 25 yr |
| ----- | 10 yr |
| ----- | 5 yr |
| ----- | 2 yr |

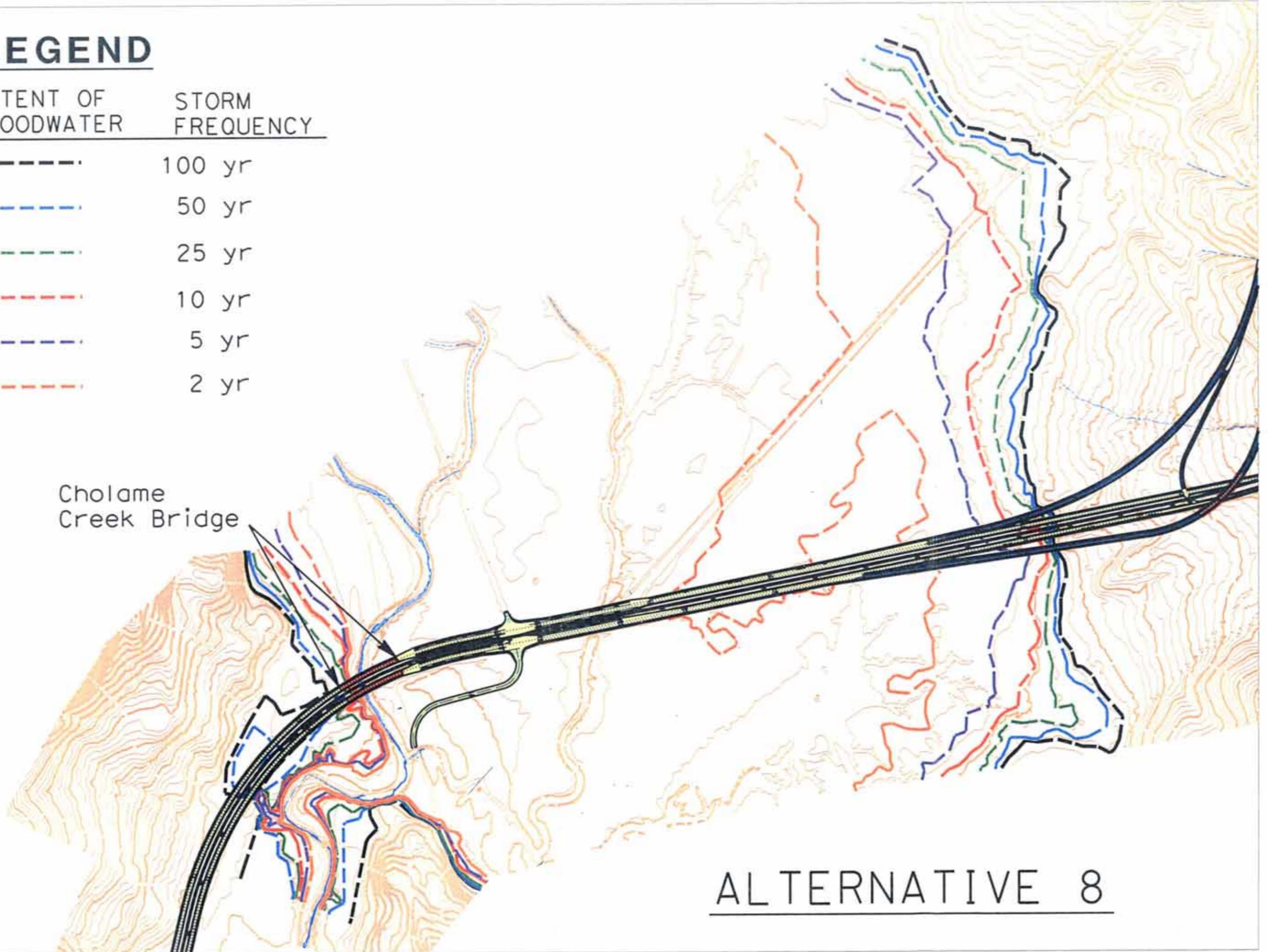
Cholame
Creek Bridge

ALTERNATIVE 7

LEGEND

| EXTENT OF FLOODWATER | STORM FREQUENCY |
|----------------------|-----------------|
| ----- | 100 yr |
| ----- | 50 yr |
| ----- | 25 yr |
| ----- | 10 yr |
| ----- | 5 yr |
| ----- | 2 yr |

Cholame
Creek Bridge



ALTERNATIVE 8

LEGEND

| EXTENT OF FLOODWATER | STORM FREQUENCY |
|----------------------|-----------------|
| ----- | 100 yr |
| - - - - - | 50 yr |
| - · - · - | 25 yr |
| - · - - - | 10 yr |
| - · - · - | 5 yr |
| - · - - - | 2 yr |

Cholame Creek Bridge

300 m Viaduct

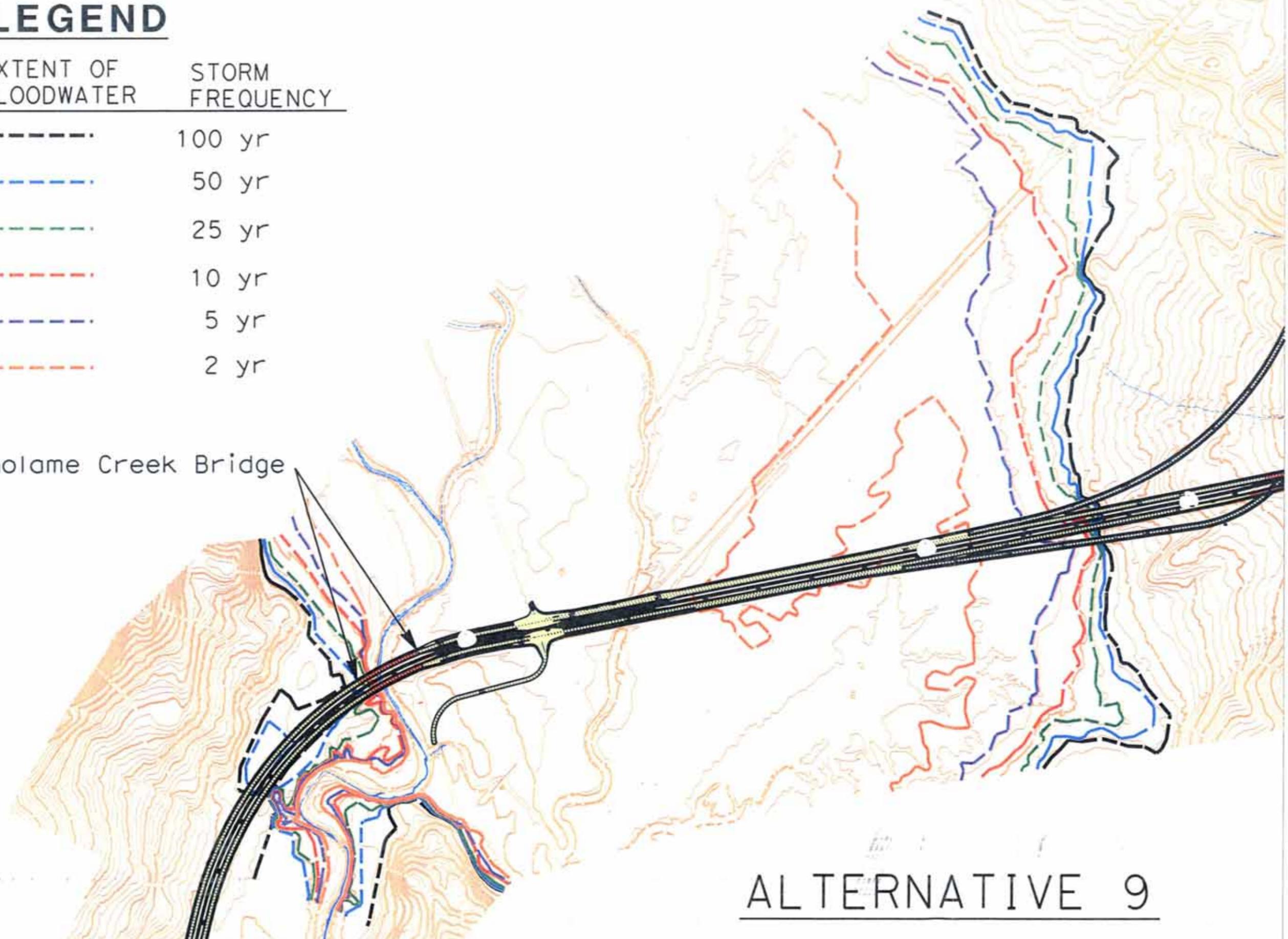
46 m bridge

ALTERNATIVE 8B

LEGEND

| EXTENT OF FLOODWATER | STORM FREQUENCY |
|----------------------|-----------------|
| ----- | 100 yr |
| ----- | 50 yr |
| ----- | 25 yr |
| ----- | 10 yr |
| ----- | 5 yr |
| ----- | 2 yr |

Cholame Creek Bridge



ALTERNATIVE 9

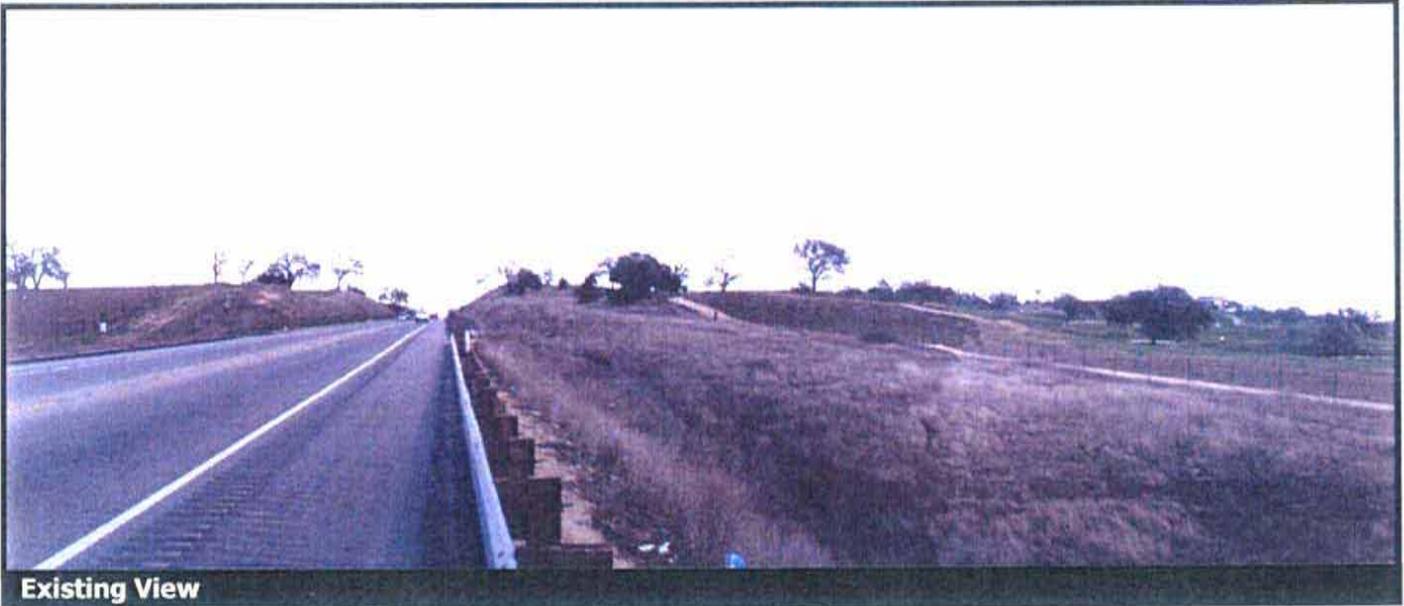
Appendix E: Project Visual Simulations

The following images are photographs and visual simulations taken from the Visual Impact Assessment (July 2002) for the proposed Route 46 Corridor Improvement Project.

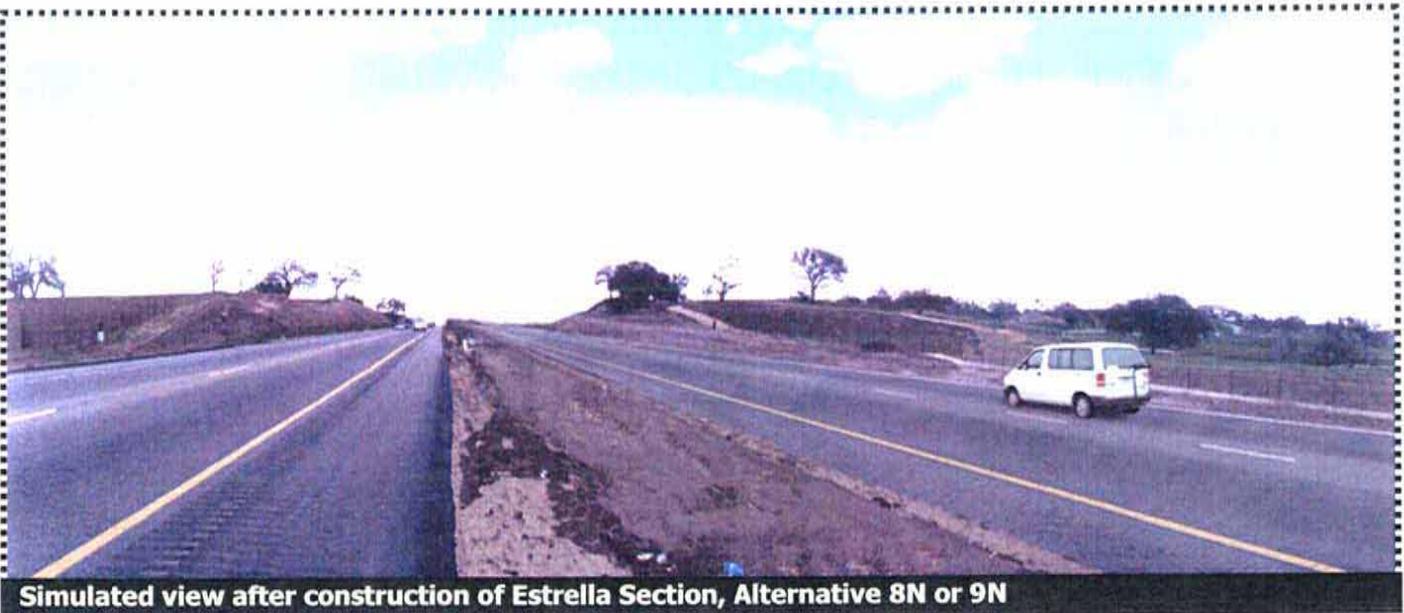
The intention of these images is to show the visual resource change that would be introduced by the various alternatives. This perceived change helps to analyze and determine the degree of potential visual impacts.

Looking eastbound near Hunter Ranch Golf Course

Observer View 1

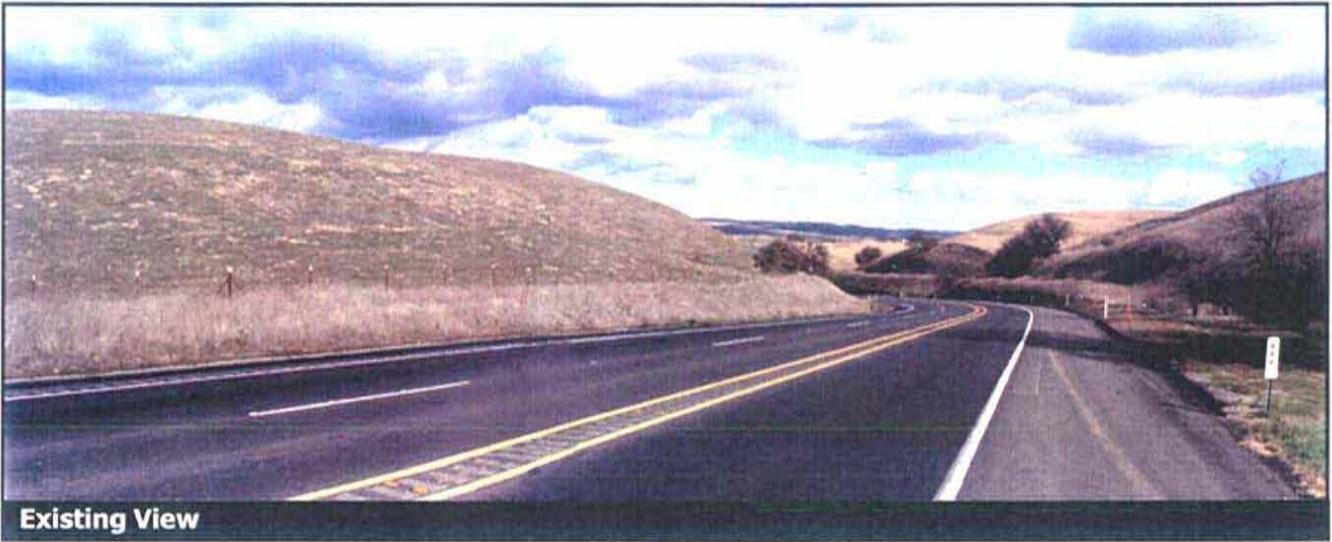


Existing View

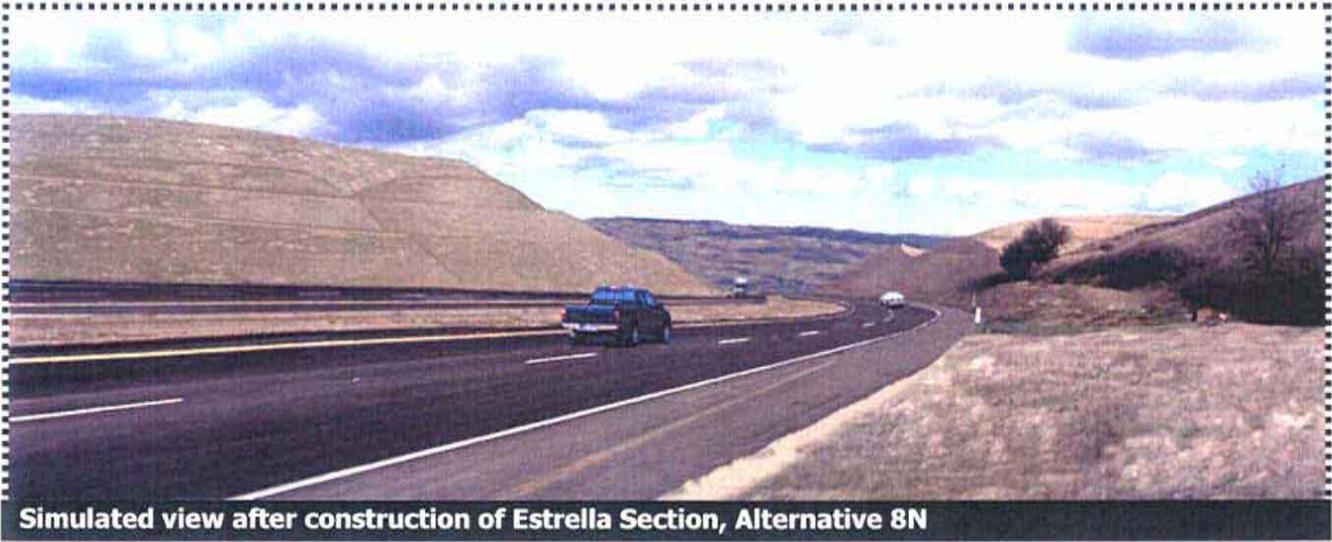


Simulated view after construction of Estrella Section, Alternative 8N or 9N

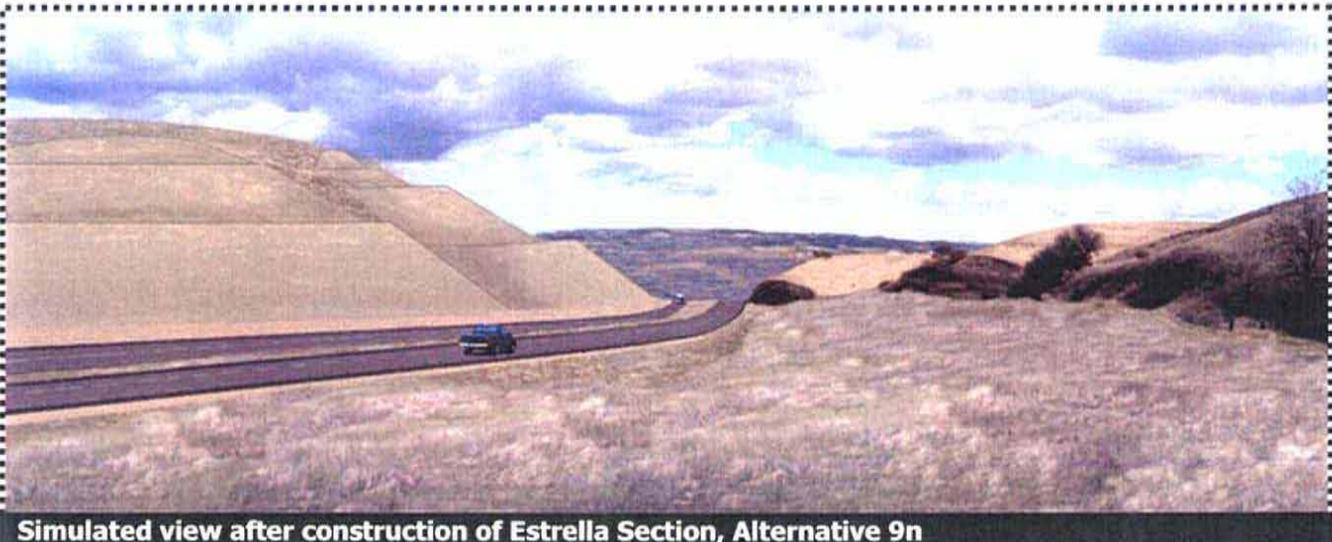
Looking eastbound approximately 1 km (0.6 mi) west of the Estrella River Bridge
Observer View 2



Existing View



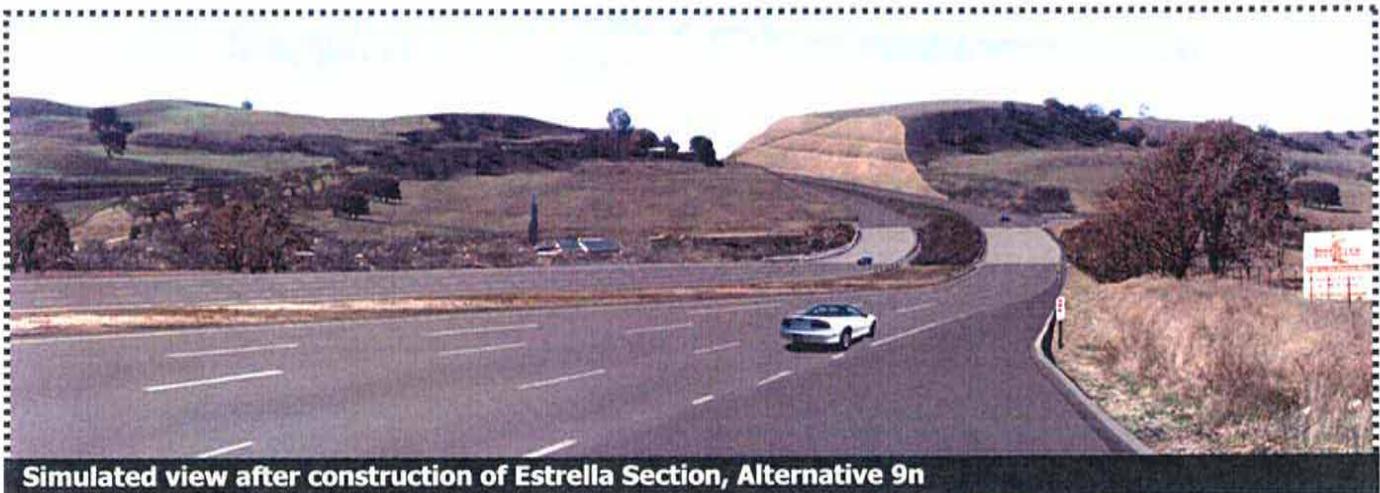
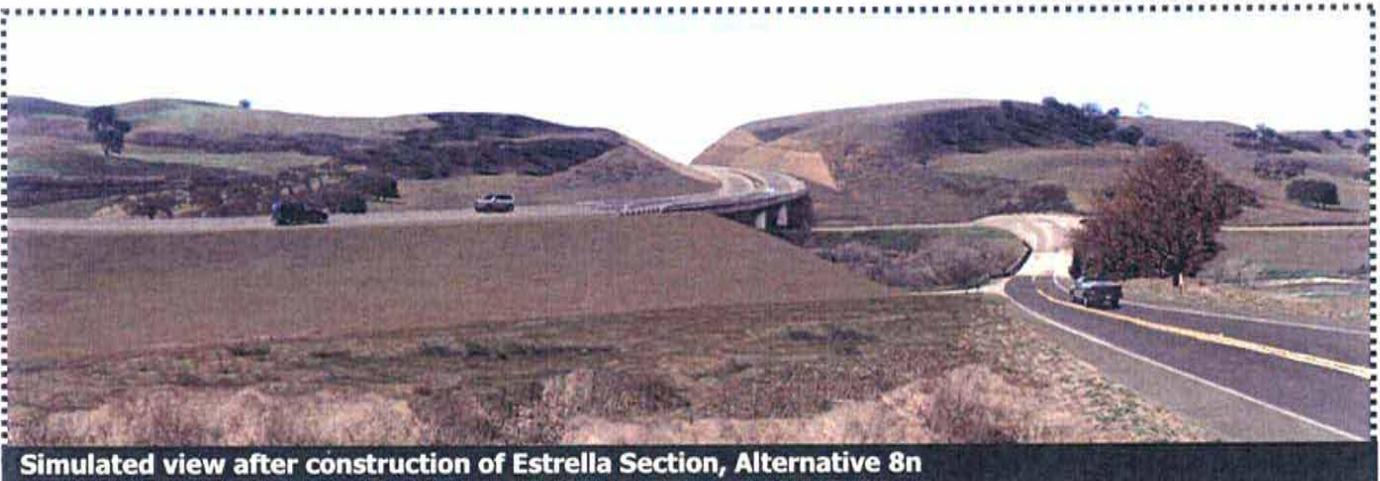
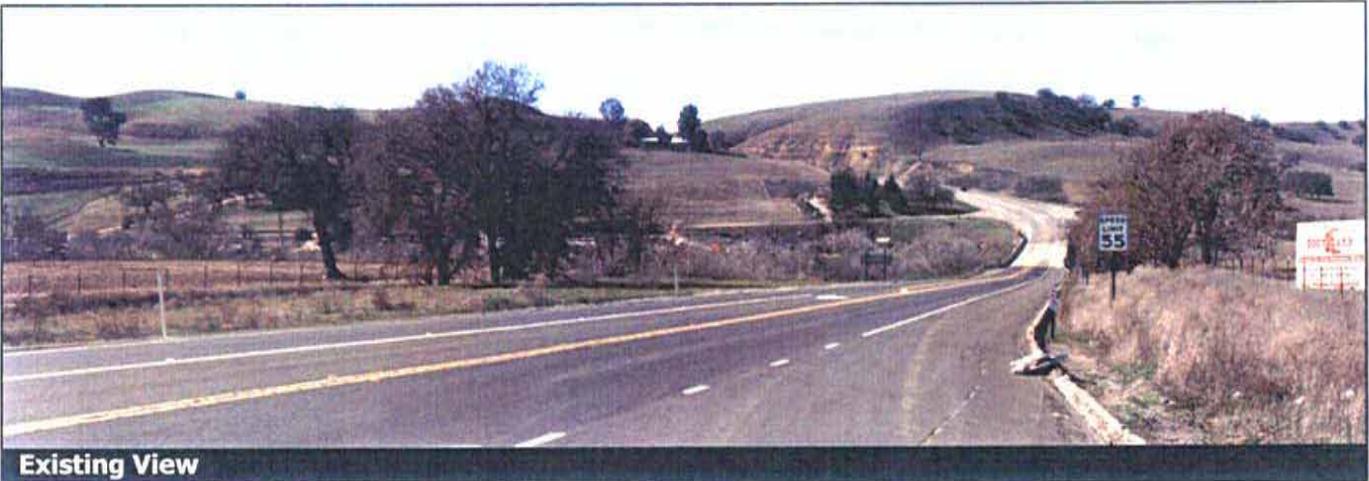
Simulated view after construction of Estrella Section, Alternative 8N



Simulated view after construction of Estrella Section, Alternative 9n

Looking westbound at Whitley Gardens Drive

Observer View 3



Looking from Estrella Road 200 m (656 ft) South of Route 46

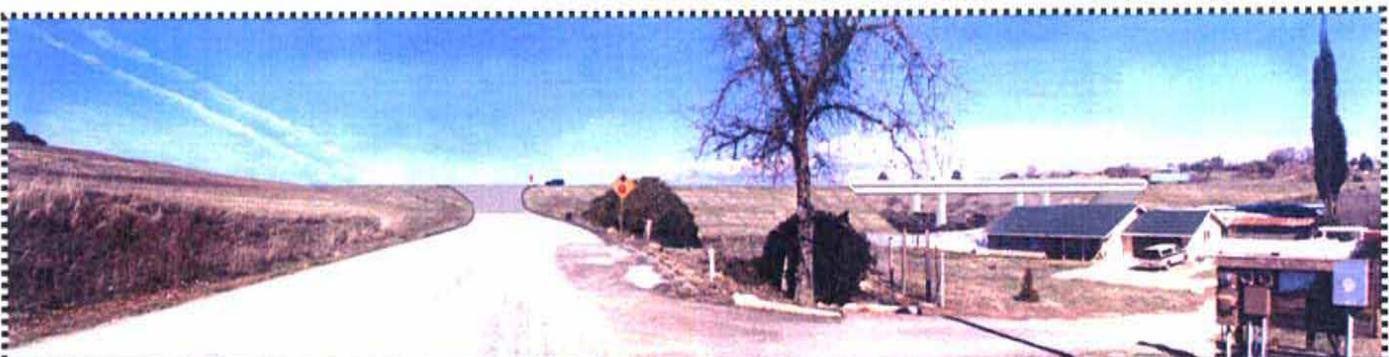
Observer View 4



Existing View



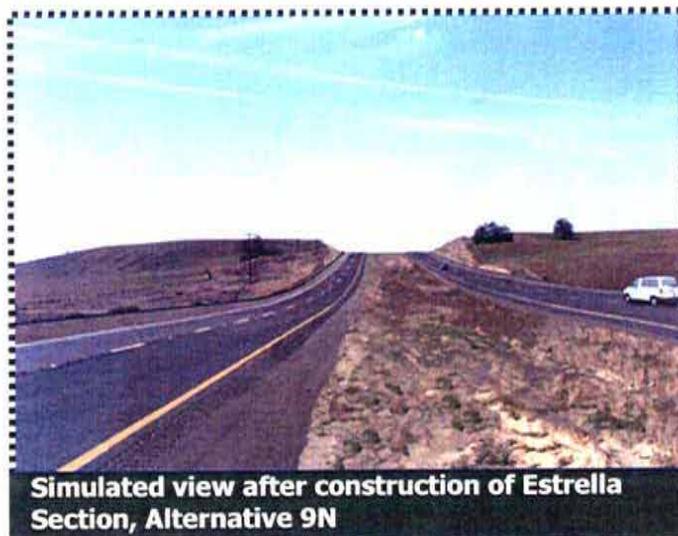
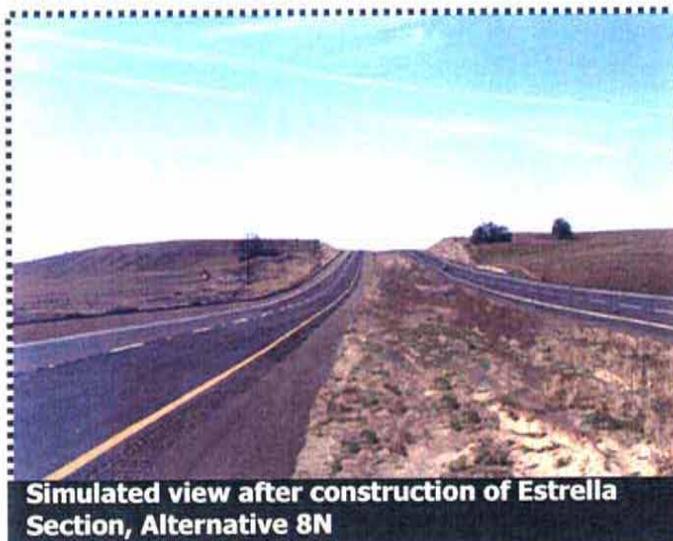
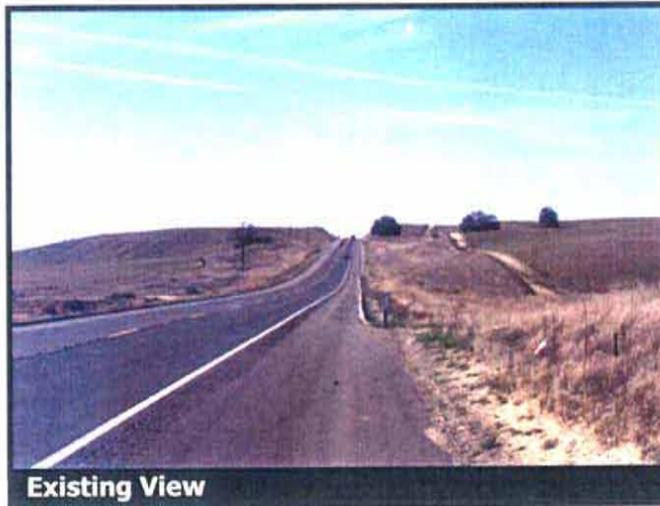
Simulated view after construction of Estrella Section, Alternative 8N



Simulated view after construction of Estrella Section, Alternative 9N

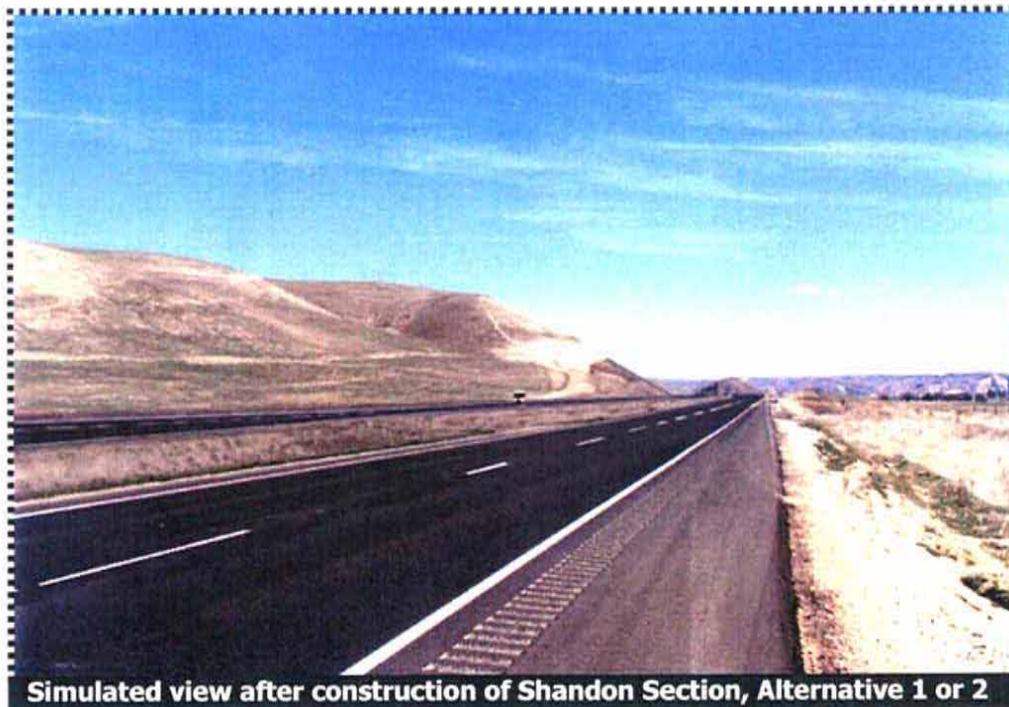
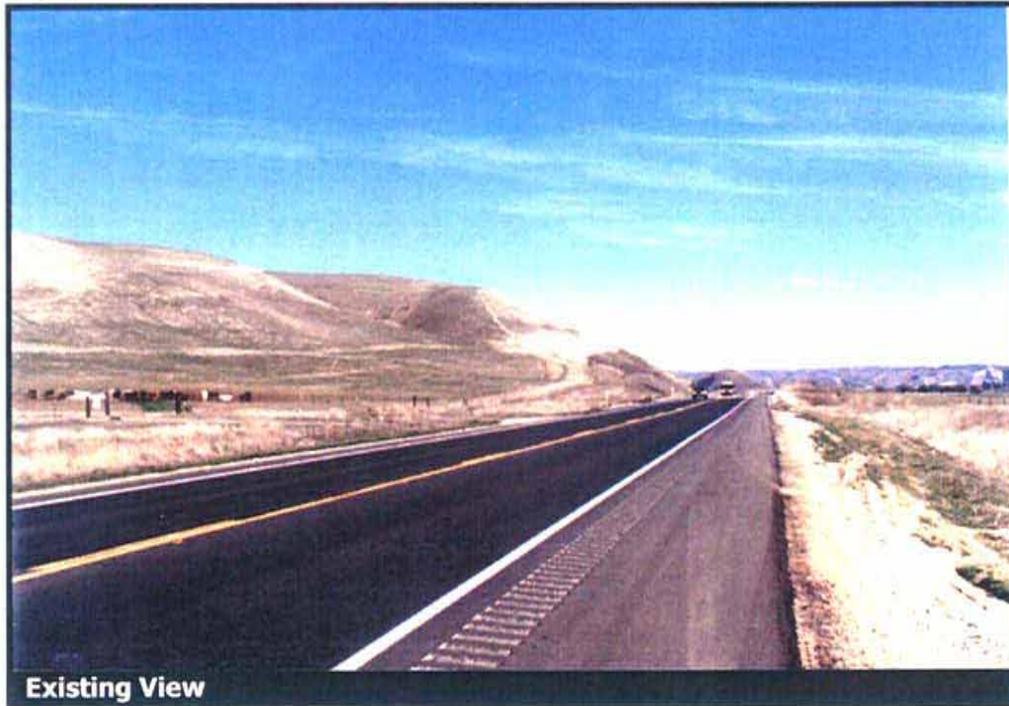
Looking west from Route 46, 1.3 km (0.8 mi) east of River Grove Drive

Observer View 5



Looking from Route 46 approximately
3.4 km (2.1 mi) west of McMillan Canyon Road

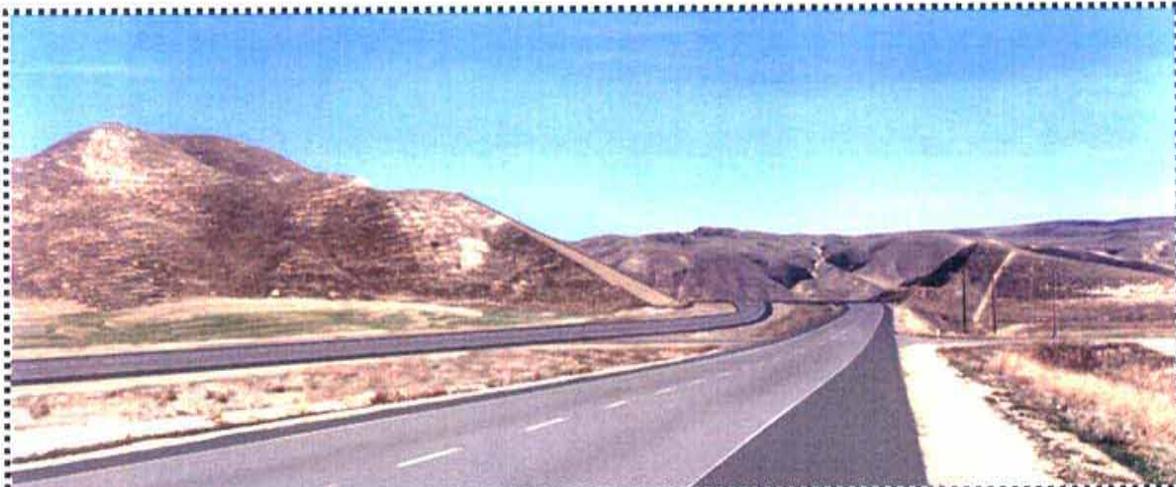
Observer View 6



Looking from Route 46 approximately
1.6 km (1 mi) west of the Route 41 Intersection
Observer View 7a



Existing View

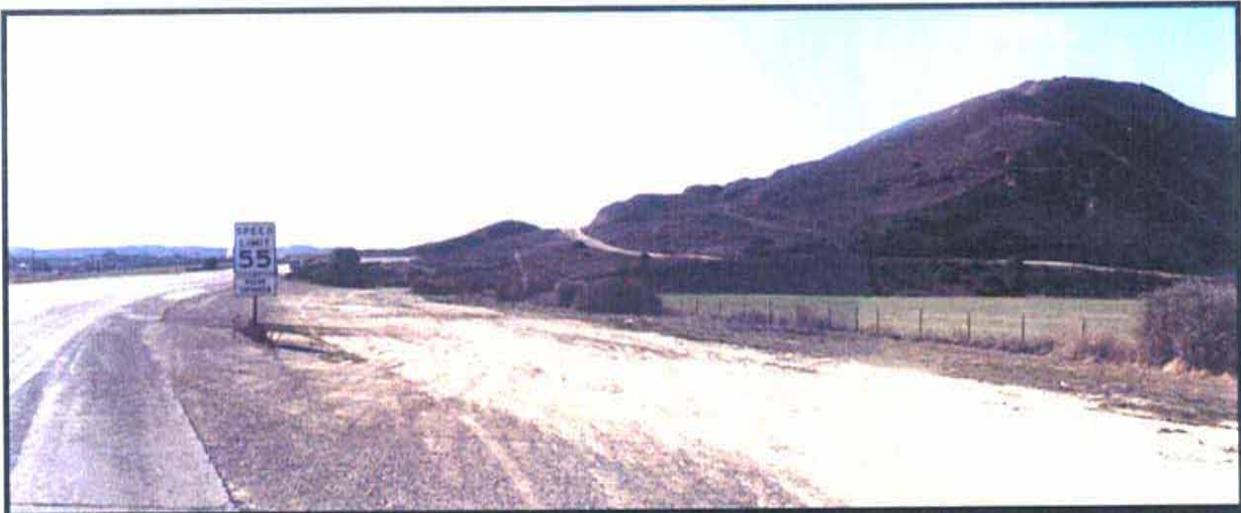


Simulated view after construction of Shandon Section, Alternative 1

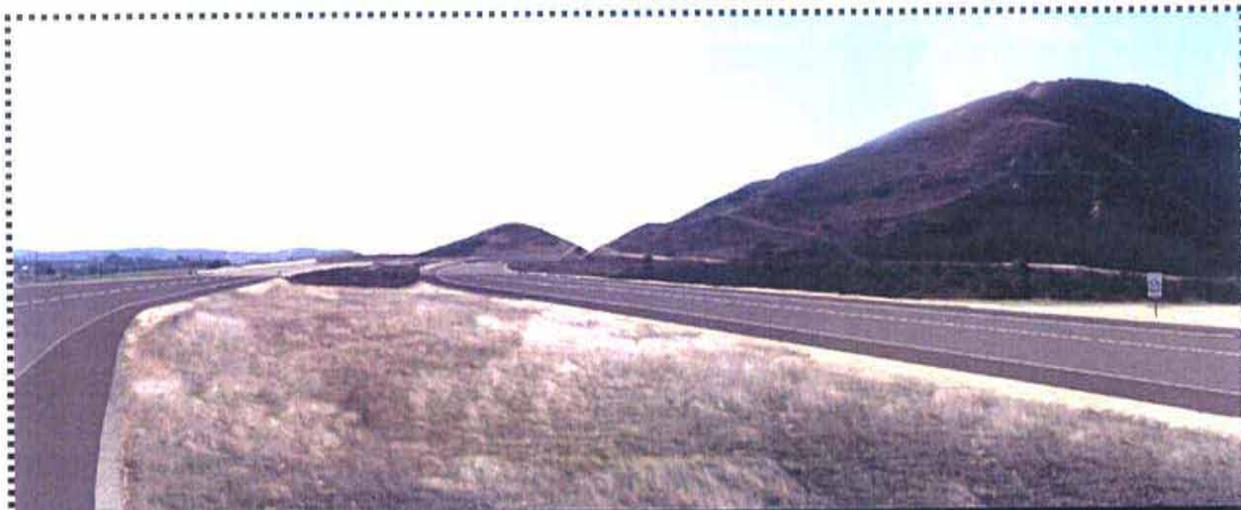


Simulated view after construction of Shandon Section, Alternative 2

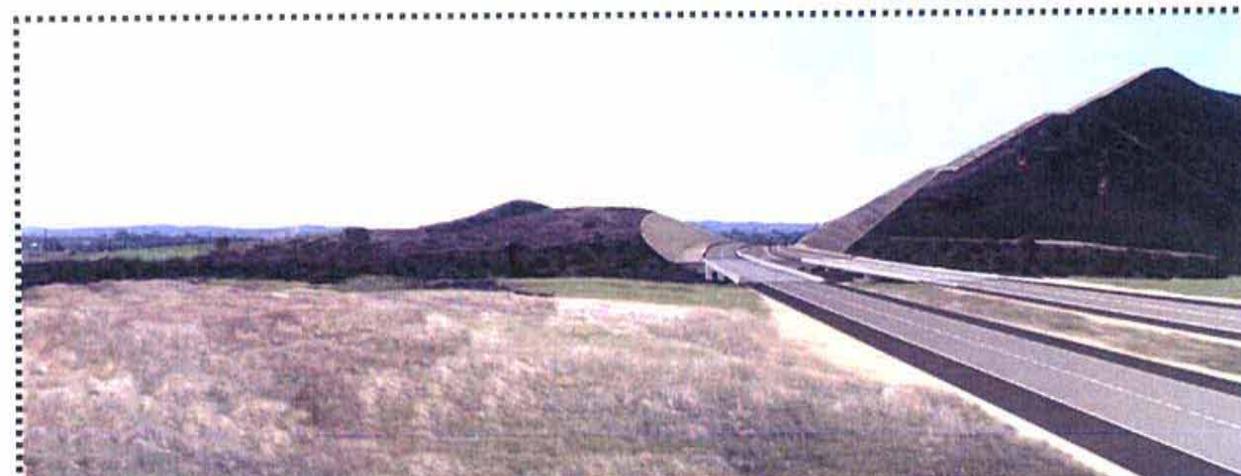
Looking from Route 46 approximately
0.3 km (0.2 mi) east of the Route 41 Intersection
Observer View 7b



Existing View



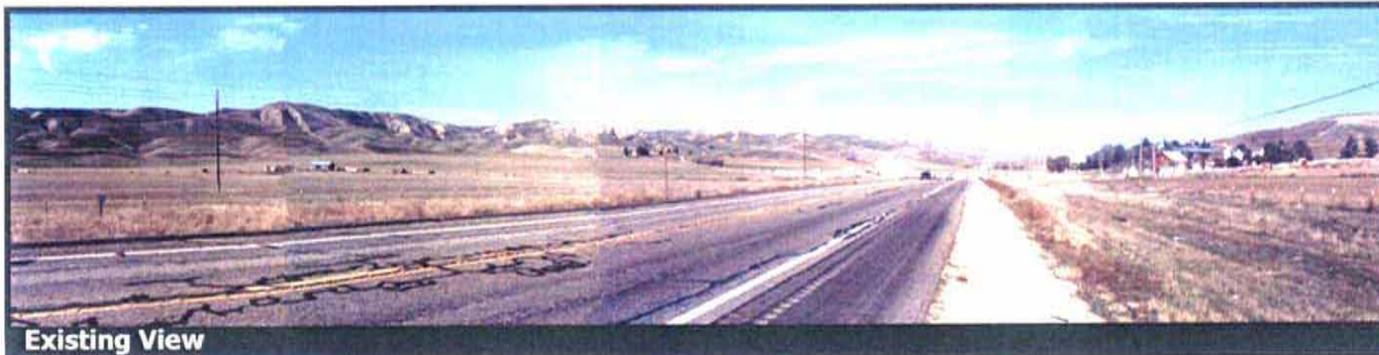
Simulated view after construction of Shandon Section, Alternative 1



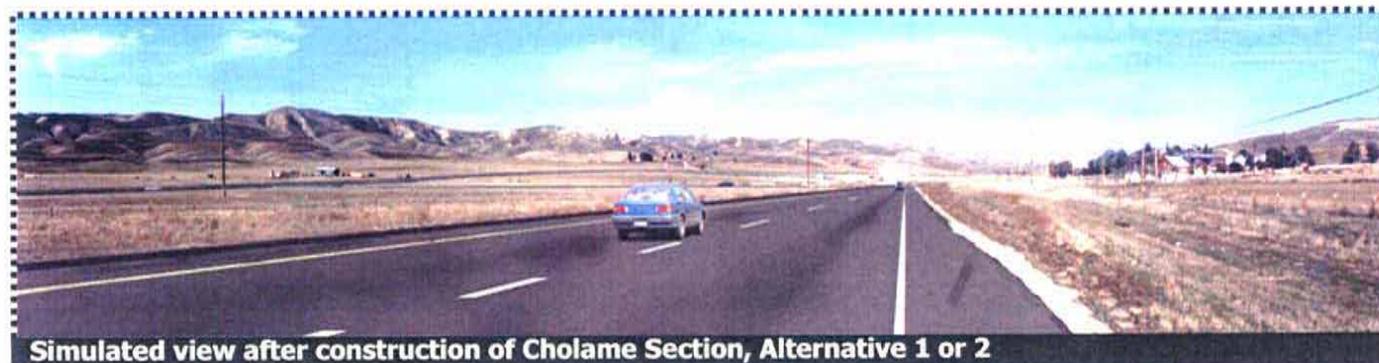
Simulated view after construction of Shandon Section, Alternative 2

Looking from Route 46 approximately
1.6 km (1 mi) east of the Shandon Safety Roadside Rest Area

Observer View 8a

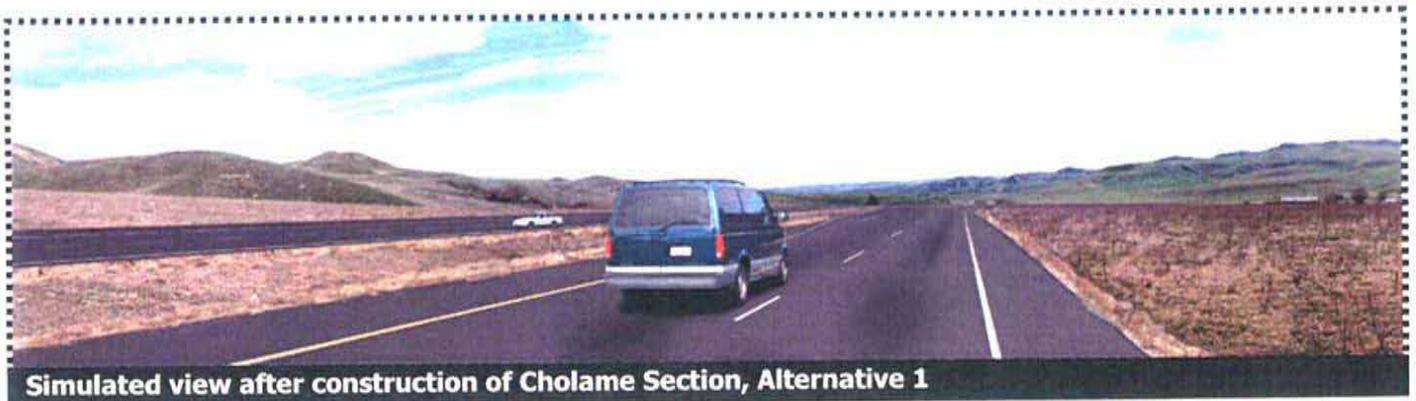


Existing View

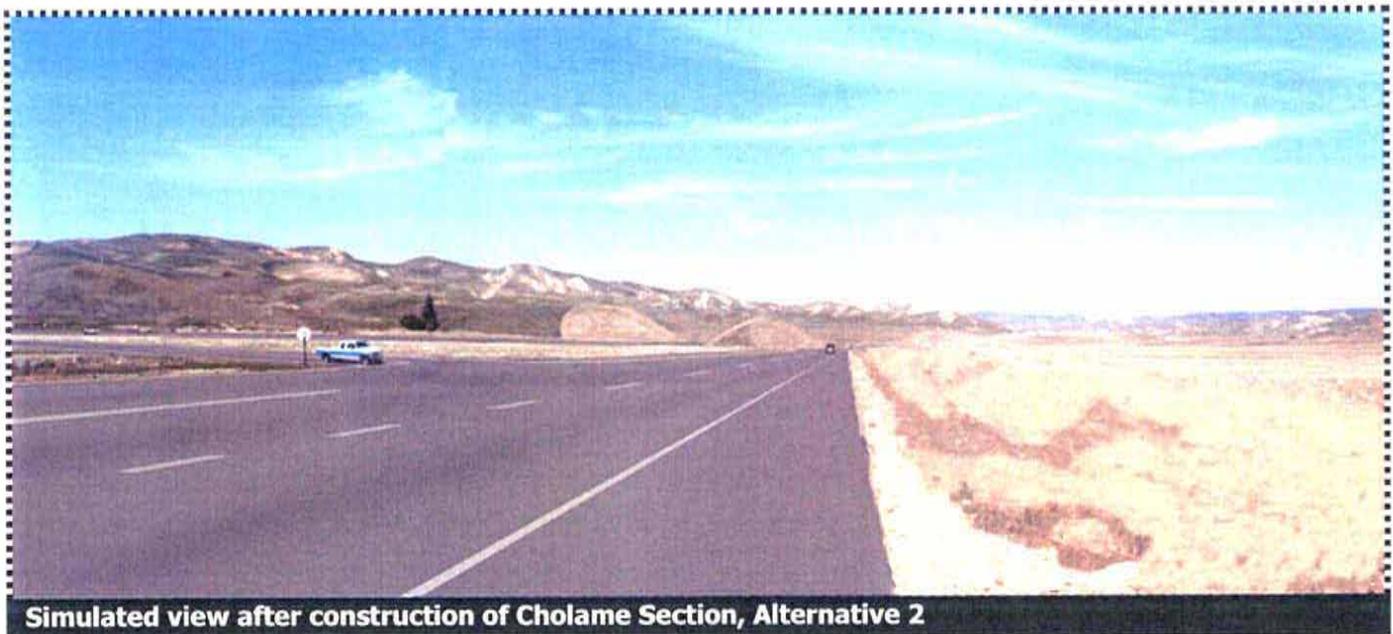


Simulated view after construction of Cholame Section, Alternative 1 or 2

Looking from Route 46 approximately
1.6 km (1 mi) east of the Shandon Safety Roadside Rest Area
Observer View 8b



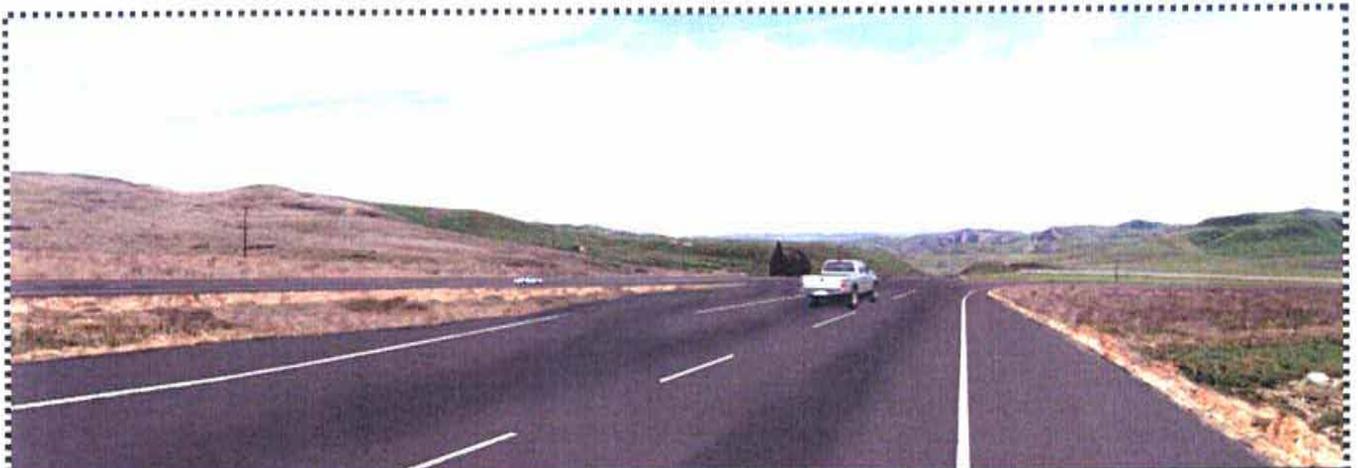
Looking from Route 46 approximately
3.2 km (2 mi) east of the Shandon Safety Roadside Rest Area
Observer View 9a



Looking from Route 46 approximately
3.2 km (2 mi) east of the Shandon Safety Roadside Rest Area
Observer View 9b



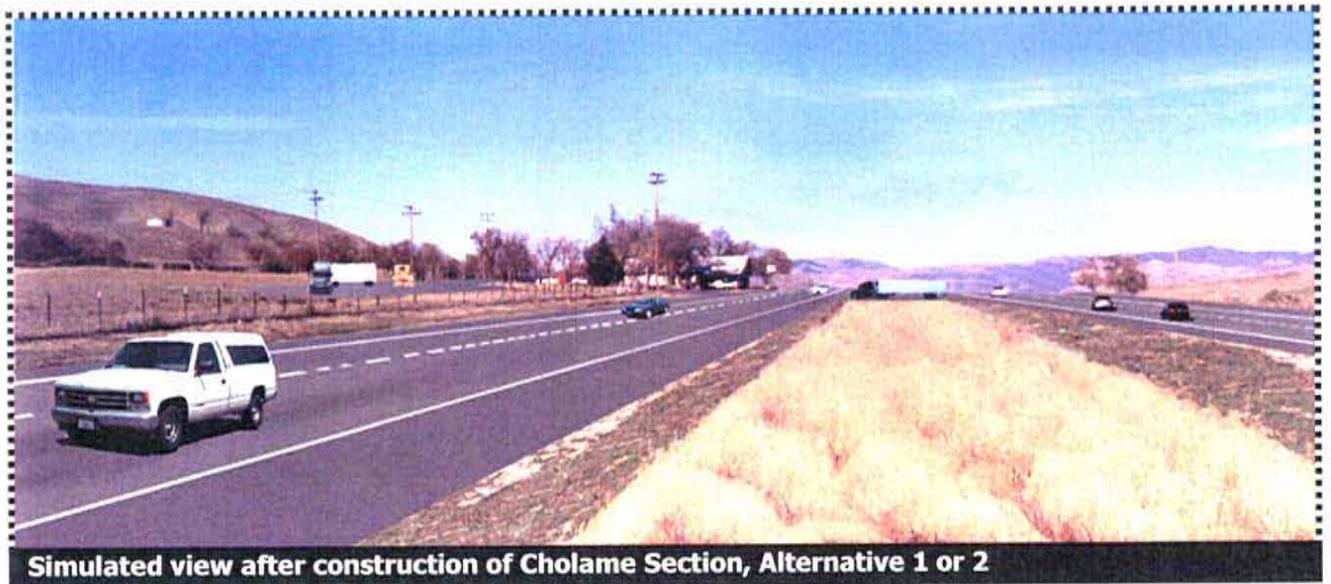
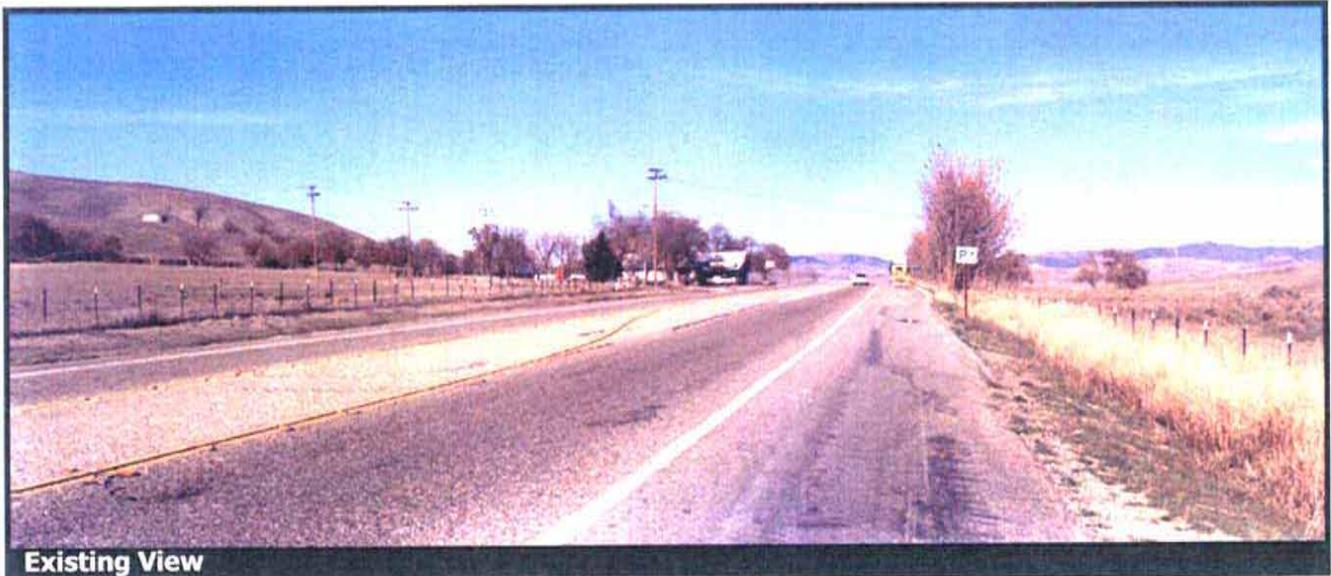
Existing View



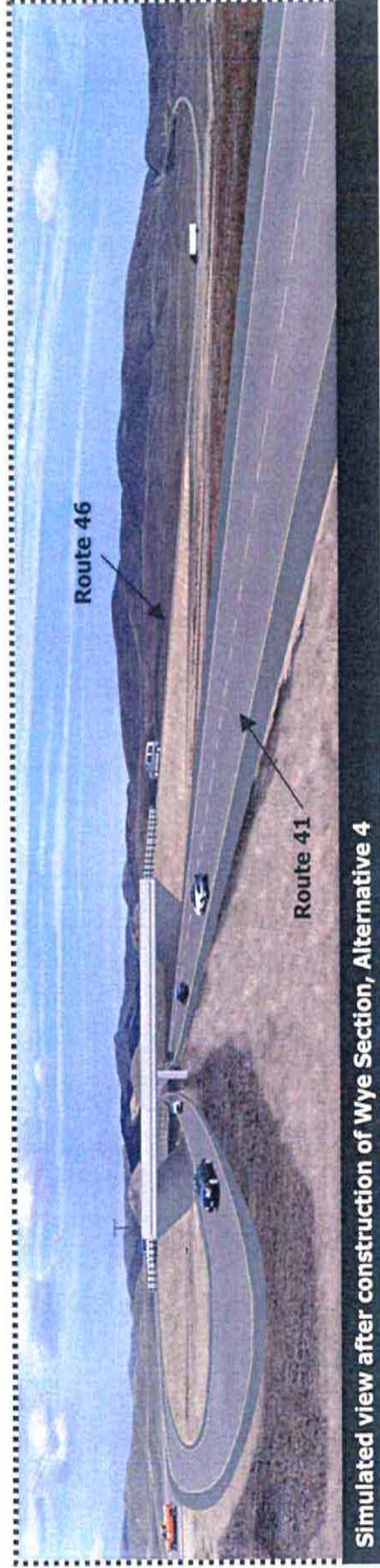
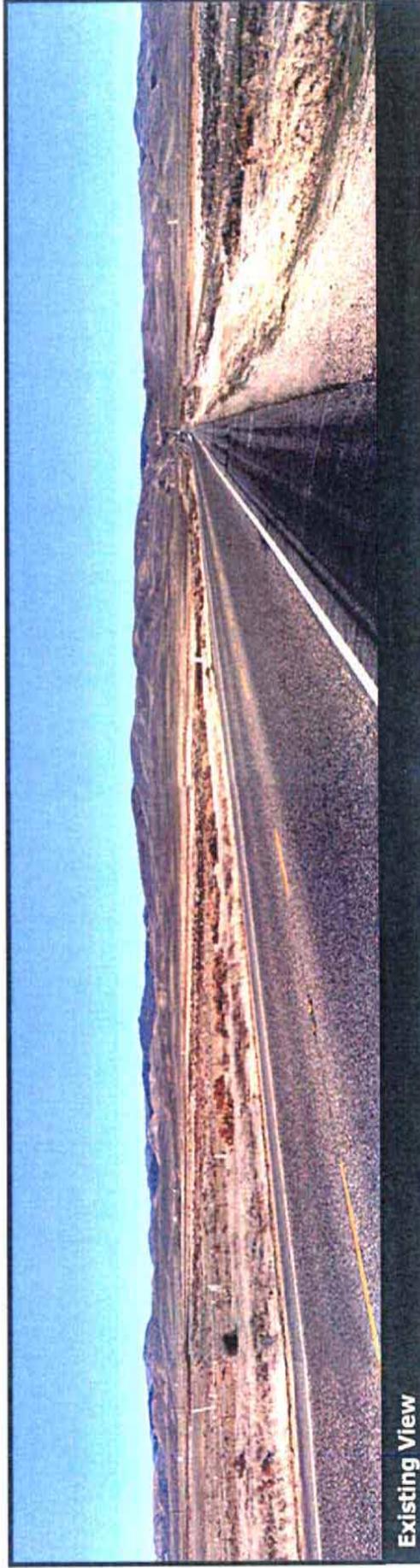
Simulated view after construction of Cholame Section, Alternative 1

Looking from Route 46 approximately
0.2 km (0.1 mi) west of the Jack Ranch Café

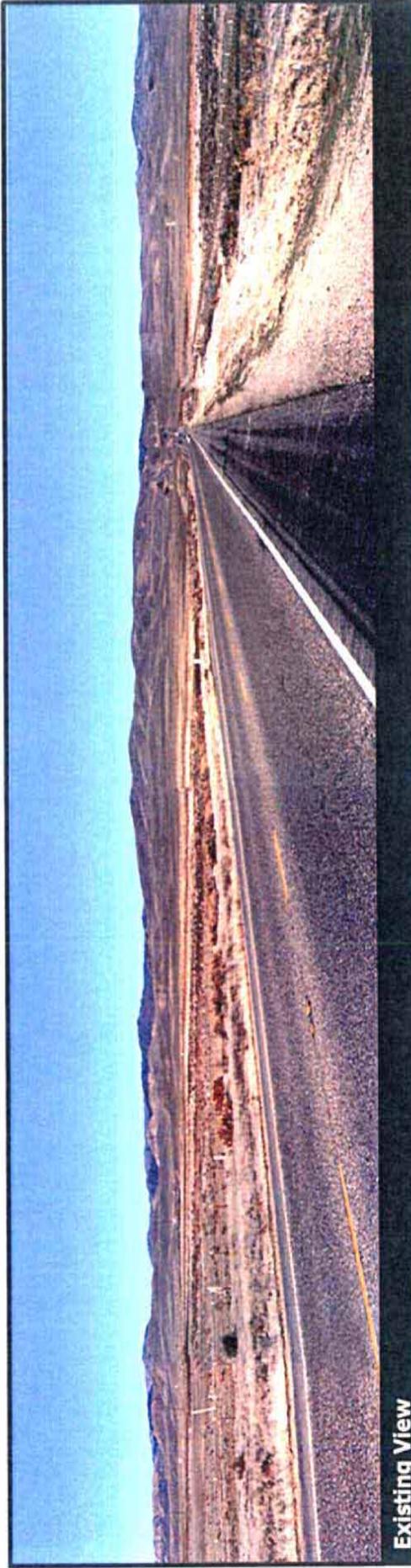
Observer View 10



Wye Section, Alternative 4



Wye Section, Alternative 5

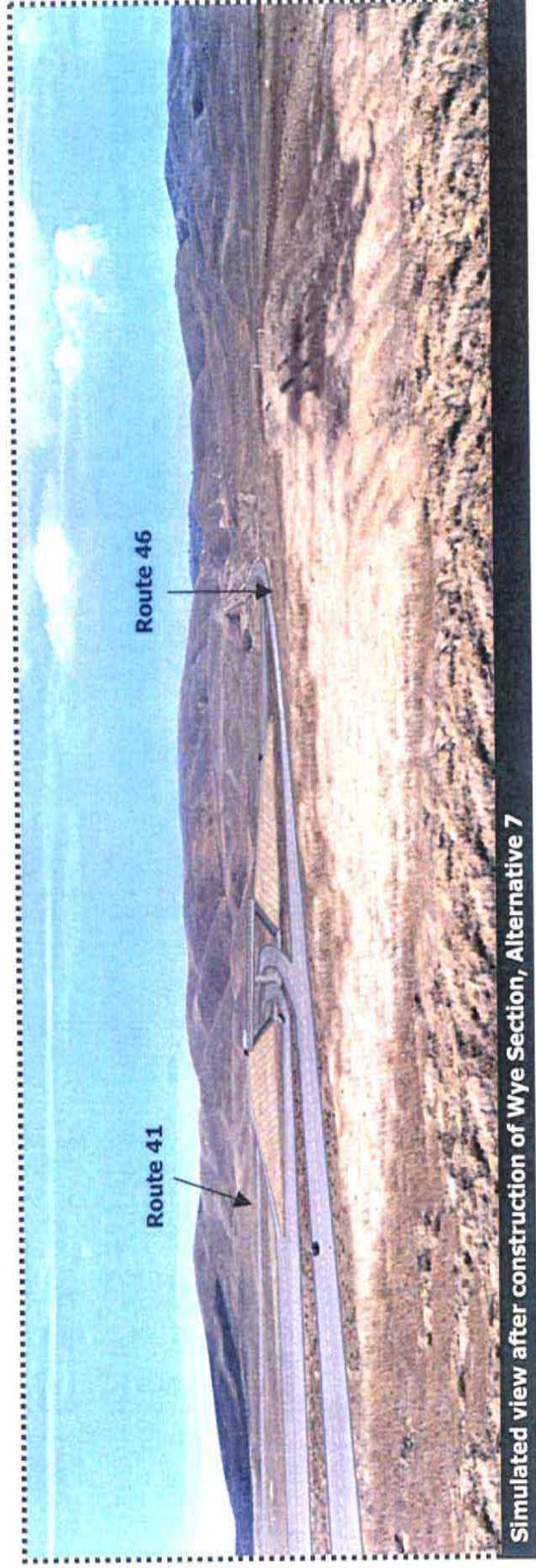


Existing View

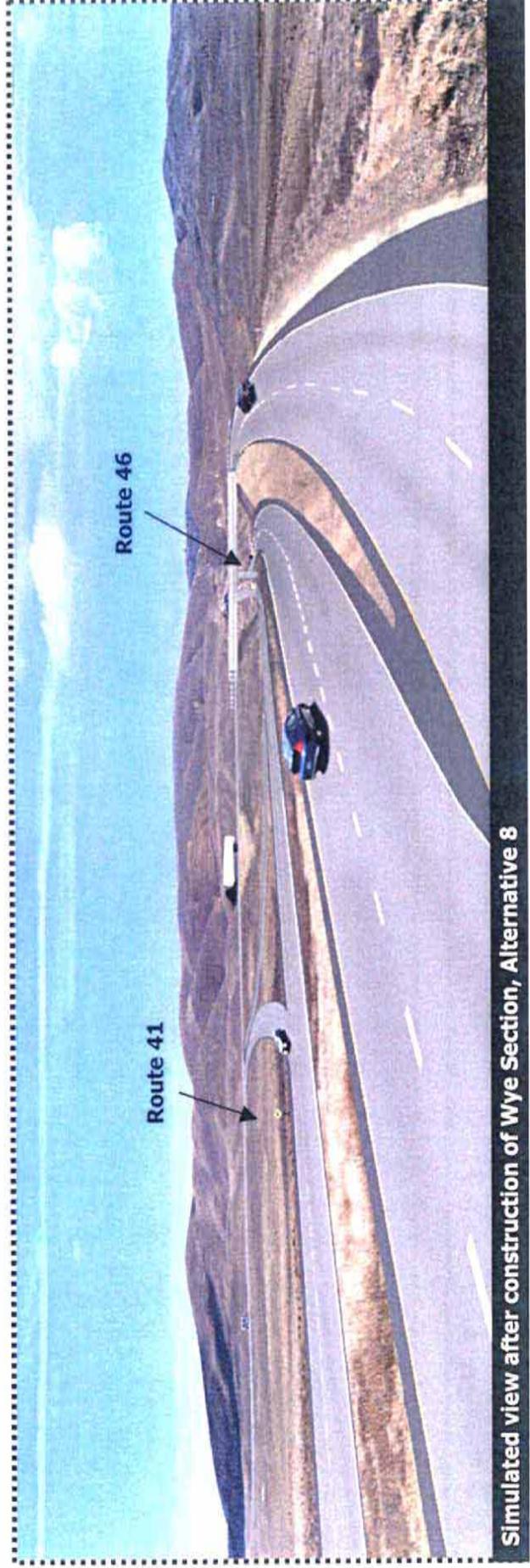
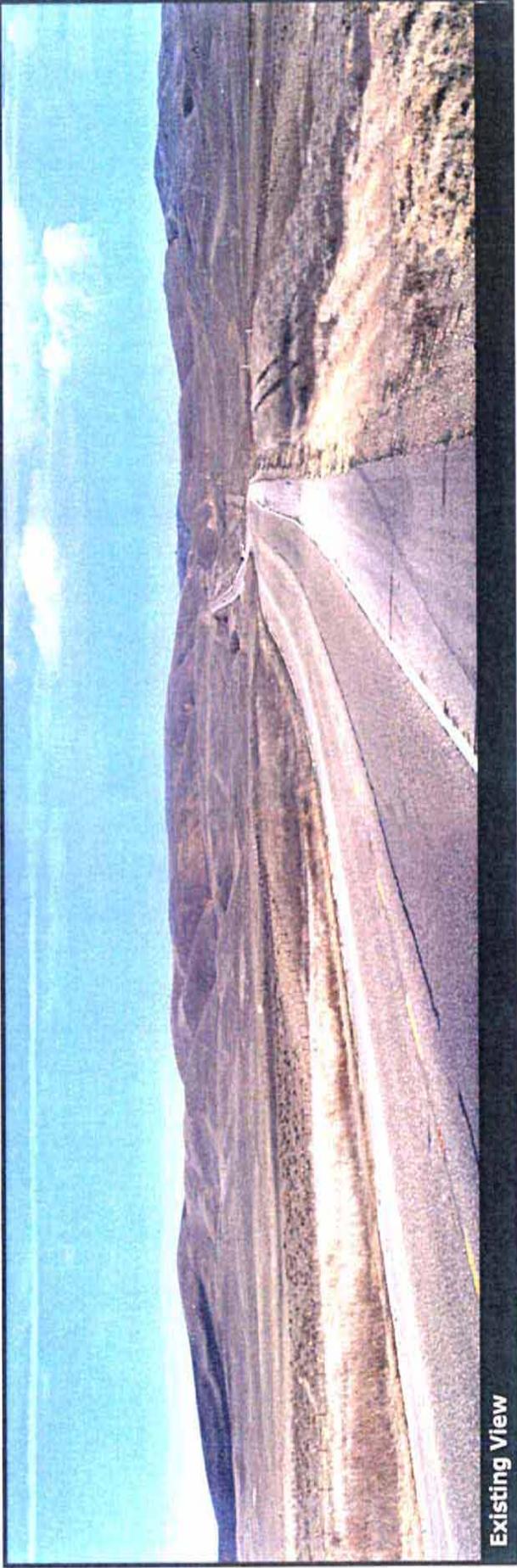


Simulated view after construction of Wye Section, Alternative 5

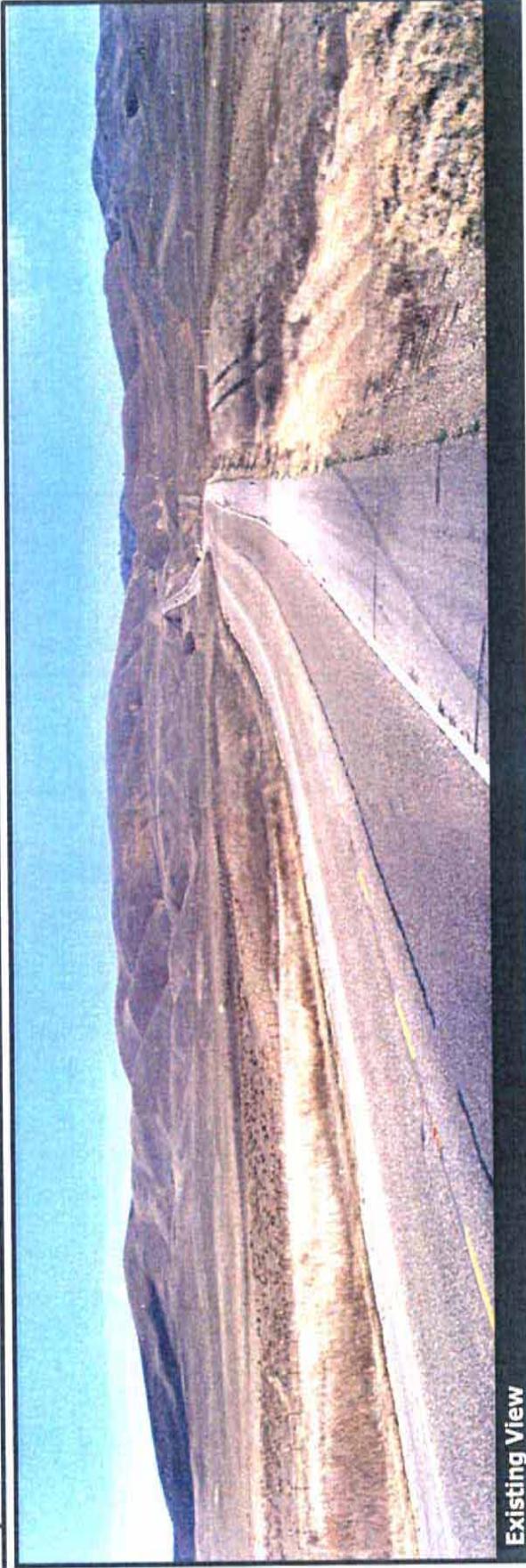
Wye Section, Alternative 7



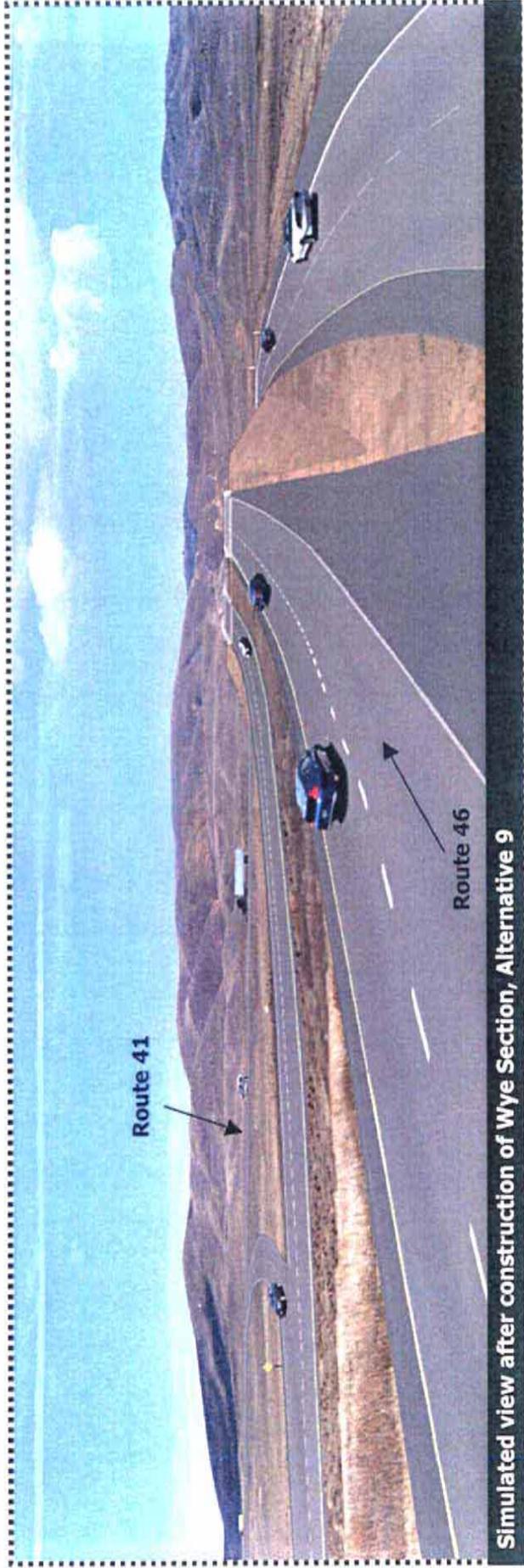
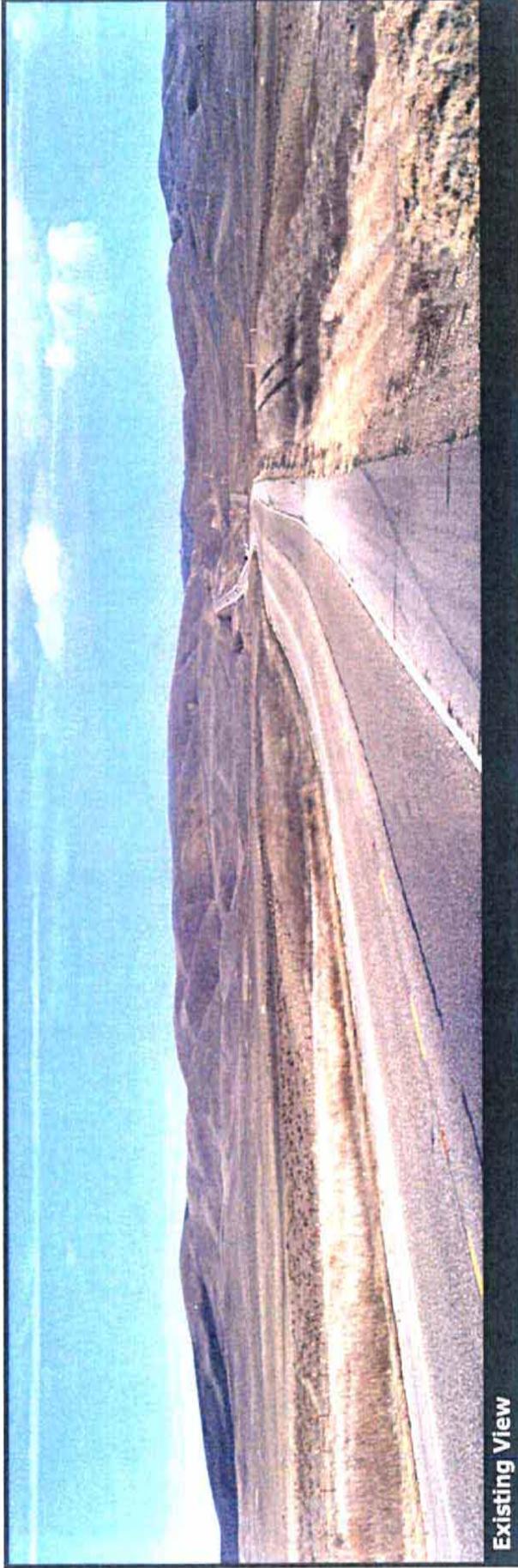
Wye Section, Alternative 8



Wye Section, Alternative 8b



Wye Section, Alternative 9



**Appendix F: Farmland Conversion
Impact Rating Sheets & Preserve and
Contract Lands Map**

Farmland Protection Policy Act: Storie Index Rating Calculator
CalTrans Route 46 Corridor Improvement Project

| Section | Alternate | Alternative Soil Site (Form Map AD-1006) Symbol | Prime/ Statewide? | Unique? | Acres of Farm to be Converted | Acres in Whole Farm | Crop? | Storie Index Rating | Acres | Storie Index* Acres | Weighted Average of Storie Index |
|----------|---------------|---|-------------------|---------|-------------------------------|-----------------------|-------|---------------------|-------|---------------------|----------------------------------|
| | 8N & 9N | A | 149 Prime | No | 0 | | | 70 | 0.76 | 53.2 | 70 |
| | | | 106 Statewide | No | 0 | | | 72 | 4.24 | 305.3 | |
| | 188 Prime | | No | 0 | | | 58 | 0.01 | 0.58 | | |
| | 106 Statewide | | No | 0 | | | 72 | 8.32 | 599 | | |
| | 158 Statewide | | No | 0 | | | 55 | 2.13 | 117.2 | | |
| Estrella | 8N & 9N | B | 149 Prime | No | 0 | | | 70 | 0.76 | 53.2 | 68 |
| | | | 106 Statewide | No | 0 | | | 72 | 4.24 | 305.3 | |
| | 188 Prime | | No | 0 | | | 58 | 0.01 | 0.58 | | |
| | 106 Statewide | | No | 0 | | | 72 | 5.6 | 403.2 | | |
| | 9N | | 158 Statewide | No | 0 | | | 55 | 2 | 110 | |
| | | | 188 Prime | No | 0 | | | 58 | 1.46 | 84.68 | |
| Shandon | Alternate 1 | A | 188 Prime | No | 0 | | | 58 | 3.17 | 183.9 | 77 |
| | | | 106 Statewide | No | 0 | | | 72 | 8.17 | 588.2 | |
| | | | 140 Prime | No | 0 | | | 85 | 1.53 | 130.1 | |
| | | | 122 Statewide | No | 0 | | | 40 | 2.82 | 112.8 | |
| | | | 195 Prime | No | 0 | | | 90 | 4.81 | 432.9 | |
| | | | 184 Prime | No | 0 | | | 90 | 4.05 | 364.5 | |
| | | | 174 Prime | No | 0 | | | 76 | 9.07 | 689.3 | |
| | | | 173 Prime | No | 0 | | | 85 | 6.7 | 569.5 | |
| | | | 194 Prime | Yes | 0.74 | 270 dryland barley | 100 | 1.57 | 157 | | |
| Shandon | Alternate 2 | B | 188 Prime | No | 0 | | | 58 | 3.17 | 183.9 | 81 |
| | | | 106 Statewide | No | 0 | | | 72 | 10.5 | 752.4 | |
| | | | 140 Prime | No | 0 | | | 85 | 1.37 | 116.5 | |
| | | | 122 Statewide | No | 0 | | | 40 | 2.82 | 112.8 | |
| | | | 195 Prime | No | 0 | | | 90 | 9.34 | 840.6 | |
| | | | 184 Prime | No | 0 | | | 90 | 4.05 | 364.5 | |
| | | | 174 Prime | No | 0 | | | 76 | 4.03 | 306.3 | |
| | | | 173 Prime | No | 0 | | | 85 | 13.9 | 1178 | |
| | | | 194 Prime | Yes | 5.11 | 270 dryland barley | 100 | 5.11 | 511 | | |
| Cholame | Alternate 1 | A | 173 Prime | Yes | 32.34 | 125 irrigated alfalfa | 85 | 39.5 | 3358 | 81 | |
| | | | 195 Prime | Yes | 2.21 | 125 irrigated alfalfa | 90 | 12.3 | 1103 | | |
| | | | 195 Prime | Yes | 4.66 | 20 dryland barley | 90 | 9.76 | 878.4 | | |
| | | | 174 Prime | No | 0 | | 76 | 7.8 | 592.8 | | |
| | | | 206 Prime | No | 0 | | 76 | 2.85 | 216.6 | | |
| | | | 148 Statewide | No | 0 | | 85 | 0.92 | 78.2 | | |
| | | | 122 Statewide | No | 0 | | 40 | 6.88 | 275.2 | | |
| Cholame | Alternate 2 | B | 122 Statewide | No | 0 | | | 40 | 8.32 | 332.8 | 79 |
| | | | 148 Statewide | No | 0 | | | 85 | 0.92 | 78.2 | |
| | | | 174 Prime | No | 0 | | | 85 | 28.1 | 2392 | |
| | | | 173 Prime | Yes | 21.59 | 125 irrigated alfalfa | 76 | 7.8 | 592.8 | | |
| | | | 195 Prime | Yes | 1.91 | 125 irrigated alfalfa | 90 | 9.93 | 893.7 | | |
| | | | 195 Prime | Yes | 5.12 | 20 dryland barley | 90 | 9.27 | 834.3 | | |
| | | | 206 Prime | No | 0 | | 76 | 3.23 | 245.5 | | |

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

| | | | | |
|---|---|---|--------------------------------|-------------------|
| PART I (To be completed by Federal Agency) | | 3. Date of Land Evaluation Request | 6/7/02 | Sheet 1 of 1 |
| 1. Name of Project | Route 46 (Estrella Section) | 5. Federal Agency Involved | Federal Highway Administration | |
| 2. Type of Project | Highway | 6. County and State | San Luis Obispo, CA | |
| PART II (To be completed by NRCS) | | 1. Date Request Received by NRCS | 2. Person Completing Form | |
| 3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form.) | | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> | 4. Acres Irrigated | Average Farm Size |
| | | | 47,479 | 704 |
| 5. Major Crop(s) | 6. Farmable Land in Government Jurisdiction | 7. Amount of Farmland As Defined in FPPA | | |
| Barley, Wine Grapes, Grain, Hay | Acres: 304,740 % | Acres: 358,025 % | | |
| 8. Name Of Land Evaluation System Used | 9. Name of Local Site Assessment System | 10. Date Land Evaluation Returned by NRCS | | |
| California-Storie System | None | 6/27/02 | | |

| PART III (To be completed by Federal Agency) | Alternative Corridor For Segment | | | |
|---|----------------------------------|---------------|------------|------------|
| | Corridor A 8N | Corridor B 9N | Corridor C | Corridor D |
| A. Total Acres To Be Converted Directly | 10.66 | 14.52 | | |
| B. Total Acres To Be Converted Indirectly, Or To Receive Services | 0 | 0 | | |
| C. Total Acres In Corridor | 0 2,122 | 0 2,122 | 0 | 0 |

| PART IV (To be completed by NRCS) Land Evaluation Information | | | | |
|--|---------|---------|--|--|
| A. Total Acres Prime And Unique Farmland | 0.77 | 2.23 | | |
| B. Total Acres Statewide And Local Important Farmland | 14.69 | 11.84 | | |
| C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted | 0.004 | 0.004 | | |
| D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value | NO DATA | NO DATA | | |

| PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points) | | | | |
|---|----|----|--|--|
| | 70 | 68 | | |

| PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c)) | | | | |
|---|----------------|-------------|-------------|----------|
| | Maximum Points | | | |
| 1. Area in Nonurban Use | 15 | 15 | 15 | |
| 2. Perimeter in Nonurban Use | 10 | 10 | 10 | |
| 3. Percent Of Corridor Being Farmed | 20 | 16 | 16 | |
| 4. Protection Provided By State And Local Government | 20 | 20 | 20 | |
| 5. Size of Present Farm Unit Compared To Average | 10 | 0 | 0 | |
| 6. Creation Of Nonfarmable Farmland | 25 | 0 | 0 | |
| 7. Availability Of Farm Support Services | 5 | 5 | 5 | |
| 8. On-Farm Investments | 20 | 20 | 20 | |
| 9. Effects Of Conversion On Farm Support Services | 25 | 0 | 0 | |
| 10. Compatibility With Existing Agricultural Use | 10 | 0 | 0 | |
| TOTAL CORRIDOR ASSESSMENT POINTS | 160 | 0 86 | 0 86 | 0 |

| PART VII (To be completed by Federal Agency) | | | | |
|---|------------|--------------|--------------|----------|
| Relative Value Of Farmland (From Part V) | 100 | 70 | 68 | |
| Total Corridor Assessment (From Part VI above or a local site assessment) | 160 | 0 86 | 0 86 | 0 |
| TOTAL POINTS (Total of above 2 lines) | 260 | 0 156 | 0 154 | 0 |

| | | | |
|--|---|----------------------------------|--|
| 1. Corridor Selected: Estrella 8N Shandon 1 Cholame 1 | 2. Total Acres of Farmlands to be Converted by Project: 169.33 | 3. Date Of Selection: 11/2005 | 4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/> |
|--|---|----------------------------------|--|

5. Reason For Selection:

It was determined that the following alternatives for each section were the environmentally superior alternatives based on a comparison of each alternative. These alternatives would be far more consistent with the local plans, meet more elements of the purpose and need, improve safety, and reduce and/or avoid impacts to as many resources as feasible.

Signature of Person Completing this Part: Brandy Peden DATE: 2/14/06

NOTE: Complete a form for each segment with more than one Alternate Corridor

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

| | | | | |
|--|--|--|---|-------------------|
| PART I (To be completed by Federal Agency) | | 3. Date of Land Evaluation Request | 6/7/02 | 4. Sheet 1 of 1 |
| 1. Name of Project: Route 46 (Shandon Section) | | 5. Federal Agency Involved Federal Highway Administration | | |
| 2. Type of Project: Highway | | 6. County and State San Luis Obispo, CA | | |
| PART II (To be completed by NRCS) | | 1. Date Request Received by NRCS | 2. Person Completing Form | |
| 3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). | | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> | 4. Acres Irrigated | Average Farm Size |
| 5. Major Crop(s) Barley, Wine Grapes, Grain, Hay | | 6. Farmable Land in Government Jurisdiction Acres: 304,740 % 13.2 | 47,479 | 704 |
| 8. Name Of Land Evaluation System Used California-Storie System | | 9. Name of Local Site Assessment System None | 7. Amount of Farmland As Defined in FPPA Acres: 358,025 % 15.5 | |
| | | 10. Date Land Evaluation Returned by NRCS 6/27/02 | | |

| PART III (To be completed by Federal Agency) | Alternative Corridor For Segment | | | |
|---|----------------------------------|--------------|------------|------------|
| | Corridor A/1 | Corridor B/2 | Corridor C | Corridor D |
| A. Total Acres To Be Converted Directly | 46.76 | 48.85 | | |
| B. Total Acres To Be Converted Indirectly, Or To Receive Services | 0 | 0 | | |
| C. Total Acres In Corridor | 0 28670 | 0 28670 | 0 | 0 |

| PART IV (To be completed by NRCS) Land Evaluation Information | | | | |
|--|---------|---------|--|--|
| A. Total Acres Prime And Unique Farmland | 30.90 | 40.93 | | |
| B. Total Acres Statewide And Local Important Farmland | 10.99 | 13.27 | | |
| C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted | 0.011 | 0.015 | | |
| D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value | NO DATA | NO DATA | | |

| PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points) | | | | |
|---|----|----|--|--|
| | 77 | 81 | | |

| PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c)) | | | | | Maximum Points | | | | |
|---|------------|-------------|-------------|----------|----------------|--|--|--|--|
| 1. Area in Nonurban Use | 15 | 15 | 15 | | | | | | |
| 2. Perimeter in Nonurban Use | 10 | 10 | 10 | | | | | | |
| 3. Percent Of Corridor Being Farmed | 20 | 16 | 16 | | | | | | |
| 4. Protection Provided By State And Local Government | 20 | 20 | 20 | | | | | | |
| 5. Size of Present Farm Unit Compared To Average | 10 | 0 | 0 | | | | | | |
| 6. Creation Of Nonfarmable Farmland | 25 | 0 | 0 | | | | | | |
| 7. Availability Of Farm Support Services | 5 | 5 | 5 | | | | | | |
| 8. On-Farm Investments | 20 | 20 | 20 | | | | | | |
| 9. Effects Of Conversion On Farm Support Services | 25 | 0 | 0 | | | | | | |
| 10. Compatibility With Existing Agricultural Use | 10 | 0 | 0 | | | | | | |
| TOTAL CORRIDOR ASSESSMENT POINTS | 160 | 0 86 | 0 86 | 0 | 0 | | | | |

| PART VII (To be completed by Federal Agency) | | | | |
|--|------------|--------------|--------------|------------|
| Relative Value Of Farmland (From Part V) | 100 | 77 | 81 | |
| Total Corridor Assessment: (From Part VI above or a local site assessment) | 160 | 0 86 | 0 86 | 0 0 |
| TOTAL POINTS (Total of above 2 lines) | 260 | 0 163 | 0 167 | 0 0 |

| | | | |
|---|--|---|--|
| 1. Corridor Selected: Estrella 8N Shandon 1 Cholame 1 | 2. Total Acres of Farmlands to be Converted by Project: 169.33 | 3. Date Of Selection: 11/2005 | 4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/> |
|---|--|---|--|

5. Reason For Selection:

It was determined that the following alternatives for each section were the environmentally superior alternative based on a comparison of each alternative. These alternatives would be far more consistent with the local plans, meet more elements of the purpose and need, improves safety, and reduce and/or avoid impacts to as many resources as feasible.

Signature of Person Completing this Part: Brandy Redman DATE 2/14/06

NOTE: Complete a form for each segment with more than one Alternate Corridor

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

| | | | |
|---|--|---|---------------------------|
| PART I (To be completed by Federal Agency) | | 3. Date of Land Evaluation Request: 6/7/02 | Sheet 1 of 1 |
| 1. Name of Project: Route 46 (Cholame Section) | 5. Federal Agency Involved: Federal Highway Administration | | |
| 2. Type of Project: Highway | 6. County and State: San Luis Obispo, CA | | |
| PART II (To be completed by NRCS) | | 1. Date Request Received by NRCS | 2. Person Completing Form |
| 3. Does the corridor contain prime, unique statewide or local important farmland? (if no, the FPPA does not apply - Do not complete additional parts of this form). YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> | | 4. Acres Irrigated: 47,479 | Average Farm Size: 704 |
| 5. Major Crop(s): Barley, Wine Grapes, Grain, Hay | 6. Farmable Land in Government Jurisdiction: Acres: 304,740 % 13.2 | 7. Amount of Farmland As Defined in FPPA: Acres: 358,025 % 15.5 | |
| 8. Name Of Land Evaluation System Used: California-Storie System | 9. Name of Local Site Assessment System: None | 10. Date Land Evaluation Returned by NRCS: 6/27/02 | |

| PART III (To be completed by Federal Agency) | Alternative Corridor For Segment | | | |
|--|----------------------------------|--------------|------------|------------|
| | Corridor A/1 | Corridor B/2 | Corridor C | Corridor D |
| A. Total Acres To Be Converted Directly | 111.91 | 91.08 | | |
| B. Total Acres To Be Converted Indirectly Or To Receive Services | 0 | 0 | | |
| C. Total Acres In Corridor | 0 1,894 | 0 1,894 | 0 | 0 |

| PART IV (To be completed by NRCS) Land Evaluation Information | | | | |
|--|---------|---------|--|--|
| A. Total Acres Prime And Unique Farmland | 72.18 | 58.33 | | |
| B. Total Acres Statewide And Local Important Farmland | 7.80 | 9.24 | | |
| C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted | 0.022 | 0.019 | | |
| D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value | No Data | No Data | | |

| PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points) | | | | |
|---|----|----|--|--|
| | 81 | 79 | | |

| PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c)) | | | | |
|---|----------------|----------|----------|----------|
| | Maximum Points | | | |
| 1. Area in Nonurban Use | 15 | 15 | 15 | |
| 2. Perimeter in Nonurban Use | 10 | 15 | 15 | |
| 3. Percent Of Corridor Being Farmed | 20 | 10 | 10 | |
| 4. Protection Provided By State And Local Government | 20 | 20 | 20 | |
| 5. Size of Present Farm Unit Compared To Average | 10 | 0 | 0 | |
| 6. Creation Of Nonfarmable Farmland | 25 | 0 | 0 | |
| 7. Availability Of Farm Support Services | 5 | 5 | 5 | |
| 8. On-Farm Investments | 20 | 10 | 10 | |
| 9. Effects Of Conversion On Farm Support Services | 25 | 0 | 0 | |
| 10. Compatibility With Existing Agricultural Use | 10 | 0 | 0 | |
| TOTAL CORRIDOR ASSESSMENT POINTS | 160 | 0 | 0 | 0 |

| PART VII (To be completed by Federal Agency) | | | | |
|---|------------|--------------|--------------|------------|
| Relative Value Of Farmland (From Part V) | 100 | 81 | 79 | |
| Total Corridor Assessment (From Part VI above or a local site assessment) | 160 | 0 75 | 0 75 | 0 0 |
| TOTAL POINTS (Total of above 2 lines) | 260 | 0 156 | 0 154 | 0 0 |

| | | | |
|--|---|----------------------------------|--|
| 1. Corridor Selected: Estrella 8N Shandon 1 Cholame 1 | 2. Total Acres of Farmlands to be Converted by Project: 169.33 | 3. Date Of Selection: 11/2005 | 4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/> |
|--|---|----------------------------------|--|

5. Reason For Selection:

It was determined that the following alternatives for each section were the environmentally superior alternatives based on a comparison of each alternative. These alternatives would be far more consistent with local plans, meet more elements of the purpose and need, and reduce and/or avoid impacts to as many resources as feasible.

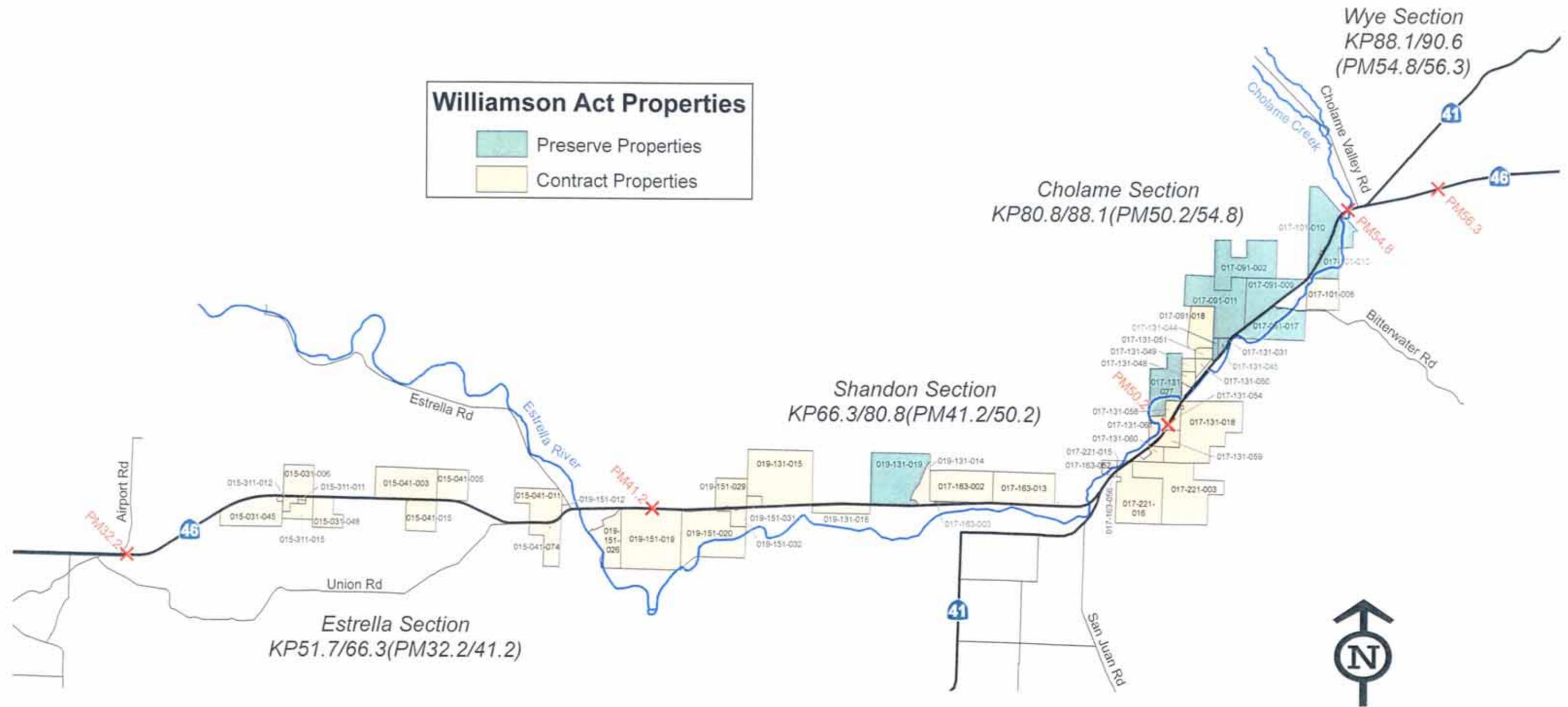
| | |
|---|------------------|
| Signature of Person Completing this Part: <i>Brenda J. Rider</i> | DATE: 2/14/06 |
|---|------------------|

NOTE: Complete a form for each segment with more than one Alternate Corridor

Preserve & Contract Lands Along the Route 46 Corridor

Williamson Act Properties

- Preserve Properties
- Contract Properties



Appendix G: Responses to the Notice of Preparation



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

Larry E. Bonner, Environmental Planner
Caltrans District 5
50 Higuera Street
San Luis Obispo, California 93401

March 9, 2000

Dear Mr. Bonner:

This is in reply to your February 24, 2000 letter requesting EPA's participation at the first NEPA/404 meeting for the proposed *HIGHWAY 46 EAST PROJECT, from Airport Road east of Paso Robles to the eastern junction of Highways 46 and 41, San Luis Obispo County, California (PM 32.2/55.9)*. The initial meeting is scheduled for March 16, 2000 in Paso Robles. We also have reviewed the Notice of Preparation (NOP) to prepare a Draft EIR. Your letter indicates that an Environmental Impact Report/Environmental Assessment (EIR/EA) will be prepared by Caltrans and the Federal Highway Administration to evaluate the proposal's impacts on the environment. We offer the following comments for your use in preparing for the March 16th interagency meeting and as the EIR/EA is developed, and hope you find them beneficial - -

1. **Range of Action Alternatives:** The Notice of Preparation indicates that two alternatives are under consideration, Alternative 1 (No Build) and Alternative 2 (upgrade current two-lane facility to four-lane divided highway). The NOP indicates that several design variations are being considered for Alternative 2. The National Environmental Policy Act (NEPA) requires analysis of a range of action alternatives that could accomplish the project purpose. Regarding Federal requirements, Section 102(2)(E) of NEPA requires Federal agencies to "[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." In its NEPA Implementing Regulations (at 40 CFR 1508.9(3)(b)), the Council on Environmental Quality instructs Federal agencies, in their Environmental Assessments, to include a discussion of the need for the proposal, of alternatives as required by NEPA Section 102(2)(E), of the impacts to the environmental from the proposed action **and** alternatives, and a listing of agencies and persons consulted. We recommend that the Highway 46 East Draft EA address several action alternatives, in accord with NEPA and the Council on Environmental Quality's NEPA Implementing Regulations.

2. **Impacts to Wetlands and Other Aquatic Resources:** The EA should clearly differentiate between the acreage of impacts to waters of the United States (including wetlands and other special aquatic sites) caused by the placement of fill **versus** the acreage to waters of the United States caused by other project-related impacts (e.g.,

increased erosion, sedimentation and runoff of pollutants; deprivation of sunlight caused by a bridge; temporary construction impacts, etc.). Additionally, the EA should clearly identify the habitat types (by acreage) that would be affected (e.g., wetlands, marshland, other waters of the United States), again differentiating between impacts caused by the placement of fill versus impacts caused by other factors (for each specific habitat type). We recommend that the EIR/EA clearly portray the project's indirect (secondary) impacts, for example, would additional impacts to aquatic resources be reasonably foreseeable once interchanges or other project facilities are built.

3. **Water Quality:** The EIR/EA should address potential impacts to water quality due to project operation and construction, and identify the beneficial uses (existing and potential) for surface water bodies in the area. Beneficial uses are found in the "*Water Quality Control Plan*" adopted by the Regional Water Quality Control Board and approved by U.S. EPA under authority of the Federal Clean Water Act. Depending upon the surface water body, beneficial uses may include recreation, groundwater replenishment, public drinking water supply, cold or warm water fisheries, fish migration/spawning, wildlife habitat, agricultural use, and livestock watering. The EA should clearly identify whether the proposed project's construction or operation would adversely affect or impair beneficial uses or be inconsistent with Water Quality Standards, which are adopted by the State of California and approved by U.S. EPA.

4. **Air Quality:** The EIR/EA should portray the project's impacts to air quality due to construction and operation of the expanded transportation facility. The EIR/EA should discuss existing air quality conditions in San Luis Obispo County for both Federal and State air quality standards (e.g., CO, ozone, ROG, NOx, PM), within the context of the County's current attainment/nonattainment/maintenance status for Federal criteria air pollutants. We suggest that the air quality discussion in the EIR/EA be presented in the context of the three most current years for available air quality data, i.e., 1995, 1996 and 1997 air quality data. As appropriate, the EIR/EA should discuss the applicability of the transportation conformity rule to the proposed project (if not applicable, this should be so noted in the document).

5. **Pollution Prevention:** We recommend that the EIR/EA address the pollution prevention opportunities that can be integrated into the project's design, construction, and operation, in accord with the Council on Environmental Quality's guidance to Federal agencies on incorporating pollution prevention techniques and features in Federal agency NEPA documents. For your reference I have enclosed two pollution prevention checklists (habitat preservation/protection, and highways/bridges) developed by EPA that Caltrans may find useful in developing the NEPA/CEQA document.

6. **Cumulative Impacts:** In addition to addressing the project's direct and indirect impacts, the EIR/EA should address the project's potential cumulative impacts on the environment. The Council on Environmental Quality recently published a guidance document for Federal agencies (also a useful reference for State co-lead agencies such as Caltrans) titled "*Considering Cumulative Effects Under the National Environmental*

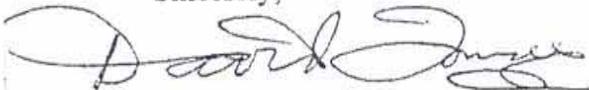
Policy Act" (CEQ, January 1997). Cumulative impacts may include those to air quality, wetlands, water quality, protected species, critical habitat, noise, and other environmental parameters, not only from the proposed project but also due to "other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." (40 CFR 1508.7, Cumulative impact). Please refer to 40 CFR 1508.7 for the Council on Environmental Quality's definition of what constitutes a "cumulative impact."

7. **Environmental Justice**: We recommend that the EIR/EA address the applicability of the President's Executive Order on Environmental Justice, the U.S. Department of Transportation's *Environmental Justice Strategy* and the CEQ's recent guidance to Federal agencies on incorporating environmental justice considerations in Federal agency NEPA documents, including the public participation provisions found in the CEQ's guidance document.

8. **Council on Environmental Quality Homepage**: The Council on Environmental Quality has a worldwide web site that contains a wealth of information, including the guidance document on cumulative impacts, their environmental justice guidance, and other materials. The site can be accessed at <http://www.whitehouse.gov/CEQ/> When accessing this site, much of the information can be found by clicking on the section called "NEPA NET,"

We appreciate the opportunity to submit comments and commend your efforts in seeking EPA's advice and involvement in this project. If you have any questions or require additional information, please call me at 415-744-1575.

Sincerely,



David Tomsovic
Federal Activities Office
Cross-Media Division

cc: Mr. Bill Wong, FHWA, Sacramento

Enclosure: Pollution prevention checklist

POLLUTION PREVENTION/ENVIRONMENTAL IMPACT REDUCTION CHECKLIST FOR HABITAT PRESERVATION AND PROTECTION

How Can Ecosystem Preservation and Protection Affect the Environment?

In the face of development activities, populations of indigenous plants and wildlife can be protected only through the protection and preservation of ecosystems necessary for their survival. Ecosystem requirements are species-specific and can include a variety of factors, such as soil type, water regime, climate, and plant and animal associations. Ecosystems are defined by the structure and function of plant and animal communities and by the habitats they utilize. The protection and preservation of ecosystems are important for a number of reasons, which include the protection of wildlife, climate control, maintenance of biodiversity sources, pollutant detoxification, erosion control, and CO₂ sequestration.

Wetlands are ecosystems necessary for the survival of a host of aquatic and terrestrial species. In addition, wetlands are integral parts of the hydrological system and are necessary for the maintenance of water supplies and water quality.

Ecosystems face a number of threats that reduce the area available for wildlife, change the character of the species that inhabit particular habitats, or change their form through the alteration of features, including topography or water regime. Ecosystem preservation efforts are generally directed at protecting particular species, such as endangered or threatened species, recreationally or aesthetically important species, or commercially important species. It should be noted, however, that habitat preservation (or creation or enhancement) for one species can adversely affect other species.

Also see checklists on Pest Management, Siting, Landscaping, Water Use, Grazing, and Forestry Activities.

What Questions Should Be Asked To Ensure That These Effects Are Minimized or Eliminated?

Habitat Fragmentation Concerns. Existing habitats are typically damaged through fragmentation, often due to encroachment. Reduction in the size of an existing habitat can reduce the number of individual organisms, as well as the diversity of species, that it can support. A number of techniques can help mitigate/reduce the effects of fragmentation.

- Have other sites been considered as an alternative to encroaching on the existing habitat? *
- Has the critical area necessary for survival of the ecosystem been determined? Can the area of the habitat that will be altered be minimized? *
- Has the project been designed to avoid the fragmentation of existing habitats into a number of smaller areas? *
- Have transportation corridors, such as roads and power lines, been designed to avoid encroaching on sensitive habitats? *
- Does the project establish a system of natural corridors (which take into consideration the behavior of the species in question) to link habitat areas? *

*Indicates an environmental impact reduction opportunity.

- Will landscaping activities use native shrubs and other vegetation with high wildlife value (e.g., browse or cover)? *
- Will landscaping be designed to minimize grassy areas and maximize use of native habitats? *
- Will the effects of habitat encroachment on wildlife be mitigated by the installation of feeding stations for target species? *

Habitat Alteration Concerns. Existing habitats can be altered through changes in a number of abiotic factors. Wetlands are prone to destruction through inadvertent drainage or changes in the hydrological regime. Stream habitats can be damaged by increased siltation, reduced shading from overhanging trees, or pollution.

- Does the project include mitigation measures, such as restoration of damaged habitats or the creation of new habitats? *
- Does the project/development include adequate buffer zones between the developed area and wetlands or other habitats? *
- Has the potential to minimize hydrological impacts on wetlands through measures to reduce or control stormwater runoff and drainage been considered?
- Has project planning considered sources of water and controls of water flow to wetlands or other habitats?
- Have tree and vegetation buffer areas been maintained around streams to provide shading and reduce siltation and pollutant loadings?
- Has the project planning evaluated the vulnerability of the surrounding habitats to alterations in land use? *
- Has the timing and location of construction or other human activity included consideration of animal migrations and activity patterns? *
- Has the timing of construction or earth removal operations considered seasonal rainfall patterns to avoid sediment runoff to sensitive aquatic habitats?
- Will the project minimize the introduction of pollutants that bioaccumulate?
- Has the project considered possible impacts from increased activity or access to sensitive habitats, such as an increase in the numbers of pets and people near a wetland area? *
- Has the project considered impacts from habitat conversion? *
- Has the project considered impacts to habitats due to the air pollution it will generate? *

* Indicates an environmental impact reduction opportunity.

Species Introduction Concerns. The structure and function of existing habitats can be drastically altered through the inadvertent introduction of non-indigenous species. These species may be able to better compete for resources than can the local species.

- Will landscaping activities avoid (or at least minimize) the use of exotic species? *
- Will the spread of exotic weed species be monitored and controlled? *
- Have buildings and structures been designed to minimize nesting and brooding areas for undesirable species, such as pigeons, starlings, rats, and raccoons? *
- Have corridors designated or created to mitigate for habitat fragmentation been evaluated for potential negative effects? Do the benefits of having the corridors override other possible negative effects? *

Other References

Marsh, W.M. 1993. *Landscape Planning. Environmental Applications.* Second Edition. John Wiley and Sons.

* Indicates an environmental impact reduction opportunity.

POLLUTION PREVENTION/ENVIRONMENTAL IMPACT REDUCTION CHECKLIST FOR HIGHWAYS AND BRIDGES

How Can Highways And Bridges Affect the Environment?

The planning, design, construction, and operation/maintenance of highways and bridges can have a variety of effects on the environment. They include the destruction or alteration of wildlife habitats, erosion, sedimentation, soil compaction, chemical pollution resulting from deicing activities, gaseous and particulate emissions from vehicles, contaminated roadway runoff, the generation of waste construction materials (including asphalt, concrete, metals, and wood), material from worn brake lining, and scrap rubber tires, as well as litter and other debris.

Also see checklists on Ecosystem Preservation and Protection, Vehicle Maintenance, Siting, Landscaping, and Pest Management.

What Questions Should Be Asked To Ensure That These Effects Are Minimized or Eliminated?

Ecosystem Concerns... Highways and bridges can have significant effects on the ecosystems in which they are built. These impacts can include fragmentation and degradation of wildlife habitats, contamination of surface water and groundwater, and soil contamination, erosion, and sedimentation. Techniques can help to mitigate/reduce these effects, however.

- Have other transportation options or pricing structures (i.e., mass transit or improved traffic management) been considered as alternatives to constructing a new highway or bridge?
- Have all environmentally sensitive areas been characterized? Have attempts been made to avoid construction in environmentally sensitive areas? Construction footprints in such areas as floodplains and wetlands should be avoided whenever possible.
- Does the project minimize construction parallel to rivers or streams to reduce the potential for direct runoff discharge from the roadway?
- Does the project make use of existing roadway alignments (if possible) to reduce the amount of waste generated as a result of clearing and construction activities?
- Does the project include provisions for curb design and catchment basins to reduce pollution impacts associated with runoff and debris from the roadway?
- Has the project incorporated mitigation measures to reduce the impact of pollution runoff from the roadway? These measures may include stabilizing cut and fill slopes, shoulders, and medians with perennial vegetation and non-erosive materials, such as rip-rap or geotextiles, or establishing permanently controlled discharge points for stormwater.
- Does the construction plan provide for erosion and sediment control during and after construction? This may include the installation of mitigation measures, such as erosion curtains and/or settling ponds.

- Will stream crossings be designed to enable fish passage and to maintain natural in-stream structures, such as large culverts? *
- Does the plan include native plant revegetation of areas disturbed by construction to minimize erosion and sedimentation? *
- Have safe wildlife crossing structures and appropriate fencing been incorporated into the project to accommodate the movements and needs of resident wildlife and to mitigate habitat fragmentation? Have bridge structures been designed to accommodate wildlife passage, thereby providing a dual purpose? *
- Does the project include the use of noise walls or other techniques to reduce the impacts of noise pollution? *
- Does the project include the planting and maintenance of grass covers or other indigenous plant material to reduce pollutant concentrations in roadway runoff? *
- Does the project provide for regular preventive maintenance of the highway or bridge to reduce the potential amount of waste generated by reconstructing portions of the roadway? *
- Can existing roadways or bridges be closed and reclaimed as a result of the construction and opening of the new project? *

Hazardous Material Concerns. The construction of highways and bridges can involve the use of hazardous materials. The use of these materials can affect the environment through improper storage, air emissions of volatile chemicals, and spills and other uncontrolled releases, as well as the potential for the generation of toxic waste materials.

- Are there opportunities to reduce the amount of hazardous and toxic materials used as part of the project? For example, will the least toxic paints and deicing chemicals be used? *
- Are there provisions for reducing any potential spills of hazardous materials? Is there a spill prevention and control plan? *
- Is there a plan for properly managing the storage, handling, and application of deicing chemicals, salts, and sand? *
- Is there an Integrated Pest Management (IPM) plan to reduce the use of chemical pesticides and to minimize human and wildlife exposure? *

Procurement Concerns. Purchasing decisions are an important element of pollution prevention. Making environmentally sound purchasing decisions can help reduce the amount of waste generated by a highway or bridge project. In addition, the purchasing of recycled-content material helps support markets for materials collected for recycling.

* Indicates an environmental impact reduction opportunity.

Executive Order 12873 directs all Federal agencies to review and revise their specifications, product descriptions, and standards to increase their purchase of environmentally preferable and recycled products.

- Are there provisions for the proper storage of construction materials to reduce the amount of waste generated by damage or exposure to the elements?
- Will perishable construction materials, such as paints, be purchased incrementally to ensure reduced spoilage of unused materials?
- Will the project include the use of durable, long-lasting materials that will not need to be replaced as often, thus reducing the amount of construction waste generated over time?
- Will the project use construction materials containing recycled content when possible and in accordance with accepted standards? Examples of recycled-content materials include concrete containing fly ash, as well as asphalt containing "waste" asphalt, glass, roofing materials, or recovered scrap tires.

Reuse and Recycling. Many of the waste materials generated as a result of highway and bridge projects can be reused or recycled into usable products. The benefit of reuse and recycling is that it removes materials that would otherwise be disposed of from the waste stream.

- Does the construction contract specify that construction materials not used in this project be reused in other projects rather than be disposed of?
- Will trees cut down during construction activities be used or sold for lumber or compost?
- Will any metal, wood, or packaging wastes generated as a result of construction activities be collected for recycling into other usable products?
- If the project is a repair of an existing highway or bridge, are there provisions for the reuse or recycling of "waste" materials?

Other References

U.S. Environmental Protection Agency, Office of Federal Activities. April 1994. "Evaluation of Ecological Impacts From Highway Development."

U.S. Environmental Protection Agency, Office of Water. September 1992. "Storm Water Management For Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices."

☐ Indicates an environmental impact reduction opportunity.



CITY OF EL PASO DE ROBLES

"The Pass of the Oaks"

February 7, 2000

Larry Bonner
California Department of Transportation
50 Higuera Street
San Luis Obispo, CA 93401

SUBJECT: Notice of Preparation, Draft EIR, Highway 46 East Widening

Thank you for the Notice of Preparation regarding this project. We appreciate an opportunity to provide input. Our recommendations / concerns are outlined as follows:

- Highway 46 East provides very important accesses to tourism and business related properties (e.g. golf courses, wineries, and similar uses, both existing and planned) in both the City of Paso Robles and the County of San Luis Obispo.
- It is requested that the widening project take into consideration how vehicular access can be safely facilitated (e.g. through the use of adequate turn pockets) to all properties that currently have legal access to Highway 46 East.
- That land acquisition for the widening project fully consider the physical and economic impacts on adjacent properties, seeking a least impact alternative.
- Because of the historic heritage of the community (our City's name, El Paso de Robles, means "the pass of the oaks"), preservation of mature oak trees is encouraged by all technically feasible means, including but not limited to installation of protective guard rails.

As you proceed with preparation of the Environmental Impact Report for the Highway 46 East widening, we would sincerely appreciate consideration of these recommendations / concerns.

Please feel free to contact me at (805) 237-3970 / fax: 237-6565 / e-mail: bob@prcity.com should you have any questions or other information needs.

Sincerely,

Robert A. Lata

Community Development Director

h:\ct\00\caltrans comments on h46e widening 7 Feb 00

DEPARTMENT OF CONSERVATION

801 K Street, MS 24-02
Sacramento, CA 95814
(916) 445-8733 Phone
(916) 324-0948 Fax
(916) 324-2555 TDD



February 11, 2000

Mr. Larry E. Bonner
California Department of Transportation, District 5
50 Higuera Street
San Luis Obispo, CA 93401

Subject: Notice of Preparation (NOP) for the Highway 46 Four-Lane Project
SCH# 2000011033

Dear Mr. Bonner:

The Department of Conservation monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other land conservation problems. The Department's Division of Land Resource Protection (Division) has reviewed the above referenced NOP for the expansion of Highway 46 to four lanes between Paso Robles and Cholame, and recommends that the DEIR address the following issues.

Prime Farmland, Farmland of Statewide Importance or Unique Farmland

The Department of Conservation's 1996 San Luis Obispo County Important Farmland Map indicates the presence of Important Farmlands (*Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance*) along the highway corridor. Therefore, we recommend that the DEIR include the following specific information.

- A map identifying areas of Prime Farmland, Farmland of Statewide Importance and Unique Farmland in the project area.
- Current and past agricultural use of the project area, and data on types of crops grown and their yields and values.
- The economic value of agricultural production. Economic multipliers can be used to assess the total agricultural value to the economy. The University of California Cooperative Extension and U.S. Department of Agriculture are two sources for multipliers for agricultural crop.
- Type, amount, and location of farmland conversion resulting from project implementation.

- Impacts on current and future agricultural operations.
- Incremental project impacts leading to cumulatively considerable impacts on agricultural land in San Luis Obispo County and the project area.
- Growth inducing impacts of the project on nearby agricultural lands. These impacts could be discussed in terms of the affect of the project on the land values of nearby agricultural lands.

Impacts on agricultural resources may also be quantified and qualified by use of established thresholds of significance (California Code of Regulations Section 15064.7). The Division has developed a California version of the USDA Land Evaluation and Site Assessment (LESA) Model that is a semi-quantitative rating system for helping to establish the environmental significance of a project's impacts on farmland. The model may also be used to rate the relative value of alternative project sites. The LESA Model is available from the Division. (Since this project is being done in cooperation with the Federal Highways Administration, a Federal Farmland Conversion Impact Rating form will also need to be completed. This should be done with the assistance of the U.S. Department of Agriculture's Natural Resources Conservation Service. Before conducting the federal impact rating, check with the Natural Resources Conservation Service; the California LESA evaluation may meet the purposes of the Impact Rating form requirement)

Williamson Act Lands

A project is deemed to be of statewide, regional, or areawide significance, if it will result in cancellation of a Williamson Act contract for a parcel of 100 or more acres [California Code of Regulations Section 15206(b)(3)]. The San Luis Obispo County Williamson Act Contract Lands map indicates both prime and non-prime lands under contract in, or adjacent to the study area. Therefore, the Department recommends that the following information be provided in the DEIR:

- A map detailing the location of agricultural preserves, the number of acres, and type of land in each preserve (e.g., prime or non-prime).
- A map showing the location of Williamson Act contracted land within each agricultural preserve.
- If public acquisition of lands under Williamson Act contract will be necessary for the project, the DEIR should describe the acquisition. Please note that the Williamson Act requires notice to the Department of Conservation at first consideration of a public acquisition of Williamson Act land. In addition, the acquiring agency is required to make specified findings to justify the acquisition (Government Code Sections 51291-51292).

Mitigation Measures and Alternatives

Feasible mitigation measures and alternatives to lessen farmland conversion impacts should be discussed in the DEIR. For example, CalTrans District 11, has proposed the purchase of offsetting agricultural land conservation easements to mitigate the loss of agricultural land from the Route 7 freeway project in Imperial County. In addition to proposing acquisition of conservation easements, District 11 considered the donation of funds to a local land trust or the statewide California Agricultural Land Stewardship Program (now renamed the California Farmland Conservancy (CFCP)) for the purchase of conservation easements. Further information on the CFCP is available on the web at:

www.consrv.ca.gov/dlrp/CFCP/index.htm

Thank you for the opportunity to comment on the NOP. If you have questions on our comments, or need further information on the Division's land resource protection programs or publications, please contact the Division at 801 K Street, MS 13-71, Sacramento, CA 95814; phone (916) 324-0850. You may also contact me at (916) 445-8733.



for Jason Marshall
Assistant Director

cc: Luree Stetson, Assistant Director
Division of Land Resource Protection

Upper Salinas-Las Tablas Resource
Conservation District

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

Templeton Area
101 Duncan Road
Templeton, CA 93465
(805) 434-1822
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)



January 11, 2000

File No.: 740.7748

Caltrans
50 Higuera
San Luis Obispo, CA 93401
Attention: Mr. Larry E. Bonner

RE: SR-46 east, roadway development.

Dear Mr. Bonner:

We have reviewed the Notice of Preparation document recently sent to us regarding necessary Environmental Impact Reporting for the proposed improvements of SR-46 east. The California Highway Patrol works in conjunction with Caltrans with all proposed construction and projects relative to roadways subject to our enforcement jurisdiction.

SR-46 east, between postmiles 32.2 and 55.9, is entirely within the patrol and enforcement jurisdiction of the Templeton Area CHP. The applicable permit for all work within the State right of way is issued through Caltrans with oversight by this Department as added assurance to public safety. Our involvement to date regarding this project has been extensive and ongoing with Caltrans Engineering, SLOCOG, the FIX-46 Committee and the public. We therefore desire to maintain our involvement with improvements of the roadway as they occur. Officer Scott Lee or myself should be considered the local contact persons for questions that may arise relative to traffic safety involving this roadway. We can be reached at (805) 434-1822, Monday through Friday.

Sincerely,

A handwritten signature in black ink, appearing to read "M. S. Moses".

M. S. MOSES, Lieutenant
Commander
Templeton Area



California Regional Water Quality Control Board

Central Coast Region



Winston H. Hickox
Secretary for
Environmental
Protection

Internet Address: <http://www.swrcb.ca.gov/~rwqcb3>
81 Higuera Street, Suite 200, San Luis Obispo, California 93401-5427
Phone (805) 549-3147 • FAX (805) 543-0397

Gray Davis
Governor

February 22, 2000

Larry E. Bonner
Caltrans
50 Higuera Street
San Luis Obispo, CA 93401
(805) 549-3801

Dear Mr. Bonner:

CALTRANS NOTICE OF PREPARATION-WIDENING OF HIGHWAY 46 AND CONSTRUCTION OF AN INTERCHANGE BETWEEN HIGHWAY 46 AND 41 (SAN LUIS OBISPO COUNTY)

Thank you for the opportunity to review and comment on your January 10, 2000 Notice of Preparation, regarding the proposed project. We understand that the project involves widening Highway 46 from the existing two-lane highway to a four-lane divided expressway. This project would include constructing an interchange at the Route 46/41 junction. The following water quality concerns must be addressed:

Storm Water Issues

Construction projects disturbing more than five acres of land are to be regulated by the Statewide National Pollution Discharge Elimination System General Construction Permit. Proper regulation can be accomplished by filing a Notice of Intent with the State Water Resources Control Board. The project sponsor must propose and implement control measures to protect water quality that are consistent with the General Construction Permit, and with recommendations and policies of local agencies and the Central Coast Regional Water Quality Control Board.

Storm water is the major source of fresh water to creeks and waterways. Storm water quality is affected by a variety of land uses and the pollutants generated by these activities. Development and construction activities cause both site specific and cumulative water quality impacts. Water quality degradation may occur during construction due to erosion and sedimentation, discharges of petroleum hydrocarbons, oil, grease and metals from vehicles. Runoff may be concentrated and storm water flow increased by impervious surfaces, which will mobilize and transport pollutants to storm drains and creeks. Cumulatively, these discharges will increase pollutant loads in creeks, wetlands, and the ocean. It is important that environmental documents address potential storm water impacts that might affect the surrounding environment. Such documents should discuss the development and implementation of possible best management practices, investigation of local affected environments, and mitigation measures to restore the affected areas.

California Environmental Protection Agency

Nonpoint Source Pollution Issues

Nonpoint source pollution results when water moves across the landscapes and picks up pollutants from roads, construction sites and other land uses. These pollutants are carried into streams, rivers, and ground water, where they affect water quality and the beneficial uses of water. Control of nonpoint source pollution requires the efforts of individuals, local governments and resource agencies. Best Management Practices should be required and implemented to protect water quality and minimize any possible water quality impacts. Best management practices that might be considered, but are not limited to, would include:

1. Temporary construction fencing placed along the limits of the construction site and other areas used by equipment and vehicles. This practice would be used to prevent major disturbance to the adjacent wetland. Signs could also be incorporated with the fencing to note environmentally sensitive areas.
2. Storing equipment and vehicles far from any creek, river, or wetland. This will reduce the introduction of any pollutants, contaminants, or nuisances.
3. Storing stockpiled materials and wastes under a roof or plastic sheeting to prevent any materials from entering waters of the state.
4. Having a qualified biologist present onsite during construction to monitor construction activities and the surrounding environment.

Wetland and Water Quality Certification Issues

The Regional Board must certify that any permit issued by the Army Corps of Engineers pursuant to Section 404 of the Clean Water Act complies with state water quality standards, or waive such certification. Section 401 Water Quality Certification is necessary for all Section 404 permits, including reporting and non-reporting Nationwide permits. Any project requiring a 404 permit from the Army Corps of Engineers should apply for Section 401 Water Quality Certification by submitting a Form 200 Report of Waste Discharge Application. Applications may be obtained from this office. Any project, which involves disturbance of a streambank or riparian area, must also obtain a Streambed Alteration Agreement from California Department of Fish and Game.

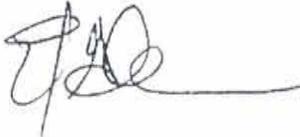
Wetlands enhance water quality through such natural functions as flood and erosion control, streambank stabilization, and filtration and purification of contaminants. Wetlands also provide critical habitat for hundreds of species of birds, fish and other wildlife, offer open space, and provide many recreational opportunities. Water quality impacts occur in wetlands from construction of structures in waterways, from activities such as dredging and filling, and altering drainage to wetlands. The State of California's Wetlands Conservation Policy requires no overall net loss in wetlands in the short-term and a long-term net gain of wetlands. All projects must be evaluated for the presence and protection and protection of jurisdictional wetlands. According to the California Wetlands Conservation Policy the project must ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California. The Regional Board prefers to avoid any loss of wetlands. If loss is unavoidable, a mitigation plan should be developed and implemented to achieve at least a 3:1 replacement ratio.

If you require specific information on the programs discussed in this letter, please contact the following:

| | | |
|---|------------------|----------------|
| Storm Water Program | Jennifer Bitting | (805) 549-3334 |
| Section 401 Water Quality Certification | Alison Jones | (805) 542-4646 |
| NPDES Permits | Lida Tan | (805) 542-4785 |

Should you have any questions or require application packets, please call David Athey at (805) 542-4644.

Sincerely,



For. Roger Briggs
Executive Officer

Attachments

cc: State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

D:\central\CEQA\file name

January 25, 2000



Larry E. Bonner
California Department of Transportation
50 Higuera Street
San Luis Obispo, CA 93401

SUBJECT: NOP of a Draft EIR for Hwy 46 Widening Project

Dear Mr. Bonner,

Thank you for providing District staff with the opportunity to review the NOP for the Highway 46 widening project. District staff are aware that public health and safety concerns weight strongly in the consideration of the proposed Hwy 46 widening project. For years, residents of this county have watched the accident statistics mount on this section of roadway. With this in mind, we submit the following brief comments to aid your agency's efforts to prepare the air quality section of the proposed EIR.

1. Staff recommend that the authors of the EIR review and follow the guidelines contained in the District's *CEQA Air Quality Handbook* (enclosed). Of particular interest to District staff are potential growth inducing impacts associated with the project, if any. We recommend that the EIR contain a discussion of potential growth inducing impacts and associated impacts.
2. We are aware of other potential construction projects, including the installation of an east-west bearing fiber optic cable, that are proposed within the Hwy 46 corridor and could potentially be coordinated with roadway widening work, where feasible, to reduce construction emissions from the combined projects. We recommend the EIR consider the feasibility of simultaneously installing other infrastructure while engaged in the roadway widening work.
3. The air quality section should endeavor to quantify fugitive dust and exhaust emissions produced during the project. Estimates of average and peak daily and quarterly emissions should be clearly presented in tabular form along with overall total project estimates. Projected emissions should then be compared to the District's CEQA significance thresholds presented in Table 6-2 of the enclosed CEQA Air Quality Handbook.
4. The following mitigation measures should be incorporated to minimize impacts from the combustion of diesel fuel by construction equipment and should be provided to contractors bidding on the work so they can account for labor and capital costs in their bids:

Project Wide

- Construction equipment should be operated in proper tune according to manufacturers specifications.
- Use only CARB on-road diesel fuel for all diesel-powered equipment used during construction of the project. This fuel has the potential to reduce sulfur dioxide emissions by 80%, particulate matter emissions by 25%, and NOx (oxides of nitrogen) emissions by 7% while simultaneously enabling the potential installation of post combustion controls as mentioned below due to the fuels lower sulfur content.
- To the extent feasible, use electric grid power to (a) replace electricity produced by diesel-powered generators, and (b) power air compressors and light plants.

Highest Emitting Construction Equipment

- Install catalytic exhaust after-treatment control devices on a number of the project's higher usage, higher emitting pieces of diesel powered construction equipment (off-road equipment only, not on-road trucks). Catalytic exhaust after-treatment can reduce emissions of toxic hydrocarbons and carbon monoxide by as much as 80% and particulate matter by 10 to 20%. These controls, used recently with significant success during a large excavation project conducted locally, are very simple and quick to install and are surprisingly inexpensive (less than \$4,000 for a large catalyst). All targeted equipment should be initially inspected by a qualified mechanic and a representative of the catalyst manufacturer prior to installation of controls. Please contact District staff at the number provided below with questions. The number of targeted pieces of equipment should depend on the magnitude of emissions as follows:

Table 1, Post Combustion Retrofit Schedule

| Overall Project Quarterly Emissions (ton/quarter) | Pieces of Construction Equipment to Control |
|---|--|
| <2.5 | None |
| 2.5-6.0 | 1 |
| 6.0-7.0 | 2 |
| 7.0-8.0 | 4 |
| >8.0 | Contact APCD staff to Discuss Implementation |

Note: Overall Project Quarterly Emissions include exhaust emissions of ROG, NOx, and PM10 from on-road vehicles and off-road construction equipment

5. Implementation of the following mitigation measures is recommended to reduce fugitive dust emissions and the potential creation of nuisance or visibility problems. Proper implementation of these measures shall be assumed to achieve a 50% reduction in fugitive dust emissions.
 - a. Reduce the amount of the disturbed area where possible.
 - b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible.
 - c. All dirt stock-pile areas should be sprayed daily as needed.
 - d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities.
 - e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.

- f. All disturbed soil areas not subject to paving or revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD.
- g. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- h. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.
- i. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.

Please feel free to contact me at (805) 781-5912 with any questions or comments.

Sincerely,



Barry Lajoie
Air Quality Specialist

BPL/bpl

H:\OIS\PLAN\RESPONSE\2167-1.doc

Memorandum

To : Mr. Larry Bonner
California Department of Transportation
50 Higuera Street
San Luis Obispo, California 93401

Date: February 10, 2000

From : Department of Fish and Game - Post Office Box 47, Yountville, California 94599

Subject: Highway 46 Four Lane Project, SCH Number 2000011033, Notice of Preparation (NOP), San Luis Obispo County

Department of Fish and Game personnel have reviewed the NOP for the proposed widening of Highway 46 between Paso Robles and the intersection of Highways 46 and 41. The project includes increasing the road width from two lanes to a four-lane divided expressway that meets current design standards for vertical and horizontal curve radii and shoulder, median, and lane widths. The project would also include an interchange at the Highway 41/46 junction. The project is expected to result in the loss of over 250 acres of grassland and cropland along this corridor.

Populations of several sensitive species are known to exist within several miles of the project area. The San Joaquin kit fox (*Vulpes macrotis mutica*), which is listed as endangered under the Federal Endangered Species Act (FESA) and as threatened under the California Endangered Species Act (CESA), is known to range throughout the project area. Section 2080 of the Fish and Game Code prohibits the take of CESA-listed species. Since there is a high probability of kit fox take associated with the construction and operation of this project, it will be necessary for California Department of Transportation (Caltrans) to obtain a take permit as described in Section 2081 of the Fish and Game Code. We recommend that informal consultation on this matter begin as soon as possible with both the Department and U. S. Fish and Wildlife Service.

Highway 46 is recognized as the primary movement corridor connecting the kit fox populations of the San Joaquin Valley to populations at Camp Roberts and southern Monterey County. Significant impacts to this corridor could conceivably lead to the extirpation of kit fox populations immediately north of Paso Robles. It will be necessary to address this issue in both the CEQA document and the biological assessment.

Several other sensitive wildlife species have also been documented in the immediate project area including southwestern pond turtle (*Clemmys marmota pallida*), western spadefoot (*Scaphiopus hammondi*), California tiger salamander (*Ambystoma californiense*), and nesting prairie falcons (*Falco mexicanus*).

Conserving California's Wildlife Since 1870

Mr. Larry Bonner
February 10, 2000
Page Two

Records from the project area also include two rare plants, Munz's tidy tips (*Layia munzii*) and showy madia (*Madia radiata*). The CEQA document will need to include discussions of impacts to these species.

Pronghorn antelope (*Antilocapra americana*) inhabit the flatter portions of the project area near the Highway 46/41 intersection. The area is known to be a movement corridor for pronghorn between the Parkfield area and the low hills above Bitterwater Road. Losses of pronghorn to vehicle strikes can be anticipated. Freeway underpasses have not been shown to be effective for allowing movements of pronghorn which typically avoid any linear structure which confines their movements. The most effective method for reducing pronghorn mortality from vehicles is to remove fences which may inadvertently funnel the animals onto the roadway. Therefore, we recommend that fences in this area be moved at least 300 yards from the proposed roadway. Chain link or "hogwire" fences should not be installed. If barbed wire fences are necessary, the bottom strand should be at least 18 inches off the ground. The top and bottom strands should be smooth.

Based on the information provided in the NOP, Caltrans will need to obtain streambed alteration permits pursuant to Section 1601-1603 of the Fish and Game Code. Due to a recent court order, the Department is required to conduct an environmental review pursuant to CEQA prior to issuing a streambed alteration permit. The Department will typically utilize existing CEQA documents if they are determined to be adequate. However, all project mitigation associated with the 1601-03 permit will need to be disclosed in the CEQA document and adoption of these documents will be needed prior to the issuance of the permit.

A streambed alteration permit application is included with this memo. If you have questions, or need additional information, please contact Mr. Robert Stafford, Associate Wildlife Biologist, at (805) 528-8670; or Mr. Carl Wilcox, Habitat Conservation Manager, at (707) 944-5525.



Brian Hunter
Regional Manager
Central Coast Region

Attachment

cc: U. S. Fish and Wildlife Service

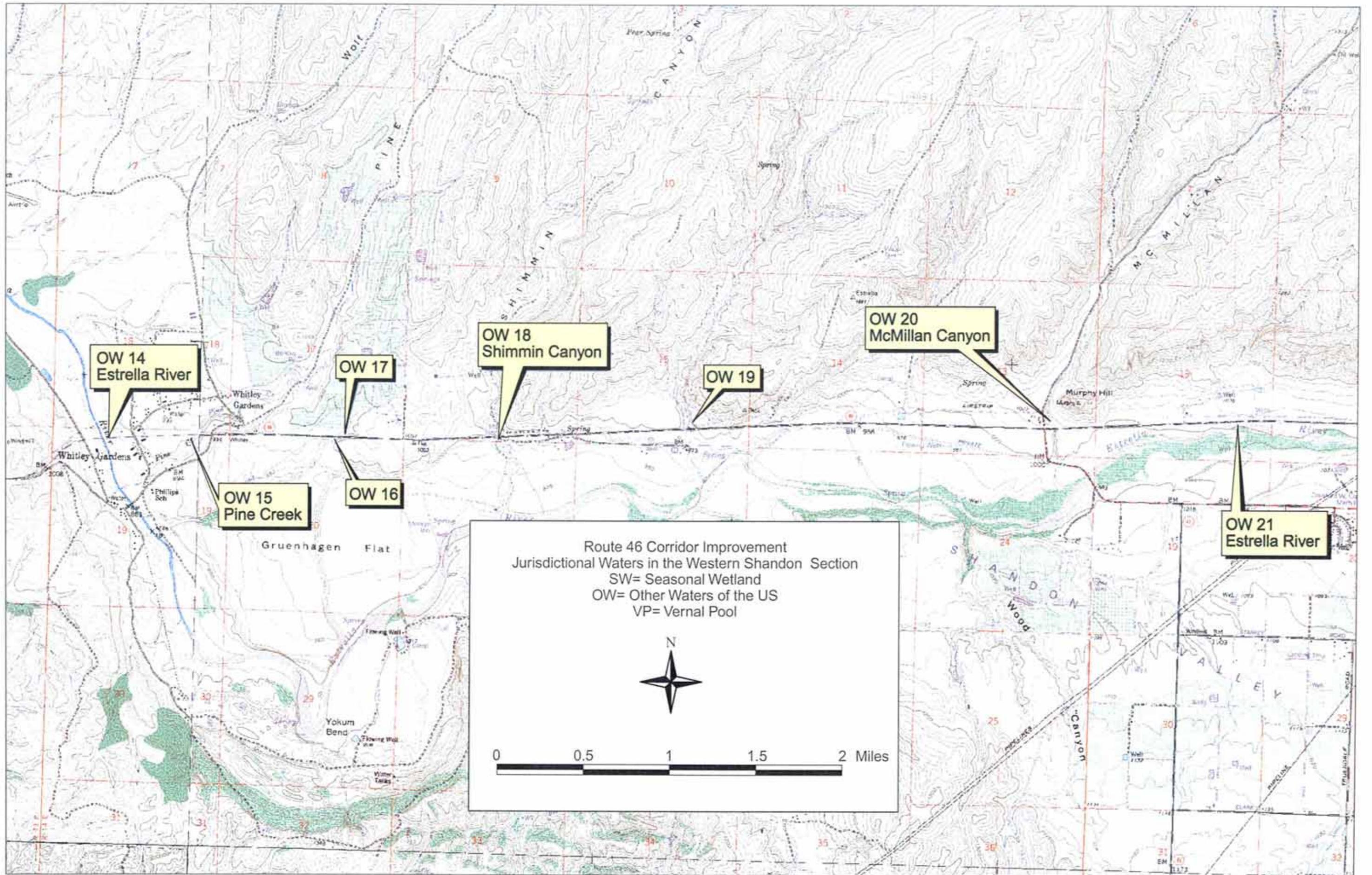
Appendix H: Wetlands / Other Waters of the United States Maps

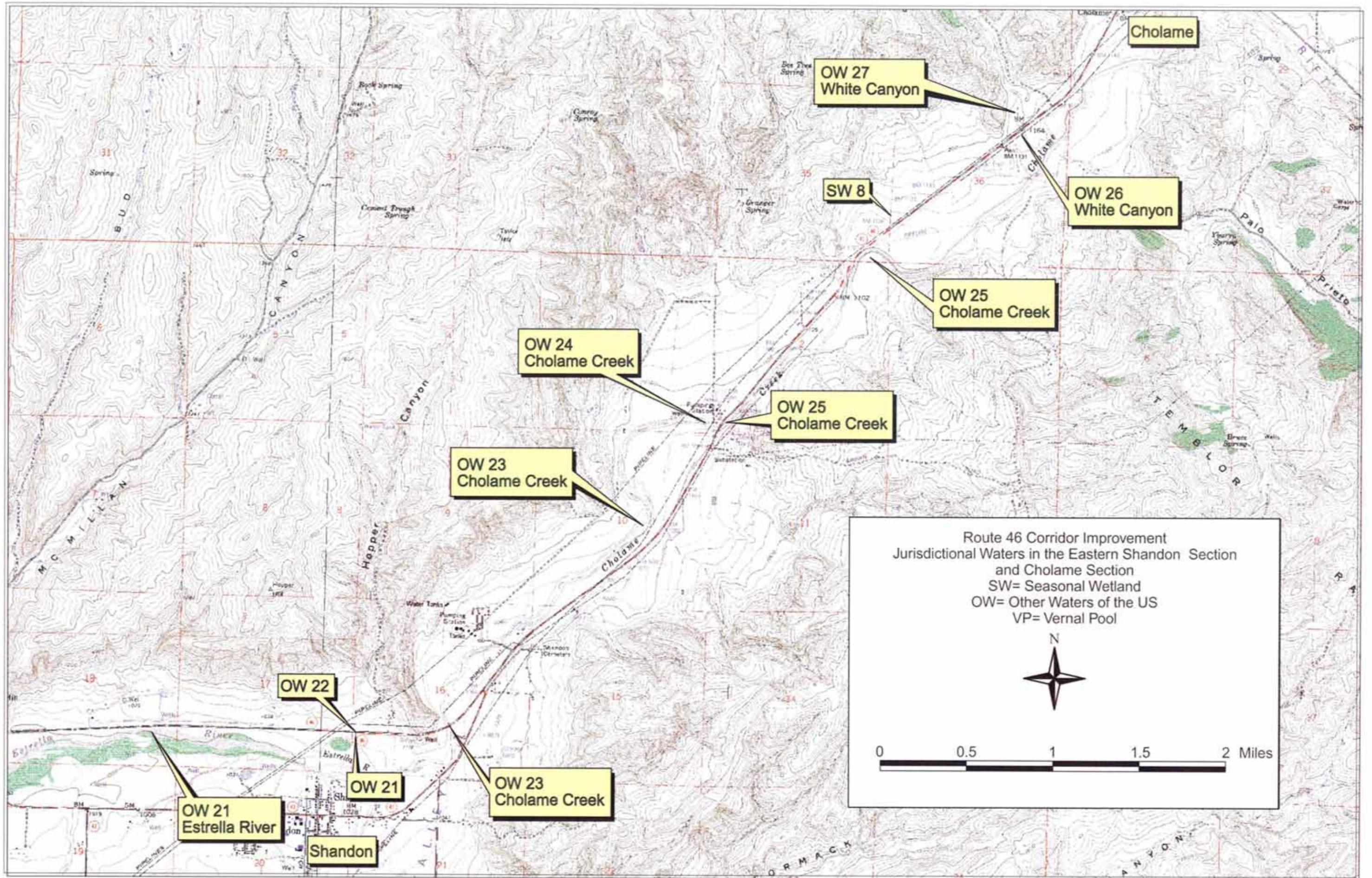
Table 2. Highway 46 Summary of Wetlands and Other Waters of the U.S.

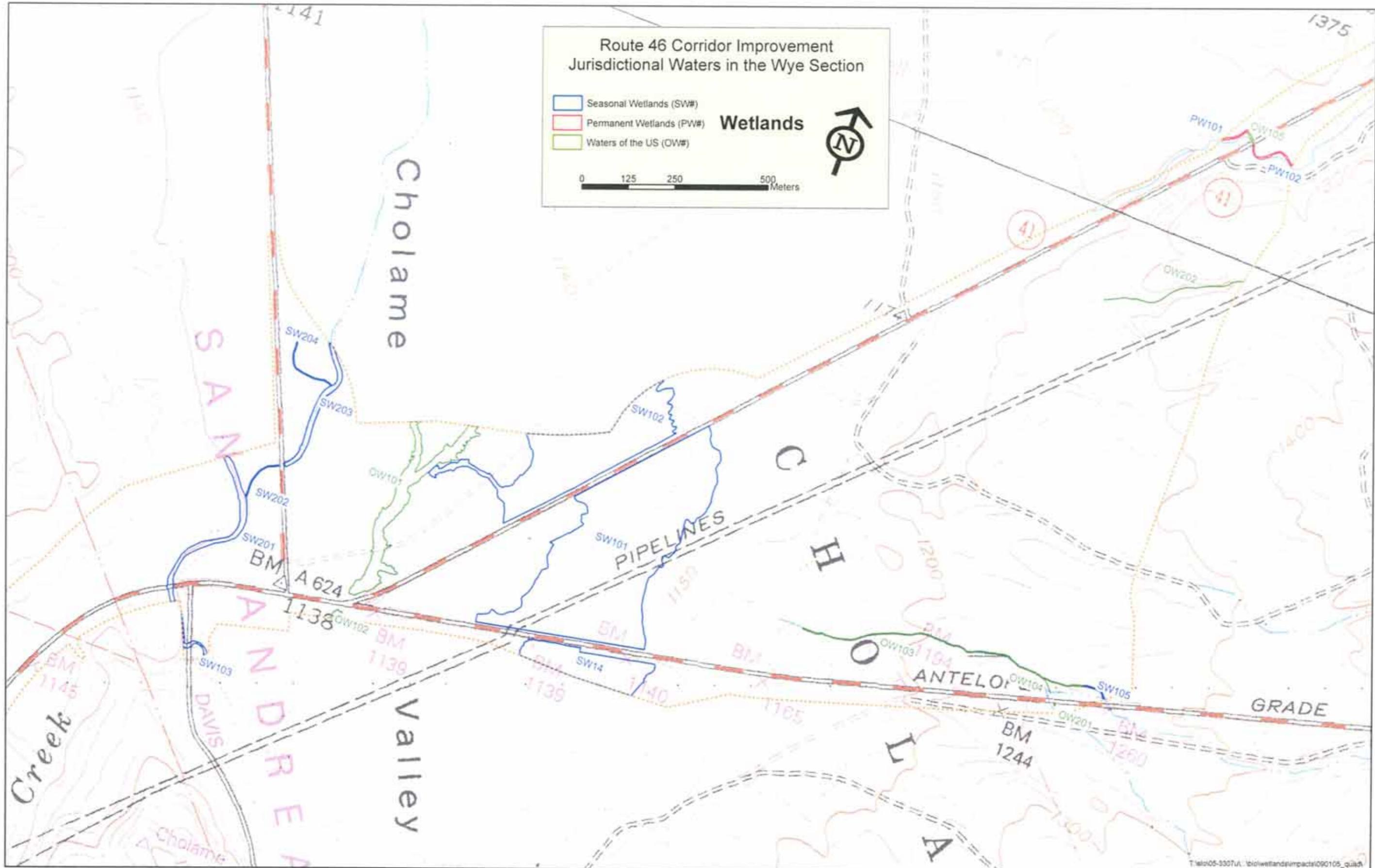
| Number and Type | Acreage | Location |
|-----------------|---------|---|
| SW 1 | 0.072 | west of Mill Rd, north of 46 |
| OW 1 | 0.023 | west of Mill Rd, south of 46 |
| OW 2 | 0.018 | west of Mill Rd, south of 46 |
| SW 2 | 0.114 | west of Mill Rd, south of 46 |
| SW 3 | 0.027 | east of Mill Rd, south of 46 |
| OW 3 | 0.003 | east of Mill Rd, south of 46 |
| OW 4 | 0.012 | drains Hunter Ranch Golf Course and Eberle Winery, north of 46 |
| SW 4 | 0.093 | drains Hunter Ranch Golf Course |
| SW 5 | 0.018 | east of golf course, north of 46 |
| SW 6 | 0.095 | east of golf course, south of 46 |
| VP 1 | 0.012 | on Black Ranch, north of 46 |
| OW 5 | 0.065 | drains to Dry Creek, south of 46, west of Dry Creek |
| OW 6 | 0.003 | drains to Dry Creek, south of 46, west of Dry Creek |
| OW 7 | 0.137 | Dry Creek |
| OW 8 | 0.068 | drains to Dry Creek, north of 46, east of Dry Creek |
| OW 9 | 0.091 | drains to Dry Creek, south of 46, east of Dry Creek |
| OW 10 | 0.102 | drains to Dry Creek, south of 46, east of Dry Creek, across from Jardine Rd |
| SW 7 | 0.094 | adjacent to Laura's Vineyard |
| OW 11 | 0.062 | creek near Branch Rd, north of 46 |
| OW 12 | 0.080 | creek near Chumeia Vineyard |
| OW 13 | 0.061 | Creek near Estrella Vineyard |
| OW 14 | 1.393 | Estrella River |
| OW 15 | 0.079 | Pine Creek, runs through Whitley Gardens |
| OW 16 | 0.053 | first drainage east of Whitley Gardens, south of 46 |
| OW 17 | 0.013 | first drainage east of Whitley Gardens, north of 46 |
| OW 18 | 0.919 | Shimmin Canyon |
| OW 19 | 0.087 | unnamed drainage east of Shimmin Canyon |
| OW 20 | 0.536 | McMillan Canyon |
| OW 21 | 2.890 | Estrella River |
| OW 22 | 0.023 | Hopper Canyon |
| OW 23 | 4.512 | Cholame Creek |
| OW 24 | 4.893 | Cholame Creek |
| OW 25 | 2.694 | Cholame Creek |
| SW 8 | 0.067 | small wetland east of Warner Ranch, north of 46 |
| OW 26 | 0.139 | White Canyon |
| OW 27 | 0.080 | White Canyon |
| OW 101 | 5.43 | Cholame Creek flood channel |
| OW 102 | 0.12 | Cholame Creek flood channel |
| OW 103 | 0.61 | unnamed creek channel on Antelope Grade |
| OW 104 | 0.01 | unnamed creek channel on Antelope Grade |
| OW 105 | 0.04 | unnamed creek channel on 41 east of Wye interchange |
| OW 201 | 0.01 | unnamed creek channel on Antelope Grade |
| OW 202 | 0.03 | unnamed creek channel between 41 and 46 |
| PW 101 | 0.09 | unnamed creek channel on 41 east of Wye interchange |
| PW 102 | 0.14 | unnamed creek channel on 41 east of Wye interchange |
| SW 14 | 6.13 | alkali sink |
| SW 101 | 40.17 | alkali sink |
| SW 102 | 16.02 | alkali sink |
| SW 103 | 0.21 | Cholame Creek flood channel |
| SW 105 | 0.06 | unnamed creek channel on Antelope Grade |
| SW 201 | 1.71 | Cholame Creek |
| SW 202 | 0.10 | Cholame Creek |
| SW 203 | 1.24 | Cholame Creek |
| SW 204 | 0.14 | Cholame Creek |

Table 2. Highway 46 Summary of Wetlands and Other Waters of the U.S.

| Number and Type | Acreage | Location |
|-----------------|--------------------------|----------|
| SW | Seasonal wetland | |
| OW | Other waters of the U.S. | |
| VP | Vernal pool | |







| Permanent Impacts (ac) | | | | | | | | |
|------------------------|-------|------|------|------|------|-------------|------------|------|
| | at4 | at5 | at7 | at8 | at8c | to overflow | to viaduct | at9 |
| wetlands | 12.98 | 6.53 | 7.03 | 4.98 | 4.62 | 4.31 | 0.38 | 4.79 |
| other waters | 1.62 | 1.16 | 0.34 | 0.17 | 0.74 | 0.74 | 0.74 | 0.12 |

| Temporary Impacts (ac) | | | | | | | | |
|------------------------|------|------|------|------|------|-------------|------------|------|
| | at4 | at5 | at7 | at8 | at8c | to overflow | to viaduct | at9 |
| wetlands | 1.72 | 1.35 | 0.75 | 0.75 | 0.84 | 1.16 | 5.03 | 0.74 |
| other waters | 0.19 | 0.10 | 0.05 | 0.06 | 0.15 | 0.15 | 0.15 | 0.03 |

| Total Impacts (permanent & temporary) | | | | | | | | |
|---------------------------------------|-------|------|------|------|------|-------------|------------|------|
| | at4 | at5 | at7 | at8 | at8c | to overflow | to viaduct | at9 |
| wetlands | 14.70 | 7.88 | 7.78 | 5.74 | 5.46 | 5.47 | 5.47 | 5.53 |
| other waters | 1.81 | 1.26 | 0.39 | 0.23 | 0.89 | 0.89 | 0.89 | 0.15 |

Note: Permanent impacts were calculated using outfill limits for each alternative. Temporary impacts are the areas within a 3 meter buffer outside of outfill limits. The exception is Cholame Creek Bridge where the impacts are all temporary. The outfill and 3m buffer polygons are the same as used in the 2002 impact analysis.

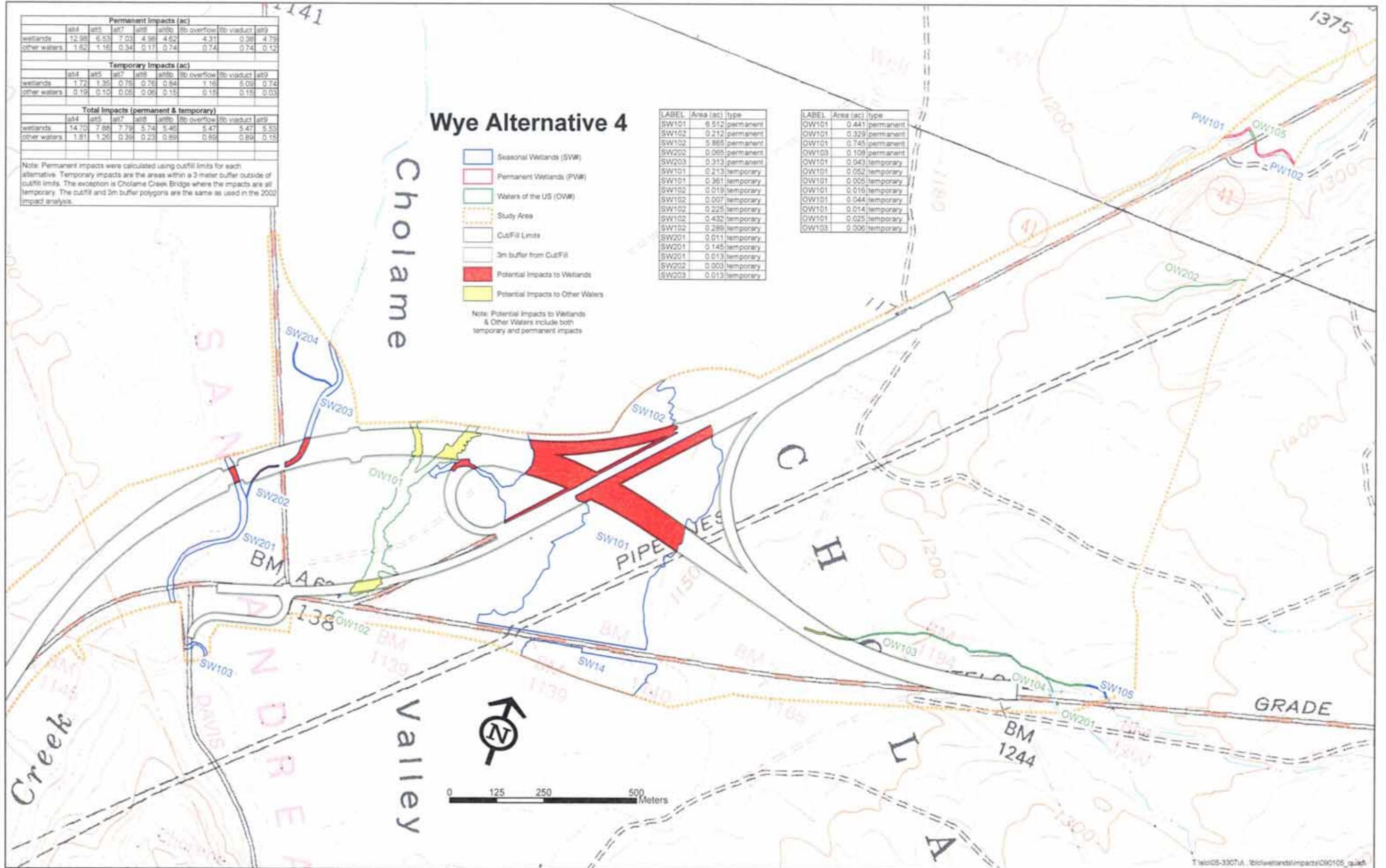
Wye Alternative 4

- ▭ Seasonal Wetlands (SWW)
- ▭ Permanent Wetlands (PW)
- ▭ Waters of the US (OW)
- ▭ Study Area
- ▭ Cut/Fill Limits
- ▭ 3m buffer from Cut/Fill
- ▭ Potential Impacts to Wetlands
- ▭ Potential Impacts to Other Waters

Note: Potential Impacts to Wetlands & Other Waters include both temporary and permanent impacts

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| SW101 | 6.512 | permanent |
| SW102 | 0.212 | permanent |
| SW102 | 5.865 | permanent |
| SW202 | 0.055 | permanent |
| SW203 | 0.313 | permanent |
| SW101 | 0.213 | temporary |
| SW101 | 0.361 | temporary |
| SW102 | 0.019 | temporary |
| SW102 | 0.007 | temporary |
| SW102 | 0.225 | temporary |
| SW102 | 0.432 | temporary |
| SW102 | 0.289 | temporary |
| SW201 | 0.011 | temporary |
| SW201 | 0.145 | temporary |
| SW201 | 0.013 | temporary |
| SW202 | 0.003 | temporary |
| SW203 | 0.013 | temporary |

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| OW101 | 0.441 | permanent |
| OW101 | 0.329 | permanent |
| OW101 | 0.745 | permanent |
| OW103 | 0.109 | permanent |
| OW101 | 0.043 | temporary |
| OW101 | 0.052 | temporary |
| OW101 | 0.005 | temporary |
| OW101 | 0.016 | temporary |
| OW101 | 0.044 | temporary |
| OW101 | 0.014 | temporary |
| OW101 | 0.025 | temporary |
| OW103 | 0.006 | temporary |



| Permanent Impacts (ac) | | | | | | | | |
|------------------------|-------|------|------|------|------|-------------|------------|------|
| | at4 | at5 | at7 | at8 | at10 | to overflow | to viaduct | at9 |
| wetlands | 12.96 | 5.53 | 7.03 | 4.98 | 4.62 | 4.31 | 0.38 | 4.79 |
| other waters | 1.62 | 1.16 | 0.34 | 0.17 | 0.74 | 0.74 | 0.74 | 0.12 |

| Temporary Impacts (ac) | | | | | | | | |
|------------------------|------|------|------|------|------|-------------|------------|------|
| | at4 | at5 | at7 | at8 | at10 | to overflow | to viaduct | at9 |
| wetlands | 1.72 | 1.35 | 0.76 | 0.76 | 0.84 | 1.16 | 5.09 | 0.74 |
| other waters | 0.19 | 0.10 | 0.05 | 0.06 | 0.15 | 0.15 | 0.15 | 0.03 |

| Total Impacts (permanent & temporary) | | | | | | | | |
|---------------------------------------|-------|------|------|------|------|-------------|------------|------|
| | at4 | at5 | at7 | at8 | at10 | to overflow | to viaduct | at9 |
| wetlands | 14.70 | 7.88 | 7.79 | 5.74 | 5.46 | 5.47 | 5.47 | 5.53 |
| other waters | 1.81 | 1.26 | 0.39 | 0.23 | 0.89 | 0.89 | 0.89 | 0.15 |

Note: Permanent impacts were calculated using cutoff limits for each alternative. Temporary impacts are the areas within a 3 meter buffer outside of cutoff limits. The exception is Cholame Creek Bridge where the impacts are all temporary. The cutoff and 3m buffer polygons are the same as used in the 2002 impact analysis.

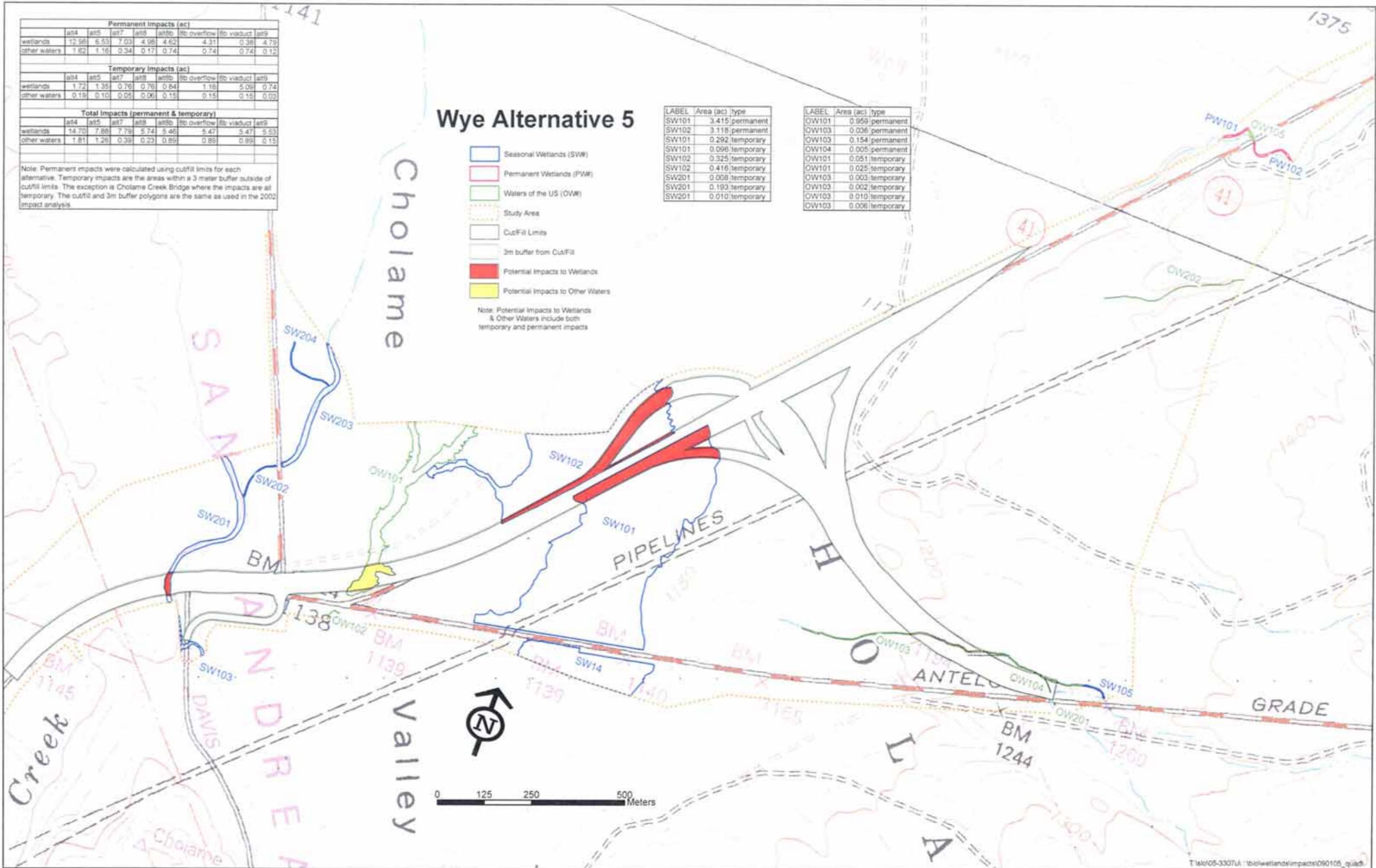
Wye Alternative 5

- Seasonal Wetlands (SW)
- Permanent Wetlands (PW)
- Waters of the US (OW)
- Study Area
- Cut/Fill Limits
- 3m buffer from Cut/Fill
- Potential Impacts to Wetlands
- Potential Impacts to Other Waters

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| SW101 | 3.415 | permanent |
| SW102 | 3.118 | permanent |
| SW101 | 0.292 | temporary |
| SW101 | 0.096 | temporary |
| SW102 | 0.325 | temporary |
| SW102 | 0.416 | temporary |
| SW201 | 0.008 | temporary |
| SW201 | 0.193 | temporary |
| SW201 | 0.010 | temporary |

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| OW101 | 0.059 | permanent |
| OW103 | 0.036 | permanent |
| OW103 | 0.154 | permanent |
| OW104 | 0.005 | permanent |
| OW101 | 0.051 | temporary |
| OW101 | 0.025 | temporary |
| OW103 | 0.003 | temporary |
| OW103 | 0.002 | temporary |
| OW103 | 0.010 | temporary |
| OW103 | 0.006 | temporary |

Note: Potential Impacts to Wetlands & Other Waters include both temporary and permanent impacts



Wye Alternative 7

| Permanent Impacts (ac) | | | | | | | | |
|------------------------|-------|------|------|------|-------|-------------|------------|------|
| | alt4 | alt5 | alt7 | alt8 | alt8b | Bb overflow | Bb viaduct | alt9 |
| wetlands | 12.98 | 6.53 | 7.03 | 4.98 | 4.62 | 4.31 | 0.38 | 4.79 |
| other waters | 1.82 | 1.16 | 0.34 | 0.17 | 0.74 | 0.74 | 0.74 | 0.12 |

| Temporary Impacts (ac) | | | | | | | | |
|------------------------|------|------|------|------|-------|-------------|------------|------|
| | alt4 | alt5 | alt7 | alt8 | alt8b | Bb overflow | Bb viaduct | alt9 |
| wetlands | 1.72 | 1.35 | 0.76 | 0.76 | 0.84 | 1.15 | 5.09 | 0.74 |
| other waters | 0.19 | 0.10 | 0.05 | 0.06 | 0.15 | 0.15 | 0.15 | 0.03 |

| Total Impacts (permanent & temporary) | | | | | | | | |
|---------------------------------------|-------|------|------|------|-------|-------------|------------|------|
| | alt4 | alt5 | alt7 | alt8 | alt8b | Bb overflow | Bb viaduct | alt9 |
| wetlands | 14.70 | 7.88 | 7.79 | 5.74 | 5.46 | 5.47 | 5.47 | 5.53 |
| other waters | 1.81 | 1.26 | 0.39 | 0.23 | 0.89 | 0.89 | 0.89 | 0.15 |

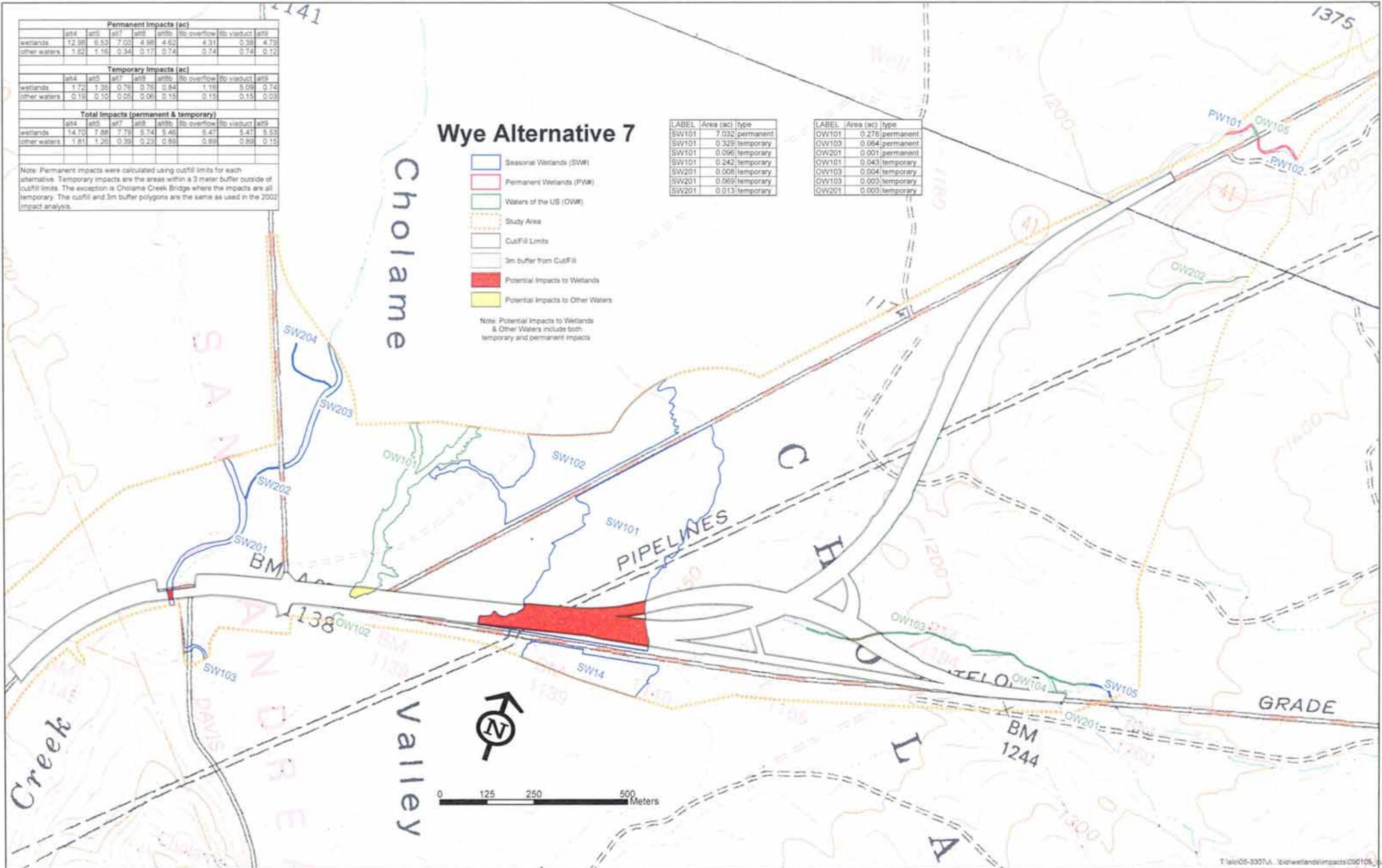
Note: Permanent impacts were calculated using cutoff limits for each alternative. Temporary impacts are the areas within a 3 meter buffer outside of cutoff limits. The exception is Cholame Creek Bridge where the impacts are all temporary. The cutoff and 3m buffer polygons are the same as used in the 2002 impact analysis.

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| SW101 | 7.032 | permanent |
| SW101 | 0.329 | temporary |
| SW101 | 0.096 | temporary |
| SW101 | 0.242 | temporary |
| SW201 | 0.008 | temporary |
| SW201 | 0.069 | temporary |
| SW201 | 0.013 | temporary |

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| OW101 | 0.276 | permanent |
| OW103 | 0.064 | permanent |
| OW201 | 0.001 | permanent |
| OW101 | 0.043 | temporary |
| OW103 | 0.004 | temporary |
| OW103 | 0.003 | temporary |
| OW201 | 0.003 | temporary |

- ▭ Seasonal Wetlands (SWW)
- ▭ Permanent Wetlands (PWK)
- ▭ Waters of the US (OWW)
- ▭ Study Area
- ▭ Cutoff Limits
- ▭ 3m buffer from Cutoff
- ▭ Potential Impacts to Wetlands
- ▭ Potential Impacts to Other Waters

Note: Potential Impacts to Wetlands & Other Waters include both temporary and permanent impacts



| Permanent Impacts (ac) | | | | | | | | |
|------------------------|-------|------|------|------|------|-------------|------------|------|
| | alt4 | alt5 | alt7 | alt8 | alt9 | fb overflow | fb viaduct | alt9 |
| wetlands | 12.98 | 6.53 | 7.03 | 4.98 | 4.82 | 4.31 | 0.38 | 4.79 |
| other waters | 1.62 | 1.18 | 0.34 | 0.17 | 0.74 | 0.74 | 0.74 | 0.12 |

| Temporary Impacts (ac) | | | | | | | | |
|------------------------|------|------|------|------|------|-------------|------------|------|
| | alt4 | alt5 | alt7 | alt8 | alt9 | fb overflow | fb viaduct | alt9 |
| wetlands | 1.72 | 1.35 | 0.76 | 0.76 | 0.84 | 1.16 | 5.09 | 0.74 |
| other waters | 0.19 | 0.10 | 0.05 | 0.06 | 0.15 | 0.15 | 0.15 | 0.03 |

| Total Impacts (permanent & temporary) | | | | | | | | |
|---------------------------------------|-------|------|------|------|------|-------------|------------|------|
| | alt4 | alt5 | alt7 | alt8 | alt9 | fb overflow | fb viaduct | alt9 |
| wetlands | 14.70 | 7.88 | 7.79 | 5.74 | 5.66 | 5.47 | 5.47 | 5.53 |
| other waters | 1.81 | 1.28 | 0.39 | 0.23 | 0.89 | 0.89 | 0.89 | 0.15 |

Note: Permanent impacts were calculated using cutoff limits for each alternative. Temporary impacts are the areas within a 3 meter buffer outside of cutoff limits. The exception is Cholame Creek Bridge where the impacts are all temporary. The cutoff and 3m buffer polygons are the same as used in the 2002 impact analysis.

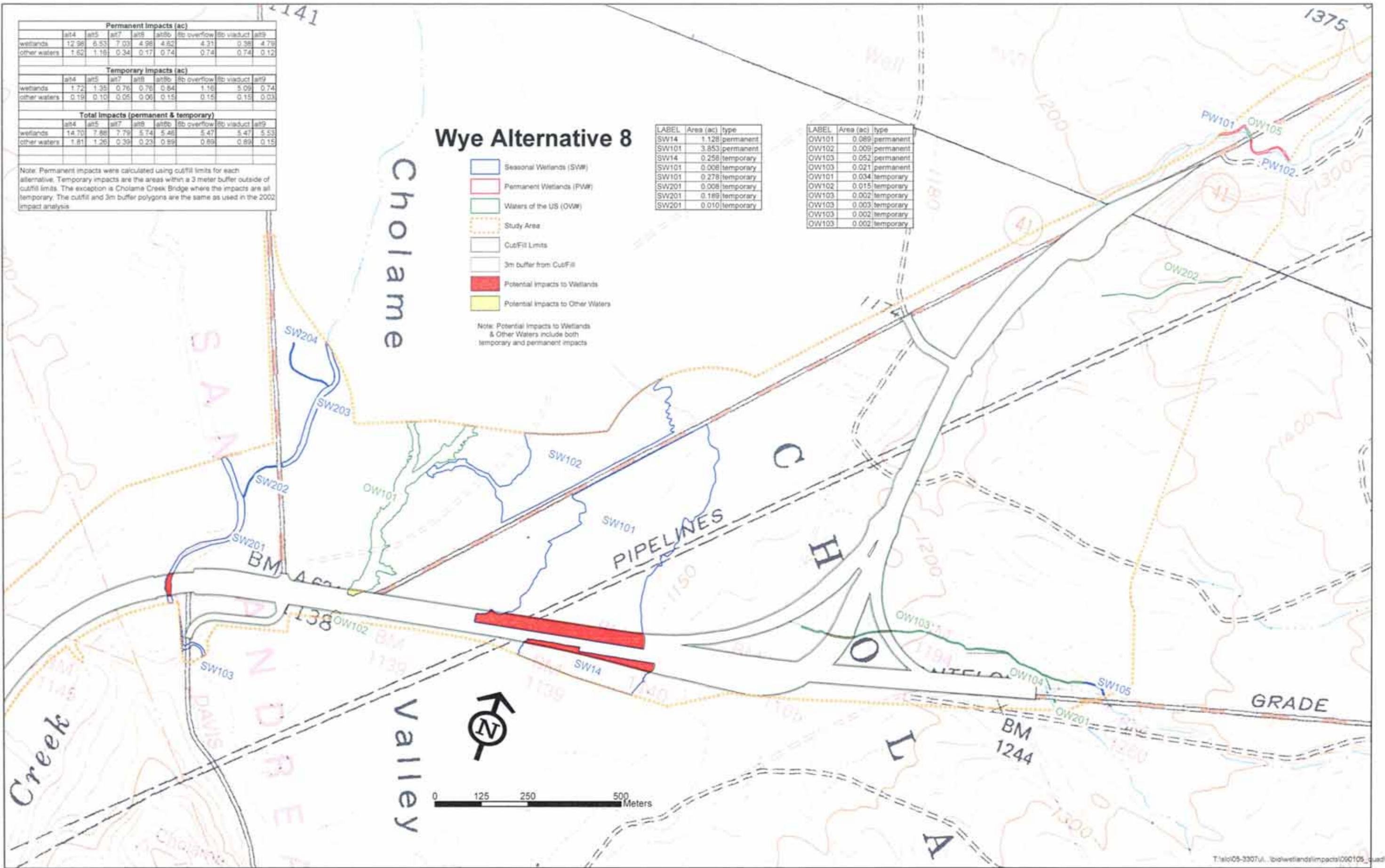
Wye Alternative 8

- ▭ Seasonal Wetlands (SW#)
- ▭ Permanent Wetlands (PW#)
- ▭ Waters of the US (OW#)
- ▭ Study Area
- ▭ Cut/Fill Limits
- ▭ 3m buffer from Cut/Fill
- ▭ Potential Impacts to Wetlands
- ▭ Potential Impacts to Other Waters

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| SW14 | 1.128 | permanent |
| SW101 | 3.853 | permanent |
| SW14 | 0.258 | temporary |
| SW101 | 0.008 | temporary |
| SW101 | 0.278 | temporary |
| SW201 | 0.008 | temporary |
| SW201 | 0.189 | temporary |
| SW201 | 0.010 | temporary |

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| OW101 | 0.089 | permanent |
| OW102 | 0.009 | permanent |
| OW103 | 0.052 | permanent |
| OW103 | 0.021 | permanent |
| OW101 | 0.034 | temporary |
| OW102 | 0.015 | temporary |
| OW103 | 0.002 | temporary |
| OW103 | 0.003 | temporary |
| OW103 | 0.002 | temporary |
| OW103 | 0.002 | temporary |

Note: Potential Impacts to Wetlands & Other Waters include both temporary and permanent impacts



Wye Alternative 8b

| Permanent Impacts (ac) | | | | | | | | |
|------------------------|-------|------|------|------|------|-------------|------------|------|
| | at4 | at5 | at7 | at8 | at8b | Rb overflow | Rb viaduct | at9 |
| wetlands | 12.98 | 6.53 | 7.03 | 4.98 | 4.62 | 4.31 | 0.38 | 4.79 |
| other waters | 1.62 | 1.16 | 0.34 | 0.17 | 0.74 | 0.74 | 0.74 | 0.12 |

| Temporary Impacts (ac) | | | | | | | | |
|------------------------|------|------|------|------|------|-------------|------------|------|
| | at4 | at5 | at7 | at8 | at8b | Rb overflow | Rb viaduct | at9 |
| wetlands | 1.72 | 1.35 | 0.76 | 0.76 | 0.84 | 1.16 | 3.09 | 0.74 |
| other waters | 0.19 | 0.10 | 0.06 | 0.06 | 0.15 | 0.15 | 0.15 | 0.03 |

| Total Impacts (permanent & temporary) | | | | | | | | |
|---------------------------------------|-------|------|------|------|------|-------------|------------|------|
| | at4 | at5 | at7 | at8 | at8b | Rb overflow | Rb viaduct | at9 |
| wetlands | 14.70 | 7.88 | 7.79 | 5.74 | 5.46 | 5.47 | 3.47 | 5.53 |
| other waters | 1.81 | 1.26 | 0.39 | 0.23 | 0.89 | 0.89 | 0.89 | 0.15 |

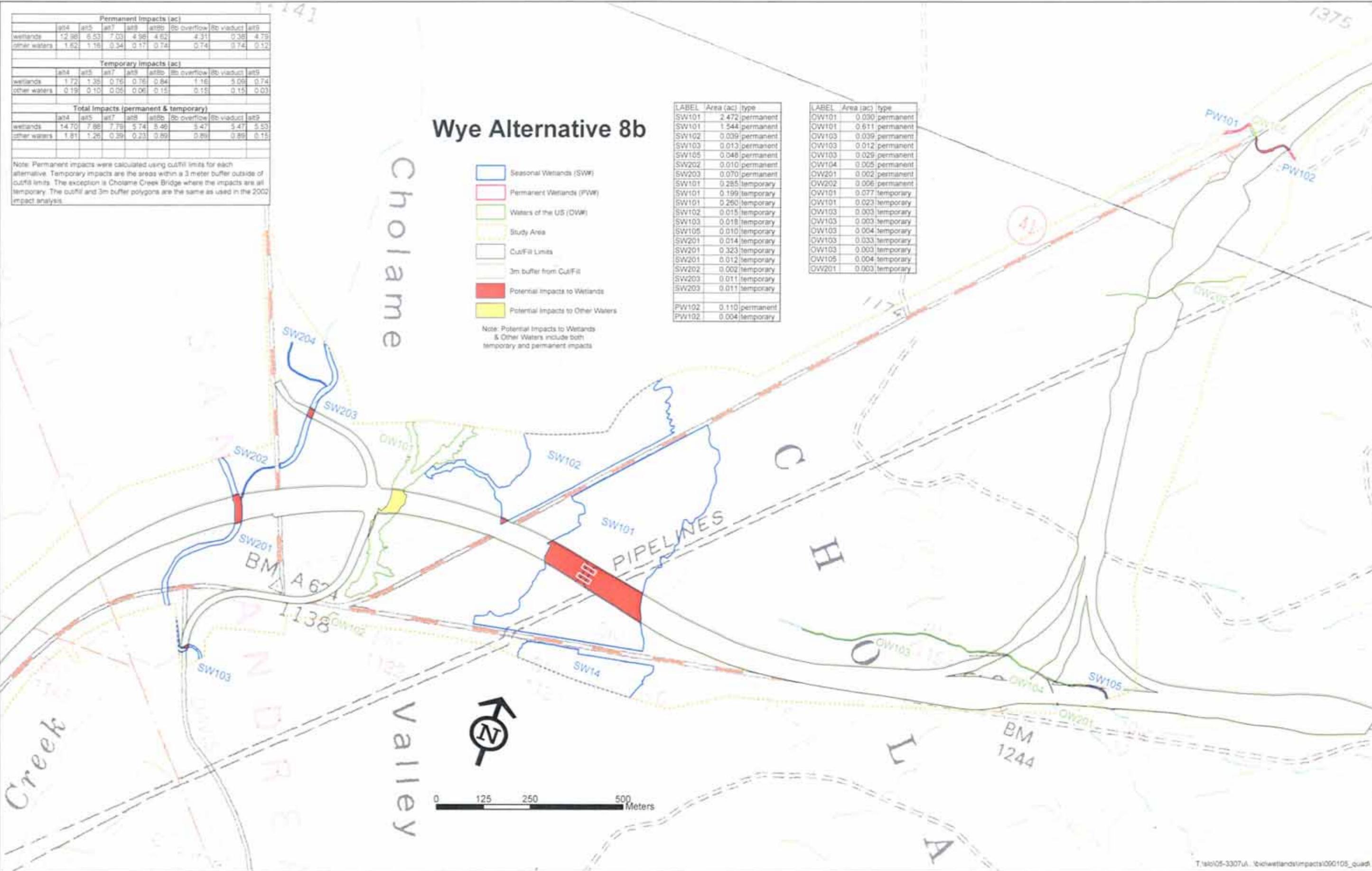
Note: Permanent impacts were calculated using cutoff limits for each alternative. Temporary impacts are the areas within a 3 meter buffer outside of cutoff limits. The exception is Cholame Creek Bridge where the impacts are all temporary. The cutoff and 3m buffer polygons are the same as used in the 2002 impact analysis.

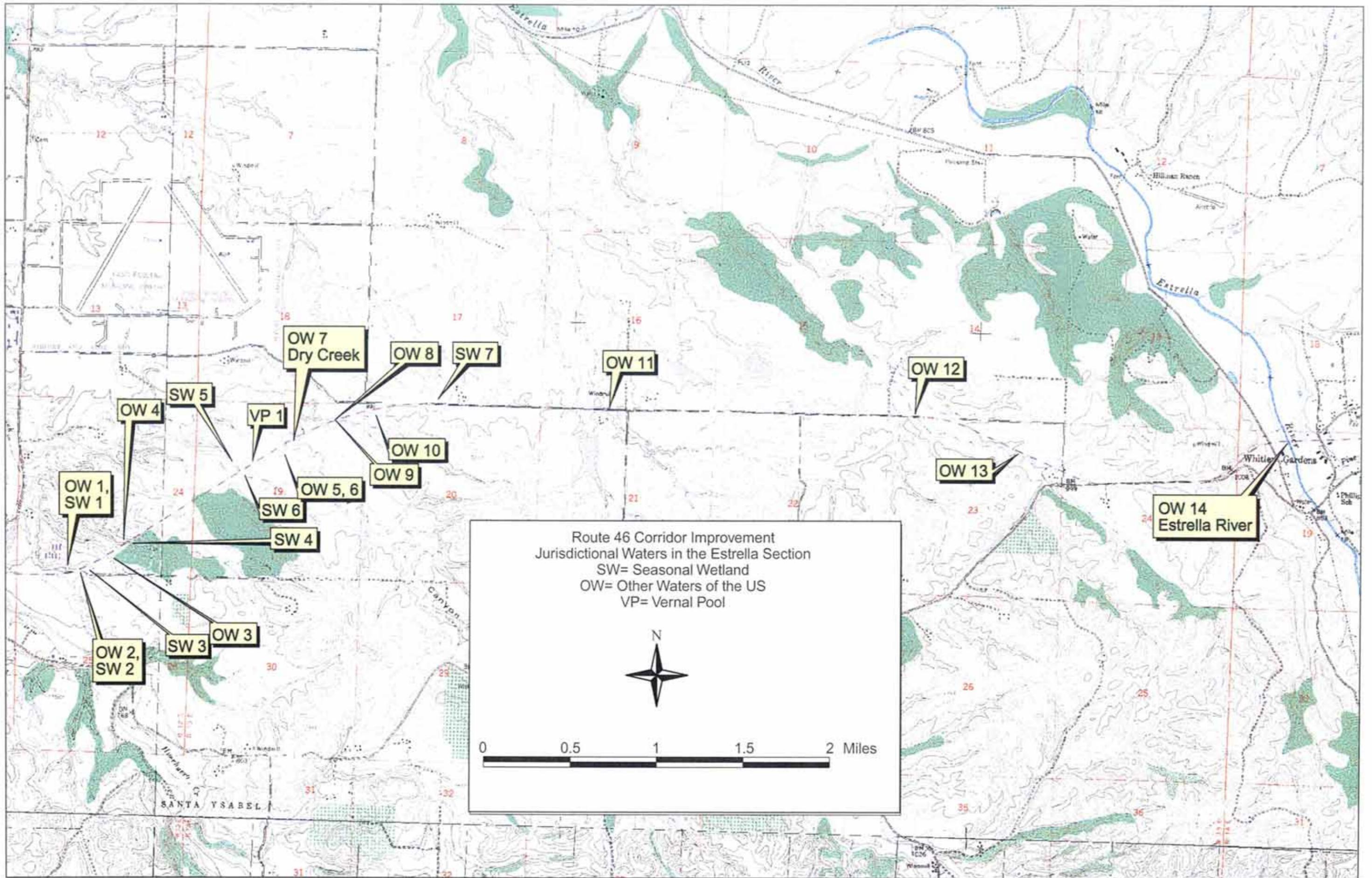
- ▭ Seasonal Wetlands (SWF)
- ▭ Permanent Wetlands (PWF)
- ▭ Waters of the US (OW)
- ▭ Study Area
- ▭ Cutoff Limits
- ▭ 3m buffer from Cutoff
- ▭ Potential Impacts to Wetlands
- ▭ Potential Impacts to Other Waters

Note: Potential Impacts to Wetlands & Other Waters include both temporary and permanent impacts

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| SW101 | 2.472 | permanent |
| SW101 | 1.544 | permanent |
| SW102 | 0.039 | permanent |
| SW103 | 0.013 | permanent |
| SW105 | 0.048 | permanent |
| SW202 | 0.010 | permanent |
| SW203 | 0.070 | permanent |
| SW101 | 0.285 | temporary |
| SW101 | 0.199 | temporary |
| SW101 | 0.260 | temporary |
| SW102 | 0.015 | temporary |
| SW103 | 0.018 | temporary |
| SW105 | 0.010 | temporary |
| SW201 | 0.014 | temporary |
| SW201 | 0.323 | temporary |
| SW201 | 0.012 | temporary |
| SW202 | 0.002 | temporary |
| SW203 | 0.011 | temporary |
| SW203 | 0.011 | temporary |
| PW102 | 0.110 | permanent |
| PW102 | 0.004 | temporary |

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| OW101 | 0.030 | permanent |
| OW101 | 0.611 | permanent |
| OW103 | 0.039 | permanent |
| OW103 | 0.012 | permanent |
| OW103 | 0.029 | permanent |
| OW104 | 0.025 | permanent |
| OW201 | 0.002 | permanent |
| OW202 | 0.006 | permanent |
| OW101 | 0.077 | temporary |
| OW101 | 0.023 | temporary |
| OW103 | 0.003 | temporary |
| OW103 | 0.003 | temporary |
| OW103 | 0.004 | temporary |
| OW103 | 0.004 | temporary |
| OW103 | 0.033 | temporary |
| OW103 | 0.003 | temporary |
| OW105 | 0.004 | temporary |
| OW201 | 0.003 | temporary |





Route 66 Corridor Improvement
Jurisdictional Waters in the Estrella Section
SW= Seasonal Wetland
OW= Other Waters of the US
VP= Vernal Pool



| Permanent Impacts (ac) | | | | | | | | |
|---------------------------------------|-------|------|------|------|-------|-------------|------------|------|
| | alt4 | alt5 | alt7 | alt8 | alt9a | Rb overflow | Rb viaduct | alt9 |
| wetlands | 12.98 | 6.53 | 7.03 | 4.96 | 4.62 | 4.31 | 0.38 | 4.79 |
| other waters | 1.62 | 1.16 | 0.34 | 0.17 | 0.74 | 0.74 | 0.74 | 0.12 |
| Temporary Impacts (ac) | | | | | | | | |
| | alt4 | alt5 | alt7 | alt8 | alt9a | Rb overflow | Rb viaduct | alt9 |
| wetlands | 1.72 | 1.35 | 0.76 | 0.76 | 0.84 | 1.16 | 5.09 | 0.74 |
| other waters | 0.19 | 0.10 | 0.05 | 0.06 | 0.15 | 0.15 | 0.15 | 0.03 |
| Total Impacts (permanent & temporary) | | | | | | | | |
| | alt4 | alt5 | alt7 | alt8 | alt9a | Rb overflow | Rb viaduct | alt9 |
| wetlands | 14.70 | 7.88 | 7.79 | 5.74 | 5.46 | 5.47 | 5.47 | 5.53 |
| other waters | 1.81 | 1.26 | 0.39 | 0.23 | 0.89 | 0.89 | 0.89 | 0.15 |

Note: Permanent impacts were calculated using cutoff limits for each alternative. Temporary impacts are the areas within a 3 meter buffer outside of cutoff limits. The exception is Cholame Creek Bridge where the impacts are all temporary. The cutoff and 3m buffer polygons are the same as used in the 2002 impact analysis.

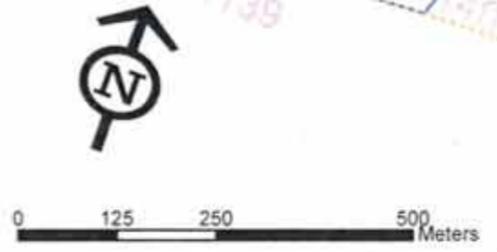
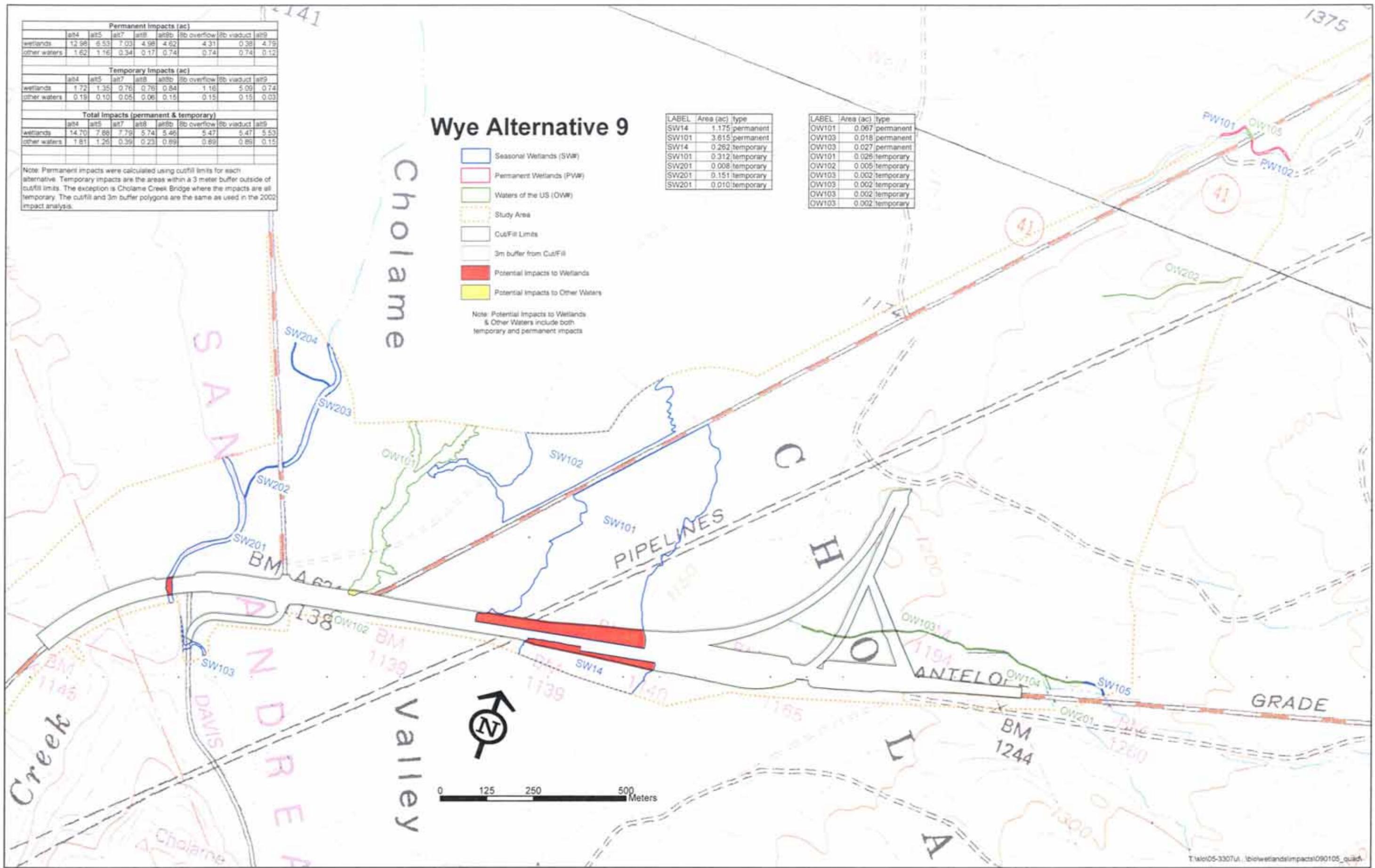
Wye Alternative 9

- Seasonal Wetlands (SW)
- Permanent Wetlands (PW)
- Waters of the US (OW)
- Study Area
- Cut/Fill Limits
- 3m buffer from Cut/Fill
- Potential Impacts to Wetlands
- Potential Impacts to Other Waters

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| SW14 | 1.175 | permanent |
| SW101 | 3.615 | permanent |
| SW14 | 0.262 | temporary |
| SW101 | 0.312 | temporary |
| SW201 | 0.008 | temporary |
| SW201 | 0.151 | temporary |
| SW201 | 0.010 | temporary |

| LABEL | Area (ac) | type |
|-------|-----------|-----------|
| OW101 | 0.067 | permanent |
| OW103 | 0.018 | permanent |
| OW103 | 0.027 | permanent |
| OW101 | 0.028 | temporary |
| OW102 | 0.005 | temporary |
| OW103 | 0.002 | temporary |

Note: Potential impacts to Wetlands & Other Waters include both temporary and permanent impacts



Appendix I: State Office of Historic Preservation Concurrence Letter

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

P O BOX 942896
SACRAMENTO, CA 94296-4001
(916) 653-6624 Fax (916) 653-9924
calshpo@ohp.parks.ca.gov
www.ohp.ca-parks.ca.gov



3 April 2002

In Reply Refer To
FHWA010723A

Michael G. Ritchie
Division Administrator
California Division
Federal Highway Administration
980 Ninth Street, Suite 400
Sacramento, California 95814-2724

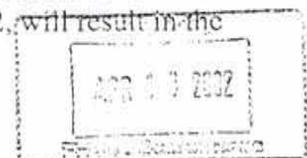
RE: HDA-CA, File Number 05-SLO-46.32.2/56.0 [Further Section 106 Consultation for Proposed Improvements to State Route 46 from Post Mile 32.2 to 56.0, San Luis Obispo County]

Dear Mr. Ritchie,

This letter is the fourth in a series of letters the purpose of which is to reach concurrence on the adequacy of the Federal Highway Administration's (FHWA) efforts to consider the effects of the proposed improvements to a portion of State Route 46 [Kilometer Post 51.2 to 90.0 (Post Mile 31.8 to 56.5)] in San Luis Obispo County on historic properties pursuant to 36 CFR part 800, the regulations that implement Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended.

Valerie A. Levulett, District 5 Branch Chief, Technical Studies, of the California Department of Transportation (Caltrans) responds, on behalf of the FHWA, in a letter of 11 January 2002 to my 26 November 2001 request for clarification on the FHWA's efforts to assess the area along the southeastern boundary of CA-SLO-1927/H for the potential presence of archaeological deposits that relate to the historic community of Cholame, and outlines the FHWA's plan to conclude the agency's efforts to identify historic properties in the undertaking's area of potential effects (APE) under 36 CFR § 800.4(b)(2).

On the basis of the information in the *Revision of Impacts* section of the Caltrans 11 January 2002 letter, I am able to concur that the FHWA's efforts to identify the total potential extent of the historic component of CA-SLO-1927/H are appropriate, under 36 CFR § 800.4(b)(1), to the nature and extent of the undertaking's potential effects to the archaeological property. Caltrans relates in the *Revision of Impacts* section that the agency's recent review and revision of the alternatives presently under consideration, Alternatives 1 and 2, will result in the



Appendix J: U.S. Fish and Wildlife Service Species List



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

August 8, 2002

David Hacker
District 5
Department of Transportation
50 Higuera Street
San Luis Obispo, California 93401

Subject: Species List for Northeastern San Luis Obispo County, California

Dear Mr. Hacker:

This letter is in response to your request, dated May 24, 2002, and received in our office on June 4, 2002, for a revised list of threatened and endangered species which may occur in the Paso Robles, Estrella, Shandon, and Cholame Quadrangles in San Luis Obispo County. The California Department of Transportation (CalTrans), along with the Federal Highways Administration (FHWA), proposes to widen a portion of Highway 46. We originally provided your office with a species list, dated September 20, 1999, for this project. Due to an oversight, the giant kangaroo rat (*Dipodomys ingens*) and the blunt-nosed leopard lizard (*Gambelia sila*) were excluded from the list. We are providing an updated list to you at this time.

The enclosed list of species fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973, as amended (Act). The FHWA, as the lead Federal agency for the project, has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a construction project which may require an environmental impact statement¹, the FHWA has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the FHWA determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to

¹ "Construction project" means any major Federal action which significantly affects the quality of the human environment designed primarily to result in the building of structures such as dams, buildings, roads, pipelines, and channels. This includes Federal actions such as permits, grants, licenses, or other forms of Federal authorizations or approval which may result in construction.

exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a written request for formal consultation. During this review process, the FHWA may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

We also recommend that you review information in the California Department of Fish and Game's (CDFG) Natural Diversity Data Base and that you contact CDFG at (916) 324-3812 for information on other species of concern that may occur in the project area.

If you have any questions, please contact Carol Tyson of my staff at (805) 644-1766.

Sincerely,



for Diane K. Noda
Field Supervisor

Enclosure

**ENDANGERED, THREATENED, PROPOSED, AND CANDIDATE SPECIES WHICH
MAY OCCUR IN PASO ROBLES, ESTRELLA, SHANDON, AND CHOLAME
QUADRANGLES SAN LUIS OBISPO COUNTY, CALIFORNIA**

Mammals

| | | |
|---------------------|-------------------------------|---|
| Giant kangaroo rat | <i>Dipodomys ingens</i> | E |
| San Joaquin kit fox | <i>Vulpes macrotis mutica</i> | E |

Reptiles

| | | |
|----------------------------|-----------------------|---|
| Blunt-nosed leopard lizard | <i>Gambelia silus</i> | E |
|----------------------------|-----------------------|---|

Invertebrates

| | | |
|----------------------------|------------------------------------|---|
| Conservancy fairy shrimp | <i>Branchinecta conservatio</i> | E |
| Longhorn fairy shrimp | <i>Branchinecta longiantenna</i> | E |
| Vernal pool fairy shrimp | <i>Branchinecta lynchi</i> | T |
| Vernal pool tadpole shrimp | <i>Lepidurus packardii</i> | E |
| San Diego fairy shrimp | <i>Branchinecta sandiegonensis</i> | E |

Amphibians

| | | |
|----------------------------|------------------------------|-------|
| California red-legged frog | <i>Rana aurora draytonii</i> | T, CH |
|----------------------------|------------------------------|-------|

Key:

E - Endangered T - Threatened CH - Critical Habitat

**Appendix K: National Environmental
Policy Act 404 Memorandum of
Understanding Concurrence Letters**



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
333 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94105-2197

APR 10 2001

Regulatory Branch

SUBJECT: File Number 24573S

Mr. John Luchetta
Office of Environmental Planning
California Department of Transportation
50 Higuera Street
San Luis Obispo, California 93401-5415

Attn: Mr. Larry Bonner

Dear Mr. Luchetta:

We received your letter dated February 6, 2001 and follow-up correspondence dated February 23, 2001 requesting concurrence on the NEPA-404 Purpose and Need for the State Route 46 Four-Lane Widening Project. Your letter contained the purpose and need statement along with supporting documentation (Attachment 1). The information was requested by the signatory agencies present at the NEPA-404 Integration Process kick-off meeting held on March 16, 2000 to help clarify the project need.

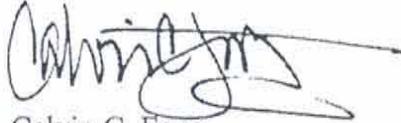
Based on our review of the information you submitted, the Corps concurs with the purpose and need statement presented by Caltrans and Federal Highway Administration (FHWA) for the project. The purpose and need statement reads as follows:

The basic project purpose is to minimize fatal accidents, improve safety, and reduce existing and future peak-hour congestion on Route 46 between Paso Robles and Cholame, a critical east-west corridor connecting the Central Coast and Central Valley areas of California.

We look forward to continuing the NEPA-404 Integration Process for this project. The next steps in the NEPA-404 Integration Process include agreement on 1) the criteria for alternative selection, 2) project alternatives to be evaluated in the Environmental Assessment (EA), and 3) the preliminary preferred alternative (if known). We also look forward to receiving a copy of your Section 404 permit application for our review. A copy of your approved draft EA should be included with your application.

If you have any questions, please contact Victoria Alvarez, of our Regulatory Branch at 415-977-8472.

Sincerely,

A handwritten signature in black ink, appearing to read "Calvin C. Fong", with a long horizontal stroke extending to the right.

Calvin C. Fong
Chief, Regulatory Branch

Enclosures

Copy Furnished:

US EPA, San Francisco, CA (Liz Varnhagen-CMD2)
US FWS, Ventura, CA (Carol Tyson)
CA RWQCB, San Luis Obispo, CA
CA DFG, Yountville, CA



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
333 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94105-2197

REC 13 2001

Regulatory Branch

SUBJECT: File Number 24573S

Mr. John Luchetta
California Department of Transportation
Office of Environmental Planning
50 Higuera Street
San Luis Obispo, California 93401-5415

Dear Mr. Luchetta:

This letter is in response to your correspondence dated October 29, 2001 requesting concurrence on the range of alternatives selected for the State Route 46 Corridor Improvement Project located in San Luis Obispo County, California. Your request for concurrence is pursuant to our discussion of the alternatives under consideration at the NEPA-404 Integration meeting for the project held on September 18, 2001. Supporting documentation for the September 18, 2001 meeting included a brief project description, project history, description of alternatives under consideration and a description of alternatives considered and withdrawn.

To more easily describe the alternatives under consideration, the overall project is divided into four sections with each section containing various alternatives. The four sections are entitled Estrella, Shandon, Cholame and Wye. The various alternatives within each section include:

Estrella Section: Alternative 9n and 8n (Figure 1);

Shandon Section: Alternative 1 and 2 (Figure 2);

Cholame Section: Alternatives 1 & 2 and 2 & 3 (Figure 3) and

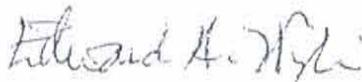
Wye Section: Alternative 4 (Figure 4), Alternative 5 (Figure 5), Alternative 7 (Figure 6), Alternative 8 (Figure 7), Alternative 8b (Figure 8) and Alternative 9 (Figure 9).

Based on our review of the information you submitted regarding the alternatives considered and withdrawn as well as background information provided for each of the alternatives under consideration, the Corps concurs with the range of alternatives described in your September 18, 2001 meeting documentation and shown in Figures 1-9. It is the Corps' understanding that these alternatives will be considered in the California Department of Transportation/Federal Highway Administration NEPA Draft Environmental Assessment (DEA).

We look forward to continuing the NEPA-404 Integration Process for this project. The next steps include 1) identification of the final Environmental Assessment (FEA) NEPA preferred/Section 404 Least Environmentally Damaging practicable alternative and preliminary agreement on the preferred alternative's compliance with the Section 404(b)(1) Guidelines which includes preliminary agreement on the proposed project habitat mitigation plan. We also look forward to receiving a copy of your Section 404 permit application for our review along with a copy of your draft DEA.

Should you have any questions, please contact Victoria Alvarez of our Regulatory Branch at (415) 977-8472. Please address all correspondence to the Regulatory Branch and refer to the file number at the head of this letter.

Sincerely,



507 Calvin C. Fong
Chief, Regulatory Branch

Enclosures

Copies Furnished:

US EPA, San Francisco, CA (Attn: Liz Varnhagen)
US FWS, Ventura, CA (Attn: Carol Tyson)
CA RWQCB, San Luis Obispo, CA
CA DFG, Yountville, CA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

APR 11 2001

Larry Bonner
California Department of Transportation
50 Higuera Street
San Luis Obispo, California 93401

Dear Mr. Bonner:

This is in response to your letter dated February 23, 2001 requesting the Environmental Protection Agency's concurrence on the Purpose and Need statement for the **Highway 46 Four-Lane Widening Project in San Luis Obispo County, California**. The request is pursuant to the National Environmental Policy Act/Section 404 of the Clean Water Act Memorandum of Understanding (NEPA/404 MOU).

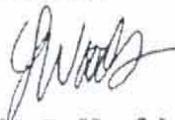
As stated in the accompanying supplementary information, the purpose of the project is to minimize fatal accidents, improve highway safety, and reduce existing and future peak-hour traffic congestion on State Route 46 between Paso Robles and Cholame. SR-46 serves as an important east-west highway connecting the Central Valley (I-5) to the Central Coast (US-101), used by trucks hauling goods across the region as well as by an increasing number of cars, a portion of which are from local communities.

We concur with the purpose and need statement. However, we feel the title of the project, *Highway 46 Four-Lane Widening Project*, is too constraining from a NEPA perspective. Widening a two lane highway to a four lane expressway represents one alternative for increasing highway safety and reducing congestion. It may be a preferred alternative, but under NEPA and Section 404, other potentially less environmentally damaging alternatives to accomplish the project purpose should be thoroughly explored. We feel that specifying widening in project title may preclude a rigorous exploration of project alternatives. We recommend changing the title to the Highway 46 *Improvement* Project to retain objectivity.

Thank you for this opportunity to comment on the Purpose and Need statement for State Route 46 under the NEPA/404 MOU. We look forward to continued involvement through the next steps of the process, which will be the identification and development of a range of project alternatives and screening criteria. These criteria will be used to select alternatives which will be explored in greater detail in the environmental impact assessment process. Ultimately, the NEPA/404 process will identify the least environmentally damaging practicable alternative (LEDPA) for authorization by the Corps of Engineers under the Clean Water Act.

If you have any questions or comments, please feel free to contact me at (415) 744-1584 or Liz Varnhagen of my staff at (415) 744-1624.

Sincerely,



Liz Lisa B. Hanf, Manager
Federal Activities Office

cc: Victoria Alvarez, Corps of Engineers, San Francisco
Carol Tyson, USFWS, Ventura
Brian Zewe , FHWA, Sacramento



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

December 13, 2001

Larry Bonner
California Department of Transportation
50 Higuera Street
San Luis Obispo, California 93401

Dear Mr. Bonner:

This is in response to your letter dated October 29, 2001 requesting the Environmental Protection Agency (EPA)'s concurrence on the range of alternatives for the **Highway 46 Four-Lane Improvement Project in San Luis Obispo County, California**. The request is pursuant to the National Environmental Policy Act/Section 404 of the Clean Water Act Integration Process Memorandum of Understanding (NEPA/404 MOU).

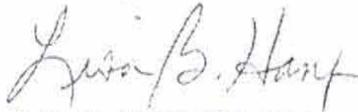
EPA concurred with the purpose and need statement for the project on April 11, 2001. Subsequently, an interagency meeting was held on September 18, 2001 in which Caltrans presented the project alternatives for evaluation in the draft environmental assessment (DEA) to representatives from the Corps of Engineers, U.S. Fish and Wildlife Service (USFWS), and the EPA. These alternatives are described in a document entitled, "Description of the project and alternatives" (undated), that accompanied a letter dated July 31, 2001, inviting us to the September meeting. Specific information about impacts to waters of the United States (waters) that would result from the construction of the different alternatives was transmitted to EPA and the Corps by facsimile the day of the meeting. Additional supplementary maps and drawings were furnished to EPA with a cover letter dated November 29, 2001 in response to our request to have more resource-based information that would illustrate the varying degrees of wetland encroachment for each of the alternatives.

We concur with the range of alternatives to be evaluated in the draft environmental impact report/environmental assessment (DEIR/EA). We support the way in which Caltrans divided the "Build" alternatives into four sections, Estrella, Shandon, Cholame, and Wye. Three of the sections have two alternative alignments. The section that includes the interchange with SR 41 and has the greatest potential for impacts to waters, has six alternative alignments. For the most part, the different alternatives within a section vary in extent of impact to waters and none of the alternative alignments in any section predetermines the selection of an alternative in an adjacent section.

Additionally, we acknowledge and encourage Caltrans' efforts to design a special vegetated highway over-crossing to accommodate pronghorn antelope movement along with other forms of wildlife, and to work with the USFWS staff in developing ways to allow the Federally listed San Joaquin kit fox to safely cross under the transportation corridor as well. We recognize that these tasks are unusual and specialized, but since the obstruction of wildlife movement may potentially be one of the major adverse impacts of this roadway, we feel that this kind of effort is appropriate and justified.

Thank you for requesting our concurrence on the range of alternatives for State Route 46 under the NEPA/404 MOU. We look forward to reviewing the DEIR/EA when is circulated. If you have any questions or comments, please feel free to contact Liz Varnhagen of my staff at (415) 972-3845 or at varnhagen.liz@epa.gov.

Sincerely,



Lisa B. Hanf, Manager
Federal Activities Office

cc: Victoria Alvarez, Corps of Engineers, San Francisco
Carol Tyson, USFWS, Ventura
RC Slovensky , FHWA, Sacramento



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

May 18, 2001

Larry Bonner, Environmental Planner
Department of Transportation
50 Higuera Street
San Luis Obispo, California 93401-5415

Subject: Revised Purpose and Need Statement for the Highway 46 East Improvement Project, San Luis Obispo County, California

Dear Mr. Bonner:

We have reviewed your letter, dated May 8, 2001, and received on May 10, 2001, with the revised purpose and need statement developed as part of the preparation of the environmental impact report/environmental assessment for the proposed improvement of Highway 46 East in San Luis Obispo County, California. The revised purpose and need statement reflects the changes we recommended to you in our letter, dated April 13, 2001. Therefore, in accordance with the 1994 Memorandum of Understanding among your agency, the U.S. Fish and Wildlife Service, and the Federal Highway Administration, we concur with your revised purpose and need statement.

If you have any questions, please contact Carol Tyson of my staff at (805) 644-1766.

Sincerely,

Diane K. Noda
Field Supervisor

The addendum to the alternatives description package outlines the following measures to minimize effects to the San Joaquin kit fox: constructing undercrossings, installing culvert-type structures at a minimum of 0.5 km intervals, purchasing conservation easements, and constructing a vegetated wildlife overcrossing structure. The placement and dimensions of the culverts and overcrossing are not yet determined. We understand that you consider the overcrossing to be a benefit primarily to pronghorn antelope (*Antilocapra americana*) and not to the San Joaquin kit fox; however, we consider this structure an important measure which may minimize adverse affects to the San Joaquin kit fox and its habitat. Dr. Brian Cypher identifies the value of overcrossings in his document entitled "Effects of Roads on San Joaquin Kit Foxes: A Review and Synthesis of Existing Data," dated December 2000. He states that the use of wildlife overpasses and underpasses is a mitigation strategy that could benefit kit foxes. Kit foxes have been observed to use bridges in order to cross roads and canals (Endangered Species Recovery Program, unpublished data). Also, Dr. Cypher states that overpasses or underpasses would be particularly beneficial to kit foxes where roads cross important movement and dispersal corridors.

We concur with the alternatives given that the measures described in the addendum to the alternatives description package will be incorporated into the description of all of the alternatives identified in the alternatives description package. We appreciate the opportunity to participate at this stage in the NEPA process. We are interested in continuing to work with you during the NEPA process to ensure that listed species are fully addressed and opportunities to minimize adverse affects are identified. If you have any questions regarding our comments, please contact Carol Tyson of this office at (805) 644-1766.

Sincerely,



Diane K. Noda
Field Supervisor



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

December 20, 2001

Larry Bonner, Environmental Planner
Department of Transportation
50 Higuera Street
San Luis Obispo, California 93401-5415

Subject: Reasonable Range of Alternatives for the Highway 46 Corridor Improvement Project, San Luis Obispo County, California

Dear Mr. Bonner:

We have reviewed your request, dated October 29, 2001, and received on October 31, 2001, for our concurrence with the alternatives described in the alternatives description package, dated July 31, 2001, and the addendum to that package, dated October 29, 2001. The addendum discusses on-site and off-site measures which will be implemented to minimize impacts to listed species. The alternatives have been developed as part of the preparation of the environmental assessment/environmental impact report for the proposed project to expand Highway 46 East to a four-lane divided expressway in San Luis Obispo County, California. You are requesting our concurrence with the alternatives per the 1994 National Environmental Policy Act (NEPA) 404 Process Memorandum of Understanding (MOU) between your agency, the U.S. Fish and Wildlife Service (Service), and the Federal Highway Administration (FHWA).

The project would improve safety and provide congestion relief on State Route 46 between postmile 32.2 through 56.0. This will be accomplished by creating an additional travel lane in each direction (east and west), separating the east and west-bound lanes by a median strip, improving inside and outside paved shoulder widths, and providing channelization at all public road intersections within the project limits. Safety will also be improved in the Wye section by eliminating the State Routes 46/41 at-grade intersection and constructing an interchange for the connection.

The proposed project is expected to adversely affect the San Joaquin kit fox (*Vulpes macrotis mutica*) by increasing the number of deaths and injuries to San Joaquin kit fox as a result of increased traffic and increased vehicle speeds. More importantly, San Joaquin kit fox are known to be relatively abundant in the immediate area and the entire project area is considered an essential corridor between the following two kit fox populations: Camp Roberts/Fort Hunter-Liggett and the Carrizo Plain/San Joaquin Valley.

Appendix L: Analysis of Appropriate Size for the Cholame Creek Overflow Structure

The following communication was an e-mail sent from Dave Hacker to Bob Stafford, Jorine Campopiano, and Matt Lakin and cc'd to Larry Bonner and John Luchetta on January 13, 2005.

An attachment was included which follows the text of this message.

Hi, Bob, Jorine, and Matt. Attached is a table summarizing all of the info that I have gathered regarding pronghorn use or avoidance of underpasses. I have been in contact with folks in Utah, Wyoming, and Arizona to collect this information. As you can see, very few crossings have been sufficiently monitored--not enough to make a truly informed decision on minimum crossing dimensions for pronghorn.

Nonetheless, we are charged with figuring out the width, height, and through-length for the proposed Cholame Creek Overflow so that it will function as a pronghorn crossing. This is different than deciding whether the main Cholame Creek Bridge, already designed, will function as a pronghorn crossing because that bridge would have 13 times the openness factor (length x width / height) of the most successful known pronghorn crossing and is in a suitable site that pronghorn frequent. I feel confident that the Cholame Creek crossing will work because it is so large, but I have reservations about designing one from scratch because we do not know where the thresholds lie that determine effectiveness for pronghorn.

With so little information on what makes a successful pronghorn crossing, we could easily design a crossing that would not work. The data in the attached table don't appear to show any pattern except that pronghorn avoid very constricted passages such as box culverts. No one has monitored crossings with openness factors between 3.5 and 0.7, where the threshold for pronghorn use probably lies. The data also tell us nothing about at which openness factor we might begin to see regular and high levels of use instead of just some limited use. Documented use and avoidance are spotty with openness factors everywhere from 3.5 to 27.5. If you have access to creative statisticians, maybe they could help; but there is so little data that I doubt it.

We have one fixed dimension to work with: the width of the four lanes and median control the Overflow's through-length of 132 ft. We also know that a location on the Cholame Valley floor is ideal for a pronghorn passage: pronghorn frequent the valley floor (so they are likely to encounter the crossing), the terrain is flat and conducive to pronghorn movements, and the line of sight through the crossing would be unobstructed from at least 0.25 mile away from the structure.

That leaves us with the width and the height. Width and height also affect pier design and placement. We wouldn't want, for example, a 100-ft structure with piers every 20 feet. That would reduce the openness and probably negatively affect use by pronghorn.

It does appear that at some height over 8 feet, crossing height is not the most important factor. I suspect that due to their desire to be able to move in any direction except up to avoid predators, crossing width and length may be more important. At Nugget Canyon,

70 of 89 pronghorn approaching a 10.5 ft-high culvert crossed through, in eleven different crossing events. Nugget Canyon did, however, have a much shorter through-length (60 feet) than would the Cholame Valley Overflow (132 ft). But then Nugget Canyon's openness factor is only 3.5.

With the current Highway 46 design, the fill height across the Cholame Valley would allow a 2.6 m (8.5 ft) bridge height. No crossing with a similar height has shown use, but that may be attributed to the monitored structures' narrow widths. I propose that we start with a 4.5 m height (14.7 ft) because that seems to be within range of most crossings that we know pronghorn have used. This would require raising the fill height by 1.9 m (6.2 ft) and width by 7.6 m (24.8 ft) (assuming a 1:2 slope). This would increase wetland impacts by 0.48 acre.

If we choose a target openness factor, then we can solve for the structure width. Openness factors as low as 3.5 have worked, but much greater ones have also not worked. This is where things become closer to arbitrary: let's pick something around, say, 12. That would give us a width of 108 feet. That's a little more than 1/4 the total width of the proposed Cholame Creek Bridge. The maximum single-span bridge that we could do is 40 m (131 ft), which would give us an openness factor of 14.6. Anything wider would require pier walls, and once pier walls are introduced we would have to double the width to assure the same effectiveness of a single span. The bridge would coincidentally reduce impacts by about 0.48 acre, so it would be a wash for wetland impacts.

So, I propose that for purposes of pronghorn habitat connectivity, Cholame Creek Overflow be a single span bridge, 14.7 feet to the soffit (bottom of bridge), spanning 131 feet. Let me know what you think.

Dave

Summary of Known Pronghorn Use and Non-Use of Highway Undercrossings

| Underpass | Openness Factor* | Height (ft) | Width (ft) | Through Length (ft) | Use by Pronghorn | Source |
|------------------------------------|------------------|-------------|------------|---------------------|--|--|
| Box 3 | 0.3 | 10 | 10 | 393 | no evidence | Ward et al. 1980 |
| Box 4 | 0.4 | 10 | 10 | 282 | no evidence | Ward et al. 1980 |
| Box 2 | 0.4 | 10 | 10 | 280 | no evidence | Ward et al. 1980 |
| Box 1 | 0.7 | 10 | 10 | 153 | no evidence | Ward et al. 1980 |
| Machinery 2 | 3.5 | 13 | 30 | 110 | 1 occurrence of buck crossing in 6 year study | Ward et al. 1980 |
| Nugget Canyon, Wyoming | 3.5 | 10.5 | 20 | 60 | 11 crossing events in 8 month study, 70 of 89 pronghorn that approached structure passed | Plumb et al. 2003 |
| Machinery 1 | 3.8 | 15 | 50 | 200 | no evidence | Ward et al. 1980 |
| Wyoming 1 | 4.0 | 12 | 20 | 60 | 1 occurrence of herd crossing | B. Rudd, Wyoming Game and Fish, personal communication |
| Peterson's | 4.3 | 17 | 50 | 200 | no evidence | Ward et al. 1980 |
| existing Cholame Ck. Bridge | 15.2 | 14 | 39 | 36 | use for shade, possibly as undercrossing | personal observation; S. Sanders, Jack Ranch Manager, personal communication |
| Wyoming 2 | 26.3** | 25** | 75** | 70** | unverified tracks found under bridge | M. McKinstry, US Bureau of Reclamation, J. Haschke personal communication |
| Wyoming 3 | 27.5** | 30** | 120** | 131** | multiple crossing events known over multiple years | M. McKinstry, US Bureau of Reclamation, personal communication |
| proposed Cholame Ck. overflow | 14.6 | 14.7 | 131 | 132 | N/A | N/A |
| proposed Cholame Ck. undercrossing | 46.2 | 16.4 | 394 | 140 | N/A | CalTrans engineering drawings |

*width x height / length

**dimensions are approximate

Ward, A.L., N.E. Fornwalt, S.E. Henry, and R.A. Hodorff. 1980. Effects of highway operation practices and facilities on elk, mule deer, and pronghorn antelope. Federal Highway Administration, Offices of Research and Development, Environmental Division, Washington DC. FHWA-RD-79-143.

Plumb, R.E., K.M. Gordon, and S.H. Anderson. 2003. Pronghorn use of a wildlife underpass. Wildlife Society Bulletin 31:1244-1245.