Auburn-Folsom Road Widening Project

From the Placer County Line North to Douglas Boulevard

Environmental Assessment/ Draft Environmental Impact Report

Volume 2 of 2—Technical Appendices

Federal Lead Agency:
U.S. Bureau of Reclamation

State Lead Agency:
Placer County

State Clearinghouse Number 2002042036

March 2003

Auburn-Folsom Road Widening Project

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Volume 2 of 2, Technical Appendices

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Federal Lead Agency:

U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630
Contact: Sandi Richerson
916/989-7174

State Lead Agency:

Placer County
Department of Public Works
11444 B Avenue
DeWitt Center
Auburn, CA 95603
Contact: Charles W. Ebeling, P.E.
530/886-3521

Environmental Consultant:

Jones & Stokes
2600 V Street
Sacramento, CA 95818-1914
Contact: Lynn Finley
916/737-3000

March 2003

Placer County. 2003. Auburn-Folsom Road widening project environmental assessment/draft environmental impact report: Volume 2, technical appendices. March. (J&S 02-102.) Sacramento, CA. Environmental consultant: Jones & Stokes.

Technical Appendices

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Appendix A

Preliminary Design Drawings

This appendix contains the following preliminary engineering design drawings for the proposed project:

- Study Area
- Alternative 1: Widen Roadway to the West
- Alternative 2: Widen Roadway to the East
- Alternative 3: Widen Roadway Equally on Both Sides
- Alternative 4: County DPW–Preferred Alternative

Appendix A

Preliminary Design Drawings

This appendix contains the following preliminary engineering design drawings for the proposed project:

- Study Area
- Alternative 1: Widen Roadway to the West
- Alternative 2: Widen Roadway to the East
- Alternative 3: Widen Roadway Equally on Both Sides
- Alternative 4: County DPW–Preferred Alternative

Study Area

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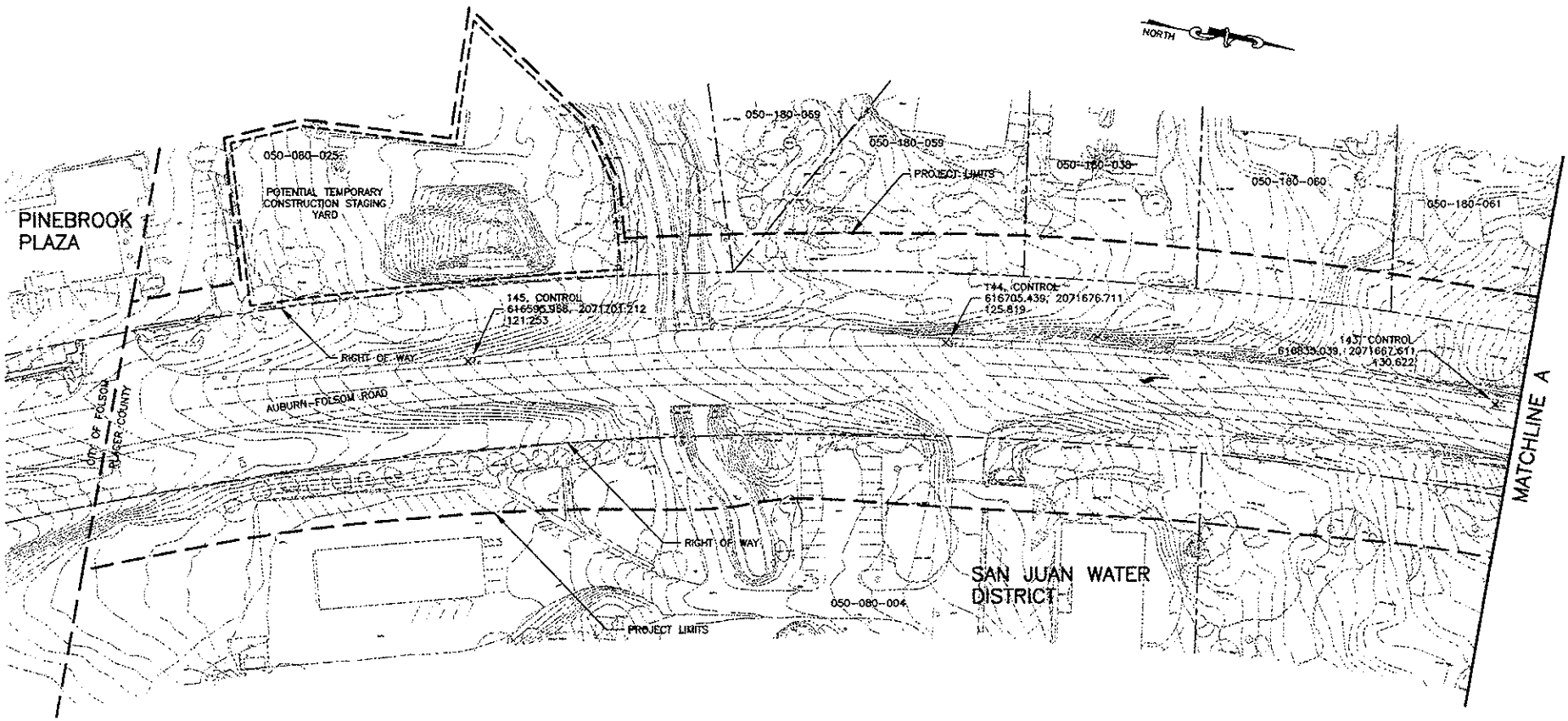
NOT FOR CONSTRUCTION



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POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION
2) RIGHT-OF-WAY AND PROPERTY LINES ARE SHOWN IN APPROXIMATE LOCATIONS FOR REFERENCE PURPOSES ONLY

FOR REDUCED PLANS ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

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VERTICAL: N.A.

DESIGNED: S. EBELING 052102
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CHECKED: E. MCCARTHY 052102
DATE:

PLACER COUNTY PROJECT NUMBER: PC 2764

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 1 OF 11

PRELIMINARY DESIGN PLANS
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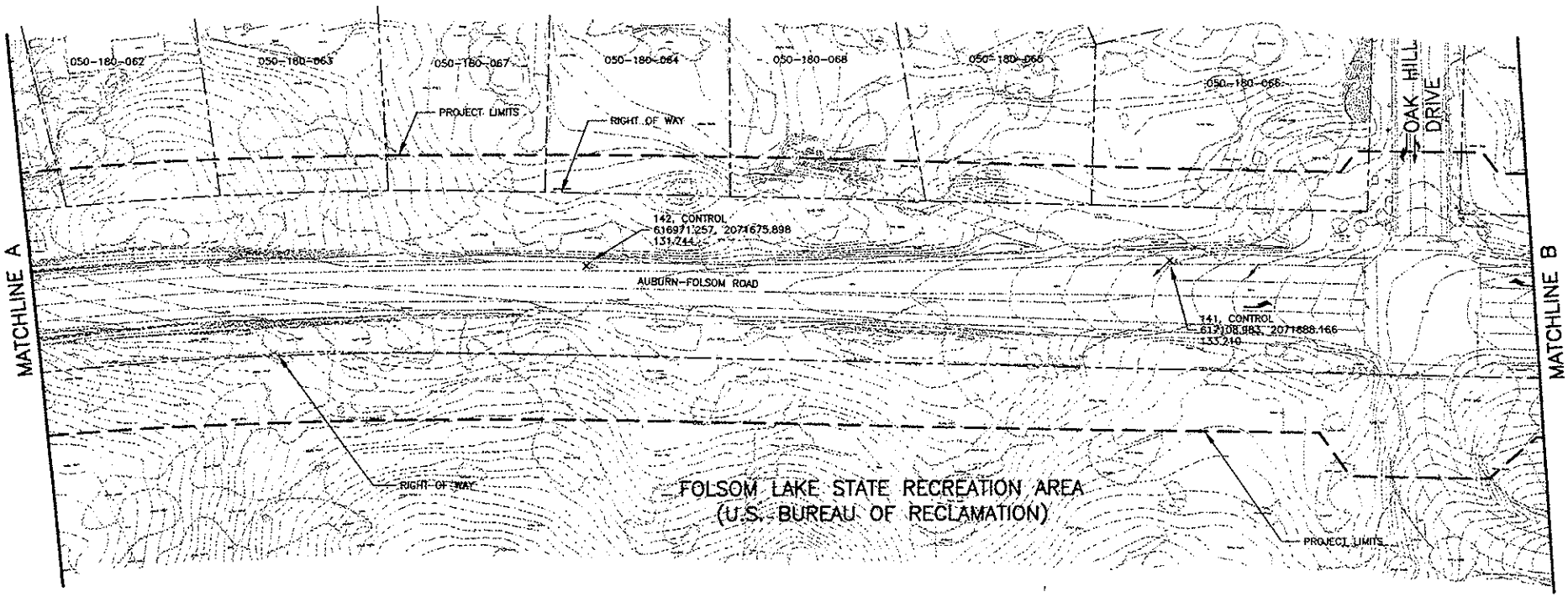

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AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
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SHEET NO.
2
OF
11

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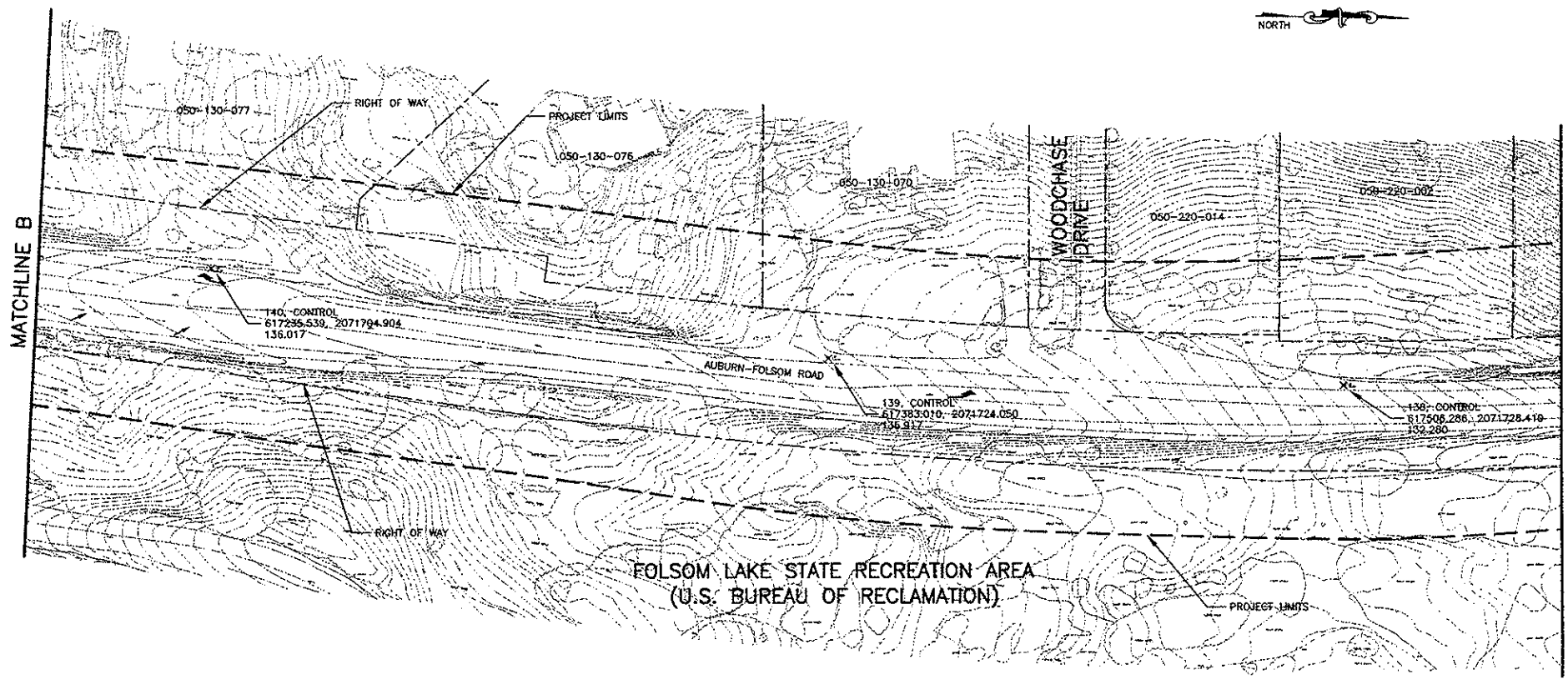

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COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
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AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

SHEET NO. 3 OF 11

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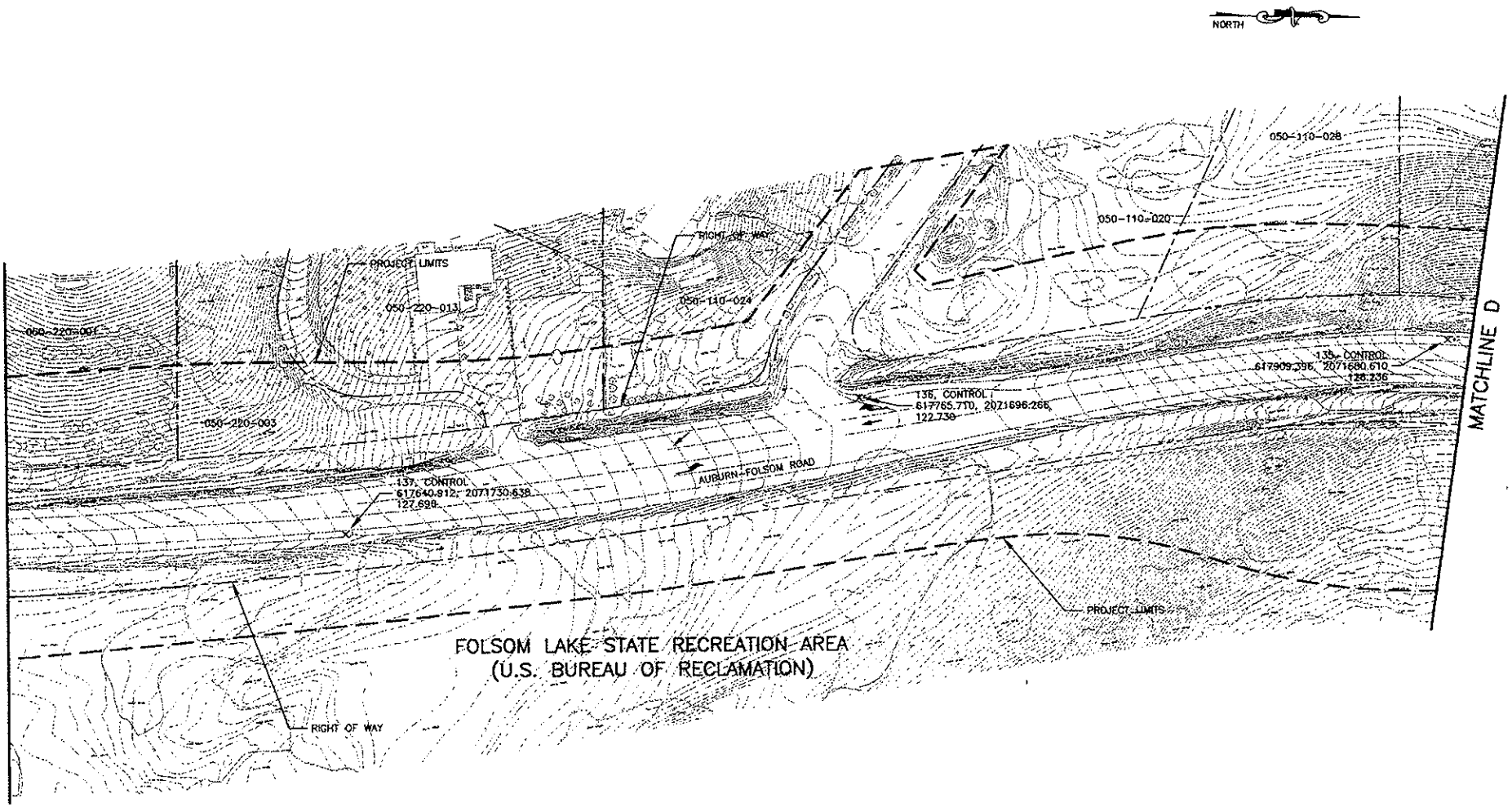

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AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 4 OF 11

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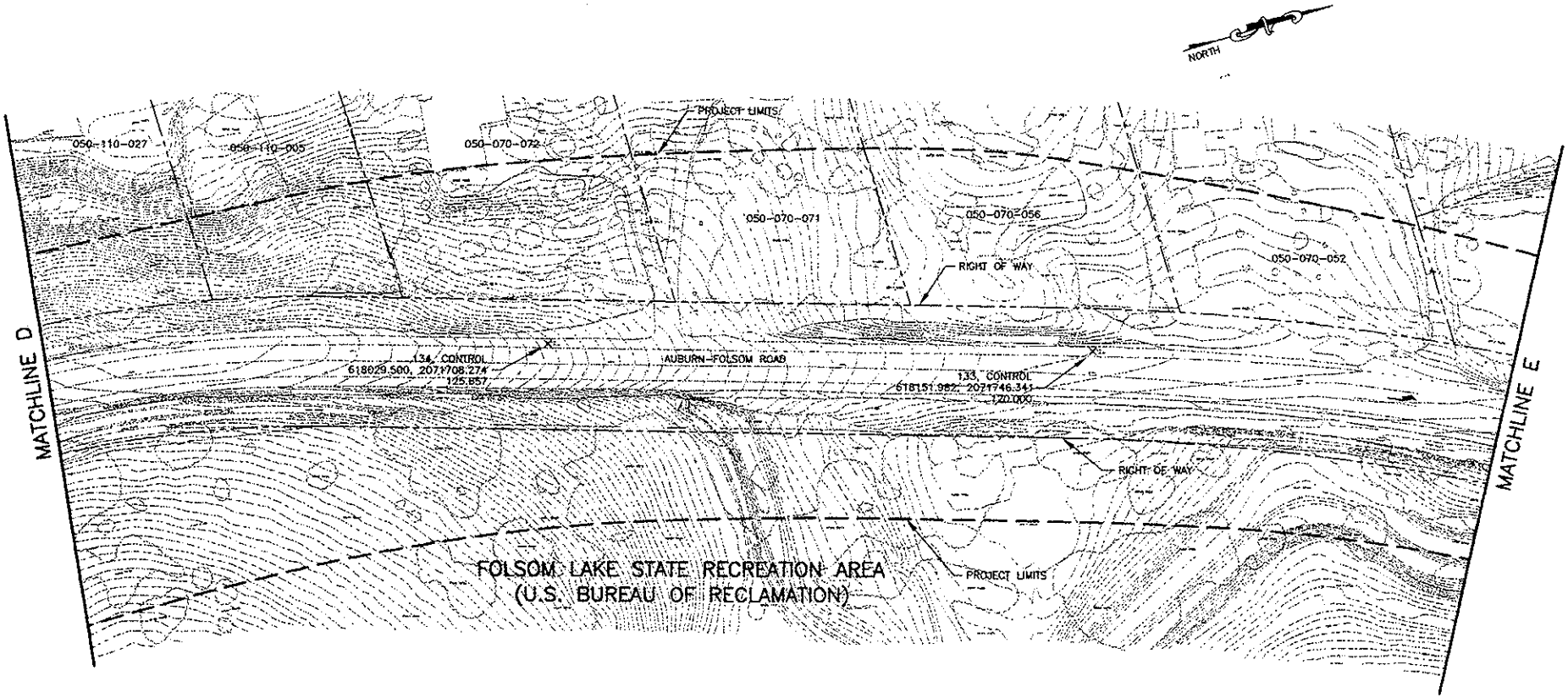

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AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
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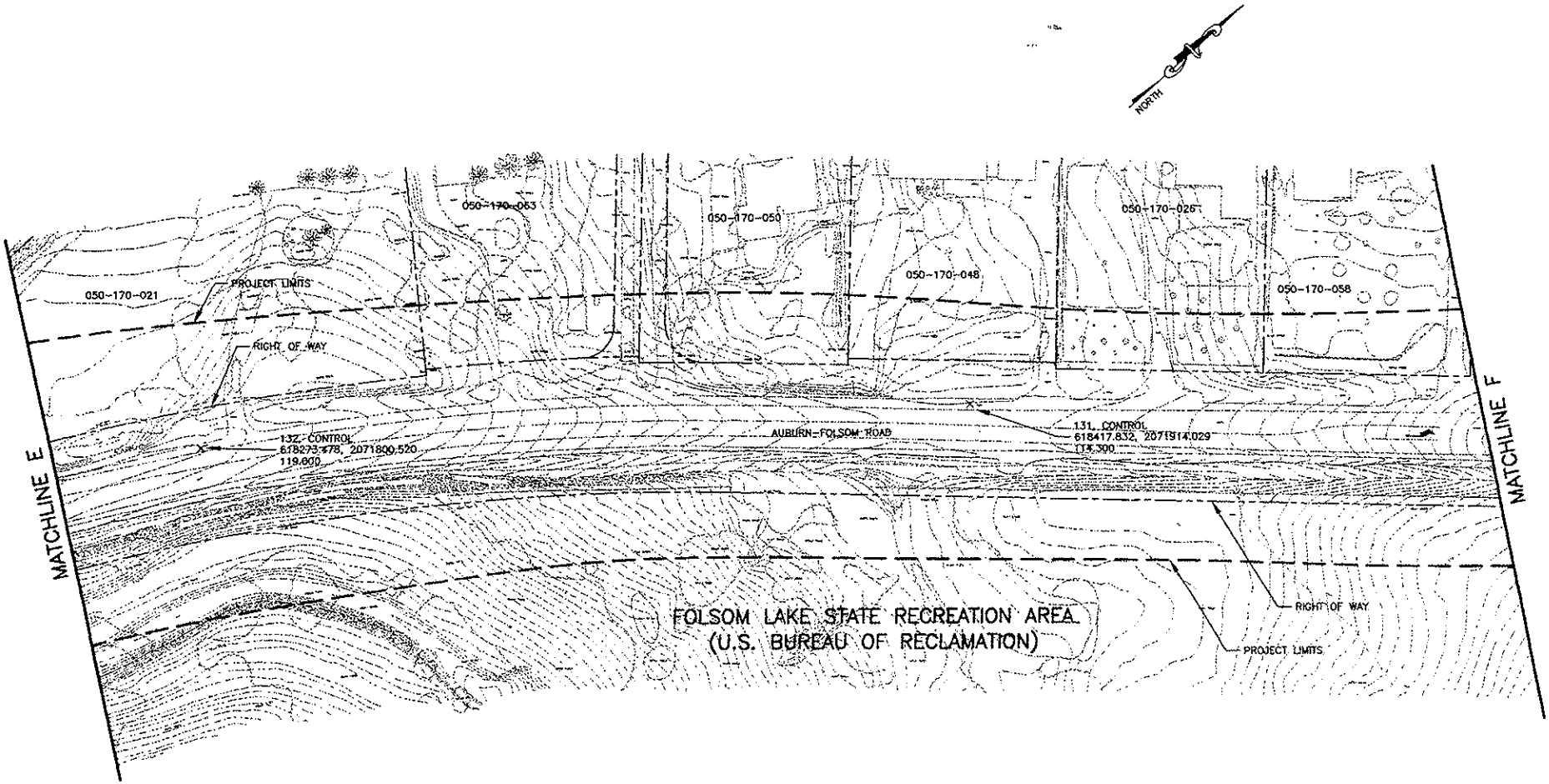

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DRAWN:	D. EBELING	05/21/92
CHECKED:	E. MCCARTHY	05/21/92

PLACER COUNTY PROJECT NUMBER: PC 2764

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 6 OF 11

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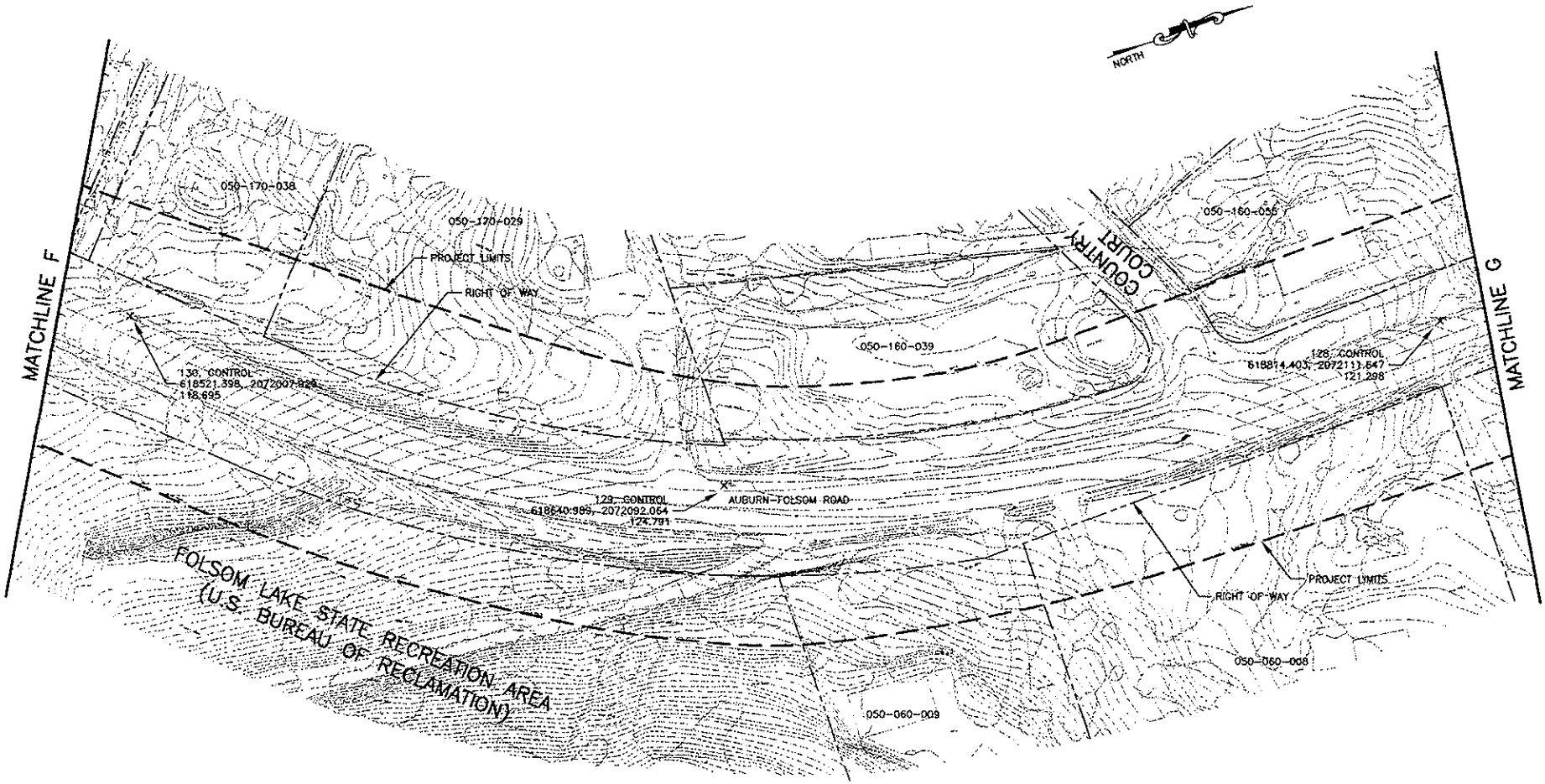

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COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

SHEET NO. 7 OF 11

PRELIMINARY DESIGN PLANS
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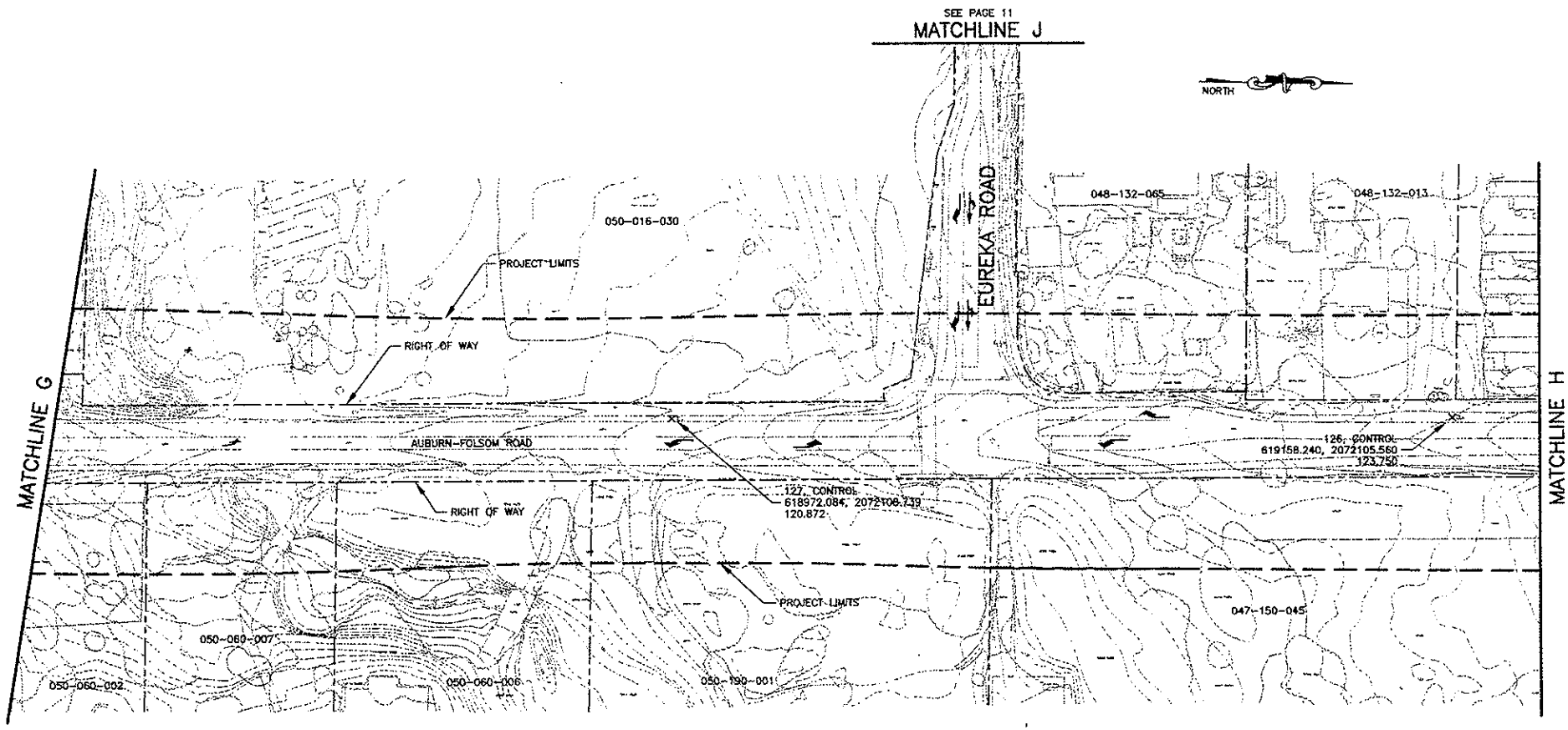

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PC 2264

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
8
OF
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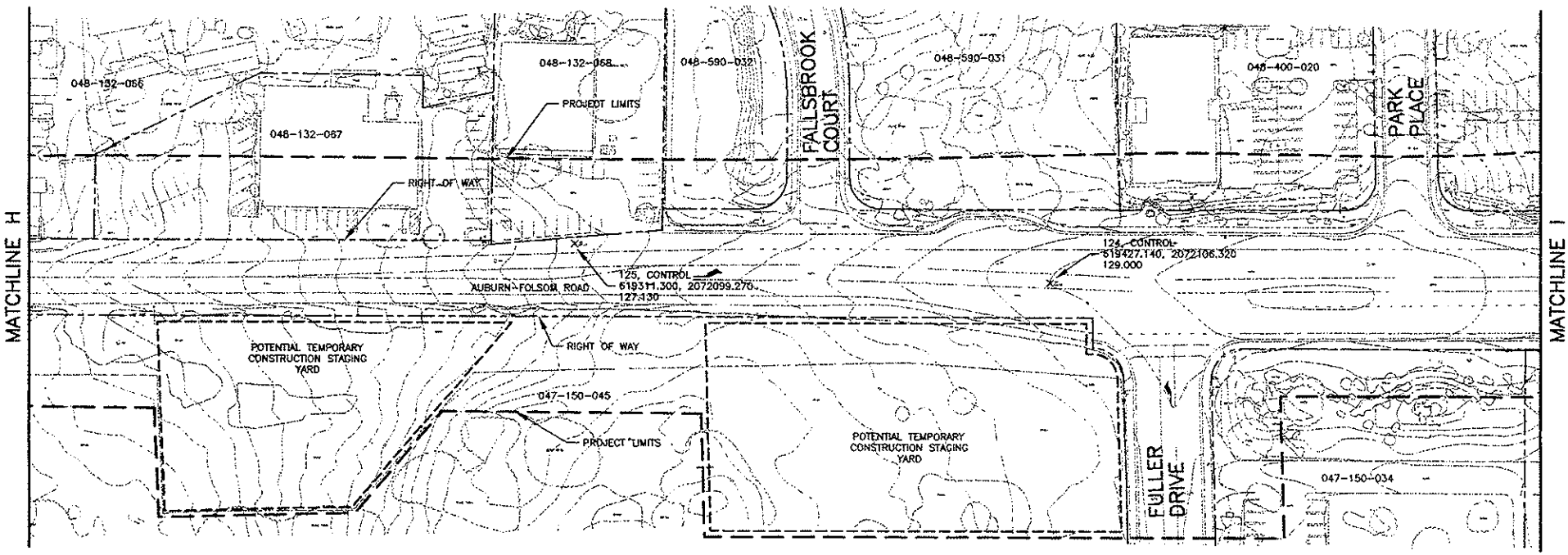

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PLACER COUNTY PROJECT NUMBER: PC 2764
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COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

SHEET NO. 9 OF 11

PRELIMINARY DESIGN PLANS
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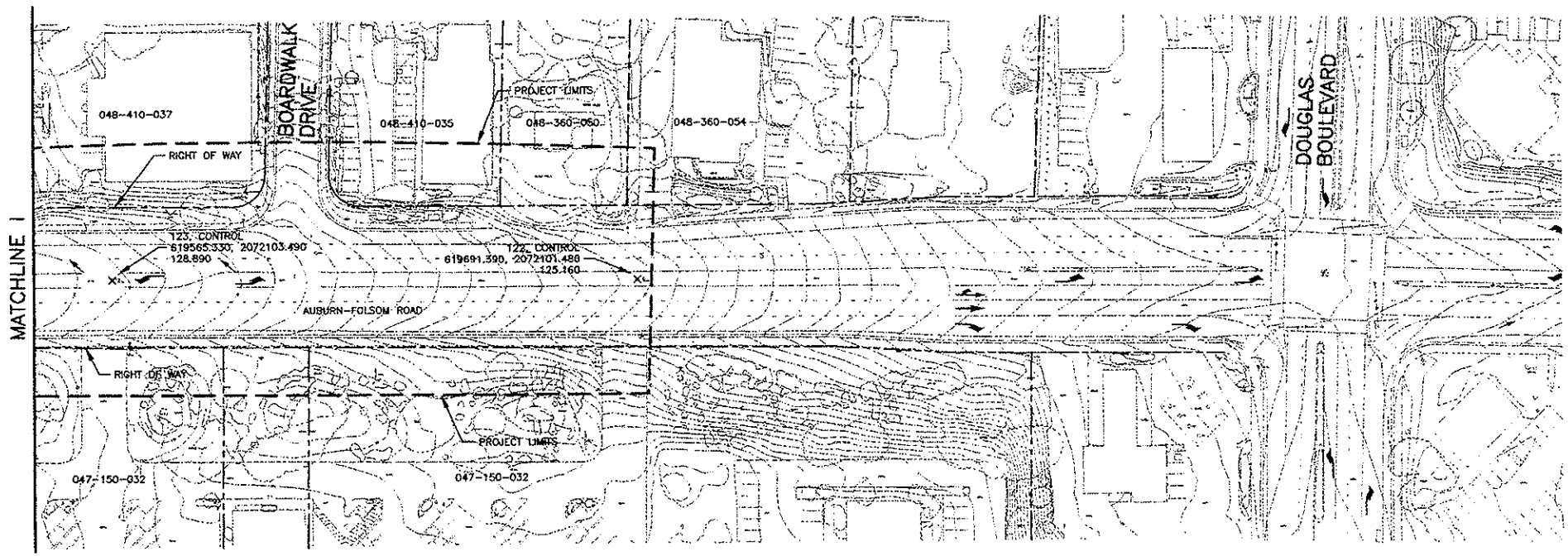

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DESIGNED: S. EBELING 052102
DRAWN: S. EBELING 052102
CHECKED: E. MCCARTHY 052102
DATE

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PC 2764

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
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OF
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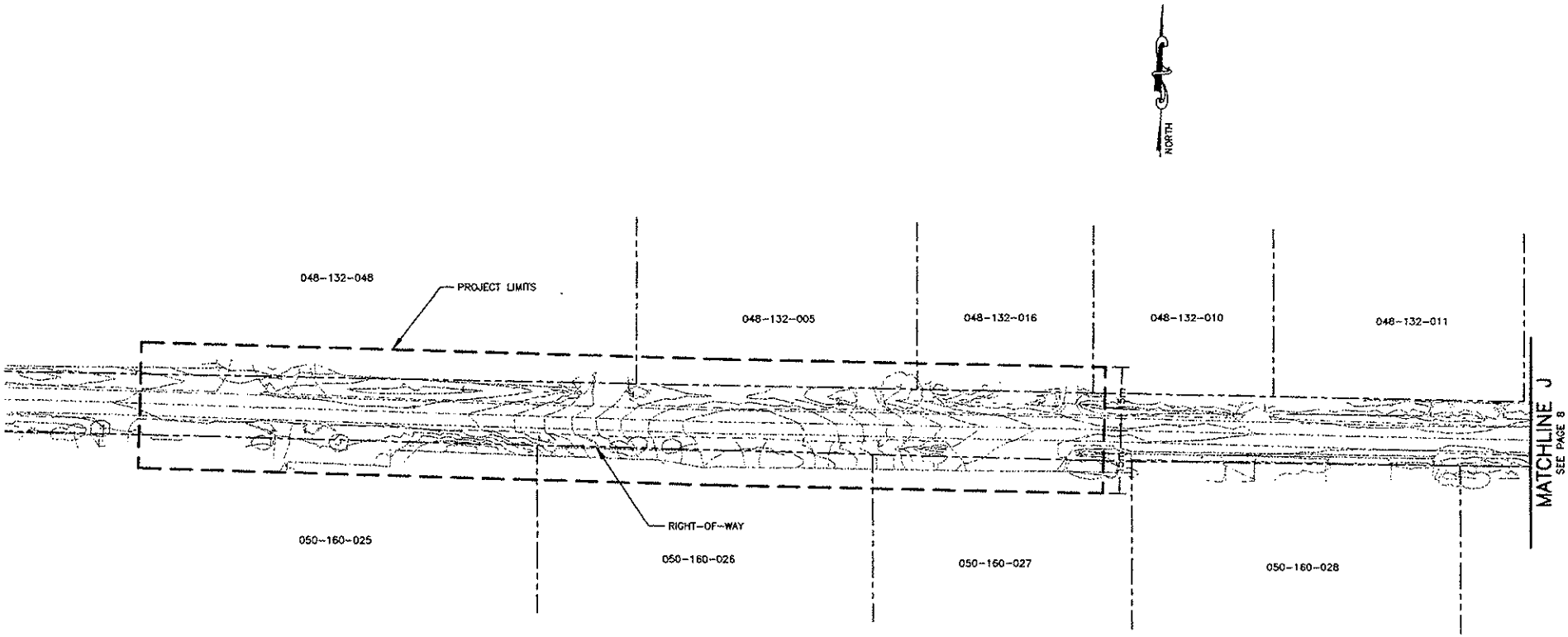

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AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 11 OF 11

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION

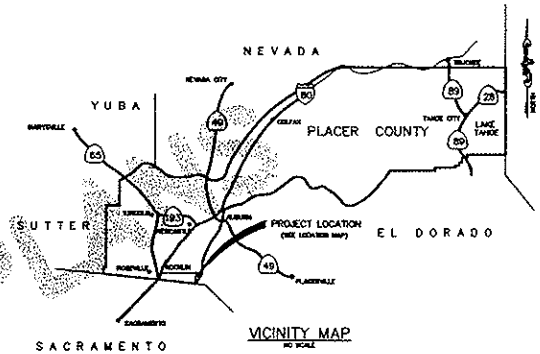
COUNTY OF PLACER

DEPARTMENT OF PUBLIC WORKS

PRELIMINARY DESIGN PLANS FOR:

AUBURN–FOLSOM ROAD 4–LANE WIDENING PROJECT

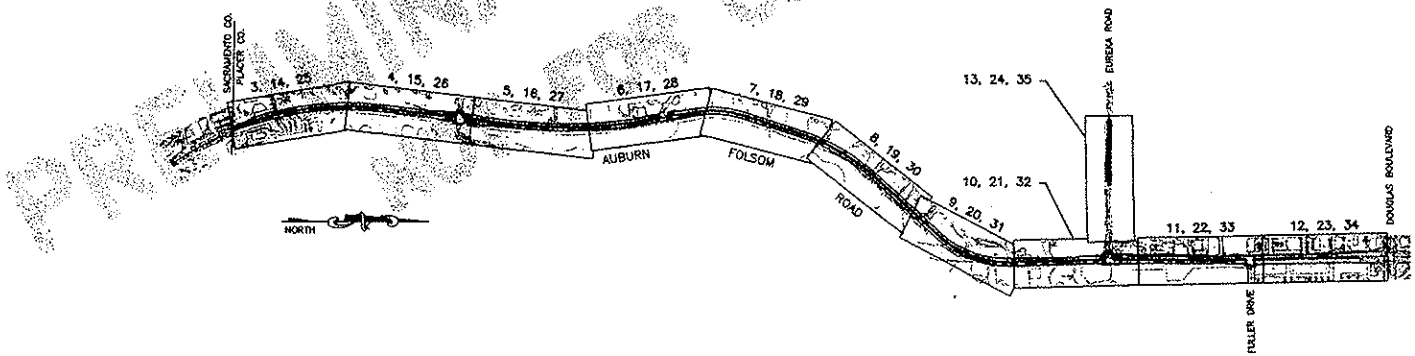
FROM THE PLACER COUNTY LINE NORTH TO DOUGLAS BOULEVARD GRANITE BAY, CA



VICINITY MAP

SHEET INDEX:

1. TITLE SHEET
2. TYPICAL SECTIONS
3–13. PLAN & PROFILE ALTERNATIVE 1 – WIDENING TO THE WEST
14–24. PLAN & PROFILE ALTERNATIVE 2 – WIDENING TO THE EAST
25–35. PLAN & PROFILE ALTERNATIVE 3 – WIDENING EQUALLY ON BOTH SIDES



NOTE:

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2) THE PRELIMINARY DESIGN PLANS FOR THE EUREKA ROAD PORTION OF THE PROJECT ARE THE SAME FOR EACH PROJECT ALTERNATIVE.

FOR REDUCED PLANS ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

PRELIMINARY DESIGN PLANS NOT FOR CONSTRUCTION

SCALE
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PLACER COUNTY PROJECT NUMBER: 2784

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN–FOLSOM ROAD 4–LANE
WIDENING PROJECT
TITLE SHEET

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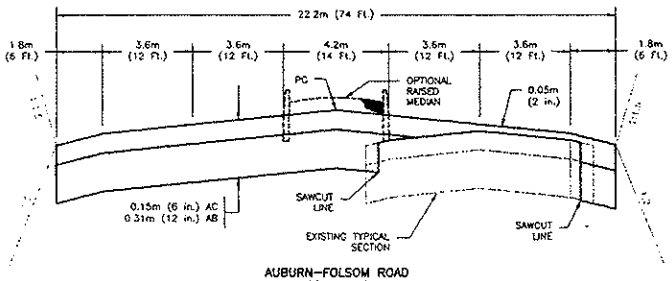

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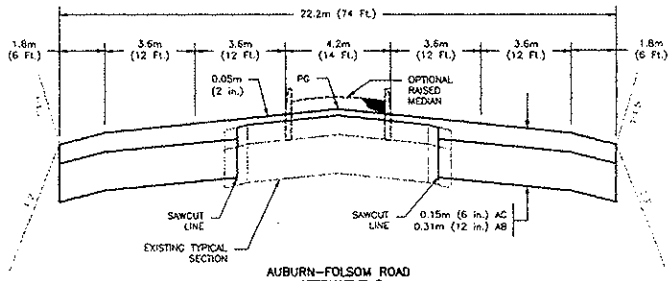
ALTERNATIVE 1
WIDENING TO THE WEST



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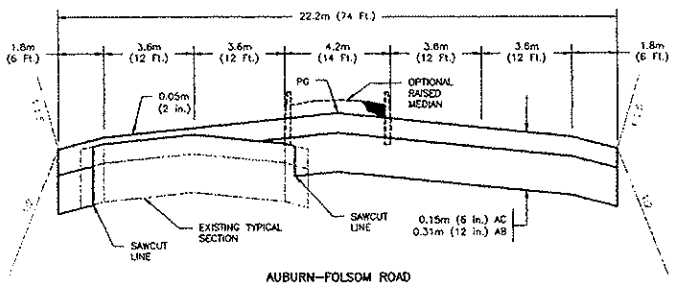

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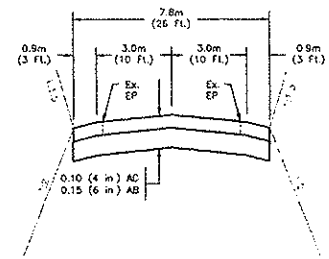

EUREKA ROAD
(RECONSTRUCT SECTION)

FOR REDUCED PLANS
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PLACER COUNTY PROJECT NUMBER: 2264

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DESIGNED: S. EBELING 7/31/02
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CHECKED: S. McCARTHY 7/31/02

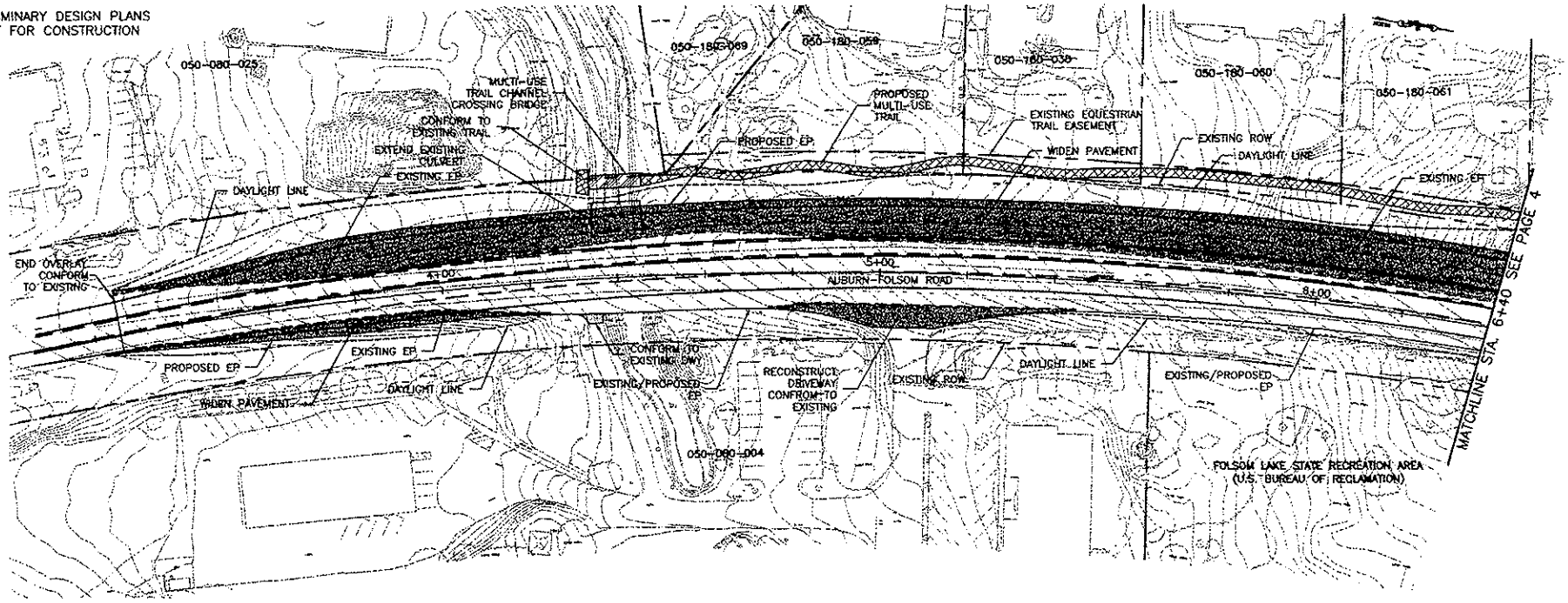
AUBURN–FOLSOM ROAD 4–LANE WIDENING PROJECT
TYPICAL SECTIONS

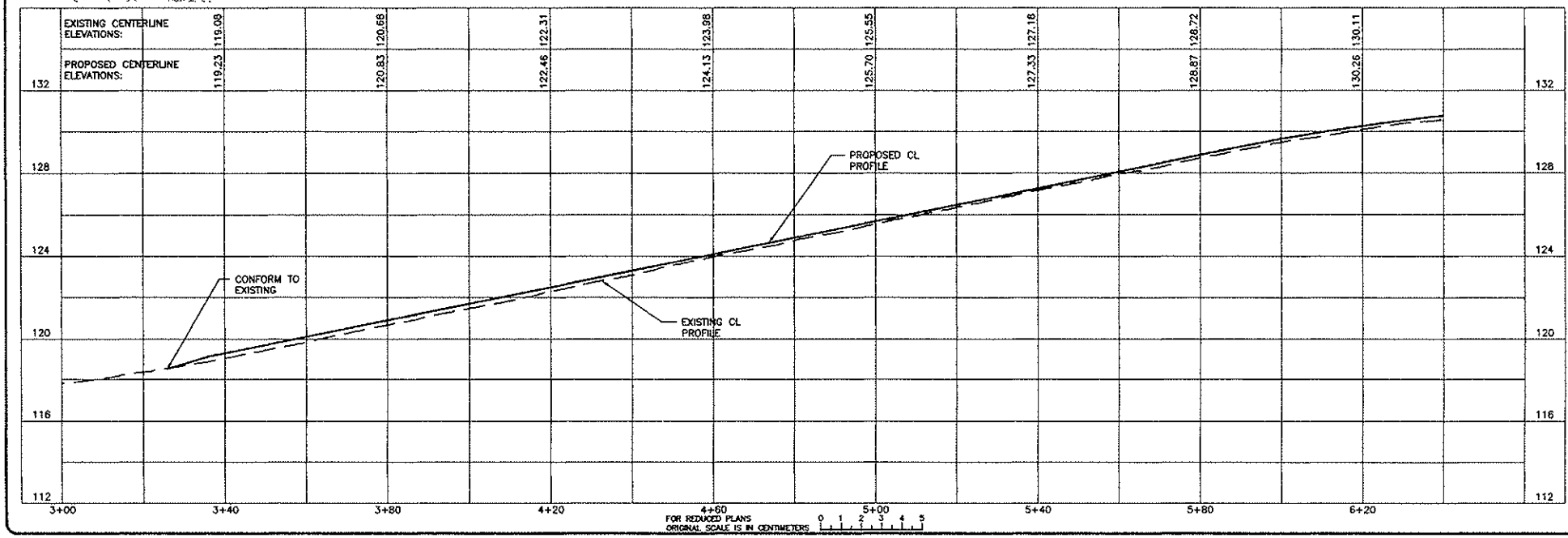
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 2 OF 35

Alternative 1:
Widening to the West

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





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CHECKED: E. McCARTHY 7/31/02

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AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 1 - WIDENING TO THE WEST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 3 OF 35

PRELIMINARY DESIGN PLANS
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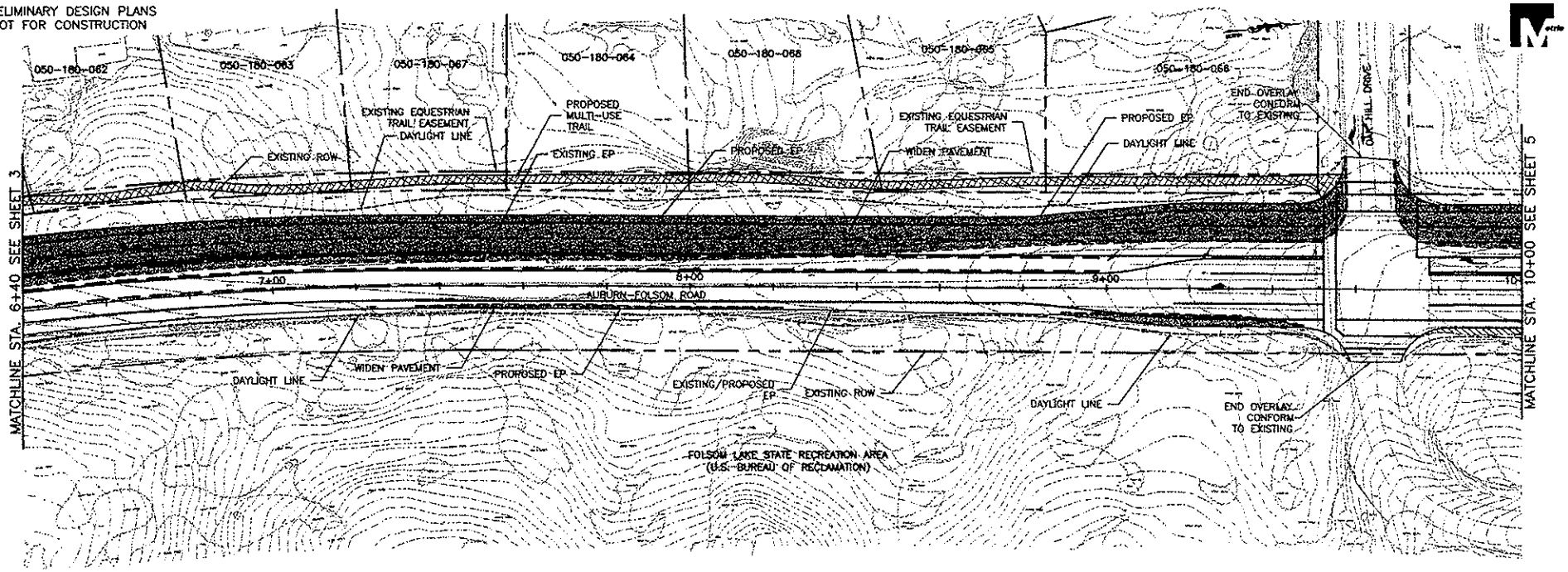

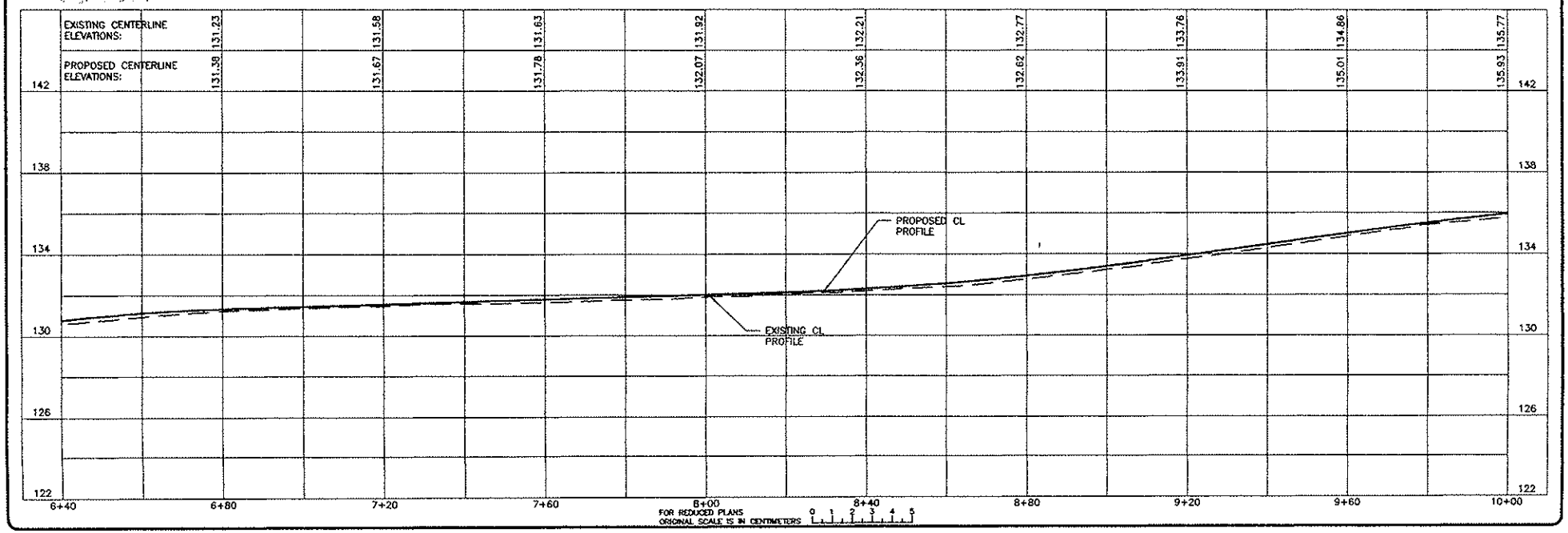

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DRAWN: S. ERSLAND 7/31/02
CHECKED: E. McCARTHY 7/31/02
DATE:

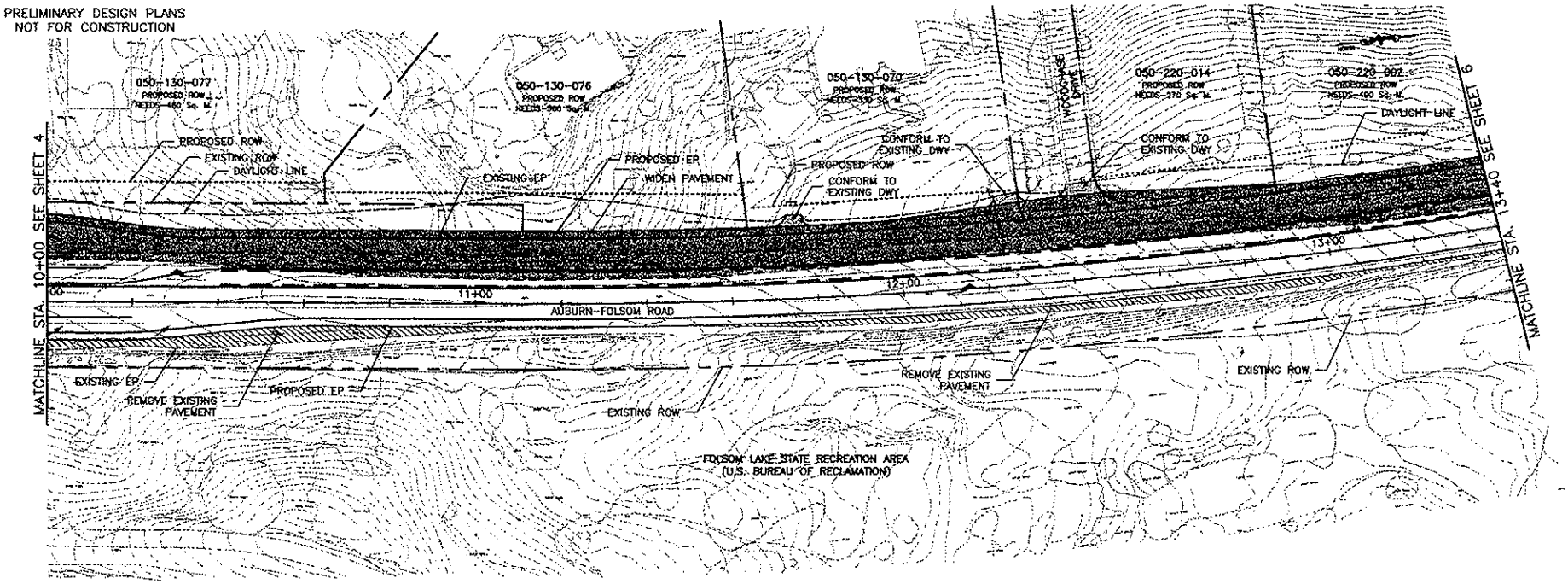
PLACER COUNTY PROJECT NUMBER:
PC 2784

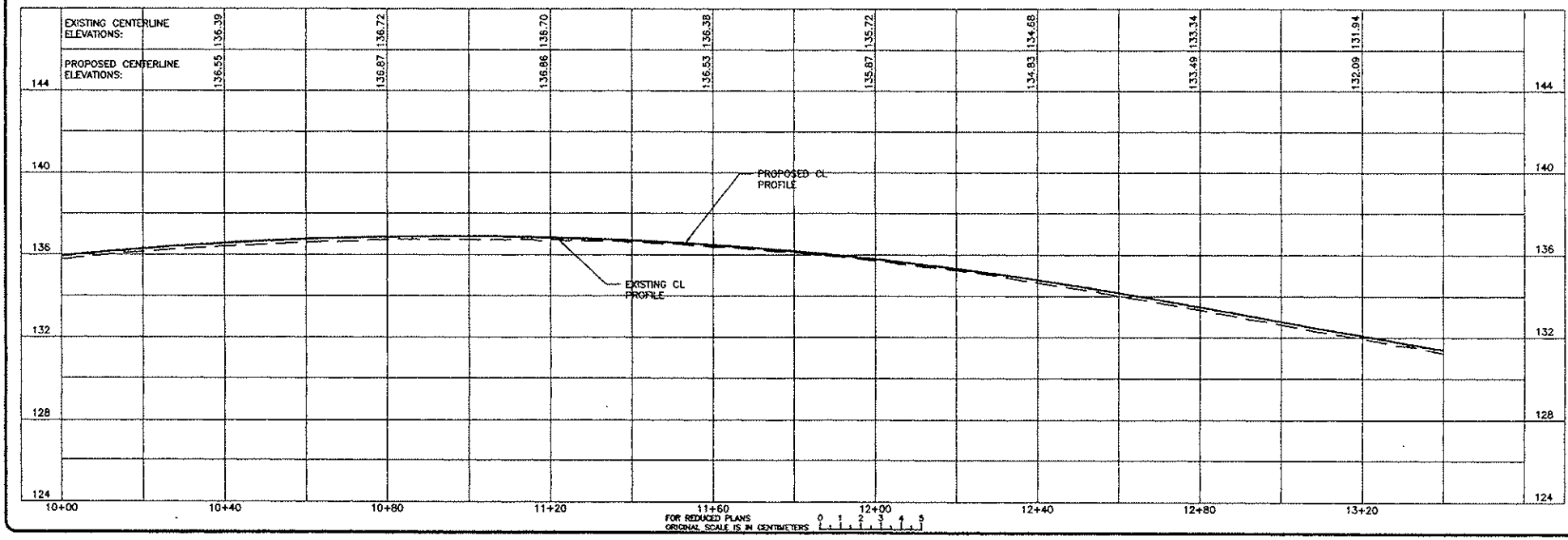
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
"A" ALTERNATIVE 1 - WIDENING TO THE WEST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 4 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





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DRAWN:	S. EBELING	7/31/02
CHECKED:	E. McCARDLE	7/31/02

PLACER COUNTY PROJECT NUMBER: PC_2264

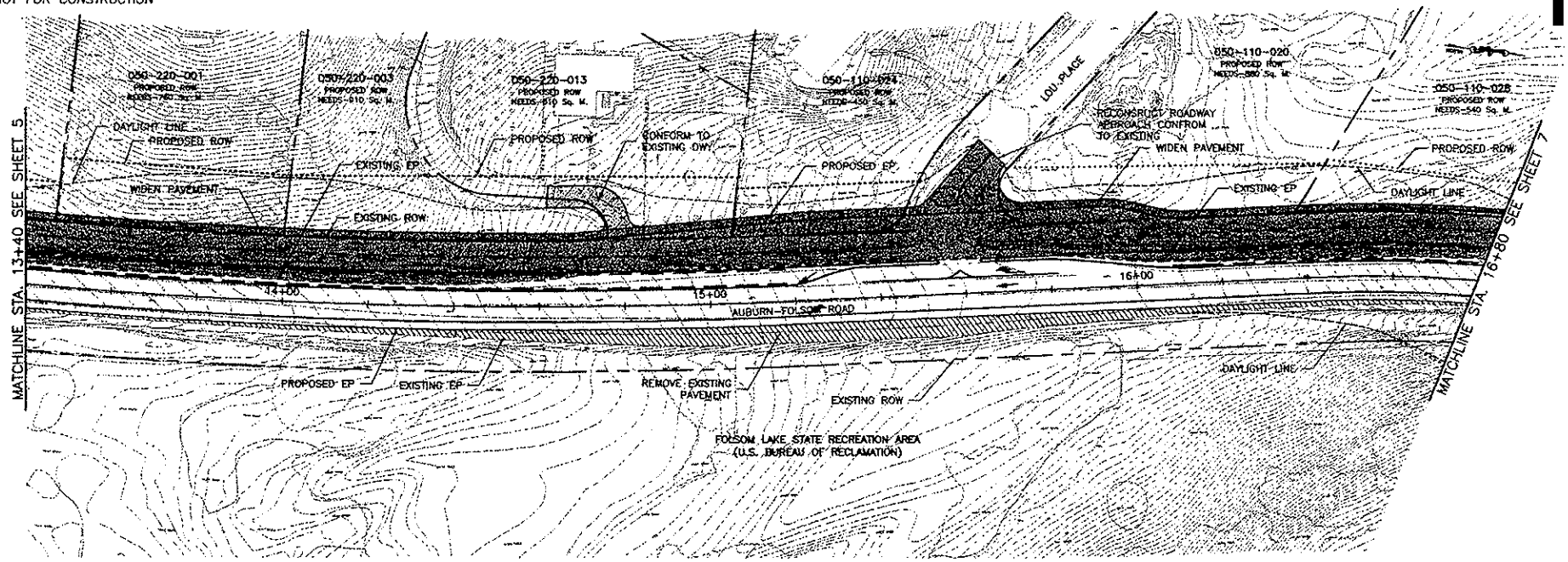
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT

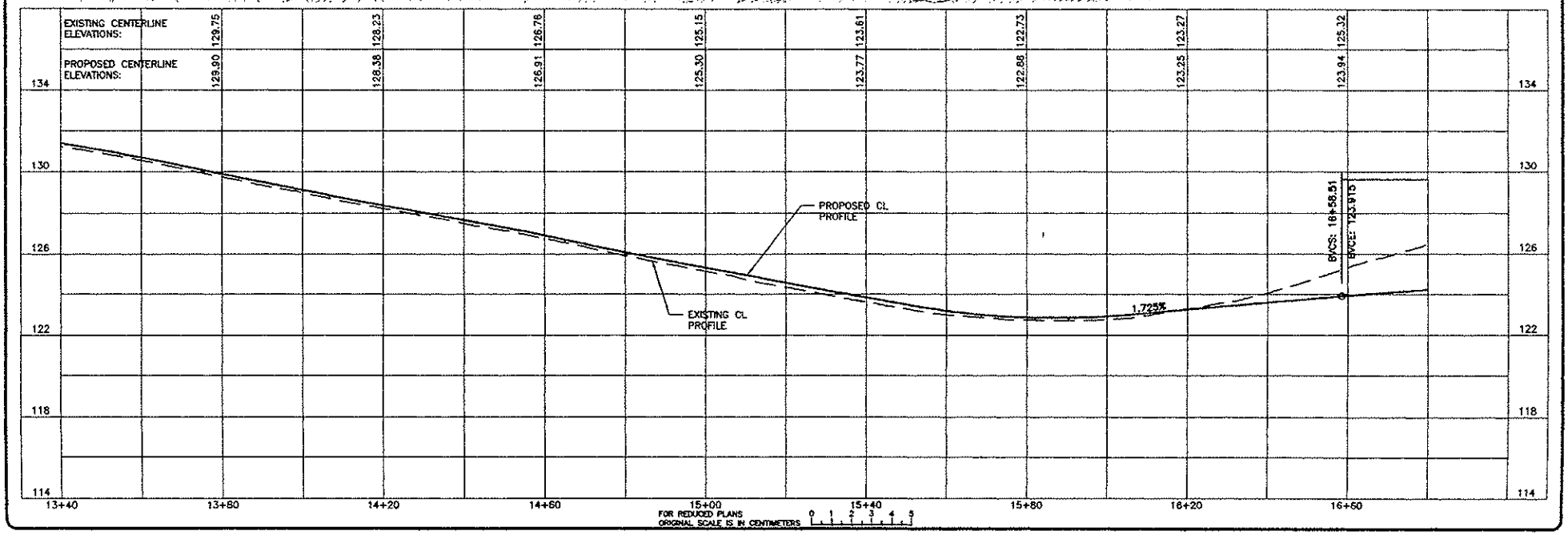
ALTERNATIVE 1 - WIDENING TO THE WEST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 5 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: S. EBELING 7/31/02
DRAWN: S. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

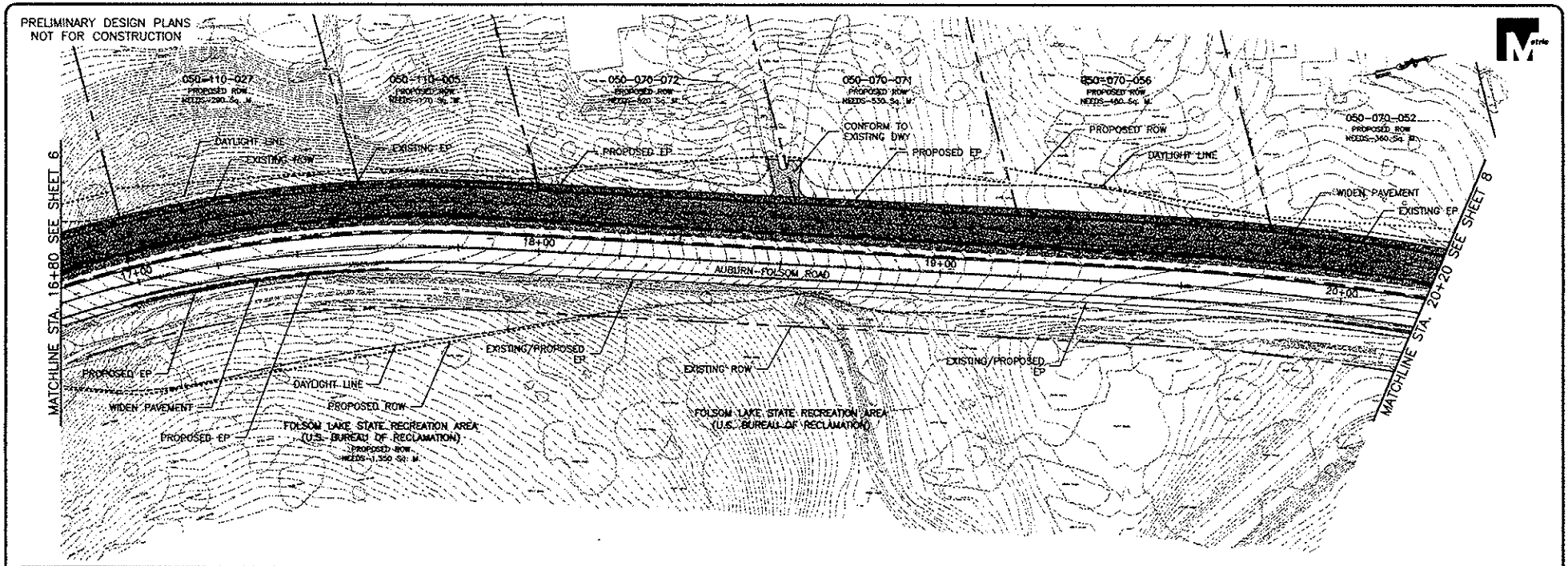
PLACER COUNTY PROJECT NUMBER:
PC 2764

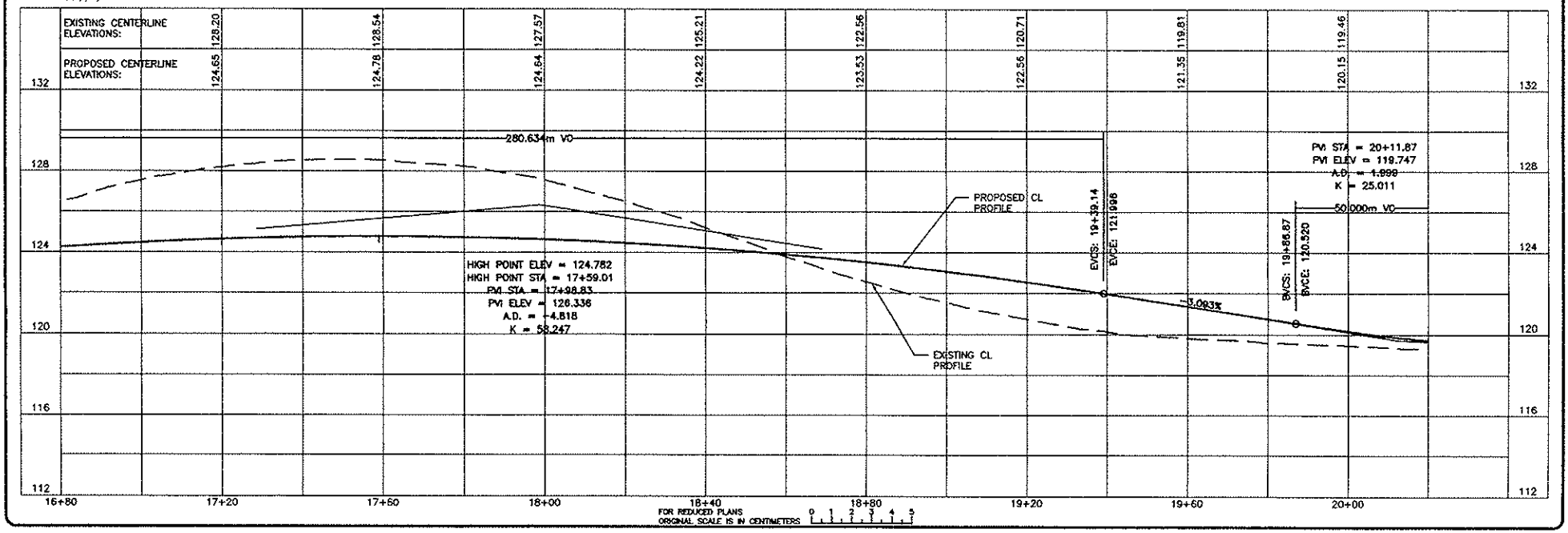
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 1 - WIDENING TO THE WEST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
6
OF
35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE
DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: S. McCARTHY 7/31/02

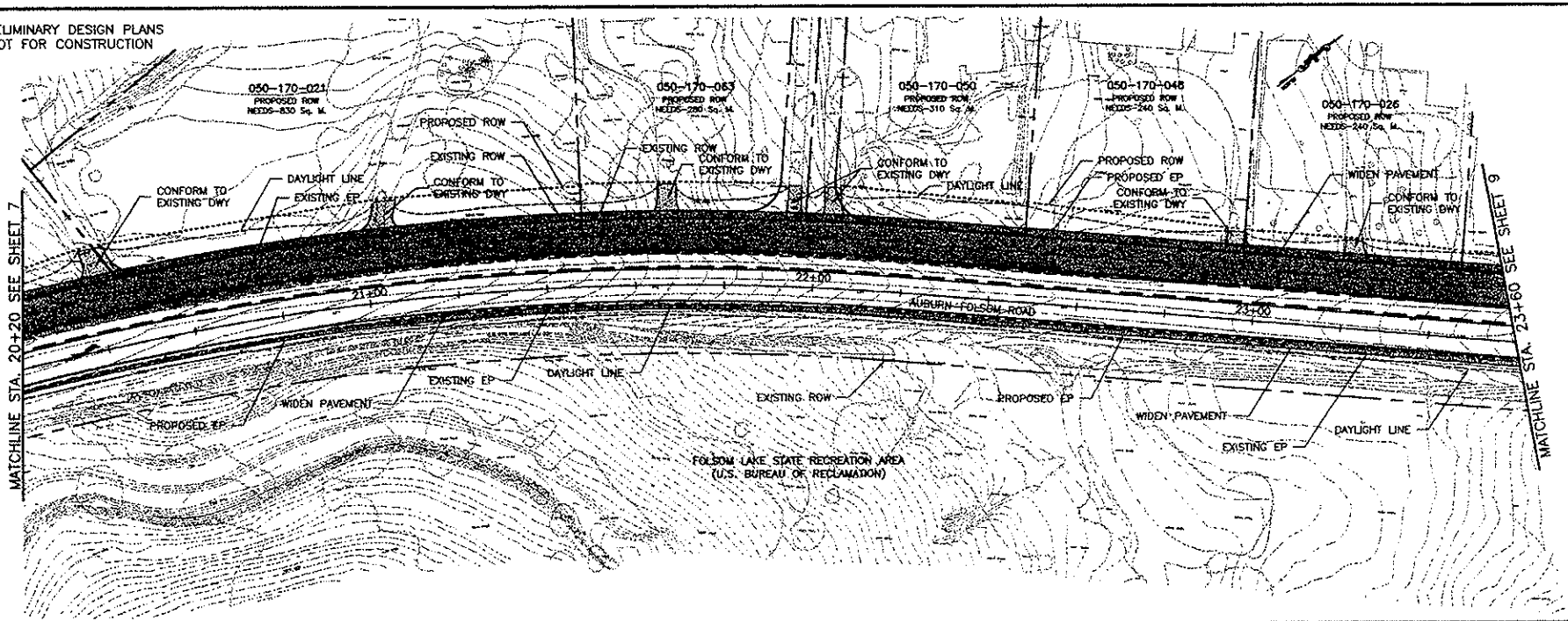
PLACER COUNTY PROJECT NUMBER:
PC 2784

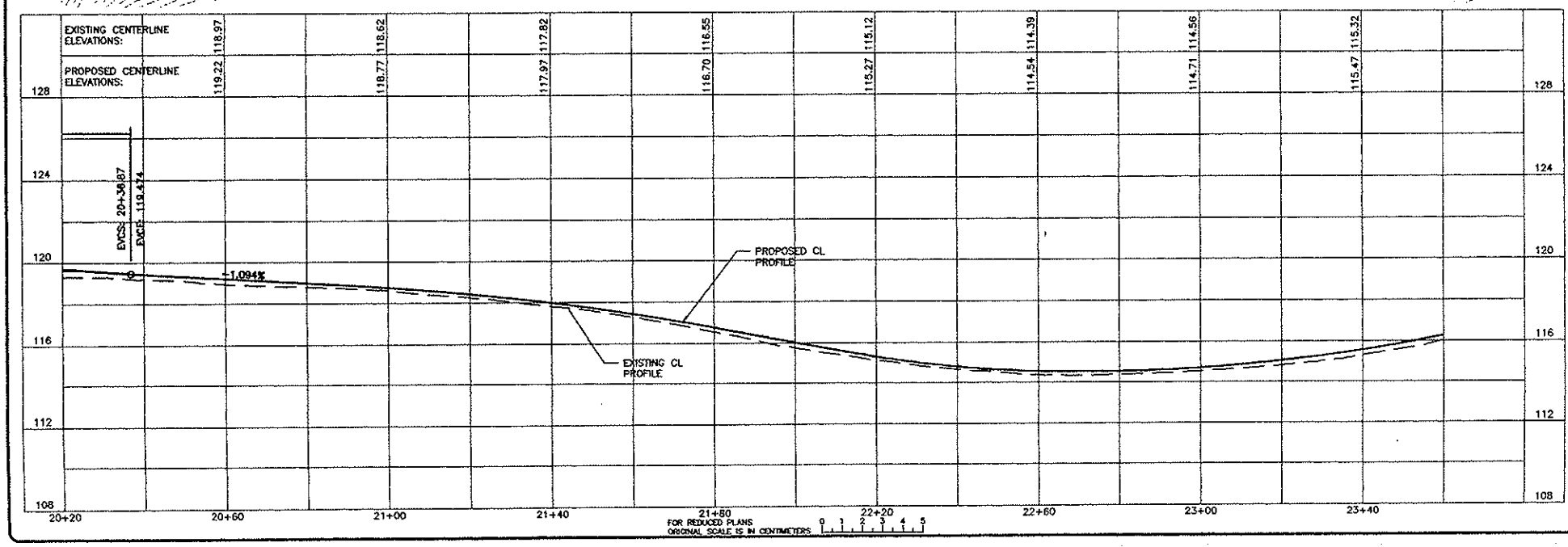
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
"A" ALTERNATIVE 1 - WIDENING TO THE WEST

SHEET NO. 7 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:200
VERTICAL: 1:100

DATE:
DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

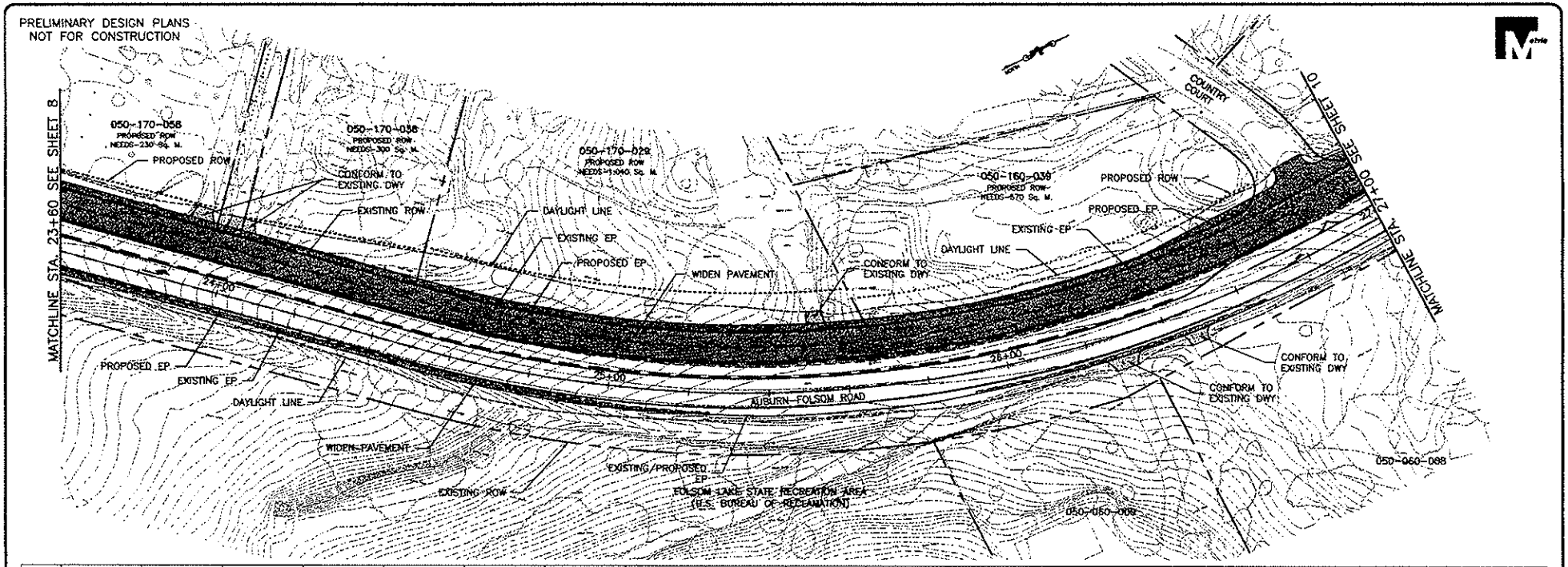
PLACER COUNTY PROJECT NUMBER:
PC 2764

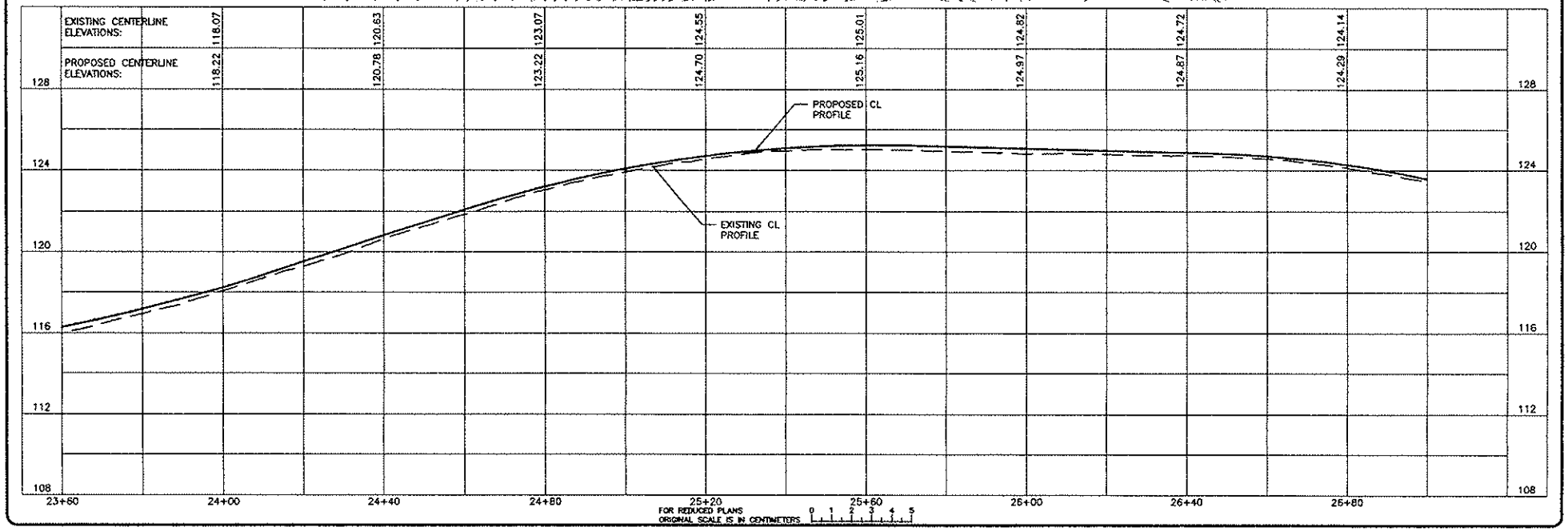
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 1 -- WIDENING TO THE WEST

SHEET NO.
8
OF
35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: S. EBELING 7/31/02
DRAWN: S. EBELING 7/31/02
CHECKED: E. MCCARTHY 7/31/02

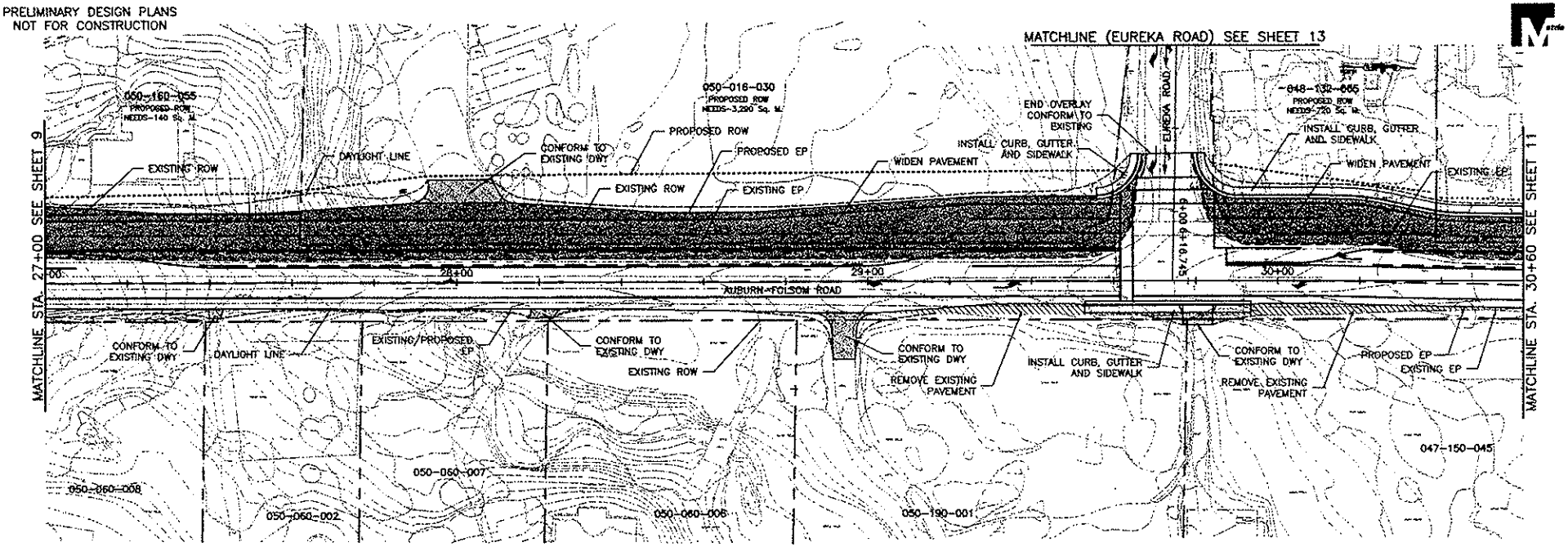
PLACER COUNTY PROJECT NUMBER:
PC 2764

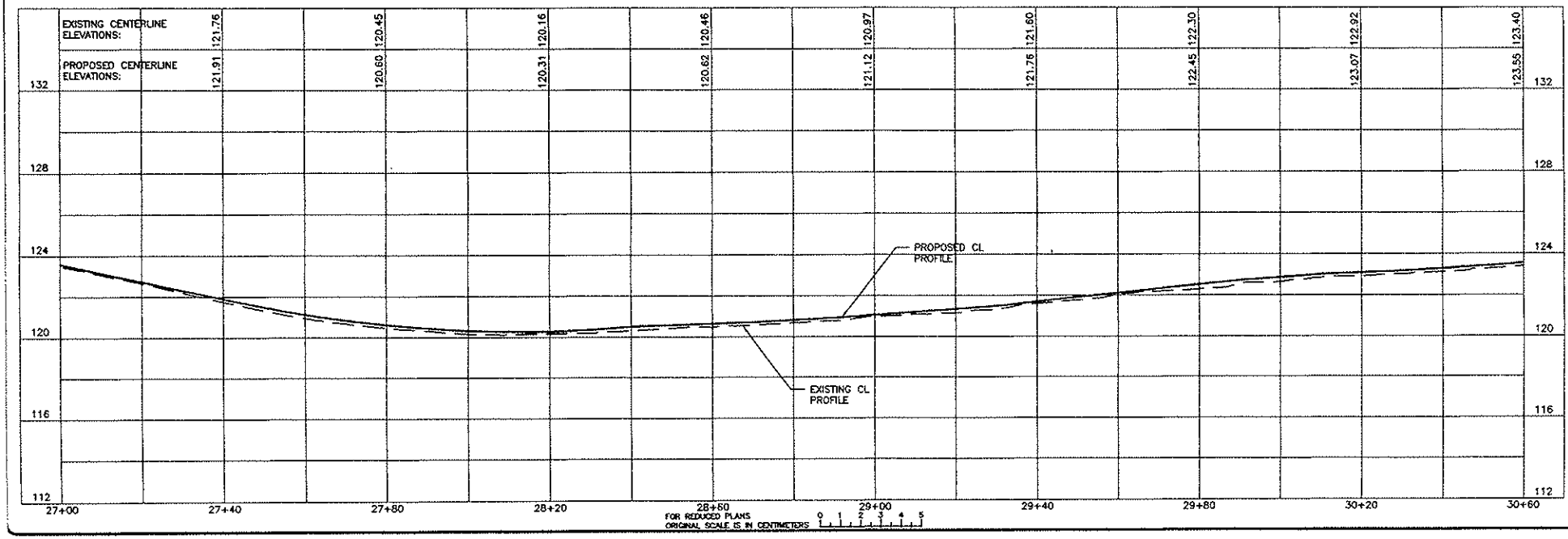
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 1 - WIDENING TO THE WEST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 9 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBELING DATE: 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

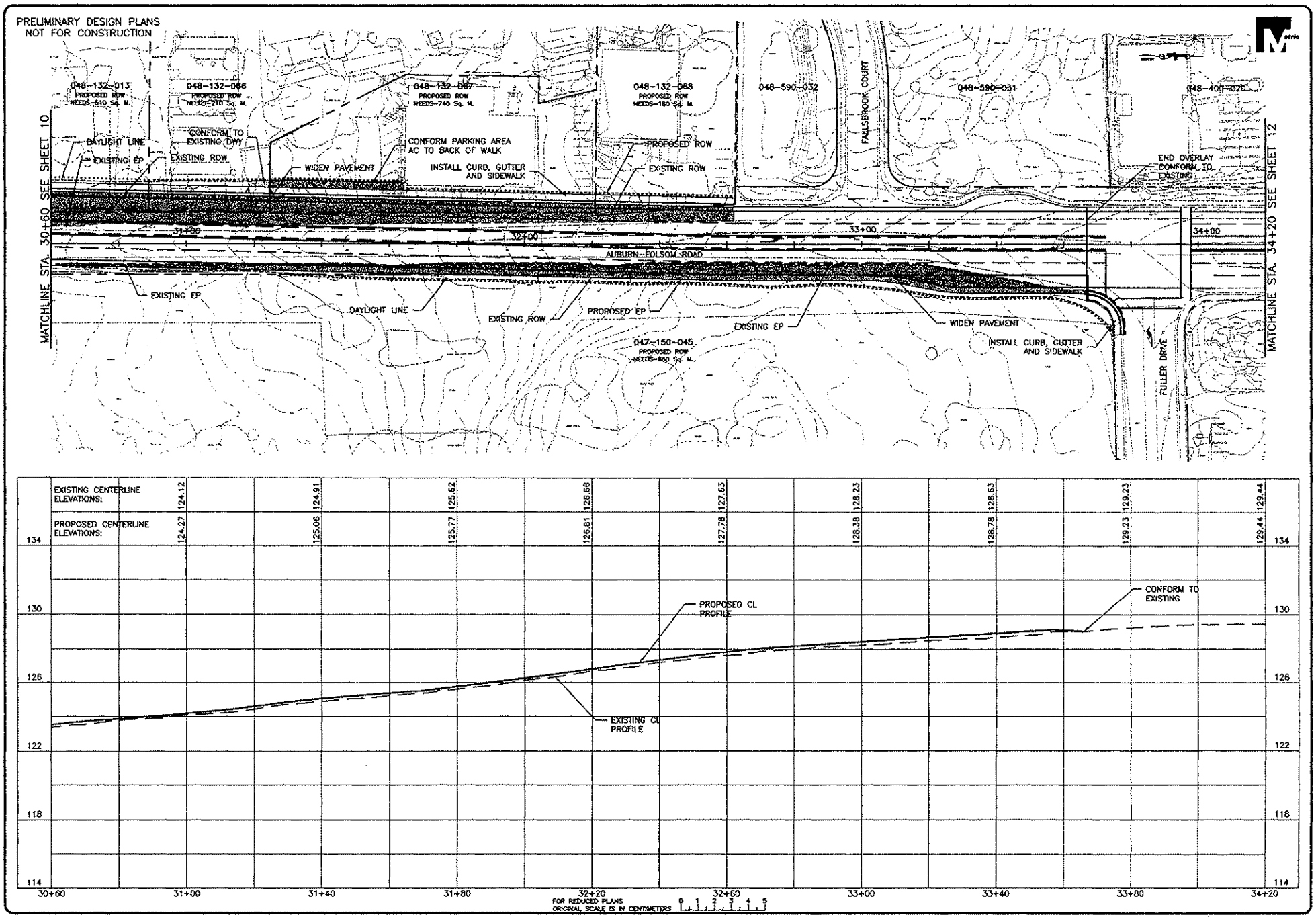
PLACER COUNTY PROJECT NUMBER: EC 2764

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 1 - WIDENING TO THE WEST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 10 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

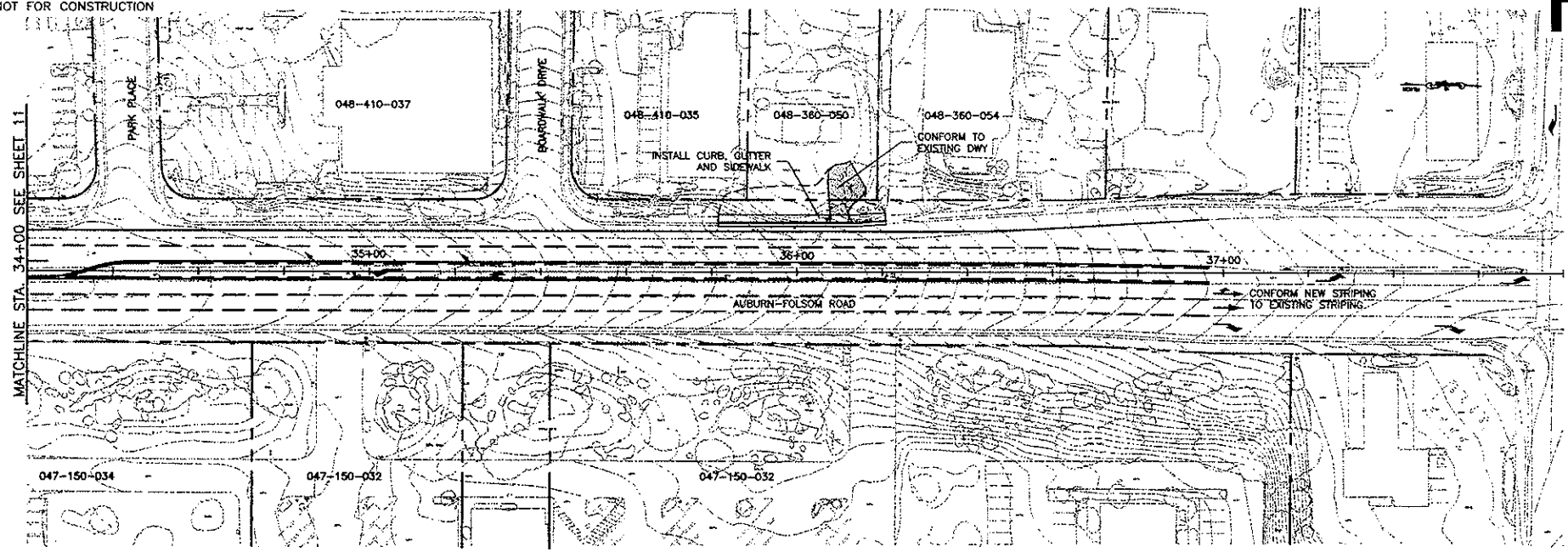
PLACER COUNTY PROJECT NUMBER:
PC 2764

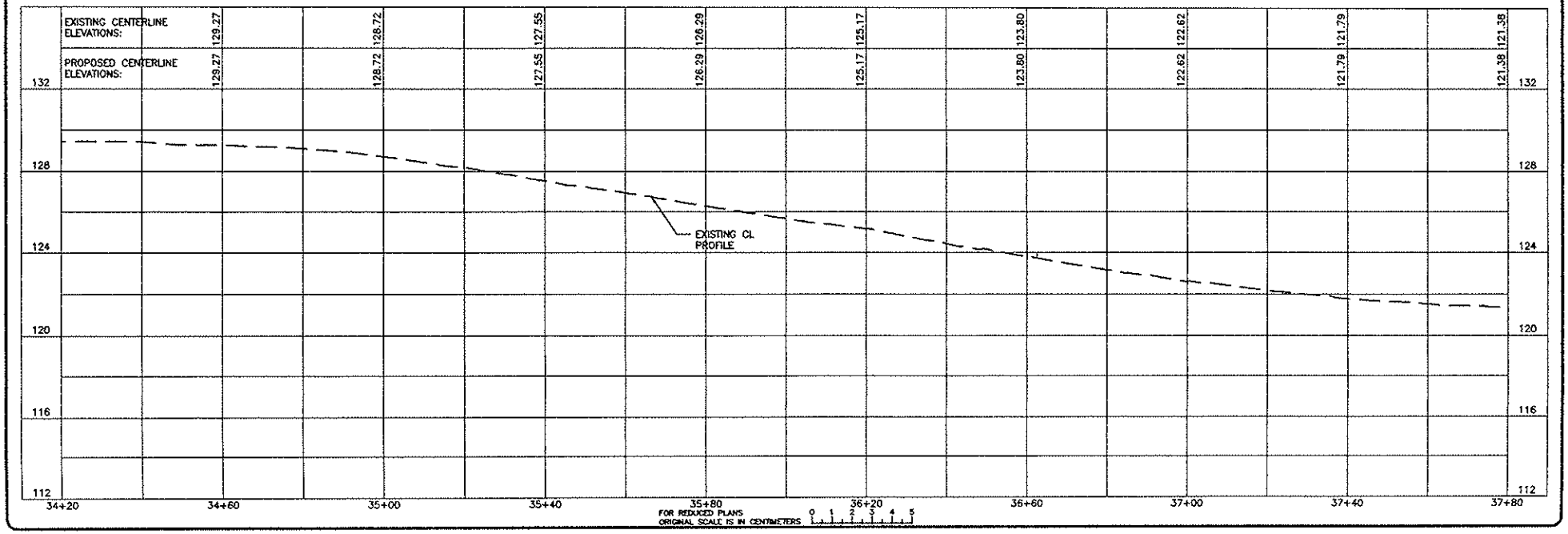
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 1 - WIDENING TO THE WEST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
11
OF
35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

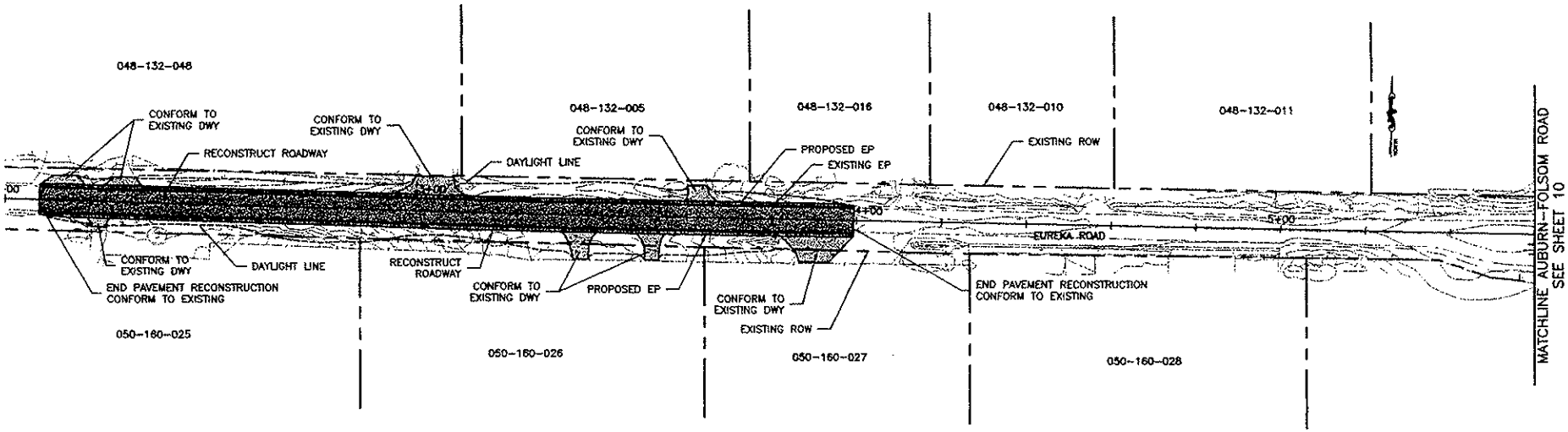
PLACER COUNTY PROJECT NUMBER:
PC 2764

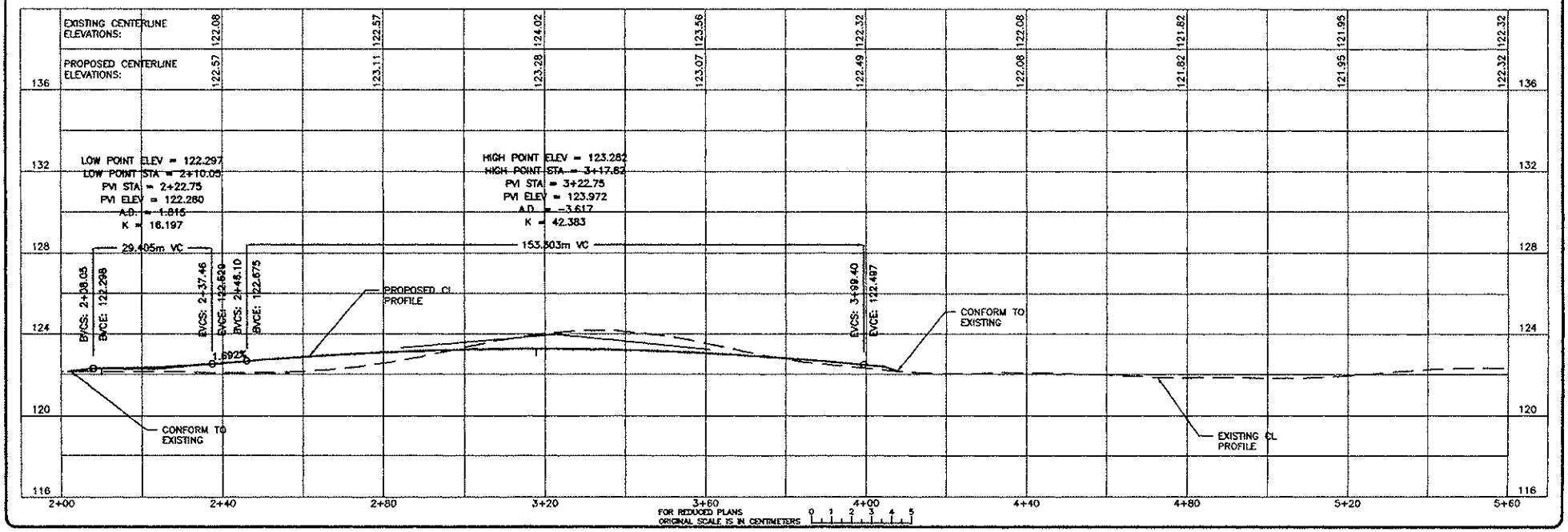
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 1 - WIDENING TO THE WEST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
12
OF
35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

PLACER COUNTY PROJECT NUMBER: PC 2764
DESIGNED: S. EBELING 7/31/02
DRAWN: S. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02
DATE:

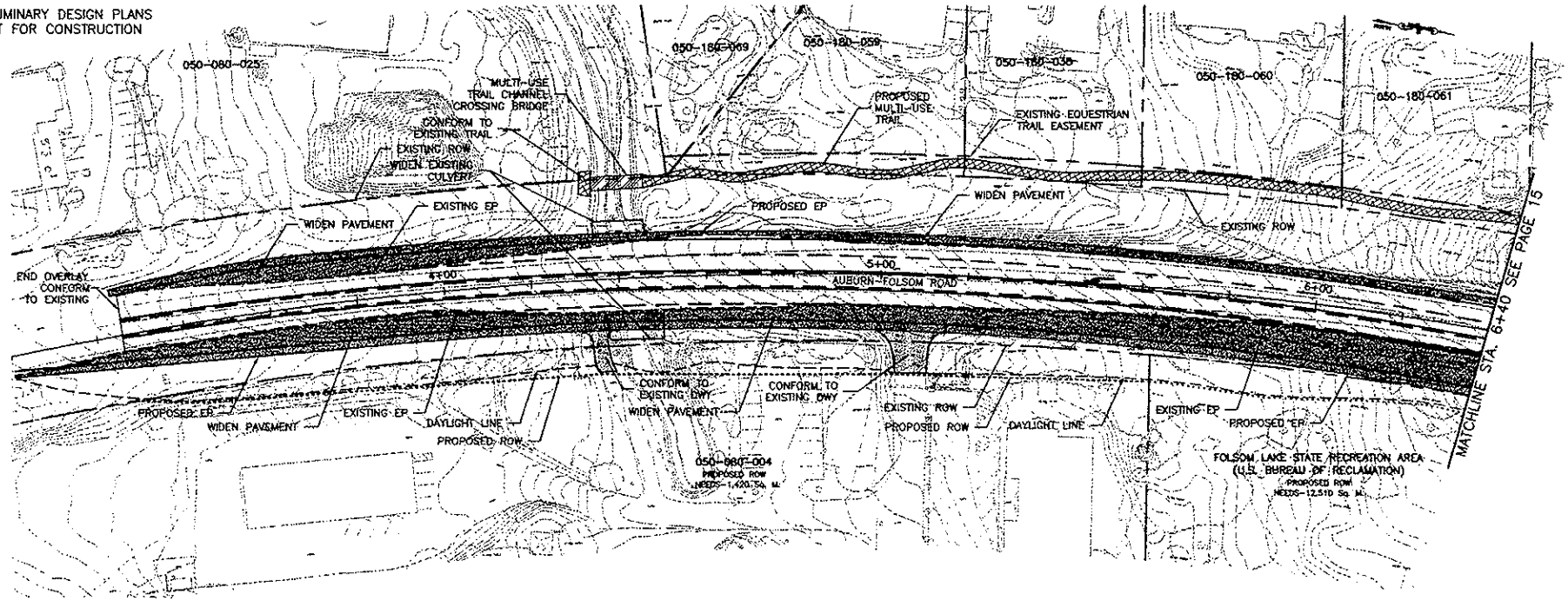
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 1 - WIDENING TO THE WEST

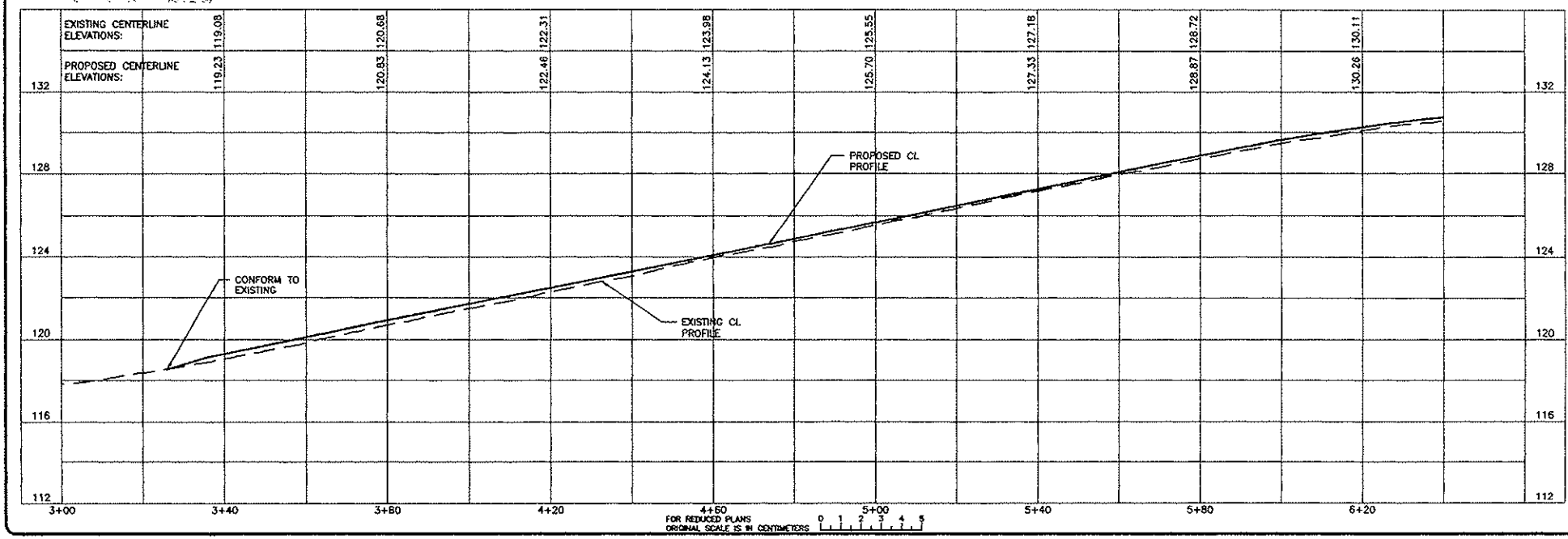
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 13 OF 35

Alternative 2:
Widening to the East

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBERING DATE: 7/31/02
DRAWN: C. EBERING 7/31/02
CHECKED: E. McCARTHY 7/31/02

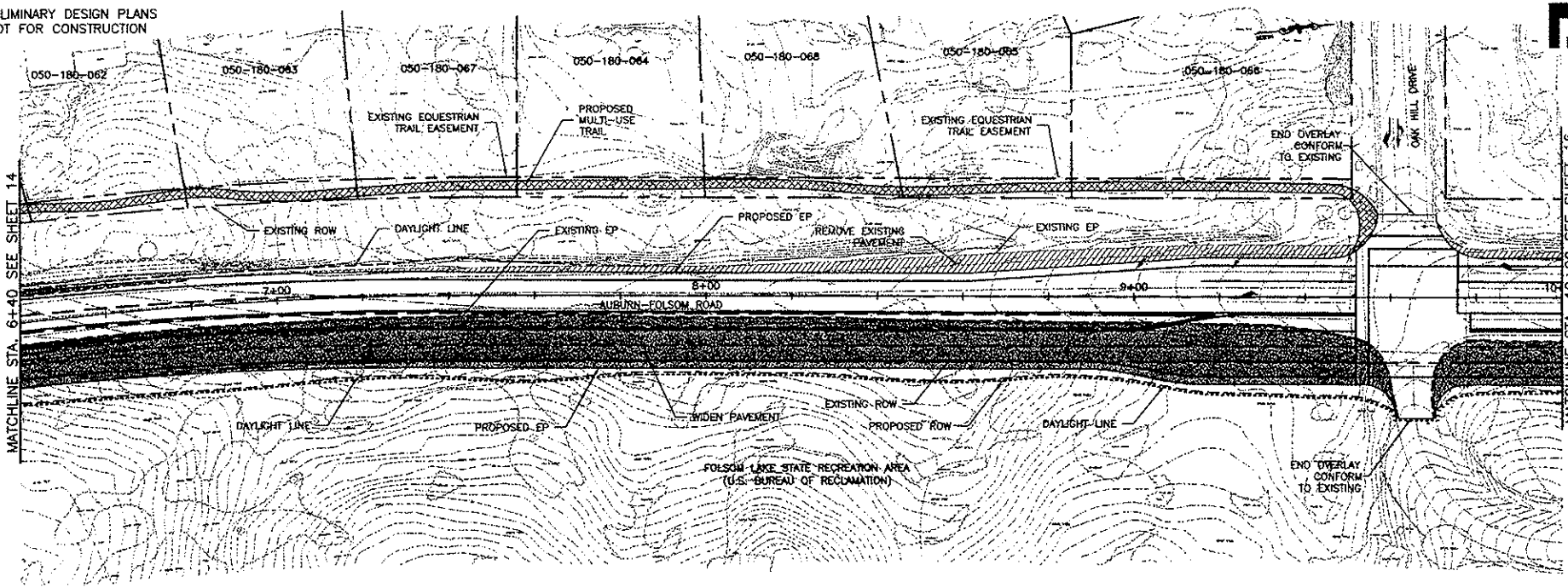
PLACER COUNTY PROJECT NUMBER:
FC 2784

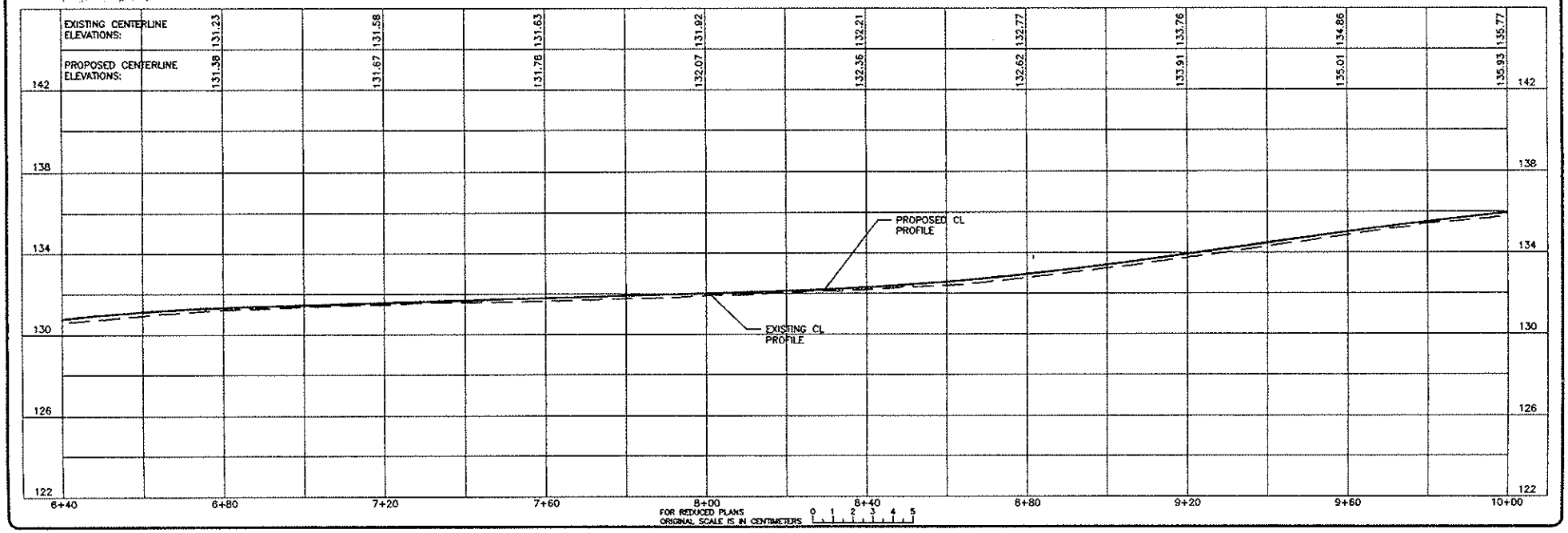
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
"F" ALTERNATIVE 2 - WIDENING TO THE EAST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 14 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





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VERTICAL: 1:100

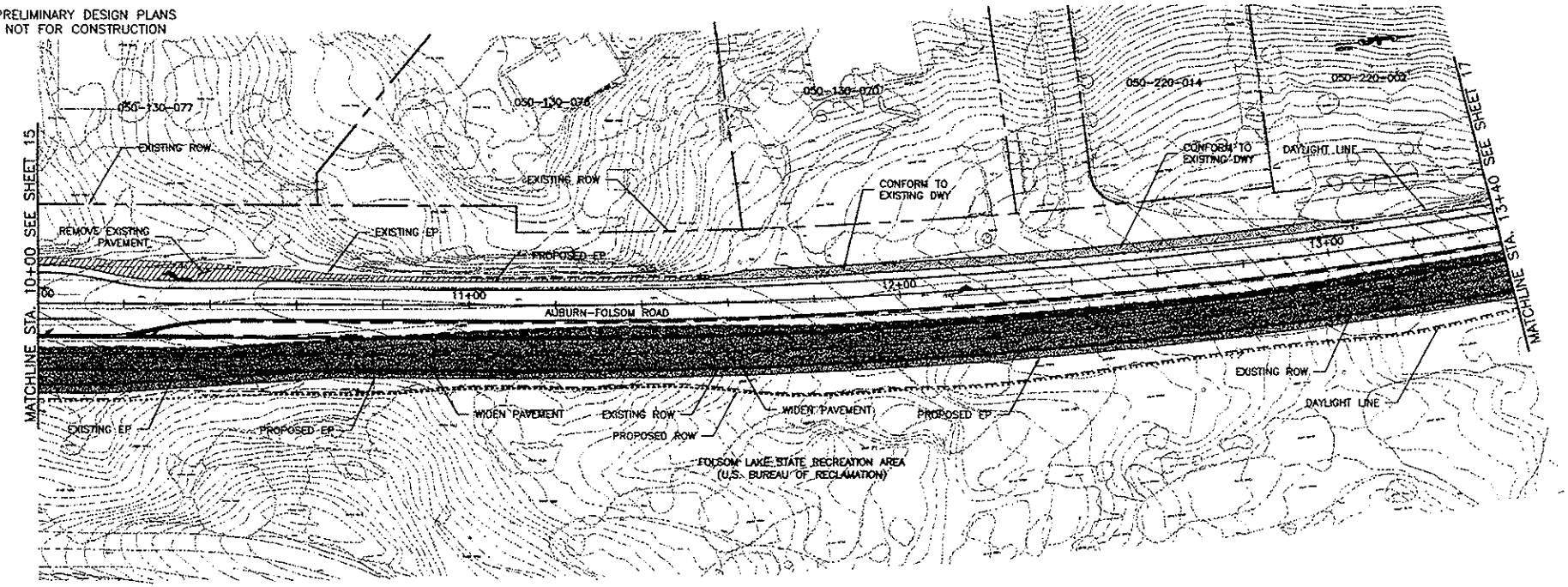
PLACER COUNTY PROJECT NUMBER: PC 2784
DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02
DATE:

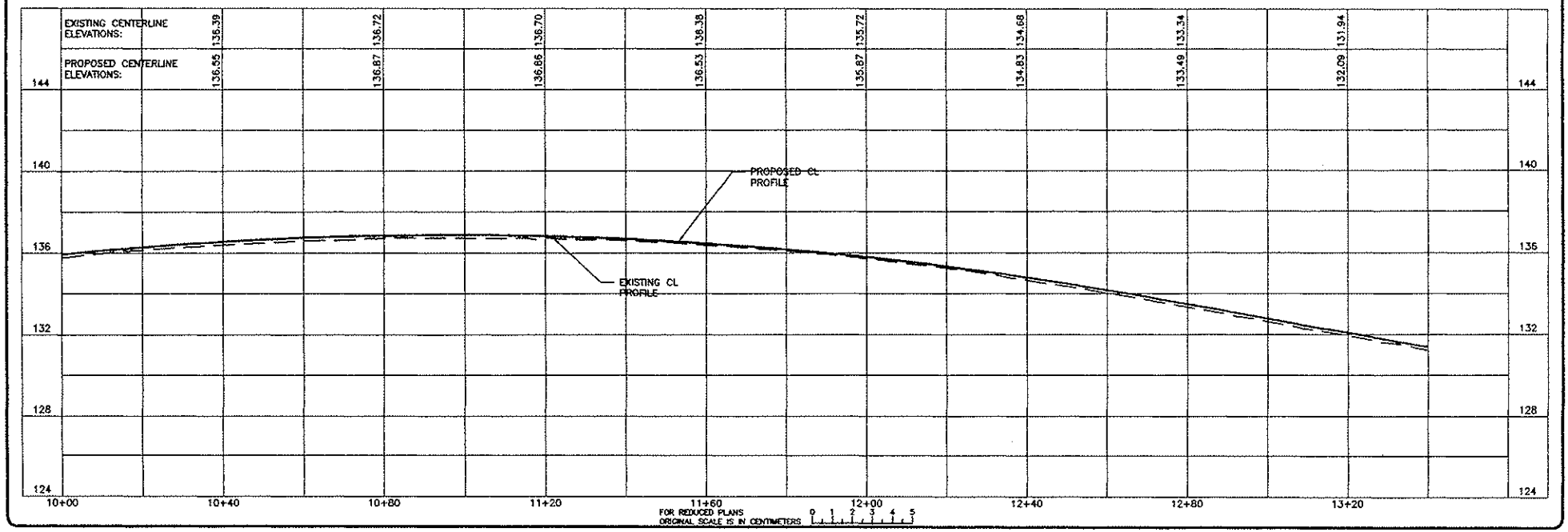
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 2 - WIDENING TO THE EAST

SHEET NO. 15 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: G. EBELING 7/31/02
DRAWN: G. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

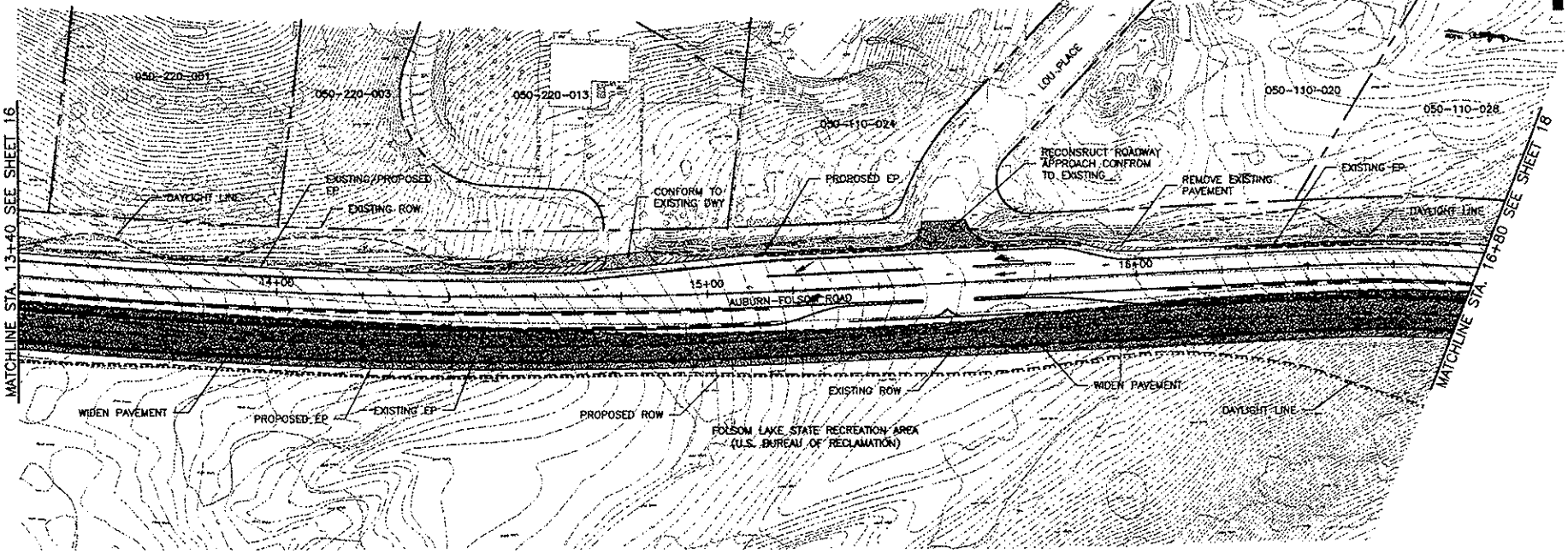
PLACER COUNTY PROJECT NUMBER:
PC 2264

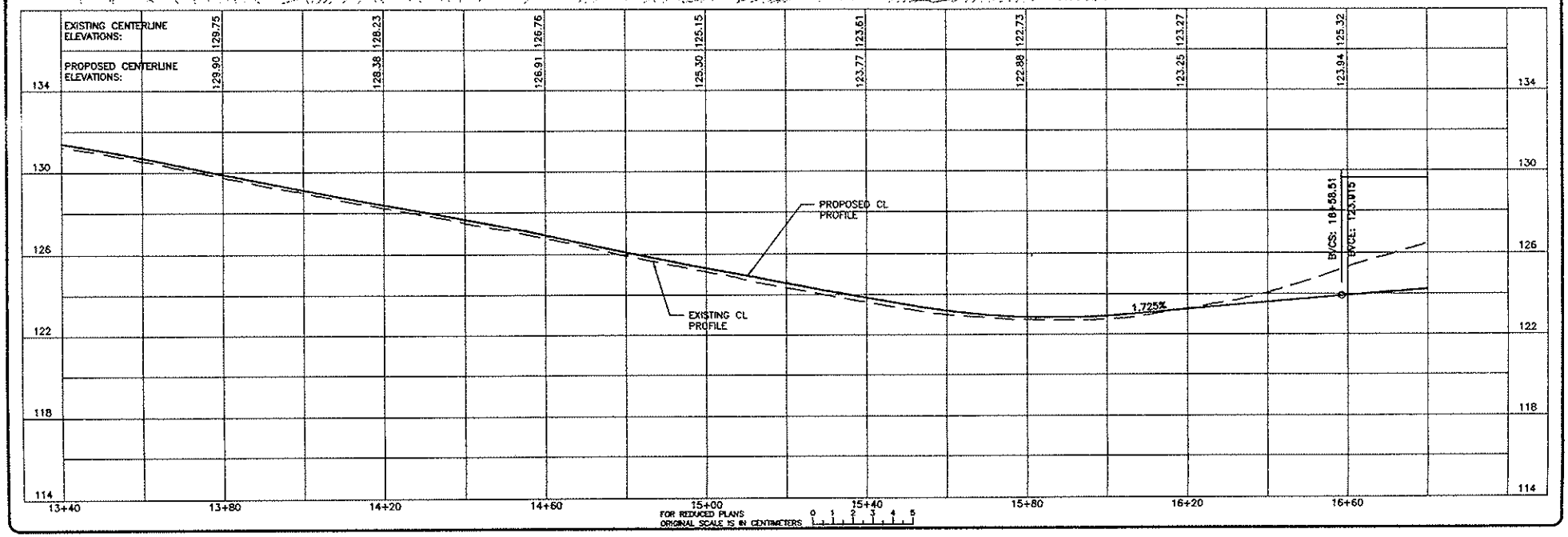
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 2 - WIDENING TO THE EAST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
16
OF
35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBELING DATE: 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

PLACER COUNTY PROJECT NUMBER: PC-2764

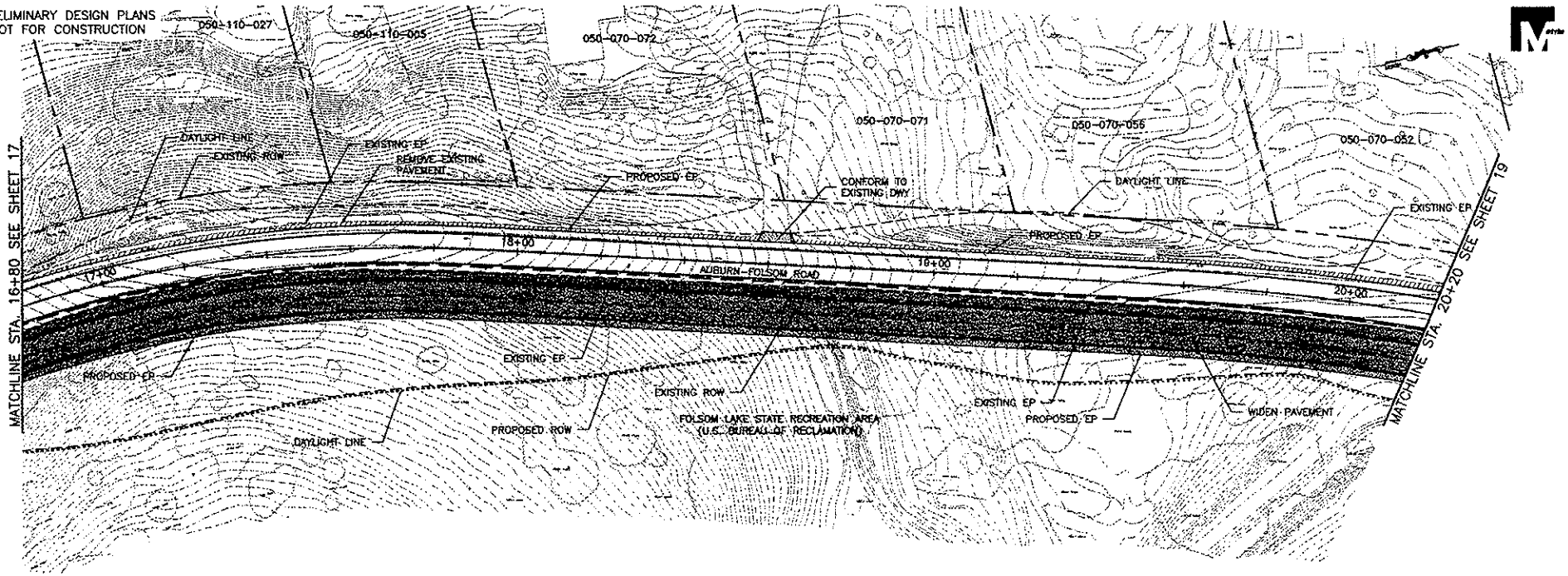
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT

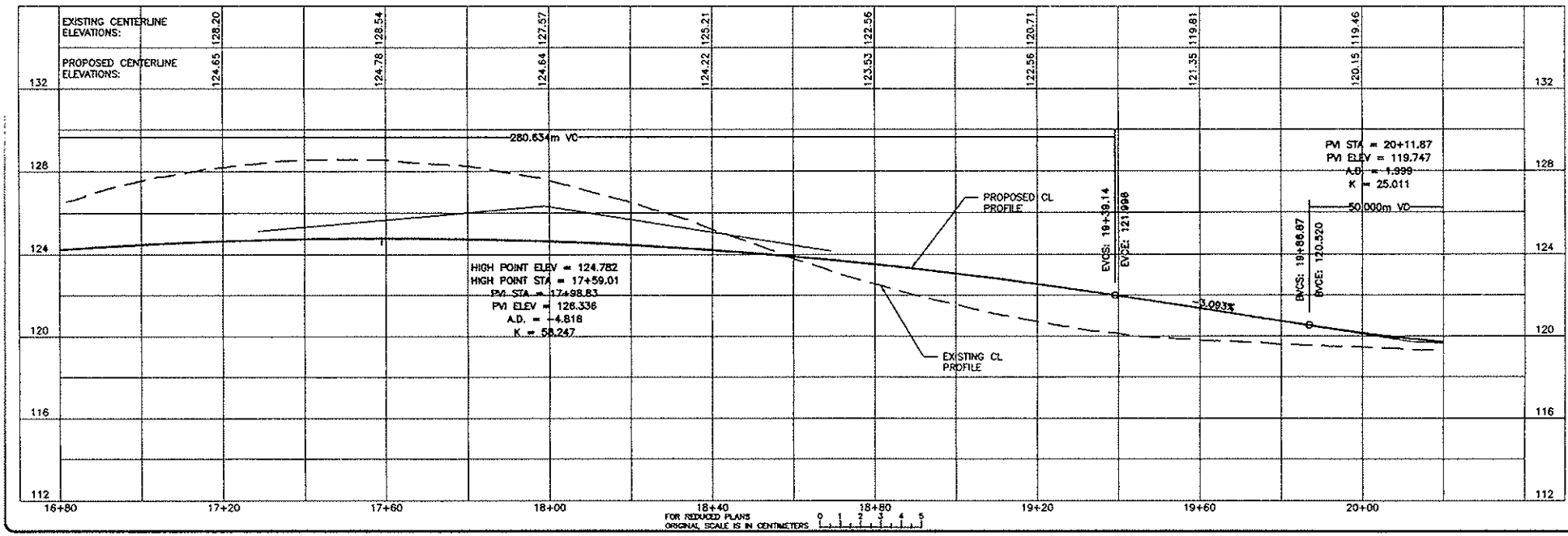
ALTERNATIVE 2 - WIDENING TO THE EAST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 17 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

		DATE
DESIGNED:	G. EBELING	7/31/02
DRAWN:	G. EBELING	7/31/02
CHECKED:	E. McCARTHY	7/31/02

PLACER COUNTY PROJECT NUMBER: PC 2764

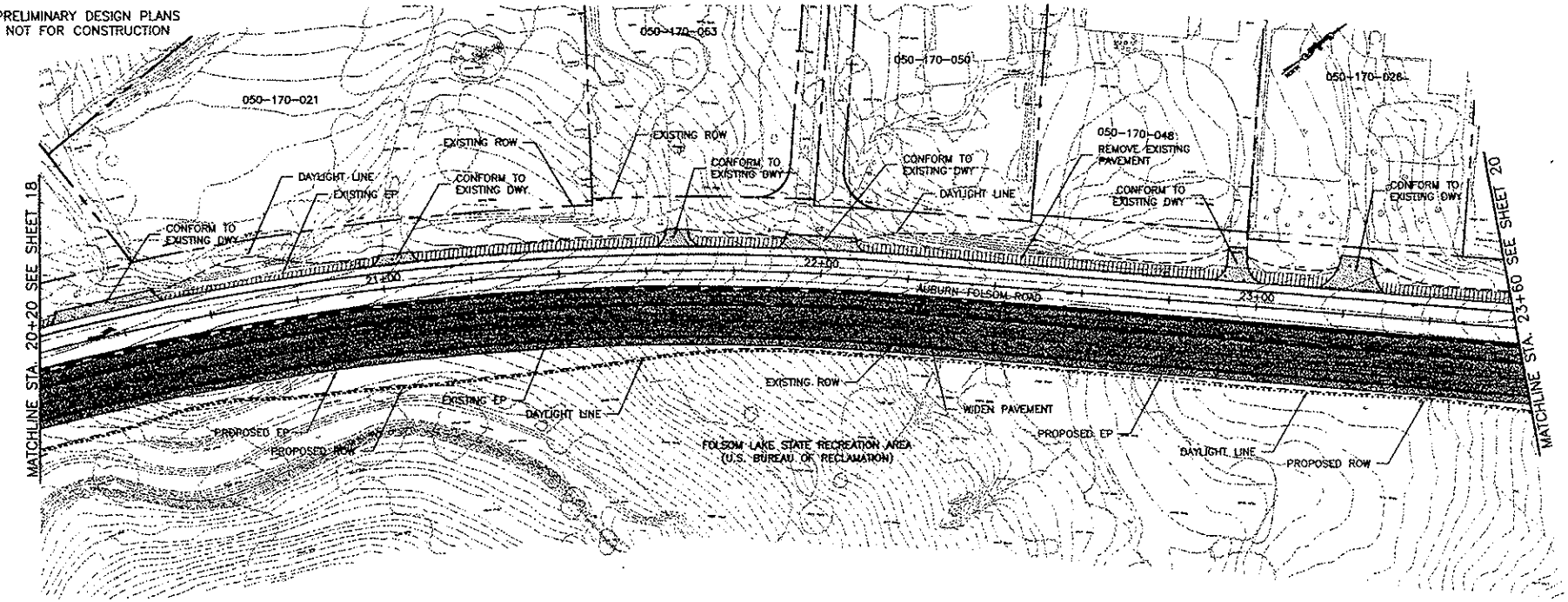
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT

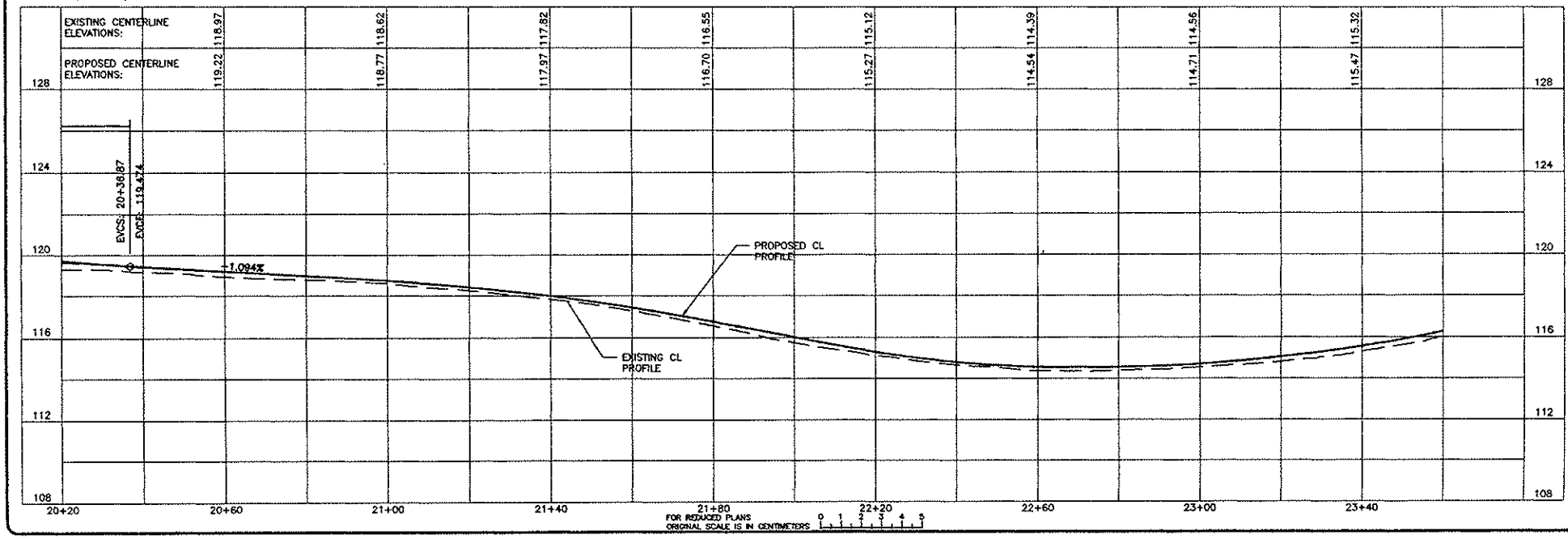
ALTERNATIVE 2 - WIDENING TO THE EAST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 18 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

PLACER COUNTY PROJECT NUMBER: PC 2284

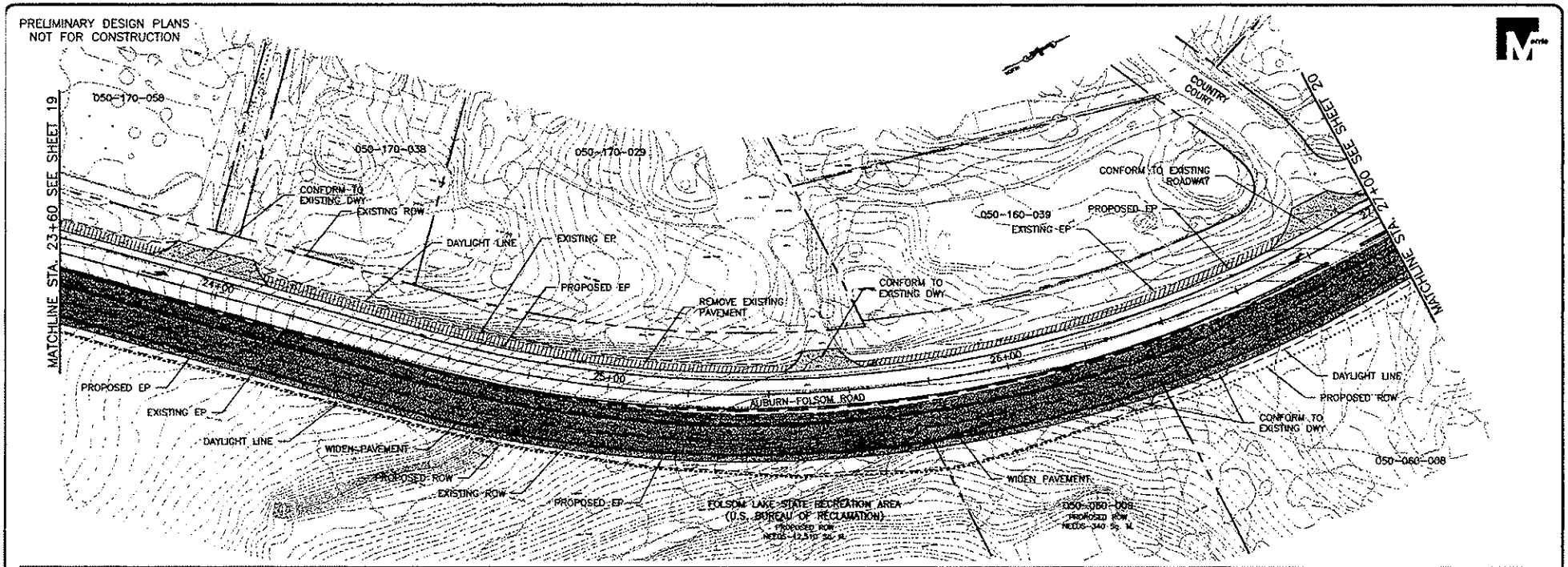
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT

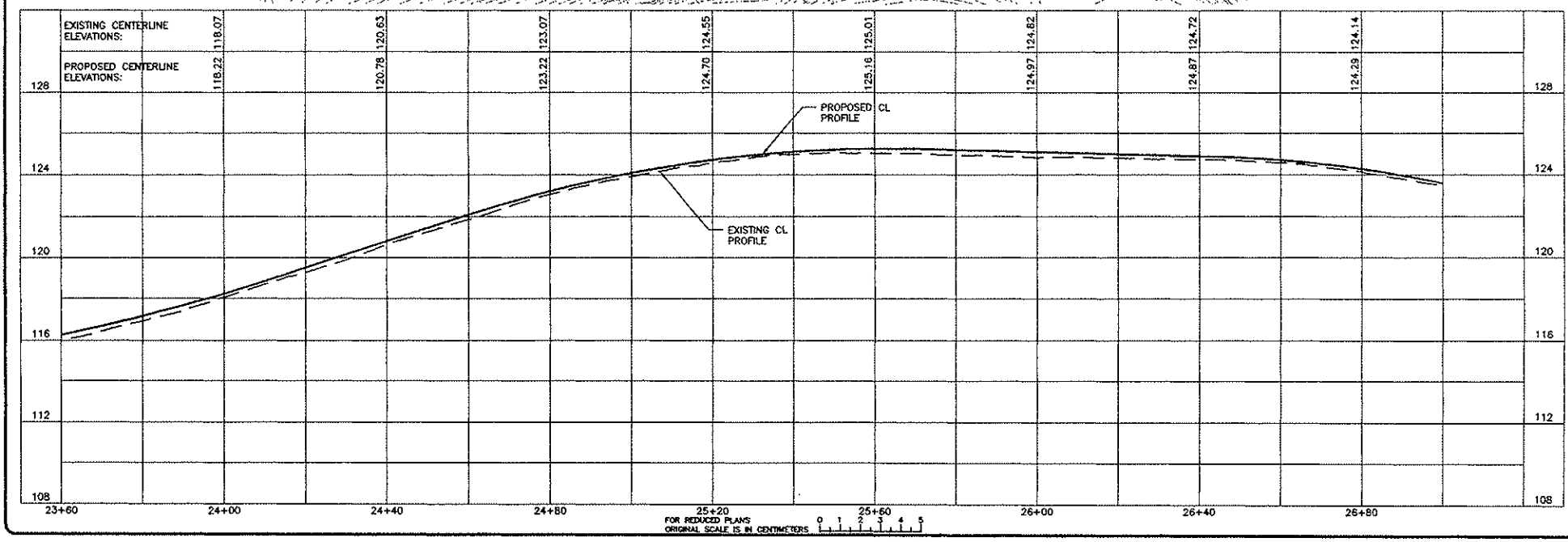
ALTERNATIVE 2 - WIDENING TO THE EAST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 19 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: C. FERLING 7/31/02
DRAWN: C. FERLING 7/31/02
CHECKED: E. McCARTHY 7/31/02

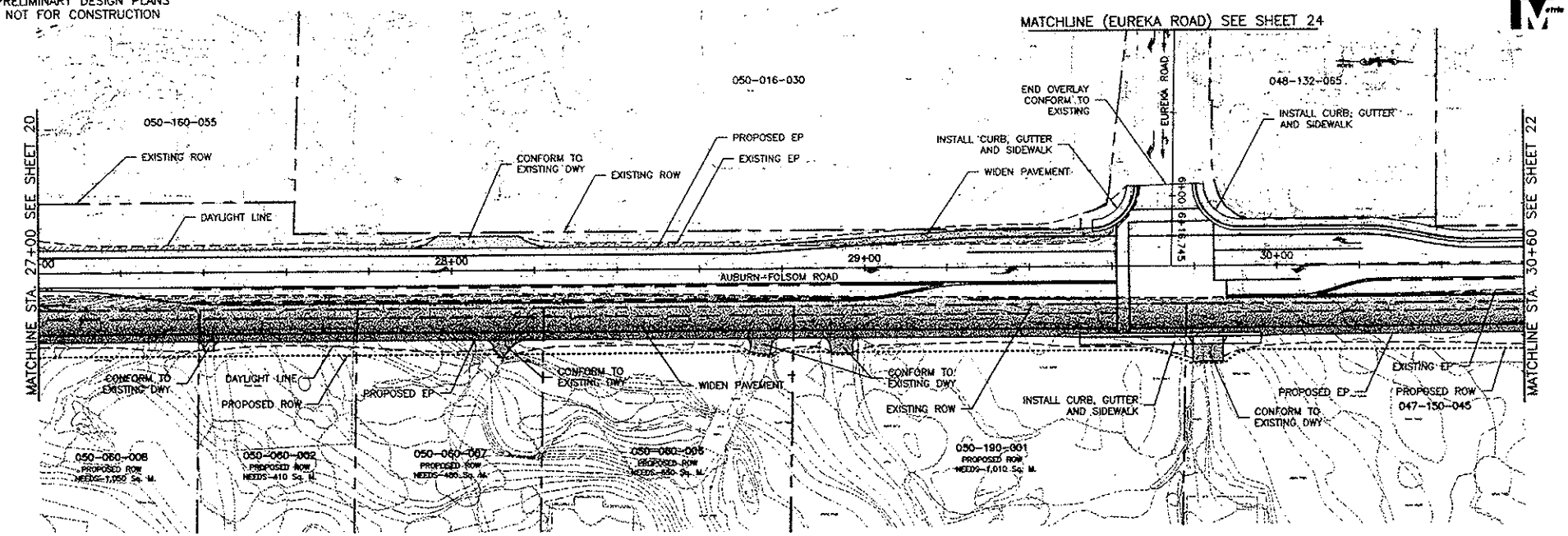
PLACER COUNTY PROJECT NUMBER: PS-2784

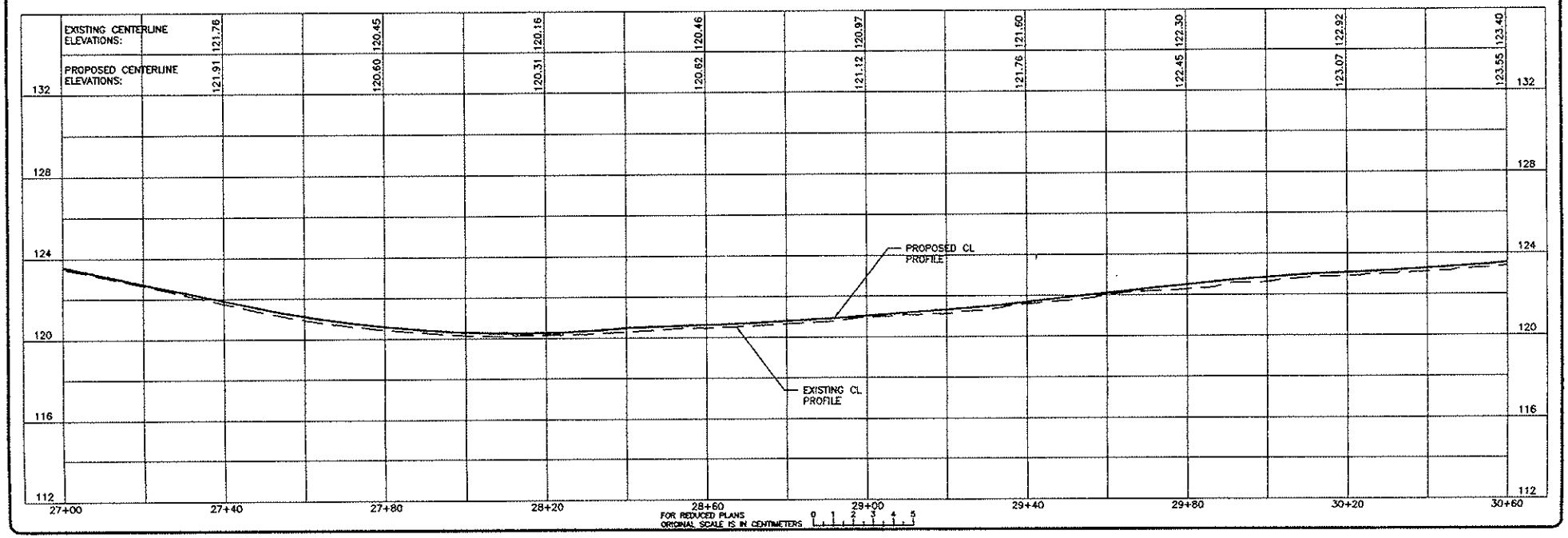
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
"4" ALTERNATIVE 2 - WIDENING TO THE EAST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 20 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE
DESIGNED: S. EBELING 7/31/02
DRAWN: S. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

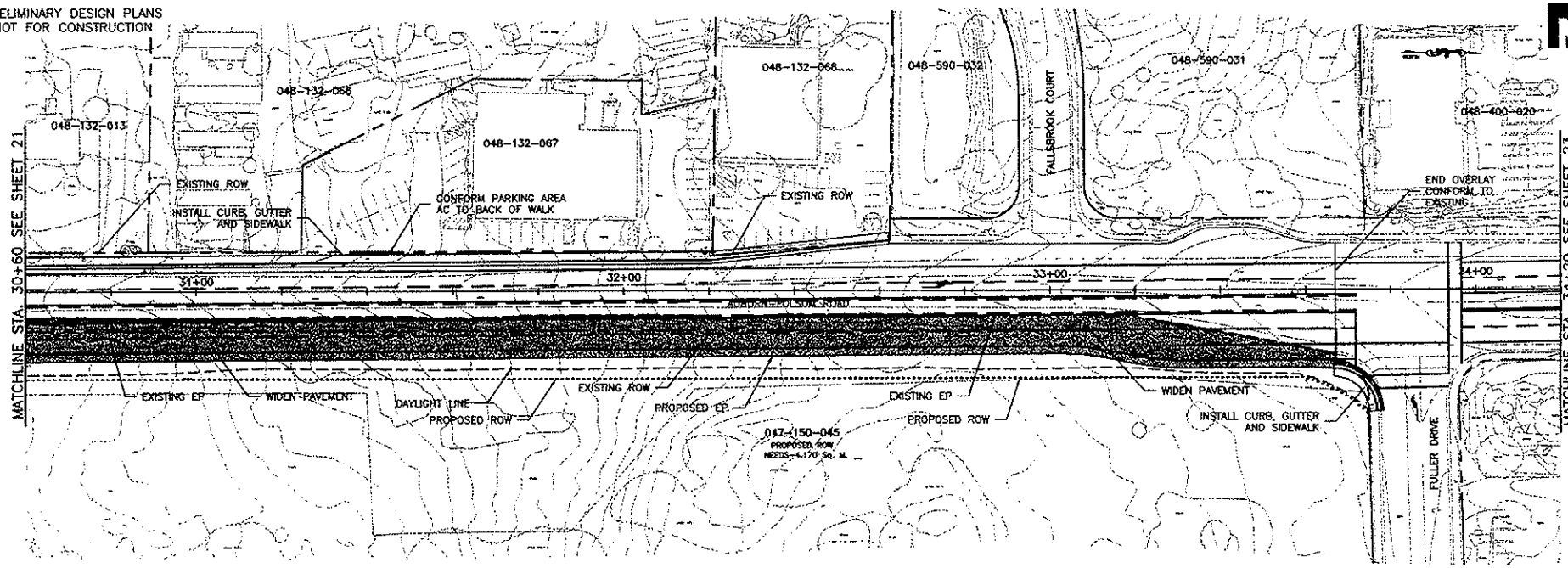
PLACER COUNTY PROJECT NUMBER:
PC-2784

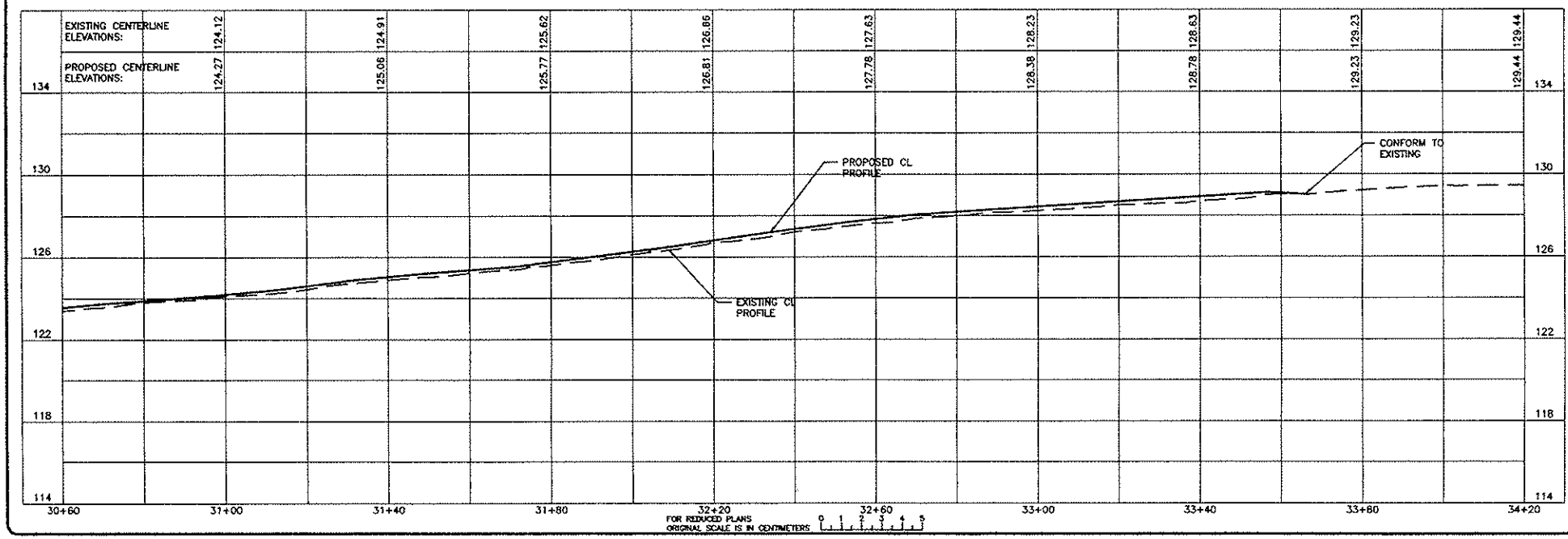
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 2 - WIDENING TO THE EAST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
21
OF
35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

PLACER COUNTY PROJECT NUMBER: RC 2264

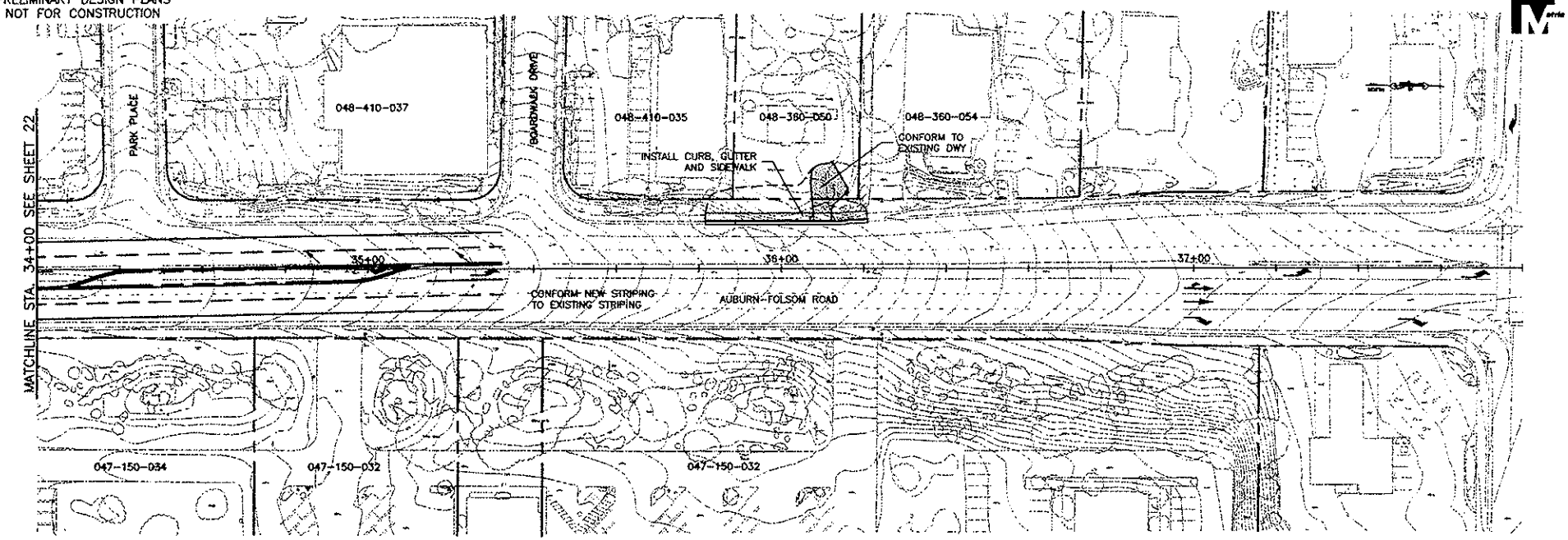
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT

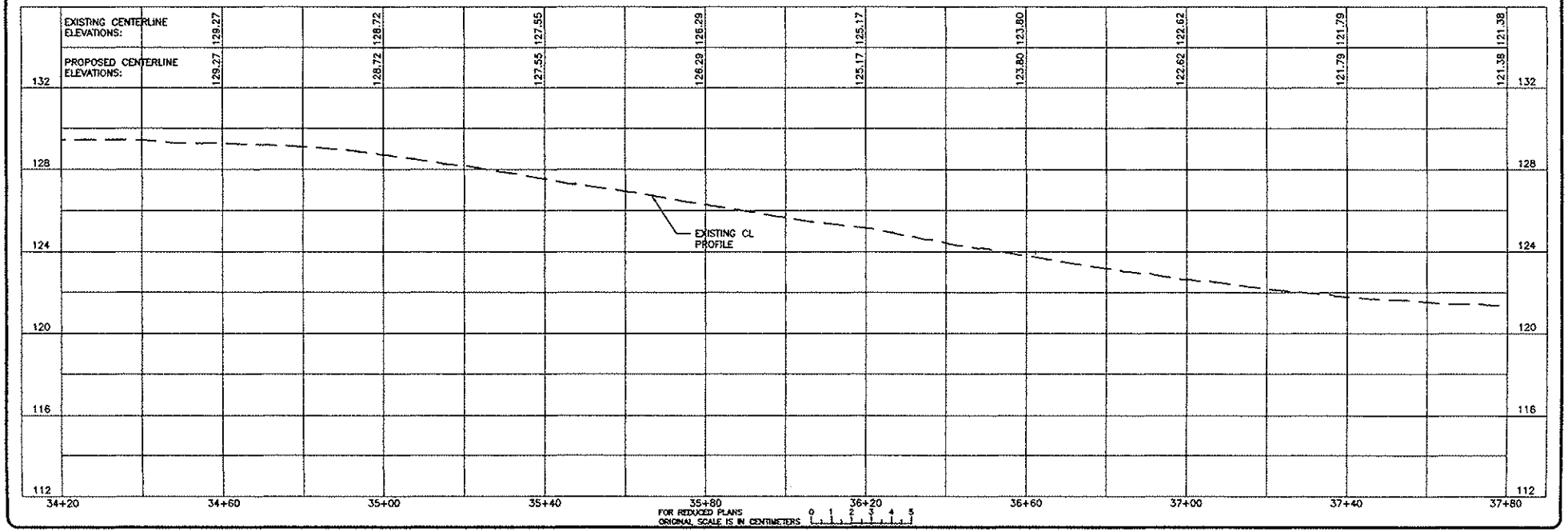
ALTERNATIVE 2 – WIDENING TO THE EAST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 22 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

		DATE
DESIGNED:	C. EBELING	7/31/02
DRAWN:	C. EBELING	7/31/02
CHECKED:	E. McCARTHY	7/31/02

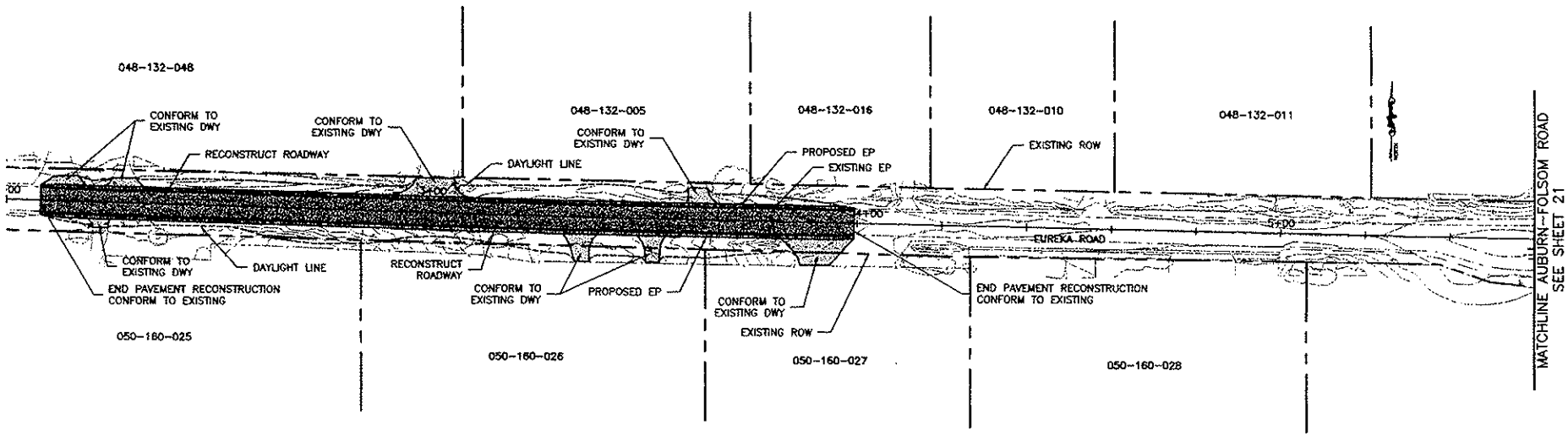
PLACER COUNTY PROJECT NUMBER: PC 2764

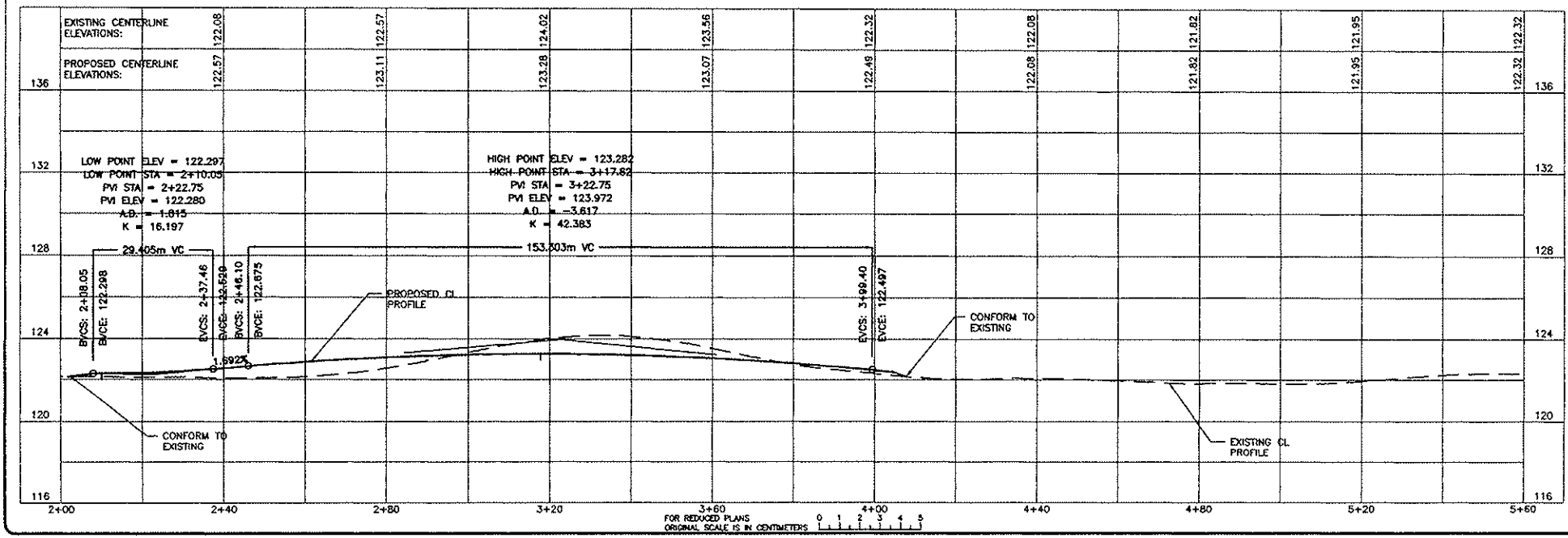
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 2 - WIDENING TO THE EAST

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 23 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02
DATE:

PLACER COUNTY PROJECT NUMBER: PC 2754

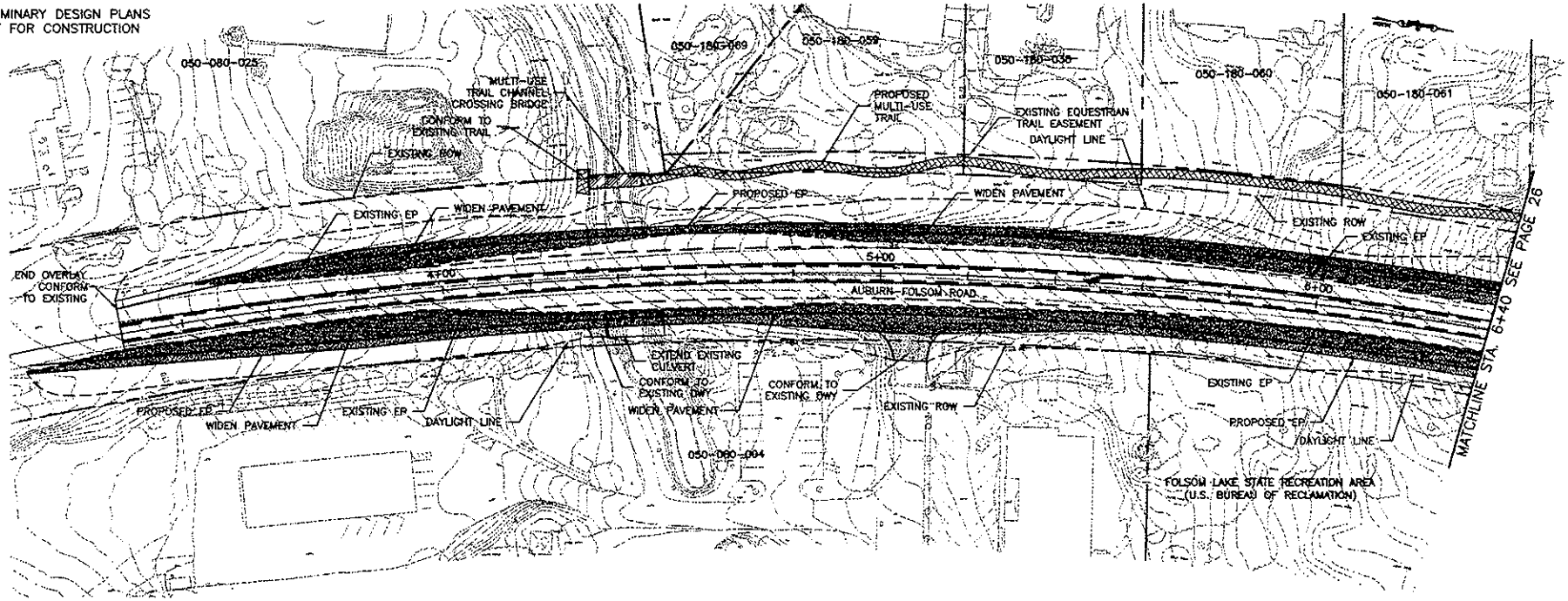
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
+ ALTERNATIVE 2 - WIDENING TO THE EAST

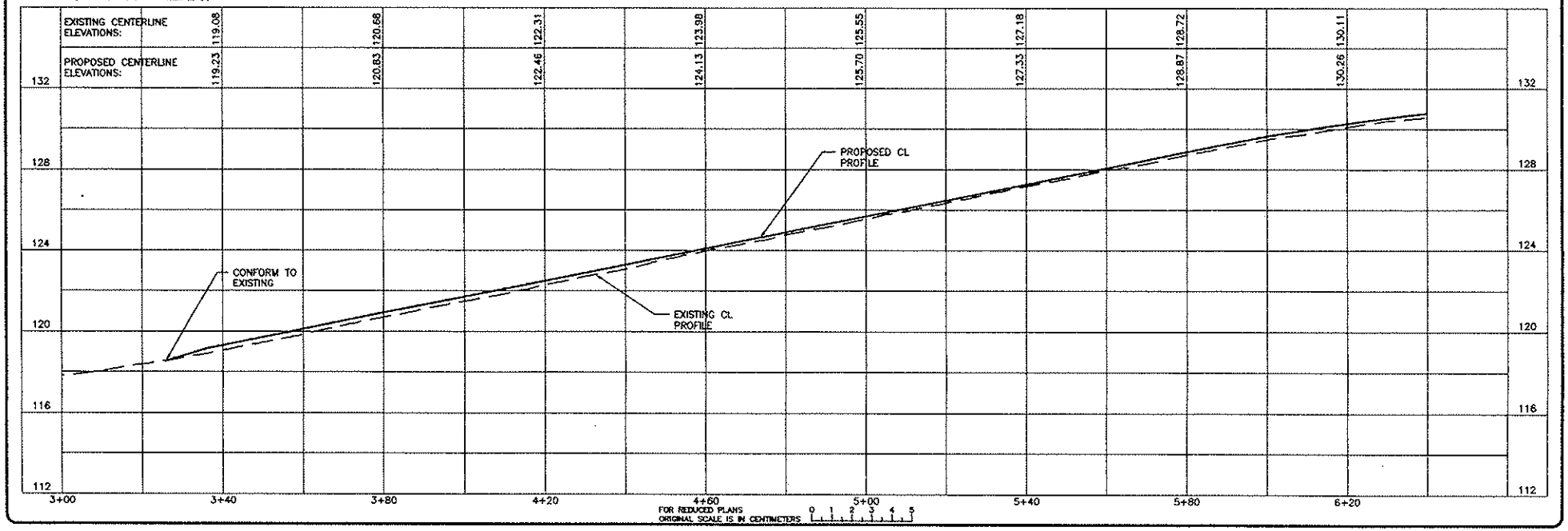
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 24 OF 35

Alternative 3: Widening Equally on Both Sides

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02
DATE:

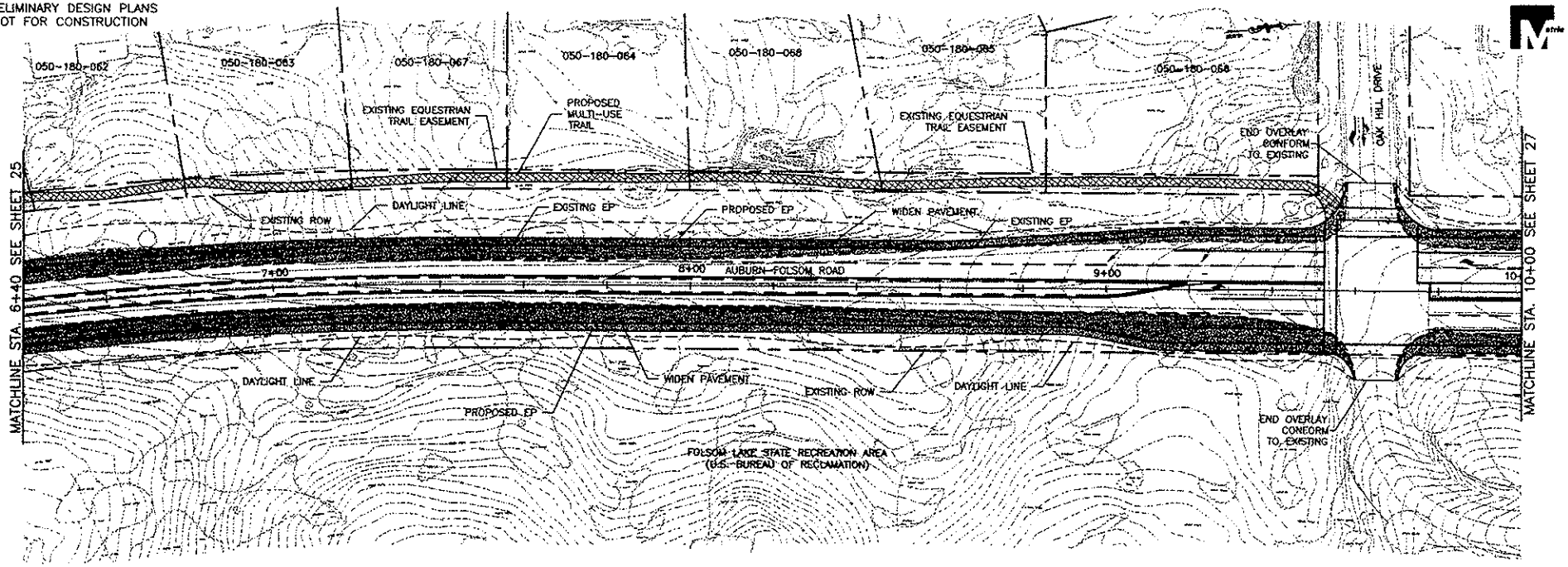
PLACER COUNTY PROJECT NUMBER:
PC 2764

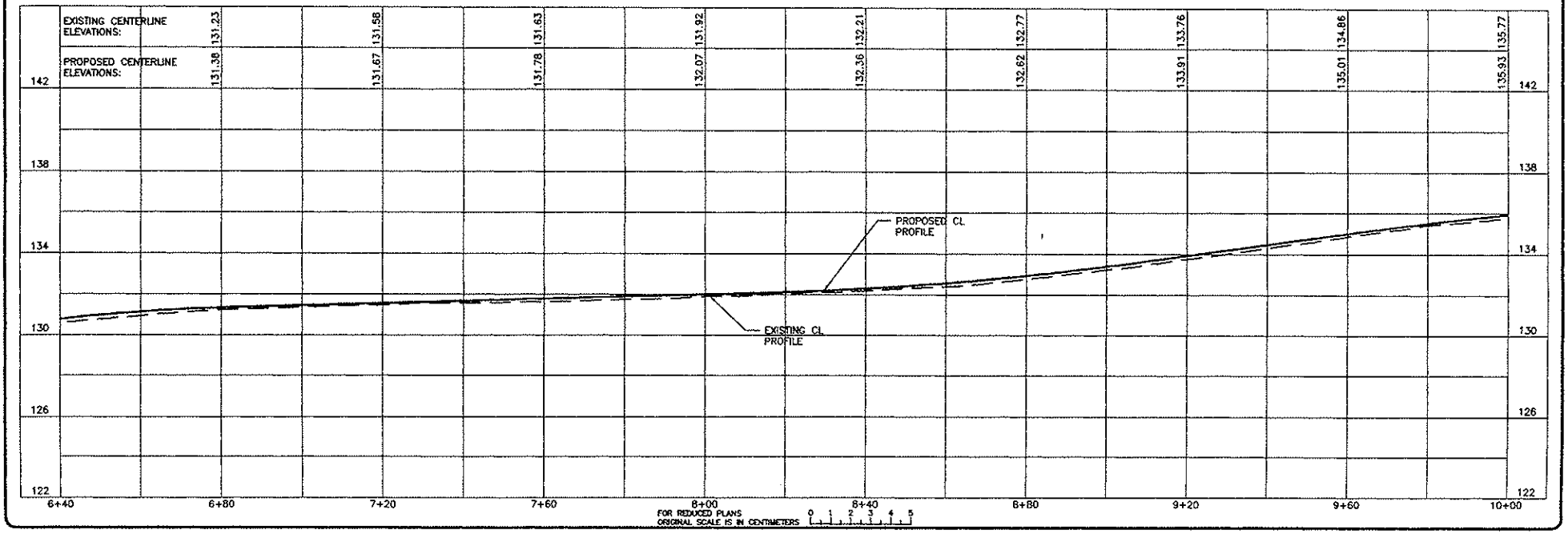
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
"A" ALTERNATIVE 3 - WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 25 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

PLACER COUNTY PROJECT NUMBER: PC-2764

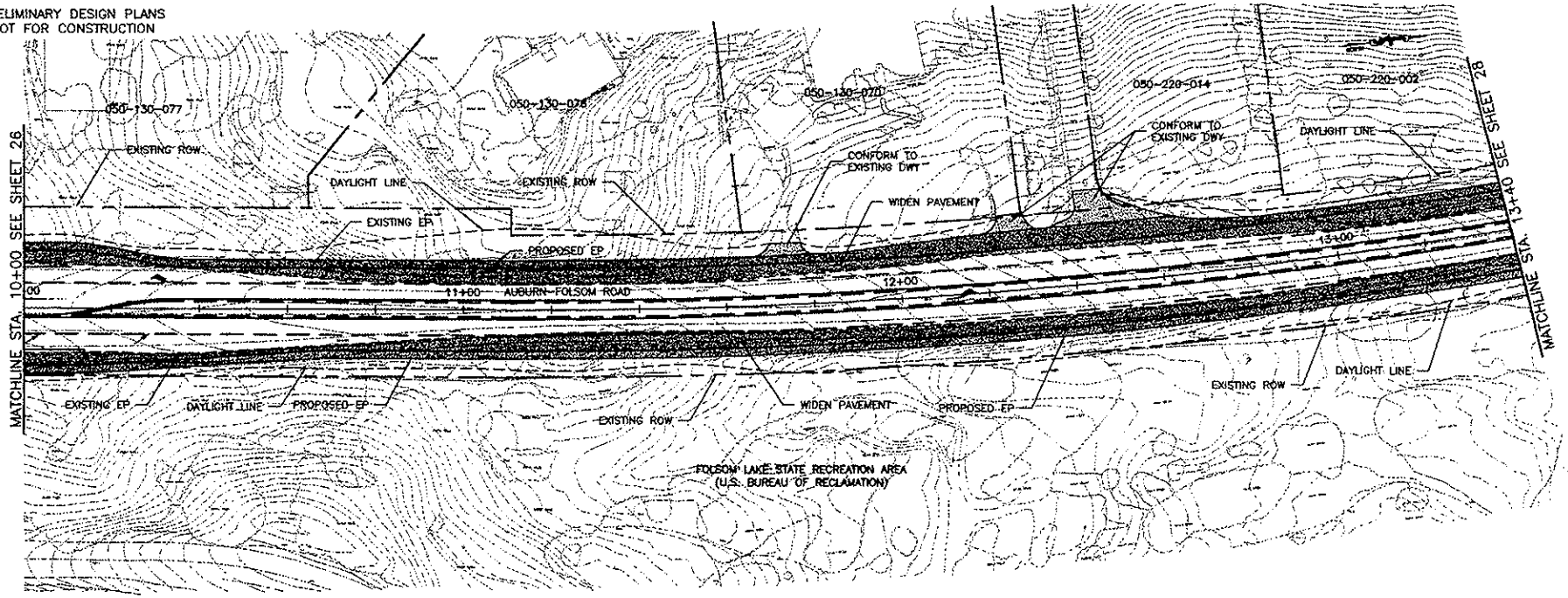
		DATE:
DESIGNED:	C. EBELING	7/31/02
DRAWN:	C. EBELING	7/31/02
CHECKED:	E. McCARTHY	7/31/02

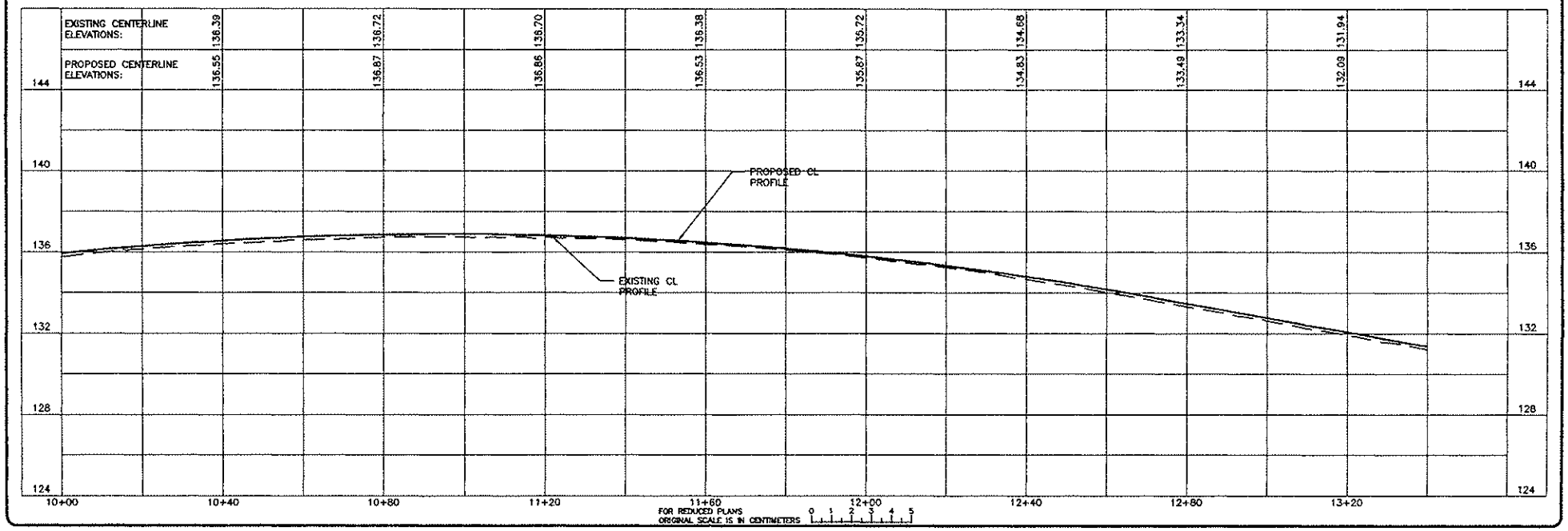
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 3 - WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 26 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBLING 7/31/02
DRAWN: C. EBLING 7/31/02
CHECKED: E. McCARTHY 7/31/02

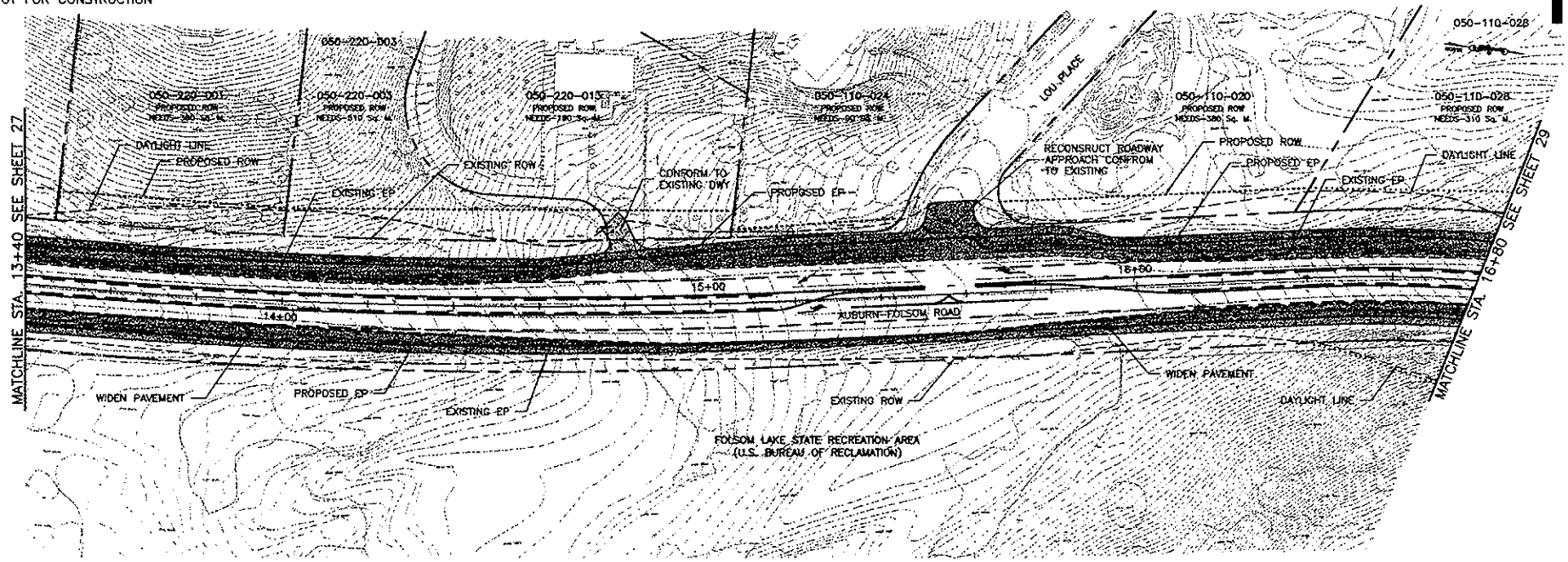
PLACER COUNTY PROJECT NUMBER: PC 2764

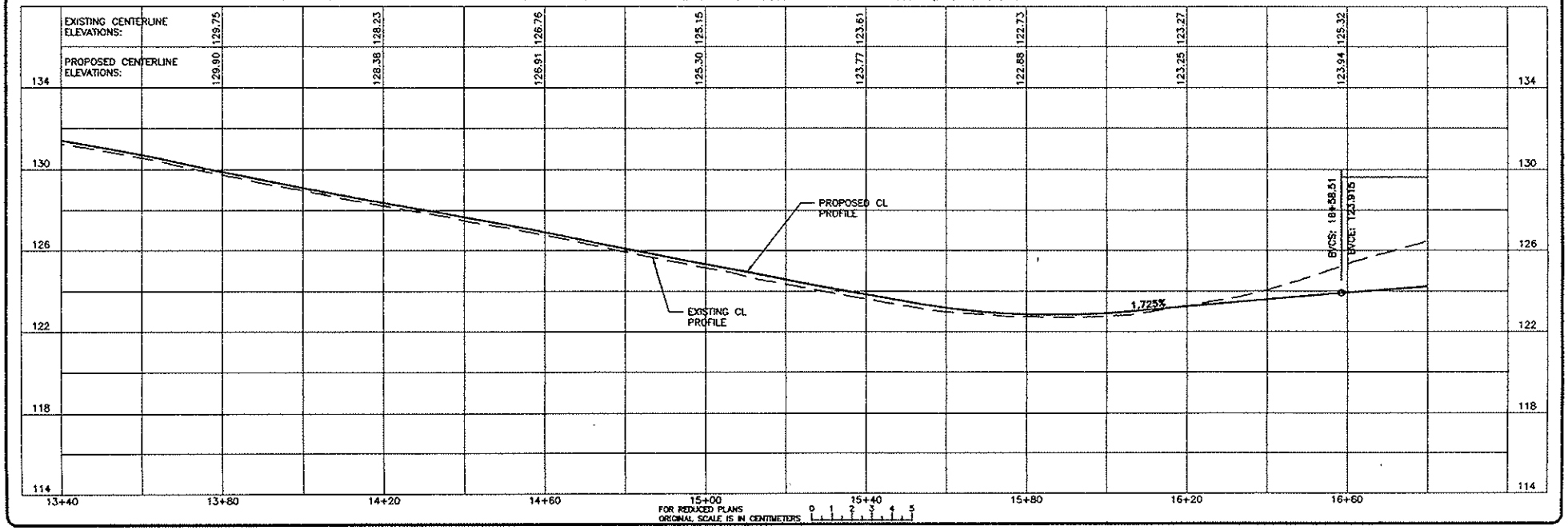
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
"A" ALTERNATIVE 3 - WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 27 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: S. EBELING 7/31/02
DRAWN: S. EBELING 7/31/02
CHECKED: E. McCARTY 7/31/02

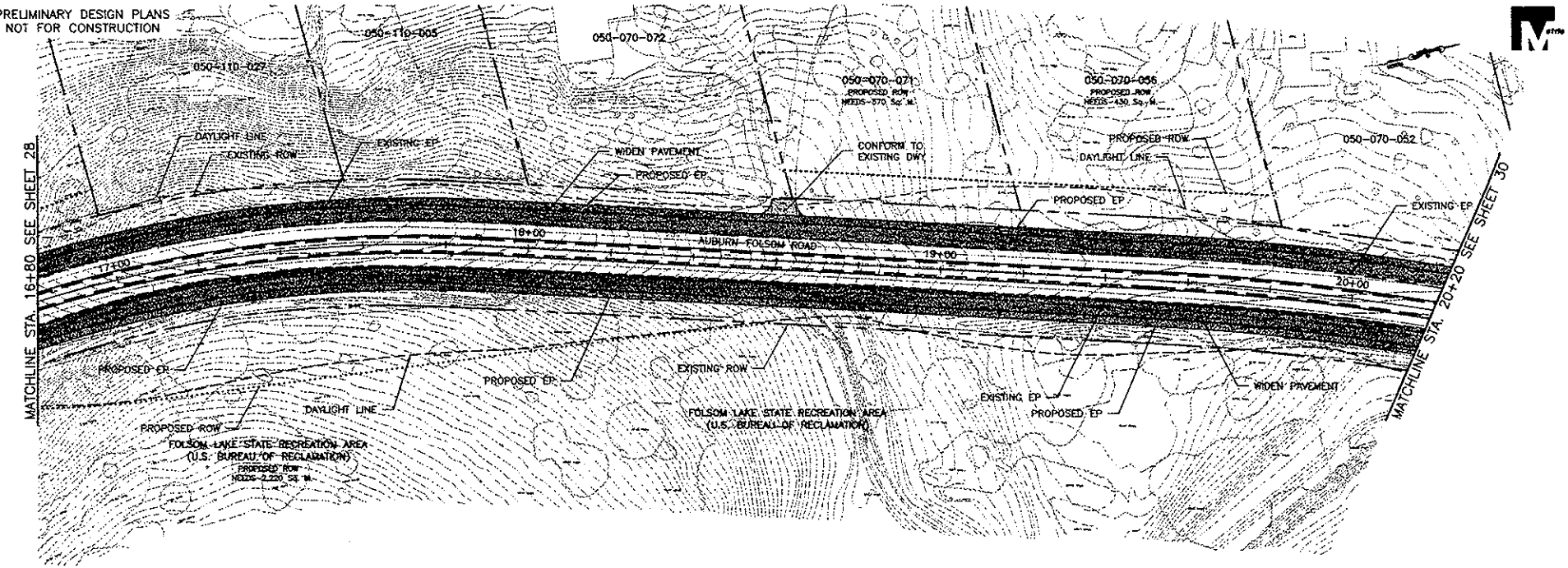
PLACER COUNTY
PROJECT NUMBER: EC 2764

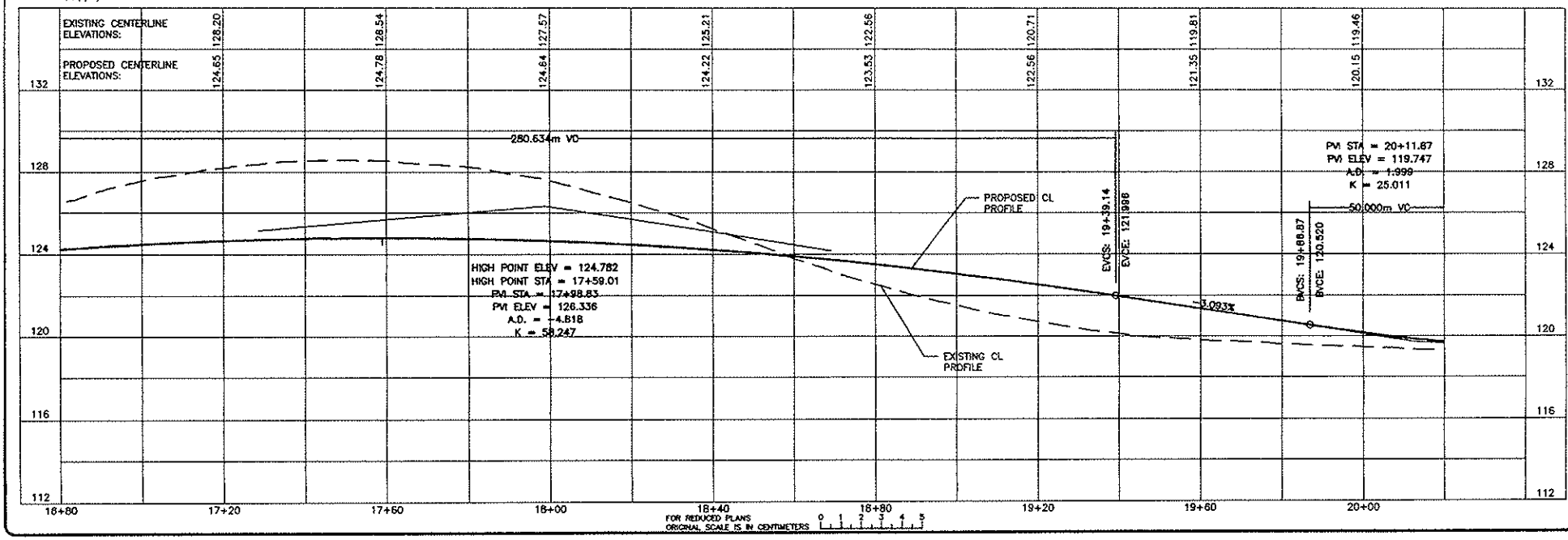
AUBURN-FOLSOM ROAD 4-LANE
WIDENING PROJECT
"F" ALTERNATIVE 3 - WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
28
OF
35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

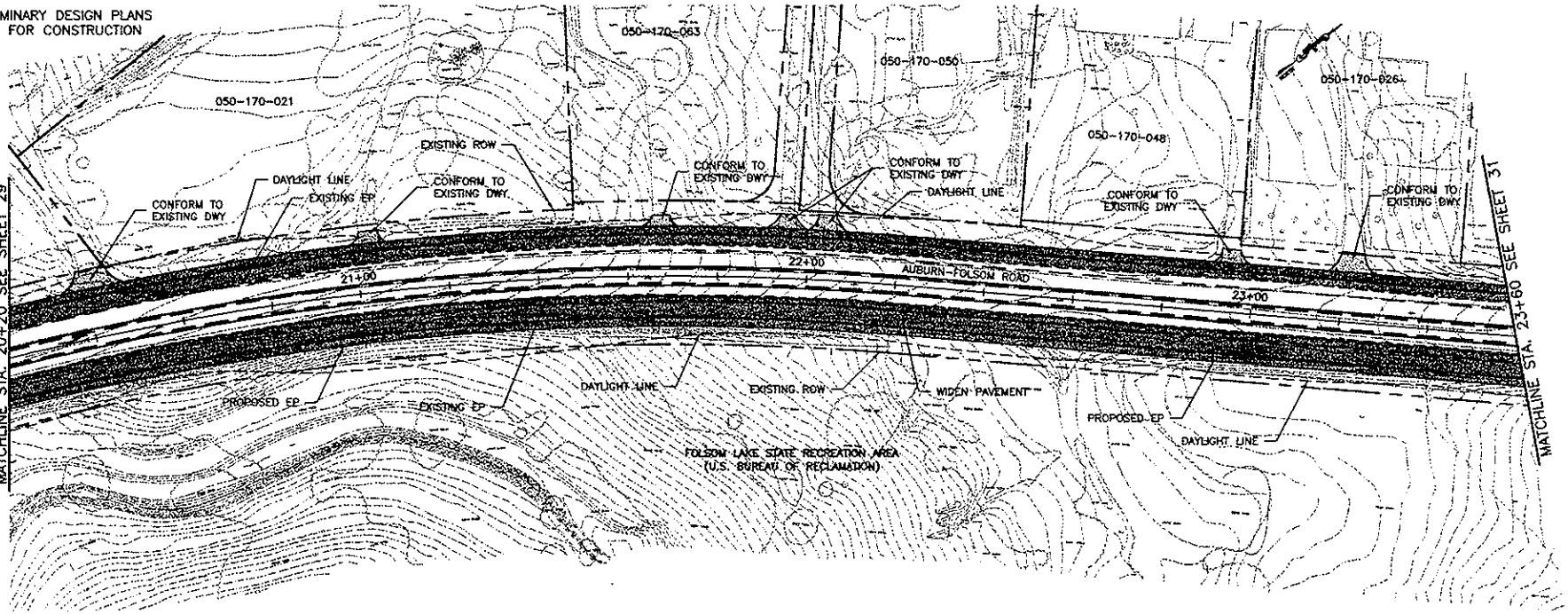
PLACER COUNTY
PROJECT NUMBER:
PC-2281

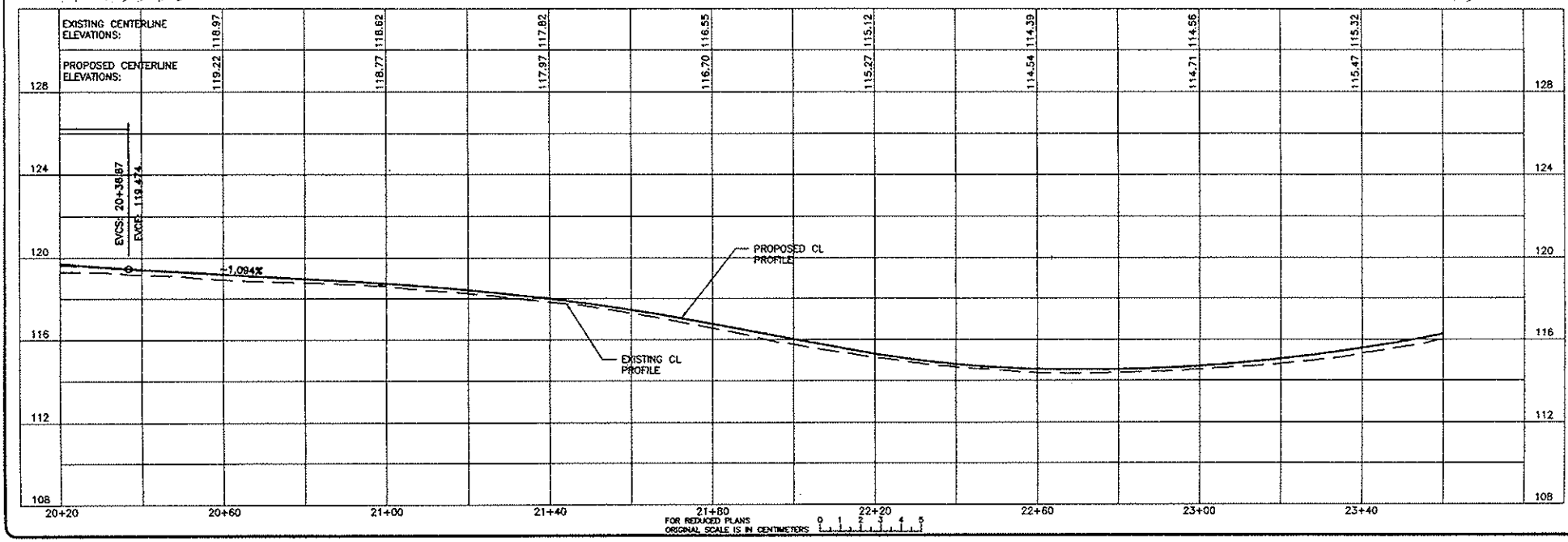
AUBURN-FOLSOM ROAD 4-LANE
WIDENING PROJECT
"A" ALTERNATIVE 3 - WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
29
OF
35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: C. EBELING 7/31/02
DRAWN: C. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

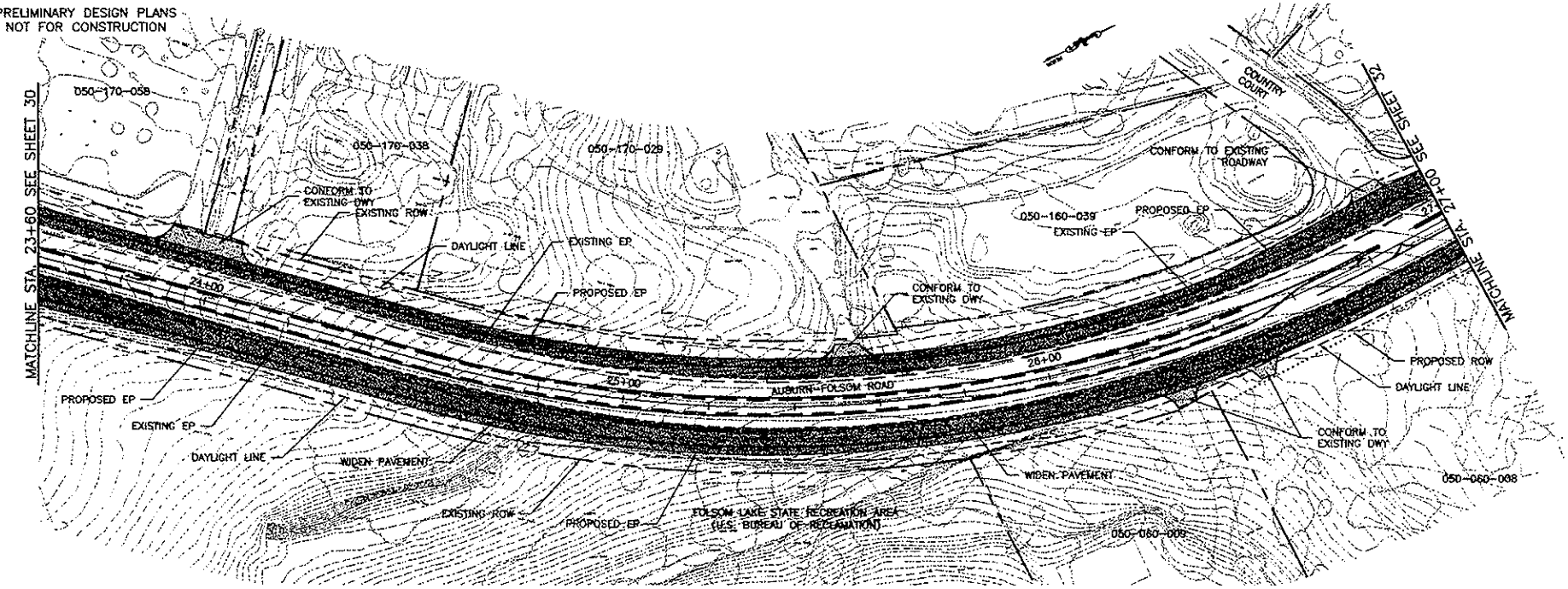
PLACER COUNTY PROJECT NUMBER:
PC 2764

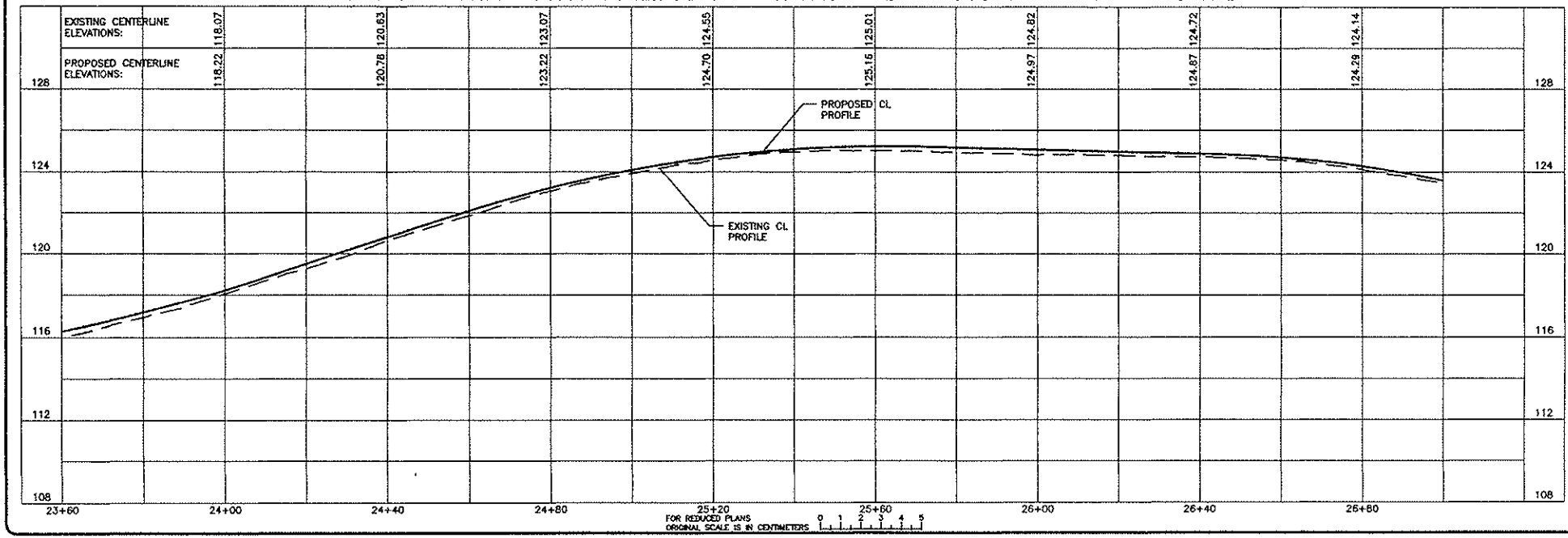
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
"4" ALTERNATIVE 3 - WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 30 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: G. EBELING 7/31/02
DRAWN: G. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

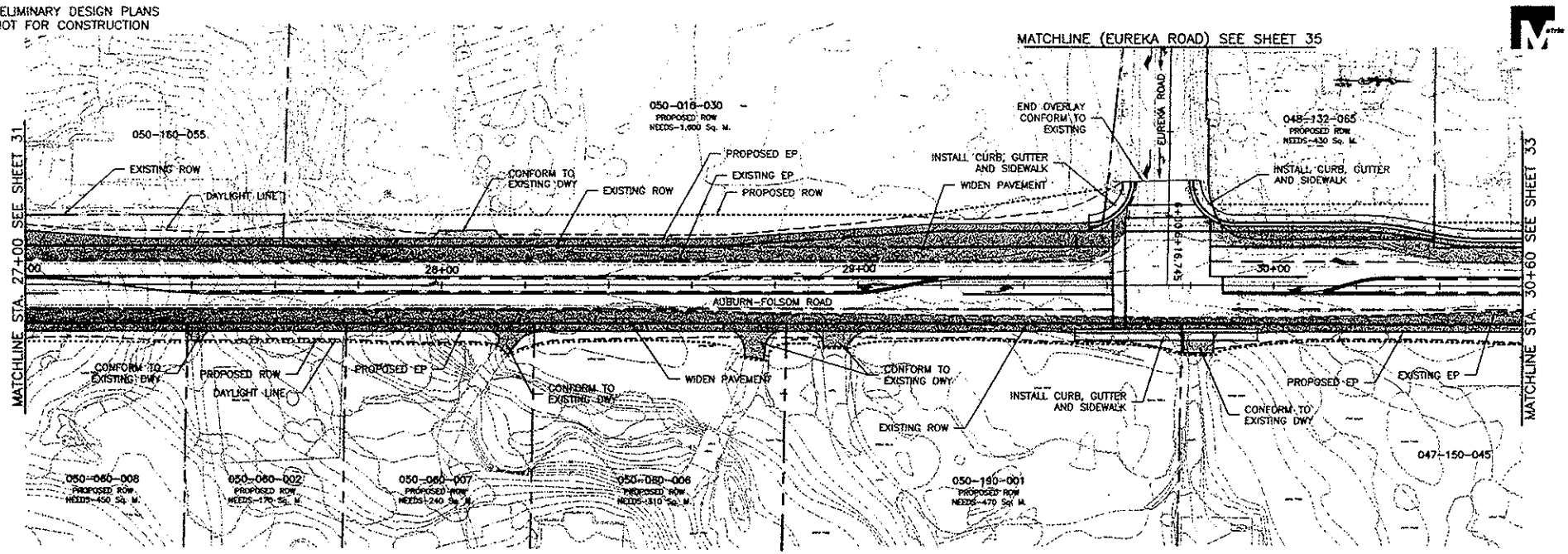
PLACER COUNTY PROJECT NUMBER: PC 2784

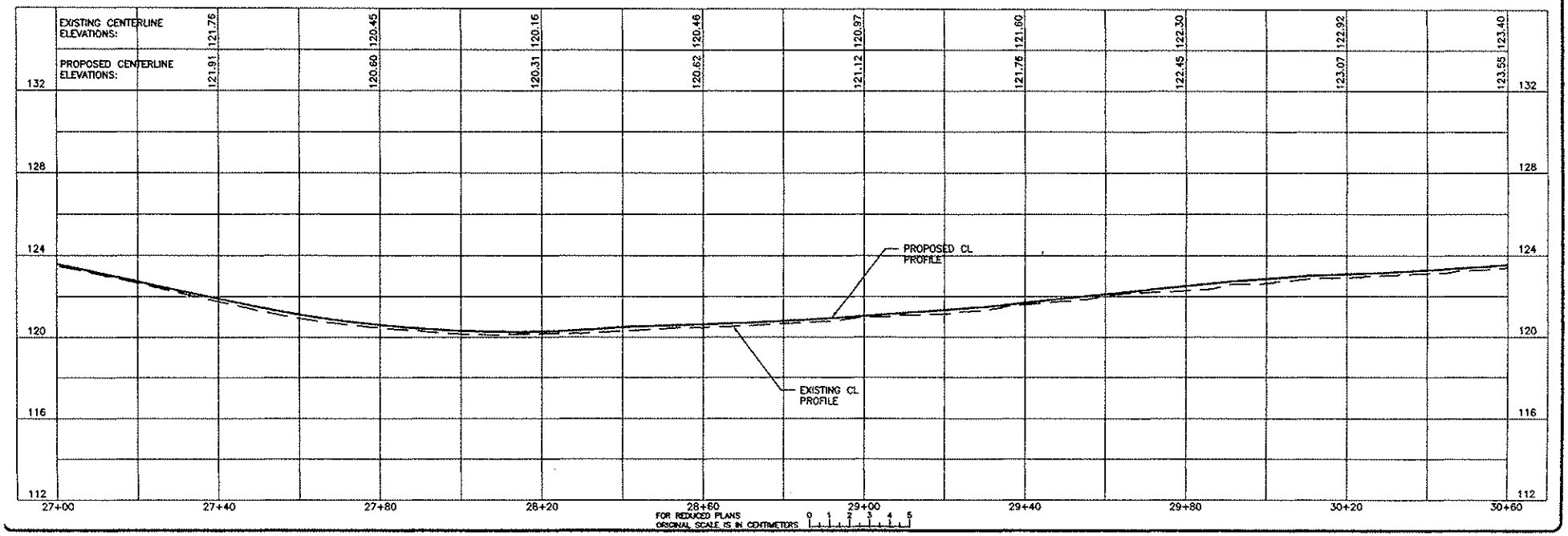
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 3 - WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 31 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBLING 7/31/02
DRAWN: C. EBLING 7/31/02
CHECKED: E. McCARTHY 7/31/02

PLACER COUNTY PROJECT NUMBER: PC 2764

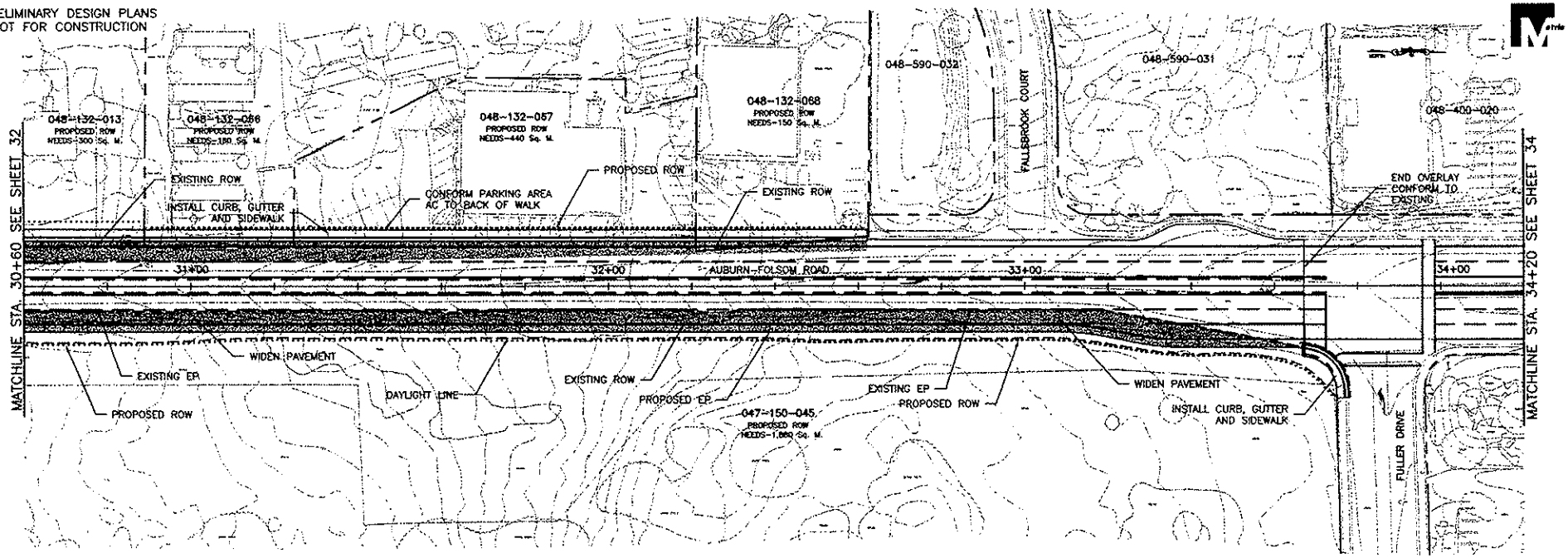
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT

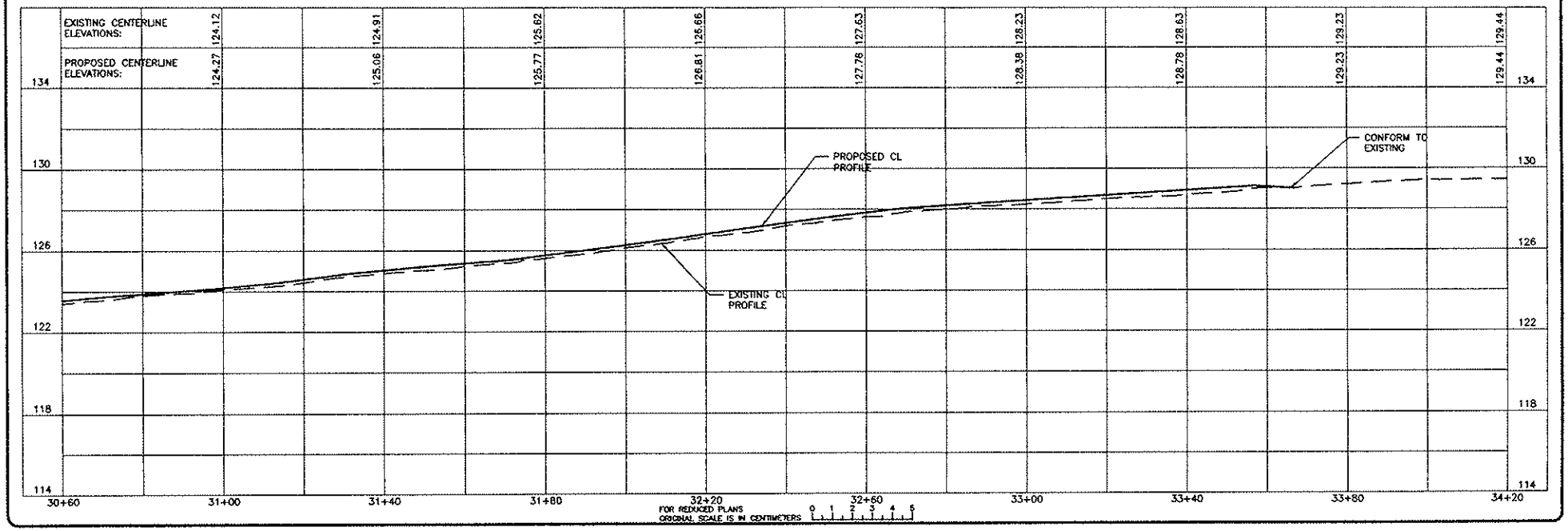
"4" ALTERNATIVE 3 -- WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 32 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: S. EBELING 7/31/02
DRAWN: S. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

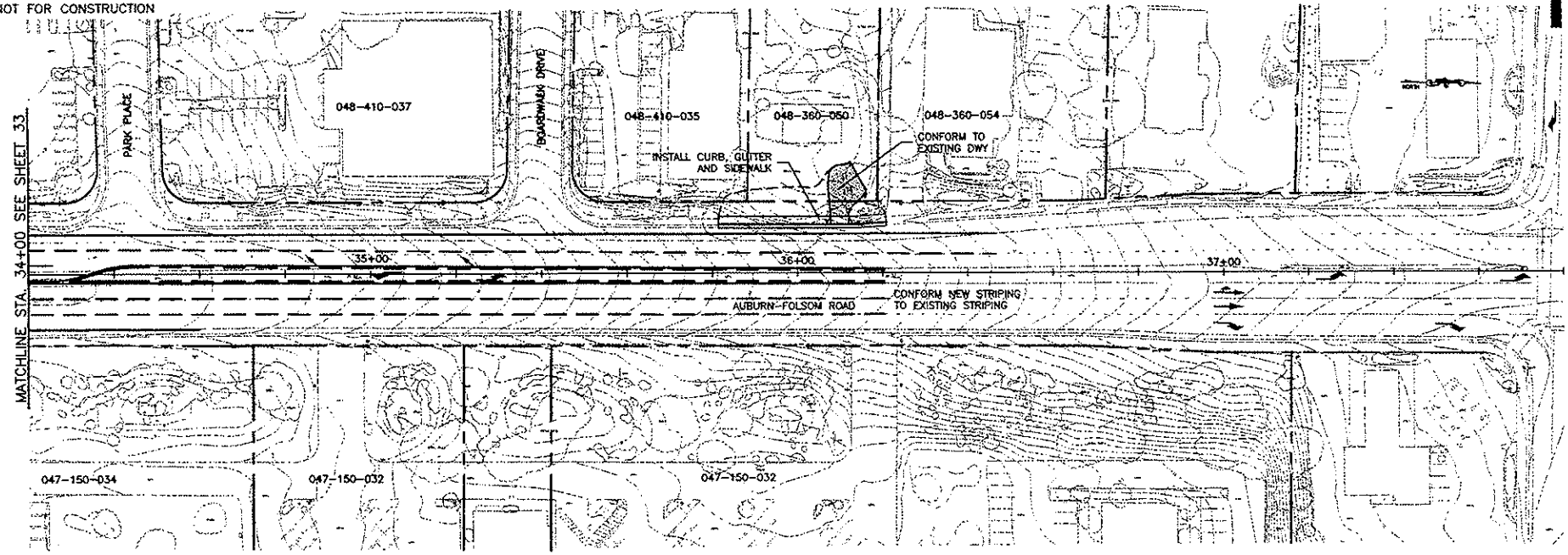
PLACER COUNTY PROJECT NUMBER:
PC 2764

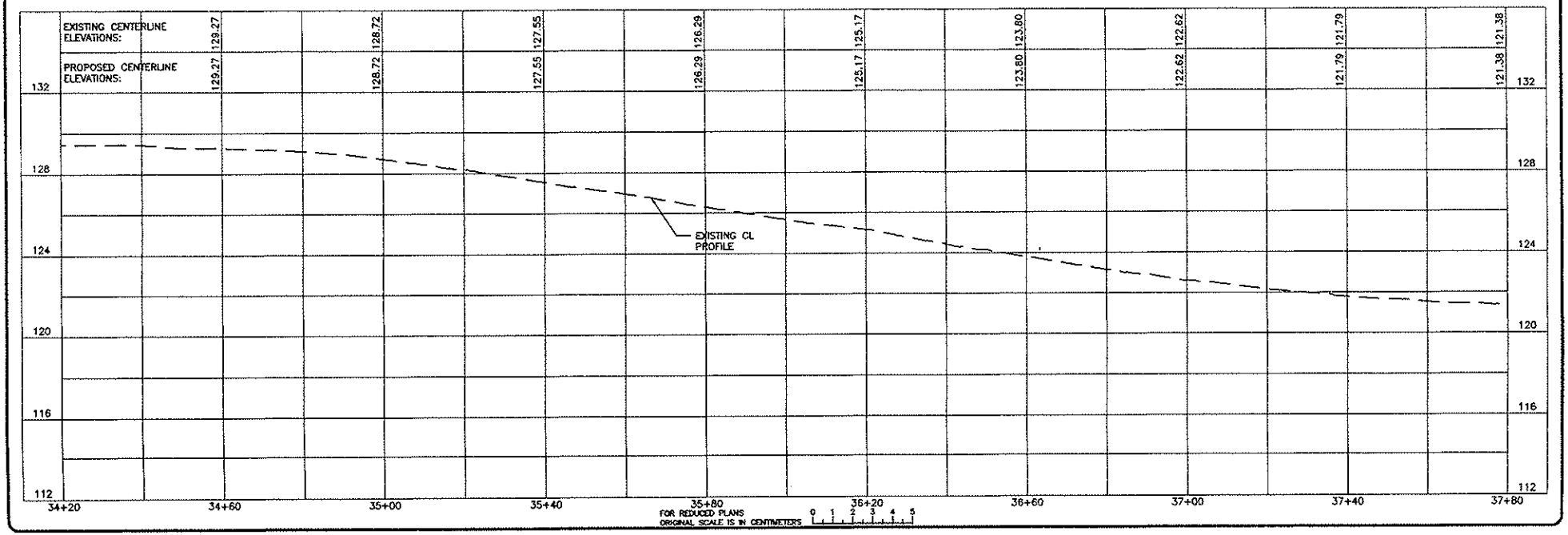
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
"F" ALTERNATIVE 3 - WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
33
OF
35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:250
VERTICAL: 1:100

DESIGNED: G. ENGLING 7/31/02
DRAWN: G. ENGLING 7/31/02
CHECKED: E. MCCARTHY 7/31/02

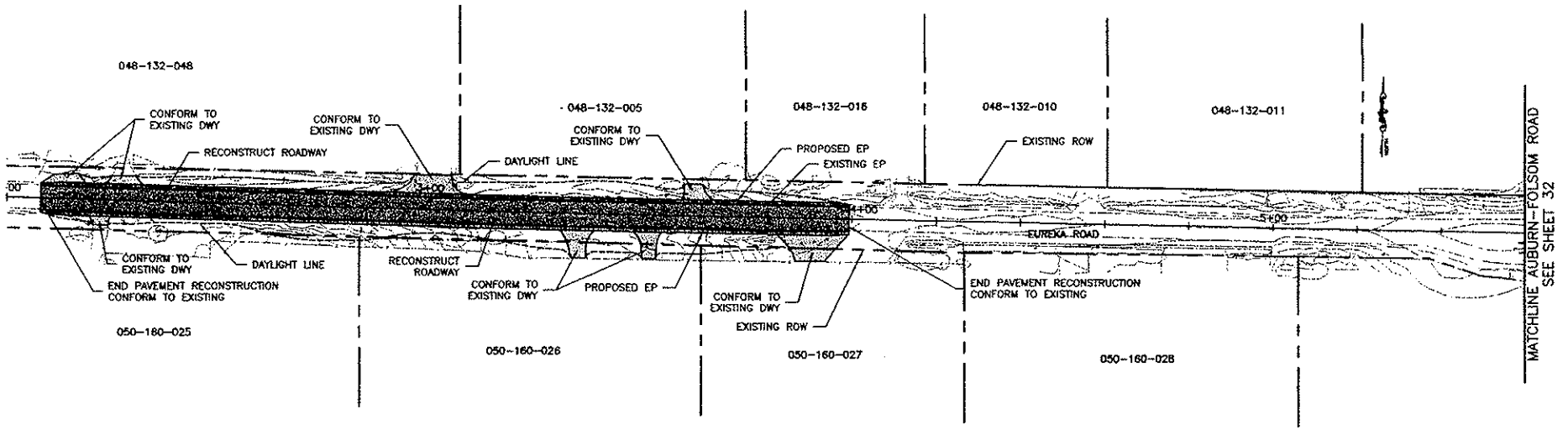
PLACER COUNTY PROJECT NUMBER:
PC 2764

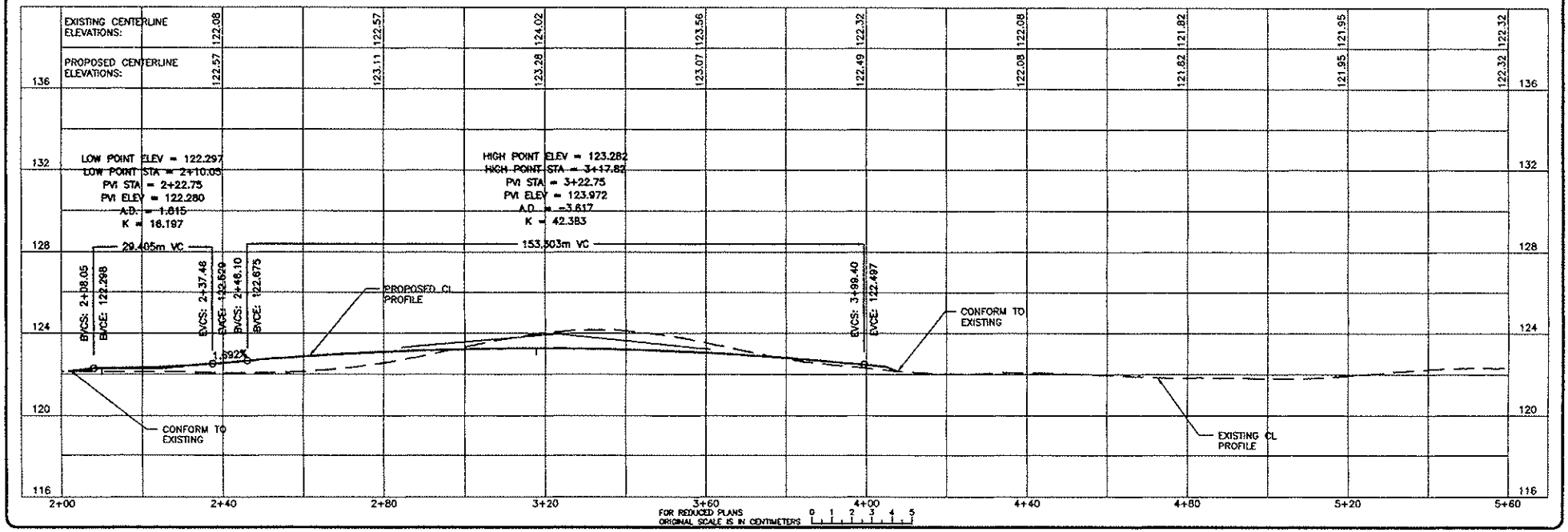
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
* ALTERNATIVE 3 - WIDENING ON BOTH SIDES

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 34 OF 35

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE
DESIGNED: C. EBELING 7/31/02
DRAWN: S. EBELING 7/31/02
CHECKED: E. McCARTHY 7/31/02

PLACER COUNTY PROJECT NUMBER:
PC 2764

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 3 - WIDENING ON BOTH SIDES

SHEET NO.
35
OF
35

Alternative 4: County DPW-Preferred Alternative

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION

COUNTY OF PLACER

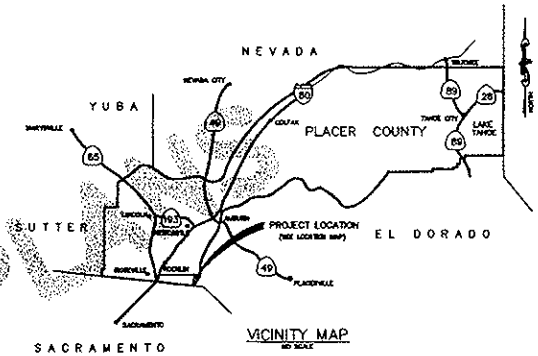
DEPARTMENT OF PUBLIC WORKS

PRELIMINARY DESIGN PLANS FOR:

AUBURN–FOLSOM ROAD 4–LANE WIDENING PROJECT

FROM THE PLACER COUNTY LINE NORTH TO DOUGLAS BOULEVARD GRANITE BAY, CA

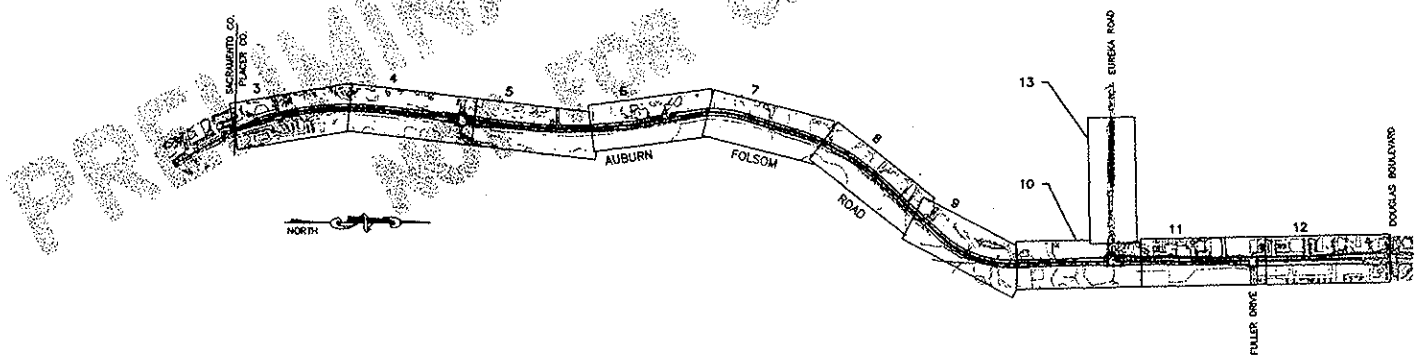
ALTERNATIVE 4



SHEET INDEX:

1. TITLE SHEET
2. TYPICAL SECTIONS
3–13. PLAN & PROFILE ALTERNATIVE 4

PRELIMINARY DESIGN PLANS NOT FOR CONSTRUCTION



NOTE:

1) THE RIGHT–OF–WAY LINES SHOWN ARE FOR REFERENCE PURPOSES ONLY. RIGHT–OF–WAY HAS NOT BEEN SURVEYED.

2) ATERNATIVE 4 IS A COMBINATION OF ALTERNATIVES 1, 2, AND 3 PRESENTED IN THE PRELIMINARY DESIGN PLAN SET DATED 7/31/02. ALTERNATIVE 4 FITS WITHIN THE PROJECT LIMITS DEFINED IN THE AUBURN–FOLSOM ROAD 4–LANE WIDENING PROJECT PRELIMINARY DESIGN REPORT DATED 8/21/02

FOR REDUCED PLANS ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL: N.A.
VERTICAL: N.A.

DATE:
DESIGNED: S. EBELING 9/18/02
DRAWN: S. EBELING 9/18/02
CHECKED: E. McCARTHY 9/18/02

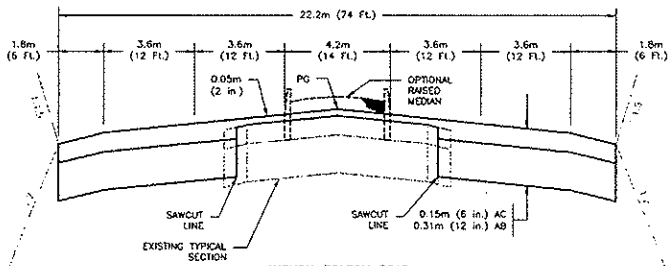
PLACER COUNTY PROJECT NUMBER: 2284

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN–FOLSOM ROAD 4–LANE WIDENING PROJECT
TITLE SHEET

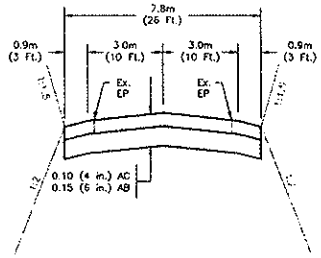
SHEET NO. 1 OF 13

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



AUBURN-FOLSOM ROAD
ALTERNATIVE 4

THE LOCATION OF THE EXISTING SECTION VARIES - SEE PLAN AND PROFILE SHEETS



EUREKA ROAD
(RECONSTRUCT SECTION)

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL: 1:100
VERTICAL: 1:20

PLACER COUNTY PROJECT NUMBER: 2784

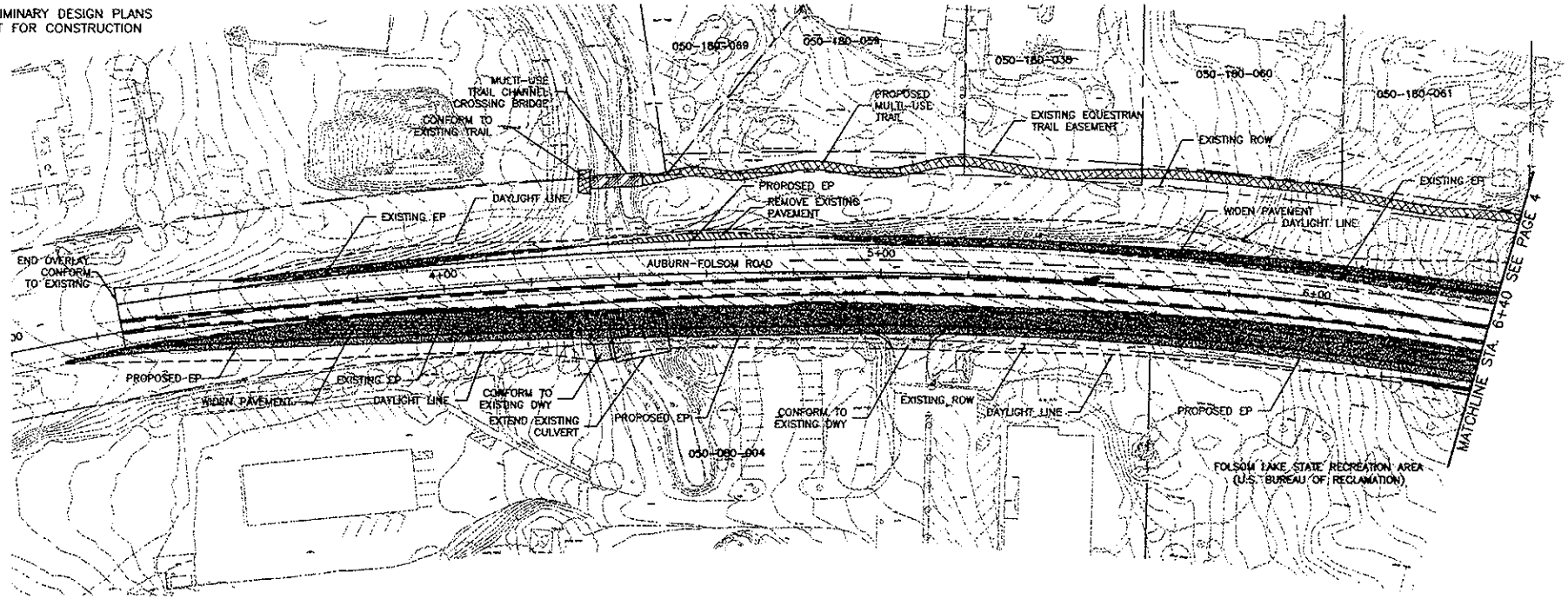
DESIGNED: S. EBELING 9/16/02
DRAWN: S. EBELING 9/16/02
CHECKED: E. McCARTHY 9/16/02
DATE:

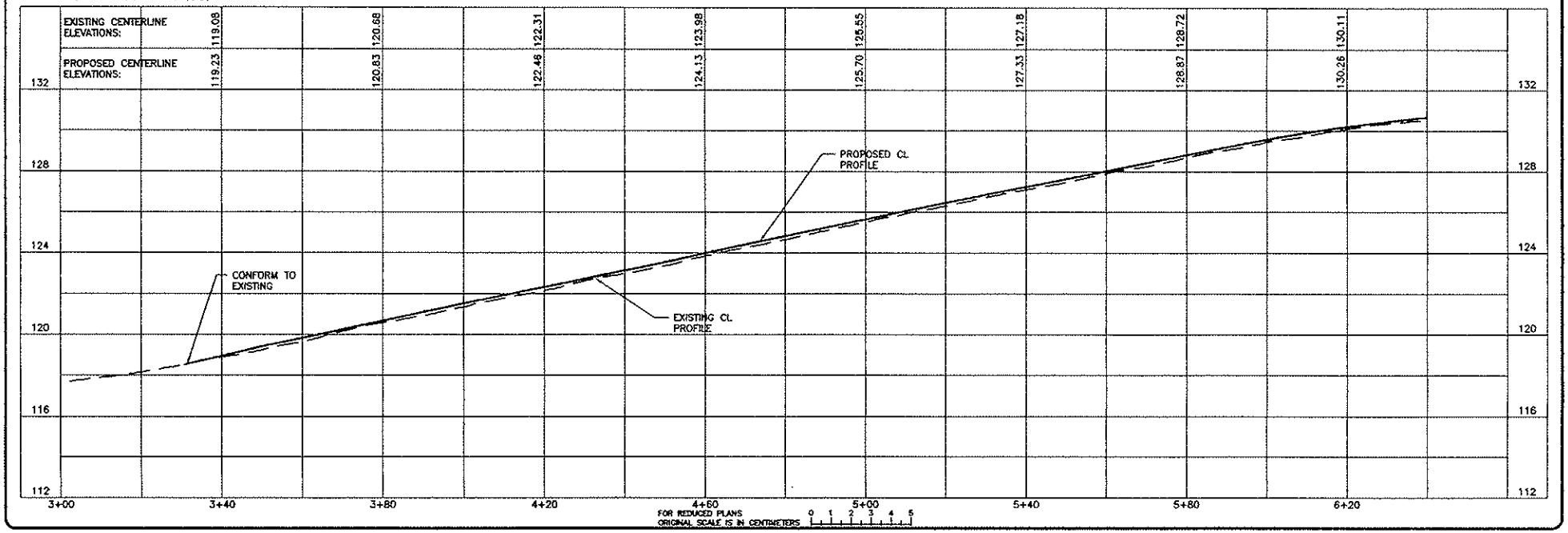
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN-FOLSOM ROAD 4-LANE
WIDENING PROJECT
TYPICAL SECTIONS

SHEET NO. 2 OF 13

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBELING 9/15/03
DRAWN: C. EBELING 9/15/03
CHECKED: E. McCARTHY 9/15/03

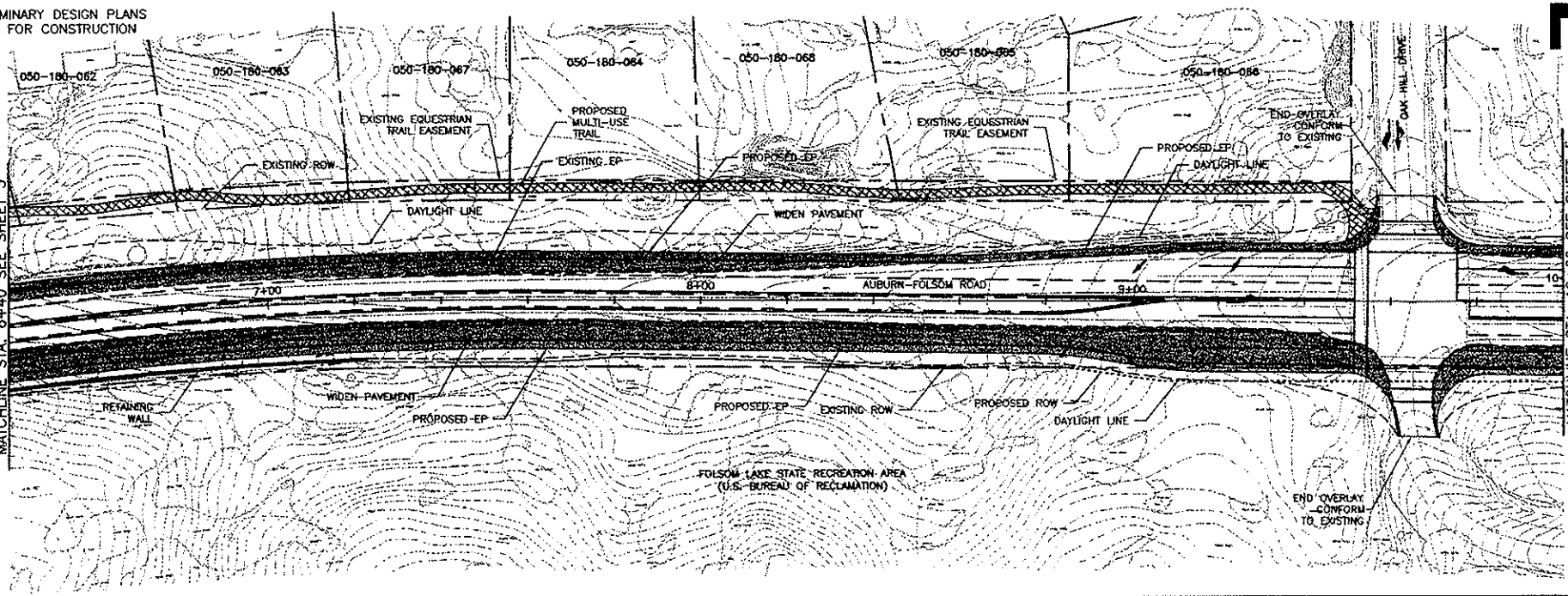
PLACER COUNTY PROJECT NUMBER:
PC 2784

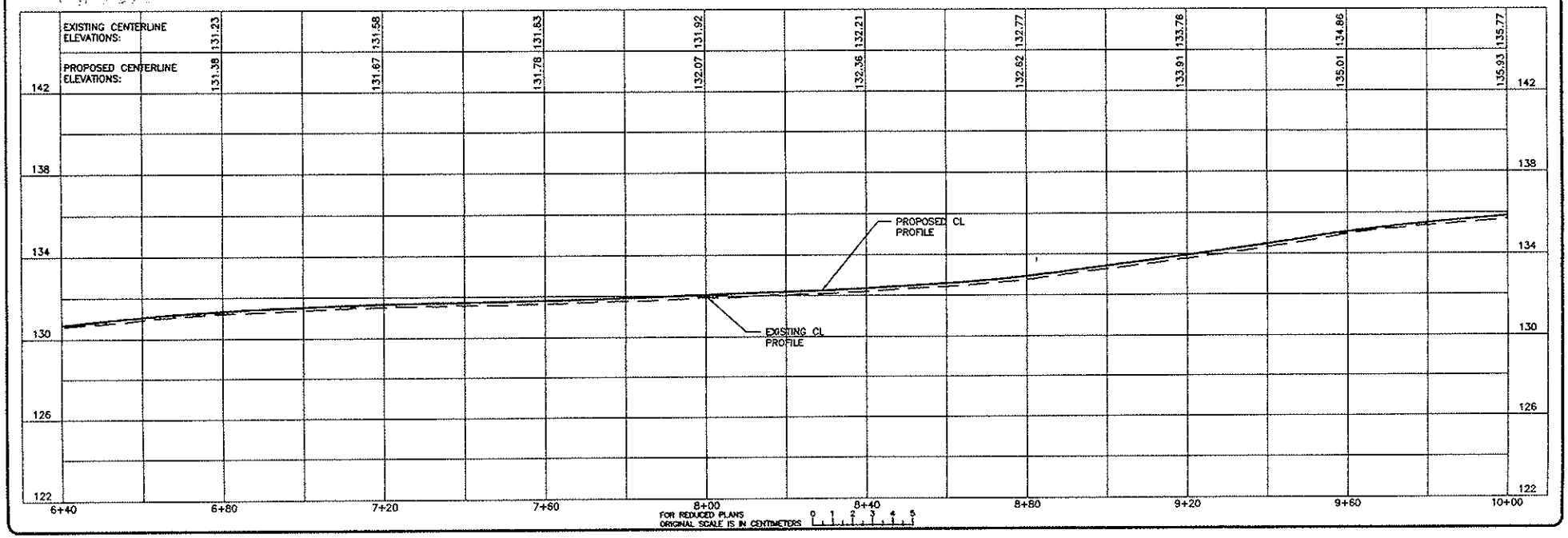
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 3 OF 13

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

		DATE
DESIGNED:	G. FEELING	9/16/02
DRAWN:	G. FEELING	9/16/02
CHECKED:	E. McCARTHY	9/16/02

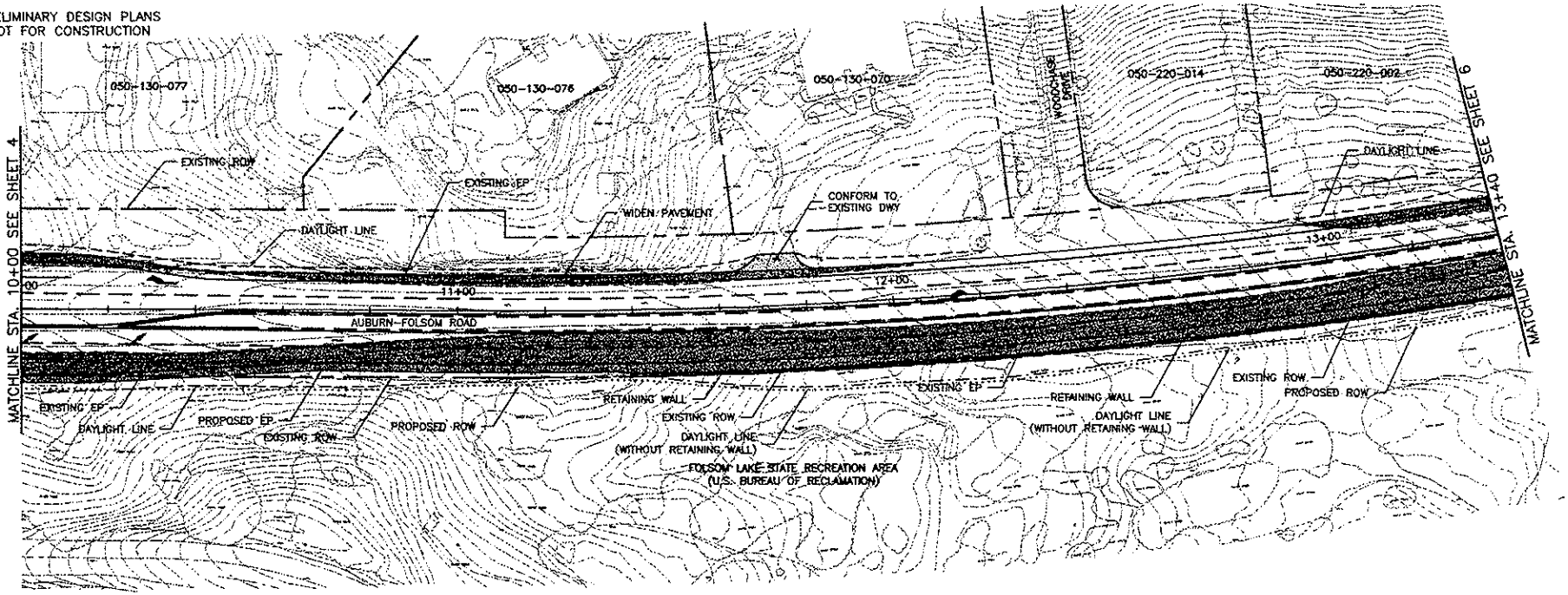
PLACER COUNTY PROJECT NUMBER:
PC 2764

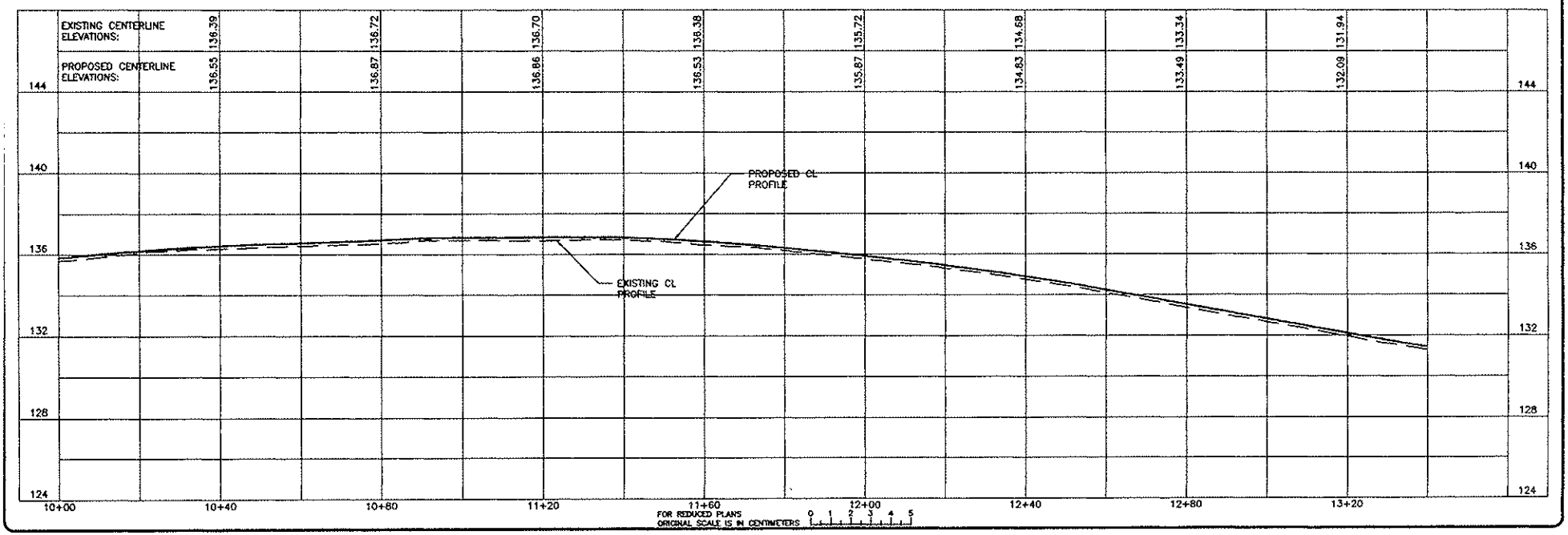
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 4 OF 13

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DESIGNED: C. EBELING DATE: 9/19/02
DRAWN: C. EBELING 9/19/02
CHECKED: E. McCARTHY 9/19/02

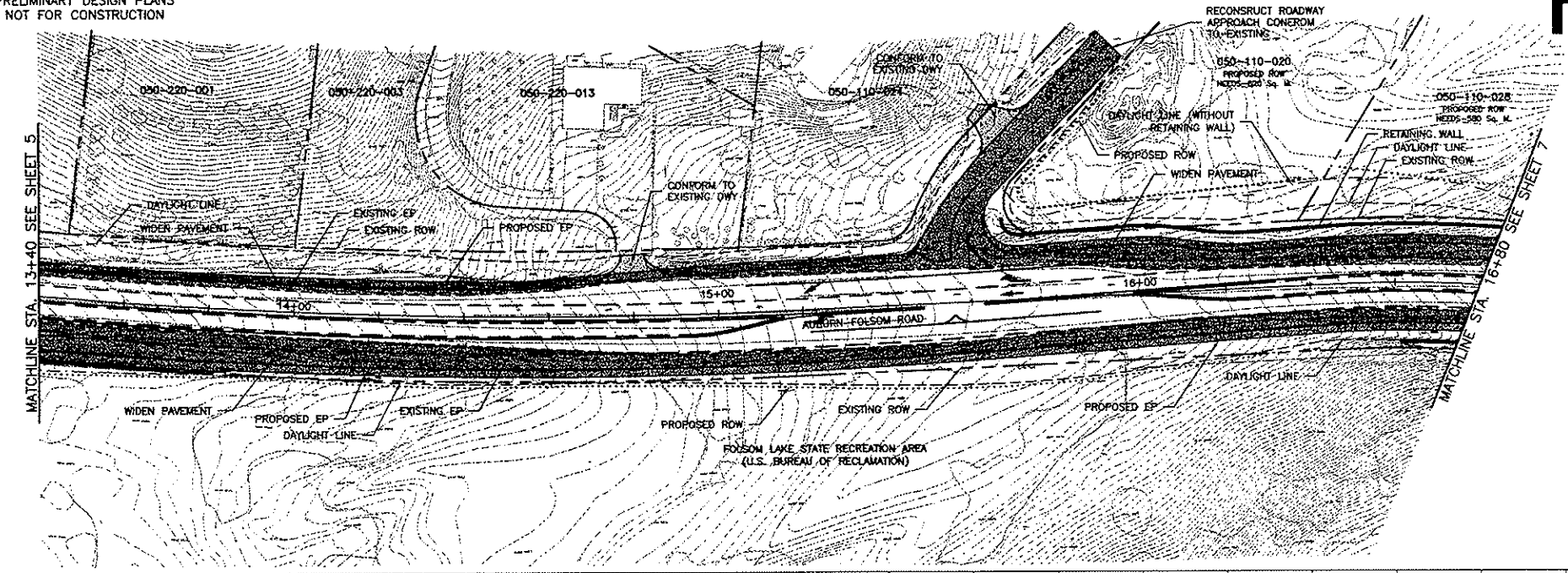
PLACER COUNTY PROJECT NUMBER: PC 2764

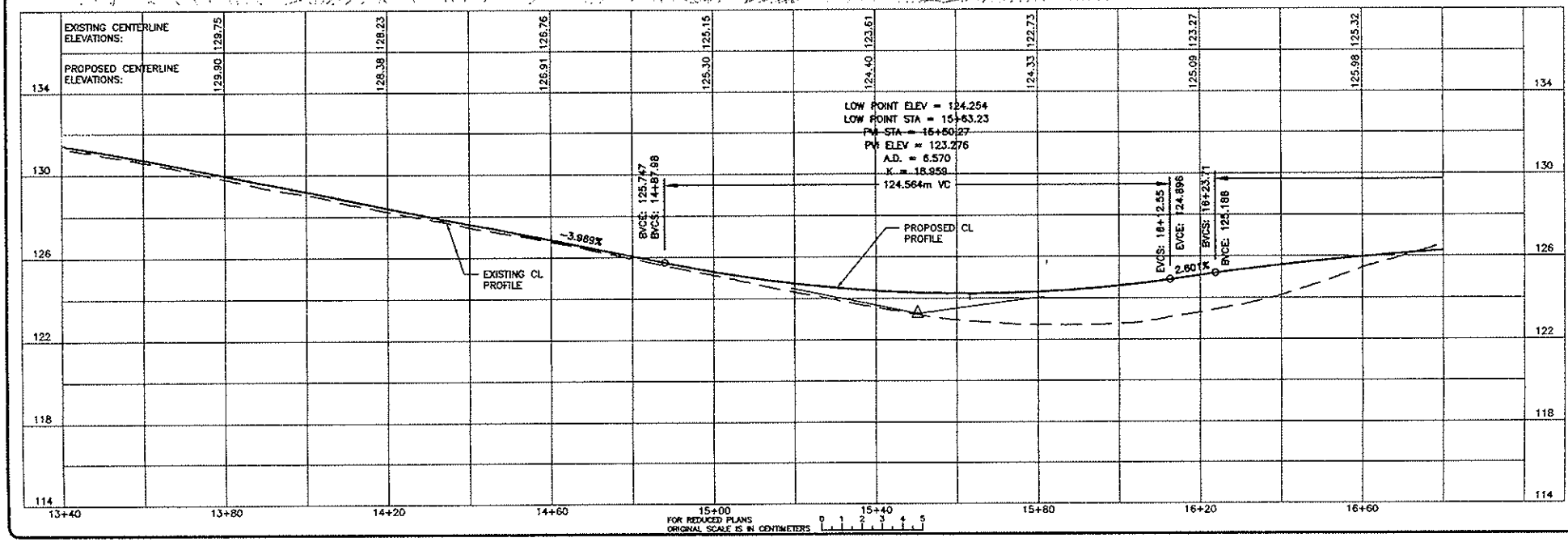
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 5 OF 13

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





SCALE
HORIZONTAL: 1:500
VERTICAL: 1:100

DATE:
DESIGNED: G. EBELING 9/18/02
DRAWN: G. EBELING 9/18/02
CHECKED: E. MCCARTHY 9/18/02

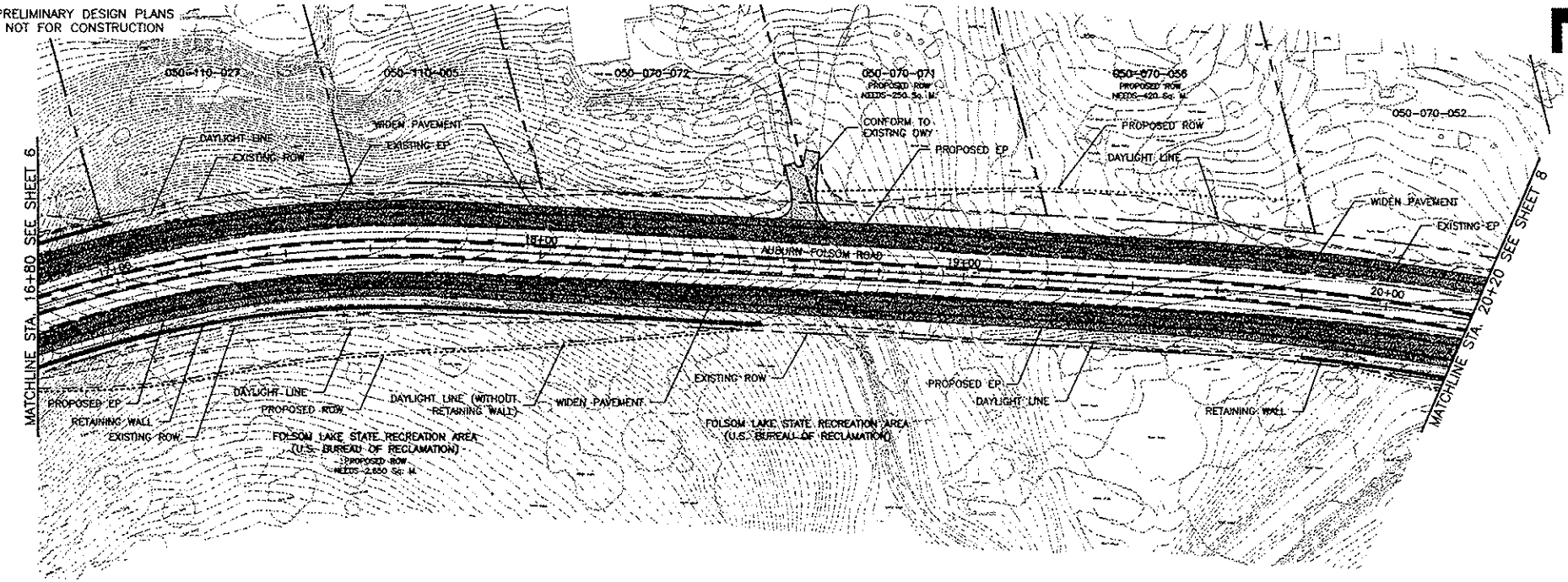
PLACER COUNTY PROJECT NUMBER:
PC 2754

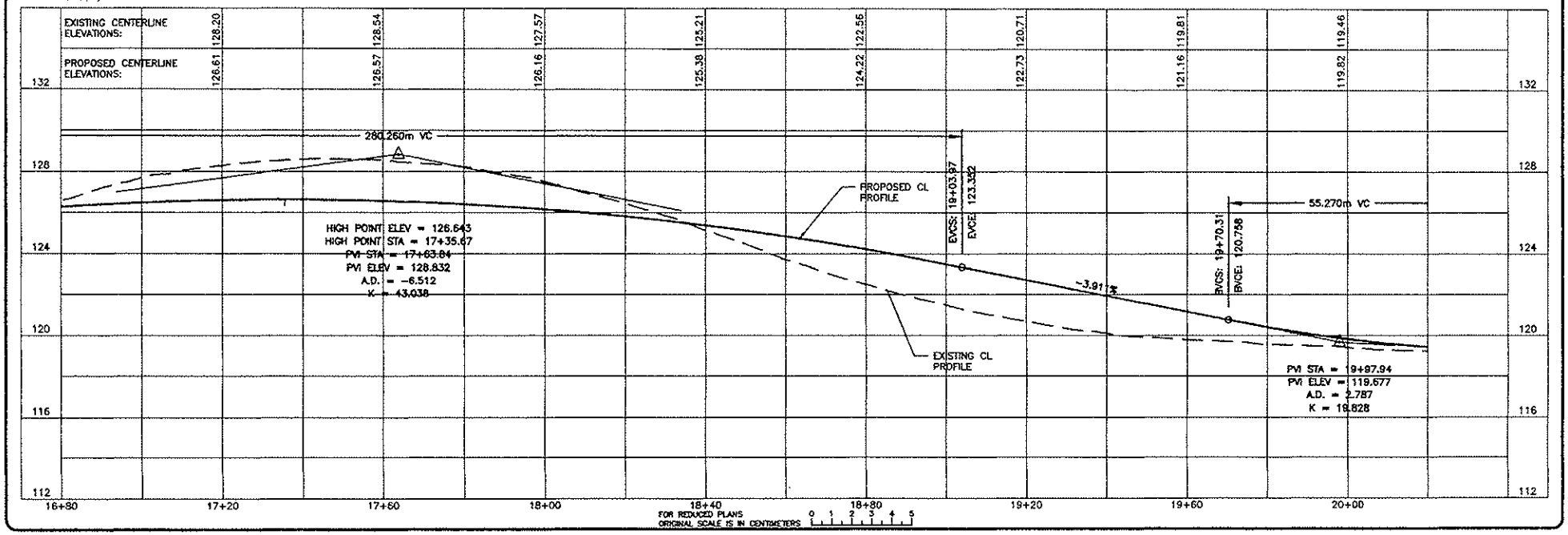
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 6 OF 13

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION





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VERTICAL: 1:100

DESIGNED: G. EBELING 9/18/02
DRAWN: G. EBELING 9/18/02
CHECKED: E. McCARTHY 9/18/02

PLACER COUNTY PROJECT NUMBER: PC 2764

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 7 OF 13

PRELIMINARY DESIGN PLANS
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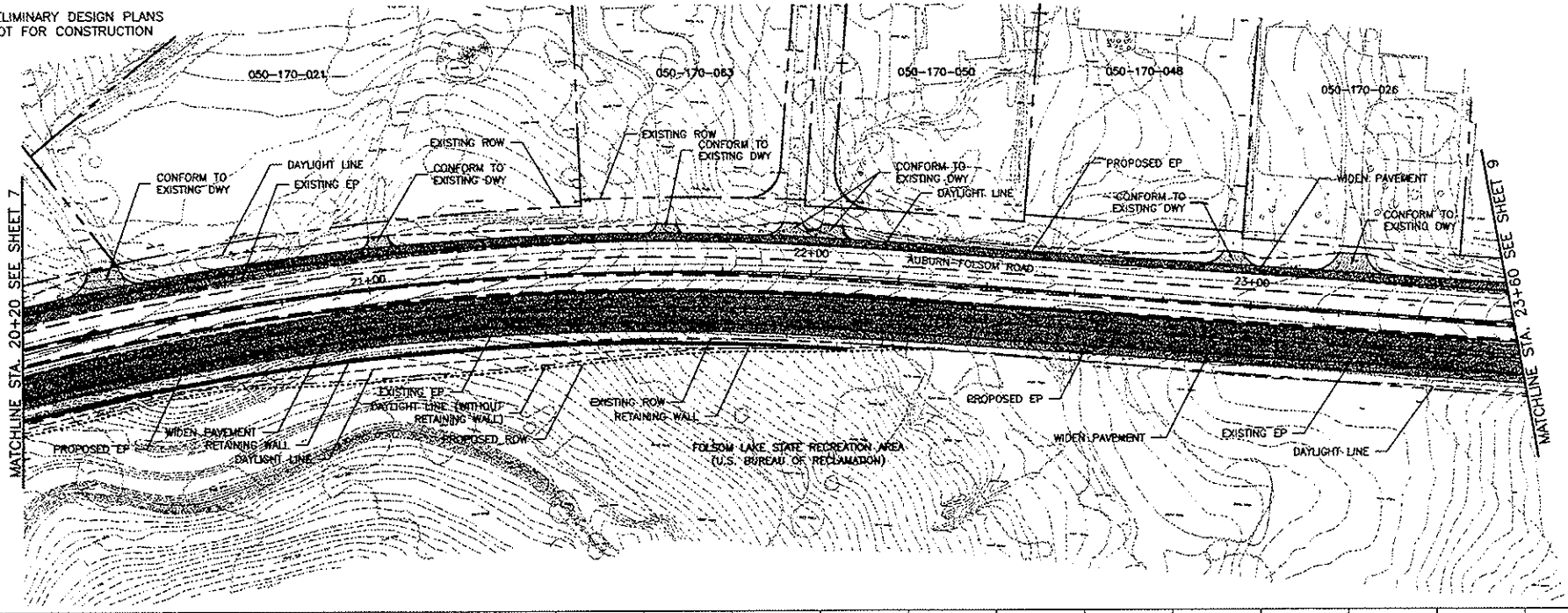

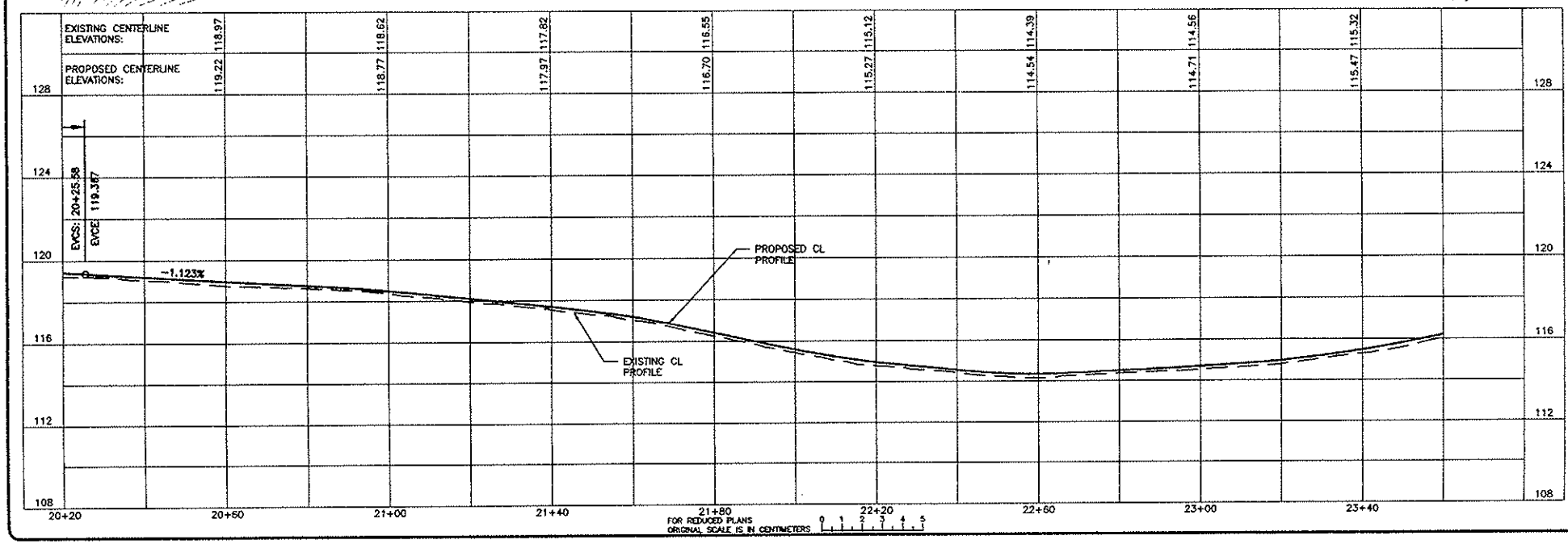

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PLACER COUNTY PROJECT NUMBER: PC 2754

DESIGNED: G. EBELING 9/18/02
DRAWN: G. EBELING 9/18/02
CHECKED: E. McCARTHY 9/18/02
DATE:

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 8 OF 13

PRELIMINARY DESIGN PLANS
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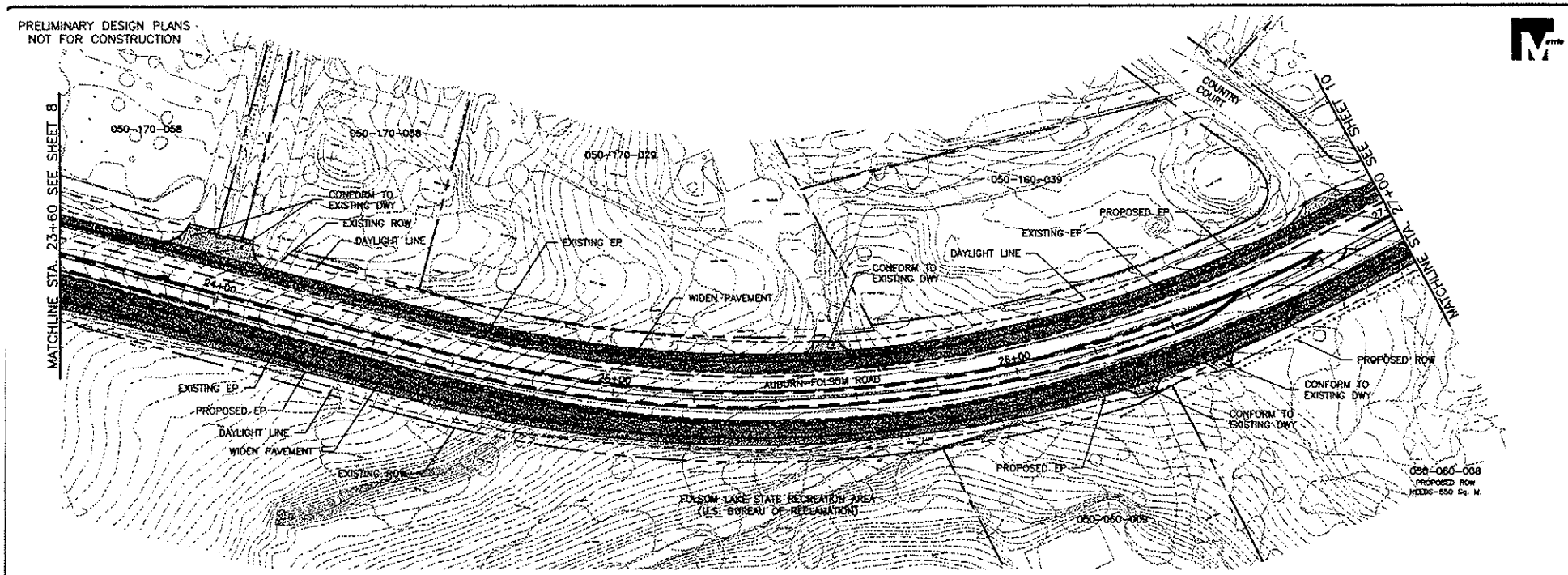

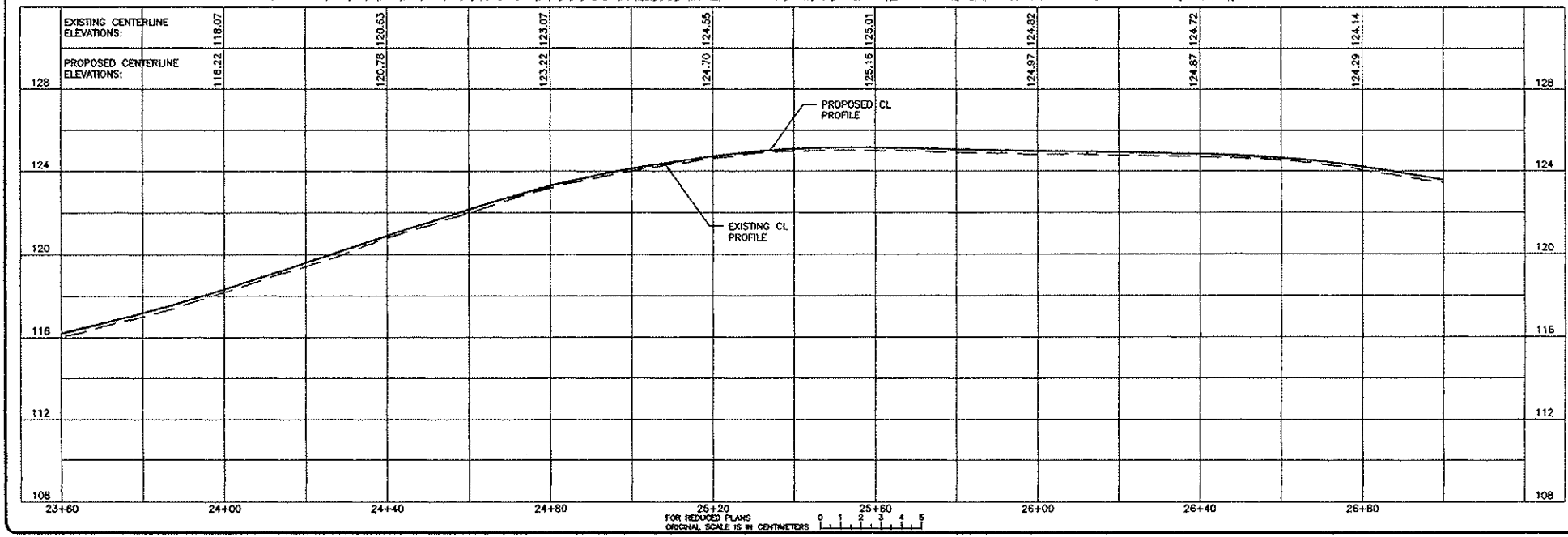

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DESIGNED: G. EBELING 9/16/02
DRAWN: G. EBELING 9/16/02
CHECKED: E. McCARTHY 9/16/02

PLACER COUNTY PROJECT NUMBER:
PC 2784

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
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OF
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PRELIMINARY DESIGN PLANS
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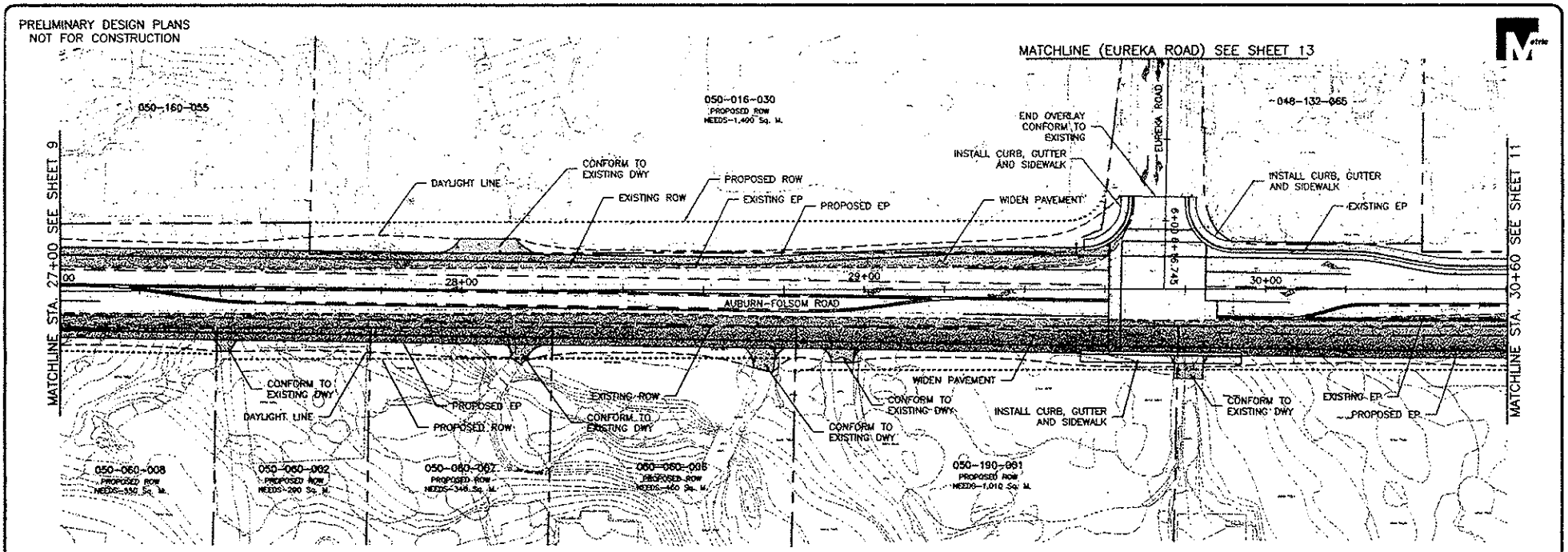

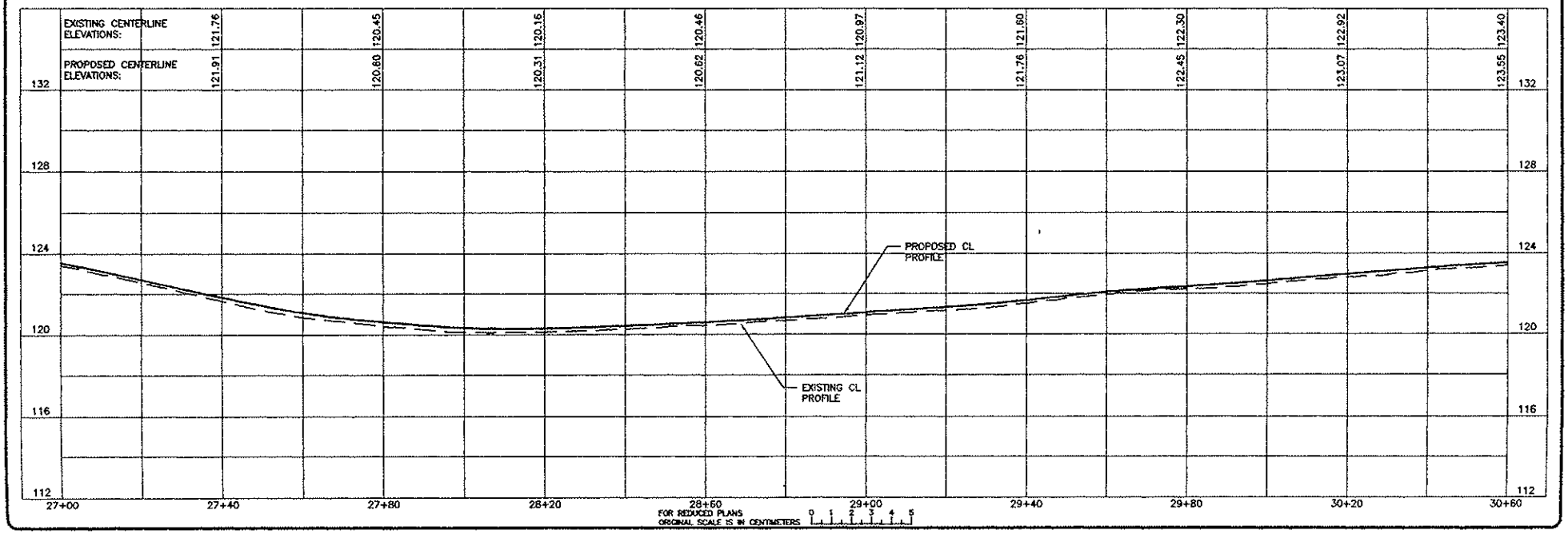

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DESIGNED: C. EBELING 9/16/02
DRAWN: C. EBELING 9/16/02
CHECKED: E. McCARTHY 9/16/02

PLACER COUNTY
PROJECT NUMBER: PC_2764

AUBURN-FOLSOM ROAD 4-LANE
WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
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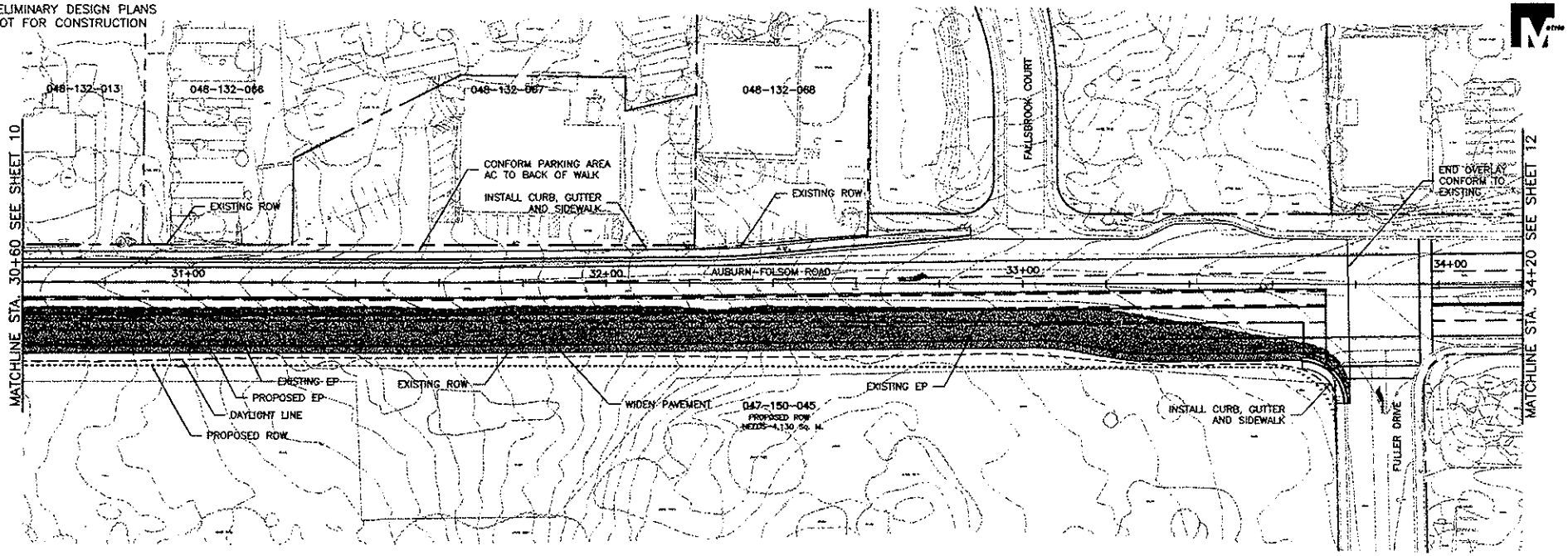

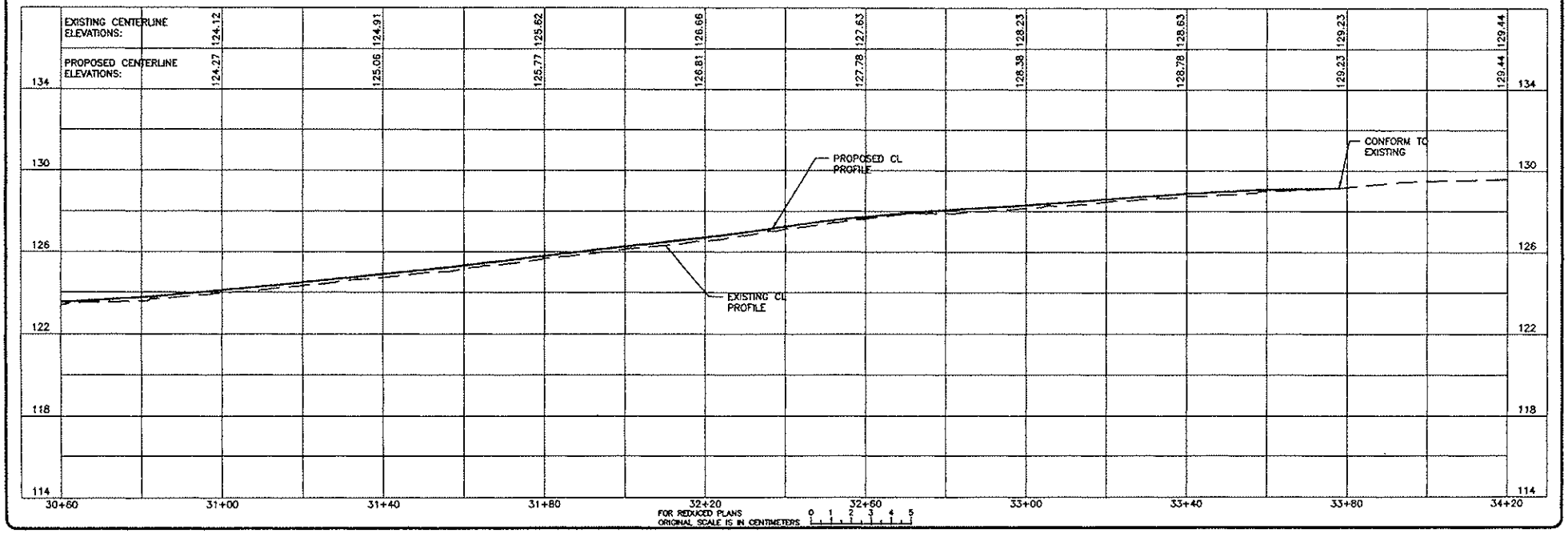

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DESIGNED: C. EBELING 9/16/02
DRAWN: C. EBELING 9/16/02
CHECKED: E. MACARTHY 9/16/02

PLACER COUNTY PROJECT NUMBER:
PC 2264

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 11 OF 13

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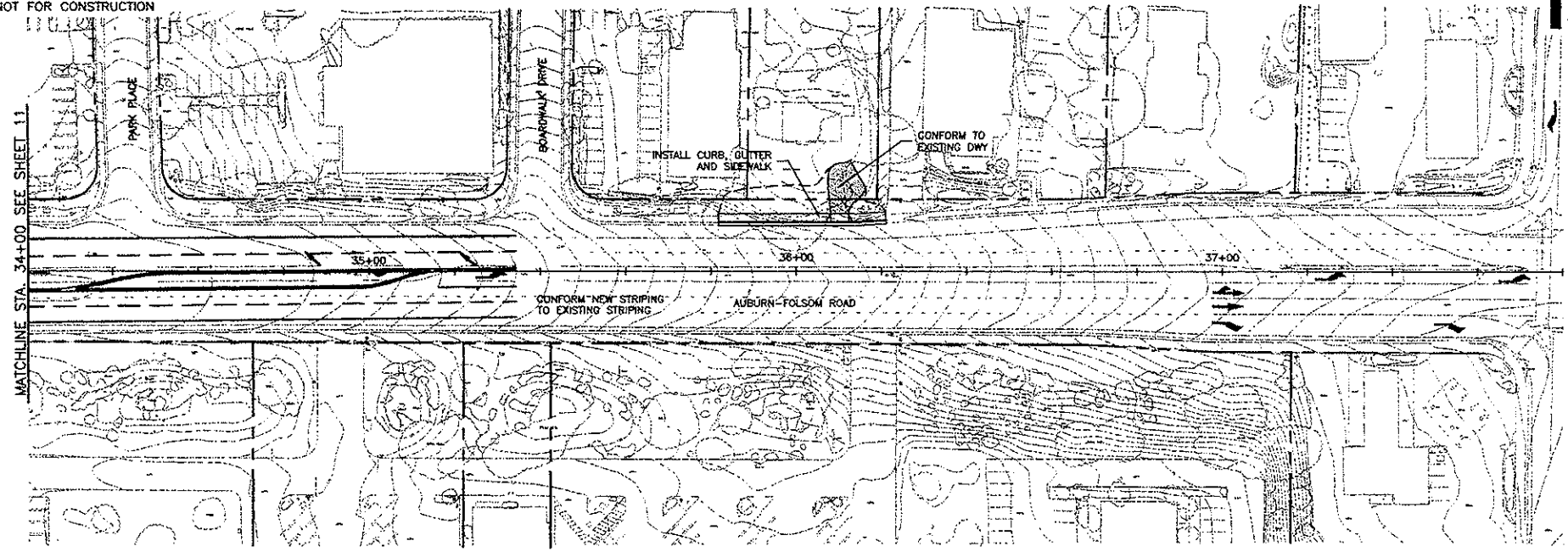

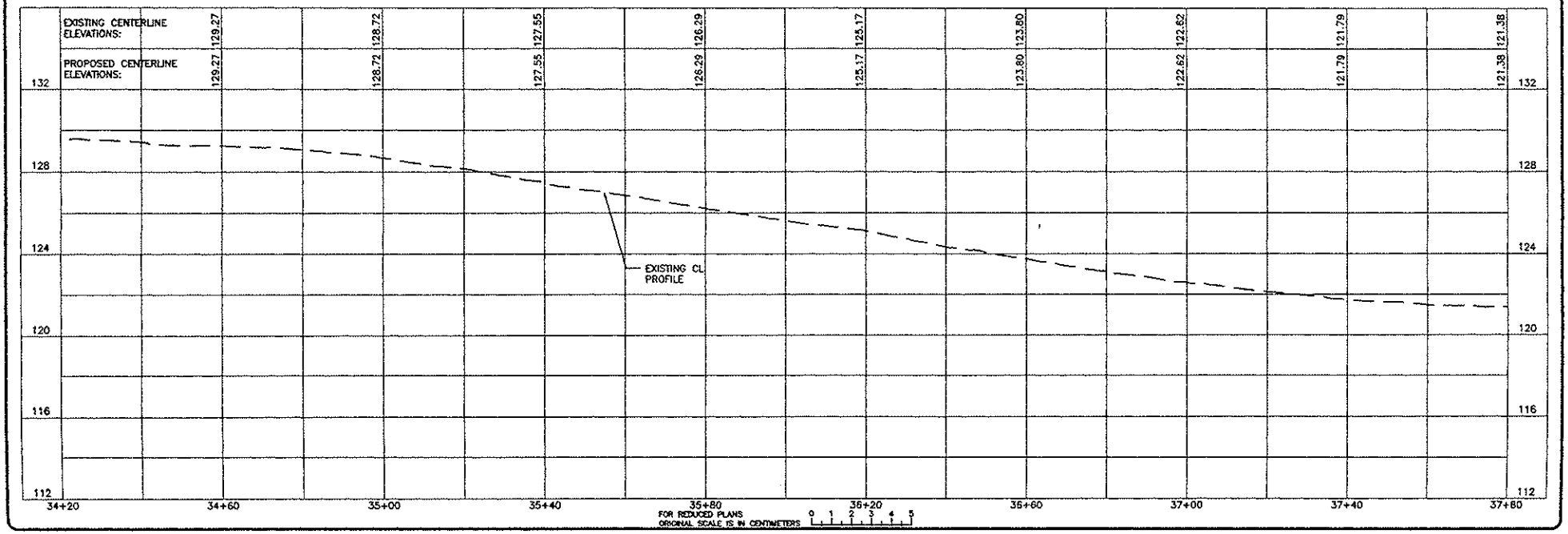

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DESIGNED: G. EBELING 9/15/02
DRAWN: G. EBELING 9/15/02
CHECKED: E. McCARTHY 9/15/02

PLACER COUNTY PROJECT NUMBER:
PC 2764

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 12 OF 13

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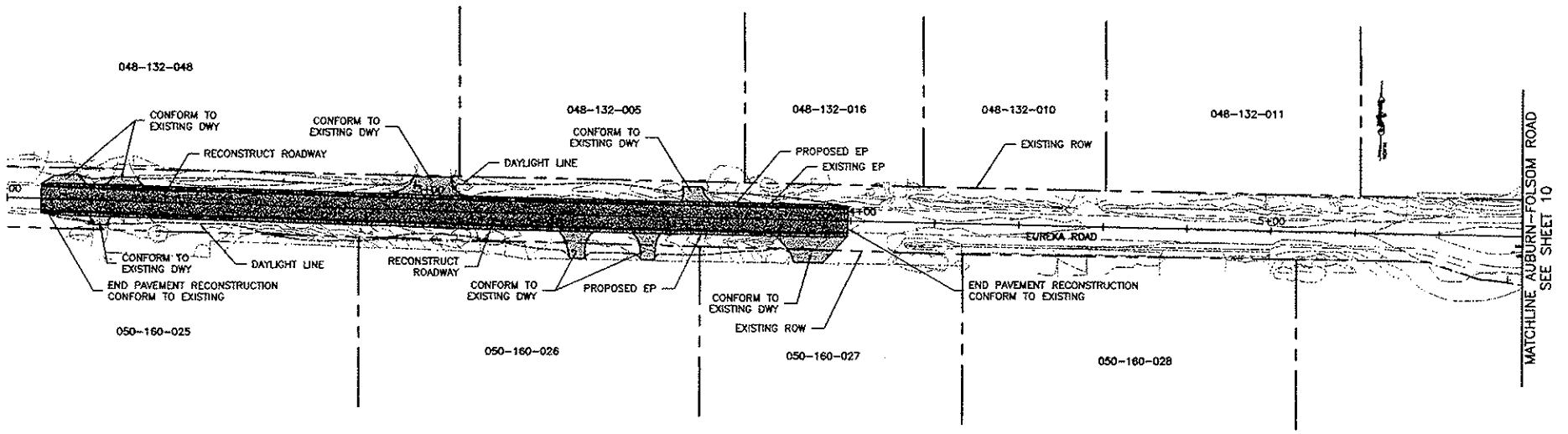

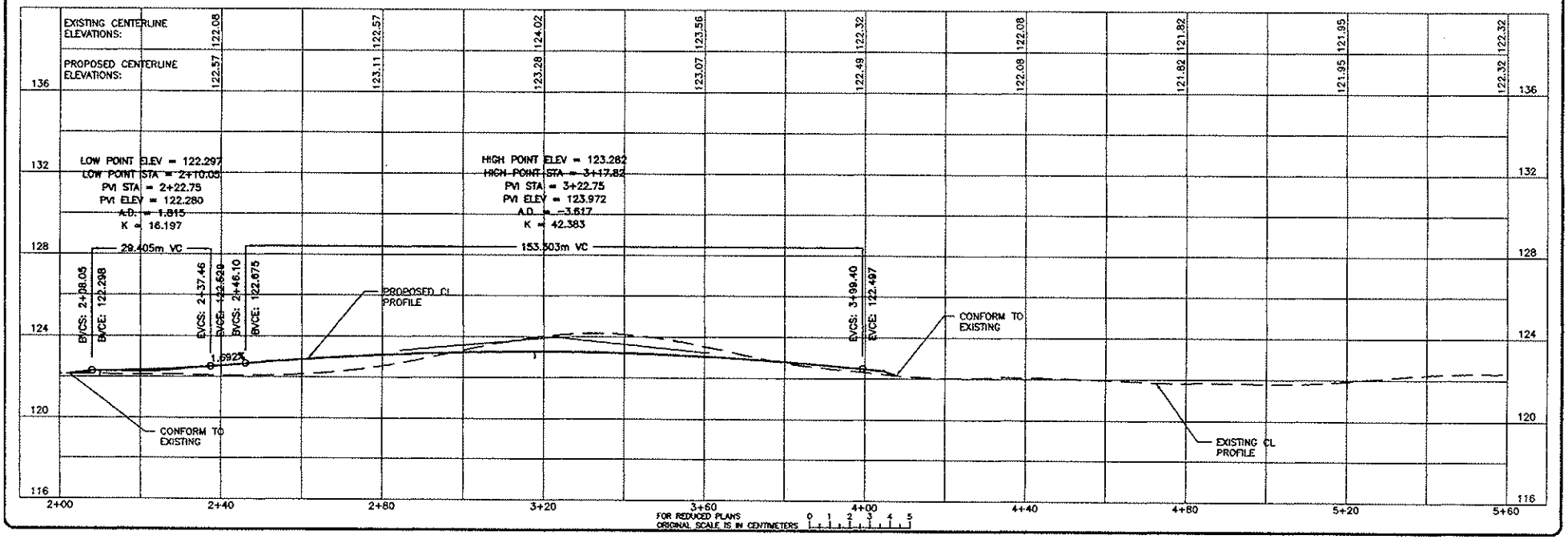

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DRAWN: C. EBELING 9/18/02
CHECKED: E. McCARTHY 9/18/02

PLACER COUNTY PROJECT NUMBER:
PC 2764

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
ALTERNATIVE 4

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
13
OF
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Appendix B

Written Comments on the Notice of Preparation

PLACER COUNTY PLANNING DEPARTMENT

11414 B Avenue/Auburn, California 95603/Telephone (530) 889-7470/FAX (530) 889-7499
Web Page: http://www.placer.ca.gov/planning E-Mail: ljlawren@placer.ca.gov

May 15, 2002

Maggie Townsley
Jones & Stokes
2600 V Street
Sacramento, CA 95818-1914

Subject: **Auburn-Folsom Road Widening (SCH #2002042036)**

Dear Ms. Townsley:

The Notice of Preparation (NOP) review period for the subject proposal has ended. Comments regarding the NOP are attached for your review and response in the Environmental Impact Report (EIR). Any additional comments that may be received will be forwarded to you by fax.

The first administrative draft EIR (15 copies) should be received by this office no later than **July 22, 2002.** If you require additional time in order to prepare the EIR, please do not hesitate to contact this office and request a suspension of the processing timeframes.

Sincerely,

Lori Lawrence

LORI LAWRENCE
Environmental Coordinator

Attached comments: San Juan Water District, 5/3/02
California Highway Patrol, 4/29/02
Folsom Lake Estates HOA, 5/6/02
Karen Branson, Ridgeview MHP, 4/30/02
Friends of Auburn Folsom Road, 4/26/02

cc: Charlie Ebeling, Department of Public Works
ERC members

San Juan Water District

P.O. Box 2157 • Granite Bay, California 95746 • 916.791.0115
9935 Auburn Folsom Road • Granite Bay, California 95746
FAX 916.791.7361 • www.sjwd.org

General Manager
James R. English
Directors
Dorothy Kilgore, President
Edward J. Teal Costa, Vice President
Lyle N. Hoag
Glenn A. Miller
Kenneth H. Miller

May 3, 2002

Mr. Charlie Ebeling
Placer County Department of Public Works
11444 B. Avenue
Auburn, CA 95603

Re: AUBURN-FOLSOM ROAD WIDENING - PLACER COUNTY EIR/EA Comments

Mr. Ebeling:

This letter is written in follow-up to our conversation regarding the widening of Auburn-Folsom Road in Placer County and the district's request at this time with this phase of the project.

As we discussed, the district currently has two primary entrances and one secondary entrance accessing Auburn Folsom Road. Our plan is to maintain the north and south entrances, and to abandon the secondary entrance located adjacent to the canal. We also plan to designate the south entrance, across from Pinebrook mobile home park, as out primary entrance to our property.

Since we plan on keeping the existing north entrance to our property, we will need a merge lane for traffic accessing from the north, as well as an acceleration taper for trucks exiting to the to the north from this entrance. There may be other environmental mitigation measures, such as landscaping that will warrant review and discussion at a later date as this project progresses.

If you have any questions on the above, please give me a call at 791-0153, or e-mail me at bmartinez@sjwd.org.

Sincerely,

BEN MARTINEZ
Engineering Manager

Post-it® Fax Note 7671	Date 5/6/02	# of pages ▶ 1
To Lori Lawrence	From Ben Martinez	
Co./Dept. Placer Co. Planning	Co. San Juan H2O	
Phone #	Phone # 791-0153	
Fax # 530/889-7499	Fax # 791-0161	

State of California—Business, Transportation and Housing Agency GRAY DAVIS, Governor

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
California Highway Patrol
9440 Indian Hill Road
Newcastle, CA 95658
(916) 663-3344
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)

PLACER COUNTY
DATE
RECEIVED
MAY 01 2002
PLANNING DEPARTMENT

April 29, 2002

File No.: 220.10284.8837.SCH #2002042036

Ms. Katie Shulte Joung
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

Dear Ms. Joung,

The Auburn Area Office of the California Highway Patrol (CHP) received the Notice of Preparation (NOP) for the Auburn-Folsom Road Four-Lane Widening Project draft Environmental Impact Report (EIR), State Clearing House (SCH) #2002042036. After review, we believe this project will have an impact on operations in our area. With the expected growth of this area and the increased traffic volumes anticipated, this improvement will be a beneficial improvement to Auburn-Folsom Road. However, there are several concerns we wish to address.

On April 11, 2002, the Placer County Department of Public Works held an early coordination/scoping meeting on the widening of Auburn-Folsom Road. Present at the meeting were representatives from the CHP and South Placer County Consolidated Fire District as well as other agencies and entities. The CHP and South Placer Fire representatives each expressed concern over the possible addition of a center divider along certain portions of this project. The fire officials were concerned with additional response time in the event they were forced to pass a location on account of the divider and find a safe location to make a U-turn. Due to the size and nature of fire equipment, the detour may be a further distance from the location they are responding to. CHP Officer S. Hall, who patrols the Auburn-Folsom Road beat, was concerned with the increase of vehicles forced to make U-turns to arrive at their intended destinations. These U-turns would be accomplished in areas that would now have a higher and faster traffic flow. Furthermore, people may be inclined to make U-turns at an area that, although convenient for them, may not be safe. The additional lanes will allow for a higher and faster volume of traffic. The downside, however, is the possibility of an increase in the frequency and severity of collisions.

It is anticipated that the majority of traffic using northbound Auburn-Folsom Road will be turning west (left) onto Douglas Boulevard. Currently, there are two left turn lanes to handle this movement. The additional traffic will burden the left turn lanes, causing a back up into the through lanes which may result in additional rear end collisions. It may be possible to mitigate this by extending the left turn lanes beyond the current length.

Flex your POWER
BE ENERGY EFFICIENT

As previously stated, the majority of traffic will turn west onto Douglas Boulevard. However, as more people discover this route, there will be additional traffic northbound north of Douglas. This will place an additional burden on Auburn-Folsom Road where it reverts to one lane in each direction. Additionally, there may be an increase in sideswipe and rear end collisions just north of Douglas Boulevard where the roadway narrows to one northbound lane.

Another concern with this project is the impact that it may have on traffic and the issue of safety to workers and the motoring public during construction. We would recommend the use of CHP officers working reimbursable construction zone enforcement to assist with securing the construction site and to aid in traffic control as needed. The presence of uniformed CHP officers on site has shown to significantly improve the compliance of the motoring public to directional signs and traffic control personnel. Compliance reduces the exposure to danger faced by the on site construction workers and to the motorists traversing the construction site.

If you have any questions or concerns regarding this letter and our comments, please contact me or Officer M. Turner at (916) 663-3344.

RICK WARD, Captain
Commander
Auburn Area

cc: Special Projects Section
Placer County Planning Department

PLACER COUNTY
DATE
RECEIVED

MAY 09 2002

PLANNING DEPARTMENT

May 6, 2002

Ms. Lori Lawrence
Placer County Planning Department
Transportation Division
11414 B Avenue – DeWitt Center
Auburn, CA. 95603-2603

Dear Ms. Lawrence,

Re. Notice of Preparation – Auburn-Folsom Road (AFR) Widening Project

After reviewing the AFR Widening Project NOP, the Folsom Lake Estates (FLE) homeowners wish to submit this document to emphasize our concerns. This document is in addition to our participation with the "Friends of AFR" document, and is intended to outline FLE's specific concerns relative to the Southern most portion of AFR. This document represents the concerns of approximately 546 voting taxpayers representing the 273 homes in Folsom Lake Estates regarding the widening of Auburn Folsom Road.

Concerns – Items within the NOP

Section II. EVALUATION OF ENVIORONMENTAL IMPAC:
ENVIORMENTAL ISSUES
ITEM 10 – NOISE

a. Increase in existing noise levels?
b. Exposure of people to noise levels in excess of County standards?

Road noise from both the tires on the pavement, as well as the engine noise from cars and trucks has likely exceeded the county sound ordinance. Combine this with the projected increase in traffic count, and we have an issue that requires mitigation. We have expectations of a contiguous sound wall, earth berm, or combination of both to be constructed at fence line and stands tall enough to address the line of sight noise.

Section II. EVALUATION OF ENVIORONMENTAL IMPAC:
ENVIORMENTAL ISSUES
ITEM 13 – AESTHETICS

a. Affect a scenic vista or scenic highway?
b. Have a demonstrable negative aesthetic effect

Residents of FLE purchased property in this region in part to the natural beauty and community presentation obvious when traveling around this area. We want to insure that

the widening of AFR incorporates an aesthetically pleasing architecture, as well as visually pleasing native materials.

Concerns – Items not noted in the NOP

1. **Road Safety**
   FLE homeowners have genuine concern for their safety, and the safety of others, using AFR and the neighborhood streets within FLE. The increased traffic, combined with the potential for increased motorist speed makes it particularly dangerous to walk our streets, drive our streets, and merge on and off AFR.
2. **Homeowner Security**
   There are rising safety concerns amongst the FLE homeowners related to the widening project. Some concern comes from the traffic on AFR, some from increased traffic funneled through FLE, and most recently, with the installation of the equestrian trial (multi use trail) cut behind the homes on Willey Court. Homeowners believe they are now targets for criminal activity due to the potentially transient activity from Folsom Lake, now directed down a concealed path behind their homes.
3. **Privacy**
   With the recent installation of the equestrian trail, we have people looking over our fences and invading our privacy. Additionally, trees and brush were removed to install the said trail that allows motorists to also peer into our yards.
4. **Property Values**
   Most all issues noted in this document lend tangible damage to the value of the homes in FLE. Effective and aesthetically pleasing mitigation will help this issue.
5. **Utility Poles and Wires**
   Some FLE home owners have voiced concerns that above ground utilities (telephone wires etc…) be placed in a fashion that does not cause a health issue, or locates such equipment that would not be visibly offensive to the homeowners.

Per discussions with Mr. Ebeling and Mr. Dondro, we are providing this information to be included into the "Draft EIR" phase so that each individual concern can be reviewed and addressed for mitigation during the Environmental Review. We have purposely not offered solutions to the noted concerns at the request of Public Works. We understand that our recommendations for mutually beneficial solutions will come during subsequent phases.

Sincerely,

Jim Phillips
Folsom Lake Estates Subcommittee Chairman (AFR Project)
9985 Willey Court
Granite Bay, CA. 95746
916.773.3042
phillipsfamily@surewest.net

c.c. Ted Gaines (Placer County Supervisor)
c.c. Charlie Ebeling (Project Manager – Placer County Public Works)
c.c. Liz O'Brien (President – Folsom Lake Estates)
c.c. Pat Goody (Founder – Friends of Auburn Folsom Road)

AUBURN FOLSOM ROAD WIDENING PROJECT

April 30, 2002

PLACER COUNTY
DATE
RECEIVED

MAY 02 2002

LL
PLANNING DEPARTMENT

Lori Lawrence
Placer County Planning Department
11414 B Avenue
Auburn, CA 95603

Re: Notice of Preparation – Auburn Folsom Road Four Lane Widening Project

Dear Ms. Lawrence:

As a Granite Bay property owner and business person, I am concerned about the imminent widening of Auburn-Folsom Rd. Along with my concerns are the issues of my residents, seventy (70) senior citizens who live in our community known as Ridgeview Mobile Home Park. With the front entrance to our establishment being on Auburn Folsom Rd., the safety of these seniors and their ability to enter and exit their community safely is of utmost importance.

I have reviewed the Notice of Preparation issued by Placer County and submit the following concerns I would like to be considered in the environmental review process.

ENVIRONMENTAL ISSUES:

1. LAND USE AND PLANNING:

   e. *Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?*
   f. *Result in a substantial alteration of the present or planned land use of an area?*

Though noted as "No Impact" a potential component of the project is for raised medians dividing the roadway, therein creating restricted access to our community. As a commercial establishment in the business of providing affordable housing to senior citizens it is detrimental to my customers (residents) not be able to turn left onto Auburn Folsom Rd., shop in Granite Bay, or the ease in which to enter the roadway for doctor visits, etc. Obviously turning left across 4 lanes (5 lanes as proposed) of traffic would be quite hazardous.

The impacts associated with the raised median will in fact alter the way in which we must do business. Not only does this change the route or direction in which our seniors gain access to their needed amenities, but delivery of mobile homes (some 14' x 70') is of paramount concern. This can and does disrupt the physical arrangement of our established community, and therein should be revised to ***"Potential Significant Unless Mitigation Incorporated".***

While there is an additional exit/entrance on Eureka Road, this gate was closed many years ago for safety reasons. The "shortcut" provided the general public across private property became excessive; and, inadequate site distance while exiting the mobile home park were contributing factors. The potential for having to reopen this gate as an "exit" only creates grave concerns. In addition, residents living next to this exit will no longer be provided the privacy they desired when purchasing their home. The impact of keeping "customers" happy is monumental.

Upon talks with county personnel, the existing " berm", that disallows adequate site distance when exiting the mobile home park on Eureka Road, was brought to their attention. The discussion included the possibility of adequately fixing the site distance – removing the berm -- on Eureka Road and should be a consideration when reviewing this mitigation. Safe access onto this side street would allow our seniors and the community in general a better traffic flow and less chance of injury.

5. AIR QUALITY:

   a. *Violate any air quality standard or contribute to an existing or projected air quality violation?*
   b. *Expose sensitive receptors to pollutants?*
   c. *Have the potential to increase localized carbon monoxide levels at nearby intersections in exceedance of adopted standards?*

All these items are designated as "Potentially Significant Unless Mitigation Incorporated". Senior citizens are more susceptible to pollutants than most, especially those on oxygen apparatus. As residents along Auburn Folsom Rd and with the anticipated increase of localized carbon monoxide levels at nearby intersections (Eureka Rd.) this issue is significant in nature. The effect of the reduced air quality presents a severe hazard for these seniors as well as the families who live and play in Granite Bay.

6. TRANSPORTATION/CIRCULATION:

   b. *Hazards to safety from design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?*

There are potential hazards in the safe flow of traffic into and out of the mobile home park on Auburn Folsom Road by the senior residents who live there. With the potential component of the raised median, it is my understanding that access to the mobile home park will be right turn in and right turn out. Safe acceleration and deceleration are

necessary for ingress and egress to/from their homesites and should be reviewed in this mitigation.

While this project does not change the "planned use"of my property, it does affect and change the way I "use" my property. I appreciate your serious consideration of the above concerns and expect that the project will not proceed until all the environmental concerns noted in the Notice of Preparation are mitigated to the satisfaction of the community.

Sincerely,

Karen Branson

Karen Branson, Owner
Ridgeview Mobile Home Park
4120 Douglas Blvd. #306-347
Granite Bay, CA 95746

Cc: Ted Gaines, Placer County Supervisor
Charles Eberling, Dept. of Public Works

FRIENDS OF AUBURN FOLSOM ROAD

PLACER COUNTY
DATE
RECEIVED

APR 30 2002
LL
PLANNING DEPARTMENT

April 26th, 2002

Lori Lawrence
Placer County Planning Department
11414 B Avenue
Auburn, Ca. 95603

Re: Notice of Preparation – Auburn Folsom Road Four Lane Widening Project

Dear Ms. Lawrence:

In December 2001 a group of Granite Bay Homeowners, concerned about the imminent widening of Auburn-Folsom Road, formed a committee called "Friends of Auburn-Folsom Road." This committee's goal is to represent the legitimate concerns of the majority of the 500 homeowners whose residential roads or driveways enter directly or indirectly on to Auburn-Folsom Road between the Placer County Line and Douglas Boulevard.

We have reviewed the Notice of Preparation issued by Placer County and submit the following concerns we would like to be considered in the environmental review.

ENVIRONMENTAL ISSUES:

1. LAND USE AND PLANNING:

e: Disrupt or divide the physical arrangement of an established community (including a low-income or minority community?)
f: Result in a substantial alteration of the present or planned land use of an area?

Though noted as "No Impact" in fact there will be a division of the current physical arrangement of the established community. Currently, there are numerous paths used by pedestrians, horses and bicyclists coming from the west side of Auburn-Folsom Road, crossing to the Folsom Lake State Park on the east side. These paths connect to the various recreation trails in the State Park and the five lane road will definitely divide the east from the west. The land use of the area will be changed from primarily rural and recreational to a major traffic thoroughfare unless mitigation is incorporated in the design. Many families reside in this area because of the proximity and easy access to the lake for their children. This change will greatly impact the safety of the access across Auburn-Folsom Road.

2. POPULATION AND HOUSING:

c: Displace existing housing, especially affordable housing?

Though noted as "less than significant impact," any displacement needs to be reviewed. For individual homeowners along Auburn-Folsom Road who may lose part of their property because of this project, this item should be shown as "Potentially Significant Unless Mitigation Incorporated."

3. GEOLOGICAL PROBLEMS:

f. Changes in deposition or erosion or changes in siltation which may modify the channel of a river, stream, or lake?

Though noted as "Potentially Significant unless Mitigation Incorporated," Linda Creek is known to flood. Due to an increase in surface water on the road and potential growth in the area, the environmental review needs to investigate the direction of increased water flow toward the creek rather than residential areas.

4. WATER:

a. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?
b. Exposure of people or property to water related hazards such as flooding?
d. Changes in the amount of surface water in any water body?
g. Altered direction or rate of flow of groundwater?

a. Though noted as "Potentially Significant Unless Mitigation Incorporated," we reiterate our strong concern regarding water runoff. Considering the expansive surface area being added to the road, and the modification to the landscape at roadside, the review needs to mitigate the dispersal of water away from homes and driveways. The additional road base, additional water runoff, and the slope of the road, the potential for increased water falling into lower lying property is significant and needs to be mitigated.

b,d,e. Though noted as "Less than significant/no impact," Auburn-Folsom Road is subject to flooding during heavy storms. This is particularly true at the corner of Auburn-Folsom Road and Eureka. The environmental review needs to include exposure of people and property to flooding and incorporate mitigation for this hazard. This item should be changed to "Potentially Significant Impact."

5. AIR QUALITY

Though noted as "Potentially Significant Unless Mitigation Incorporated," air quality will significant decrease as a result of the increase in traffic through the Granite Bay community. This recreation area, particularly in the summer months and weekends, is inundated with joggers, hikers, bicyclists and other outdoor enthusiasts drawn to the State Park. The effect of the reduced air quality presents a severe hazard to those athletes, as well as the families from all over the area that spend a great deal of time at this park. As most of the traffic using the widened road

will be through traffic, there is no positive benefit to the Granite Bay Community and decreased air quality is one of the many hazards. It is absolutely imperative that Auburn-Folsom Road continue to be designated as "no through truck traffic allowed," and that designation be enforced.

6. TRANSPORTATION/CIRCULATION:

a. Increased vehicle trips or traffic congestion?

Though noted as "Potentially Significant Unless Mitigation Incorporated," the proposed mitigation must address the flow of traffic. The introduction of signalized intersections (in addition to the proposed signal at Fuller Road) along with the proposed improvements would do much to control the traffic flow along Auburn-Folsom Road, allowing for many things to happen, including: queuing traffic to allow safe access from side streets (existing residents), to discourage truck traffic on this "no truck route" road, and to allow recreational users access to Folsom Lake State Park. Providing signalized intersections will provide the needed control to mitigate for the induced traffic congestion which will be placed on the longtime residents of this community. A fully signalized intersection at Lou Place will help accomplish these items and, most importantly, provide increased safer access for residents.

b. Hazards to safety from design features (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

Though noted as "No Impact" the review needs to mitigate the hazards of the Lou Place curve (commonly referred to as "dead man's curve,) which in the past has seen a number of serious accidents. This needs to be revised to "Potential Significant Unless Mitigation Incorporated," otherwise the hazards could be accentuated and the road design may not be up to acceptable industry improvement standards.

The addition of raised medians will also help reduce the speeds and thus reduce the safety hazards created by this widening. The addition of raised/landscaped medians will provide aesthetic benefits in beautifying the community, offsetting the impact of the widening and assist in safely slowing and dividing the traffic.

There are also potential hazards in the safe flow of traffic into and out of the mobile home park at Eureka and Auburn Folsom Road. If the design incorporates a large berm, or rise in the roadway a blind spot would be created that would create a safety hazard for residents exiting the park. An additional safety hazard exists in that the mobile home park is home to senior citizens. The safe flow of traffic into and out of the mobile home park without mitigation would require hazardous acceleration or deceleration.

e. Hazards or barriers for pedestrians or bicyclists?

Though noted as "Potentially Significant unless mitigation incorporated," the widening of the roadway from 2 lanes to 5 (as proposed) will create hazards for all residents and visitors who have crossed Auburn Folsom Road from the west side for decades to gain State Park access,

including pedestrians, runners, hikers, bicycles, equestrian, etc. These users currently access the State Park at a number of mid-block recreation trail entrances provided by the State Park system.

These impacts, with the mitigation of crosswalks and intersection signal lights, should require that this category be listed as "Potentially Significant Impact." This way of life is consistent and interdependent with the values established in Granite Bay and the southeast Placer County Region.

f. Conflicts with adopted policies supporting alternative transportation (e.g. bus turnouts, bicycle racks?)

Though noted as "No Impact", the roadway, as proposed, should be "Potentially Significant Unless Mitigation Incorporated", due to its inability to be planned and built in conformance with the adopted SACOG "Metropolitan Transportation Plan for 2025." Placer County Supervisor Ted Gaines currently is a SACOG board member. The roadway, which is being proposed as a five lane arterial road, may be out of compliance with the Granite Bay MAC transportation sub-committee goals for the Granite Bay region, which limits truck routes and freeway bypass alternatives.

In addition, the widening also poses a significant safety hazard due to the necessity of providing adequate safe harbor for students at school bus stops, since this road has the precedence of doubling as a residential collector for school bus stops.

10. NOISE:

a. Increase in existing noise levels?
b. Exposure of people to noise levels in excess of County Standards?

Though noted as "Potentially Significant Unless Mitigation Incorporated," we must emphasize that noise is one of our primary concerns with this project, (for residents of Folsom Lake Estates it is the number one issue.) It is important to understand the noise generated by the engines of the passing vehicles is far greater than the noise generated by tire to surface interface, though both are substantial. Primary offenders of the engine and tire noise are trucks. Both engine and tire noise are directly related to the speed of the vehicles. Noise mitigation to the noise issue must include expanding the road to the east where homes are present only on the west, improved surface materials for tire noise, raised medians, speed limits, restricted truck activity and, most importantly, the effective and aesthetic use of sound berms and sound walls.

It is important that the environmental review for noise include peak traffic times (commuter times in the morning and afternoon and recreational traffic on weekends, particularly holiday weekends such as Memorial Day or July 4th.)

11. PUBLIC SERVICES:

c. Schools?

Though noted as "Less than Significant Impact," the widening of the road from 2 lanes to 5 (as proposed) will have a significant impact on the local school system. Currently the environmental

review does not consider school bus turnouts, currently in place on Auburn-Folsom Road. The school bus loading areas will be a major safety hazard to our children waiting to be picked up on Auburn-Folsom Road and this item should be listed as "Potentially Significant Unless Mitigation Incorporated."

d. Maintenance of public facilities, including roads?

Though noted as "Less than Significant Impact," with the possible addition of medians and tasteful soundwalls or berms to mitigate the noise and decrease the speed of this proposed 5 lane road, there will be a significant increase in the maintenance and landscaping requirements of Auburn-Folsom Road. Therefore, the additional maintenance activities must be reflected as "Potentially Significant Unless Mitigation Incorporated."

12. UTILITIES AND SERVICE SYSTEMS:

a. Power or natural gas?
b. Communication systems?

Though noted as "Less than Significant Impact," in fact, the power and communication poles constitute both a safety hazard with the increased traffic and an aesthetic issue. The safety hazard and aesthetic issue of these poles and above ground utilities increases if surrounding trees are removed, leaving them more exposed. This item needs to be changed to "Potentially significant Unless Mitigation Incorporated."

e. Storm water drainage?

Though noted as "Less Than Significant Impact," this should be changed to "Potentially Significant Impact." Please see previous comments under item "4. WATER" page 2, outlining the potential for flooding as a result of storm water.

13. AESTHETICS:

a. Affect a scenic vista or scenic highway?
b. Have a demonstrable negative aesthetic effect?

Though noted as "Potentially Significant Unless Mitigation Incorporated," it is important to add that the widening of Auburn-Folsom Road will potentially damage the rural/suburban look of Granite Bay if not mitigated in the most careful fashion. The constituency we represent request the use of natural, indigenous construction and plant materials. We should continue the architectural style incorporated in Douglas Boulevard and East Roseville Parkway in Granite Bay. This item is very important to the local community and our input to this portion of the Auburn-Folsom Road widening project is paramount.

15. RECREATION:

b. Affect recreational opportunities?

Though noted as "Potentially Significant Unless Mitigation Incorporated," it is important to add that the widening of Auburn-Folsom Road from two lanes to five lanes (as proposed) will create safety hazards for all those who have crossed the road from the west side for decades to gain access to the State Park. These include pedestrians, runners, hikers, bicyclists, equestrian, etc. These users currently cross the road at a number of mid-block recreation trail entrances provided by the State Park system. These safety hazards, without mitigation such as crosswalks and intersection signal lights, require that this category be listed as "Potentially Significant Impact." This way of life is consistent and interdependent with the values established in Granite Bay and southeast Placer County. The Folsom Lake State Park is the most visited State Park within the California State Park system. It is important that the environmental review and County staff consider the nearby residents and thousands of regional residents who use these facilities and not deprive them of precedented decades of recreational access.

With the widening of Auburn-Folsom Road, and the associated level of increased traffic, the current bike lanes, (used by pedestrians as well as bicyclists), have become unsafe and a hazard for those who have used them for many years. It is important that the effect of the widening be mitigated

MANDATORY FINDINGS OF SIGNIFICANCE:

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare of endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?

Though noted as "Potentially Significant Unless Mitigation Incorporated" due to its impact on the historic corridor between Folsom and Auburn, and those significant plants, wildlife and archeological features which go along with it, there are other important concerns which warrant noting. These include the access of a wide range of wildlife across the road at low water crossings, including bobcat, coyote, fox, wild turkey, opossum, pheasant, turtle, raccoon, skunk etc. The widening of Auburn-Folsom Road may cut off this naturally occurring migration, which has become a way of life for the wildlife and many of the rural residents along Auburn-Folsom Road. A fish and game low water crossing may need to be considered where culverts currently cross the road to mitigate for these wildlife patterns.

We appreciate your serious consideration of the above concerns and expect that the project will not proceed until all the environmental concerns including safety, aesthetic, and health hazards are mitigated to the satisfaction of this community.

The undersigned are available should

Sincerely,

Patricia A. Goody

Pat Goody
Co-President, Crown Point Vista Ho

Jim Phillips (773-3042)
Chair, Folsom Lake Estates Homeow

Patricia Meyers, Secreta
for Don Penkala, Presi

Don Penkala
President, Woodchase Homeowners

Pete Lopez

Pete Lopez (791-3156)
Representing Muir Way residents

Mike Pavik (791-1353)
Representing Lou Place/Troy Way re

Karen Branson

Karen Branson (773-3105)
Owner, Ridgeview Mobile Home Par

Penney Beamer

Penney Beamer (797-1252)
Representing 9276 and 9290 Auburn

Sandra Russell

Sandra Russell (791-4611)
Representing 9170 Auburn Folsom R

cc: Ted Gaines, Placer County Super
Charlie Ebeling, Dept. of Public V

Appendix C

Placer County Best Available Air Quality Mitigation Measures

PLACER COUNTY
BEST AVAILABLE AIR QUALITY MITIGATION MEASURES

CONSTRUCTION ACTIVITY

Projects that are estimated to result in daily construction emissions greater than 82 pounds per day for any pollutant will result in significant air quality impacts and should be required to submit a Construction Emission/Dust Control Plan (Plan) to the District for review and approval. At a minimum, the Plan should include measures 1-6 listed below and all feasible measures listed under "Construction Activity." Projects with construction emissions below 82 pounds per day should implement all feasible measures to reduce their contributions to significant cumulative air quality impacts and for the project to be consistent with the District=s Air Quality Attainment Plan.

1. Construction equipment exhaust emissions shall not exceed District Rule 202 Visible Emission limitations.
2. The applicant shall submit to the District and receive approval of a Construction Emission / Dust Control Plan prior to groundbreaking.
3. The prime contractor shall submit to the District a comprehensive inventory (i.e. make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower of greater) that will be used an aggregate of 40 or more hours for the construction project. District personnel, with assistance from the California Air Resources Board, will conduct initial Visible Emission Evaluations of all heavy-duty equipment on the inventory list.
4. An enforcement plan shall be established to weekly evaluate project-related on-and-off- road heavy-duty vehicle engine emission opacities, using standards as defined in California Code of Regulations, Title 13, Sections 2180 - 2194. An Environmental Coordinator, CARB-certified to perform Visible Emissions Evaluations (VEE), shall routinely evaluate project related off-road and heavy duty on-road equipment emissions for compliance with this requirement. Operators of vehicles and equipment found to exceed opacity limits will be notified and the equipment must be repaired within 72 hours.
5. Construction contracts should stipulate that at least 20% of the heavy-duty off-road equipment included in the inventory be powered by CARB certified off-road engines, as follows:

175 hp B 750 hp	1996 and newer engines
100 hp B 174 hp	1997 and newer engines
50 hp B 99 hp	1998 and newer engines

In lieu of or in addition to this requirement, an applicant can use other measures to reduce particulate matter and nitrogen oxide emissions from their project through the use of emulsified diesel fuel and or particulate matter traps. The District should be contacted to discuss this measure.

6. No open burning of removed vegetation during infrastructure improvements. Vegetative material should be chipped or delivered to waste to energy facilities.
7. Develop trip reduction plan to achieve 1.5 AVR for construction employees.
8. Clean earth moving construction equipment with water once per day.
9. Spread soil binders on unpaved roads and employee/equipment parking areas.
10. Apply approved chemical soil stabilizers according to manufacturers' specifications, to all-inactive construction areas (previously graded areas which remain inactive for 96 hours).
11. Reestablish ground cover on the construction site as soon as possible through seeding and watering.
12. Implement or contribute to a native tree-planting program to offset the loss of existing trees at the construction site.
13. Employ construction activity management techniques, such as: extending the construction period outside the ozone season of May through October; reducing the number of pieces used simultaneously; increasing the distance between emission sources; reducing or changing the hours of construction; and scheduling activity during off-peak hours.
14. Wet broom or wash streets if silt is carried over to adjacent public thoroughfares.
15. Reduce traffic speeds on all unpaved surfaces to 15 miles per hour or less.
16. Suspend all grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour and dust is impacting adjacent properties.
17. Install wheel washers or wash all trucks and equipment leaving the site.
18. Minimize idling time to 10 minutes.
19. An operational water truck shall be onsite at all times. Apply water to control dust as needed to prevent dust impacts offsite.
20. Use low sulfur fuel for stationary construction equipment.
21. Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
22. Use low emission on-site stationary equipment.
23. Provide a flag person to guide traffic properly and ensure safety at construction sites.
24. Schedule operations affecting traffic for off-peak hours.
25. Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service.
26. Minimize obstruction of through-traffic lanes.

OPERATIONAL

The following is a list of mitigation measures that have been identified by the District to reduce a project=s long-term operational impact on local and regional air quality. All projects should implement those measures that are logical and feasible for their project to implement due to the existing severe nonattainment designation in Placer County for federal and State ozone standards. Projects that cannot implement sufficient onsite measures to reduce project impacts, can participate in the District=s offsite mitigation program. Please see measure number 101 for details on the District=s offsite mitigation program. Implementation of these measures will ensure that projects are consistent with the District=s Air Quality Attainment Plan and local land use plans.

27. Tree planting of California native species in excess of that already required.
28. Landscape with native drought-resistant species (plants, trees and bushes) to reduce the demand for gas powered landscape maintenance equipment.
29. Use of low VOC coatings per District Rule 218 Architectural Coatings.
30. Site design to minimize the need for external trips by including services/facilities for day care, banking/ATM, restaurants, vehicle refueling, and shopping.
31. Require development practices, which maximize energy conservation.
32. Improve the thermal integrity of buildings, and reduce the thermal load with automated time clocks or occupant sensors.
33. Introduce window glazing, wall insulation, and efficient ventilation methods.
34. Introduce efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units.
35. Incorporate appropriate passive solar design and solar heaters.
36. Use devices that minimize the combustion of fossil fuels.
37. Capture waste heat and re-employ it in nonresidential buildings.
38. Electrical outlets shall be installed on the exterior walls of both the front and back of a residence or all commercial buildings to promote the use of electric landscape maintenance equipment.
39. Install a gas outlet in the backyard for gas burning barbecues.
40. Install a gas outlet for use with outdoor cooking appliances, such as a gas barbecue.
41. Install a gas outlet with ceramic logs in any proposed fireplaces, including outdoor recreational fireplaces or pits.
42. Install low nitrogen oxide (NOx) hot water heaters.(Beyond District Rule 246 Requirements)
43. Install electric vehicle recharging circuits in residential garages / parking lots.
44. Install electric vehicle charging raceways in residential garages.
45. Prohibit gas powered landscape maintenance equipment within developments.
46. Purchase battery powered or electric landscape maintenance equipment for new residences.
47. Require landscape maintenance companies use battery powered or electric equipment.

48. Create / increase buffer zones between a sensitive receptor and pollution source.
49. Configure parking to minimize traffic interference.
50. Schedule goods movement for off-peak traffic hours.
51. Synchronize traffic signals.
52. Provide adequate ingress and egress at entrances to public facilities to minimize vehicle idling at curbside.
53. Provide dedicated turn lanes as appropriate.
54. Join a local Transportation Management Association (TMA) and prepare employer-based trip reduction plans.
55. Establish telecommuting programs, alternate work schedules, and satellite work centers.
56. Design parking areas with less emphasis on "convenience."
57. Include a limited number of parking spaces in project design.
58. Include wide parking spaces or vanpool only spaces to accommodate vanpool vehicles.
59. Develop vehicle and bicycle all day parking lots near rail stations, transit stops, and freeway access points.
60. Construction/enhancement of a Park and Ride lot.
61. Parking pricing strategies, such as charging parking lot fees to low occupancy vehicles.
62. Provide preferential parking for those who rideshare.
63. Provide funds for on line computer rideshare matching.
64. Provide ridesharing information in a homeowner=s association package.
65. Site design to maximize telecommunication including an appropriate network infrastructure.
66. Provide satellite work offices when appropriate. Applicable to office/industrial and educational institutions.
67. Design/establish telecommuting programs for office/industrial complexes.
68. Offer low cost financing to employees for the purchase of telecommuting equipment, or lend company-owned equipment.
69. Design "Shop by Telephone" or "Shop-by-Computer" services. Applicable to shopping centers and retail facilities.
70. Provide individual private telephones for patients at medical facilities, which allows for "visits without trips."
71. Purchase abandoned railroad rights-of-way for future transit line, bikeway or hiking use(s).
72. Contribute to an area transit fund to help build, maintain, and enhance transit services/facilities/amenities.
73. Site design to maximize access to existing transit lines.
74. Street design to accommodate bus travel.
75. Street design to maximize pedestrian access to transit stops, including access from residential cul-de-sacs to collector and arterial streets.

76. Site design to include bus shelters at transit access points.

77. Provide additional lighted transit shelters and multimodal transfer stations for transit users.

78. Construction of transit facility/amenity(bus shelters, bicycle lockers/racks, etc.) for existing public and private transit.

79. Provision for transit-use incentives such as subsidized transit passes, accommodation of "unusual" work schedules to allow for transit schedules. Applies to office/industrial, educational institutions, and resorts/hotels.

80. AValidation" of a transit ticket to provide free return trip. Applies to shopping centers, hospitals/medical facilities, and retail facilities.

81. Sell transit passes. Applies to retail facilities, educational institutions, resorts/hotels, and office/industrial complexes.

82. An employer subsidized free or reduced transit fares for midday central business district trips.

83. Free transfers between all shuttles and transit.

84. Subsidized school bus service.

85. A subsidy of added transit services.

86. An employer subsidized shuttle service to connect to existing transit sites.

87. Operation of a shuttle bus to shopping, health care, public services sites and other nearby trip attractors to reduce automobile use.

88. Establish delivery services. Applicable to retail facilities (frequent use), shopping centers, and restaurants.

89. Site design to maximize bicycle access to and within the project and/or provide bicycle parking/lockers.

90 An employer/developer provided locker room/showers to employees whom bicycle.

91. Include Class 2 bicycle lanes in new developments.

92. Develop or improve bicycle/pedestrian paths between destinations using public and/or utility rights-of-way.

93. Develop or improve access by bicycle, wheelchair or pedestrian traffic to existing major destinations in city or region. For example, schools, employment centers, shopping, recreation, and parks.

94. Provide secure bicycle storage at public parking facilities.

95. Contribute funding toward the purchase and operation of air quality monitoring equipment.

96. Provide a location for air monitoring equipment.

97. Require mixed-use development in order to achieve a balance of commercial, employment, and housing options within the project site or its immediate environment.

98. Provide higher density land uses around activity centers, transportation nodes and transit corridors.

99. Only U.S. EPA Phase II certified woodburning devices shall be allowed in single-family residences. The emission potential from each residence shall not exceed 7.5 grams per hour.

100. Woodburning or Pellet appliances shall not be permitted in multi-family developments. Only natural gas or propane fired Afireplace@ appliances are permitted.

101. If a project cannot implement sufficient on-site measures to reduce its long-term operational emissions, the project could implement an offsite mitigation program to achieve the required emission reduction. Offsite mitigation strategies are modeled after existing heavy duty nitrogen oxide reduction programs and include retrofitting existing on-road or off-road heavy vehicles/equipment with cleaner burning engines, retrofitting or purchasing new low emission agriculture pumps, transit vehicles, CNG fueling infrastructure or replacing non-EPA certified woodstoves with new EPA certified units. The design of the offsite mitigation program would depend on the type and amount of emission reductions needed.

In lieu of each individual project implementing their own offsite mitigation program, an applicant can choose to pay an equivalent amount of money into the District=s Air Quality Mitigation Fund. The District provides monetary incentives to sources of air pollutant emissions within the projects general vicinities that are not required by law to reduce their emissions. Therefore, the emission reductions are real, quantifiable and implement provisions of the 1994 State Implementation Plan. The offsite mitigation program has been implemented by a number of projects in Placer County.

Appendix D

Air Quality Modeling Data

Road Widening **Version 4.1**

Auburn-Folsom Widening

Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	
Grubbing/Land Clearing	15	106	133	15	6	9	
Grading/Excavation	15	110	129	15	6	9	
Drainage/Utilities/Sub-Grade	19	130	165	8	8	0	
Paving	13	95	115	5	5	0	
Maximum (pounds /day)	19	130	165	15	8	9	
Total (tons/construction project)	2	11	14	1	1	1	<-tons

Notes:

Project Start Year ->	2003
Project Length (months) ->	9
Total Project Area (acres) ->	7
Maximum Area Disturbed/Day (acres) ->	2
Total Soil Imported/Exported (yd^3/day)->	0

PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I.

Appendix E

Background Information on Acoustics

Background Information on Acoustics

Sound Terminology

Sound travels through the air as waves of minute air pressure fluctuations caused by some type of vibration. In general, sound waves travel away from the sound source as an expanding spherical surface. The energy contained in a sound wave is consequently spread over an increasing area as it travels away from the source. This results in a decrease in loudness at greater distances from the sound source. The following terms are commonly used in acoustics.

Decibel

Sound-level meters measure the pressure fluctuations caused by sound waves. Because of the ability of the human ear to respond to a wide dynamic range of sound pressure fluctuations, loudness is measured in terms of decibels (dB) on a logarithmic scale. This results in a scale that measures pressure fluctuations in a convenient notation and corresponds to our auditory perception of increasing loudness.

A-Weighted Decibels

Most sounds consist of a broad range of sound frequencies. Because the human ear is not equally sensitive to all frequencies, several frequency-weighting schemes have been used to develop composite decibel scales that approximate the way the human ear responds to sound levels. The "A-weighted" decibel scale (dBA) is the most widely used for this purpose. Typical A-weighted sound levels for various types of sound sources are summarized in Figure 1.

Equivalent Sound Level

Time-varying sound levels are often described in terms of an equivalent constant decibel level. Equivalent sound levels (L_{eq}) are used to develop single-value descriptions of average sound exposure over various periods of time. Such average sound exposure values often include additional weighting factors for annoyance potential attributable to time of day or other considerations. The L_{eq} data used for these average sound exposure descriptors are generally based on A-weighted sound-level measurements.

Day-Night Average Sound Level

Average sound exposure over a 24-hour period is often presented as a day-night average sound level (L_{dn}). L_{dn} values are calculated from hourly L_{eq} values, with

the L_{eq} values for the nighttime period (10:00 p.m.-7:00 a.m.) increased by 10 dB to reflect the greater disturbance potential from nighttime noises.

Community Noise Equivalent Level

The community noise equivalent level (CNEL) is also used to characterize average sound levels over a 24-hour period, with weighting factors included for evening and nighttime sound levels. L_{eq} values for the evening period (7:00 p.m.-10:00 p.m.) are increased by 5 dB, while L_{eq} values for the nighttime period (10:00 p.m.-7:00 a.m.) are increased by 10 dB. For given set of sound measurements, the CNEL value will usually be about 1 dB higher than the L_{dn} value. In practice, CNEL and L_{dn} are often used interchangeably.

Percentile-Exceeded, Maximum, and Minimum Sound Level

The sound level exceeded during a given percentage of a measurement period is the percentile-exceeded sound level (L_x). Examples include L_{10}, L_{50}, and L_{90}. L_{10} is the A-weighted sound level that is exceeded 10% of the measurement period, L_{50} is the level exceeded 50% of the period, and so on. L_{50} is the median sound level measured during the measurement period. L_{90}, the sound level exceeded 90% of the time, excludes high localized sound levels produced by nearby sources such as single car passages or bird chirps. L_{90} is often used to represent the background sound level. L_{50} is also used to provide a less conservative assessment of the background sound level.

The maximum sound level (L_{max}) and the minimum sound level (L_{min}) are the maximum and minimum sound levels respectively, measured during the measurement period. When a sound meter is set to the "slow" response setting as is typical for most community noise measurements, the Lmax and Lmin values are the maximum and minimum levels measured over a one second period.

Ambient Sound

Ambient sound is the all-encompassing sound associated with a given community site, usually being a composite of sounds from many sources, near and far, with no particular sound being dominant.

Equivalencies between Various Sound Descriptors

The L_{dn} value at a site calculated from a set of measurements taken over a given 24-hour period will be slightly lower than the CNEL value calculated over the same period. Except in situations where unusually high evening sound levels occur, the CNEL value will be within 1.5 dB of the L_{dn} value for the same set of sound measurements.

Sound Source	Sound Level (dBA)*	Response
Carrier deck jet operation		
	140	
Civil defense siren (at 100 feet)		
	130	Painfully loud
Jet takeoff (at 200 feet)		
	120	Threshold of feeling and pain
Riveting machine (at 1 foot) Rock music concert		
Pile driver (at 50 feet) Ambulance siren (at 100 feet)	110	
Heavy truck (at 50 feet)	100	Very loud
Pneumatic drill (at 50 feet) Freight train cars (at 50 feet) Garbage disposal in home	90	
Freight train cars (at 100 feet) Freeway traffic (at 50 feet) Vacuum cleaner (at 10 feet) Air conditioning unit (at 20 feet)	80	
Speech in normal voice (at 15 feet)	70	Moderately loud
Residence-typical movement of people, no TV or radio	60	
Soft whisper (at 5 feet)		
	50	
Recording studio		
	40	Quiet
	30	
	20	
	10	
	0	Threshold of hearing

* Typical A-weighted sound levels in decibels. "A" weighting approximates the frequency response of the human ear.

Figure 1
Weighted Sound Levels and Human Response

The relationship between peak hourly L_{eq} values and associated L_{dn} values depends on the distribution of traffic over the entire day. There is no precise way to convert a peak hourly L_{eq} value to an L_{dn} value. However, in urban areas near heavy traffic, the peak hourly L_{eq} value is typically 2-4 dB lower than the daily L_{dn} value. In less heavily developed areas, the peak hourly L_{eq} is often equal to the daily L_{dn} value. For rural areas with little nighttime traffic, the peak hourly L_{eq} value will often be 3-4 dB greater than the daily L_{dn} value.

Working with Decibel Values

The nature of the decibel scale is such that the individual sound levels for different sound sources cannot be added directly to give the combined sound level of these sources. Two sound sources producing equal sound levels at a given location will produce a composite sound level that is 3 dB greater than either sound alone. When two sound sources differ by 10 dB, the composite sound level will be only 0.4 dB greater than the louder source alone.

Most people have difficulty distinguishing the louder of two sound sources if they differ by less than 1.5-2.0 dB. Research into the human perception of changes in sound level indicates the following:

- a 3-dB change is just perceptible,
- a 5-dB change is clearly perceptible, and
- a 10-dB change is perceived as being twice or half as loud.

A doubling or halving of acoustic energy will change the resulting sound level by 3 dB, which corresponds to a change that is just perceptible. In practice, this means that a doubling of traffic volume on a roadway, doubling the number of people in a stadium, or doubling the number of wind turbines in a wind farm will, as a general rule, only result in a 3-dB, or just perceptible, increase in noise.

Outdoor Sound Propagation

There are a number of factors that affect how sound propagates outdoors. These factors, described by Hoover and Keith (1996), are summarized below.

Distance Attenuation

As a general rule, sound from localized or point sound sources spreads out as it travels away from the source and the sound level drops at a rate of 6 dB per doubling of distance. If the sound source is long in one dimension, such as traffic on a highway or a long train, the sound source is considered to be a line source. As a general rule, the sound level from a line source will drop off at a rate of 3 dB per doubling of distance. If the intervening ground between the line source and the receptor is acoustically "soft" (e.g., ground vegetation, scattered trees, clumps

of bushes), an attenuation rate of 4.5 dB per doubling of distance is generally used.

Attenuation from Barriers

Any solid structure such as a berm, wall, or building that blocks the line of sight between a source and receiver serves as a sound barrier and will result in additional sound attenuation. The amount of additional attenuation is a function of the difference between the length of the sound path over the barrier and the length of the direct line of sight path. Thus, the sound attenuation of a barrier between a source and a receiver that are very far apart will be much less than the attenuation that would result if either the source or the receiver is very close to the barrier.

Molecular Absorption

Air absorbs sound energy as a function of the temperature, humidity of the air, and frequency of the sound. Additional sound attenuation on the order of 1 to 2 dB per 1,000 feet can occur.

Anomalous Excess Attenuation

Large-scale effects of wind speed, wind direction, and thermal gradients in the air can cause large differences in sound transmission over large distances. These effects when combined result in anomalous excess attenuation, which can be applied to long-term sound-level estimates. Additional sound attenuation on the order of about 1 dB per 1,000 feet can occur.

Other Atmospheric Effects

Short-term atmospheric effects relating to wind and temperature gradients can cause bending of sound waves and can influence changes in sound levels at large distances. These effects can either increase or decrease sound levels depending on the orientation of the source and receptor and the nature of the wind and temperature gradient. Because these effects are normally short-term, it is generally not practical to include them in sound propagation calculations. Understanding these effects, however, can help explain variations that occur between calculated and measured sound levels.

Guidelines for Interpreting Sound Levels

Various federal, state, and local agencies have developed guidelines for evaluating land use compatibility under different sound-level ranges. The following is a summary of federal and state guidelines.

Federal Agency Guidelines

The federal Noise Control Act of 1972 (Public Law 92-574) established a requirement that all federal agencies administer their programs to promote an environment free of noise that jeopardizes public health or welfare. The U.S. Environmental Protection Agency (EPA) was given the responsibility for:

- providing information to the public regarding identifiable effects of noise on public health or welfare,
- publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety,
- coordinating federal research and activities related to noise control, and
- establishing federal noise emission standards for selected products distributed in interstate commerce.

The federal Noise Control Act also directed that all federal agencies comply with applicable federal, state, interstate, and local noise control regulations.

Although EPA was given major public information and federal agency coordination roles, each federal agency retains authority to adopt noise regulations pertaining to agency programs. EPA can require other federal agencies to justify their noise regulations in terms of the federal Noise Control Act policy requirements. The Occupational Safety and Health Administration retains primary authority for setting workplace noise exposure standards. The Federal Aviation Administration retains primary jurisdiction over aircraft noise standards, and the Federal Highway Administration (FHWA) retains primary jurisdiction over highway noise standards.

In 1974, in response to the requirements of the federal Noise Control Act, EPA identified indoor and outdoor noise limits to protect public health and welfare (communication disruption, sleep disturbance, and hearing damage). Outdoor L_{dn} limits of 55 dB and indoor L_{dn} limits of 45 dB are identified as desirable to protect against speech interference and sleep disturbance for residential, educational, and healthcare areas. Sound-level criteria to protect against hearing damage in commercial and industrial areas are identified as 24-hour L_{eq} values of 70 dB (both outdoors and indoors).

The FHWA has adopted criteria for evaluating noise impacts associated with federally funded highway projects and for determining whether these impacts are sufficient to justify funding noise mitigation actions (23 CFR 772). The FHWA noise abatement criteria are based on peak hourly L_{eq} sound levels, not L_{dn} or 24-hour L_{eq} values. The peak 1-hour L_{eq} criteria for residential, educational, and healthcare facilities are 67 dB outdoors and 52 dB indoors. The peak 1-hour L_{eq} criterion for commercial and industrial areas is 72 dB (outdoors).

The U.S. Department of Housing and Urban Development has established guidelines for evaluating noise impacts on residential projects seeking financial support under various grant programs (44 FR 135:40860-40866, January 23,

1979). Sites are generally considered acceptable for residential use if they are exposed to outdoor L_{dn} values of 65 dB or less. Sites are considered "normally unacceptable" if they are exposed to outdoor L_{dn} values of 65-75 dB. Sites are considered unacceptable if they are exposed to outdoor L_{dn} values above 75 dB.

State Agency Guidelines

In 1987, the California Department of Health Services published guidelines for the noise elements of local general plans. These guidelines include a sound level/land use compatibility chart that categorizes various outdoor L_{dn} ranges into up to four compatibility categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable) by land use. For many land uses, the chart shows overlapping L_{dn} ranges for two or more compatibility categories.

The noise element guidelines chart identifies the normally acceptable range for low-density residential uses as less than 60 dB and the conditionally acceptable range as 55-70 dB. The normally acceptable range for high-density residential uses is identified as L_{dn} values below 65 dB, and the conditionally acceptable range is identified as 60-70 dB. For educational and medical facilities, L_{dn} values below 70 dB are considered normally acceptable and L_{dn} values of 60-70 dB are considered conditionally acceptable. For office and commercial land uses, L_{dn} values below 70 dB are considered normally acceptable and L_{dn} values of 67.5-77.5 are categorized as conditionally acceptable.

These overlapping L_{dn} ranges are intended to indicate that local conditions (existing sound levels and community attitudes toward dominant sound sources) should be considered in evaluating land use compatibility at specific locations.

The California Department of Housing and Community Development has adopted noise insulation performance standards for new hotels, motels, and dwellings other than detached single-family structures (24 CCR T25-28). These standards require that "interior CNELs with windows closed, attributable to exterior sources, shall not exceed an annual CNEL of 45 dB in any habitable room".

The California Department of Transportation uses the FHWA criteria as the basis for evaluating noise impacts from highway projects.

Reference

Hoover, R. M., and R. H. Keith. 1996. Noise control for buildings and manufacturing plants. Hoover and Keith, Inc. Houston, TX.

Appendix F

Noise Modeling Data (Bound Separately)

The technical noise modeling data is bound separately and available on a limited basis at the Placer County offices in Auburn and at the U.S. Department of the Interior, Bureau of Reclamation. The appendix contains the output data from the Sound32 noise model. These data were used to analyze the noise impacts of the proposed project by alternative. This appendix contains output files for existing conditions, future no-project conditions, and Alternative 1, 2, 3, and 4 conditions.

Appendix G

U.S. Fish and Wildlife Service Sensitive Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W2605
Sacramento, California 95825

IN REPLY REFER TO:
1-1-02-SP-2881

August 15, 2002

Ms. Angela Alcala
Wildlife Biologist
Jones and Stokes
2600 V Street
Sacramento, California 95818-1914

Subject: Species List for Auburn-Folsom Road Widening. Douglas Boulevard South to Placer County Boundary. Two Lanes to Four, Placer County, California

Dear Ms. Alcala:

We are sending the enclosed list in response to your August 6, 2002, request for information about endangered and threatened species (Enclosure A). The list covers the following U.S. Geological Survey 7½ minute quad of Folsom.

Please read *Important Information About Your Species List* (enclosed). It explains how we made the list and describes your responsibilities under the Endangered Species Act. Please contact Justin Ly at (916) 414-6645, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Species Lists at this address. You may fax requests to 414-6712 or 414-6713. You may also email them to harry_mossman@fws.gov.

Sincerely,

for Jan C. Knight
Chief, Endangered Species Division

Enclosures

GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS

(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.

2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations is not available, investigators should study specimens from local herbaria.

3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.

4. Report results of botanical field inventories that include:

   a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species

   b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name

   c. survey dates and survey methodology(ies)

   d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made

   e. a comprehensive list of all vascular plants occurring on the project site for each habitat type

   f. current and historic land uses of the habitat(s) and degree of site alteration

   g. presence of target species off-site on adjacent parcels, if known

h. an assessment of the biological significance or ecological quality of the project site in a local and regional context

5. If target species is(are) found, report results that additionally include:

   a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project

   b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.

   c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.

   d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.

6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.

7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than three years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.

8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.

9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-02-SP-2881

Auburn-Folsom Road Widening

August 13, 2002

QUAD: 511B FOLSOM

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Sacramento Orcutt grass, *Orcuttia viscida* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

spotted bat, *Euderma maculatum* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Swainson's hawk, *Buteo Swainsoni* (CA)

ferruginous hawk, *Buteo regalis* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

black swift, *Cypseloides niger* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

loggerhead shrike, *Lanius ludovicianus* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

long-billed curlew, *Numenius americanus* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

white-faced ibis, *Plegadis chihi* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Brewer's sparrow, *Spizella breweri* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Spea hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

pincushion navarretia, *Naverretia myersii spp. myersii* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(SLC)	*Species of Local Concern*	Species of local or regional concern or conservation significance.
(MB)	*Migratory Bird*	Migratory bird
NMFS	NMFS species	Under the jurisdiction of the National Marine Fisheries Service. Contact them directly.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
(*)	*Extirpated*	Possibly extirpated from this quad.
(**)	*Extinct*	Possibly extinct.
	Critical Habitat	Area essential to the conservation of a species.

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by
Projects in the Area of the Following California Counties
Reference File No. 1-1-02-SP-28812881

Auburn-Folsom Road Widening

August 13, 2002

PLACER COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

California tiger salamander, *Ambystoma californiense* (C/E)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Truckee barberry, *Berberis sonnei* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Plants

Tahoe yellow-cress, *Rorippa subumbellata* (C)

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Brewer's sparrow, *Spizella breweri* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Swainson's hawk, *Buteo Swainsoni* (CA)

Vaux's swift, *Chaetura vauxi* (SC)

bank swallow, *Riparia riparia* (CA)

black swift, *Cypseloides niger* (SC)

common loon, *Gavia immer* (SC)

ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Lake Tahoe benthic stonefly, *Capnia lacustra* (SC)
Sagehen Creek goracean caddisfly, *Goeracea oregona* (SC)
Shirttail Creek stonefly, *Megaleuctra sierra* (SC)
South Forks ground beetle, *Nebria darlingtoni* (SC)
spiny rhyacophilan caddisfly, *Rhyacophila spinata* (SC)

Plants

Ahart's (dwarf) rush, *Juncus leiospermus var. ahartii* (SC)
Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)

Brandegee's clarkia, *Clarkia biloba ssp brandegeae* (SLC)
Butte fritillary, *Fritillaria eastwoodiae* (SC)
Carson Range rock cress, *Arabis rigidissima var. demota* (SC)
Donner Pass buckwheat, *Eriogonum umbellatum var. torreyanum* (SC)
Plumas ivesia, *Ivesia sericoleuca* (SC)
Red Hills soaproot, *Chlorogalum grandiflorum* (SC)
Stebbins' phacelia, *Phacelia stebbinsii* (SC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
common moonwort, *Botrychium lunaria* (SC)
felt-leaved (=woolly) violet, *Viola tomentosa* (SLC)
hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)
legenere, *Legenere limosa* (SC)
long-petaled lewisia, *Lewisia longipetala* (SC)
saw-toothed lewisia, *Lewisia serrata* (SC)
stinkbells, *Fritillaria agrestis* (SLC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	Other species of concern to the Service.
(SLC)	*Species of Local Concern*	Species of local or regional concern or conservation significance.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
NMFS	NMFS species	Under jurisdiction of the National Marine Fisheries Service. Contact them directly.
*	*Extirpated*	Possibly extirpated from the area.
**	*Extinct*	Possibly extinct
	Critical Habitat	Area essential to the conservation of a species.

Appendix H

Scientific and Common Names of Species Mentioned in the Text

Table H-1. Common and Scientific Names of Plant and Wildlife Species Mentioned in the Text

Common Name	*Scientific Name*
Plant Species	
Balsamroot	*Balsamorhiza macrolepis* var. *macrolepis*
Baltic rush	*Juncus balticus*
Barbed goatgrass	*Aegilops triuncialis*
Bermuda grass	*Cynodon dactylon*
Blue elderberry	*Sambucus mexicana*
Blue oak	*Quercus douglasii*
Box elder	*Acer negudo* var. *californicum*
Broad-leaved cattail	*Typha latifolia*
Bromes	*Bromus* sp.
Buckeye	*Aesculus californica*
California blackberry	*Rubus parviflours*
California poppy	*Eschscholzia californica*
California wild grape	*Vitis californica*
California wild rose	*Rosa californica*
Cocklebur	*Xanthium strumarium*
Common scouring rush	*Equisetum hyemale* ssp. *affine*
Coyote bush	*Baccharis pilularis*
Creeping wildrye	*Leymus triticoides*
Curly dock	*Rumex crispus*
Fescue	*Festuca* sp.
Filarees	*Erodium* sp.
Foothill pine (grey pine)	*Pinus sabiniana*
Fremont's cottonwood	*Populus fremontii* ssp. *fremontii*
Harding grass	*Phalaris aquatica*
Hardstem bulrush	*Scirpus acutus* var. *occidentalis*
Himalayan blackberry	*Rubus discolor*
Interior live oak	*Quercus wislizenii*
Italian ryegrass	*Lolium multiflorum*
Johnson grass	*Sorghum halepense*
Lupin species	*Lupinus* spp.
Mediterranean barley	*Hordeum marinum* ssp. *gussoneanum*
Mugwort	*Artemisia douglasiana*
Mustards	*Brassica* sp.
Oregon ash	*Fraxinus latifolia*
Perennial peppergrass	*Lepidium latifolium*
Poison oak	*Tocicodendron diversilobum*

Table H-1. Continued

Common Name	*Scientific Name*
Rabbit's foot grass	*Polypogon monspeliensis*
Sedges	*Carex* sp.
Smilo grass	*Piptatherum miliaceum*
Spike rush	*Eleocharis macrostachya*
Valley oak	*Quercus lobata*
Water smart weed	*Polygonum amphibium*
Wild oats	*Avena barbata*
Willows	*Salix* spp.
Willow smart weed	*Polygonum lapathifolium*
Yellow star-thistle	*Centaurea solstitialis*
Wildlife Species	
Amphibians	
Pacific chorus frog	*Hyla regilla*
Reptiles	
Common garter snake	*Thamnophis elegans*
Western toad	*Bufo boreus*
Birds	
Acorn woodpecker	*Melanerpes erythrocephalus*
American avocet	*Recurvirostra americana*
American goldfinch	*Carduelis tristis*
American kestrel	*Falco tinnunculus*
American robin	*Turdus migratorius*
Ash-throated flycatcher	*Myiarchus cinerascens*
Barn swallow	*Hirundo rustica*
Bewick's wren	*Thryomanes bewickii*
Black phoebe	*Sayornis saya*
Brewer's blackbird	*Euphagus cyanocephalus*
Cliff swallow	*Petrochelidon pyrrhonota*
Common yellowthroat	*Geothlypis trichas*
Great blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Great-horned owl	*Bubo virginianus*
Greater yellowlegs	*Tringa melanoleuca*
House wren	*Troglodytes aedon*
Killdeer	*Charadrius vociferous*
Mallard	*Anas platyrhynchos*
Marsh wren	*Cistothuorus palustris*

Table H-1. Continued

Common Name	*Scientific Name*
Mourning dove	*Zenaida macroura*
Northern harrier	*Circus cyaneus*
Nuttall's woodpecker	*Picoides nuttallii*
Red-breasted nuthatch	*Sitta canadensis*
Red-shouldered hawk	*Buteo lineatus*
Red-tailed hawk	*Buteo jamaicensis*
Red-winged blackbird	*Agelaius phoeniceus*
Song sparrow	*Melospiza melodia*
Tree swallow	*Tachycineta bicolor*
Western bluebird	*Sialia mexicana*
Western meadowlark	*Sturnella neglecta*
Western scrub jay	*Aphelocoma californica*
White crowned sparrow	*Zonotrichia leucophrys*
White-throated swift	*Aaeronautes saxatalis*
Wood duck	*Aix sponsa*
Yellow-billed magpie	*Pica nuttalli*
Mammals	
Black-tailed deer	*Odocoileus hemionus*
Black-tailed hare	*Lepus californicus*
Botta's pocket gopher	*Thomomys bottae*
California ground squirrel	*Spermophilus beecheyi*
California vole	*Microtus californicus*
Coyote	*Canis latrans*
Deer mouse	*Peromyscus maniculatus*
Muskrat	Ondatra zibethica
Raccoon	*Procyon lotor*
Striped skunk	*Mephitis mephitis*
Virginia opossum	*Didelphis marsupialis*
Western gray squirrel	*Sciurus griseus*
Western harvest mouse	*Reithrodontomys megalotis*

Appendix I

Wetland Delineation

Preliminary Delineation of Waters of the United States, Including Wetlands Auburn-Folsom Road Widening Project, Placer County

Federal Lead Agency:

U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630
Contact: Sandi Richerson
916/989-7174

State Lead Agency:

Placer County
Department of Public Works
11444 B Avenue
De Witt Center
Auburn, CA 95603
Contact: Charles W. Ebeling, P.E.
530/886-3521

Environmental Consultant:

Jones & Stokes
2600 V Street
Sacramento, CA 95818-1914
Contact: Lynn Finley/Susan Bushnell Bergfalk
916/737-3000

March 2003

Jones & Stokes. 2003. Preliminary delineation of waters of the United States, including wetlands, Auburn-Folsom Road widening project, Placer County. March. (J&S 02-102.) Sacramento, CA.

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Attachment A. Representative Data Forms

Attachment B. Delineation Maps

Attachment C. List of Waters in the Study Area

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Acronyms and Abbreviations

CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
County	Placer County
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FR	Federal Register
GIS	geographic information system
GPS	global positioning system
NEPA	National Environmental Policy Act
NI	no indicator
OBL	obligate
OHWM	ordinary high-water mark
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
SRA	State Recreation Area
UPL	obligate upland
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Executive Summary

This report presents the results of a delineation of waters of the United States, including wetlands, conducted for the Auburn-Folsom Road Widening Project in Placer County, California (Figure 1). Placer County (County), with the cooperation of the U.S. Bureau of Reclamation (Reclamation), proposes to improve approximately 3.2 kilometers (2 miles) of Auburn-Folsom Road, from the Placer County/Sacramento County line north to Douglas Boulevard. Widening and construction would extend north only to Fuller Drive.

Jones & Stokes was retained by the County to delineate potential waters of the United States (including wetlands) within the study area (the study area is shown in Attachment B). The purpose of this delineation is to identify areas that would be regulated by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act. This report presents the methods used to delineate waters of the United States and the results of this field delineation. The results of this delineation should be considered preliminary until verified by the Sacramento District of the Corps.

In summary, a total of 0.112 hectare (0.277 acre) of waters of the United States (including 0.031 hectare [0.077 acre] of jurisdictional wetlands and 0.08 hectare [0.20 acre] of waters of the United States) was delineated in the project study area. Table 1 lists the habitat types and acreages that were delineated by Jones & Stokes as potential waters of the United States.

Table 1. Potential Waters of the United States Delineated in the Auburn-Folsom Road Widening Project Study Area, Placer County

Habitat Type	Jurisdictional Status	Total Hectares (Acres)
–Perennial stream –Linda Creek –Unnamed tributary to Linda Creek –Baldwin Reservoir canal	Waters of the United States, including wetlands	0.112 (0.277)
–Ephemeral stream –Unnamed tributary to Linda Creek	Other waters of the United States	0.08 (0.20)
–Freshwater marsh –Two adjacent wetlands	Jurisdictional wetland	0.02 (0.05)
–Seasonal wetland –One adjacent wetland	Jurisdictional wetland	0.011 (0.027)

Guidance on waters that are "non-navigable, isolated [and] intrastate" was published jointly on January 19, 2001, by Counsel for the Environmental Protection Agency (EPA) and the Corps. This guidance was in response to the *Solid Waste Agency of Northern Cook County* vs. *United States Army Corps of Engineers* decision (121 S.CT. 675,2001). No isolated wetlands were located in

the study area. This determination should be considered preliminary until verified by the Sacramento District of the Corps.

Section I. Introduction

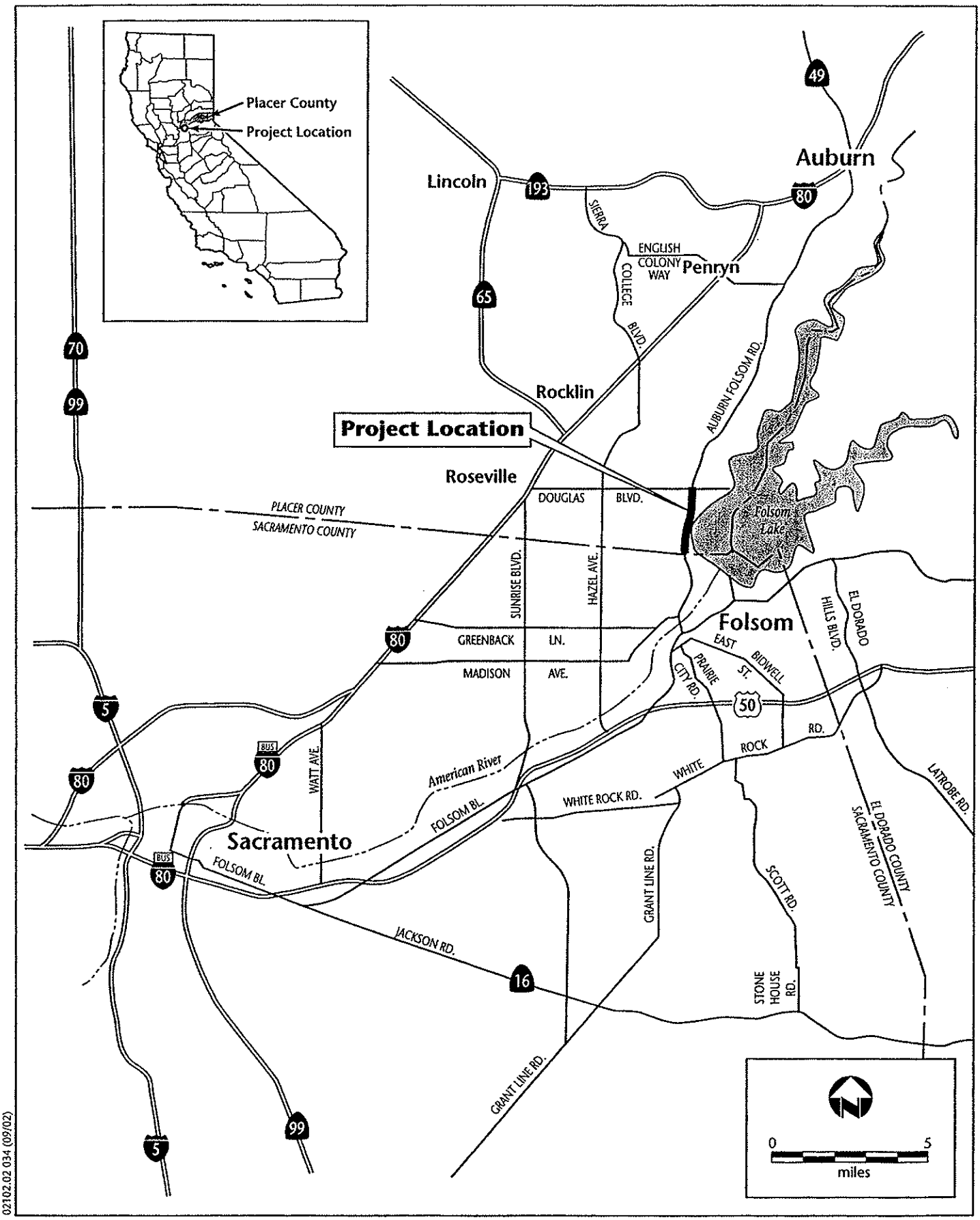
Jones & Stokes was retained by the County to prepare an environmental document in compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) for the 3.2-kilometer-long (2.0-mile-long) Auburn-Folsom Road Widening Project in Placer County (Figure 1). As part of this environmental document, Jones & Stokes delineated potential waters of the United States, including wetlands. A summary of this delineation will be used to support the CEQA/NEPA document and state and federal permits for the project.

This delineation report consists of the following five sections:

- Section I, "Introduction," briefly describes the proposed road improvement project and the site conditions observed in the study area.
- Section II, "Delineation Terminology and Methods," discusses terms used in this report and describes field delineation methods.
- Section III, "Results," presents the results of the wetland delineation.
- Section IV, "List of Preparers," lists the individuals involved in preparing the wetland delineation.
- Section V, "References Cited," lists printed references and personal communications cited in the text.
- Attachment A contains representative data forms completed for each wetland encountered in the field.
- Attachment B contains the wetland delineation maps.
- Attachment C contains a list of waters of the United States (including wetlands) documented in the study area.

Project Location

The Auburn-Folsom Road project area is located in the community of Granite Bay and runs along the western side of Folsom Lake State Recreation Area (SRA) (Figure 2). The project area is located in the Folsom 7.5-minute U.S. Geological Survey (USGS) quadrangle, in 10 North Township, 7 East Range, and 11 and 14 Sections.



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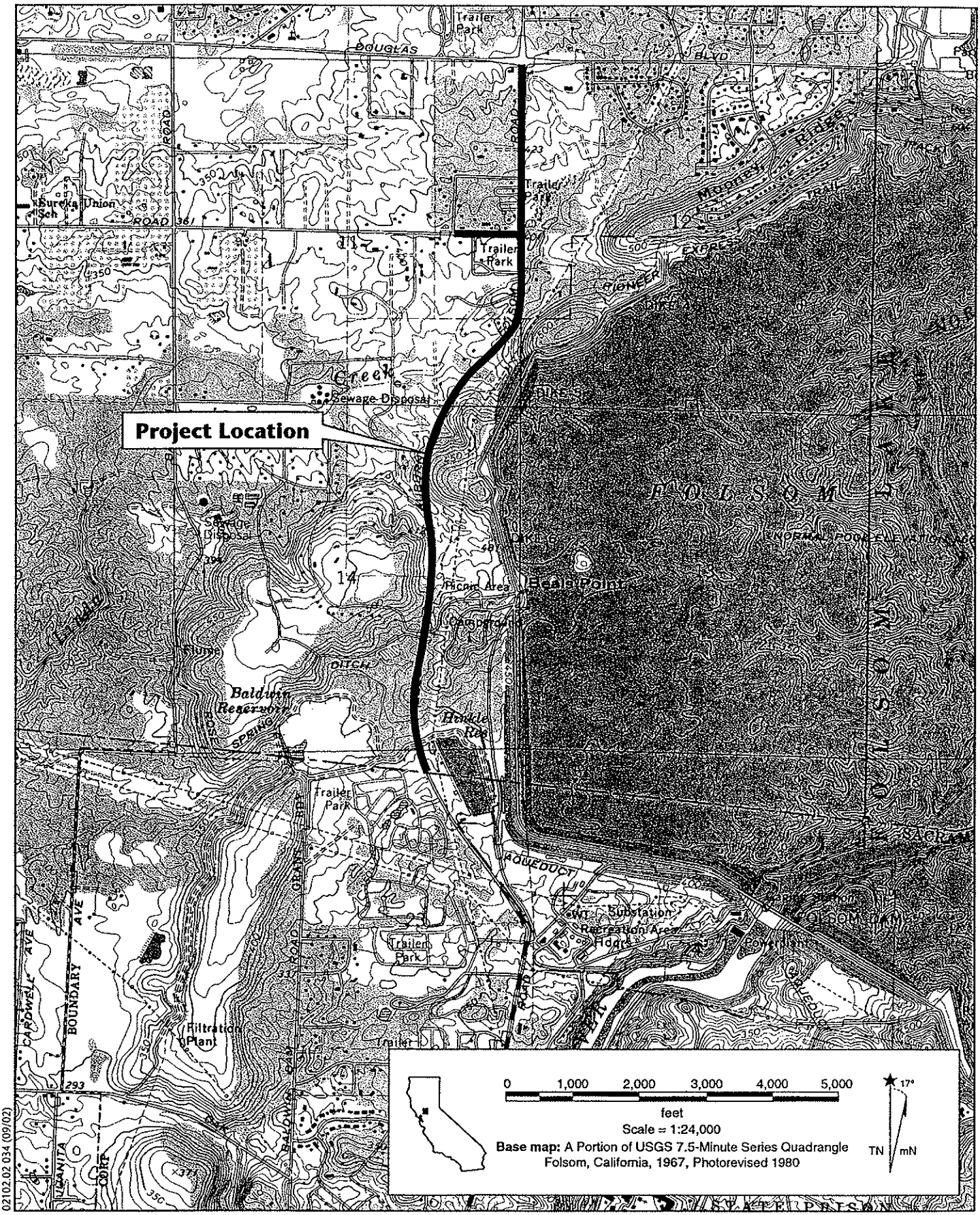
Jones & Stokes

Figure 1
Regional Location:
Auburn-Folsom Widening Project



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Jones & Stokes

Figure 2
Project Location

Project Overview

The Auburn-Folsom Road project would involve:

- widening the roadway from two to four lanes,
- providing continuous Class II bicycle lanes/shoulders on each side of the road,
- providing a median that may include two-way left-turn lanes and/or raised or painted medians,
- installing a traffic signal at the Auburn-Folsom Road/Fuller Drive intersection,
- constructing/improving a multi-use trail/equestrian trail on the west side of Auburn-Folsom Road that will extend from the Baldwin Reservoir access road near the County line north to the Auburn-Folsom Road/Oak Hill Drive intersection, and
- implementing improvements to Eureka Road west of the Auburn-Folsom/Eureka Road intersection.

The County is considering four project alternative designs. All four of these alternatives were included in the designated study area for this project.

Description of General Site Conditions

This section presents an overview of the general site conditions documented in the study area. The elevation in the study area ranges from approximately 61 to 122 meters (200 to 400 feet) above mean sea level. Topography in the general vicinity of the project corridor is nearly level to moderately steep, with slopes ranging from 2% to 30% (Rogers 1980). The following general site conditions are described in this section.

- Land use
- Climate
- General hydrogeographic setting and hydrologic units
- Vegetation
- Soils

Land Use

The project corridor is located in the Granite Bay community, east of the City of Roseville and west of Folsom Lake SRA. This area has been undergoing considerable suburbanization, moving from a rural character to mixed uses of housing developments and retail centers.

Although there are some commercial, residential, and industrial uses at the north and south ends of the project corridor, the east side of the road is bordered by the Folsom SRA; here, an earth dike helps contain Folsom Lake (also known as a "wing dam" because it connects to the main concrete dam of Folsom Lake).

On the western side of Auburn-Folsom Road is a variety of private residential and commercial uses, with a mosaic of native and ornamental vegetation.

Climate

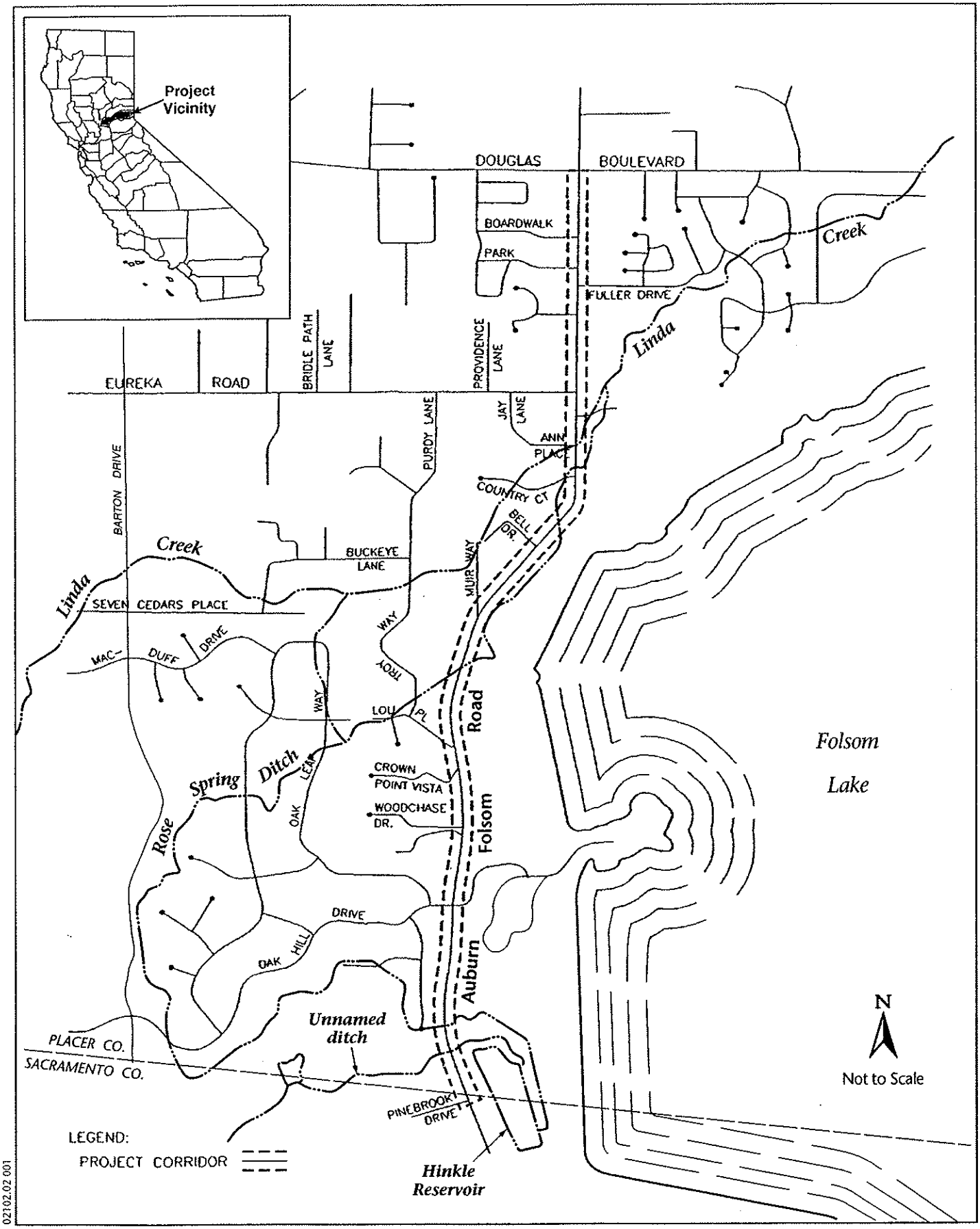
The north Pacific high-pressure system dominates the region's climate and produces northerly winds along the west coast of the United States during most of the year. The average annual precipitation in the project area is 58 centimeters (23 inches) (California Data Exchange Center 2002), but precipitation in summer is infrequent; most precipitation is associated with rainstorms that occur between October and April. Rainstorms originate over the Pacific Ocean and carry considerable moisture. In the project area, such storms usually last 1 to 4 days. Cloudbursts occurring within rainstorms often cause flooding in watersheds of a few hundred square miles or less and below 1,220 meters (4,000 feet) above mean sea level (Placer County Flood Control and Water Conservation District 1994). A cloudburst is a severe thunderstorm with very intense, short-lived rainfall, often accompanied by hail, strong winds, or tornadoes. Cloudbursts are most likely to occur inland at lower elevations, in winter or early spring, and in association with subtropical moisture sources. In western Placer County, cloudbursts usually cover an area smaller than 777 square kilometers (300 square miles) and last less than 2 hours (Placer County Flood Control and Water Conservation District 1994).

The soil temperature regime is thermic, and the soil moisture regime is xeric or aquic. Based on a frost-free season of 336 days (Rogers 1980), 5% of the growing season in the study area equates to 17 days. *Growing season* is defined in this report under Section II, "Delineation Terminology and Methods."

General Hydrogeographic Setting and Hydrologic Units

The study area is located in the northern Sierra Nevada Foothills hydrogeographic region and encompasses nine hydrologic units (U.S. Environmental Protection Agency 2002). The project area is located in the approximately 202-square-kilometer (78-square-mile) Dry Creek watershed.

Linda Creek is a major tributary of Dry Creek and intersects the project corridor approximately 61 meters (200 feet) south of the Auburn-Folsom Road/Eureka Road intersection. The road and surrounding study area also cross the Baldwin Reservoir canal, historic Rose Spring Ditch, and unnamed drainages that are associated with Linda Creek, Hinkle Reservoir, and Baldwin Reservoir (Figures 3 and 4).



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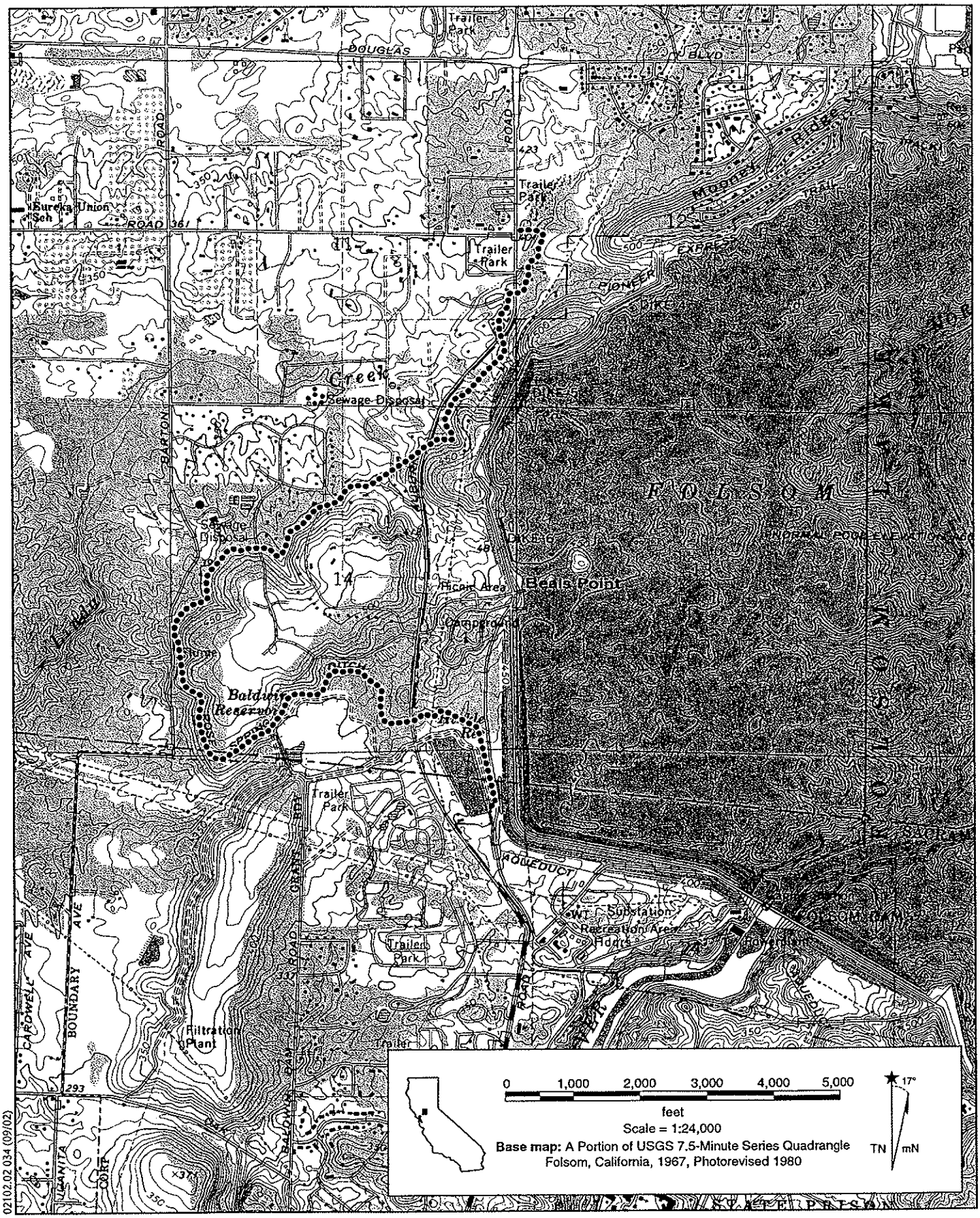
Jones & Stokes

Figure 3
Water Resources in the Project Area



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Jones & Stokes

Figure 4
Historic Alignment of the Rose Spring Ditch

Vegetation

The vegetation in the study area primarily consists of grassland, blue oak–grey pine woodland, and landscaping. A few riparian areas and wetlands can be found in scattered locations in the study area. Valley foothill riparian forest is located along Linda Creek and a tributary drainage. Freshwater marsh and seasonal wetlands occur in and adjacent to drainage systems in the study area.

Soils

The soil survey of western Placer County (Rogers 1980) indicates that there are eight soil map units located in and adjacent to the study area (Figure 5). Three of these soil units contain hydric inclusions or components and are listed as hydric soils by the U.S. Soil Conservation Service (1992). These soil units are Andregg coarse sandy loam (106), with an unnamed hydric soil inclusion; Andregg-Shanandoah Complex (113), with a Shanandoah component and an unnamed hydric soil inclusion; and Xerothents placer area (197), with an unnamed hydric inclusion. These soil units generally are located in drainages in the study area.

Most of the study area is underlain by soil map units 106, 107, 110, 111, and 113 (Figure 5). All these map units comprise primarily the Andregg coarse sandy loam soil, which is a well-drained, moderately deep, and relatively coarse-textured soil that formed from weathered granitic bedrock. Largely because of its coarse texture, the Andregg coarse sandy loam soil has moderately rapid permeability and a low shrink-swell potential. In map unit 113, the Andregg soil is interspersed with soils of the Shenandoah series, which are somewhat poorly drained soils that have a clayey, very slowly permeable subsurface horizon.

A small portion of the southern half of the study area is underlain by soil map unit 152, which primarily comprises the Inks cobbly loam soil. The Inks cobbly loam soil is a well-drained, moderately deep to deep soil that formed from the andesitic conglomerate of the Mehrten Formation. It typically consists of a cobbly loam surface layer underlain by very cobbly clay loam and hard conglomerate bedrock at a depth of approximately 130 centimeters (51 inches). It is moderately permeable and has a low shrink-swell potential.

Most of the northern quarter of the project corridor is underlain by soil map unit 196, which primarily comprises well-drained cut and fill materials that often contain rocks and fragments of concrete, asphalt, and other debris.

The portions of the project alignment next to Linda Creek are underlain by soil map unit 197, which primarily comprises placer mine tailings. The tailings consist of poorly sorted or stratified stones, cobbles, and gravels that contain variable amounts of sand and silt. The physical properties of the tailings are highly variable and are not well characterized by Rogers (1980).

Section II. Delineation Terminology and Methods

This section provides definitions of the terms used in this report and detailed descriptions of methods used to delineate wetlands and other waters of the United States in the study area.

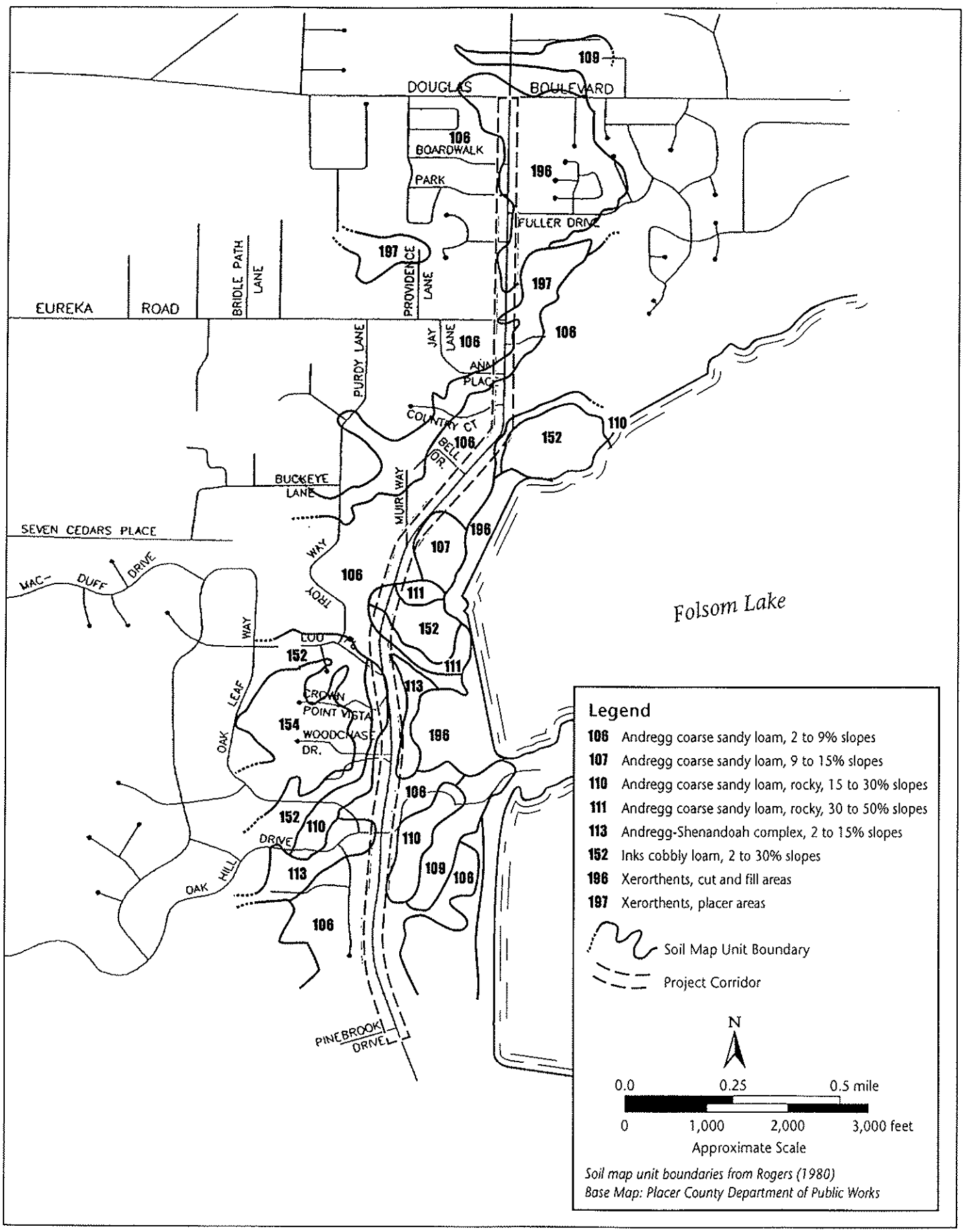
Terminology

Certain terms used throughout this report have meanings that relate to Corps's jurisdiction and the wetland delineation process, as specified by the *Wetlands Delineation Manual* (Environmental Laboratory 1987). These terms are described below.

- *Waters of the United States* is the term used by the Corps for areas that qualify for federal regulation under Section 404 of the Clean Water Act CWA. Waters of the United States are defined as:
  - all waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;
  - all interstate waters, including interstate wetlands;
  - all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters;
  - all impoundments of waters otherwise defined as waters of the United States under the definition;
  - tributaries of waters identified in the previous four bullet items;
  - the territorial seas; and
  - wetlands adjacent to waters (other than waters that are themselves wetlands) identified in the first six bullet items of this section (Title 33, Code of Federal Regulations [CFR], Section 328.3).

  Waters of the United States are areas under federal jurisdiction pursuant to Section 404 of the Clean Water Act. For the purpose of this delineation report, waters of the United States are categorized as either *wetlands* or *other waters of the United States*.

- For regulatory purposes, *wetlands* are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3[b], 40 CFR 230.3). To qualify as a wetland, an area must show positive indicators



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Jones & Stokes

Figure 5
Soil Map of the Project Corridor and Vicinity

of three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology.

- *Other waters of the United States* refers to unvegetated waterways and water bodies, such as lakes, creeks, and rivers, with an apparent ordinary high-water mark (OHWM) or bed and bank. Other waters of the United States typically lack one or more of the mandatory technical criteria for qualification as a jurisdictional wetland.
- The term *ordinary high-water mark (OHWM)* is defined (in 33 CFR 328.3[e]) as

  > that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.

- The term *adjacent* means bordering, contiguous with, or neighboring. *Adjacent wetlands* are jurisdictional under the Clean Water Act. Wetlands separated from other waters of the United States by artificial dikes or barriers, natural river berms, beach dunes, and the like are adjacent wetlands (33 CFR 328.3[3]).
- *Isolated wetlands* are those that are not bordering, contiguous with, or neighboring waters of the United States, and usually are not considered jurisdictional. Wetlands normally are considered isolated if they are hydrologically isolated (currently and historically) from both fluvial and tidal surface hydrology, are not part of a larger wetland complex, and are located in a closed basin that is not a headwater connected to a larger watershed.

Terminology Defined in the 1987 *Wetland Delineation Manual*

- *Dominant and subdominant plant species*—"dominant" is a descriptor of vegetation and is related to the standing crop of a species in an area. Dominance usually is measured by height, areal cover, or basal area (for trees). A dominant plant species exerts a controlling influence on, or defines, the character of a community. Measurements of percent areal cover often are used to determine species dominance (Environmental Laboratory 1987).
- *Frequently flooded* is a flooding classification meaning that flooding is often likely to occur under normal weather conditions (i.e., there is more than a 50% chance of flooding in any year, or a likelihood of flooding more than 50 times in 100 years) (Environmental Laboratory 1987).
- The *growing season* is the portion of the year when soil temperatures at 50 centimeters (19.7 inches) below the soil surface are above biological zero (5°C or 41°F). Inundation or saturation for at least 5% of the growing season typically creates anaerobic conditions in the soil, and these conditions affect the types of plants that can grow and the types of soils that develop (Wetland

Training Institute 1995). This period is determined by estimating the number of frost-free days in a year (Environmental Laboratory 1987).

- A *hydric soil* is a soil that has formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register [FR], July 13, 1994; Environmental Laboratory 1987; U.S. Soil Conservation Service 1991).
- *Long duration* describes a period of inundation for a single inundation event, and may range from 7 days to 1 month (Environmental Laboratory 1987). Inundation or soil saturation for a week or more during the growing season typically creates anaerobic conditions in the soil, and these conditions affect the types of plants that can grow and the types of soils that develop (Wetland Training Institute 1995).
- An area has *wetland hydrology* if it is inundated or saturated to the surface continuously for at least 5% of the growing season in most years (50% probability of recurrence) (Environmental Laboratory 1987).
- *Redoximorphic features* are soil properties formed by oxidation, translocation, or reduction of iron or manganese oxides. Redoximorphic features indicate past or present prolonged soil saturation and were formerly known as mottles, concretions, soft masses, and low-chroma colors (Vepraskas 1992), and are characteristic of hydric soils.
- The *indicator status* for plants is used to determine whether a particular plant species is known to grow in wetlands. Indicator status categories were originally developed and defined by the U.S. Fish and Wildlife Service's (USFWS's) *National Wetlands Inventory* and subsequently modified by the *National Plant List Panel* (Reed 1988, Environmental Laboratory 1987).

  Plant indicator status categories are defined as follows and are used on the data forms in Attachment A:

  - obligate (OBL)—almost always occurs in wetlands (99% probability);
  - facultative wetland (FACW)—usually occurs in wetlands (67–99% probability);
  - facultative (FAC)—equally likely to occur in wetlands or nonwetlands (34–66% probability of occurrence in wetlands);
  - facultative upland (FACU)—usually occurs in nonwetlands, but occasionally occurs in wetlands (1–33% probability);
  - obligate upland (UPL)—almost never occurs in wetlands (1% probability); and
  - no indicator (NI)—no indicator status assigned because information is lacking.

Methods

Review of Existing Information

Jones & Stokes ecologists reviewed the following information before conducting the field delineation:

- Folsom USGS 7.5-minute topographic map;
- aerial photographs of the study area (approximate scale: 2.5 centimeters = 63 meters [1 inch = 208 feet]);
- topographic map of study area (approximate scale: 2.5 centimeters = 25 meters [1 inch = 82 feet]);
- soil types and soil temperature information from the Placer County Soil Survey, Western Part (Rogers 1980); and
- climate data from the California Data Exchange Center (2002).

Field Delineation Methods

Jones & Stokes wetland ecologists conducted field visits on March 15; April 3; May 2, 3, and 31; and August 9, 2002, to delineate jurisdictional wetlands and other waters of the United States in the study area. During the March and April field surveys, the ecologists walked the study area and mapped potential waters of the United States (wetlands and drainages with well-defined beds and banks). During the subsequent field visits in May and August, wetlands were delineated using the routine onsite determination method outlined in the Corps's *Wetlands Delineation Manual* (Environmental Laboratory 1987). The jurisdictional boundaries for other waters of the United States were determined using the criteria in the Federal Register (33 CFR 328.3[e]). The 1987 manual and the *Sacramento District Corps' Minimum Standards for Acceptance of Preliminary Wetlands Delineations* (U.S. Army Corps of Engineers 2001) were used to map and document waters of the United States in the field. All data obtained during the field delineation were recorded on standard data forms (Attachment A).

Specific methods used to delineate waters of the United States are described below.

Field Delineation Methods for Wetlands

Determination of Hydrophytic Vegetation

The presence of hydrophytic vegetation was determined using the methods outlined in the *Wetlands Delineation Manual* (Environmental Laboratory 1987). To determine whether a sample point was dominated by hydrophytic vegetation, all dominant plant species present at each sample site were recorded, and the wetland indicator status (Reed 1988) was designated for the dominant species.

Areas are considered to have positive indicators of hydrophytic vegetation if more than 50% of the dominant plant species (defined as plants that compose 20% or more of the cover value observed at a site) have an indicator status of OBL, FACW, or FAC (Reed 1988).

Determination of Wetland Hydrology

According to the *Wetlands Delineation Manual*, "an area has wetland hydrology if it is inundated or saturated to the surface continuously for at least 5% of the growing season in most years (50% probability of recurrence)" (Environmental Laboratory 1987). For this wetland delineation, wetland hydrology was determined to be present if standing water or saturation was observed or could be inferred based on corroborative data.

Wetland hydrology was determined to be present if a sample point supported one or more of the following characteristics:

- downslope position of the site in relation to an upslope water source, as well as location in a distinct wetland drainage pattern, and concave topography;
- inundation or saturation for a long duration observed during repeated field surveys; and/or
- residual primary or secondary wetland hydrology indicators (e.g., water marks, drift lines, sediment deposits, drainage patterns in wetlands, oxidized root channels, water-stained leaves, scour marks, and algal matting).

Determination of Hydric Soils

Soil pits at the sample sites were excavated to a depth of at least 30.5 centimeters (12 inches). Each apparent soil horizon was evaluated with respect to its thickness, redoximorphic features, and other diagnostic features indicative of hydric soils (Vepraskas 1992). The primary objective of the soil evaluation was to determine whether positive hydric soil indicators exist at the sample site.

Hydric soil indicators were evaluated based on the *Wetlands Delineation Manual*, updated with *Changes in the Hydric Soils of the United States* (FR, July 13, 1994, and February 24, 1995). The Placer County soil survey also was used to evaluate hydric soils (Rogers 1980). Unpublished data from the U.S. Soil Conservation Service (1991) and Vepraskas (1992) were also used to identify aquic conditions in hydric soil. These documents provide more detailed and comprehensive descriptions of hydric soil features than the *Wetlands Delineation Manual*, and they reflect current research on the identification of aquic conditions and hydric soils. Soils are considered hydric if they pond or flood frequently for a long duration during the growing season (FR, February 24, 1995). Field indicators, described under "Terminology," were used in determining whether soils met these criteria.

Field Delineation Methods for Waters of the United States

For the purpose of this delineation, the designation *waters of the United States* applies to streams that contain jurisdictional wetlands within their OWHM

(Features D/W-1, D/R/W-5, and D/R/W in Attachment B). Linda Creek, the Baldwin Reservoir canal, and an unnamed tributary drainage to Linda Creek appear to be perennial waterways that contain open water and wetland vegetation within the OHWM. These three waterways support a combination of jurisdictional wetlands and other waters of the United States and were delineated and mapped as one ecological unit based on the OHWM.

The one remaining drainage is ephemeral and lacks hydrophytic vegetation and hydric soils but contains well-defined bed and banks (Feature D-6 in Attachment B). This feature was delineated as an *other water of the United States* because it lacks two of the wetland characteristics. The OHWM was used to identify the jurisdictional boundary of this ephemeral drainage.

Jurisdictional Boundary Determinations, Mapping, and Acreage Calculations

The boundary for wetlands was determined based on the presence or inference of positive indicators of all three mandatory characteristics (hydrophytic vegetation, hydric soils, and wetland hydrology). In most cases, the wetland-upland boundary initially was determined based on observed hydrophytic vegetation and wetland hydrologic conditions. Soils then were evaluated in the wetland and an adjacent upland site to determine whether the wetland site supported hydric soil indicators and to establish the boundary between the wetland and the upland.

Boundaries of waters of the United States were mapped using indicators of an OHWM. OHWMs for drainages in the study area typically correspond to the scour line. This line defines the bed and bank portion of the channel that floods under normal conditions.

During the field delineation, each potentially jurisdictional feature was identified with a unique alpha-numeric identifier (e.g., W-1 or Wetland 1), mapped on a topographic map of the study area (scale: 2.5 centimeters = 25 meters [1 inch = 82 feet]), and cross-referenced to the corresponding data form for each sample point. Global positioning system (GPS) points were obtained for each sample point and for the boundary of each water of the United States using Trimble Pro-XR GPS receivers in the field. Acreages were calculated using a combination of geographic information system (GIS) data and planimetering of the boundaries, as mapped on the topographic base maps (scale: 2.5 centimeters = 25 meters [1 inch = 82 feet]).

Section III. Results

This section presents the results of the wetland delineation of the study area. Wetland delineation data forms for representative wetland and upland types evaluated in the field are provided in Attachment A. The location of potential waters of the United States documented in the study area are shown on the

Project Study Limit maps in Attachment B. Information on each waters of the United States crossed by the project alignment is provided in Attachment C.

In summary, a total of 0.112 hectare (0.277 acre) of waters of the United States (including 0.031 hectare (0.077 acre) of potential jurisdictional wetlands and 0.08 hectare (0.20 acre) of waters of the United States) was delineated in the study area (see Table 1 in the Executive Summary). No "non-navigable, isolated [and] intrastate" wetlands were delineated within the study area boundaries. All wetlands and other waters of the United States were determined to be adjacent and therefore subject to regulation by the Corps under Section 404 of the Clean Water Act.

Adjacent Wetlands

Freshwater Marsh

Two freshwater marshes, totaling approximately 0.02 hectare (0.05 acre) (Features W-4 and W-9) were delineated in the study area. In the study area, both of these wetlands are outside, but adjacent to, streams that qualify as waters of the United States.

Freshwater marsh wetland generally is dominated by perennial emergent wetland species (species that grow in wetland conditions more than 99% of the time) that often form a closed canopy and grow in areas that are permanently or seasonally flooded by slow-moving or stagnant fresh water. These wetlands are associated with drainages and broad, flat basins with shallow or seasonally perched groundwater tables.

Freshwater marsh in the study area qualifies as a jurisdictional wetland because it is characterized by a prevalence of hydrophytic vegetation, hydric soils, and wetland hydrology. The freshwater marshes also are considered "adjacent wetlands" because they are hydrologically connected by surface flows and groundwater to adjacent streams (Linda Creek and a tributary stream). Representative data forms W-4-1 and W-9-1 contain information on freshwater marsh wetlands in Attachment A.

Vegetation

Freshwater marsh vegetation is dominated by obligate and facultative wetland species. Dominant vegetation observed in freshwater marshes in the study area includes hardstem bulrush (*Scirpus* sp.) (OBL), broad-leaved cattail (*Typha latifolia*)(OBL), water plantain (*Alisma plantago-aquatica)* (OBL), and rush (*Juncus xiphioides)* (OBL). Freshwater marshes often support scattered riparian plants such as willows (*Salix* spp.) (FACW), Himalayan blackberry (*Rubus discolor*) (FACW+), and other less common species.

Hydrology

In the study area, freshwater marshes are associated with perennial or near-perennial surface water sources, such as overland flow from streams and other surface water sources, ponded seasonal precipitation, and shallow groundwater tables. During several field visits, Jones & Stokes observed ponding and saturated soils during the growing season, indicating that the wetlands would be inundated or saturated for a long duration (at least 17 days).

Soils

The soil in the freshwater marsh wetlands is mapped as Andregg-Shenandoah Complex (113) and Xerothents (197) (Rogers 1980). Hydric soils were determined to be present based on a combination of an aquic moisture regime, high organic matter in the A horizon, saturation in the upper 30.5 centimeters (12 inches) of the soil profile, a low chroma matrix and mottles below 17.8 centimeters (7 inches) in depth, gleyed soils at 33 centimeters (13 inches), and a sulfidic odor.

Jurisdictional Status and Boundary Determination

Freshwater marshes in the study area were delineated as jurisdictional wetlands because they support a prevalence of hydrophytic vegetation, show positive hydric soil indicators, display evidence of wetland hydrology, and are adjacent to or within waters of the United States.

The boundary for freshwater marshes was delineated at the point where the hydrophytic vegetation transitioned to upland annual grassland vegetation and where wetland hydrology (ponding or saturated soils) was not longer evident.

Seasonal Wetland

One seasonal wetland (W-8), totaling approximately 0.011 hectare (0.027 acre), was delineated in the study area. Two additional seasonal wetlands (W-2 and W-3) are located adjacent to the study area, but not within the limits of the study area. W-3 was determined to be adjacent based on its proximity to the Linda Creek tributary stream. W-2 is isolated because it does not have any apparent inlet or outlet connections to waters of the United States. Both of these wetlands are shown on the maps in Attachment B.

The seasonal wetland appears to have developed in a depression with a water table that is perched near the surface by bedrock or an impermeable soil horizon. The seasonal wetland in the study area is inundated during the winter rainy season (generally between December and March) and is dry during the intervening months. The seasonal wetland has seasonal wetland hydrology similar to that of vernal pools, but lacks the typical vernal pool flora.

The seasonal wetland W-8 qualifies as a jurisdictional wetland, based on the presence of positive indicators of all three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. The wetland also is considered "adjacent" because it is hydrologically connected by surface flows and groundwater to Linda Creek, located east and south of the wetland. Representative data forms W-8-1 and W-8-3 contain information on the seasonal wetland delineated in the study area (Attachment A). Upland data is provided in data form U-8-2 in Attachment A.

Vegetation

The seasonal wetland in the study area is dominated by relatively little diversity of hydrophytic species. Dominant species are *Rumex crispus* (FACW-), *Eleocharis macrostachya* (OBL), *Epilobium* sp. (NL), *Paspalum dilatatum* (FAC), and *Juncus xiphioides* (OBL). *Rubus discolor* and *Salix goodingii* are also present along the western end of this seasonal wetland.

Hydrology

In the study area, seasonal wetlands receive water from seasonal precipitation, overland flow, and shallow groundwater tables. During several field visits, Jones & Stokes ecologists observed drainage patterns, drift lines, and ponding and saturated soils during the growing season. These primary and secondary indicators were used to conclude that the seasonal wetland would be inundated or would support saturated soils for a long duration (at least 17 days) during the growing season.

Soils

Seasonal wetland W-8 occurs in an area mapped as Andregg coarse sandy loam (106) (Rogers 1980). Hydric soils were determined to be present based on the presence of low matrix soil colors (10YR 3/2, 7.5YR 3/2, 5Y 4/1) with high chroma mottles (5YR 4/6) and an aquic moisture regime.

Jurisdictional Status and Boundary Determination

Seasonal wetlands in the study area were delineated as jurisdictional wetlands because they support a prevalence of hydrophytic vegetation, show positive hydric soil indicators, display evidence of wetland hydrology, and are adjacent to or within waters of the United States.

The boundary for seasonal wetlands was delineated at the point where the hydrophytic vegetation transitioned to upland annual grassland vegetation and where wetland hydrology (saturated soils) was not longer evident.

Waters of the United States

The study area contains four streams, totaling 0.08 hectare (0.20 acre). These streams are characterized by well-defined beds and banks and apparent OHWMs (see figures in Attachment B). Three of the streams are natural and the other stream (a canal) appears to be artificial. The natural streams are Linda Creek (D/R/W-7) and two tributary streams (D/R/W-5 and D-6). Two of these streams are perennial and contain valley foothill riparian forest along their banks, with some inclusions of freshwater marsh and seasonal wetlands within their OHWMs. The third natural stream is ephemeral and contains annual grassland species within its OHWM. The dimensions of OHWMs for these streams are listed in Attachment C.

The artificial stream is a perennial drainage canal on the south end of the study area that feeds into Baldwin Reservoir. The Baldwin Reservoir canal contains freshwater marsh and seasonal wetland communities (described above) within its OHWM. The observed OHWM for this canal encompasses a 5.2-meter-wide (17-foot-wide) area.

The following features were observed in the study area: bank shelving and scour, destruction of terrestrial vegetation, debris deposits, and sediment deposits on the bridge abutments. These features were used to identify the OHWM of the drainages where there were no adjacent wetlands.

Upland Areas

The study area contains the following four upland habitats: annual grassland, blue oak–grey pine woodland, valley foothill riparian forest, and landscaped/ruderal areas (includes irrigated pastures and orchards). Valley foothill riparian forest is less common than the other four upland habitats and is located primarily along the upper banks and floodplain (outside the OHWM) of Linda Creek and a nearby tributary drainage. Data forms U-2-2, U-3-2, U-8-2, and U-11 in Attachment A contain data on upland habitats in the study area.

Section IV. List of Preparers

The following people were involved in analyzing the field data and preparing this report:

- **Kate Garcia.** Botanist/wetlands ecologist
- **Sam Garcia.** Wetlands ecologist/regulatory specialist
- **Susan Bushnell.** Senior plant ecologist
- **Nate Jennings.** GIS/AutoCad specialist

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Attachment A

Representative Data Forms

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Auburn-Folsom Road Lane Widening Project	State:	California
Applicant/Owner:	Placer County	County:	Placer (Granite Bay)
Investigator(s):	Kate Carpenter, Sam Garcia	S/T/R	Folsom Quad (S11 & 14/T10N/R7E)
Date:	06/04/02		

Do normal circumstances exist on the site?	☑ YES	☐ NO	Community ID:	Blue Oak-Grey Pine Woodland
Is the site significantly disturbed (atypical situation)?	☐ YES	☑ NO	Transect ID:	W2
Is the area a potential problem area? (If needed, explain below)	☐ YES	☑ NO	Plot ID:	U-2-2 Upland

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Pinus sabiniana	Tree	10	NI	*Epilobium sp.*	Herb	<5%	
Quercus agrifolia	Tree	30	NI	*Bromus sp.*	Herb	<5%	
Rubus discolor	vine	70	FACW*	*Briza minor*	Herb	<5%	FACW-
Epilobium brachycarpum	herb	65	UPL				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 25% Total vegetation cover: 180 %

- ☐ Morphological Adaptations
- ☐ Physiological/Reproductive Adaptations
- ☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
- ☐ Personal Knowledge of Regional Plant Communities
- ☐ Technical Literature
- ☐ Other (explain below)

Hydrophytic Vegetation Present? ☐ YES ☑ NO

Remarks:

HYDROLOGY

Is it the growing season? ☑ YES ☐ NO

Based On: ☐ Soil Temp (record) ☐ Other (explain)

Typical length: _____ Days 5% = _____

Recorded Data (describe below):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other
- ☐ None Available

Field Observations:
- Depth of Surface Water: none inches
- Depth to Standing Water in Pit: none to 16 inches
- Depth to Saturated Soil: none to 16 inches

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Rhizospheres in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (explain below)

Wetland Hydrology Present? ☐ YES ☑ NO

Remarks:
No standing water, or saturated soils.

SOILS

Plot ID:

Map Unit Name (series and phase): 113 Andregg-Shenandoah Comlex Drainage Class: Well drained

Taxonomy (subgroup): Typic Haploxeroll Field observations confirm mapped type? ☑ YES ☐ NO

Is data point located within a hydric inclusion? ☐ YES ☐ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
A1	1-10	sl		7.5YR 3/2	c,1,p	Fe-x, mat	7.5YR 5/8	
A2	10-16	sl		7.5YR 4/3	f,1,f	Fe-x, mat	7.5YR 5/6	

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions (α,α' - dipyridyl test)
- ☐ Gleyed or Low-Chroma (≤1) matrix
- ☑ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☐ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☐ YES ☑ NO

Remarks:

Soils are marginal at best. This is a sandy soil and typical hydric indicatiors for sandy soils are not present. Although a low croma in the matrix with redox features exists, the soil criteria is not strong enough to decide this point.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☐ YES ☑ NO

Wetland hydrology present? ☐ YES ☑ NO

Hydric soils present? ☐ YES ☑ NO Is the sampling point within a wetland? ☐ YES ☑ NO

Remarks:

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c - clay

Rock Fragments

gr - gravelly
vgr - very gravelly
xgr - extremely gravelly
cb - cobbly
vcb - very cobbly
xcb - extremely cobbly
st - stony
vst - very stony
xst - extremely stony

Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

1 - fine (<2mm)
2 - medium 2–5mm)
3 - coarse (5–20mm)
4 - very coarse (20–76mm)
5 - extremely coarse (>76mm)

Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Auburn-Folsom Road Lane Widening Project	State:	California
Applicant/Owner:	Placer County	County:	Placer (Granite Bay)
Investigator(s):	Kate Carpenter, Sam Garcia	S/T/R	Folsom Quad (S11 & 14/T10N/R7E)
Date:	06/04/02		

Do normal circumstances exist on the site?	☑ YES	☐ NO	Community ID:	Annual Grassland
Is the site significantly disturbed (atypical situation)?	☐ YES	☑ NO	Transect ID:	W-3
Is the area a potential problem area? (If needed, explain below)	☐ YES	☑ NO	Plot ID:	U-3-2 Upland

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Trifolium hirtum	H	40	UPL	*Dichelostemma capitatum*	H	<5%	
Bromus hordeaceus	H	20	UPL	*Centaurea solstitialis*	H	<5%	
Bromus diandrus	H	40	UPL	*Brassica nigra*	H	<5%	

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 0% Total vegetation cover 180 %

- ☐ Morphological Adaptations
- ☐ Physiological/Reproductive Adaptations
- ☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
- ☐ Personal Knowledge of Regional Plant Communities
- ☐ Technical Literature
- ☐ Other (explain below)

Hydrophytic Vegetation Present? ☐ YES ☑ NO

Remarks:
Site is dominated by upland vegetation.

HYDROLOGY

Is it the growing season? ☑ YES ☐ NO

Based On: ☐ Soil Temp (record) ☐ Other (explain)

Typical length: _____ Days 5% = _____

Recorded Data (describe below):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other
- ☐ None Available

Field Observations:
- Depth of Surface Water: none inches
- Depth to Standing Water in Pit: none to 12 inches
- Depth to Saturated Soil: none to 12 inches

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Rhizospheres in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (explain below)

Wetland Hydrology Present? ☐ YES ☑ NO

Remarks:
On topographic high. No primary or secondary indicators. On well drained sandy soils.

SOILS

Plot ID:

Map Unit Name (series and phase): 113 Andregg-Shenandoah Comlex Drainage Class: Well drained

Taxonomy (subgroup): Typic Haploxeroll Field observations confirm mapped type? ☑ YES ☐ NO

Is data point located within a hydric inclusion? ☐ YES ☑ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
A	0-2	sl		7.5YR 4/3				
Bw	2-12	sl		7.5YR 3/4				

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions (α, α' - dipyridyl test)
- ☐ Gleyed or Low-Chroma (≤1) matrix
- ☐ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☐ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☐ YES ☑ NO

Remarks:

No hydric soil indicators. No low chromas, mottles or sulfidic odor.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☐ YES ☑ NO

Wetland hydrology present? ☐ YES ☑ NO

Hydric soils present? ☐ YES ☑ NO Is the sampling point within a wetland? ☐ YES ☑ NO

Remarks:

This point is located in a topographically high spot above the wetland.

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c - clay

Rock Fragments

gr - gravelly
vgr - very gravelly
xgr - extremely gravelly
cb - cobbly
vcb - very cobbly
xcb - extremely cobbly
st - stony
vst - very stony
xst - extremely stony

Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

1 - fine (<2mm)
2 - medium 2–5mm)
3 - coarse (5–20mm)
4 - very coarse (20–76mm)
5 - extremely coarse (>76mm)

Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Aubrun-Folsom Road Lane Widening Project	State:	California
Applicant/Owner:	Placer County	County:	Placer (Granite Bay)
Investigator(s):	Kate Carpenter	S/T/R	Folsom Quad (S11 & 14/T10N/R7E)
Date:	08/09/02		

Do normal circumstances exist on the site?	☑ YES	☐ NO	Community ID:	Irrigated Orchard
Is the site significantly disturbed (atypical situation)?	☑ YES	☐ NO	Transect ID:	
Is the area a potential problem area? (If needed, explain below)	☐ YES	☑ NO	Plot ID:	U-11

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Cynodon dactylon	Herb	50	FAC				
Paspalum dilatatum	Herb	20	FAC				
Holcus lanatus	Herb	15	FAC				
Setaria glauca	Herb	15	FAC				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 100 %

- ☐ Morphological Adaptations
- ☐ Physiological/Reproductive Adaptations
- ☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
- ☐ Personal Knowledge of Regional Plant Communities
- ☐ Technical Literature
- ☐ Other (explain below)

Hydrophytic Vegetation Present? ☑ YES ☐ NO

Remarks:
Data point is in a irrigated orchard, weedy grass species are growing under fruit trees.

HYDROLOGY

Is it the growing season? ☑ YES ☐ NO

Based On: ☐ Soil Temp (record) ☐ Other (explain)

Typical length: _____ Days 5% = _____

Recorded Data (describe below):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other
- ☐ None Available

Field Observations:
- Depth of Surface Water: none inches
- Depth to Standing Water in Pit: none to 12 inches
- Depth to Saturated Soil: none to 12 inches

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Rhizospheres in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (explain below)

Wetland Hydrology Present? ☐ YES ☑ NO

Remarks:
Data point is on a slight slope. Soils were well drained and moist but not saturated. Area is irrigated and it appears that without irrigation, FAC species would not be supported.

SOILS

Plot ID:

Map Unit Name (series and phase): 106 Andregg coarse sandy loam Drainage Class: moderately rapid

Taxonomy (subgroup): Haploxeroll Field observations confirm mapped type? ☑ YES ☐ NO

Is data point located within a hydric inclusion? ☐ YES ☑ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
A	0-12	cosl	gr	7.5YR 3/2				

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions (α,α' - dipyridyl test)
- ☐ Gleyed or Low-Chroma (≤1) matrix
- ☐ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☐ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☐ YES ☑ NO

Remarks:

Soils are well drained and appear to be managed for the orchard.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☑ YES ☐ NO

Wetland hydrology present? ☐ YES ☑ NO

Hydric soils present? ☐ YES ☑ NO Is the sampling point within a wetland? ☐ YES ☑ NO

Remarks:

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c - clay

Rock Fragments

gr - gravelly
vgr - very gravelly
xgr - extremely gravelly
cb - cobbly
vcb - very cobbly
xcb - extremely cobbly
st - stony
vst - very stony
xst - extremely stony

Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

1 - fine (<2mm)
2 - medium 2–5mm)
3 - coarse (5–20mm)
4 - very coarse (20–76mm)
5 - extremely coarse (>76mm)

Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Aubrun-Folsom Road Lane Widening Project	State:	California
Applicant/Owner:	Placer County	County:	Placer (Granite Bay)
Investigator(s):	Kate Carpenter, Sam Garcia	S/T/R	Folsom Quad (S11 & 14/T10N/R7E)
Date:	06/04/02		

Do normal circumstances exist on the site? ☑ YES ☐ NO
Is the site significantly disturbed (atypical situation)? ☐ YES ☑ NO
Is the area a potential problem area? ☐ YES ☑ NO
(If needed, explain below)

Community ID: Freshwater Marsh
Transect ID: W-4
Plot ID: W-4-1 Wetland

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Juncus xiphioides	Herb	10	OBL	*Rubus discolor*	Vine	<5%	FACW*
Typha latifolia	Herb	65	OBL	*Prunus sp.*	Tree	<5%	
Polygonum sp.	Herb	25	OBL				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 100 %

☐ Morphological Adaptations
☐ Physiological/Reproductive Adaptations
☑ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
☐ Personal Knowledge of Regional Plant Communities
☐ Technical Literature
☐ Other (explain below)

Hydrophytic Vegetation Present? ☑ YES ☐ NO

Remarks:
Dominated by obligates.

HYDROLOGY

Is it the growing season? ☑ YES ☐ NO
Based On: ☐ Soil Temp (record)
☑ Other (explain)
Typical length: 336 Days 5% = 17 days

Recorded Data (describe below):
☐ Stream, Lake, or Tide Gauge
☐ Aerial Photographs
☐ Other
☐ None Available

Field Observations:
Depth of Surface Water: none inches
Depth to Standing Water in Pit: 15 inches
Depth to Saturated Soil: 15 inches

Wetland Hydrology Indicators:
Primary Indicators:
☐ Inundated
☑ Saturated Upper 12 Inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☑ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
☐ Oxidized Rhizospheres in Upper 12 Inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☑ FAC-Neutral Test
☐ Other (explain below)

Wetland Hydrology Present? ☑ YES ☐ NO

Remarks:
This area is a back water from adjacent stream (D/R/W-5). In addition, it is a topographic low and drains the surrounding uplands. Groundwater may also be source of hydrology. Depth to standing water in pit was 15 inches and rising while observing pit.

SOILS

Plot ID:

Map Unit Name (series and phase): 113 Andregg-Shenandoah Complex Drainage Class: Poorly drained

Taxonomy (subgroup): Aquic Palexeralf Field observations confirm mapped type? ☑ YES ☐ NO

Is data point located within a hydric inclusion? ☐ YES ☑ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
A	0-7	sl		10YR 2/1				High Organic and Sand
Bw1	7-13	sl		7.5YR 3/1	f,1,d	Fe-x, mat	7.5YR 4/6	
Bw2	13-18	sl		G1 4/N	c,3,d	Fe-x, mat	7.5YR 3/3	

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☑ Sulfidic Odor
- ☑ Aquic Moisture Regime
- ☐ Reducing Conditions (α,α' - dipyridyl test)
- ☑ Gleyed or Low-Chroma (≤1) matrix
- ☑ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☑ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☑ YES ☐ NO

Remarks:

Strong sulfidic odor with low chromas, mottles, and gleyed soils. The upland data point, W-3-2, for this wetland is shared with W-3-1.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☑ YES ☐ NO

Wetland hydrology present? ☑ YES ☐ NO

Hydric soils present? ☑ YES ☐ NO Is the sampling point within a wetland? ☑ YES ☐ NO

Remarks:

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c - clay

Rock Fragments

gr - gravelly
vgr - very gravelly
xgr - extremely gravelly
cb - cobbly
vcb - very cobbly
xcb - extremely cobbly
st - stony
vst - very stony
xst - extremely stony

Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

1 - fine (<2mm)
2 - medium 2–5mm)
3 - coarse (5–20mm)
4 - very coarse (20–76mm)
5 - extremely coarse (>76mm)

Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Aubrun-Folsom Road Lane Widening Project	State:	California
Applicant/Owner:	Placer County	County:	Placer (Granite Bay)
Investigator(s):	Kate Carpenter, Sam Garcia	S/T/R	Folsom Quad (S11 & 14/T10N/R7E)
Date:	06/04/02		
Do normal circumstances exist on the site?	☑ YES ☐ NO	Community ID:	Seasonal Wetland
Is the site significantly disturbed (atypical situation)?	☐ YES ☑ NO	Transect ID:	W-8
Is the area a potential problem area? (If needed, explain below)	☐ YES ☑ NO	Plot ID:	W-8-1 Wetland

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Eleocharis macrostachya	Herb	80	OBL	*Epilobium sp.*	Herb	<5%	
Typha latifolia	Herb	5	OBL	*Paspalum dilatatum*	Grass	<5%	FAC
Rumex crispus	Herb	5	FACW-				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 95 %

- ☐ Morphological Adaptations
- ☐ Physiological/Reproductive Adaptations
- ☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
- ☐ Personal Knowledge of Regional Plant Communities
- ☐ Technical Literature
- ☐ Other (explain below)

Hydrophytic Vegetation Present? ☑ YES ☐ NO

Remarks:
Area has been disked/ mowed. Dominated by obligates that are still present.

HYDROLOGY

Is it the growing season? ☑ YES ☐ NO

Based On: ☐ Soil Temp (record) ☑ Other (explain) Soil Survey

Typical length: 336 Days 5% = 17 days

Recorded Data (describe below):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other
- ☐ None Available

Field Observations:
- Depth of Surface Water: none inches
- Depth to Standing Water in Pit: 19 inches
- Depth to Saturated Soil: 17 inches

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☑ Saturated Upper 12 Inches
- ☐ Water Marks
- ☑ Drift Lines
- ☐ Sediment Deposits
- ☑ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Rhizospheres in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☑ FAC-Neutral Test
- ☐ Other (explain below)

Wetland Hydrology Present? ☑ YES ☐ NO

Remarks:
Drainage pattern coming across site. Wetland is in topographic low and is saturated to surface.

SOILS

Plot ID:

Map Unit Name (series and phase): 106 Andregg coarse sandy loam Drainage Class: Somewhat poorly drained

Taxonomy (subgroup): Typic Haploxeroll Field observations confirm mapped type? ☐ YES ☑ NO

Is data point located within a hydric inclusion? ☐ YES ☑ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
A	0-5	sl		10YR 3/2				High Organic and Sand
Bw1	5-15	sl		5Y 4/1	c,2,p	Fe-x, mat	5YR 4/6	
Bw2	15-19	cl		5Y 4/1	m,3,p	Fe-x, mat	5YR 4/6	

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☑ Sulfidic Odor
- ☑ Aquic Moisture Regime
- ☐ Reducing Conditions (α,α' - dipyridyl test)
- ☑ Gleyed or Low-Chroma (≤1) matrix
- ☑ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☑ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☑ YES ☐ NO

Remarks:

Clay pan at 19 inches and is gleyed.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☑ YES ☐ NO

Wetland hydrology present? ☑ YES ☐ NO

Hydric soils present? ☑ YES ☐ NO Is the sampling point within a wetland? ☑ YES ☐ NO

Remarks:

Area has been disked. Despite this, wetland features are still prominent in this topographic low. The western edge of the wetland is shrub scrub dominated by *Rubus discolor* and *Salix goodinggii*.

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c - clay

Rock Fragments

gr - gravelly
vgr - very gravelly
xgr - extremely gravelly
cb - cobbly
vcb - very cobbly
xcb - extremely cobbly
st - stony
vst - very stony
xst - extremely stony

Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

1 - fine (<2mm)
2 - medium 2–5mm)
3 - coarse (5–20mm)
4 - very coarse (20–76mm)
5 - extremely coarse (>76mm)

Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Aubrun-Folsom Road Lane Widening Project	State:	California
Applicant/Owner:	Placer County	County:	Placer (Granite Bay)
Investigator(s):	Kate Carpenter, Sam Garcia	S/T/R	Folsom Quad (S11 & 14/T10N/R7E)
Date:	06/04/02		

Do normal circumstances exist on the site?	☑ YES	☐ NO	Community ID:	Annual Grassland
Is the site significantly disturbed (atypical situation)?	☐ YES	☑ NO	Transect ID:	W-8
Is the area a potential problem area? (If needed, explain below)	☐ YES	☑ NO	Plot ID:	U-8-2 Upland

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Lolium multiflorum	Grass	40	FAC*				
Vulpia bromoides	Grass	45	FACW				
Eschscholzia californica	Herb	5	UPL				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 33% Total vegetation cover 90 %

- ☐ Morphological Adaptations
- ☐ Physiological/Reproductive Adaptations
- ☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
- ☐ Personal Knowledge of Regional Plant Communities
- ☐ Technical Literature
- ☐ Other (explain below)

Hydrophytic Vegetation Present? ☐ YES ☑ NO

Remarks:
Annual grassland.

HYDROLOGY

Is it the growing season? ☑ YES ☐ NO

Based On: ☐ Soil Temp (record) ☐ Other (explain)

Typical length: _____ Days 5% = _____

Recorded Data (describe below):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other
- ☐ None Available

Field Observations:
- Depth of Surface Water: none inches
- Depth to Standing Water in Pit: none to 14 inches
- Depth to Saturated Soil: none to 14 inches

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Rhizospheres in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (explain below)

Wetland Hydrology Present? ☐ YES ☑ NO

Remarks:
Very dry area above wetland. No drainage patterns. Substrate appears to be well drained sandy soils.

SOILS

Plot ID:

Map Unit Name (series and phase): 106 Andregg coarse sandy loam Drainage Class: Moderately well drained

Taxonomy (subgroup): Typic Haploxeroll Field observations confirm mapped type? ☑ YES ☐ NO

Is data point located within a hydric inclusion? ☐ YES ☑ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
A	0-2	sl		7.5YR 3/3				
Bw	2-14	sl		7.5YR 4/4	f,1,f	Fe-x, mat	7.5YR 5/6	

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions (α,α' - dipyridyl test)
- ☐ Gleyed or Low-Chroma (≤1) matrix
- ☐ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☐ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☐ YES ☑ NO

Remarks:

No hydric soils or indicators present.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☐ YES ☑ NO

Wetland hydrology present? ☐ YES ☑ NO

Hydric soils present? ☐ YES ☑ NO Is the sampling point within a wetland? ☐ YES ☑ NO

Remarks:

This site is located in a topographic high above an adjacent wetland. It is an annual grassland.

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c - clay

Rock Fragments

gr - gravelly
vgr - very gravelly
xgr - extremely gravelly
cb - cobbly
vcb - very cobbly
xcb - extremely cobbly
st - stony
vst - very stony
xst - extremely stony

Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

1 - fine (<2mm)
2 - medium 2--5mm)
3 - coarse (5--20mm)
4 - very coarse (20--76mm)
5 - extremely coarse (>76mm)

Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Auburn-Folsom Road Lane Widening Project	State:	California
Applicant/Owner:	Placer County	County:	Placer (Granite Bay)
Investigator(s):	Kate Carpenter	S/T/R	Folsom Quad (S11 & 14/T10N/R7E)
Date:	08/09/02		

Do normal circumstances exist on the site?	☑ YES	☐ NO	Community ID:	Seasonal Wetland
Is the site significantly disturbed (atypical situation)?	☑ YES	☐ NO	Transect ID:	W-8-3
Is the area a potential problem area? (If needed, explain below)	☐ YES	☑ NO	Plot ID:	W-8-3 wetland

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Rubus discolor	Vine	70	FACW*				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 70 %

- ☐ Morphological Adaptations
- ☐ Physiological/Reproductive Adaptations
- ☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
- ☐ Personal Knowledge of Regional Plant Communities
- ☐ Technical Literature
- ☐ Other (explain below)

Hydrophytic Vegetation Present? ☑ YES ☐ NO

Remarks:
Data point was disturbed, appeared to be disked and the Rubus appeared to be young growth.

HYDROLOGY

Is it the growing season? ☑ YES ☐ NO

Based On:
- ☐ Soil Temp (record)
- ☐ Other (explain) See Data Form W-8-1

Typical length: _____ Days 5% = _____

Recorded Data (describe below):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other
- ☐ None Available

Field Observations:
- Depth of Surface Water: none inches
- Depth to Standing Water in Pit: none to 12 inches
- Depth to Saturated Soil: none to 12 inches

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☑ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Rhizospheres in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☑ FAC-Neutral Test
- ☐ Other (explain below)

Wetland Hydrology Present? ☑ YES ☐ NO

Remarks:
Data point is located in a drainage pattern at the upper portion close to Aburn-Folsom Rd., which is the most distirbed area. Data point is approximately 20 feet away from data point W8-1 which is the lowest point in the drainage pattern.

SOILS

Plot ID:

Map Unit Name (series and phase): 106 Andregg coarse sandy loam — Drainage Class: somewhat poorly or moderately well draine

Taxonomy (subgroup): Typic Haploxeroll — Field observations confirm mapped type? ☑ YES ☐ NO

Is data point located within a hydric inclusion? ☐ YES ☑ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
A	0-12	sl	gr-bk	7.5YR 3/2	c,2,d	Fe-x	5YR 4/6	Soil is disked

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions (α,α' - dipyridyl test)
- ☐ Gleyed or Low-Chroma (≤1) matrix
- ☐ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☑ Mn or Fe Concretions or Nodules
- ☐ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☑ YES ☐ NO

Remarks:
Soil has been disked and properties are disrupted.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☑ YES ☐ NO

Wetland hydrology present? ☑ YES ☐ NO

Hydric soils present? ☑ YES ☐ NO — Is the sampling point within a wetland? ☑ YES ☐ NO

Remarks:
Area is a seasonal wetland adjacent to perennial wetland W8-1. Vegetation and drainage patterns are evident although the soils are highly distirbed, iron mottles were still apparent.

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c - clay

Rock Fragments

gr - gravelly
vgr - very gravelly
xgr - extremely gravelly
cb - cobbly
vcb - very cobbly
xcb - extremely cobbly
st - stony
vst - very stony
xst - extremely stony

Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

1 - fine (<2mm)
2 - medium 2–5mm)
3 - coarse (5–20mm)
4 - very coarse (20–76mm)
5 - extremely coarse (>76mm)

Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Aubrun-Folsom Road Lane Widening Project	State:	California
Applicant/Owner:	Placer County	County:	Placer (Granite Bay)
Investigator(s):	Kate Carpenter, Sam Garcia	S/T/R	Folsom Quad (S11 & 14/T10N/R7E)
Date:	08/09/02		

Do normal circumstances exist on the site? ☑ YES ☐ NO
Is the site significantly disturbed (atypical situation)? ☐ YES ☑ NO
Is the area a potential problem area? ☐ YES ☑ NO
(If needed, explain below)

Community ID: Freshwater Marsh
Transect ID: W-9
Plot ID: W-9-1 Wetland

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Typha latifolia	Herb	85	OBL				
Alisma plantago-aquatica	Herb	15	OBL				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 100 %

☐ Morphological Adaptations
☐ Physiological/Reproductive Adaptations
☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
☐ Personal Knowledge of Regional Plant Communities
☐ Technical Literature
☐ Other (explain below)

Hydrophytic Vegetation Present? ☑ YES ☐ NO

Remarks:
100% Dominance of obligates.

HYDROLOGY

Is it the growing season? ☑ YES ☐ NO
Based On: ☐ Soil Temp (record)
☐ Other (explain) Same as W-8-1
Typical length: Days 5% =

Recorded Data (describe below):
☐ Stream, Lake, or Tide Gauge
☐ Aerial Photographs
☐ Other
☐ None Available

Field Observations:
Depth of Surface Water: none inches
Depth to Standing Water in Pit: >12 inches
Depth to Saturated Soil: 0 inches

Wetland Hydrology Indicators:
Primary Indicators:
☐ Inundated
☑ Saturated Upper 12 Inches
☑ Water Marks
☐ Drift Lines
☑ Sediment Deposits
☑ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
☐ Oxidized Rhizospheres in Upper 12 Inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (explain below)

Wetland Hydrology Present? ☑ YES ☐ NO

Remarks:
Site appears to receive water from Linda Creek (D/R/W-7) and road runoff. Algal mats on surface of substrate. A small pit was dug and saturated soils were observed in upper 12 inches.

SOILS

Plot ID:

Map Unit Name (series and phase): 197 Xerorthents Drainage Class: variable

Taxonomy (subgroup): Xerorthent Field observations confirm mapped type? ☐ YES ☑ NO

Is data point located within a hydric inclusion? ☐ YES ☐ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
-	-	-	-	-	-	-	-	No data taken

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☑ Sulfidic Odor
- ☑ Aquic Moisture Regime
- ☐ Reducing Conditions (α,α' - dipyridyl test)
- ☑ Gleyed or Low-Chroma (≤1) matrix
- ☐ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☑ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☑ YES ☐ NO

Remarks:

A small pit was dug and saturated and gleyed soils were observed in the upper 12 inches with a sulfidic odor. Data was not taken due to the strong wetland hydrology and vegetation.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☑ YES ☐ NO

Wetland hydrology present? ☑ YES ☐ NO

Hydric soils present? ☑ YES ☐ NO Is the sampling point within a wetland? ☑ YES ☐ NO

Remarks:

This site is directly adjacent to edge of Folsom-Auburn Rd. pavement. Private property and no trespassing prevented surveys from main part of wetland. The full extent of this wetland was estimated by aerial photos.

Texture and Rock Fragment Content

Texture		Rock Fragments
cos - coarse sand	vfsl - very fine sandy loam	gr - gravelly
s - sand	l - loam	vgr - very gravelly
fs - fine sand	sil - silt loam	xgr - extremely gravelly
vfs - very fine sand	si - silt	cb - cobbly
lcos - loamy coarse sand	scl - sandy clay loam	vcb - very cobbly
ls - loamy sand	cl - clay loam	xcb - extremely cobbly
lfs - loamy fine sand	sicl - silty clay loam	st - stony
lvfs - loamy very fine sand	sc - sandy clay	vst - very stony
cosl - coarse sandy loam	sic - silty clay	xst - extremely stony
sl - sandy loam	c - clay	
fsl - fine sandy loam		

Redoximorphic Feature Morphology

Abundance
- f - few
- c - common
- m - many

Size
- 1 - fine (<2mm)
- 2 - medium 2–5mm)
- 3 - coarse (5–20mm)
- 4 - very coarse (20–76mm)
- 5 - extremely coarse (>76mm)

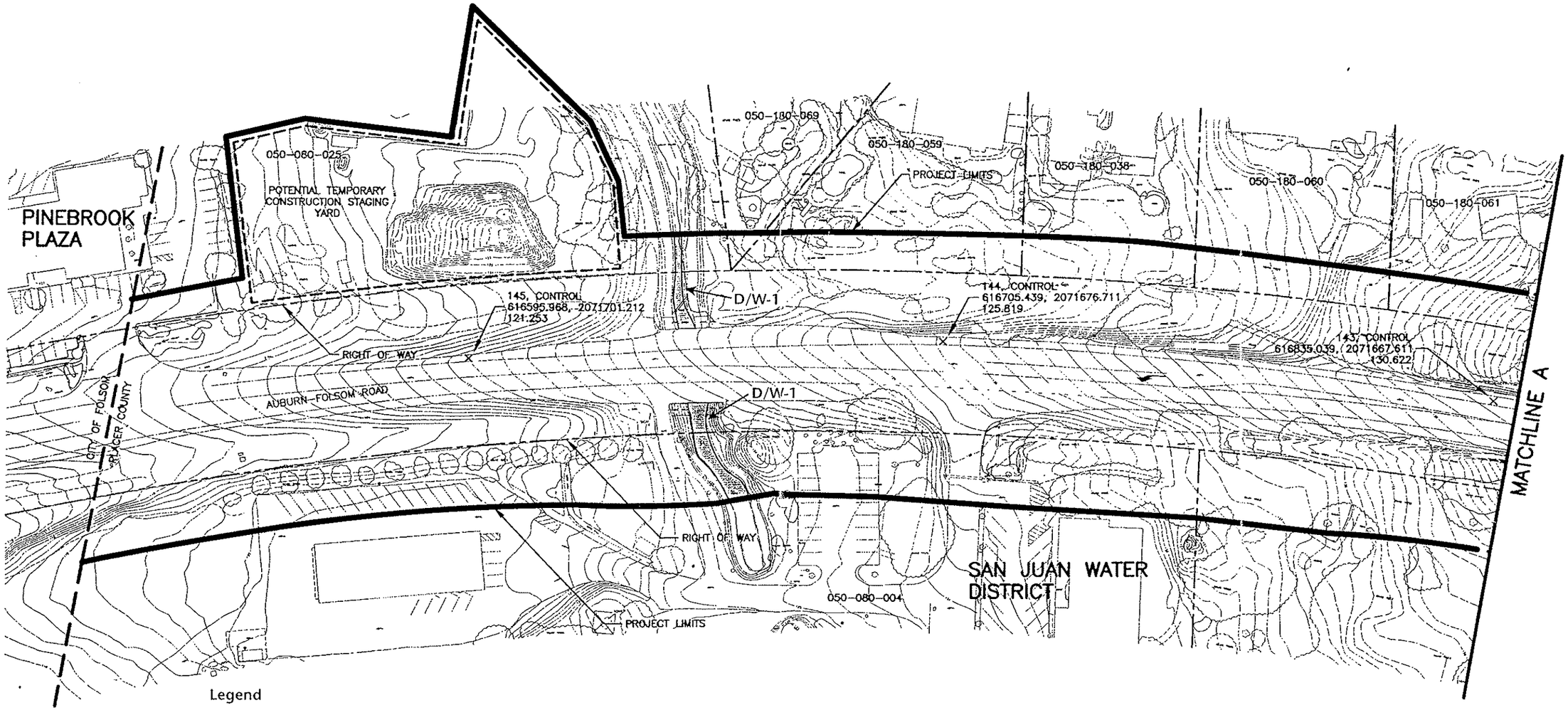
Contrast
- f - faint
- d - distinct
- p - prominent

Type
- Fe-x - iron concentration (soft mass)
- Fe-nc - iron nodule or concretion
- Mn-x - manganese concentration (soft mass)
- Mn-nc - manganese nodule or concretion
- d - depletion

Location
- mat - soil matrix
- ped - ped surface
- por - soil pores
- otr - other

Attachment B

Delineation Maps



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

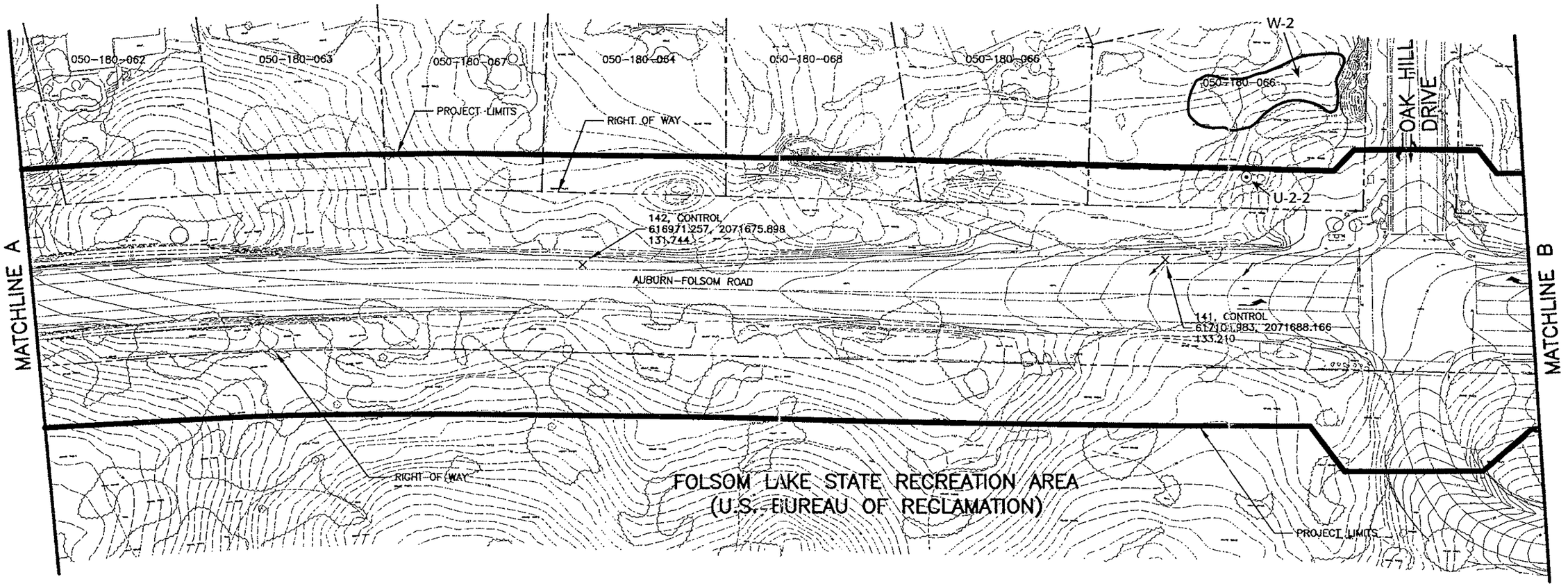
Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-1
Wetland Delineation



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

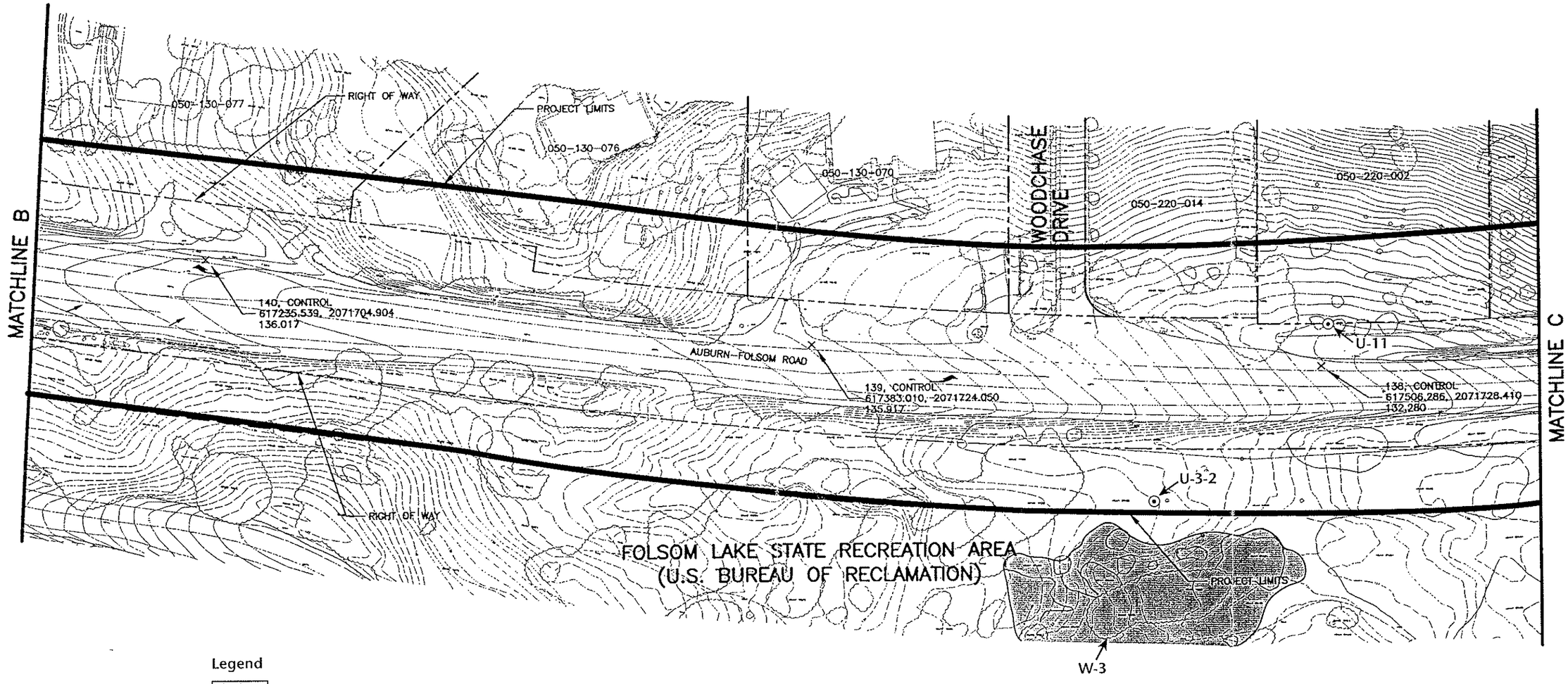
Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-2
Wetland Delineation



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

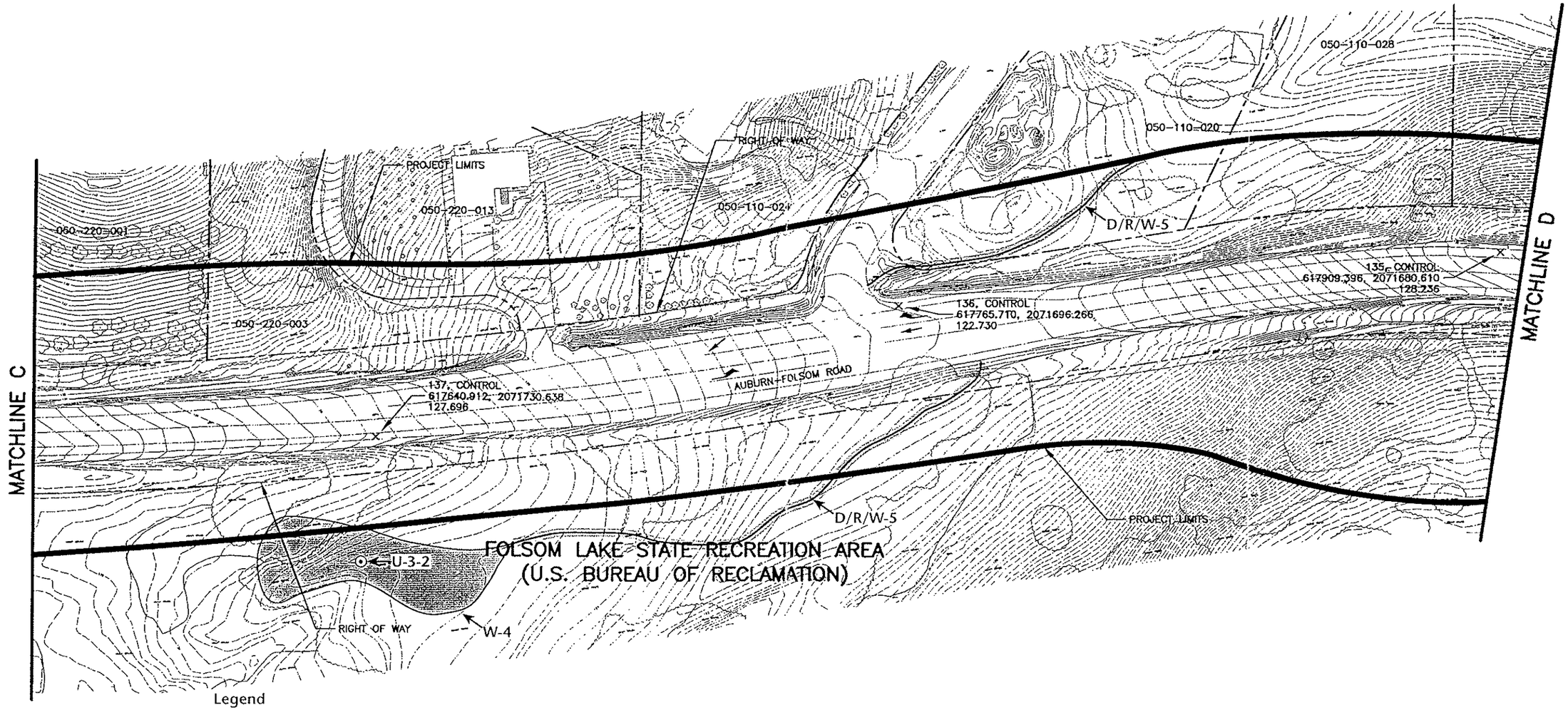
Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-3
Wetland Delineation



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

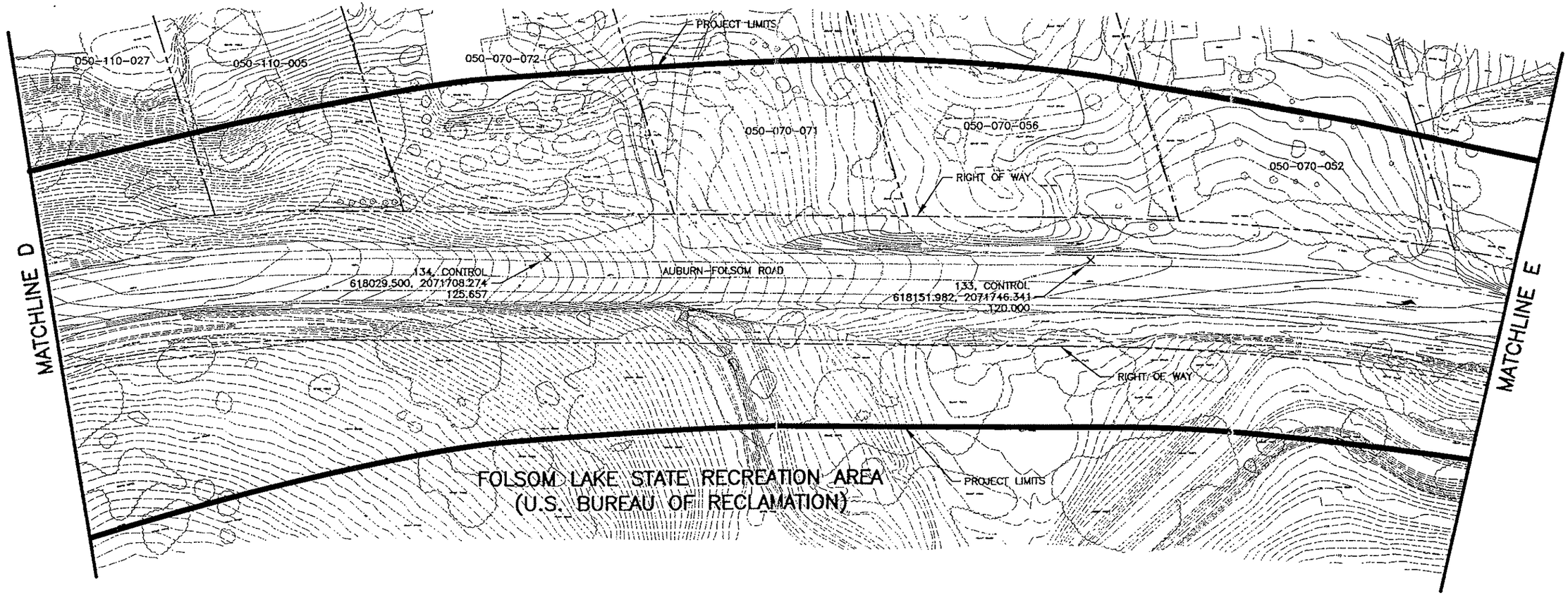
Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-4
Wetland Delineation



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

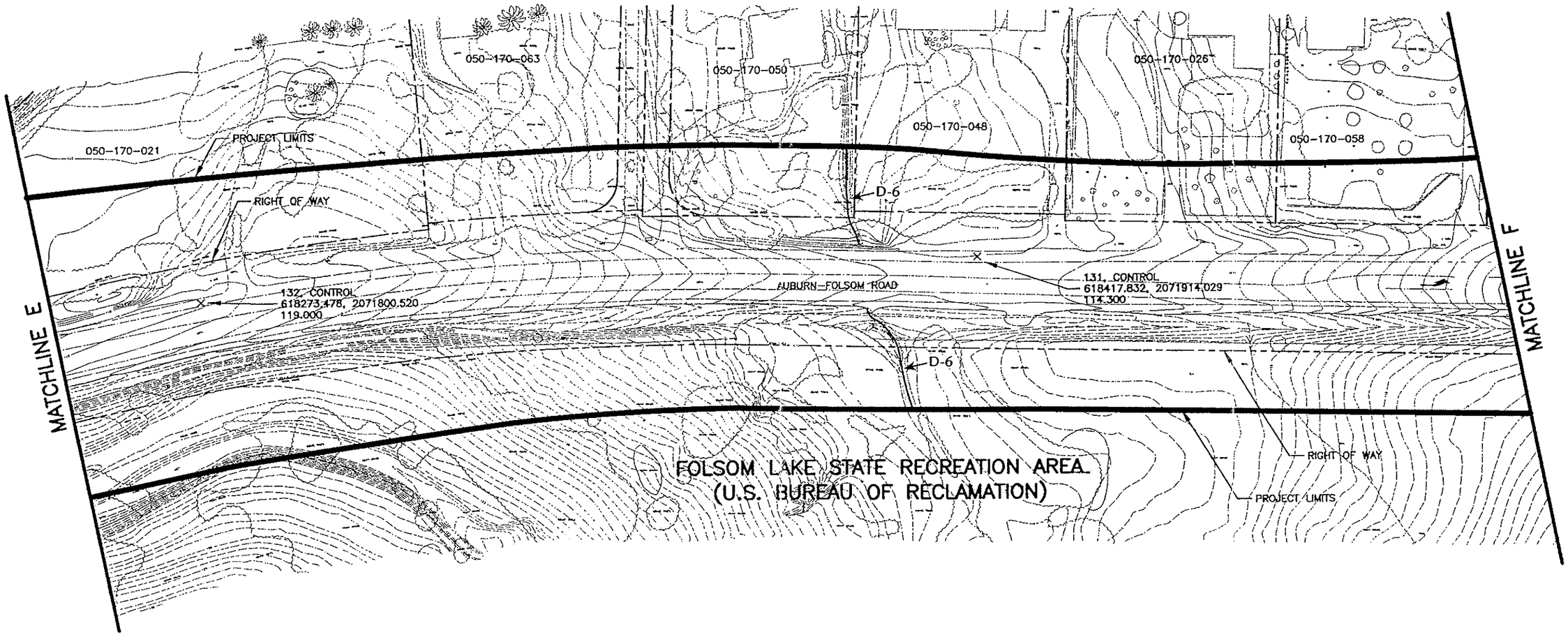
Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-5
Wetland Delineation



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

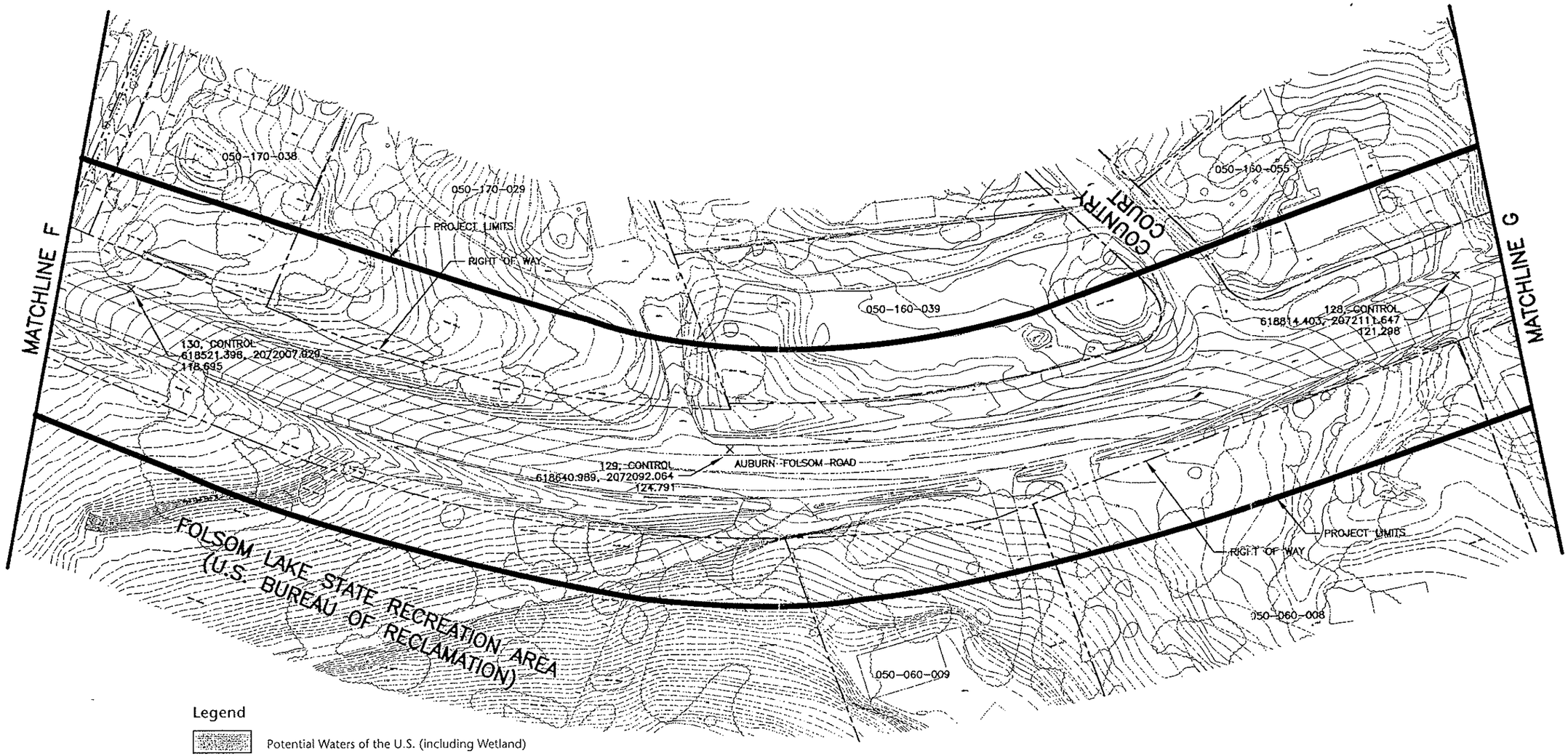
Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-6
Wetland Delineation



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

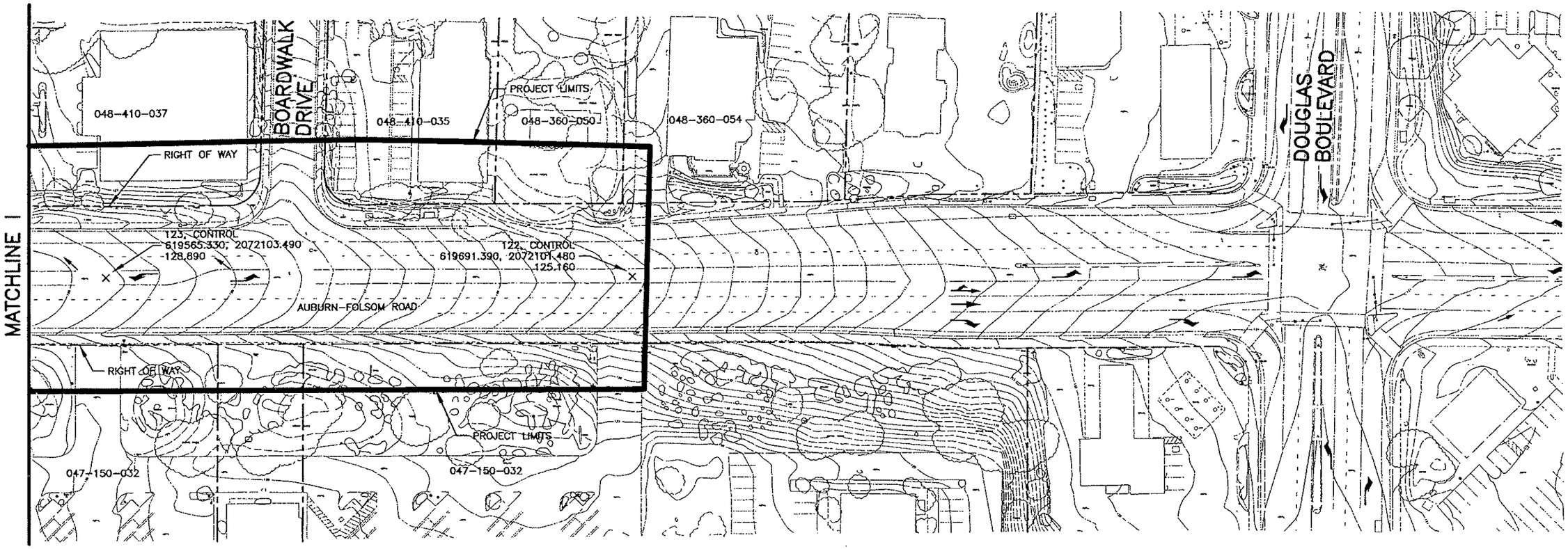
Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-7
Wetland Delineation



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

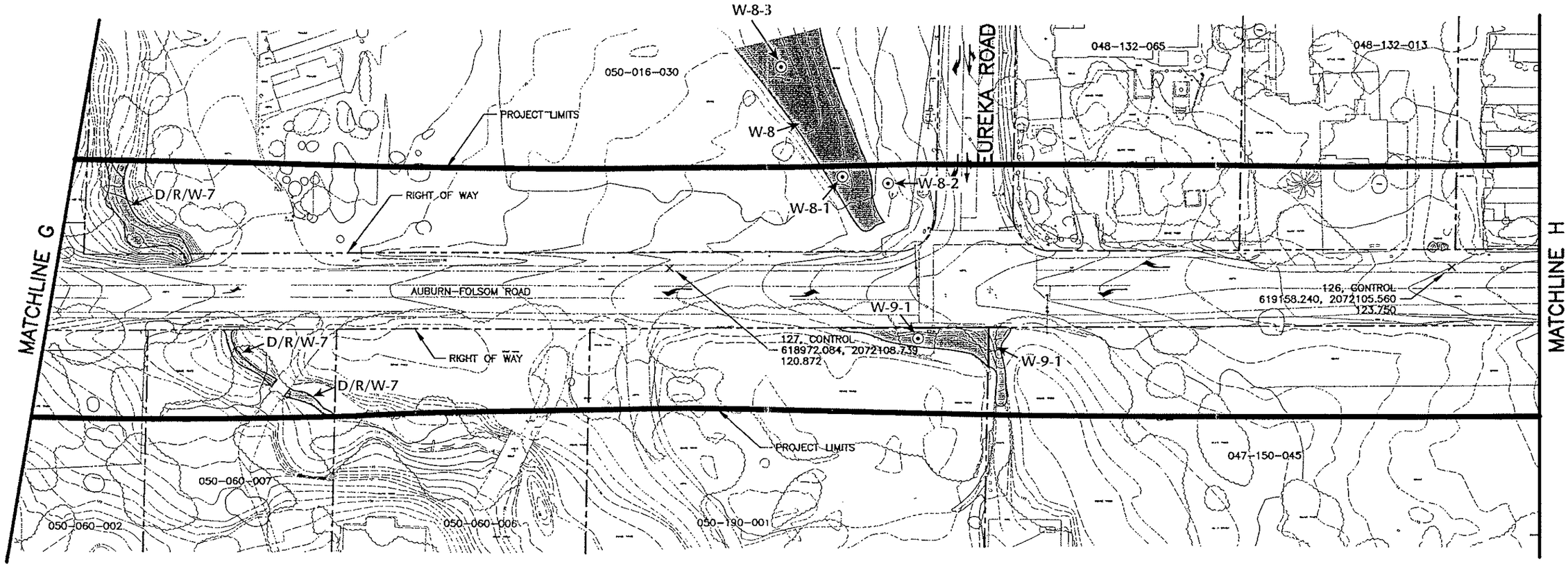
Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-10
Wetland Delineation



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

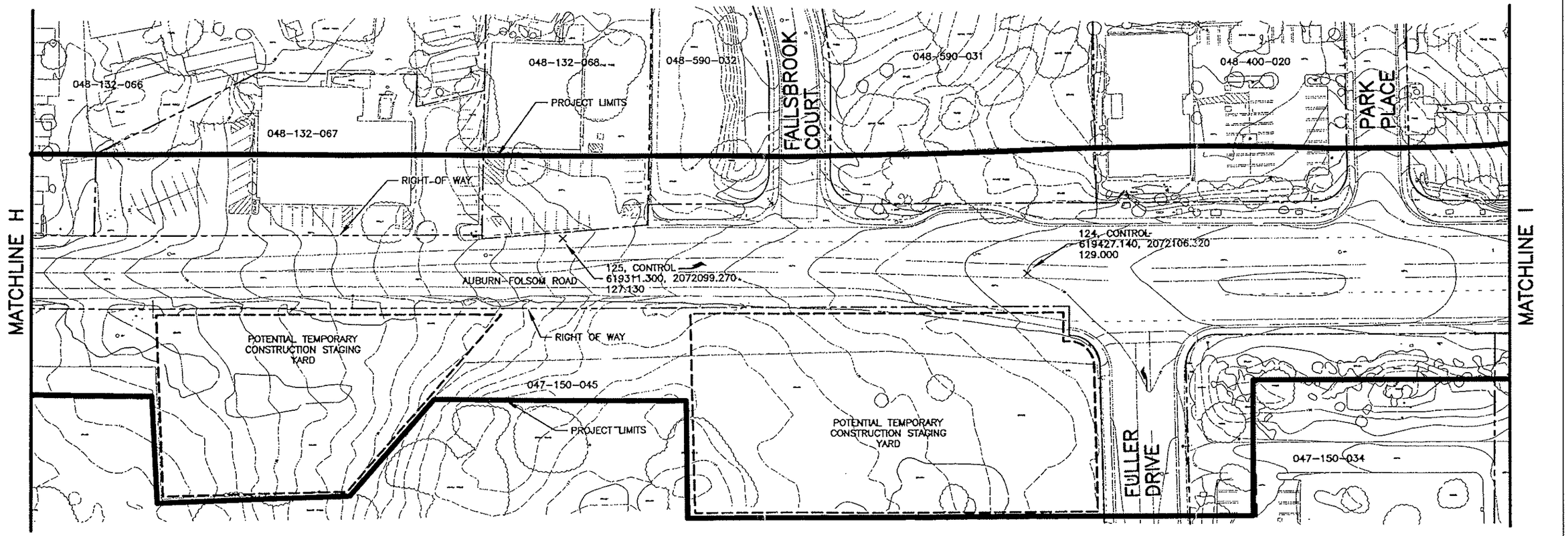
Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-8
Wetland Delineation



Legend

- Potential Waters of the U.S. (including Wetland)
- Potential Non-Jurisdictional Wetland
- D Drainage
- U Upland
- W Wetland
- # Feature Number
- Data Point
- Study Area Boundary

N

0 41 82 123 164

Feet

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure B-9
Wetland Delineation

Attachment C

List of Waters in the Study Area

Attachment C. List of Individual Waters of the United States Delineated In and Adjacent to the Study Area

Feature Number[1]	Hectares (Acres) in the Study Area[2]	Feature Description	Adjacent or Isolated
D/W-1	0.024 (.06) OHWM = 17 feet	Baldwin Reservoir canal, a perennial drainage with seasonal wetlands and freshwater marsh wetlands within the OHWM	Adjacent— Appears to be hydrologically connected to Linda Creek
W-2	None; is adjacent, but outside the study area boundary	Seasonal wetland	Isolated— Wetland is not adjacent to any waters of the United States through culverts or surface flows
W-3	None; is adjacent, but outside the study area boundary	Seasonal wetland	Adjacent— Hydrologically connected to Linda Creek as a tributary drainage
W-4	0.004 (.01)	Freshwater marsh	Adjacent— Hydrologically connnected to Linda Creek as a tributary drainage
D/R/W-5	0.024 (.06) OHWM = 7 feet	Unnamed perennial drainage, a tributary to Linda Creek. Scattered seasonal wetlands within the OHWM. Riparian forest occurs outside the OHWM.	Adjacent— Hydrologically connected to Linda Creek as a tributary drainage
D-6	0.008 (.02) OHWM = 8 feet	Unnamed ephemeral drainage—tributary to Linda Creek	Adjacent— Hydrologically connected to Linda Creek as a tributary drainage
D/R/W-7	0.024 (.06) OHWM = 12 feet	Linda Creek—perennial drainage with seasonal wetlands and freshwater marsh within the OHWM. Riparian forest occurs outside the OHWM.	Adjacent— Hydrologically connected to Dry Creek which flows into the Sacramento River
W-8	0.011 (.027)	Seasonal wetland	Adjacent— Hydrologically connected to Linda Creek before construction of Auburn-Folsom Road
W-9	0.016 (.04)	Freshwater marsh	Adjacent— Hydrologically connected to Linda Creek

[1] Feature Numbering System:
- D = stream (drainage) with a defined bed and bank and apparent OHWM.
- W = wetlands that meet the Corps's criteria.
- R = woody riparian associated with the stream and is outside the stream's OHWM.
- 1 = each waters of the United States was numbered sequentially along the road, from south to north.

[2] W-2 and W-3 were delineated and mapped as part of this delineation because they are located outside, but immediately along, the study area boundary.

Appendix J

Biological Assessment

Biological Assessment for the Auburn-Folsom Road Widening Project from the Placer/Sacramento County Line North to Douglas Boulevard

Project Location:
Placer County, California
Township 10N, Range 7E, Sections 11,14, 23
U.S. Geological Survey Folsom Quadrangle

Federal Lead Agency:

U.S. Department of the Interior
Bureau of Reclamation
7794 Folsom Dam Road
Folsom, CA 95630
Contact: Sandi Richerson
916/989-7174

Environmental Consultant:

Jones & Stokes
2600 V Street
Sacramento, CA 95818-1914
Contact: Angela Alcala
916/503-6681

March 2003

Jones & Stokes. 2003. Biological assessment for the Auburn-Folsom Road widening project from the Placer/Sacramento County line north to Douglas Boulevard. March. (J&S 02-102.) Sacramento, CA. Prepared for Placer County, CA.

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Acronyms and Abbreviations

BA	biological assessment
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Placer County
DFG	California Department of Fish and Game
EA/Draft EIR	Environmental Assessment/Draft Environmental Impact Report
EA/EIR	Environmental Assessment/Environmental Impact Report
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FR	Federal Register
GPS	global positioning system
mph	miles per hour
NEPA	National Environmental Policy Act
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
Recovery Plan	USFWS's Valley Elderberry Longhorn Beetle Recovery Plan
SRA	State Recreational Area
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	valley elderberry longhorn beetle

I. Introduction

The purpose of this biological assessment (BA) is to review the proposed Auburn-Folsom Road Widening Project in sufficient detail to determine to what extent the proposed project may affect any of the species, identified below, that are listed as threatened or endangered or proposed to be listed. The U.S. Department of the Interior, Bureau of Reclamation (Reclamation) is the federal lead agency for the proposed project under the National Environmental Policy Act (NEPA). Placer County (County) is the state lead agency under the California Environmental Quality Act (CEQA). The County and Reclamation have prepared a joint environmental document (An Environmental Assessment/Draft Environmental Impact Report [EA/Draft EIR]) that analyzes the impacts associated with four build alternatives for the project:

- Alternative 1: Widen Roadway to the West
- Alternative 2: Widen Roadway to the East
- Alternative 3: Widen Roadway Equally on Both Sides
- Alternative 4: County DPW–Preferred Alternative

Reclamation and the County have prepared this BA for Alternative 4, "County DPW–Preferred Alternative." The other alternatives are described later in this BA, under "Alternative Actions."

This BA has been prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (ESA) (Title 16, United States Code [USC], Section 1536[c]).

In preparing this BA, the following sources of information on federally listed threatened and endangered species were used.

- Species lists obtained from the U.S. Fish and Wildlife Service (USFWS) for the project (Attachment A).
- Results of a record search of the California Department of Fish and Game's (DFG's) California Natural Diversity Database (CNDDB) (2002) for the Folsom, Clarksville, Citrus Heights, Pilot Hill, Rocklin, Roseville, Carmichael, Buffalo Creek, and Folsom Southeast 7.5-minute U.S. Geological Survey (USGS) quadrangles (Attachment B).
- The California Native Plant Society's (CNPS's) *Inventory of Rare and Endangered Vascular Plants of California* (2001) .
- Field surveys conducted by Jones & Stokes biologists.

A. Threatened or Endangered Species or Species Proposed for Such Listing

- Valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*)—Threatened

Based on habitat assessments, field surveys, and distribution data, VELB (*Desmocerus californicus dimorphus*), a federally listed threatened species, was identified as having the potential to occur in the study area and is therefore addressed in this BA.

B. Candidate Species, Sensitive Species, and Species of Concern

This BA does not address any candidate species, sensitive species, or species of concern because none has the potential to occur in the study area.

II. Critical Habitat

According to USFWS's *Valley Elderberry Longhorn Beetle Recovery Plan* (Recovery Plan) (U.S. Fish and Wildlife Service 1984), the study area does not encompass areas designated as critical or essential habitat for VELB.

III. Consultation to Date

On August 15, 2002, USFWS provided a list of species that are listed as threatened or endangered, or that are proposed for listing as threatened or endangered under ESA, and that may occur in the project area (Attachment A). Based on the species list, a literature review and field visit were conducted to assess whether the habitat conditions present in the project area could support any of the species identified on the USFWS list. The potential effects of the proposed project on these species were assessed based on the field assessment of habitat conditions and the species' habitat requirements, as identified during the literature review.

Jones & Stokes initiated informal consultation with USFWS biologist Jason Douglas on September 18, 2002, to discuss the proposed project and the potential to affect federally listed species (Douglas pers. comm.). Mr. Douglas indicated that indirect impacts on VELB habitat, such as dust accumulation and changes in hydrology, should be considered, as well as interdependent effects from an adjacent road-widening project.

Identified below are all the federally listed, proposed, and candidate species that the USFWS species list indicated could occur in the project area.

- Vernal pool fairy shrimp (*Branchinecta lynchi*)—Endangered
- Vernal pool tadpole shrimp (*Lepidurus packardi*)—Endangered
- VELB (*Desmocerus californicus dimorphus*)—Threatened
- Delta smelt (*Hypomesus transpacificus*)—Threatened
- Sacramento splittail (*Pogonichthys macrolepidotus*)—Threatened
- California red-legged frog (*Rana aurora draytonii*)—Threatened
- California tiger salamander (*Ambystoma californiense*)—Candidate
- Giant garter snake (*Thamnophis gigas*)—Threatened
- Bald eagle (*Haliaeetus leucocephalus*)—Threatened
- Mountain plover (*Charadrius montanus*)—Proposed Threatened
- Sacramento Orcutt grass (*Orcuttia viscida*)—Endangered

Species distribution and habitat suitability requirements indicate that all of the species listed above, except for VELB, would not occur in the project area and therefore are excluded from consideration in this BA. A brief explanation for the absence of the remaining species is provided below.

- **Vernal pool fairy shrimp and vernal pool tadpole shrimp.** No vernal pools or suitable seasonal ponds are present in the project area; therefore, no vernal pool fairy shrimp or vernal pool tadpole shrimp would occur in the project area.
- **Delta smelt and Sacramento splittail.** Linda Creek, located in the project area, is a tributary to Dry Creek. This drainage is located too far upstream in the Sacramento River watershed to provide suitable habitat for Delta smelt and Sacramento splittail. Linda Creek is dammed downstream of the project area, which precludes upstream migration of fish. Therefore, Delta smelt and Sacramento splittail would not be present in the project area.
- **California red-legged frog.** California red-legged frogs historically occurred from Shasta County south to the Mexican border; however, California red-legged frogs are believed to have been extirpated from the Central Valley floor before 1960 (Title 50 Code of Federal Regulations [CFR] Part 17, Final Rule California red-legged frog). No observations of California red-legged frog within 16 kilometers (10 miles) of the project area have been recorded in the CNDDB (2002), and no frogs were observed during May 2002 field surveys. The closest occupied habitat for this species is located approximately 24 kilometers (15 miles) west of the project area, in El Dorado County (in the Weber Creek Core Recover Area, as identified in the *Draft Recovery Plan for the California Red-legged Frog* [U.S. Fish and Wildlife Service 2000]).

  Three waterways intersect the project area: a manmade canal at the south end of the project area flows between the San Juan Water District water treatment facility and Baldwin Reservoir; Linda Creek, at the north end of the project area, is a perennial stream that originates about 1.6 kilometers (1 mile) northeast of the project area and flows west into Dry Creek; and an

unnamed seasonal stream collects residential and road runoff. California red-legged frogs would not be expected to occur in the project area based on the lack of previous recorded observations in the project vicinity and the surrounding development, and because there is no hydrologic connection to the closest known location of California red-legged frogs, which is in the Weber Creek watershed.

- **California tiger salamander.** No sightings of California tiger salamander within 16 kilometers (10 miles) of the project area have been recorded in the CNDDB (2002), and no vernal pools or suitable seasonal ponds for breeding are present in the project area. Therefore, California tiger salamander would not occur in the project area.
- **Giant garter snake.** The project area is located in the Mid Valley Recovery Unit for giant garter snake, as identified in USFWS's 1999 *Draft Recovery Plan for the Giant Garter Snake*. However, no giant garter snake populations have been documented within 16 kilometers (10 miles) of the project area, and no suitable marsh habitat is present in the project area.
- **Bald eagle.** The project area does not provide suitable nesting habitat for bald eagles; however, bald eagles are known to winter in the project vicinity and would be expected to forage over Folsom Lake, west of the project area. No suitable open-water habitat for foraging bald eagles is present in the project area.
- **Mountain plover.** Mountain plovers are a winter resident of the Central Valley of California and are found in short annual grasslands that contain little or no shrub or tree cover. No suitable foraging habitat for wintering mountain plovers is located in the project area. No documented winter populations are known to occur in the project vicinity (i.e., within a 16-kilometer [10-mile] radius of the project area).
- **Sacramento Orcutt grass.** A floristic survey was conducted in the project area during the appropriate flowering period for Sacramento Orcutt grass, and no plants were documented in the survey area. This species grows in vernal pools below 91 meters (330 feet) above sea level. No vernal pools are located in the project area, so Sacramento Orcutt grass is not expected to be present.

IV. Current Management Direction

The USFWS's *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999) and the *Valley Elderberry Longhorn Beetle Recovery Plan* (U.S. Fish and Wildlife Service 1984) were used to identify the current management direction for VELB. The prime objectives of the Recovery Plan are to protect known populations of VELB, conduct population and habitat distribution surveys, and protect remaining suitable habitat within the species' range.

V. Description of the Proposed Project

A. Project Location

The project area is located in southeast Placer County, with Folsom Lake immediately to the east and the City of Folsom to the south. The project limits extend from the Placer County/Sacramento County line north to Douglas Boulevard, a distance of approximately 3.2 kilometers (2 miles) (Figures 1 and 2). However, widening and construction activities would extend north only to Fuller Drive. Immediately adjacent land uses are the Folsom Lake State Recreational Area (SRA) to the east (recreational uses) and rural residential and commercial uses. The dominant plant communities in the project vicinity are nonnative annual grassland and blue oak woodland with inclusions of riparian communities and seasonal wetlands.

B. Project Purpose

The purpose of the proposed widening of Auburn-Folsom Road between the Placer County line and Fuller Drive is to relieve recurring traffic congestion by providing additional capacity to meet existing and projected traffic demands through 2020. The additional capacity would:

- reduce corridor delay,
- relieve traffic congestion and add capacity during peak- and off-peak periods, and
- accommodate local and regional traffic volumes through 2020.

The proposed project also would improve roadway operation and safety by widening the roadway; signalizing the Fuller Drive intersection and improving the intersection's geometry; improving Eureka Road; adding medians and left-turn lanes; and improving Auburn-Folsom Road's geometry and design speed.

C. Need for the Project

Auburn-Folsom Road has relatively high volumes of traffic throughout the daytime hours, with well-defined morning and evening peak-hour traffic volumes. As traffic volumes increase, the peaks will broaden, and roadway travelers will experience congestion for increasingly longer periods of time during the day.

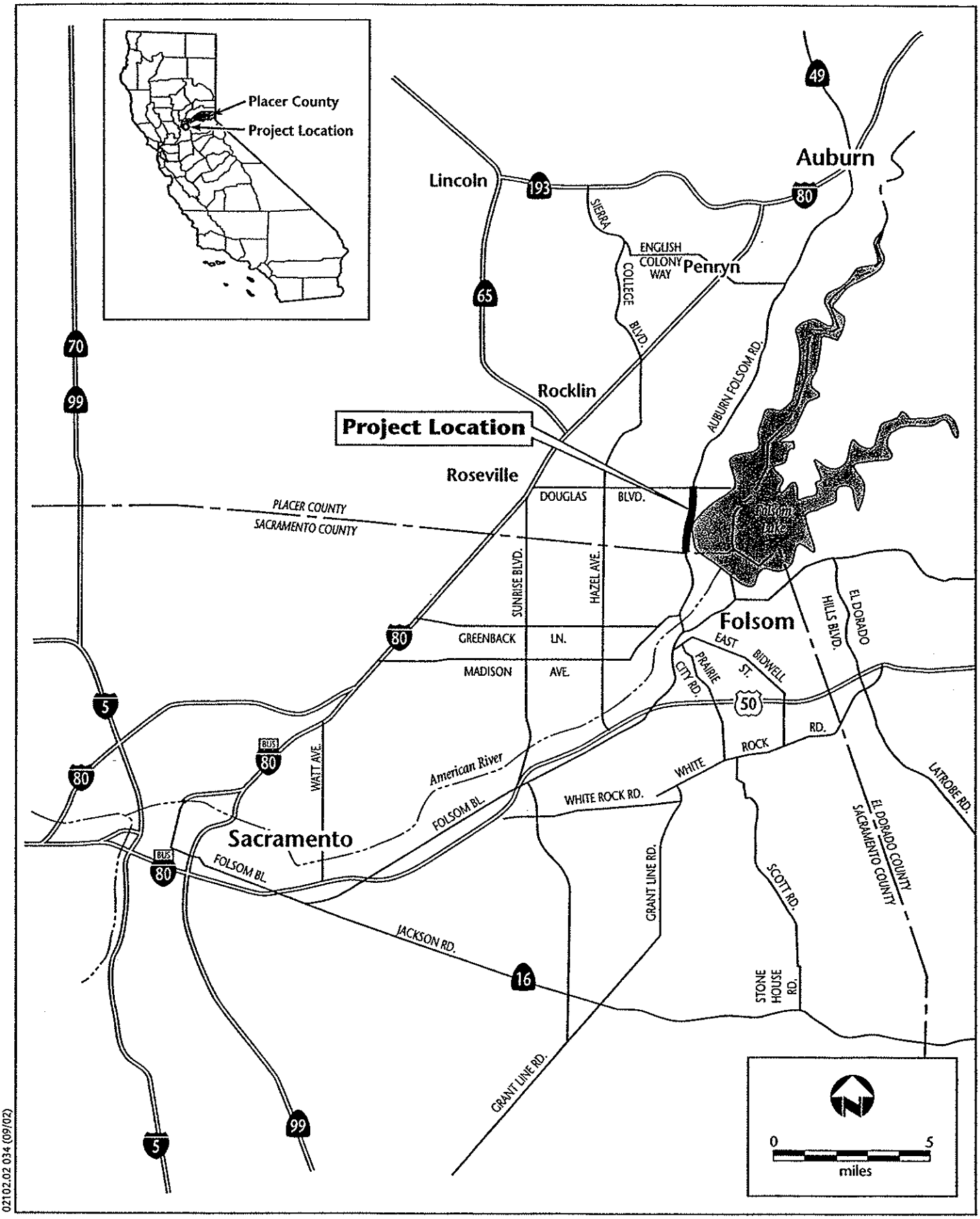
Between the County line and Douglas Boulevard, drivers experience operational traffic problems during the morning and evening peak hours. Long queues form at the Eureka Road and Oak Hill Drive signalized intersections. Drivers turning onto Auburn-Folsom Road from driveways and residential streets, such as Fuller Drive, have difficulty finding gaps in traffic and therefore sometimes experience

delays of several minutes. Pedestrians, including students attending the Wilma E. Cavitt Junior High School (just east of the Fuller Drive intersection), are not able to easily cross Auburn-Folsom Road. The vertical and horizontal curves of the existing roadway also reduce the design speed and contribute to delays. Congestion on Auburn-Folsom Road results in drivers using cut-through routes, such as Barton Road and Oak Hill Drive. Finally, the frequency of accidents on Auburn-Folsom Road, between Eureka Road and Douglas Boulevard, exceeds the statewide average for similar transportation routes.

D. Proposed Improvements

The proposed project would widen approximately 3.2 kilometers (2.0 miles) of Auburn-Folsom Road from two lanes to four lanes from the Placer County/Sacramento County line to Douglas Boulevard. The road widening would generally follow the existing alignment. Improvements proposed include

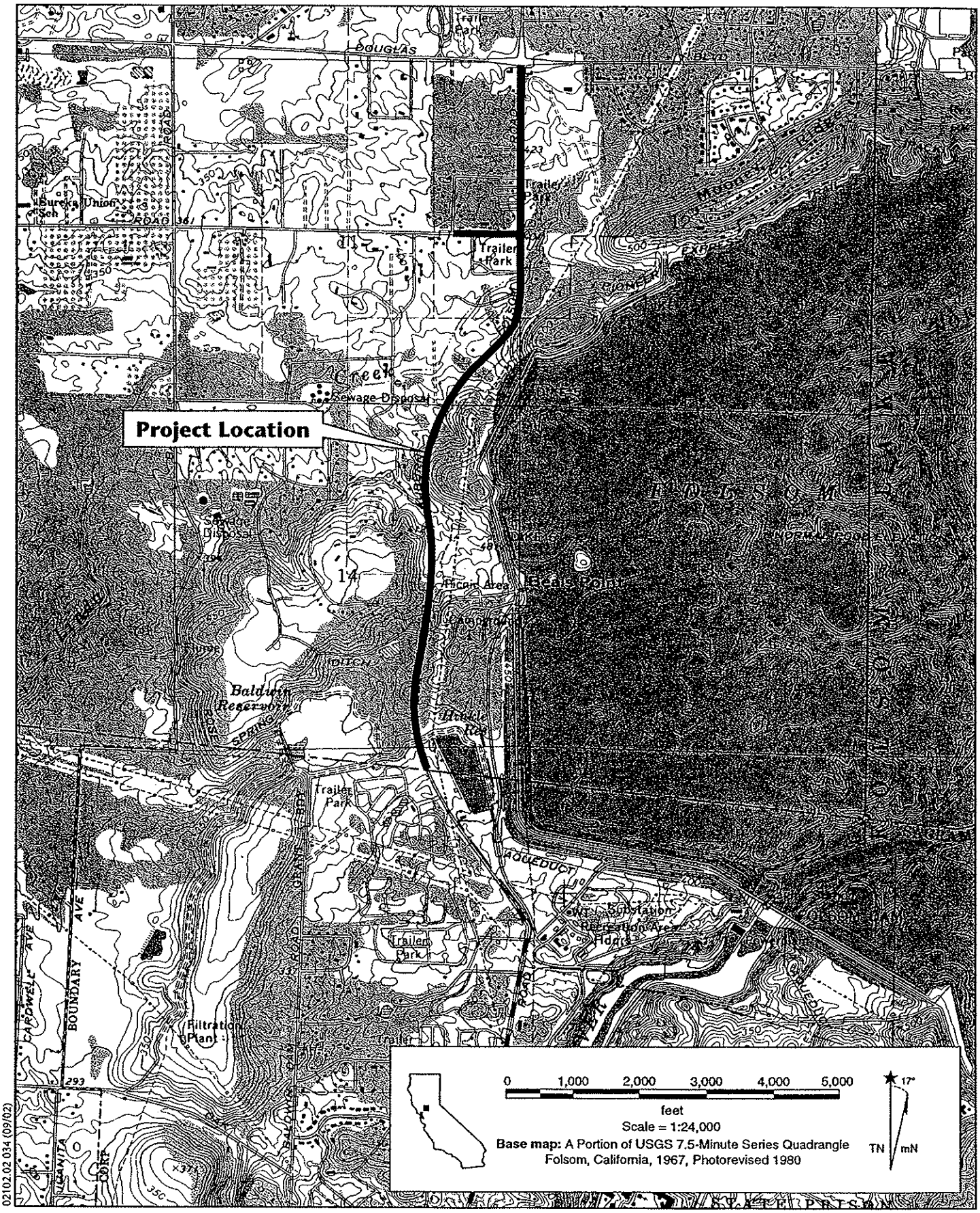
- adding a 4.2-meter-wide (14-foot-wide) center lane that may include two-way left-turn lanes and/or raised or painted medians in many or all roadway segments;
- providing 1.8-meter-wide (6-foot-wide) shoulders with Class II bicycle lanes on each side of the road;
- redesigning the horizontal and vertical curve north of Lou Place to improve the sight distance to achieve a design speed of 88 kph (55 mph) or 80 kph (50 mph);
- installing curb and gutter at certain locations;
- constructing/improving a multi-use/equestrian trail on the west side of Auburn-Folsom Road, from the Baldwin Reservoir access road to the Oak Hill Drive intersection;
- constructing a new traffic signal at the Fuller Road intersection;
- improving traffic signal operations at the Eureka Road and Oak Hill Drive intersections;
- restriping Auburn-Folsom Road between Fuller Drive and Douglas Boulevard to accommodate the alignment of Auburn-Folsom Road south of Fuller Drive; and
- implementing sight-distance improvements along Eureka Road approximately 300 meters (980 feet) west of the Auburn-Folsom Road/Eureka Road intersection. Approximately 190 meters (620 feet) would be lowered by approximately 1 meter (3 feet) to improve the vertical sight distance along this portion of Eureka Road. This improvement would allow residents of the Ridgeview Mobile Home Park to use the Eureka Road driveway, which is currently gated. Reopening this driveway will allow the residents to enter and exit to Eureka Road, thereby allowing for the extension of the northbound left-turn lane and a raised or painted median on the northbound approach to the Auburn-Folsom Road/Eureka Road intersection.



02102.02 034 (09/02)

Jones & Stokes

Figure 1
Regional Location:
Auburn-Folsom Widening Project



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Jones & Stokes

Figure 2
Project Location

E. Construction Information

At least one construction staging area will be required for the contractor to store equipment and materials during construction. One temporary construction staging area has been identified at the south end of the project corridor, on the west side of the road, opposite the San Juan Water District offices. This area is currently undeveloped and was used as the construction staging area for an unrelated project, completed in 2001. Two temporary construction staging area sites have been identified at the north end of the project alignment, just south of Fuller Drive. Both temporary construction staging areas at the north end of the project would be located on the east side of the road.

The anticipated construction schedule is as follows:

- Complete preliminary design—2002
- Complete environmental review—2003
- Complete final design—2003/2004
- Advertise and award bids—spring 2004
- Start construction—2004

It is anticipated that the project would require 18 months to construct. The project would be implemented in its entirety during two construction seasons. The Placer County Department of Public Works Standard Construction Specifications require that one lane in each direction be open at all times. A traffic management plan would be required with any of the build alternatives.

F. Environmental Commitments

This section describes the environmental commitments (mitigation measures) that the project proponent has agreed to implement as part of the proposed project.

Nine elderberry shrubs, which could provide VELB habitat, are located in and within 30 meters (100 feet) of the project alignment and may be affected by construction activities (Figure 3). Effects on VELB and their host elderberry plants will be minimized by implementing the USFWS's *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999), which include the following measures.

Mitigation Measure 1. Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed

Before any ground-disturbing activity, Placer County DPW shall ensure that a minimum 1.2-meter-tall (4-foot-tall) temporary, plastic mesh–type construction fence (Tensor Polygrid or equivalent) is installed at least 6 meters (20 feet) from the driplines of elderberry shrubs that are within 30.5 meters (100 feet) of the

construction area but that will not be removed. This fencing is intended to prevent encroachment by construction vehicles and personnel. The exact location of the fencing shall be determined by a qualified biologist, with the goal of protecting sensitive biological resources (i.e., habitat for VELB). The fencing shall be strung tightly on posts set at a maximum interval of 3 meters (10 feet). The fencing shall be installed in a way that prevents equipment from enlarging the work area beyond the area necessary to complete the work. The fencing shall be checked and maintained weekly until all construction is completed. This buffer zone shall be marked by a sign stating, "This is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment."

No construction activity, including grading, shall be allowed until this condition is satisfied. No grading, clearing, storage of equipment or machinery, or other disturbance or activity may occur until a representative of Reclamation has inspected and approved all temporary construction fencing. The fencing and a note reflecting this condition shall be shown on the Improvement Plans.

Mitigation Measure 2. Implement Dust Control Measures

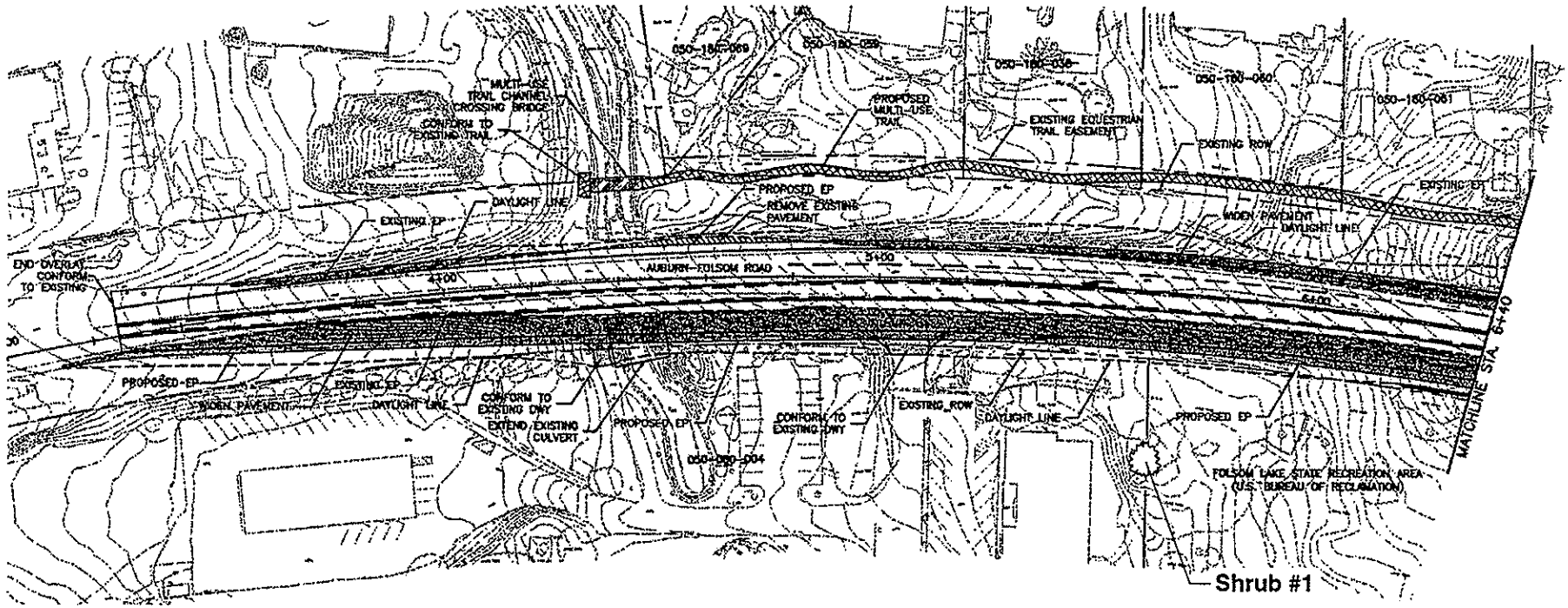
Placer County DPW shall ensure that dust control measures are implemented for all ground-disturbing activities in the project area. These measures may include application of water to graded and disturbed areas that are unvegetated. To avoid attracting Argentine ants, at no time shall water be sprayed within the driplines of elderberry plants.

Mitigation Measure 3. Transplant Elderberry Shrubs That Cannot Be Avoided

Placer County DPW shall ensure that all elderberry shrubs with one or more stems measuring 2.5 centimeters (1.0 inch) or more in diameter and that cannot be avoided during construction shall be transplanted to a conservation area in accordance with USFWS's *Conservation Guidelines for Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999). In the event that an elderberry shrub is unlikely to survive transplantation because of its poor condition or location, the shrub may be exempted from transplantation at the discretion of USFWS. Five shrubs are growing within 6 meters (20 feet) of proposed construction and will need to be transplanted.

Mitigation Measure 4. Compensate for Direct Impacts (Removal or Destruction) of Valley Elderberry Longhorn Beetle Habitat

Placer County DPW shall compensate for direct impacts (removal or destruction) on all elderberry stems measuring 2.5 centimeters (1.0 inch) or more at ground level (i.e., VELB habitat) that are located within 6 meters (20 feet) of construction activities. Compensation shall include replacement plantings of elderberry seedlings or cuttings and associated native plantings in a USFWS-approved conservation area, at a ratio between 1:1 and 8:1 (ratio = new plantings to affected stems), depending on the diameter of the stem at ground level, the presence or absence of exit holes, and whether the shrub is located in riparian habitat (Table 1). Five elderberry shrubs are growing within 6 meters (20 feet) of



Legend

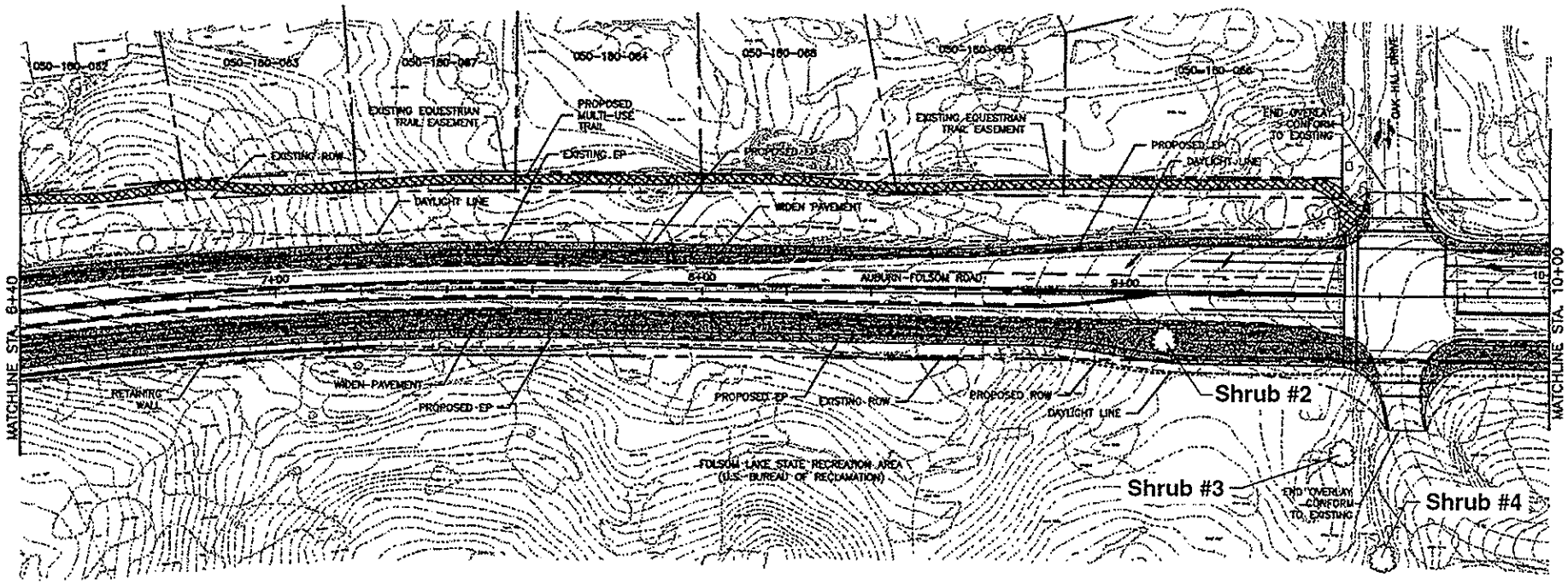
Elderberry Shrub

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure 3a
Locations of Elderberry Shrubs within the Project Area



Legend

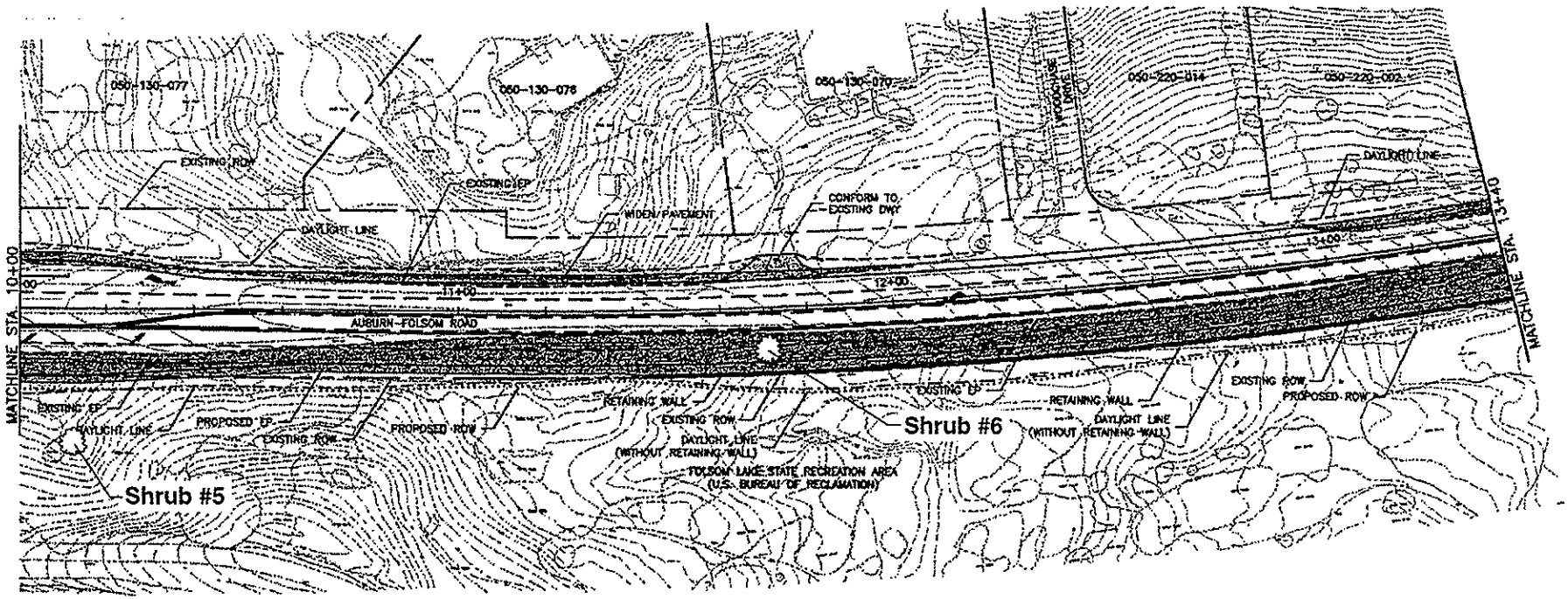
Elderberry Shrub

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure 3b
Locations of Elderberry Shrubs within the Project Area



Legend

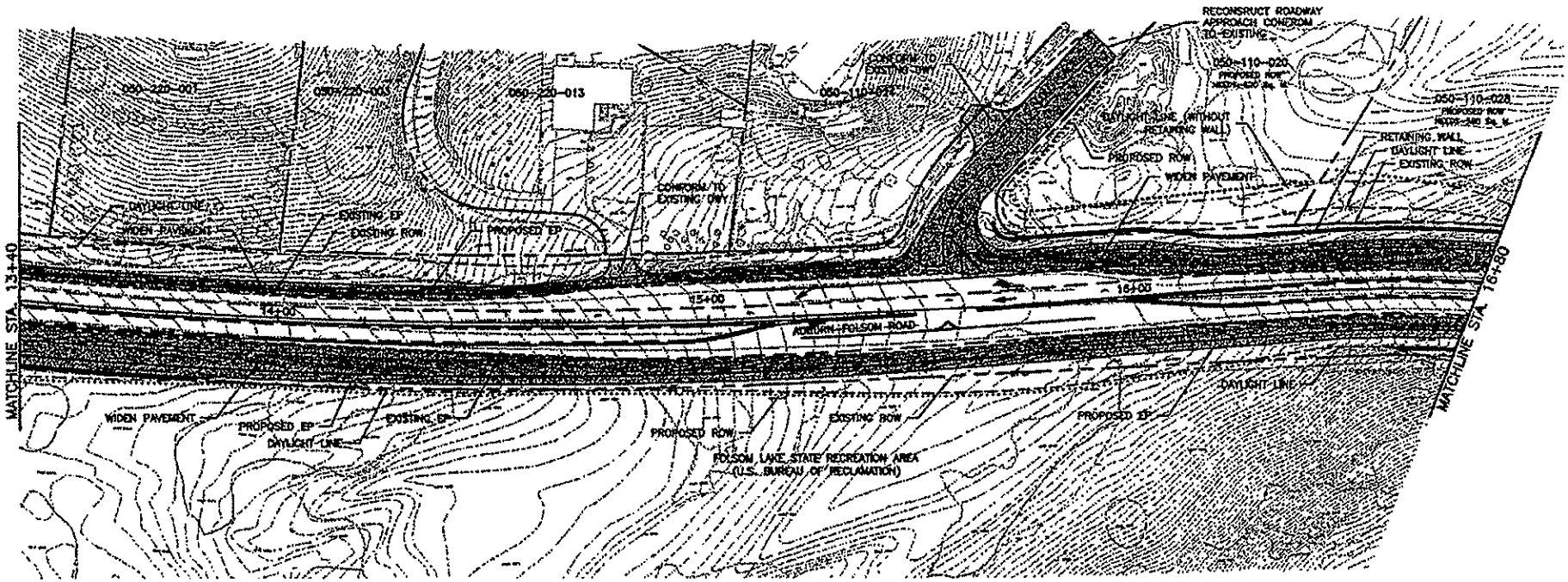
Elderberry Shrub

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure 3c
Locations of Elderberry Shrubs within the Project Area



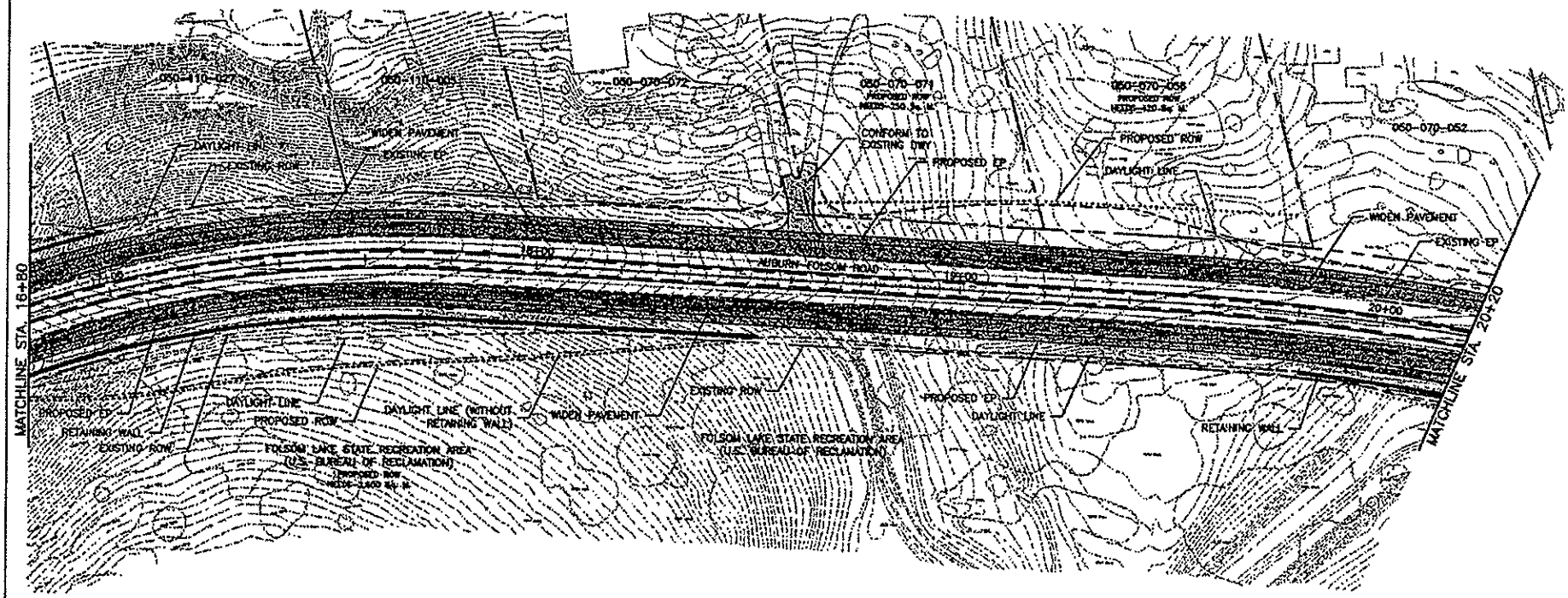
NO SHRUBS

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure 3d
Locations of Elderberry Shrubs within the Project Area



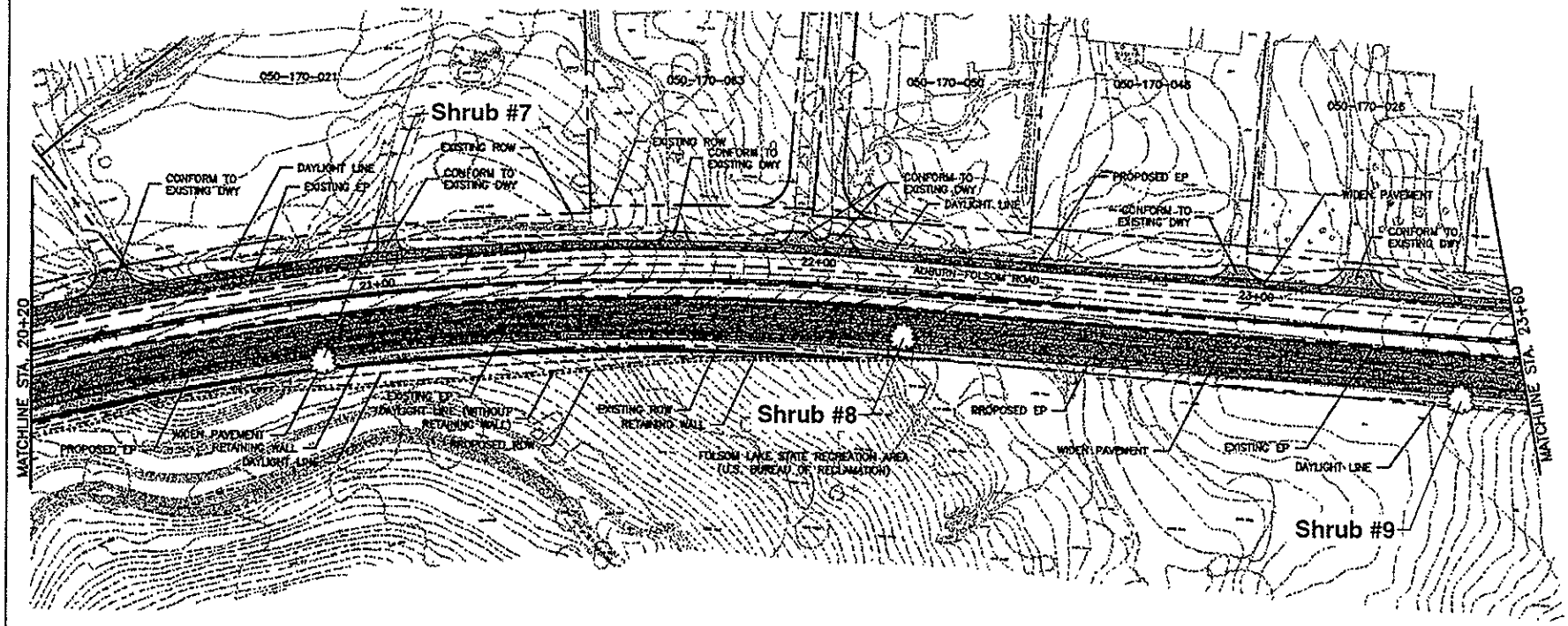
NO SHRUBS

Source: Placer County 2002.

02102.02.034 (10/02)

Jones & Stokes

Figure 3e
Locations of Elderberry Shrubs within the Project Area



Legend

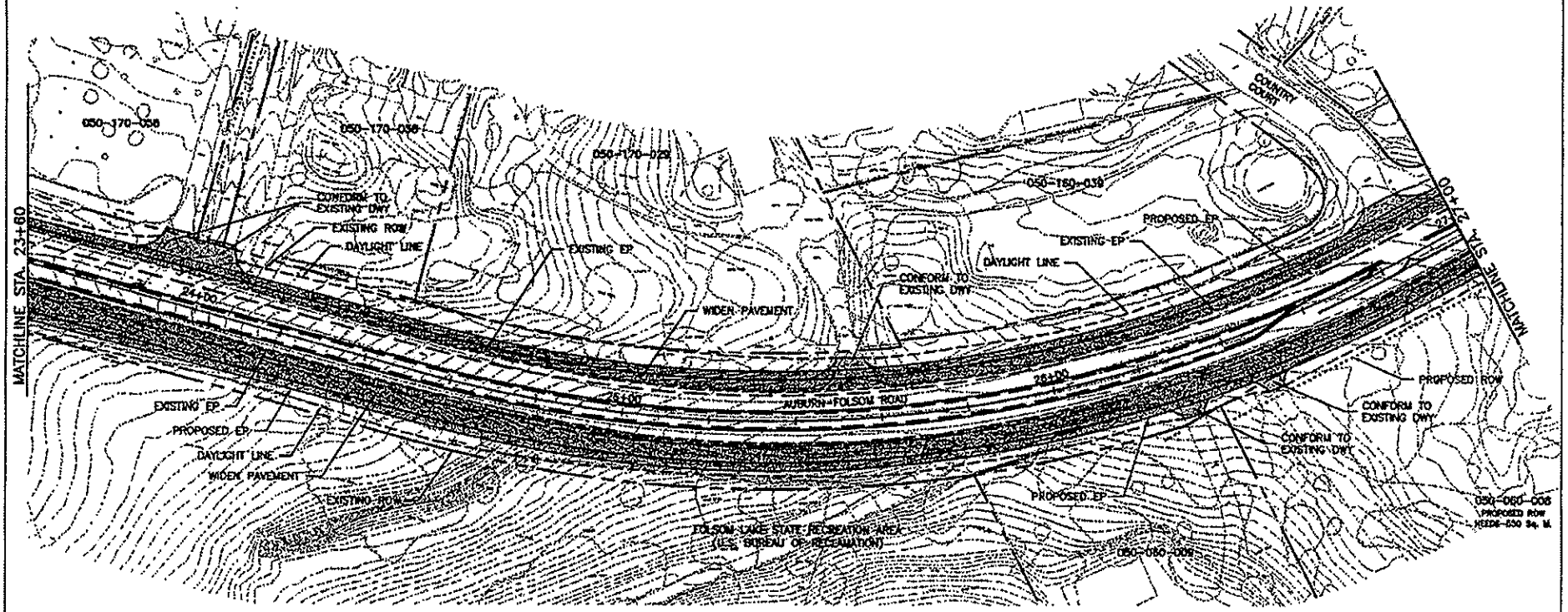
Elderberry Shrub

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure 3f
Locations of Elderberry Shrubs within the Project Area



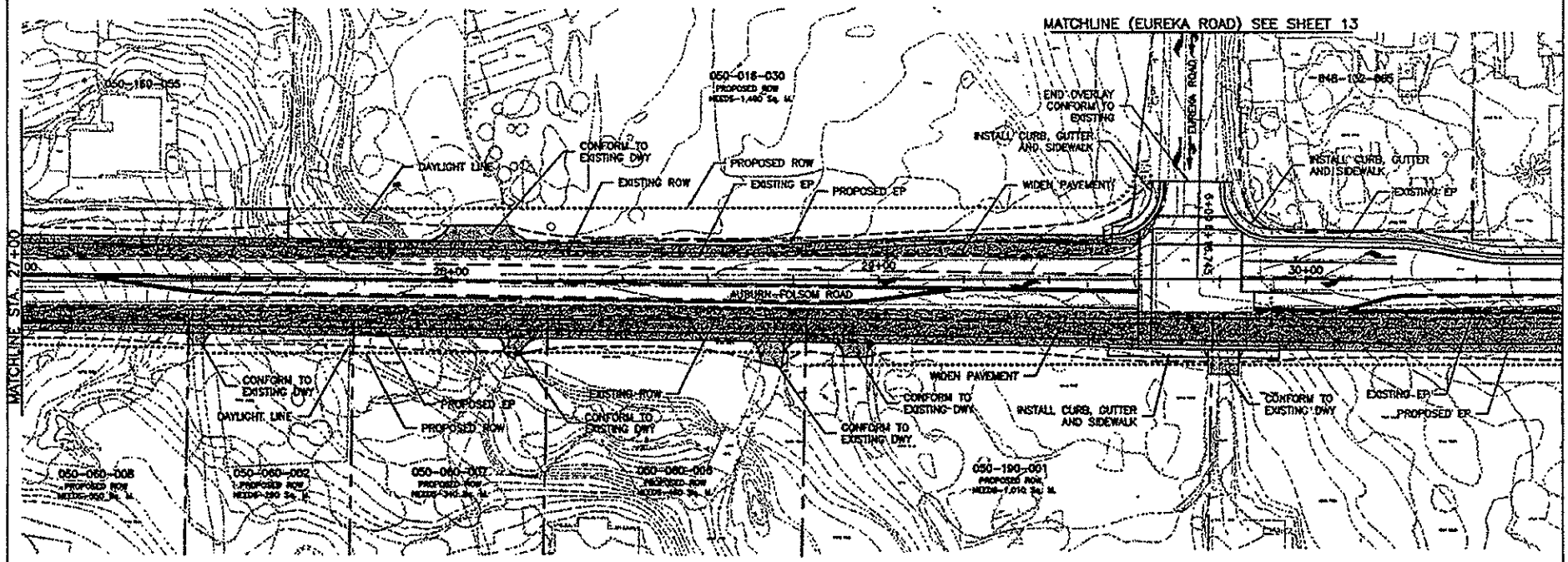
NO SHRUBS

Source: Placer County 2002.

02102.02.034 (10/02)

Jones & Stokes

Figure 3g
Locations of Elderberry Shrubs within the Project Area



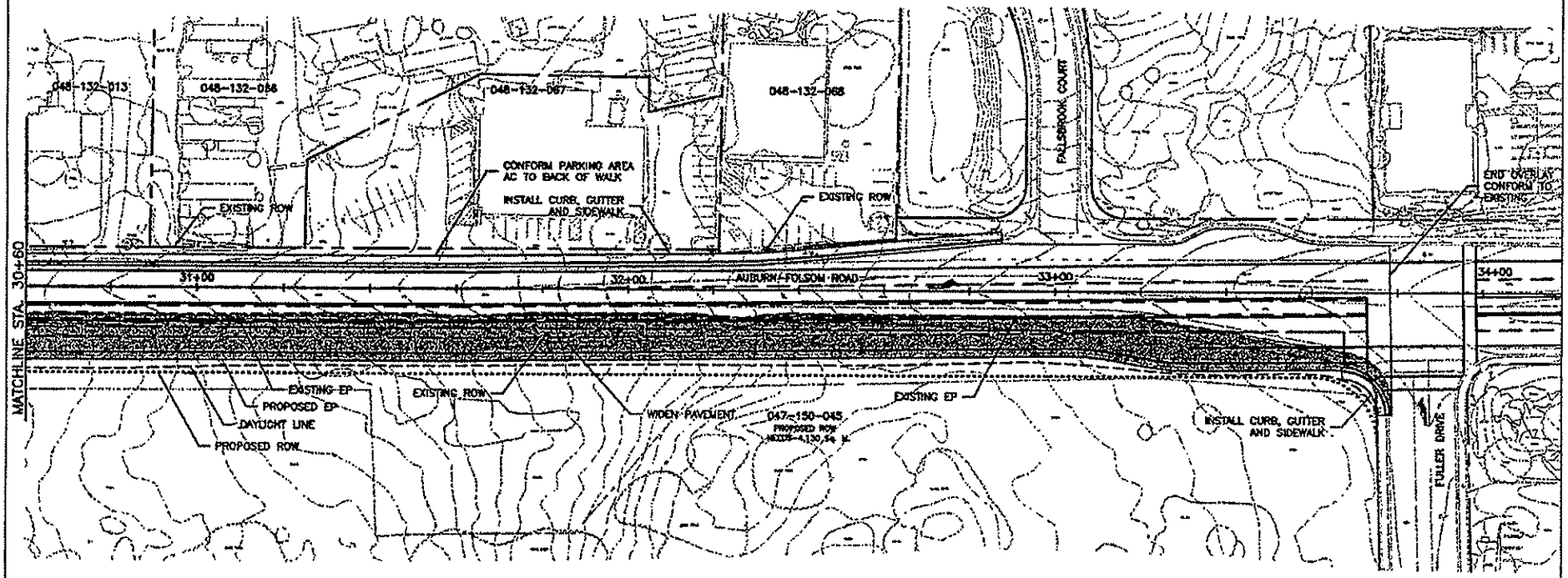
NO SHRUBS

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure 3h
Locations of Elderberry Shrubs within the Project Area



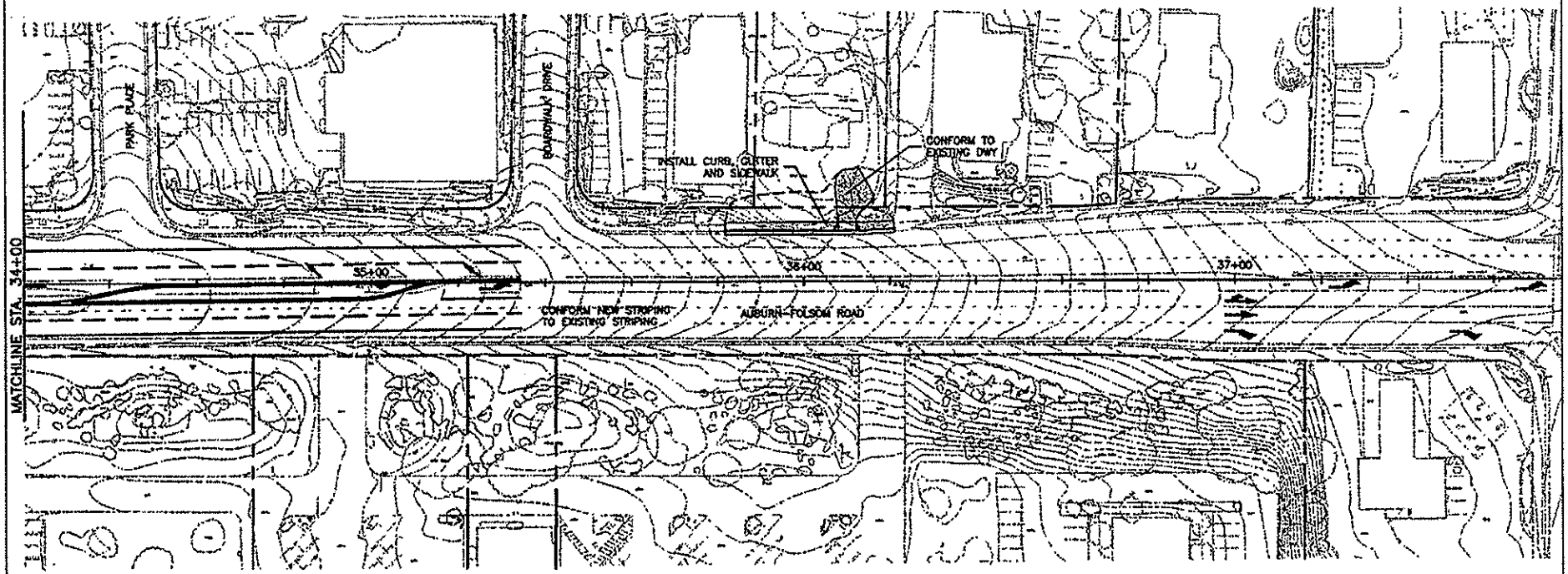
NO SHRUBS

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure 3i
Locations of Elderberry Shrubs within the Project Area



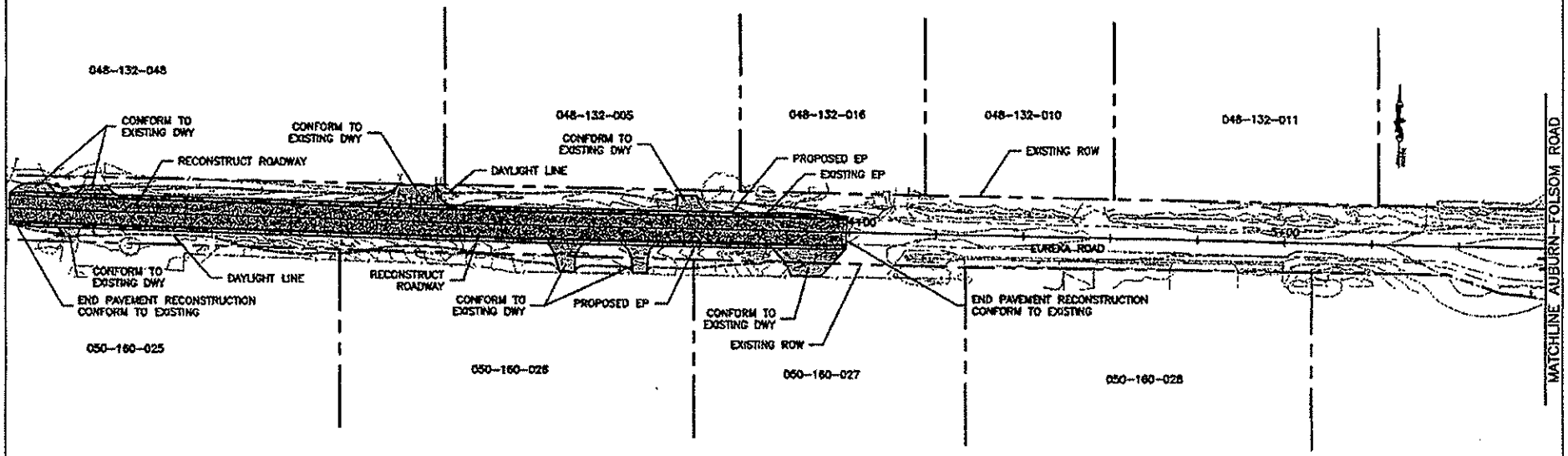
NO SHRUBS

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure 3j
Locations of Elderberry Shrubs within the Project Area



NO SHRUBS

Source: Placer County 2002.

02102.02 034 (10/02)

Jones & Stokes

Figure 3k
Locations of Elderberry Shrubs within the Project Area

proposed road-widening activities (Table 2) and shall be compensated for by Placer County DPW (location of shrubs is depicted in Figure 3).

Table 1. USFWS-Approved Compensation Ratios for VELB Habitat

Location	Stems (diameter in centimeters [inches] at ground level)	Exit Holes Y/N?	Elderberry Seedling Ratio	Associated Native Plant Ratio
Nonriparian	2.5–7.6 (1–3)	No:	1:1	1:1
		Yes:	2:1	2:1
Nonriparian	7.6–12.7 (3–5)	No:	2:1	1:1
		Yes:	4:1	2:1
Nonriparian	>12.7 (>5)	No:	3:1	1:1
		Yes:	6:1	2:1
Riparian	2.5–7.6 (1–3)	No:	2:1	1:1
		Yes:	4:1	2:1
Riparian	7.6–12.7 (3–5)	No:	3:1	1:1
		Yes:	6:1	2:1
Riparian	>12.7 (>5)	No:	4:1	1:1
		Yes:	8:1	2:1

Table 2. Summary of Stem Counts for Elderberry Shrubs along the Project Alignment

Shrub Identification Number	Directly Affected Y/N?	Presence of Exit Holes Y/N?	Riparian Habitat Y/N?	Number of Stems (By Diameter)		
				2.5–7.6 cm (1–3 in.)	7.6–12.7 cm (3–5 in.)	>12.7 cm (>5 in.)
1	N	N	N	2	0	0
2	Y	N	N	2	0	0
3	N	N	N	0	3	1
4	N	N	N	0	2	0
5	N	N	N	6	3	0
6	Y	N	N	2	1	0
7	Y	N	N	2	0	0
8	Y	N	N	1	0	1
9	Y	N	N	2	0	0
Total Stem Counts				17	9	2

Using the compensation ratios presented in Table 1 and information presented in Table 2, a total of 14 elderberry seedlings [(9 at 1:1 = 9) + (1 at 2:1 = 2) + (1 at 3:1 = 3)] would be required to compensate for removal or destruction of VELB habitat within 6 meters (20 feet) of construction activities. The compensation ratio for associated native plantings is 1:1, for a total of 11 (9+1+1) associated native plantings. These compensation ratios reflect the fact that none of the shrubs located in the potential impact area contains exit holes or occurs in riparian habitat.

Compensation for the removal or destruction of VELB habitat is described below.

Placer County DPW will purchase credits at the Wildland's Sheridan Conservation Bank in Placer County, which is a USFWS-approved mitigation bank. The cost to establish a conservation area for VELB at this bank is estimated to be $1,500 per unit; each unit includes five elderberry seedlings and five associated riparian plantings. At least three mitigation units (14 plantings) would be required to compensate for direct effects on VELB habitat, as computed above. Only whole units can be purchased. The cost to purchase three units is estimated to be $4,500; however, the exact cost will be determined at the time of purchase.

Mitigation Measure 5. Conduct Mandatory Contractor/Worker Awareness Training for Construction Personnel

Before any work occurs in the project area, including grading, a USFWS-approved biologist shall conduct mandatory contractor/worker awareness training for construction personnel. If new construction personnel are added to the project, the contractor shall ensure that the personnel receive the mandatory training before starting work.

VI. Project Area

The project area includes the proposed construction corridor and staging areas and extends an additional 30 meters (100 feet) beyond those areas.

VII. Species Account and Status of the Species in the Project Area

Based on a review of existing information provided by USFWS (Attachment A), biologists developed a list of special-status species identified as having potential to occur in the project area and vicinity. This list comprised 11 wildlife species that are federally listed as endangered, threatened, proposed for listing, or candidate for listing. Biologists also reviewed the 2002 CNDDB for the Auburn, Gold Hill, Greenwood, Colfax, Lake Combie, Wolf, Rocklin, Pilot Hill, and Coloma USGS 7.5-minute quadrangles (Attachment B). The locations of CNDDB-recorded observations within a 16-kilometer (10-mile) radius of the project area are depicted on Figures 4a and 4b. Five federally listed wildlife species (vernal pool fairy shrimp, vernal pool tadpole shrimp, VELB, bank swallow, and bald eagle) are known to occur within 16 kilometers (10 miles) of the project area. No suitable habitat is present in the project area for vernal pool fairy shrimp, vernal pool tadpole shrimp, or bank swallow. Suitable habitat (i.e., blue elderberry shrubs) for VELB is present in the project area, and the bald eagle is an occasional winter visitor but does not breed in the project region. The remaining six species on the USFWS list are not known to occur in the project region, and suitable habitat is not present in the project area.

VELB is the only species discussed in this BA; a species account for VELB is provided below.

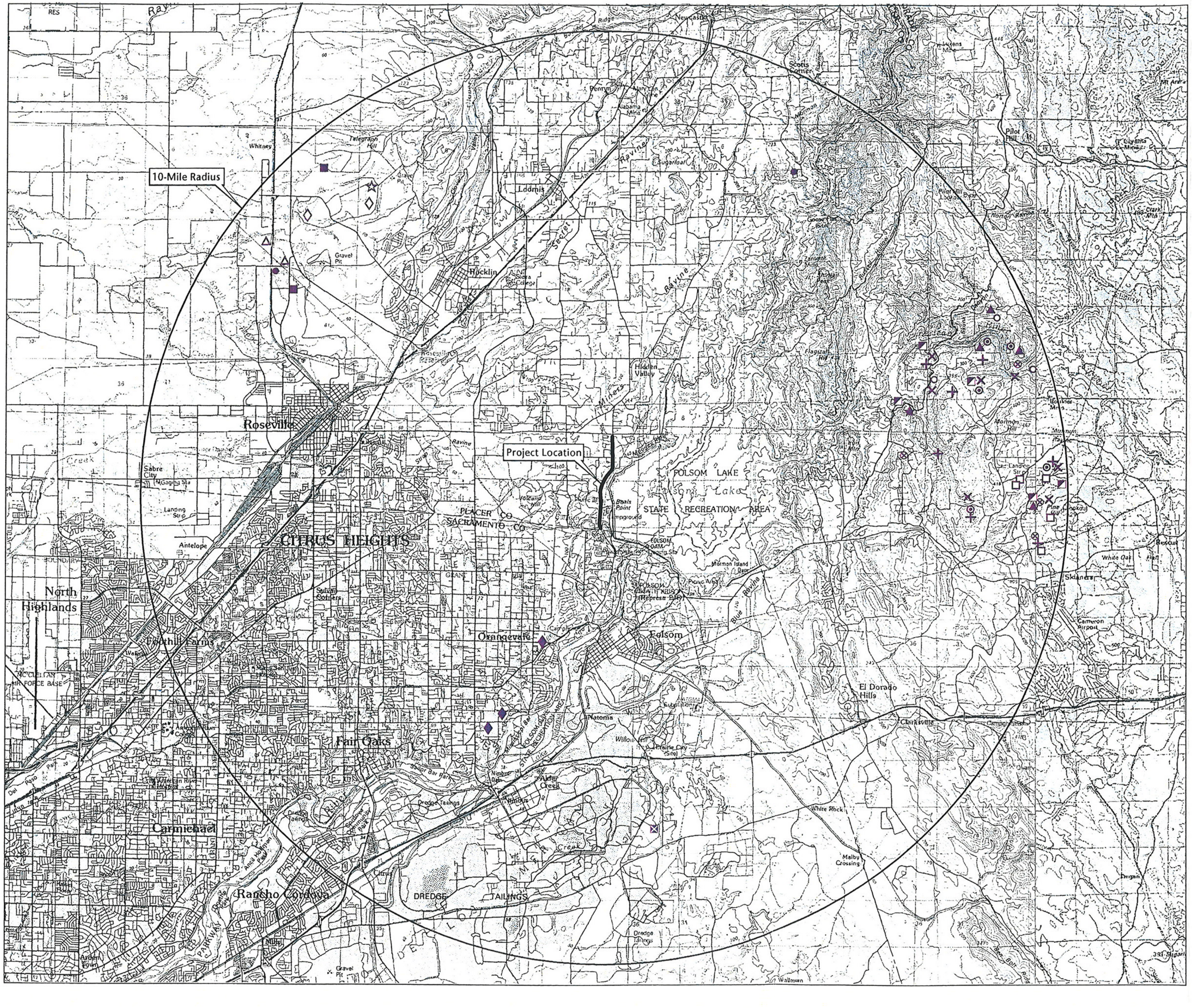


Figure 4a
Records of Special-Status Plant Species within 10 Miles of the Auburn-Folsom Road Widening Project

Legend

- ● *Balsamorphiza macrolepis* var. *macrolepis*
- ○ *Calystegia stebbinsii*
- ⊗ *Ceanothus roderickii*
- ⊙ *Chlorogalum grandiflorum*
- ★ *Clarkia biloba* ssp. *brandegeae*
- ☆ *Cordylanthus mollis* ssp. *hispidus*
- ■ *Downingia pusilla*
- □ *Fremontodendron decumbens*
- ◩ *Galium californicum* ssp. *sierrae*
- ⊠ *Gratiola heterosepala*
- ▲ *Helianthemum suffrutescens*
- △ *Juncus leiospermus* var. *leiospermus*
- ◇ *Legenere limosa*
- ◆ *Orcuttia viscida*
- + *Senecio layneae*
- × *Wyethia reticulata*

(original maps reduced to 75% of original size)

Base Map: Portions of USGS 30 x 60-Minute Series 1:100,000-scale Sacramento (1994), and Placerville (PR 1988), California, quadrangles

Jones & Stokes

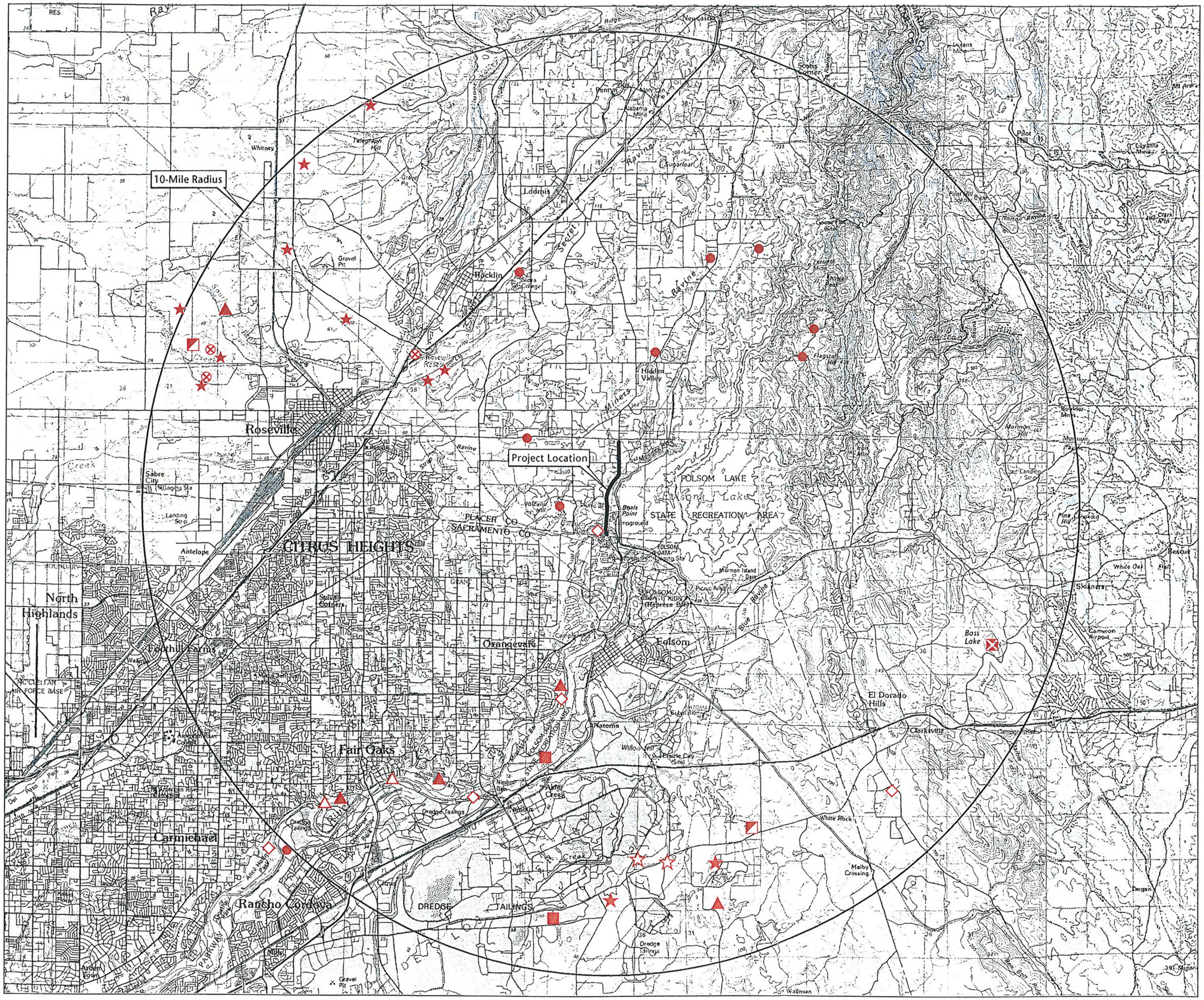


Figure 4b
Records of Special-Status Wildlife Species within 10 Miles of the Auburn-Folsom Road Widening Project

Legend

- Valley elderberry longhorn beetle
- Vernal pool fairy shrimp
- Vernal pool tadpole shrimp
- Western spadefoot toad
- Western pond turtle
- Bank swallow
- White-tailed kite
- Cooper's hawk
- Swainson's hawk
- Bald eagle

16–17°

TN mN

0 1 2 3 4 5

Miles

(original maps reduced to 75% of original size)

Base Map: Portions of USGS 30 x 60-Minute Series 1:100,000-scale Sacramento (1994), and Placerville (PR 1988), California, quadrangles

Jones & Stokes

Jones & Stokes wildlife biologist Angela Alcala conducted reconnaissance-level field surveys in the project area on May 22 and July 11, 2002, to assess habitat suitability for sensitive wildlife species. During the surveys, Ms Alcala also mapped the locations of elderberry shrubs found within 30 meters (100 feet) of the project alignment onto construction drawings provided by Placer County (scale: 2.5 centimeters = 25.3 meters [1 inch = 83 feet]). A subsequent field visit was conducted on August 9, 2002, to obtain the precise location of elderberry shrubs using a global positioning system (GPS). These locations were plotted onto the final construction drawings and are shown in Figure 3.

A. Valley Elderberry Longhorn Beetle

Legal Status and Distribution

VELB is federally listed as a threatened species (Federal Register [FR] 45:52803). VELB was first described in 1921 from specimens collected in Sacramento (U.S. Fish and Wildlife Service 1984). By 1984, VELB was known from only three Central Valley drainages: the Merced River, Putah Creek, and the American River. Additional field surveys in the 1980s detected new locations of VELB through collections of adult beetles or observations of emergence (exit) holes in blue elderberry stems. The new locations included the Yuba, American, Cosumnes, Sacramento, Mokelumne, Calaveras, San Joaquin, Middle Fork of the American, Tuolumne, Stanislaus, and Merced River drainages. VELB's range extends throughout the associated foothills of the Central Valley in California, from Kern County in the south (Jones & Stokes Associates 1985, 1986, 1987) to Shasta County in the north.

Life History and Habitat Requirements

VELB is closely associated with blue elderberry, an obligate host for beetle larvae. The blue elderberry is considered a typical riparian shrub (Roberts et al. 1977, Katibah et al. 1984, Warner 1984) in California. It is a hardy shrub that successfully grows in a variety of riparian habitat types. In a study of Sacramento Valley riparian vegetation, Conard et al. (1977) found that blue elderberry grows mainly at an intermediate elevation level in the floodplain in association with box elder (*Acer negundo*) and buttonbush (*Cephalanthus occidentalis*). Where there is a source of water, elderberry shrubs grow in nonriparian habitats. However, most VELB occurrences are known from elderberry shrubs in or adjacent to riparian communities.

VELB's life history is assumed to follow a sequence of events similar to those of related taxa. Female beetles deposit eggs in crevices in the bark of living elderberry plants. Presumably, the eggs hatch shortly after they are laid, and the larvae bore into the pith of the trunk or stem. When larvae are ready to pupate, they move through the pith of the plant, open an emergence hole through the bark, and return to the pith for pupation. Adults exit through the emergence holes and can sometimes be found on elderberry foliage, flowers, or stems or on

adjacent vegetation. The entire life cycle of VELB is thought to encompass 2 years from the time eggs are laid and hatch to the time adults emerge and die (U.S. Fish and Wildlife Service 1984).

The presence of exit holes in elderberry stems indicates previous use by VELB. Exit holes are cylindrical and approximately 0.64 centimeter (0.25 inch) in diameter. Exit holes can be found on stems that are 2.5–20 centimeters (1–8 inches) in diameter. On the stems, holes may be located from a few inches above the ground to about 2.7–3 meters (9–10 feet) above the ground (Barr 1991).

Adult VELB can fly, although they are considered poor fliers. There is no information about the seasonal movements of this beetle. The movements of VELB are not well understood, but they probably follow drainage courses where elderberry shrubs are most common.

Reason for Decline

VELB has probably always been rare and of limited abundance (U.S. Fish and Wildlife Service 1984); information on the species' historic distribution and abundance is scarce. However, the substantial reduction in Central Valley riparian vegetation in the last 150 years suggests that the beetle's range has contracted and the remaining populations are discontinuous (U.S. Fish and Wildlife Service 1984).

Because the information on VELB population and distribution is limited, it is not possible to accurately assess the species' population status. However, based on the extent of habitat loss in the Central Valley, it is likely that populations have declined.

Occurrence in the Project Area

There are no records of VELB occurring in the project area. However, suitable habitat for VELB (i.e., blue elderberry shrubs) was identified in and adjacent to the project area. A total of nine elderberry shrubs were observed within 30 meters 100feet) of the proposed action (Figure 3). All nine shrubs had stems measuring at least 2.5 centimeters (1.0 inch) in diameter at ground level. The number and size of stems present on each shrub are listed above in Table 2.

A review of the CNDDB produced eight records for VELB occurrences within a 16-kilometer (10-mile) radius of the project area (California Natural Diversity Database 2002) (Figure 4b). The closest reported occurrence of VELB is located approximately 1.6 kilometers (1 mile) west of the study area.

VIII. Effects

The information in this section is based on the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999) and informal consultation with USFWS.

A. Direct Effects

As defined under ESA, direct effects are caused by the proposed project and occur at the time of the project.

Valley Elderberry Longhorn Beetle

Potential direct effects on VELB in the project area could result from all road-widening activities (including grading, paving, and equipment staging) within 6 meters (20 feet) of the dripline of an elderberry shrub that result in the removal or destruction of the shrub. Direct effects involving the removal or destruction of VELB habitat would be considered to have an adverse effect on VELB potentially occurring in the project area, as defined by USFWS (U.S. Fish and Wildlife Service 1999). All elderberry shrubs directly affected by the proposed project will require compensation by transplanting shrubs and/or planting seedlings in a conservation area.

Implementation of the proposed project would result in direct effects on five elderberry shrubs in the project area. For the purpose of this BA, it is assumed that these shrubs cannot be avoided because of their close proximity to project activities and will therefore require transplanting.

B. Indirect Effects

As defined under ESA, indirect effects are caused by the proposed project and occur later in time and are reasonably certain to occur.

Valley Elderberry Longhorn Beetle

Indirect effects on VELB potentially occurring in the project area include increases in dust accumulation on shrubs from ground-disturbing activities, changes in hydrology around shrubs, and removal of associated woodland species that could result in the subsequent death of the shrub and loss of VELB habitat. A total of four elderberry shrubs occur within 30 meters (100 feet) but farther than 6 meters (20 feet) from proposed road-widening activities and could be indirectly affected by the proposed project.

Ground-disturbing activities occurring within 30 meters (100 feet) of an elderberry shrub could cause an accumulation of dust on elderberry shrubs, altering VELB habitat. Dust control measures will be implemented as part of the proposed project to minimize the effect of dust on VELB habitat.

Implementation of the proposed project would not change the hydrology of the existing habitat because water flows from east to west and the new section of roadway will not act as a barrier to overland flow or change the flow pattern of water runoff.

Associated plant species in this habitat include blue oak, interior live oak, buckeye, poison oak, and coyote bush. Tree and shrub removal activities along Auburn-Folsom Road in the project area will be minimized to the greatest extent possible and will involve only the removal of trees and shrubs necessary to construct the proposed project.

C. Interrelated and Interdependent Effects

Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are actions that have no independent utility apart from the action under consideration.

The proposed Auburn-Folsom Road Widening Project is not part of a larger action. However, south of the project limits and within Sacramento County, the City of Folsom has proposed to widen Folsom-Auburn Road from two to four lanes. The City of Folsom and the Federal Highway Administration (FHWA) prepared an Environmental Assessment/Environmental Impact Report (EA/EIR) for the project in March 2002. The EIR was certified by the City of Folsom in July 2002. As of September 2002, FHWA had not yet signed the Finding of No Significant Impact (FONSI). The proposed Auburn-Folsom Road Widening Project would ultimately match the widened roadway to the south. The widening of Auburn-Folsom Road south of the proposed project is considered an independent action because it can proceed with or without the proposed project. Widening one section of the roadway would improve conditions in one area and can proceed without necessitating the widening of the other section.

IX. Cumulative Effects

The *Endangered Species Handbook* (U.S. Fish and Wildlife Service 1998) states that cumulative effects under ESA include all future, nonfederal actions "reasonably certain to occur" in the project area. Future federal actions that are unrelated to the proposed project are not considered in the cumulative effects analysis because these actions would require separate consultation pursuant to Section 7 of ESA.

Other nonfederal projects that would most likely occur in the project area include residential and commercial development. These nonfederal actions are based on

approved land used plans. The majority of present development in the project area occurs along the west side of Auburn-Folsom Road. Additional habitat for VELB is located on the east side of Auburn-Folsom Road in and adjacent to the project area. This habitat occurs within a state recreation area and is protected from future residential and urban development.

X. Analysis of Alternate Actions

The proposed project, as described above, was designed from an initial evaluation of three alternative designs, which were studied by the project design team under the direction of the County and evaluated in equal detail. A brief description of the three initial alternatives that were evaluated is provided below.

A. Alternative 1: Widen Roadway to the West

Alternative 1 proposes to widen Auburn-Folsom Road to the west. The existing southbound and northbound travel lanes would become northbound lanes under this alternative. A median/two-way left-turn lane and two southbound lanes would be added to the west. Both the horizontal and vertical elements of the curve north of Lou Place would be redesigned to achieve a design speed of 55 mph. The volume of material to be excavated under Alternative 1 is 65,200 cubic meters (85,278 cubic yards). Approximately 2.06 hectares (5.10 acres) of land would need to be acquired from portions of 35 parcels, with an estimated 6.5% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $9,950,000.

B. Alternative 2: Widen Roadway to the East

Alternative 2 proposes to widen Auburn-Folsom Road to the east. The existing southbound and northbound travel lanes would become southbound lanes under this alternative. A median/two-way left-turn lane and two northbound lanes would be added to the east. Both the horizontal and vertical elements of the curve north of Lou Place would be redesigned to achieve a design speed of 55 mph. The volume of material to be excavated under Alternative 2 is 83,300 cubic meters (108,952 cubic yards). Approximately 2.21 hectares (5.45 acres) of land would need to be acquired from portions of 9 parcels, with an estimated 57% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $10,775,000.

C. Alternative 3: Widen Roadway Equally on Both Sides

Alternative 3 proposes to widen Auburn-Folsom Road equally on both sides. The existing southbound and northbound travel lanes would become the median and center lanes under this alternative. Structural roadway sections would be added to both sides of the existing pavement. Both the horizontal and vertical elements of the curve north of Lou Place would be redesigned to achieve a design speed of 55 mph. The volume of material to be excavated under Alternative 3 is 72,100 cubic meters (94,303 cubic yards). Approximately 1.15 hectares (2.83 acres) of land would need to be acquired from portions of 21 parcels, with an estimated 19% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $9,819,000.

D. No-Build Alternative

Under the No-Build Alternative, Placer County would not widen Auburn-Folsom Road in the project area. Drivers would continue to experience delays and operational problems in the area and, as traffic volumes increase, the traffic level of service would degrade further.

XI. Conclusion and Determination

This BA represents Reclamation's biological assessment of the effects of the proposed project on the threatened VELB (*Desmocerus californicus dimorphus*), in accordance with Section 7 of ESA of 1973, as amended. A BA may conclude that the proposed project would:

- have *no effect*—the effects of the project would not affect any listed species or its critical habitat;
- *may affect, not likely to adversely affect*—the effects of the project on a species or its critical habitat are likely to be insignificant, discountable, or wholly beneficial; informal consultation is required; or
- *may affect, likely to adversely affect*—the project is likely to directly or indirectly have an adverse effect on a listed species or its critical habitat; formal consultation is required.

Based on the information presented in this BA, including the description of the proposed project, nine elderberry shrubs that potentially provide habitat for VELB could be directly affected (transplanted or destroyed) or indirectly effected (dust accumulation) by construction activities that occur within 30 meters (100 feet) of a shrub. Because removal of any elderberry shrub is considered "Take" of VELB habitat (as defined under the federal ESA), the proposed action "may affect, and is likely to adversely affect" the valley elderberry longhorn beetle.

Because the proposed action is only removing five elderberry shrubs and there is a high abundance of elderberry shrubs in the project vicinity (Folsom Lake SRA), the proposed action would not jeopardize the local population of VELB.

Mitigation measures have been identified above to minimize direct and indirect effects on elderberry shrubs to the greatest extent possible.

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XIII. List of Contacts/Contributors/Preparers

Angela Alcala. Wildlife Biologist. B.S., wildlife, fisheries, and conservation biology, 1999. University of California, Davis, California. Three years of experience in conducting wildlife surveys and habitat assessments and preparing documentation and analysis of biological resources and impacts.

Attachment A

U.S. Fish and Wildlife Service Sensitive Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W2605
Sacramento, California 95825

IN REPLY REFER TO:
1-1-02-SP-2881

August 15, 2002

Ms. Angela Alcala
Wildlife Biologist
Jones and Stokes
2600 V Street
Sacramento, California 95818-1914

Subject: Species List for Auburn-Folsom Road Widening. Douglas Boulevard South to Placer County Boundary. Two Lanes to Four, Placer County, California

Dear Ms. Alcala:

We are sending the enclosed list in response to your August 6, 2002, request for information about endangered and threatened species (Enclosure A). The list covers the following U.S. Geological Survey 7½ minute quad of Folsom.

Please read *Important Information About Your Species List* (enclosed). It explains how we made the list and describes your responsibilities under the Endangered Species Act. Please contact Justin Ly at (916) 414-6645, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Species Lists at this address. You may fax requests to 414-6712 or 414-6713. You may also email them to harry_mossman@fws.gov.

Sincerely,

for Jan C. Knight
Chief, Endangered Species Division

Enclosures

GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS

(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.

2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations is not available, investigators should study specimens from local herbaria.

3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.

4. Report results of botanical field inventories that include:

   a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species

   b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name

   c. survey dates and survey methodology(ies)

   d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made

   e. a comprehensive list of all vascular plants occurring on the project site for each habitat type

   f. current and historic land uses of the habitat(s) and degree of site alteration

   g. presence of target species off-site on adjacent parcels, if known

h. an assessment of the biological significance or ecological quality of the project site in a local and regional context

5. If target species is(are) found, report results that additionally include:

   a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project

   b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.

   c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.

   d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.

6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.

7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than three years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.

8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.

9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-02-SP-2881

Auburn-Folsom Road Widening

August 13, 2002

QUAD: 511B FOLSOM

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Sacramento Orcutt grass, *Orcuttia viscida* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
spotted bat, *Euderma maculatum* (SC)
greater western mastiff-bat, *Eumops perotis californicus* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
long-legged myotis bat, *Myotis volans* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
short-eared owl, *Asio flammeus* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
Aleutian Canada goose, *Branta canadensis leucopareia* (D)
Swainson's hawk, *Buteo Swainsoni* (CA)
ferruginous hawk, *Buteo regalis* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Vaux's swift, *Chaetura vauxi* (SC)
black tern, *Chlidonias niger* (SC)
black swift, *Cypseloides niger* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
American peregrine falcon, *Falco peregrinus anatum* (D)
loggerhead shrike, *Lanius ludovicianus* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
long-billed curlew, *Numenius americanus* (SC)
Nuttall's woodpecker, *Picoides nuttallii* (SLC)
white-faced ibis, *Plegadis chihi* (SC)
bank swallow, *Riparia riparia* (CA)
rufous hummingbird, *Selasphorus rufus* (SC)
Brewer's sparrow, *Spizella breweri* (SC)
California thrasher, *Toxostoma redivivum* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Spea hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

pincushion navarretia, *Naverretia myersii spp. myersii* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(SLC)	*Species of Local Concern*	Species of local or regional concern or conservation significance.
(MB)	*Migratory Bird*	Migratory bird
NMFS	NMFS species	Under the jurisdiction of the National Marine Fisheries Service. Contact them directly.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
(*)	*Extirpated*	Possibly extirpated from this quad.
(**)	*Extinct*	Possibly extinct.
	Critical Habitat	Area essential to the conservation of a species.

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by
Projects in the Area of the Following California Counties
Reference File No. 1-1-02-SP-28812881

Auburn-Folsom Road Widening

August 13, 2002

PLACER COUNTY

Listed Species

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

California tiger salamander, *Ambystoma californiense* (C/E)

Fish

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T) NMFS

Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Lahontan cutthroat trout, *Oncorhynchus (=Salmo) clarki henshawi* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

delta smelt, *Hypomesus transpacificus* (T) *

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Invertebrates

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Truckee barberry, *Berberis sonnei* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Plants

Tahoe yellow-cress, *Rorippa subumbellata* (C)

slender Moonwort (= narrowleaf grapefern), *Botrychium lineare* (C) *

Species of Concern

Mammals

American (=pine) marten, *Martes americana* (SC)

California wolverine, *Gulo gulo luteus* (CA)

Pacific fisher, *Martes pennanti pacifica* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Sierra Nevada red fox, *Vulpes vulpes necator* (CA)

Sierra Nevada snowshoe hare, *Lepus americanus tahoensis* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

pale Townsend's big-eared bat, *Corynorhinus (=Plecotus) townsendii pallescens* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

spotted bat, *Euderma maculatum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American dipper, *Cinclus mexicanus* (SLC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Brewer's sparrow, *Spizella breweri* (SC)

California spotted owl, *Strix occidentalis occidentalis* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Swainson's hawk, *Buteo Swainsoni* (CA)

Vaux's swift, *Chaetura vauxi* (SC)

bank swallow, *Riparia riparia* (CA)

black swift, *Cypseloides niger* (SC)

common loon, *Gavia immer* (SC)

ferruginous hawk, *Buteo regalis* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
long-billed curlew, *Numenius americanus* (SC)
northern goshawk, *Accipiter gentilis* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
short-eared owl, *Asio flammeus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-headed woodpecker, *Picoides albolarvatus* (SLC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

Mount Lyell salamander, *Hydromantes platycephalus* (SC)
foothill yellow-legged frog, *Rana boylii* (SC)
mountain yellow-legged frog, *Rana muscosa* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)
green sturgeon, *Acipenser medirostris* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Lake Tahoe benthic stonefly, *Capnia lacustra* (SC)
Sagehen Creek goracean caddisfly, *Goeracea oregona* (SC)
Shirttail Creek stonefly, *Megaleuctra sierra* (SC)
South Forks ground beetle, *Nebria darlingtoni* (SC)
spiny rhyacophilan caddisfly, *Rhyacophila spinata* (SC)

Plants

Ahart's (dwarf) rush, *Juncus leiospermus var. ahartii* (SC)
Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)

Brandegee's clarkia, *Clarkia biloba ssp brandegeae* (SLC)
Butte fritillary, *Fritillaria eastwoodiae* (SC)
Carson Range rock cress, *Arabis rigidissima var. demota* (SC)
Donner Pass buckwheat, *Eriogonum umbellatum var. torreyanum* (SC)
Plumas ivesia, *Ivesia sericoleuca* (SC)
Red Hills soaproot, *Chlorogalum grandiflorum* (SC)
Stebbins' phacelia, *Phacelia stebbinsii* (SC)
big-scale (=California) balsamroot, *Balsamorhiza macrolepis var macrolepis* (SLC)
common moonwort, *Botrychium lunaria* (SC)
felt-leaved (=woolly) violet, *Viola tomentosa* (SLC)
hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)
legenere, *Legenere limosa* (SC)
long-petaled lewisia, *Lewisia longipetala* (SC)
saw-toothed lewisia, *Lewisia serrata* (SC)
stinkbells, *Fritillaria agrestis* (SLC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	Other species of concern to the Service.
(SLC)	*Species of Local Concern*	Species of local or regional concern or conservation significance.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
NMFS	NMFS species	Under jurisdiction of the National Marine Fisheries Service. Contact them directly.
*	*Extirpated*	Possibly extirpated from the area.
**	*Extinct*	Possibly extinct
	Critical Habitat	Area essential to the conservation of a species.

Attachment B

California Natural Diversity Database Search Results

Search of the Folsom and 8 Surrounding 7.5 Minute Quadrangles

Common/Scientific Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
AHART'S DWARF RUSH *JUNCUS LEIOSPERMUS VAR AHARTII*	None/ None	G2T1/ S1.2	1B/ 3-2-3	
ALKALI MEADOW	None/ None	G3/ S2.1		
ALKALI SEEP	None/ None	G3/ S2.1		
BALD EAGLE *HALIAEETUS LEUCOCEPHALUS*	Threatened/ Endangered	G4/ S2		
BANK SWALLOW *RIPARIA RIPARIA*	None/ Threatened	G5/ S2S3		
BIG-SCALE BALSAMROOT *BALSAMORHIZA MACROLEPIS VAR MACROLEPIS*	None/ None	G3T2/ S2.2	1B/ 2-2-3	
BISBEE PEAK RUSH-ROSE *HELIANTHEMUM SUFFRUTESCENS*	None/ None	G2Q/ S2.2	3/ 2-2-3	
BOGGS LAKE HEDGE-HYSSOP *GRATIOLA HETEROSEPALA*	None/ Endangered	G3/ S3.1	1B/ 1-2-2	
BRANDEGEE'S CLARKIA *CLARKIA BILOBA SSP BRANDEGEAE*	None/ None	G4T2/ S2.2	1B/ 2-2-3	
BURROWING OWL *ATHENE CUNICULARIA*	None/ None	G4/ S2		SC
CALIFORNIA LINDERIELLA *LINDERIELLA OCCIDENTALIS*	None/ None	G2G3/ S2S3		
COOPER'S HAWK *ACCIPITER COOPERII*	None/ None	G5/ S3		SC
DWARF DOWNINGIA *DOWNINGIA PUSILLA*	None/ None	G3/ S3.1	2/ 1-2-1	

Search of the Folsom and 8 Surrounding 7.5 Minute Quadrangles

Common/Scientific Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
EL DORADO BEDSTRAW *GALIUM CALIFORNICUM SSP SIERRAE*	Endangered/ Rare	G5T1/ S1.2	1B/ 3-2-3	
EL DORADO COUNTY MULE EARS *WYETHIA RETICULATA*	None/ None	G2/ S2.2	1B/ 2-2-3	
GIANT GARTER SNAKE *THAMNOPHIS GIGAS*	Threatened/ Threatened	G2G3/ S2S3		
GREAT BLUE HERON *ARDEA HERODIAS*	None/ None	G5/ S4		
GREAT EGRET *ARDEA ALBA*	None/ None	G5/ S4		
HISPID BIRD'S-BEAK *CORDYLANTHUS MOLLIS SSP HISPIDUS*	None/ None	G2T2/ S2.1	1B/ 2-3-3	
LAYNE'S RAGWORT *SENECIO LAYNEAE*	Threatened/ Rare	G2/ S2.1	1B/ 2-2-3	
LEGENERE *LEGENERE LIMOSA*	None/ None	G2/ S2.2	1B/ 2-3-3	
MIDVALLEY FAIRY SHRIMP *BRANCHINECTA MESOVALLENSIS*	None/ None	G2/ S2		
NORTHERN HARDPAN VERNAL POOL	None/ None	G3/ S3.1		
NORTHERN VOLCANIC MUD FLOW VERNAL POOL	None/ None	G1/ S1.1		
NORTHWESTERN POND TURTLE *CLEMMYS MARMORATA MARMORATA*	None/ None	G4T4/ S3		SC
PINCUSHION NAVARRETIA *NAVARRETIA MYERSII SSP MYERSII*	None/ None	G1T1/ S1.1	1B/ 3-3-3	
PINE HILL CEANOTHUS *CEANOTHUS RODERICKII*	Endangered/ Rare	G2/ S2.1	1B/ 3-2-3	

Search of the Folsom and 8 Surrounding 7.5 Minute Quadrangles

Common/Scientific Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
PINE HILL FLANNELBUSH *FREMONTODENDRON DECUMBENS*	Endangered/ Rare	G1/ S1.2	1B/ 3-2-3	
RED BLUFF DWARF RUSH *JUNCUS LEIOSPERMUS VAR LEIOSPERMUS*	None/ None	G2T2/ S2.2	1B/ 2-3-3	
RED HILLS SOAPROOT *CHLOROGALUM GRANDIFLORUM*	None/ None	G2/ S2.2	1B/ 2-2-3	
SACRAMENTO ORCUTT GRASS *ORCUTTIA VISCIDA*	Endangered/ Endangered	G1/ S1.1	1B/ 3-3-3	
SANFORD'S ARROWHEAD *SAGITTARIA SANFORDII*	None/ None	G3/ S3.2	1B/ 2-2-3	
SLENDER ORCUTT GRASS *ORCUTTIA TENUIS*	Threatened/ Endangered	G3/ S3.1	1B/ 2-3-3	
STEBBINS'S MORNING-GLORY *CALYSTEGIA STEBBINSII*	Endangered/ Endangered	G1/ S1.1	1B/ 3-3-3	
SWAINSON'S HAWK *BUTEO SWAINSONI*	None/ Threatened	G4/ S2		
TRICOLORED BLACKBIRD *AGELAIUS TRICOLOR*	None/ None	G3/ S3		SC
VALLEY ELDERBERRY LONGHORN BEETLE *DESMOCERUS CALIFORNICUS DIMORPHUS*	Threatened/ None	G3T2/ S2		
VALLEY NEEDLEGRASS GRASSLAND	None/ None	G1/ S3.1		
VERNAL POOL FAIRY SHRIMP *BRANCHINECTA LYNCHI*	Threatened/ None	G2G3/ S2S3		
VERNAL POOL TADPOLE SHRIMP *LEPIDURUS PACKARDI*	Endangered/ None	G2G3/ S2S3		

Search of the Folsom and 8 Surrounding 7.5 Minute Quadrangles

Common/Scientific Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
WESTERN SPADEFOOT *SCAPHIOPUS HAMMONDII*	None/ None	G3?/ S3?		SC
WHITE-TAILED KITE *ELANUS LEUCURUS*	None/ None	G5/ S3		

Appendix K

Linda Creek Hydraulic Study (Bound Separately)

The following hydraulic study is supported by modeling data that are bound separately because of their technical content. These data are available on a limited basis at the Placer County offices in Auburn and at the U.S. Department of the Interior, Bureau of Reclamation.

Appendix K

Linda Creek Hydraulic Study (Bound Separately)

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Linda Creek Hydraulic Study

Introduction

This study provides information and recommendations for the Auburn-Folsom Road crossing of Linda Creek, near Eureka Road in Placer County (County). This report is a preliminary, planning-level study to be used only for development and evaluation of the proposed Auburn-Folsom Road Widening Project alternatives under the California Environmental Quality Act. This report does not satisfy the civil design standards required by the County or the Placer County Flood Control and Water Conservation District (District) to construct the necessary project features.

Sources of Information

This study is based on information from the following references:

- the preliminary project plans (Placer County Department of Public Works, Transportation Division 2002);
- the Dry Creek Watershed Flood Control Plan (Flood Control Plan) (Placer County Flood Control and Water Conservation District and Sacramento County Water Agency 1992); and
- the Hydraulic Engineering Center's (HEC) River Analysis System (RAS) project files, developed by the U.S. Army Corps of Engineers (Corps) for the Dry Creek watershed and provided by the District.

Linda Creek

Linda Creek is a major tributary of Dry Creek. Dry Creek and its tributaries were studied extensively in the early 1990s, after extensive flooding affected the region in the 1986 floods. The District and the Sacramento County Water Agency retained James M. Montgomery Engineers to develop a flood control plan for the Dry Creek watershed, including Linda Creek.

The proposed project would cross Linda Creek approximately 200 feet south of the intersection of Eureka Road and Auburn-Folsom Road (station 28+00)

(Figure 1 [to come]). The existing crossing was studied in the Flood Control Plan. Aerial photographs from 1989 were used to develop watershed models for the Flood Control Plan. The land use estimates for future watershed conditions were based on full buildout of uses identified in the then current general and specific plans. Based on the topography, soils, culvert sizes, channel configuration, and land use information from the air photos and plans, existing and future floodflows for the Linda Creek crossing were calculated (Table 1).

Table 1. Floodflows for Existing and Future Conditions on Linda Creek at Auburn-Folsom Road

	Floodflows (cubic feet per second)					
	2-Year Flood	10-Year Flood	25-Year Flood	100-Year Flood	200-Year Flood	500-Year Flood
Existing conditions (1989)	79	193	255	349	398	455
Future (buildout) conditions	125	291	377	510	582	666

Source: Placer County Flood Control and Water Conservation District and Sacramento County Water Agency 1992.

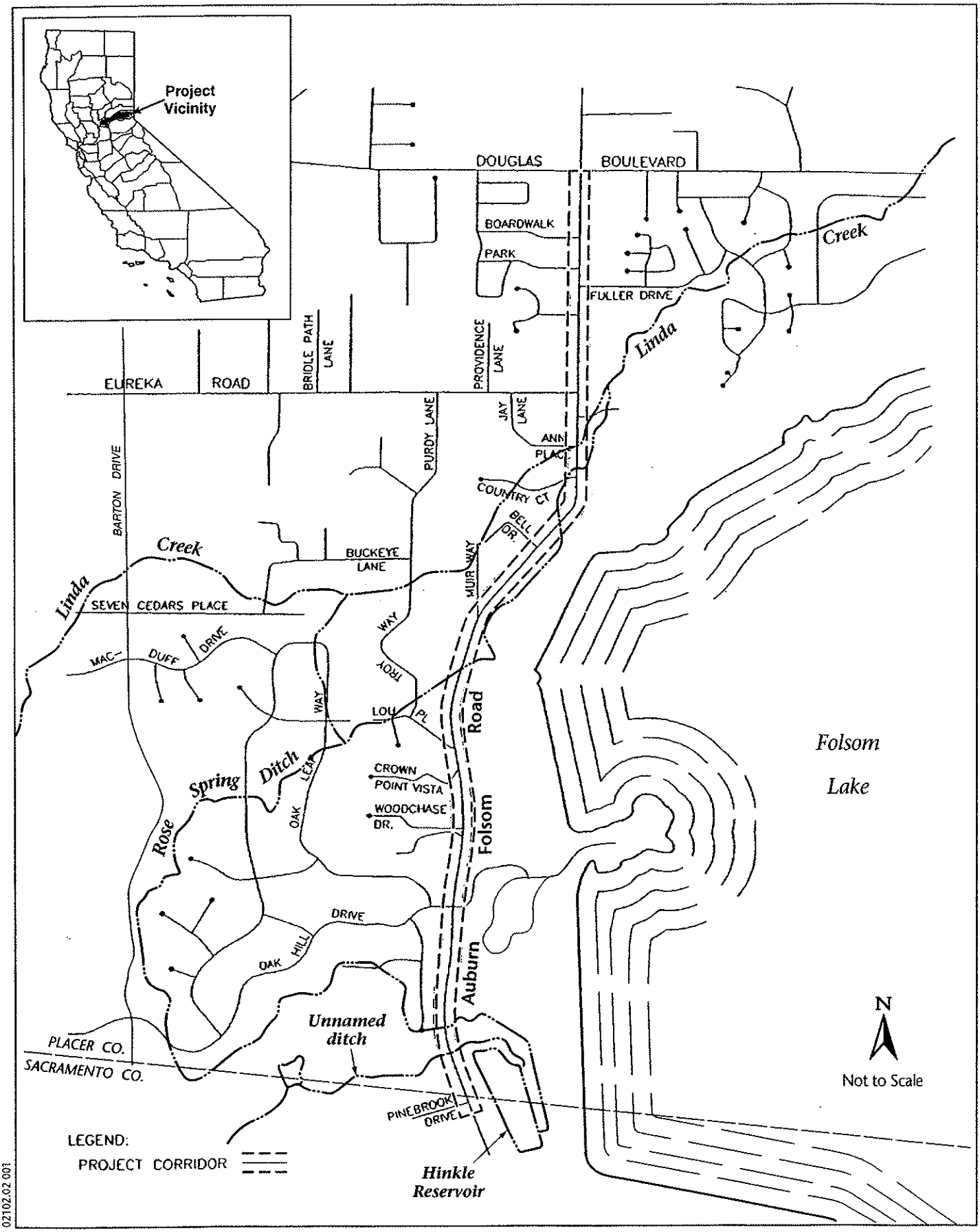
According to the Flood Control Plan and field verification, the existing Linda Creek crossing consists of a 72-foot-long, 4.3- by 6-foot corrugated metal arch culvert with approximately 0.28% slope. The culvert has a capacity of approximately 180 cubic feet per second (cfs). Consequently, during flood events exceeding the 10-year flood, Linda Creek overtops Auburn-Folsom Road.

Based on severe flooding in 1995, the District revised its hydrology model to better match observed flood levels by decreasing the time of concentration (i.e., the overland travel time for water to reach a defined channel), which results in more rapid runoff. The District's assumptions about 100-year floodflows on Linda Creek at Auburn-Folsom Road were increased to 400 cfs for existing conditions and 520 cfs for future conditions.

Existing Conditions

Auburn-Folsom Road crosses Linda Creek just south of the Eureka Road intersection. Because the crossing is located in a topographic low, when the road is overtopped by floodflows, the excess water essentially flows over the road at the same location as the culvert.

Based on a site visit, there is some evidence of erosion where water has flowed over the road, most recently in 1995 or possibly 1997. This erosion appears limited to materials with angular gravels. Because the native soil materials are sandy loams derived from the underlying decomposed granite, the materials with angular gravels are probably fills that were placed when the road was initially constructed. Along the Linda Creek channel in the vicinity of the crossing, the channel is down cut to the more resistant granitic bedrock. Based on the



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Jones & Stokes

Figure 1
Water Resources in the Project Area

confining nature of the underlying granitic materials, there is not a substantial bank stability issue.

Immediately downstream of the crossing, Linda Creek is directed sharply to the north and then almost immediately to the south by large boulder clusters. These changes of direction and confinement by the boulders significantly constrain the channel and likely control the water surface at the outlet of the culvert during high flows.

Assumptions

The following assumptions were made in preparing this study.

- It was assumed that the HEC-RAS input provided by the District was prepared under standard professional practices and that the input data and model results reflect the conditions found at the project site.
- It was assumed that the roadway alignment alternatives for the proposed project would not result in an increase in the flows provided in the HEC-RAS input files. It is not anticipated that, during flood events, there would be substantially more runoff from the new road surface than from the existing ground surface because
    - the soils in the project area that drain to Linda Creek are relatively shallow,
    - the underlying granitic bedrock is largely impermeable, and
    - the alignment alternatives would follow the existing topography.
- It was assumed that the following County and District flood and erosion control requirements would provide the basis for developing project features. These requirements are established in County general plan policies and District policies as follows:
    - **General Plan Policy 4.F. 1.** The County shall require that arterial roadways and expressways, residences, commercial and industrial uses and emergency facilities be protected, at a minimum, from a 100-year storm event.
    - **General Plan Policy 4.F. 14.** The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County's Land Development Manual.
    - **District Policy 2.** The 100-year flood shall be the criterion for measures intended to minimize property damage, injury, and loss of life.

- **District Policy 3a.** Improvements of any kind shall not transfer a problem from one location to another except when the transfer is part of a regional solution to flood problems.
- **District Policy 3b.** Channel modifications which create problems downstream shall be avoided. Potential problems include erosion, downstream sediment deposition, increase of runoff peaks, and debris transport.

Methods

This study was completed using HEC-RAS 3.0.0, which is the standard backwater flood stage model developed and used by the Corps and the District. The program input files provided by the District were from a previous version of HEC-RAS (2.*) and required minor adjustment to accommodate the additional features of the current model version. The adjustments included reducing the width of the bridge decks by 1 foot on the upstream and downstream faces of the bridges, so that there was the minimum required distance between the bridge and the cross sections describing the bridge openings (e.g., culverts, boxes, spans). After making these changes, the model was run, and the results were compared to the output files provided by the District to ensure that the changes did not alter the results. Additional model runs were completed using different input data for the size, shape, and material of the culvert. Model runs were conducted on an iterative basis until an acceptable hydraulic solution was found to conveying the assumed 100-year floodflow for future conditions of 520 cfs without overtopping the Auburn-Folsom Road.

Model Runs

Numerous model runs were completed, with various input data that hypothetically modified the culvert length, size, and material to accommodate the assumed 100-year floodflow for future conditions of 520 cfs without overtopping Auburn-Folsom Road. The strategy was to first evaluate the model results based on the model input files for existing conditions, then modify the input files incrementally to update the geometry input file to the current model version, then increase the length of the culvert to accommodate the proposed roadway width, and finally modify the culvert size, shape, and material to accommodate the specified floodflow. The model runs, their variations, and their results are summarized below.

- Run 1. Description: Model as received from the District. Result: Road is overtopped and downstream water surface elevation is essentially the same as the road crest. This result confirms the field observation that downstream channel confinement controls the water surface at the existing culvert outlet. The roadbed acts as a broad-crested weir, and the culvert is subject to pressure flow (water submerges the culvert inlet).

- Run 2. Description: Model updated to HEC-RAS 3.0.0. Bridges modified to provide the minimum clearance required between bridge face and downstream controlling cross section. Result: Compared to Run 1, no change.
- Run 3. Description: 4.5-foot-diameter corrugated metal pipe (CMP) replaced with 4.3- by 6-foot CMP arch. Originally the input files developed by the Corps were intended to be used with a previous version of the model (HEC-RAS 1 or HEC-2) that could not compute flows through arch culverts. The input files were modified to match the conditions observed in the field. Result: Compared to Run 1, the water surface elevation decreased slightly upstream of the road, and flow over the road decreased.
- Run 4. Description: CMP length increased from 72 feet to 132 feet to accommodate proposed increased roadway width. Result: Compared to Run 1, the water surface elevation increased slightly upstream of the road, and flow over the road increased. This result would be expected because of the decreased culvert capacity caused by increased frictional losses in a longer culvert.
- Run 5. Description: CMP size increased to 5.6 by 7.9 feet, as recommended by the Flood Control Plan to pass the 25-year floodflow. Previously, regulations required only that crossings accommodate the 25-year floodflow. This size culvert is essentially the largest culvert that can fit under the existing roadbed and generally conform to the width of the natural channel upstream of the culvert. Result: Compared to Run 1, upstream water surface decreased by approximately 1 foot and flow over the road decreased.
- Run 6. Description: CMP arch changed to 6- by 8-foot box culvert to maximize conveyance in existing culvert footprint. This size was the maximum box that could fit under the existing road bed and conform to the natural channel. Result: Compared to Run 1, upstream water surface decreased further and flow over the road decreased.
- Run 7. Description: Box culvert increased to 12 feet wide to more closely match the downstream channel. This alternative would require that the upstream channel be modified somewhat to match the box culvert. Result: Compared to Run 1, flow over the road decreased.
- Run 8. Description: Roadbed elevation increased by 2 feet and box culvert height increased to 8 feet (8- by 12-foot box) Result: Passed the 400 cfs floodflow for existing 100-year conditions, but the 520 cfs floodflow for future 100-year conditions still overtopped road.
- Run 9. Description: Roadbed elevation increased by 3.5 feet over existing conditions (398.5 feet above mean sea level) and box height increased to 9 feet (9- by 12-foot box). Result: For the 520 cfs floodflow for future 100-year conditions, the upstream water surface decreased by approximately 5 feet and some flood control benefit was provided upstream (approximately 500 feet to next limiting (undersized) culvert or bridge. Above this point, there is no benefit because the limiting bridge controls the water surface elevation further upstream. Water would flow freely, not under pressure, through the box culvert, and the depth in culvert would be about 2 feet below

the top of the road (396.4 feet). This arrangement would allow for a design that uses the box lid as the road surface, similar to the crossing found on Auburn Folsom Road near the San Juan Suburban Water District Treatment Plant.

Recommendations

Based on the findings of this study, it is recommended that the existing CMP culvert conveying Linda Creek be replaced with a cast-in-place concrete box and that the roadbed be elevated to prevent floodflows from overtopping the road under the 520 cfs floodflow for future 100-year conditions, as required by the County General Plan. Because of downstream channel restrictions, simply increasing the width of the channel and culvert at the crossing will not alleviate overtopping of the road. Although the recommended solution would reduce upstream water surface elevations and thereby reduce the channel storage, the volume reduction would be small because the channel is narrow; there should be no adverse downstream effects. Because of the grade and alignment of the channel in this area, all of the alignment alternatives for the road widening project would require a similar culvert structure—there is no superior alignment alternative from a hydraulic perspective. When a preferred alternative is selected based on other environmental and safety conditions (e.g., sight lines), the following measures can be taken to optimize the box culvert:

- change the box culvert to a trapezoid to better conform to channel banks,
- shape the channel bank approaches to reduce constrictions near inlets and outlets, and
- possibly reduce bridge deck thickness through engineering design, resulting in lowering of the roadbed to minimize the recommended raise of the roadbed.

References Cited

Placer County Department of Public Works, Transportation Division. 2002. *Preliminary project plans for the Auburn-Folsom Road Widening Project.* Auburn, CA.

Placer County Flood Control and Water Conservation District and Sacramento County Water Agency. 1992. *Final report—Dry Creek Watershed Flood Control Plan.* Prepared by J. M. Montgomery Engineers, Sacramento, CA.

Placer County Flood Control and Water Conservation District. 1994. *Storm water management manual.* February. Auburn, CA.

Appendix L

Arborist Report and Tree Removal Analysis

This appendix contains the following:

- Sierra Nevada Arborists' June 2002 letter report and supporting data; the report includes an inventory of trees in the study area
- A summary of tree removal requirements by alternative, including an alternative comparison table and Sierra Nevada Arborists' October 2002 alternative-based tree data

Arborist Report

SIERRA NEVADA ARBORISTS

June 26, 2002

VIA HAND DELIVERY

Ms. Lynn Finley
Project Manager
Jones & Stokes
2600 V Street
Sacramento, California 95818-1914

RE: Auburn-Folsom Road Four Lane Widening Project
JAS Project No. 02102.02.001
Tree Inventory/Assessment

Dear Ms. Finley:

Enclosed please find the Tree Inventory and Assessment, along with a Tree Location Map, which you requested for the Auburn-Folsom Road Four Land Widening Project. As you will recall, my services were retained by Jones & Stokes to conduct a tree survey and prepare an Arborist Report for those trees 6" in diameter and larger located along Auburn-Folsom Road which were within 50 feet of edge of pavement from the Sacramento/Placer County Line to the project limit located slightly west of Douglas Boulevard. The inventory was to identify the type, size and health of all trees located within the study area. It is my understanding that this Arborist Report will be used to evaluate impacts to the native oaks located within the study area and to determine appropriate mitigation measures.

As you will see, the enclosed Tree Inventory/Assessment identifies the trees in the study area by tree number, common name, species identification, and then provides specific data relating to diameter, dripline radius and overall conditional rating. For your ease of reference, Appendix A to the Tree Inventory/Assessment defines the terms and ratings used within this Report.

The Inventory/Assessment has been divided into separate geographical categories using parcel number information or property addresses, as applicable. The Bureau of Reclamation properties are contained within one section. These geographical categories are identified in the Report with subheadings, each of which correspond to the Tree Location Map which has been provided for your reference. In addition, the trees in the field are tagged with metal numbering tags, the numbers of which correspond to the numbers which have been rough-plotted on the Tree Location Map. In some instances, it was not possible to affix the metal tree tag to the tree on the property due to access issues, fencing, dogs, dense black berries and/or severe poison oak. In those circumstances, the tree tags have been affixed to a property fence or accessible location near the subject trees for future reference.

503 Anthony Court ◆ Roseville, CA 95678 ◆ 916-784-7940 ◆ 916-784-1901 Fax

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By way of summary, 796 trees were identified, inventoried and assessed within the study area. Of that total, 679 trees are native trees and 117 are non-native trees. Cumulative inches for the 796 subject trees equals 15,207, comprise of 13,139 inches of native trees and 2,068 inches of non-native trees.

Thank you for allowing Sierra Nevada Arborists to assist you with this project. Please feel free to give me a call if you have any questions or required additional clarification.

Very truly yours,

Edwin E. Stirtz
ISA Certified Arborist WC-0510

EES:ks
Enclosures

JONES & STOKES

Auburn-Folsom Road Four Lane Widening Project

ARBORIST REPORT

Submitted by:

Edwin E. Stirtz
ISA Certified Arborist WC-0510
SIERRA NEVADA ARBORISTS

June 26, 2002

Definitions and Ratings

Within this specific inventory data you will find the following information:

Tree Number: Corresponds to aluminum tag attached to the tree.

Species Identification: Scientific and common species name.

Multi: Indicates all stem diameters of a multiple-trunk tree.

Diameter ("DBH"): This is the trunk diameter as measured in inches at breast height (industry standard 4.5 feet above ground level). This includes the aggregate total of all stems on a "multi".

Dripline radius ("DLR"): Measurement of the tree's dripline in feet from the trunk to the farthest most branch tip.

Structure and Vigor Ratings:

GOOD - A tree in this category has no trunk or root crown cavities or injuries; there is no indication of hollowness; no foreign objects are embedded in its structure; the root crown is above grade; there is no decay present except for small stubs; the structure is strong; the trunk is tapers; the bark thickness is normal; there is no fluxing; no fungus is evident; there is a below average amount of dead limbs and twigs present which is normal for the size and age of the species; there is no co-dominant branching present; there are no large callused areas and any small callusing present is vigorous and intact; there are no abnormally heavy insect infestations; the growth rate is and has been average or above; limb weight is not excessive; buds are normal size and viable; the leaf size, color, and density is normal or better; and barring any unforeseen negative effects, the life expectancy should exceed thirty years.

FAIR - There is no decay or indications of large hollow areas in the large limbs, root crown, or trunk; a few small callused-over foreign objects, e.g., nails, may be present, the structure is strong; no fungus is evident other than small saprophytes on exposed wood; some small, callusing injuries may be present, some small limbs may be dead and decaying but callus is forming at their base; some excessive limb weight may exist; there may be some minor fluxing; the amount of dead limbs and twigs present is within the normal range; some large callused areas may be present; some small cavities and areas of decay may be present; the growth rate is average or slightly below average; and some leaf size, color, and density may vary.

POOR - Significant cavities, dead areas, and decay may be present; the tree is actually defective; fungus fruiting bodies may be present; the amount of dead limbs and twigs is far above normal; major co-dominant branching with embedded bark may be present; buds are small and some may not be viable; leaves may be below average size and may be abnormal in color; significant pest damage may be present; and the predicted structural life and/or viability is less than ten years.

The ratings **"good to fair"** and **"fair to poor"** are used to describe trees that fall between the described major categories and have elements of both.

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure P-F	Condition/Structure F	Condition/Minor P	Condition/Minor P-F	Condition/Minor F	NON NATIVE	NATIVE	COMMENTS
Going South on West Side/Auburn-Folsom from Oak Hill Drive to County Line														
900	Live Oak	*Quercus wislizenii*	5,6,7	18	13			X			X		18	
191	Blue Oak	*Quercus douglasii*		11	16			X			X		11	
192	Live Oak	*Quercus wislizenii*	8,11,11	30	24			X			X		30	
193	Blue Oak	*Quercus douglasii*		16	20			X			X		16	
194	Blue Oak	*Quercus douglasii*		17	23			X			X		17	
195	Blue Oak	*Quercus douglasii*	11,12	23	22		X				X		23	
901	Live Oak	*Quercus wislizenii*	7,12	19	19			X			X		19	
196	Live Oak	*Quercus wislizenii*	8,10,12	30	21			X			X		30	
197	Live Oak	*Quercus wislizenii*	10,13	23	20			X		X			23	
200	Live Oak	*Quercus wislizenii*	8,12	20	27		X			X			20	
198	Live Oak	*Quercus wislizenii*	10,12,12	34	28		X			X			34	
199	Blue Oak	*Quercus douglasii*		6	11		X				X		6	
201	Live Oak	*Quercus wislizenii*	8,12	20	23			X			X		20	
202	Live Oak	*Quercus wislizenii*	6,10,12	28	20		X				X		28	
203	Blue Oak	*Quercus douglasii*		17	22			X			X		17	
204	Blue Oak	*Quercus douglasii*		11	21			X			X		11	
205	Blue Oak	*Quercus douglasii*		19	24			X			X		19	
902	Live Oak	*Quercus wislizenii*		18	28		X				X		18	
206	Live Oak	*Quercus wislizenii*	10,11	21	20			X			X		21	
207	Blue Oak	*Quercus douglasii*	13,17	30	22			X			X		30	
208	Blue Oak	*Quercus douglasii*		15	26			X			X		15	
209	Blue Oak	*Quercus douglasii*	4,4	8	11			X			X		8	
210	Live Oak	*Quercus wislizenii*	7,11	18	24		X				X		18	
211	Blue Oak	*Quercus douglasii*		26	30			X			X		26	
212	Live Oak	*Quercus wislizenii*	14,16	30	30			X			X		30	
214	Live Oak	*Quercus wislizenii*	8,10,10,12,14	54	30			X			X		54	
213	Live Oak	*Quercus wislizenii*	8,8,16	32	28			X			X		32	
215	Live Oak	*Quercus wislizenii*	9,10,12,12,14	57	25		X				X		57	
216	Blue Oak	*Quercus douglasii*		29	30			X			X		29	
217	Blue Oak	*Quercus douglasii*		8	11		X				X		8	
218	Live Oak	*Quercus wislizenii*	6,8	14	14		X				X		14	
219	Blue Oak	*Quercus douglasii*	12,13	25	27			X			X		25	
220	Live Oak	*Quercus wislizenii*	5,7	12	16		X				X		12	
221	Blue Oak	*Quercus douglasii*		22	27	X					X		22	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	P-F	F	Condition/Vigor P	P-F	F	NON NATIVE	NATIVE	COMMENTS
222	Blue Oak	*Quercus douglasii*		19	26			X			X		19	
223	Live Oak	*Quercus wislizenii*		8	17			X			X		8	
224	Live Oak	*Quercus wislizenii*	7,14	21	21			X			X		21	
225	Live Oak	*Quercus wislizenii*	7,8,11	26	16			X			X		26	
226	Live Oak	*Quercus wislizenii*	5,5,6,6,6,6	34	27		X				X		34	
227	Blue Oak	*Quercus douglasii*		10	16			X			X		10	
228	Blue Oak	*Quercus douglasii*		17	23			X			X		17	
229	Live Oak	*Quercus wislizenii*		18	28			X			X		18	
230	Live Oak	*Quercus wislizenii*	6,12	18	31		X				X		18	
231	Blue Oak	*Quercus douglasii*		6	12			X			X		6	
232	Blue Oak	*Quercus douglasii*		14	20			X			X		14	
903	Blue Oak	*Quercus douglasii*		14	25			X			X		14	
233	Live Oak	*Quercus wislizenii*	4,4	8	7			X			X		8	
234	Blue Oak	*Quercus douglasii*		6	9			X		X			6	
235	Live Oak	*Quercus wislizenii*	5,5,5,6,6,7,8,8	50	25	X				X			50	
236	Blue Oak	*Quercus douglasii*		7	13			X			X		7	
237	Blue Oak	*Quercus douglasii*		17	20			X		X			17	
239	Blue Oak	*Quercus douglasii*		8	12			X			X		8	
904	Blue Oak	*Quercus douglasii*		4	5								4	Dead
905	Foothill Pine	*Pinus sabiniana*		26	30	X			X				26	
241	Live Oak	*Quercus wislizenii*	6,8	14	13		X				X		14	
906	Live Oak	*Quercus wislizenii*		8	12		X				X		8	
242	Live Oak	*Quercus wislizenii*		15	18			X			X		15	
243	Blue Oak	*Quercus douglasii*	7,8	15	13			X			X		15	
244	Blue Oak	*Quercus douglasii*	7,8	15	16			X			X		15	
245	Blue Oak	*Quercus douglasii*		8	12			X			X		8	
246	Blue Oak	*Quercus douglasii*		10	15			X			X		10	
247	Blue Oak	*Quercus douglasii*		15	22			X			X		15	
248	Blue Oak	*Quercus douglasii*		6	9		X				X		6	
249	Live Oak	*Quercus wislizenii*	6,7,9	22	21	X					X		22	
250	Blue Oak	*Quercus douglasii*		6	16		X				X		6	
252	Blue Oak	*Quercus douglasii*	4,4	8	7			X			X		8	
251	Blue Oak	*Quercus douglasii*		7	13			X			X		7	
253	Live Oak	*Quercus wislizenii*	7,8,9	24	22			X			X		24	
254	Blue Oak	*Quercus douglasii*		11	16			X			X		11	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	CLR	Condition Structural P	Condition Structural PF	Condition Structural F	Condition Vigor P	Condition Vigor PF	Condition Vigor F	NON NATIVE	NATIVE	COMMENTS
255	Blue Oak	*Quercus douglasii*		8	16			X			X		8	
256	Blue Oak	*Quercus douglasii*		13	16		X				X		13	
257	Foothill Pine	*Pinus sabiniana*		32	40		X				X		32	
258	Live Oak	*Quercus wislizenii*		22	30		X				X		22	
259	Blue Oak	*Quercus douglasii*		9	12			X			X		9	
261	Live Oak	*Quercus wislizenii*		11	18		X				X		11	
262	Live Oak	*Quercus wislizenii*		21	25			X			X		21	
260	Live Oak	*Quercus wislizenii*		14	21	X					X		14	
263	Blue Oak	*Quercus douglasii*		8	17		X				X		8	
264	Blue Oak	*Quercus douglasii*		18	17			X			X		18	
265	Live Oak	*Quercus wislizenii*	8,14,17	39	23			X			X		39	
266	Live Oak	*Quercus wislizenii*		13	25		X				X		13	
268	Blue Oak	*Quercus douglasii*		15	24			X			X		15	
267	Live Oak	*Quercus wislizenii*	6,8,9,12	35	23			X			X		35	
907	Live Oak	*Quercus wislizenii*	16,17	33	27			X			X		33	
269	Foothill Pine	*Pinus sabiniana*		28	33			X			X		28	
270	Live Oak	*Quercus wislizenii*	7,8,9,11	35	19			X			X		35	
271	Live Oak	*Quercus wislizenii*	12,15	27	27			X			X		27	
273	Live Oak	*Quercus wislizenii*		13	17			X			X		13	
272	Live Oak	*Quercus wislizenii*	8,9,10,11	38	23			X			X		38	
274	Live Oak	*Quercus wislizenii*	9,9,11,13	42	19		X				X		42	
275	Live Oak	*Quercus wislizenii*	6,11	17	18		X				X		17	
276	Live Oak	*Quercus wislizenii*	3,4,13	20	23			X			X		20	
277	Live Oak	*Quercus wislizenii*	8,8,11	27	19			X			X		27	
278	Live Oak	*Quercus wislizenii*	6,8,8,9,11	42	27			X			X		42	
279	Live Oak	*Quercus wislizenii*	6,8,11	25	19			X			X		25	
280	Live Oak	*Quercus wislizenii*	28 at 3	28	27			X			X		28	
281	Blue Oak	*Quercus douglasii*		20	24			X			X		20	
282	Live Oak	*Quercus wislizenii*		9	17		X				X		9	
283	Live Oak	*Quercus wislizenii*		8	21		X				X		8	
908	Foothill Pine	*Pinus sabiniana*		8	12			X			X		8	
284	Live Oak	*Quercus wislizenii*	5,7,11	23	19			X			X		23	
285	Foothill Pine	*Pinus sabiniana*		10	20			X			X		10	
910	Live Oak	*Quercus wislizenii*	5,8	13	16			X			X		13	
911	Foothill Pine	*Pinus sabiniana*		20	27			X			X		20	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure P-F	Condition/Structure F	Condition/Vigor P	Condition/Vigor P-F	Condition/Vigor F	NON NATIVE	NATIVE	COMMENTS
912	Foothill Pine	*Pinus sabiniana*		11	16			X			X		11	
286	Live Oak	*Quercus wislizenii*		15	19		X				X		15	
287	Live Oak	*Quercus wislizenii*		11	14		X				X		11	
288	Live Oak	*Quercus wislizenii*		8	18			X			X		8	
289	Live Oak	*Quercus wislizenii*		12	15			X			X		12	
290	Live Oak	*Quercus wislizenii*		14	24			X			X		14	
146	Live Oak	*Quercus wislizenii*	8,8,15,17	48	30			X			X		48	
East Side of Auburn-Folsom at Sac. County Line North through San Juan Water														
1	Coast Redwood	*Sequoia sempervirens*		15	16			X			X		15	
2	Coast Redwood	*Sequoia sempervirens*		16	17			X			X		16	
3	Coast Redwood	*Sequoia sempervirens*		15	15			X			X		15	
4	Coast Redwood	*Sequoia sempervirens*		14	15			X			X		14	
5	Coast Redwood	*Sequoia sempervirens*		15	14			X			X		15	
6	Coast Redwood	*Sequoia sempervirens*		16	15			X			X		16	
7	Coast Redwood	*Sequoia sempervirens*		17	17			X			X		17	
8	Coast Redwood	*Sequoia sempervirens*		16	16			X			X		16	
9	Coast Redwood	*Sequoia sempervirens*		15	16			X			X		15	
10	Coast Redwood	*Sequoia sempervirens*		16	17			X			X		16	
11	Coast Redwood	*Sequoia sempervirens*		16	17			X			X		16	
12	Coast Redwood	*Sequoia sempervirens*		14	15			X			X		14	
13	Coast Redwood	*Sequoia sempervirens*		15	15			X			X		15	
14	Coast Redwood	*Sequoia sempervirens*		16	15			X			X		16	
15	Coast Redwood	*Sequoia sempervirens*		16	15			X			X		16	
16	Coast Redwood	*Sequoia sempervirens*		17	17			X			X		17	
441	Live Oak	*Quercus wislizenii*	8,11	19	17			X			X		19	
442	Live Oak	*Quercus wislizenii*		16	18			X			X		16	
17	Camphor Tree	*Cinnamomum camphora*		10	15			X			X	10		
18	California Sycamore	*Platanus racemosa*		12	16			X			X		12	
19	California Sycamore	*Platanus racemosa*		17	10			X			X		17	
20	California Sycamore	*Platanus racemosa*		9	17			X			X		9	
21	California Sycamore	*Platanus racemosa*		10	17			X			X		10	
22	California Sycamore	*Platanus racemosa*		14	18			X			X		14	
23	Cypress sp.	*Cupressus*		8	8			X			X	8		
24	California Sycamore	*Platanus racemosa*	7,8	15	13			X			X		15	
25	California Sycamore	*Platanus racemosa*		7	12			X			X		7	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure P-F	Condition/Structure F	Condition/Vigor P	Condition/Vigor P-F	Condition/Vigor F	NON NATIVE	NATIVE	COMMENTS
26	California Sycamore	*Platanus racemosa*		8	17			X			X		8	
27	Blue Oak	*Quercus douglasii*		18	22			X		X			18	
28	Live Oak	*Quercus wislizenii*		18	22		X				X		18	
29	Live Oak	*Quercus wislizenii*		26	29	X					X		26	
147	Live Oak	*Quercus wislizenii*	6,8,10,11	35	17			X			X		35	
148	Blue Oak	*Quercus douglasii*		17	22			X			X		17	
149	Blue Oak	*Quercus douglasii*		8	12			X			X		8	
150	Blue Oak	*Quercus douglasii*		6	7			X			X		6	
151	Blue Oak	*Quercus douglasii*		22	26		X				X		22	
152	Blue Oak	*Quercus douglasii*	8,10,11	29	17			X			X		29	
153	Foothill Pine	*Pinus sabiniana*		16	8								16	Dead
154	Live Oak	*Quercus wislizenii*		17	22			X			X		17	
30	Blue Oak	*Quercus douglasii*		17	20			X			X		17	
31	Live Oak	*Quercus wislizenii*	6,9	15	17			X			X		15	
32	Live Oak	*Quercus wislizenii*	6,6	12	14			X			X		12	
33	Blue Oak	*Quercus douglasii*		6	10			X			X		6	
156	Live Oak	*Quercus wislizenii*	12,12	24	17			X			X		24	
158	Blue Oak	*Quercus douglasii*		22	23			X			X		22	
159	Blue Oak	*Quercus douglasii*		27	26			X			X		27	
34	Live Oak	*Quercus wislizenii*		12	16			X			X		12	
160	Live Oak	*Quercus wislizenii*	4,4,5,5,6,7	31	12			X			X		31	
161	Live Oak	*Quercus wislizenii*	4,5	9	11			X			X		9	
162	Blue Oak	*Quercus douglasii*		14	17			X			X		14	
163	Live Oak	*Quercus wislizenii*	4,6	10	12	X			X				10	
35	Blue Oak	*Quercus douglasii*		14	17			X			X		14	
36	Blue Oak	*Quercus douglasii*		12	16			X			X		12	
37	Blue Oak	*Quercus douglasii*		14	17			X			X		14	
38	Live Oak	*Quercus wislizenii*	4,6	10	12			X			X		10	
39	Live Oak	*Quercus wislizenii*	7,9	16	12			X			X		16	
164	Blue Oak	*Quercus douglasii*		16	21			X			X		16	
165	Oracle Oak	*Quercus morehus*	4,4,5,5,6,6,6,6	42	17			X			X		42	
166	Live Oak	*Quercus wislizenii*	9,10,11	30	17			X			X		30	
167	Live Oak	*Quercus wislizenii*	6,7,9	22	16		X				X		22	
169	Foothill Pine	*Pinus sabiniana*		8	14			X			X		8	
170	Live Oak	*Quercus wislizenii*		21	27	X					X		21	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	CLR	Condition/Structure P	Condition/Structure PF	Condition/Structure F	Condition/Vigor P	Condition/Vigor PF	Condition/Vigor F	NON-NATIVE	NATIVE	COMMENTS
171	Live Oak	*Quercus wislizenii*	10,11,11,14	46	24			X			X		46	
172	Live Oak	*Quercus wislizenii*	6,8	14	17			X			X		14	
173	Live Oak	*Quercus wislizenii*	5,7,7	19	14			X		X			19	
40	Foothill Pine	*Pinus sabiniana*		8	15			X			X		8	
41	Foothill Pine	*Pinus sabiniana*		7	12			X			X		7	
42	Live Oak	*Quercus wislizenii*	5,11	16	17			X			X		16	
43	Live Oak	*Quercus wislizenii*	4,5	9	12			X			X		9	
174	Live Oak	*Quercus wislizenii*	8,9	17	16			X			X		17	
44	Live Oak	*Quercus wislizenii*		8	12			X			X		8	
45	Foothill Pine	*Pinus sabiniana*		12	14			X			X		12	
46	Live Oak	*Quercus wislizenii*	15,15	30	25			X			X		30	
47	Blue Oak	*Quercus douglasii*		16	26			X			X		16	
48	Foothill Pine	*Pinus sabiniana*		8	10			X			X		8	
49	Foothill Pine	*Pinus sabiniana*		6	9			X			X		6	
50	Live Oak	*Quercus wislizenii*	12,12,15	39	28		X				X		39	
51	Blue Oak	*Quercus douglasii*		24	24			X			X		24	
52	Oracle Oak	*Quercus morehus*	4,5	9	10		X				X		9	
53	Live Oak	*Quercus wislizenii*	16,17	33	24			X			X		33	
54	Live Oak	*Quercus wislizenii*	12,16,18	46	33			X			X		46	
55	Live Oak	*Quercus wislizenii*	17,22	39	25			X			X		39	
186	Live Oak	*Quercus wislizenii*	9,10,12,14,15	60	22			X			X		60	
185	Live Oak	*Quercus wislizenii*	6,9	15	18			X			X		15	
184	Live Oak	*Quercus wislizenii*	5,6,6,8,8	33	17			X			X		33	
183	Live Oak	*Quercus wislizenii*	5,5,6,6,6	28	13			X			X		28	
182	Live Oak	*Quercus wislizenii*	4,6	10	12			X			X		10	
181	Blue Oak	*Quercus douglasii*		18	24			X			X		18	
180	Live Oak	*Quercus wislizenii*		10	17			X			X		10	
179	Live Oak	*Quercus wislizenii*	6,8,8,9	31	17			X			X		31	
178	Live Oak	*Quercus wislizenii*		19	22	X					X		19	
177	Live Oak	*Quercus wislizenii*	7,8	15	14		X				X		15	
176	Live Oak	*Quercus wislizenii*	7,8,8	23	16			X			X		23	
175	Live Oak	*Quercus wislizenii*	6,7,7,11,14	45	20			X			X		45	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DIR	Condition/Structure			Condition/Mgt.			NON NATIVE	NATIVE	COMMENTS
South Side of Road at Beales Point Entry to East														
56	Live Oak	*Quercus wislizenii*	13,15	28	24			X			X		28	
57	Foothill Pine	*Pinus sabiniana*		6	12			X			X		6	
58	Live Oak	*Quercus wislizenii*	14,14,16	44	27		X				X		44	
59	Live Oak	*Quercus wislizenii*		7	8	X				X			7	
60	Live Oak	*Quercus wislizenii*		15	20		X				X		15	
61	Live Oak	*Quercus wislizenii*	12,14	26	21			X			X		26	
62	Blue Oak	*Quercus douglasii*		17	22			X			X		17	
63	Live Oak	*Quercus wislizenii*		10	17			X			X		10	
64	Live Oak	*Quercus wislizenii*		14	21			X			X		14	
65	Live Oak	*Quercus wislizenii*	10,10	20	19			X			X		20	
66	Foothill Pine	*Pinus sabiniana*		37	40			X			X		37	
67	Live Oak	*Quercus wislizenii*		15	21			X			X		15	
68	Live Oak	*Quercus wislizenii*		23	22	X					X		23	
69	Live Oak	*Quercus wislizenii*		8	19			X			X		8	
70	Foothill Pine	*Pinus sabiniana*		12	19			X			X		12	
71	Live Oak	*Quercus wislizenii*		6	12			X			X		6	
72	Live Oak	*Quercus wislizenii*	7,7,8,9,14,14	59	25		X				X		59	
73	Live Oak	*Quercus wislizenii*	7,10	17	19			X			X		17	
74	Live Oak	*Quercus wislizenii*	6,6,7,8	27	16	X					X		27	
75	Live Oak	*Quercus wislizenii*	8,9	17	18			X			X		17	
76	Live Oak	*Quercus wislizenii*	7,8	15	15			X			X		15	
77	Foothill Pine	*Pinus sabiniana*		8	9			X			X		8	
78	Live Oak	*Quercus wislizenii*	5,6,8,9	28	22			X			X		28	
79	Live Oak	*Quercus wislizenii*	5,6,8,9	28	17		X				X		28	
80	Live Oak	*Quercus wislizenii*	10,10,14	34	21			X			X		34	
81	Live Oak	*Quercus wislizenii*		11	22			X			X		11	
82	Live Oak	*Quercus wislizenii*	6,8,8,9,9,11	51	22			X			X		51	
83	Foothill Pine	*Pinus sabiniana*		7	22	X					X		7	
84	Live Oak	*Quercus wislizenii*	7,9,14,17	47	27		X				X		47	
85	Live Oak	*Quercus wislizenii*	7,7	14	22	X					X		14	
86	Live Oak	*Quercus wislizenii*	8,9	17	20			X			X		17	
87	Live Oak	*Quercus wislizenii*	6,8,9	23	23		X				X		23	
88	Live Oak	*Quercus wislizenii*	14,15,17	46	27		X				X		46	
89	Foothill Pine	*Pinus sabiniana*		14	17			X			X		14	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	OLR	Condition Structure P	Condition Structure P-F	Condition Structure F	Condition Vigor P	Condition Vigor P-F	Condition Vigor F	NON NATIVE	NATIVE	COMMENTS
90	Foothill Pine	*Pinus sabiniana*		16	24			X			X		16	
91	Live Oak	*Quercus wislizenii*	4,6	10	14			X			X		10	
92	Live Oak	*Quercus wislizenii*	6,7	13	15			X			X		13	
93	Live Oak	*Quercus wislizenii*	5,5	10	14			X			X		10	
94	Blue Oak	*Quercus douglasii*		23	26			X			X		23	
95	Blue Oak	*Quercus douglasii*		31	28			X			X		31	
96	Blue Oak	*Quercus douglasii*		29	30			X			X		29	
97	Foothill Pine	*Pinus sabiniana*		7	16			X			X		7	
98	Live Oak	*Quercus wislizenii*		7	14		X				X		7	
99	Live Oak	*Quercus wislizenii*	3,4,5	12	12			X			X		12	
100	Foothill Pine	*Pinus sabiniana*		15	17			X			X		15	
101	Foothill Pine	*Pinus sabiniana*		28	29			X			X		28	
102	Live Oak	*Quercus wislizenii*	6,9	15	8			X			X		15	
103	Live Oak	*Quercus wislizenii*	4,4	8	12			X			X		8	
104	Live Oak	*Quercus wislizenii*	3,4,5	12	12			X			X		12	
105	Live Oak	*Quercus wislizenii*		7	14			X			X		7	
106	Live Oak	*Quercus wislizenii*	5,5	10	13			X			X		10	
107	Live Oak	*Quercus wislizenii*	11,14,15,16	56	28			X			X		56	
108	Foothill Pine	*Pinus sabiniana*		18	27			X			X		18	
109	Live Oak	*Quercus wislizenii*	6,6,8	20	17			X			X		20	
110	Live Oak	*Quercus wislizenii*		6	12			X			X		6	
111	Fig	*Ficus*	3,3,3,3,3,3,4,4,4,5,5,5,6	51	18			X			X	51		
112	Fig	*Ficus*	3,3,3,4,4,4,4,5,5,5,6,6	52	17			X			X	52		
113	Plum	Prunus sp.	5,6,7	18	13			X			X	18		
114	Foothill Pine	*Pinus sabiniana*		10	15			X			X		10	
115	Foothill Pine	*Pinus sabiniana*		8	12			X			X		8	
116	Live Oak	*Quercus wislizenii*	9,16	25	21			X			X		25	
117	Foothill Pine	*Pinus sabiniana*		7	9			X			X		7	
118	Live Oak	*Quercus wislizenii*		11	17			X			X		11	
119	Valley Oak	*Quercus lobata*		13	16			X			X		13	
120	Live Oak	*Quercus wislizenii*		10	12			X			X		10	
121	Live Oak	*Quercus wislizenii*	18,19	37	30			X			X		37	
122	Fig	*Ficus*	4,4,5,5,6,6,7,8,8,9,10	72	26			X			X	72		
123	Live Oak	*Quercus wislizenii*	16,18,19	53	24			X			X		53	
124	Live Oak	*Quercus wislizenii*	6,9	15	16			X			X		15	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure PF	Condition/Structure F	Condition/Vigor P	Condition/Vigor PF	Condition/Vigor F	NON NATIVE	NATIVE	COMMENTS
125	Live Oak	*Quercus wislizenii*		26	28			X			X		26	
126	Foothill Pine	*Pinus sabiniana*		11	17			X			X		11	
127	Foothill Pine	*Pinus sabiniana*		8	30	X					X		8	
128	Foothill Pine	*Pinus sabiniana*		10	14			X			X		10	
129	Willow	*Salix sp.*	8,8	16	19		X				X		16	
130	Live Oak	*Quercus wislizenii*		11	17		X				X		11	
131	Willow	*Salix sp.*		14	17			X			X		14	
132	Live Oak	*Quercus wislizenii*		7	19			X			X		7	
133	Live Oak	*Quercus wislizenii*	6,8	14	12			X			X		14	
134	Willow	*Salix sp.*	5,6,6	17	13			X			X		17	
135	Cottonwood	*Populus sp.*	18,22	40	28			X			X		40	
136	Blue Oak	*Quercus douglasii*		15	17	X					X		15	
137	Live Oak	*Quercus wislizenii*	3,3,4,4,5	19	9			X			X		19	
138	Live Oak	*Quercus wislizenii*	14,16	30	24		X				X		30	
139	Foothill Pine	*Pinus sabiniana*		10	16			X			X		10	
140	Live Oak	*Quercus wislizenii*	8,13	21	19	X					X		21	
141	Blue Oak	*Quercus douglasii*	8,8,9	25	18			X			X		25	
142	Blue Oak	*Quercus douglasii*	9,9	18	15			X			X		18	
143	Live Oak	*Quercus wislizenii*		17	23		X				X		17	
144	Blue Oak	*Quercus douglasii*		8	12		X				X		8	
145	Live Oak	*Quercus wislizenii*	5,5,6,8,10	34	16			X			X		34	
301	Live Oak	*Quercus wislizenii*	8,8,9	25	14	X					X		25	
302	Live Oak	*Quercus wislizenii*		8	16			X			X		8	
303	Blue Oak	*Quercus douglasii*		8	10			X			X		8	
304	Blue Oak	*Quercus douglasii*	6,9	15	17			X			X		15	
305	Live Oak	*Quercus wislizenii*	9,10	19	18			X			X		19	
306	Blue Oak	*Quercus wislizenii*		27	26			X			X		27	
307	Blue Oak	*Quercus douglasii*		14	18			X			X		14	
309	Live Oak	*Quercus wislizenii*	8,9,10	27	17			X			X		27	
308	Blue Oak	*Quercus douglasii*	14,28	42	28			X			X		42	
310	Plum	*Prunus sp.*		8	8	X			X			8		
311	Blue Oak	*Quercus douglasii*		17	19			X			X		17	
312	Live Oak	*Quercus wislizenii*	8,9,10,10,14,15,15	81	22		X				X		81	
313	Live Oak	*Quercus wislizenii*	7,8,9,12,13	49	24			X			X		49	
314	Live Oak	*Quercus wislizenii*	7,17	24	18		X				X		24	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure F	Condition/Structure G	Condition/Vigor P	Condition/Vigor F	Condition/Vigor G	NON NATIVE	NATIVE	COMMENTS
315	Live Oak	*Quercus wislizenii*	9,10	19	18		X				X		19	
316	Live Oak	*Quercus wislizenii*	8,12,15,17	52	28		X				X		52	
317	Live Oak	*Quercus wislizenii*	6,6,8,8,9,9	46	22		X				X		46	
318	Plum	*Prunus sp.*	4,4,4,5,5,6	28	13		X				X	28		
319	Live Oak	*Quercus wislizenii*		6	8			X			X		6	
320	Live Oak	*Quercus wislizenii*	8,17	25	30			X			X		25	
321	Live Oak	*Quercus wislizenii*	6,10,11,15,16,18	76	30			X			X		76	
322	Live Oak	*Quercus wislizenii*	5,5,7,8,11,12	48	27		X				X		48	
323	Live Oak	*Quercus wislizenii*	5,5	10	12			X			X		10	
324	Live Oak	*Quercus wislizenii*	6,7	13	13			X			X		13	
325	Foothill Pine	*Pinus sabiniana*		10	12			X			X		10	
326	Live Oak	*Quercus wislizenii*	8,12,14	34	23		X				X		34	
327	Live Oak	*Quercus wislizenii*	10,11,19	40	28			X			X		40	
328	Live Oak	*Quercus wislizenii*		9	22	X					X		9	
329	Live Oak	*Quercus wislizenii*	9,11,14	34	26		X				X		34	
330	Willow	*Salix sp.*	16,18	34	9	X					X		34	
331	Pecan	*Carya illinoinensis*		13	21			X			X	13		
332	Pecan	*Carya illinoinensis*		13	20		X				X	13		
333	Live Oak	*Quercus wislizenii*	12,18,19	49	25			X			X		49	
334	Live Oak	*Quercus wislizenii*		25	19		X				X		25	
335	Pecan	*Carya illinoinensis*		12	17			X			X		12	
336	Valley Oak	*Quercus lobata*		11	16			X			X		11	
337	Live Oak	*Quercus wislizenii*		15	18	X			X				15	
338	Live Oak	*Quercus wislizenii*	16,18	34	20		X			X			34	
339	Foothill Pine	*Pinus sabiniana*		9	11			X			X		9	
340	Live Oak	*Quercus wislizenii*	5,6,7	18	14			X			X		18	
341	Live Oak	*Quercus wislizenii*	3,4,4	11	13		X				X		11	
342	Live Oak	*Quercus wislizenii*		14	18			X			X		14	
343	Foothill Pine	*Pinus sabiniana*		11	16			X			X		11	
344	Foothill Pine	*Pinus sabiniana*		13	17			X			X		13	
345	Live Oak	*Quercus wislizenii*	4,4,5	13	14			X			X		13	
346	Live Oak	*Quercus wislizenii*		9	17			X			X		9	
347	Live Oak	*Quercus wislizenii*	5,5	10	13			X			X		10	
348	Live Oak	*Quercus wislizenii*	5,7,7	19	18		X				X		19	
349	Live Oak	*Quercus wislizenii*	7,10,11,11	39	26		X				X		39	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	P-F	F	Condition/Vigor P	P-F	F	NON NATIVE	NATIVE	COMMENTS
350	Live Oak	*Quercus wislizenii*		12	18			X			X		12	
351	Live Oak	*Quercus wislizenii*		6	17			X			X		6	
352	Blue Oak	*Quercus douglasii*		6	7			X			X		6	
353	Live Oak	*Quercus wislizenii*	12,13	25	19		X				X		25	
354	Live Oak	*Quercus wislizenii*		11	16	X					X		11	
355	Live Oak	*Quercus wislizenii*		23	24		X				X		23	
356	Live Oak	*Quercus wislizenii*		17	20	X			X				17	
357	Foothill Pine	*Pinus sabiniana*		17	24			X			X		17	
358	Live Oak	*Quercus wislizenii*		13	17	X					X		13	
359	Foothill Pine	*Pinus sabiniana*		12	15			X			X		12	
360	Foothill Pine	*Pinus sabiniana*		7	12			X			X		7	
361	Foothill Pine	*Pinus sabiniana*		21	26			X			X		21	
362	Foothill Pine	*Pinus sabiniana*		15	24			X			X		15	
363	Live Oak	*Quercus wislizenii*	12,13,16	41	21	X					X		41	
364	Live Oak	*Quercus wislizenii*		12	18	X					X		12	
365	Live Oak	*Quercus wislizenii*	11,13,14	38	24			X			X		38	
366	Live Oak	*Quercus wislizenii*	6,7,12	25	16			X			X		25	
367	Live Oak	*Quercus wislizenii*	7,11	18	20		X				X		18	
368	Live Oak	*Quercus wislizenii*	10,14,18	42	30			X			X		42	
369	Live Oak	*Quercus wislizenii*	8,11	19	18			X			X		19	
370	Live Oak	*Quercus wislizenii*	8,8,10	26	23			X			X		26	
371	Blue Oak	*Quercus douglasii*		8	17			X			X		8	
372	Live Oak	*Quercus wislizenii*	12,12,17	41	29			X			X		41	
373	Live Oak	*Quercus wislizenii*	17,19	36	29		X				X		36	
374	Live Oak	*Quercus wislizenii*	5,6	11	17			X			X		11	
375	Valley Oak	*Quercus lobata*		13	17			X			X		13	
376	Foothill Pine	*Pinus sabiniana*		12	14			X			X		12	
377	Cottonwood	*Populus sp.*		15	17			X			X		15	
378	Live Oak	*Quercus wislizenii*		16	21		X				X		16	
379	Live Oak	*Quercus wislizenii*		17	23		X				X		17	
380	Valley Oak	*Quercus lobata*		6	11			X			X		6	
381	Valley Oak	*Quercus lobata*		12	17			X			X		12	
382	Live Oak	*Quercus wislizenii*	8,9	17	20			X			X		17	
383	Live Oak	*Quercus wislizenii*	5,7,9,13,17	51	25		X				X		51	
384	Live Oak	*Quercus wislizenii*	13,16	29	23			X			X		29	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure			Condition/Vigor			NON NATIVE	NATIVE	COMMENTS
385	Live Oak	*Quercus wislizenii*		6	13			X			X		6	
386	Live Oak	*Quercus wislizenii*	5,6,8,10,11	40	18		X				X		40	
387	Live Oak	*Quercus wislizenii*		8	17			X			X		8	
388	Live Oak	*Quercus wislizenii*	5,5	10	9			X			X		10	
389	Live Oak	*Quercus wislizenii*	4,4,4,4,4,5,5,6,6,6,7	55	17			X			X		55	
390	Live Oak	*Quercus wislizenii*		10	13			X			X		10	
391	Blue Oak	*Quercus douglasii*		6	9			X			X		6	
392	Blue Oak	*Quercus douglasii*		10	16			X		X			10	
393	Live Oak	*Quercus wislizenii*	5,7,9,9,10,11	51	20		X				X		51	
394	Valley Oak	*Quercus lobata*		6	8			X			X		6	
395	Live Oak	*Quercus wislizenii*	5,7	12	16	X					X		12	
396	Live Oak	*Quercus wislizenii*		7	14	X					X		7	
397	Live Oak	*Quercus wislizenii*	5,6,6,7	24	15		X				X		24	
398	Live Oak	*Quercus wislizenii*	5,6,7	18	16		X				X		18	
399	Glossy Privet	*Ligustrum lucidum*	4,5,5,6	20	8			X			X	20		
400	Glossy Privet	*Ligustrum lucidum*		6	7			X			X	6		
401	Glossy Privet	*Ligustrum lucidum*	3,3,4,4	14	11			X			X	14		
402	Glossy Privet	*Ligustrum lucidum*	4,6,7	17	15			X			X	17		
403	Glossy Privet	*Ligustrum lucidum*	4,5,5,6	20	14			X			X	20		
404	Glossy Privet	*Ligustrum lucidum*	2,2,2,2,3	11	12			X			X	11		
405	Glossy Privet	*Ligustrum lucidum*	2,3,3,4	12	9			X			X	12		
406	Glossy Privet	*Ligustrum lucidum*	2,4,4,5	15	11			X			X	15		
407	Glossy Privet	*Ligustrum lucidum*	4,5	9	10			X			X	9		
408	Glossy Privet	*Ligustrum lucidum*	2,3	5	7			X			X	5		
409	Glossy Privet	*Ligustrum lucidum*	4,4,5,5	18	11			X			X	18		
410	Glossy Privet	*Ligustrum lucidum*	4,4,5,5	18	9			X			X	18		
411	Glossy Privet	*Ligustrum lucidum*	2,2,3,3	10	7			X			X	10		
412	Glossy Privet	*Ligustrum lucidum*	5,6	11	9			X			X	11		
413	Glossy Privet	*Ligustrum lucidum*	3,3,4,5	15	12			X			X	15		
414	Glossy Privet	*Ligustrum lucidum*	1,1,1,2,2,3	10	10			X			X	10		
415	Glossy Privet	*Ligustrum lucidum*	2,2,3,4	11	11			X			X	11		
416	Glossy Privet	*Ligustrum lucidum*	2,3,4	9	12			X			X	9		
417	Jeffrey Pine	*Pinus jeffreyi*		6	8			X			X		6	
End of Bureau Property														

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DRIP	Condition/Structure			Condition/Vigor			NON NATIVE	NATIVE	COMMENTS
9145 Auburn-Folsom														
418	Blue Oak	*Quercus douglasii*		17	20		X				X		17	
419	Incense Cedar	*Calocedrus decurrens*		15	17			X			X		15	
420	Blue Oak	*Quercus douglasii*		17	19		X				X		17	
421	Blue Oak	*Quercus douglasii*		13	17			X			X		13	
422	Fruitless Mulberry	*Morus alba*		11	16			X			X	11		
9095 Auburn-Folsom														
423	Live Oak	*Quercus wislizenii*	6,6,7,7,8,10	44	20	X					X		44	
424	Live Oak	*Quercus wislizenii*	7,8	15	21	X					X		15	
425	Live Oak	*Quercus wislizenii*	7,10,14,15,17	63	23	X					X		63	
426	Blue Oak	*Quercus douglasii*	6,8	14	12		X				X		14	
427	Live Oak	*Quercus wislizenii*	6,7,8,8,9,9	47	20			X			X		47	
428	Foothill Pine	*Pinus sabiniana*		30	28			X			X		30	
429	Foothill Pine	*Pinus sabiniana*		27	30			X			X		27	
430	Live Oak	*Quercus wislizenii*		16	27			X			X		16	
431	Live Oak	*Quercus wislizenii*	6,7	13	17			X			X		13	
432	Live Oak	*Quercus wislizenii*	6,7,7	20	17		X				X		20	
9085 Auburn-Folsom														
433	Live Oak	*Quercus wislizenii*		11	20	X					X		11	
434	Live Oak	*Quercus wislizenii*		17	21		X				X		17	
435	Live Oak	*Quercus wislizenii*	10,12	22	21			X			X		22	
436	Cottonwood	*Populus*	16,29,33	78	30			X			X		78	
437	Live Oak	*Quercus wislizenii*	6,10,11	27	17			X			X		27	
438	Live Oak	*Quercus wislizenii*		7	16		X				X		7	
439	Live Oak	*Quercus wislizenii*		15	22			X			X		15	
440	Live Oak	*Quercus wislizenii*		7	12		X				X		7	
9065 Auburn-Folsom														
441	Willow	*Salix sp.*	24,29	53	30		X				X		53	
442	Live Oak	*Quercus wislizenii*	7,11	18	20			X			X		18	
443	Live Oak	*Quercus wislizenii*	7,9,11,12	39	27			X			X		39	
444	Willow	*Salix sp.*		20	27	X					X		20	
445	Willow	*Salix sp.*		16	24		X				X		16	
446	Live Oak	*Quercus wislizenii*		12	16		X				X		12	
447	Live Oak	*Quercus wislizenii*		16	26			X			X		16	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition Structure P	Condition Structure P-F	Condition Structure F	Condition Vigor P	Condition Vigor P-F	Condition Vigor F	NON NATIVE	NATIVE	COMMENTS
9045 Auburn-Folsom														
448	Blue Oak	*Quercus douglasii*		17	26			X			X		17	
449	Live Oak	*Quercus wislizenii*	6,7	13	12		X				X		13	
450	Live Oak	*Quercus wislizenii*	4,7	11	16			X			X		11	
451	Foothill Pine	*Pinus sabiniana*		16	27			X			X		16	Not tagged
452	Foothill Pine	*Pinus sabiniana*		29	40			X			X		29	Not tagged
453	Foothill Pine	*Pinus sabiniana*		32	39		X				X		32	Not tagged
454	Live Oak	*Quercus wislizenii*	9,12	21	30		X				X		21	
455	Live Oak	*Quercus wislizenii*	11,30	41	25	X					X		41	
456	Blue Oak	*Quercus douglasii*	4,7	11	8			X			X		11	
457	Blue Oak	*Quercus douglasii*		7	8			X			X		7	
458	Live Oak	*Quercus wislizenii*	5,7	12	12		X				X		12	
459	Live Oak	*Quercus wislizenii*		24	27		X				X		24	
460	Foothill Pine	*Pinus sabiniana*		35	44			X			X		35	
461	Valley Oak	*Quercus lobata*		21	26			X			X		21	
Lake Trail Court (APN 050-190-001)														
462	Live Oak	*Quercus wislizenii*		12	17		X				X		12	
463	Valley Oak	*Quercus lobata*		7	12			X		X			7	
464	Valley Oak	*Quercus lobata*		10	14			X		X			10	
465	Valley Oak	*Quercus lobata*	6,9	15	18			X		X			15	
466	Live Oak	*Quercus wislizenii*	2,4,5	11	10			X			X		11	
467	Live Oak	*Quercus wislizenii*	4,4,4	12	12			X			X		12	
468	Valley Oak	*Quercus lobata*		15	20			X			X		15	
469	Live Oak	*Quercus wislizenii*		23	20	X					X		23	
470	Valley Oak	*Quercus lobata*	7,8	15	16			X			X		15	
471	Foothill Pine	*Pinus sabiniana*		37	38		X				X		37	
472	Foothill Pine	*Pinus sabiniana*		7	8			X			X		7	
473	Foothill Pine	*Pinus sabiniana*		14	17			X			X		14	
474	Live Oak	*Quercus wislizenii*		12	16		X				X		12	
475	Foothill Pine	*Pinus sabiniana*		27	30			X			X		27	
476	Foothill Pine	*Pinus sabiniana*		6	7			X			X		6	
477	Valley Oak	*Quercus lobata*		18	22			X			X		18	
478	Foothill Pine	*Pinus sabiniana*		8	12			X			X		8	
479	Valley Oak	*Quercus lobata*		15	20			X			X		15	
480	Foothill Pine	*Pinus sabiniana*		14	12			X			X		14	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	P/F	F	Condition/Vigor P	P/F	F	NON NATIVE	NATIVE	COMMENTS
481	Foothill Pine	*Pinus sabiniana*		16	20			X			X		16	
482	Foothill Pine	*Pinus sabiniana*		28	30			X			X		28	
483	Live Oak	*Quercus wislizenii*	14,18	32	24			X			X		32	
484	Foothill Pine	*Pinus sabiniana*		17	29			X			X		17	
485	Foothill Pine	*Pinus sabiniana*		16	22			X			X		16	
486	Foothill Pine	*Pinus sabiniana*		14	25			X			X		14	
487	Foothill Pine	*Pinus sabiniana*		19	26			X			X		19	
488	Foothill Pine	*Pinus sabiniana*		17	35		X				X		17	
489	Foothill Pine	*Pinus sabiniana*		9	40		X				X		9	
490	Valley Oak	*Quercus lobata*		18	24			X			X		18	
491	Valley Oak	*Quercus lobata*		9	16			X			X		9	
492	Valley Oak	*Quercus lobata*		8	14			X			X		8	
493	Foothill Pine	*Pinus sabiniana*		8	16			X			X		8	
494	Foothill Pine	*Pinus sabiniana*		8	17			X			X		8	
495	Valley Oak	*Quercus lobata*		16	24			X			X		16	
496	Valley Oak	*Quercus lobata*		15	22			X			X		15	
497	Valley Oak	*Quercus lobata*		14	22		X				X		14	
498	Willow	*Salix sp.*		16	25			X			X		16	
499	Willow	*Salix sp.*	8,10	18	16			X			X		18	
500	Willow	*Salix sp.*		14	22			X			X		14	
Pump Station Driveway (APN 047-150-045) [switching to round tags 501-600]														
501	Valley Oak	*Quercus lobata*		15	24			X			X		15	
502	Valley Oak	*Quercus lobata*		16	25			X			X		16	
503	Valley Oak	*Quercus lobata*		8	17			X			X		8	
504	Live Oak	*Quercus wislizenii*		8	19		X				X		8	
505	Live Oak	*Quercus wislizenii*		8	18	X					X		8	
506	Valley Oak	*Quercus lobata*		17	24			X			X		17	
507	Foothill Pine	*Pinus sabiniana*		34	40		X				X		34	
508	Valley Oak	*Quercus lobata*		8	22			X			X		8	
509	Valley Oak	*Quercus lobata*		7	15			X			X		7	
510	Valley Oak	*Quercus lobata*		6	9			X			X		6	
511	Foothill Pine	*Pinus sabiniana*		6	8			X			X		6	
512	Foothill Pine	*Pinus sabiniana*		14	19			X			X		14	
513	Foothill Pine	*Pinus sabiniana*		17	25			X			X		17	
514	Valley Oak	*Quercus lobata*		6	8			X			X		6	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure PF	Condition/Structure F	Condition/Vigor P	Condition/Vigor PF	Condition/Vigor F	NON NATIVE	NATIVE	COMMENTS
515	Foothill Pine	*Pinus sabiniana*		14	20			X			X		14	
516	Live Oak	*Quercus wislizenii*		20	23			X			X		20	
517	Blue Oak	*Quercus douglasii*		16	22			X			X		16	
518	Blue Oak	*Quercus douglasii*		11	17			X			X		11	
West Side of Auburn-Folsom from North to South (APN 048-360-050)														
519	Foothill Pine	*Pinus sabiniana*		24	28			X			X		24	
520	Foothill Pine	*Pinus sabiniana*		15	17			X			X		15	
APN 048-410-035														
521	Foothill Pine	*Pinus sabiniana*		17	22			X			X		17	
522	Coast Live Oak	*Quercus agrifolia*		12	15			X			X		12	
523	Coast Live Oak	*Quercus agrifolia*	7,10	17	14			X			X		17	
APN 048-590-031														
524	Live Oak	*Quercus wislizenii*	10,12	22	20	X					X		22	
525	Live Oak	*Quercus wislizenii*	10,14	24	24	X					X		24	
526	Live Oak	*Quercus wislizenii*		10	21	X					X		10	
APN 048-130-067														
527	Live Oak	*Quercus wislizenii*	10,13,15	38	20	X					X		38	
APN 048-130-013														
528	Blue Oak	*Quercus douglasii*	9,12,13	34	16	X					X		34	
529	Foothill Pine	*Pinus sabiniana*		21	20	X					X		21	
530	Blue Oak	*Quercus douglasii*		14	17			X			X		14	
APN 048-130-065														
531	Japanese Black Pine	*Pinus thunbergiana*		8	10			X			X	8		Not tagged in the field
532	Jeffrey Pine	*Pinus jeffreyi*		7	10			X			X	7		Not tagged in the field
533	Blue Oak	*Quercus douglasii*	7,8,8	23	11			X			X		23	Not tagged in the field
534	Japanese Black Pine	*Pinus thunbergiana*		15	16		X				X	15		Not tagged in the field
535	Japanese Black Pine	*Pinus thunbergiana*		10	12			X			X	10		Not tagged in the field
APN 050-016-030														
536	Blue Oak	*Quercus douglasii*		6	6			X			X		6	Not tagged in the field
537	Valley Oak	*Quercus lobata*		23	24			X			X		23	
APN 050-160-039														
538	Live Oak	*Quercus wislizenii*	9,11,12,14,14,20	80	26		X				X		80	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure PF	Condition/Structure F	Condition/Vigor P	Condition/Vigor PF	Condition/Vigor F	NON-NATIVE	NATIVE	COMMENTS
APN 050-170-029														
539	Blue Oak	*Quercus douglasii*		8	12			X			X		8	
540	Live Oak	*Quercus wislizenii*	10,11,13	34	17			X			X		34	
541	Live Oak	*Quercus wislizenii*	4,5,6,6,6,8	35	20			X			X		35	
542	Valley Oak	*Quercus lobata*	7,12	19	16			X			X		19	
543	Live Oak	*Quercus wislizenii*		8	15			X			X		8	
544	Valley Oak	*Quercus lobata*		8	12		X				X		8	
545	Valley Oak	*Quercus lobata*		10	15		X				X		10	
546	Black Walnut	*Juglans nigra*	6,8,8,10	32	16		X				X		32	
547	Valley Oak	*Quercus lobata*		14	17		X				X		14	
548	Live Oak	*Quercus wislizenii*	11,15	26	20			X			X		26	
549	Live Oak	*Quercus wislizenii*		8	14			X			X		8	
APN 050-170-038														
550	Live Oak	*Quercus wislizenii*	5,8,8	21	16		X				X		21	
551	Live Oak	*Quercus wislizenii*	4,6,12	22	16			X			X		22	
552	Valley Oak	*Quercus lobata*		12	16			X			X		12	
553	Fruitless Mulberry	*Morus alba*	4,6,7	17	12			X			X	17		
APN 050-170-058														
554	Eucalyptus sp.			8	12			X			X	8		
555	Eucalyptus sp.			9	12			X			X	9		
556	Eucalyptus sp.			7	10			X			X	7		
557	Eucalyptus sp.			9	12			X			X	9		
558	Eucalyptus sp.		4,4,4,5,5	22	8			X			X	22		
559	Eucalyptus sp.			6	7			X			X	6		
560	Eucalyptus sp.		4,6	10	7			X			X	10		
561	Eucalyptus sp.			4	6			X			X	4		
562	Eucalyptus sp.		5,5	10	6			X			X	10		
563	Eucalyptus sp.			6	8			X			X	6		
564	Eucalyptus sp.		6,7	13	8			X			X	13		
565	Eucalyptus sp.			4	6			X			X	4		
566	Eucalyptus sp.			4	5			X			X	4		
567	Eucalyptus sp.		4,4,5	13	8			X			X	13		
568	Eucalyptus sp.		8,8	16	10			X			X	16		
569	Eucalyptus sp.		5,6,7	18	10			X			X	18		
570	Eucalyptus sp.		5,6	11	8			X			X	11		

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	PF	F	Condition/Vigor P	PF	F	NON NATIVE	NATIVE	COMMENTS
571	Eucalyptus sp.		3,6	9	8			X			X	9		
572	Eucalyptus sp.			8	9			X			X	8		
573	Eucalyptus sp.			8	10			X			X	8		
574	Eucalyptus sp.			10	12			X			X	10		
575	Eucalyptus sp.			12	16			X			X	12		
APN 050-170-026														
576	Eucalyptus sp.		5,6	11	8			X			X	11		
Located in Front 20 Feet of Parcel at 9250 Auburn-Folsom (APN 050-170-048)														
577	Eucalyptus sp.			18	20			X			X	18		Not Tagged
578	Eucalyptus sp.			13	16			X			X	13		Not Tagged
579	Eucalyptus sp.			14	15			X			X	14		Not Tagged
580	Eucalyptus sp.		4,6	10	12			X			X	10		Not Tagged
581	Eucalyptus sp.		2,6	8	6			X			X	8		Not Tagged
582	Eucalyptus sp.			23	25			X			X	23		Not Tagged
583	Eucalyptus sp.		6,7	13	17			X			X	13		Not Tagged
584	Eucalyptus sp.		4,5	9	12			X			X	9		Not Tagged
585	Eucalyptus sp.			14	16			X			X	14		Not Tagged
586	Eucalyptus sp.		5,5	10	16			X			X	10		Not Tagged
587	Eucalyptus sp.		6,8	14	14			X			X	14		Not Tagged
588	Eucalyptus sp.			9				X			X	9		Not Tagged
589	Eucalyptus sp.		5,6	11	10			X			X	11		Not Tagged
590	Eucalyptus sp.		6,7	13	12			X			X	13		Not Tagged
591	Eucalyptus sp.		5,6	11	10			X			X	11		Not Tagged
592	Eucalyptus sp.		4,4	8	8			X			X	8		Not Tagged
593	Eucalyptus sp.		8,9	17	12			X			X	17		Not Tagged
594	Eucalyptus sp.		3,3	6	7			X			X	6		Not Tagged
595	Live Oak	*Quercus wislizenii*	4,6,7	17	12			X			X		17	Not Tagged
596	Live Oak	*Quercus wislizenii*	6,6,8,11,14	45	22			X			X		45	
597	Valley Oak	*Quercus lobata*		15	22			X			X		15	
APN 050-170-050														
598	Valley Oak	*Quercus lobata*		15	26			X			X		15	
599	Valley Oak	*Quercus lobata*		12	17			X			X		12	
600	Valley Oak	*Quercus lobata*		8	14			X			X		8	
601	Valley Oak	*Quercus lobata*		12	16			X			X		12	
602	Valley Oak	*Quercus lobata*		7	17			X			X		7	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure PF	Condition/Structure F	Condition/Vigor P	Condition/Vigor PF	Condition/Vigor F	NON NATIVE	NATIVE	COMMENTS
603	Live Oak	*Quercus wislizenii*	10,13,14	37	21			X			X		37	
604	Valley Oak	*Quercus lobata*	5,5	10	14			X			X		10	
605	Live Oak	*Quercus wislizenii*		12	16			X			X		12	
606	Valley Oak	*Quercus lobata*		23	22			X			X		23	
607	Valley Oak	*Quercus lobata*		7	10			X			X		7	
608	Live Oak	*Quercus wislizenii*		9	14			X			X		9	
609	Coast Redwood	*Sequoia sempervirens*		8	8			X			X		8	
610	Deodar Cedar	*Cedrus deodara*		12	14			X			X		12	
APN 050-170-063														
611	Monterey Pine	*Pinus radiata*		12	12			X		X			12	
612	Coast Redwood	*Sequoia sempervirens*		13	12			X			X		13	
613	Eucalyptus sp.			12	13			X			X		12	
614	Eucalyptus sp.			7	9			X			X		7	
615	Eucalyptus sp.			26	23			X			X		26	
616	Lodge Pole Pine	*Pinus contorta*		11	10			X			X		11	
617	Japanese Black Pine	*Pinus thunbergiana*		7	9			X			X	7		
618	Lodge Pole Pine	*Pinus contorta*		18	21			X			X		18	
619	Privot	*Ligustrum*	3,3,4,4	14	8			X			X	14		
APN 050-170-021														
620	Eucalyptus sp.			9	10			X			X	9		
621	Japanese Black Pine	*Pinus thunbergiana*		8	12		X				X	8		
622	Jeffrey Pine	*Pinus jeffreyi*		8	10			X			X		8	
623	Jeffrey Pine	*Pinus jeffreyi*		9	12			X			X		9	
624	Monterey Pine	*Pinus radiata*		9	12			X	X				9	
625	Incense Cedar	*Calocedrus decurrens*		24	20			X			X		24	
626	Incense Cedar	*Calocedrus decurrens*		11	10			X			X		11	
627	Monterey Pine	*Pinus radiata*		21	20			X	X				21	
628	Monterey Pine	*Pinus radiata*		14	17			X		X			14	
629	Incense Cedar	*Calocedrus decurrens*		19	17			X			X		19	
630	Monterey Pine	*Pinus radiata*		16	17			X			X		16	
631	Silk Tree	*Albizia julibrissin*		8	10			X			X	8		
632	Silk Tree	*Albizia julibrissin*		8	12			X			X	8		
633	Monterey Pine	*Pinus radiata*		17	16			X		X			17	
634	Plum	Pinus sp.		10	12			X			X	10		Short bristled 3 to a sack
635	Monterey Pine	*Pinus radiata*		8	10			X			X		8	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure R-F	Condition/Structure F	Condition/Vigor P	Condition/Vigor R-F	Condition/Vigor F	NON NATIVE	NATIVE	COMMENTS
636	Monterey Pine	*Pinus radiata*	6,8,9	23	12			X			X		23	
637	Monterey Pine	*Pinus radiata*		8	10		X				X		8	
638	Plum	Pinus sp.		15	16			X			X	15		
639	Monterey Pine	*Pinus radiata*		16	17			X		X			16	
640	Eucalyptus sp.		5,5,6,6,8,9	39	16			X			X	39		
641	Live Oak	*Quercus wislizenii*	3,5	8	9			X			X		8	
642	Eucalyptus sp.		5,5,5,6,6,6,7	40	12		X				X	40		
643	Eucalyptus sp.		5,5,5,6,6	27	15		X				X	27		
644	Valley Oak	*Quercus lobata*		9	12			X			X		9	
645	Eucalyptus sp.			16	17			X			X	16		
APN 050-070-052														
646	Eucalyptus sp.		4,4,5,5,5,15	38	20		X				X	38		
647	Eucalyptus sp.		4,4,5,5,6,6,8	38	14		X				X	38		
648	Eucalyptus sp.		4,4,4,4,5,5,6,6,7,8	53	16		X				X	53		
649	Eucalyptus sp.		4,4,5,5,5,6,6,9	44	12		X				X	44		
650	Eucalyptus sp.		4,4,5,5	18	12		X				X	18		
651	Eucalyptus sp.		4,4,5,5,6,6,7	37	13		X				X	37		
652	Eucalyptus sp.		6,8,12,15	41	20		X				X	41		
653	Eucalyptus sp.		4,4,5,5,6,7,8	39	10		X				X	39		
654	Eucalyptus sp.		4,4,4,4,5,5,6,8	40	12		X				X	40		
655	Eucalyptus sp.		4,4,5,6,7	26	13		X				X	26		
656	Live Oak	*Quercus wislizenii*	2,2,3,3	10	8			X			X		10	
657	Eucalyptus sp.		4,4,4,5,5,6,7,9	44	14		X				X	44		
658	Eucalyptus sp.		3,4,4,5,5,5,6	32	13		X				X	32		
659	Eucalyptus sp.		4,4,5,5,7	25	12		X				X	25		
660	Eucalyptus sp.		5,5,6,6,6	28	14		X				X	28		
661	Eucalyptus sp.		5,5,6,6,6,6,6,7,8,8	63	14		X				X	63		
APN 050-070-056														
662	Eucalyptus sp.		4,4,4,4,5,5,6,7	39	16		X				X	39		
663	Valley Oak	*Quercus lobata*		38	40			X			X		38	
664	Valley Oak	*Quercus lobata*		12	16			X			X		12	
665	Willow	*Salix sp.*	5,6,11	22	19			X			X		22	
666	Live Oak	*Quercus wislizenii*	3,3,4	10	12			X			X		10	
667	Live Oak	*Quercus wislizenii*		6	13			X			X		6	
668	Live Oak	*Quercus wislizenii*		[illegible]	[illegible]			X			X		[illegible]	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure P-F	Condition/Structure F	Condition/Vigor P	Condition/Vigor P-F	Condition/Vigor F	NON-NATIVE	NATIVE	COMMENTS
669	Live Oak	*Quercus wislizenii*	7,9	16	18			X			X		16	
670	Eucalyptus sp.			11	12			X			X	11		
671	Eucalyptus sp.			10	15			X			X	10		
672	Eucalyptus sp.			15	17			X			X	15		
673	Eucalyptus sp.			16	18			X			X	16		
674	Jeffrey Pine	*Pinus jeffreyi*		7	10			X			X		7	
APN 050-070-071														
675	Jeffrey Pine	*Pinus jeffreyi*		8	12			X			X		8	
676	Jeffrey Pine	*Pinus jeffreyi*		10	13			X			X		10	
677	Jeffrey Pine	*Pinus jeffreyi*		8	10			X			X		8	
678	Jeffrey Pine	*Pinus jeffreyi*		12	14			X			X		12	
679	Jeffrey Pine	*Pinus jeffreyi*		8	10			X			X		8	
680	Black Locust	*Robinia pseudoacacia*	10,10	20	18			X			X	20		
681	Blue Oak	*Quercus douglasii*		18	20			X			X		18	
682	Live Oak	*Quercus wislizenii*	12,13,18,20,22,25	110	30		X				X		110	
APN 050-070-072														
683	Jeffrey Pine	*Pinus jeffreyi*		21	23			X			X		21	
684	White Alder	*Alnus rhombifolia*	6,6	12	10			X			X		12	
685	Jeffrey Pine	*Pinus jeffreyi*		16	18			X			X		16	
686	Jeffrey Pine	*Pinus jeffreyi*		14	16			X			X		14	
687	Jeffrey Pine	*Pinus jeffreyi*		13	14			X			X		13	
688	Jeffrey Pine	*Pinus jeffreyi*		8	10			X			X		8	
689	Jeffrey Pine	*Pinus jeffreyi*		14	15			X			X		14	
APN 050-110-027														
690	Live Oak	*Quercus wislizenii*	8,8,10,10,12,16,20	84	24		X				X		84	
691	Live Oak	*Quercus wislizenii*	6,8,14,15,17	60	22		X				X		60	
692	Live Oak	*Quercus wislizenii*	4,4,4,5,6,6,9	38	20		X				X		38	
693	Stump Sprout		14,16,16	46	26		X				X		46	
694	Foothill Pine	*Pinus sabiniana*		30	40		X				X		30	
695	Live Oak	*Quercus wislizenii*	4,4,5,6	19	13			X			X		19	
APN 050-110-028														
696	Live Oak	*Quercus wislizenii*	4,5,5,6,6,6,7,8,9,10,11,12,13,14	116	27		X				X		116	
697	Live Oak	*Quercus wislizenii*	12,13,13,14	52	30		X				X		52	
698	Live Oak	*Quercus wislizenii*	13,15	28	18			X			X		28	
699	Live Oak	*Quercus wislizenii*		19	22			X			X		19	

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DLR	Condition/Structure P	Condition/Structure P-F	Condition/Structure F	Condition/Vigor P	Condition/Vigor P-F	Condition/Vigor F	NON-NATIVE	NATIVE	COMMENTS
APN 050-110-020, North Side Continuing West														
700	Live Oak	*Quercus wislizenii*		29	30			X			X		29	
701	Live Oak	*Quercus wislizenii*		6	9			X			X		6	
702	Valley Oak	*Quercus lobata*		9	17			X			X		9	
703	Valley Oak	*Quercus lobata*		10	15			X			X		10	
APN 050-220-003														
704	Olive	*Olea europaea*	6,6	12	13			X			X	12		
705	Monterey Pine	*Pinus radiata*		15	18		X				X		15	Topped for line clearance
706	Monterey Pine	*Pinus radiata*		12	13		X			X			12	Topped for line clearance
707	Monterey Pine	*Pinus radiata*		12	13		X			X			12	Topped for line clearance
708	Monterey Pine	*Pinus radiata*		9	10		X		X				9	Topped for line clearance
709	Monterey Pine	*Pinus radiata*		15	16		X			X			15	Topped for line clearance
710	Monterey Pine	*Pinus radiata*		16	12			X		X			16	Topped for line clearance
711	Monterey Pine	*Pinus radiata*		15	16		X		X				15	Topped for line clearance
712	Monterey Pine	*Pinus radiata*		12	10	X			X				12	Topped for line clearance
713	Monterey Pine	*Pinus radiata*		14	9	X			X				14	Topped for line clearance
714	Monterey Pine	*Pinus radiata*		12	10	X			X				12	Topped for line clearance
715	Monterey Pine	*Pinus radiata*		16	15			X			X		16	Topped for line clearance
716	Monterey Pine	*Pinus radiata*		11	12		X				X		11	Topped for line clearance
717	Monterey Pine	*Pinus radiata*		11	9	X				X			11	Topped for line clearance
718	Monterey Pine	*Pinus radiata*		15	16	X				X			15	Topped for line clearance
719	Monterey Pine	*Pinus radiata*		15	11	X				X			15	Topped for line clearance
720	Monterey Pine	*Pinus radiata*		10	12	X				X			10	Topped for line clearance
721	Monterey Pine	*Pinus radiata*		12	15	X				X			12	Topped for line clearance
722	Monterey Pine	*Pinus radiata*		12	12	X				X			12	Topped for line clearance
723	Monterey Pine	*Pinus radiata*		11	12			X			X		11	Topped for line clearance
724	Monterey Pine	*Pinus radiata*		9	8			X			X		9	Topped for line clearance
725	Monterey Pine	*Pinus radiata*		11	12			X			X		11	Topped for line clearance
726	Monterey Pine	*Pinus radiata*		12	10	X				X			12	
727	Olive	*Olea europaea*	4,4,4,5,5,6,6,6	40	12		X				X	40		
728	Monterey Pine	*Pinus radiata*		7	8	X					X		7	
729	Monterey Pine	*Pinus radiata*		9	12			X			X		9	
730	Monterey Pine	*Pinus radiata*		11	12			X		X			11	
731	Monterey Pine	*Pinus radiata*		15	18			X			X		15	
732	Monterey Pine	*Pinus radiata*		8	9			X			X		8	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	FLR	Condition/Structure P	PF	F	Condition/Vigor P	PF	F	NON NATIVE	NATIVE	COMMENTS
733	Monterey Pine	*Pinus radiata*		8	9	X				X			8	
734	Monterey Pine	*Pinus radiata*		6	8	X				X			6	
735	Monterey Pine	*Pinus radiata*		11	10	X				X			11	
736	Monterey Pine	*Pinus radiata*		8	9	X			X				8	
737	Monterey Pine	*Pinus radiata*		10	10	X			X				10	
738	Monterey Pine	*Pinus radiata*		9	11	X				X			9	
739	Monterey Pine	*Pinus radiata*		8	10			X		X			8	
740	Monterey Pine	*Pinus radiata*		10	12			X		X			10	
741	Monterey Pine	*Pinus radiata*		8	10			X			X		8	
742	Monterey Pine	*Pinus radiata*		8	9			X			X		8	
743	Monterey Pine	*Pinus radiata*		11	12	X				X			11	
744	Monterey Pine	*Pinus radiata*		13	12	X				X			13	
745	Monterey Pine	*Pinus radiata*		11	12			X			X		11	
746	Monterey Pine	*Pinus radiata*		13	13			X			X		13	
747	Monterey Pine	*Pinus radiata*		9	10			X			X		9	
748	Monterey Pine	*Pinus radiata*		11	12			X			X		11	
749	Monterey Pine	*Pinus radiata*		10	10	X				X			10	
750	Live Oak	*Quercus wislizenii*		6	10		X				X		6	
751	Monterey Pine	*Pinus radiata*		15	12	X				X			15	
752	Monterey Pine	*Pinus radiata*		13	14			X			X		13	
753	Monterey Pine	*Pinus radiata*		14	11			X			X		14	
754	Live Oak	*Quercus wislizenii*	5,7	12	12			X			X		12	
755	Brazilian Pepper	*Schinus terebinthifolius*	7,7,7,7	28	12			X			X	28		
APN 050-220-001														
756	Black Walnut	*Juglans nigra*	4,4	8	10		X				X		8	
757	Live Oak	*Quercus wislizenii*	4,6	10	10			X			X		10	
758	Foothill Pine	*Pinus sabiniana*		12	12	X					X		12	
759	Live Oak	*Quercus wislizenii*	3,4,5	12	10			X			X		12	
760	Live Oak	*Quercus wislizenii*		7	10	X					X		7	
761	Black Walnut	*Juglans nigra*	3,3,4,4	14	9	X					X		14	
762	Valley Oak	*Quercus lobata*	4,4,5	13	9	X					X		13	
763	Live Oak	*Quercus wislizenii*	4,7	11	10		X				X		11	
764	Live Oak	*Quercus wislizenii*	6,7	13	13		X				X		13	

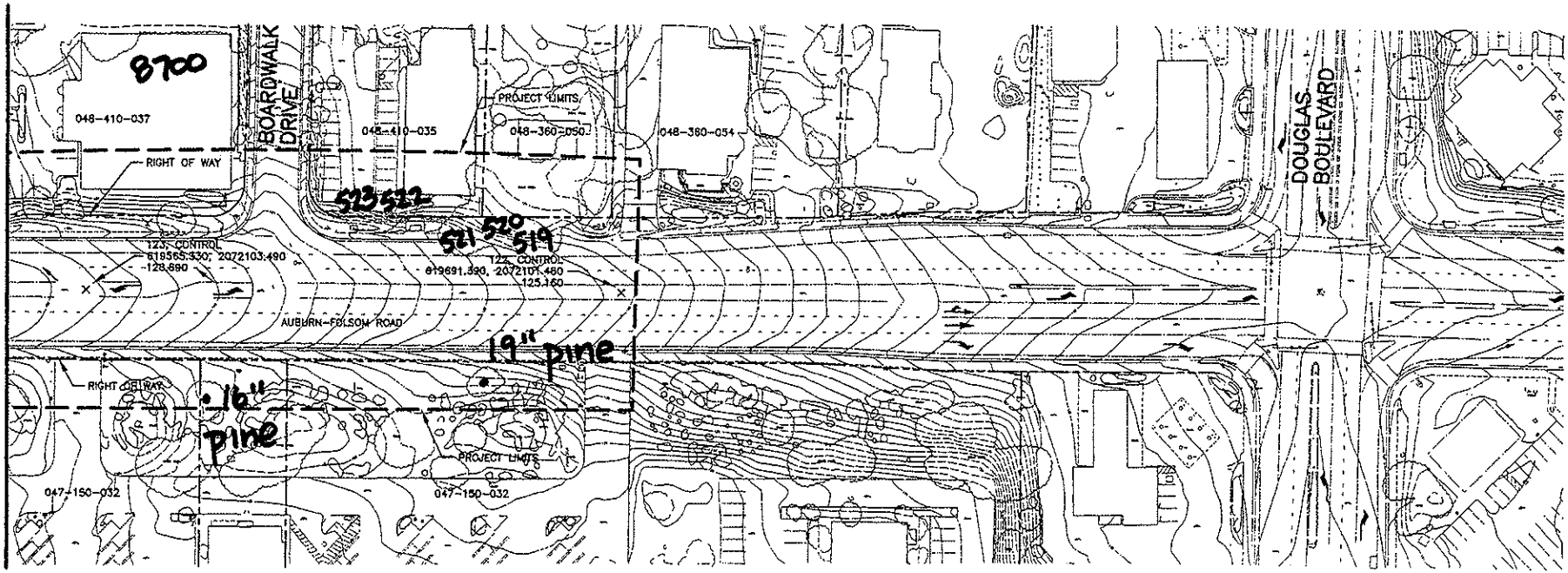
AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DIR	Condition/Structure P	P-F	F	Condition/Vigor P	P-F	F	NON-NATIVE	NATIVE	COMMENTS
APN 050-220-014														
765	White Alder	*Alnus rhombifolia*	6,8	14	17	X					X		14	
766	Flowering Pear	*Pyrus communis*		14	16		X				X	14		
767	Flowering Pear	*Pyrus communis*		13	12		X				X	13		
768	Flowering Pear	*Pyrus communis*		11	14		X				X	11		
769	Flowering Pear	*Pyrus communis*		14	15		X				X	14		
APN 050-130-070														
770	Flowering Pear	*Pyrus communis*		13	17		X				X	13		
771	Willow	*Salix sp.*	6,6,7,8	27	22			X			X		27	
772	Willow	*Salix sp.*	8,12	20	14		X				X		20	
773	Foothill Pine	*Pinus sabiniana*		20	17	X					X		20	
774	Willow	*Salix sp.*	8,8,9	25	15		X				X		25	
775	Foothill Pine	*Pinus sabiniana*		21	16	X					X		21	
776	California Sycamore	*Platanus racemosa*		14	16			X			X		14	
APN 050-130-076														
777	Valley Oak	*Quercus lobata*	10,11,13,16	50	24		X				X		50	
778	Foothill Pine	*Pinus sabiniana*		8	12			X			X		8	
779	Live Oak	*Quercus wislizenii*	3,6,9	18	16			X			X		18	
780	Live Oak	*Quercus wislizenii*	7,8	15	14			X			X		15	
781	Live Oak	*Quercus wislizenii*	5,5,6,6,8,9	39	17		X			X			39	
782	Live Oak	*Quercus wislizenii*	5,5,6,6,7	29	16		X				X		29	
783	Live Oak	*Quercus wislizenii*	26,28	54	30			X			X		54	
784	Live Oak	*Quercus wislizenii*	5,6,8	19	14			X			X		19	
785	Live Oak	*Quercus wislizenii*	14,24	38	30			X			X		38	
786	Live Oak	*Quercus wislizenii*	6,6,7	19	20		X				X		19	
787	Blue Oak	*Quercus douglasii*		19	21			X			X		19	
788	Live Oak	*Quercus wislizenii*		7	19		X				X		7	
APN 050-130-077														
789	Live Oak	*Quercus wislizenii*	7,11	18	18		X				X		18	
790	Live Oak	*Quercus wislizenii*	7,8,10,18,18	61	20		X				X		61	
791	Live Oak	*Quercus wislizenii*	6,6,8,8,8,10,12	58	19		X				X		58	
792	London Plane	*Platanus acerifolia*	10,14	24	20			X			X	24		
793	Foothill Pine	*Pinus sabiniana*		15	17			X			X		15	
794	Blue Oak	*Quercus douglasii*	9,15	24	20			X			X		24	
795	Foothill Pine	*Pinus sabiniana*		7	10			X			X		7	

AUBURN-FOLSOM ROAD 4-LANE WIDENING PROJECT
Tree Inventory/Assessment

TREE #	COMMON NAME	SPECIES	MULTI	DBH	DIR	Condition/Structure P	F	F	Condition/Vigor P	P	F	NON NATIVE	NATIVE	COMMENTS
796	Live Oak	*Quercus wislizenii*	6,6,7,7,8,10	44	20		X				X		44	
797	Live Oak	*Quercus wislizenii*	6,7,7,9,10	39	20			X			X		39	
798	Live Oak	*Quercus wislizenii*	15,15,16,19	65	30			X			X		65	
799	Blue Oak	*Quercus douglasii*	14,15	29	20			X			X		29	
800	Blue Oak	*Quercus douglasii*		12	15		X			X			12	
801	Live Oak	*Quercus wislizenii*	10,12,16,17,18,21	94	30		X				X		94	
Ends at Oak Hill Drive				15207								2068	13139	
TOTAL NO. NON-NATIVE TREES = 117														
TOTAL NO. NATIVE TREES = 679														
TOTAL NO. TREES = 796														

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

NOTE:

THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

SCALE
HORIZONTAL: 1:500
VERTICAL: N.A.

DATE
DESIGNED: C. ERELING 050702
DRAWN: C. ERELING 050702
CHECKED: E. MCCARTHY 050702

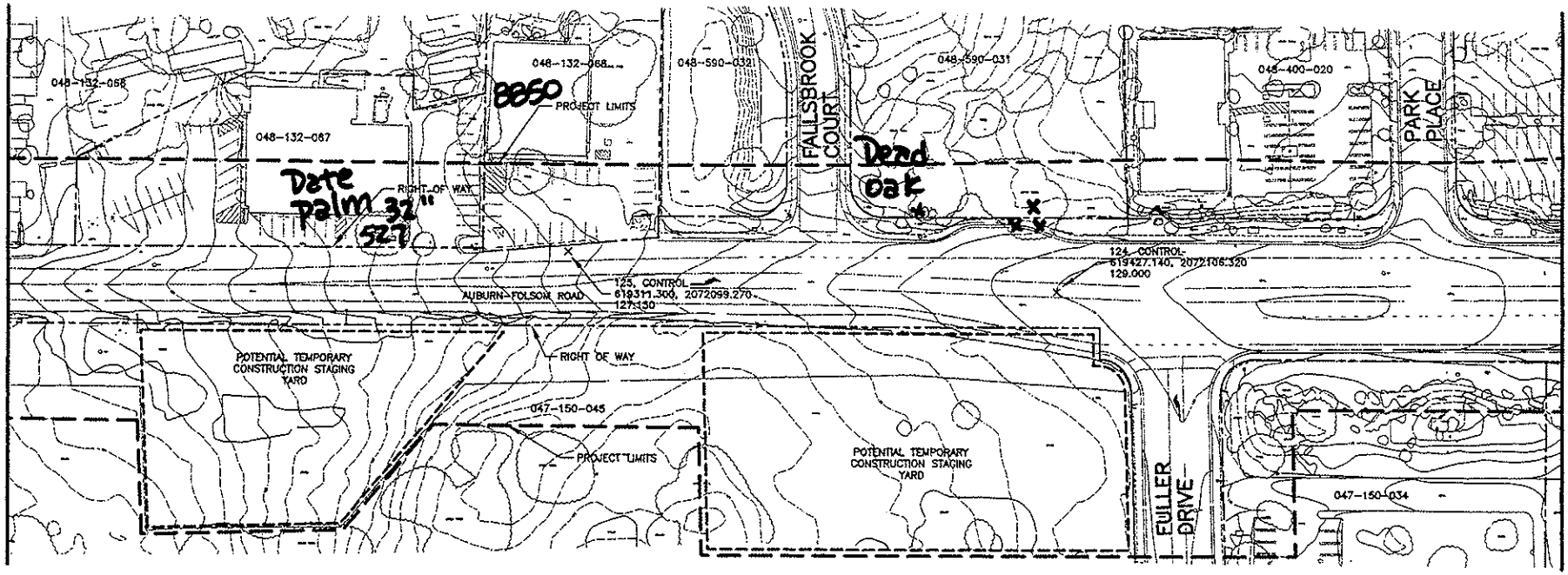
PLACER COUNTY
PROJECT NUMBER:
PC 2784

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO
10
OF
10

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

NOTE:
THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

SCALE
HORIZONTAL: 1:500
VERTICAL: N.A.

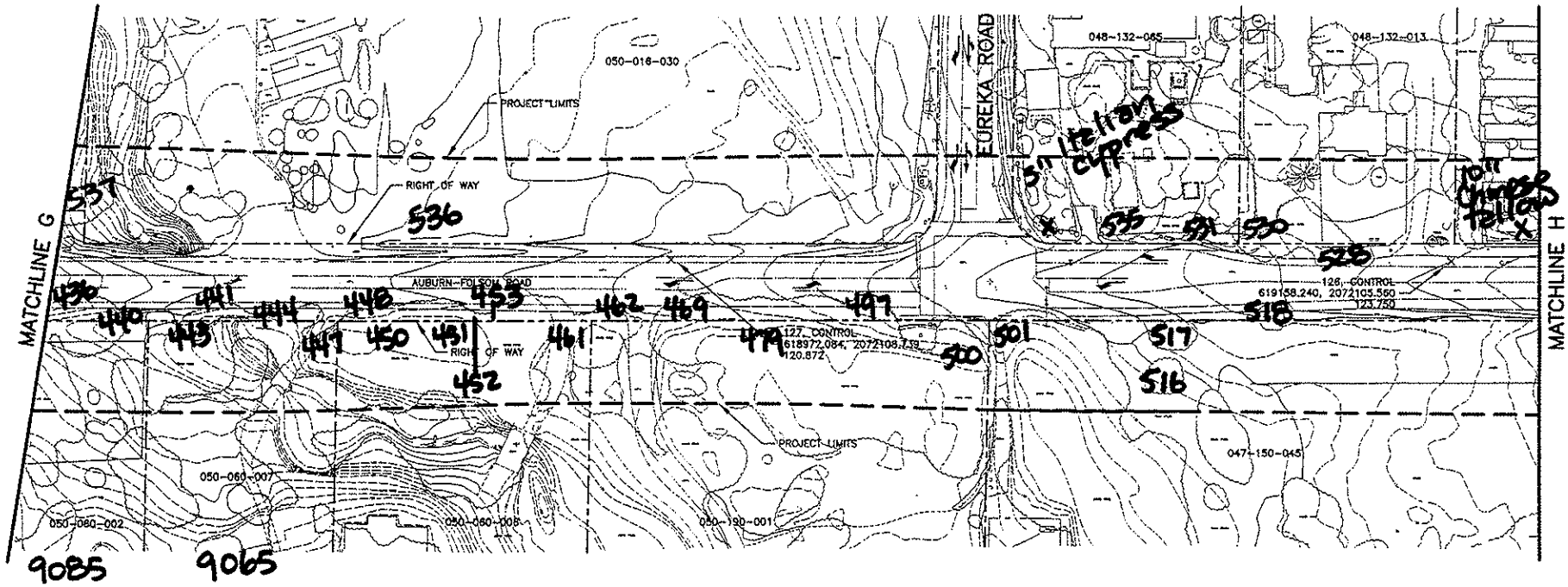
PLACER COUNTY PROJECT NUMBER: PC 2764
DESIGNED: C. EBELING 050702
DRAWN: C. EBELING 050702
CHECKED: E. MCCARTHY 050702
DATE:

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
9
OF
10

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

NOTE:

THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL: 1:500
VERTICAL: N.A.

DATE:
DESIGNED: C. EBELING 050702
DRAWN: C. EBELING 050702
CHECKED: E. MCCARTHY 050702

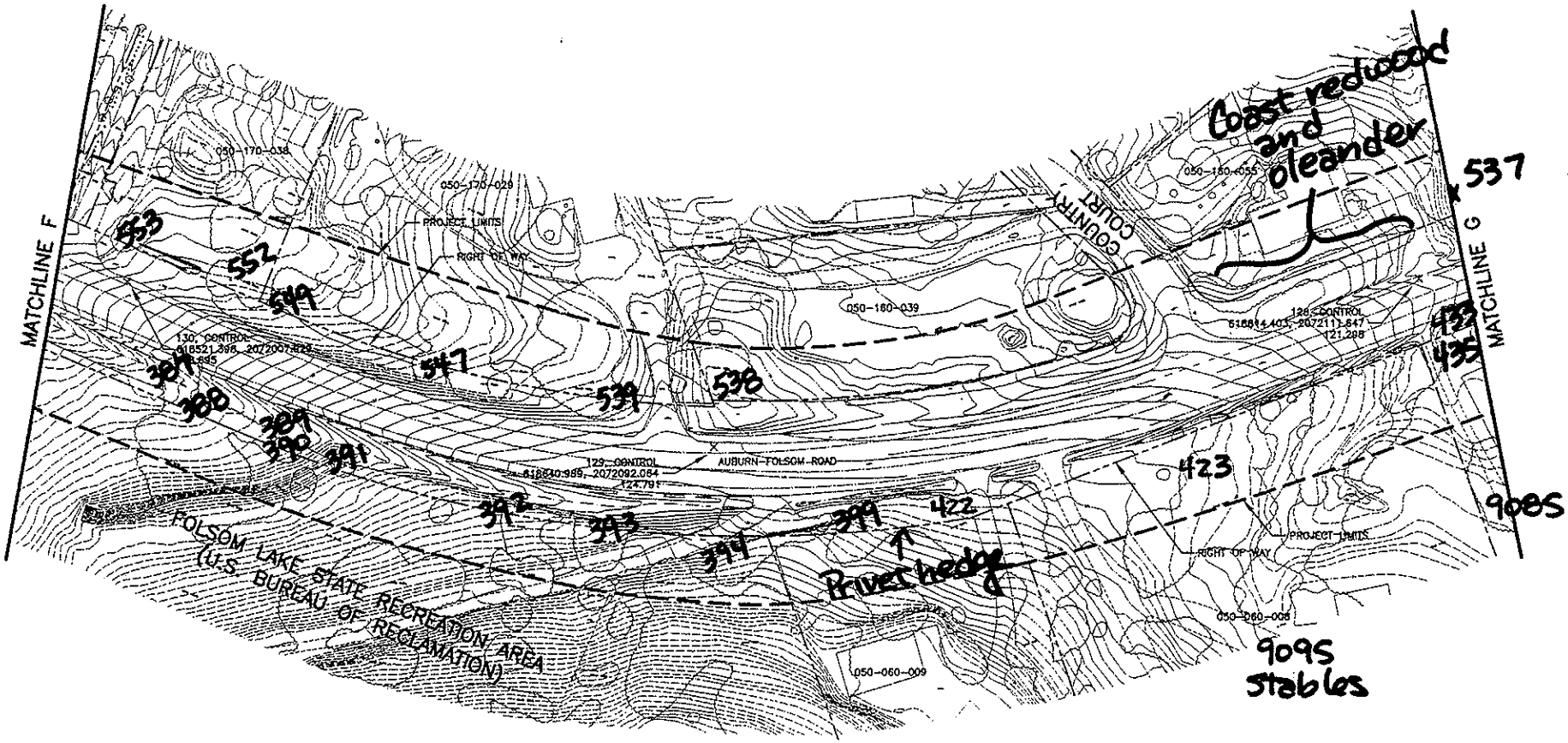
PLACER COUNTY
PROJECT NUMBER:
PC 2784

AUBURN–FOLSOM ROAD
4–LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
8
OF
10

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

NOTE:

THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL: 1:500
VERTICAL: N.A.

PLACER COUNTY
PROJECT NUMBER: PC 2784

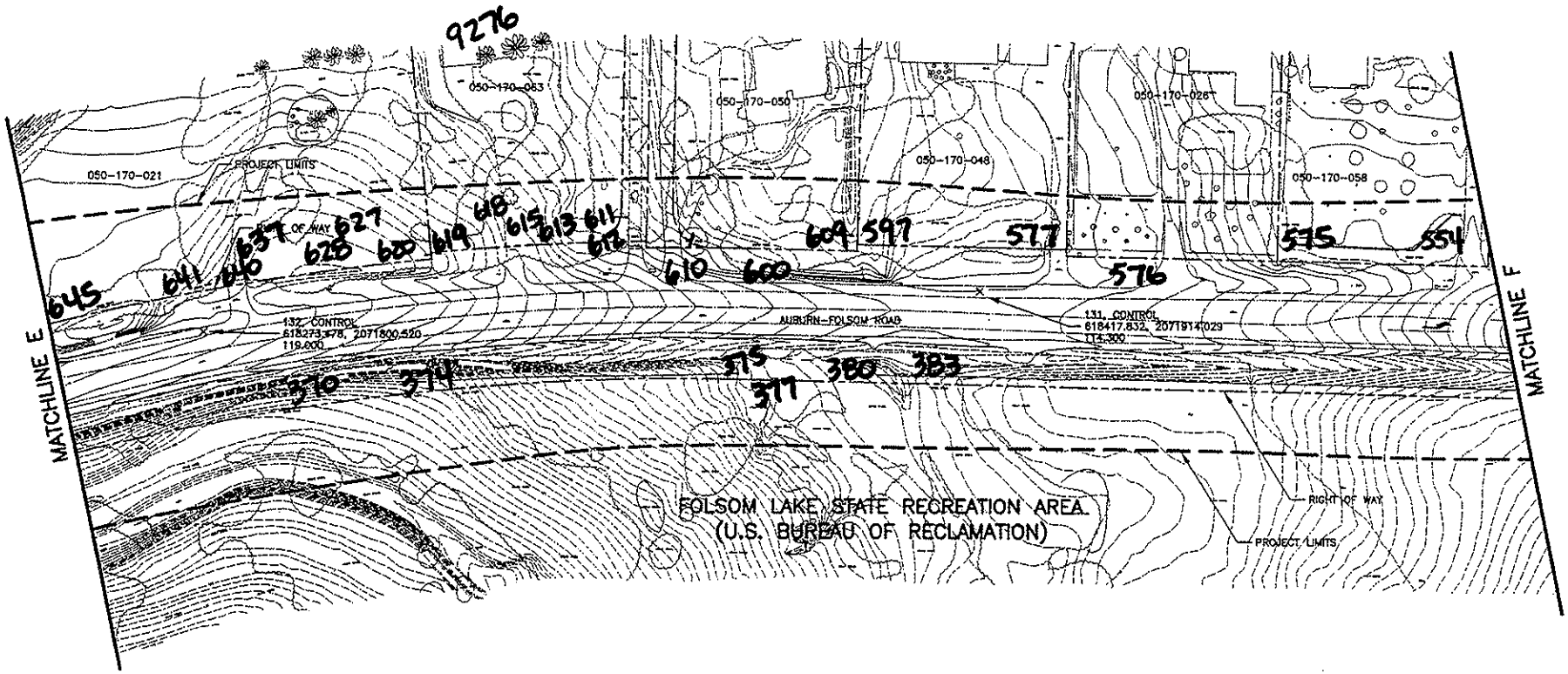
DESIGNED: C. EBELING 050702
DRAWN: C. EBELING 050702
CHECKED: E. MCCARTHY 050702

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
7
OF
10

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

NOTE:

THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL 1:500
VERTICAL N.A.

DESIGNED S. ENGLAND 06/02
DRAWN S. ENGLAND 06/02
CHECKED S. MCCARTHY 06/02
DATE

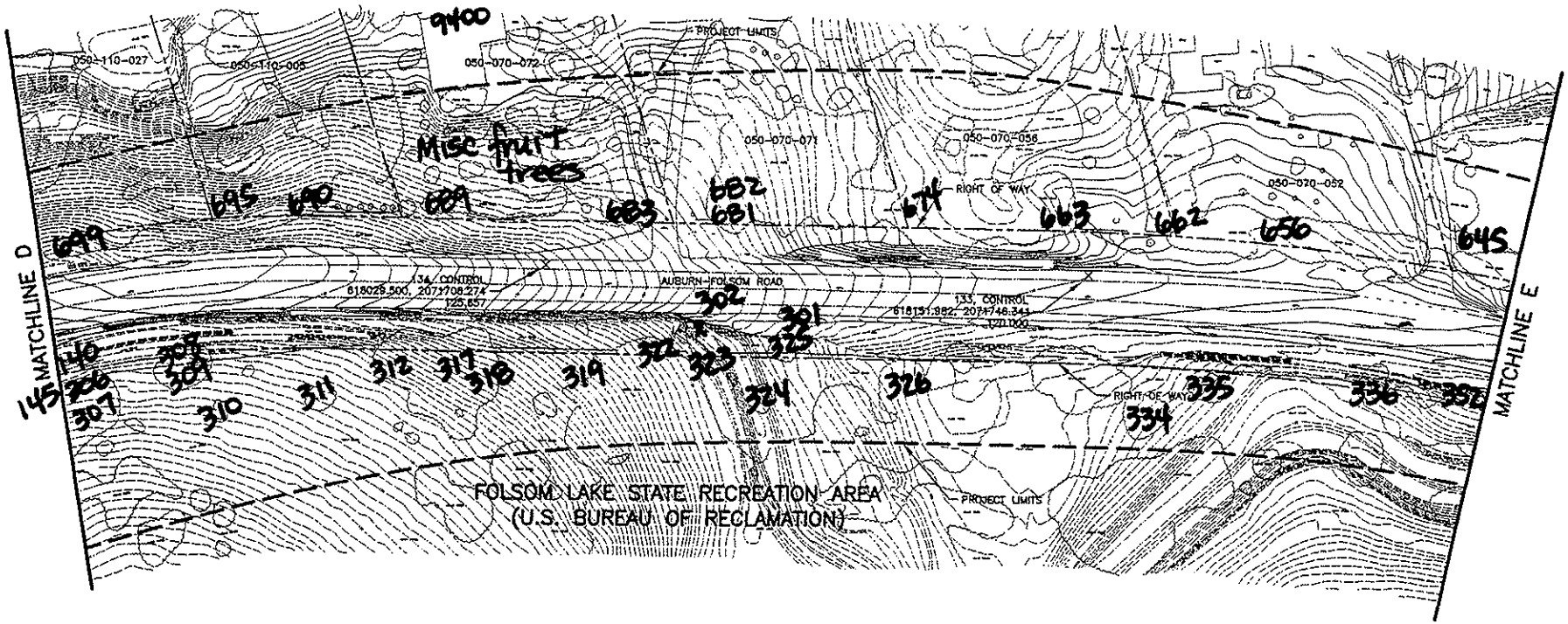
PLACER COUNTY PROJECT NUMBER:
PC 2784

AUBURN–FOLSOM ROAD
4–LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
6
OF
10

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

NOTE:

THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL: 1:500
VERTICAL: N.A.

PLACER COUNTY
PROJECT NUMBER:
PC 2764

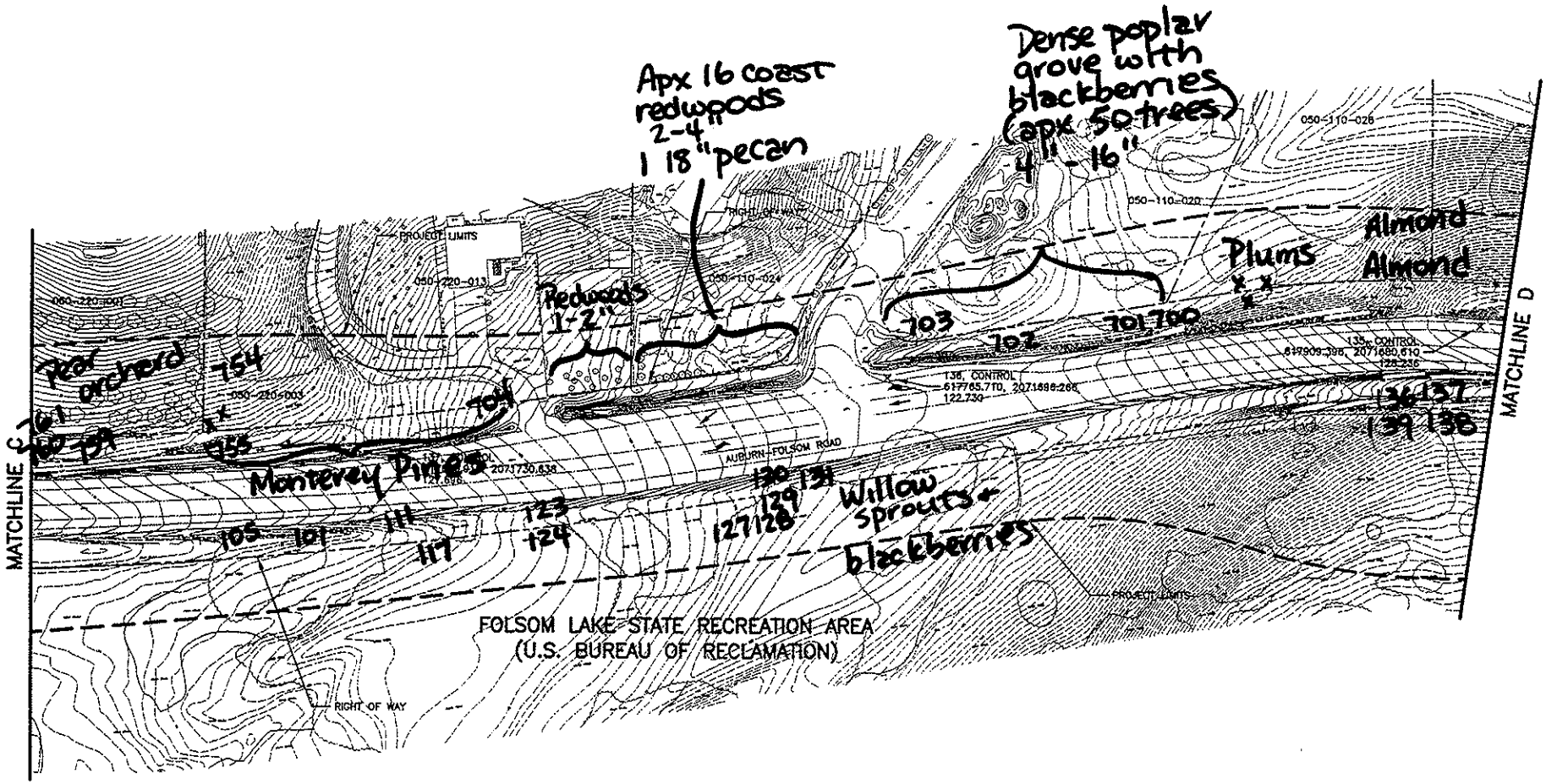
DESIGNED: G. EBELING 050702
DRAWN: G. EBELING 050702
CHECKED: E. MCCARTHY 050702

AUBURN–FOLSOM ROAD
4–LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
5
OF
10

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

NOTE:
THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL: 1:500

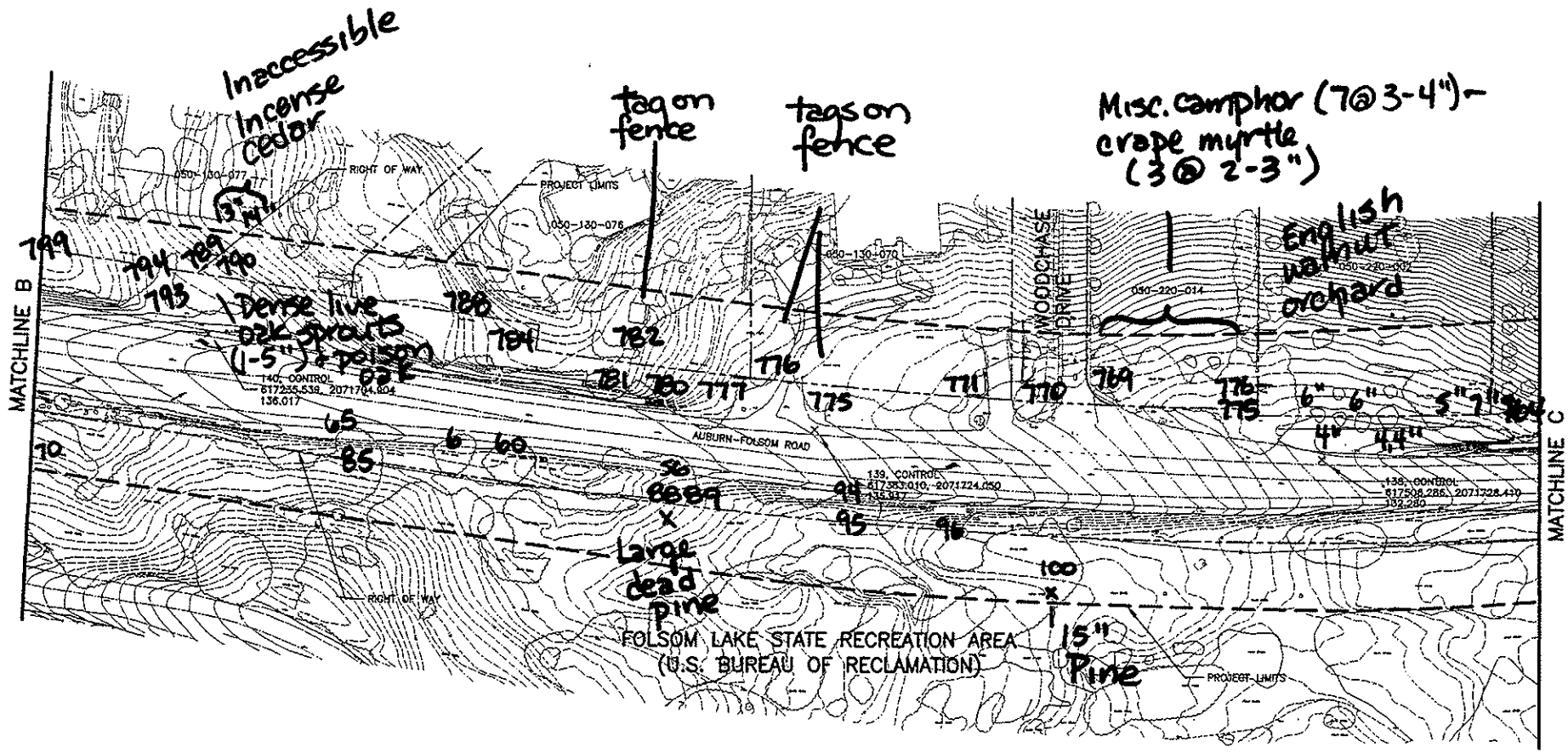
PLACER COUNTY PROJECT NUMBER: PC 2784
DESIGNED: C. EBELING DATE: 050702
DRAWN: C. EBELING 050702

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO.
4
OF
10

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

NOTE:
THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL: 1:500
VERTICAL: N.A.

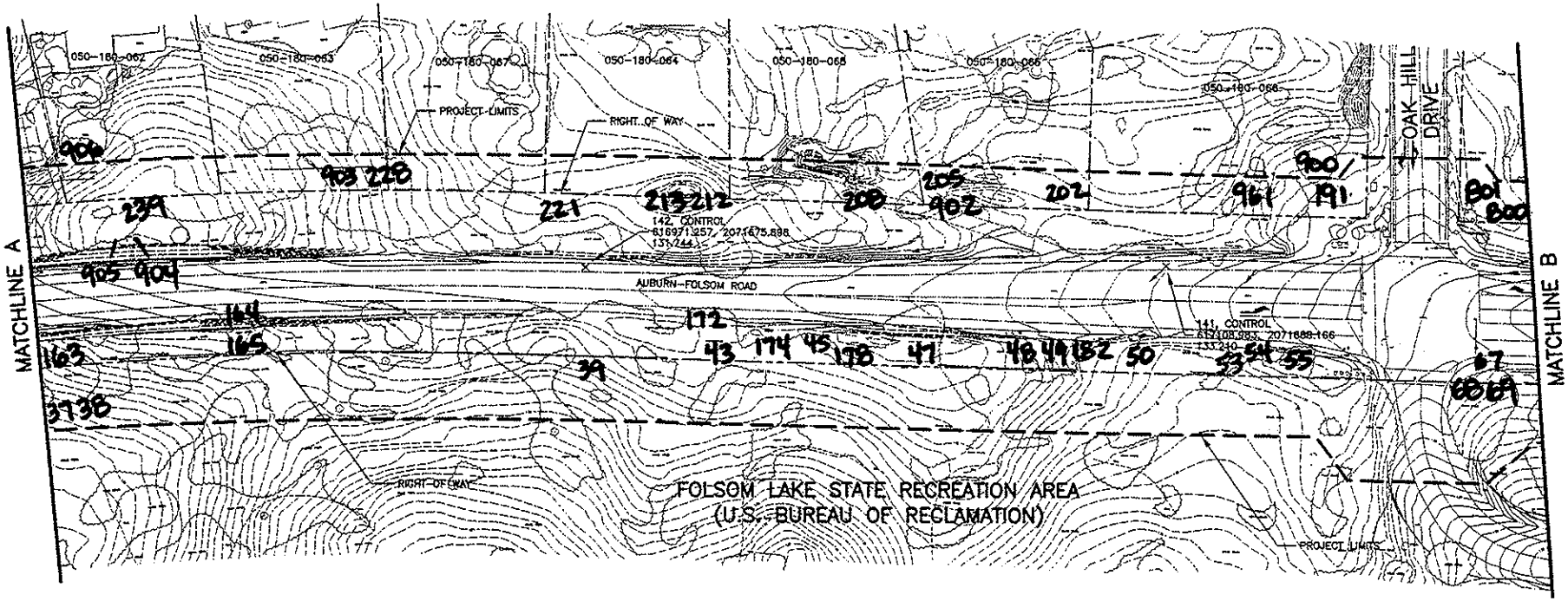
PLACER COUNTY PROJECT NUMBER: PC 2784
DESIGNED: G. EBELING 050702
DRAWN: G. EBELING 050702
CHECKED: E. MCCARTHY 050702

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 3 OF 10

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

NOTE:

THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL 1:500
VERTICAL N.A.

DESIGNED S. EBELING 06/07/02
DRAWN S. EBELING 06/07/02
CHECKED E. MCCARTHY 06/07/02

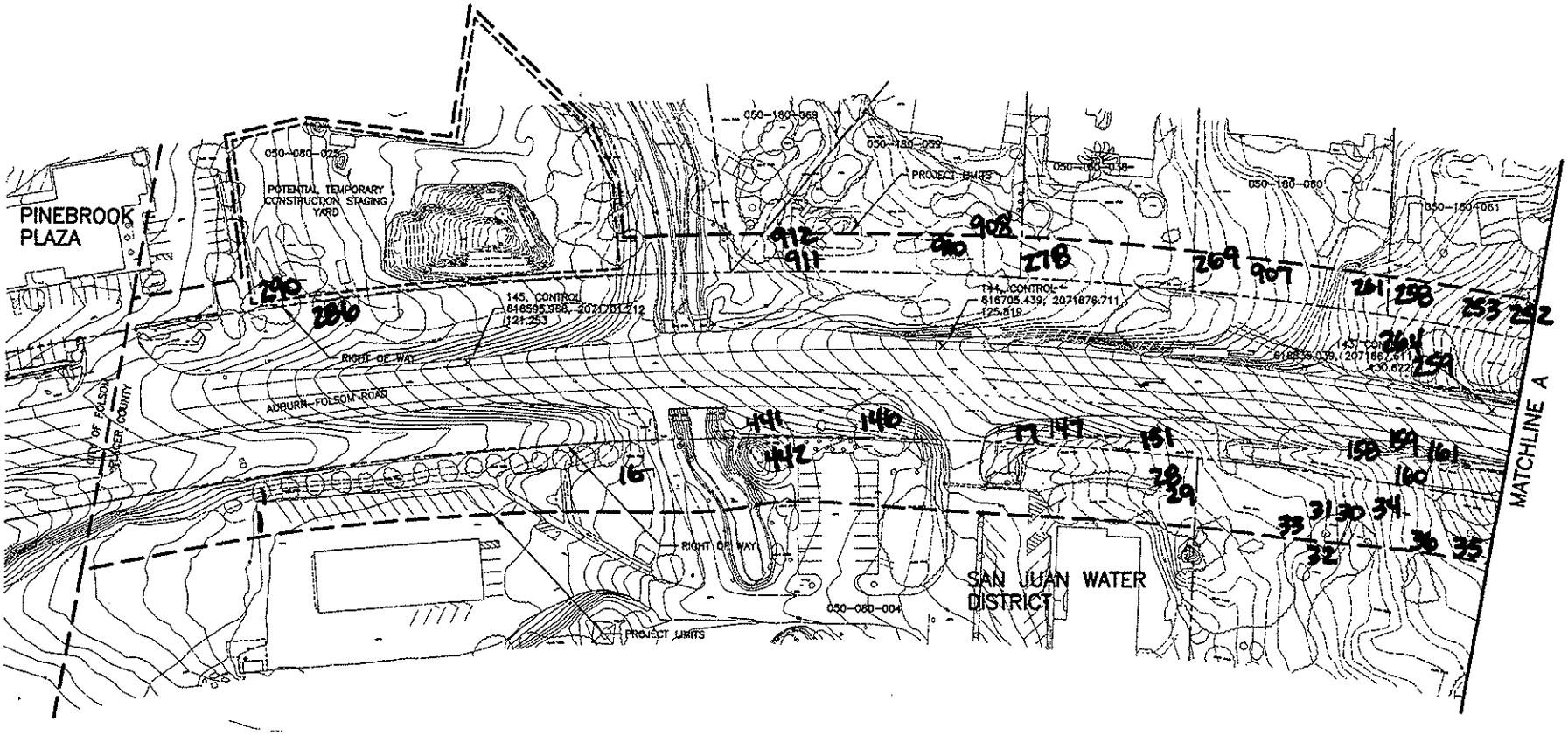
PLACER COUNTY PROJECT NUMBER: RC 2784

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

SHEET NO. 2 OF 10

PRELIMINARY DESIGN PLANS
NOT FOR CONSTRUCTION



TREE INVENTORY MAP –
JUNE 2002 TREE INVENTORY/ASSESSMENT
Prepared by Sierra Nevada Arborists

NOTE:

THE CONTROL POINTS SHOWN INDICATE:
POINT NUMBER, DESCRIPTION
NORTHING, EASTING
ELEVATION

FOR REDUCED PLANS
ORIGINAL SCALE IS IN CENTIMETERS 0 1 2 3 4 5

SCALE
HORIZONTAL: 1:500
VERTICAL: N.A.

PLACER COUNTY PROJECT NUMBER: PC 2784
DESIGNED: C. EBELING 050702
DRAWN: C. EBELING 050702
CHECKED: E. MCCARTHY 050702

AUBURN-FOLSOM ROAD
4-LANE WIDENING PROJECT
PROJECT STUDY LIMITS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

SHEET NO. 1 OF 10

Tree Removal Analysis

SIERRA NEVADA ARBORISTS

October 16, 2002

VIA HAND DELIVERY

Ms. Kim Erickson
Jones & Stokes
2600 V Street
Sacramento, California 95818-1914

RE: Auburn-Folsom Road Four Lane Widening Project
JAS Project No. 02102.02.001
Tree Loss Impact Assessment

Dear Ms. Erickson:

Enclosed please find the Tree Loss Impact Assessment which you requested for the Auburn-Folsom Road Four Lane Widening Project. As you will recall, my services were originally retained by Jones & Stokes to conduct a tree inventory and prepare an Arborist Report for those trees 6" in diameter and larger located along Auburn-Folsom Road which were within 50 feet of edge of pavement from the Sacramento/Placer County Line to the project limit located slightly west of Douglas Boulevard. The inventory identified the type, size and health of all trees located within the study area. Subsequently, you forwarded to me maps depicting four separate widening scenarios and asked that I evaluate tree impacts for each scenario and provide a tree loss comparison for the four widening proposals.

As you will see, I have prepared a summary table which compares each proposed widening option and identifies the potential tree losses for each scenario by geographic location, tree type and diameter class. This summary table utilizes the data contained in the supporting spreadsheets which have been prepared for each widening alternative. For ease of reference, the trees which would require removal for each widening alternative have been identified and highlighted in the supporting spreadsheets. The spreadsheets are divided into separate geographical categories using parcel number information or property addresses, as applicable. The Bureau of Reclamation properties are contained within one section. These geographical categories are identical to those previously identified in the Arborist Report dated June, 2002, and correspond to the Tree Location Map which was previously provided for reference.

503 Anthony Court ◆ Roseville, CA 95678 ◆ 916-784-7940 ◆ 916-784-1901 Fax

---

Thank you for allowing Sierra Nevada Arborists to assist you with this project. Please feel free to give me a call if you have any questions or require additional clarification.

Very truly yours,

Edwin E. Stirtz
ISA Certified Arborist WC-0510

EES:ks
Enclosures

Table L-1. Summary Comparison of Tree Losses by Alternative

Tree Losses by Type	Alternative 1: Widen Roadway to the West		Alternative 2: Widen Roadway to the East		Alternative 3: Widen Equally on Both Sides		Alternative 4: County DPW–Preferred	
	Number of Trees	Inches	Number of Trees	Inches	Number of Trees	Inches	Number of Trees	Inches
Native oaks	195	4,432	267	5,454	254	5,457	242	4,921
Other natives	101	1,391	92	1,669	64	1,157	71	1,247
Nonnatives	75	1,468	30	538	46	706	33	531
Total	371	7,291	389	7,661	364	7,320	346	6,699

Source: Sierra Nevada Arborists. Summary Comparison of Tree Losses by Location, Type, and Size. October 15, 2002.

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 3 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
East Side Auburn Folsom north from Sac. Co. Line to Beales Point Rd.								
Native Oaks								
6"-11.5"	0		11		6		7	
12"-17.5"	0		19		13		13	
18"-22.5"	0		10		9		8	
23"-27.5"	0		5		2		3	
28+"	0		17		13		13	
Subtotal	0	0	62	1347	43	979	44	989
Other Natives								
6"-11.5"	0		22		6		7	
12"-17.5"	0		0		5		7	
18"-22.5"	0		0		1		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	22	406	12	144	14	163
Other Non-Natives								
6"-11.5"	0		2		2		2	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	2	18	2	18	2	18
East Side Auburn Folsom north from Beales Point Rd. to Folsom Placer								
Native Oaks								
6"-11.5"	0		16		6		9	
12"-17.5"	0		14		6		9	
18"-22.5"	0		2		1		2	
23"-27.5"	0		7		3		2	
28+"	0		11		2		4	
Subtotal	0	0	50	973	18	309	26	445
Other Natives								
6"-11.5"	0		9		2		4	
12"-17.5"	0		8		3		3	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		3		2		3	
Subtotal	0	0	20	302	7	125	10	183

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally for Both		ALTERNATIVE 4 County DBW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		1		0		0	
23"-27.5"	0		0		0		0	
28+"	0		3		2		2	
Subtotal	0	0	4	195	2	103	2	103
East Side Auburn Folsom north from Lou Place to Bureau Boundary								
Native Oaks								
6"-11.5"	4		25		14		20	
12"-17.5"	5		19		14		11	
18"-22.5"	4		10		8		7	
23"-27.5"	4		12		7		7	
28+"	4		24		16		15	
Subtotal	21	1498	90	2055	59	1360	60	1310
Other Natives								
6"-11.5"	1		5		2		2	
12"-17.5"	0		6		2		2	
18"-22.5"	0		1		1		1	
23"-27.5"	0		0		0		0	
28+"	0		1		1		1	
Subtotal	1	10	13	186	6	97	6	107
Other Non-Natives								
6"-11.5"	0		1		1		0	
12"-17.5"	1		3		2		2	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		1		1		0	
Subtotal	1	13	5	74	4	62	2	26
East Side Auburn Folsom: APN 050-060-009								
Native Oaks								
6"-11.5"	0		1		0		0	
12"-17.5"	0		3		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	4	65	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1: Widen Roadway to the West		ALTERNATIVE 2: Widen Roadway to the East		ALTERNATIVE 3: Widen Roadway Equally on Both		ALTERNATIVE 4: County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Natives								
6"-11.5"	0		1		1		1	
12"-17.5"	0		1		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	2	21	1	6	1	6
Other Non-Natives								
6"-11.5"	0		10		9		9	
12"-17.5"	0		4		5		5	
18"-22.5"	0		4		4		4	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	18	242	18	231	18	231
East Side Auburn Folsom APN 050-060-008								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		5		1		1	
18"-22.5"	0		1		1		1	
23"-27.5"	0		0		0		0	
28+"	0		3		2		2	
Subtotal	0	0	9	232	4	143	4	143
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		1		0		0	
28+"	0		1		1		1	
Subtotal	0	0	2	57	1	30	1	30
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
East Side Auburn Folsom APN 050-060-002								
Native Oaks								
6"-11.5"	0		3		2		2	
12"-17.5"	0		2		1		1	
18"-22.5"	0		1		1		1	
23"-27.5"	0		1		1		1	
28+"	0		0		0		0	
Subtotal	0	0	7	106	5	84	5	84
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		1		1		1	
Subtotal	0	0	1	78	1	78	1	78
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
East Side Auburn Folsom APN 050-060-007								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		2		1		1	
18"-22.5"	0		1		1		1	
23"-27.5"	0		0		0		0	
28+"	0		1		1		1	
Subtotal	0	0	14	85	3	69	3	69
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		1		1		1	
18"-22.5"	0		1		1		1	
23"-27.5"	0		0		0		0	
28+"	0		1		1		1	
Subtotal	0	0	3	89	3	89	3	89

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
East Side Auburn Folsom, APN 050-060-006								
Native Oaks								
6"-11.5"	0		3		3		3	
12"-17.5"	0		3		3		3	
18"-22.5"	0		2		1		1	
23"-27.5"	0		1		1		1	
28+"	0		1		1		1	
Subtotal	0	0	10	178	9	157	9	157
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		1		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		3		1		1	
Subtotal	0	0	4	112	1	35	1	35
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
East Side Auburn Folsom, APN 050-190-001								
Native Oaks								
6"-11.5"	0		4		3		4	
12"-17.5"	0		8		6		8	
18"-22.5"	0		2		0		2	
23"-27.5"	0		1		1		1	
28+"	0		1		1		1	
Subtotal	0	0	16	219	11	164	16	237

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally on Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Natives								
6"-11.5"	0		4		0		4	
12"-17.5"	0		9		1		9	
18"-22.5"	0		2		0		2	
23"-27.5"	0		1		1		1	
28+"	0		2		2		2	
Subtotal	0	0	18	315	4	106	18	297
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
East Side Auburn Folsom APN 047-150-045								
Native Oaks								
6"-11.5"	0		6		4		8	
12"-17.5"	0		3		0		2	
18"-22.5"	0		0		1		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	9	95	5	48	10	93
Other Natives								
6"-11.5"	0		1		3		1	
12"-17.5"	0		2		4		3	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	3	37	7	84	4	51
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
West Side Auburn Folsom APN 048-360-050								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	1		1		1		1	
18"-22.5"	0		0		0		0	
23"-27.5"	1		1		1		1	
28+"	0		0		0		0	
Subtotal	2	39	2	39	2	39	2	39
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn Folsom APN 048-410-035								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	1		1		1		1	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	17	1	17	1	17	1	17

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway Equally to West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally on Both		ALTERNATIVE 4 County's PWP Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn-Folsom 2 APN 048-590-031								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn-Folsom 1 APN 048-130-067								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	1		0		1		0	
Subtotal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn-Folsom - APN 048-130-013								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	1		0		1		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	1		0		1		0	
Subtotal	2	48	0	0	2	48	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	1		0		1		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	21	0	0	1	21	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
West Side Auburn-Folsom - APN 046-130-065								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	1		0		1		0	
28+"	0		0		0		0	
Subtotal	1	23	0	0	1	23	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	3		0		3		0	
12"-17.5"	1		0		1		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	4	40	0	0	4	40	0	0
West Side Auburn-Folsom - APN 050-016-080								
Native Oaks								
6"-11.5"	1		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	1		0		1		0	
28+"	0		0		0		0	
Subtotal	2	29	0	0	1	23	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn-Folsom: APN 050-160-039								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	1		0		0		0	
Subtotal	1	80	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn-Folsom: APN 050-170-029								
Native Oaks								
6"-11.5"	5		0		3		3	
12"-17.5"	1		0		1		1	
18"-22.5"	1		0		0		0	
23"-27.5"	1		0		0		0	
28+"	2		0		1		1	
Subtotal	10	170	0	0	5	74	5	74

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1: Widen Roadway to the West		ALTERNATIVE 2: Widen Roadway to the East		ALTERNATIVE 3: Widen Roadway Equally On Both		ALTERNATIVE 4: County DEWR Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	1		0		1		1	
Subtotal	1	32	0	0	1	32	1	32
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn Folsom - APN 050-170-038								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	1		0		0		0	
18"-22.5"	2		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	3	55	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	1		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	17	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally on Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
West Side Auburn-Folsom - APN 050-170-058								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	11		0		0		0	
12"-17.5"	3		0		0		0	
18"-22.5"	2		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	16	193	0	0	0	0	0	0
West Side Auburn-Folsom - APN 050-170-026								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Non-Natives								

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally on Both		ALTERNATIVE 4 County's W Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
6"-11.5"	1		1		1		1	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	11	1	11	1	11	1	11
West Side Auburn-Folsom: APN 050-170-048								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	2		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	1		0		0		0	
Subtotal	3	77	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	1		0		0		0	
12"-17.5"	4		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	1		0		0		0	
28+"	0		0		0		0	
Subtotal	16	190	0	0	0	0	0	0
West Side Auburn-Folsom: APN 050-170-050								
Native Oaks								
6"-11.5"	5		1		3		1	
12"-17.5"	4		0		3		0	
18"-22.5"	0		0		0		0	
23"-27.5"	1		0		0		0	
28+"	1		0		1		0	
Subtotal	11	152	1	9	7	109	1	9

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway equally to Both		ALTERNATIVE 4 County DRWP preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Natives								
6"-11.5"	1		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	8	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	1		0		1		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	12	0	0	1	12	0	0
West Side Auburn-Folsom: ARN 050-170-063								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Natives								
6"-11.5"	2		0		0		0	
12"-17.5"	2		0		1		0	
18"-22.5"	1		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	5	54	0	0	1	13	0	0
Other Non-Natives								
6"-11.5"	2		0		0		0	
12"-17.5"	2		0		2		0	
18"-22.5"	0		0		0		0	
23"-27.5"	1		0		1		0	
28+"	0		0		0		0	
Subtotal	5	66	0	0	3	52	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally on Both		ALTERNATIVE 4 County DFW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
West Side Auburn-Folsom: APN 050-170-021								
Native Oaks								
6"-11.5"	2		0		1		1	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	2	17	0	0	1	8	1	8
Other Natives								
6"-11.5"	6		0		2		0	
12"-17.5"	4		0		1		0	
18"-22.5"	2		0		0		0	
23"-27.5"	2		0		0		0	
28+"	0		0		0		0	
Subtotal	14	203	0	0	3	30	0	0
Other Non-Natives								
6"-11.5"	5		0		1		0	
12"-17.5"	2		0		2		2	
18"-22.5"	0		0		0		0	
23"-27.5"	1		0		0		0	
28+"	2		0		1		1	
Subtotal	10	180	0	0	4	79	3	70
West Side Auburn-Folsom: APN 050-070-052								
Native Oaks								
6"-11.5"	1		0		1		1	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	10	0	0	1	10	1	10
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DEIR Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	1		0		0		0	
23"-27.5"	2		0		0		0	
28+"	12		0		0		0	
Subtotal	15	566	0	0	0	0	0	0
West Side Auburn-Folsom: ARN 050-070-056								
Native Oaks								
6"-11.5"	3		2		3		3	
12"-17.5"	2		2		1		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	1		0		0		0	
Subtotal	6	93	4	45	4	39	3	27
Other Natives								
6"-11.5"	1		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	1		0		1		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	2	29	0	0	1	22	0	0
Other Non-Natives								
6"-11.5"	2		0		2		2	
12"-17.5"	2		0		2		2	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	1		0		0		0	
Subtotal	5	91	0	0	4	52	4	52
West Side Auburn-Folsom: ARN 050-070-071								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"			0		0		0	
18"-22.5"	1		0		0		0	
23"-27.5"	0		0		0		0	
28+"	1		0		0		0	
Subtotal	2	28	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Natives								
6"-11.5"	4		1		2		2	
12"-17.5"	1		0		1		1	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	5	40	1	10	3	30	3	30
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	1		0		1		1	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	20	0	0	1	20	1	20
West Side Auburn-Folsom (ARN 050-070-072)	6	60	1	10	4	50	4	50
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Natives								
6"-11.5"	1		0		0		1	
12"-17.5"	1		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	2	22	0	0	0	0	1	18
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1: Widen Roadway to the West		ALTERNATIVE 2: Widen Roadway to the East		ALTERNATIVE 3: Widen Roadway Equally on both		ALTERNATIVE 4: County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
West Side Auburn-Folsom - APN 050-110-027								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	1		0		1		1	
23"-27.5"	0		0		0		0	
28+"	3		0		2		2	
Subtotal	4	201	0	0	3	117	3	117
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	2		0		0		0	
Subtotal	2	76	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn-Folsom - APN 050-110-028								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	1		0		1		1	
23"-27.5"	0		0		0		0	
28+"	3		0		3		3	
Subtotal	4	215	0	0	4	215	4	215
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1: Widen Roadway to the West		ALTERNATIVE 2: Widen Roadway to the East		ALTERNATIVE 3: Widen Roadway Equally on Both		ALTERNATIVE 4: County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn-Folsom: APN 050-110-020								
Native Oaks								
6"-11.5"	3		0		3		3	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	1		0		1		1	
Subtotal	4	54	0	0	4	54	4	54
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn-Folsom: APN 050-220-003								
Native Oaks								
6"-11.5"	1		0		0		0	
12"-17.5"	1		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	2	18	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Natives								
6"-11.5"	27		0		0		0	
12"-17.5"	20		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	47	533	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	1		0		1		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	2		0		0		0	
Subtotal	3	80	0	0	1	12	0	0
West Side Auburn-Folsom: APN 050-220-001								
Native Oaks								
6"-11.5"	2		0		0		0	
12"-17.5"	2		0		1		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	4	42	0	0	1	13	0	0
Other Natives								
6"-11.5"	1		0		0		0	
12"-17.5"	2		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	3	34	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
West Side Auburn-Folsom - APN 050-220-014								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	1		1		1		1	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	14	0	0	1	14	1	14
Other Non-Natives								
6"-11.5"	1		0		0		0	
12"-17.5"	3		0		1		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	4	52	0	0	1	14	0	0
West Side Auburn-Folsom - APN 050-130-070								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
Other Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	1		0		1		0	
18"-22.5"	3		0		1		0	
23"-27.5"	2		0		1		0	
28+"	0		0		0		0	
Subtotal	6	27	0	0	3	62	0	0

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1 Widen Roadway to the West		ALTERNATIVE 2 Widen Roadway to the East		ALTERNATIVE 3 Widen Roadway Equally On Both		ALTERNATIVE 4 County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	1		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	13	0	0	0	0	0	0
West Side Auburn-Folsom - ARN 050-130-076								
Native Oaks								
6"-11.5"	1		0		0		0	
12"-17.5"	1		0		1		1	
18"-22.5"	4		0		2		1	
23"-27.5"	0		0		0		0	
28+"	5		0		3		1	
Subtotal	11	307	0	0	6	180	3	72
Other Natives								
6"-11.5"	1		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	1	8	0	0	0	0	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
West Side Auburn-Folsom - ARN 050-130-077								
Native Oaks								
6"-11.5"	0		0		0		0	
12"-17.5"	1		0		1		0	
18"-22.5"	1		0		0		0	
23"-27.5"	1		0		1		1	
28+"	7		0		3		0	
Subtotal	10	446	0	0	5	220	1	24

AUBURN-FOLSOM 4 LANE WIDENING PROJECT
Summary Comparison of Tree Losess by Alternative

TREE LOSSES BY LOCATION, TYPE AND SIZE	ALTERNATIVE 1: Widen Roadway to the West		ALTERNATIVE 2: Widen Roadway to the East		ALTERNATIVE 3: Widen Roadway Equally on Both		ALTERNATIVE 4: County DPW Preferred Alternative	
	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES	NUMBER OF TREES	INCHES
Other Natives								
6"-11.5"	1		0		0		0	
12"-17.5"	1		0		1		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	2	22	0	0	1	15	0	0
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	1		0		0		0	
28+"	0		0		0		0	
Subtotal	1	24	0	0	0	0	0	0
West Side Auburn-Folsom south from Oak Hill to County Line								
Native Oaks								
6"-11.5"	25		0		15		12	
12"-17.5"	19		0		14		8	
18"-22.5"	17		1		8		7	
23"-27.5"	9		1		4		4	
28+"	20		0		10		8	
Subtotal	90	1733	2	45	51	982	39	784
Other Natives								
6"-11.5"	1		0		0		0	
12"-17.5"	0		0		1		1	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		1		1	
28+"	3		0		1		1	
Subtotal	4	96	0	0	3	68	3	68
Other Non-Natives								
6"-11.5"	0		0		0		0	
12"-17.5"	0		0		0		0	
18"-22.5"	0		0		0		0	
23"-27.5"	0		0		0		0	
28+"	0		0		0		0	
Subtotal	0	0	0	0	0	0	0	0
TOTAL REMOVAL INCHES BY ALTERNATIVE		7291		7766		7320		6699

Appendix M

Placer County Code—Tree Preservation Policy

Placer County Code—Tree Preservation Policy

12.16.030 General county-wide requirements.

A. This article is applicable to all native, landmark trees, riparian zone trees, and certain commercial firewood operations, except as exempted.

B. Riparian Zone Requirements.

1. Within any riparian zone, in all areas of the county in conjunction with any discretionary project and in any tree preservation zone for all development activity, compliance with this article for any development activity in the protected zone of a protected tree shall be required.

2. No tree permit or discretionary approval for any development activity within a riparian zone shall be approved until environmental impacts within the riparian zone are identified, an environmental determination is made and the mitigation measures identified (Chapter 18, Placer County Code). Additionally, no development activity shall be permitted until any stream alteration agreement or mitigation agreements required by the California Department of Fish and Game have been completed.

3. Advisory Comment. This is not a categorical prohibition on any tree removal within a riparian zone but rather a requirement for review of proposed development activity and approval of a tree permit or discretionary project prior to such disturbance occurring.

C. Commercial Firewood Cutting.

1. Licensing Required. Fuel wood production is considered commercial when a party cuts firewood for sale or profit. A commercial operator shall be required to hold a Class A or B timber operator's license pursuant to the laws of the state of California and have attended the training seminar offered by the California Division of Forestry pertaining to proper forest management techniques.

2. Permit Required. A tree permit shall be required for commercial firewood cutting of any size or type of tree in all areas of the county west of the Foresthill general plan area (see map available in the planning office) when the amount of wood taken from any given site exceeds two cords or two hundred fifty-six (256) cubic feet of wood within a one year period. In reviewing a permit application, the planning department will consider the following:

a. Whether the trees to be removed would have a significant negative environmental impact.

b. That the proposed removal will not result in clear-cutting, but will result in thinning or stand improvement.

c. Whether replanting is necessary to insure adequate regeneration.

d. Whether the removal would create the potential for soil erosion.

e. Whether any other limitations or conditions should be imposed in accordance with sound tree management practices.

f. Evaluate the resulting canopy cover.

D. Removal of More Than Fifty Percent of Trees. Except for developed, single-family residential lots that cannot be subdivided, the removal of more than fifty (50) percent of existing native trees, six inches dbh or greater, shall be subject to the issuance of a tree permit. Failure to obtain a permit prior to the removal of more than fifty (50) percent of the existing native trees in these areas may result in the denial or deferral of any application for development of that property for a period of up to ten (10) years.

E. The provisions of this article apply to all projects where discretionary permit approvals are required by the county provided, however, no landmark tree may be removed without obtaining a tree permit pursuant to Section 12.16.060. Except for subsection C, a landmark tree is not subject to the exemptions set forth in Section 12.16.050. (Ord. 5041-B § 3, 2000: prior code § 36.321)

12.16.040 Tree preservation zones.

Except as exempt, and as noted in Section 12.16.030, the provisions of this article are applicable to discretionary projects and to the following areas of the county: Dry Creek-West Placer community plan, Granite Bay community plan, portions of the Loomis Basin general plan, and the Auburn-Bowman community plan (see tree preservation zone map, available in the planning office). Also, see county-wide restrictions for riparian zones, commercial firewood cutting, restrictions for removal of more than fifty (50) percent of trees, and where discretionary permits are required. (Prior code § 36.320)

12.16.050 Exemptions.

A tree permit is not required for the removal of a protected tree under the following circumstances: (Except for subsection C, a landmark tree is not subject to the exemptions set forth below.)

A. Trees damaged and determined to be of immediate danger to either people or site improvements by thunderstorms, windstorms, floods, earthquakes, fires or other natural disasters. Upon discovery of a condition justifying removal, the planning department should be notified as soon as possible of the condition and action taken.

B. Tree removal necessary to comply with CDF fire safety regulations (i.e., clearing around homes) or tree removal undertaken as a part of a fuel reduction/fire safety/fire protection program in conformance with commonly accepted CDF policies.

C. When removal is determined to be necessary by fire department personnel actively engaged in fighting a fire.

D. When compliance would interfere with activities of a public utility necessary to comply with applicable safety regulations and/or necessary to repair or avoid the interruption of services provided by such a utility. Routine repair and maintenance of utilities would be exempt; new

construction projects (i.e., the installation of high power, transmission line corridor) are subject to review.

E. Trees (1) that have been identified by an arborist, forester, or county arborist/licensed landscape architect as "dying" or "unhealthy," (2) dead trees or (3) trees that are in a hazardous condition presenting an immediate danger to health and property.

F. Lots designated for commercial tree removal (i.e., Christmas tree farms, approved timber harvest plans, timber preserve zoned lands, approved logging operations, etc. (Note: Does not include commercial firewood cutting unless specifically exempt by state or federal permits and Eucalyptus or Poplar firewood plantations.)

G. Bona fide active agricultural uses as defined by the county agricultural commissioner are exempt, except commercial cutting of firewood, and development activity within a riparian zone are not exempt. (Also, see county-wide requirements, Section 12.16.030.) (Ord. 5041-B § 4, 2000: prior code § 36.330)

12.16.080 Replacement program and penalties.

A. The approving body may condition any tree permit or discretionary approval involving removal of a protected tree upon the replacement of trees in kind. The replacement requirement may be calculated based upon an inch for an inch replacement of the removed tree(s) and may require minimum fifteen (15) gallon size trees. The total of replacement trees may be required to have a combined diameter of the tree(s) removed. A minimum of fifty (50) percent of replacement trees shall be of a similar native tree. Replacement trees may be planted on-site or in other areas to the satisfaction of the planning department. Such replanting must not result in the over-planting of a site such that an unsafe fire condition is created.

B. The approving body may, instead of requiring replacement trees, require implementation of a revegetation plan. The county will require the developer to enter into a written agreement with the county obligating the developer to comply with the requirements of the revegetation program. A security deposit shall be required to insure that the agreement is fulfilled. The revegetation program may include the propagation of native oak trees from seed or saplings using currently accepted methods.

C. The approving body may decide that if the project site is not capable of supporting all of the replacement trees, the applicant shall pay to Placer County the current market value, as established by an arborist, forester, or registered landscape architect, of the replacement trees, including cost of installation, to go into a tree preservation fund (see subsection I of this section).

D. In addition, any protected or preserved tree shall not be damaged during construction. A penalty, payable to the county, in the amount of fifty dollars ($50.00) per scar will be required. If necessary, an arborist report may be required to be filed by the applicant to determine the extent of damage.

E. Any person, firm, or corporation that does not apply for a tree permit prior to removal of protected trees, and where no security deposit has been posted, shall replace trees as noted in subsection A, B, or C of this section, in addition to paying a fine of the current market value of the replacement trees.

F. Any person, firm, or corporation that removes or destroys any tree or trees that have been designated to be saved by an approving body shall be fined up to three times the current market value of the replacement trees and the cost of replacement, and/or replace up to three times the number of trees required by this article.

G. Except as provided in this article, if trees are removed without prior approval of an approving body, the approving body may choose to deny or defer approval of any application for development of that property for a period of up to five years.

H. The Board of Supervisors may consider the rezoning of a parcel or parcels of land on which a violation of this article has occurred.

I. Tree Preservation Fund. A tree preservation fund is established for Placer County. The moneys received in lieu of replacement of illegally removed or damaged trees shall be forwarded to the county treasurer for deposit in the tree preservation fund. Under no circumstances shall the funds collected by the county treasurer for deposit into the tree preservation fund be directed to any other fund to be used for any other purposes other than the planting of or maintenance of trees on publicly owned property, easements of rights-of-way, or used for educational programs or materials. A certain percentage of the fund (as determined by the board of supervisors) may be used for enforcement of the article and/or land acquisition.

J. A violation of this article shall be punishable as a misdemeanor or an infraction at the discretion of the county counsel and/or the district attorney.

K. Survivability.

1. Any person, firm or corporation that is required to replant, relocate or revegetate as a condition of his or her tree permit or discretionary project approval will be required to provide appropriate irrigation and maintenance for the trees. To assure survivability, a maintenance agreement shall be entered into and a deposit established by the approving body, not greater than the replacement costs, shall be posted with the county. The deposit shall be retained until the county arborist certifies the conditions of the tree permit are satisfied. After three years, an arborist or forester employed by the developer will identify to the county the condition of the replanted trees or revegetated area.

2. Any five gallon size tree or greater that was replanted or relocated that is dead after three years, must be replaced in kind with equal sized healthy replacements. Revegetated areas or areas where trees smaller than five gallon size were replanted must have at least seventy-five (75) percent of the trees still alive after three years.

3. Failure to provide adequate irrigation and maintenance for the replanted or relocated trees, or the revegetated areas, or the failure to replace trees which have not survived, will result in forfeiture of all or part of the survivability deposit. (Prior code § 36.600)

Appendix N

Distribution List

AUBURN FOLSOM ROAD WIDENING PROJECT
Distribution List

First Name	Last Name	Job Title	Company	Street Address	City	State	Postal Code
Rick	Dondro	Assistant Public Works Director	Placer County Department of Public Works	11444 B Avenue	Auburn	CA	95603
Ed	McCarthy	Senior Associate Civil Engineer	Placer County Department of Public Works	11444 B Avenue	Auburn	CA	95603
Charlie	Ebeling	Associate Civil Engineer	Placer County Department of Public Works	11444 B Avenue	Auburn	CA	95603
Tom	Brinkman	Associate Engineer	Placer County Department of Public Works	11444 B Avenue	Auburn	CA	95603
Tim	Kizer	Associate Civil Engineer	Placer County Department of Public Works	11444 B Avenue	Auburn	CA	95603
Gina	Langford	Senior Planner	Placer County Planning Department	11414 B Avenue	Auburn	CA	95603
Vance	Kimbrell	Senior Parks Planner	Placer County Facility Services, Parks and Grounds Division	11476 C Avenue	Auburn	CA	95603
John	Weber	Right-of-Way Agent	Placer County Department of Public Works	11444 B Avenue	Auburn	CA	95603
Dave	Nugen	Senior Civil Engineer	City of Folsom Public Works Department	50 Natoma Street	Folsom	CA	95630
David	Tait	Vice President	Smith, Kempton & Watts	980 Ninth Street	Sacramento	CA	95814
Sandi	Richerson	Natural Resources Specialist	U.S. Dept. of the Interior, Bureau of Reclamation	7794 Folsom Dam Road	Folsom	CA	95630
Gale	Moginie	Realty Specialist	U.S. Dept. of the Interior, Bureau of Reclamation	7794 Folsom Dam Road	Folsom	CA	95630-1799
Drew	Lessard	Civil Engineer	U.S. Dept. of the Interior, Bureau of Reclamation	7794 Folsom Dam Road	Folsom	CA	95630
Doug	Healey	Landscape Architect	California Dept. of Parks and Recreation	7806 Folsom Auburn Road	Folsom	CA	95630
Sally	Walters	Associate Parks Ecologist	California Dept. of Parks and Recreation	7806 Folsom Auburn Road	Folsom	CA	95630
Jim	Michaels	Associate Park & Recreation Specialist	California Dept. of Parks and Recreation	7806 Folsom Auburn Road	Folsom	CA	95630
Ben	Martinez	Engineering Manager	San Juan Water District	9935 Auburn Folsom Road	Granite Bay	CA	95746
Shauna	Lorance	Assistant General Manager	San Juan Water District	9935 Auburn Folsom Road	Granite Bay	CA	95746
John	Scroggs	Principal	KASL Consulting Engineers	7777 Greenback Lane	Citrus Heights	CA	95610
Scott	Hall	Officer	California Highway Patrol	9440 Indian Hill Road	Newcastle	CA	95658
Rick	Ward	Captain	California Highway Patrol	9440 Indian Hill Road	Newcastle	CA	95658
Keith	Burson	Fire Marshal	South Placer Fire District	6900 Eureka Road	Granite Bay	CA	95764
Tom	Cavanaugh		U.S. Army Corps of Engineers	1325 J Street	Sacramento	CA	95814

First Name	Last Name	Job Title	Company	Street Address	City	State	Postal Code
Justin	Ly		U.S. Fish and Wildlife Service	2800 Cottage Way, Room W-2605	Sacramento	CA	95825
Diane	Windham		National Marine Fisheries Service	Sacramento Area Office 650 Capitol Mall, Suite 6070	Sacramento	CA	95814
Pat	Gillum		SWRCB Division of Water Quality	3443 Routier Road, Ste. A	Sacramento	CA	95827
Terri	Roscoe		California Department of Fish and Game	1701 Nimbus Road, Ste. A	Rancho Cordova	CA	95670
Todd	Nishikawa	Acting Air Pollution Control Officer	Placer County Air Pollution Control District	11464 B Avenue	Auburn	CA	95603
Knox	Mellon		Office of Historic Preservation	P.O. Box 942896	Sacramento	CA	94296
Tom	Zlotkowski	Director	Sacramento County Department of Transportation	906 G Street	Sacramento	CA	95814
Gordon	Garry		Sacramento Area Council of Governments	3000 "S" Street	Sacramento	CA	95816
Bob	Fletcher	Division Chief	California Air Resources Board	P.O. Box 2815	Sacramento	CA	95812
Bill	Snyder		PG & E	343 Sacramento Street	Auburn	CA	95603
Rosemary	Hamill		AT & T	2741 North Main	Walnut Creek	CA	94596
Paul	Gallagher	Consultant to AT&T		2741 North Main	Walnut Creek	CA	94596
David	Price		Placer County Department of Public Works	11444 B Avenue	Auburn	CA	95603
Roger	Davies		Placer County Department of Environmental Health	11454 B Avenue	Auburn	CA	95603
Andrew	Darrow		Placer County Flood Control and Water Conservation District	11444 B Avenue	Auburn	CA	95603
			Granite Bay Municipal Advisory Council (MAC)	P.O. Box 2451	Granite Bay	CA	95746
Gerry	Brentall	Commissioner/ Board Member	Placer County Board of Supervisors	175 Fulweiler Avenue	Auburn	CA	95603
Ted	Gaines	Commissioner/ Board Member	Placer County Board of Supervisors	175 Fulweiler Avenue	Auburn	CA	95603

Appendix O

California Natural Diversity Database Search Results

Search of the Folsom and 8 Surrounding 7.5 Minute Quadrangles

Common/Scientific Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
AHART'S DWARF RUSH *JUNCUS LEIOSPERMUS VAR AHARTII*	None/ None	G2T1/ S1.2	1B/ 3-2-3	
ALKALI MEADOW	None/ None	G3/ S2.1		
ALKALI SEEP	None/ None	G3/ S2.1		
BALD EAGLE *HALIAEETUS LEUCOCEPHALUS*	Threatened/ Endangered	G4/ S2		
BANK SWALLOW *RIPARIA RIPARIA*	None/ Threatened	G5/ S2S3		
BIG-SCALE BALSAMROOT *BALSAMORHIZA MACROLEPIS VAR MACROLEPIS*	None/ None	G3T2/ S2.2	1B/ 2-2-3	
BISBEE PEAK RUSH-ROSE *HELIANTHEMUM SUFFRUTESCENS*	None/ None	G2Q/ S2.2	3/ 2-2-3	
BOGGS LAKE HEDGE-HYSSOP *GRATIOLA HETEROSEPALA*	None/ Endangered	G3/ S3.1	1B/ 1-2-2	
BRANDEGEE'S CLARKIA *CLARKIA BILOBA SSP BRANDEGEAE*	None/ None	G4T2/ S2.2	1B/ 2-2-3	
BURROWING OWL *ATHENE CUNICULARIA*	None/ None	G4/ S2		SC
CALIFORNIA LINDERIELLA *LINDERIELLA OCCIDENTALIS*	None/ None	G2G3/ S2S3		
COOPER'S HAWK *ACCIPITER COOPERII*	None/ None	G5/ S3		SC
DWARF DOWNINGIA *DOWNINGIA PUSILLA*	None/ None	G3/ S3.1	2/ 1-2-1	

Search of the Folsom and 8 Surrounding 7.5 Minute Quadrangles

Common/Scientific Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
EL DORADO BEDSTRAW *GALIUM CALIFORNICUM SSP SIERRAE*	Endangered/ Rare	G5T1/ S1.2	1B/ 3-2-3	
EL DORADO COUNTY MULE EARS *WYETHIA RETICULATA*	None/ None	G2/ S2.2	1B/ 2-2-3	
GIANT GARTER SNAKE *THAMNOPHIS GIGAS*	Threatened/ Threatened	G2G3/ S2S3		
GREAT BLUE HERON *ARDEA HERODIAS*	None/ None	G5/ S4		
GREAT EGRET *ARDEA ALBA*	None/ None	G5/ S4		
HISPID BIRD'S-BEAK *CORDYLANTHUS MOLLIS SSP HISPIDUS*	None/ None	G2T2/ S2.1	1B/ 2-3-3	
LAYNE'S RAGWORT *SENECIO LAYNEAE*	Threatened/ Rare	G2/ S2.1	1B/ 2-2-3	
LEGENERE *LEGENERE LIMOSA*	None/ None	G2/ S2.2	1B/ 2-3-3	
MIDVALLEY FAIRY SHRIMP *BRANCHINECTA MESOVALLENSIS*	None/ None	G2/ S2		
NORTHERN HARDPAN VERNAL POOL	None/ None	G3/ S3.1		
NORTHERN VOLCANIC MUD FLOW VERNAL POOL	None/ None	G1/ S1.1		
NORTHWESTERN POND TURTLE *CLEMMYS MARMORATA MARMORATA*	None/ None	G4T4/ S3		SC
PINCUSHION NAVARRETIA *NAVARRETIA MYERSII SSP MYERSII*	None/ None	G1T1/ S1.1	1B/ 3-3-3	
PINE HILL CEANOTHUS *CEANOTHUS RODERICKII*	Endangered/ Rare	G2/ S2.1	1B/ 3-2-3	

Search of the Folsom and 8 Surrounding 7.5 Minute Quadrangles

Common/Scientific Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
PINE HILL FLANNELBUSH *FREMONTODENDRON DECUMBENS*	Endangered/ Rare	G1/ S1.2	1B/ 3-2-3	
RED BLUFF DWARF RUSH *JUNCUS LEIOSPERMUS VAR LEIOSPERMUS*	None/ None	G2T2/ S2.2	1B/ 2-3-3	
RED HILLS SOAPROOT *CHLOROGALUM GRANDIFLORUM*	None/ None	G2/ S2.2	1B/ 2-2-3	
SACRAMENTO ORCUTT GRASS *ORCUTTIA VISCIDA*	Endangered/ Endangered	G1/ S1.1	1B/ 3-3-3	
SANFORD'S ARROWHEAD *SAGITTARIA SANFORDII*	None/ None	G3/ S3.2	1B/ 2-2-3	
SLENDER ORCUTT GRASS *ORCUTTIA TENUIS*	Threatened/ Endangered	G3/ S3.1	1B/ 2-3-3	
STEBBINS'S MORNING-GLORY *CALYSTEGIA STEBBINSII*	Endangered/ Endangered	G1/ S1.1	1B/ 3-3-3	
SWAINSON'S HAWK *BUTEO SWAINSONI*	None/ Threatened	G4/ S2		
TRICOLORED BLACKBIRD *AGELAIUS TRICOLOR*	None/ None	G3/ S3		SC
VALLEY ELDERBERRY LONGHORN BEETLE *DESMOCERUS CALIFORNICUS DIMORPHUS*	Threatened/ None	G3T2/ S2		
VALLEY NEEDLEGRASS GRASSLAND	None/ None	G1/ S3.1		
VERNAL POOL FAIRY SHRIMP *BRANCHINECTA LYNCHI*	Threatened/ None	G2G3/ S2S3		
VERNAL POOL TADPOLE SHRIMP *LEPIDURUS PACKARDI*	Endangered/ None	G2G3/ S2S3		

Search of the Folsom and 8 Surrounding 7.5 Minute Quadrangles

Common/Scientific Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
WESTERN SPADEFOOT *SCAPHIOPUS HAMMONDII*	None/ None	G3?/ S3?		SC
WHITE-TAILED KITE *ELANUS LEUCURUS*	None/ None	G5/ S3		

Appendix P

Traffic Data (Bound Separately)

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