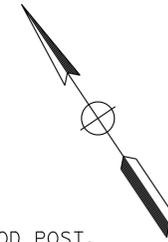


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	ELECTRICAL	FUNCTIONAL SUPERVISOR	BEHZAD GOLEMOHAMMADI
		CALCULATED/DESIGNED BY	CHECKED BY
		GUILLELMO BAUTISTA	MAHMOOD NOII
		REVISED BY	DATE REVISED
		CB	3-23-16

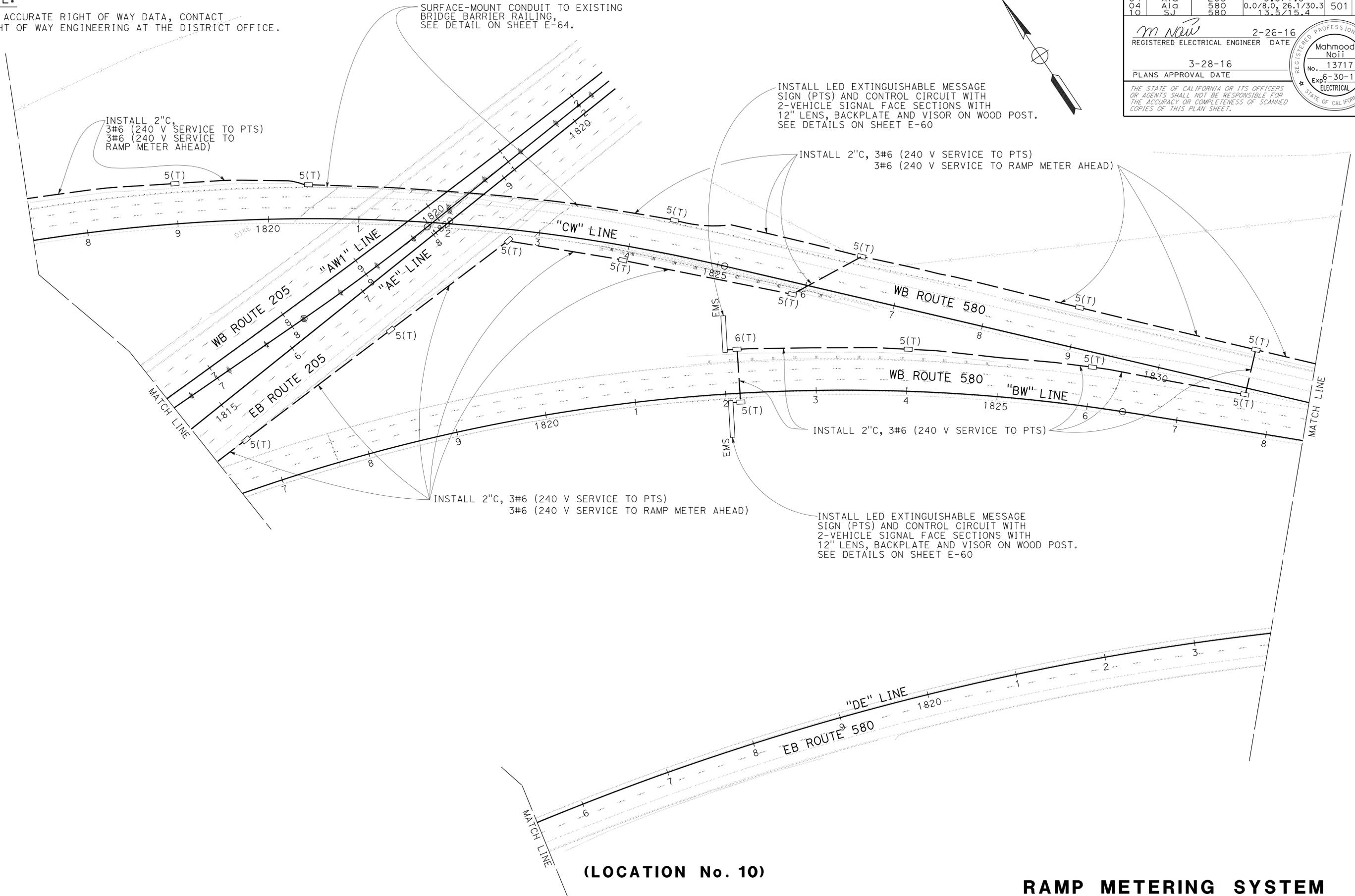
NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

SURFACE-MOUNT CONDUIT TO EXISTING
BRIDGE BARRIER RAILING,
SEE DETAIL ON SHEET E-64.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 04 10	Ala Ala SJ	205 580 580	0.071.0 0.0/8.0, 26.1/30.3 13.5/15.4	501	676

REGISTERED ELECTRICAL ENGINEER DATE: 2-26-16
 REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE: 3-28-16
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



(LOCATION No. 10)

RAMP METERING SYSTEM

SCALE: 1" = 50'

FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET E-1

E-21

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY
 CHECKED BY

GUILLELMO BAUTISTA
 MAHMOOD NOII

REVISED BY
 DATE REVISED

CB
 10-8-15

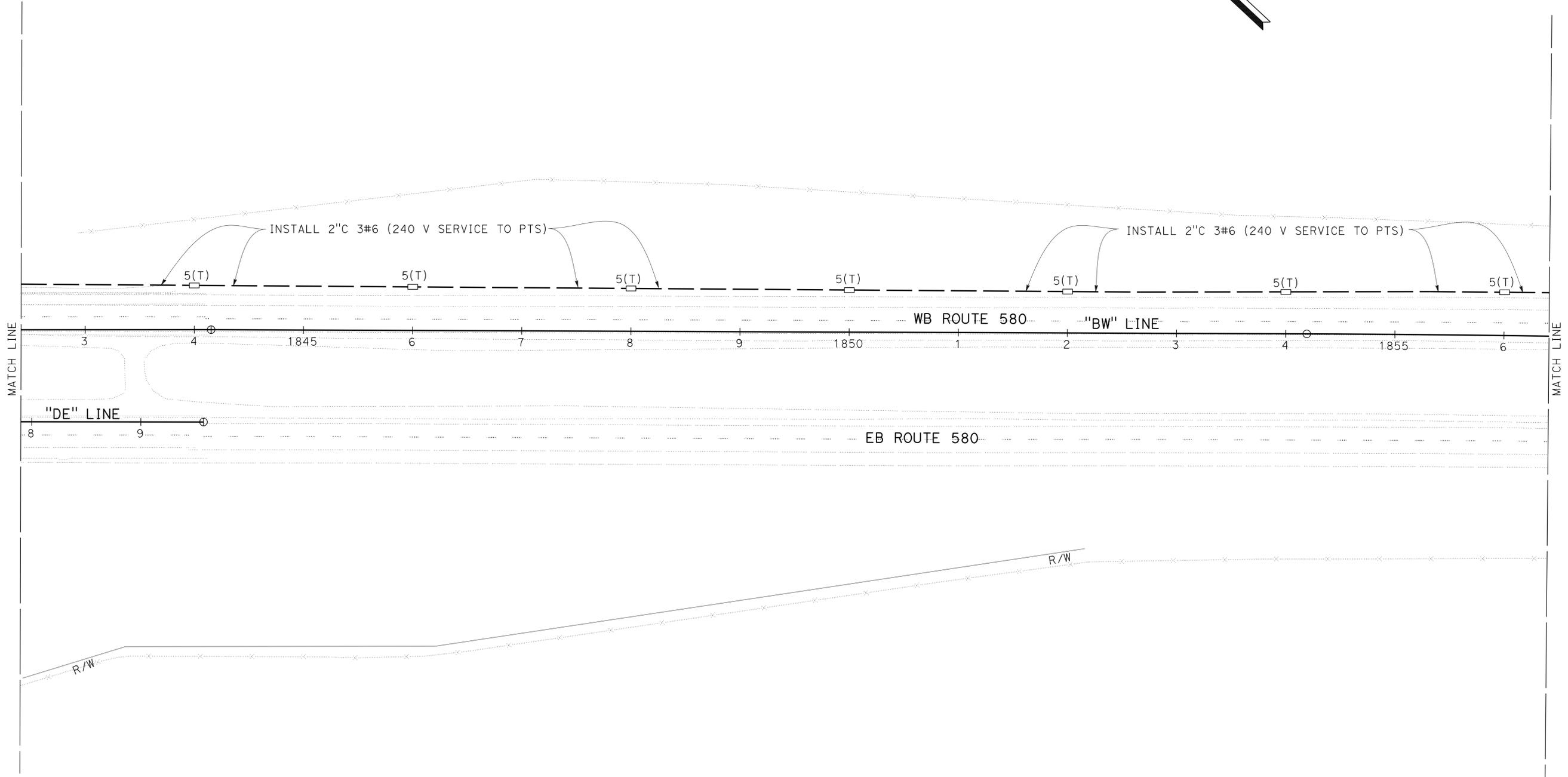
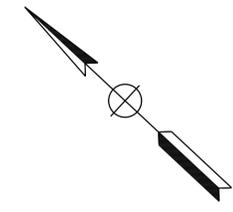
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.078.0	503	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

M. Noii 2-26-16
 REGISTERED ELECTRICAL ENGINEER DATE
 3-28-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



(LOCATION No. 10)

RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-23

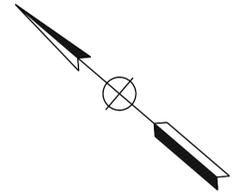
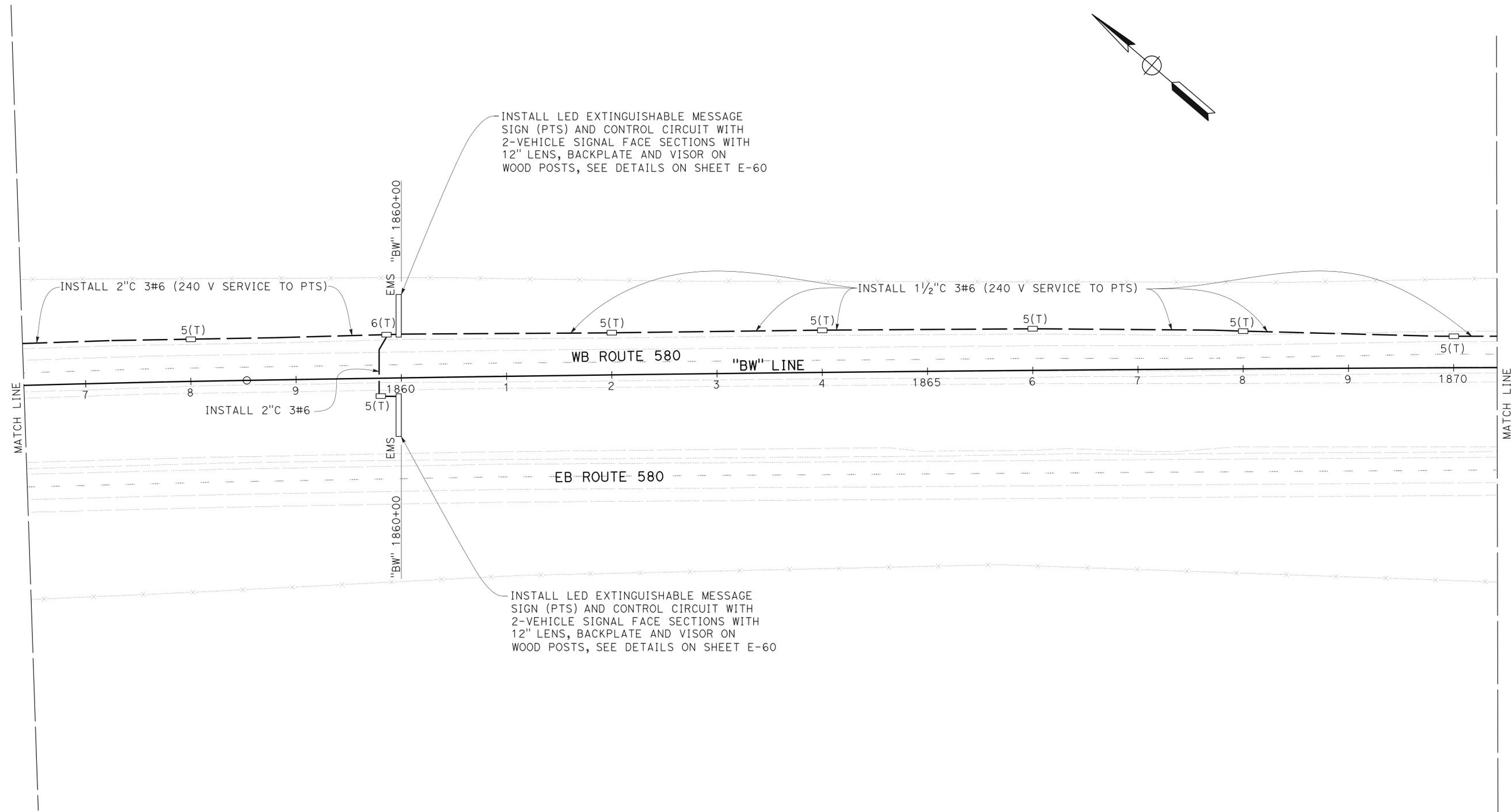
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	ELECTRICAL	FUNCTIONAL SUPERVISOR	BEHZAD GOLEMOHAMMADI	CALCULATED/DESIGNED BY	GUILLELMO BAUTISTA	REVISOR BY	CB
		CHECKED BY	MAHMOOD NOII	DATE REVISED	3-23-16		

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/1.0	504	676
04	Alameda	580	0.0/8.0		
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER: *M. Noii*
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



(LOCATION No. 10)

RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-24

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION Caltrans ELECTRICAL	FUNCTIONAL SUPERVISOR BEHZAD GOLEMOHAMMADI	CALCULATED/DESIGNED BY CHECKED BY	GUILLELMO BAUTISTA MAHMOOD NOII	REVISED BY DATE REVISED	CB 3-23-16

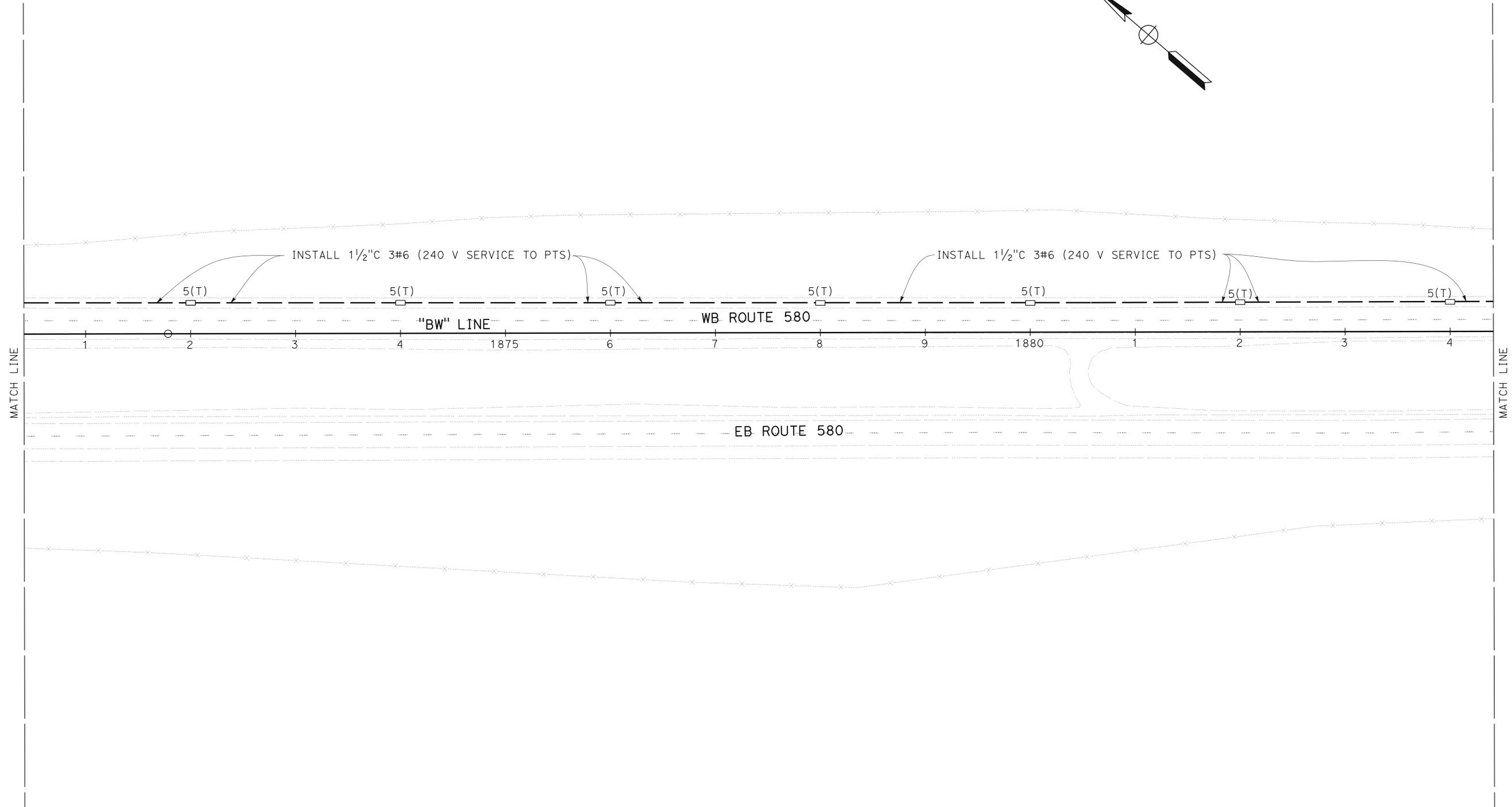
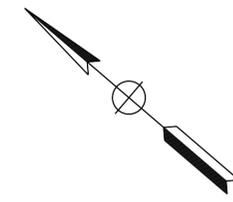
NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.078.0	505	676
10	San Joaquin	580	26.1/30.3 13.5/15.4		

M. Noii 2-26-16
 REGISTERED ELECTRICAL ENGINEER DATE
 3-28-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



(LOCATION No. 10)

RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET E-1

E-25

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION Caltrans ELECTRICAL	FUNCTIONAL SUPERVISOR BEHZAD GOLEMOHAMMADI	CALCULATED/DESIGNED BY	GUILLELMO BAUTISTA	REVISOR BY	CB
		CHECKED BY	MAHMOOD NOII	DATE REVISED	3-23-16

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

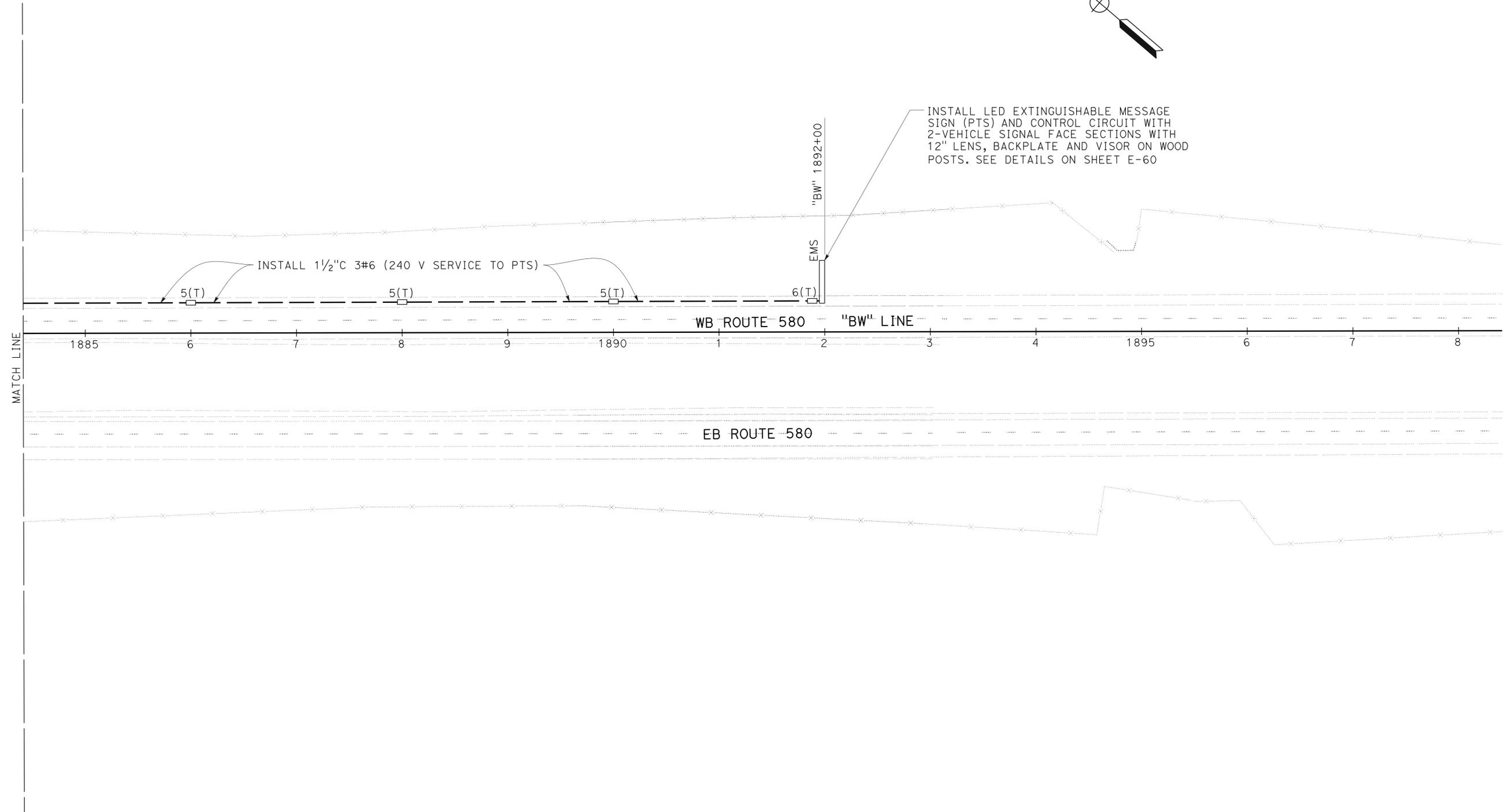
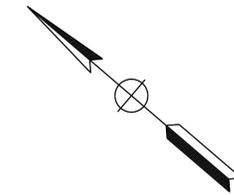
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	506	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

M. Noii 2-26-16
REGISTERED ELECTRICAL ENGINEER DATE

3-28-16
PLANS APPROVAL DATE

Mahmood Noii
No. 13717
Exp. 6-30-17
ELECTRICAL
STATE OF CALIFORNIA

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



(LOCATION No. 10)

RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-26



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: BEHZAD GOLEMOHAMMADI
 CHECKED BY: MAHMOOD NOII
 GUILLELMO BAUTISTA
 MAHMOOD NOII
 REVISED BY: DATE REVISED: 1-12-16
 CB

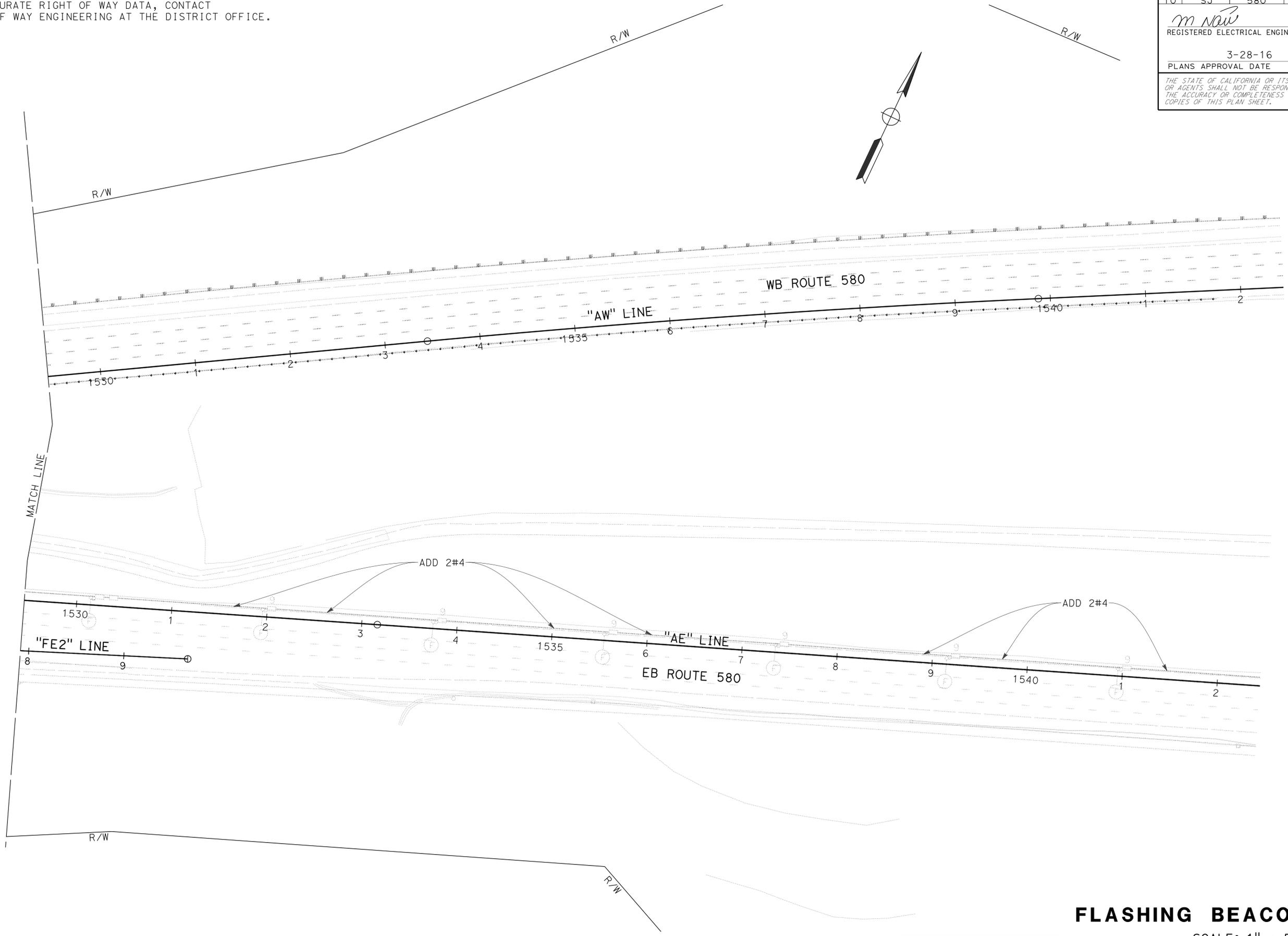
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.078.0	508	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

m Noii
 REGISTERED ELECTRICAL ENGINEER DATE: 2-26-16
 3-28-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



FLASHING BEACON SYSTEM

SCALE: 1" = 50'

E-28

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

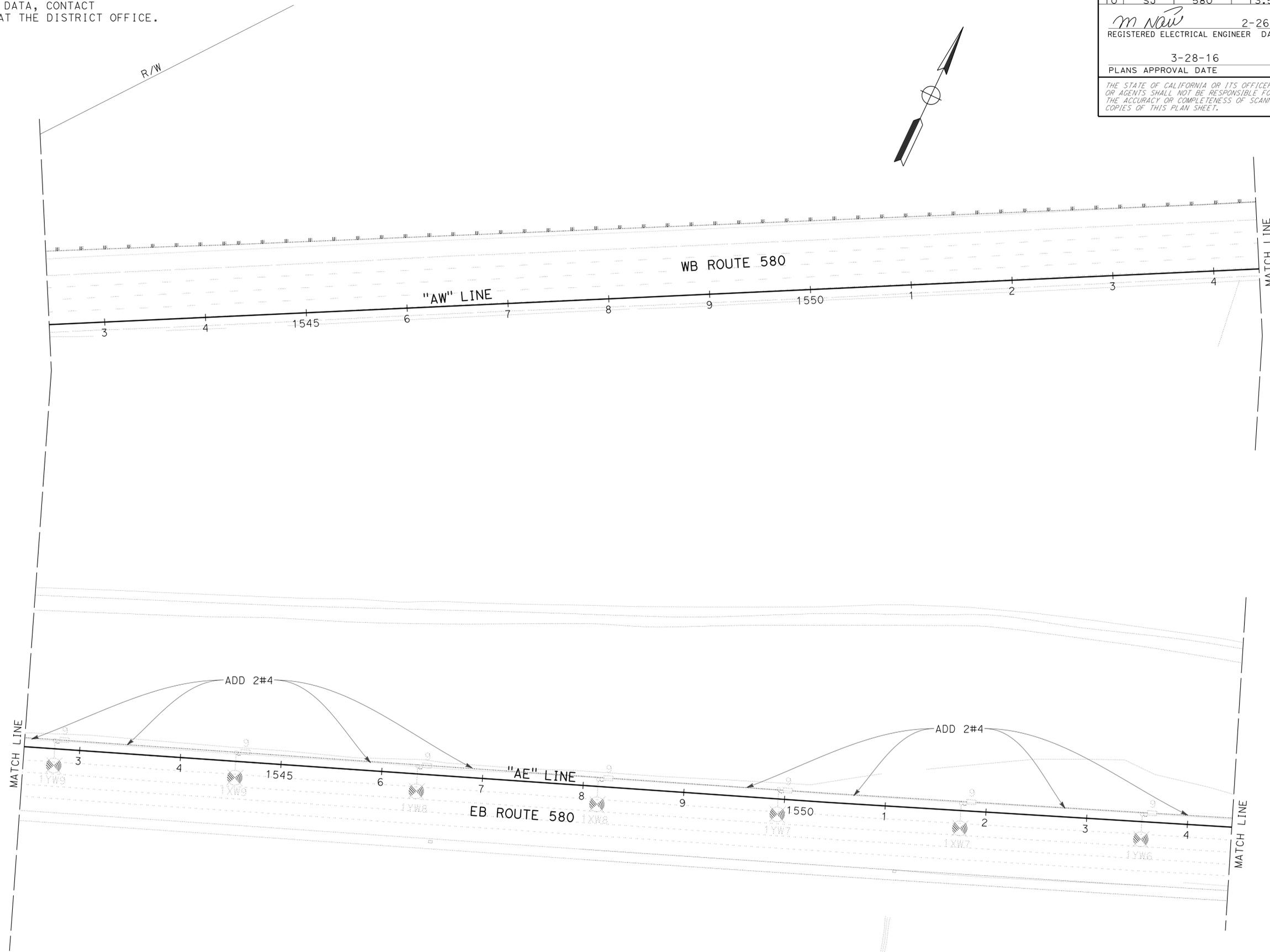
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	CHECKED BY	MAHMOOD NOII		

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.078.0	509	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER: *M. Noii*
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



FLASHING BEACON SYSTEM

SCALE: 1" = 50'

E-29

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

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

FUNCTIONAL SUPERVISOR BEHZAD GOLEMOHAMMADI	CHECKED BY MAHMOOD NOII	REVISOR GUILLERMO BAUTISTA	DATE 1-12-16
DESIGNED BY BEHZAD GOLEMOHAMMADI	CHECKED BY MAHMOOD NOII	REVISOR GUILLERMO BAUTISTA	DATE 1-12-16
DESIGNED BY BEHZAD GOLEMOHAMMADI	CHECKED BY MAHMOOD NOII	REVISOR GUILLERMO BAUTISTA	DATE 1-12-16

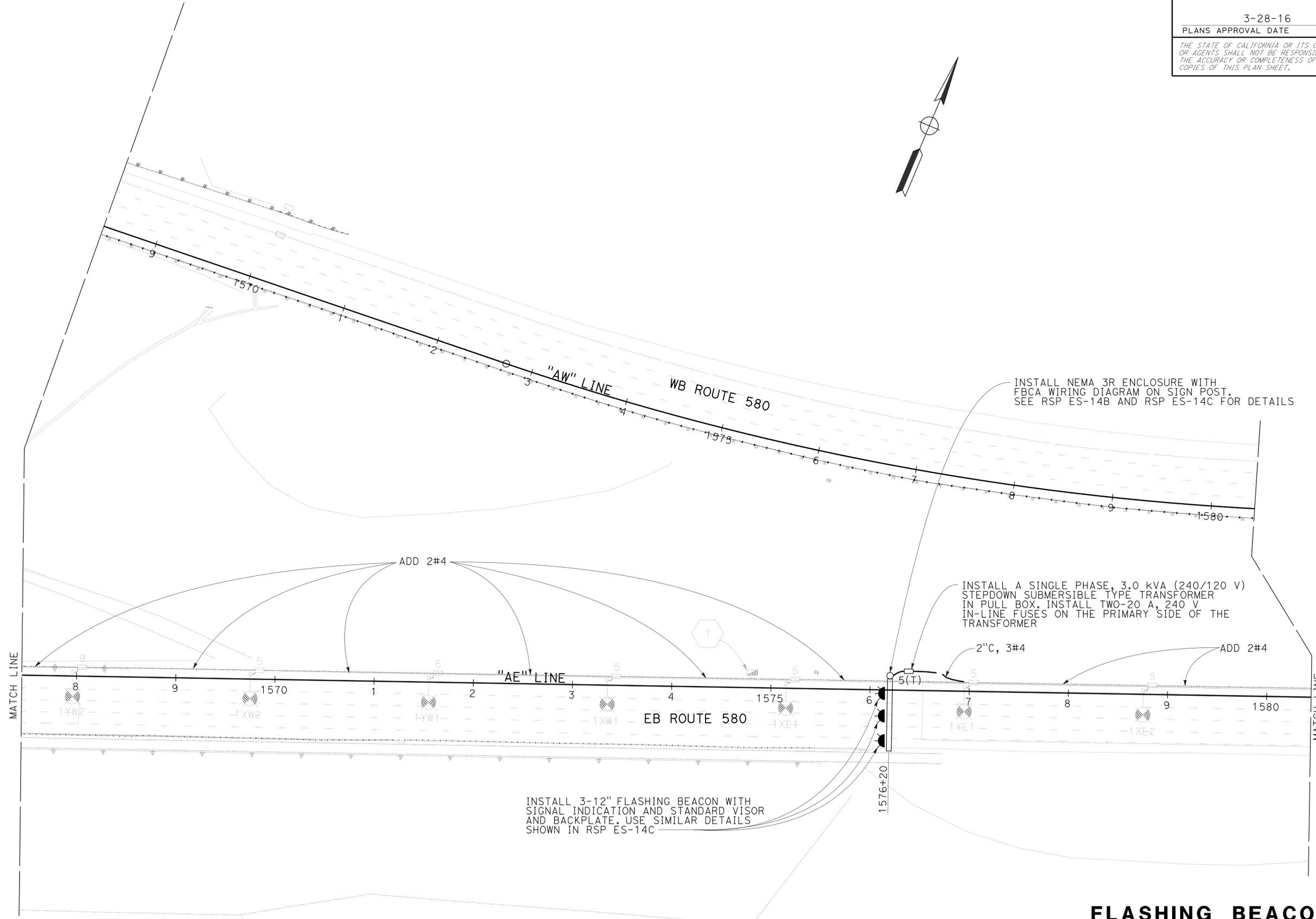
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0	511	676
04	Alameda	580	0.0/8.0		
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER: *M. Noii*
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



FLASHING BEACON SYSTEM

SCALE: 1" = 50'

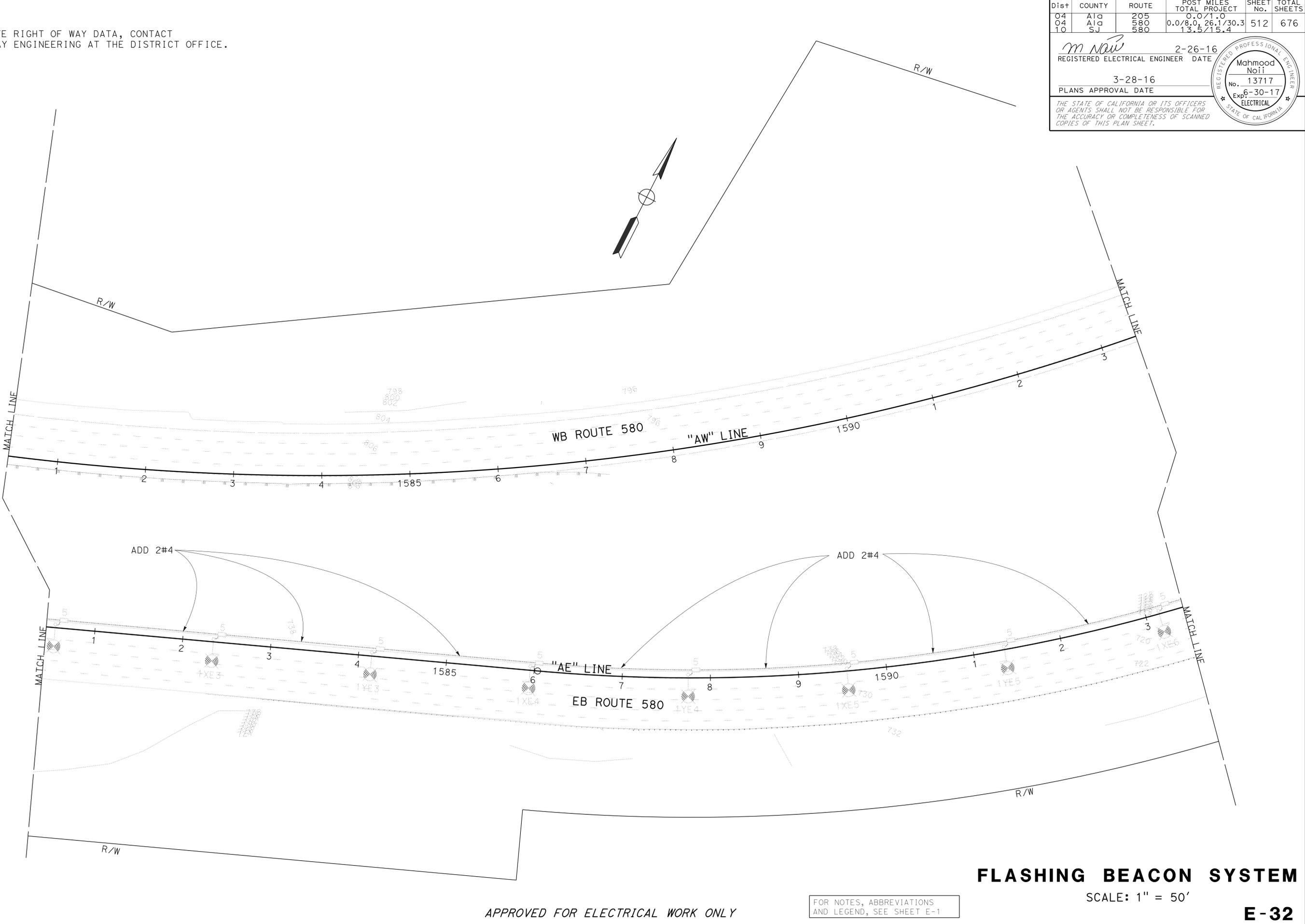
APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-31

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: CHECKED BY:
 REVISIONS:
 REVISED BY: GUILLERMO BAUTISTA
 DATE: 1-12-16
 MAHMOOD NOII



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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	26.1/30.3	512
10	San Joaquin	580	13.5/15.4		676

REGISTERED ELECTRICAL ENGINEER: *M. Noii*
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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

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

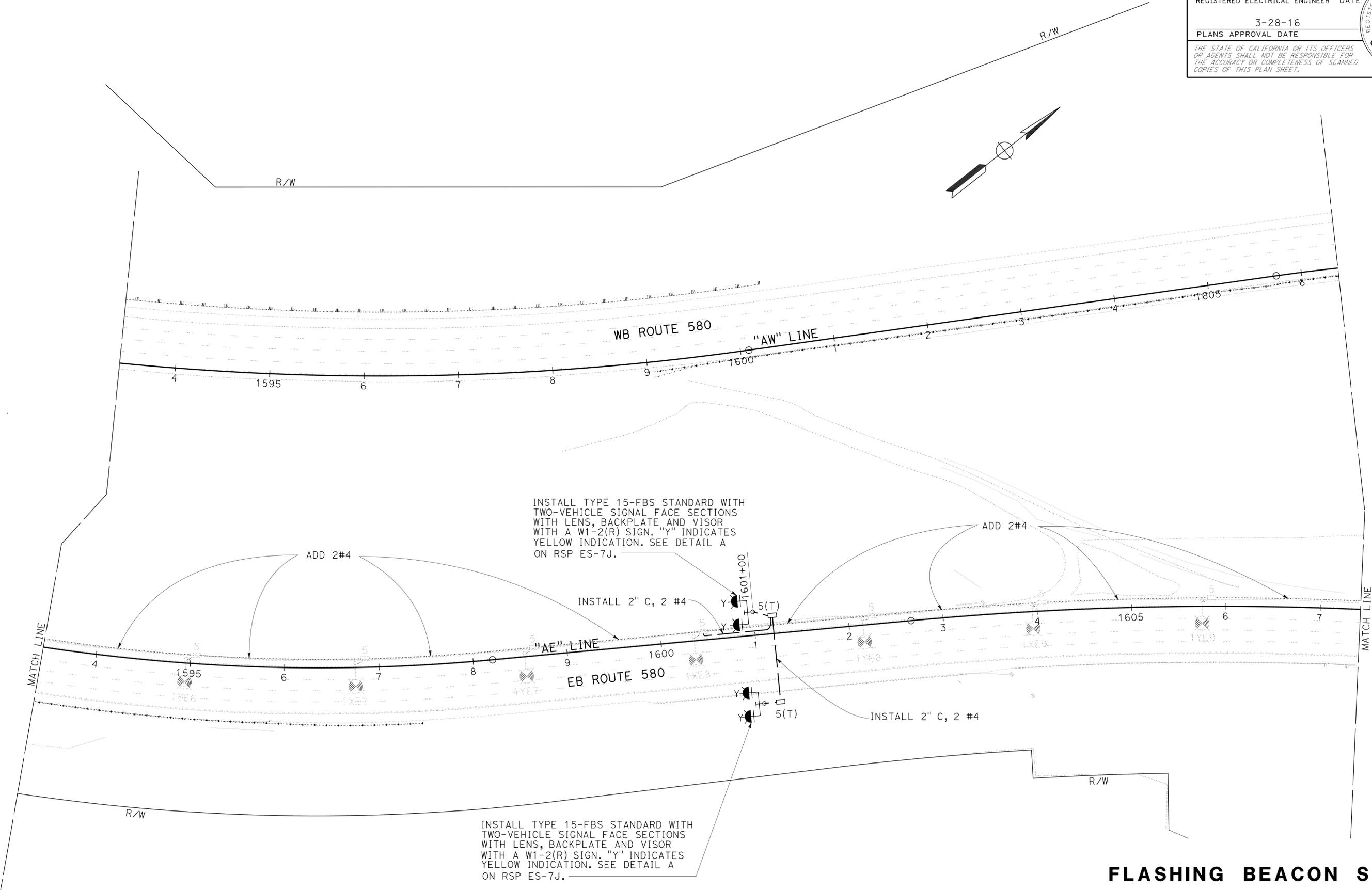
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 REVISIONS:
 1-12-16: GB, MAHMOOD NOII

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	26.1/30.3	513
10	San Joaquin	580	13.5/15.4		676

REGISTERED ELECTRICAL ENGINEER: *M. Noii* 2-26-16
 REGISTERED ELECTRICAL ENGINEER DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



INSTALL TYPE 15-FBS STANDARD WITH TWO-VEHICLE SIGNAL FACE SECTIONS WITH LENS, BACKPLATE AND VISOR WITH A W1-2(R) SIGN. "Y" INDICATES YELLOW INDICATION. SEE DETAIL A ON RSP ES-7J.

INSTALL TYPE 15-FBS STANDARD WITH TWO-VEHICLE SIGNAL FACE SECTIONS WITH LENS, BACKPLATE AND VISOR WITH A W1-2(R) SIGN. "Y" INDICATES YELLOW INDICATION. SEE DETAIL A ON RSP ES-7J.

FLASHING BEACON SYSTEM

SCALE: 1" = 50'

E-33

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

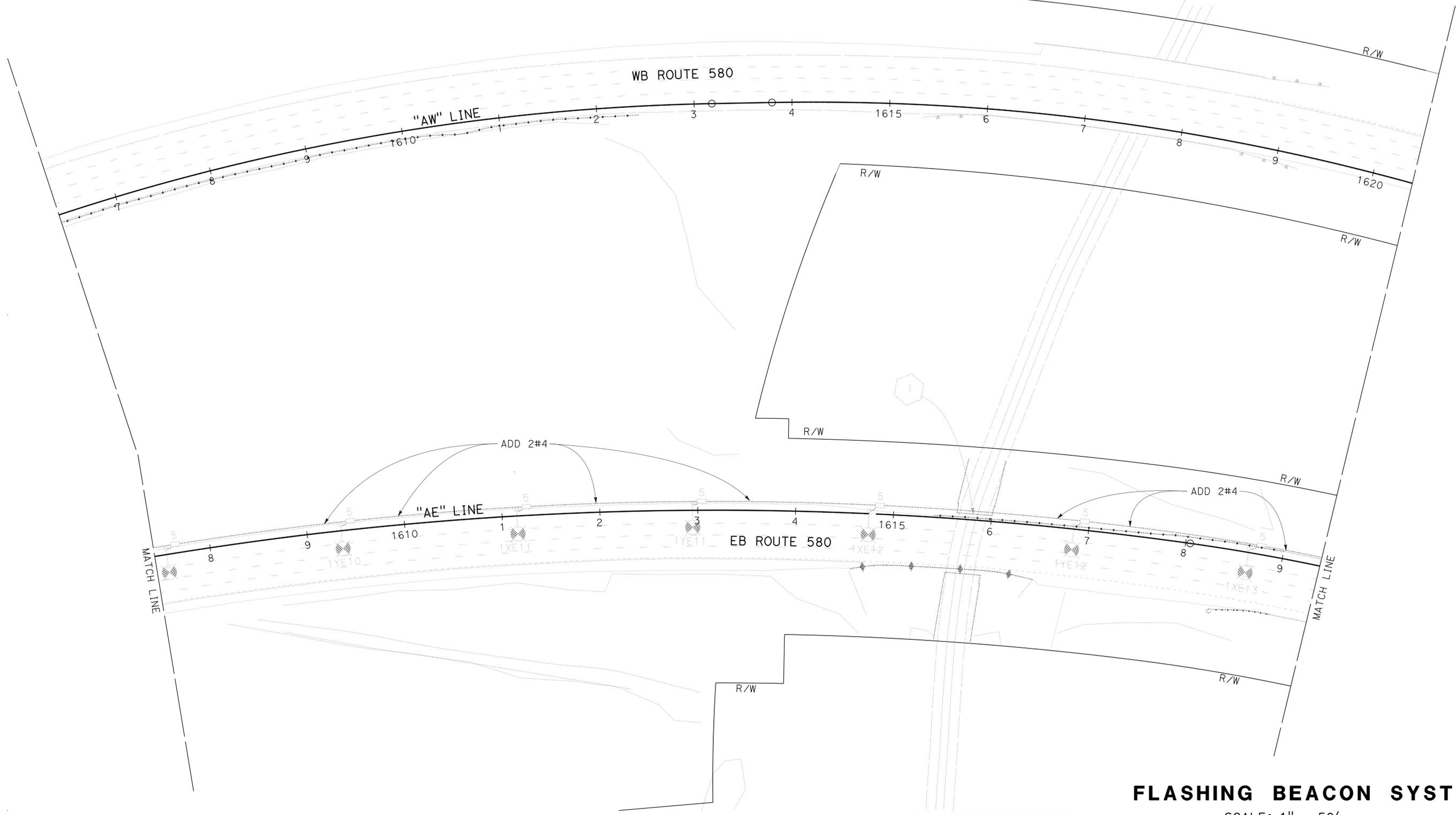
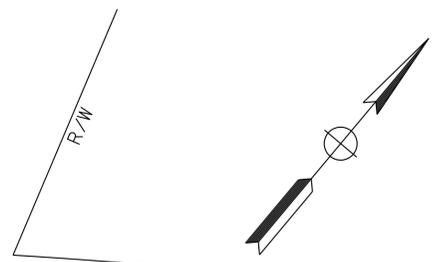
FUNCTIONAL SUPERVISOR BEHZAD GOLEMOHAMMADI	CALCULATED/DESIGNED BY	GUILLERMO BAUTISTA	REVISOR BY DATE REVISED	GB 1-12-16
	CHECKED BY	MAHMOOD NOII		

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	514	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER: *M. Noii*
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



FLASHING BEACON SYSTEM

SCALE: 1" = 50'

E-34

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 REVISIONS:
 1-12-16: GB (1-12-16)
 1-12-16: MAHMOOD NOII (1-12-16)

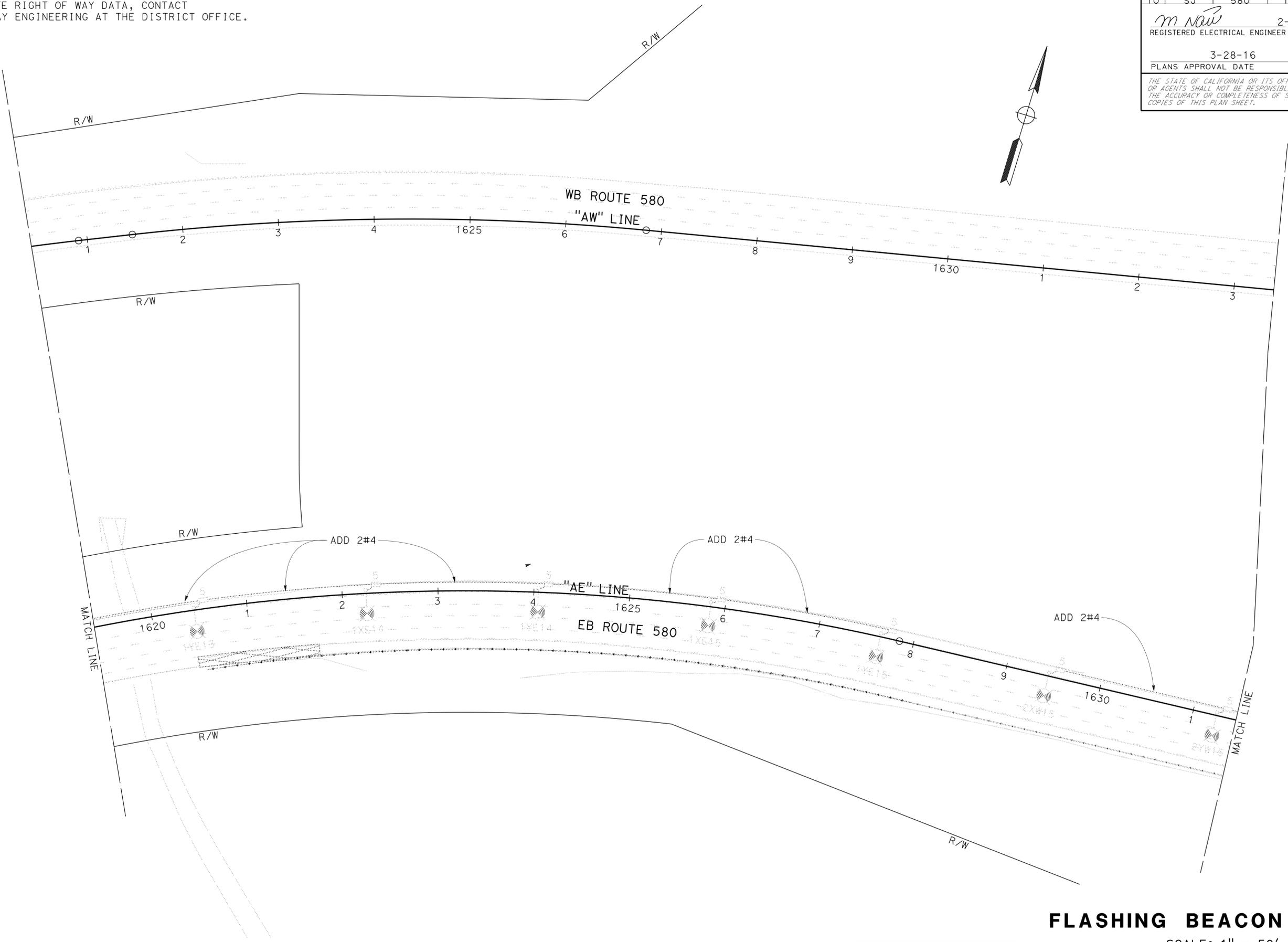
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.078.0	515	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER: *M. Noii* (Signature)
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

FLASHING BEACON SYSTEM

SCALE: 1" = 50'

E-35

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: CHECKED BY:
 ROBERT HSU
 PARVIZ BOOZARPOUR
 REVISED BY: DATE REVISED:
 RH
 7-28-15

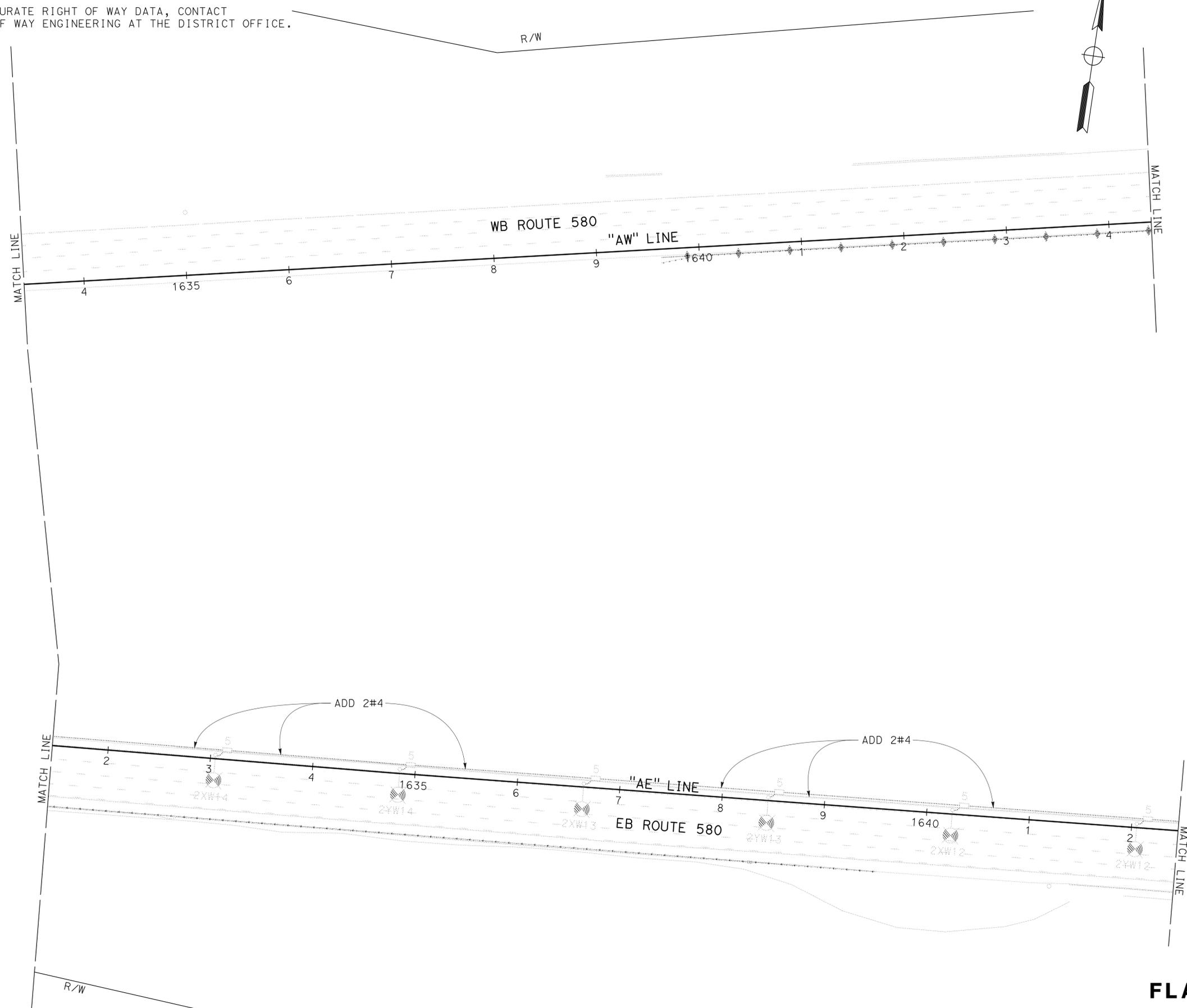
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071		
04	Alameda	580	0.080	26.1/30.3	516
10	San Joaquin	580	13.5/15.4		676

M. Now 2-26-16
 REGISTERED ELECTRICAL ENGINEER DATE
 3-28-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS
 AND LEGEND, SEE SHEET E-1

FLASHING BEACON SYSTEM

SCALE: 1" = 50'

E-36

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 REVISIONS:
 6B REVISED BY: GUILLERMO BAUTISTA MAHMOOD NOII DATE REVISED: 1-12-16

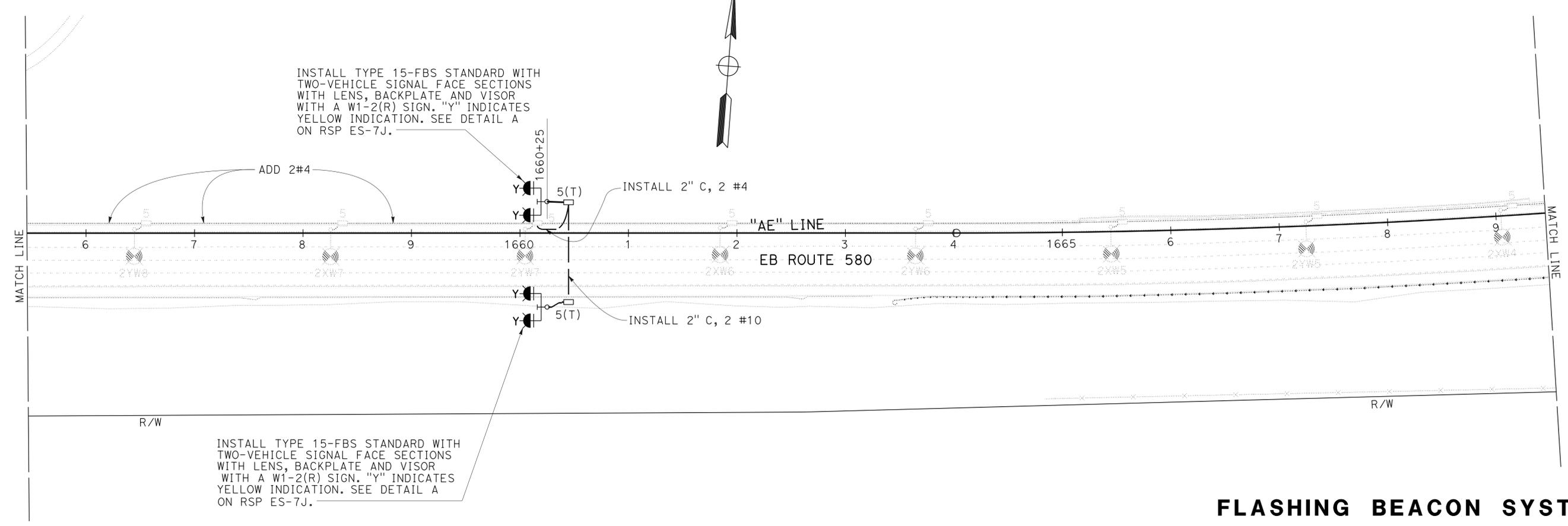
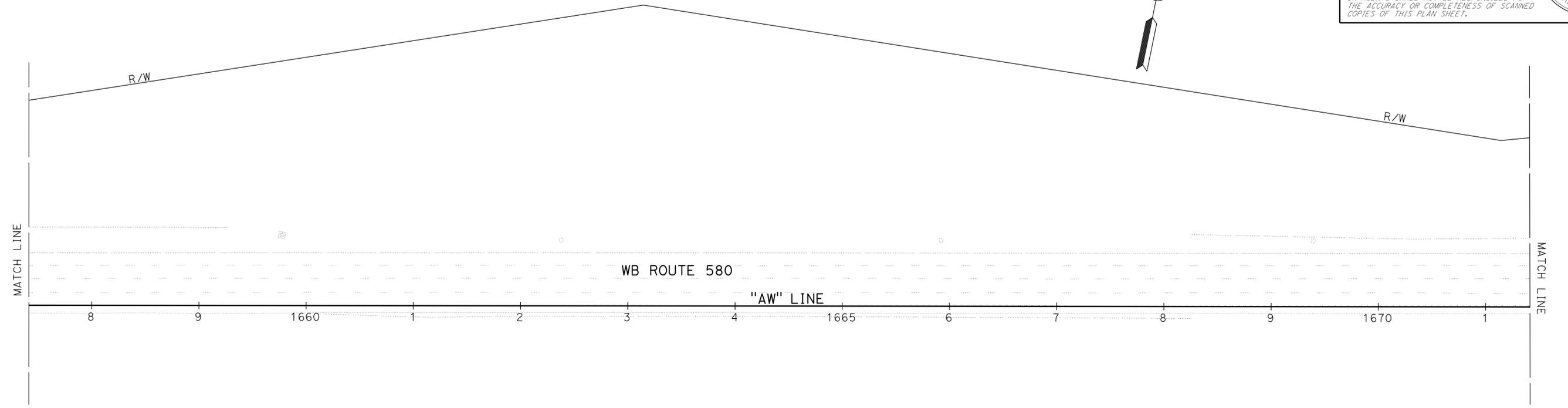
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	26.1/30.3	518
10	San Joaquin	580	13.5/15.4		676

REGISTERED ELECTRICAL ENGINEER: *M. Noii* DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

REGISTERED PROFESSIONAL ENGINEER: Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL

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



FLASHING BEACON SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-38

LAST REVISION DATE PLOTTED => 04-JUN-2016 01-13-16 TIME PLOTTED => 09:37

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

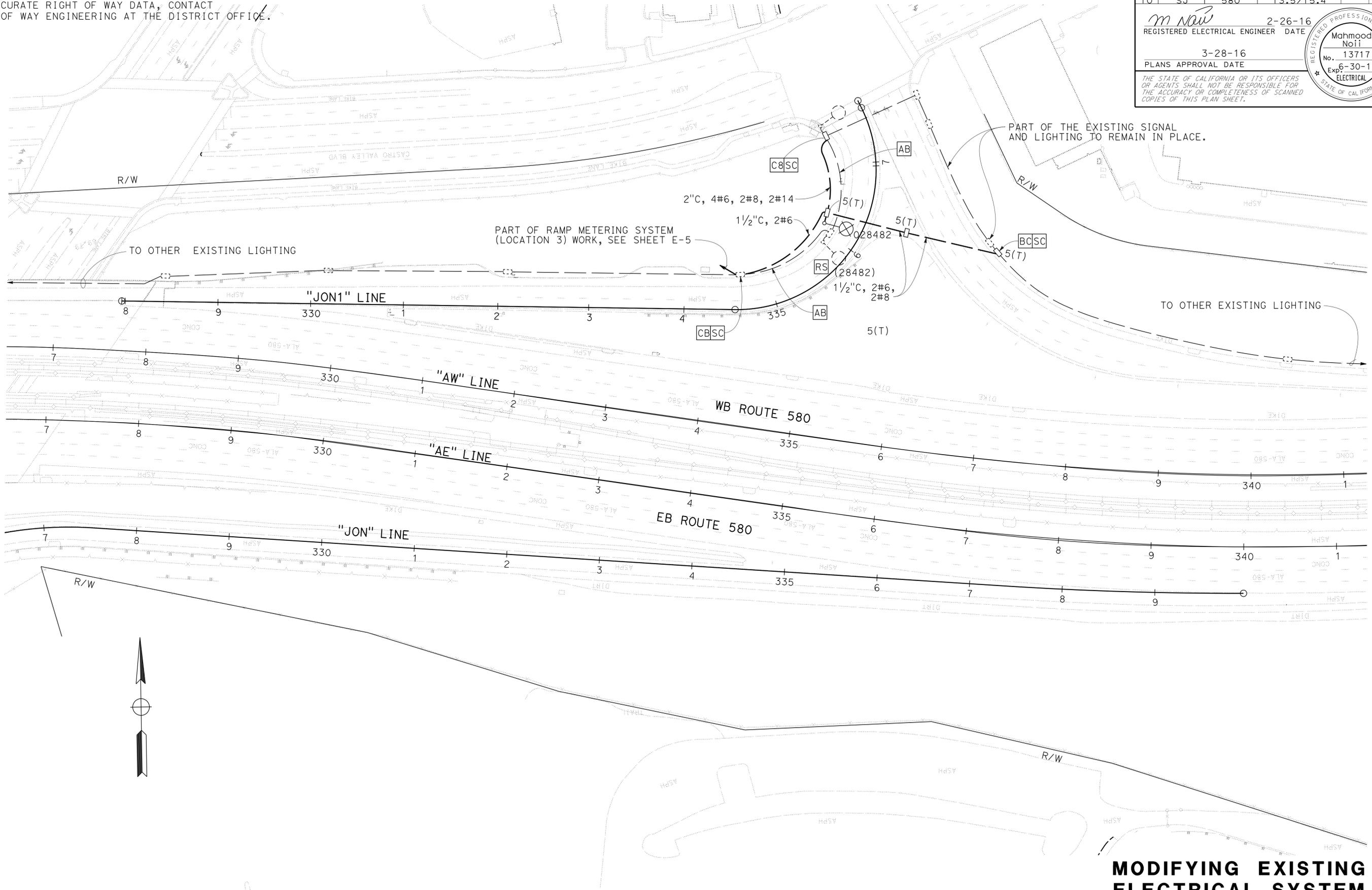
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMHAMMADI
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 GUILLELMO BAUTISTA
 MAHMOOD NOII
 REVISED BY: [Blank]
 DATE REVISED: [Blank]
 CB
 3-23-16

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0710	519	676
04	Alameda	580	0.0780	261/30.3	
10	San Joaquin	580	13.5715.4		

REGISTERED ELECTRICAL ENGINEER: *M. Noii*
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16
 REGISTERED PROFESSIONAL ENGINEER: Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



MODIFYING EXISTING ELECTRICAL SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-39

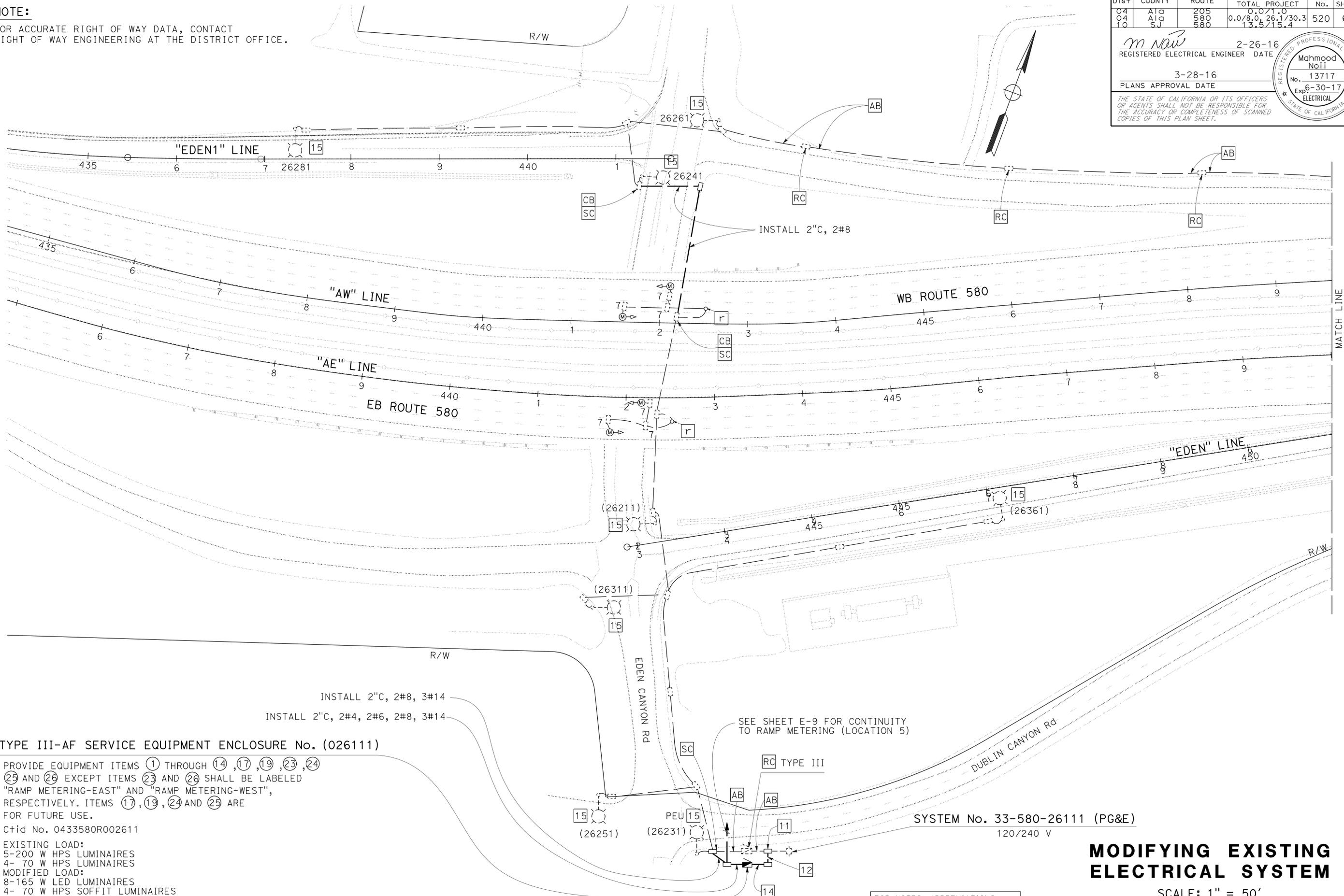
LAST REVISION: DATE PLOTTED => 04-JUN-2016 03-23-16 TIME PLOTTED => 09:37

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	26.1/30.3	520
10	San Joaquin	580	13.5/15.4		676

m Now
 REGISTERED ELECTRICAL ENGINEER DATE 2-26-16
 3-28-16
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL
 FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CHECKED BY: MAHMOOD NOII
 REVISIONS: 3-25-16
 DESIGNED BY: GUILLELMO BAUTISTA
 DATE REVISION: 3-25-16
 CB: 3-25-16

TYPE III-AF SERVICE EQUIPMENT ENCLOSURE No. (026111)

PROVIDE EQUIPMENT ITEMS ① THROUGH ⑭, ⑰, ⑱, ⑲, ⑳, ㉓, ㉔
 ㉕ AND ㉖ EXCEPT ITEMS ㉓ AND ㉖ SHALL BE LABELED
 "RAMP METERING-EAST" AND "RAMP METERING-WEST",
 RESPECTIVELY. ITEMS ⑰, ⑱, ㉔ AND ㉕ ARE
 FOR FUTURE USE.
 Ctid No. 0433580R002611
 EXISTING LOAD:
 5-200 W HPS LUMINAIRES
 4- 70 W HPS LUMINAIRES
 MODIFIED LOAD:
 8-165 W LED LUMINAIRES
 4- 70 W HPS SOFFIT LUMINAIRES
 2-800 W RAMP METERING

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS
 AND LEGEND, SEE SHEET E-1

**MODIFYING EXISTING
 ELECTRICAL SYSTEM**

SCALE: 1" = 50'

E-40

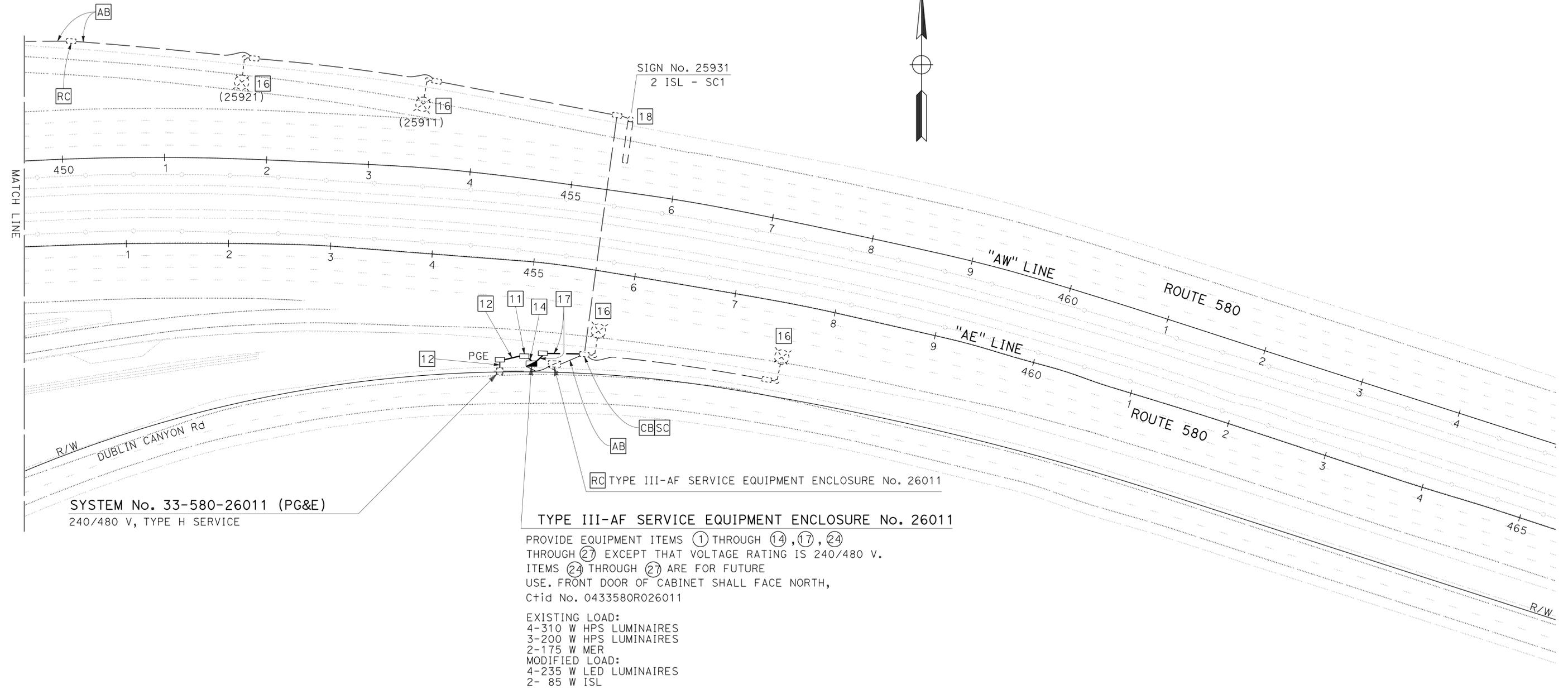
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071		
04	Alameda	580	0.0/8.0	26.1/30.3	521
10	San Joaquin	580	13.5/15.4		676

<i>M. Noor</i>	2-26-16
REGISTERED ELECTRICAL ENGINEER	DATE
3-28-16	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
Mahmood Noor
No. 13717
Exp. 6-30-17
ELECTRICAL
STATE OF CALIFORNIA

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

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



SYSTEM No. 33-580-26011 (PG&E)
240/480 V, TYPE H SERVICE

TYPE III-AF SERVICE EQUIPMENT ENCLOSURE No. 26011

PROVIDE EQUIPMENT ITEMS ① THROUGH ⑭, ⑰, ⑳, ㉑ THROUGH ㉒ EXCEPT THAT VOLTAGE RATING IS 240/480 V. ITEMS ㉓ THROUGH ㉔ ARE FOR FUTURE USE. FRONT DOOR OF CABINET SHALL FACE NORTH, Ctid No. 0433580R026011

EXISTING LOAD:
4-310 W HPS LUMINAIRES
3-200 W HPS LUMINAIRES
2-175 W MER
MODIFIED LOAD:
4-235 W LED LUMINAIRES
2- 85 W ISL

MODIFYING EXISTING ELECTRICAL SYSTEM

SCALE: 1" = 50'

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

APPROVED FOR ELECTRICAL WORK ONLY

E-41

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL
GUILTERMO BAUTISTA
MAHMOOD NOOR
BEHZAD GOLEMOHAMMADI
FUNCTIONAL SUPERVISOR
CHECKED BY
DESIGNED BY
REVISOR BY
DATE REVISED
3-23-16
CB

LAST REVISION DATE PLOTTED => 04-JUN-2016 03-23-16 TIME PLOTTED => 09:37

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 ROBERT HSU
 PARVIZ BOOZARPOUR
 REVISED BY: [blank]
 DATE REVISED: [blank]
 RH
 7-28-15

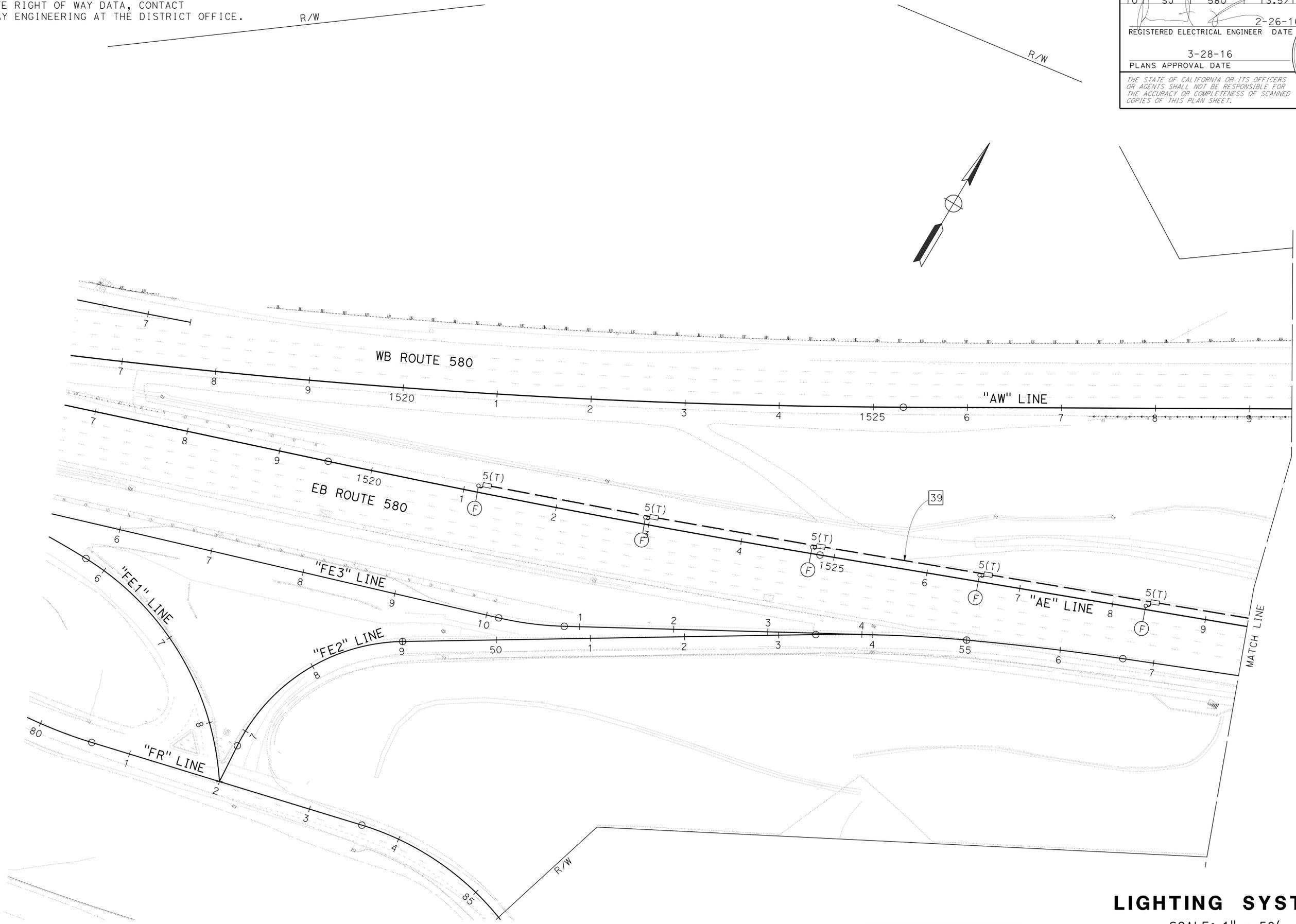
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0	522	676
04	Alameda	580	0.078.0		
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

LIGHTING SYSTEM

SCALE: 1" = 50'

E-42

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 ROBERT HSU
 PARVIZ BOOZARPOUR
 REVISED BY: [Blank]
 DATE REVISED: 10-7-15
 RH

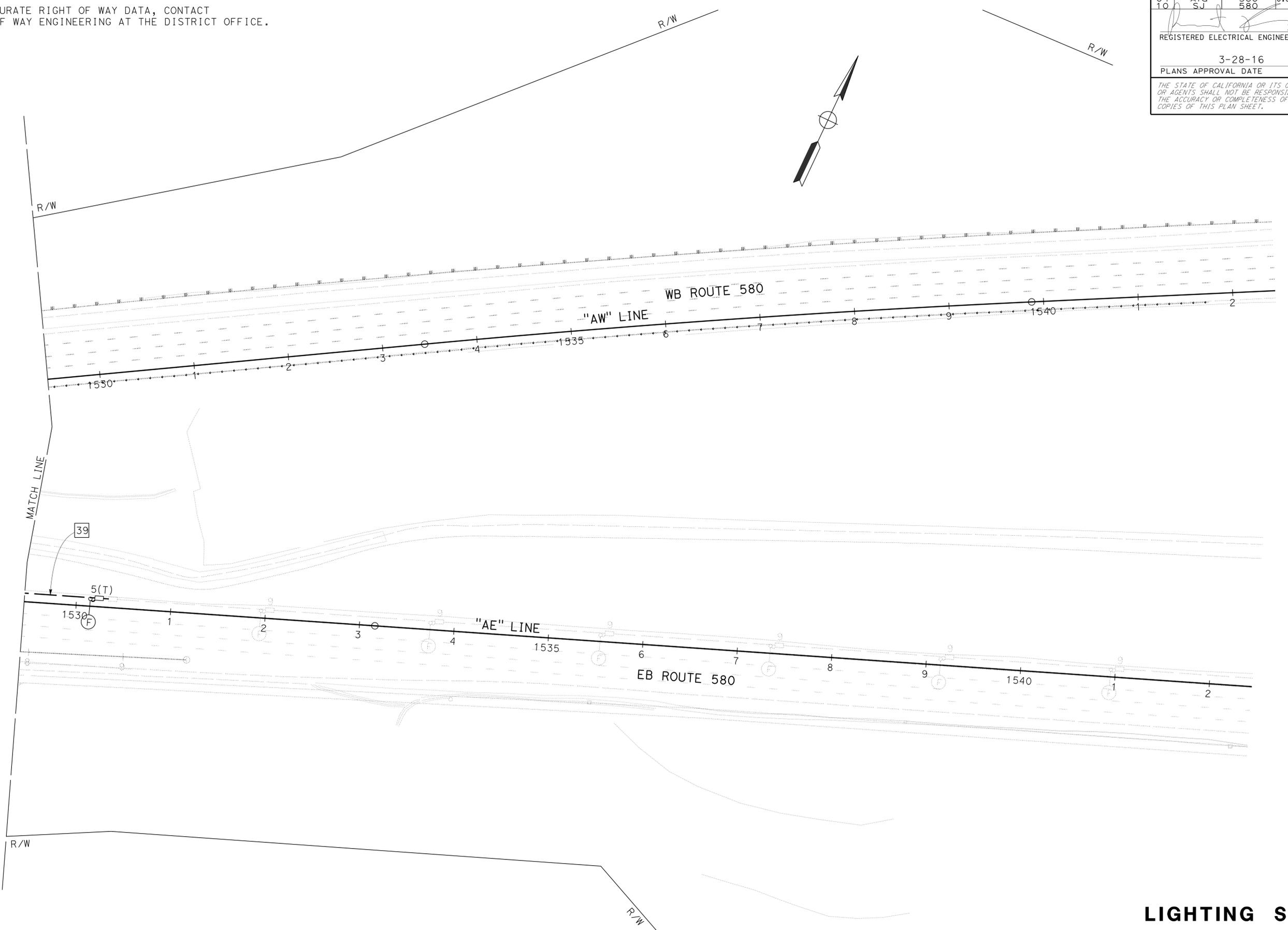
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	26.1/30.3	523
10	San Joaquin	580	13.5/15.4		676

REGISTERED ELECTRICAL ENGINEER DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

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APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

LIGHTING SYSTEM

SCALE: 1" = 50'

E-43

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

ROBERT HSU	REVISOR	RH
PARVIZ BOOZARPOUR	DATE	10-7-15
CALCULATED/DESIGNED BY	CHECKED BY	
BEHZAD GOLEMOHAMMADI		

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

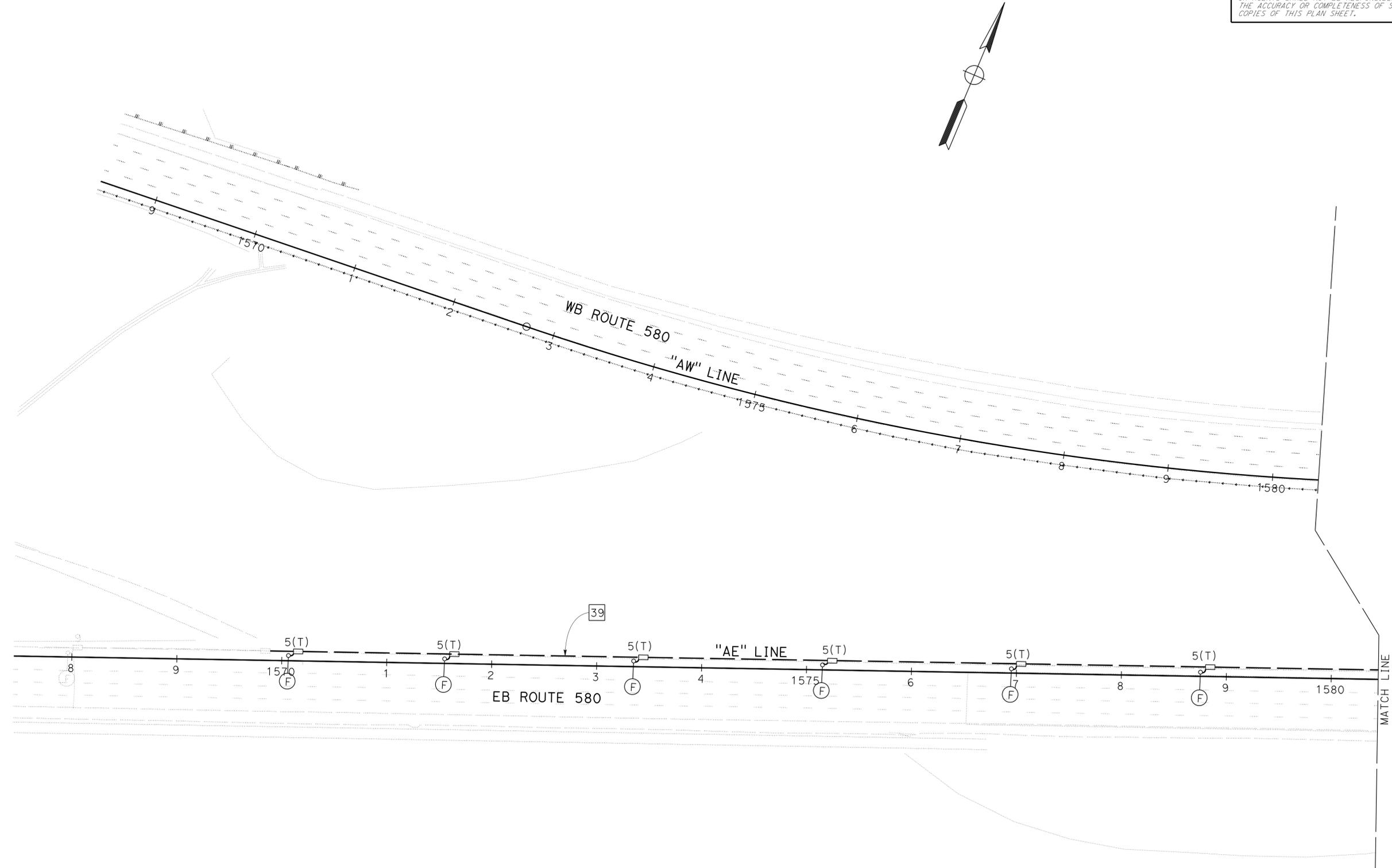
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	524	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER DATE 2-26-16

PLANS APPROVAL DATE 3-28-16

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

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



LIGHTING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-44

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CHECKED BY: [Blank]
 DESIGNED BY: [Blank]
 ROBERT HSU
 PARVIZ BOOZARPOUR
 REVISED BY: [Blank]
 DATE REVISED: 10-7-15
 RH

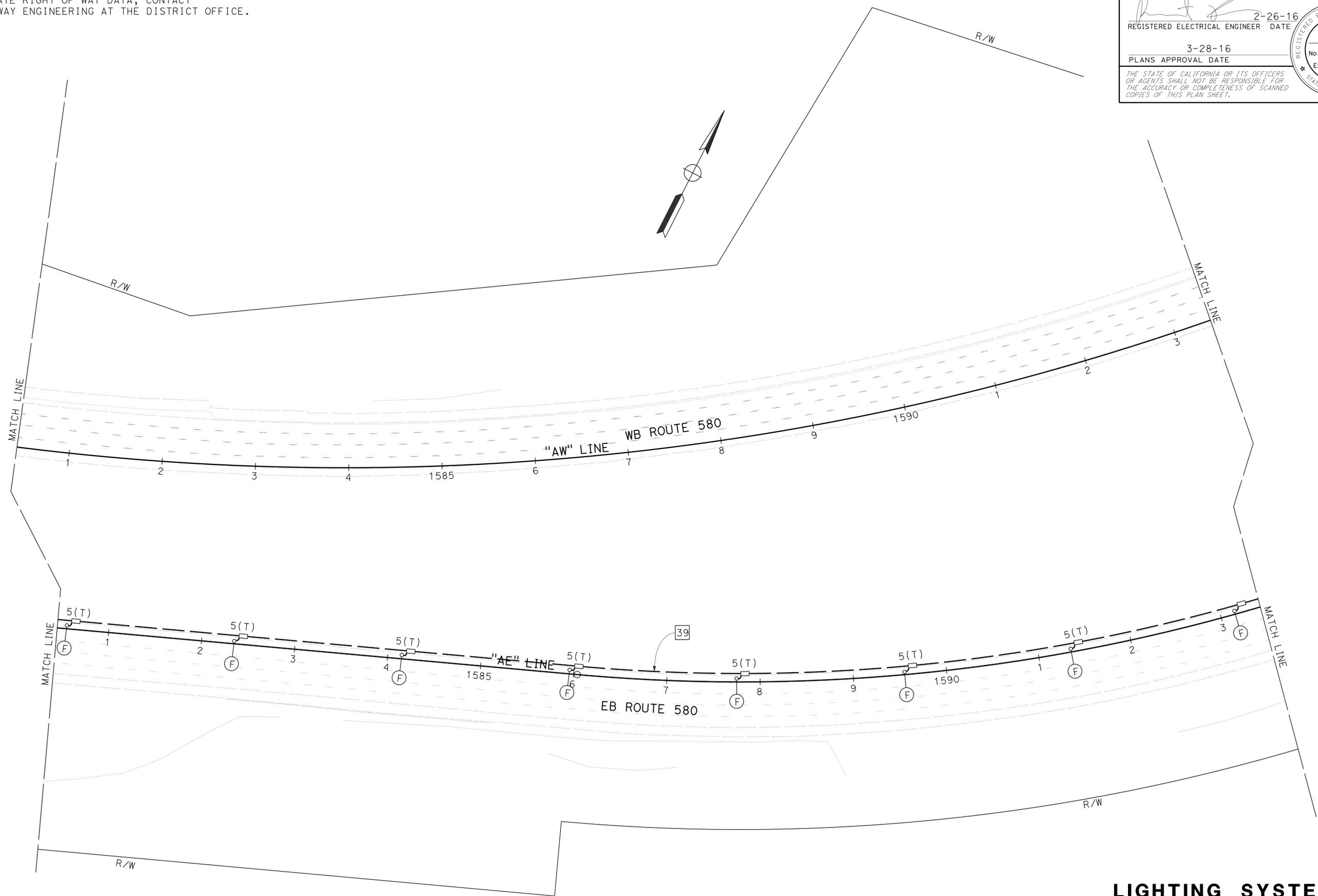
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	26.1/30.3	525
10	San Joaquin	580	13.5/15.4		676

REGISTERED ELECTRICAL ENGINEER DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

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



APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

LIGHTING SYSTEM

SCALE: 1" = 50'

E-45

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

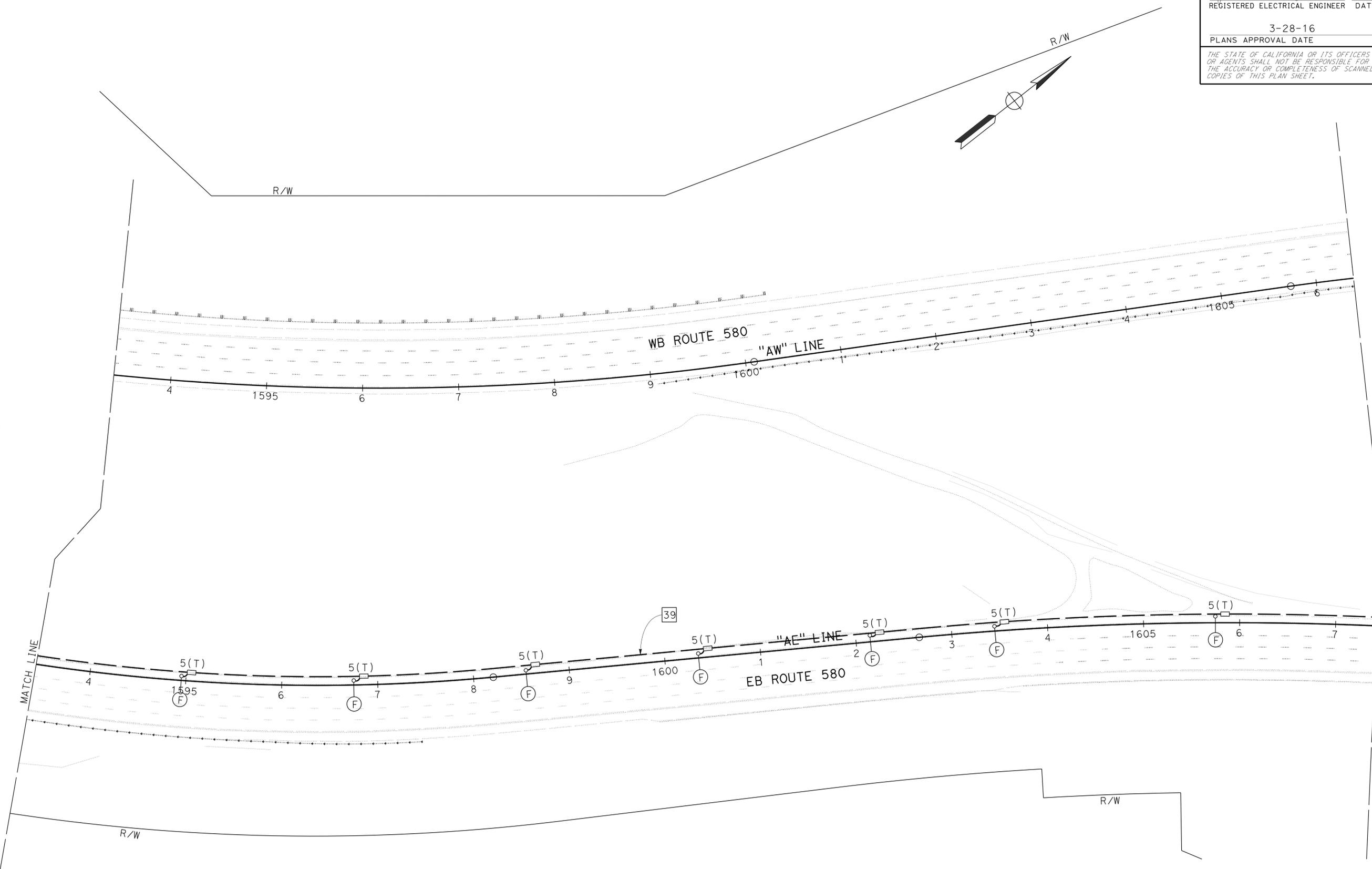
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 ROBERT HSU
 PARVIZ BOOZARPOUR
 REVISED BY: [Blank]
 DATE REVISED: [Blank]
 RH
 3-23-16

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	26.1/30.3	526
10	San Joaquin	580	13.5/15.4		676

REGISTERED ELECTRICAL ENGINEER: Robert Hsu
 No. 17114
 Exp. 9-30-17
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

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



LIGHTING SYSTEM
 SCALE: 1" = 50'
E-46

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

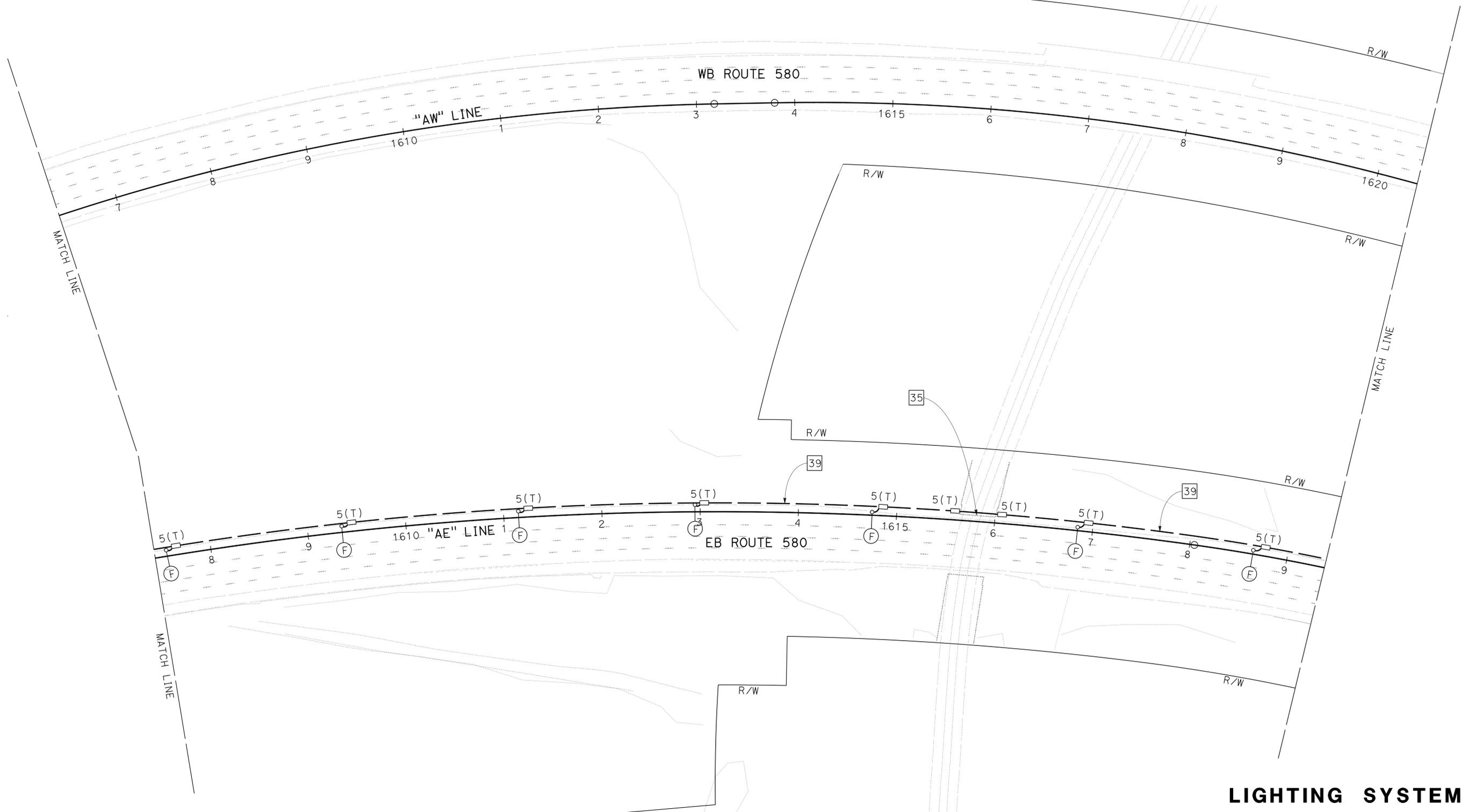
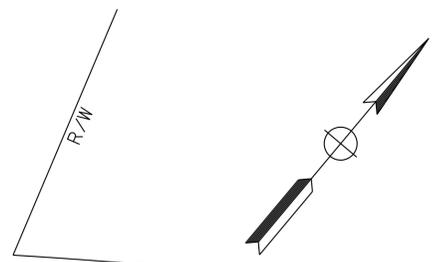
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: CHECKED BY:
 ROBERT HSU
 REVISED BY: DATE REVISED: 3-23-16
 RH

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	527	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER: Robert Hsu
 No. 17114
 Exp. 9-30-17
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

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APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

LIGHTING SYSTEM

SCALE: 1" = 50'

E-47

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 ROBERT HSU
 PARVIZ BOOZARPOUR
 REVISED BY: [Blank]
 DATE REVISED: 3-23-16
 RH

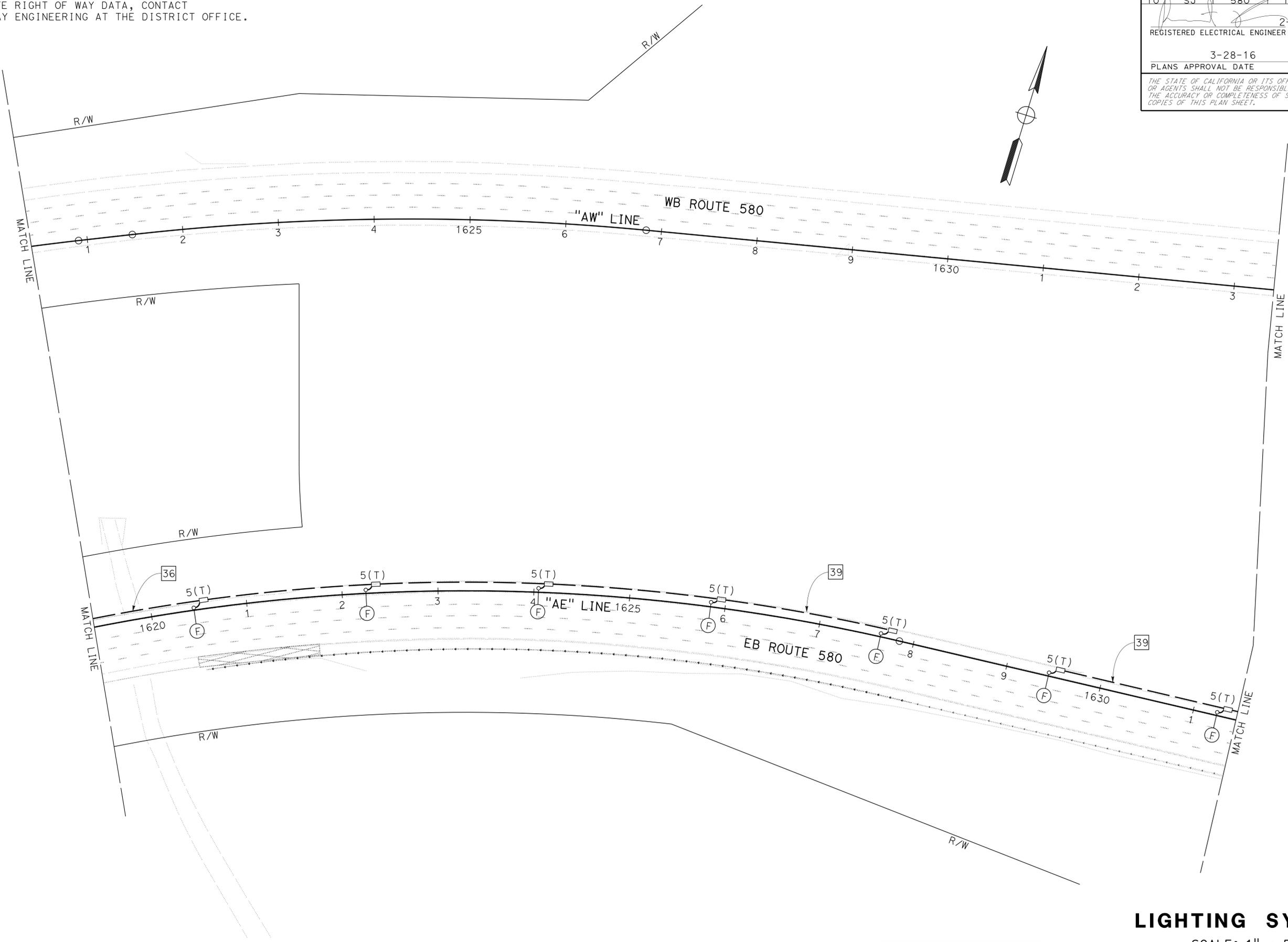
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071		
04	Alameda	580	0.080	26.1	30.3
10	San Joaquin	580	13.5	15.4	

REGISTERED ELECTRICAL ENGINEER DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

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LIGHTING SYSTEM

SCALE: 1" = 50'

E-48

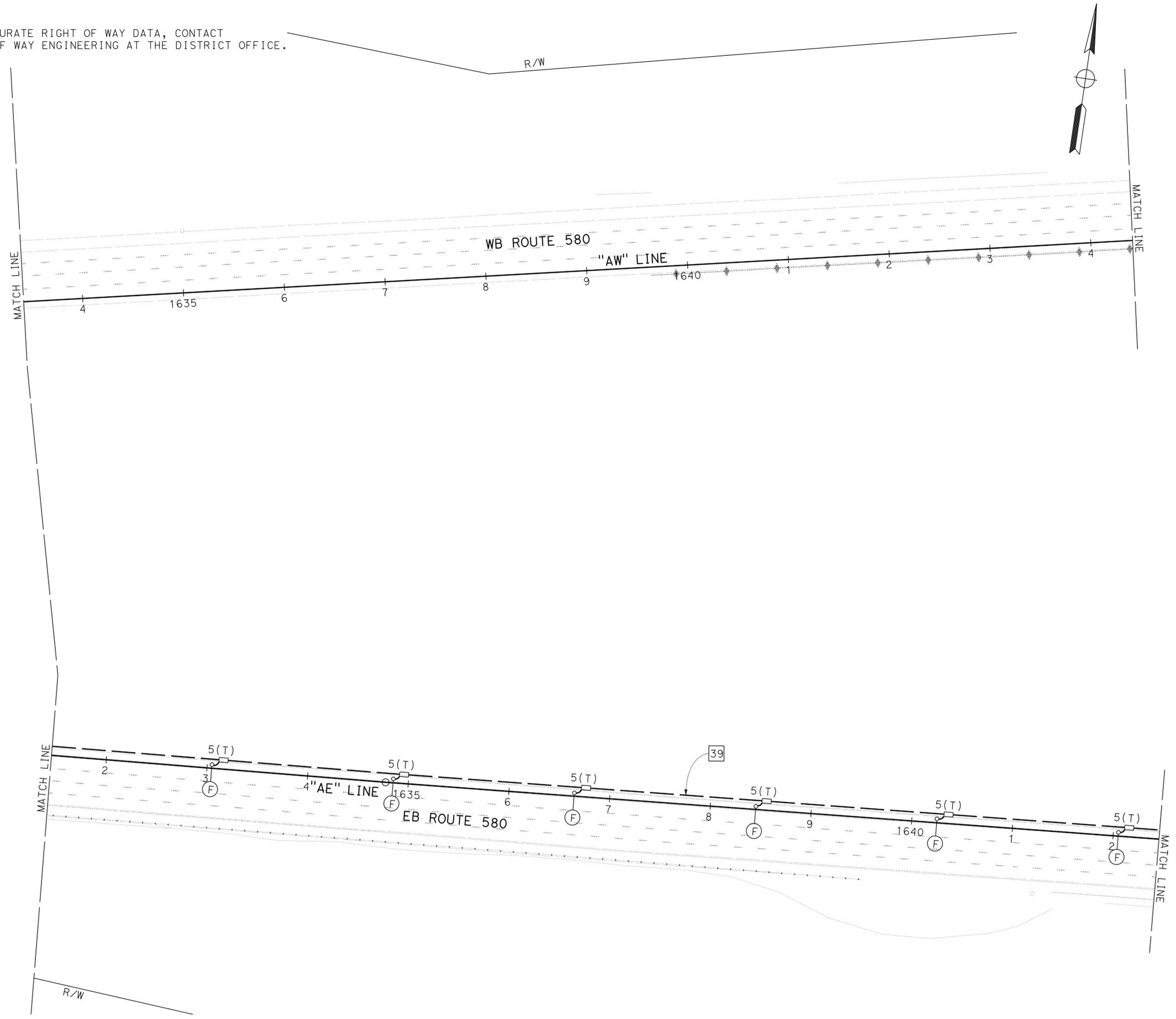
APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: CHECKED BY:
 ROBERT HSU
 PARVIZ BOOZARPOUR
 REVISED BY: DATE REVISED:
 RH
 3-25-16

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



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071		
04	Alameda	580	0.080	261	303
10	San Joaquin	580	13.571	529	676

REGISTERED ELECTRICAL ENGINEER DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

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LIGHTING SYSTEM

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY
 CHECKED BY

ROBERT HSU
 PARVIZ BOOZARPOUR

REVISOR
 DATE

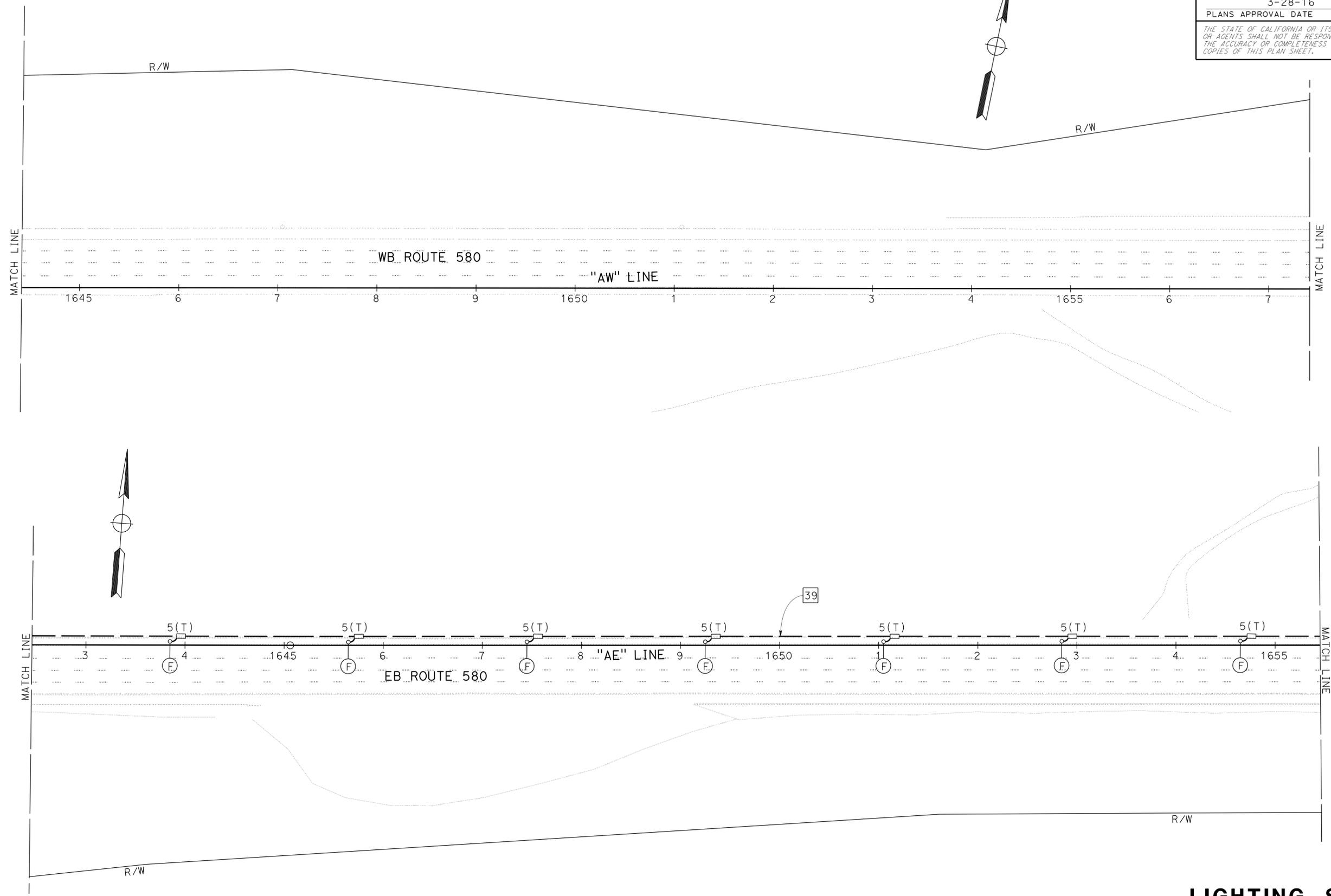
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	26.1/30.3	530
10	San Joaquin	580	13.5/15.4		676

REGISTERED ELECTRICAL ENGINEER DATE 2-26-16
 PLANS APPROVAL DATE 3-28-16

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

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



LIGHTING SYSTEM
 SCALE: 1" = 50'
E-50

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY
 CHECKED BY

ROBERT HSU
 PARVIZ BOOZARPOUR

REVISED BY
 DATE REVISED

RH
 3-25-16

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

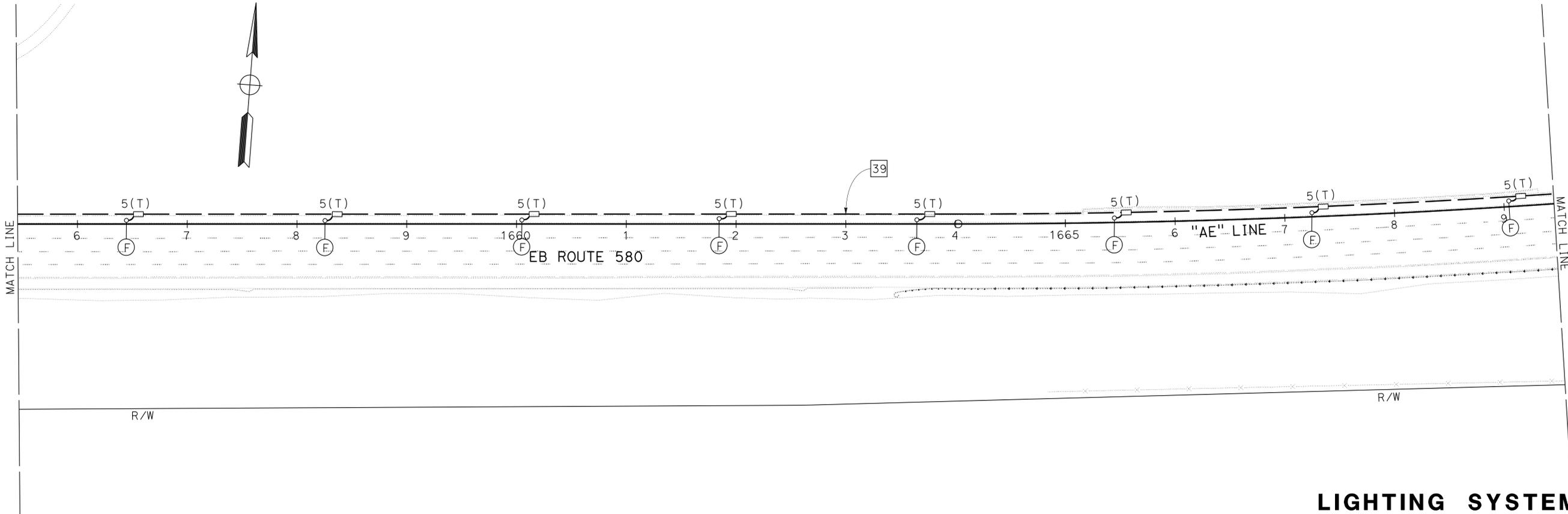
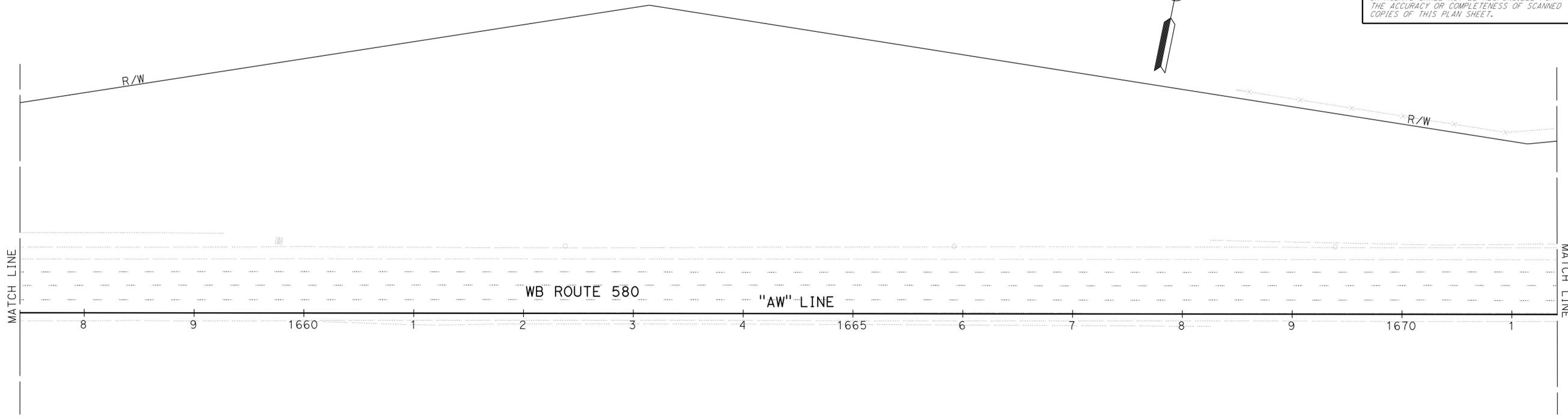
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/71.0		
04	Alameda	580	0.0/8.0	531	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER DATE 2-26-16

PLANS APPROVAL DATE 3-28-16

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

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



APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

LIGHTING SYSTEM

SCALE: 1" = 50'

E-51

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

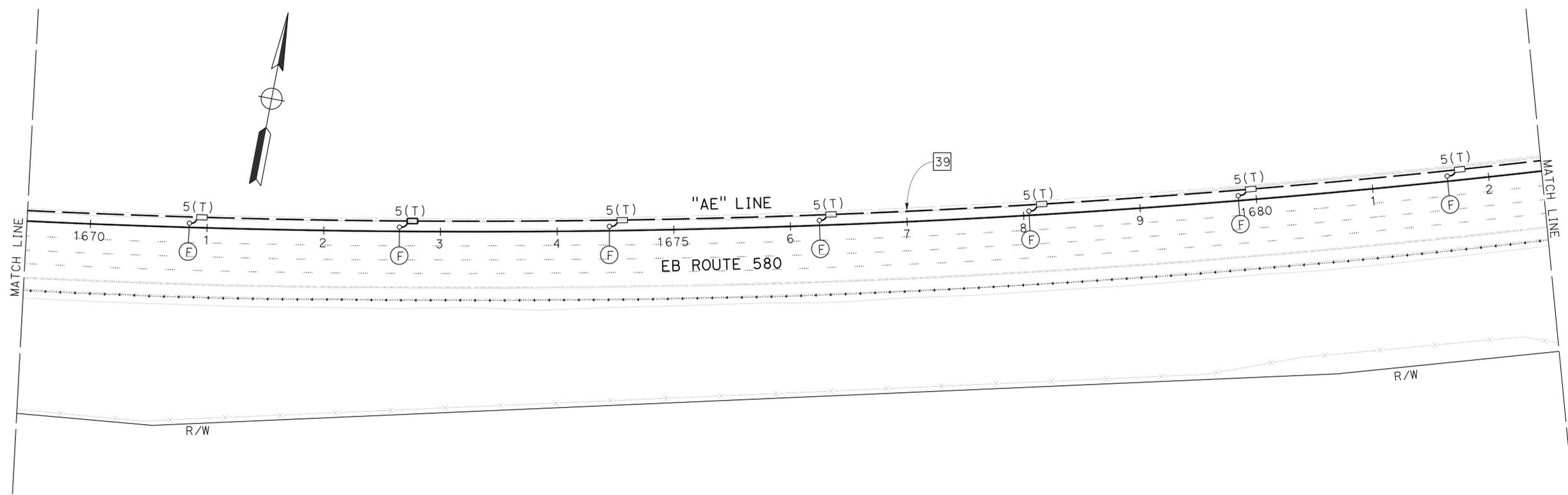
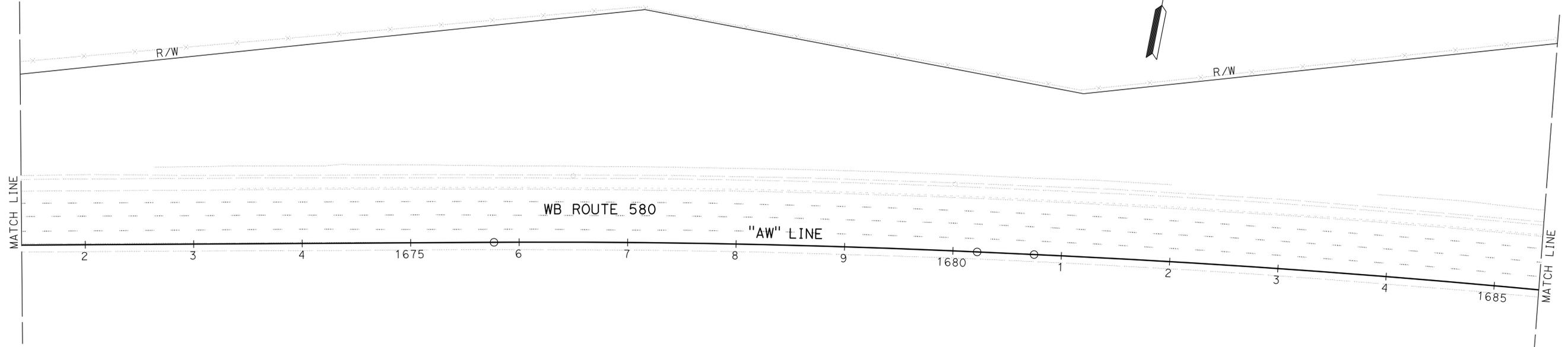
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 ROBERT HSU
 PARVIZ BOOZARPOUR
 REVISED BY: DATE REVISED: 10-7-15
 RH

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	26.1/30.3	532
10	San Joaquin	580	13.5/15.4		676

REGISTERED ELECTRICAL ENGINEER: Robert Hsu
 No. 17114
 Exp. 9-30-17
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

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



LIGHTING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-52

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY
 CHECKED BY

ROBERT HSU
 PARVIZ BOOZARPOUR

REVISED BY
 DATE REVISED

RH
 10-7-15

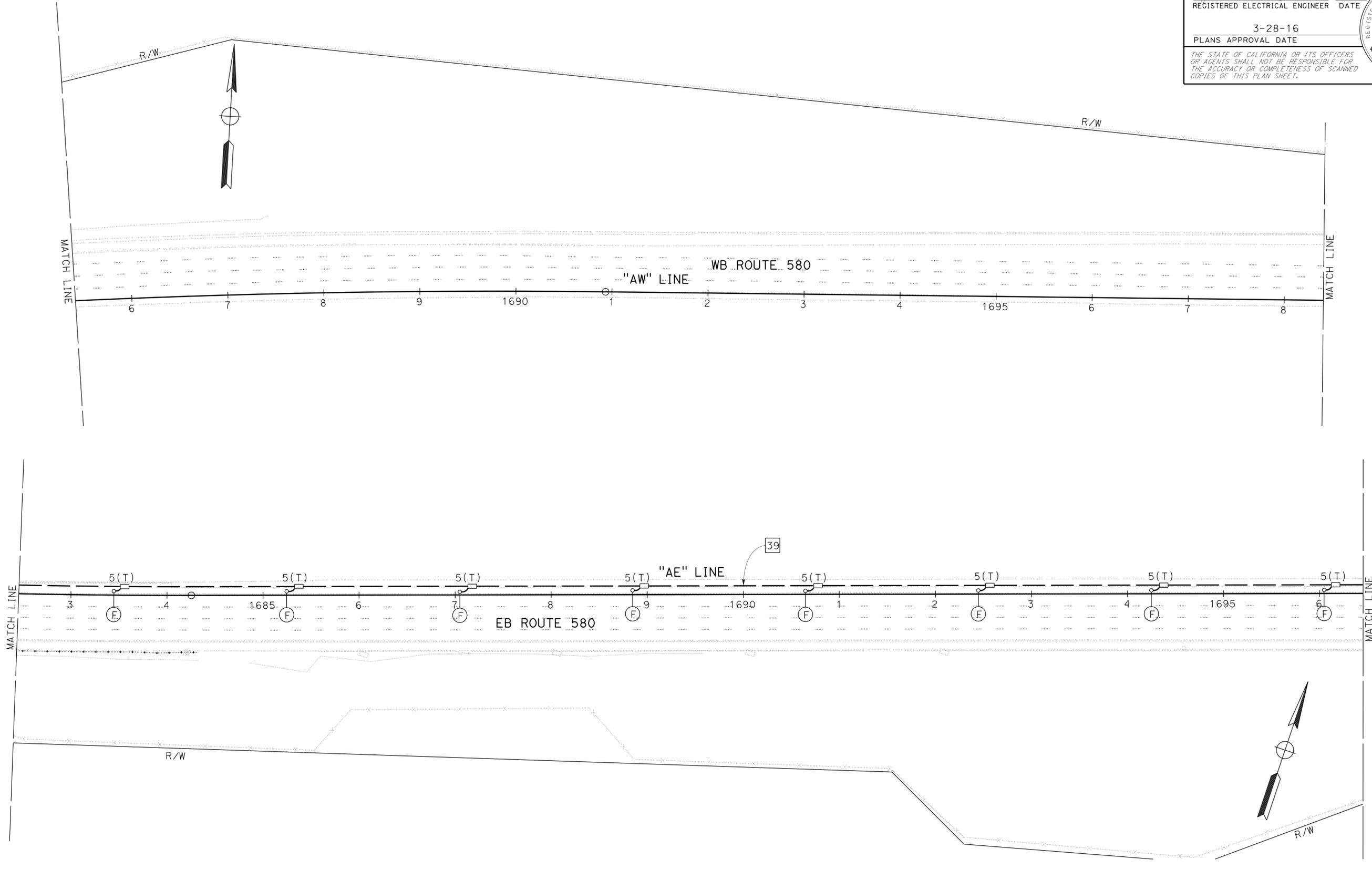
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.0/8.0	533	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER DATE 2-26-16
 3-28-16
 PLANS APPROVAL DATE

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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



LIGHTING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-53

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

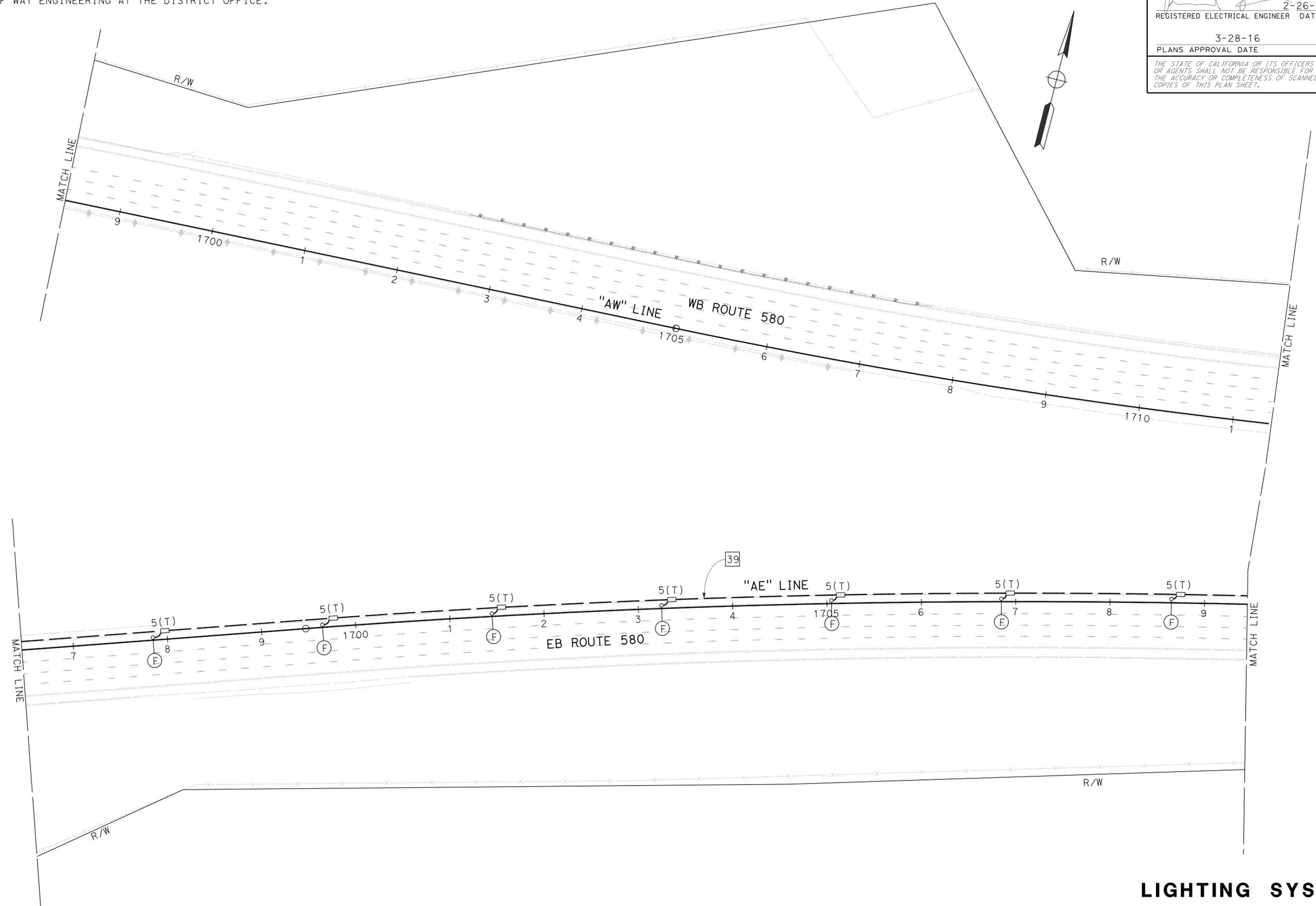
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 ROBERT HSU
 PARVIZ BOOZARPOUR
 REVISED BY: DATE REVISED: 10-7-15
 RH

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0	534	676
04	Alameda	580	0.0/8.0		
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER: Robert Hsu
 No. 17114
 Exp. 9-30-17
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

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



APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

LIGHTING SYSTEM

SCALE: 1" = 50'

E-54

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY
 CHECKED BY

ROBERT HSU
 PARVIZ BOOZARPOUR

REVISED BY
 DATE REVISED

RH
 10-7-15

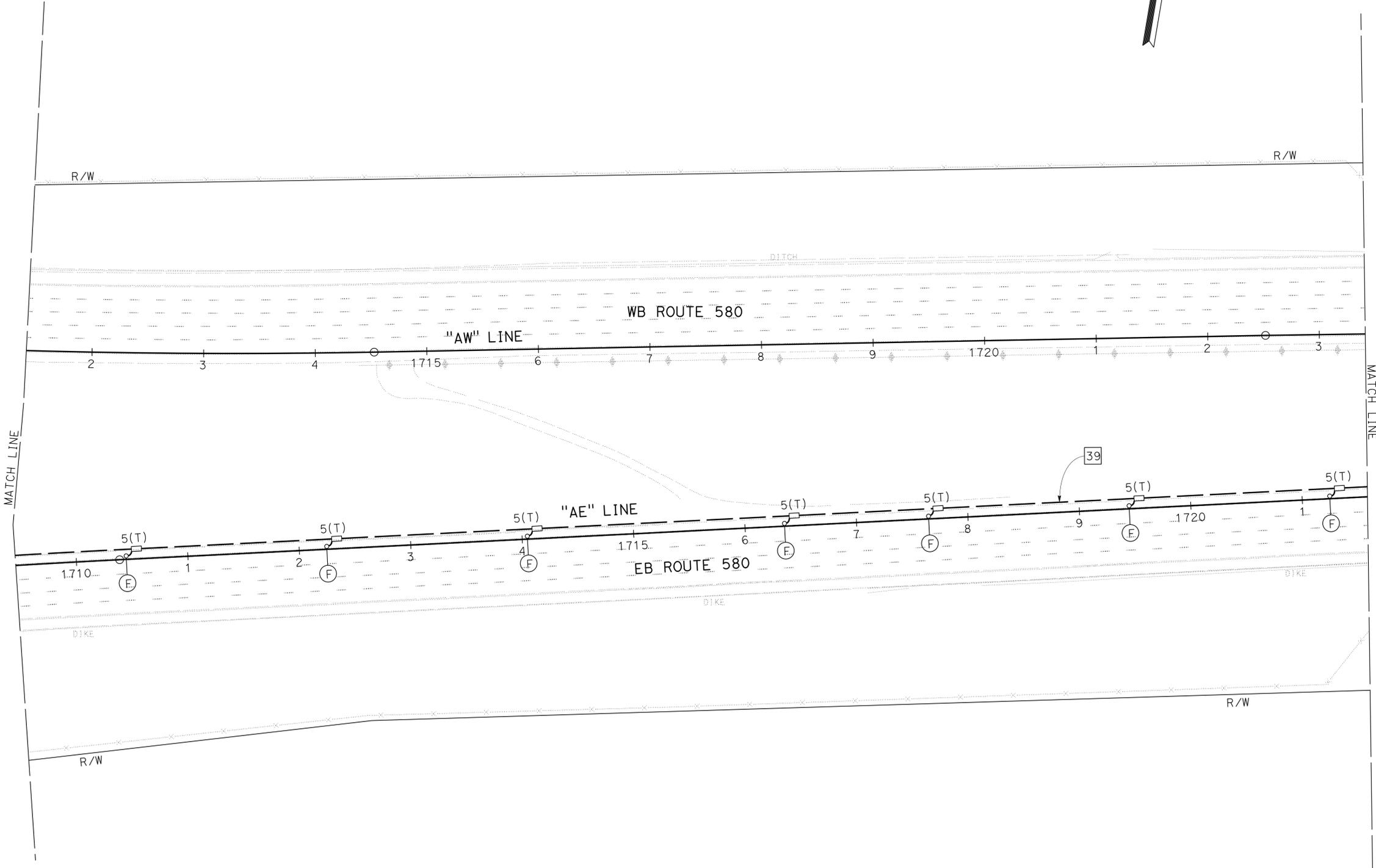
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/71.0		
04	Alameda	580	0.0/8.0	535	676
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER DATE 2-26-16
 3-28-16
 PLANS APPROVAL DATE

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

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



LIGHTING SYSTEM

SCALE: 1" = 50'

E-55

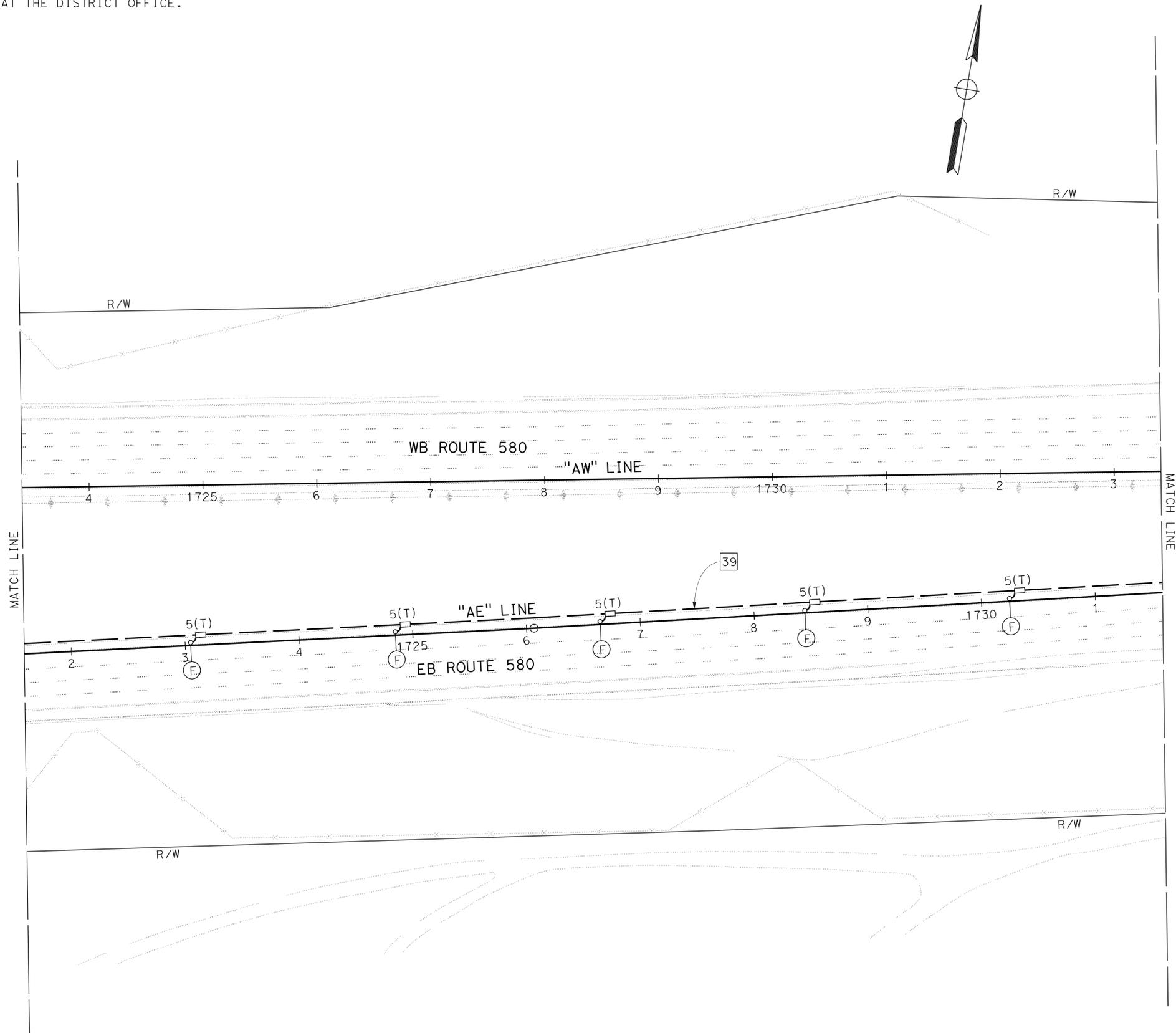
APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR BEHZAD GOLEMHAMMADI	ROBERT HSU	REVISOR PARVIZ BOOZARPOUR	DATE 10-7-15
CALCULATED/DESIGNED BY	CHECKED BY	REVISOR	DATE
DESIGNED BY	CHECKED BY	REVISOR	DATE

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



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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10	SJ	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER DATE 2-26-16

PLANS APPROVAL DATE 3-28-16

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA

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LIGHTING SYSTEM

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR BEHZAD GOLEMOHAMMADI	ROBERT HSU	REVISOR RH
CHECKED BY	PARVIZ BOOZARPOUR	DATE REVISOR 3-25-16
DESIGNED BY		
CALCULATED BY		

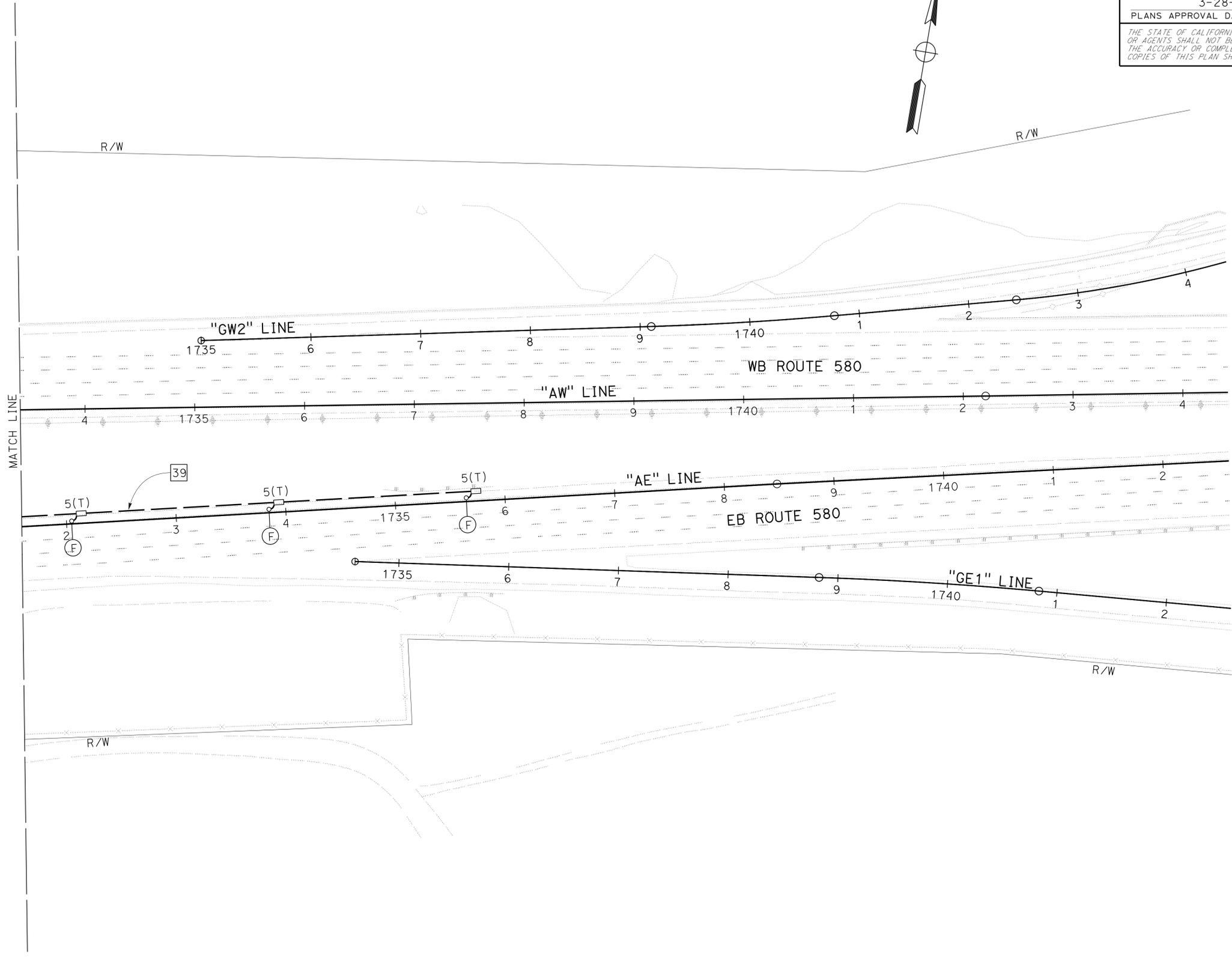
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER DATE 2-26-16
 3-28-16
 PLANS APPROVAL DATE

Robert Hsu
 No. 17114
 Exp. 9-30-17
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04	Ala	580	0.0/8.0	538	676
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			13.5/15.4		

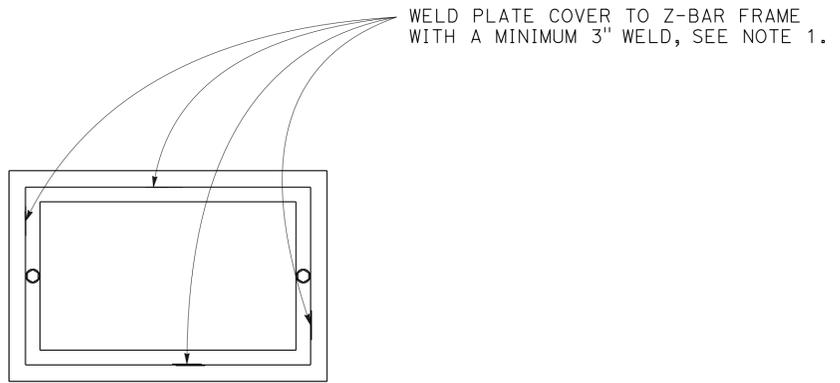
REGISTERED ELECTRICAL ENGINEER DATE 2-26-16
 3-28-16
 PLANS APPROVAL DATE

Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL

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NOTES:

1. WELDING MUST COMPLY WITH STANDARD SPECIFICATION SECTION 11-3 WELDING AND SECTION 75 MISCELLANEOUS METAL.
2. CONDUITS ENTERING THE PULL BOX MUST BE ENCASED IN PCC (3" ALL AROUND). PCC ENCASEMENT MUST EXTEND 5'-6" FROM THE PULL BOX.
3. PULL BOXES FOR ELECTROLIERS, POSTS AND SIGNAL STANDARDS MUST BE LOCATED WITHIN 5'-0" FROM THE STATION OF THE ADJACENT ELECTROLIER, POST OR SIGNAL STANDARD.
4. FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD PLANS RSP ES-8B.



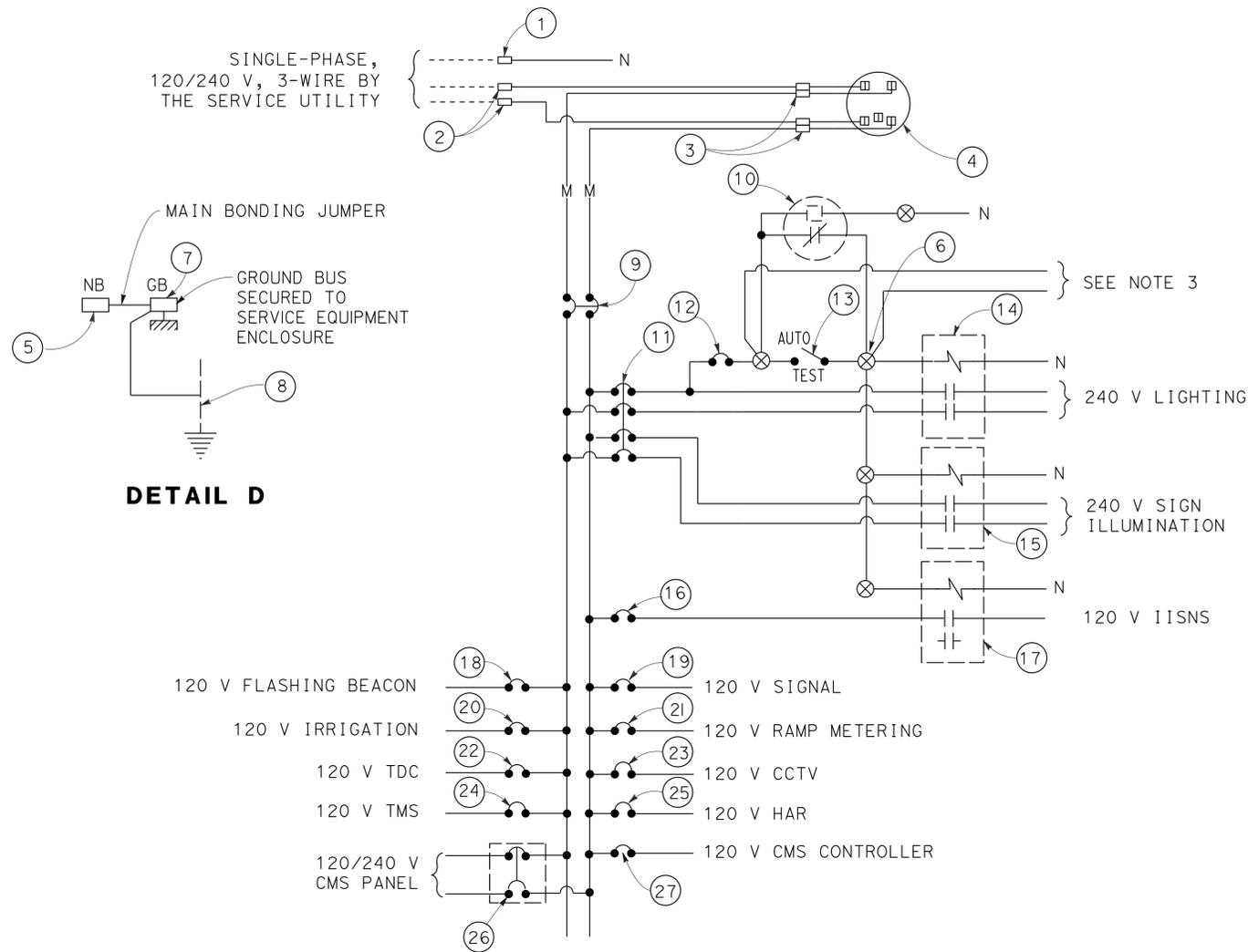
TOP VIEW

TRAFFIC PULL BOX WELDING DETAIL

ELECTRICAL DETAILS
 NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071	539	676
04	Alameda	580	0.080		
10	San Joaquin	580	26.1/30.3		
			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER DATE 2-26-16
 REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 3-28-16
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

DETAIL C

TYPE III-A SERVICE EQUIPMENT ENCLOSURE LEGEND (120/240 V)

ITEM No.	COMPONENT	NAMEPLATE DESCRIPTION	ITEM No.	COMPONENT	NAMEPLATE DESCRIPTION
1	NEUTRAL LUG		15	30 A, 2P, NO CONTACTOR	
2	LANDING LUG		16	15 A, 120 V, 1P, CB	IISNS
3	TEST BYPASS FACILITY		17	30 A, 2P, NO CONTACTOR	
4	METER SOCKET AND SUPPORT		18	15 A, 120 V, 1P, CB	FLASHING BEACON
5	NEUTRAL BUS		19	50 A, 120 V, 1P, CB	SIGNALS
6	TERMINAL BLOCK		20	20 A, 120 V, 1P, CB	IRRIGATION
7	GROUND BUS		21	30 A, 120 V, 1P, CB	RAMP METERING
8	GROUNDING ELECTRODE		22	20 A, 120 V, 1P, CB	TELEPHONE DEMARCATION CABINET
9	100 A, 240 V, 2P, CB	MAIN BREAKER	23	30 A, 120 V, 1P, CB	CCTV
10	PHOTOELECTRIC UNIT (NOTE 7)		24	30 A, 120 V, 1P, CB	TMS
11	30 A, 240 V, 4P, CB	LIGHTING AND SIGN ILLUMINATION	25	30 A, 120 V, 1P, CB	HAR
12	15 A, 120 V, 1P, CB	LIGHTING AND SIGN ILLUMINATION CONTROL	26	30 A, 240 V, 2P, CB	CMS PANEL
13	15 A, 120 V, 1P, TEST SWITCH	TEST SWITCH	27	30 A, 120 V, 1P, CB	CMS CONTROLLER
14	60 A, 2P, NO CONTACTOR				

NOTES: (FOR THIS SHEET ONLY)

- VOLTAGE RATINGS OF SERVICE EQUIPMENT SHALL CONFORM TO THE SERVICE VOLTAGES INDICATED ON THE PLANS.
- UNLESS OTHERWISE INDICATED ON THE PLANS, SERVICE EQUIPMENT ITEMS SHALL BE PROVIDED FOR EACH SERVICE EQUIPMENT ENCLOSURE AS SHOWN.
- CONNECT TO REMOTE TEST SWITCH MOUNTED ON SIGN POST OR STRUCTURE WHEN REQUIRED.
- ITEM No. 1 AND 5 SHALL BE ISOLATED FROM THE CABINET.
- METER SOCKETS SHALL MEET SERVICE UTILITY REQUIREMENTS.
- THE LANDING LUG SHALL BE SUITABLE FOR MULTIPLE CONDUCTORS.
- PHOTOELECTRIC CONTROL SHALL BE TYPE II.
- SERVICE UTILITY WILL INSTALL THE TIME-OF-USE METER IF APPLICABLE.
- UNLESS OTHERWISE NOTED, THE MAXIMUM NUMBER OF SINGLE-POLE CIRCUIT BREAKER SPACES IN THE ENCLOSURE IS FOURTEEN.
- SEE STANDARD PLANS RSP ES-2D FOR OTHER DETAILS.

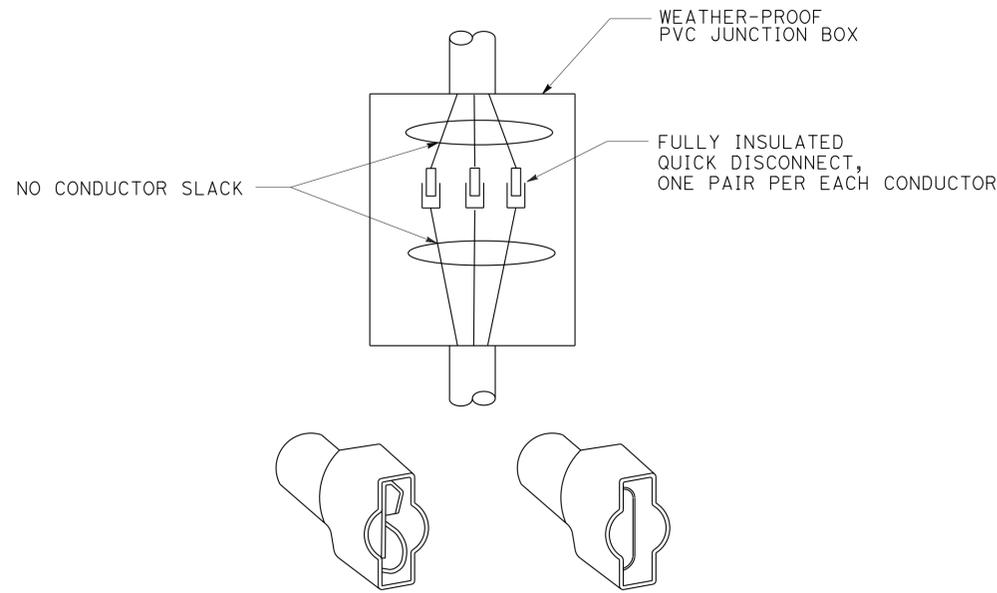
ELECTRICAL DETAILS
 (SERVICE EQUIPMENT ENCLOSURE
 AND TYPICAL WIRING DIAGRAM,
 TYPE III-A SERIES)
 NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	205	0.071.0		
04	Ala	580	0.078.0	26.1/30.3	540
10	SJ	580	13.5/15.4		676

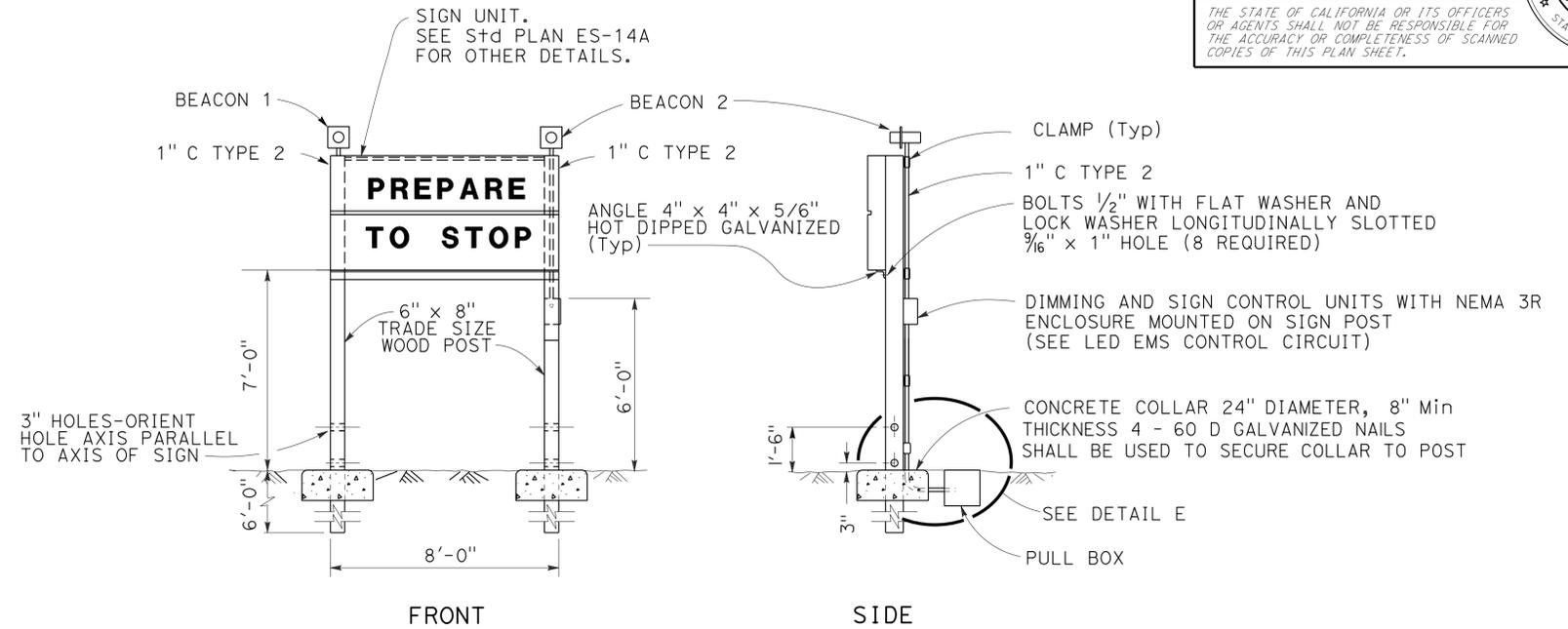
<i>M. Noii</i>		2-26-16
REGISTERED ELECTRICAL ENGINEER	DATE	
3-28-16		
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER	Mahmood Noii
No.	13717
Exp.	6-30-17
ELECTRICAL	

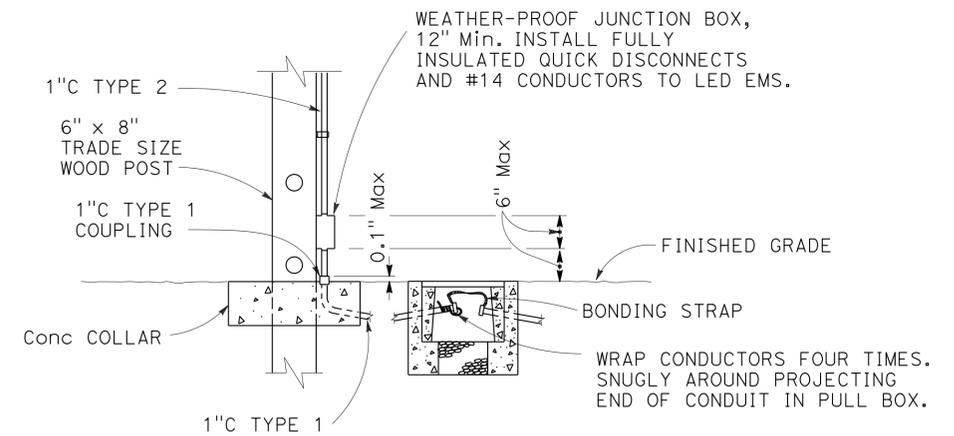
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



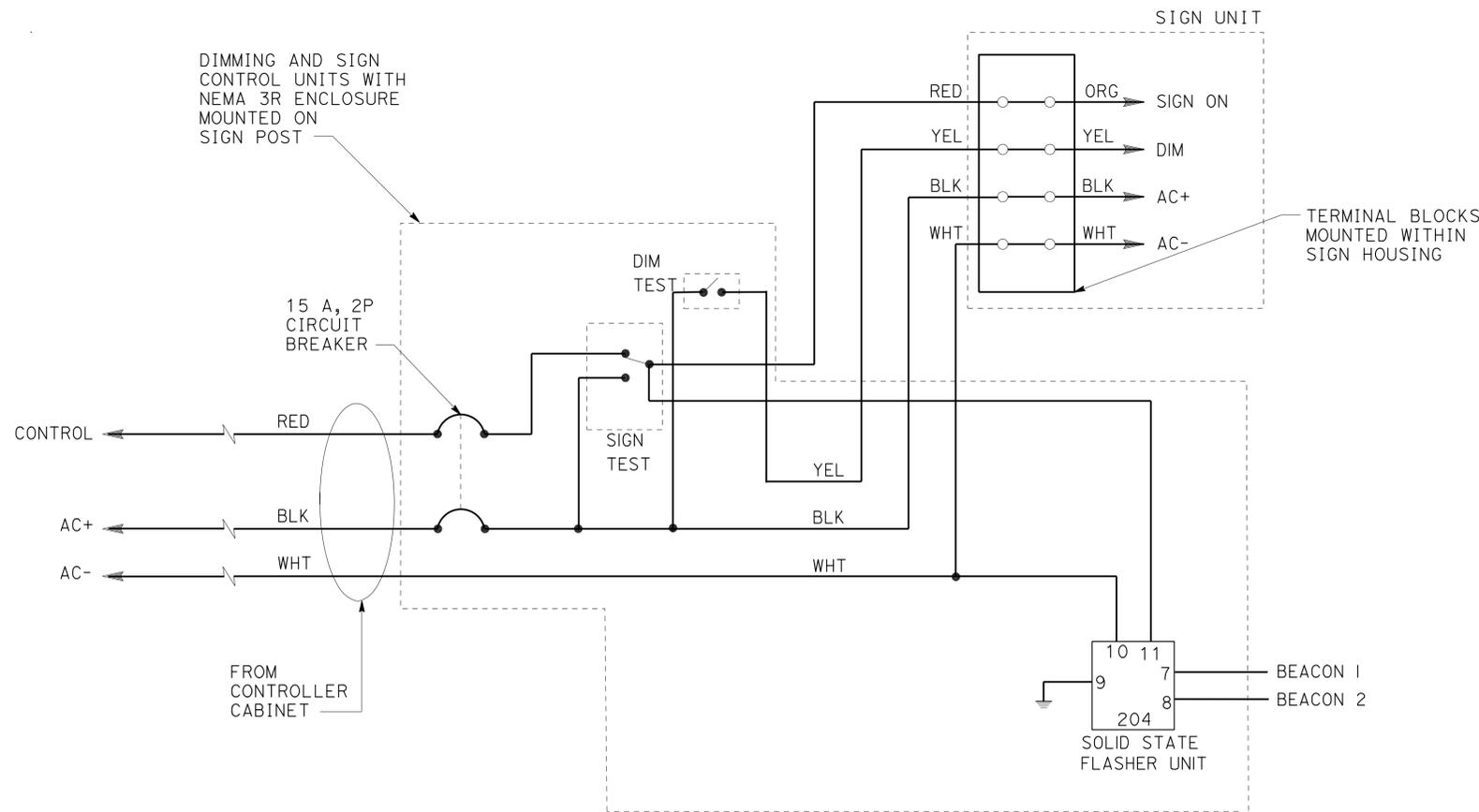
FULLY INSULATED QUICK DISCONNECTS



**DETAIL F
LED EXTINGUISHABLE MESSAGE SIGN**



**DETAIL E
CONDUIT BREAKAWAY**



LED EMS CONTROL CIRCUIT

**ELECTRICAL DETAILS
(LED EMS WITH CONTROL CIRCUIT)**
NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
REVISOR: GUILTERMO BAUTISTA, MAHMOOD NOII
DATE: 3-25-16

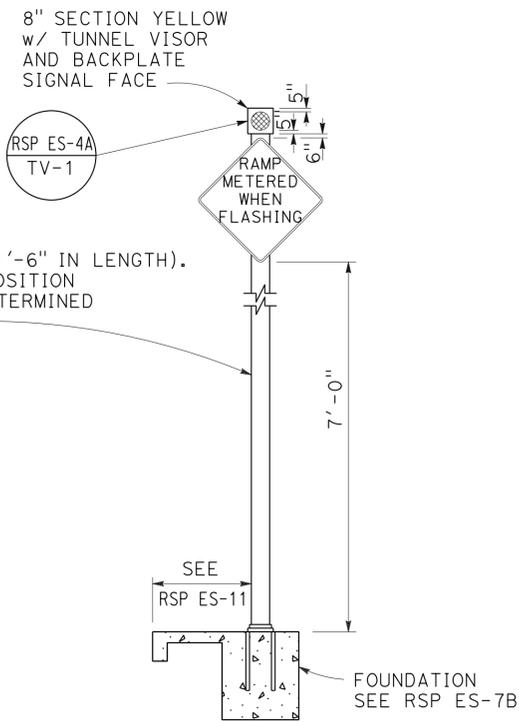
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071.0		
04	Alameda	580	0.078.0	541	676
10	SJ	580	26.1/30.3		
			2-26-16		
			REGISTERED ELECTRICAL ENGINEER		
			DATE		
			3-28-16		
			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



SIGNAL CONDUCTORS FOR RAMP METERS SHALL BE COLOR CODED AS FOLLOWS:

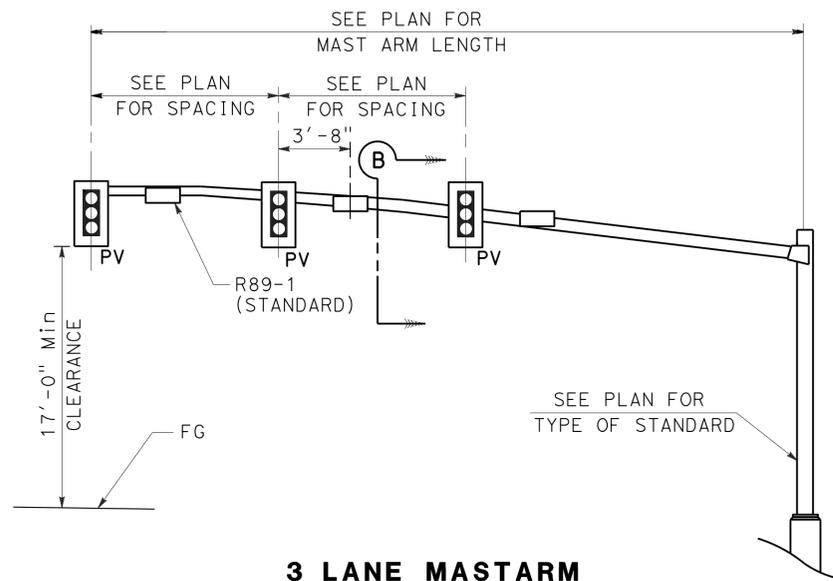
PHASE	BASE	STRIPE	BAND	SYMBOLS
1	RE, YE, BRN	NONE		1
2	RE, YE, BRN	BLACK		2
3	RE, YE, BRN	PURPLE		3
4	RE, YE, BRN	ORANGE		4

DETAIL "CONDUCTOR COLOR CODING"

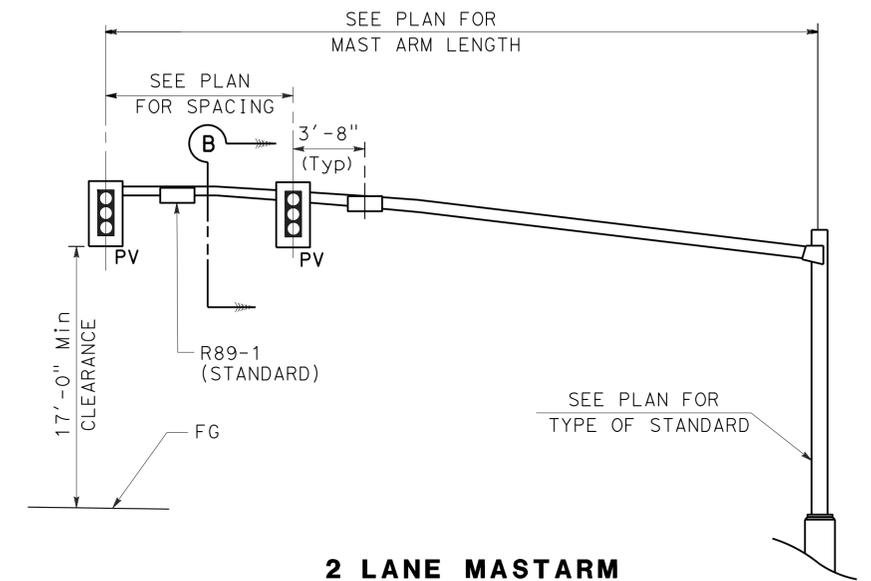


ADVANCED WARNING - FLASHING BEACON

TYPE 1-B STANDARD (11'-6" IN LENGTH). EXACT LOCATION AND POSITION OF STANDARD TO BE DETERMINED BY THE ENGINEER

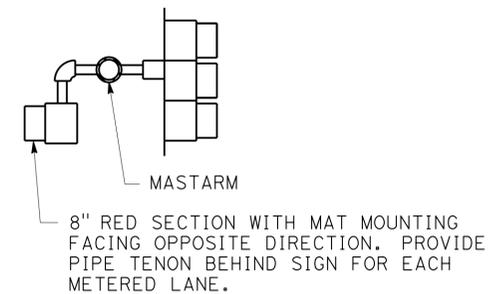


3 LANE MASTARM

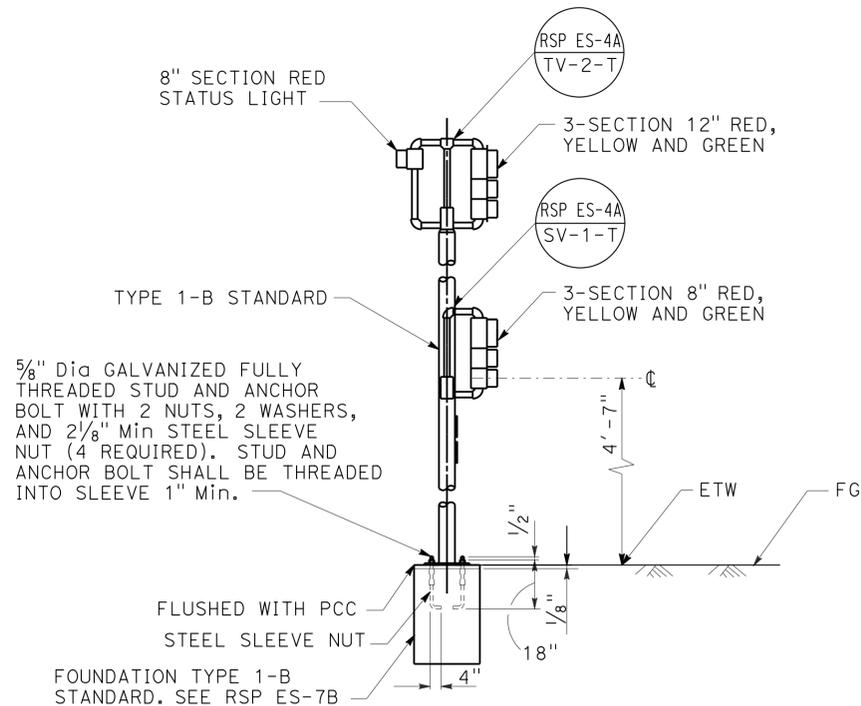


2 LANE MASTARM

DETAIL "MA" RAMP METER SIGNAL, MAST ARM MOUNTED



SECTION B



DETAIL "SIG" RAMP METER SIGNAL, POLE MOUNTED

ELECTRICAL DETAILS (ADVANCED WARNING-FLASHING BEACON RAMP METERING 1-B STANDARD, 2-LANE MASTARM, 3-LANE MASTARM, CONDUCTOR COLOR CODING)

NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

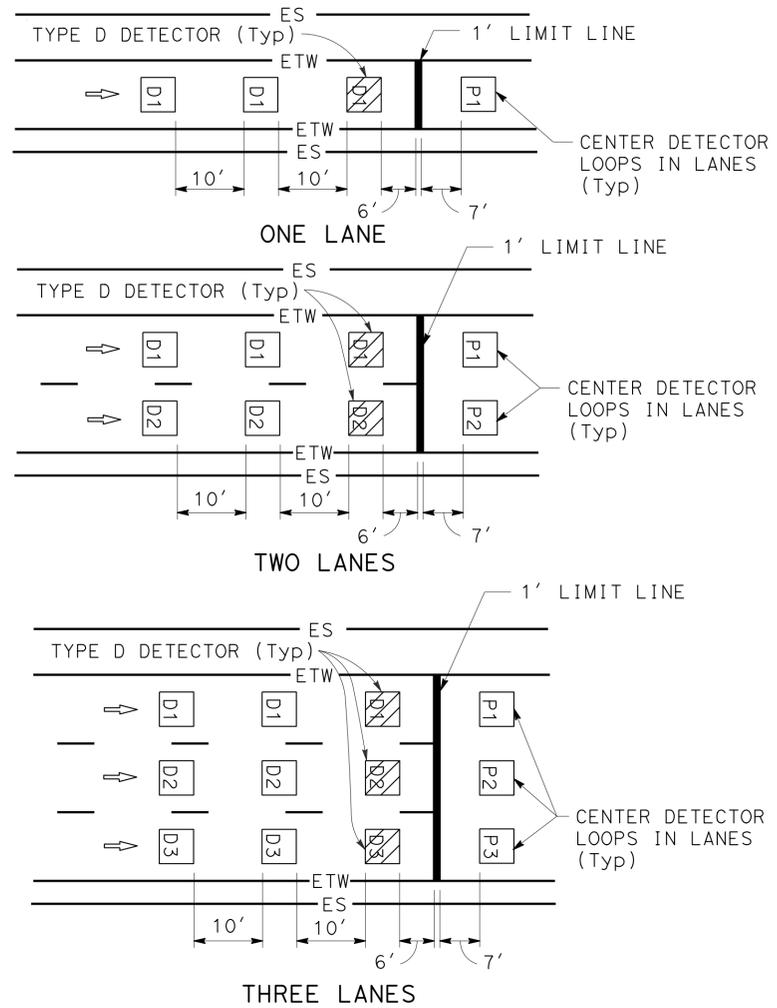
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Electrical	BEHZAD GOLEMOHAMMADI	GUILLERMO BAUTISTA	3-25-16
		MAHMOOD NOII	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071	542	676
04	Alameda	580	0.071		
10	San Joaquin	580	13.57154		

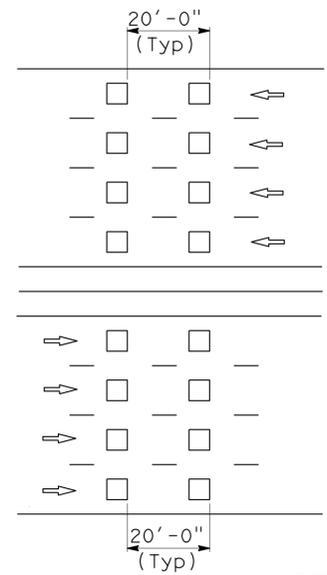
REGISTERED ELECTRICAL ENGINEER		DATE
M. Now		2-26-16
PLANS APPROVAL DATE		3-28-16

REGISTERED PROFESSIONAL ENGINEER
Mahmood Noii
No. 13717
Exp. 6-30-17
ELECTRICAL
STATE OF CALIFORNIA

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**DETAIL "RM"
RAMP METERING STATION**



TRAFFIC MONITORING STATION NOTES:

- FREEWAY MAINLINE DETECTOR DESIGNATION:**
- N=NORTHBOUND LANES (NB)
 - S=SOUTHBOUND LANES (SB)
 - E=EASTBOUND LANES (EB)
 - W=WESTBOUND LANES (WB)
- NUMBER OF LANES FROM LEFT WITH RESPECT TO DIRECTION OF TRAFFIC:**
- 1=FIRST LANE FROM LEFT
 - 2=SECOND LANE FROM LEFT
 - 3=THIRD LANE FROM LEFT
 - 4=FOURTH LANE FROM LEFT
- NUMBER OF DETECTOR IN THE SAME LANE:**
- 1=ENTERING DETECTOR
 - 2=LEAVING DETECTOR

**DETAIL "TM"
TRAFFIC MONITORING STATION**

RAMP METERING STATION NOTES:

- SEE RSP ES-5A, RSP ES-5B, AND RSP ES-13A FOR ADDITIONAL DETAILS.
- DLC CONDUCTORS SHALL BE SPLICED TO THE LOOP CONDUCTORS IN THE NEAREST PULL BOX.
- ALL SPLICES SHALL BE TYPE "S" OR TYPE "ST" AS REQUIRED.
- LOCATION OF TYPE 1 STANDARDS SHOULD BE APPROXIMATELY 3 FEET FROM THE EDGE OF SHOULDER AND 12 INCHES DOWNSTREAM OF THE LIMIT LINE.

RAMP DETECTOR DESIGNATION:

- D=DEMAND DETECTOR
 - P=PASSAGE DETECTOR
 - Q=QUEUE DETECTOR
 - F=OFFRAMP DETECTOR
- 1=FIRST LANE FROM LEFT
2=SECOND LANE FROM LEFT

**ELECTRICAL DETAILS
(RAMP METERING AND TRAFFIC MONITORING
DETECTOR SPACING AND DESIGNATION)
NO SCALE**

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY: GUILLELMO BAUTISTA
CHECKED BY: MAHMOOD NOII
REVISED BY: DATE REVISED: 10-8-15
CB

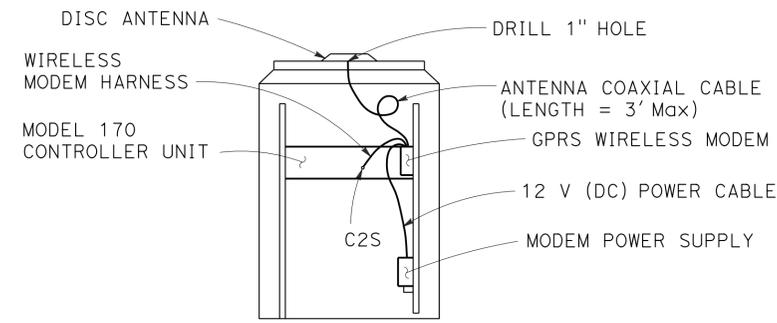
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M. Noii 2-26-16
 REGISTERED ELECTRICAL ENGINEER DATE
 3-28-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
 FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: GUILLELMO BAUTISTA
 CHECKED BY: MAHMOOD NOII
 REVISED BY: CB
 DATE REVISED: 10/8/15



REAR VIEW OF THE MODEL 334 CONTROLLER CABINET
GPRS WIRELESS MODEM AND ANTENNA INSTALLATION DETAIL

CONTRACTOR'S WORK IN THE CONTROLLER CABINET

1. PROVIDE THE GPRS MODEM AND WIRELESS MODEM HARNESS TO THE ENGINEER 30 WORKING DAYS BEFORE INSTALLATION. THE ENGINEER WILL RETURN THE PROGRAMMED MODEM, WITH PDP CONTEXT AND APN, AND HARNESS WITHIN 15 WORKING DAYS.
2. DRILL 1" HOLE THROUGH THE TOP OF THE CABINET. ATTACH THE ANTENNA ON THE CABINET AS DIRECTED BY THE MANUFACTURER.
3. MOUNT THE MODEM UNIT ON THE CABINET REAR MOUNTING RAIL WITH MOUNTING BRACKET PROVIDED BY THE MANUFACTURER.
4. MOUNT THE MODEM 12 V DC POWER SUPPLY DIRECTLY TO THE CABINET.
5. CONNECT POWER CABLE TO 12 V (DC) POWER ADAPTER.
6. CONNECT THE ANTENNA COAXIAL CABLE TO THE MODEM.
7. CONNECT MODEM HARNESS BETWEEN THE MODEM AND THE MODEL 170 CONTROLLER UNIT AS SHOWN.
8. RECORD THE SERIAL NUMBER OF THE MODEM ON THE CHECK LIST SHEET.

COMMUNICATION SERIAL CABLE TYPE D

1. PIN OUT DIAGRAM
 AMP 201360-2-ND DB9-P
 L _____ 2
 K _____ 3
 N _____ 5
 D
 H
 J 1,4,6,7,8,9 N/C
 M

2. CONSTRUCT AND INSTALL COMMUNICATION CABLE. SEE SPECIAL PROVISIONS FOR CABLE TYPE AND OTHER INFORMATION.

ELECTRICAL DETAILS
GENERAL PACKET RADIO SYSTEM
(WIRELESS MODEM INSTALLATION DETAILS)
 NO SCALE

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

LAST REVISION | DATE PLOTTED => 04-JUN-2016
 02-05-16 | TIME PLOTTED => 09:38

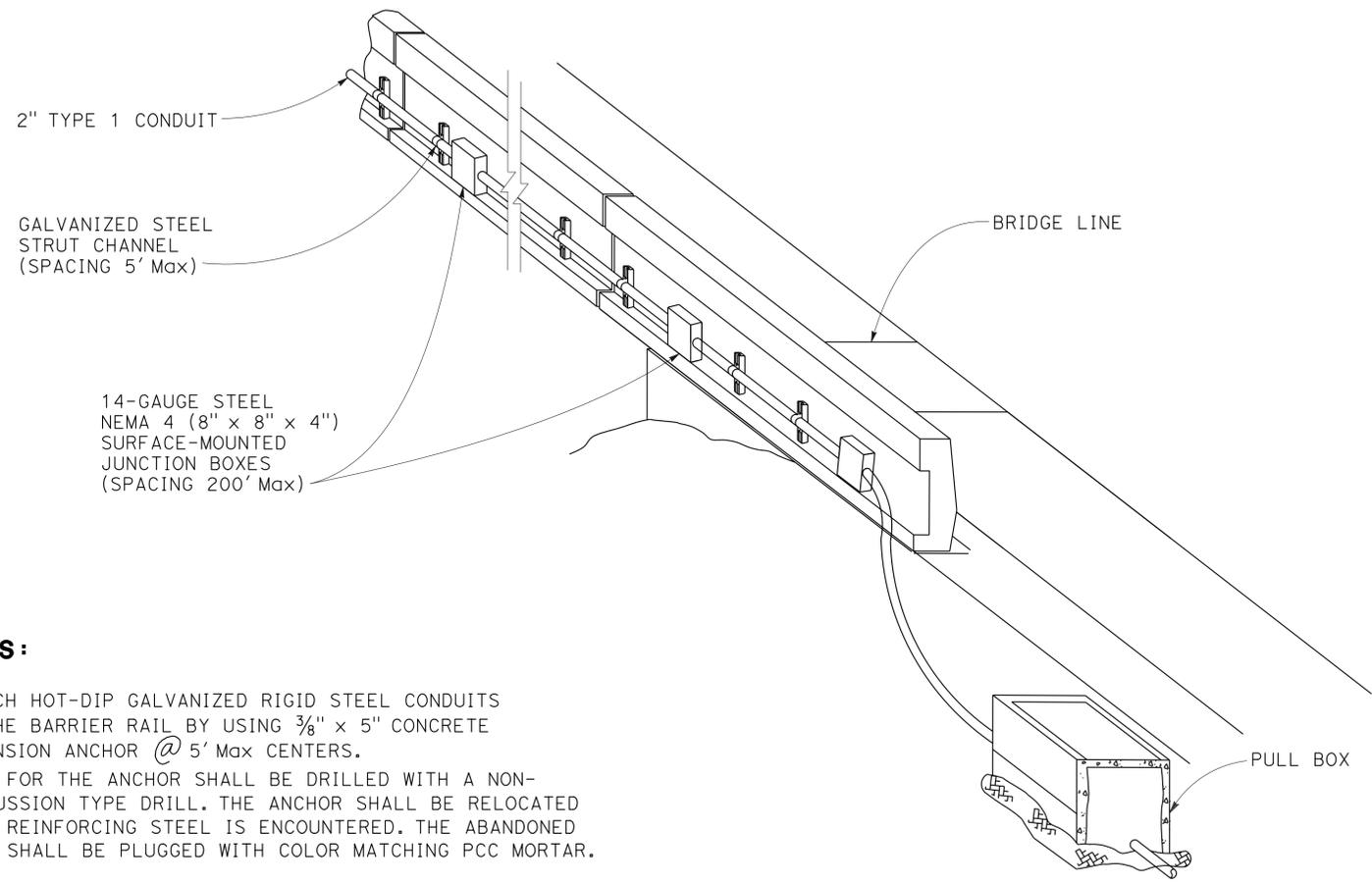
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE	PROJECT
ELECTRICAL	GUILERMO BAUTISTA	CHECKED BY	DATE	PROJECT	PROJECT
CB	3-23-16				

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/71.0	544	676
04	Alameda	580	0.0/8.0		
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			13.5/15.4		

REGISTERED ELECTRICAL ENGINEER: *M. Noii*
 DATE: 2-26-16
 PLANS APPROVAL DATE: 3-28-16

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noii
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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NOTES:

- ATTACH HOT-DIP GALVANIZED RIGID STEEL CONDUITS TO THE BARRIER RAIL BY USING 3/8" x 5" CONCRETE EXPANSION ANCHOR @ 5' Max CENTERS. HOLE FOR THE ANCHOR SHALL BE DRILLED WITH A NON-PERCUSSION TYPE DRILL. THE ANCHOR SHALL BE RELOCATED WHEN REINFORCING STEEL IS ENCOUNTERED. THE ABANDONED HOLE SHALL BE PLUGGED WITH COLOR MATCHING PCC MORTAR.
- ATTACH NEMA 4 BOXES TO STRUCTURE USING 3/8" x 5" CONCRETE EXPANSION ANCHORS.

SURFACE-MOUNTED CONDUIT

ELECTRICAL DETAILS
NO SCALE

LAST REVISION | DATE PLOTTED => 04-JUN-2016
 03-21-16 | TIME PLOTTED => 09:38

RAMP METERING SYSTEM

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
04	Alameda	205	TOTAL PROJECT	No.	SHEETS
04	Alameda	580	0.0710	545	676
10	SJ	580	0.0/8.0/26.1/30.3		
			13.5/15.4		

M. Noor
 REGISTERED ELECTRICAL ENGINEER DATE 2-26-16
 3-28-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Mahmood Noor
 No. 13717
 Exp. 6-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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SHEET No.	CONDUIT			PULL BOX				CONDUCTOR						LOOP		DLC	STANDARD		SIGNAL HEAD			TYPE III-AF SERVICE CABINET	EMS (PTS)	18-4-100 Std
	1 1/2"	2"	3"	#5	#5(T)	#6	#6(T)	#14	#10	#8	#6	#4	#2	TYPE A	TYPE D	TYPE B	1-B	15	3-12"	3-8"	1-8"			
	ft			EA				ft						EA		ft	EA							
E-2	80	685	570	3	9	1	1	2100	1250	350	1070		540	15	1	5160	4		1	1	4	1		
E-3	120	320	180	1	9		1	660	1400	130	1250	1940		12	1	1920	3		1	1	1	1		
E-4		620	245	1	8		1	360	1540	60		1540		11	1	2270	1		1	1	1			
E-5	90	910	300		7	1		900	820	150	350			8	2	2360	4		2	2	4			
E-6	120	720	380	1	7		2	2280	880	380		1160		13	1	4740	3		1	1	3			
E-7	650				5									1		650								
E-8	760				4											760								
E-9		1460	260	4	12			600	1580	120	2040	1340		13	1	4190	3		1	1	3			
E-10	150	620	260	1	9		1	1140	1180	200	1340			13	1	3230	3		1	1	3			
E-12		520	670		7		1	2940	1900	490				15	1	8990	2		1	1	2			
E-13		220	165	1	1		3	1350	160	150	160			16	2	1490			2		2			1
E-14		1660	20	3	9				1360	160	1380		60	2		2570	2				2	1		
E-15	530				3									1		530								
E-16		550			3									1		550								
E-17		1380			8				1800			1720		2		1520	2				2			
E-18		480	80		5		1	1680																
E-19		2140	40		10		2	2520		280	3060	2820		12	4	400			4		4	1		2
E-20		2480			13		1																	2
E-21		2950			15		1																	2
E-22		1510			9						7080							2						3
E-23		1400			7						4200													
E-24	1040	350			7		1				4170													2
E-25	1400				7						4200													
E-26	760				3		1				2280													1

ITEMS SHOWN IN THIS TABLE ARE NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

MODIFYING EXISTING ELECTRICAL SYSTEM

SHEET No.	CONDUIT			PULL BOX			CONDUCTOR				TYPE III-AF SERVICE CABINET	TYPE 30 Std	235 W LED LUMINAIRE	165 W LED LUMINAIRE	85 W ISL
	1 1/2"	2"	3"	#5	#5(T)	#6	#14	#8	#6	#2					
	ft			EA			ft								
E-39	120	290			3		200	580	1020		1	1			
E-40		220		3			150	440			1		7		
E-41	50	50	10	3				100		30	1	4		2	

ITEMS SHOWN IN THIS TABLE ARE NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

FLASHING BEACON SYSTEM

SHEET No.	CONDUIT	PULL BOX	CONDUCTOR	12" BEACON	TYPE 15-FBS
	2"	#5	#4		
	ft	EA	ft	EA	
E-27	90		500		
E-28			2400		
E-29			2400		
E-30			2400		
E-31	80		2510	3	
E-32			2600		
E-33	155	2	2720	4	2
E-34			2400		
E-35			2320		
E-36			2110		
E-37			2510		
E-38	85	2	910	4	2

ITEMS SHOWN IN THIS TABLE ARE NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

ELECTRICAL QUANTITIES

E-65

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 04 10	Ala Ala Sj	205 580 580	0.0/1.0 0.0/8.0 26.1/30.3	546	676


 2-26-16
 REGISTERED ELECTRICAL ENGINEER DATE

3-28-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Robert Hsu
 No. 17114
 Exp. 9-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

FUNCTIONAL SUPERVISOR
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY
 CHECKED BY

ROBERT HSU
 PARVIZ BOOZARPOUR

REVISED BY
 DATE REVISED

RH
 10-7-15

LIGHTING SYSTEM

SHEET No.	(N) 2"C	(N) PULL STRING	(N) No. 5 (T) PULL BOX	(N) ELECTROLIER FOUNDATIONS (TYPE 31) /BASE PLATE
	ft		EA	
E-42	820	820	5	5
E-43	90	90	1	1
E-44	1100	1100	6	6
E-45	1310	1310	8	8
E-46	1400	1400	7	7
E-47	1180	1180	9	7
E-48	1040	1040	7	7
E-49	1100	1100	6	6
E-50	1300	1300	7	7
E-51	1400	1400	8	8
E-52	1300	1300	7	7
E-53	1400	1400	8	8
E-54	1300	1300	7	7
E-55	1220	1220	7	7
E-56	990	990	5	5
E-57	410	410	3	3

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

ELECTRICAL QUANTITIES

E-66



BENCH MARK

CT 264 (NAVD88)

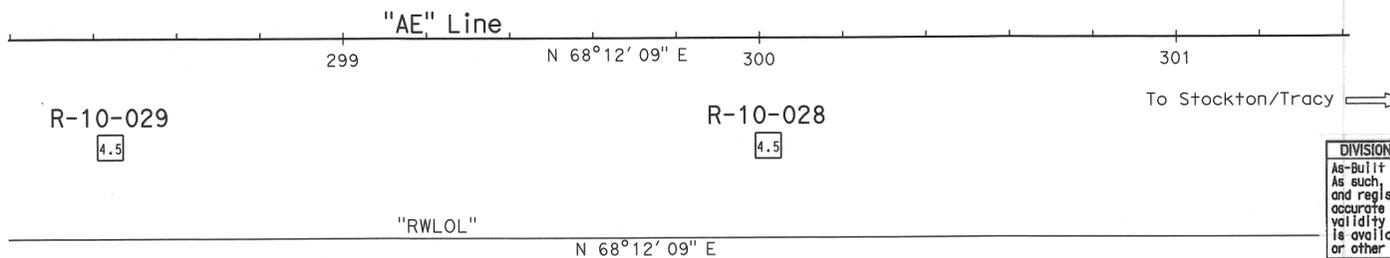
Find a Mag nail and shiner of the flowline of an AC dike along SR 580 EB. It is about 215' east of the westerly end of a metal beam guard rail.
 N 2088383.422
 E 6231202.168
 Elev = 757.264'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	ALO	580			

12-29-10
 REGISTERED CIVIL ENGINEER
 Eduardo Ortega
 No. C41012
 Exp. 3-31-11
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

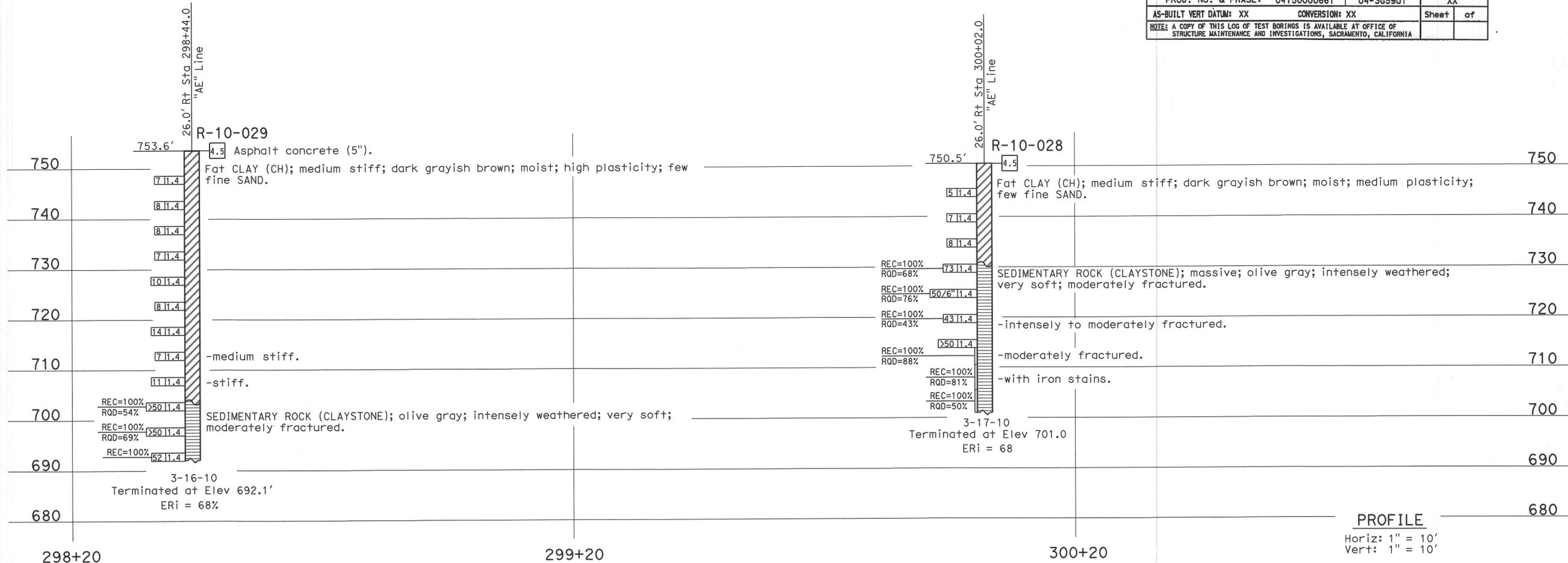
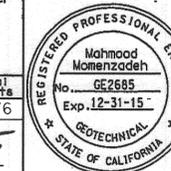
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).

3-28-16



PLAN
 1" = 20'

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES					
As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.					
DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
04	ALO	580	0.019	547	676
			REGISTERED CIVIL ENGINEER		
			DATE		
REGISTERED GEOTECHNICAL ENGINEER					
ROADWAY REHABILITATION (2R)					
LOG OF TEST BORINGS					
UNIT: 3650		CONTRACT No.		BRIDGE No.	
PROJ. No. & PHASE: 0415000661		04-3G59U1		XX	
AS-BUILT VERT DATUM: XX		CONVERSION: XX		Sheet of	
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA					



PROFILE
 Horiz: 1" = 10'
 Vert: 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO.	RETAINING WALL NO. 8
FUNCTIONAL SUPERVISOR NAME: M. Momenzadeh	DRAWN BY: F. Nguyen 8/10 CHECKED BY: R. Nashed	FIELD INVESTIGATION BY: C. Koepke, R. Karpowicz				POST MILES 4.74	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 04 EA 4A0701	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET OF

USERNAME => s128198 DATE PLOTTED => 07-AUG-2015 TIME PLOTTED => 11:50

	M	
Maint	MAINTENANCE	
Max	MAXIMUM	
MB	METAL BEAM	
MBB	METAL BEAM BARRIER	
MBGR	METAL BEAM GUARD RAILING	
Med	MEDIAN	
MGS	MIDWEST GUARDRAIL SYSTEM	
MH	MANHOLE	
Min	MINIMUM	
Misc	MISCELLANEOUS	
Misc I & S	MISCELLANEOUS IRON AND STEEL	
Mkr	MARKER	
Mod	MODIFIED, MODIFY	
Mon	MONUMENT	
MP	METAL PLATE	
MPGR	METAL PLATE GUARD RAILING	
MR	MOVEMENT RATING	
MSE	MECHANICALLY STABILIZED EMBANKMENT	
Mt	MOUNTAIN, MOUNT	
MtI	MATERIAL	
MVP	MAINTENANCE VEHICLE PULLOUT	
	N	
N	NORTH	
NB	NORTHBOUND	
No.	NUMBER (MUST HAVE PERIOD)	
Nos.	NUMBERS (MUST HAVE PERIOD)	
NPS	NOMINAL PIPE SIZE	
NS	NEAR SIDE	
NSP	NEW STANDARD PLAN	
NTS	NOT TO SCALE	
	O	
Obir	OBLITERATE	
OC	OVERCROSSING	
OD	OUTSIDE DIAMETER	
OF	OUTSIDE FACE	
OG	ORIGINAL GROUND	
OGAC	OPEN GRADED ASPHALT CONCRETE	
OGFC	OPEN GRADED FRICTION COURSE	
OH	OVERHEAD	
OHWM	ORDINARY HIGH WATER MARK	
O-O	OUT TO OUT	
Opp	OPPOSITE	
OSD	OVERSIDE DRAIN	
	P	
p	PAGE	
PAP	PERFORATED ALUMINUM PIPE	
PB	PULL BOX	
PC	POINT OF CURVATURE, PRECAST	
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE	
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN	
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE	
PCVC	POINT OF COMPOUND VERTICAL CURVE	
PEC	PERMIT TO ENTER AND CONSTRUCT	
Ped	PEDESTRIAN	
Ped OC	PEDESTRIAN OVERCROSSING	
Ped UC	PEDESTRIAN UNDERCROSSING	
Perm MtI	PERMEABLE MATERIAL	

	P continued	
PG	PROFILE GRADE	
PI	POINT OF INTERSECTION	
PJP	PARTIAL JOINT PENETRATION	
Pkwy	PARKWAY	
PL, PL	PLATE	
P/L	PROPERTY LINE	
PM	POST MILE, TIME FROM NOON TO MIDNIGHT	
PN	PAVING NOTCH	
POC	POINT OF HORIZONTAL CURVE	
POT	POINT OF TANGENT	
POVC	POINT OF VERTICAL CURVE	
PP	PIPE PILE, PLASTIC PIPE, POWER POLE	
PPL	PREFORMED PERMEABLE LINER	
PPP	PERFORATED PLASTIC PIPE	
PRC	POINT OF REVERSE CURVE	
PRF	PAVEMENT REINFORCING FABRIC	
PRVC	POINT OF REVERSE VERTICAL CURVE	
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES	
PS, P/S	PRESTRESSED	
PSP	PERFORATED STEEL PIPE	
PT	POINT OF TANGENCY	
PVC	POLYVINYL CHLORIDE	
Pvmt	PAVEMENT	
	Q	
Qty	QUANTITY	
	R	
R	RADIUS	
R & D	REMOVE AND DISPOSE	
R & S	REMOVE AND SALVAGE	
R/C	RATE OF CHANGE	
RCA	REINFORCED CONCRETE ARCH	
RCB	REINFORCED CONCRETE BOX	
RCP	REINFORCED CONCRETE PIPE	
RCPA	REINFORCED CONCRETE PIPE ARCH	
Rd	ROAD	
Reinf	REINFORCED, REINFORCEMENT, REINFORCING	
Rel	RELOCATE	
Repl	REPLACEMENT	
Ret	RETAINING	
Rev	REVISED, REVISION	
Rdwy	ROADWAY	
RHMA	RUBBERIZED HOT MIX ASPHALT	
Riv	RIVER	
RM	ROAD-MIXED	
RP	RADIUS POINT, REFERENCE POINT	
RR	RAILROAD	
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN	
Rt	RIGHT	
Rte	ROUTE	
RW	REDWOOD, RETAINING WALL	
R/W	RIGHT OF WAY	
Rwy	RAILWAY	

	S	
S	SOUTH, SUPPLEMENT	
SAE	STRUCTURE APPROACH EMBANKMENT	
Salv	SALVAGE	
SAPP	STRUCTURAL ALUMINUM PLATE PIPE	
SB	SOUTHBOUND	
SC	SAND CUSHION	
SCSP	SLOTTED CORRUGATED STEEL PIPE	
SD	STORM DRAIN	
Sec	SECOND, SECTION	
Sep	SEPARATION	
SG	SUBGRADE	
Shld	SHOULDER	
Sht	SHEET	
Sim	SIMILAR	
SL	STATION LINE	
SM	SELECTED MATERIAL	
Spec	SPECIAL, SPECIFICATIONS	
SPP	SLOTTED PLASTIC PIPE	
SS	SLOPE STAKE	
SSBM	STRAP AND SADDLE BRACKET METHOD	
SSD	STRUCTURAL SECTION DRAIN	
SSPA	STRUCTURAL STEEL PLATE ARCH	
SSPP	STRUCTURAL STEEL PLATE PIPE	
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH	
SSRP	STEEL SPIRAL RIB PIPE	
St	STREET	
Sta	STATION	
STBB	SINGLE THRIE BEAM BARRIER	
Std	STANDARD	
Str	STRUCTURE	
Surf	SURFACING	
SW	SIDEWALK, SOUND WALL	
Swr	SEWER	
Sym	SYMMETRICAL	
S4S	SURFACE 4 SIDES	
	T	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
TeI	TELEPHONE	
Temp	TEMPORARY	
TG	TOP OF GRADE	
Tot	TOTAL	
TP	TELEPHONE POLE	
TPB	TREATED PERMEABLE BASE	
TPM	TREATED PERMEABLE MATERIAL	
Trans	TRANSITION	

	T continued	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL	
Typ	TYPICAL	U
UC	UNDERCROSSING	
UD	UNDERDRAIN	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	
UP	UNDERPASS	V
V	VALVE, DESIGN SPEED	
Var	VARIABLE, VARIES	
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	W
W	WEST, WIDTH	
WB	WESTBOUND	
WH	WEEP HOLE	
WM	WIRE MESH	
WS	WATER SURFACE	
WSP	WELDED STEEL PIPE	
Wt	WEIGHT	
WV	WATER VALVE	
WW	WINGWALL	
WWL	WINGWALL LAYOUT LINE	X
X Sec	CROSS SECTION	
Xing	CROSSING	Y
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alb	205	0.0	548	676
00	SJ	9880	0.071		
			26.0		
			13.5		
			18.4		

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Grace M. Tsushima
 No. C49814
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 3-28-16

UNIT OF MEASUREMENT SYMBOLS:
Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/8.0	549	676
10	SJ	15880	0.0/71.0 13.5/75.4		


 CERTIFIED ENGINEERING GEOLOGIST
 October 30, 2015
 PLANS APPROVAL DATE
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REGISTERED GEOLOGIST
 CHRIS A. RISDEN
 CERTIFIED ENGINEERING GEOLOGIST
 No. 2541
 Exp. 9-30-17
 STATE OF CALIFORNIA

CEMENTATION	
DESCRIPTION	CRITERIA
WEAK	CRUMBLES OR BREAKS WITH HANDLING OR LITTLE FINGER PRESSURE.
MODERATE	CRUMBLES OR BREAKS WITH CONSIDERABLE FINGER PRESSURE.
STRONG	WILL NOT CRUMBLE OR BREAK WITH FINGER PRESSURE.

ABBREVIATION:

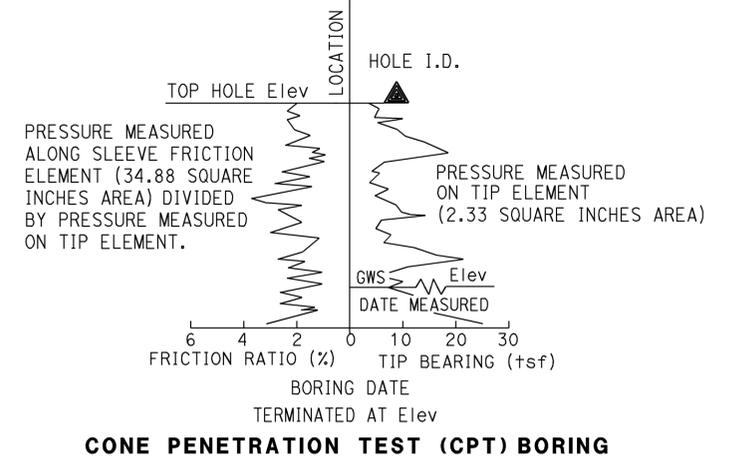
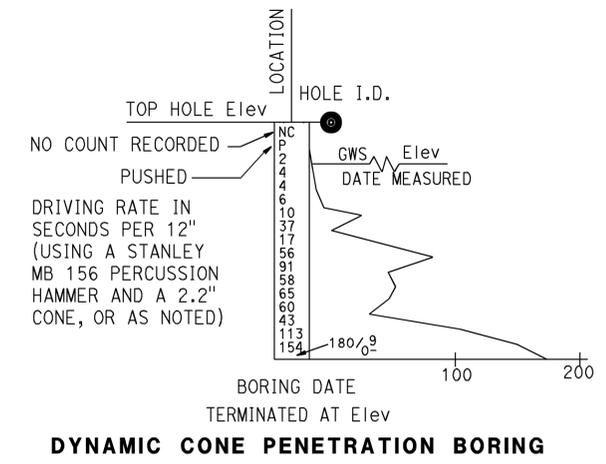
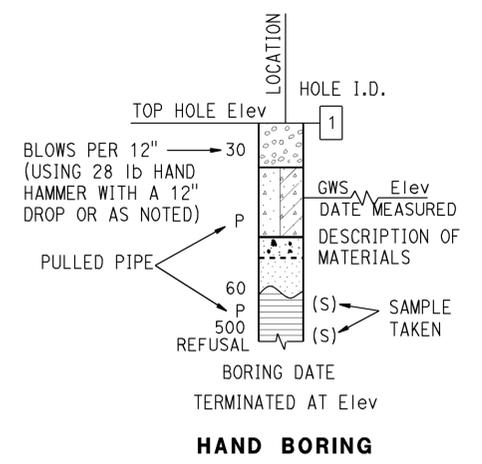
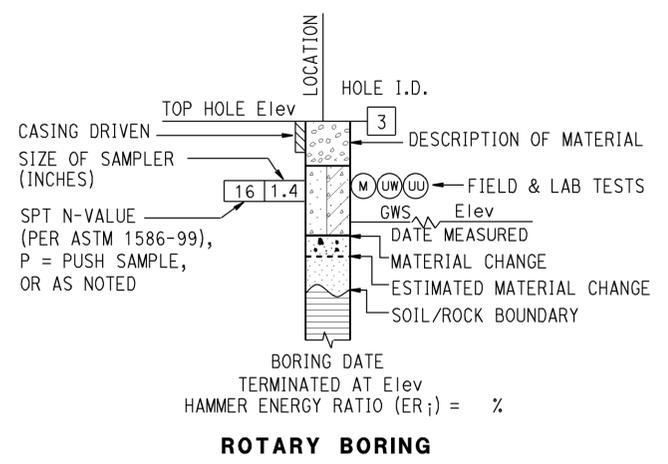
GWS = Ground Water Surface

TO ACCOMPANY PLANS DATED 3-28-16

BOREHOLE IDENTIFICATION		
SYMBOL	HOLE TYPE	DESCRIPTION
	A	AUGER BORING (HOLLOW OR SOLID STEM BUCKET)
	R	ROTARY DRILLED BORING (CONVENTIONAL)
	RW	ROTARY DRILLED WITH SELF-CASING WIRE-LINE
	RC	ROTARY CORE WITH CONTINUOUSLY-SAMPLED, SELF-CASING WIRE-LINE
	P	ROTARY PERCUSSION BORING (AIR)
	R	ROTARY DRILLED DIAMOND CORE
	RC	ROTARY DRILLED DIAMOND CORE, CONTINUOUSLY SAMPLED
	HD	HAND DRIVEN (1-INCH SOIL TUBE)
	HA	HAND AUGER
	D	DYNAMIC CONE PENETRATION BORING
	CPT	CONE PENETRATION TEST (ASTM D 5778)
	O	OTHER (NOTE ON LOTB)

Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS				
DESCRIPTION	SHEAR STRENGTH (tsf)	POCKET PENETROMETER MEASUREMENT, PP, (tsf)	TORVANE MEASUREMENT, TV, (tsf)	VANE SHEAR MEASUREMENT, VS, (tsf)
VERY SOFT	LESS THAN 0.12	LESS THAN 0.25	LESS THAN 0.12	LESS THAN 0.12
SOFT	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
MEDIUM STIFF	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
STIFF	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
VERY STIFF	1 - 2	2 - 4	1 - 2	1 - 2
HARD	GREATER THAN 2	GREATER THAN 4	GREATER THAN 2	GREATER THAN 2



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LEGEND - SOIL (SHEET 1 OF 2)
 NO SCALE

RSP A10F DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN A10F DATED MAY 20, 2011 - PAGE 6 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A10F

2010 REVISED STANDARD PLAN RSP A10F

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
04	Alameda	205	0.071	550	676
10	SJ	1880	13.571		
			TOTAL PROJECT		
			0.071		
			13.571		

Chris A. Risden
 CERTIFIED ENGINEERING GEOLOGIST
 October 30, 2015
 PLANS APPROVAL DATE

REGISTERED GEOLOGIST
 CHRIS A. RISDEN
 CERTIFIED ENGINEERING GEOLOGIST
 No. 2541
 Exp. 9-30-17
 STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 3-28-16

GROUP SYMBOLS AND NAMES					
GRAPHIC/SYMBOL	GROUP NAMES	GRAPHIC/SYMBOL	GROUP NAMES	GRAPHIC/SYMBOL	GROUP NAMES
	GW	WELL-GRADED GRAVEL		CL	LEAN CLAY
		WELL-GRADED GRAVEL WITH SAND			LEAN CLAY WITH SAND
	GP	POORLY-GRADED GRAVEL		CL-ML	LEAN CLAY WITH GRAVEL
		POORLY-GRADED GRAVEL WITH SAND			SANDY LEAN CLAY
	GW-GM	WELL-GRADED GRAVEL WITH SILT		ML	SANDY LEAN CLAY WITH GRAVEL
		WELL-GRADED GRAVEL WITH SILT AND SAND			GRAVELLY LEAN CLAY
	GW-GC	WELL-GRADED GRAVEL WITH CLAY (OR SILTY CLAY)		OL	GRAVELLY LEAN CLAY WITH SAND
		WELL-GRADED GRAVEL WITH CLAY AND SAND (OR SILTY CLAY AND SAND)			SILTY CLAY
	GP-GM	POORLY-GRADED GRAVEL WITH SILT		OH	SILTY CLAY WITH SAND
		POORLY-GRADED GRAVEL WITH SILT AND SAND			SILTY CLAY WITH GRAVEL
	GP-GC	POORLY-GRADED GRAVEL WITH CLAY (OR SILTY CLAY)		MH	SANDY SILTY CLAY
		POORLY-GRADED GRAVEL WITH CLAY AND SAND (OR SILTY CLAY AND SAND)			SANDY SILTY CLAY WITH GRAVEL
	GM	SILTY GRAVEL		OH	GRAVELLY SILTY CLAY
		SILTY GRAVEL WITH SAND			GRAVELLY SILTY CLAY WITH SAND
	GC	CLAYEY GRAVEL		OH	SILT
		CLAYEY GRAVEL WITH SAND			SILT WITH SAND
	GC-GM	SILTY, CLAYEY GRAVEL		OH	SILT WITH GRAVEL
		SILTY, CLAYEY GRAVEL WITH SAND			SANDY SILT
	SW	WELL-GRADED SAND		CH	SANDY SILT WITH GRAVEL
		WELL-GRADED SAND WITH GRAVEL			GRAVELLY SILT
	SP	POORLY-GRADED SAND		OH	GRAVELLY SILT WITH SAND
		POORLY-GRADED SAND WITH GRAVEL			FAT CLAY
	SW-SM	WELL-GRADED SAND WITH SILT		OH	FAT CLAY WITH SAND
		WELL-GRADED SAND WITH SILT AND GRAVEL			FAT CLAY WITH GRAVEL
	SW-SC	WELL-GRADED SAND WITH CLAY (OR SILTY CLAY)		MH	SANDY FAT CLAY
		WELL-GRADED SAND WITH CLAY AND GRAVEL (OR SILTY CLAY AND GRAVEL)			SANDY FAT CLAY WITH GRAVEL
	SP-SM	POORLY-GRADED SAND WITH SILT		OH	GRAVELLY FAT CLAY
		POORLY-GRADED SAND WITH SILT AND GRAVEL			GRAVELLY FAT CLAY WITH SAND
	SP-SC	POORLY-GRADED SAND WITH CLAY (OR SILTY CLAY)		OH	ELASTIC SILT
		POORLY-GRADED SAND WITH CLAY AND GRAVEL (OR SILTY CLAY AND GRAVEL)			ELASTIC SILT WITH SAND
	SM	SILTY SAND		OH	ELASTIC SILT WITH GRAVEL
		SILTY SAND WITH GRAVEL			SANDY ELASTIC SILT
	SC	CLAYEY SAND		OH	SANDY ELASTIC SILT WITH GRAVEL
		CLAYEY SAND WITH GRAVEL			GRAVELLY ELASTIC SILT
	SC-SM	SILTY, CLAYEY SAND		OH	GRAVELLY ELASTIC SILT WITH SAND
		SILTY, CLAYEY SAND WITH GRAVEL			ORGANIC LEAN CLAY
	PT	PEAT		OL/OH	ORGANIC LEAN CLAY WITH SAND
					ORGANIC LEAN CLAY WITH GRAVEL
		COBBLES		OL/OH	SANDY ORGANIC LEAN CLAY
		COBBLES AND BOULDERS			GRAVELLY ORGANIC LEAN CLAY
		BOULDERS			GRAVELLY ORGANIC LEAN CLAY WITH SAND

FIELD AND LABORATORY TESTING	
(C)	CONSOLIDATION (ASTM D2435)
(CL)	COLLAPSE POTENTIAL (ASTM D4546)
(CP)	COMPACTION CURVE (CTM 216)
(CR)	CORROSIVITY TESTING (CTM 643, CTM 422, CTM 417)
(CU)	CONSOLIDATED UNDRAINED TRIAXIAL (ASTM D4767)
(DS)	DIRECT SHEAR (ASTM D3080)
(EI)	EXPANSION INDEX (ASTM D4829)
(M)	MOISTURE CONTENT (ASTM D2216)
(OC)	ORGANIC CONTENT-% (ASTM D2974)
(P)	PERMEABILITY (CTM 220)
(PA)	PARTICLE SIZE ANALYSIS (ASTM D422)
(PI)	PLASTICITY INDEX (AASHTO T 90) LIQUID LIMIT (AASHTO T 89)
(PL)	POINT LOAD INDEX (ASTM D5731)
(PM)	PRESSURE METER
(R)	R-VALUE (CTM 301)
(SE)	SAND EQUIVALENT (CTM 217)
(SG)	SPECIFIC GRAVITY (AASHTO T 100)
(SL)	SHRINKAGE LIMIT (ASTM D4943)
(SW)	SWELL POTENTIAL (ASTM D4546)
(UC)	UNCONFINED COMPRESSION-SOIL (ASTM D2166)
(UU)	UNCONFINED COMPRESSION-ROCK (ASTM D7012 - METHOD C)
(UW)	UNIT WEIGHT (ASTM D7263 - METHOD B)

APPARENT DENSITY OF COHESIONLESS SOILS	
DESCRIPTION	SPT N ₆₀ (BLOWS / 12 INCHES)
VERY LOOSE	0 - 5
LOOSE	5 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	GREATER THAN 50

MOISTURE	
DESCRIPTION	CRITERIA
DRY	NO DISCERNABLE MOISTURE
MOIST	MOISTURE PRESENT, BUT NO FREE WATER
WET	VISIBLE FREE WATER

PERCENT OR PROPORTION OF SOILS	
DESCRIPTION	CRITERIA
TRACE	PARTICLES ARE PRESENT BUT ESTIMATED TO BE LESS THAN 5%
FEW	5% - 10%
LITTLE	15% - 25%
SOME	30% - 45%
MOSTLY	50% - 100%

PARTICLE SIZE		
DESCRIPTION	SIZE	
BOULDER	GREATER THAN 12"	
COBBLE	3" - 12"	
GRAVEL	COARSE	3/4" - 3"
	FINE	1/5" - 3/4"
SAND	COARSE	1/16" - 1/5"
	MEDIUM	1/64" - 1/16"
	FINE	1/300" - 1/64"
SILT AND CLAY	LESS THAN 1/300"	

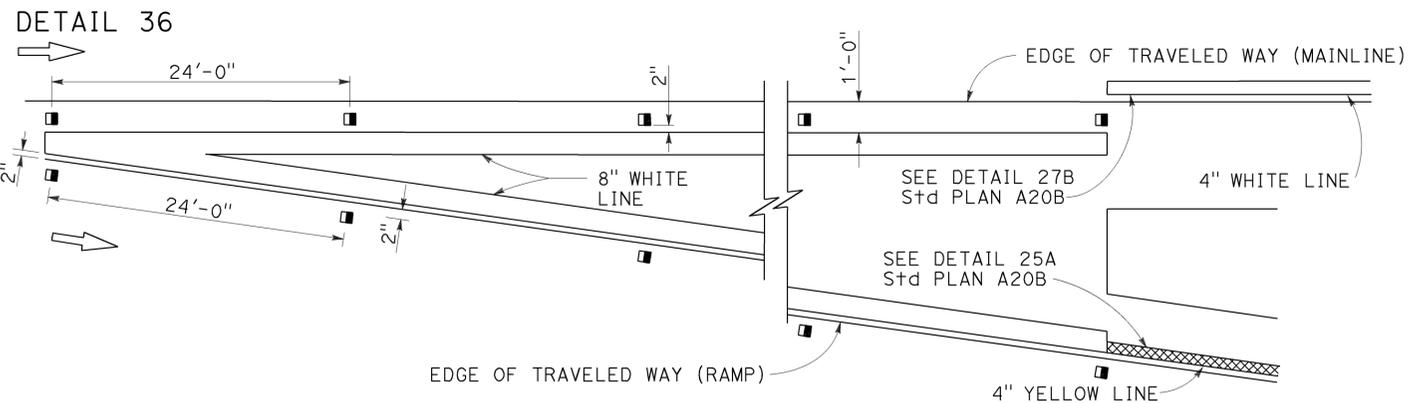
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LEGEND - SOIL
(SHEET 2 OF 2)
 NO SCALE

RSP A10G DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN A10G DATED MAY 20, 2011 - PAGE 7 OF THE STANDARD PLANS BOOK DATED 2010.

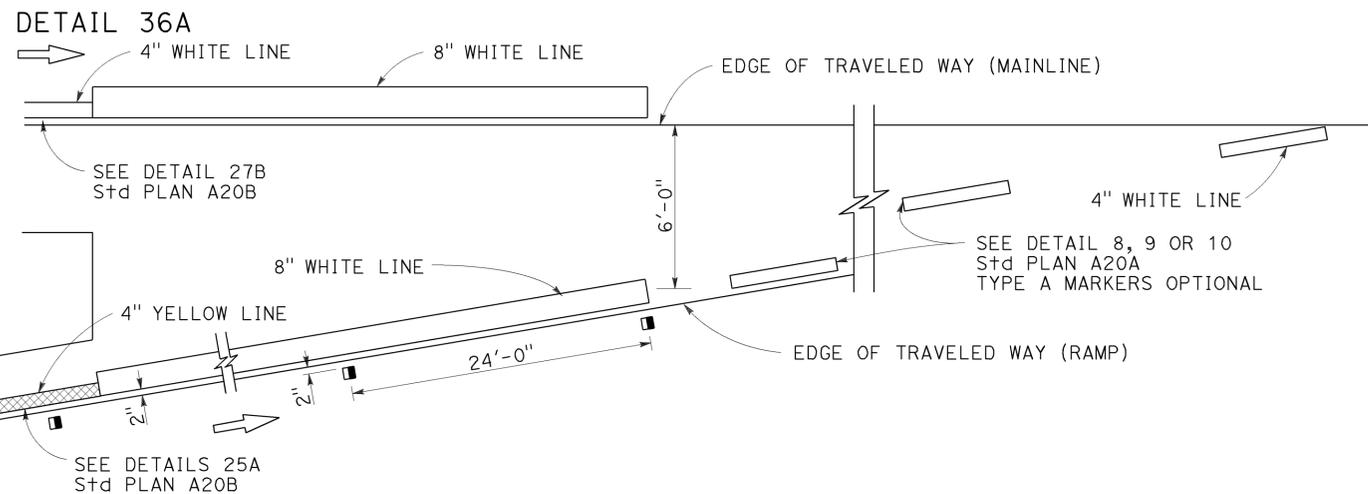
REVISED STANDARD PLAN RSP A10G

2010 REVISED STANDARD PLAN RSP A10G

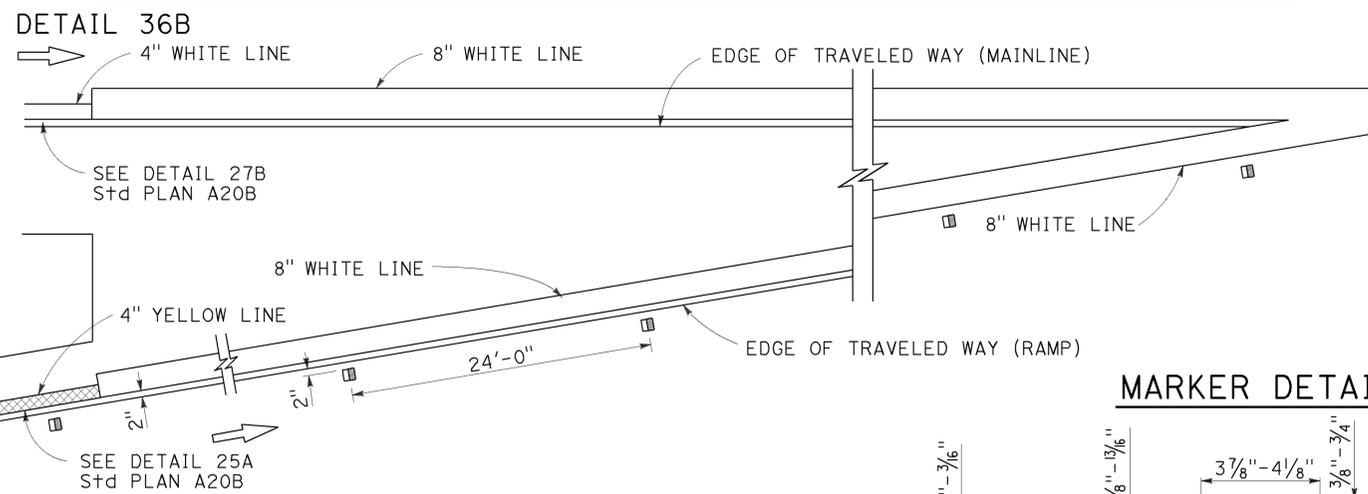
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

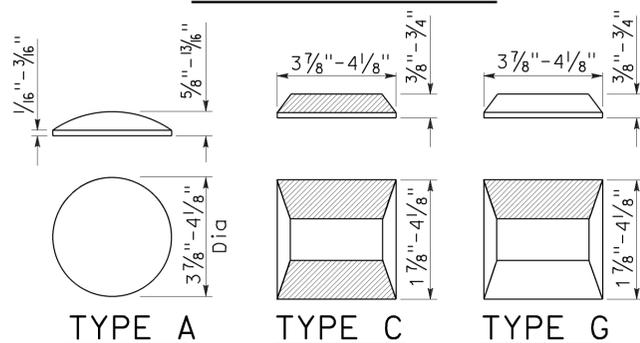


MARKER DETAILS

LEGEND:

MARKERS

- TYPE A WHITE NON-REFLECTIVE
- ◻ TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE



RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 90	Alb SJ	205 SB80	0.0/8.0, 26.1/30.3 13.5/18.4	551	676

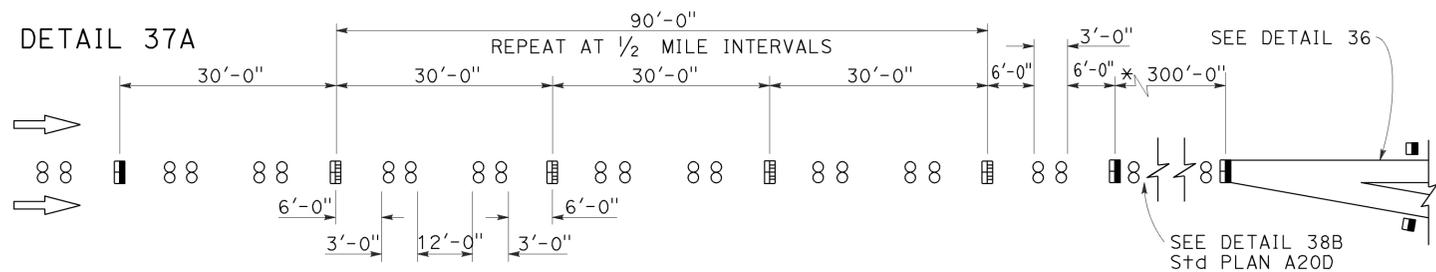
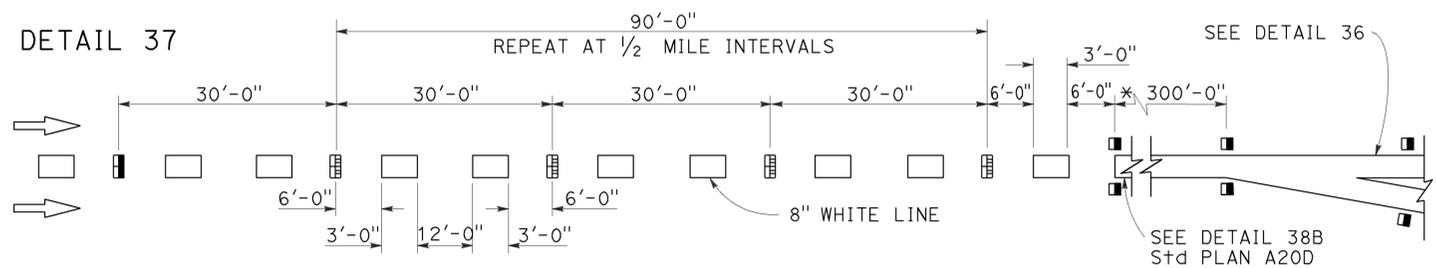
Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 No. C40375
 Exp. 3-31-15
 CIVIL
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

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

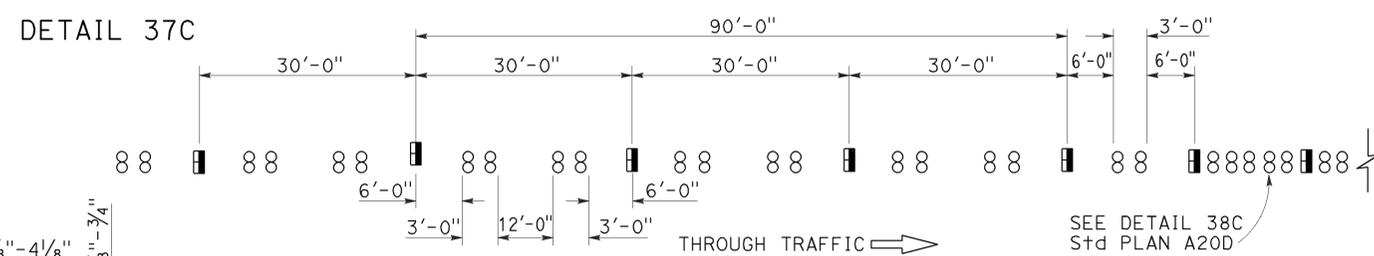
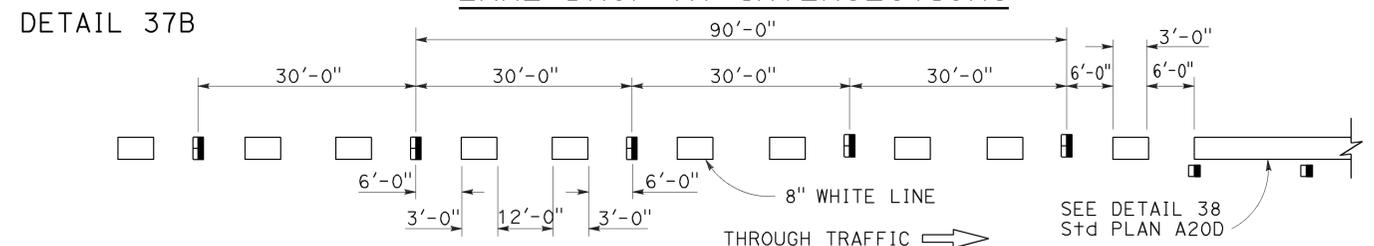
TO ACCOMPANY PLANS DATED 3-28-16

LANE DROP AT EXIT RAMP



* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKERS
 AND TRAFFIC LINE
 TYPICAL DETAILS**
 NO SCALE

RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

2010 REVISED STANDARD PLAN RSP A20C

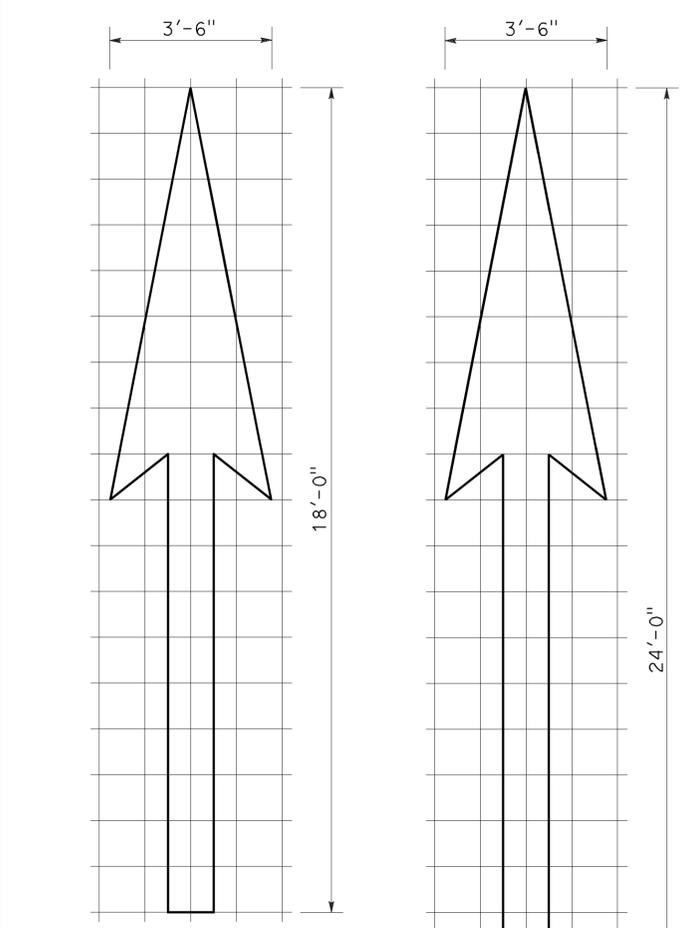
Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
04	Alameda	205	0.0/8.0	552	676
00	Alameda	SR880	0.0/71.0		
			26.1/30.3		
			13.5/15.4		

Registered Professional Engineer
 Roberta L. McLaughlin
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

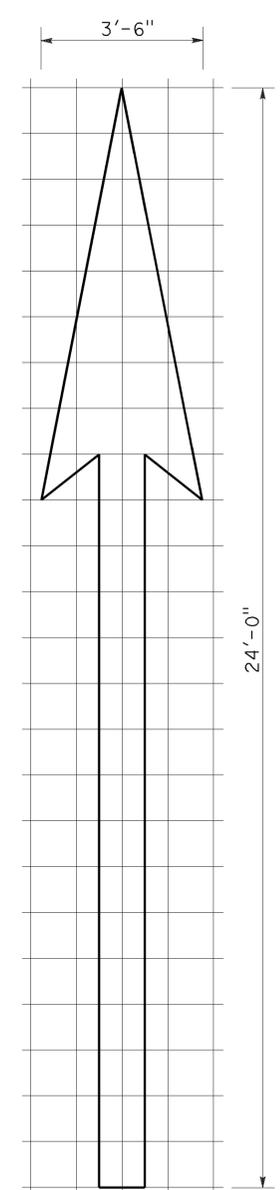
April 20, 2012
 PLANS APPROVAL DATE

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

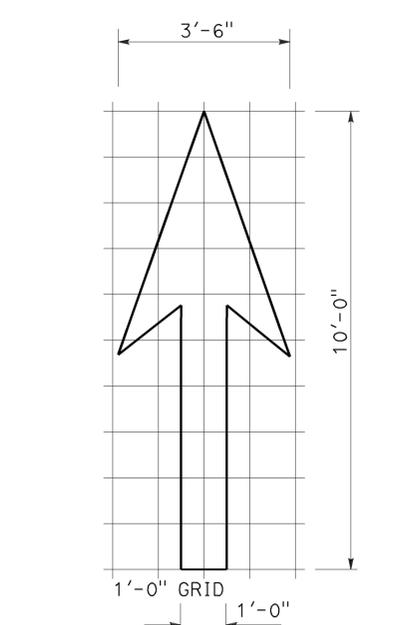
TO ACCOMPANY PLANS DATED 3-28-16



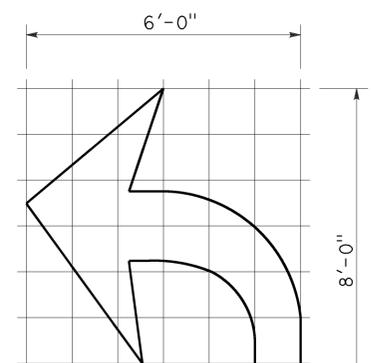
TYPE I 18'-0" ARROW



TYPE I 24'-0" ARROW

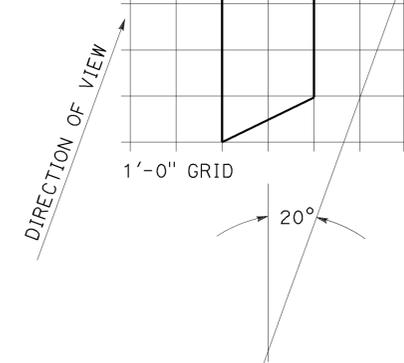


TYPE I 10'-0" ARROW



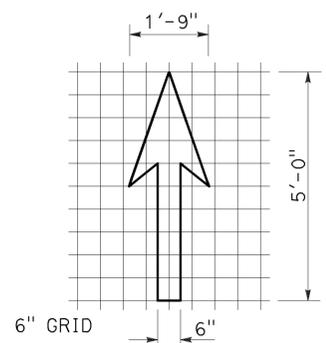
TYPE IV (L) ARROW

(For Type IV (R) arrow, use mirror image)

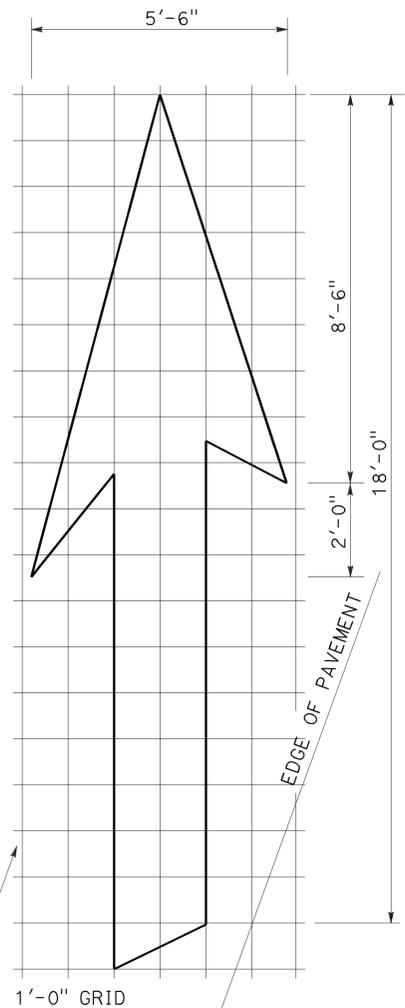


TYPE VI ARROW

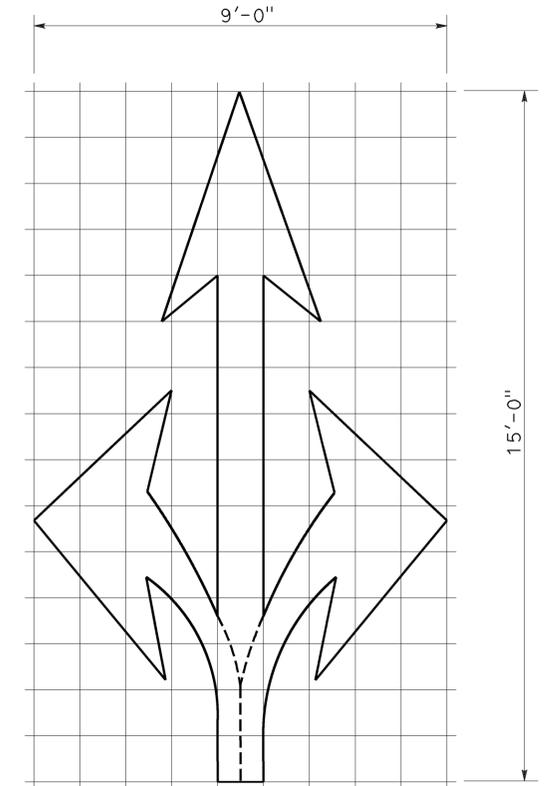
Right lane drop arrow
(For left lane, use mirror image)



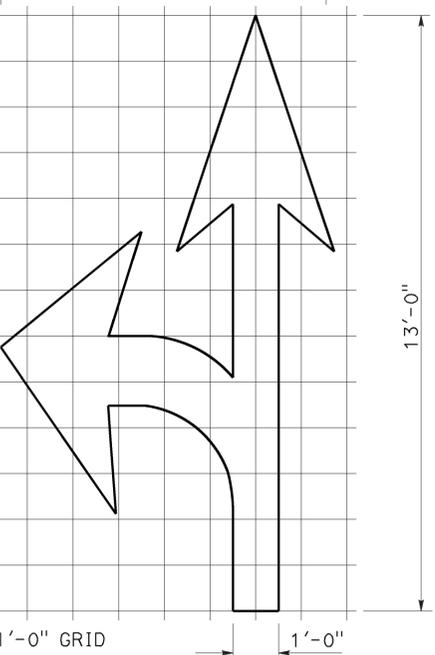
BIKE LANE ARROW



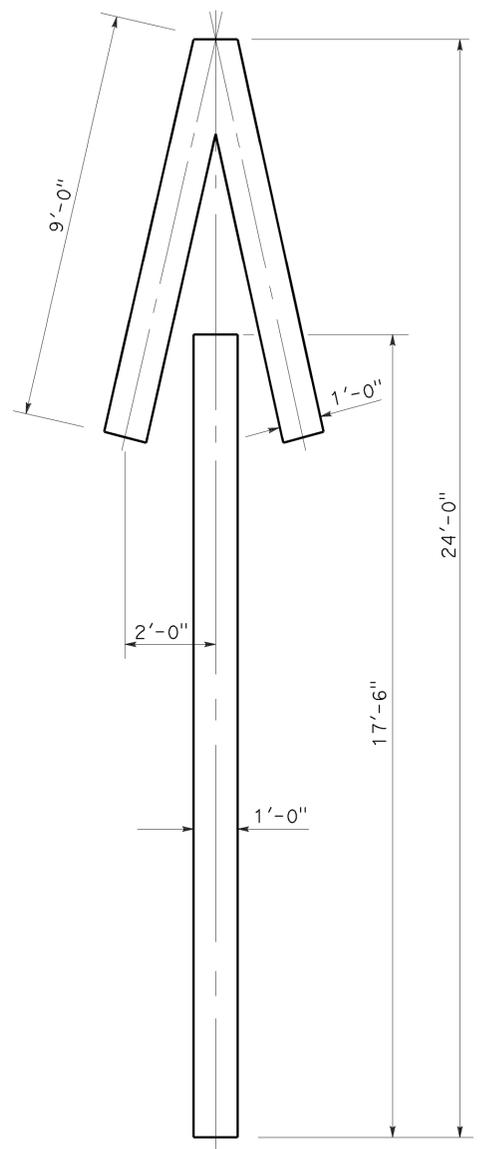
TYPE VIII ARROW



TYPE VII (L) ARROW



(For Type VII (R) arrow, use mirror image)



TYPE V ARROW

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
ARROWS**
NO SCALE

NOTE:
Minor variations in dimensions may be accepted by the Engineer.

RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

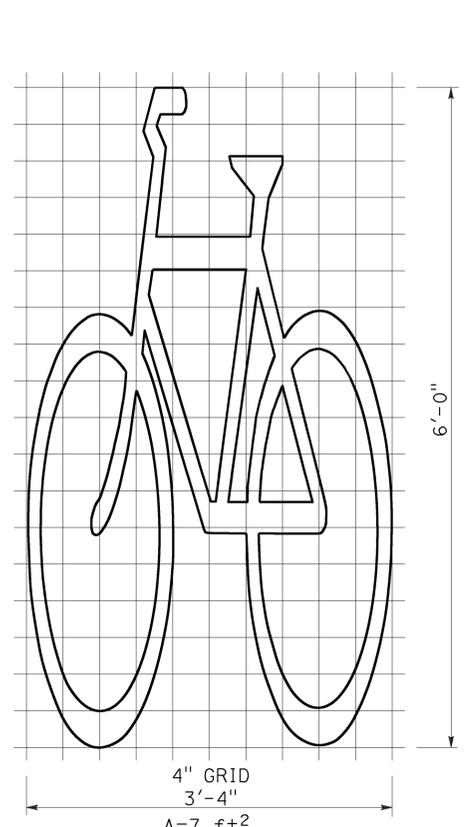
2010 REVISED STANDARD PLAN RSP A24A

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
04	Alb	205	0.0	553	676
010	SJ	SR80	8.0		
			TOTAL PROJECT		
			0.0		
			26.1		
			13.5		
			215.4		

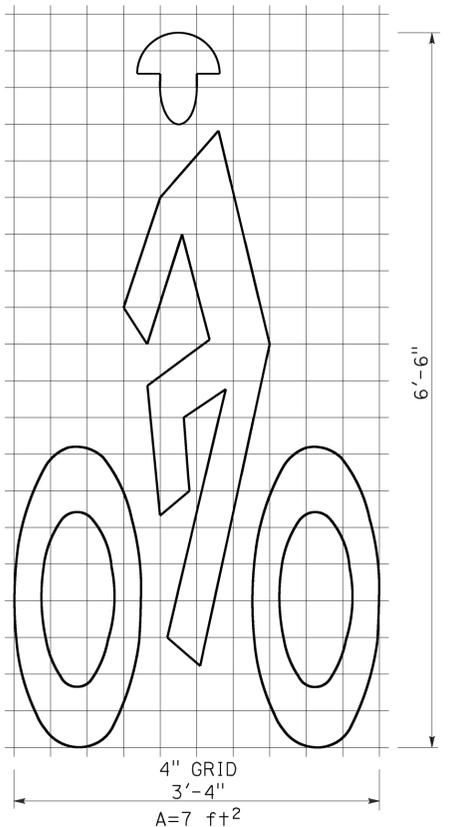
Registered Professional Engineer
 Roberto L. McLaughlin
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

October 19, 2012
 PLANS APPROVAL DATE

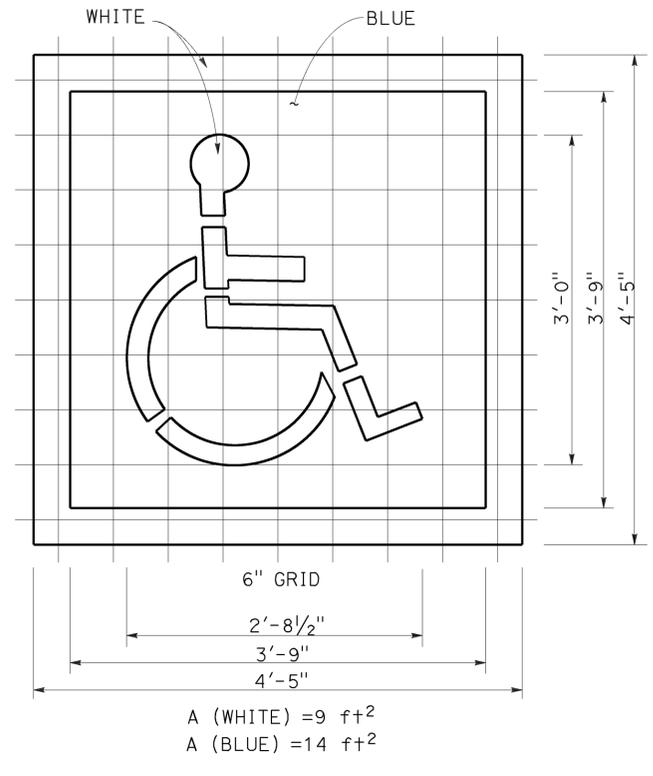
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



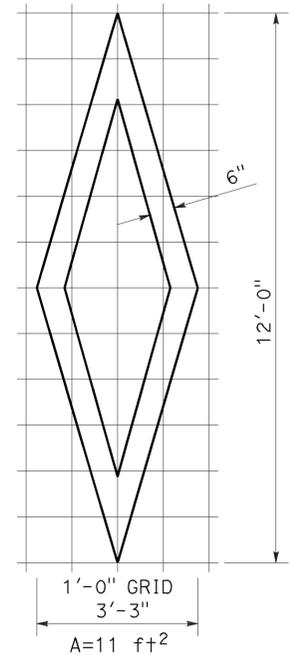
BIKE LANE SYMBOL WITHOUT PERSON



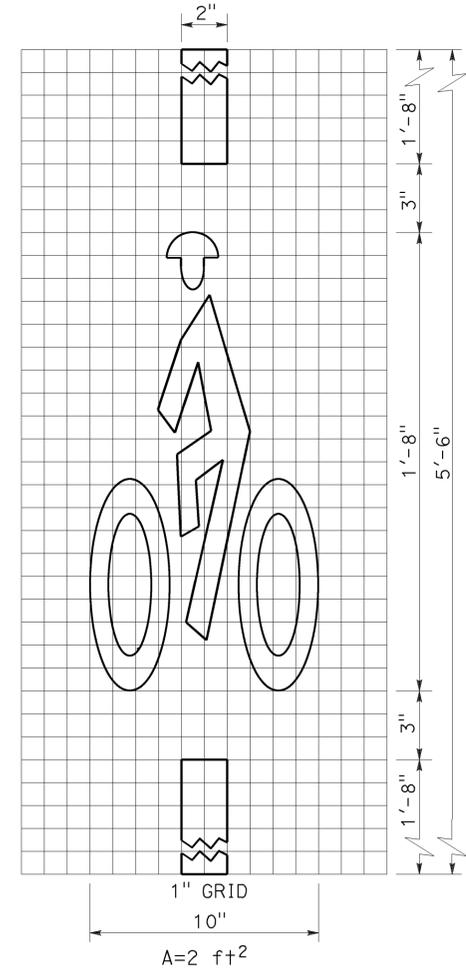
BIKE LANE SYMBOL WITH PERSON



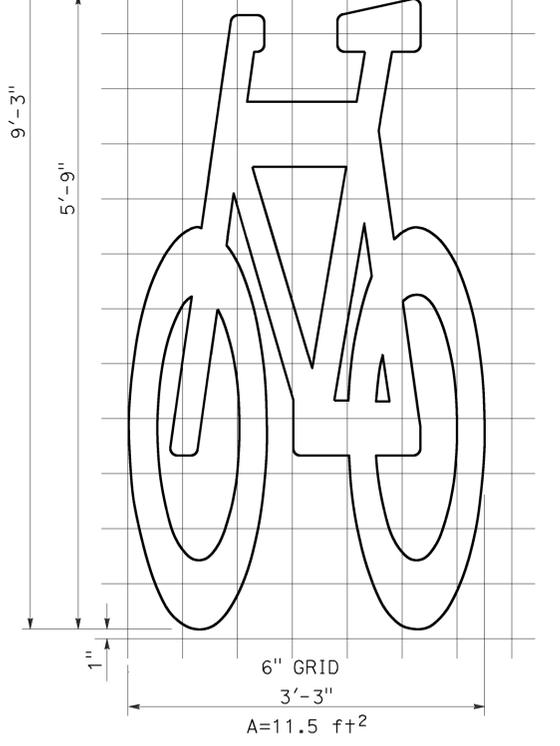
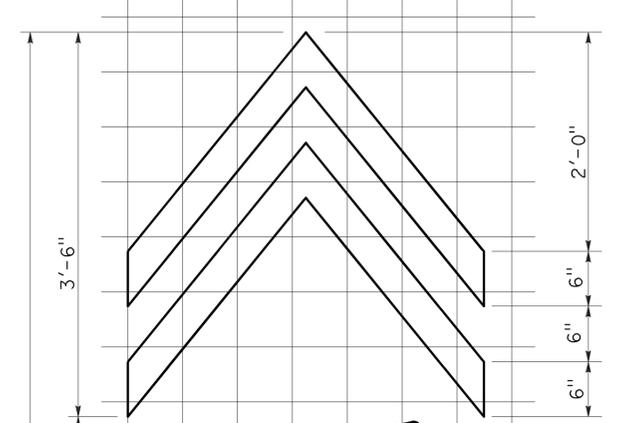
INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING



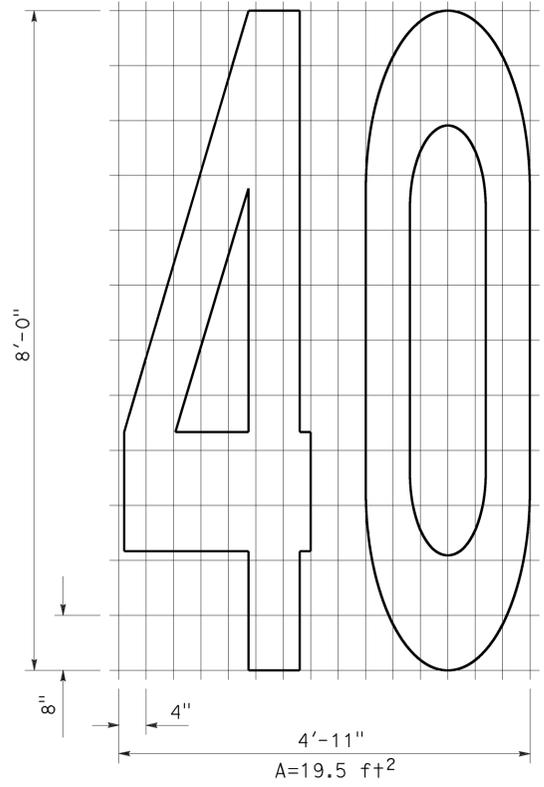
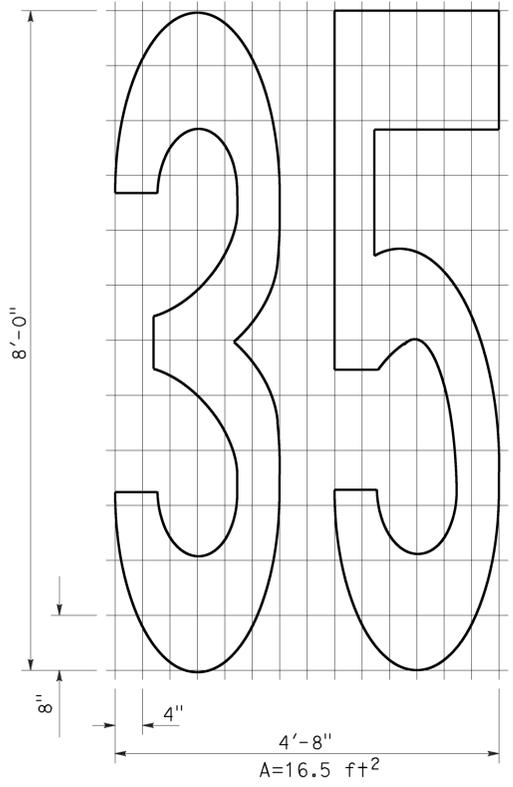
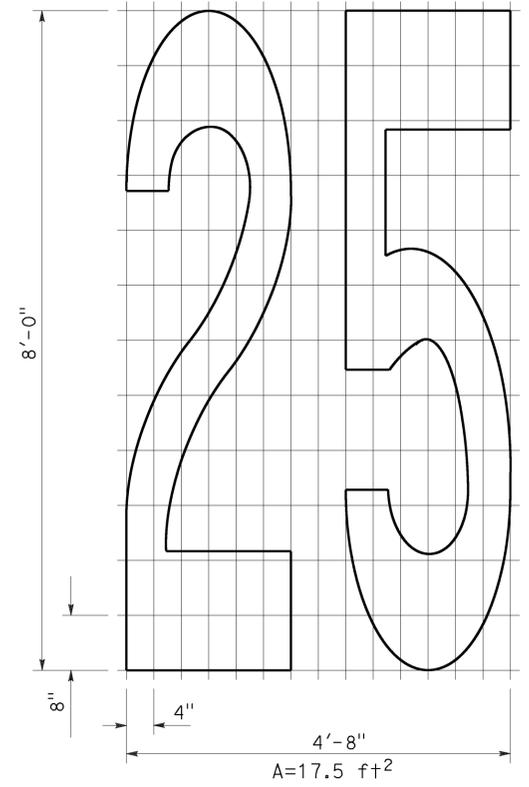
DIAMOND SYMBOL



BICYCLE LOOP DETECTOR SYMBOL



SHARED ROADWAY BICYCLE MARKING



NUMERALS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS SYMBOLS AND NUMERALS
 NO SCALE

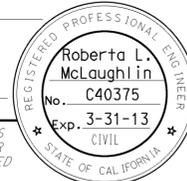
RSP A24C DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A24C DATED MAY 20, 2011 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24C

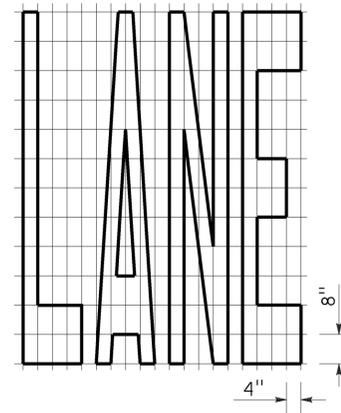
2010 REVISED STANDARD PLAN RSP A24C

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
04	Alameda	205	TOTAL PROJECT	No.	SHEETS
04	Alameda	205	0.0/8.0	554	676
00	SJ	580	26.1/30.3		
			13.5/15.4		

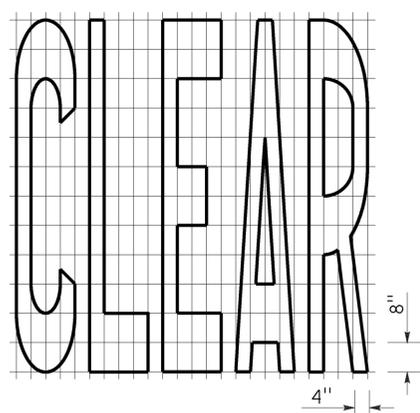
Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 July 20, 2012
 PLANS APPROVAL DATE
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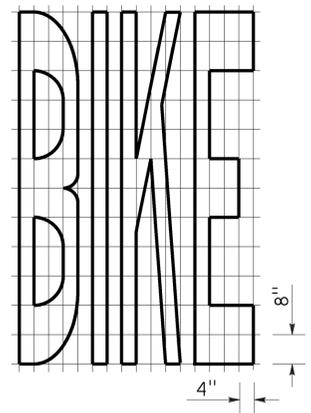
TO ACCOMPANY PLANS DATED 3-28-16



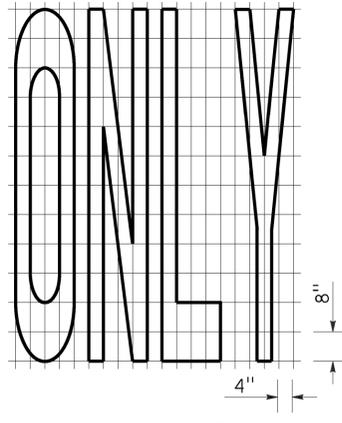
A=24 ft²



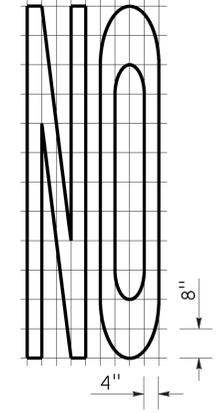
A=27 ft²



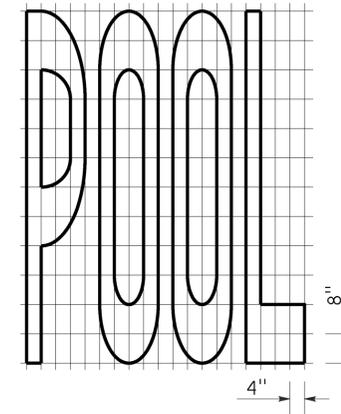
A=21 ft²



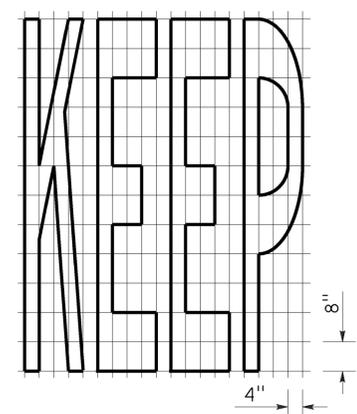
A=22 ft²



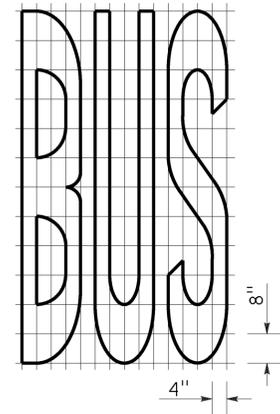
A=14 ft²



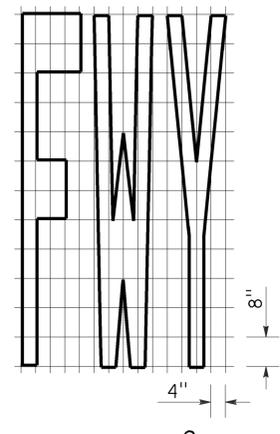
A=23 ft²



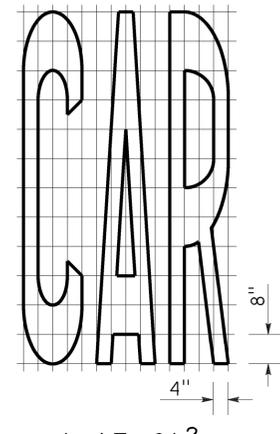
A=24 ft²



A=20 ft²



A=16 ft²

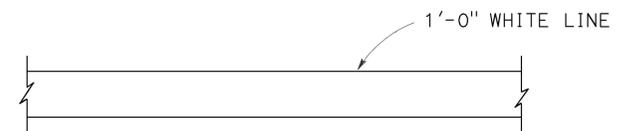
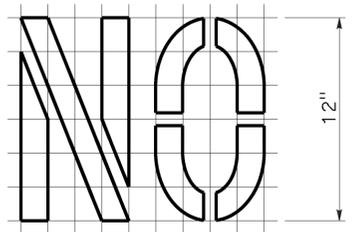


A=17 ft²

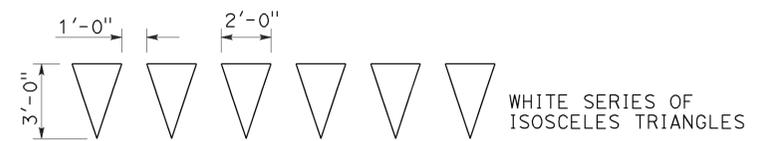
WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16

NOTES:

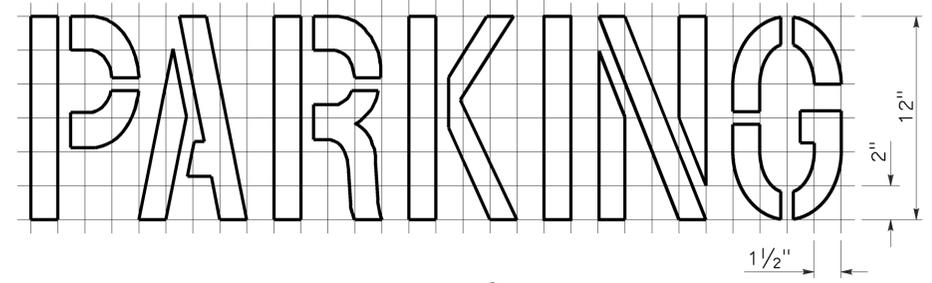
- If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
- The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
- Minor variations in dimensions may be accepted by the Engineer.
- Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
- The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
- The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.



LIMIT LINE (STOP LINE)



YIELD LINE



A=2 ft²
See Notes 6 and 7

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES
NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

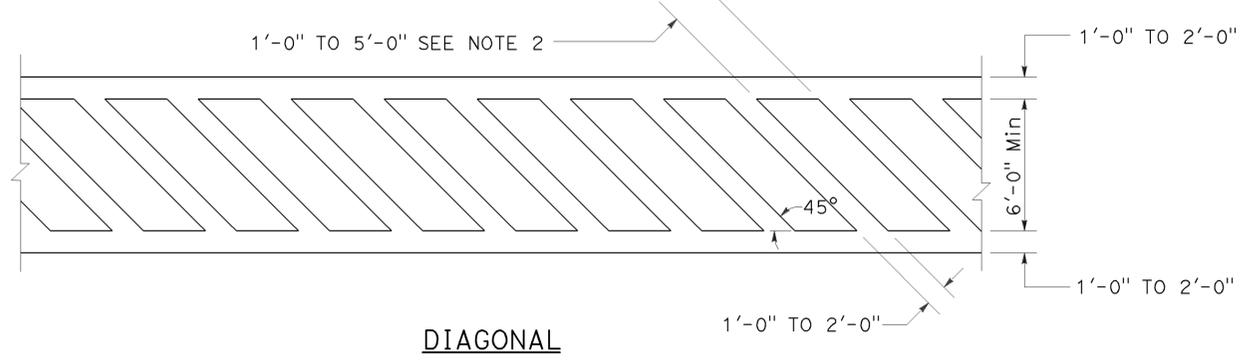
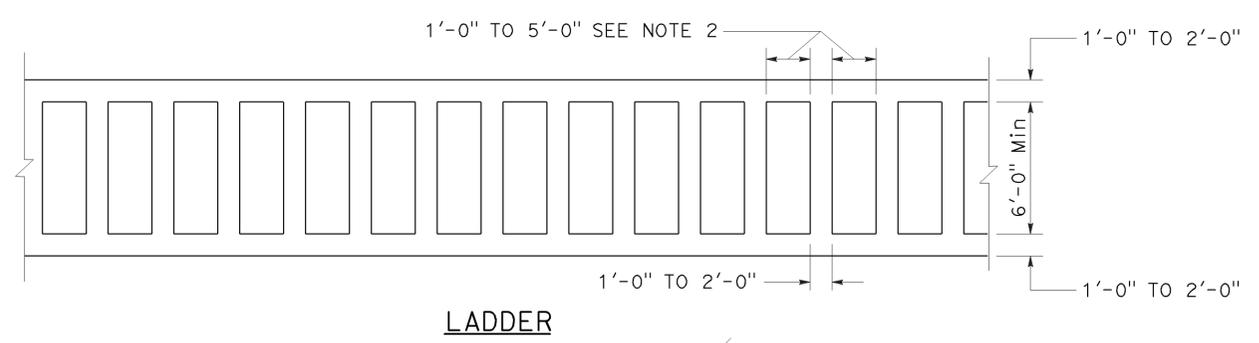
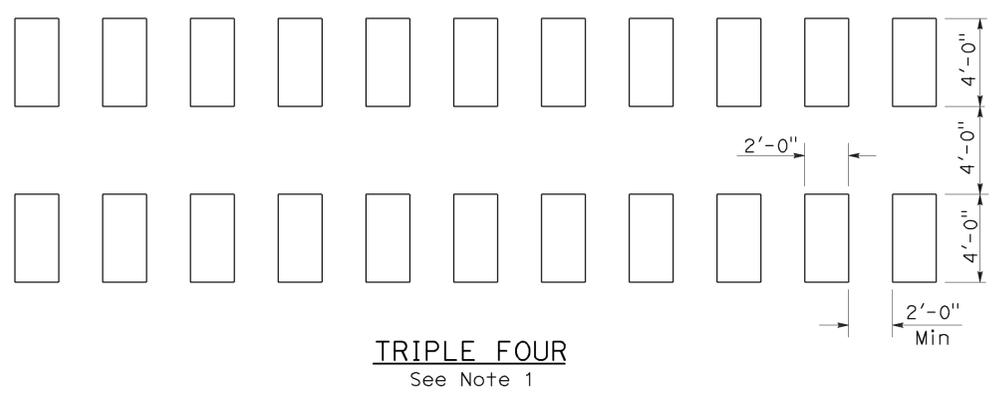
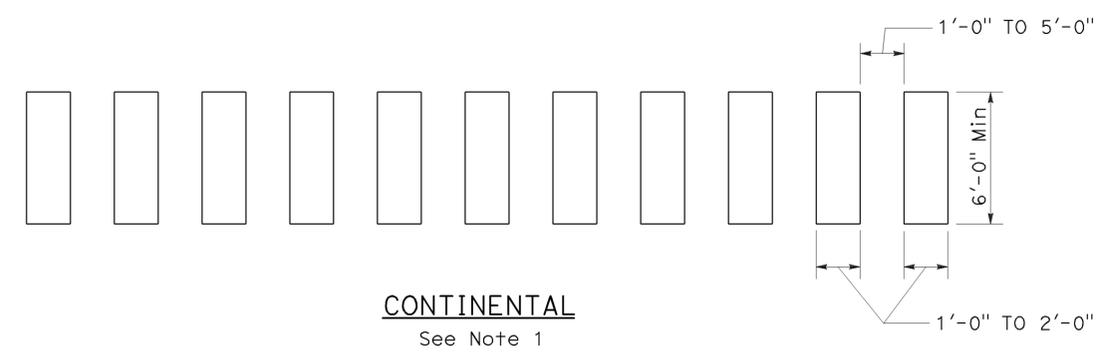
2010 REVISED STANDARD PLAN RSP A24E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 04 00	Alb Alb SJ	205 580 580	0.0/8.0/26.0 13.5/18.4	555	676

Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 July 20, 2012
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 3-28-16

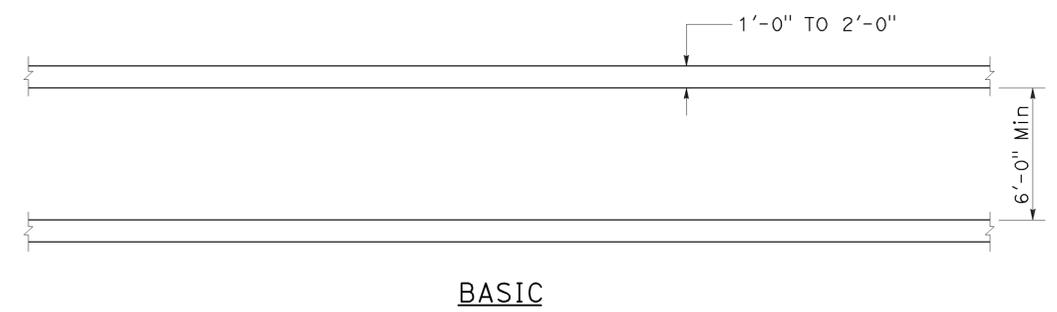
2010 REVISED STANDARD PLAN RSP A24F



HIGHER VISIBILITY CROSSWALKS

NOTES:

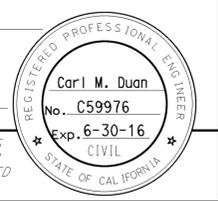
1. Spaces between markings should be placed in wheel tracks of each lane.
2. Spacings not to exceed 2.5 times width of longitudinal line.
3. All crosswalk markings must be white except for those near schools must be yellow.



BASIC

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
CROSSWALKS**
NO SCALE

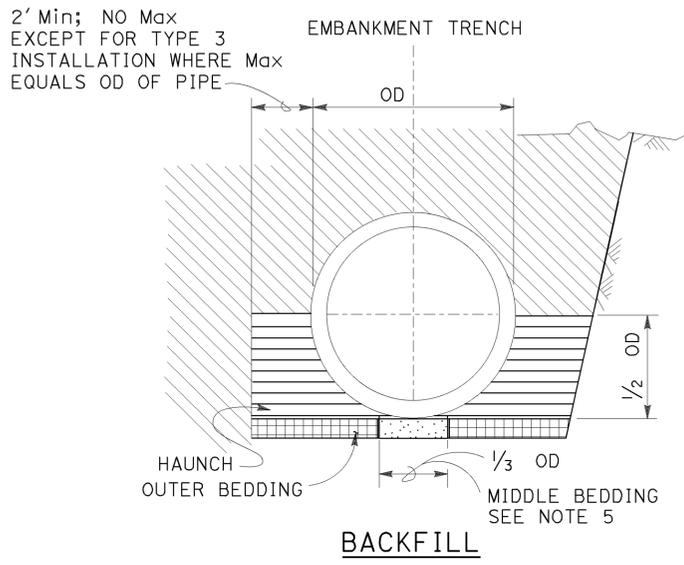
RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED 2010.



TO ACCOMPANY PLANS DATED 3-28-16

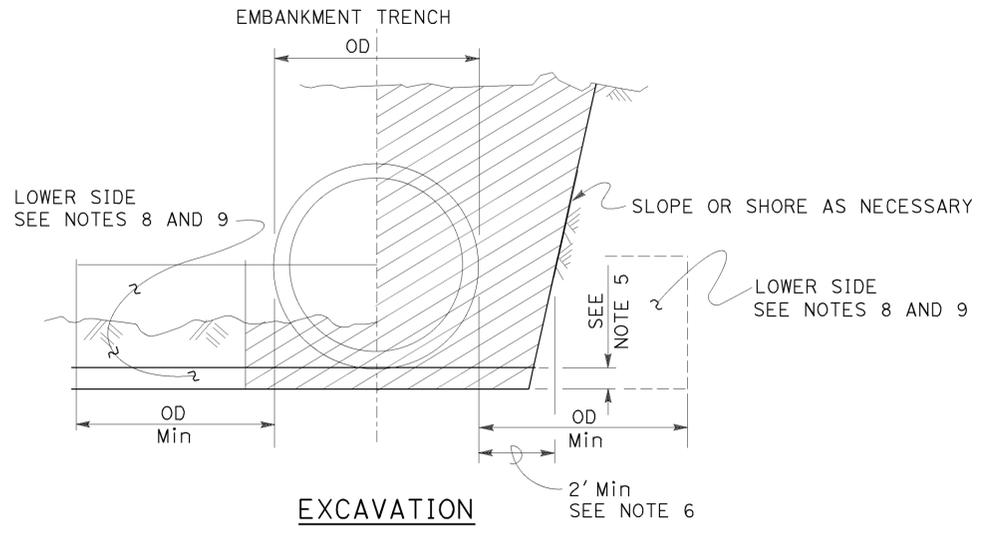
DESIGN NOTES:

- Design: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments. ACPA DESIGN DATA 1, October 2007. INDIRECT DESIGN METHOD
- Soil: w Fe = 162 pcf Installation Type 1
 w Fe = 168 pcf Installation Types 2 & 3
 w = Unit weight of soil (pcf)
 Fe = Soil-structure interaction factor



LEGEND:

-  ROADWAY EMBANKMENT
-  STRUCTURE BACKFILL (CULVERT) FOR HAUNCH SEE NOTE 6
-  STRUCTURE BACKFILL (CULVERT) FOR OUTER BEDDING SEE NOTE 6
-  LOOSE BACKFILL
-  STRUCTURE EXCAVATION (CULVERT)



INSTALLATION TYPE 1:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 30 and the maximum percentage passing the No. 200 sieve size shall be 12.

INSTALLATION TYPE 2:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 25.

INSTALLATION TYPE 3:

The haunch and outer bedding shall be compacted to a minimum 85 percent relative compaction. 90 percent relative compaction will be required where the fill over the pipe is less than 4'-0" or 1/2 OD. In addition, the minimum sand equivalent in these areas shall be 25 and the material shall not contain rocks, broken concrete, or other solid material exceeding 3" in greatest dimension.

INSTALLATION TYPE 1

MINIMUM CLASS AND D-LOAD	COVER	
	60" Dia AND SMALLER	OVER 60" Dia TO 120" Dia Max
CLASS II 1000D	14.9'	12.9'
CLASS III 1350D	15.0' - 21.9'	13.0' - 18.9'
CLASS III SPECIAL 1700D	22.0' - 27.9'	19.0' - 24.9'
CLASS IV 2000D	28.0' - 32.9'	25.0' - 29.9'
CLASS IV SPECIAL 2500D	33.0' - 41.9'	30.0' - 38.9'
CLASS V 3000D	42.0' - 49.9'	39.0' - 46.9'
CLASS V SPECIAL 3600D	50.0' - 60.0'	47.0' - 58.0'

INSTALLATION TYPE 2

MINIMUM CLASS AND D-LOAD	COVER	
	60" Dia AND SMALLER	OVER 60" Dia TO 120" Dia Max
CLASS II 1000D	11.9'	9.9'
CLASS III 1350D	12.0' - 15.9'	10.0' - 14.9'
CLASS III SPECIAL 1700D	16.0' - 20.9'	15.0' - 19.9'
CLASS IV 2000D	21.0' - 24.9'	20.0' - 23.9'
CLASS IV SPECIAL 2500D	25.0' - 31.9'	24.0' - 30.9'
CLASS V 3000D	32.0' - 37.9'	31.0' - 37.9'
CLASS V SPECIAL 3600D	38.0' - 46.0'	38.0' - 46.0'

INSTALLATION TYPE 3

MINIMUM CLASS AND D-LOAD	COVER	
	60" Dia AND SMALLER	OVER 60" Dia TO 120" Dia Max
CLASS II 1000D	8.9'	5.9'
CLASS III 1350D	9.0' - 11.9'	6.0' - 10.9'
CLASS III SPECIAL 1700D	12.0' - 15.9'	11.0' - 13.9'
CLASS IV 2000D	16.0' - 18.9'	14.0' - 17.9'
CLASS IV SPECIAL 2500D	19.0' - 24.9'	18.0' - 22.9'
CLASS V 3000D	25.0' - 29.9'	23.0' - 28.9'
CLASS V SPECIAL 3600D	30.0' - 36.0'	29.0' - 35.0'

NOTES:

- Unless otherwise shown on the plans or specified in the special provision, the Contractor shall have the option of selecting the class of RCP and the type of installation to be used, provided the height of cover does not exceed the value shown for the RCP selected.
 Example: 24" RCP culvert with maximum cover of 24'-0" the options are:
 a) Class III Special or stronger with Installation Type 1.
 b) Class IV or stronger with Installation Type 2.
 c) Class V Special or stronger with Installation Type 3.
 Cover is defined as the maximum vertical distance from top of the pipe to finished grade within the length of any given culvert.
- The class of RCP and Installation Type selected shall be the same throughout the length of any given culvert.
- The "length of any culvert" is defined as the culvert between:
 a) Successive drainage structure (inlets, junction boxes, headwalls, etc.).
 b) A drainage structure and the inlet or outlet end of the culvert.
 c) The inlet and outlet end of the culvert when there are no intervening drainage structures.
- Oval and arch shaped RCP shall not be used.
- Bedding depth: 1/25 OD Min, not less than 3".
- Slurry cement backfill may be substituted for backfill in the outer bedding and haunch areas. If slurry is used, the outer and middle beddings shall be omitted. Prior to installation, the soil under the middle 1/3 of the outside diameter of the pipe shall be softened by scarifying or other means to a minimum depth of 1/25 OD, but not less than 3". Where slurry cement backfill is used, clear distance to trench wall may be reduced as set forth in the Standard Specifications.
- Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimum.
- Lower side shall be suitable material as determined by the Engineer. Otherwise it shall be considered unsuitable as set forth in of the Standard Specifications. See Note 9.
- Where the pipe is placed in a trench, if the trench walls are sloped at 5 vertical to 1 horizontal or steeper for at least 90 percent of the trench height or up to not less than 12" from the grading plane, the firmness of the soil in the lower side need not be considered.
- Non-reinforced precast concrete pipe sizes 3'-0" or smaller may be placed under installation Types 1, 2 or 3.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**EXCAVATION AND BACKFILL
 CONCRETE PIPE CULVERTS
 INDIRECT DESIGN METHOD**
 NO SCALE

RSP A62DA DATED JULY 18, 2014 SUPERSEDES STANDARD PLAN A62DA DATED MAY 20, 2011 - PAGE 24 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A62DA

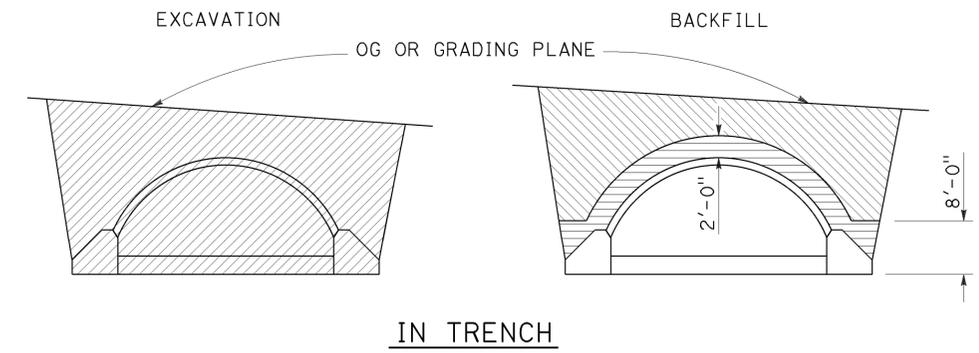
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/8.0	557	676
04	Alameda	205	0.0/8.0	557	676

REGISTERED CIVIL ENGINEER
October 30, 2015
 PLANS APPROVAL DATE

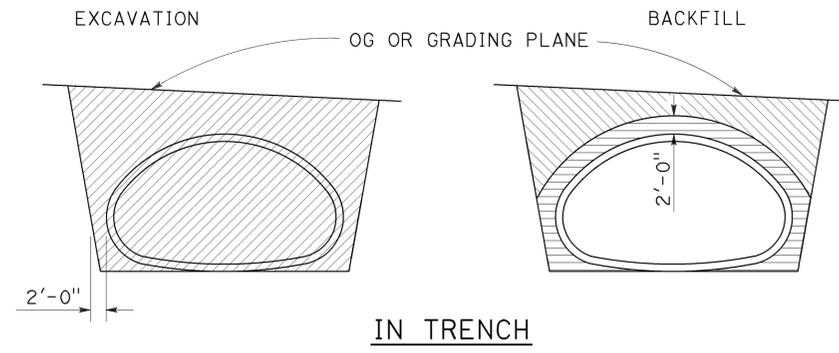
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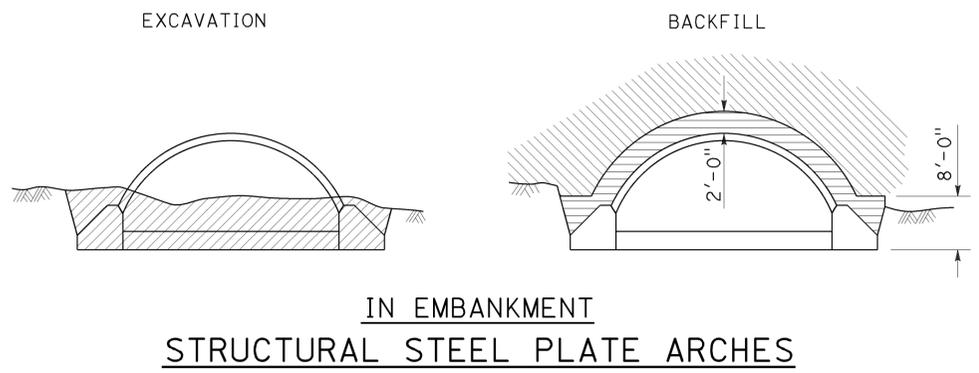
TO ACCOMPANY PLANS DATED 3-28-16



IN TRENCH

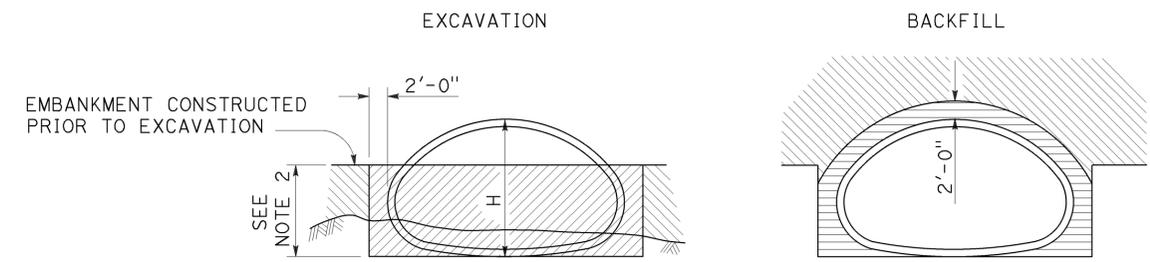


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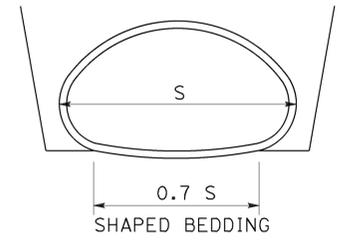
IN EMBANKMENT

STRUCTURAL STEEL PLATE ARCHES

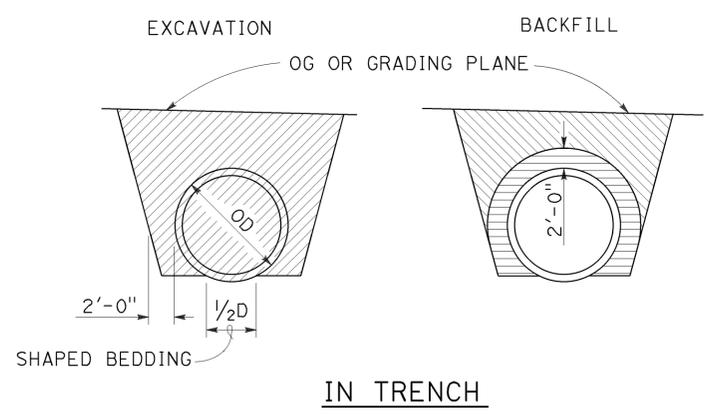


IN EMBANKMENT

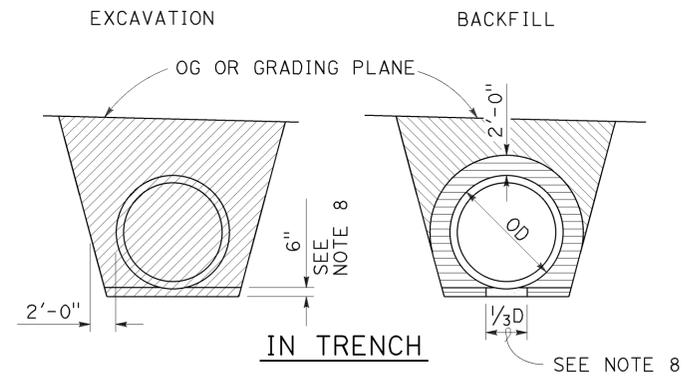
STRUCTURAL STEEL PLATE PIPE ARCHES AND VEHICULAR UNDERCROSSING



SHAPED BEDDING
S = Larger than 84"



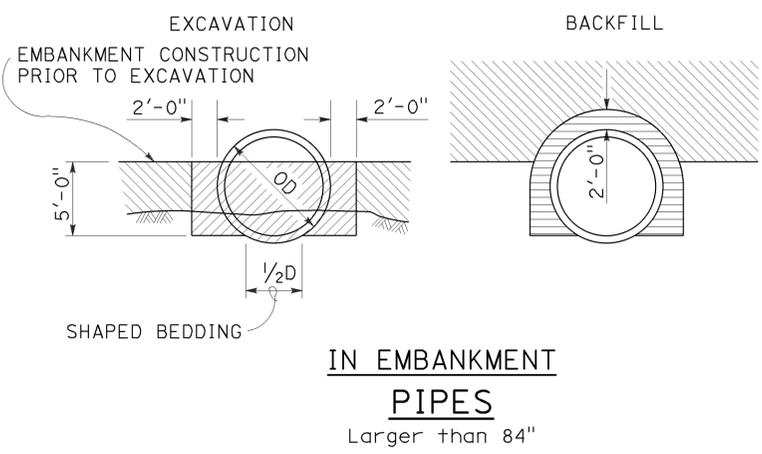
IN TRENCH



IN TRENCH

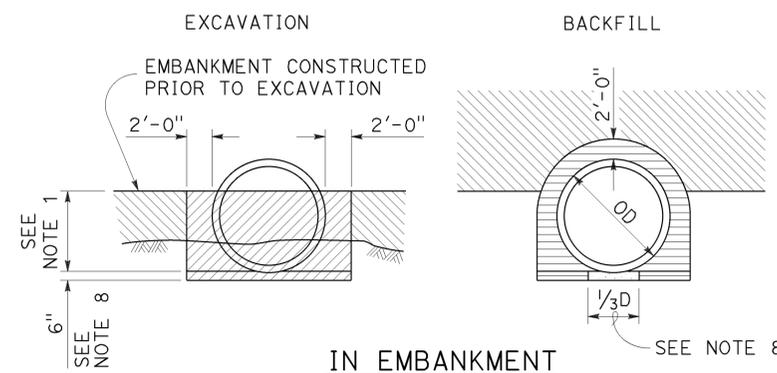
NOTES:

1. PIPES: 30" minimum for diameters up to and including 42" then 2/3 diameter but no more than 60" required. CORRUGATED METAL PIPE ARCHES: 30" maximum.
2. 2/3 H up to 60" maximum.
3. Slope or shore excavation sides as necessary.
4. Backfill shall be placed full width of excavation except as noted.
5. Diagrams do not apply to overside drains.
6. Dimensions shown are minimum.
7. Construction strutting of structural steel plate pipe, arches and vehicular undercrossing to be used when shown on the project plans. When shown, see Standard Plan D88A for strutting requirements.
8. Excavation below pipe and 80% relative compaction requirements for plastic pipes only.
9. D is the inside diameter (ID) of the pipe.



IN EMBANKMENT

PIPES
Larger than 84"



IN EMBANKMENT

METAL AND PLASTIC PIPES AND CORRUGATED METAL PIPE ARCHES

84" or Smaller

LEGEND

- [Hatched pattern] STRUCTURE EXCAVATION (CULVERT)
- [Hatched pattern] ROADWAY EMBANKMENT
- [Hatched pattern] STRUCTURE BACKFILL (CULVERT) 95% RELATIVE COMPACTION
- [Hatched pattern] STRUCTURE BACKFILL (CULVERT) 80% RELATIVE COMPACTION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

EXCAVATION AND BACKFILL METAL AND PLASTIC CULVERTS

NO SCALE

RSP A62F DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN A62F DATED MAY 20, 2011 - PAGE 26 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A62F

2010 REVISED STANDARD PLAN RSP A62F

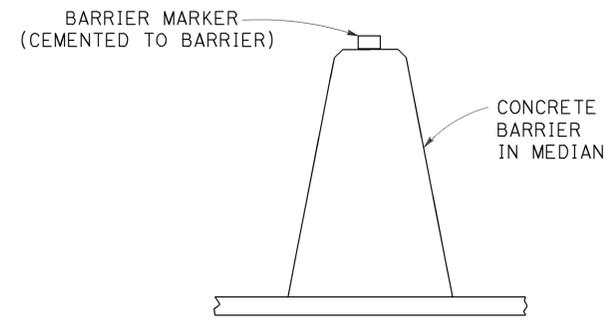
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071	558	676
04	Alameda	205	0.071	558	676
04	San Joaquin	9880	13.571	558	676

Randell D. Hiatt
 REGISTERED CIVIL ENGINEER
 No. C50200
 Exp. 6-30-17
 CIVIL
 STATE OF CALIFORNIA

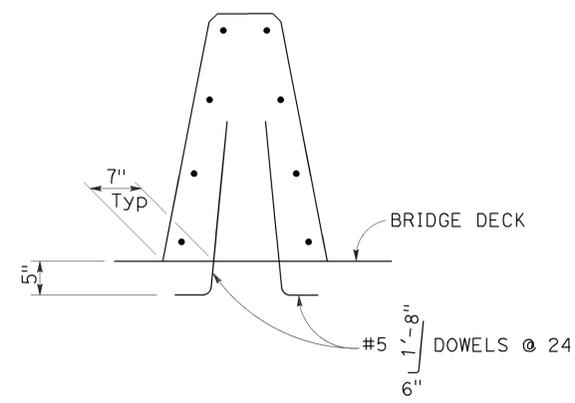
October 30, 2015
 PLANS APPROVAL DATE

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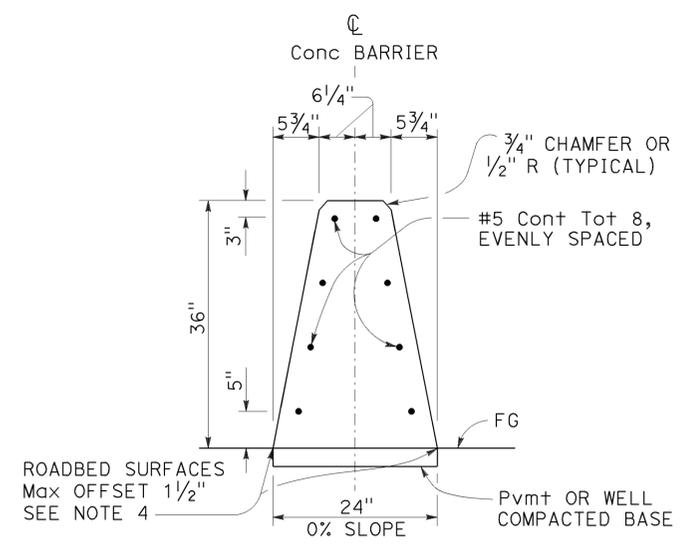
TO ACCOMPANY PLANS DATED 3-28-16



CONCRETE BARRIER TYPE 60 DELINEATION
See Note 5



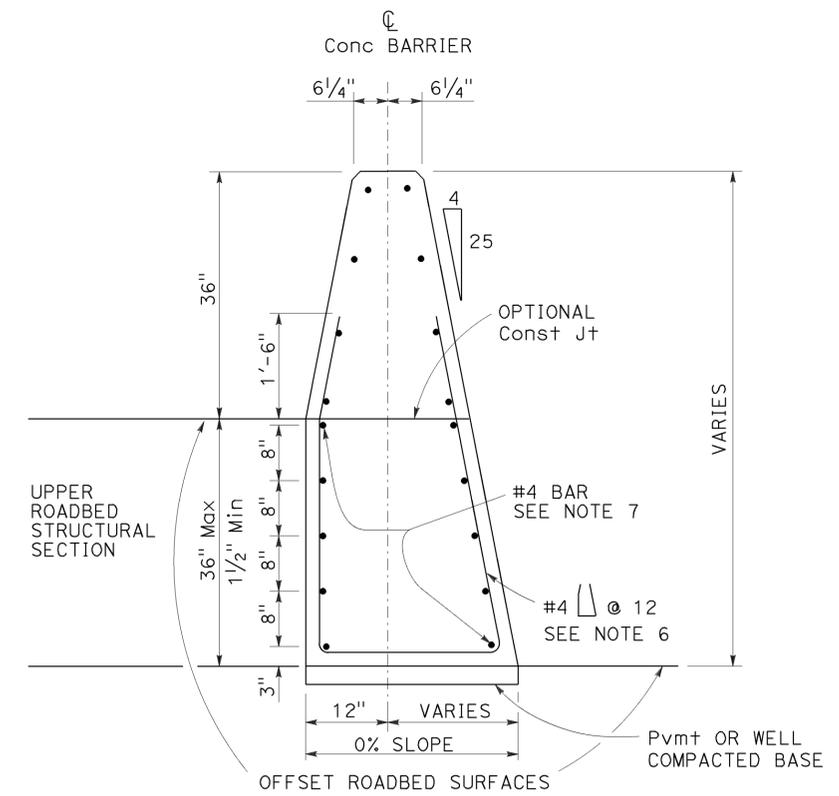
CONCRETE BARRIER TYPE 60A
Details similar to Type 60 except as noted.



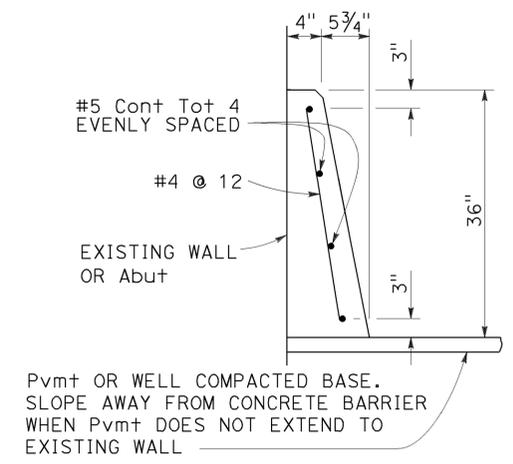
CONCRETE BARRIER TYPE 60

NOTES:

- See Standard Plan A76B for details of Concrete Barrier Type 60 end anchors, connection to structures and transitions to Concrete Barrier Type 50 and Concrete Barrier Type 60S.
- See Revised Standard Plan RSP A76C for Concrete Barrier Type 60 transitions at bridge column and sign pedestals.
- Where glare screen is required on Concrete Barrier Type 60, use Concrete Barrier Type 60G.
- Where roadbed offset is greater than 1 1/2", see Concrete Barrier Type 60C.
- See Project Plans for barrier delineation locations.
- Reinforcing stirrup not required for roadbed offsets less than 1'-0".
- For roadbed surfaces offset greater than 1 1/2" and less than or equal to 3", no reinforcement required. For roadbed surfaces offset greater than 3" and less than or equal to 8", use two #4 Reinf at 3" above the lower roadbed surface. For roadbed surfaces offset greater than 8" and less than or equal to 12", use two #4 Reinf at 3" above the lower roadbed surface and two #4 Reinf at 8" above the lower roadbed surface. For roadbed surfaces offset greater than 12" and less than or equal to 36", use two #4 Reinf at 3" above the lower roadbed surface and two #4 Reinf at every 8" increment vertical spacing above the first two #4 Reinf.



CONCRETE BARRIER TYPE 60C
Details similar to Type 60 except as noted. Use concrete barrier end anchor when necessary. 36" roadbed surfaces offset shown.



CONCRETE BARRIER TYPE 60D

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE BARRIER TYPE 60
NO SCALE

RSP A76A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN A76A DATED MAY 20, 2011 - PAGE 34 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A76A

2010 REVISED STANDARD PLAN RSP A76A

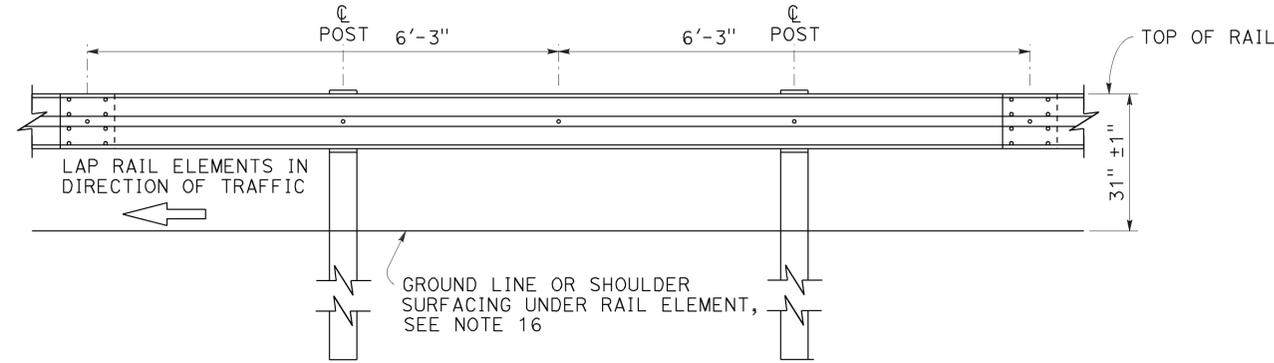
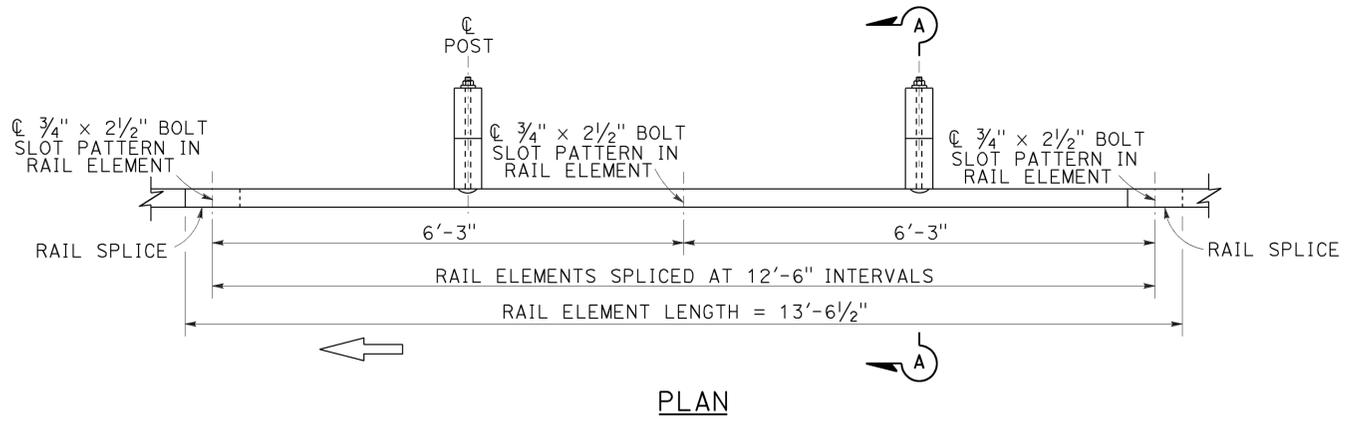
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 10	Alameda San Joaquin	205 9805 9880	0.0/8.0/26.1/30.3 13.5/18.4	559	676

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

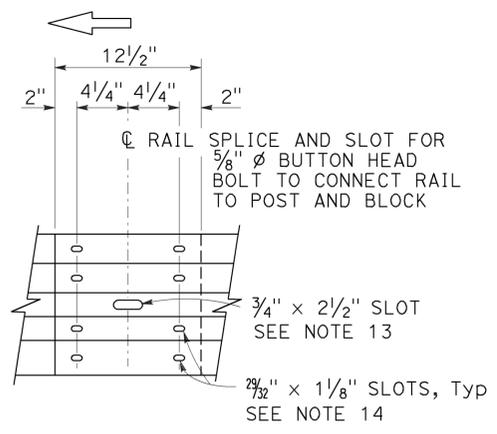
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STATE OF CALIFORNIA



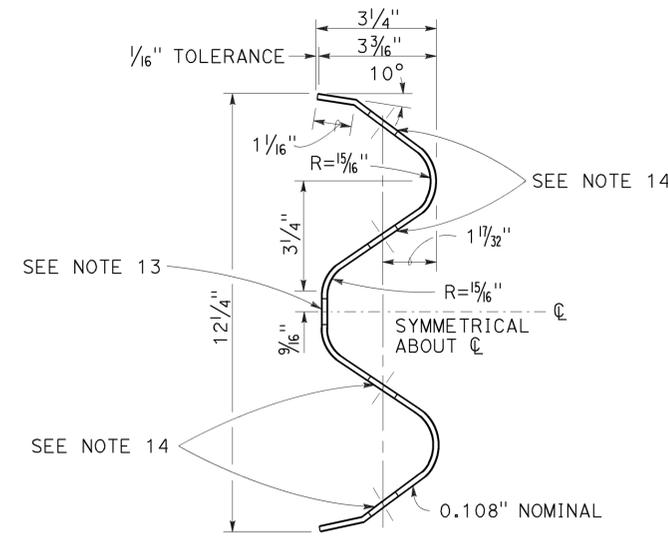
ELEVATION

MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS

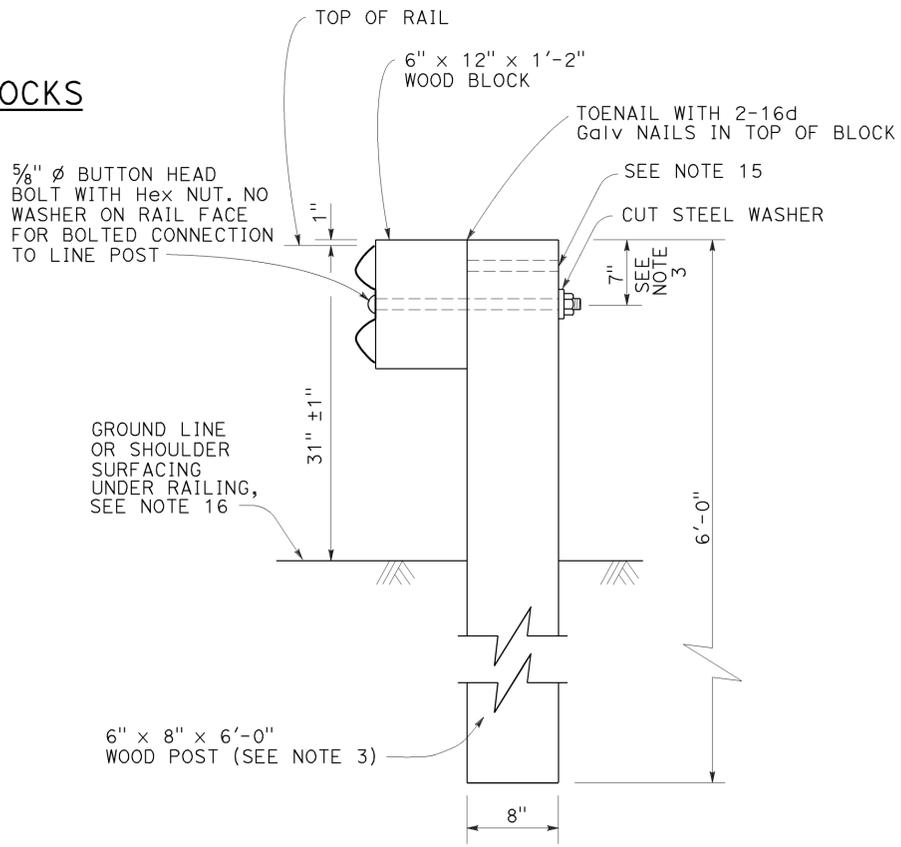


ELEVATION
RAIL ELEMENT SPLICE DETAIL

- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{7}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



SECTION A-A
TYPICAL WOOD LINE POST INSTALLATION

See Note 4

NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MSG connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.

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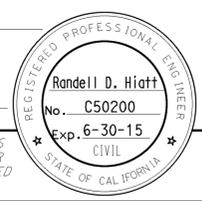
MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH WOOD BLOCK)

NO SCALE

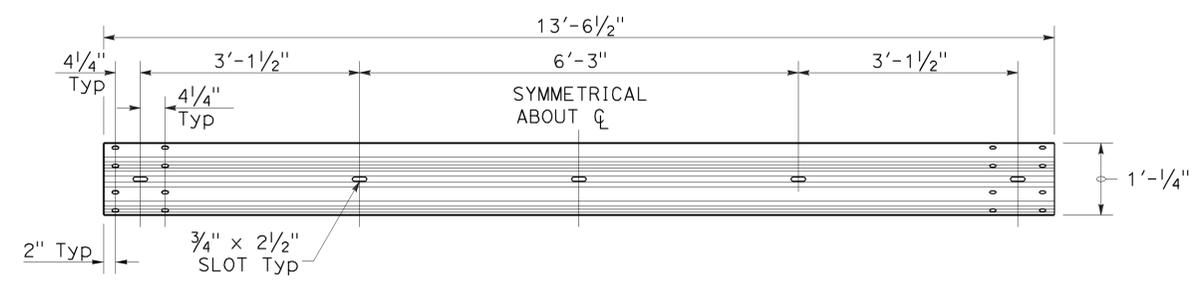
RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1



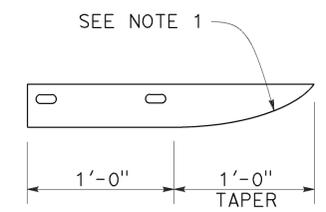
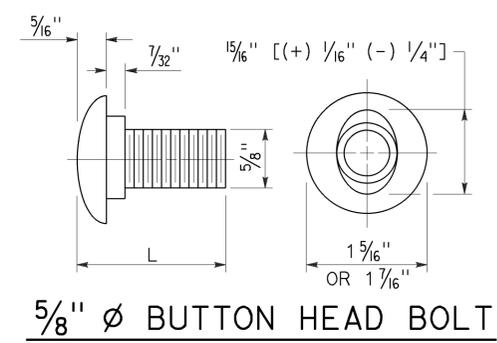
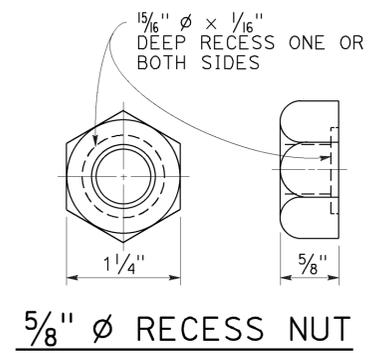
TO ACCOMPANY PLANS DATED 3-28-16



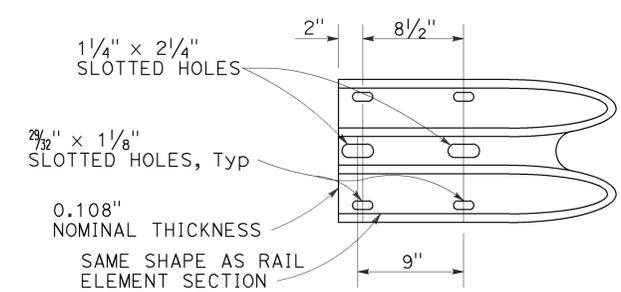
TYPICAL RAIL ELEMENT

NOTE:

- Slotted holes for splice bolts to overlap ends of rail element.



PLAN



ELEVATION
END CAP
(TYPE A)

BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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04	Alameda	205	0.0/8.0	561	676
04	San Joaquin	9880	26.1/30.3	561	676
			13.5/15.4		

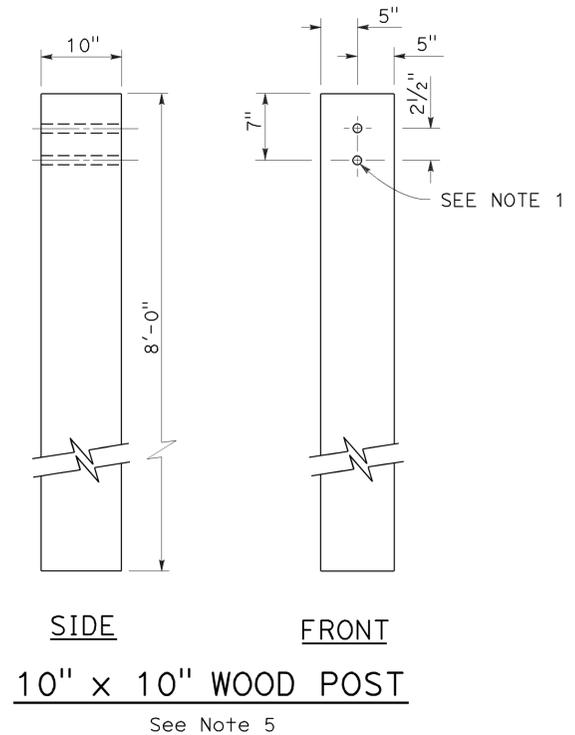
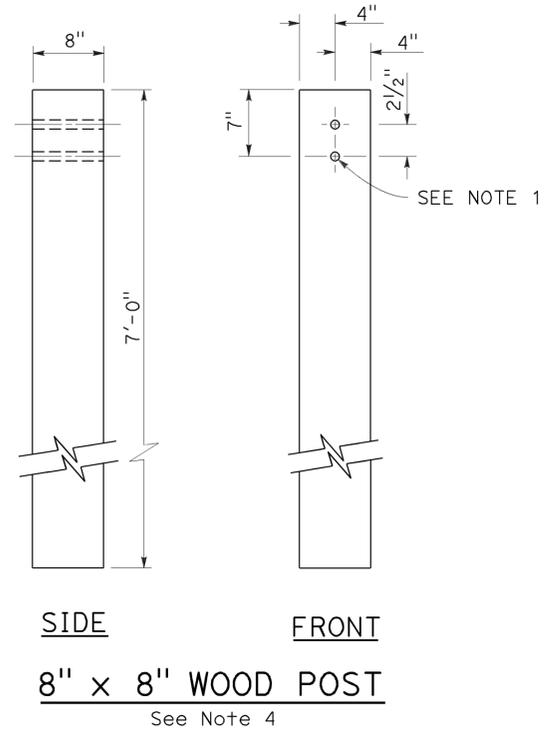
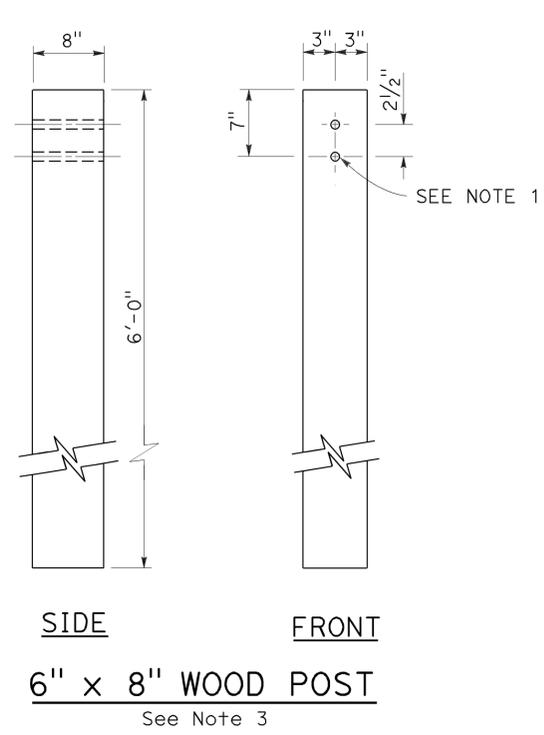
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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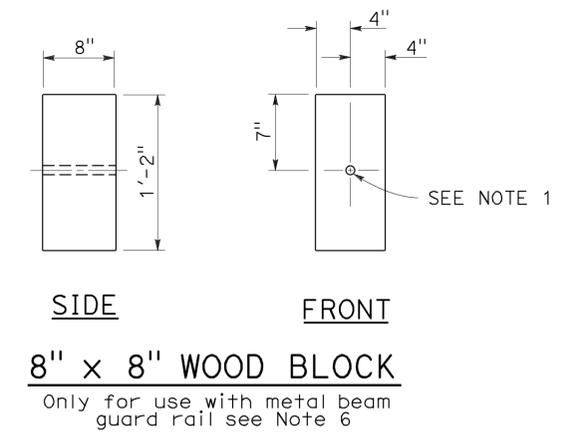
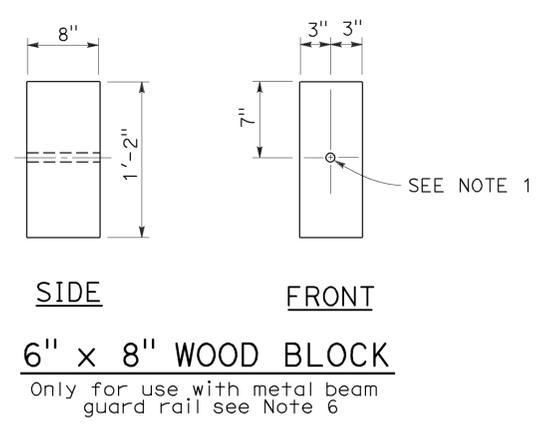
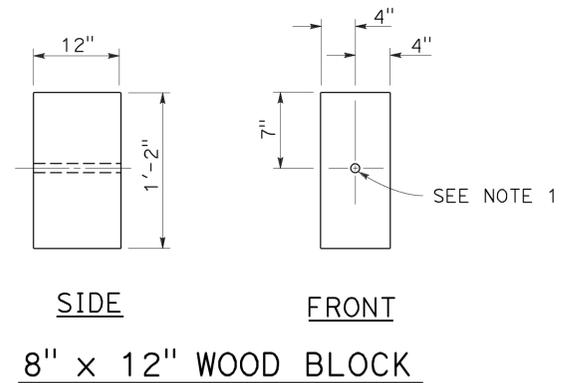
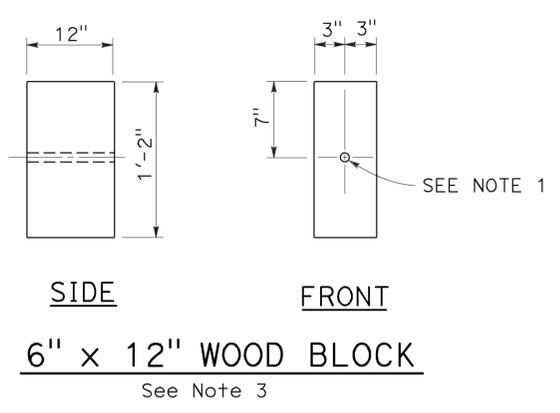
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-28-16



NOTES:

1. All holes in wood posts and blocks shall be 3/4" Dia ± 1/16".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
WOOD POST AND
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N1

2010 REVISED STANDARD PLAN RSP A77N1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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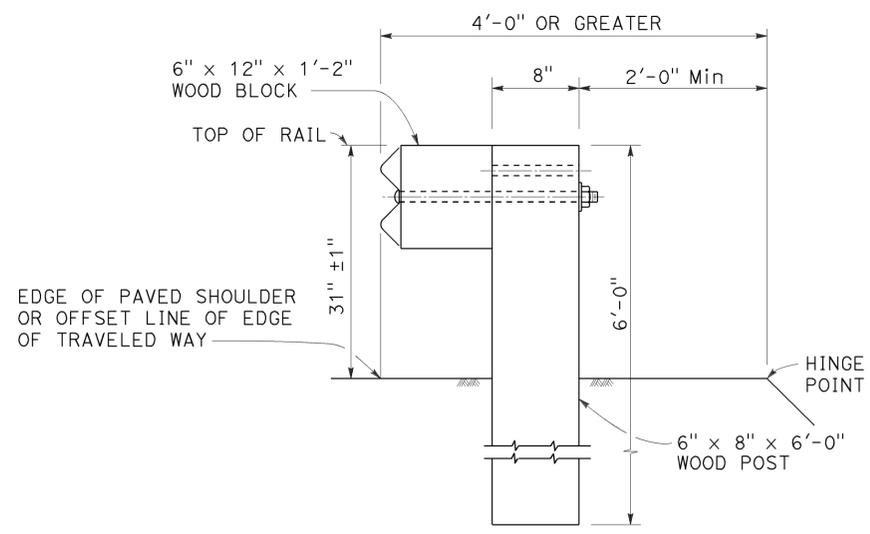
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

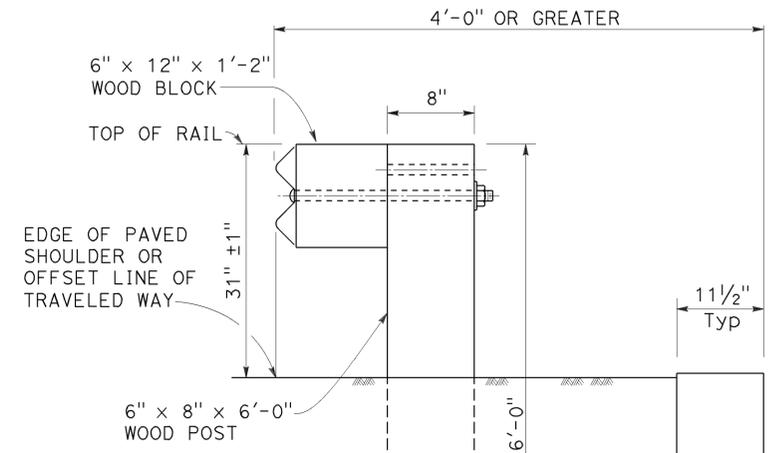
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REGISTERED PROFESSIONAL ENGINEER
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Exp. 6-30-15
CIVIL
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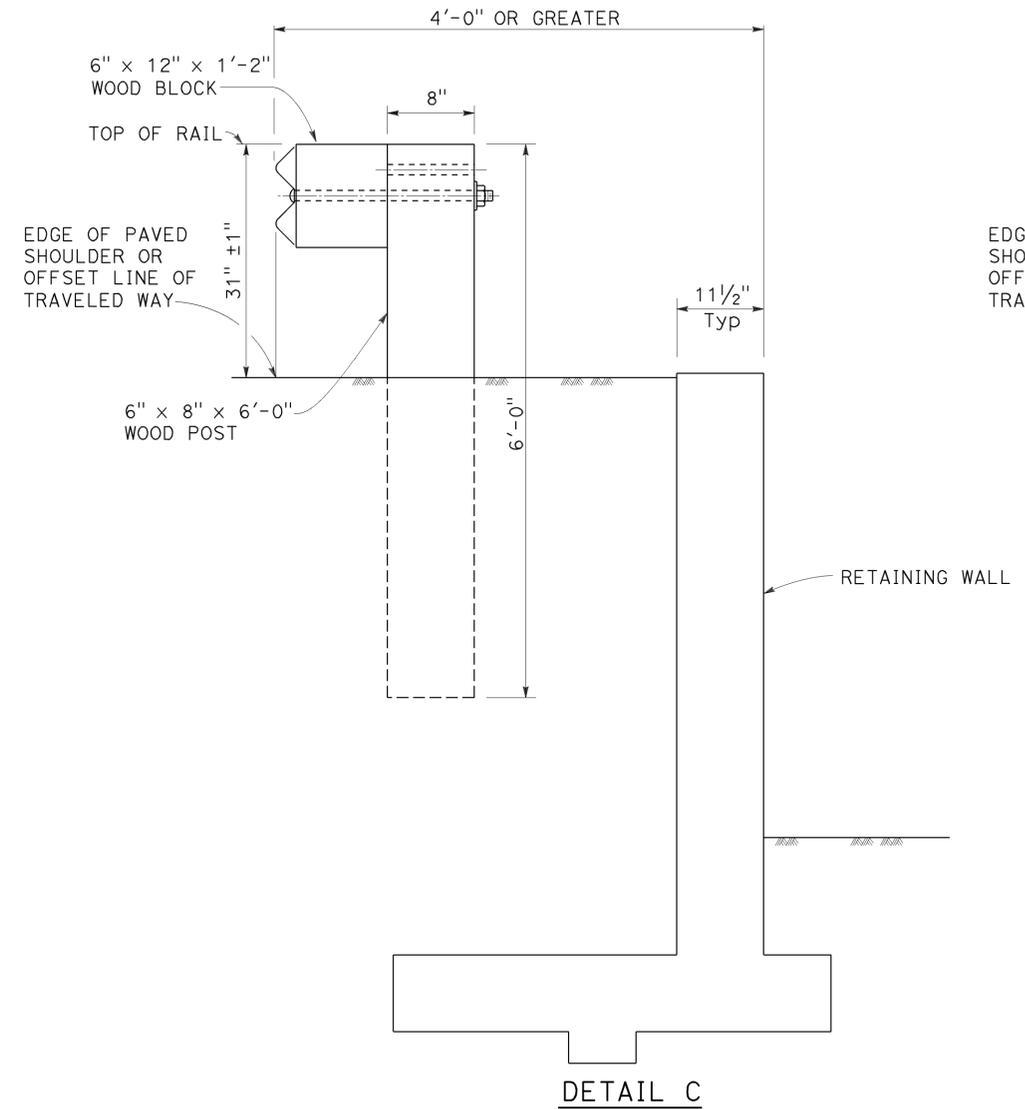
TO ACCOMPANY PLANS DATED 3-28-16



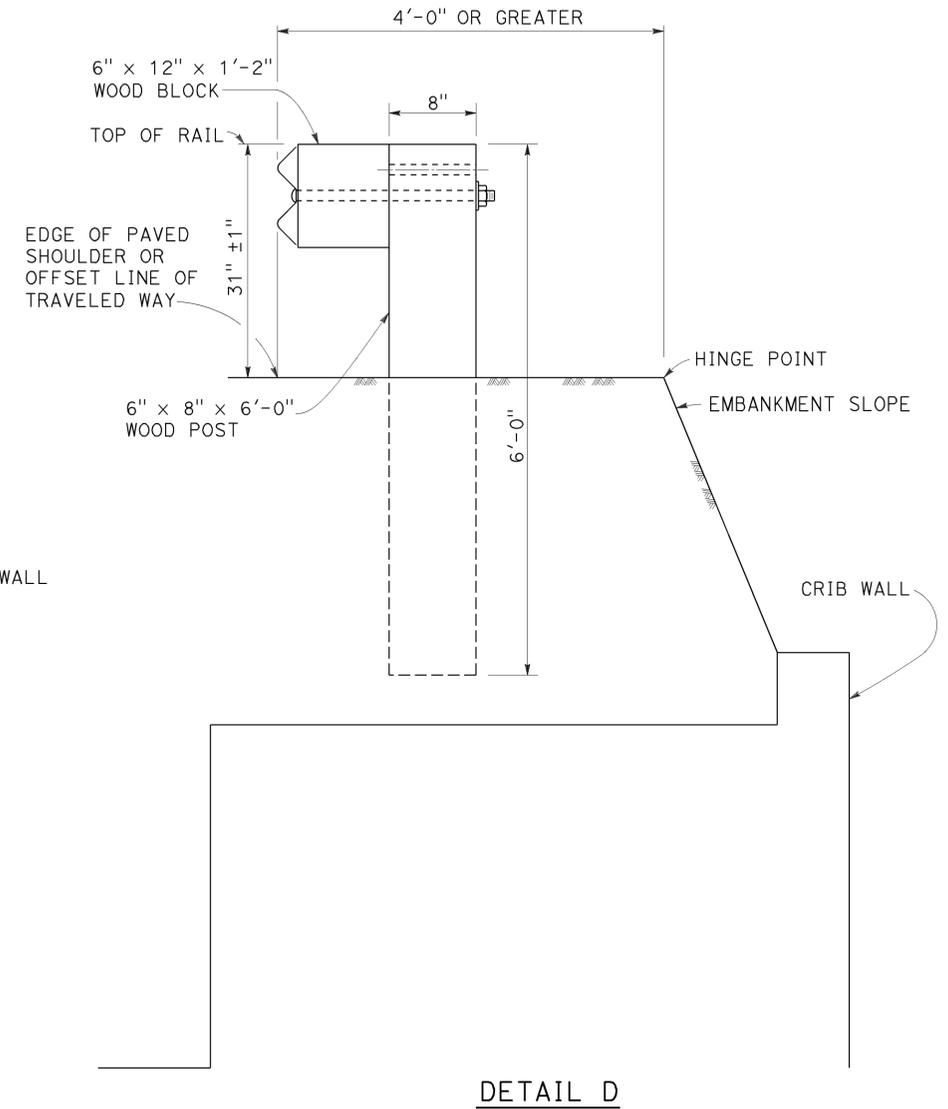
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1



DETAIL C
INSTALLATION AT EARTH RETAINING WALLS



DETAIL D

POST EMBEDMENT

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 00	Alb Alb SJ	205 980	0.0/8.0, 26.1/30.3 13.5/15.4	563	676

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

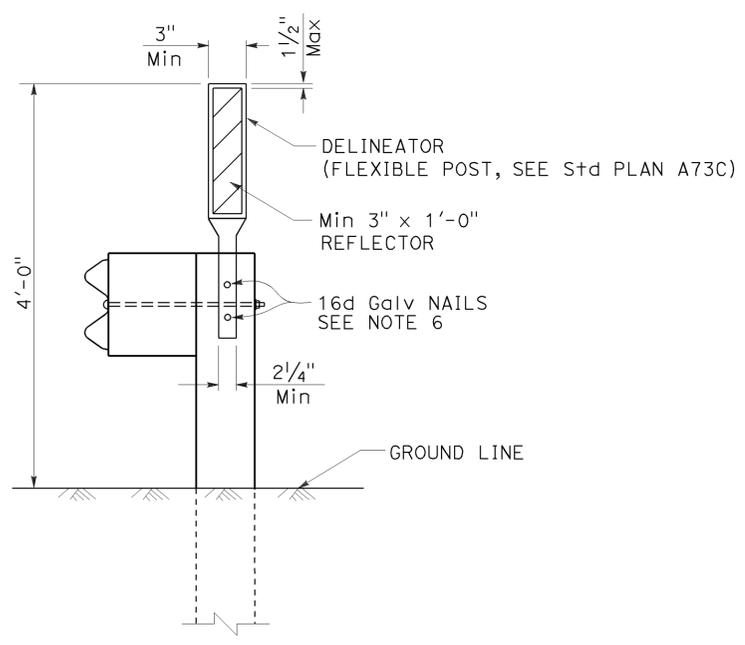
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

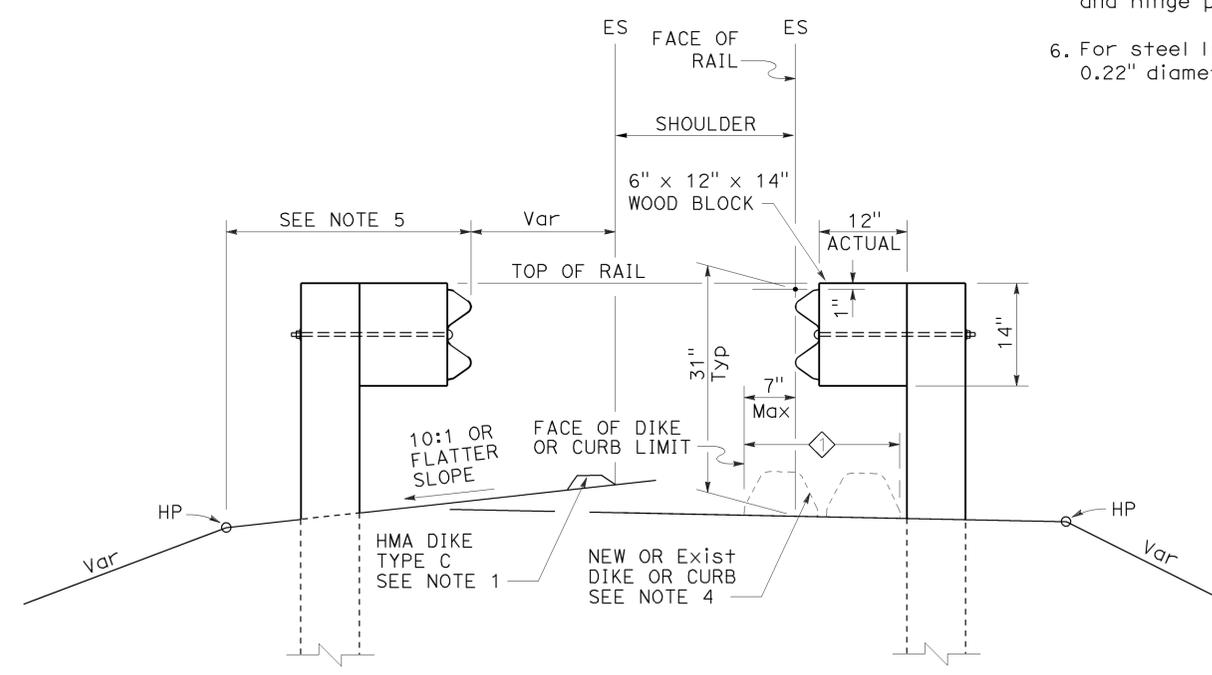
TO ACCOMPANY PLANS DATED 3-28-16

NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**
NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/71.0	564	676
10	Alameda	1880	0.0/81.0		
			26.1/30.3		
			13.5/15.4		

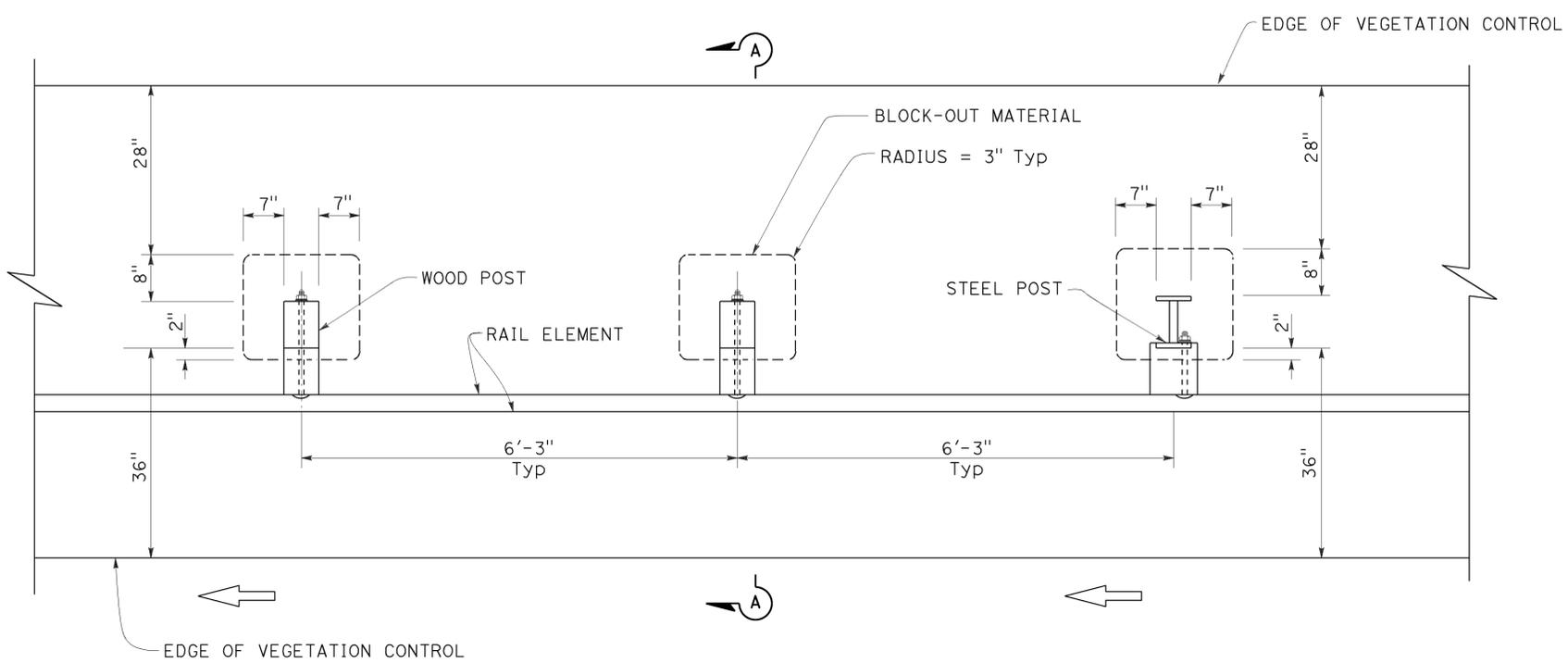
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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EXP. 6-30-15
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STATE OF CALIFORNIA

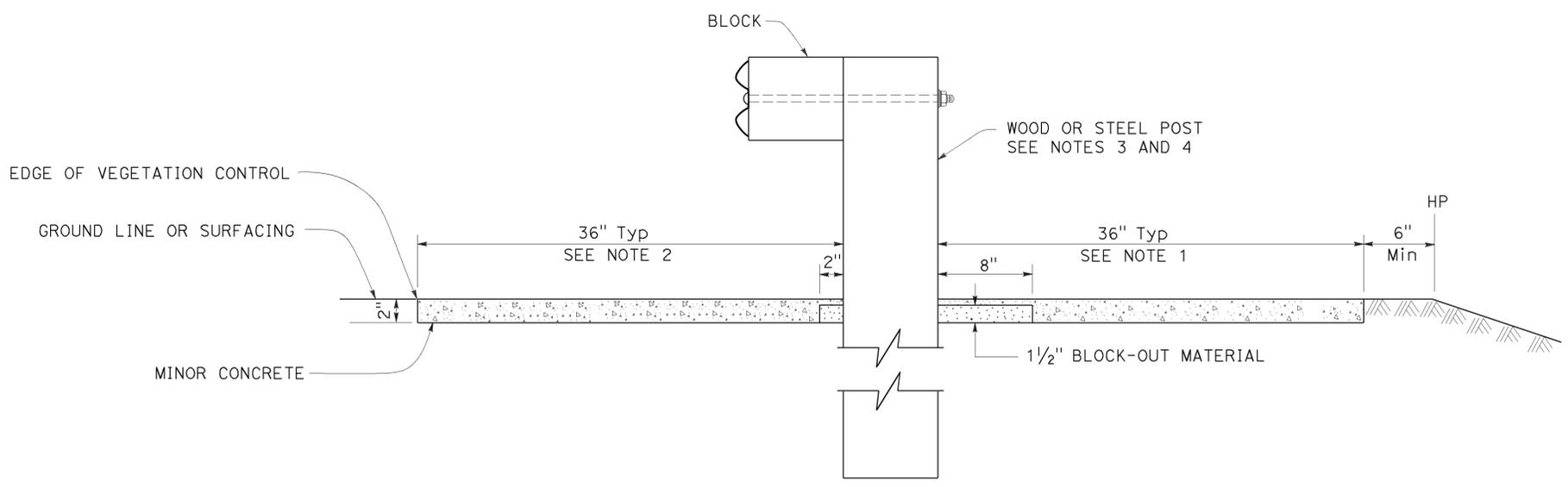
TO ACCOMPANY PLANS DATED 3-28-16



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Revised Standard Plan RSP A77N1.
4. For steel post sizes, see Revised Standard Plan RSP A77N2.
5. For details not shown, see Revised Standard Plans RSP A77L1 and RSP A77L2.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

2010 REVISED STANDARD PLAN RSP A77N5

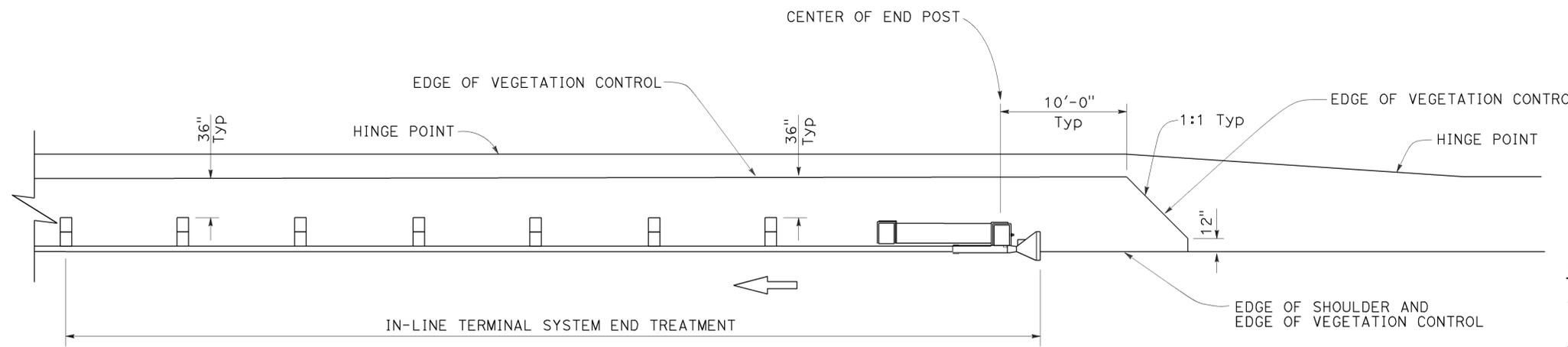
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/8.0	565	676
04	Alameda	205	0.0/8.0	565	676
04	San Joaquin	980	13.5/15.4	565	676

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 No. C50200
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

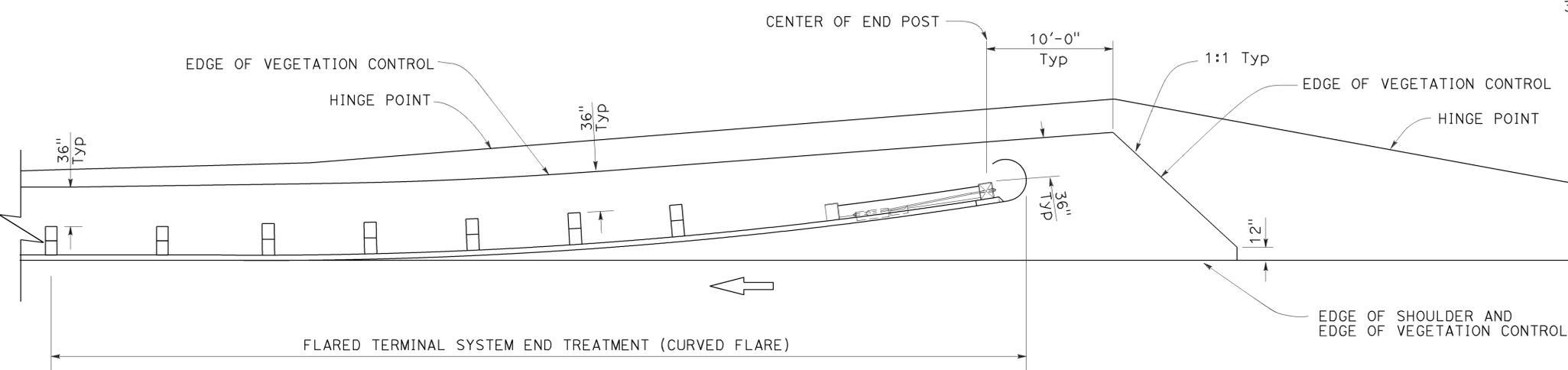
July 19, 2013
 PLANS APPROVAL DATE

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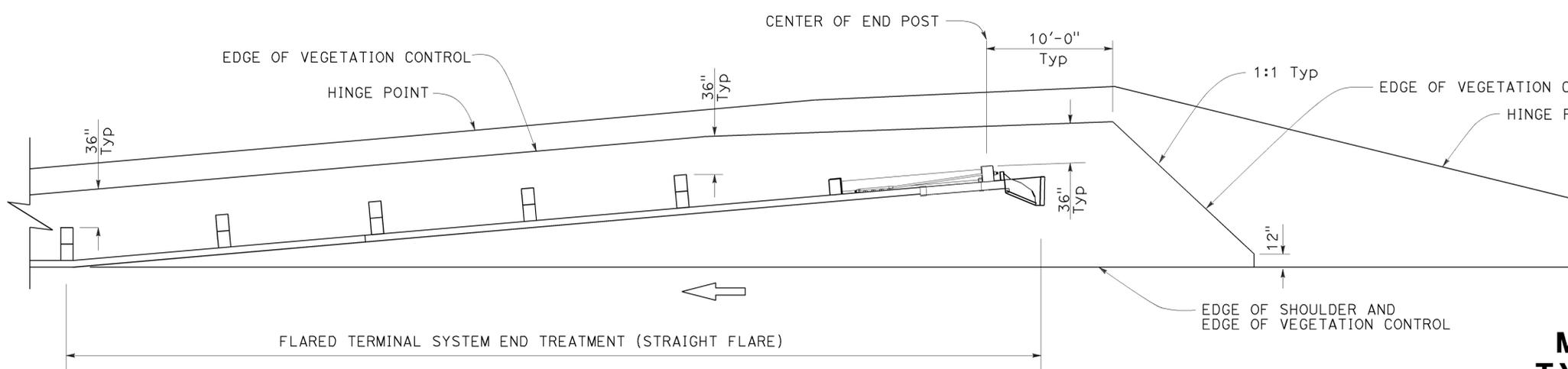
TO ACCOMPANY PLANS DATED 3-28-16



PLAN



PLAN



PLAN

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE

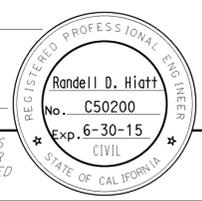
RSP A77N6 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N6

2010 REVISED STANDARD PLAN RSP A77N6

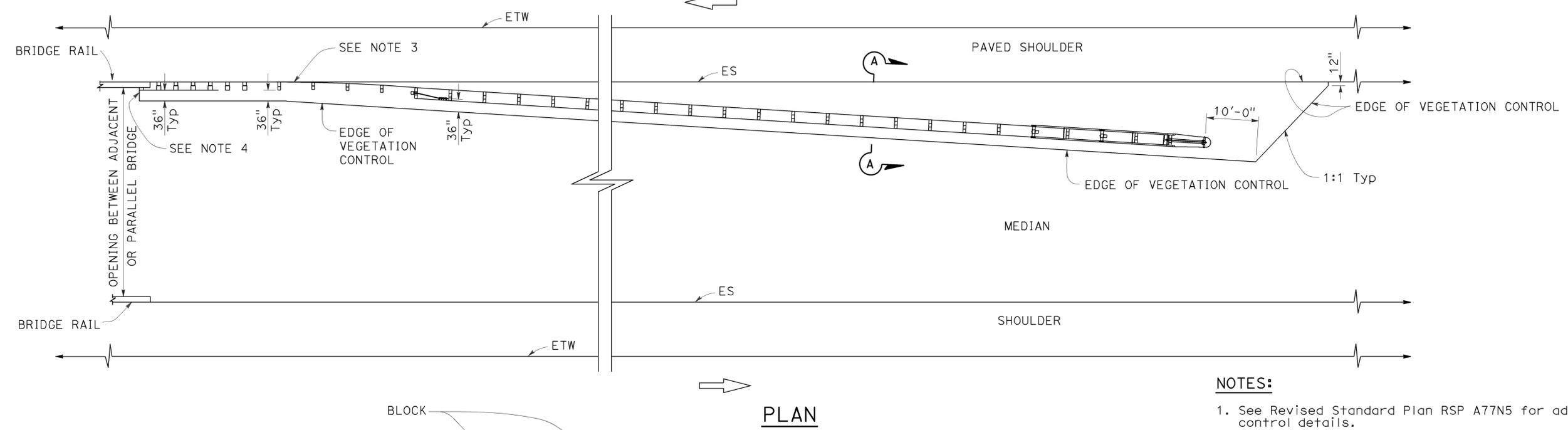
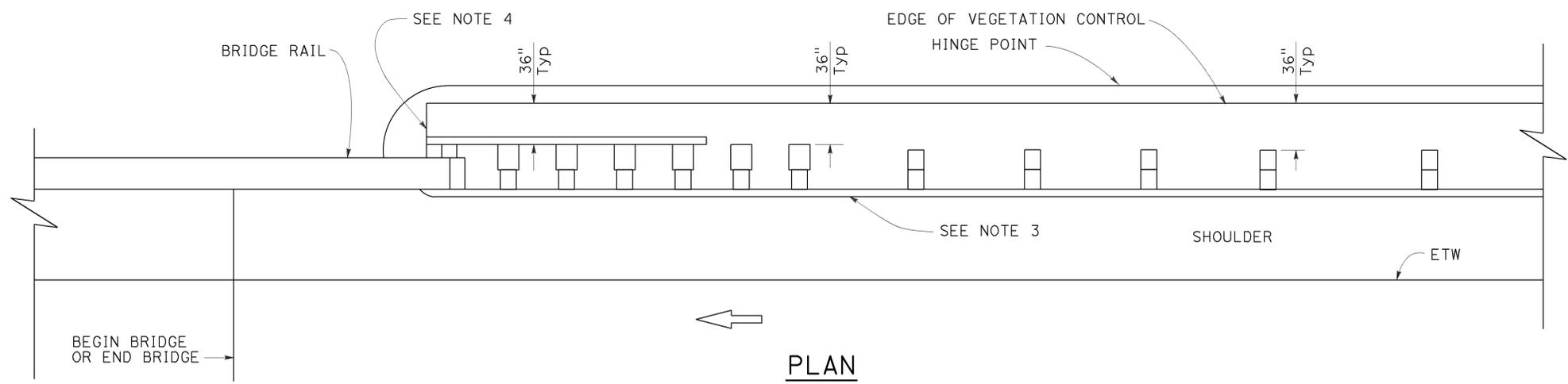
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alb	205	0.071	566	676
04	Alb	205	0.071		
10	SJ	1580	13.571		

July 19, 2013
 PLANS APPROVAL DATE
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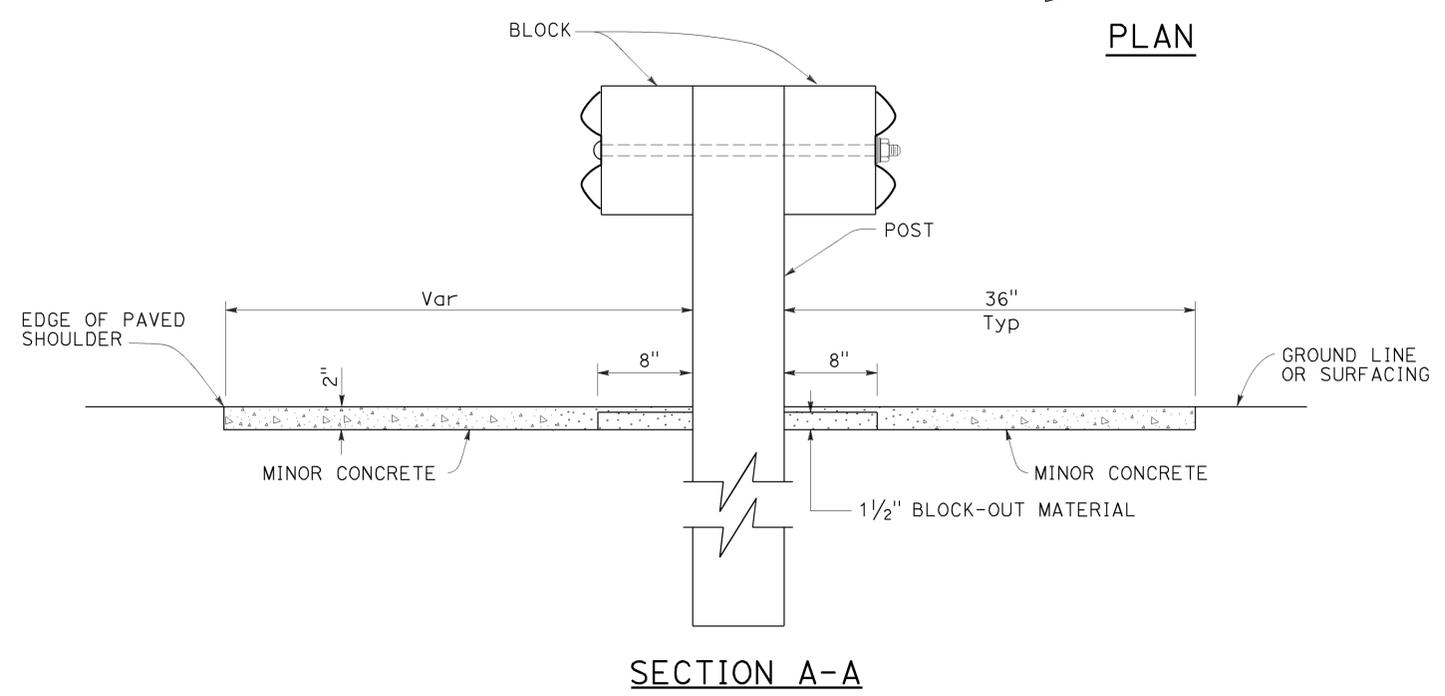
TO ACCOMPANY PLANS DATED 3-28-16

2010 REVISED STANDARD PLAN RSP A77N7



NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
 TYPICAL VEGETATION CONTROL
 AT STRUCTURE APPROACH**
 NO SCALE

RSP A77N7 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/71.0	567	676
04	Alameda	205	0.0/71.0		
04	San Joaquin	980	13.5/115.4		

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

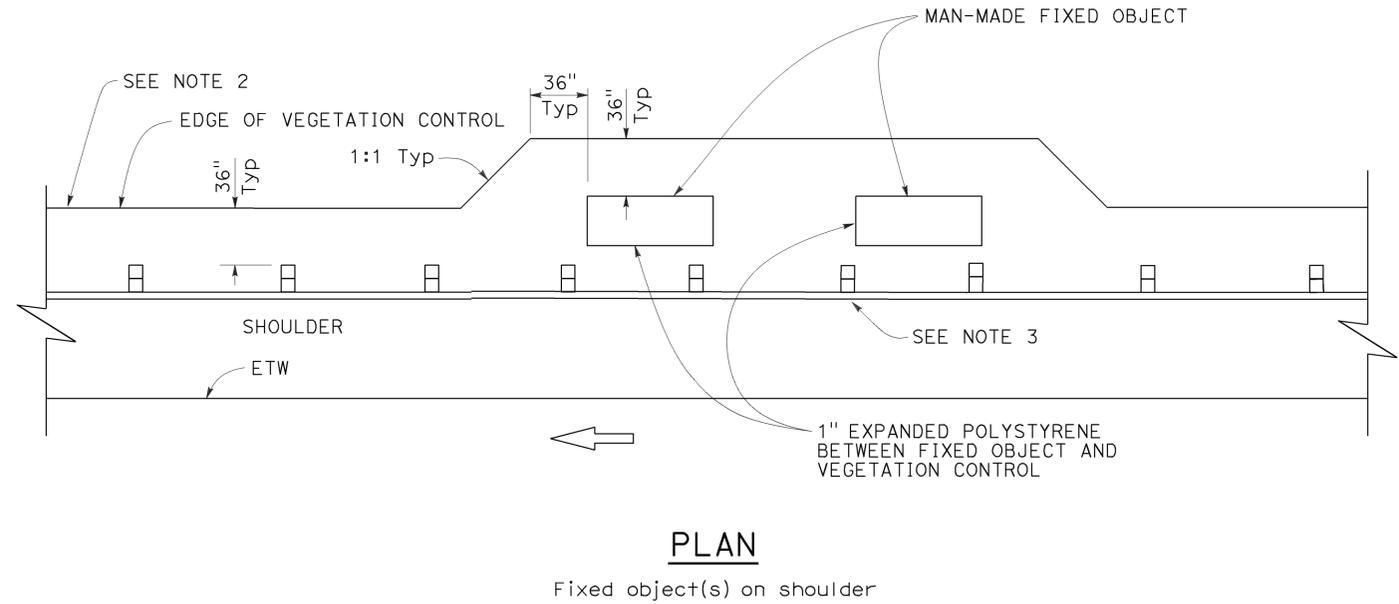
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-28-16

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N8 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N8

2010 REVISED STANDARD PLAN RSP A77N8

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 94 00	Alb Alb SJ	205 580	0.0/8.0, 26.1/30.3 13.5/15.4	568	676

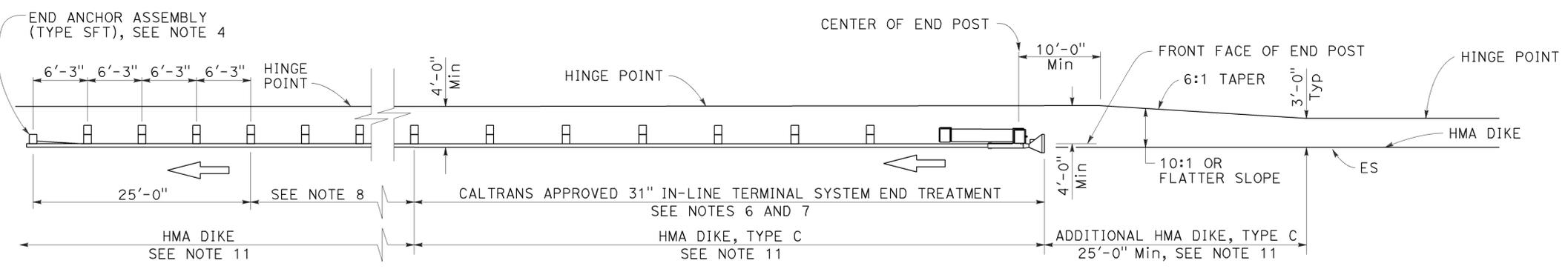
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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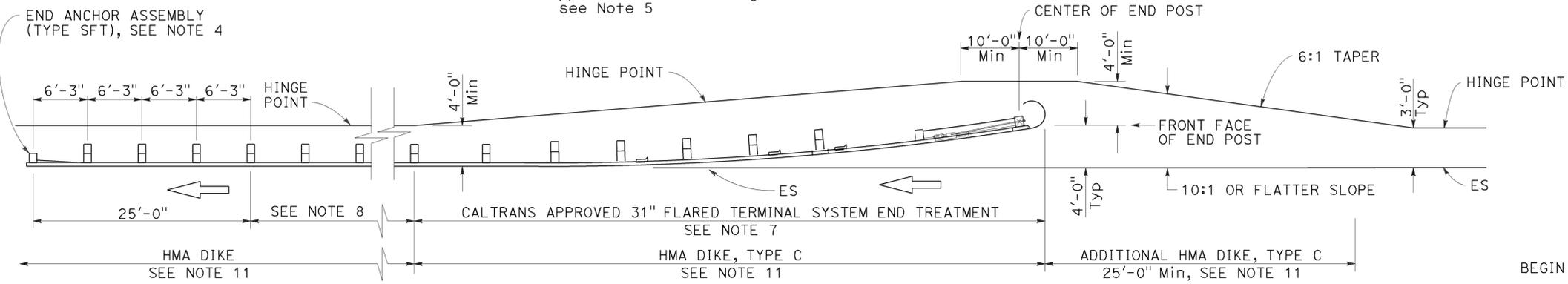
REG. NO. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-28-16



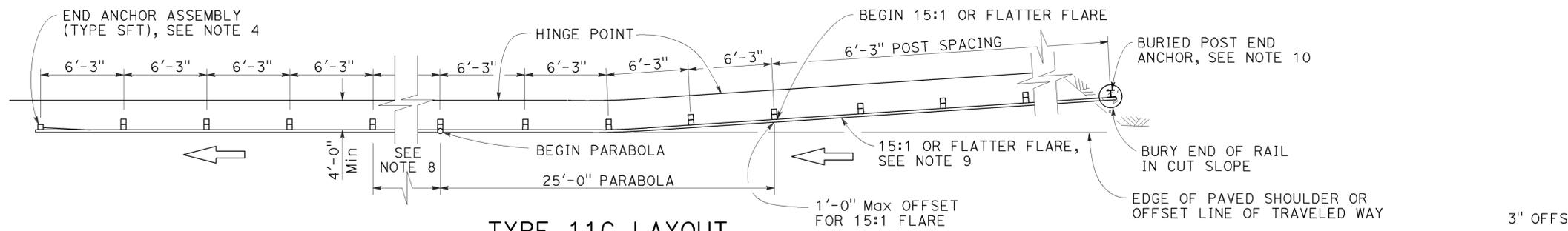
TYPE 11A LAYOUT

(Embankment MGS installation with 31" in-line end treatment at traffic approach end of railing) see Note 5



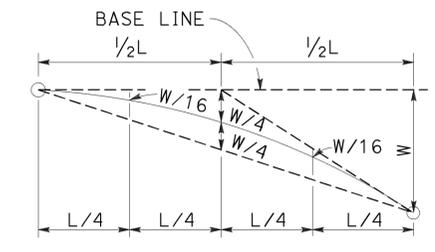
TYPE 11B LAYOUT

(Embankment MGS installation with 31" flared end treatment at traffic approach end of railing) see Note 5

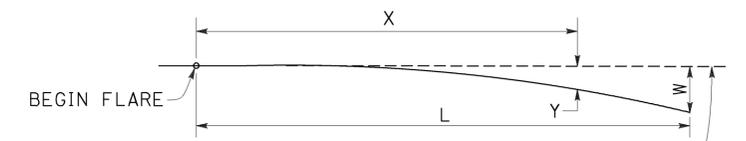


TYPE 11C LAYOUT

(Embankment MGS installation with buried end anchor treatment at traffic approach end of railing) see Notes 5 and 11



TYPICAL PARABOLIC LAYOUT

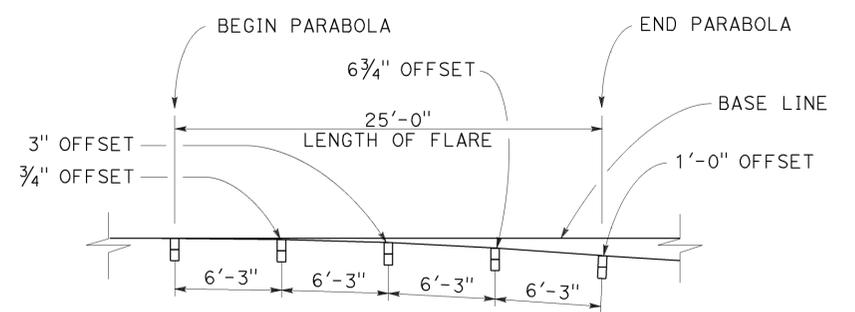


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$Y = \frac{WX^2}{L^2}$

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT Max END OFFSET

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77P1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77P1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P1

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- Layout Types 11A, 11B or 11C are typically used where MGS is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional MGS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11C Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

2010 REVISED STANDARD PLAN RSP A77P1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 04 00	Alb Alb SJ	205 980	0.0/8.0, 26.1/30.3 13.5/15.4	569	676

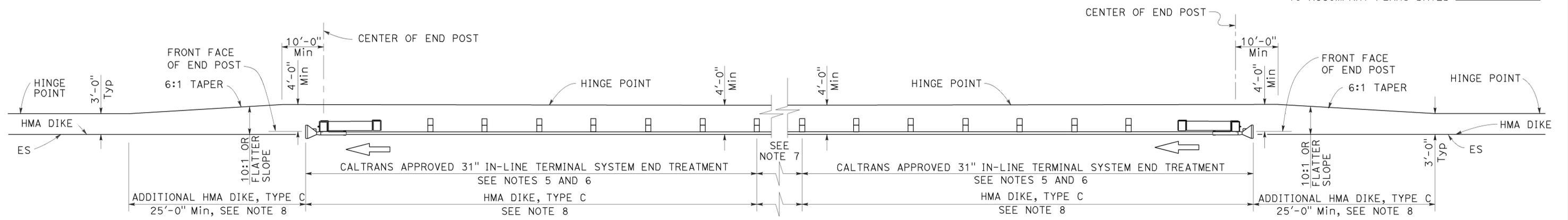
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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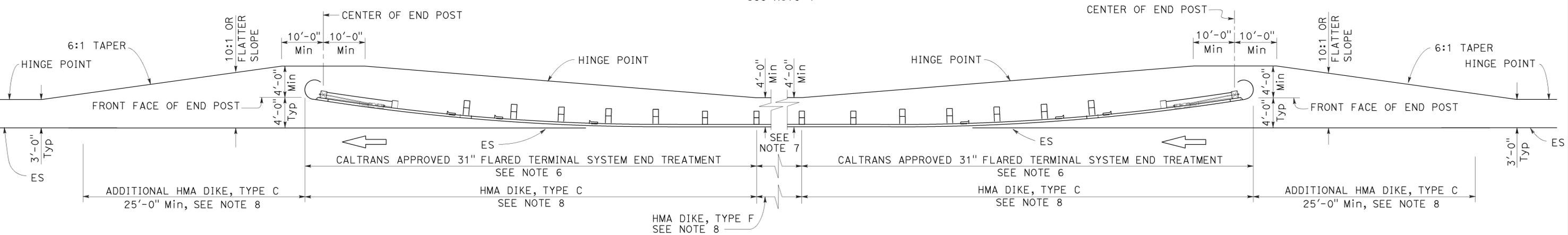
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-28-16



TYPE 11D LAYOUT

(Embankment MGS installation with 31" in-line end treatment at each end of railing)
See Note 4



TYPE 11E LAYOUT

(Embankment MGS installation with 31" flared end treatment at each end of railing)
See Note 4

NOTES:

1. Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
2. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
4. Layout Types 11D through 11L, shown on the A77P Series of Standard Plans, are typically used where MGS is recommended to shield embankment slopes and a crashworthy 31" end treatment is required for both directions of traffic.
5. 31" in-line terminal system end treatments are used where site conditions will not accommodate a flared end treatment.
6. The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height and side slope), construction of additional MGS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
8. Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77P2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P2

2010 REVISED STANDARD PLAN RSP A77P2

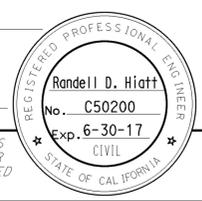
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 04 00	Alb Alb SJ	205 9805 9880	0.0/8.0/26.1/30.3 13.5/15.4	570	676

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

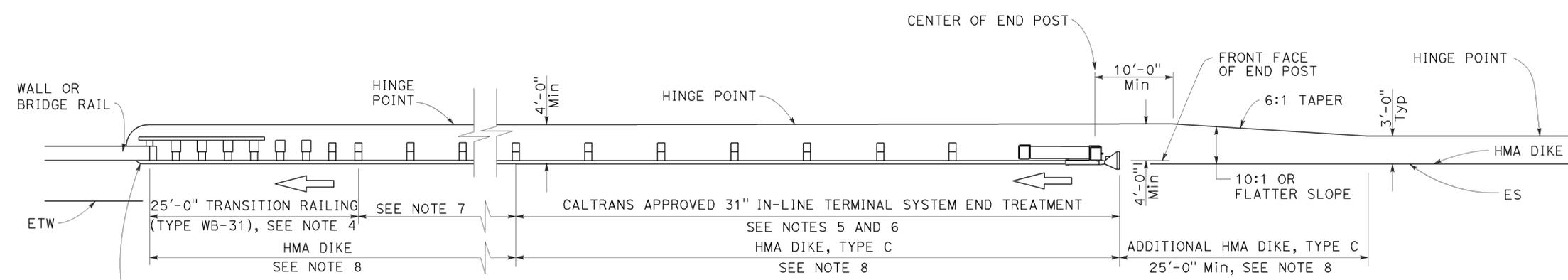
August 14, 2015
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 3-28-16

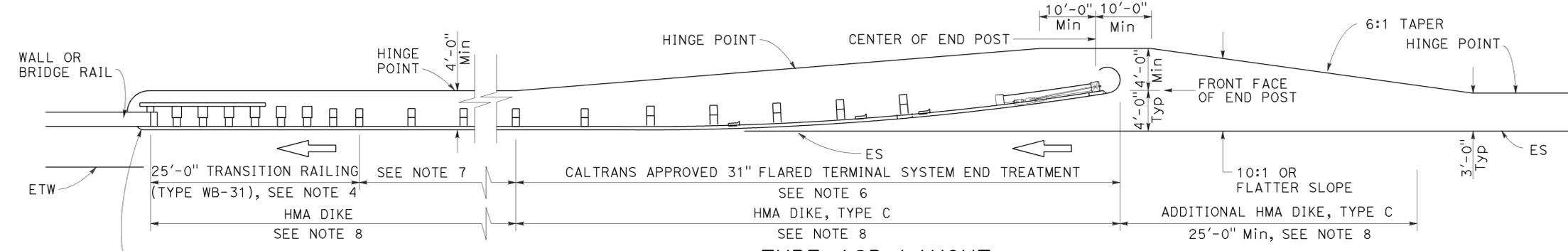


2010 REVISED STANDARD PLAN RSP A77Q1



TYPE 12A LAYOUT

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing) See Note 9



TYPE 12B LAYOUT

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing) See Note 9

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12A and 12B Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment. A 12.5 degree angle of departure can be drawn on the Project Plans from the edge of traveled way through the outer most point of the fixed object to determine the additional length of railing needed.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77Q3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
- For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77Q1 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

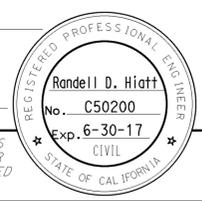
REVISED STANDARD PLAN RSP A77Q1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 04 00	Alb Alb SJ	205 980 980	0.0/8.0/26.1/30.3 13.5/15.4	571	676

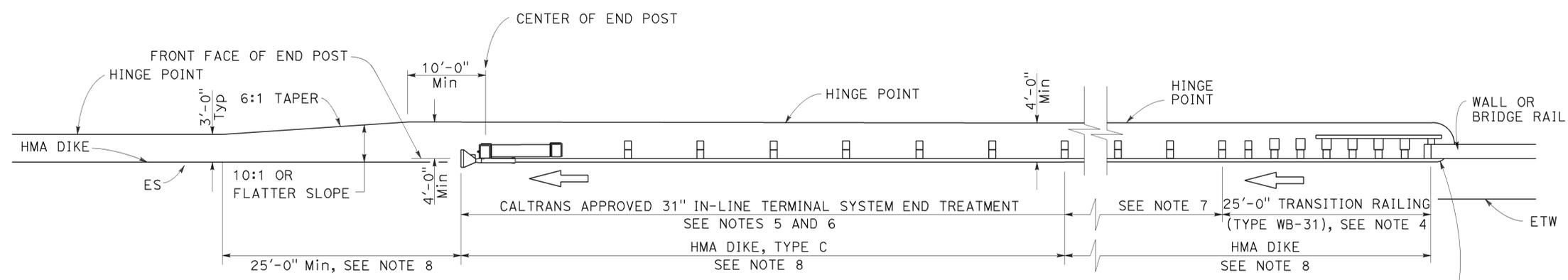
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

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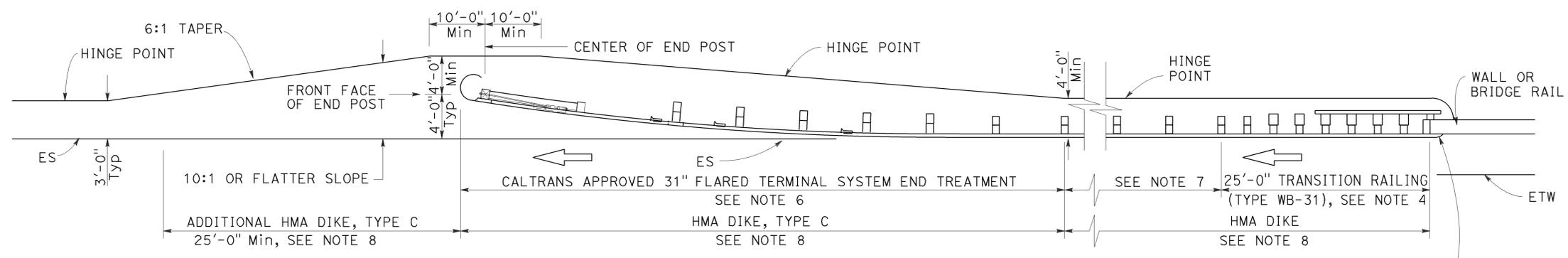


TO ACCOMPANY PLANS DATED 3-28-16



TYPE 12AA LAYOUT

(MGS installation at structure departure with 31" in-line end treatment at trailing end of railing)
See Notes 8 and 9



TYPE 12BB LAYOUT

(MGS installation at structure departure with 31" flared end treatment at trailing end of railing)
See Notes 8 and 9

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12AA and 12BB Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" terminal system to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, other fixed objects), it may be advisable to construct additional MGS (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and 31" end treatments.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77U2 and Connection Detail HH on Revised Standard Plan RSP A77V2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**

NO SCALE

RSP A77Q4 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q4 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q4

2010 REVISED STANDARD PLAN RSP A77Q4

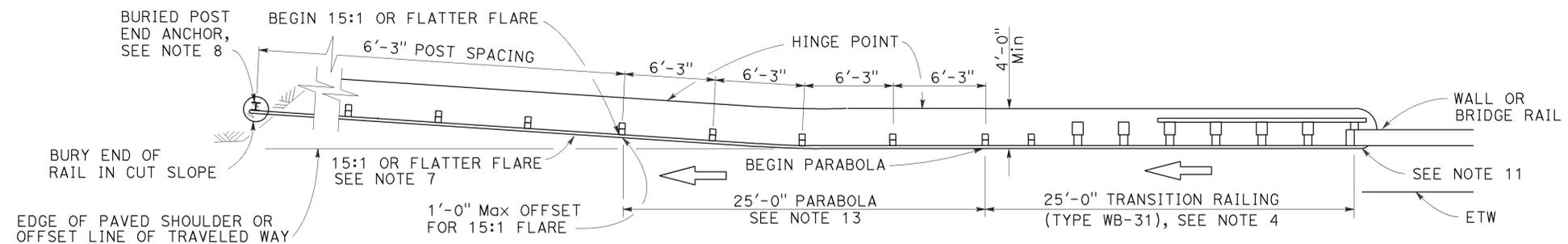
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 00	Alb Alj SJ	205 980 980	0.0 8.0 26.1 30.3 13.5 15.4	572	676

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

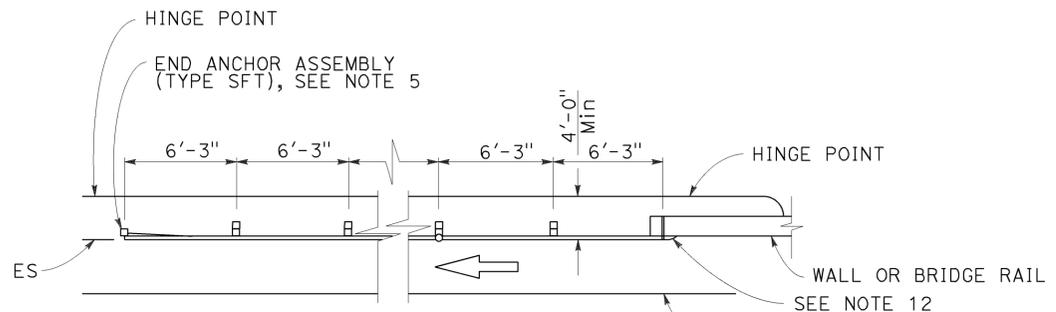
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
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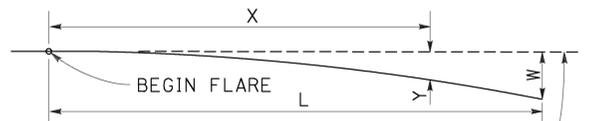
TYPE 12CC LAYOUT

(MGS installation at structure departure with a Buried end anchor treatment at trailing end of railing)
See Notes 9 and 10



TYPE 12DD LAYOUT

(MGS installation at structure departure With end anchor assembly at trailing end of railing)
See Notes 6 and 9

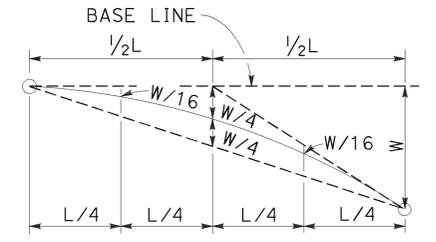


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$Y = \frac{WX^2}{L^2}$

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MSG post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Type 12CC Layout, see Revised Standard Plan RSP A77U4.
- For details of End Anchor Assembly (Type SFT) used with Type 12DD Layout, see Revised Standard Plan RSP A77S1.
- Type 12DD layout is typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is equal to or greater than 40 feet and MGS is recommended (embankment height, side slopes, other fixed objects). Length of railing to be equal to multiples of 12'-6". For MGS connection details to bridge rail, see Revised Standard Plans RSP A77U1 and RSP A77V1. For MGS connection details to wall, see Revised Standard Plan RSP A77U3.
- The 15:1 or flatter flare for Type 12CC Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 12CC Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12CC Layout is typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of a typical connection to bridge rail for Layout Type 12CC, see Connection Detail CC on Revised Standard Plan RSP A77U2 and Connection Detail HH on Revised Standard Plan RSP A77V2.
- For additional details of a typical connection to bridge rail for Layout Type 12DD, see Connection Detail BB on Revised Standard Plan RSP A77U1 and Connection Detail GG on Revised Standard Plan RSP A77V1.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**

NO SCALE

RSP A77Q5 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q5 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q5

2010 REVISED STANDARD PLAN RSP A77Q5

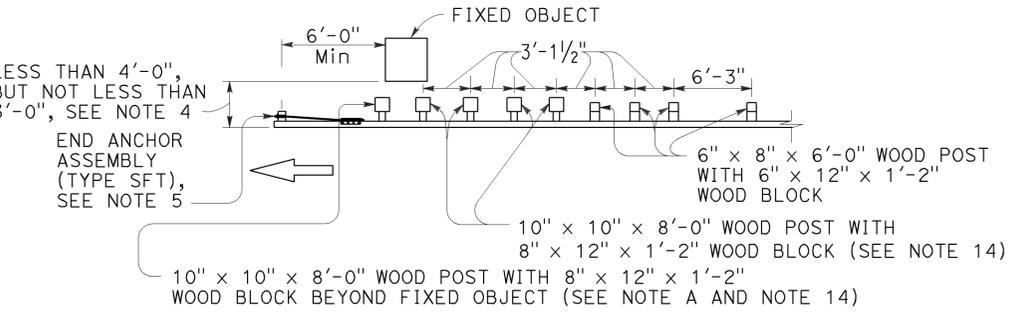
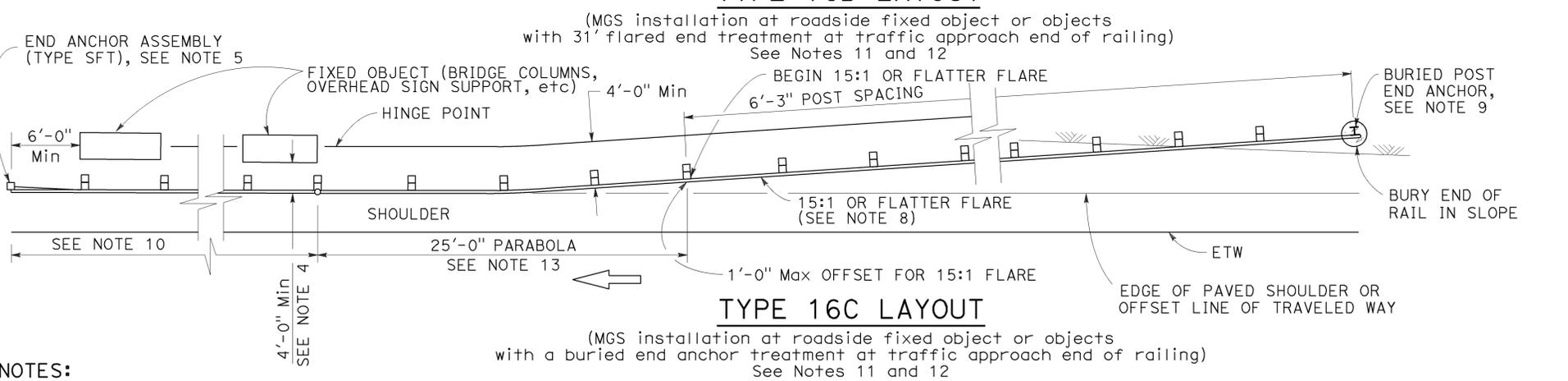
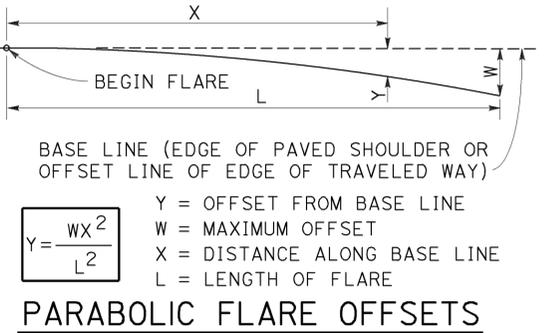
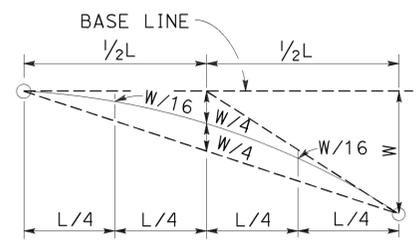
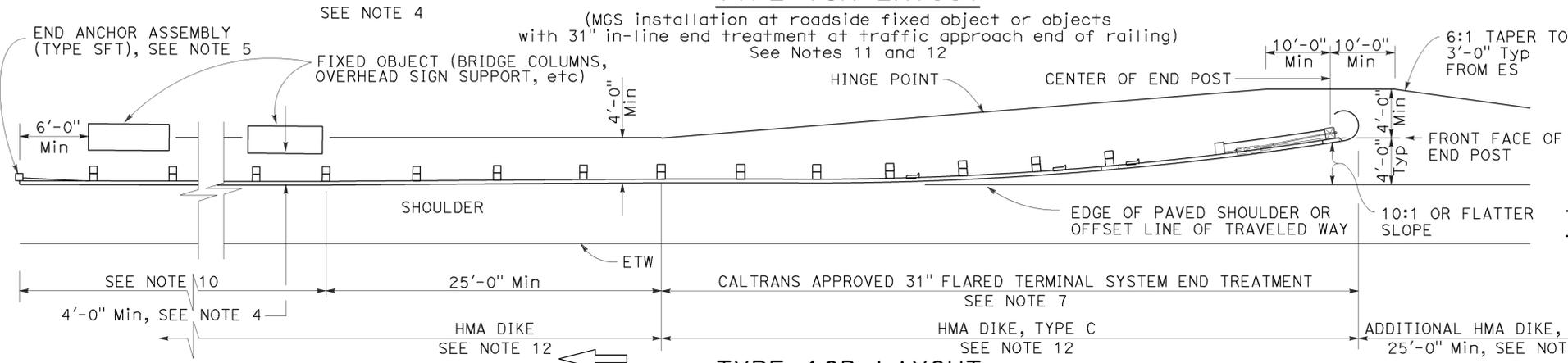
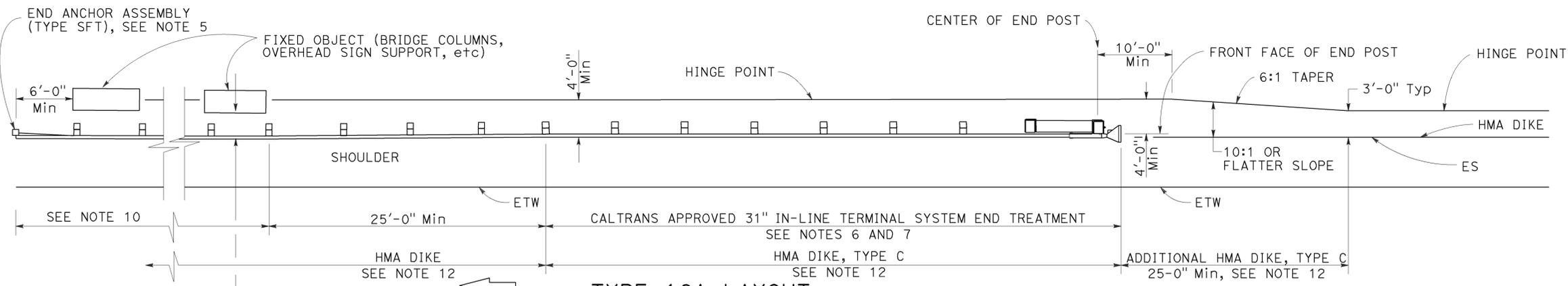
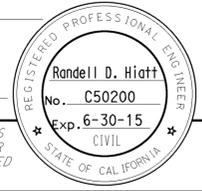
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 10	Alameda San Joaquin	205 980 980	0.0/8.0/26.0 13.5/18.4	573	676

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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3-28-16



NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind MGS sections with post spacing of 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare used with Type 16C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the Buried Post End Anchor used with Type 16C Layout, see Revised Standard Plan RSP A77T2.
- As site conditions dictate, construct additional MGS to shield fixed object(s). Additional MGS length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where MGS is recommended to shield roadside fixed object(s) and a crashworthy 31" end treatment is required for only one direction of traffic.
- Where placement of dike is required with MGS, see Revised Standard Plan RSP A77N4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".

NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS**
NO SCALE

RSP A77R3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R3

2010 REVISED STANDARD PLAN RSP A77R3

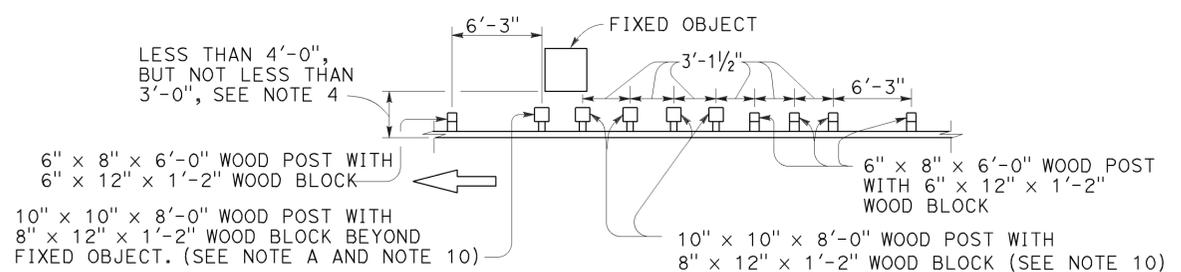
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/8.0	574	676
10	San Joaquin	9880	0.0/71.0	574	676
			13.5/79.4		

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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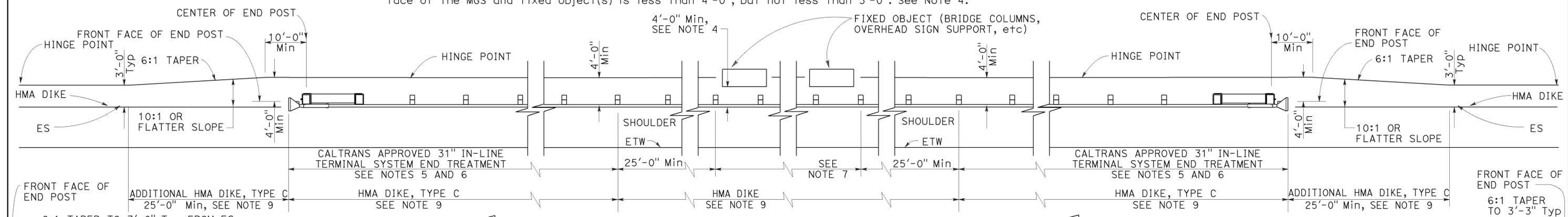
3-28-16



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

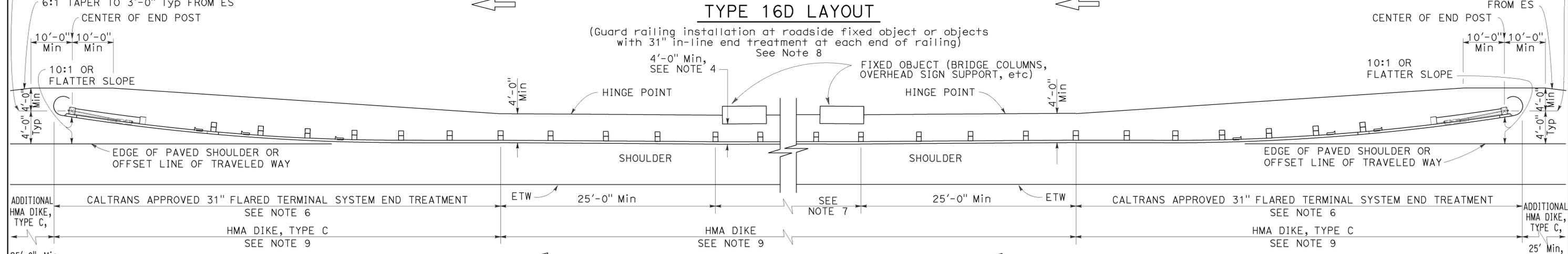
STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT

Use strengthened MGS sections with layout Types 16D or 16E where minimum clearance between the face of the MGS and fixed object(s) is less than 4'-0", but not less than 3'-0". See Note 4.



TYPE 16D LAYOUT

(Guard railing installation at roadside fixed object or objects with 31" in-line end treatment at each end of railing) See Note 8



TYPE 16E LAYOUT

(MGS installation at roadside fixed object or objects with 31" flared end treatment at each end of railing) See Note 8

- NOTES:**
- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
 - MGS post spacing to be 6'-3" center to center, except as otherwise noted.
 - Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
 - A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind MGS sections with post spacing at 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object", on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).
 - 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
 - The type of 31" terminal system to be used will be shown on the Project Plans.
 - As site conditions dictate, construct additional MGS to shield fixed object(s). Additional MGS length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
 - Layout Types 16D through 16L, shown on the A77R Series of Standard Plans, are typically used where MGS is recommended to shield roadside fixed object(s) and a crashworthy 31" end treatment is required for both directions of traffic.
 - Where placement of dike is required with MGS, see Revised Standard Plan RSP A77N4 for dike positioning details.
 - W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE

RSP A77R4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R4

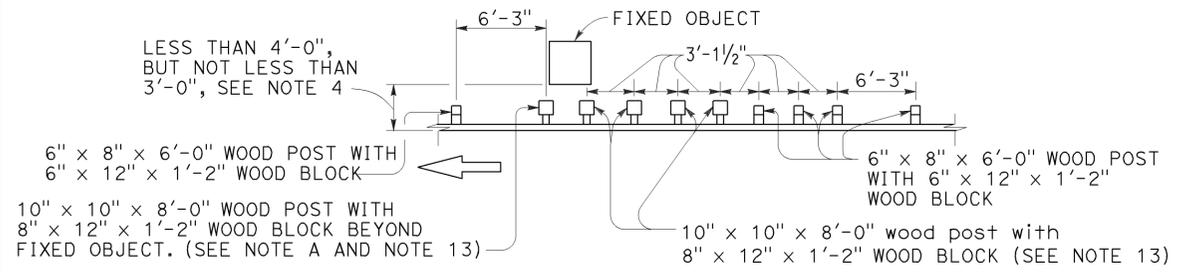
2010 REVISED STANDARD PLAN RSP A77R4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/8.0	575	676
10	San Joaquin	9880	13.5/13.4		

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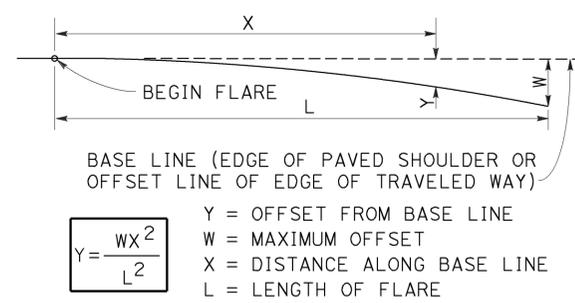
July 19, 2013
 PLANS APPROVAL DATE

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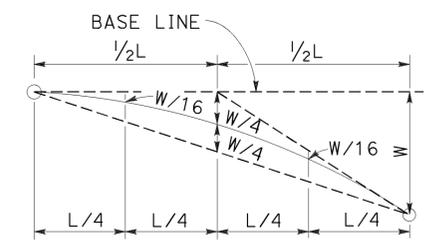
NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT



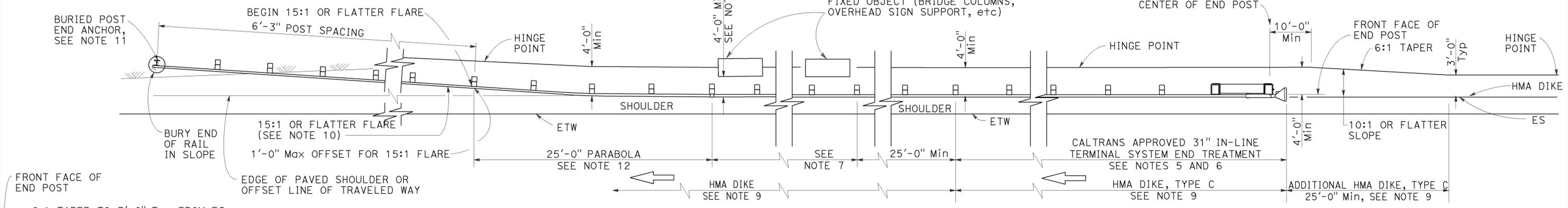
$Y = \frac{WX^2}{L^2}$
 Y = OFFSET FROM BASE LINE
 W = MAXIMUM OFFSET
 X = DISTANCE ALONG BASE LINE
 L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



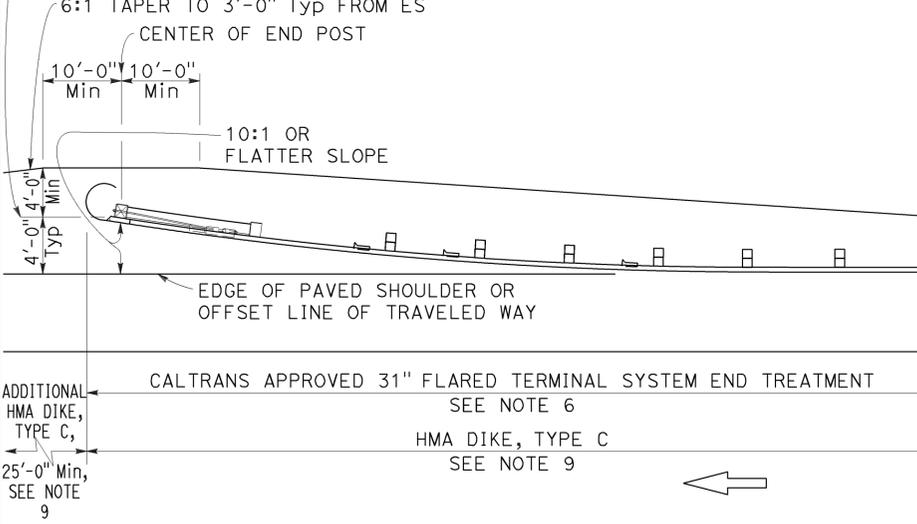
TYPICAL PARABOLIC LAYOUT

Use strengthened MGS sections with layout Types 16I or 16J Layouts where minimum clearance between the face of the MGS and fixed object(s) is less than 4'-0", but not less than 3'-0". See Note 4.



TYPE 16I LAYOUT

(MGS installation at roadside fixed object or objects with 31" in-line end treatment and a buried end anchor treatment at the ends of railing) See Note 8



TYPE 16J LAYOUT

(MGS installation at roadside fixed object or objects With a 31" in-line end treatment and a 31" flared end treatment at the ends of railing) See Note 8

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind MGS sections with post spacing at 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).

- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" terminal system to be used will be shown on the Project Plans.
- As site conditions dictate, construct additional MGS to shield fixed object(s). Additional MGS length equal to multiples of 12'-6". Post spacing at 6'-3", except as specified in Note 4.
- Layout Types 16D through 16L, shown on the A77R Series of Standard Plans, are typically used where MGS is recommended to shield roadside fixed object(s) and a crashworthy 31" end treatment is required for both directions of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77N4 for dike positioning details.
- The 15:1 or flatter flare for the buried post anchor is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".

- For details of Buried Post End Anchor, see Revised Standard Plan RSP A77T2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
 TYPICAL LAYOUTS FOR
 ROADSIDE FIXED OBJECTS**

NO SCALE

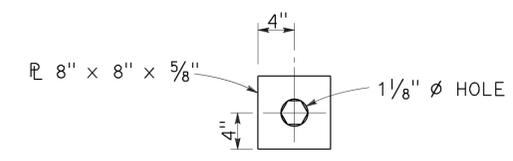
RSP A77R7 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R7

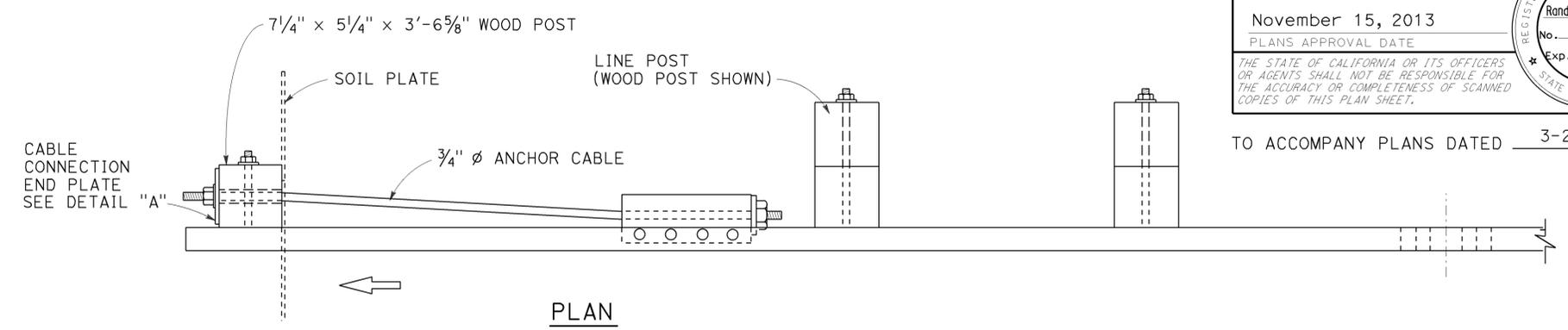
2010 REVISED STANDARD PLAN RSP A77R7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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04	Alameda	580	0.071		
00			13.571		

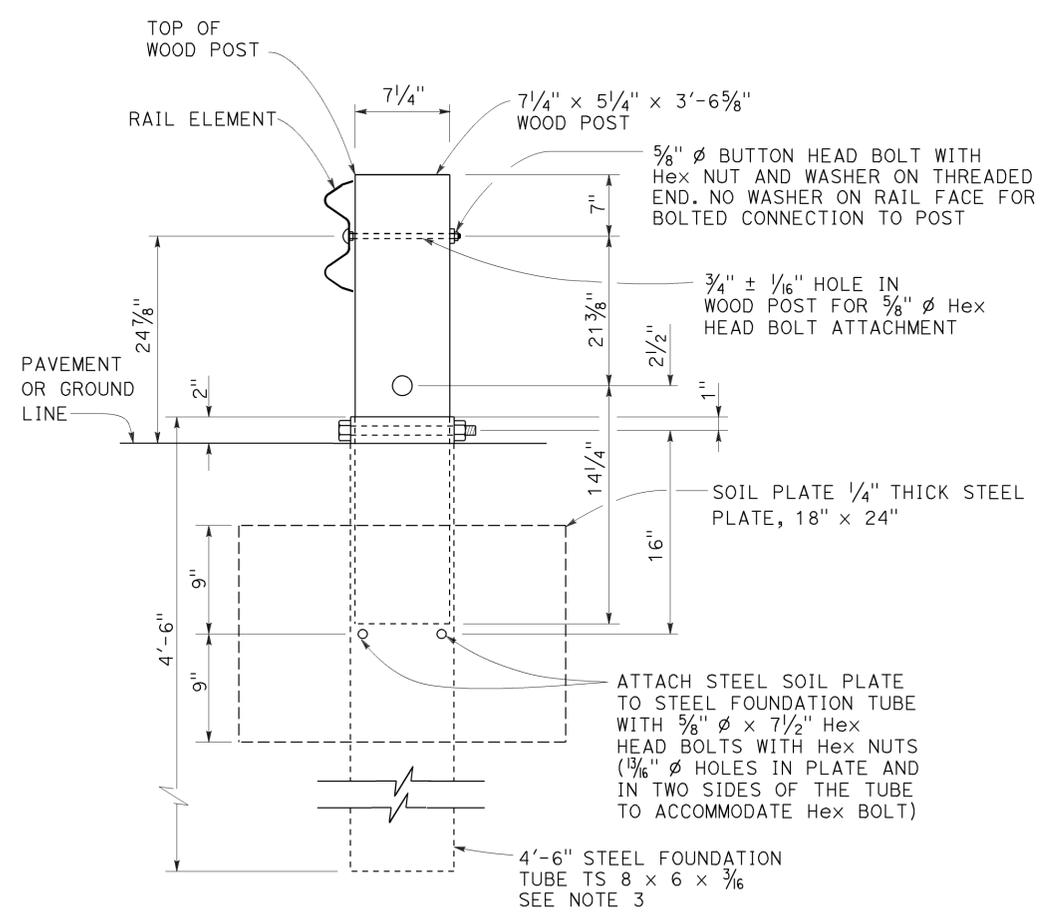
November 15, 2013
 PLANS APPROVAL DATE
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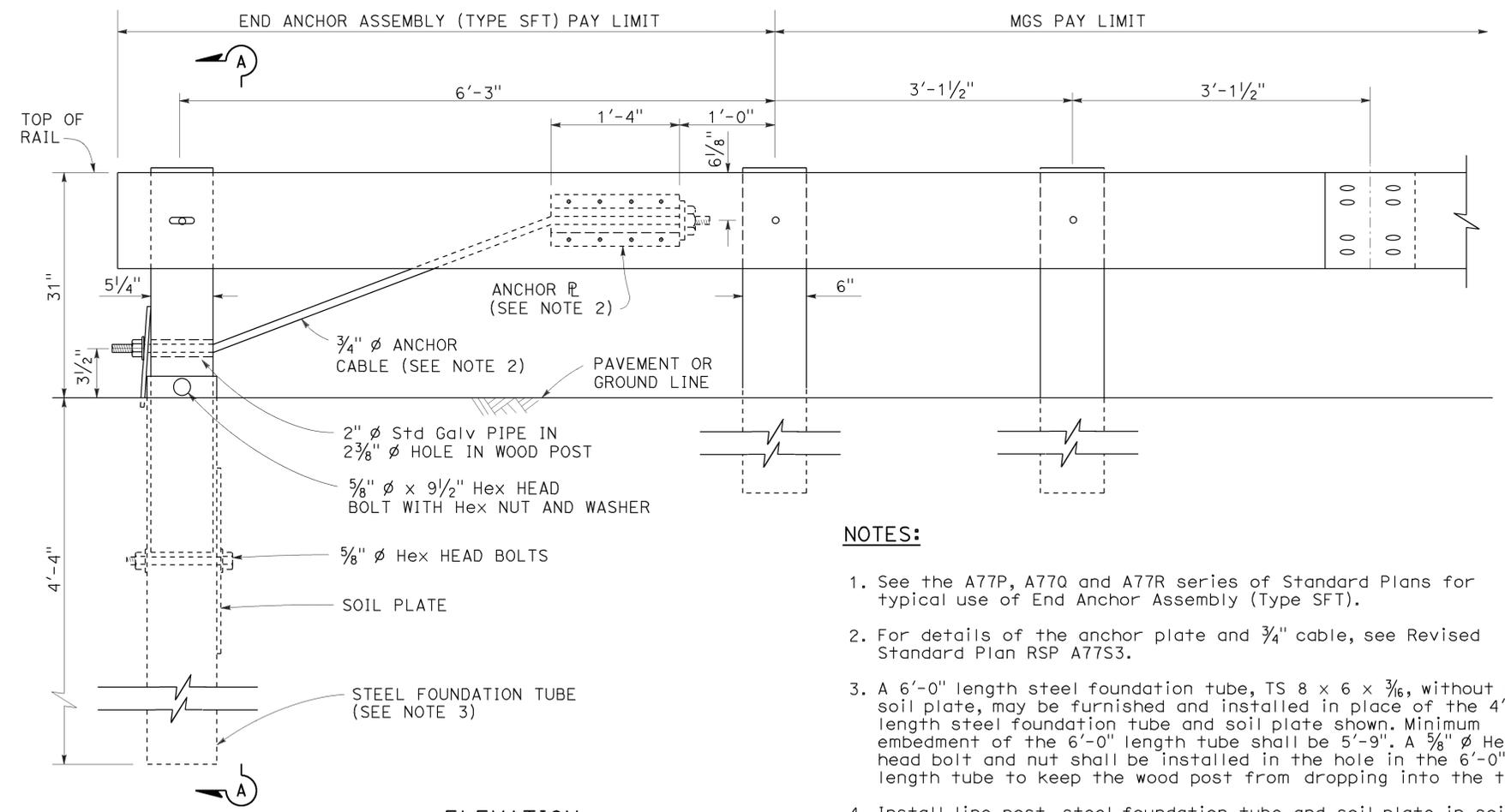
DETAIL "A"
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION

END ANCHOR
ASSEMBLY (TYPE SFT)
See Note 1

NOTES:

1. See the A77P, A77Q and A77R series of Standard Plans for typical use of End Anchor Assembly (Type SFT).
2. For details of the anchor plate and 3/4" cable, see Revised Standard Plan RSP A77S3.
3. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter Hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
4. Install line post, steel foundation tube and soil plate in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
MIDWEST GUARDRAIL SYSTEM
END ANCHOR ASSEMBLY
(TYPE SFT)

NO SCALE

RSP A77S1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77S1

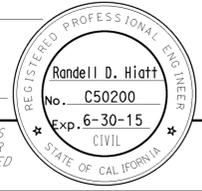
2010 REVISED STANDARD PLAN RSP A77S1

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
04	Alameda	205	0.071	577	676
00	SJ	0880	13.5715.4		
			TOTAL PROJECT		
			0.071		
			26.1730.3		

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

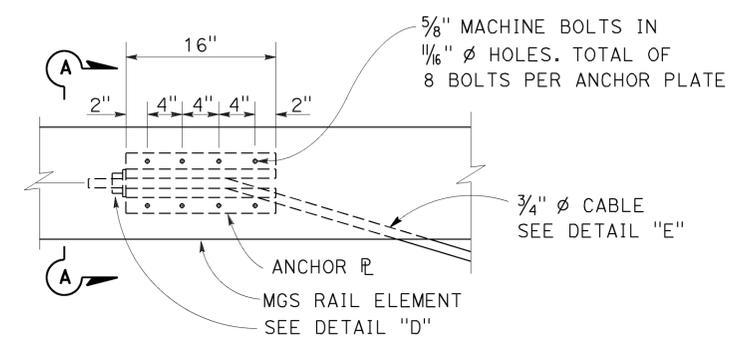
November 15, 2013
PLANS APPROVAL DATE

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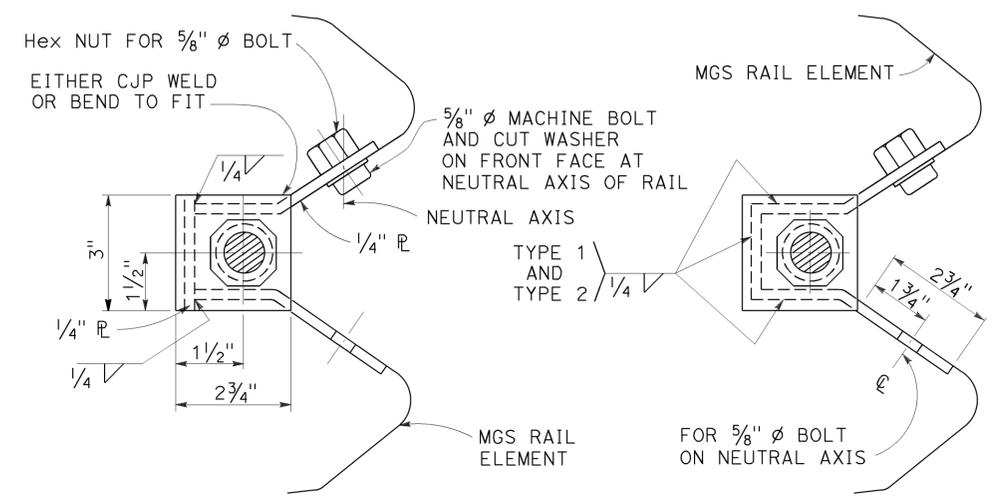


TO ACCOMPANY PLANS DATED 3-28-16

NOTE:
See Revised Standard Plans RSP A77S1, RSP A77S2 and RSP A77T1 for typical use of anchor cable and anchor plate.

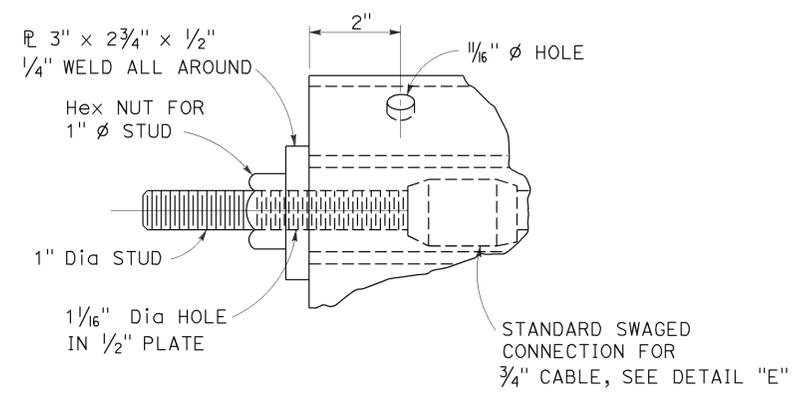


ANCHOR PLATE DETAIL
(MGS shown, TBB similar)

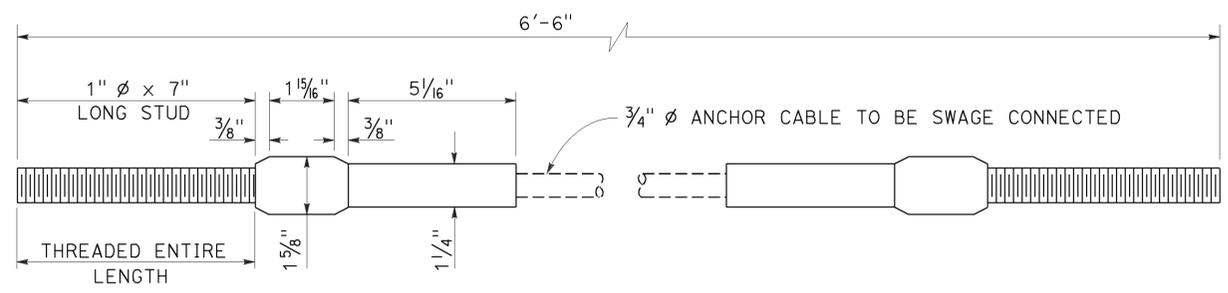


NOTE:
Dimensioning applies to both types.

SECTION A-A (ALTERNATIVE TYPE 1) **SECTION A-A (ALTERNATIVE TYPE 2)**



DETAIL "D"



ANCHOR CABLE WITH SWAGED FITTING AND STUD
DETAIL "E"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

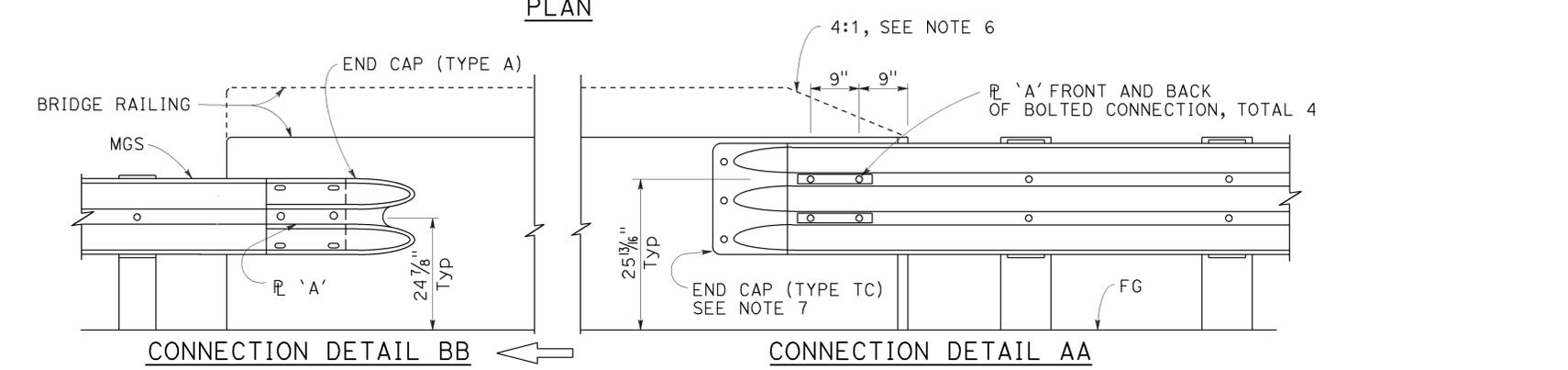
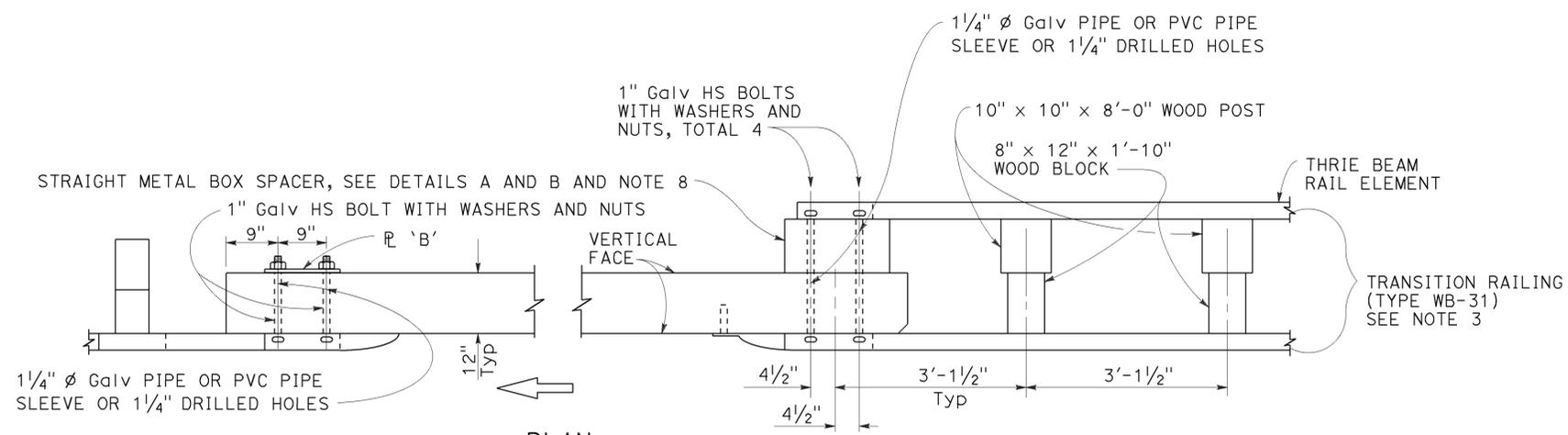
**METAL RAILING
ANCHOR CABLE AND
ANCHOR PLATE DETAILS**

NO SCALE
RSP A77S3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A77S3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/8.0	578	676
10	Alameda	9880	13.5/15.4		

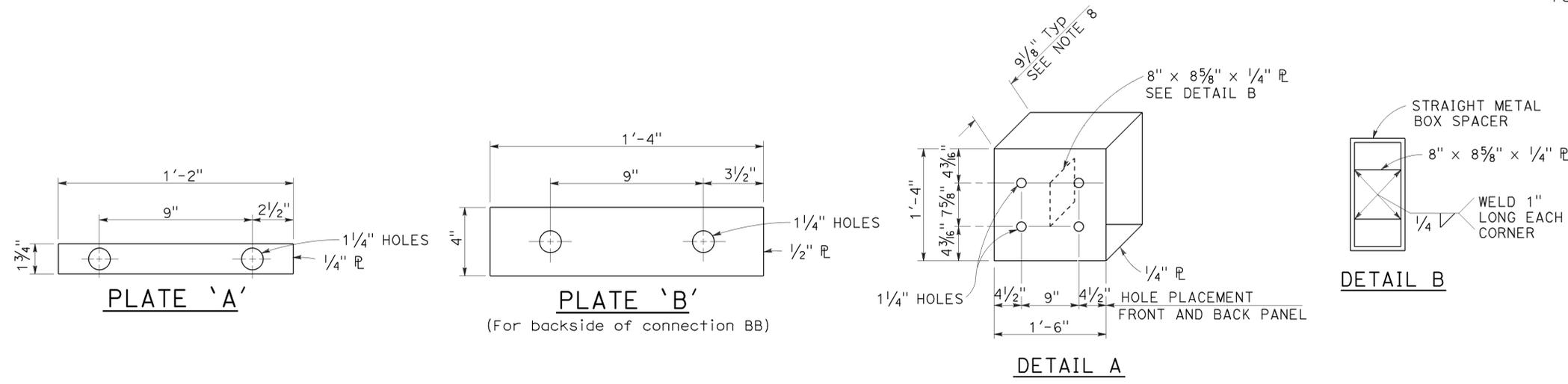
RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77U2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested three beam railing section which is connected to the concrete bridge railing.
4. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1, Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2, and Layout Type 12E on Revised Standard Plan RSP A77Q3.
5. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.
6. Where the height of the bridge railing exceeds the height of the three beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the three beam rail.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.



STRAIGHT METAL BOX SPACER

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS
DETAILS No. 1
 NO SCALE

2010 REVISED STANDARD PLAN RSP A77U1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0	579	676
10	SJ	5880	13.5		

July 19, 2013
 PLANS APPROVAL DATE

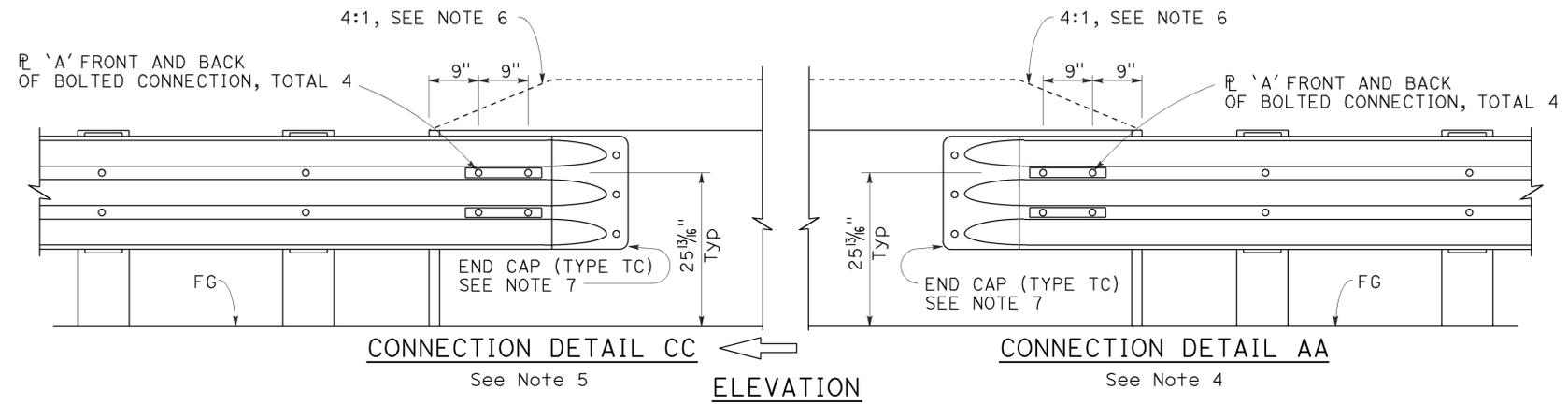
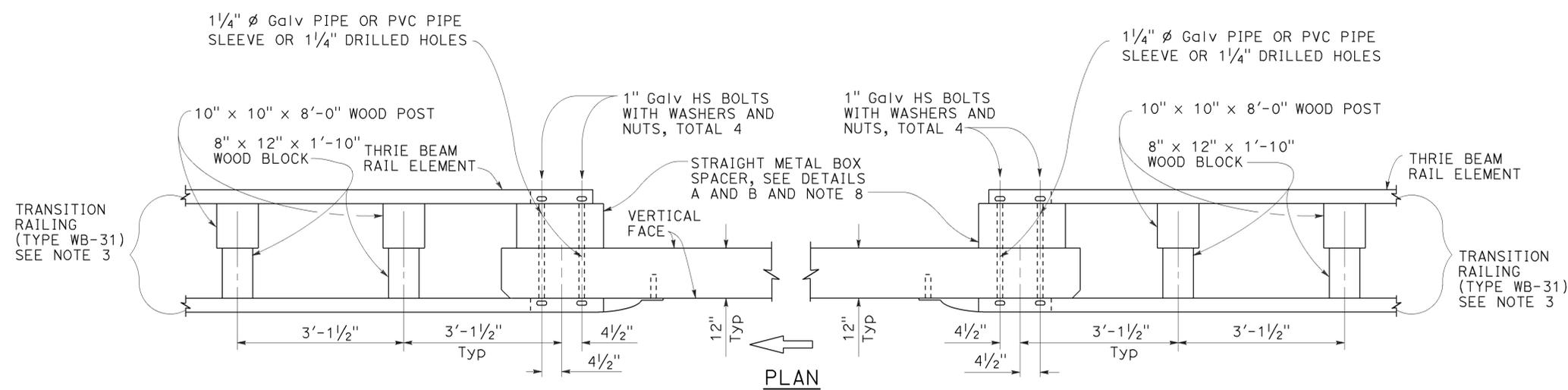
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Randell D. Hiatt
 REGISTERED CIVIL ENGINEER

No. C50200
 Exp. 6-30-15
 CIVIL

STATE OF CALIFORNIA

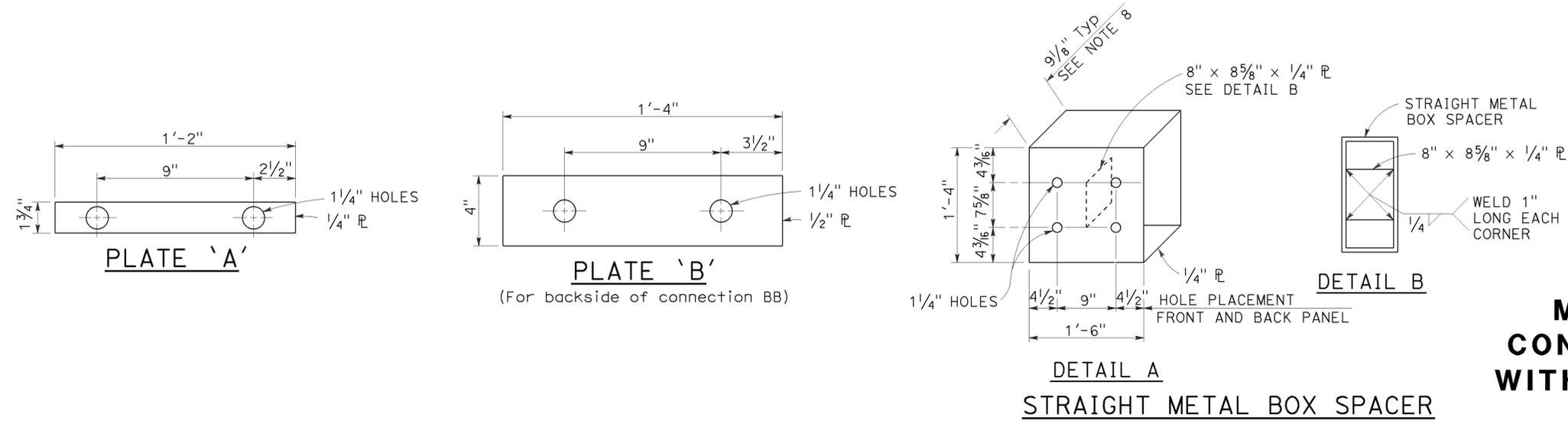
TO ACCOMPANY PLANS DATED 3-28-16



MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77U1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
4. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1, Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2, and Layout Type 12E on Revised Standard Plan RSP A77Q3.
5. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Revised Standard Plan RSP A77Q4 and Layout Type 12CC on Revised Standard Plan RSP A77Q5.
6. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No. 2

NO SCALE

RSP A77U2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

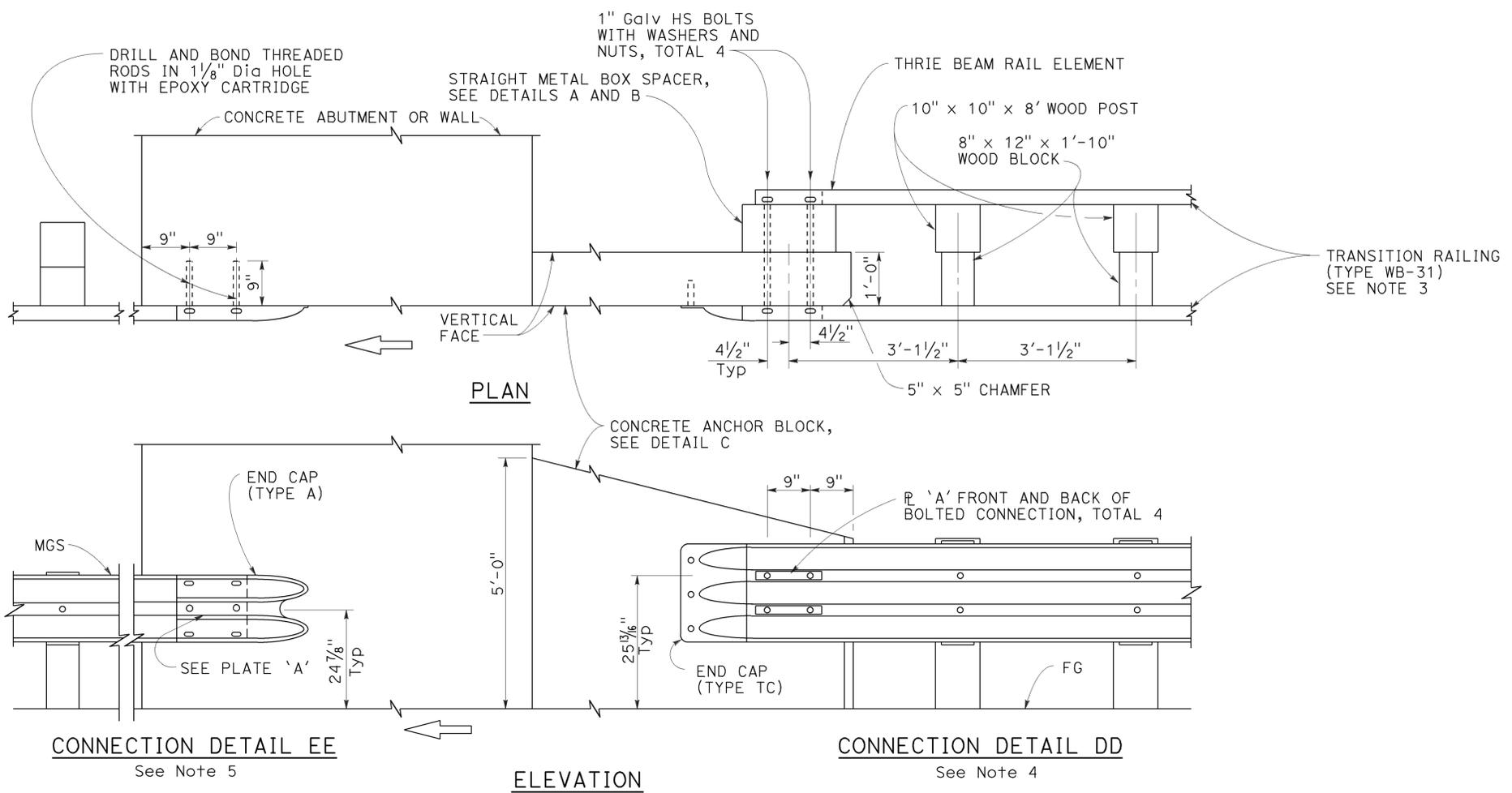
REVISED STANDARD PLAN RSP A77U2

2010 REVISED STANDARD PLAN RSP A77U2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/8.0	580	676
10	SJ	1880	13.5/15.4		

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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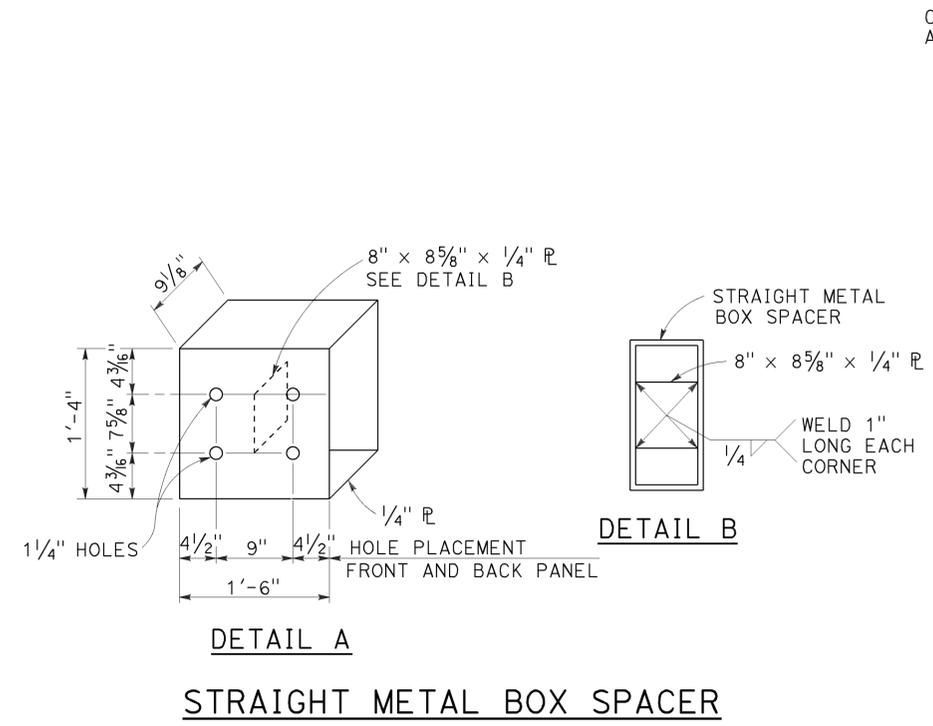
TO ACCOMPANY PLANS DATED 3-28-16



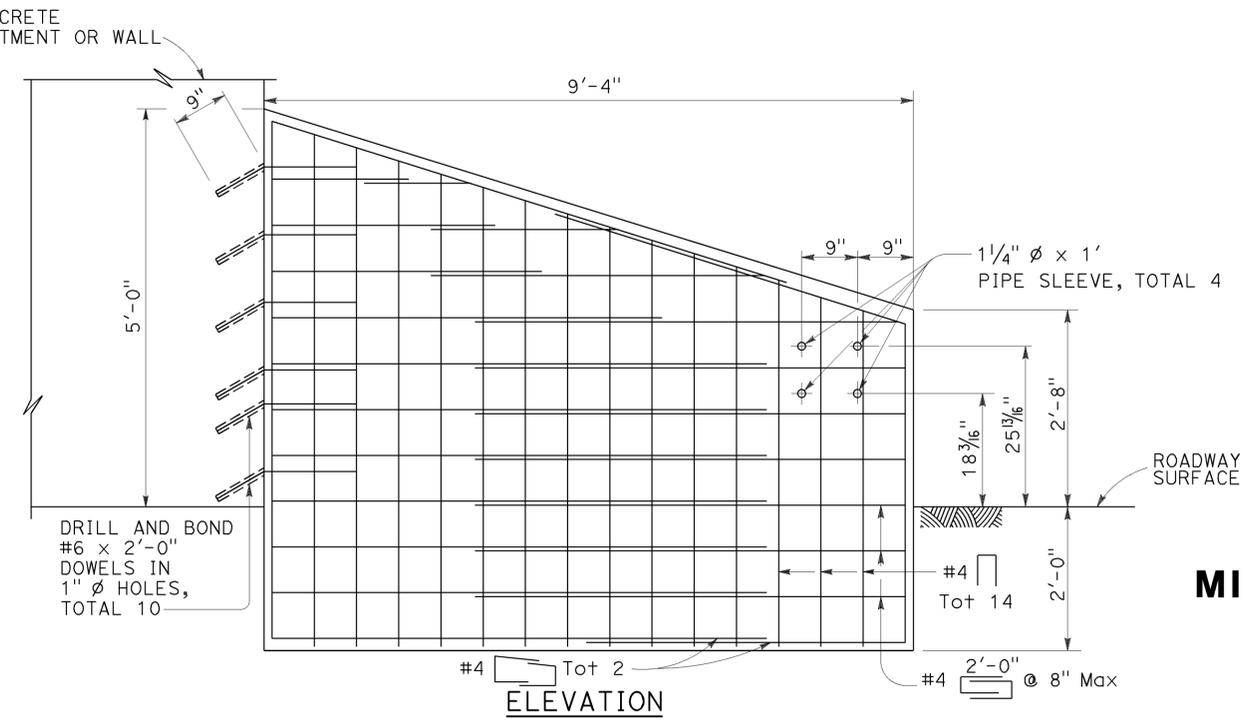
NOTES:

1. These connection details apply to abutments and walls.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete anchor block.
4. For typical use of Connection Details DD, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1 and Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2.
5. For typical use of Connection Detail EE, see Layout Type 12D on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.

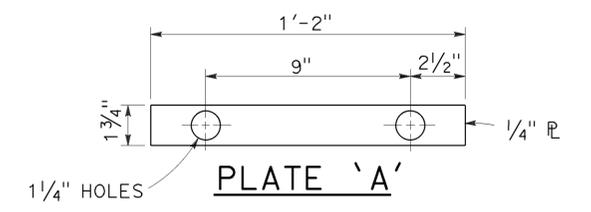
MIDWEST GUARDRAIL SYSTEM CONNECTION TO ABUTMENT OR WALL



STRAIGHT METAL BOX SPACER



ANCHOR BLOCK FOR TRANSITION RAILING CONNECTION



MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO ABUTMENTS AND WALLS

NO SCALE

RSP A77U3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U3

2010 REVISED STANDARD PLAN RSP A77U3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071	582	676
04	Alameda	205	0.071		
04	San Joaquin	980	13.571		
			26.130		
			13.571		

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

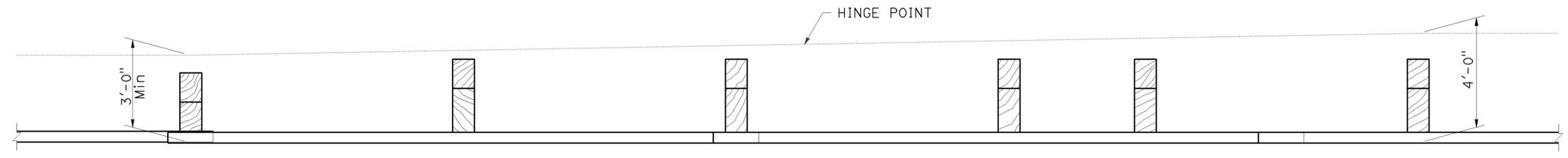
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

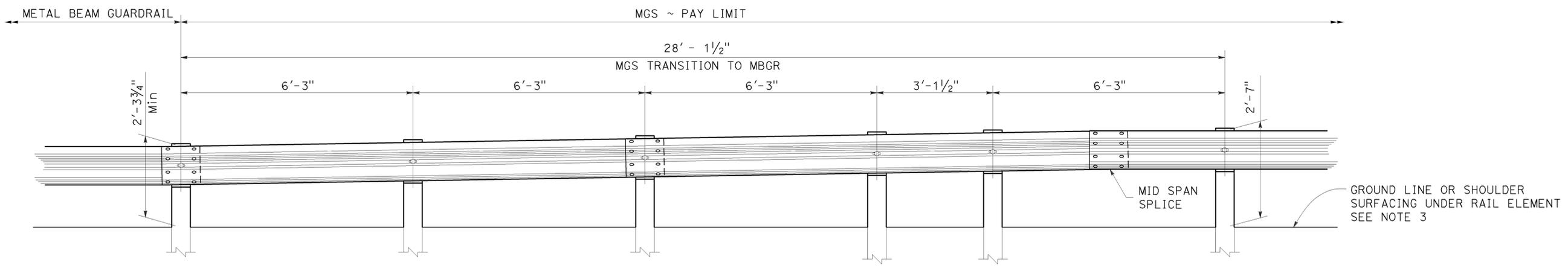
TO ACCOMPANY PLANS DATED 3-28-16

NOTES:

1. Refer to Revised Standard Plans RSP A77L1 and RSP A77L2 for component details for MGS not shown on this plan.
2. All posts for any standard barrier run shall be of the same type: Wood or Steel.
3. Install posts in soil.



PLAN



ELEVATION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TRANSITION TO METAL BEAM GUARDRAIL**

NO SCALE

RSP A77U5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U5

2010 REVISED STANDARD PLAN RSP A77U5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071	583	676
10	SJ	5880	0.071		
			0.071		
			13.571		

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

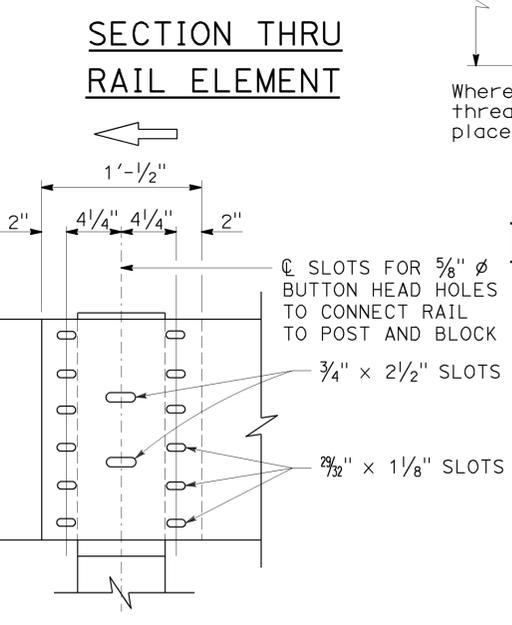
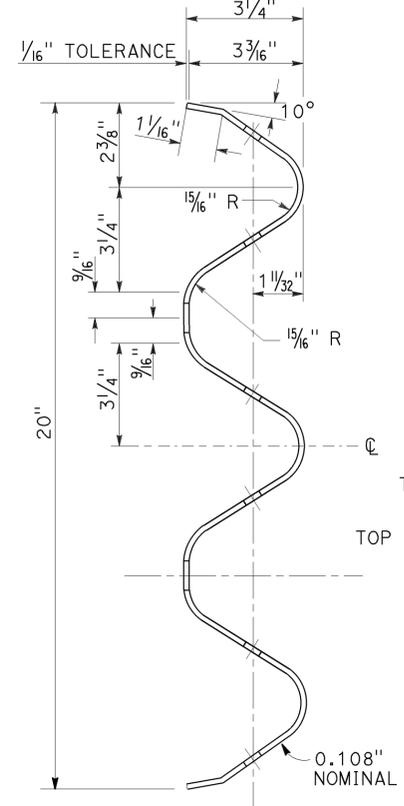
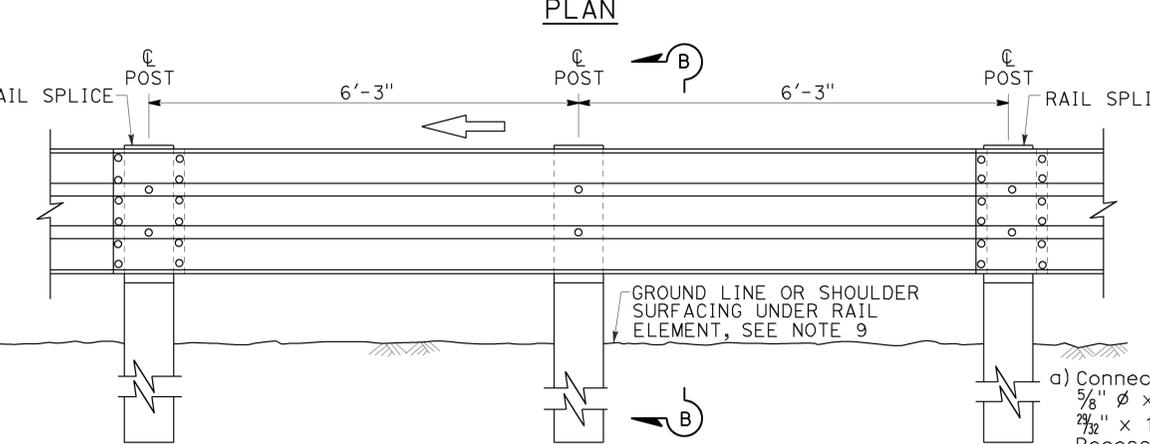
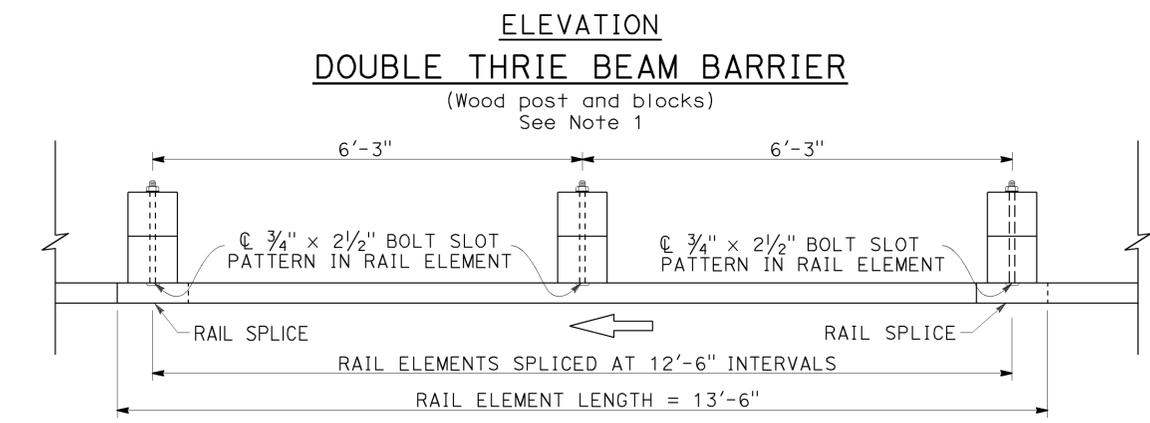
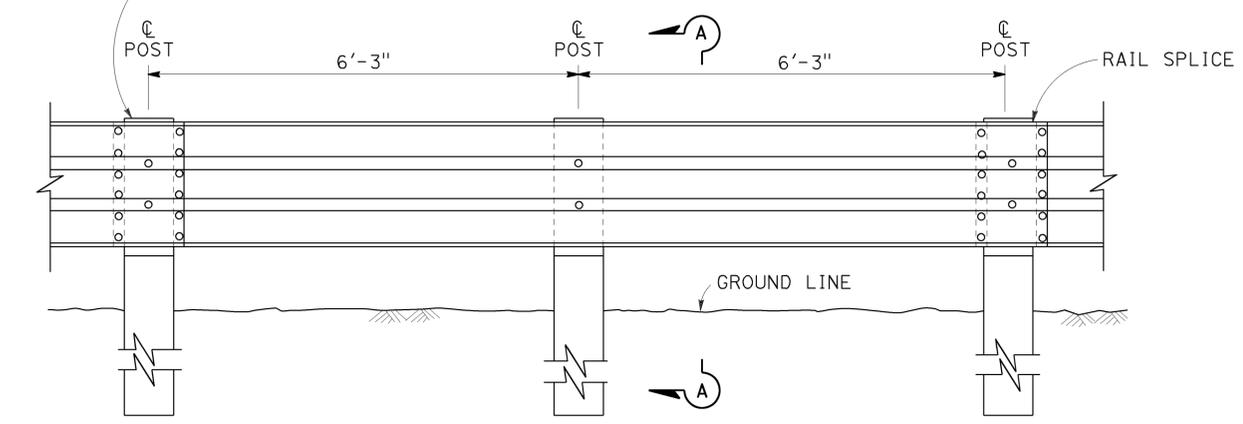
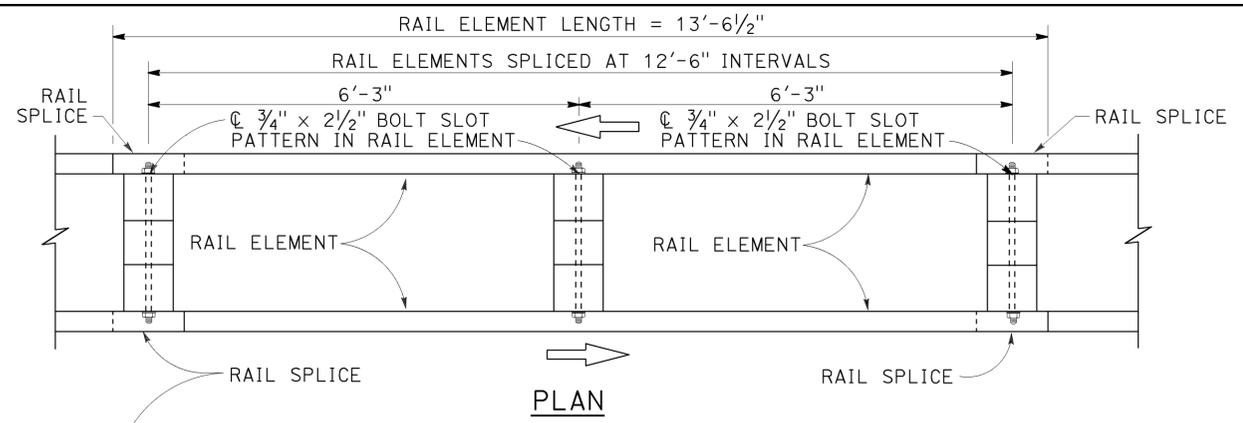
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

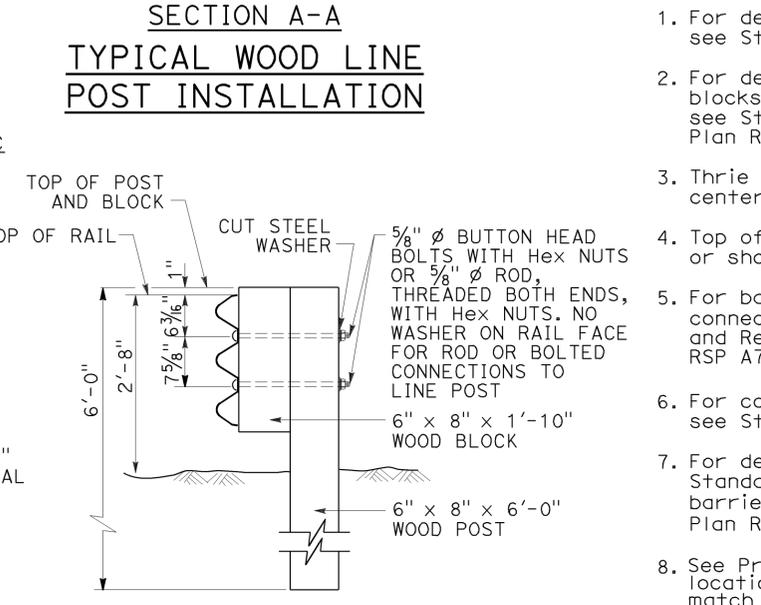
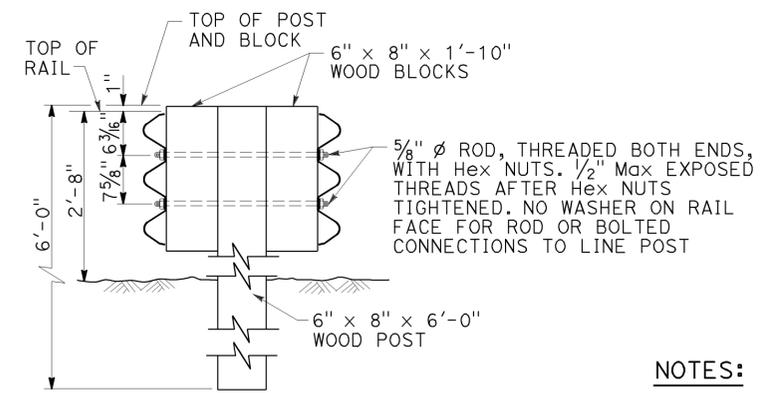
TO ACCOMPANY PLANS DATED 3-28-16

NOTES:

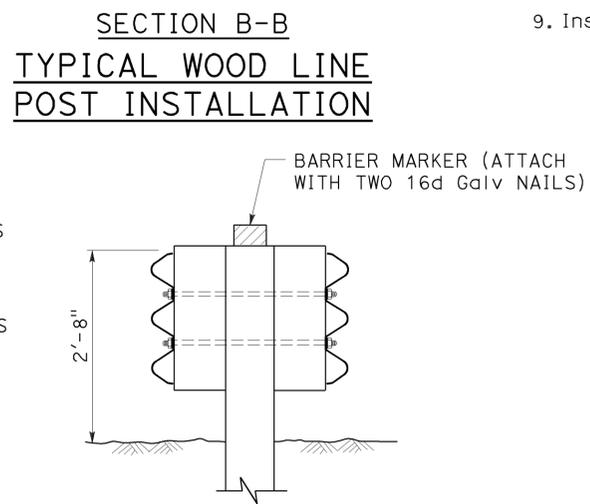
- For details of steel post thrie beam barrier, see Standard Plan A78B.
- For details of standard hardware, posts and blocks used to construct thrie beam barrier, see Standard Plan A78C1 and Revised Standard Plan RSP A78C2.
- Thrie beam barrier post spacing to be 6'-3" center to center, except as otherwise noted.
- Top of barrier rail to be 2'-8" above ground line or shoulder surfacing under the rail element.
- For barrier end treatments and barrier connections, see Standard Plans A78E3 and A78G, and Revised Standard Plans RSP A78E1, RSP A78E2 RSP A77Q1, RSP A77Q2 and RSP A78H.
- For connection to Concrete Barrier (Type 60), see Standard Plans A78I.
- For details of thrie beam barrier on bridge see Standard Plan A78D2. For details of thrie beam barrier at fixed object, see Revised Standard Plan RSP A78D1.
- See Project Plans for barrier delineation locations. Spacing of barrier markers to match spacing of raised pavement markers on adjacent median edgeline pavement delineation.
- Install posts in soil.



- Connect the overlapped ends of the thrie beam rail elements with 5/8" Ø x 1 1/4" button head oval shoulder bolts inserted into the 2 3/32" x 1 1/8" slots and bolted together with 5/8" Ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 12 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used. Where a return cap is to be attached to the ends of rail elements, a total of 8 of the above described splice bolts and nuts are to be used.



Where bolts are used, install so that the threaded end of the bolts and nuts are placed away from traffic side of rail.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
THRIE BEAM BARRIER STANDARD BARRIER RAILING SECTION (WOOD POST WITH WOOD BLOCK)
NO SCALE

RSP A78A DATED OCTOBER 30, 2015 SUPERSEDES RSP A78A DATED JULY 19, 2013 AND STANDARD PLAN A78A DATED MAY 20, 2011 - PAGE 89 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A78A

2010 REVISED STANDARD PLAN RSP A78A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/0.7	584	676
04	Alameda	205	0.0/0.7		
00	SJ	1880	13.5/15.4		

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

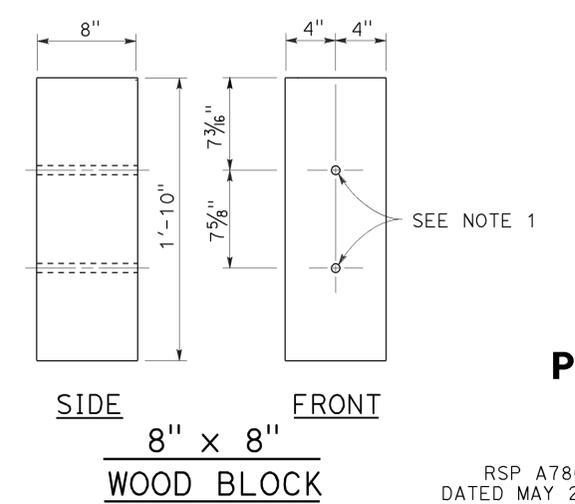
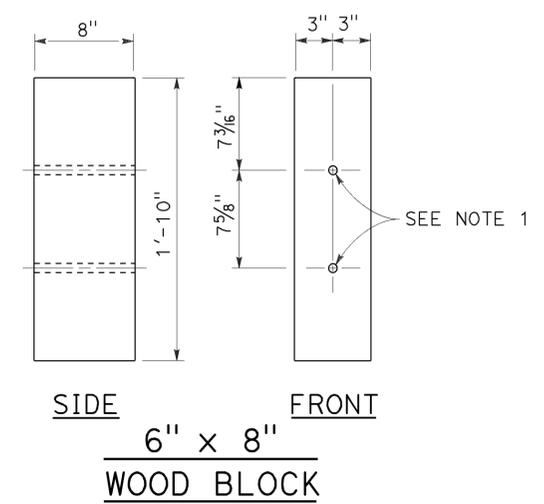
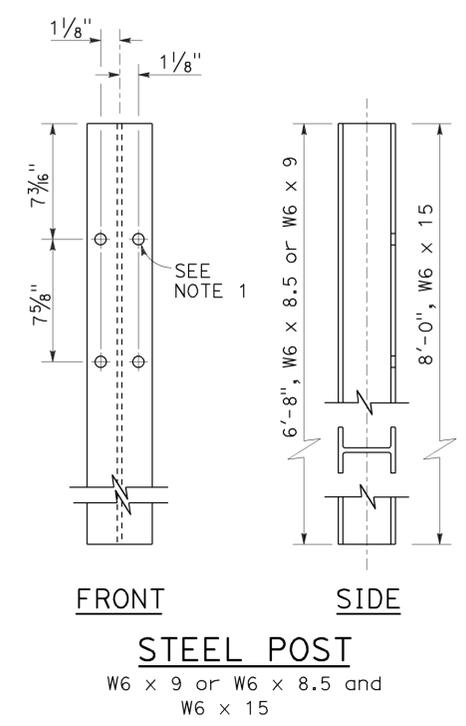
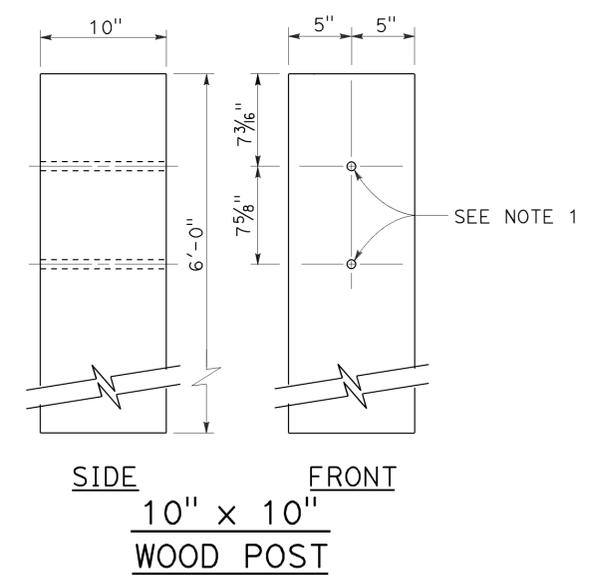
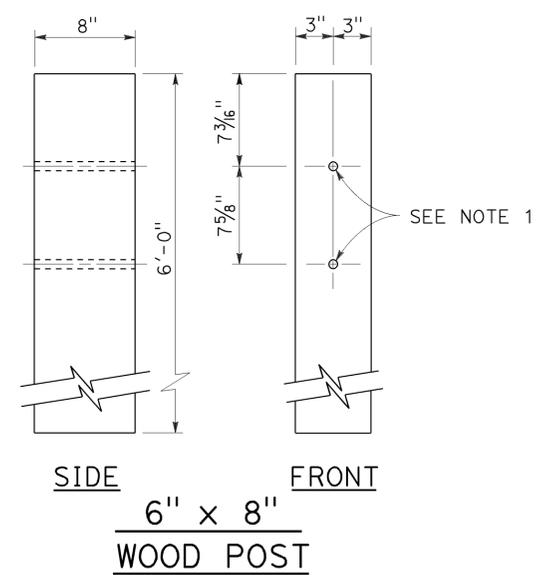
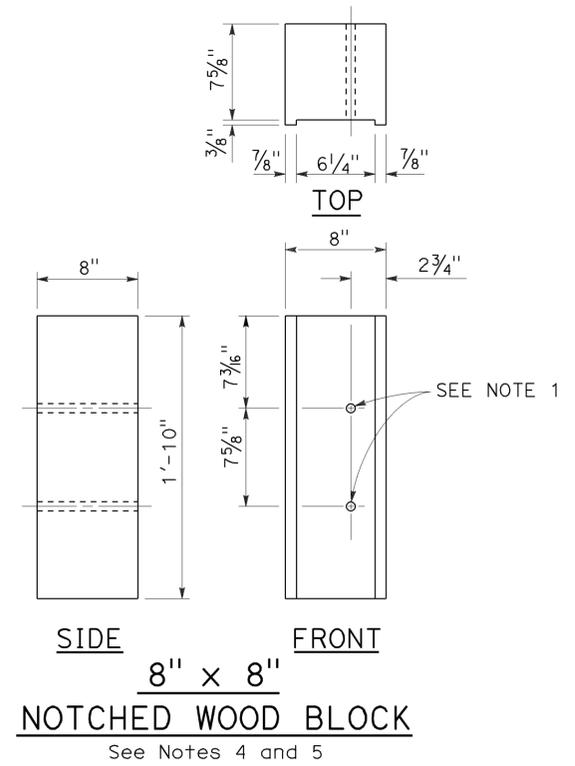
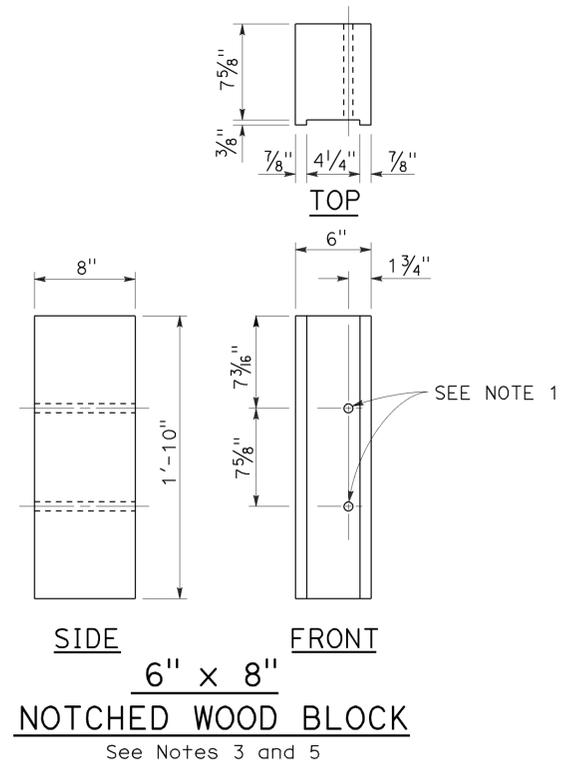
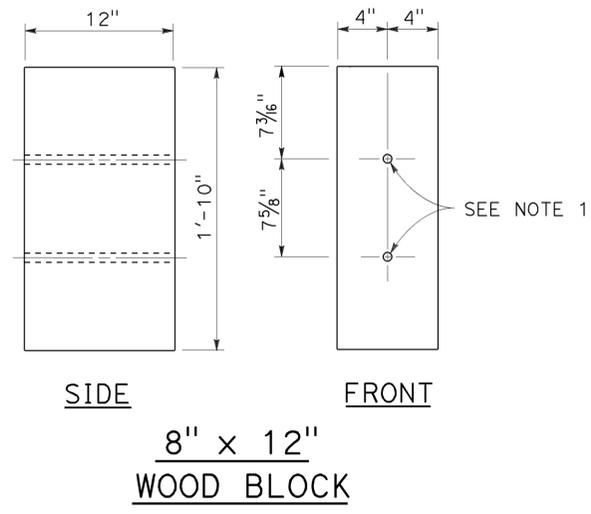
July 19, 2013
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-28-16

- NOTES:**
- All holes in steel post to be 1 1/8" Dia maximum. Holes in wood posts and wood blocks to be 3/4" Dia ± 1/16".
 - Dimensions shown for wood post are nominal.
 - For use with W6 x 8.5 or W6 x 9 steel post.
 - For use with W6 x 15 steel post.
 - Notched face of block faces steel post.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**THRIE BEAM BARRIER
POST AND BLOCK DETAILS**

NO SCALE

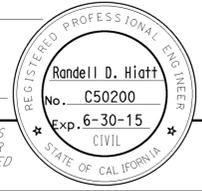
RSP A78C2 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A78C2
DATED MAY 20, 2011 - PAGE 92 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A78C2

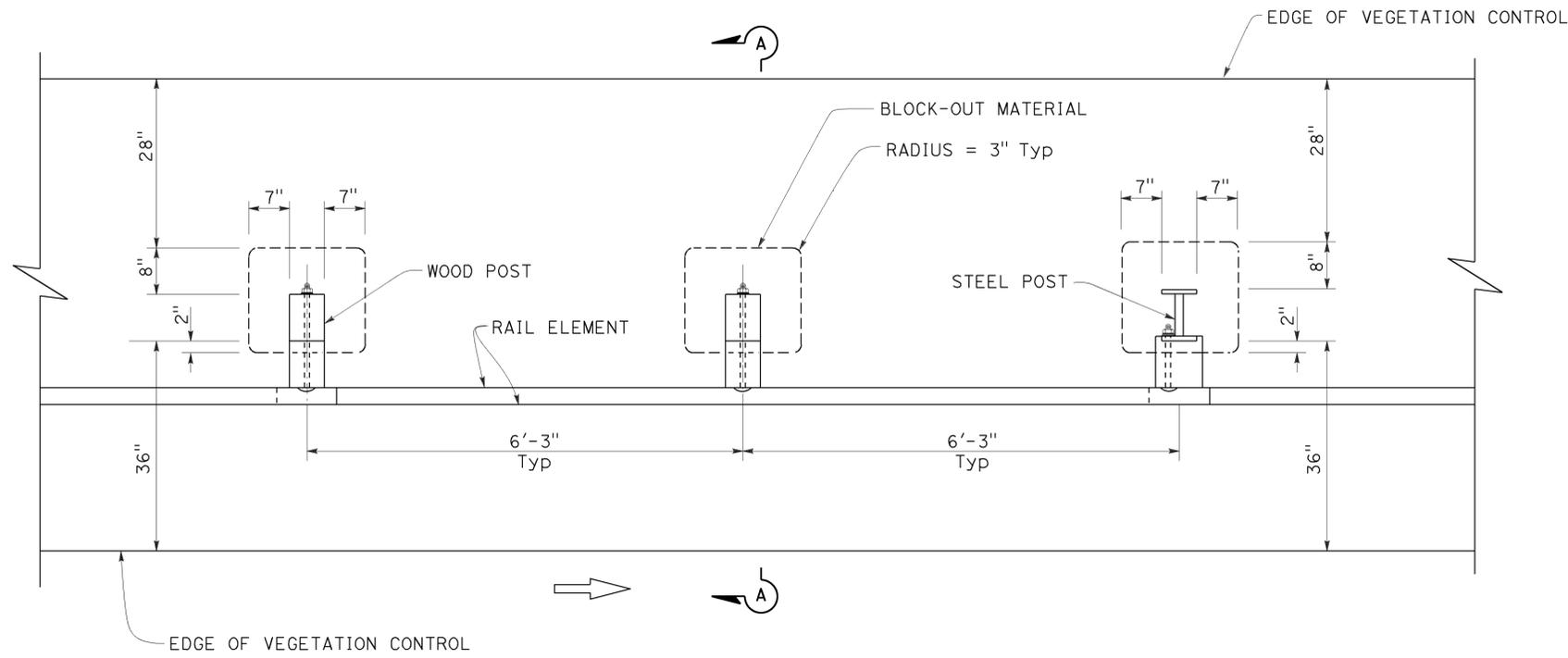
2010 REVISED STANDARD PLAN RSP A78C2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/71.0	585	676
04	Alameda	205	0.0/71.0	585	676
04	Alameda	205	0.0/71.0	585	676

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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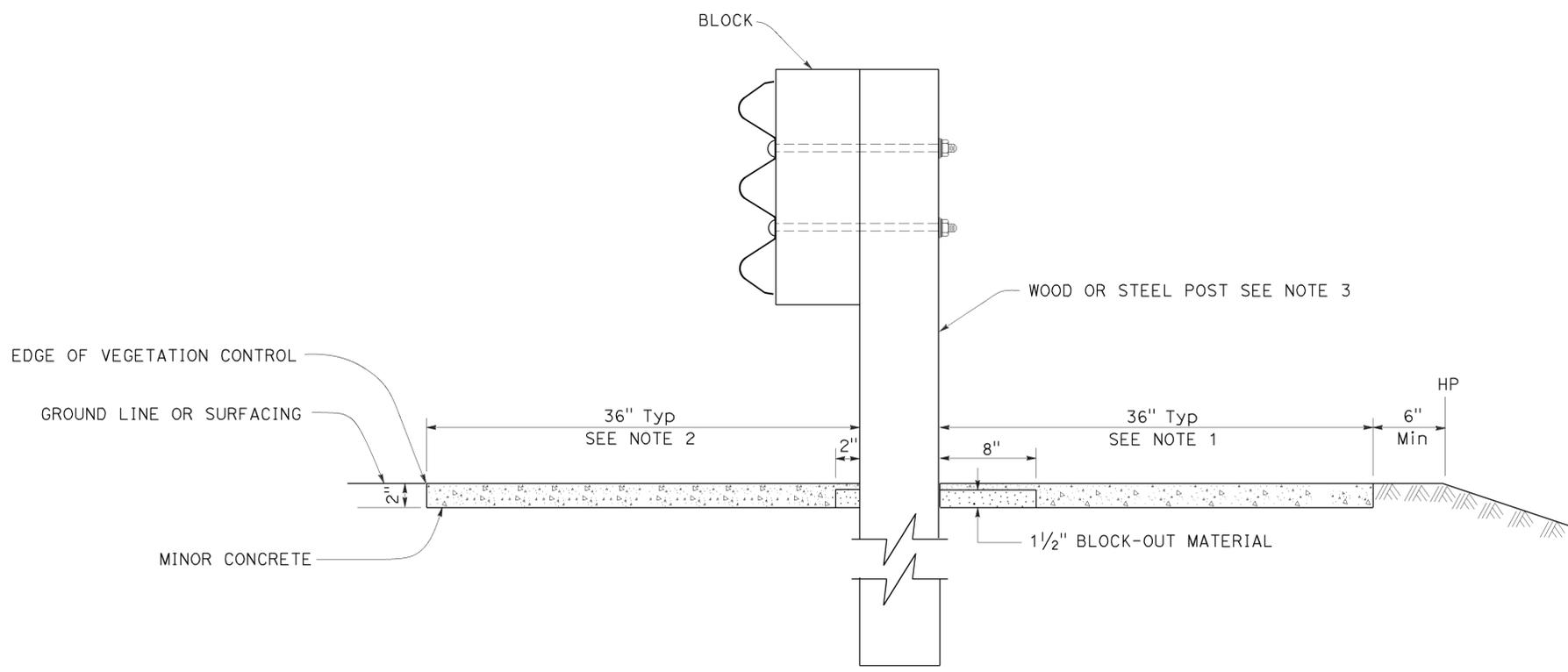
TO ACCOMPANY PLANS DATED 3-28-16



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under barrier, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood and steel post sizes, see Revised Standard Plan RSP A77N2.
4. For details not shown, see Standard Plan A78B and Revised Standard Plan RSP A78A.



SECTION A-A

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
SINGLE THRIE BEAM BARRIER
TYPICAL VEGETATION CONTROL
STANDARD BARRIER RAILING SECTION
 NO SCALE

RSP A78C3 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A78C3 DATED MAY 20, 2011 - PAGE 93 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A78C3

2010 REVISED STANDARD PLAN RSP A78C3

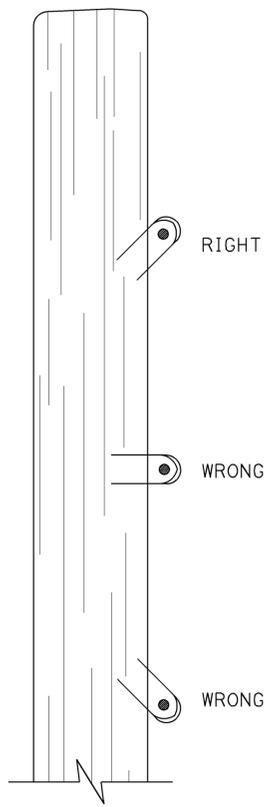
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/71.0	586	676
00	SJ	UN880	0.0/80.26		
			13.5/30.3		

Raymond Don Tsztsoo
 REGISTERED CIVIL ENGINEER
 October 19, 2012
 PLANS APPROVAL DATE

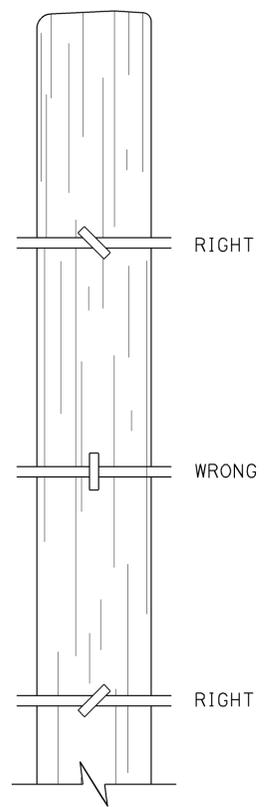
REGISTERED PROFESSIONAL ENGINEER
 Raymond Don Tsztsoo
 No. C37332
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

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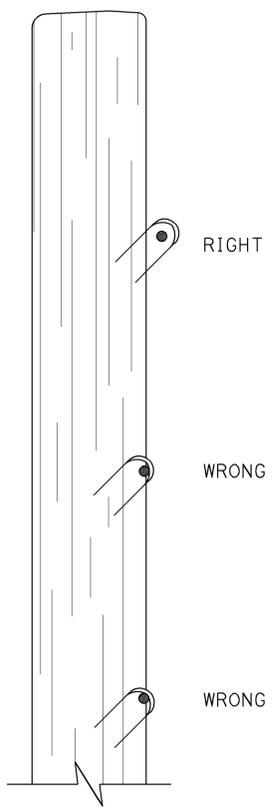
TO ACCOMPANY PLANS DATED 3-28-16



DRIVE STAPLES AT ANGLE



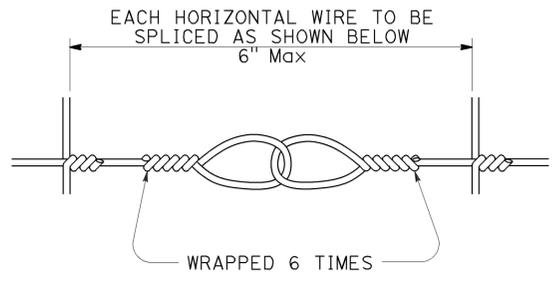
DO NOT DRIVE STAPLES PARALLEL TO SIDE OF POST



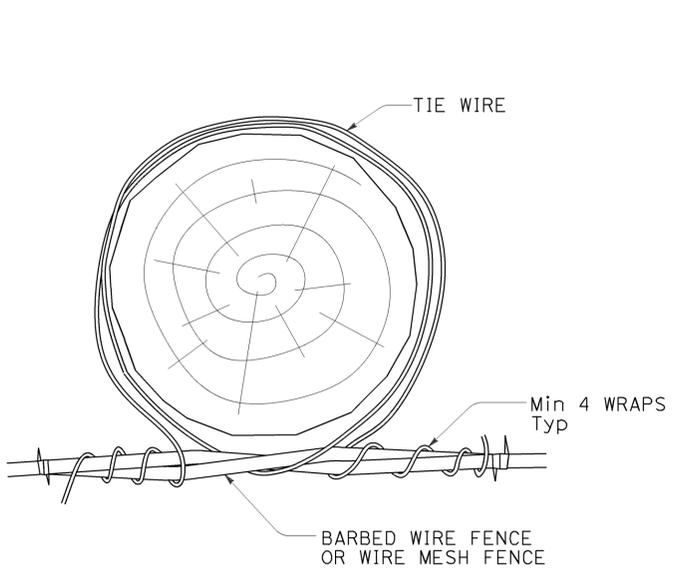
LEAVE WIRE LOOSE IN STAPLE

LINE POST STAPLING DETAILS

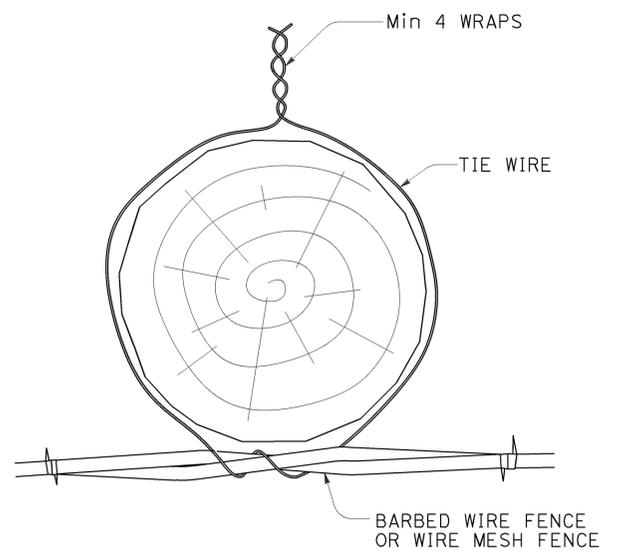
(Apply to rectangular/square and round posts)
Do not staple vertical wire in wire mesh.



SPLICE DETAIL FOR BARBED WIRE/WIRE MESH FENCE



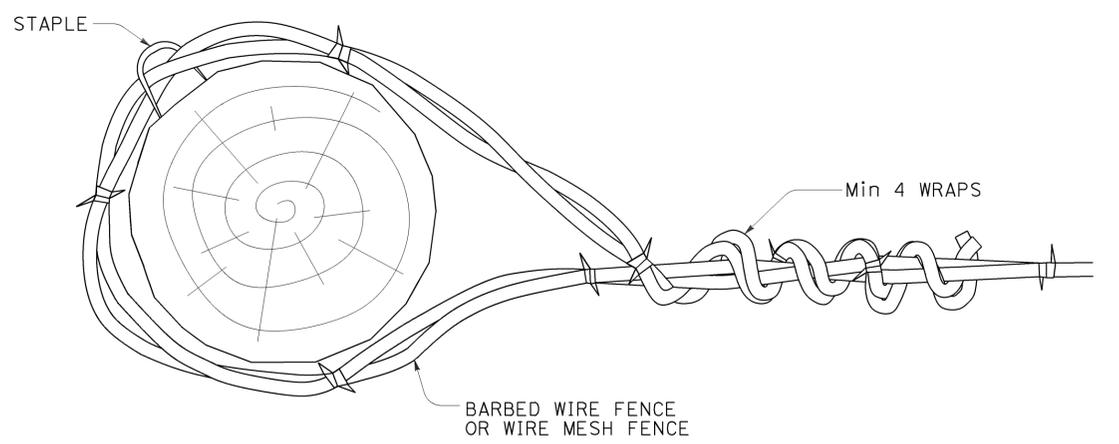
OPTION A



OPTION B

LINE POST WIRE TIE OPTION DETAILS

(Option details also apply to rectangular/square posts)



END, LATCH, PULL, AND CORNER POST DETAIL

(Also applies to rectangular/square posts)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BARBED WIRE AND WIRE MESH FENCE - MISCELLANEOUS DETAILS

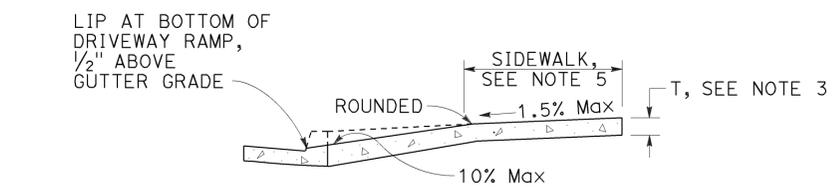
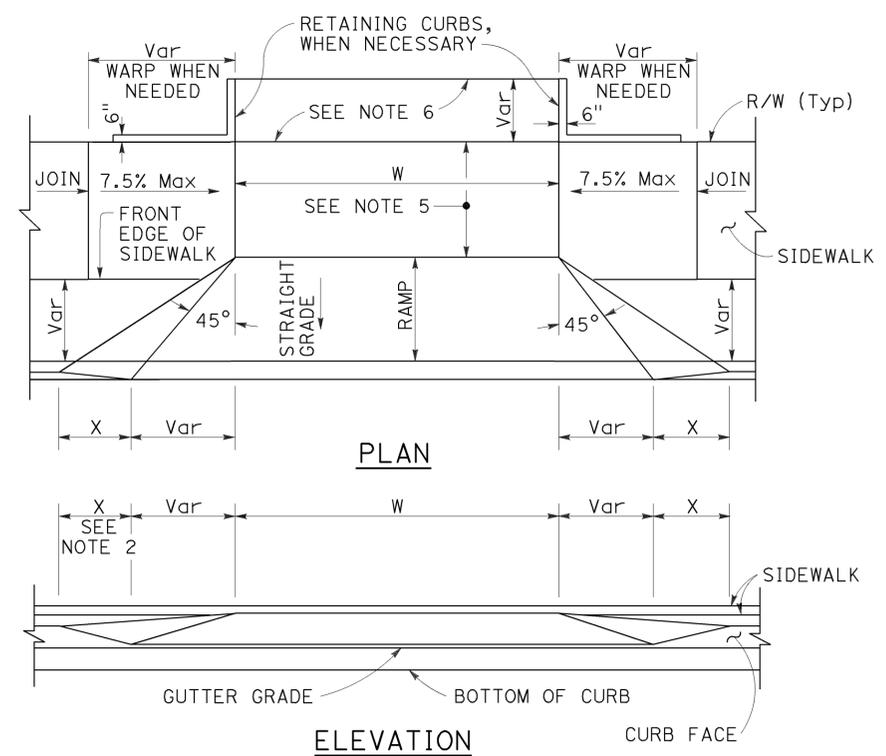
NO SCALE

RSP A86D DATED OCTOBER 19, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

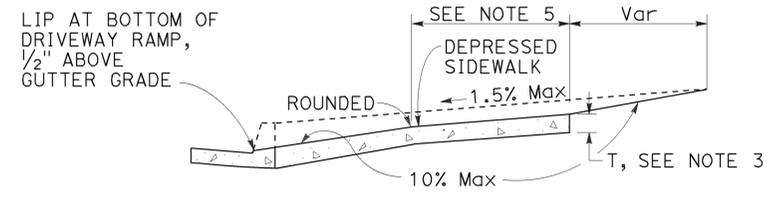
REVISED STANDARD PLAN RSP A86D

2010 REVISED STANDARD PLAN RSP A86D

TO ACCOMPANY PLANS DATED 3-28-16



CASE A
 Typical driveway, sidewalk not depressed



CASE B
 Driveway with depressed sidewalk

SECTIONS

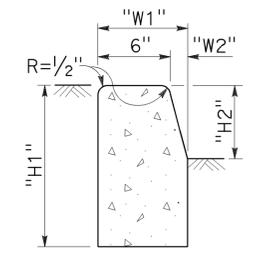
TABLE A

CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8 1/2"	3 1/2"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-9"

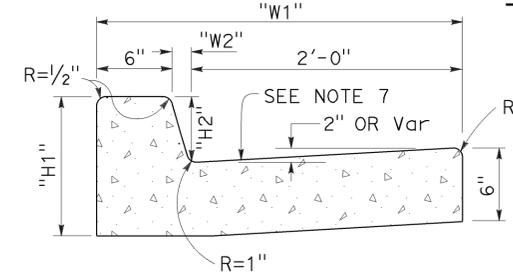
CURB QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

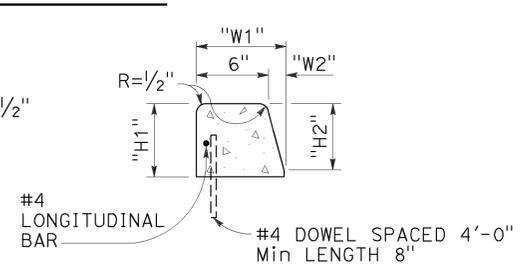
DRIVEWAYS



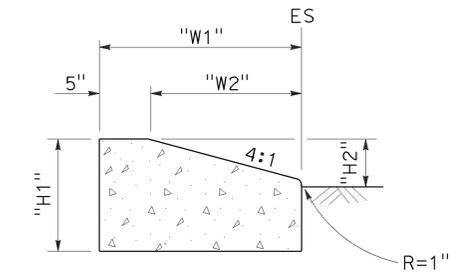
TYPE A1 CURBS
 See Table A



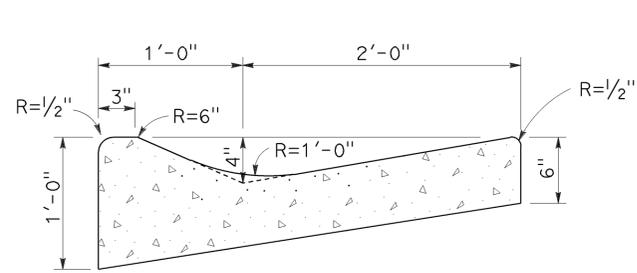
TYPE A2 CURBS
 See Table A



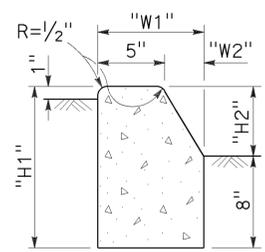
TYPE A3 CURBS
 Superimposed on existing pavement
 See Table A



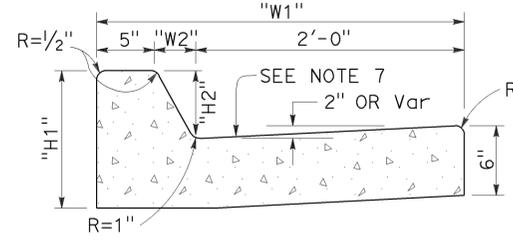
TYPE D CURBS
 See Table A



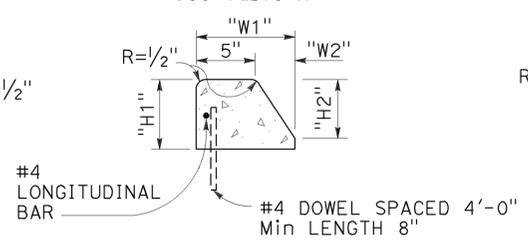
TYPE E CURB



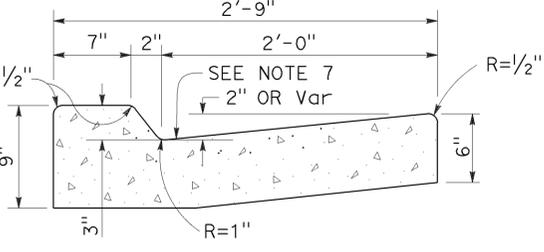
TYPE B1 CURBS
 See Table A



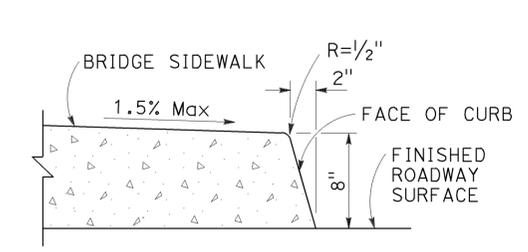
TYPE B2 CURBS
 See Table A



TYPE B3 CURBS
 Superimposed on existing pavement
 See Table A



TYPE B4 CURBS



TYPE H CURB
 On Bridges

CURBS

- NOTES:**
- Case A driveway section typically applies.
 - X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
 - Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
 - Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.

- Minimum width of clear passageway for sidewalk shall be 4'-2".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

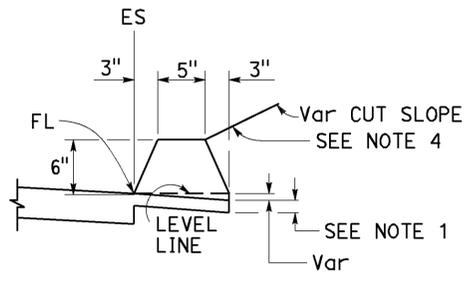
NO SCALE

RSP A87A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87A
 DATED MAY 20, 2011 - PAGE 119 OF THE STANDARD PLANS BOOK DATED 2010.

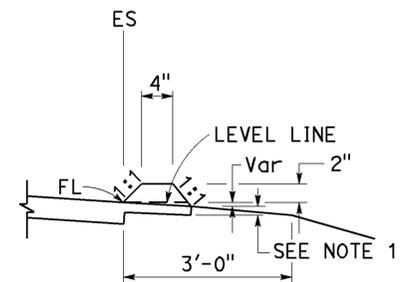
REVISED STANDARD PLAN RSP A87A

2010 REVISED STANDARD PLAN RSP A87A

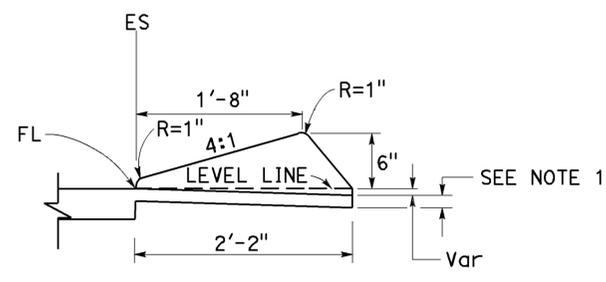
TO ACCOMPANY PLANS DATED 3-28-16



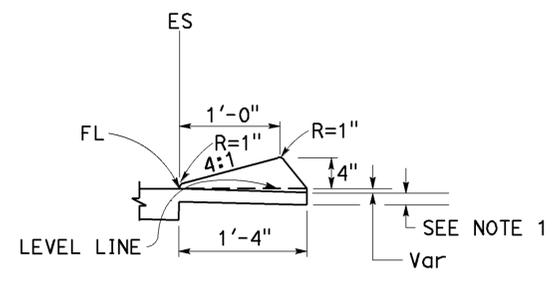
TYPE A
See Notes 3 and 5



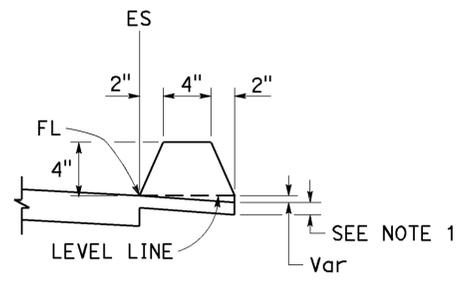
TYPE C



TYPE D

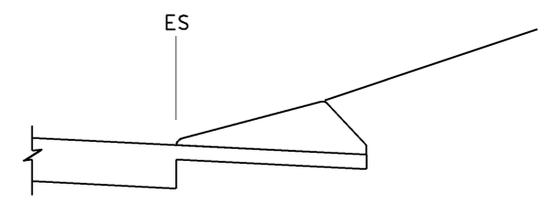


TYPE E

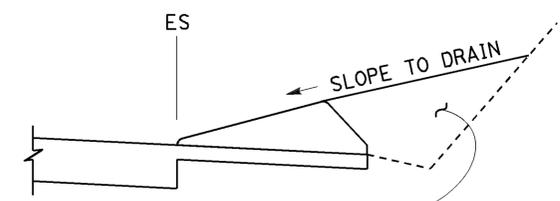


TYPE F
See Note 5

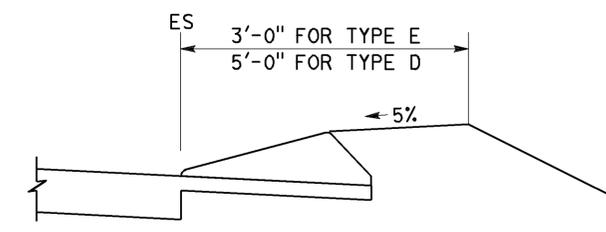
DIKES



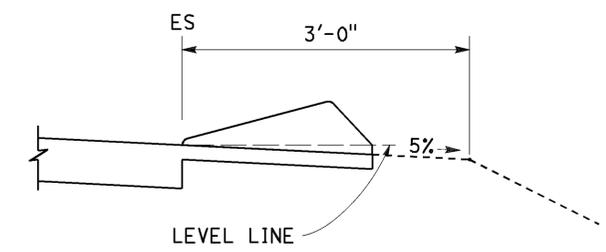
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

- For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
- Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
- Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
- Fill and compact with excavated material to top of dike.
- Use Type A or F dike, where dike is required with guardrail installations. See Revised Standard Plan RSP A77N4 for dike positioning details. See Revised Standard Plan RSP A77N3 for hinge point offsets with guardrail.

DIKE QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

RSP A87B DATED JANUARY 15, 2016 SUPERSEDES RSP A87B DATED JULY 19, 2013 AND STANDARD PLAN A87B DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

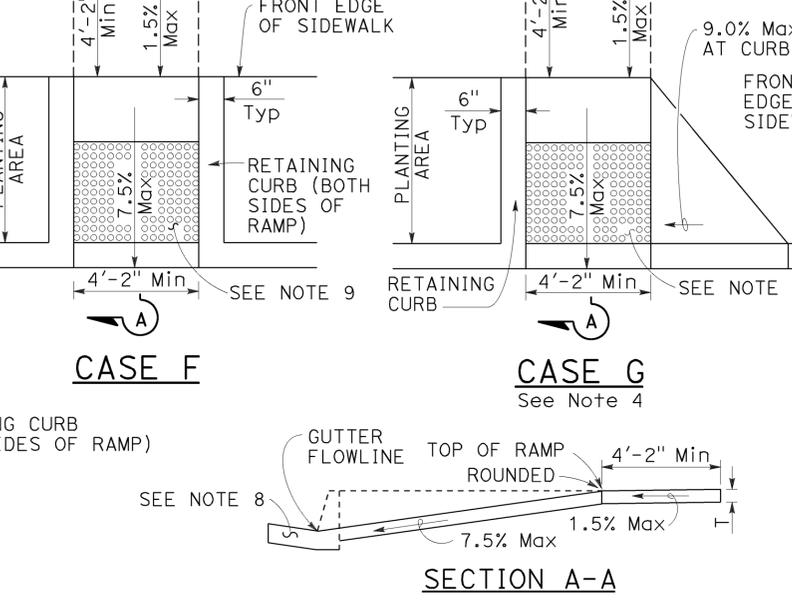
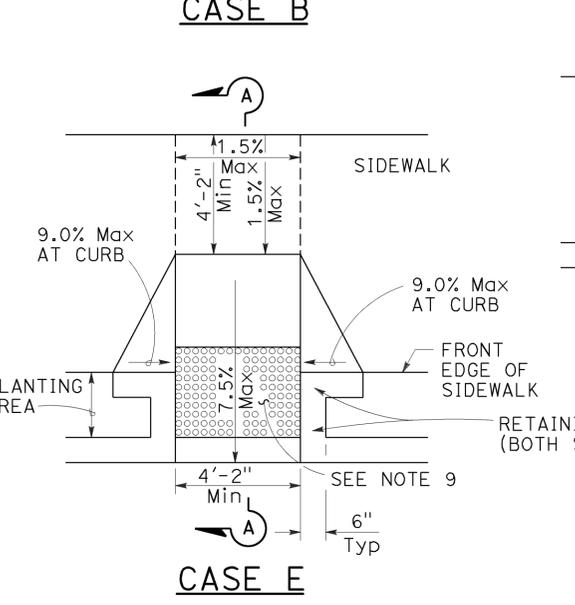
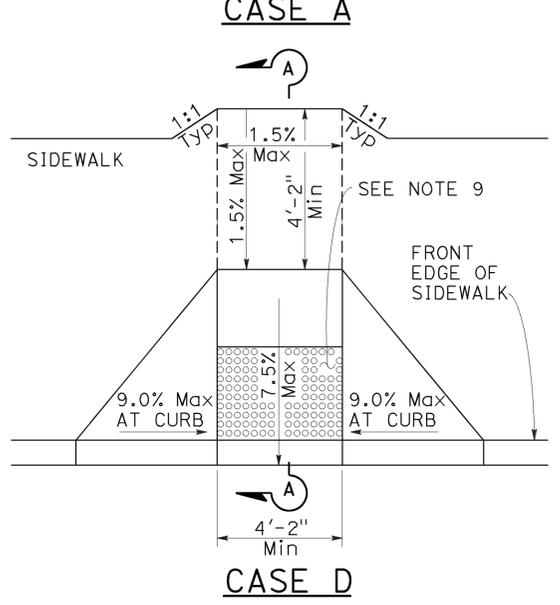
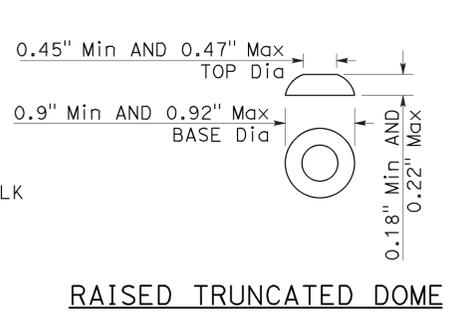
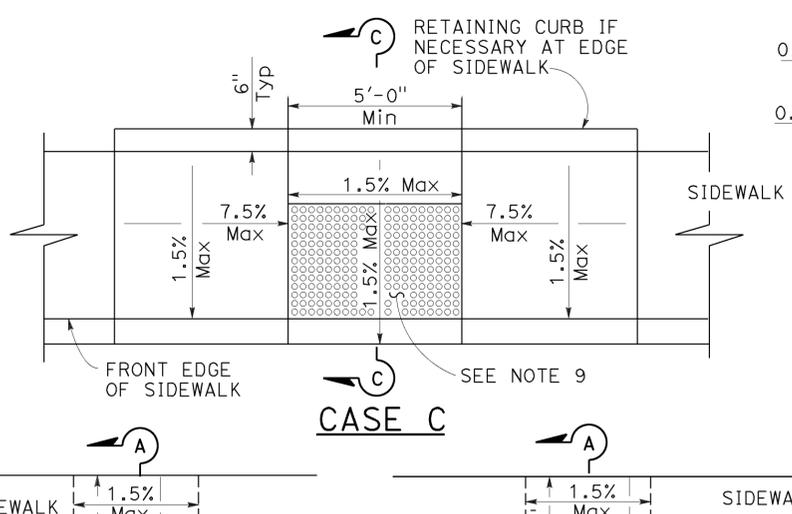
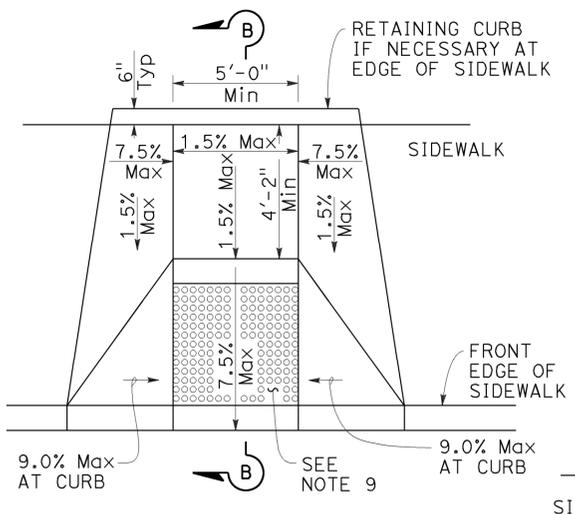
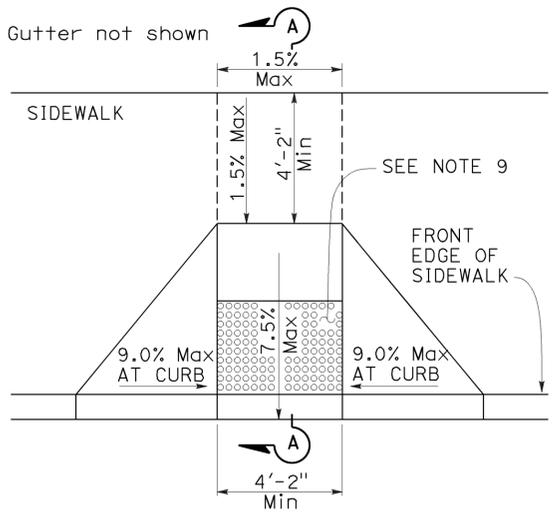
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.071	589	676
00	SJ	UNB80	0.071/30.3		
			13.5715.4		

H. David Cordova
REGISTERED CIVIL ENGINEER

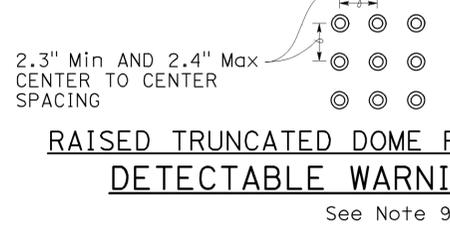
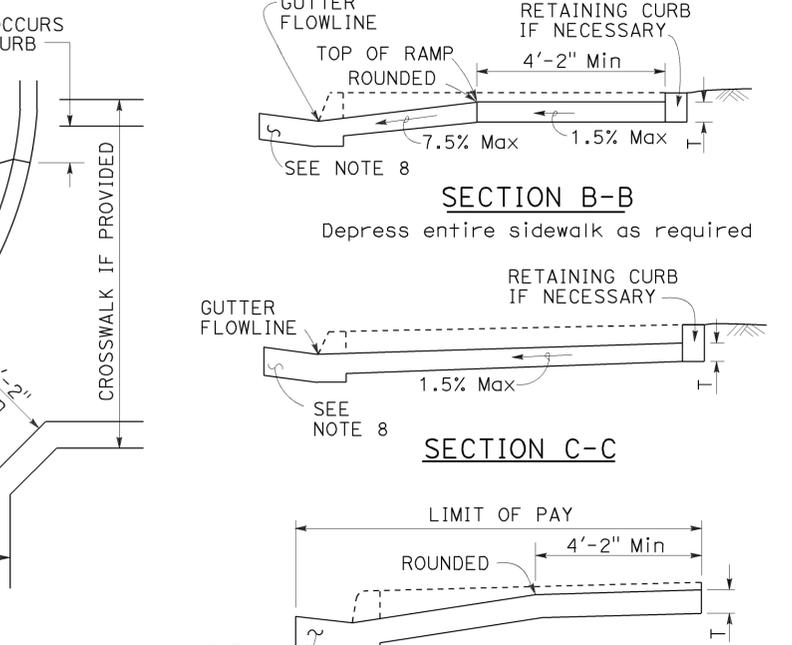
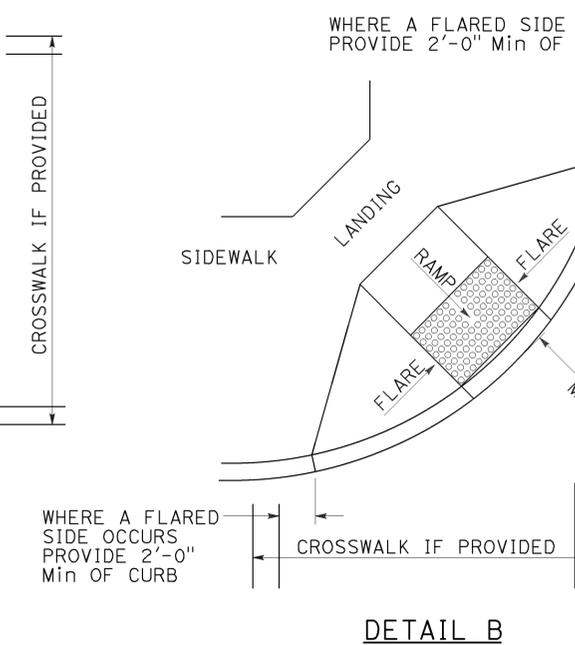
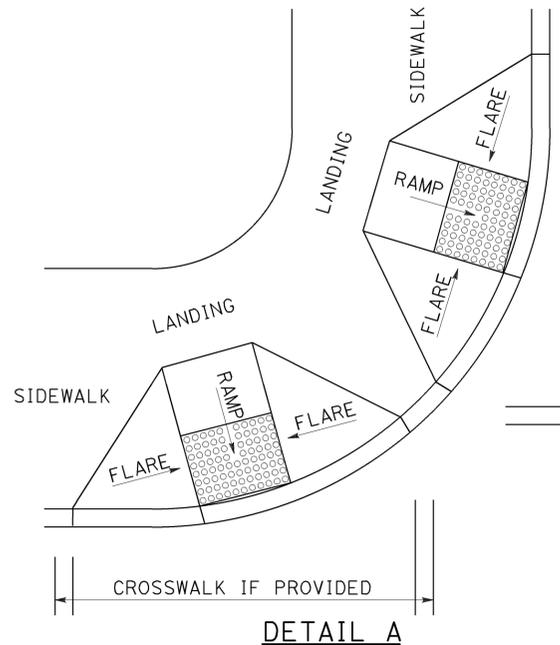
July 3, 2015
PLANS APPROVAL DATE

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Hector David Cordova
REGISTERED PROFESSIONAL ENGINEER
No. C41957
Exp. 3-31-16
CIVIL
STATE OF CALIFORNIA



- NOTES:**
- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
 - If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
 - When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
 - As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
 - If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-2".
 - Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
 - Transitions from ramps and landing to walks, gutters or streets shall be flush (no lip) and free of abrupt changes.
 - Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
 - Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. A 4'-0" wide detectable warning surface may be used on a 4'-2" wide curb ramp. Detectable Warning Surfaces shall conform to the requirements in the Standard Specifications.
 - Sidewalk and ramp thickness, "T", shall be 3/2" minimum.
 - Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
 - Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.

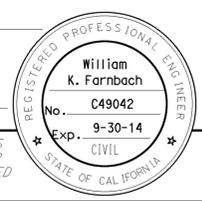


STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CURB RAMP DETAILS
NO SCALE

RSP A88A DATED JULY 3, 2015 SUPERSEDES RSP A88A DATED MARCH 21, 2014 AND RSP A88A DATED JULY 19, 2013 AND STANDARD PLAN A88A DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88A

2010 REVISED STANDARD PLAN RSP A88A



TO ACCOMPANY PLANS DATED 3-28-16

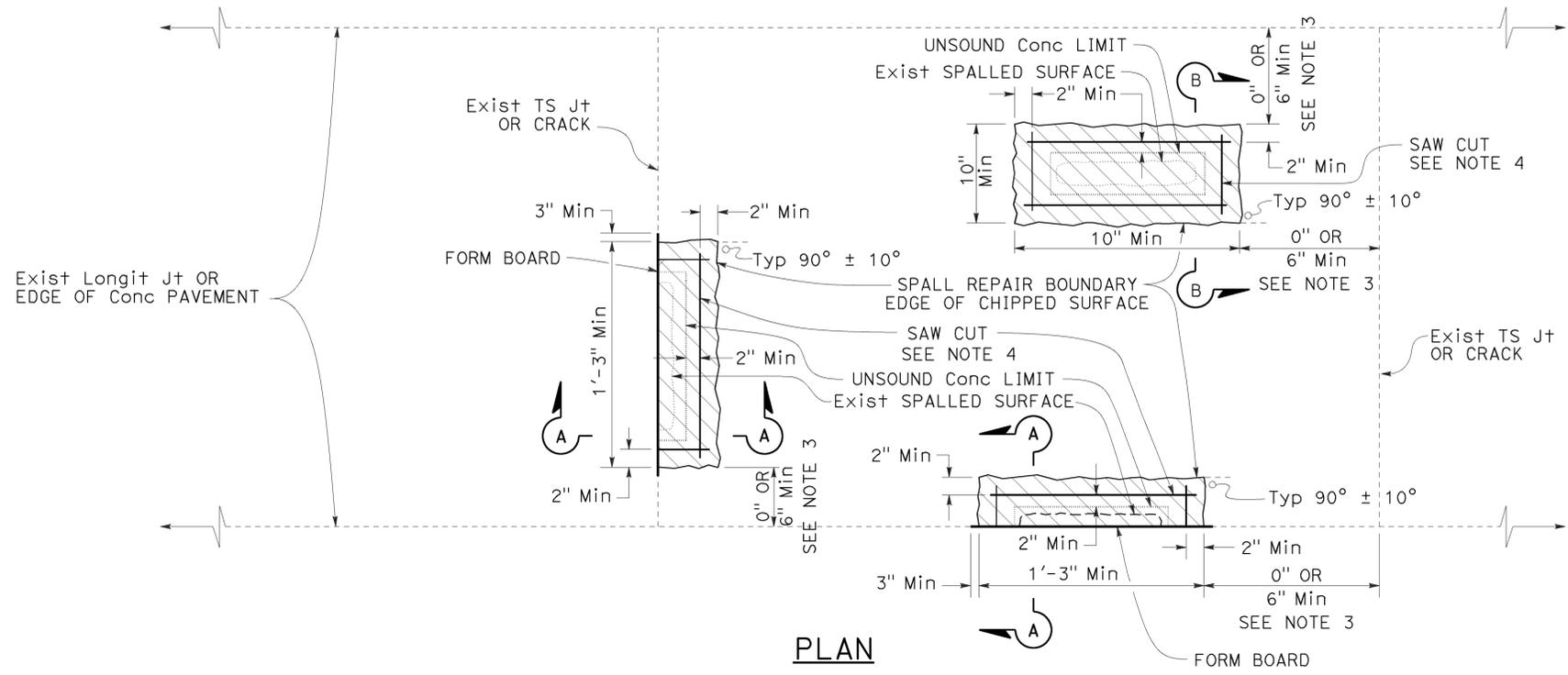
LEGEND



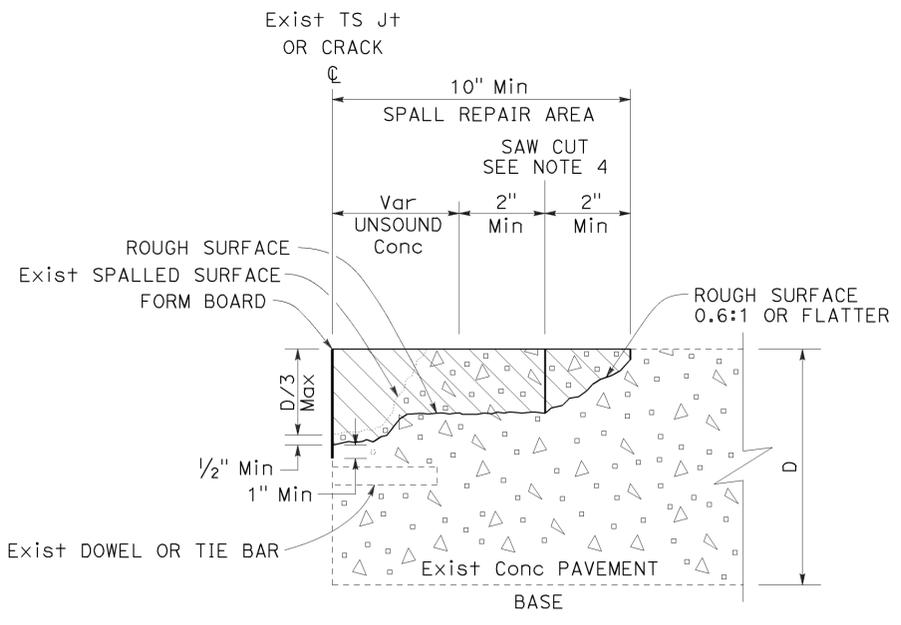
NOTES:

1. See Project Plans for spall repair locations.
2. Combine spall repair areas closer than 2' apart.
3. If the spall repair area is less than 6" from a joint, extend the repair to the joint.
4. Cut at least 2" beyond the rectangular limits of unsound concrete determined by the Engineer. Determine the saw cut depth using the following table:

Conc MATERIAL	SAW CUT DEPTH	
	Min	Max
FAST-SETTING	2"	3 1/2"
POLYESTER	1 1/2"	3 1/2"

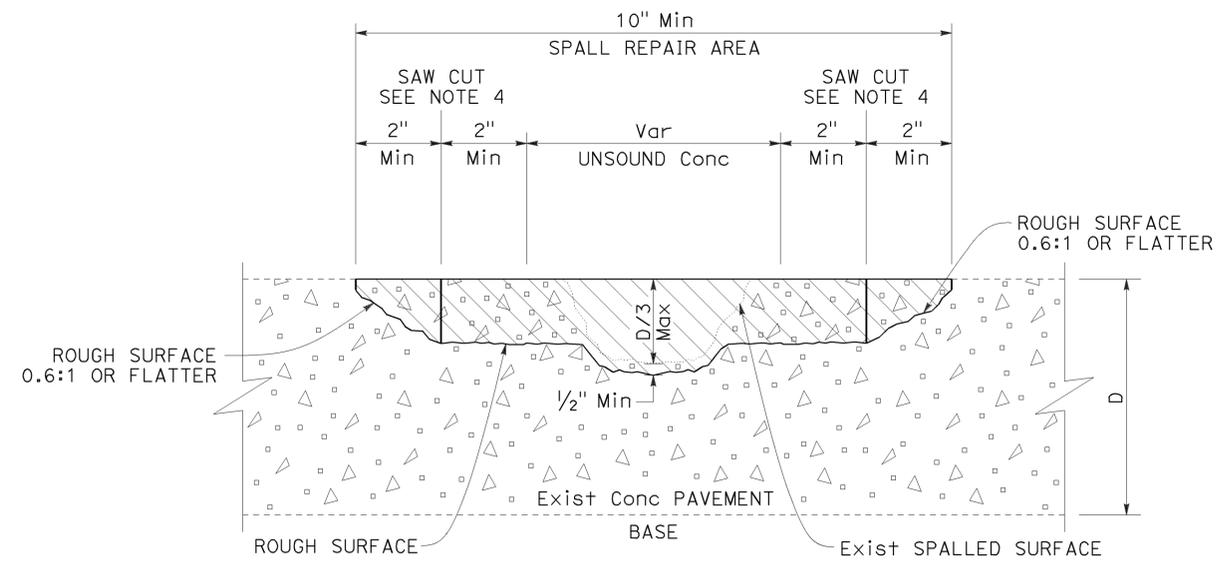


PLAN



SECTION A-A

JOINT, CRACK, OR EDGE OF CONCRETE PAVEMENT REPAIR



SECTION B-B

MISCELLANEOUS SPALL REPAIR

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SPALL REPAIR

NO SCALE

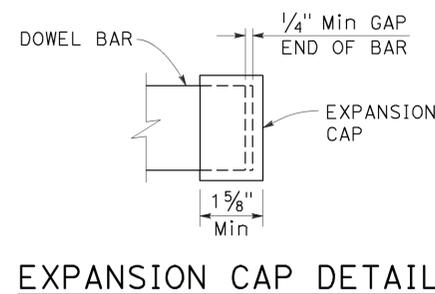
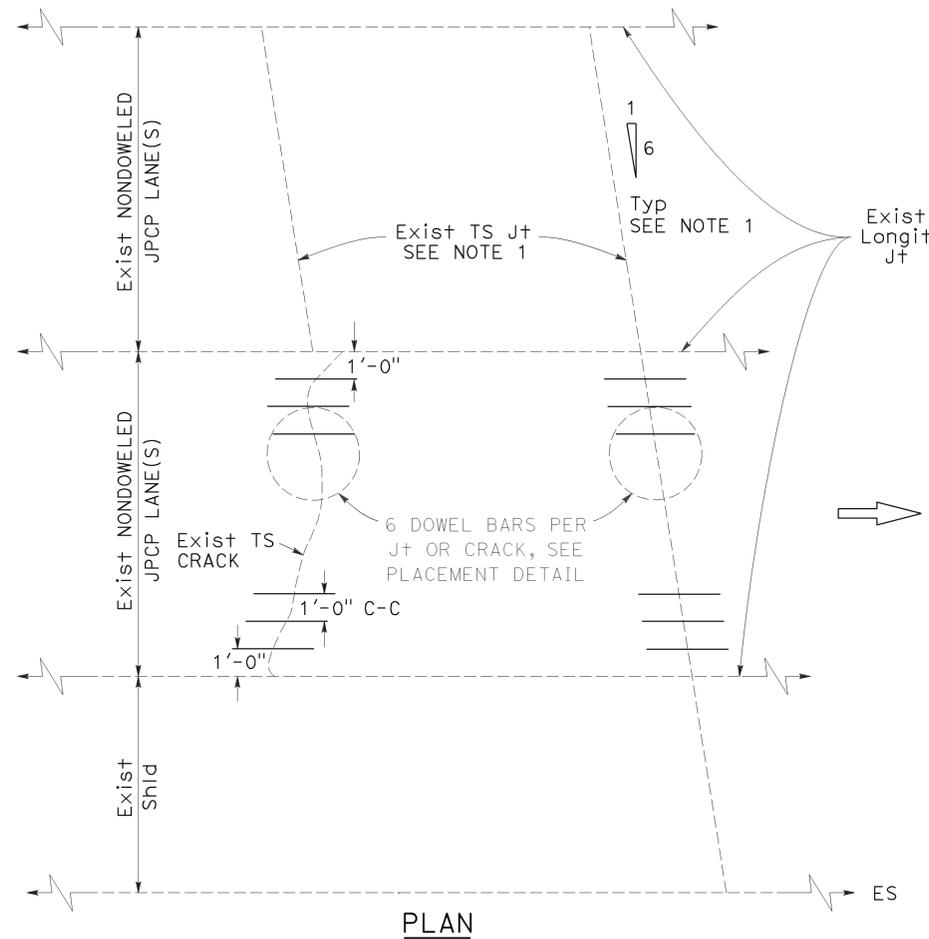
NOTES:

1. Details for skewed joints also apply to perpendicular joints.
2. Use 1'-6" ± 1/4" long dowel bars with a 1/4" diameter except 1" diameter dowel bars may be used if D < 0.70".
3. Caulk existing transverse joint at bottom and sides of the dowel bar slot prior to placing dowel bar and foam insert.
4. Foam insert thickness must match width of existing transverse joint or crack.

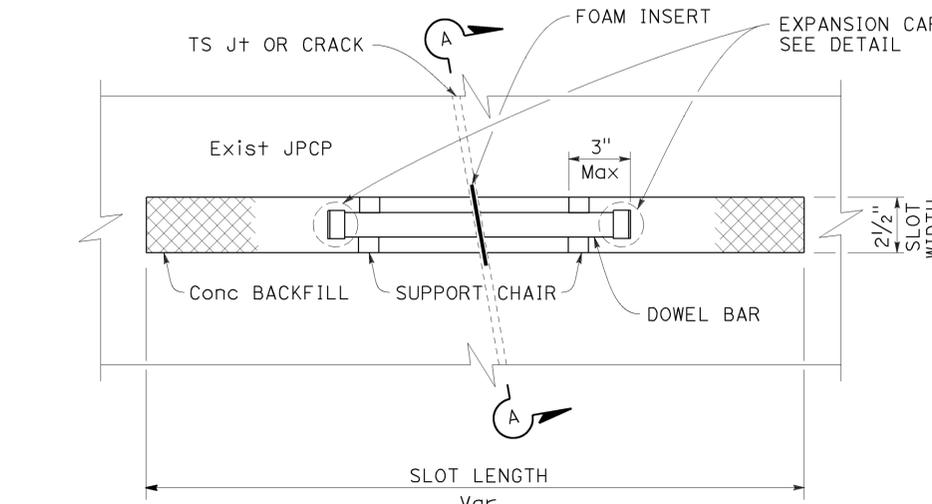
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 04 10	Alb Alb SJ	205 9880	0.0/8.0 26.1/30.3 13.5/15.4	591	676

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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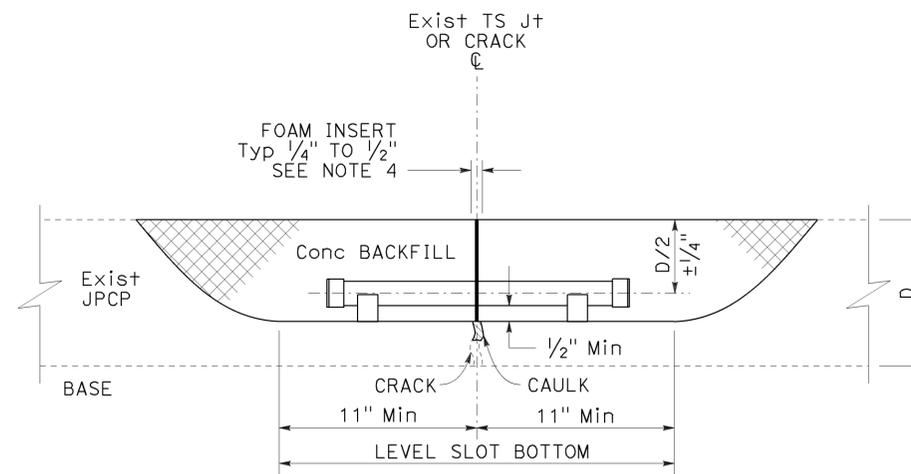
TO ACCOMPANY PLANS DATED 3-28-16



EXPANSION CAP DETAIL

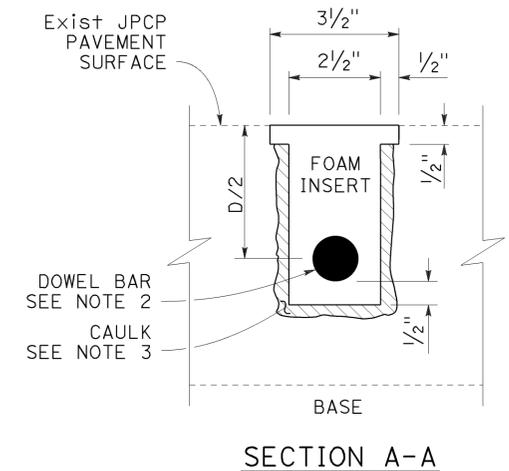


PLAN



ELEVATION

DOWEL BAR PLACEMENT DETAIL



SECTION A-A

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
DOWEL BAR RETROFIT
 NO SCALE

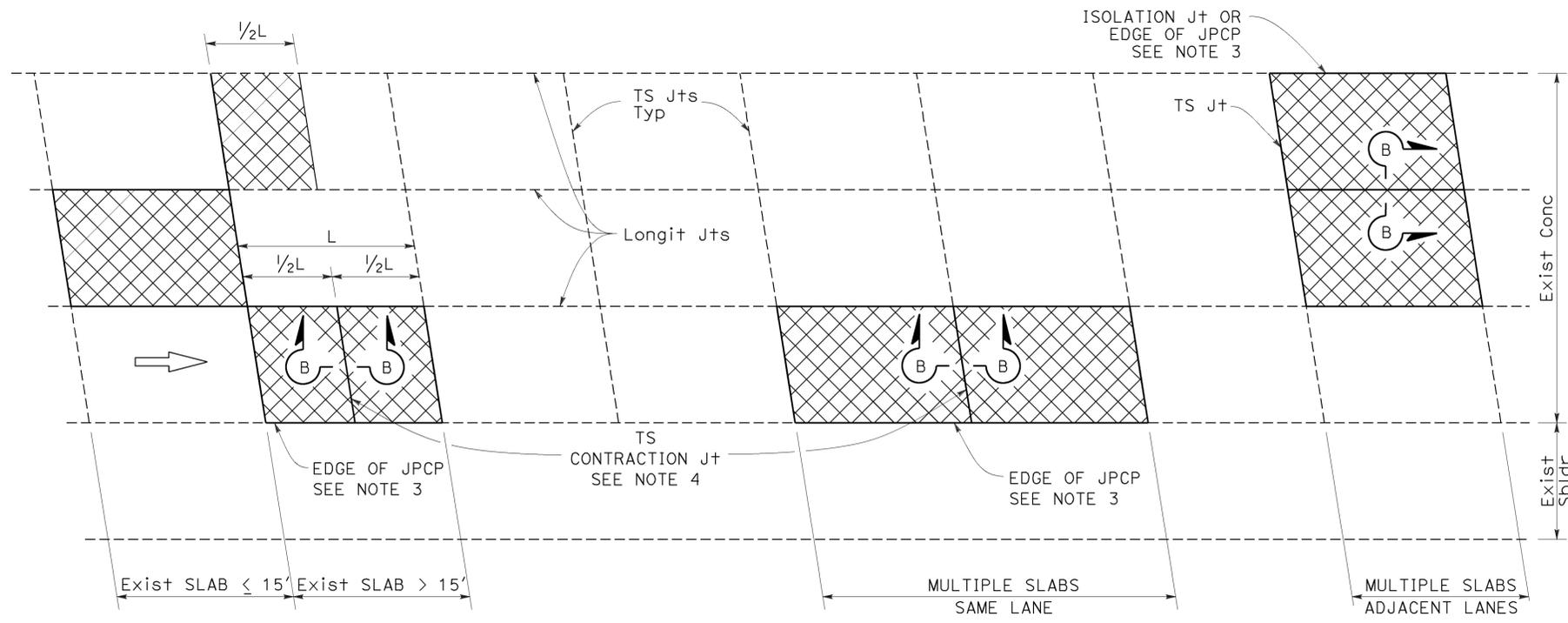
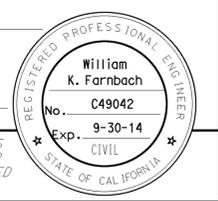
RSP P7 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P7
 DATED MAY 20, 2011 - PAGE 129 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P7

2010 REVISED STANDARD PLAN RSP P7

Dist	COUNTY	ROUTE	POST MILES	SHEET	TOTAL
04	Alameda	205	0.071	592	676
10	SJ	0880	13.571		
			TOTAL PROJECT		
			0.071		
			13.571		

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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PLAN

LEGEND:

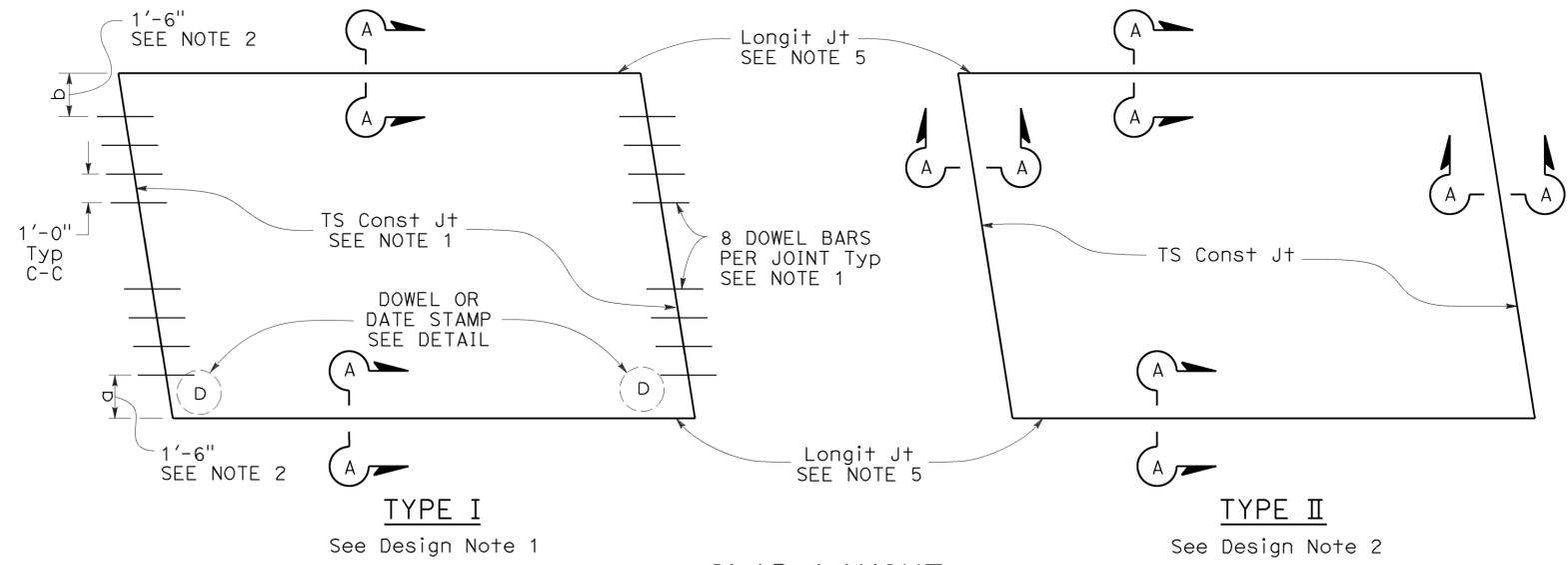
- RSC RAPID STRENGTH CONCRETE
- INDIVIDUAL SLAB REPLACEMENT WITH RSC

NOTES:

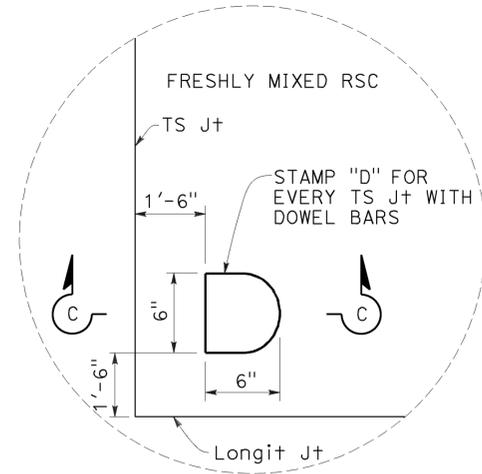
- For details not shown, see Revised Standard Plan RSP P10.
- Where the existing outside shoulder is asphalt concrete pavement, "a" = 1'-0" and "b" = 2'-0".
- Use side forms where edge of RSC pavement is adjacent to asphalt concrete.
- Transverse contraction joint to match skew of existing joint. Omit dowel bars.
- Do not place tie bars at longitudinal joints.

DESIGN NOTES:

- For concrete slab repair with at least 5 years design life.
- For short term repairs < 5 yrs design life or for slab replacements with cracking and seating.



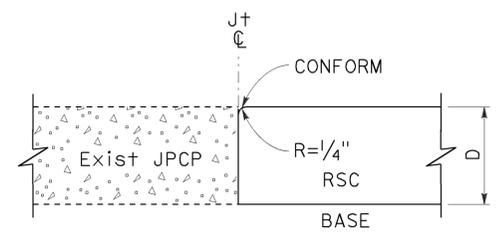
SLAB LAYOUT



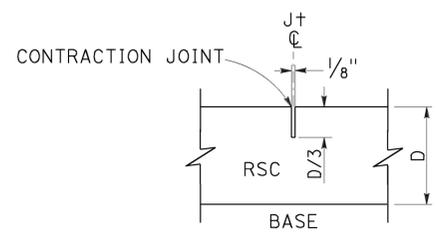
DOWEL STAMP DETAIL



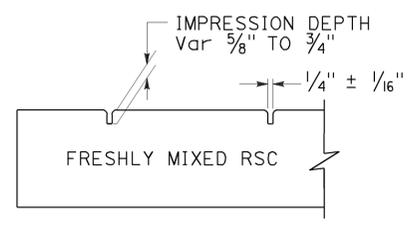
DATE STAMP DETAIL



SECTION A-A



SECTION B-B



SECTION C-C

INDIVIDUAL SLAB REPLACEMENT WITH RAPID STRENGTH CONCRETE

NO SCALE

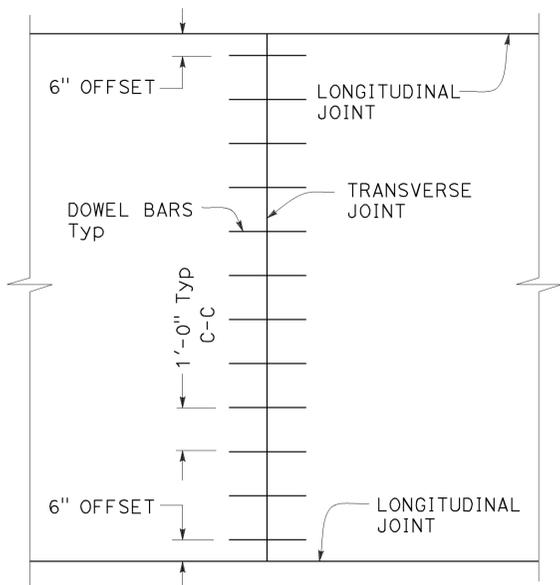
RSP P8 DATED JULY 19, 2013 SUPERSEDES RSP P8 DATED APRIL 20, 2012 AND STANDARD PLAN P8 DATED MAY 20, 2011 - PAGE 130 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P8

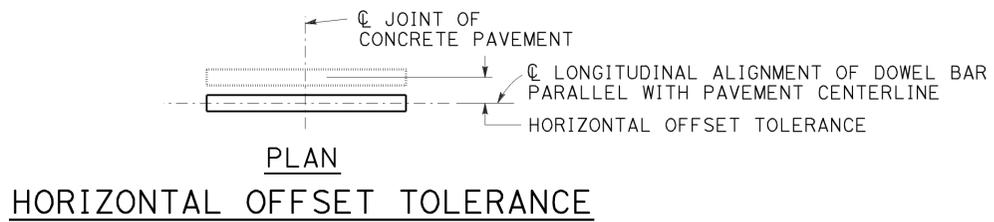
2010 REVISED STANDARD PLAN RSP P8

TO ACCOMPANY PLANS DATED 3-28-16

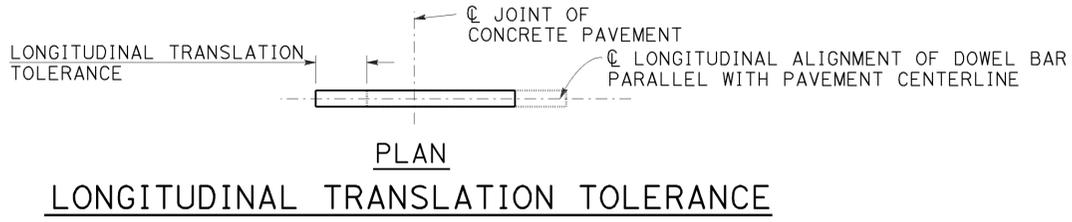
- NOTES:**
- See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
 - Where fresh concrete pavement is placed against new concrete or existing concrete pavement, rounding the corner of the existing concrete pavement is not required.
 - May also use 3/4" Dia dowel bars 2'-4" ± 1/4" in length. Center the length of dowel bars at the centerline of longitudinal joint.



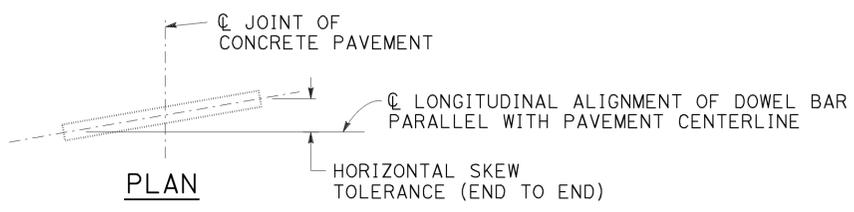
**TRANSVERSE JOINT
DOWEL BAR LAYOUT**



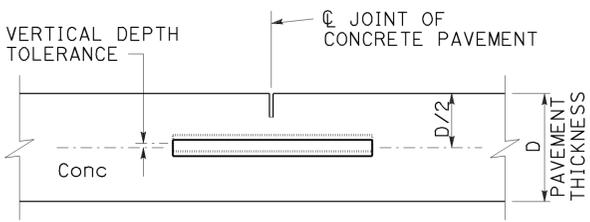
**PLAN
HORIZONTAL OFFSET TOLERANCE**



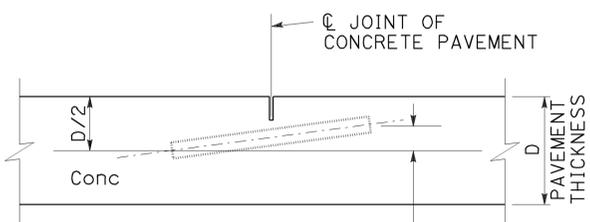
**PLAN
LONGITUDINAL TRANSLATION TOLERANCE**



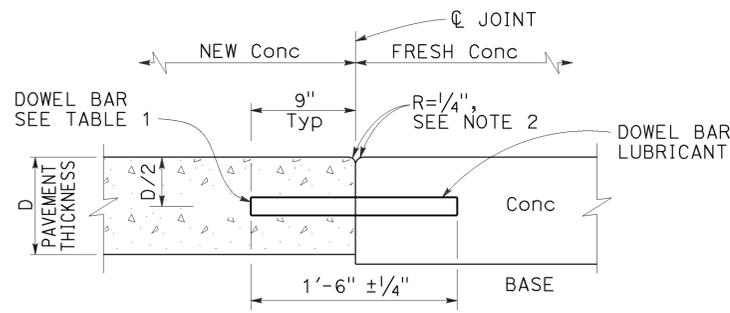
**PLAN
HORIZONTAL SKEW TOLERANCE**



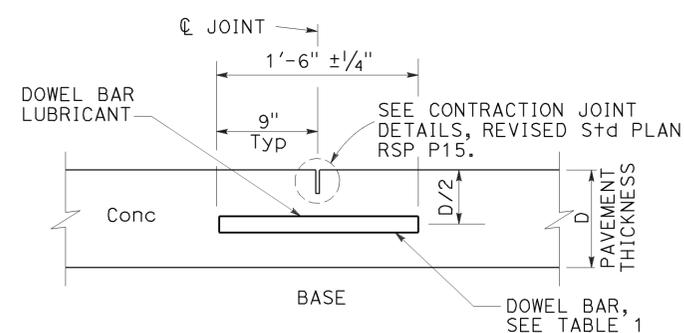
**ELEVATION
VERTICAL DEPTH TOLERANCE**



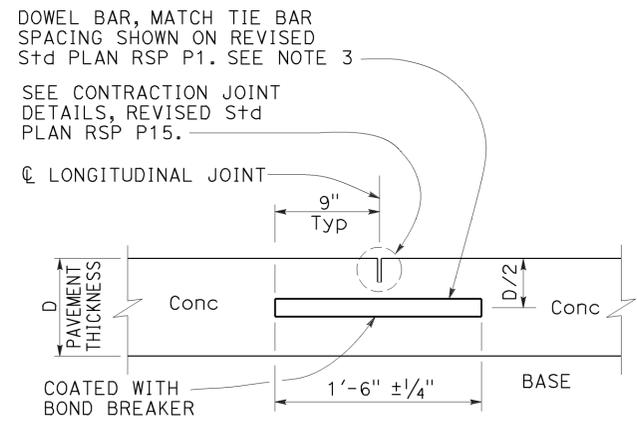
**ELEVATION
VERTICAL SKEW TOLERANCE**



**TRANSVERSE
CONSTRUCTION JOINT DETAIL**



TRANSVERSE CONTRACTION JOINT

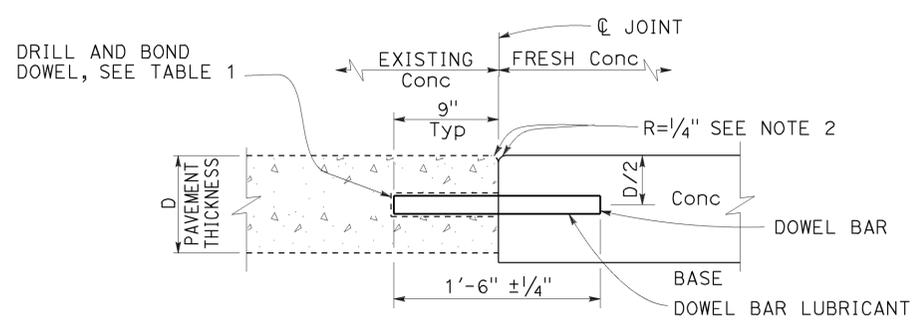


**LONGITUDINAL CONTRACTION
JOINT WITH DOWEL BARS**
See Revised Std Plan RSP P18

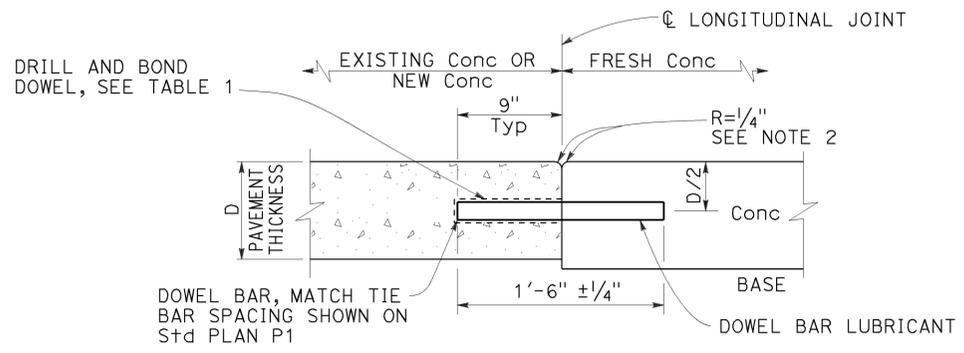
**TABLE 1
DOWEL BAR DIAMETER TABLE**

PAVEMENT THICKNESS	0.65'	> 0.65' - 0.85'	> 0.85'
MINIMUM DOWEL * BAR DIAMETER	1"	1 1/4"	1 1/2"

* The drilled hole diameter must be 1/8" to 3/16" larger than the bar diameter.



**TRANSVERSE CONSTRUCTION JOINT
FOR EXISTING CONCRETE PAVEMENT**



**LONGITUDINAL CONSTRUCTION JOINT
WITH DOWEL BARS**
See Revised Std Plan RSP P18

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT
DOWEL BAR
DETAILS**

NO SCALE

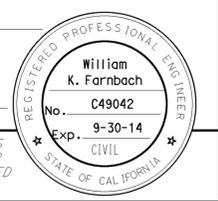
RSP P10 DATED JULY 19, 2013 SUPERSEDES RSP P10 DATED APRIL 20, 2012 AND STANDARD PLAN P10 DATED MAY 20, 2011 - PAGE 131 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P10

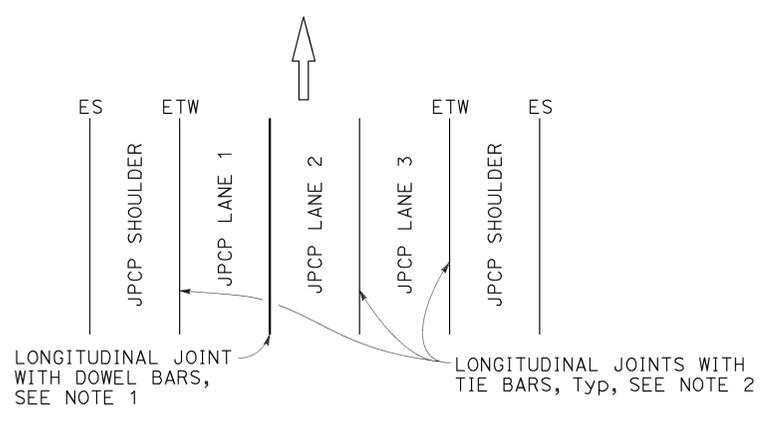
2010 REVISED STANDARD PLAN RSP P10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 10	Alb Alj SJ	205 0805 0880	0.0/8.0/26.1/30.3 0.0/71.0 13.5/715.4	594	676

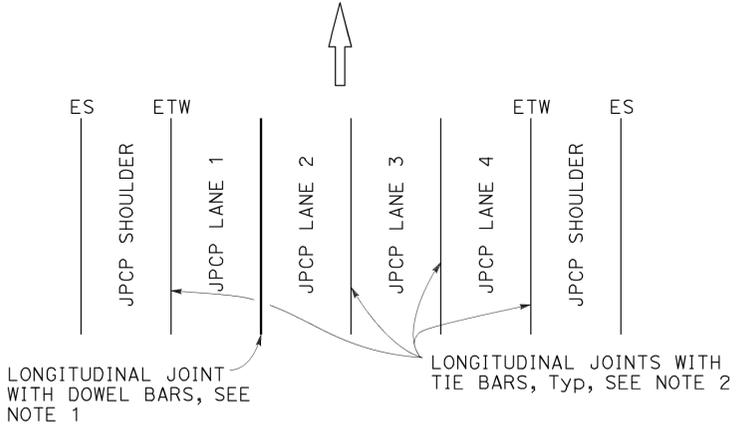
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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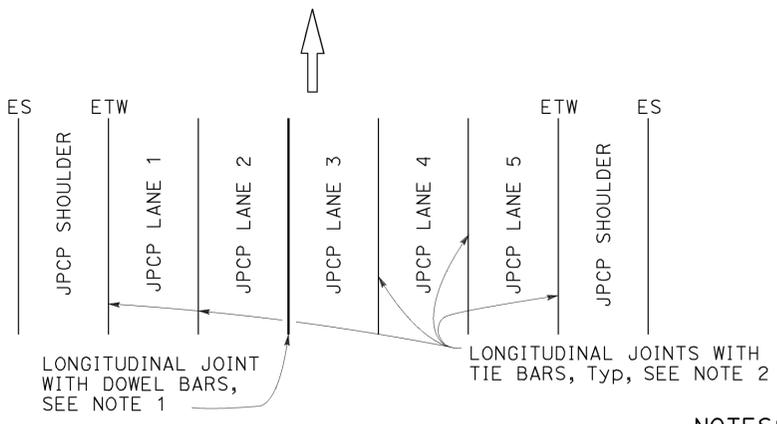
TO ACCOMPANY PLANS DATED 3-28-16



3 LANES WITH CONCRETE SHOULDERS
PLAN



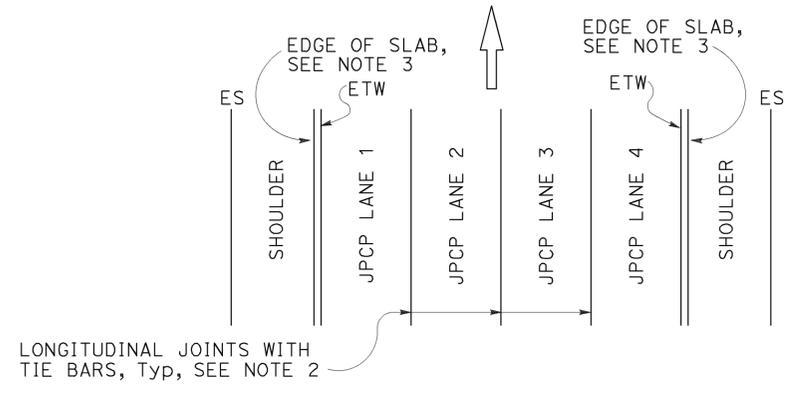
4 LANES WITH CONCRETE SHOULDERS
PLAN



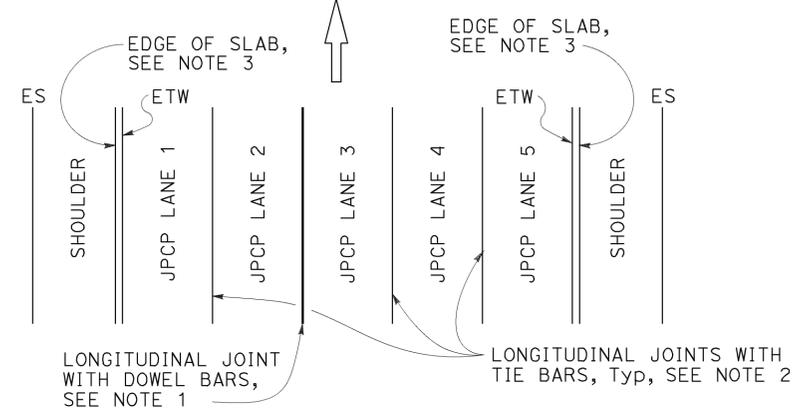
5 LANES WITH CONCRETE SHOULDERS
PLAN

NOTES:

- See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
- See Revised Standard Plan RSP P15 for longitudinal joint with tie bars.
- S = Reservoir depth.
 $S = \frac{7}{8}'' \pm \frac{1}{16}''$ for asphalt rubber seals
 $S = \frac{9}{16}'' \pm \frac{1}{16}''$ for silicone seals
 Preformed compression seals must be $\frac{13}{16}''$ wide and $S = 1\frac{1}{16}'' \pm \frac{1}{16}''$

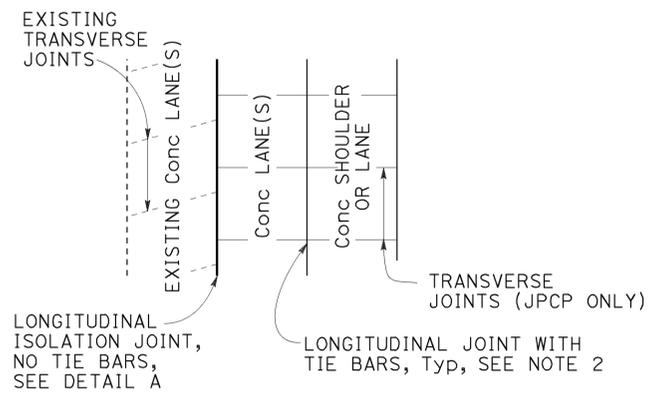


4 LANES OR LESS WITH AC SHOULDERS
PLAN



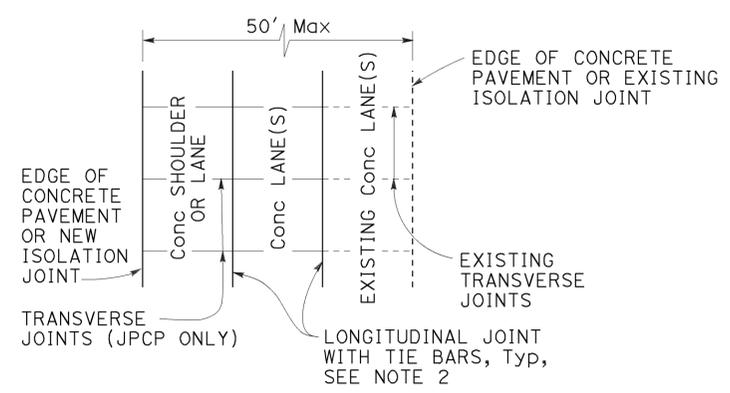
5 LANES WITH AC SHOULDERS
PLAN

NEW CONSTRUCTION
Location of Longitudinal Joints For JPCP



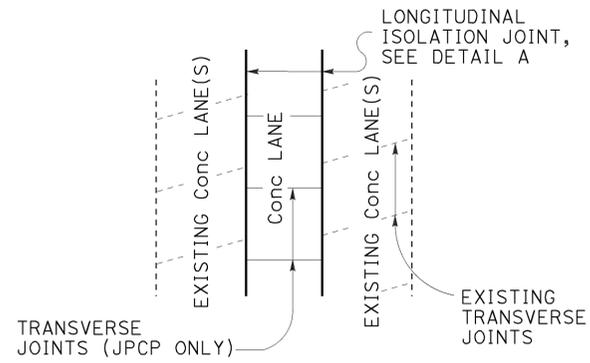
CASE 1
PLAN

Transverse Joints do not align between new and existing.



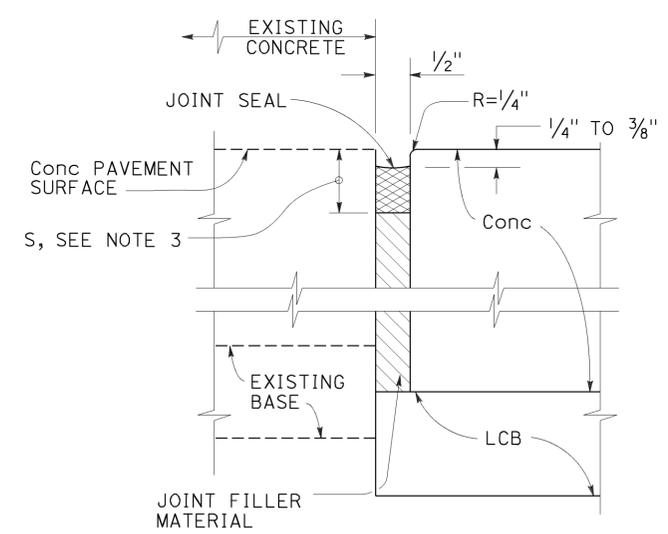
CASE 2
PLAN

Transverse Joints align between new and existing. (For JPCP only)



CASE 3 (INTERIOR LANE REPLACEMENT)
PLAN

Transverse Joints do not align between new and existing.



DETAIL "A"
ISOLATION JOINT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONCRETE PAVEMENT
LANE SCHEMATICS
AND ISOLATION JOINT DETAIL**

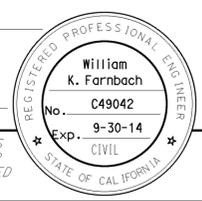
NO SCALE

LANE/SHOULDER ADDITION OR RECONSTRUCTION
For JPCP and CRCP

RSP P18 DATED JULY 19, 2013 SUPERSEDES RSP P18 DATED APRIL 20, 2012 AND STANDARD PLAN P18 DATED MAY 20, 2011 - PAGE 135 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P18

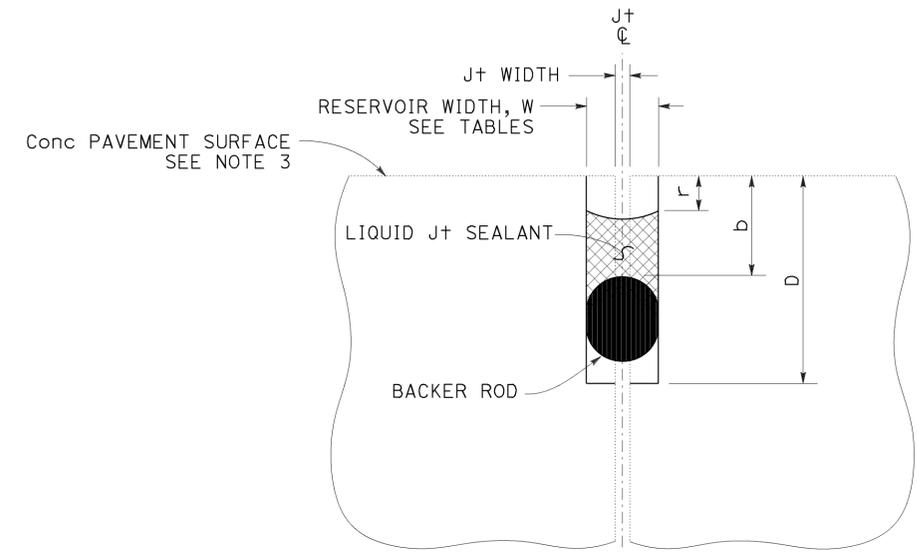
2010 REVISED STANDARD PLAN RSP P18



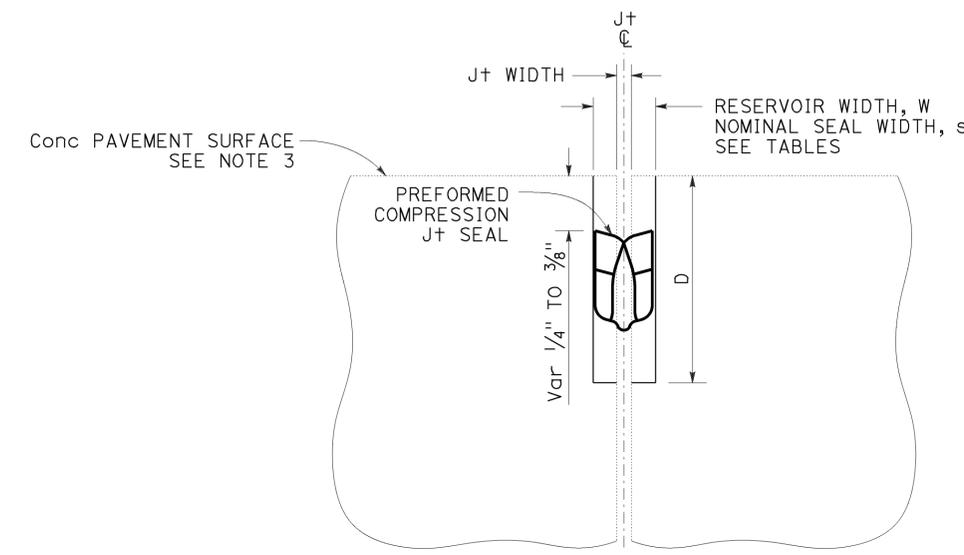
TO ACCOMPANY PLANS DATED 3-28-16

NOTES:

1. Details do not apply to isolation joints and longitudinal construction joints.
2. Tie bars, dowel bars, and bar reinforcement are not shown.
3. Depths are measured from the final concrete pavement surface elevation after any grinding.



LIQUID JOINT SEALANT



PREFORMED COMPRESSION JOINT SEAL

Const SEASON	Min RESERVOIR WIDTH * W ± 1/16"
WINTER	1/4"
SPRING	3/8"
SUMMER	
FALL	

* Minimum reservoir width for replace joint seal = existing joint width + 1/8"

RESERVOIR WIDTH W ± 1/16"	LIQUID JOINT SEALANT DIMENSIONS					
	BACKER ROD NOMINAL Dia *	DEPTHS (ASPHALT RUBBER) **		DEPTHS (SILICONE)		
		RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RECESS r ± 1/16"
1/4"	3/8"	1 3/4"	7/8"	1 3/8"	1/2"	1/4"
3/8"	1/2"	1 7/8"	7/8"	1 1/2"	1/2"	1/4"
1/2"	3/4"	2"	7/8"	1 3/4"	9/16"	5/16"
5/8"	7/8"	2 1/4"	1"	2"	5/8"	5/16"
3/4"	1"	2 3/4"	1 1/8"	2 1/4"	3/4"	3/8"
7/8"	1 1/4"	3"	1 1/4"	2 1/2"	13/16"	3/8"
1"	1 1/2"	3 1/4"	1 3/8"	2 5/8"	7/8"	3/8"
1 1/8"	1 1/2"	3 1/2"	1 1/2"	2 13/16"	1"	1/2"

* Larger diameter backer rods may be substituted according to manufacturer recommendations if reservoir depth is increased equivalently.

** Asphalt rubber sealant recess depth "r" varies from 1/4" to 3/8"

RESERVOIR WIDTH W ± 1/16"	PREFORMED COMPRESSION JOINT SEAL DIMENSIONS	
	NOMINAL SEAL WIDTH s	RESERVOIR DEPTH D ± 1/4"
1/4"	7/16"	1 1/4"
3/8"	11/16"	1 1/16"
1/2"	13/16"	1 1/16"
5/8"	1"	1 7/8"
3/4"	1 1/4"	2 1/8"
7/8"	1 5/8"	2 5/8"
1"	1 9/8"	2 7/8"
1 1/8"	2"	2 7/8"

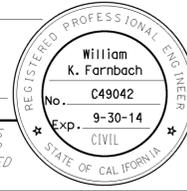
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
JOINT SEALS
NO SCALE

RSP P20 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P20 DATED MAY 20, 2011 - PAGE 136 OF THE STANDARD PLANS BOOK DATED 2010.

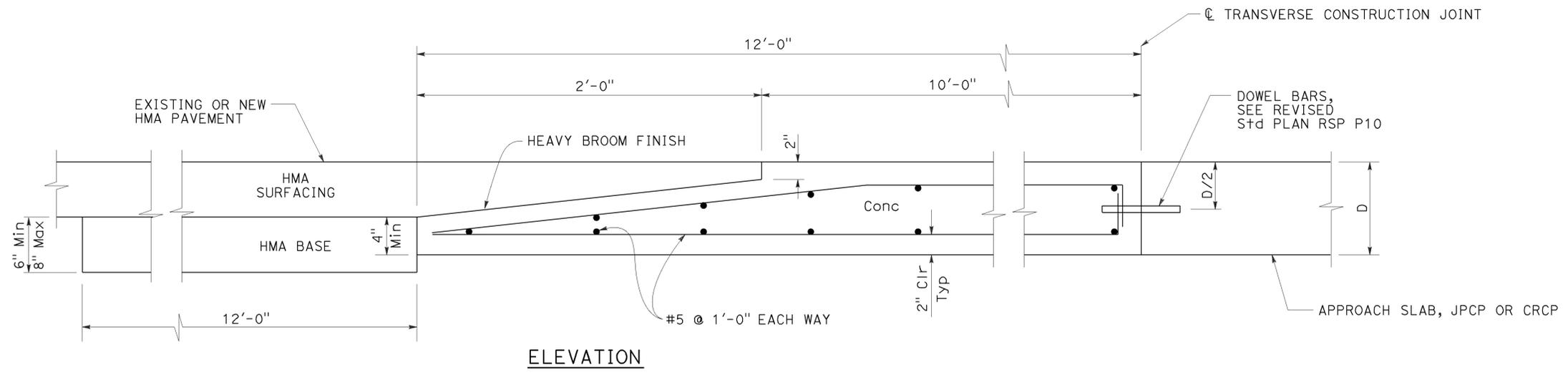
2010 REVISED STANDARD PLAN RSP P20

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 04 10	Alb Alb SJ	205 9800	0.071 13.5715.4	596	676

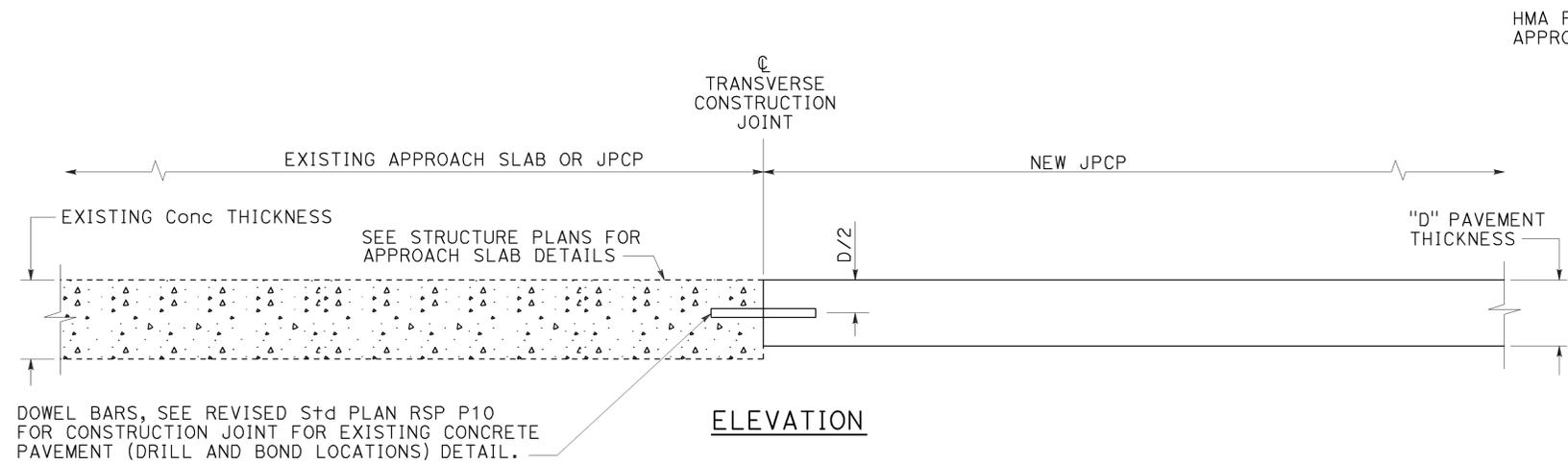
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 July 19, 2013
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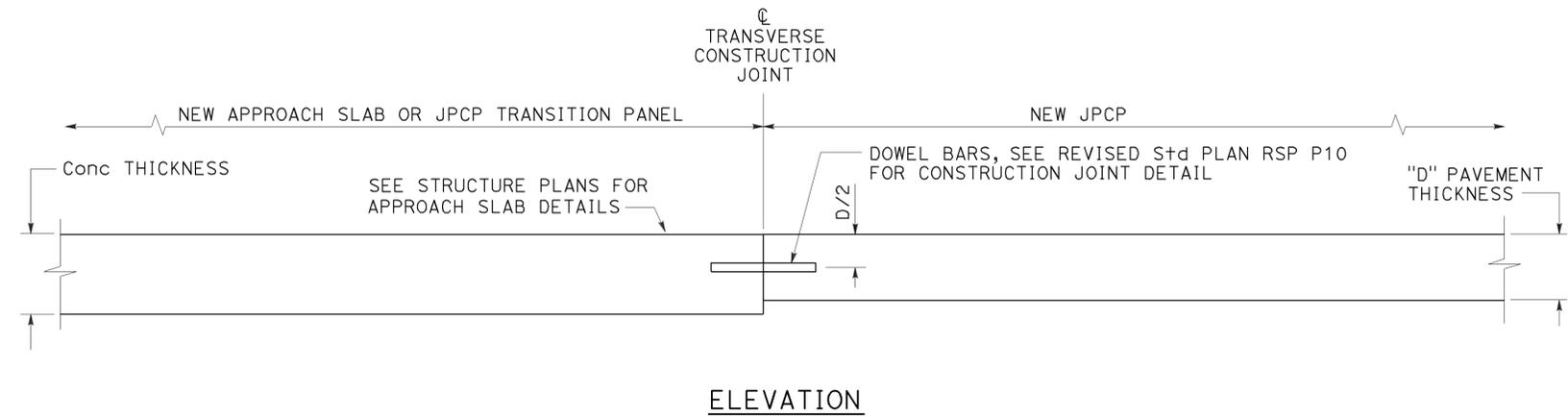
TO ACCOMPANY PLANS DATED 3-28-16



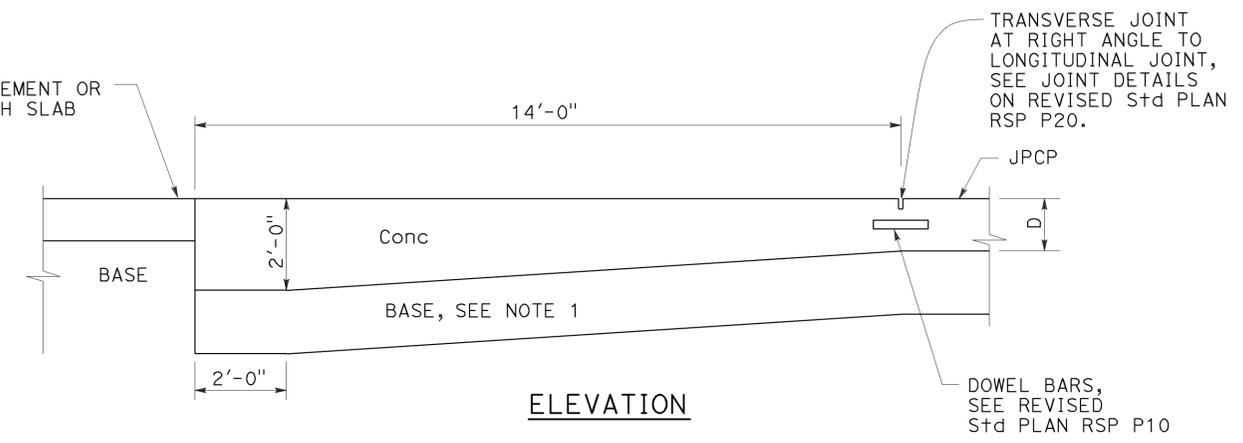
**CONCRETE PAVEMENT
TRANSITION PANEL**



TERMINAL JOINT TYPE 1
For Exist JPCP or Approach Slab



TERMINAL JOINT TYPE 2
For JPCP Transition Panel or Approach Slab



PAVEMENT END ANCHOR
For HMA Pvmt or Approach Slab

NOTE:
1. Maintain same base thickness as JPCP.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
END PANEL
PAVEMENT TRANSITIONS**

NO SCALE

RSP P30 DATED JULY 19, 2013 SUPERSEDES RSP P30 DATED APRIL 20, 2012 AND STANDARD PLAN P30 DATED MAY 20, 2011 - PAGE 137 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P30

2010 REVISED STANDARD PLAN RSP P30

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/8.0	597	676
04	Alameda	0880	13.5/715.4		

Srikanth N. Balasubramanian
REGISTERED CIVIL ENGINEER

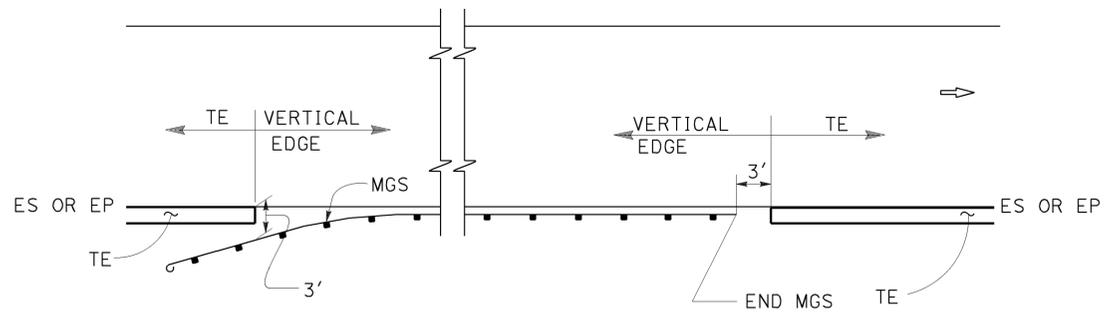
October 30, 2015
PLANS APPROVAL DATE

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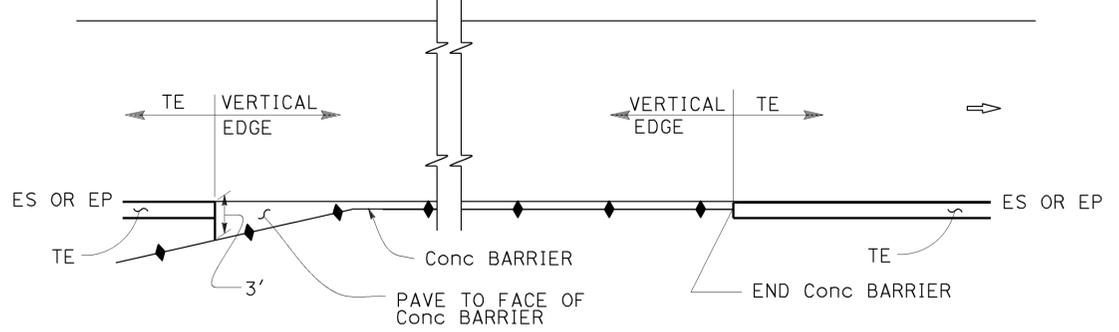
Srikanth N. Balasubramanian
No. C56426
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 3-28-16

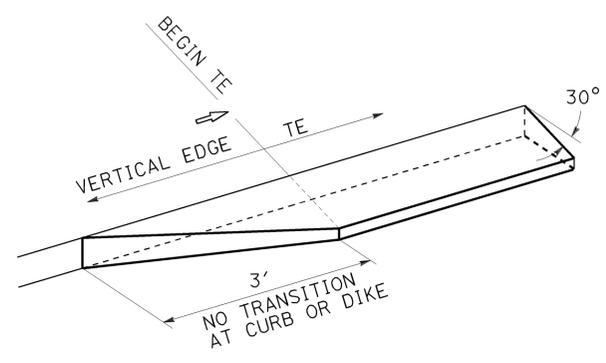
ABBREVIATIONS:
TE TAPERED EDGE



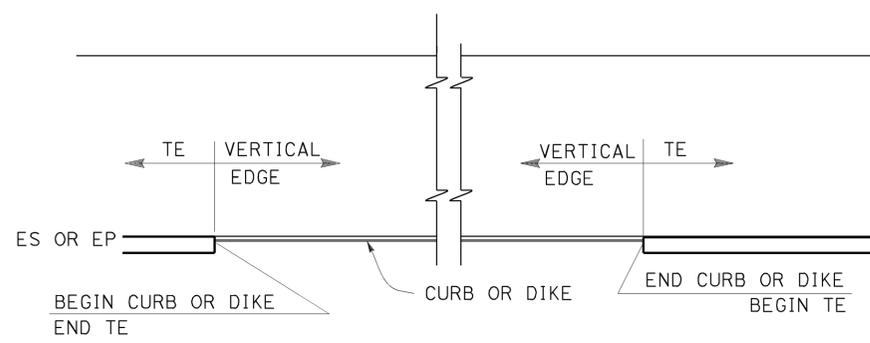
MGS



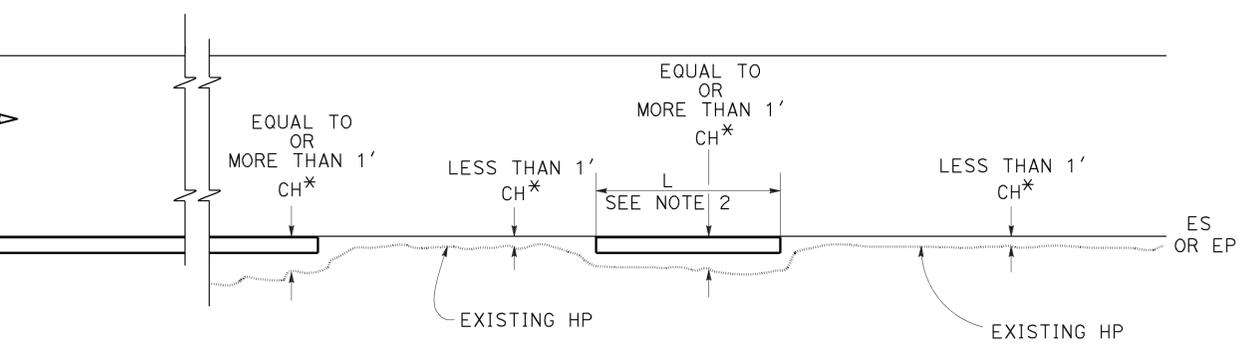
CONCRETE BARRIER



TRANSITION DETAIL FOR CONCRETE ONLY

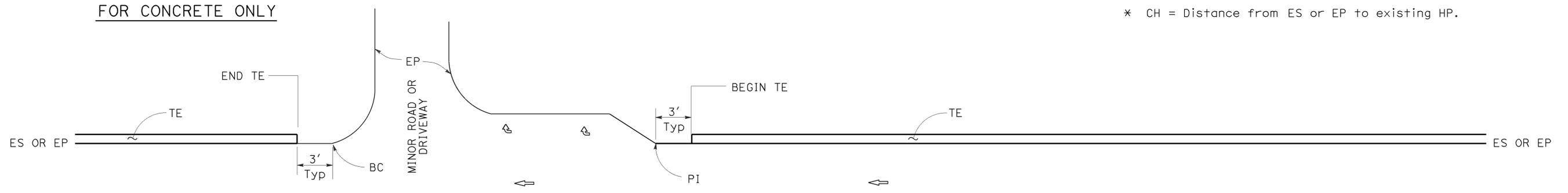


CURB OR DIKE



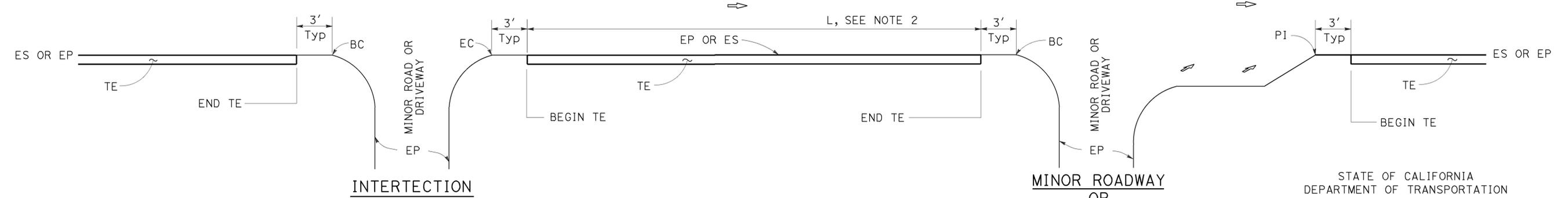
NARROW SIDE SLOPE

* CH = Distance from ES or EP to existing HP.



STATE ROUTE

STATE ROUTE



INTERSECTION

DRIVEWAY AND INTERSECTION

MINOR ROADWAY OR DRIVEWAY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS
NO SCALE

NOTES:

1. For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
2. Tapered edge is optional when L is less than 30'.

RSP P74 DATED OCTOBER 30, 2015 SUPERSEDES RSP P74 DATED NOVEMBER 15, 2013 AND RSP P74 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P74

2010 REVISED STANDARD PLAN RSP P74

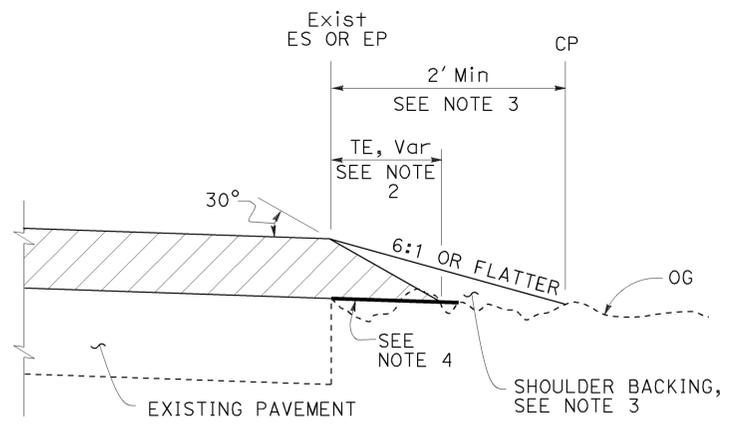
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04 10	Alameda San Joaquin	205 9880	0.0/8.0/26.0 13.5/715.4	598	676

Srikanth N. Balasubramanian
REGISTERED CIVIL ENGINEER

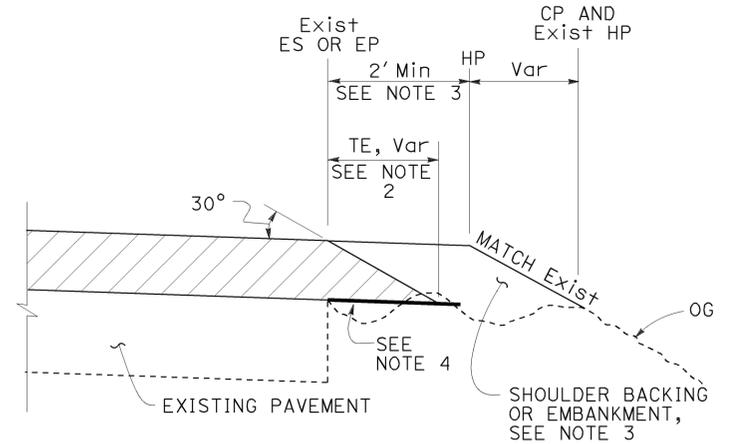
October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Srikanth N. Balasubramanian
No. C56426
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

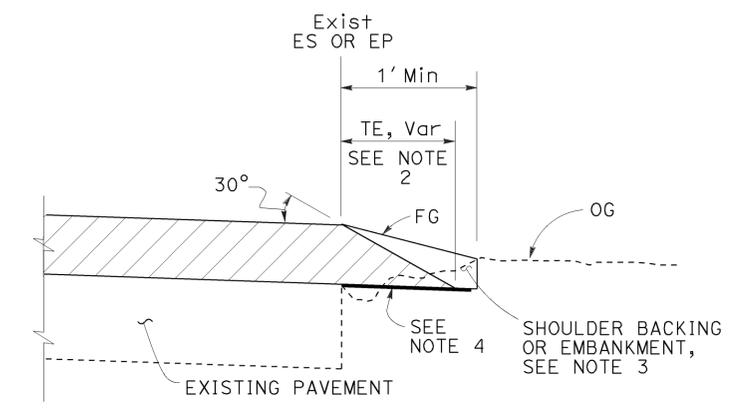
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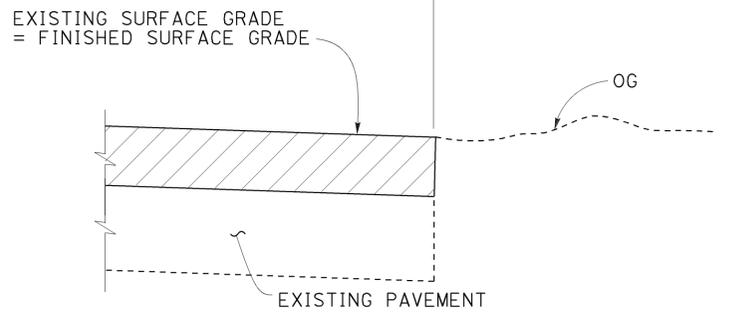
CASE A
Tapered Edge



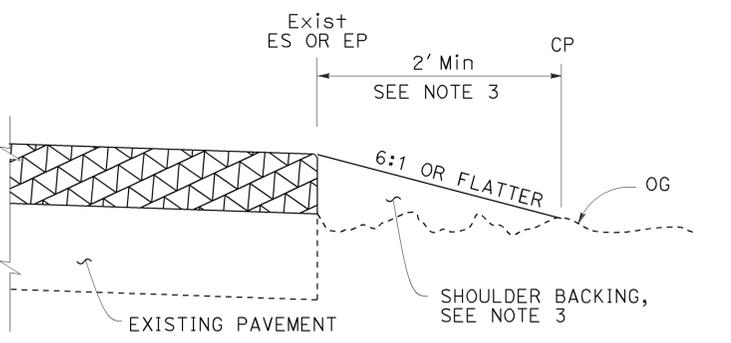
CASE B
Tapered Edge



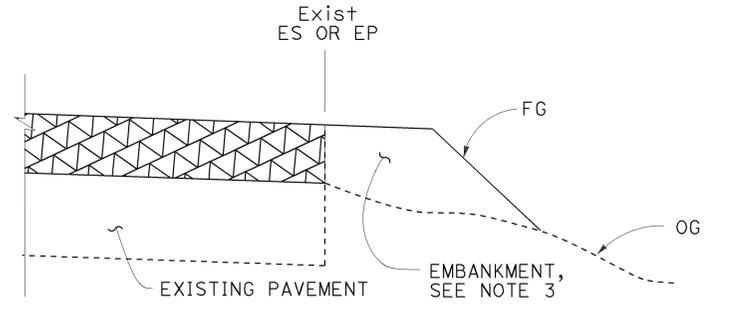
CASE C
Tapered Edge



CASE D
Vertical Edge

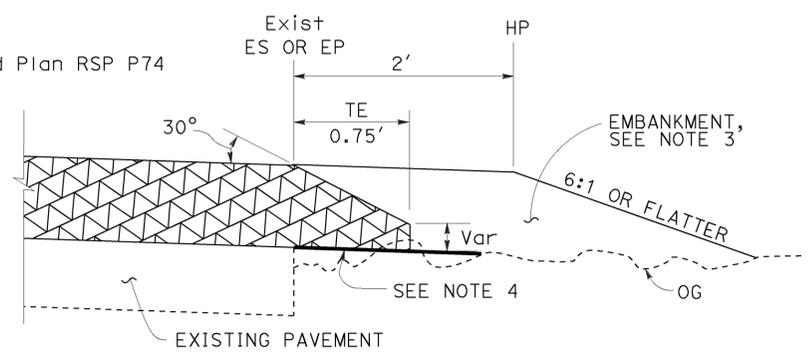


CASE E
Vertical Edge



CASE F
Vertical Edge
* See Table A and Revised Std Plan RSP P74

- NOTES:**
1. For limits of tapered edge and vertical edge treatments, see Revised Standard Plan RSP P74.
 2. Details shown for HMA overlay thickness less than 0.43'. See Detail "A" for HMA overlay thickness more than 0.43' or concrete overlay.
 3. For locations and limits of shoulder backing or embankment see project plans.
 4. Grade existing ground to place tapered edge. 1' minimum width
 5. Tapered edge transverse joint must match overlay transverse joint. End of #6 longitudinal bar must be 2" ± 1/2" clear from transverse joint.
 6. Tapered edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.



DETAIL "A"
For HMA overlay thickness more than 0.43' or concrete overlay

LEGEND:

HMA OVERLAY

HMA OR CONCRETE OVERLAY

CONCRETE OVERLAY

ABBREVIATIONS:

TE TAPERED EDGE

TT TOTAL THICKNESS OF TE

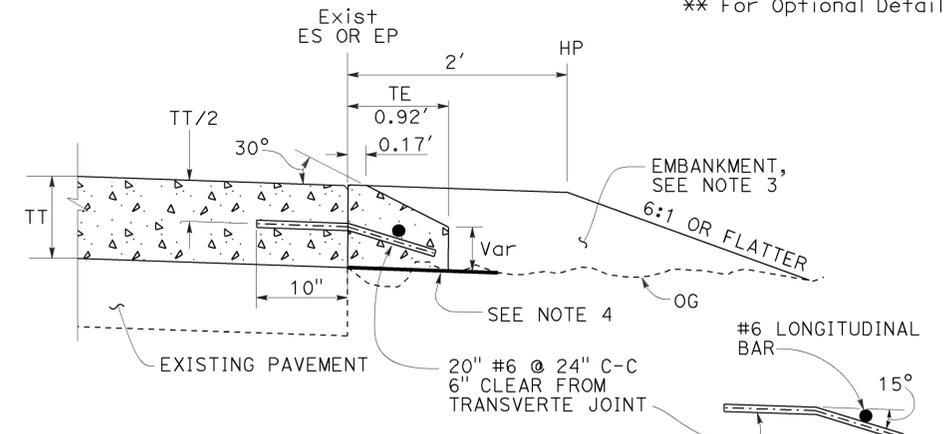
TABLE A
EDGE TREATMENT FOR VARIOUS OVERLAY THICKNESS AND CONDITIONS

FIELD CONDITION	OVERLAY THICKNESS	
	LESS THAN 0.15'	0.15' OR MORE
Exist SLOPE 6:1 OR FLATTER	CASE E	CASE A
Exist SLOPE 3:1 TO 6:1	CASE E	CASE B
Exist SLOPE STEEPER THAN 3:1	CASE F	CASE F
CUT SECTION (REPLACE, COLD PLANE, MILL PAVEMENT)	CASE D	CASE C

ADDITIONAL HMA OR CONCRETE QUANTITIES FOR TE/SIDE/MILE

TYPICAL CROSS SECTION	TT	TOTAL ADDITIONAL MATERIAL FOR TE/SIDE/MILE		
		HMA (TON)	CONCRETE (CY)*	CONCRETE (CY)**
	0.15'	7.7	NA	NA
	0.20'	13.7	NA	NA
	0.30'	30.9	NA	NA
	0.40'	54.9	NA	NA
	0.45'	69.4	NA	NA
	0.50'	84.2	NA	NA
	0.60'	113.9	NA	NA
	0.70'	143.6	70.9	94.2
	0.80'	173.3	85.6	112.2
	0.90'	203.0	100.3	130.2
	1.00'	232.7	114.9	148.2
	1.10'	262.4	129.6	166.2
1.20'	292.1	144.3	184.2	

* For Detail "A"
** For Optional Detail "A"



OPTIONAL DETAIL "A"
For concrete overlay
See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS- OVERLAYS

NO SCALE

RSP P75 DATED OCTOBER 30, 2015 SUPERSEDES RSP P75 DATED NOVEMBER 15, 2013 AND RSP P75 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP P75

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0/8.0	599	676
04	Alameda	205	0.0/8.0	599	676
04	San Joaquin	9880	13.5/15.4	599	676

Srikanth N. Balasubramanian
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 No. C56426
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 STATE OF CALIFORNIA

October 30, 2015
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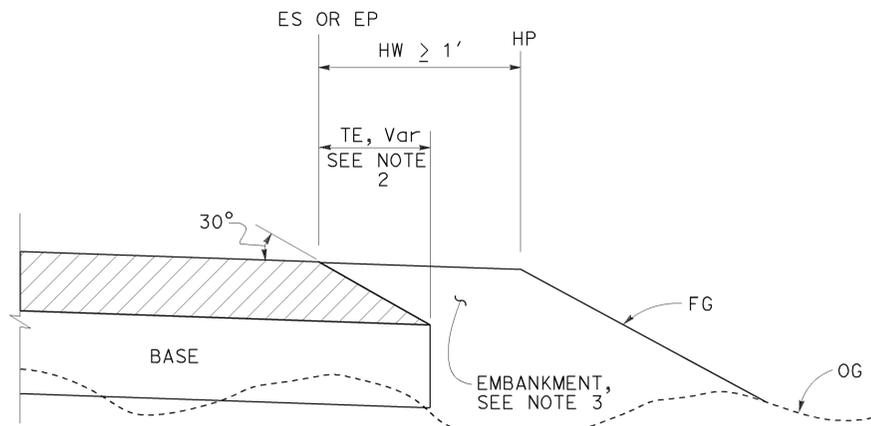
LEGEND:

-  HMA PAVEMENT
-  HMA OR CONCRETE PAVEMENT
-  CONCRETE PAVEMENT

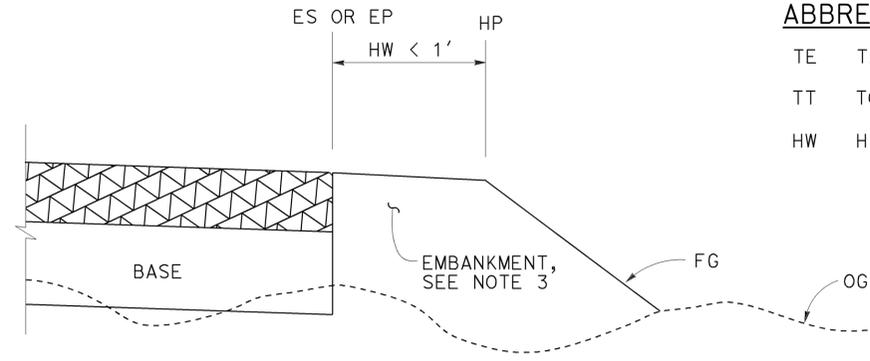
ABBREVIATIONS:

- TE TAPERED EDGE
- TT TOTAL THICKNESS OF TE
- HW HINGE WIDTH, DISTANCE FROM ES OR EP TO HP

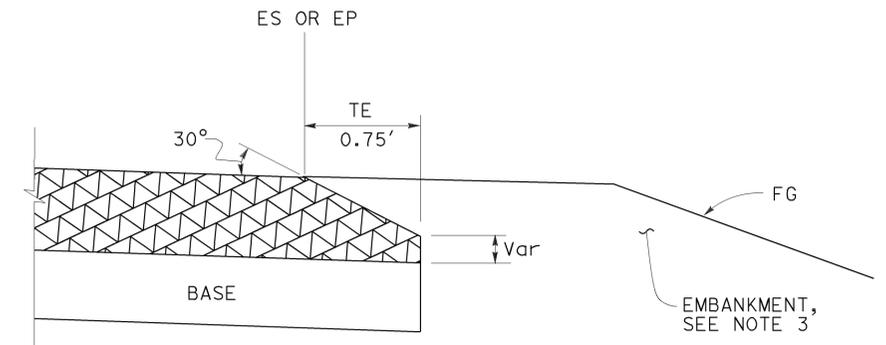
TO ACCOMPANY PLANS DATED 3-28-16



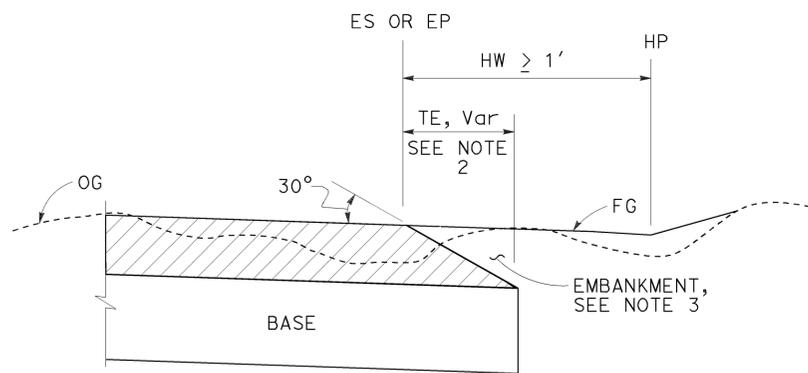
CASE K
Tapered Edge - Fill Section, HW $\geq 1'$



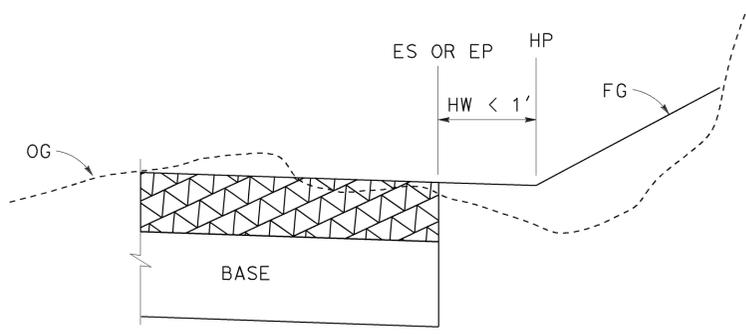
CASE L
Vertical Edge - Fill Section, HW $< 1'$



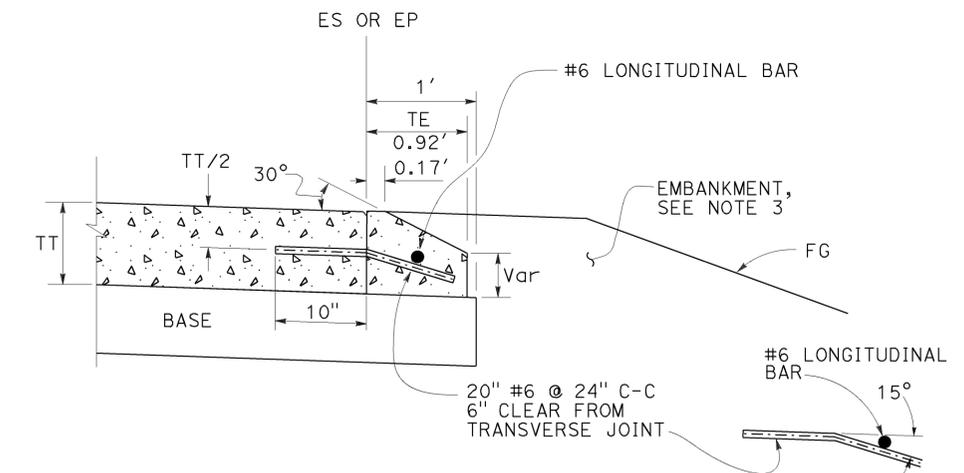
DETAIL "B"
For HMA pavement thickness more than 0.43' or concrete pavement



CASE M
Tapered Edge - Cut Section, HW $\geq 1'$



CASE N
Vertical Edge - Cut Section, HW $< 1'$



OPTIONAL DETAIL "B"
For concrete pavement
See Note 4

FILL SECTION

CUT SECTION

NOTES:

- For limits of tapered edge and vertical edge treatments, see Revised Standard Plan RSP P74
- Details shown for HMA pavement thickness less than 0.43'. See Detail "B" for HMA pavement thickness more than 0.43' or concrete pavement.
- For locations and limits of embankment see project plans.
- Tapered edge transverse joint must match pavement transverse joint. End of #6 longitudinal bar must be 2" $\pm 1/2$ " clear from transverse joint.
- Tapered edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.

RSP P76 DATED OCTOBER 30, 2015 SUPERSEDES RSP P76 DATED NOVEMBER 15, 2013 AND RSP P76 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P76

2010 REVISED STANDARD PLAN RSP P76

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Alameda	205	0.0	600	676
10	SJ	UNB80	13.5		

Glenn DeCou
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

Glenn DeCou
No. C34547
Exp. 9-30-13
CIVIL
STATE OF CALIFORNIA

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

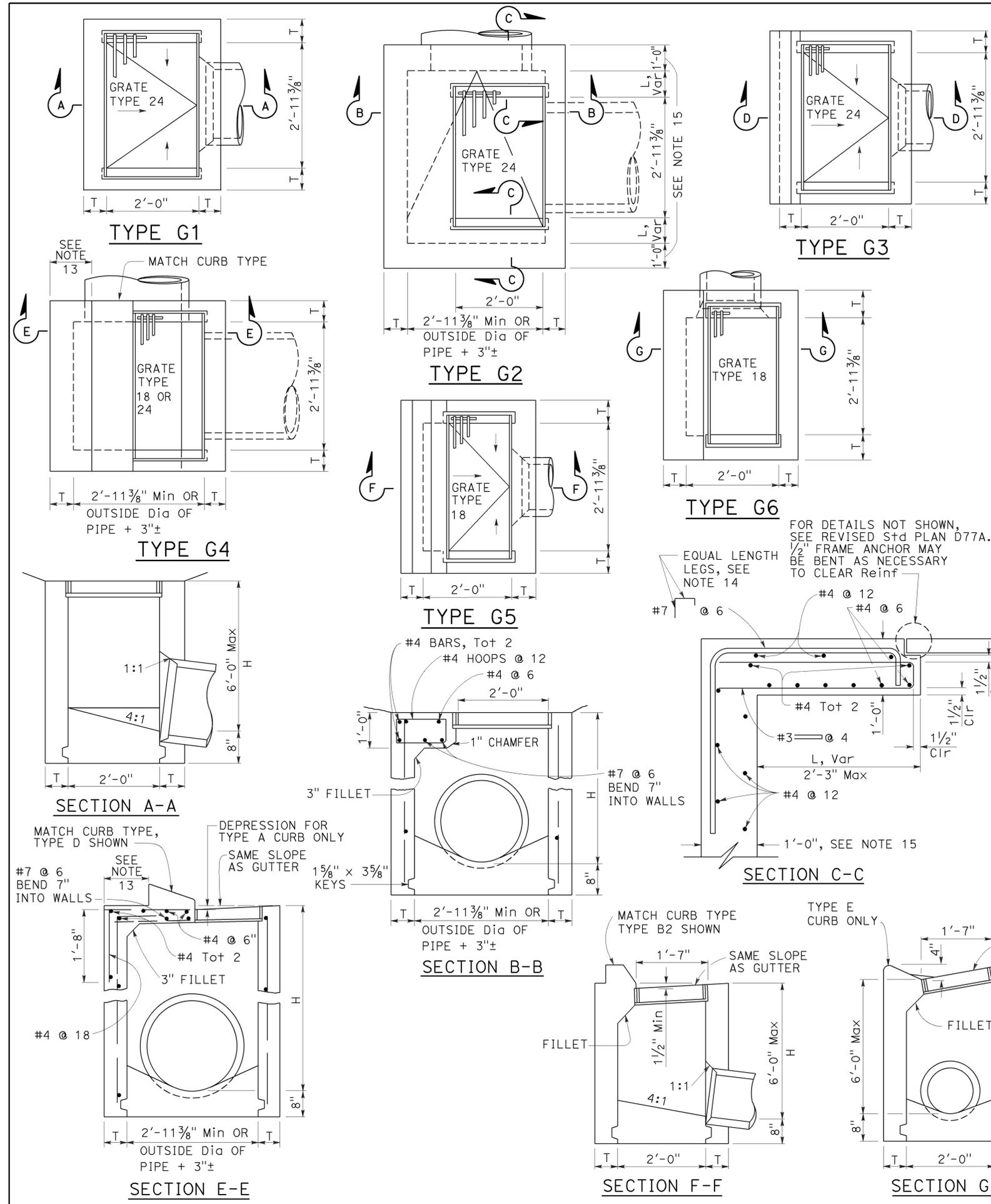


TABLE A

CONCRETE QUANTITIES

TYPE	H=3'-0" TO 8'-0" (T=6")		H=8'-1" TO 20'-0" (T=8")	
	H=3'-0" (CY)	ADDITIONAL PCC PER FOOT (CY)	H=8'-1" (CY)	ADDITIONAL PCC PER FOOT (CY)
G-1	0.95	0.220	See Note A	SEE NOTE A
G-2*	1.31	0.255	3.50	0.357
G-3	1.03	0.220	See Note A	SEE NOTE A
G-4* (TYPE 24)	1.27	0.255	3.48	0.357
G-4* (TYPE 18)	1.30	0.255	3.50	0.357
G-5	1.02	0.220	SEE NOTE A	SEE NOTE A
G-6	1.04	0.220	SEE NOTE A	SEE NOTE A

TABLE BASED ON 8" FLOOR SLAB. NO DEDUCTIONS ARE TO BE MADE TO THESE QUANTITIES BECAUSE OF PIPE OPENINGS, DIFFERENT FLOOR ALTERNATIVES OR DIFFERENT CURB TYPES. * QUANTITIES FOR TYPE G-2 AND G-4 INLETS BASED ON THE MINIMUM INTERIOR DIMENSIONS.

NOTE A:
Maximum allowable height 6'-0".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLETS
NO SCALE

RSP D73 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN D73
DATED MAY 20, 2011 - PAGE 156 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D73

2010 REVISED STANDARD PLAN RSP D73