

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	701	1132

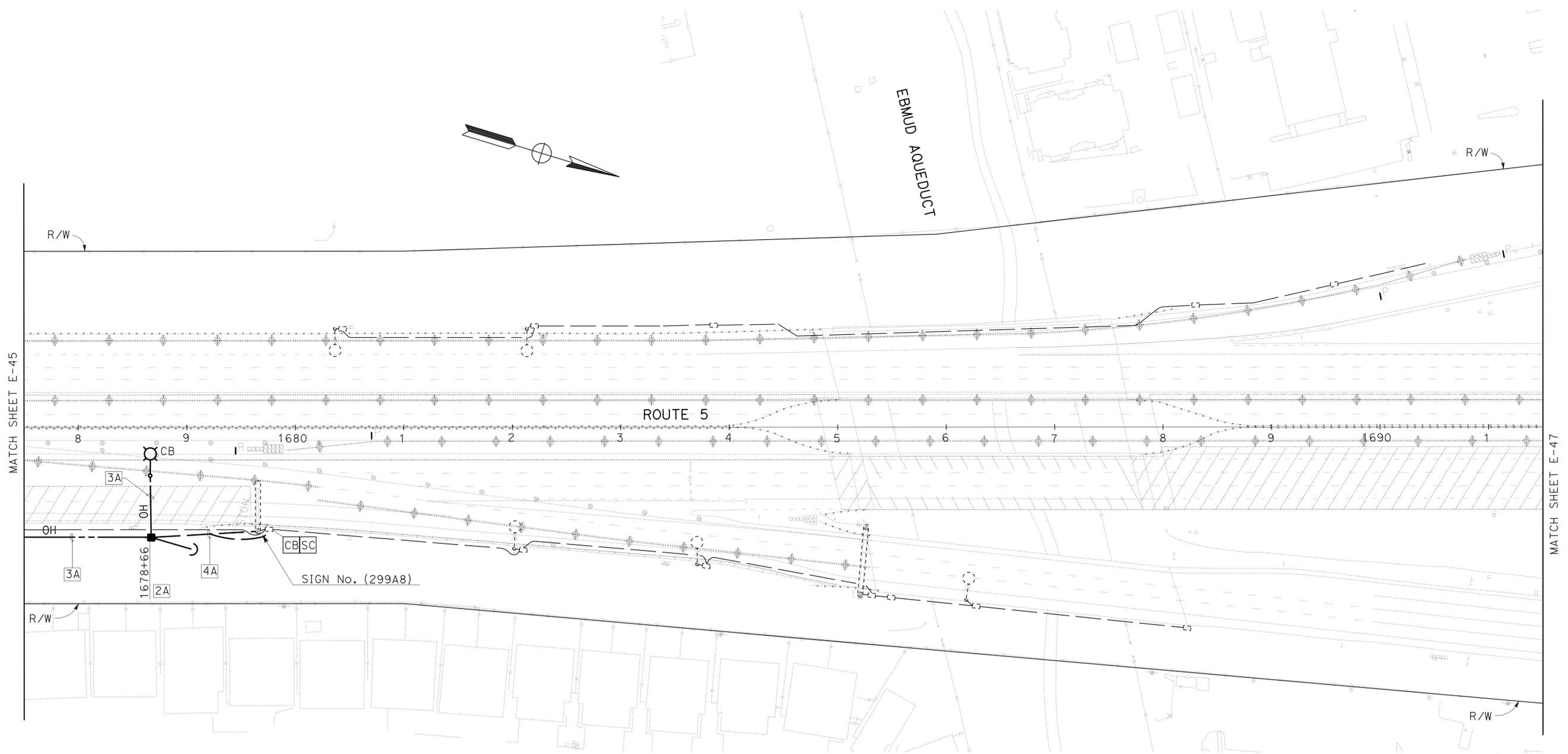
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



ALLIANCE ENGINEERING CONSULTING, INC.
 4701, PATRICK HENRY DR., #10
 SANTA CLARA, CA 95054
 SJCOG
 555 E. WEBER AVE.
 STOCKTON, CA 95202-2804

- NOTES:**
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: KEN NCAI
 CALCULATED/DESIGNED BY: HENRY ROBINO
 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED:

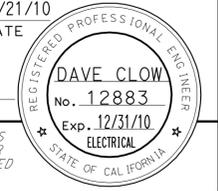


LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2A)
 SCALE: 1" = 50'
E-46

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	702	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
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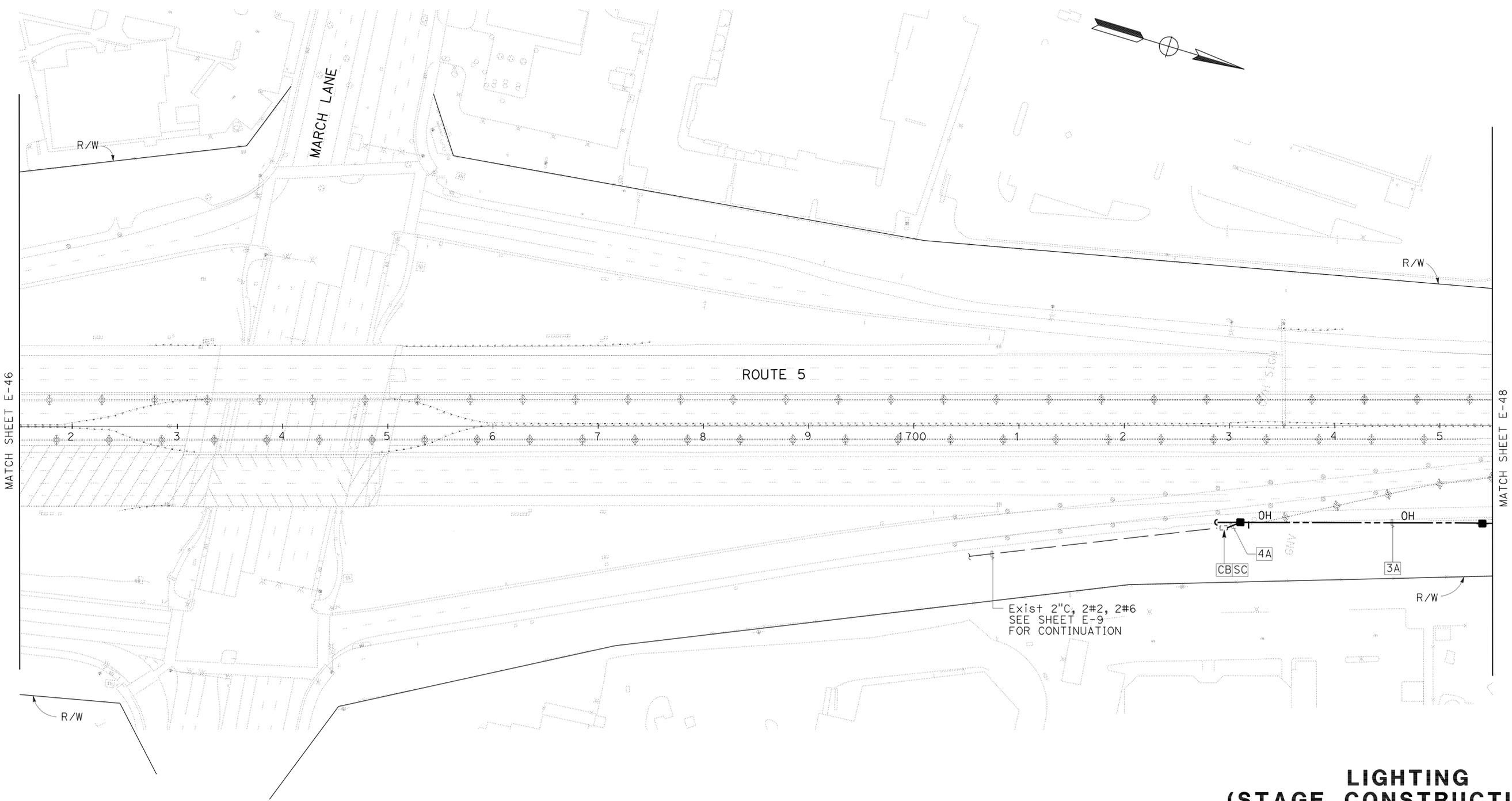


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 SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804

NOTES:

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- FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR	DATE
Caltrans	KEN NCAI	HENRY ROBINO	HENRY ROBINO	
		DAVE CLOW	DAVE CLOW	



LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2A)
 SCALE: 1" = 50'
E-47

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: KEN NCAI
 CALCULATED/DESIGNED BY: HENRY ROBINO
 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED: DAVE CLOW

NOTES:
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 2. FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	703	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE

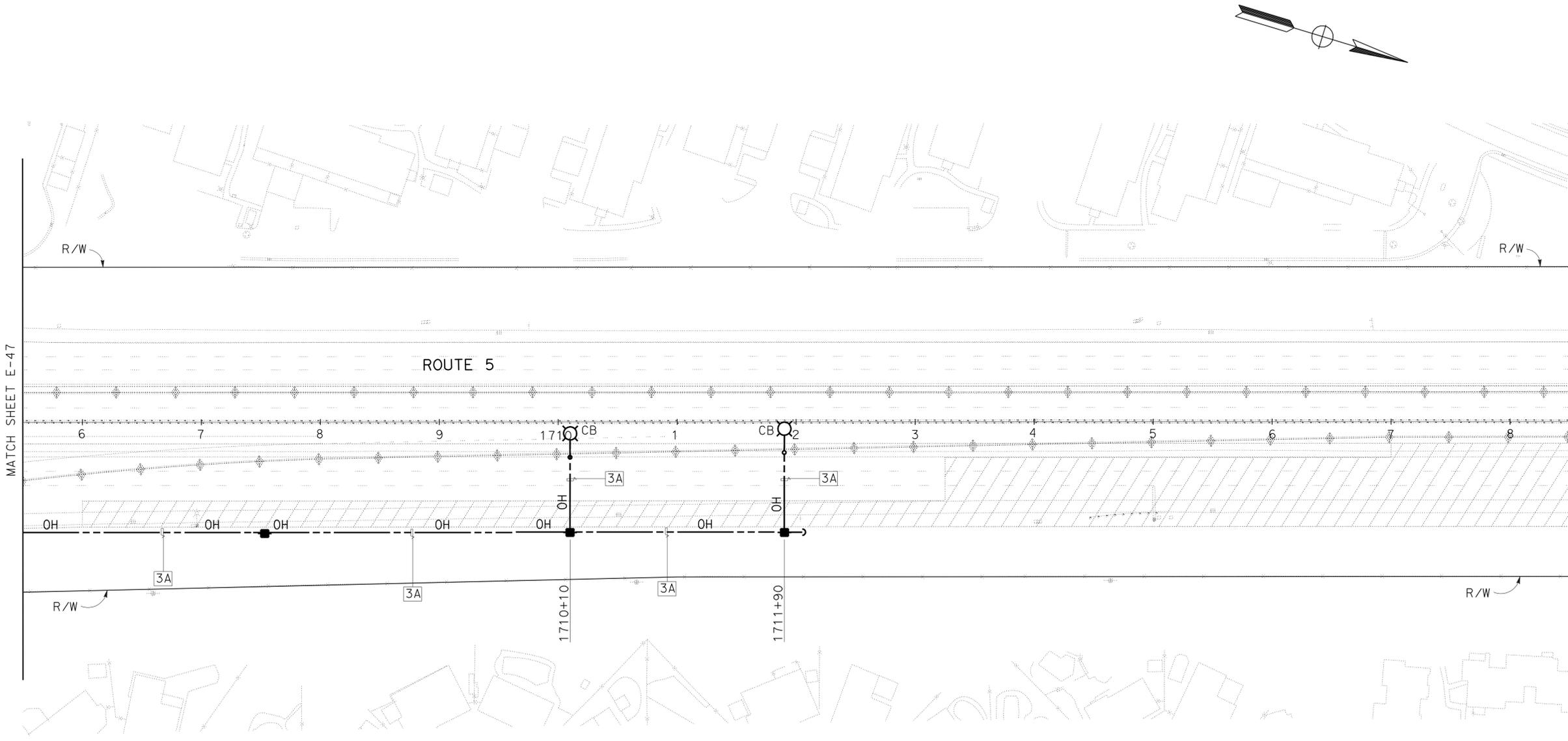
10-11-10
 PLANS APPROVAL DATE

DAVE CLOW
 No. 12883
 Exp. 12/31/10
 ELECTRICAL
 STATE OF CALIFORNIA

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ALLIANCE ENGINEERING CONSULTING, INC.
 4701, PATRICK HENRY DR., #10
 SANTA CLARA, CA 95054

SJCOG
 555 E. WEBER AVE.
 STOCKTON, CA 95202-2804



**LIGHTING
 (STAGE CONSTRUCTION)
 (STAGE 2A)
 SCALE: 1" = 50'**

E-48

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE PLOTTED => 18-OCT-2010 08-10-10 TIME PLOTTED => 08:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	704	1132

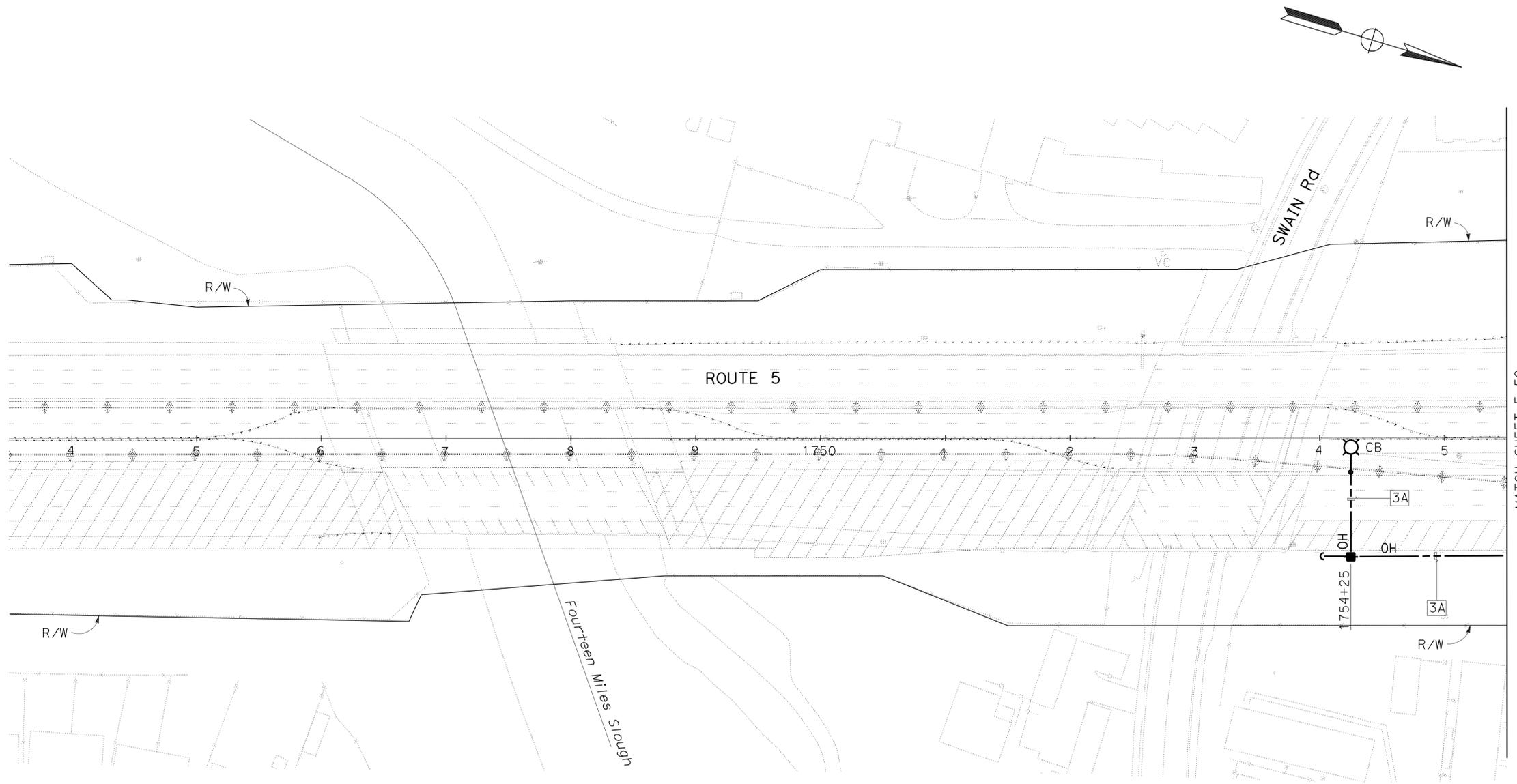
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
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ALLIANCE ENGINEERING CONSULTING, INC. 4701, PATRICK HENRY DR., #10 SANTA CLARA, CA 95054
 SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804

- NOTES:**
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR	DATE
Caltrans	KEN NCAI	CHECKED BY	HENRY ROBINO	
			DAVE CLOW	



LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2A)
 SCALE: 1" = 50'
E-49

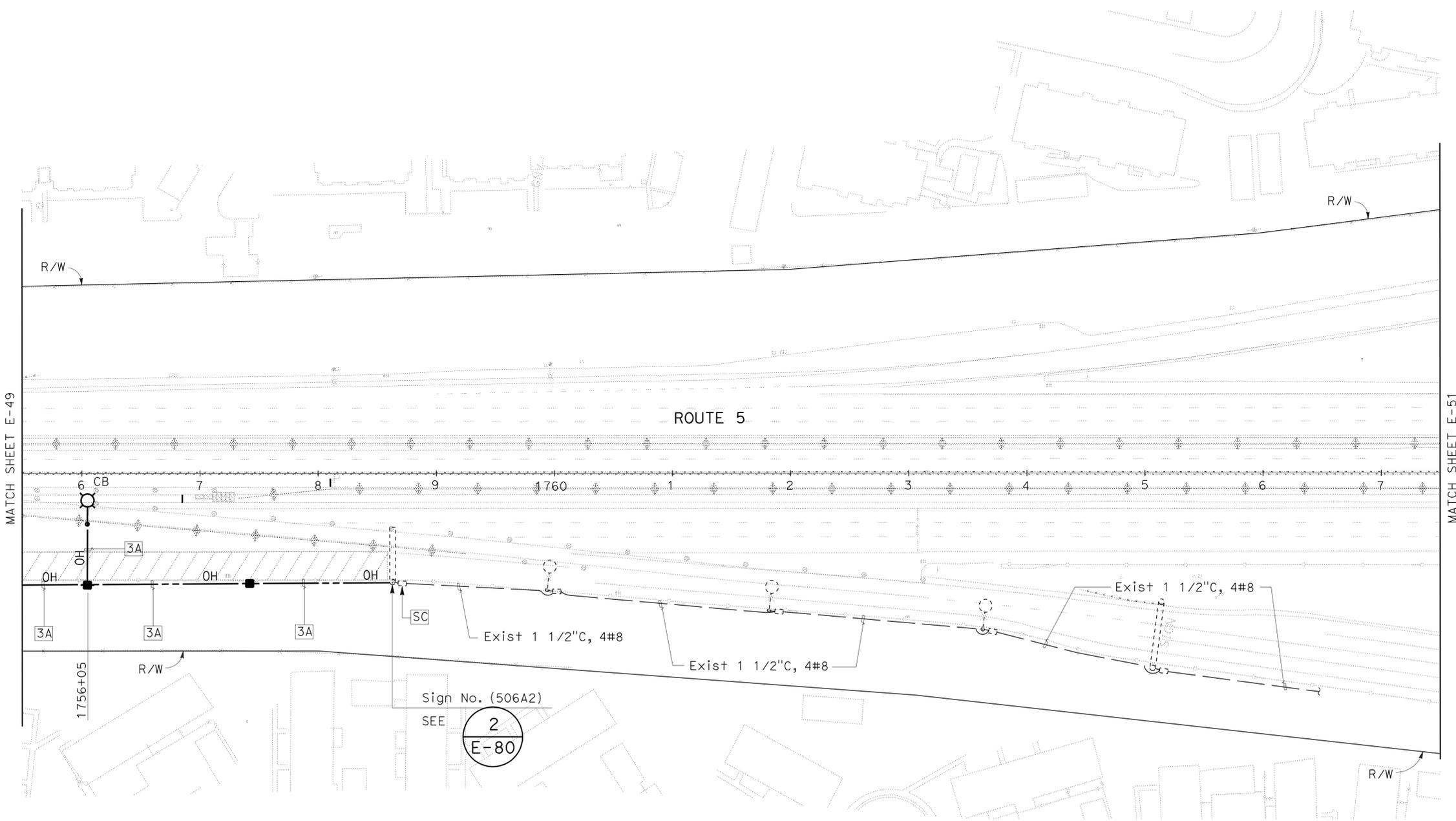
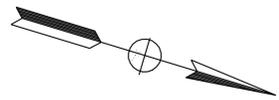
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: KEN NGAI
 CALCULATED/DESIGNED BY: HENRY ROBINO
 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE: 04/21/10

NOTES:
 1. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA,
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 2. FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	705	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
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 SJCOC 555 E. WEBER AVE. STOCKTON, CA 95202-2804



**LIGHTING
 (STAGE CONSTRUCTION)
 (STAGE 2A)
 SCALE: 1" = 50'**
E-50

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	706	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE

10-11-10
 PLANS APPROVAL DATE

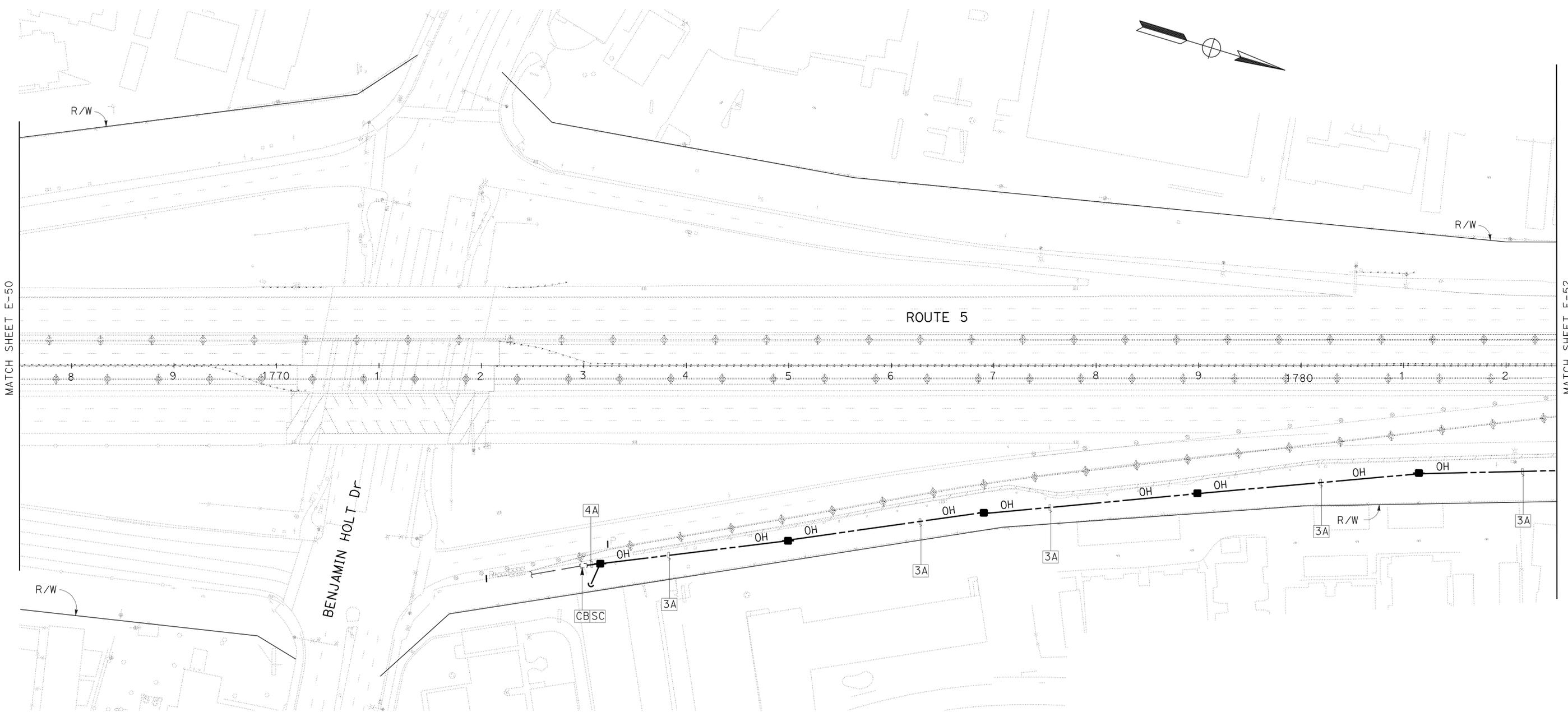
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---	---

NOTES:

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CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: KEN NGAI
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 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED: DAVE CLOW



**LIGHTING
 (STAGE CONSTRUCTION)
 (STAGE 2A)
 SCALE: 1" = 50'**

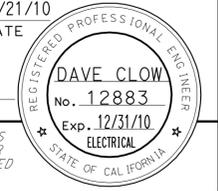
E-51

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION: DATE PLOTTED => 13-OCT-2010
 08-10-10 TIME PLOTTED => 12:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	708	1132

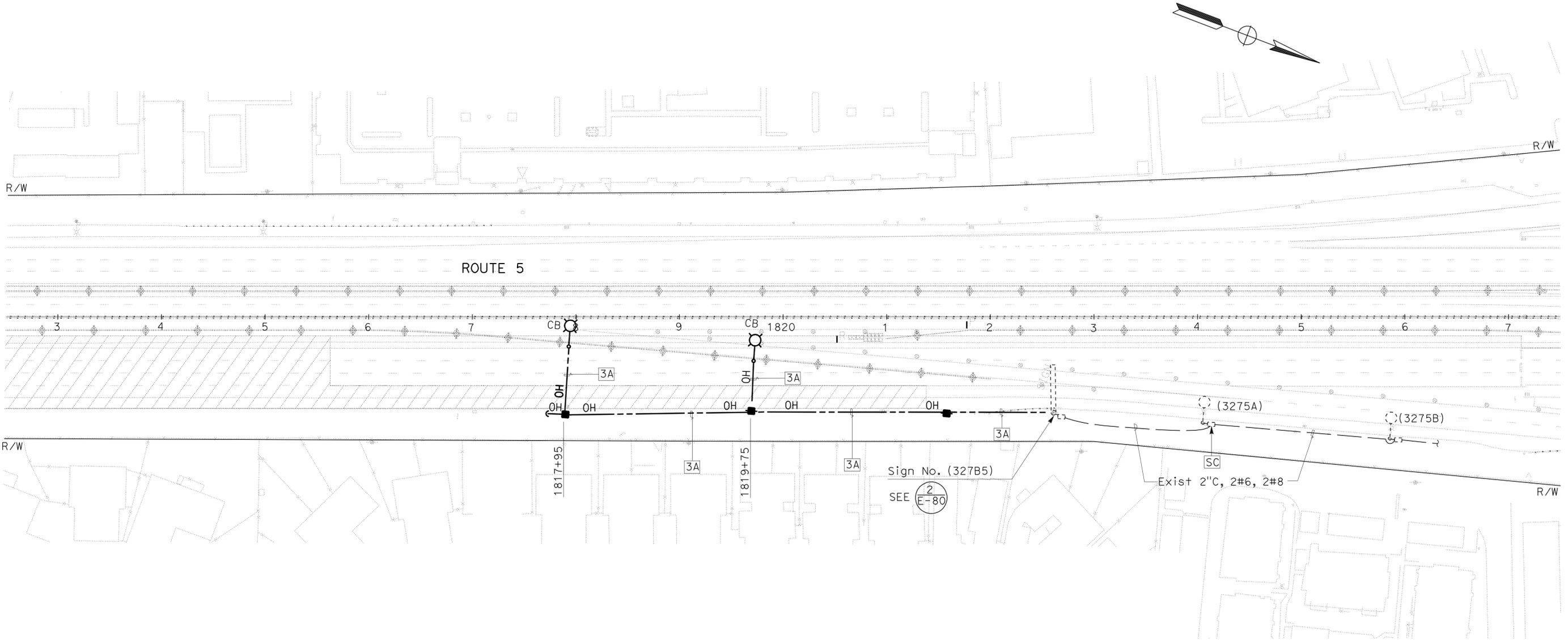
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
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 4701, PATRICK HENRY DR., #10
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 SJCOG
 555 E. WEBER AVE.
 STOCKTON, CA 95202-2804

- NOTES:**
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR
 KEN NGAI
 CALCULATED-DESIGNED BY
 CHECKED BY
 HENRY ROBINO
 DAVE CLOW
 REVISED BY
 DATE REVISED



LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2A)
 SCALE: 1" = 50'
E-53

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

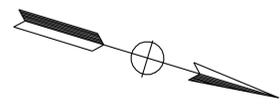
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	709	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE

10-11-10
 PLANS APPROVAL DATE

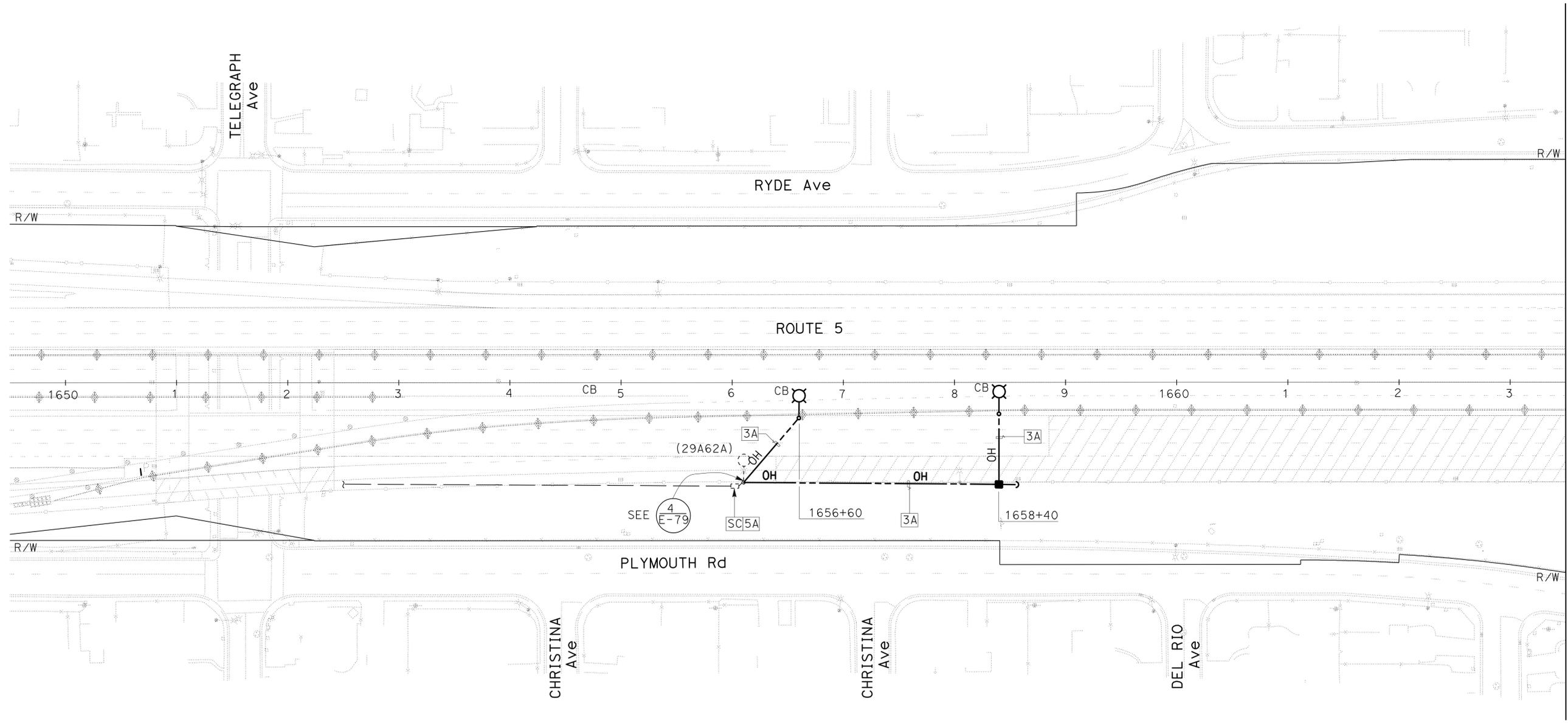
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---	---



NOTES:

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CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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CONSULTANT FUNCTIONAL SUPERVISOR
 KEN NCAI

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 CHECKED BY

HENRY ROBINO
 DAVE CLOW

REVISED BY
 DATE REVISED

MATCH SHEET E-55

LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2B)
 SCALE: 1" = 50'

E-54

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 CONSULTANT FUNCTIONAL SUPERVISOR: KEN NCAI
 CALCULATED/DESIGNED BY: HENRY ROBINO
 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED: []

NOTES:

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2. FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	710	1132

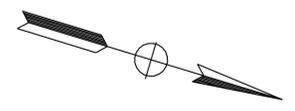
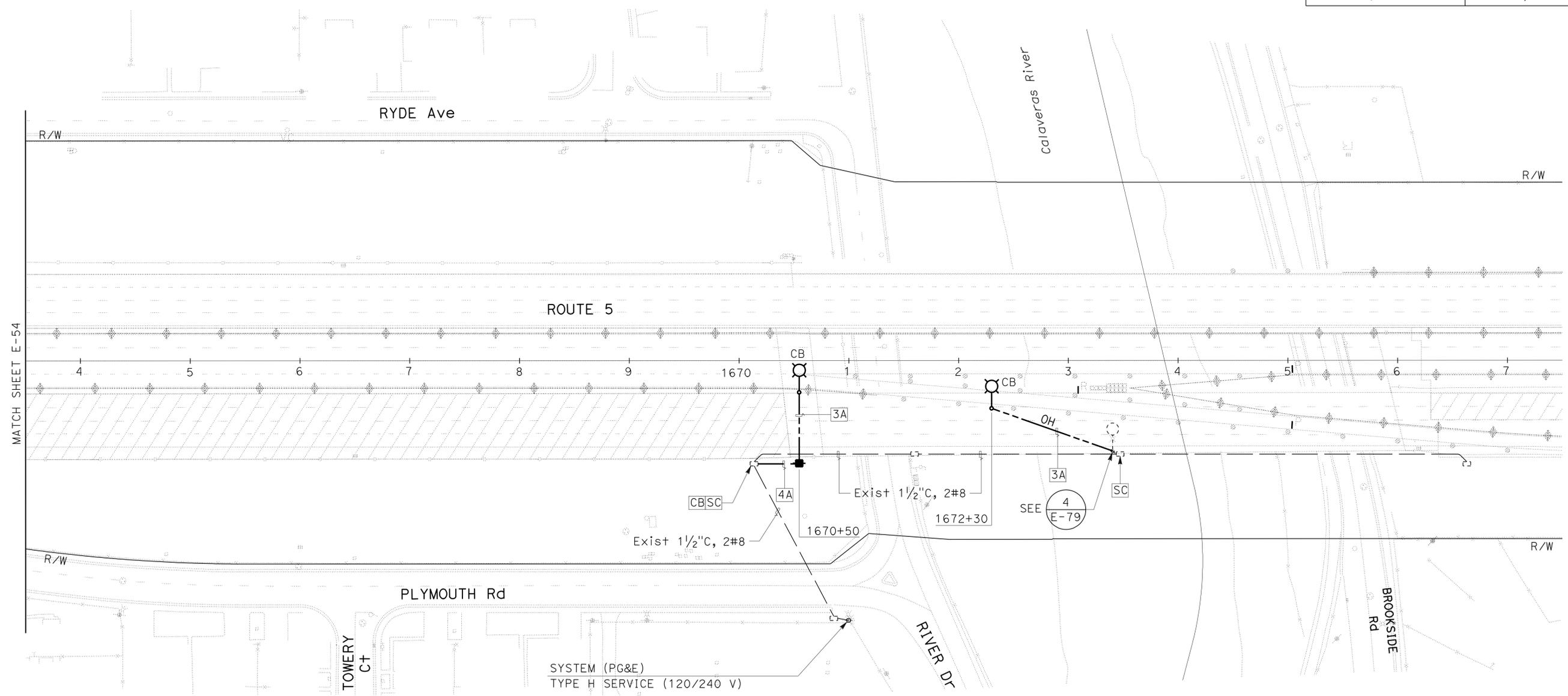
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE

10-11-10
 PLANS APPROVAL DATE

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ALLIANCE ENGINEERING CONSULTING, INC. 4701, PATRICK HENRY DR., #10 SANTA CLARA, CA 95054
 SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804

REGISTERED PROFESSIONAL ENGINEER
DAVE CLOW
 No. 12883
 Exp. 12/31/10
 ELECTRICAL
 STATE OF CALIFORNIA



LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2B)
 SCALE: 1" = 50'
E-55

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE PLOTTED => 13-OCT-2010
 08-10-10 TIME PLOTTED => 10:57

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: KEN NCAI
 CALCULATED/DESIGNED BY: CHECKED BY:
 HENRY ROBINO DAVE CLOW
 REVISED BY: DATE REVISED:

NOTES:

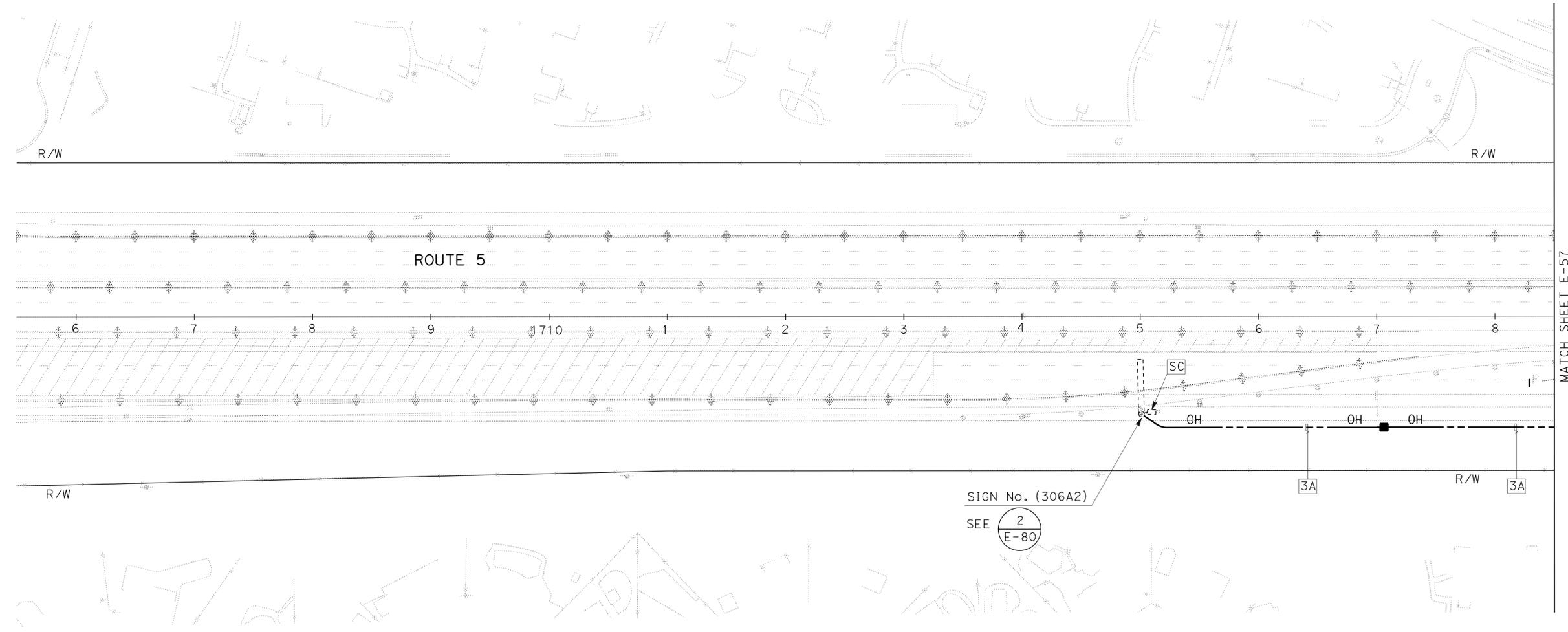
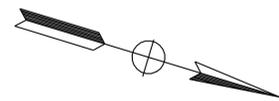
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2. FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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David W. Clow 04/21/10
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 10-11-10
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REGISTERED PROFESSIONAL ENGINEER
DAVE CLOW
 No. 12883
 Exp. 12/31/10
 ELECTRICAL
 STATE OF CALIFORNIA

ALLIANCE ENGINEERING CONSULTING, INC. 4701, PATRICK HENRY DR., #10 SANTA CLARA, CA 95054	SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804
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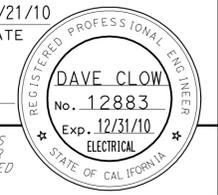
MATCH SHEET E-57

LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2B)
 SCALE: 1" = 50'
E-56

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	713	1132

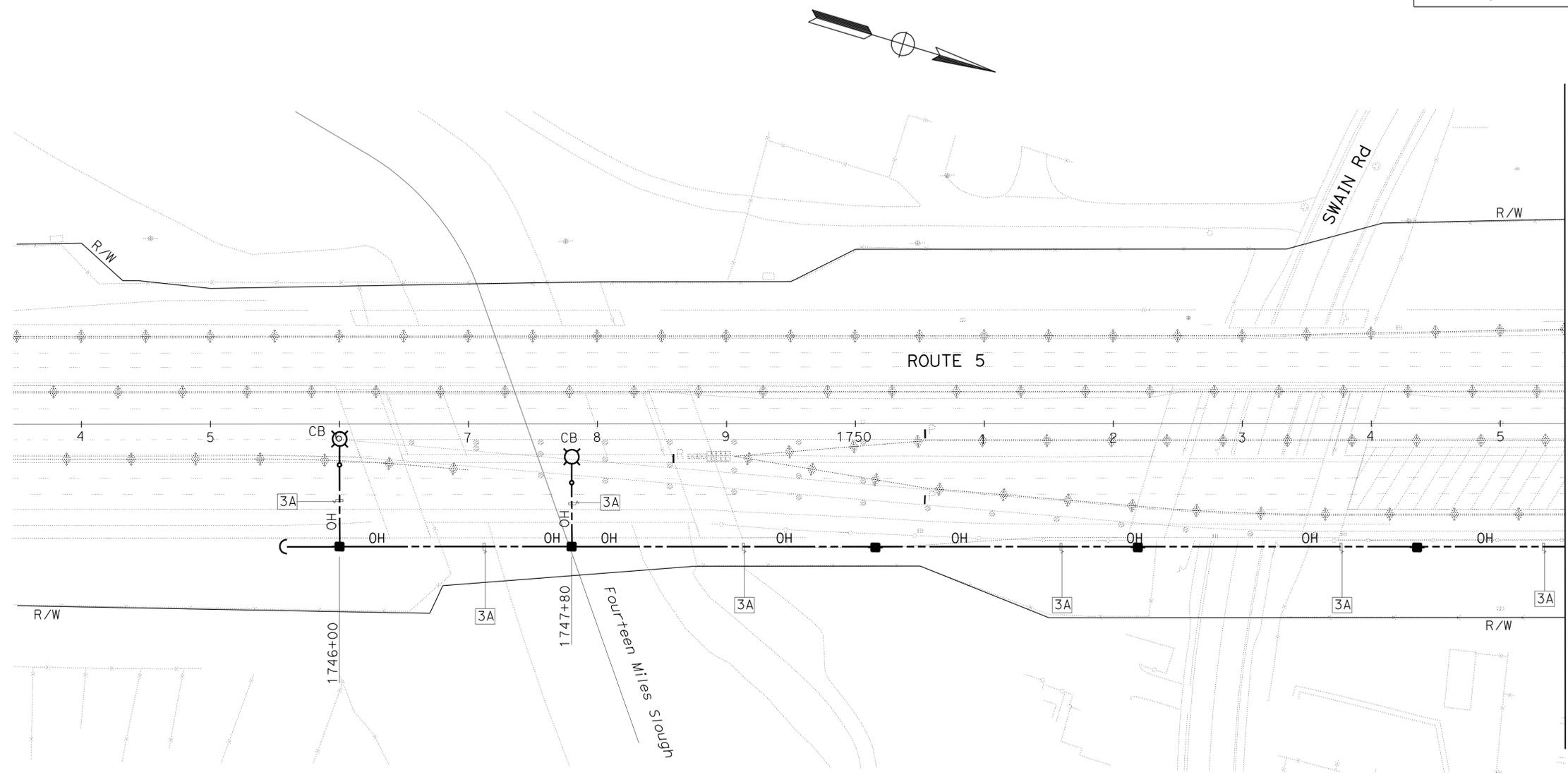
David W. Clow 04/21/10
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ALLIANCE ENGINEERING CONSULTING, INC. 4701, PATRICK HENRY DR., #10 SANTA CLARA, CA 95054
 SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804

- NOTES:**
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 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans®
 CONSULTANT FUNCTIONAL SUPERVISOR KEN NCAI
 CALCULATED-DESIGNED BY CHECKED BY
 HENRY ROBINO DAVE CLOW
 REVISED BY DATE REVISION
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100



MATCH SHEET E-59

LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2B)
 SCALE: 1" = 50'
E-58

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE PLOTTED => 18-OCT-2010 08-10-10 TIME PLOTTED => 08:00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: KEN NGAI
 CALCULATED/DESIGNED BY: HENRY ROBINO
 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED: DAVE CLOW

NOTES:

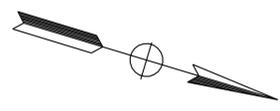
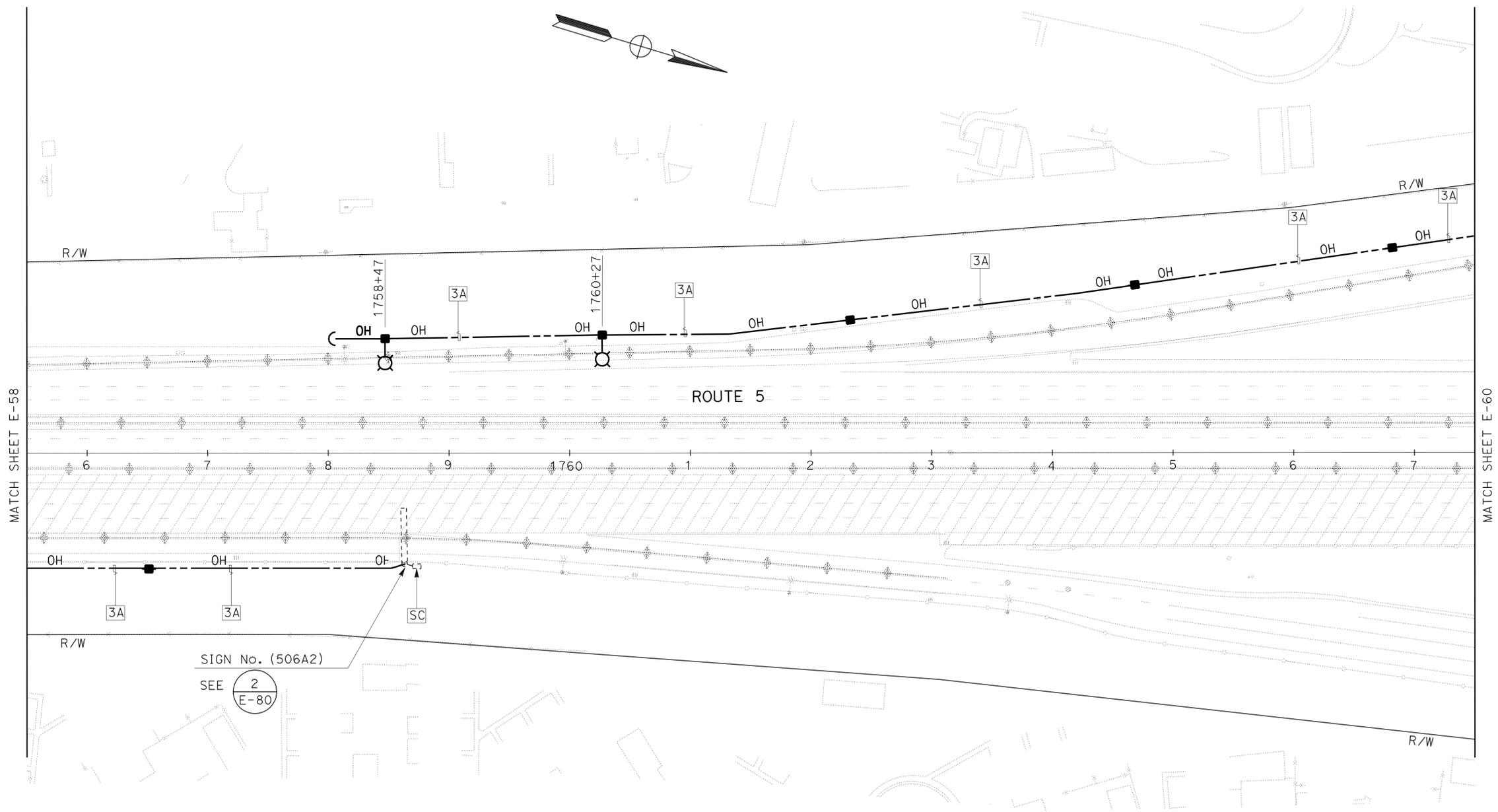
1. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	714	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
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REGISTERED PROFESSIONAL ENGINEER
DAVE CLOW
 No. 12883
 Exp. 12/31/10
 ELECTRICAL
 STATE OF CALIFORNIA

ALLIANCE ENGINEERING CONSULTING, INC. 4701, PATRICK HENRY DR., #10 SANTA CLARA, CA 95054	SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804
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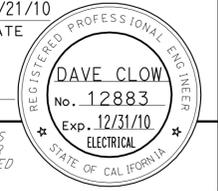
LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2B)
 SCALE: 1" = 50'
E-59

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE PLOTTED => 13-OCT-2010
 08-10-10 TIME PLOTTED => 10:51

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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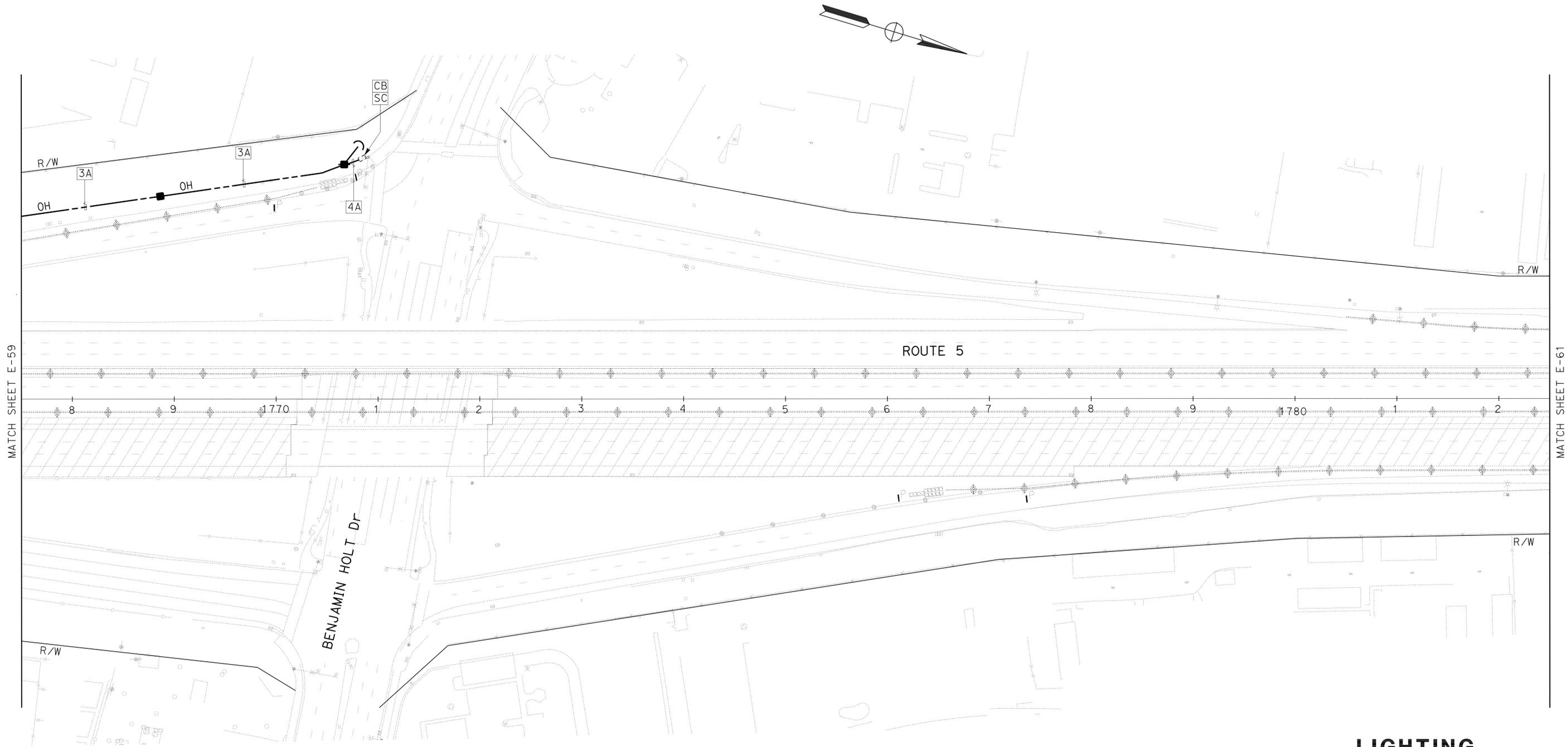
David W. Clow 04/21/10
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ALLIANCE ENGINEERING CONSULTING, INC.
 4701, PATRICK HENRY DR., #10
 SANTA CLARA, CA 95054
 SJCOG
 555 E. WEBER AVE.
 STOCKTON, CA 95202-2804

- NOTES:**
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 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans®
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 KEN NCAI
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 CHECKED BY
 HENRY ROBINO
 DAVE CLOW
 REVISED BY
 DATE
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LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2B)
 SCALE: 1" = 50'
E-60

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE PLOTTED => 13-OCT-2010 08-10-10 TIME PLOTTED => 10:52

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	716	1132

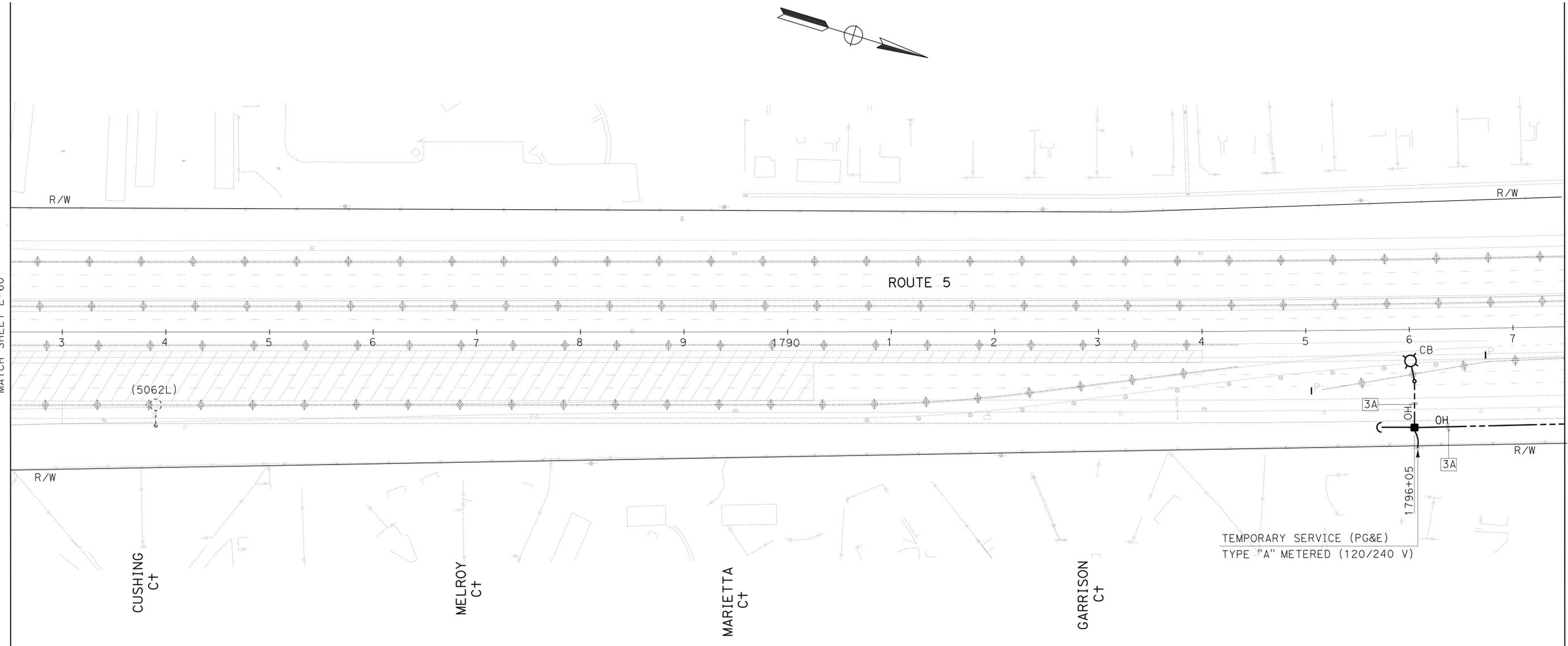
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 SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804

- NOTES:**
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 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans®
 CONSULTANT FUNCTIONAL SUPERVISOR: KEN NCAI
 CALCULATED/DESIGNED BY: HENRY ROBINO
 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED:

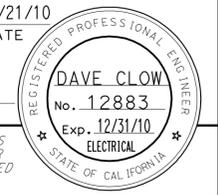


LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2B)
 SCALE: 1" = 50'
E-61

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	718	1132

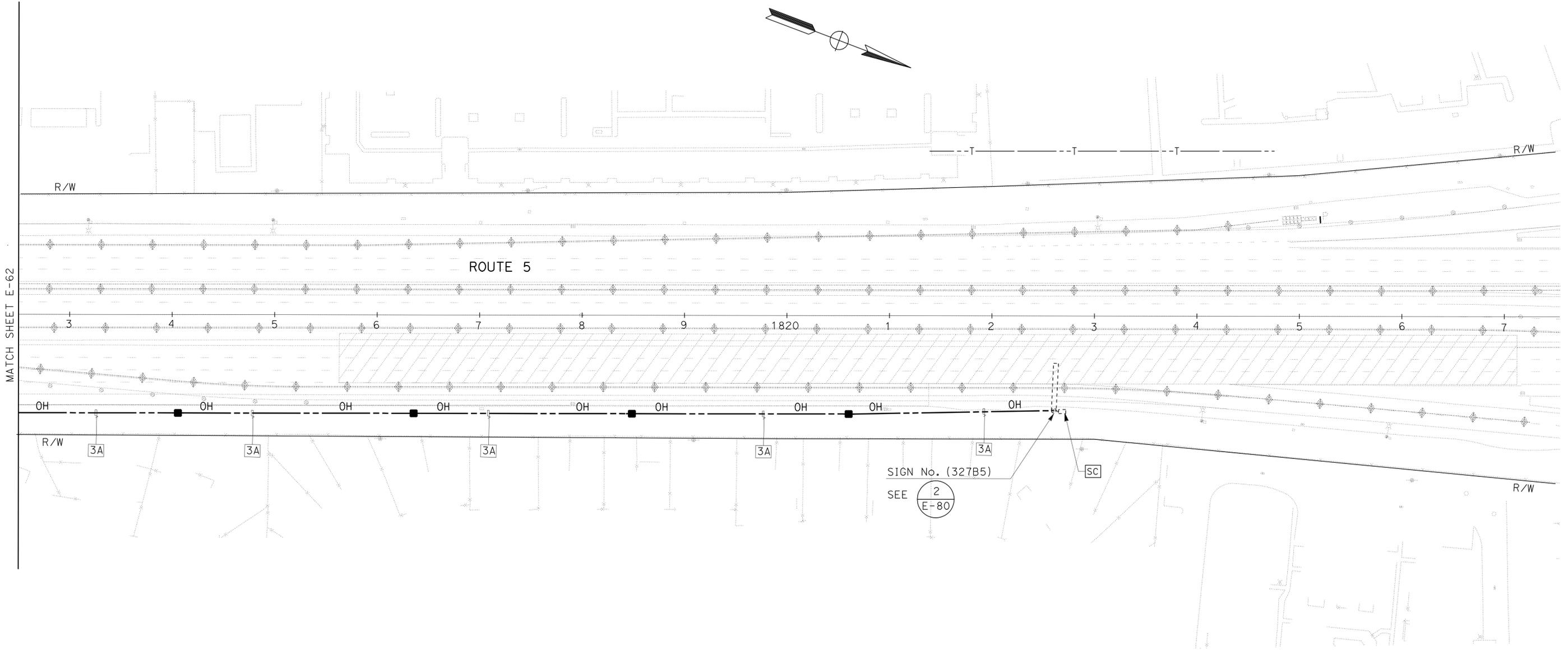
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
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 CHECKED BY
 HENRY ROBINO
 DAVE CLOW
 REVISED BY
 DATE
 REVISIED
 DATE



SIGN No. (327B5)
 SEE

LIGHTING
(STAGE CONSTRUCTION)
(STAGE 2B)
 SCALE: 1" = 50'
E-63

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	719	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE

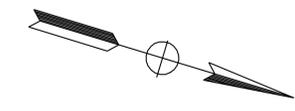
10-11-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DAVE CLOW
 No. 12883
 Exp. 12/31/10
 ELECTRICAL
 STATE OF CALIFORNIA

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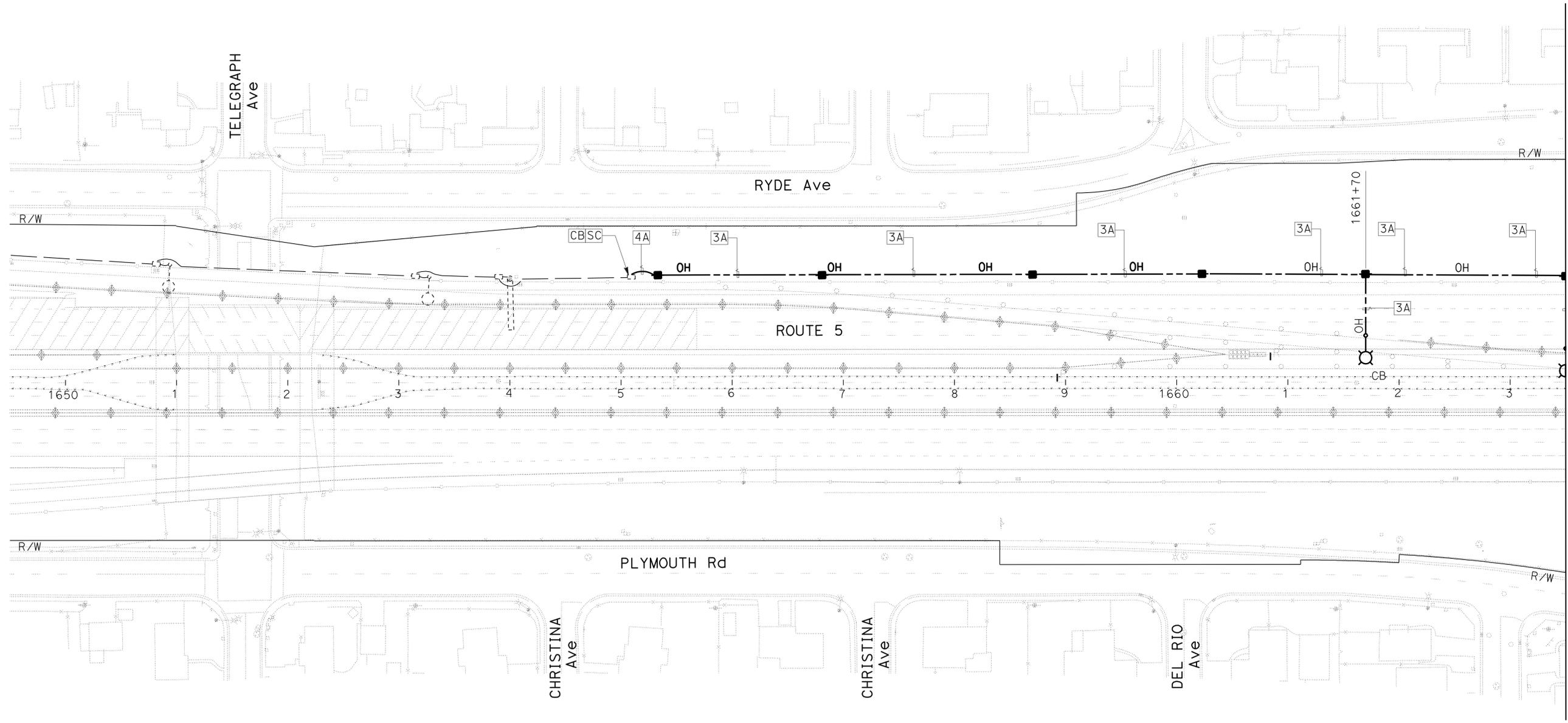
- NOTES:**
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 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

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CONSULTANT FUNCTIONAL SUPERVISOR
 KEN NCAI

CALCULATED-DESIGNED BY
 CHECKED BY
 HENRY ROBINO
 DAVE CLOW

REVISED BY
 DATE REVISED



MATCH SHEET E-65

**LIGHTING
 (STAGE CONSTRUCTION)
 (STAGE 3A)
 SCALE: 1" = 50'**

E-64

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 CALCULATED/DESIGNED BY: HENRY ROBINO
 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED: []

NOTES:

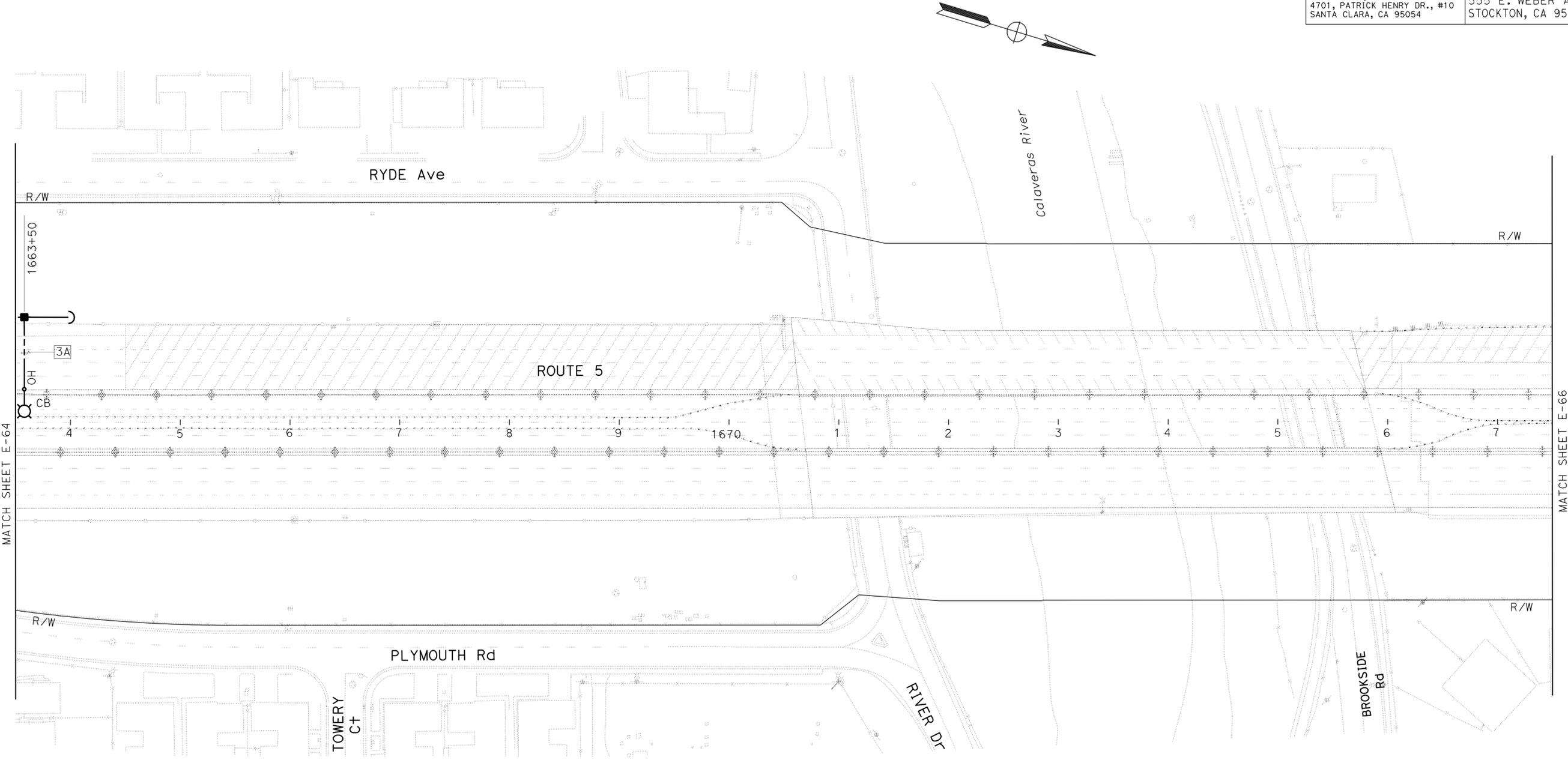
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	720	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
DAVE CLOW
 No. 12883
 Exp. 12/31/10
 ELECTRICAL
 STATE OF CALIFORNIA

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--	---



LIGHTING
(STAGE CONSTRUCTION)
(STAGE 3A)
 SCALE: 1" = 50'
E-65

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

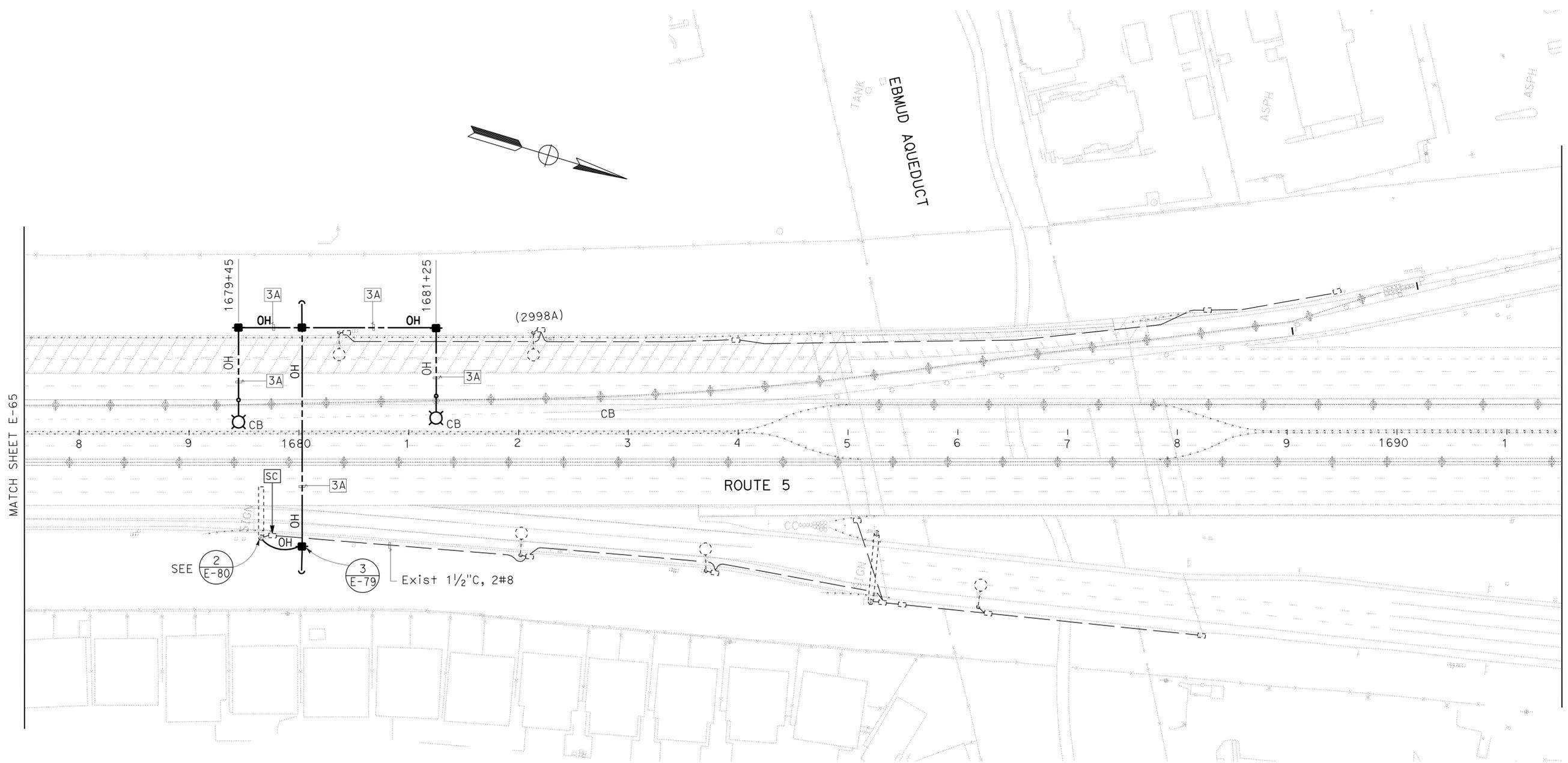
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	721	1132

<i>David W. Clow</i> REGISTERED ELECTRICAL ENGINEER DATE 04/21/10	
10-11-10 PLANS APPROVAL DATE	
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NOTES:

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- FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	REVISOR	DATE
Caltrans	HENRY ROBINO	DAVE CLOW
CONSULTANT - FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY
KEN NGAI		
	REVISOR	DATE
	HENRY ROBINO	DAVE CLOW



LIGHTING
(STAGE CONSTRUCTION)
(STAGE 3A)
 SCALE: 1" = 50'
E-66

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Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: KEN NGAI
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 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED: DAVE CLOW

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 2. FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	722	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE

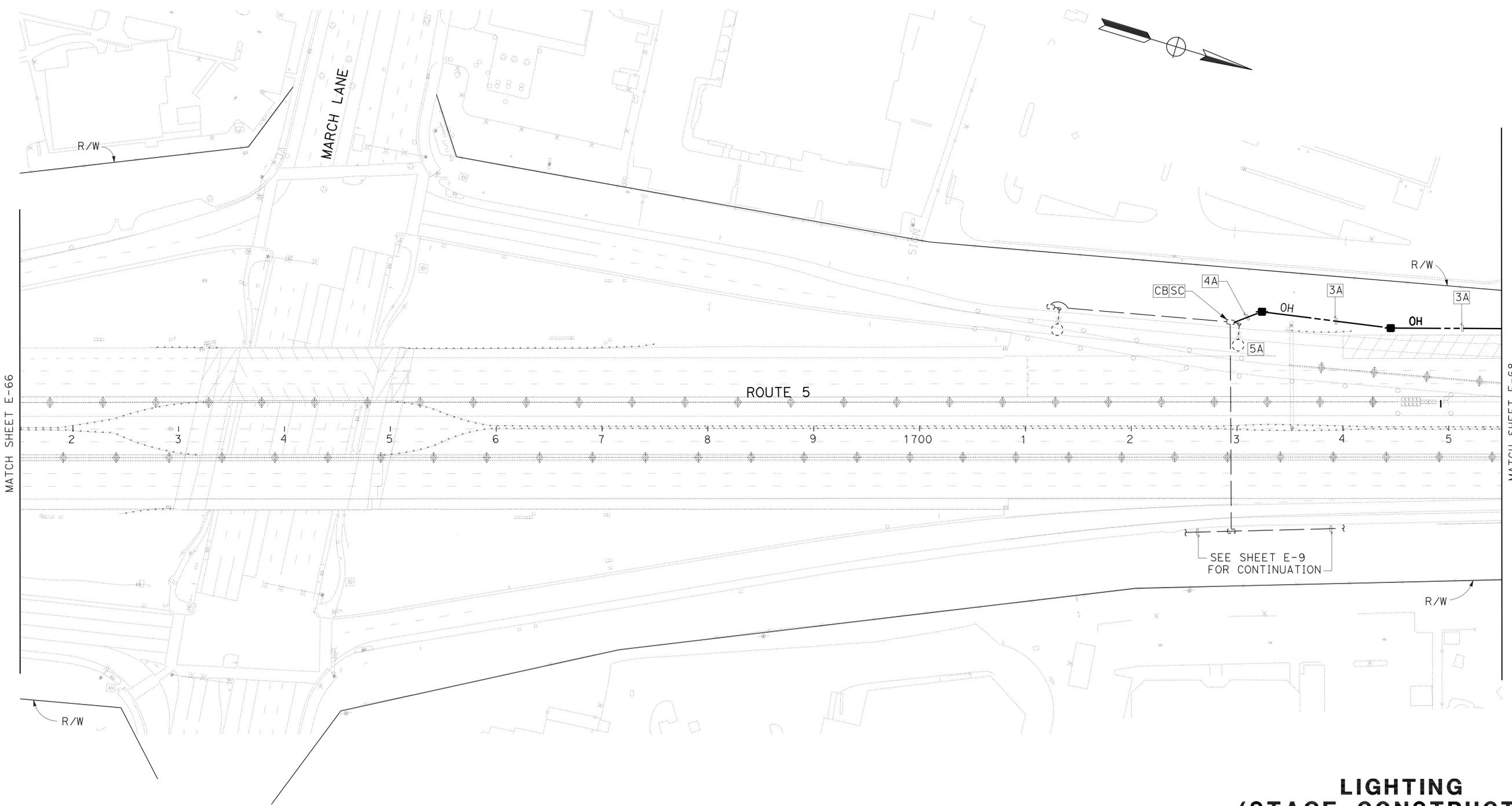
10-11-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DAVE CLOW
 No. 12883
 Exp. 12/31/10
 ELECTRICAL
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**LIGHTING
 (STAGE CONSTRUCTION)
 (STAGE 3A)
 SCALE: 1" = 50'**

E-67

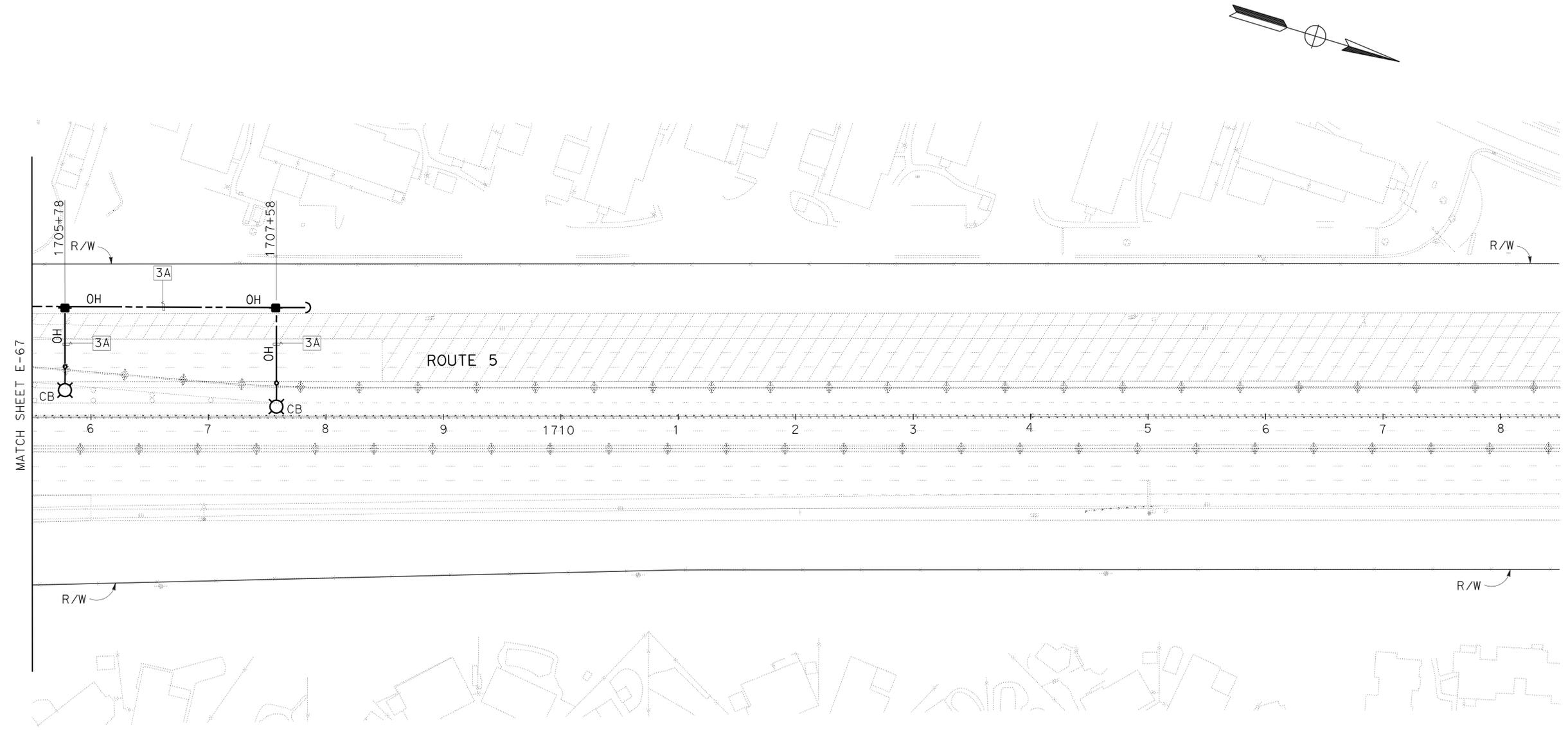
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 2. FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	723	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
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**LIGHTING
 (STAGE CONSTRUCTION)
 (STAGE 3A)
 SCALE: 1" = 50'**
E-68

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LAST REVISION DATE PLOTTED => 18-OCT-2010 08-10-10 TIME PLOTTED => 08:00

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- FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

LEGEND:

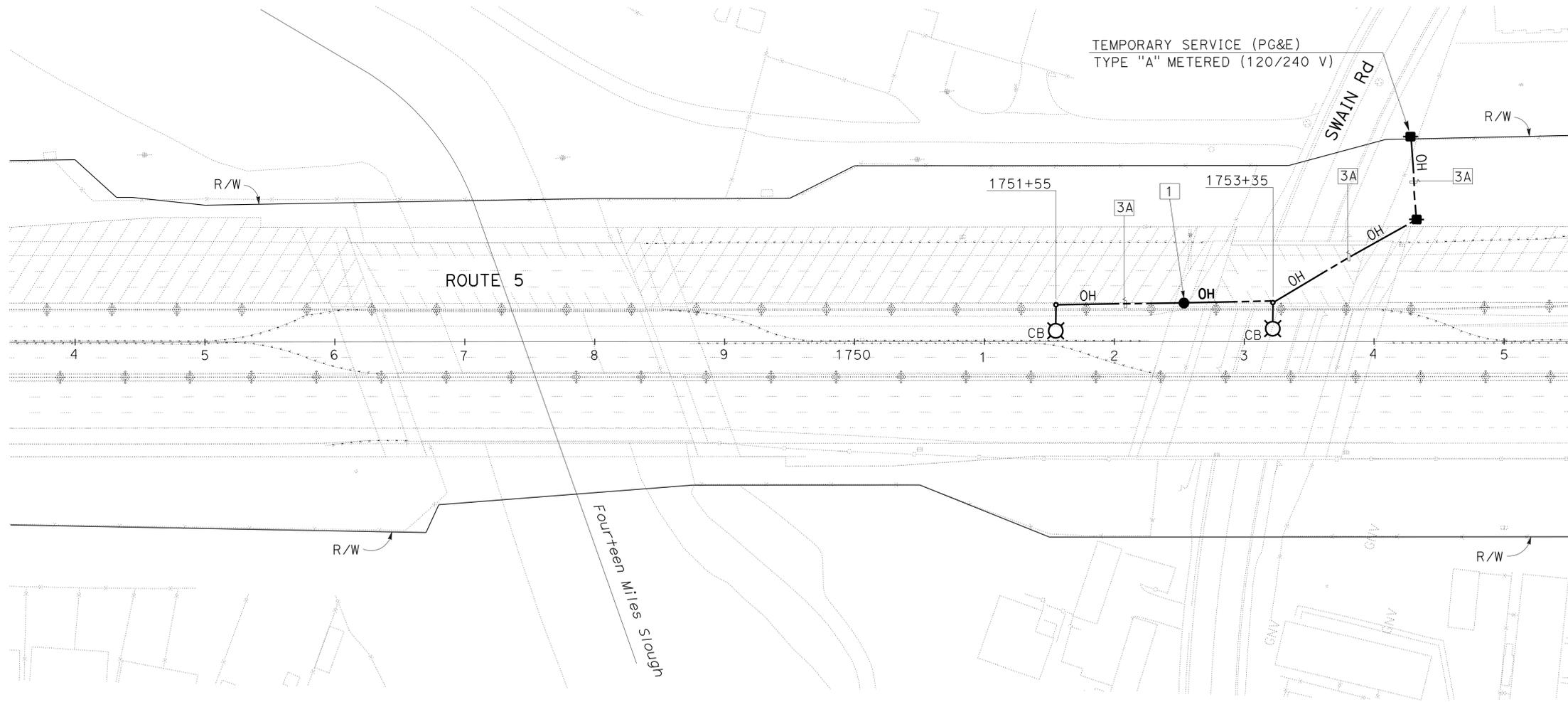
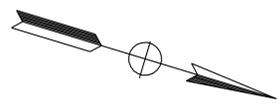
- INSTALL A TEMPORARY ELECTROLIER WITH CONCRETE BASE EXCEPT WITHOUT MAST ARM AND LIGHT FIXTURE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	724	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
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REGISTERED PROFESSIONAL ENGINEER
DAVE CLOW
 No. 12883
 Exp. 12/31/10
 ELECTRICAL
 STATE OF CALIFORNIA

ALLIANCE ENGINEERING CONSULTING, INC. 4701, PATRICK HENRY DR., #10 SANTA CLARA, CA 95054	SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804
--	---

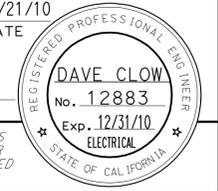


LIGHTING
(STAGE CONSTRUCTION)
(STAGE 3A)
 SCALE: 1" = 50'
E-69

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	725	1132

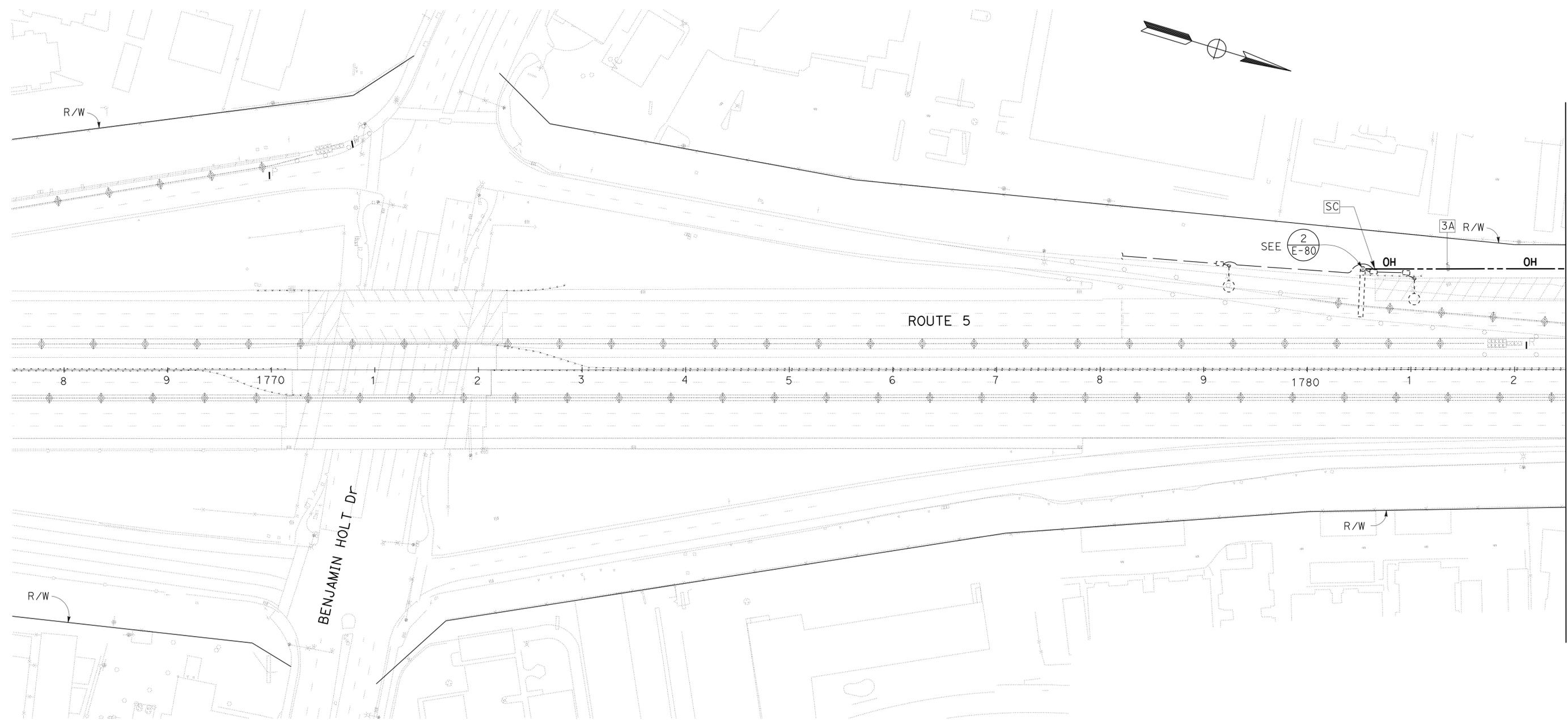
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
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- NOTES:**
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 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR
 KEN NGAI
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 CHECKED BY
 HENRY ROBINO
 DAVE CLOW
 REVISED BY
 DATE REVISED



MATCH SHEET E-71

LIGHTING
(STAGE CONSTRUCTION)
(STAGE 3A)
 SCALE: 1" = 50'
E-70

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

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 CHECKED BY: DAVE CLOW
 REVISED BY: DATE REVISID:

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 2. FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	726	1132

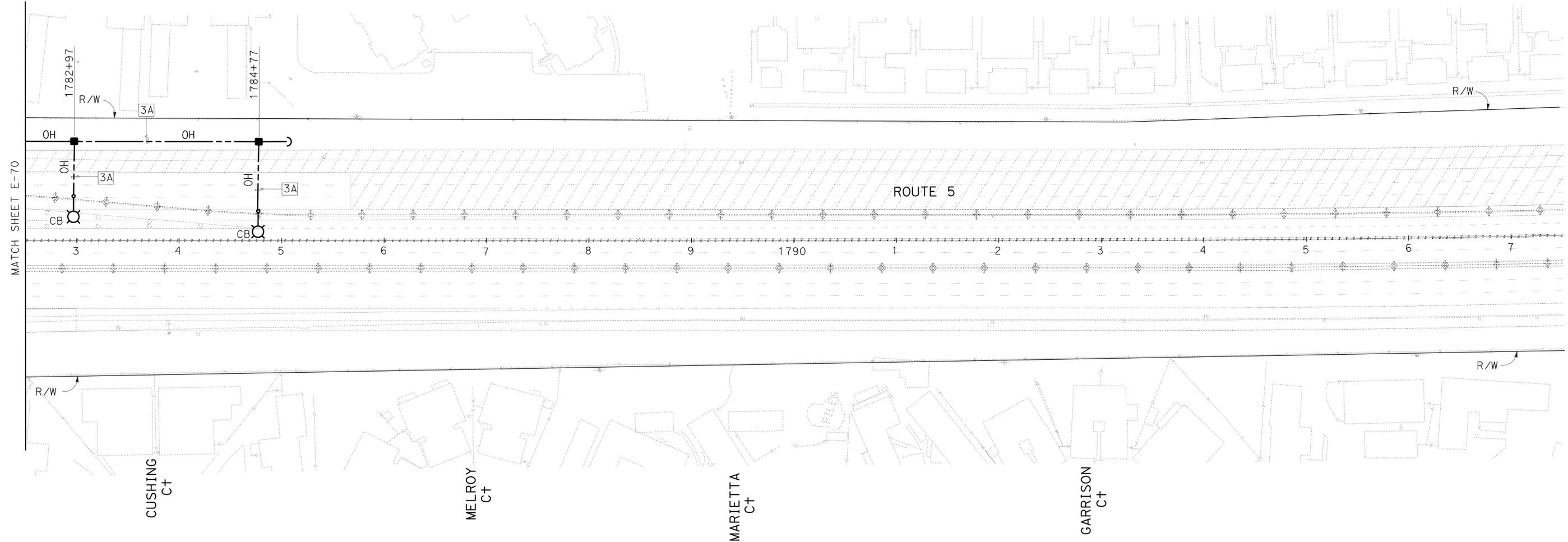
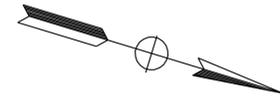
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DAVE CLOW
 No. 12883
 Exp. 12/31/10
 ELECTRICAL
 STATE OF CALIFORNIA

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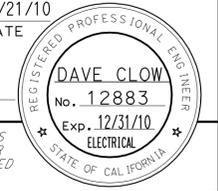


**LIGHTING
 (STAGE CONSTRUCTION)
 (STAGE 3A)**
 SCALE: 1" = 50'
E-71

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	727	1132

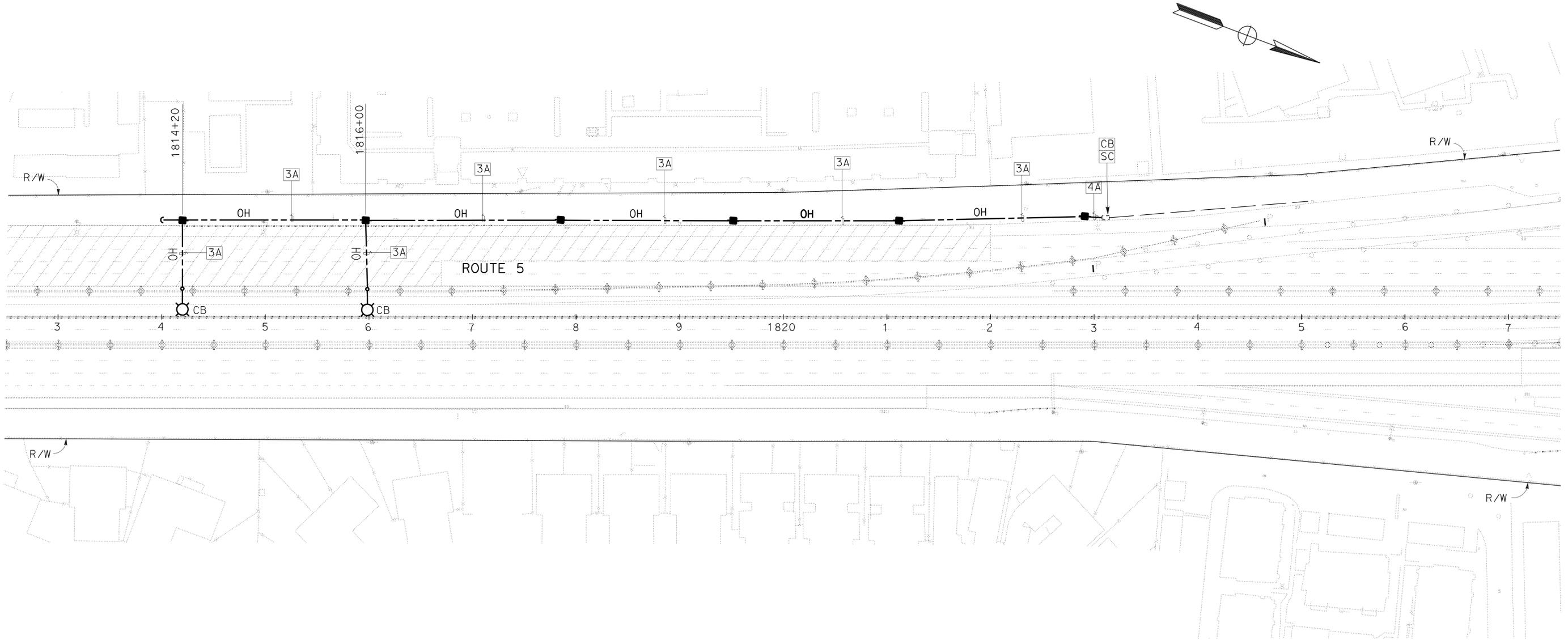
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
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 CHECKED BY
 HENRY ROBINO
 DAVE CLOW
 REVISED BY
 DATE REVISED



LIGHTING
(STAGE CONSTRUCTION)
(STAGE 3A)
 SCALE: 1" = 50'
E-72

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

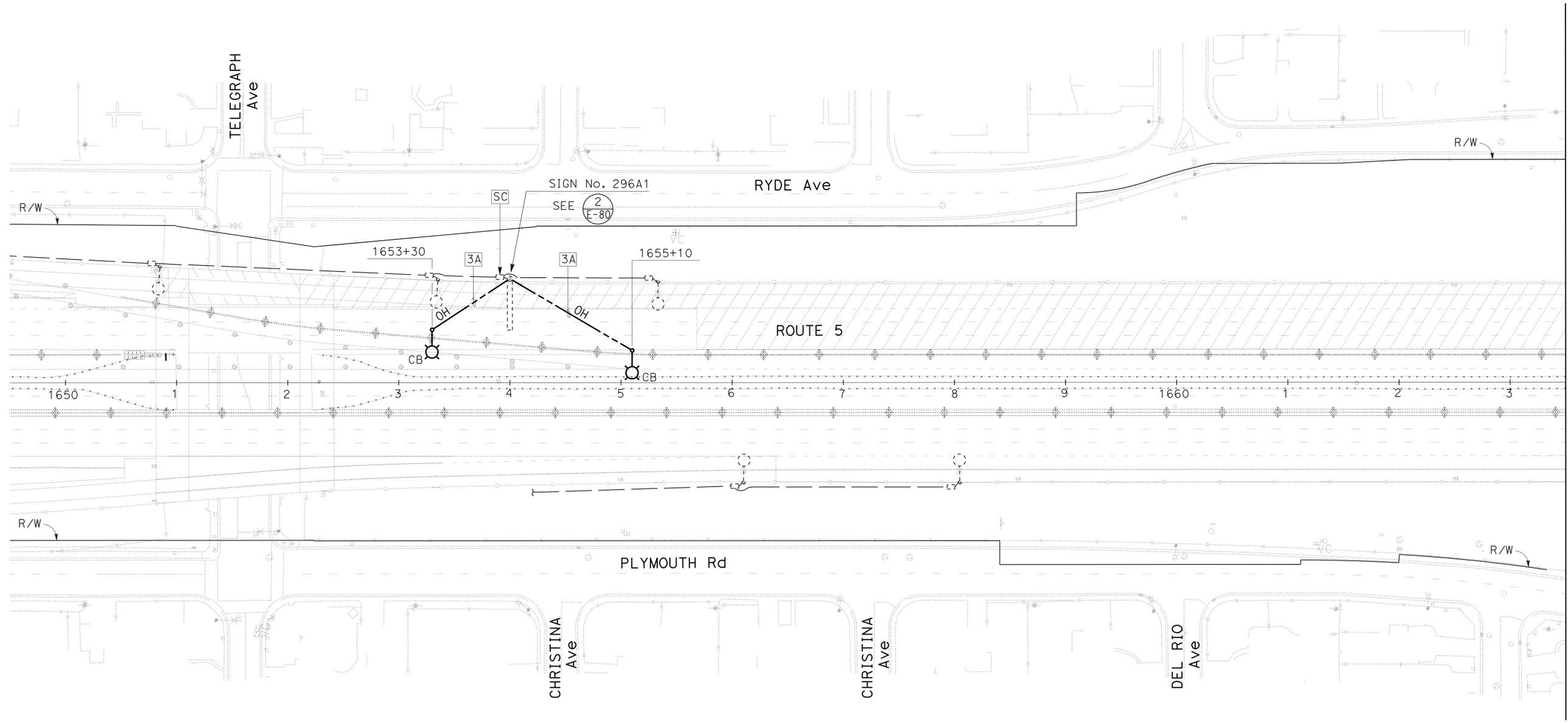
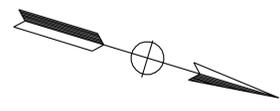
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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 CALCULATED/DESIGNED BY: HENRY ROBINO
 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED: DAVE CLOW

NOTES:

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2. FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	728	1132

David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
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MATCH SHEET E-74

LIGHTING
(STAGE CONSTRUCTION)
STAGE 3B
 SCALE: 1" = 50'
E-73

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE PLOTTED => 13-OCT-2010
 08-10-10 TIME PLOTTED => 11:09

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	729	1132

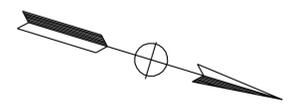
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
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 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



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- FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.



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 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED:

LIGHTING
(STAGE CONSTRUCTION)
(STAGE 3B)
 SCALE: 1" = 50'
E-74

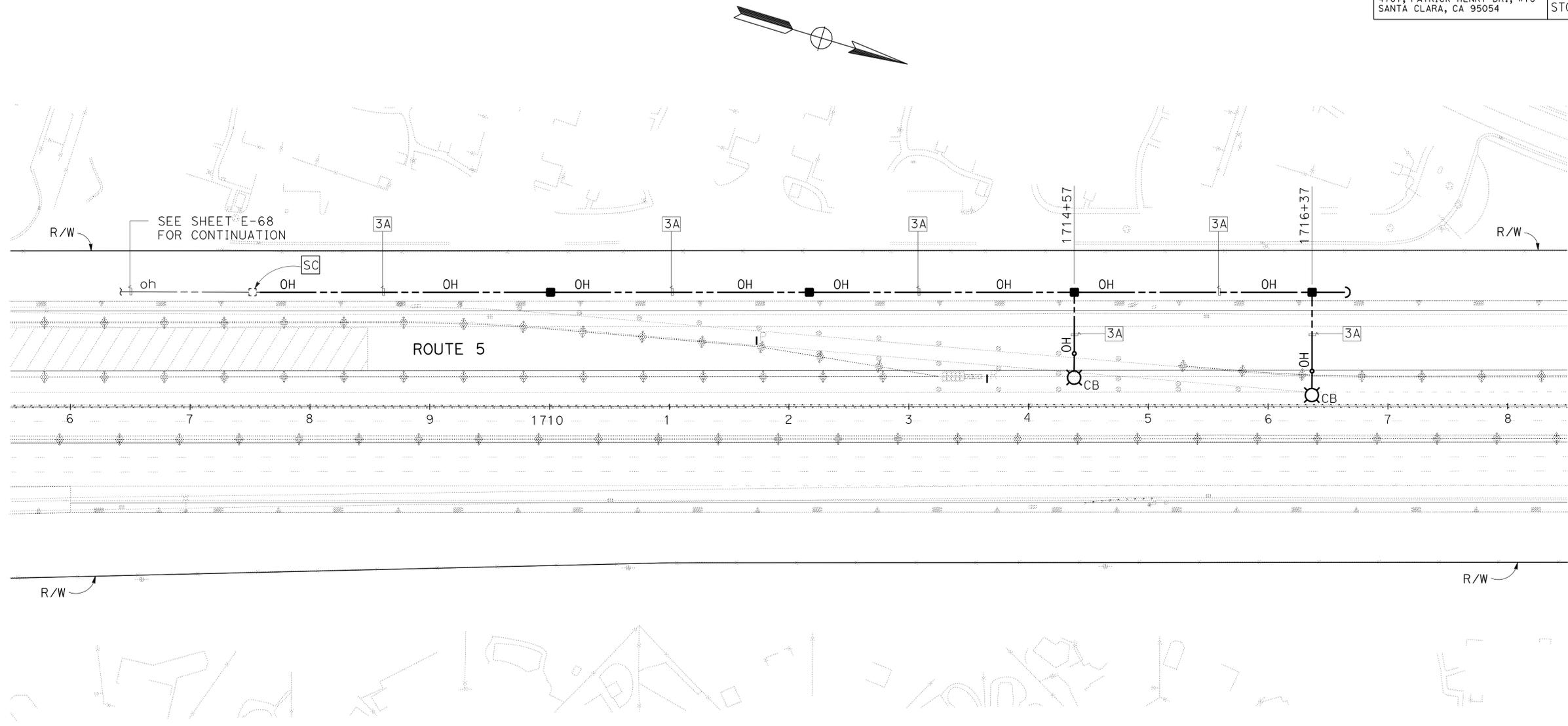
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION: DATE PLOTTED => 13-OCT-2010 TIME PLOTTED => 11:09

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	730	1132

<i>David W. Clow</i> REGISTERED ELECTRICAL ENGINEER DATE 04/21/10	
10-11-10 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>	
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NOTES:
 1. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA,
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 2. FOR LEGEND, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-39.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	REVISOR	DATE
<i>Caltrans</i>	HENRY ROBINO	DAVE CLOW
CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY
KEN NCAI		

**LIGHTING
 (STAGE CONSTRUCTION)
 (STAGE 3B)
 SCALE: 1" = 50'
 E-75**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

LAST REVISION DATE PLOTTED => 18-OCT-2010
 08-10-10 TIME PLOTTED => 08:00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	732	1132

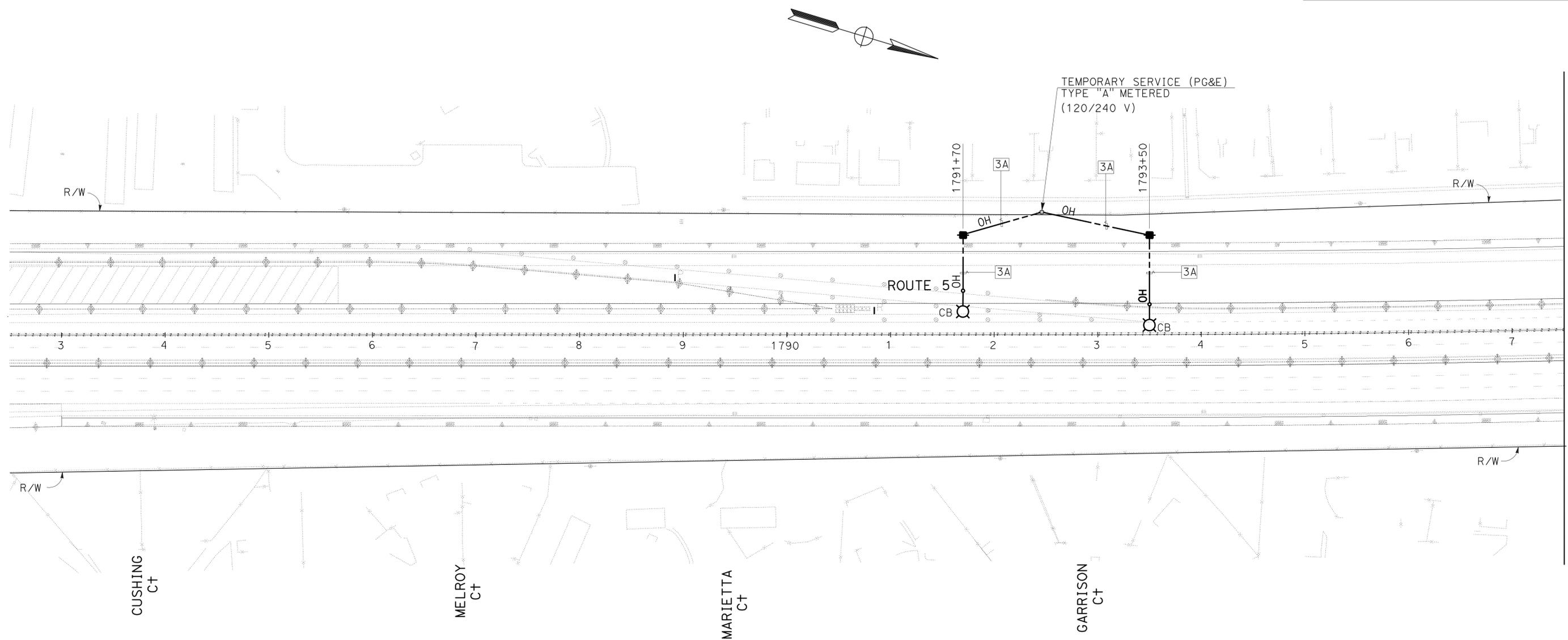
David W. Clow 04/21/10
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- NOTES:**
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

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 CHECKED BY: DAVE CLOW
 REVISED BY: HENRY ROBINO
 DATE REVISED: DAVE CLOW

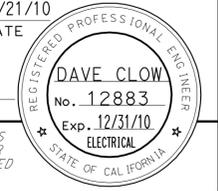


LIGHTING
(STAGE CONSTRUCTION)
(STAGE 3B)
 SCALE: 1" = 50'
E-77

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

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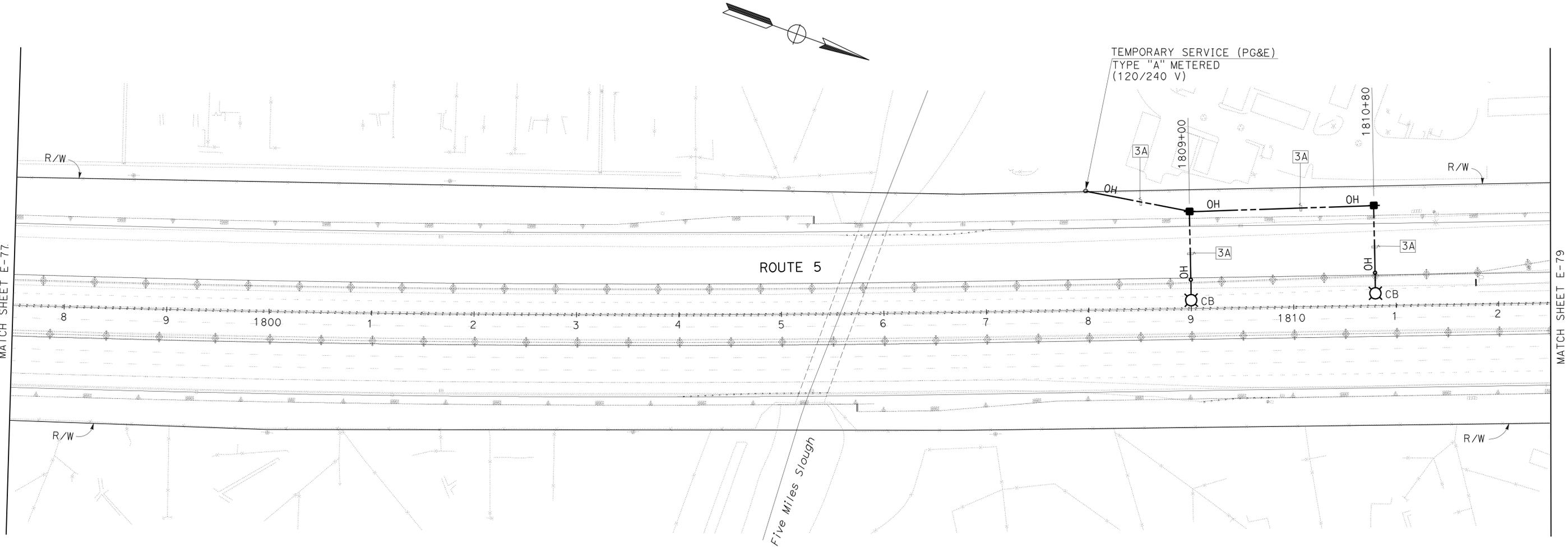
David W. Clow 04/21/10
 REGISTERED ELECTRICAL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
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ALLIANCE ENGINEERING CONSULTING, INC.
 4701, PATRICK HENRY DR., #10
 SANTA CLARA, CA 95054
 SJCOC
 555 E. WEBER AVE.
 STOCKTON, CA 95202-2804

- NOTES:**
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 - FOR LEGEND, SYMBOLS AND NOTES, SEE SHEET E-39.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: KEN NGAI
 CALCULATED-DRAWN BY: HENRY ROBINO
 CHECKED BY: DAVE CLOW
 REVISIONS: REVISOR: DATE: REVISIONS: REVISOR: DATE:



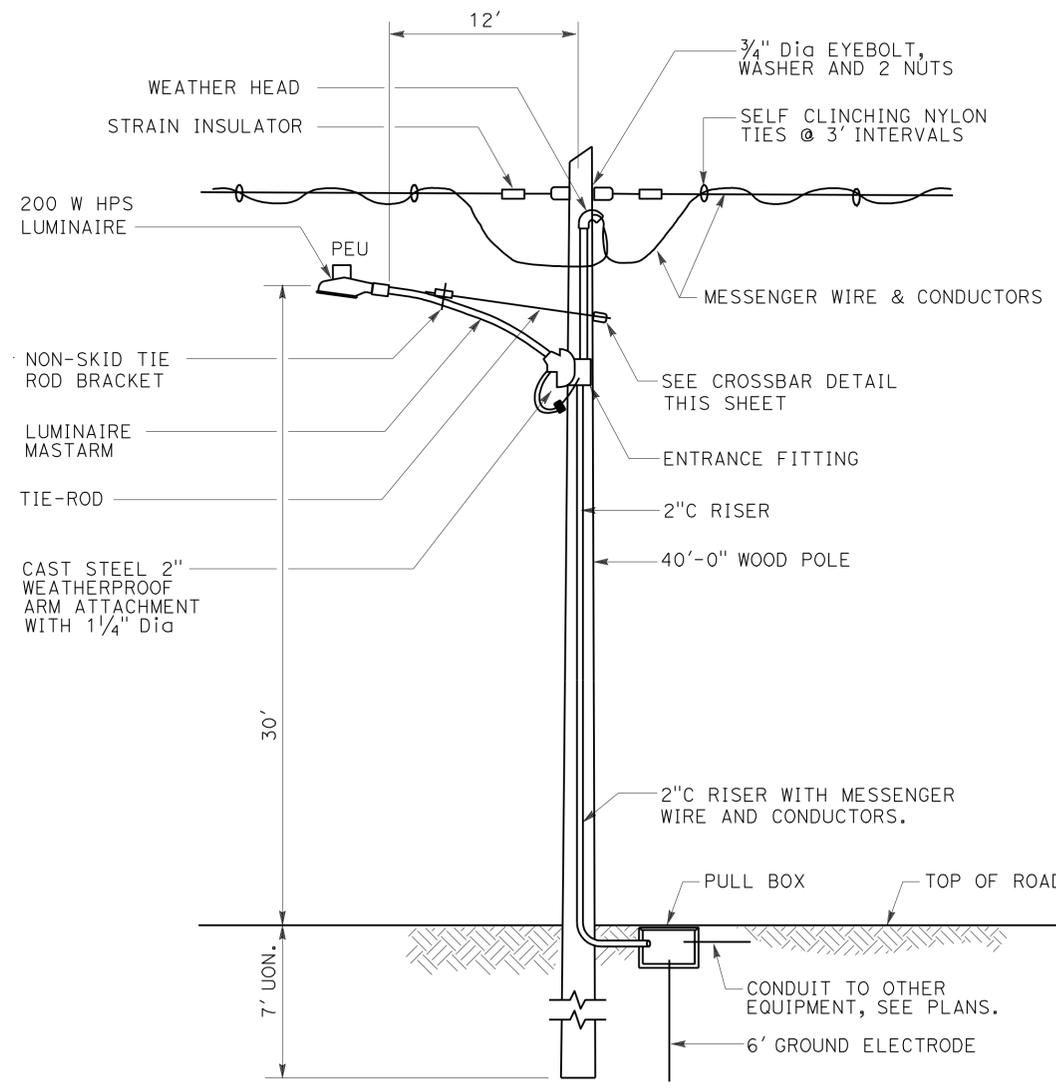
LIGHTING
(STAGE CONSTRUCTION)
(STAGE 3B)
 SCALE: 1" = 50'
E-78

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

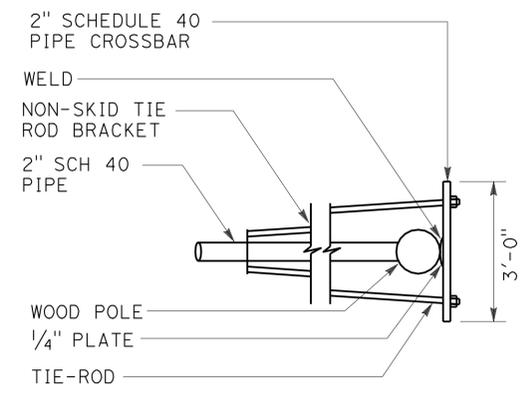
LAST REVISION: DATE PLOTTED => 13-OCT-2010
 08-10-10 TIME PLOTTED => 12:33

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<i>David W. Clow</i> 04/21/10 REGISTERED ELECTRICAL ENGINEER DATE					
10-11-10			PLANS APPROVAL DATE		
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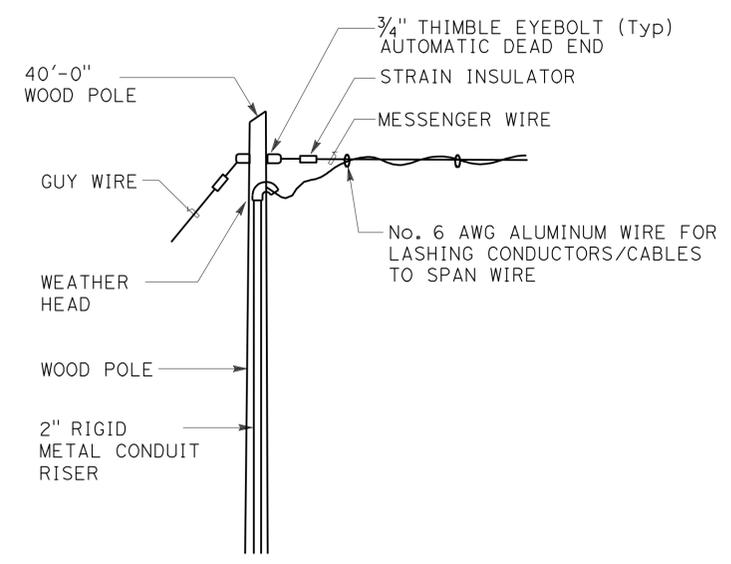
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Et Caltrans®
 CONSULTANT FUNCTIONAL SUPERVISOR
 KEN NGAI
 CALCULATED-DESIGNED BY
 HENRY ROBINO
 CHECKED BY
 DAVID CLOW
 REVISED BY
 HENRY ROBINO
 DATE
 DAVID CLOW
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100



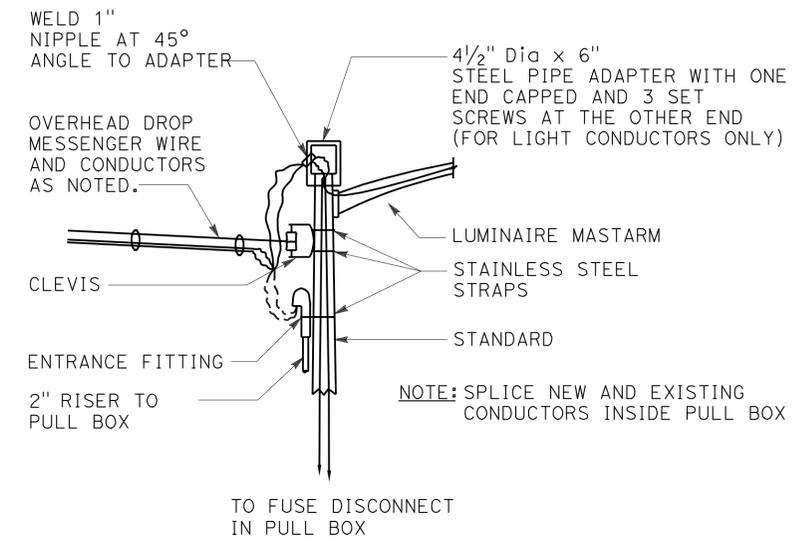
1
-
TYPICAL TEMPORARY LUMINAIRE MOUNTING ON WOOD POLE



2
-
CROSSBAR DETAIL



3
-
WIRE ATTACHMENT FOR WOOD POLE DETAIL

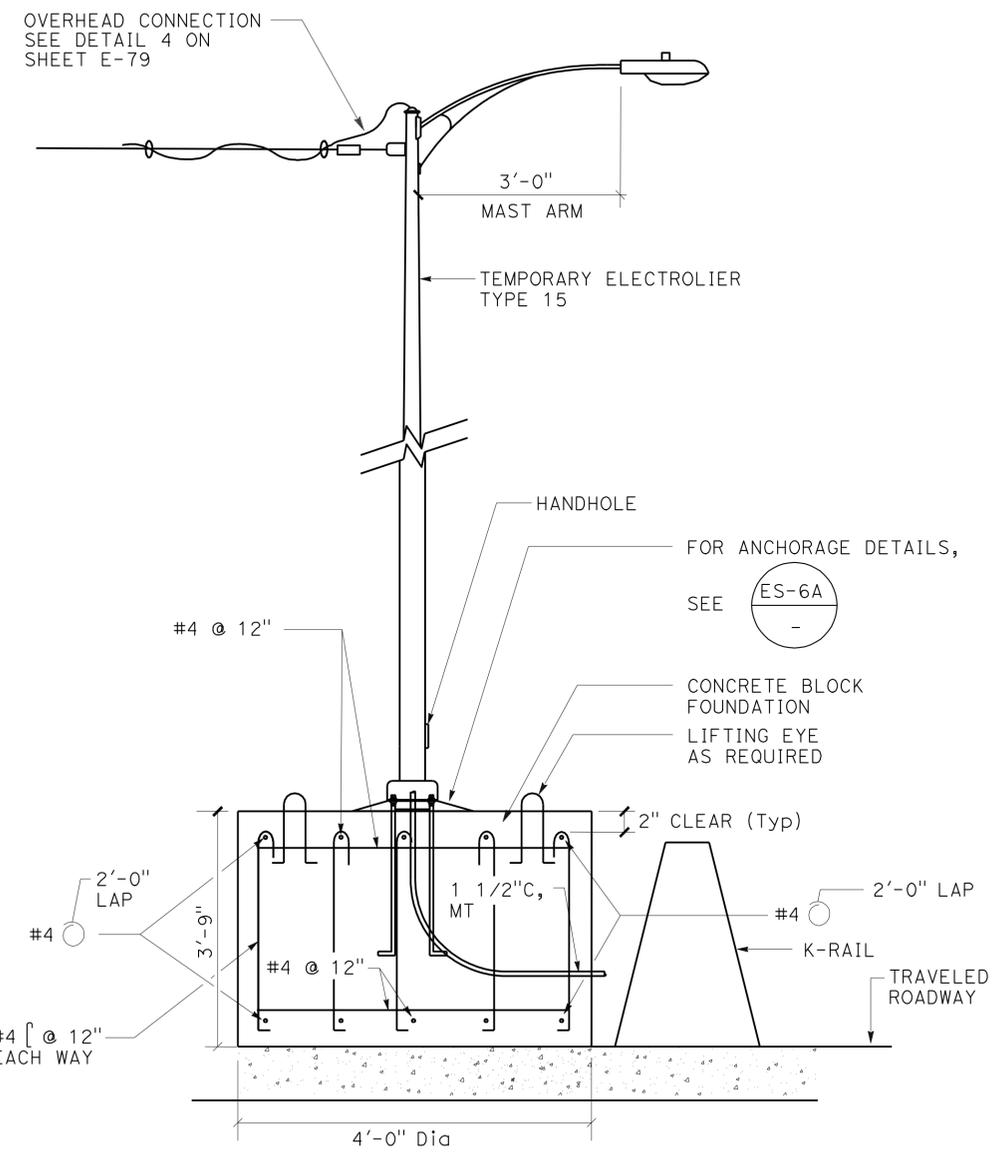


4
-
TYPICAL OVERHEAD DROP INSTALLATION DETAIL

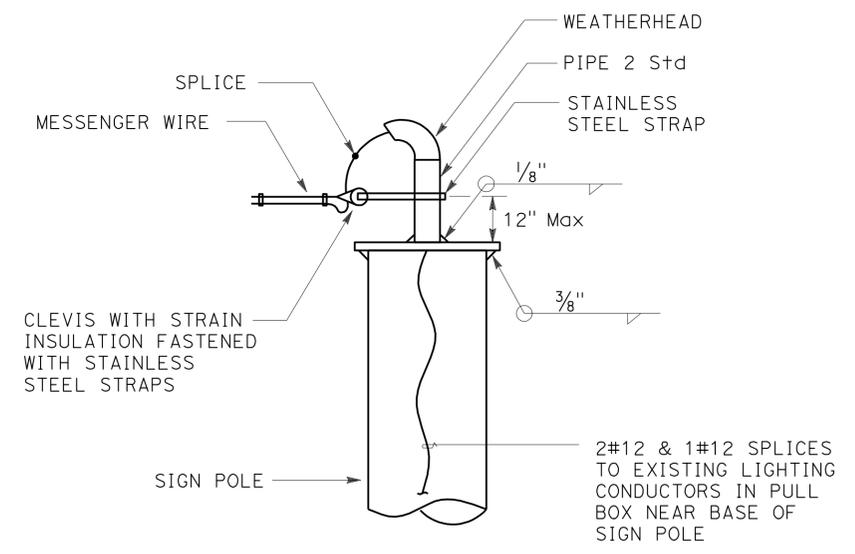
**LIGHTING
(STAGE CONSTRUCTION)
(ELECTRICAL DETAILS)**
NO SCALE
E-79

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	25.0/32.7	735	1132
 REGISTERED CIVIL ENGINEER			10/11/10 DATE		
10-11-10 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.		
BIGGS CARDOSA ASSOCIATES, INC. 865 THE ALAMEDA SAN JOSE, CA 95126			SJCOG 555 E. WEBER AVE. STOCKTON, CA 95202-2804		



1 TEMPORARY ELECTROLIER ON ROADWAY



2 TYPICAL OVERHEAD DROP FROM SIGN POST

**LIGHTING
(STAGE CONSTRUCTION)
STRUCTURAL DETAILS**
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

USERNAME => frmikesl
 DGN FILE => a0g470ua080.dgn

RELATIVE BORDER SCALE IS IN INCHES

UNIT 1454

PROJECT NUMBER & PHASE

1000000461

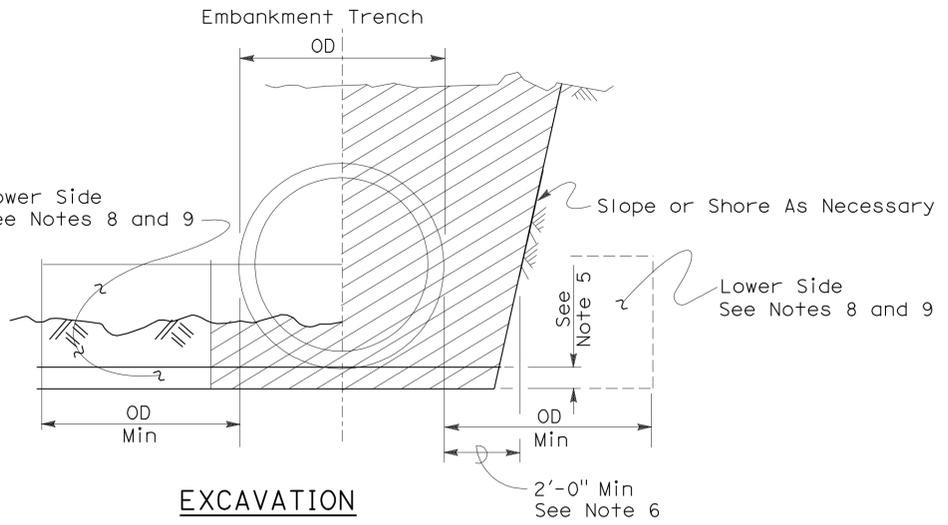
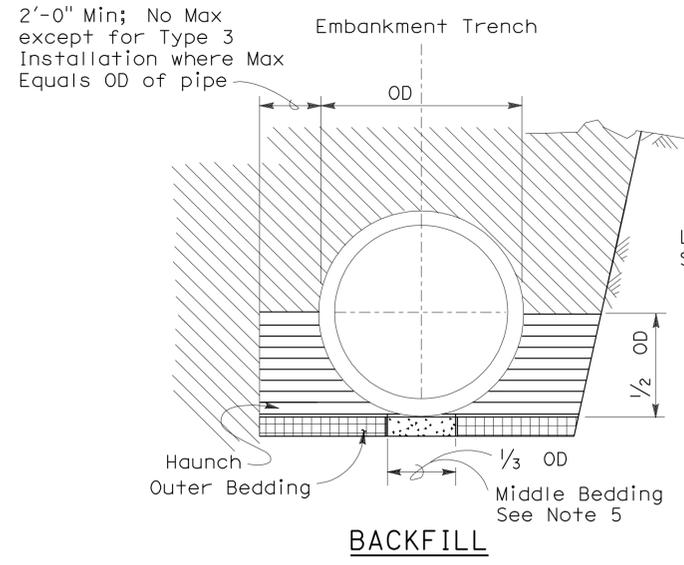
LAST REVISION DATE PLOTTED => 13-OCT-2010
 07-30-10 TIME PLOTTED => 12:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	736	1132

Dallas Forester
 REGISTERED CIVIL ENGINEER
 November 17, 2006
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
Dallas Forester
 No. C37765
 Exp. 12-31-06
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 10-11-10



	Roadway Embankment		Excavation Structure (Culvert)
	Structure Backfill (Culvert) See Note 6		
	Structure Backfill (Culvert) See Note 6		
	Loose Backfill		

TYPE 1 INSTALLATION:

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 75 μm sieve size shall be 12.

TYPE 2 INSTALLATION:

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.

TYPE 3 INSTALLATION:

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.

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 19'-0" the options are:
 a) Class III or stronger with Installation Type 1.
 b) Class III Special or stronger with Installation Type 2.
 c) Class IV 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.
- 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 Section 19-3.062 of the Standard Specifications.
- Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimums.
- Lower side shall be suitable material as determined by the Engineer. Otherwise it shall be considered unsuitable as set forth in Section 19-2.02 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.

INSTALLATION TYPE 1

MINIMUM CLASS AND D-LOAD	COVER	
	108" Dia AND SMALLER	OVER 108" Dia
Class II 1000D	14.9'	12.9'
Class III 1350D	15.0' - 20.9'	13.0' - 18.9'
Class III Special 1700D	21.0' - 26.9'	19.0' - 24.9'
Class IV 2000D	27.0' - 31.9'	25.0' - 29.9'
Class IV Special 2500D	32.0' - 40.9'	30.0' - 38.9'
Class V 3000D	41.0' - 49.9'	39.0' - 46.9'
Class V Special 3600D	50.0' - 59.0'	47.0' - 58.0'

INSTALLATION TYPE 2

MINIMUM CLASS AND D-LOAD	COVER
Class II 1000D	9.9'
Class III 1350D	10.0' - 14.9'
Class III Special 1700D	15.0' - 19.9'
Class IV 2000D	20.0' - 24.9'
Class IV Special 2500D	25.0' - 31.9'
Class V 3000D	32.0' - 38.9'
Class V Special 3600D	39.0' - 47.0'

INSTALLATION TYPE 3

MINIMUM CLASS AND D-LOAD	COVER	
	48" Dia AND SMALLER	OVER 48" Dia
Class II 1000D	7.9'	5.9'
Class III 1350D	8.0' - 10.9'	6.0' - 8.9'
Class III Special 1700D	11.0' - 14.9'	9.0' - 12.9'
Class IV 2000D	15.0' - 17.9'	13.0' - 15.9'
Class IV Special 2500D	18.0' - 21.9'	16.0' - 19.9'
Class V 3000D	22.0' - 26.9'	20.0' - 24.9'
Class V Special 3600D	30.0' - 33.0'	25.0' - 31.0'

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**EXCAVATION AND BACKFILL
CONCRETE PIPE CULVERTS**

NO SCALE

RSP A62DA DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A62DA DATED MAY 1, 2006 - PAGE 20 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A62DA

2006 REVISED STANDARD PLAN RSP A62DA

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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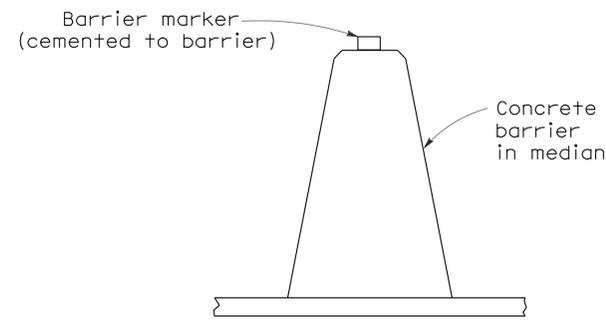
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

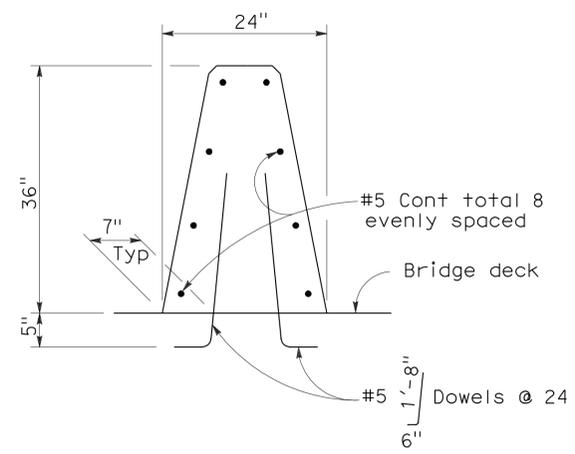
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To accompany plans dated 10-11-10

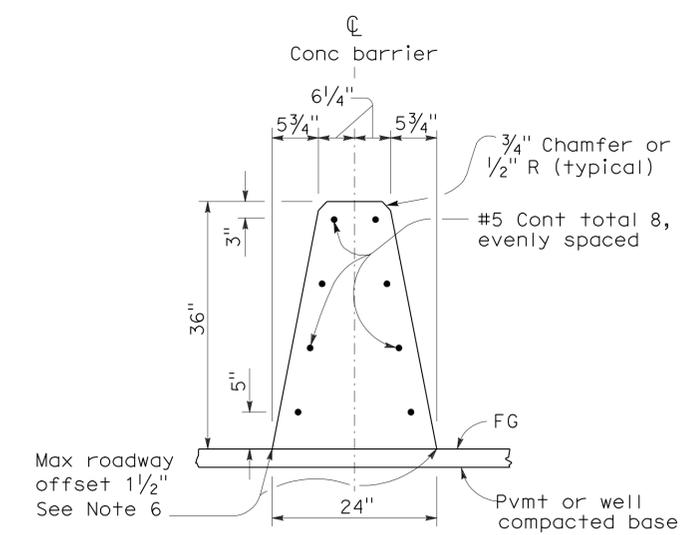
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



CONCRETE BARRIER TYPE 60 DELINEATION
See Notes 7 and 8



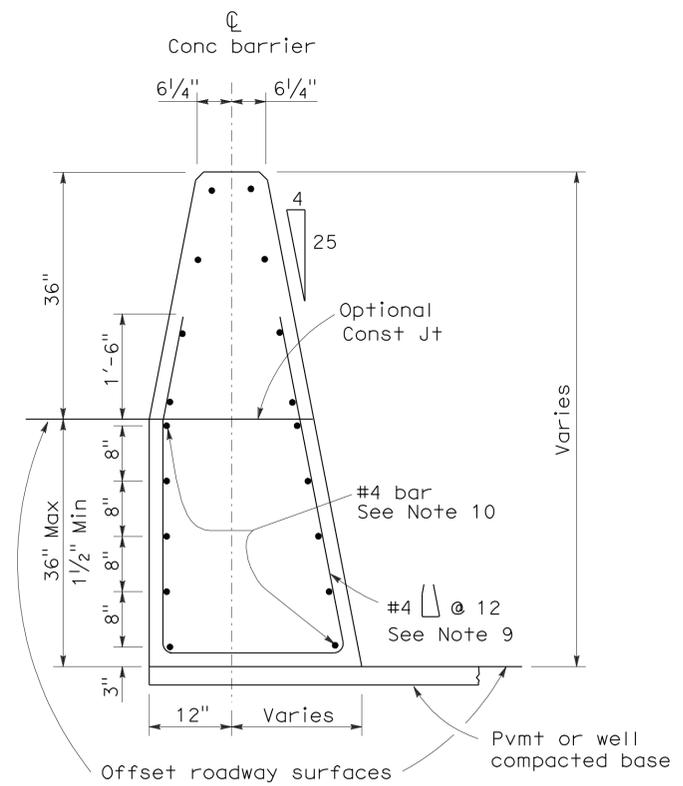
CONCRETE BARRIER TYPE 60A
Details similar to Type 60 except as noted.



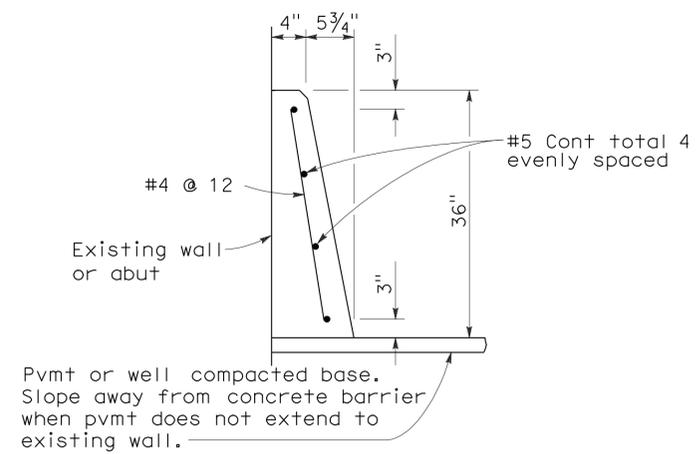
CONCRETE BARRIER TYPE 60

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 Standard Plan 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 the concrete barrier is added to the face of existing concrete structure, match existing weep holes.
- Expansion joints in concrete barrier shall be located at all deck, pavement and principal wall joints. Expansion joint filler material shall be the same size as joint or 1/2" minimum.
- Where roadway offset is greater than 1 1/2", see Concrete Barrier Type 60C.
- Barrier delineation to be used when required by the Special Provisions.
- Spacing of barrier markers to match spacing of raised pavement markers on the adjacent median edgeline pavement delineation.
- Reinforcing stirrup not required for roadway offsets less than 1'-0".
- For roadway surfaces offset greater than 1 1/2" to 3", no rebars required. For roadway surfaces offset greater than 3" to 8" use two #4 rebars at 3" above the lower roadway surface. For roadway surfaces offset greater than 8" to 12", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at 8" above the lower roadway surface. For roadway surfaces offset greater than 12" to 36", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at every 8" increment vertical spacing above the first two #4 rebars.



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



CONCRETE BARRIER TYPE 60D

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

RSP A76A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A76A
DATED MAY 1, 2006 - PAGE 29 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A76A

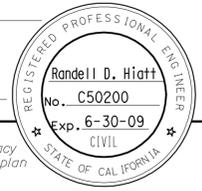
2006 REVISED STANDARD PLAN RSP A76A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	738	1132

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

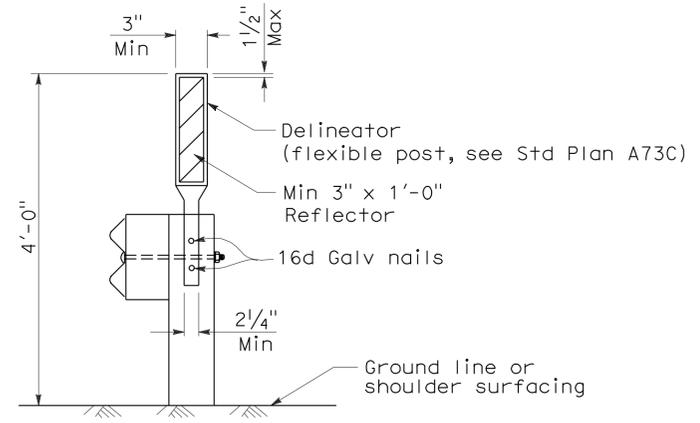
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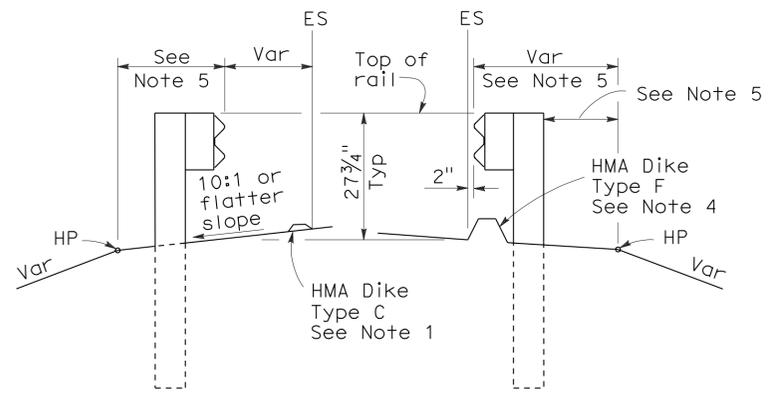
To accompany plans dated 10-11-10

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and Standard Plan A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77C4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77C4
DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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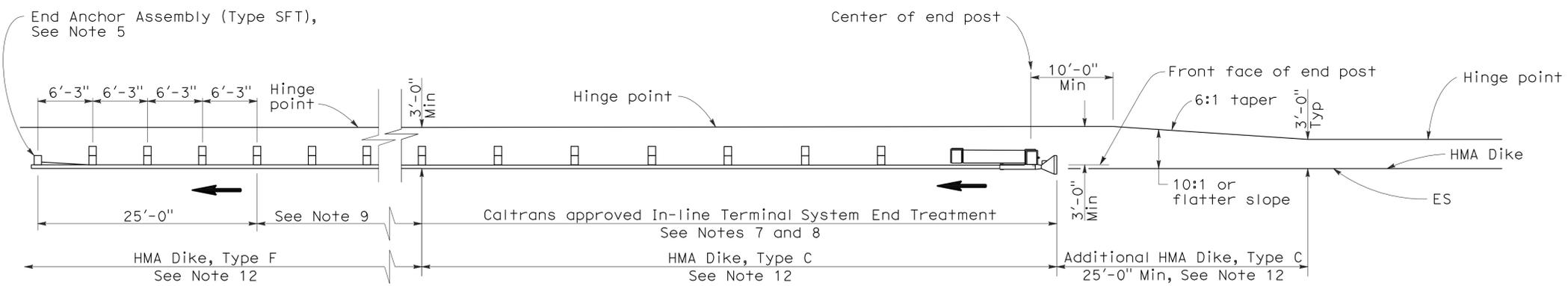
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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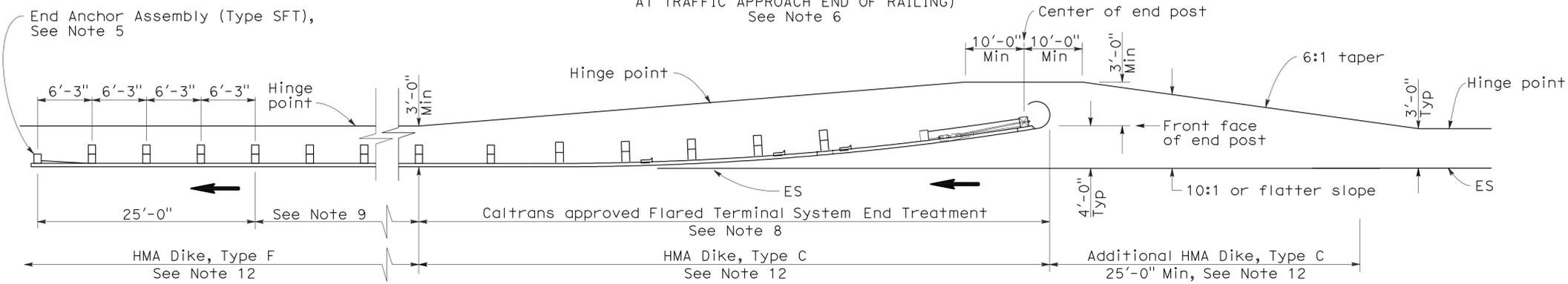
To accompany plans dated 10-11-10

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



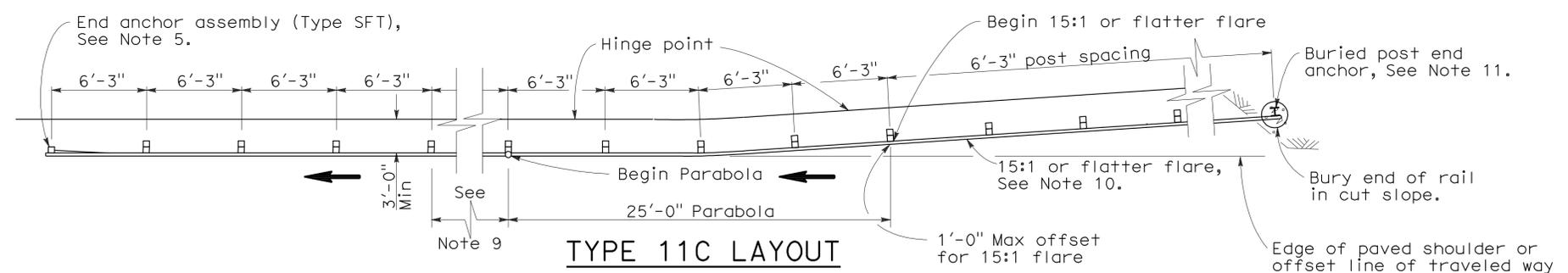
TYPE 11A LAYOUT

(EMBANKMENT GUARD INSTALLATION WITH IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Note 6



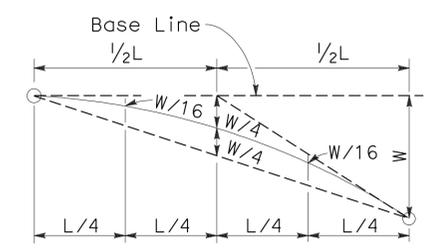
TYPE 11B LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Note 6

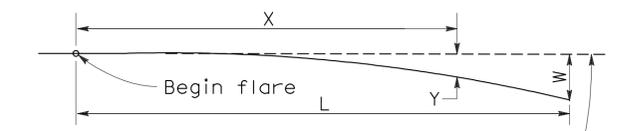


TYPE 11C LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 6 and 12



TYPICAL PARABOLIC LAYOUT

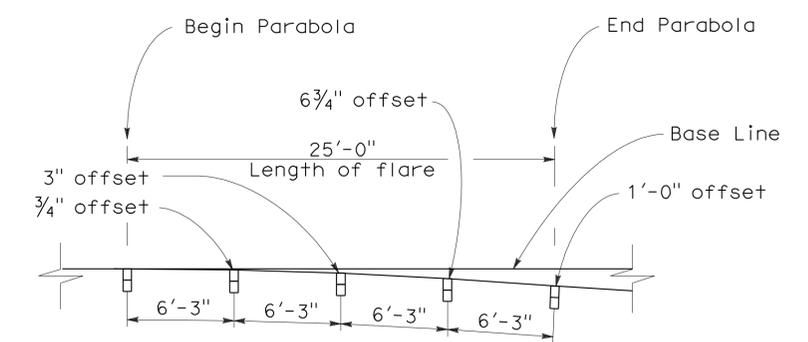


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

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

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1, and A77C2.
- Guard rail 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 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" 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 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- Layout Types 11A, 11B or 11C are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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 guard railing (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 guard railing 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 Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR EMBANKMENTS
NO SCALE

RSP A77E1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E1
DATED MAY 1, 2006 - PAGE 48 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E1

2006 REVISED STANDARD PLAN RSP A77E1

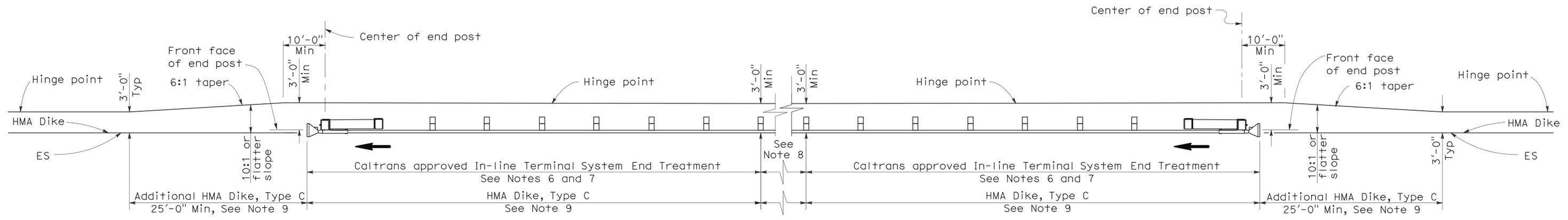
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	740	1132

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

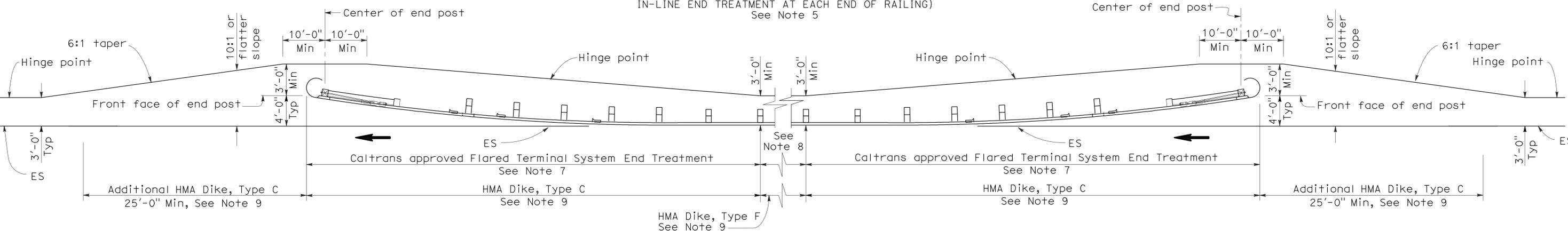
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To accompany plans dated 10-11-10



TYPE 11D LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH IN-LINE END TREATMENT AT EACH END OF RAILING)
See Note 5



TYPE 11E LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT EACH END OF RAILING)
See Note 5

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 8" x 1'-2" wood blocks, W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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 guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE
RSP A77E2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E2
DATED MAY 1, 2006 - PAGE 49 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77E2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	741	1132

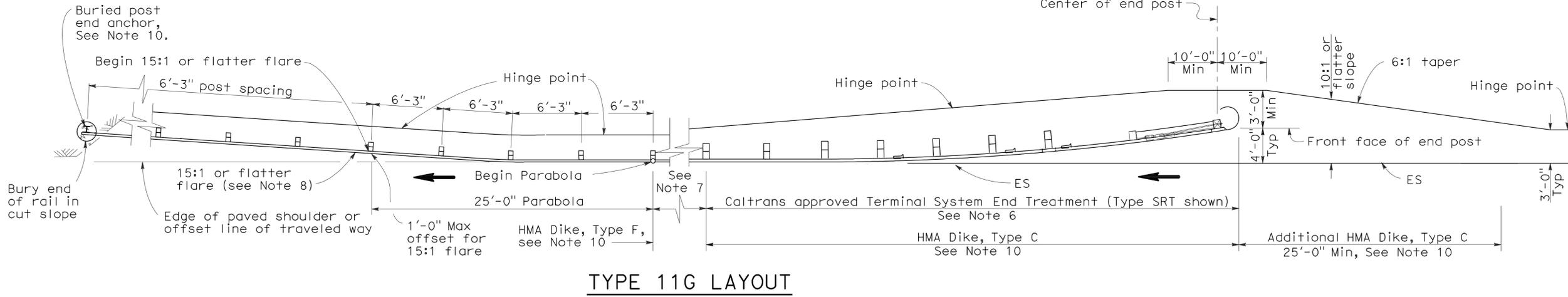
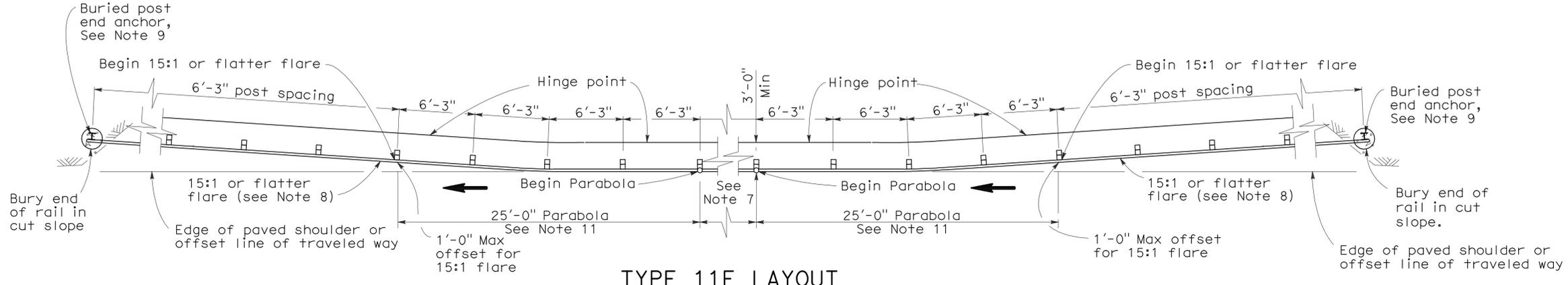
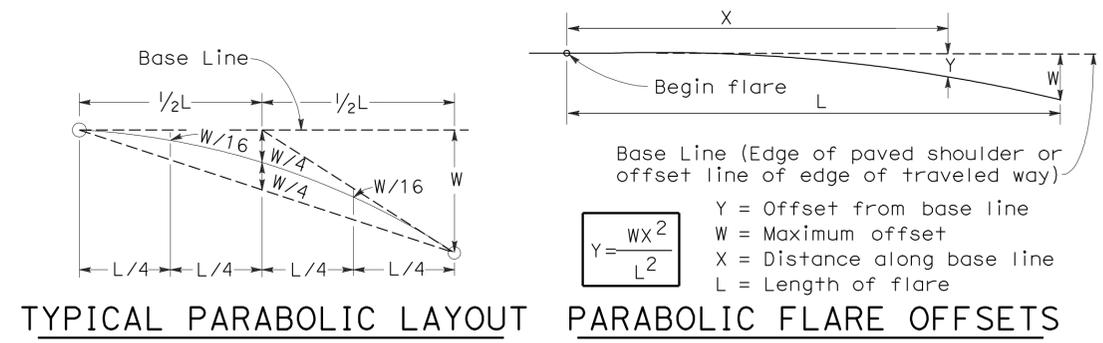
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 10-11-10



NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- The type of 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 guard railing (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 guard railing 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 11F and 11G Layouts, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77E3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E3
DATED MAY 1, 2006 - PAGE 50 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E3

2006 REVISED STANDARD PLAN RSP A77E3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	742	1132

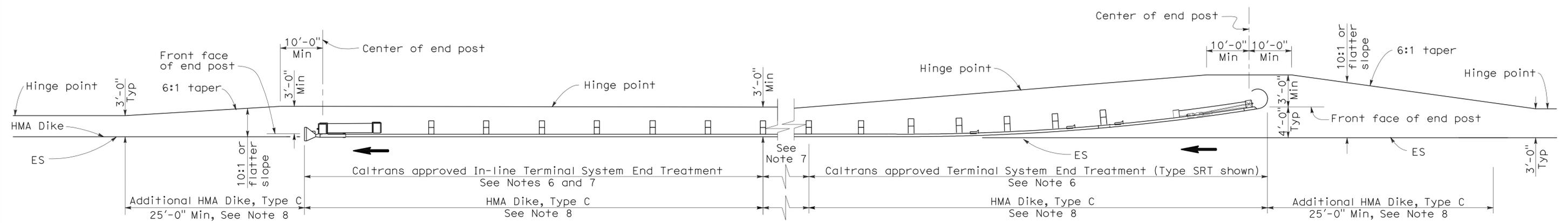
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
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To accompany plans dated 10-11-10



TYPE 11H LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AND AN IN-LINE TREATMENT AT THE ENDS OF RAILING)
See Notes 5 and 8

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- The type of 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 guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**
NO SCALE

RSP A77E4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E4
DATED MAY 1, 2006 - PAGE 51 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E4

2006 REVISED STANDARD PLAN RSP A77E4

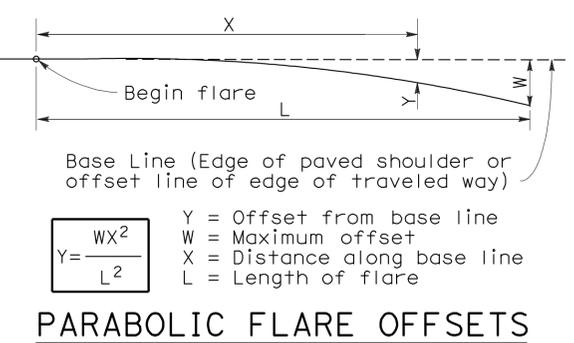
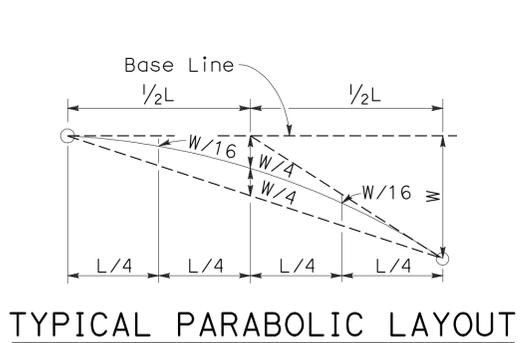
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	743	1132

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

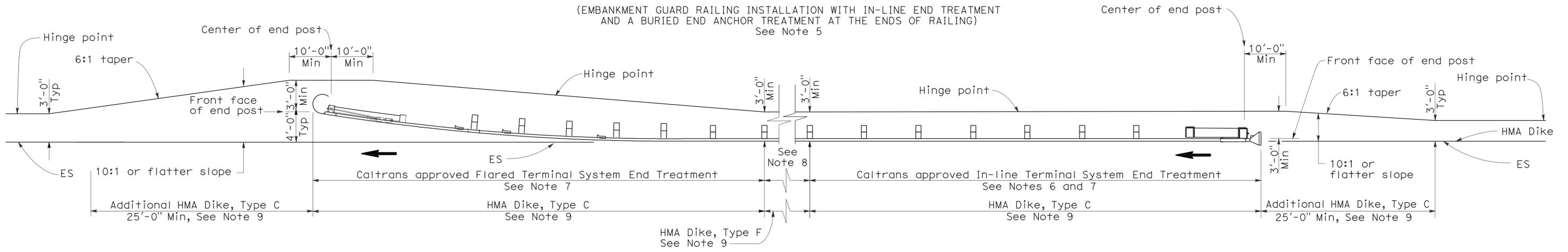
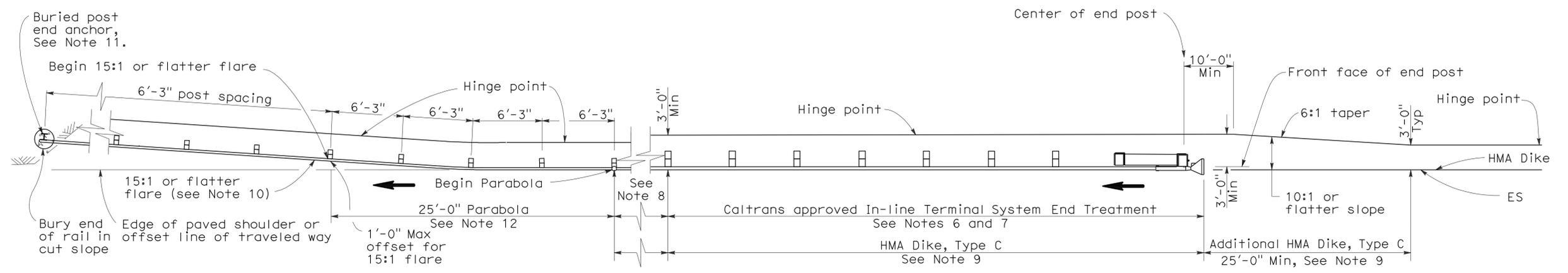
June 6, 2008
PLANS APPROVAL DATE

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Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



To accompany plans dated 10-11-10



- NOTES:**
- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
 - Guard rail 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 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
 - Direction of adjacent traffic indicated by \rightarrow .
 - Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
 - In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.

- The type of 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 guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- 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 guard railing 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 11I Layout, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77E5 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E5
DATED MAY 1, 2006 - PAGE 52 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77E5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	744	1132

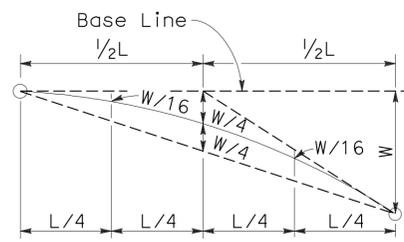
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

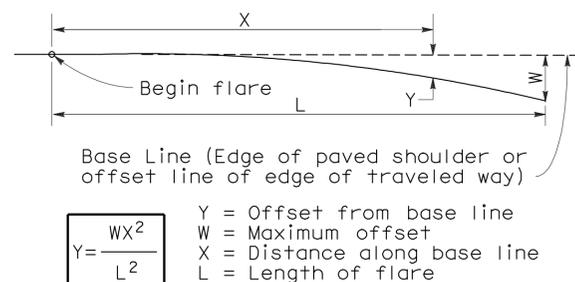
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Randell D. Hiatt
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Exp. 6-30-09
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STATE OF CALIFORNIA

To accompany plans dated 10-11-10

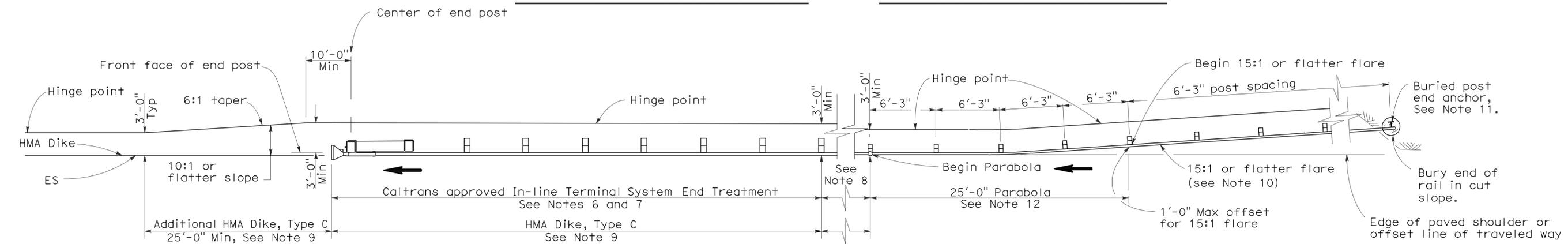


TYPICAL PARABOLIC LAYOUT



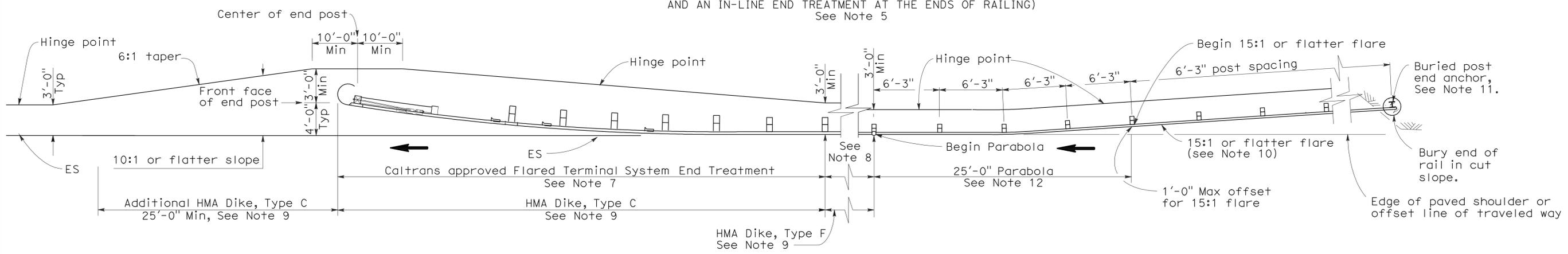
PARABOLIC FLARE OFFSETS

Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

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


TYPE 11K LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND AN IN-LINE END TREATMENT AT THE ENDS OF RAILING)
See Note 5



TYPE 11L LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH A BURIED END ANCHOR TREATMENT AND A FLARED END TREATMENT AT THE ENDS OF RAILING)
See Note 5

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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 guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- 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 guard railing 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 11K and 11L Layouts, see Standard Plan A77I2.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77E6 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E6
DATED MAY 1, 2006 - PAGE 53 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E6

2006 REVISED STANDARD PLAN RSP A77E6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	745	1132

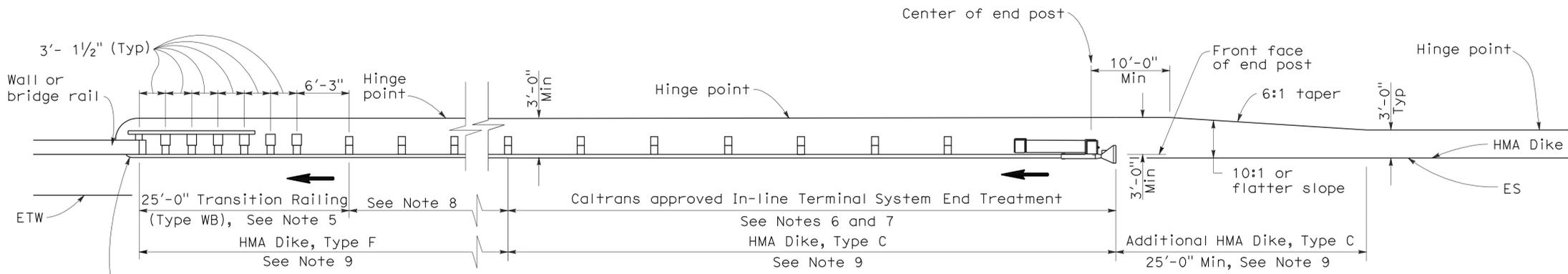
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
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STATE OF CALIFORNIA

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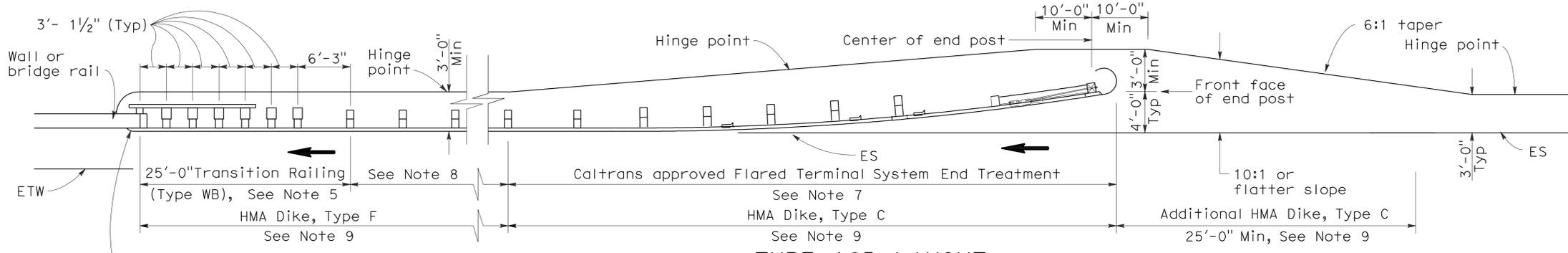
To accompany plans dated 10-11-10



TYPE 12A LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10

See Notes 12 and 13.



TYPE 12B LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10

See Notes 12 and 13.

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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.

- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 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 A77F3 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 A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

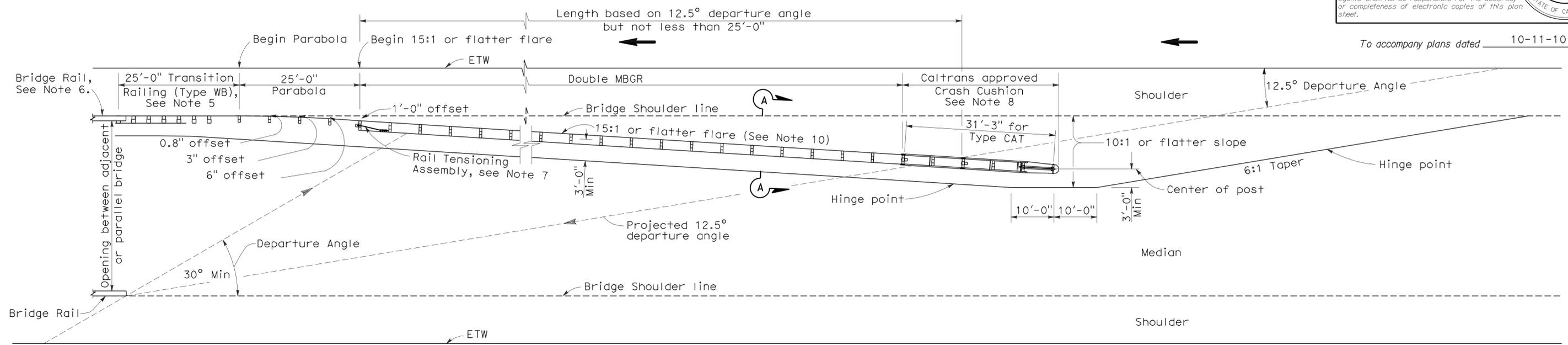
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77F1

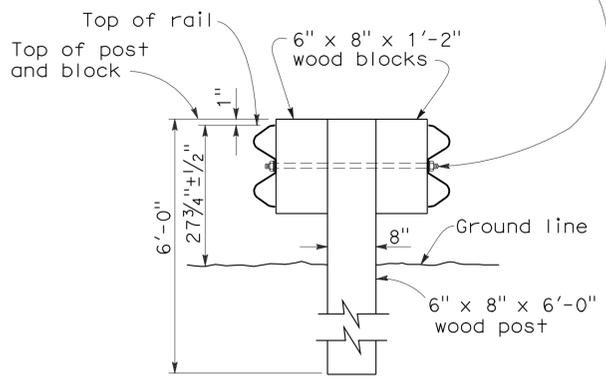


To accompany plans dated 10-11-10

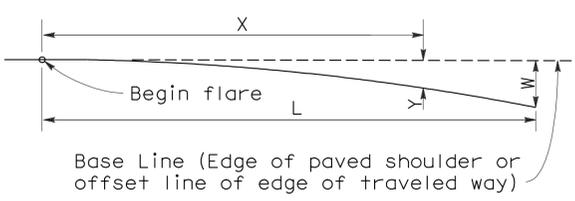
TYPE 12E LAYOUT

See Note 10

5/8" Ø Button head bolt with hex nut or 5/8" Ø Rod, threaded both ends, with hex nuts. 1/2" Max exposed threads after hex nut(s) tightened. No washer on rail faces for bolted connection to line post.



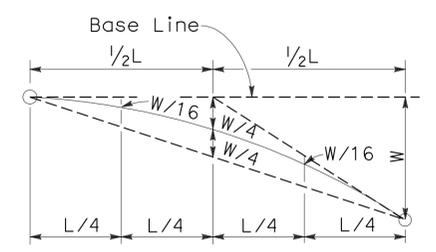
SECTION A-A
TYPICAL DOUBLE METAL BEAM GUARD RAILING



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

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 Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing 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 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" 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 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details, see Standard Plan A77J4.
- For additional details of a typical connection to bridge rail, see Connection Detail AA on Revised Standard Plan RSP A77J1.
- For Rail Tensioning Assembly details, see Standard Plan A77H2.
- The type of Crash Cushion to be used will be shown on the Project Plans.
- Type 12E Layout is typically used left of approaching traffic at the end of each structure on multilane freeways or expressways where a median type barrier is not constructed between separated roadbeds.
- The 15:1 or flatter flare is measured off of the edge of traveled way.

STATE OF CALIFORNIA
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METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH

NO SCALE

RSP A77F3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F3
DATED MAY 1, 2006 - PAGE 56 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77F3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	747	1132

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

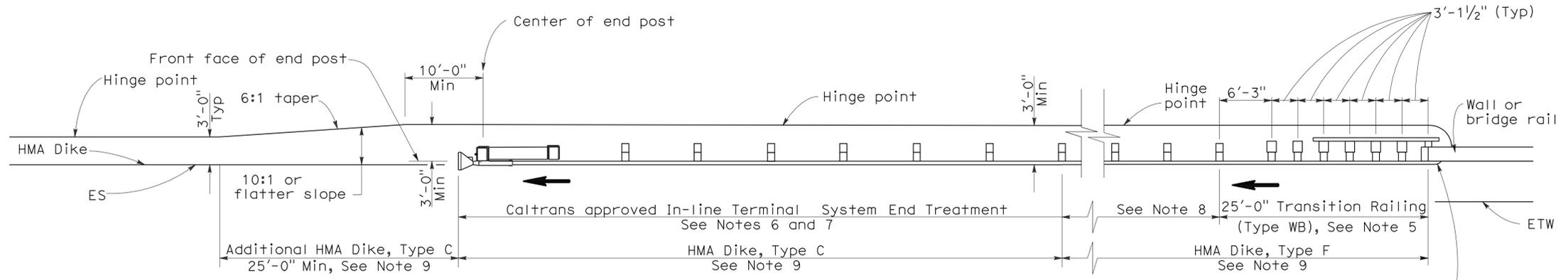
June 6, 2008
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Exp. 6-30-09
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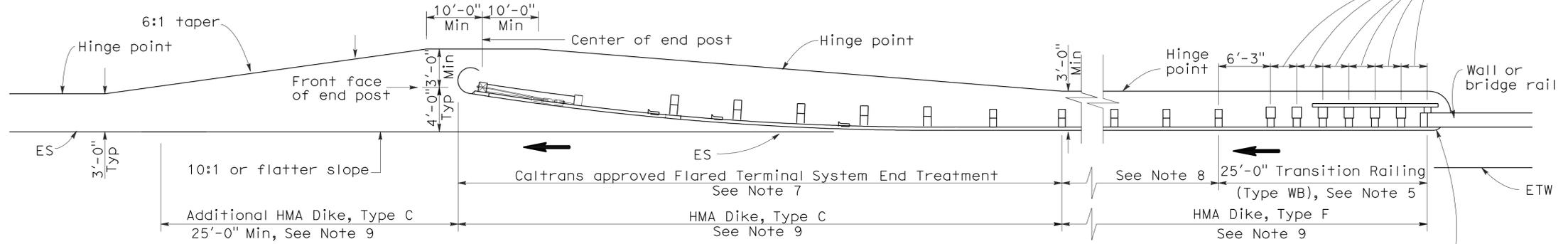
To accompany plans dated 10-11-10

2006 REVISED STANDARD PLAN RSP A77F4



TYPE 12AA LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH AN IN-LINE END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10



TYPE 12BB LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH A FLARED END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail 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 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" 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 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details for Types 12AA and 12BB Layouts, see Standard Plan A77J4.
- In-line Terminal System Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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 guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatments.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 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 A77J2 and Connection Detail HH on Standard Plans A77k2.

STATE OF CALIFORNIA
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**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**

NO SCALE

RSP A77F4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F4
DATED MAY 1, 2006 - PAGE 57 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	748	1132

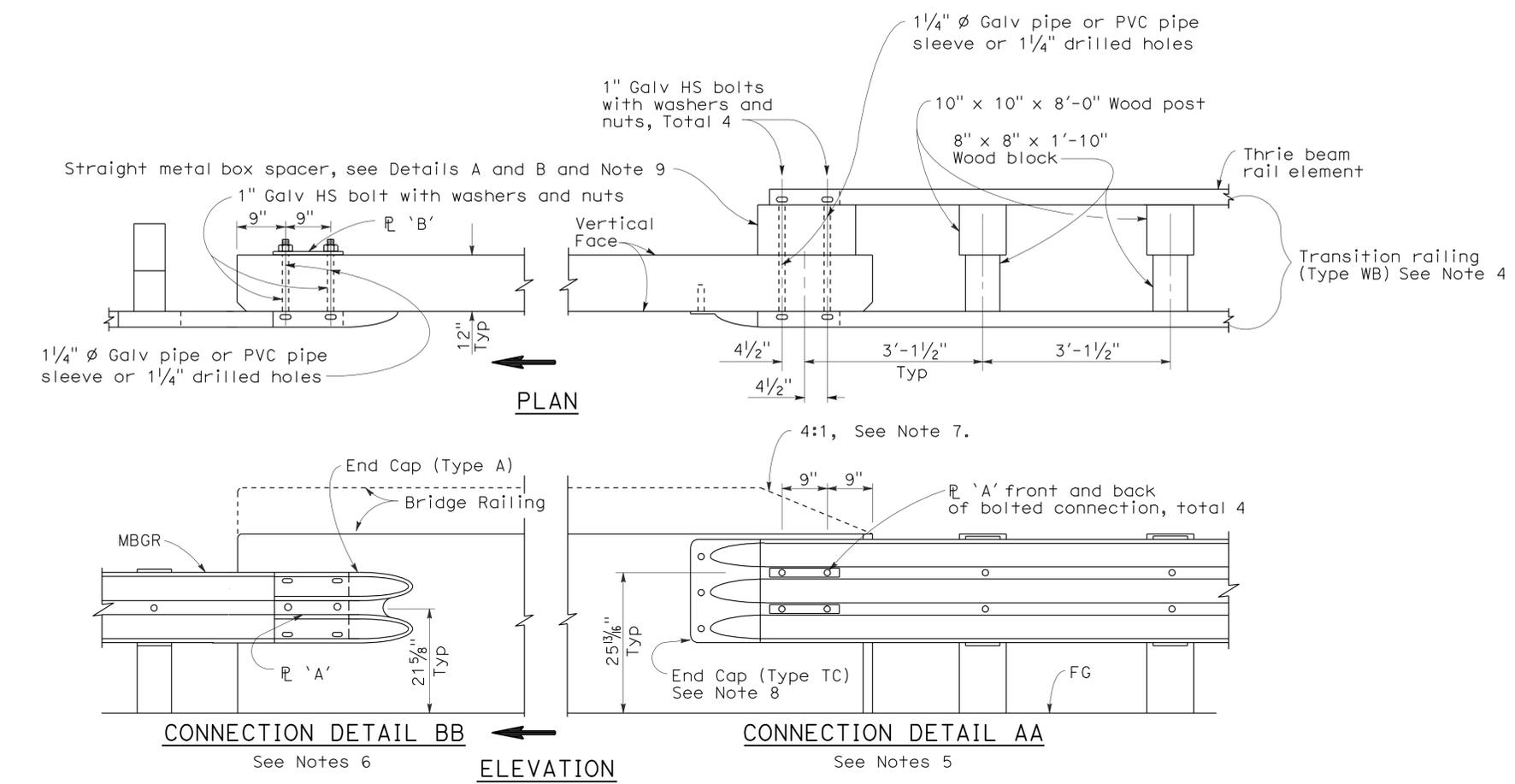
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REGISTERED CIVIL ENGINEER

June 6, 2008
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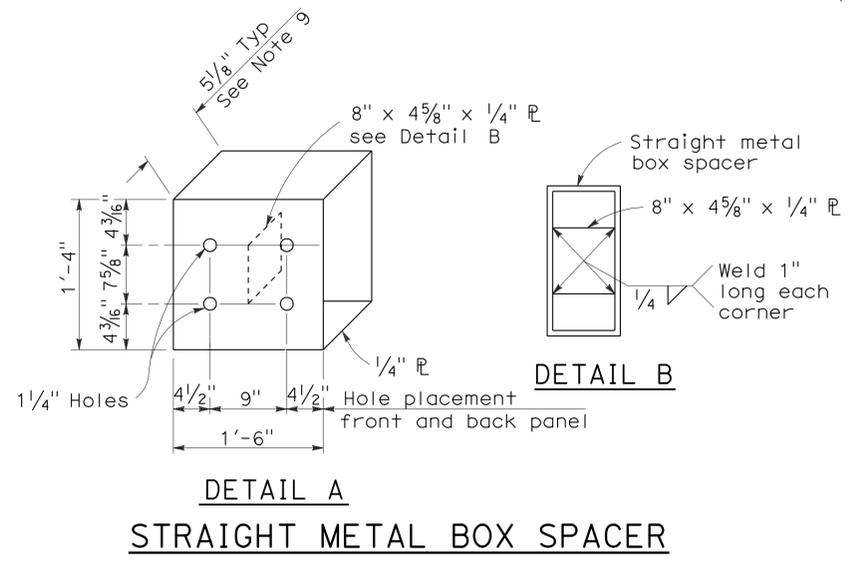
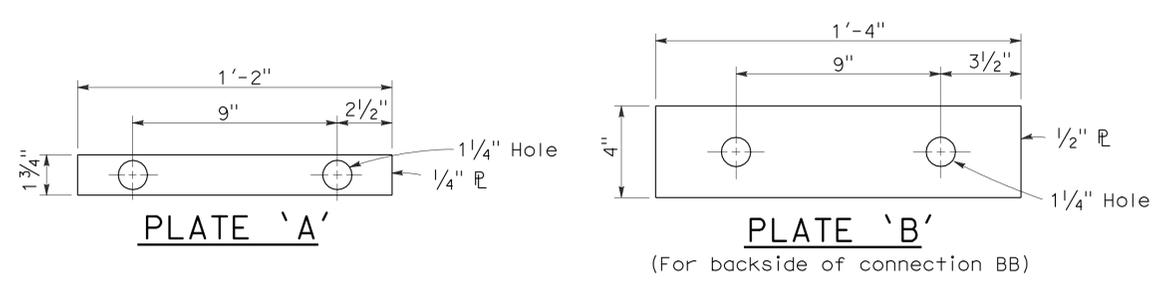
To accompany plans dated 10-11-10



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by \rightarrow .
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie 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 thrie beam rail.
8. For details of End Cap (Type TC), see Standard Plan A77J4.
9. See Standard Plan A77J4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.1

NO SCALE
RSP A77J1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J1
DATED MAY 1, 2006 - PAGE 72 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77J1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	749	1132

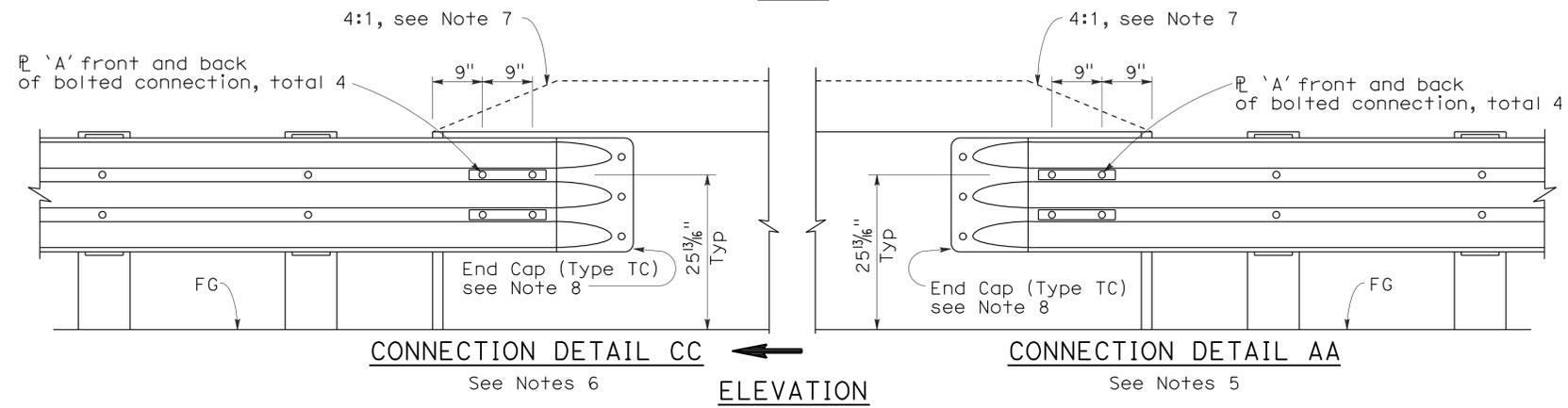
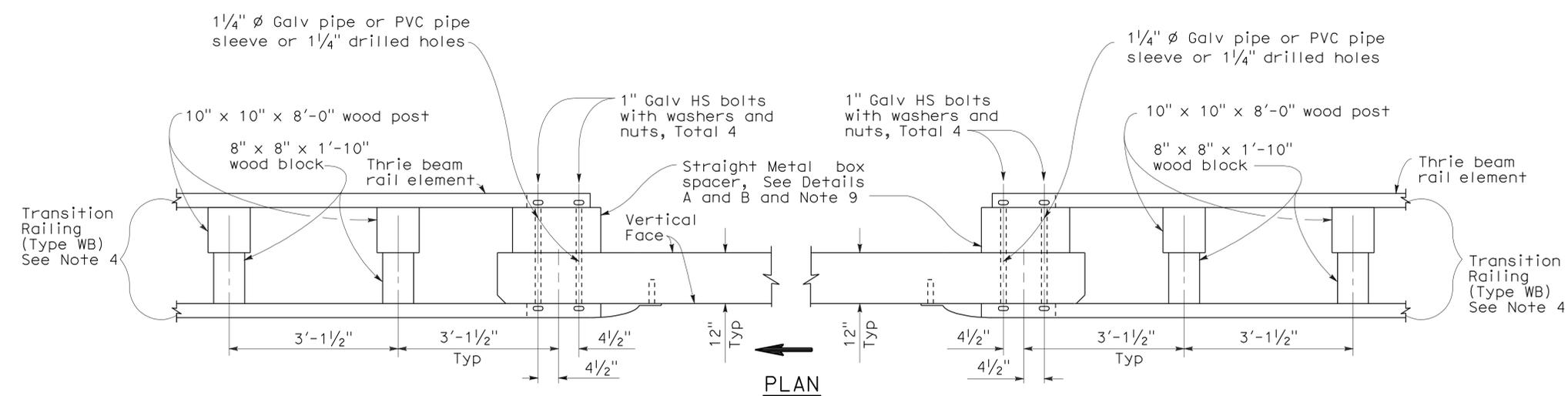
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

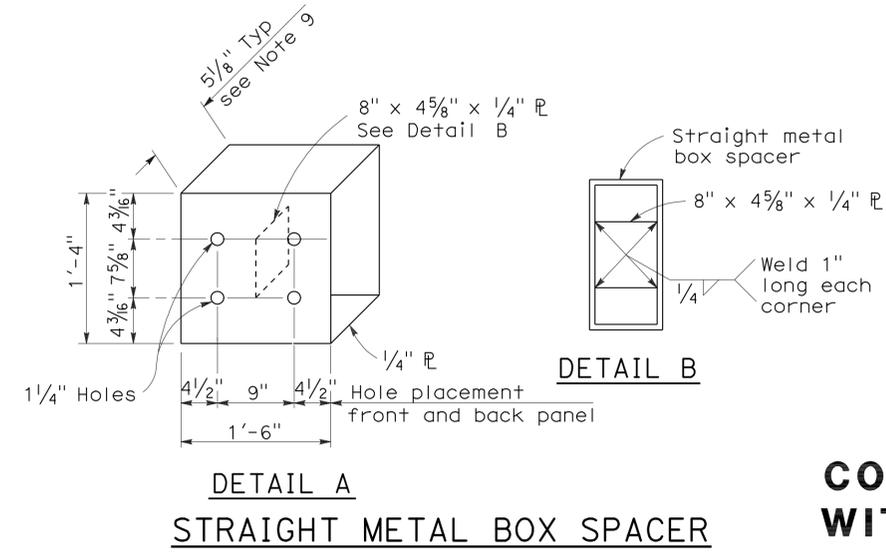
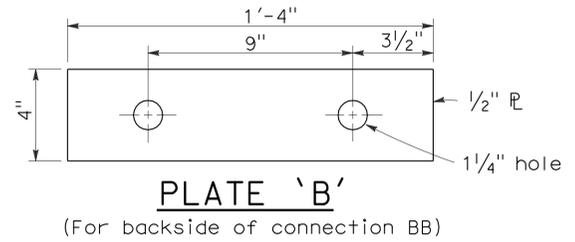
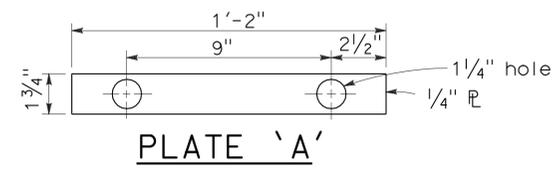
To accompany plans dated 10-11-10



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by →.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Standard Plan A77F4 and Layout Type 12CC on Standard Plan A77F5.
7. 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.
8. For details of End Cap (Type TC), see Standard Plans A77J4.
9. See Standard Plans A77J4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.2

NO SCALE
RSP A77J2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J2
DATED MAY 1, 2006 - PAGE 73 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J2

2006 REVISED STANDARD PLAN RSP A77J2

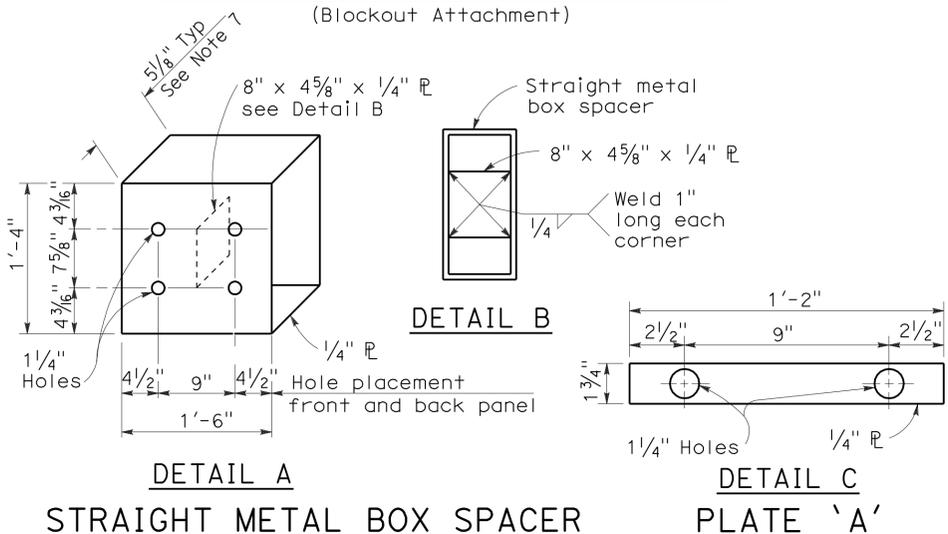
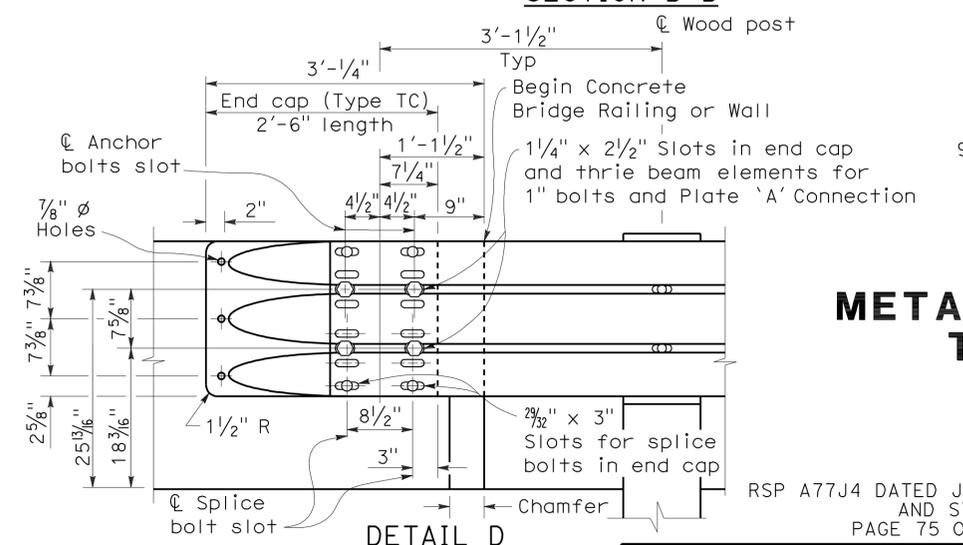
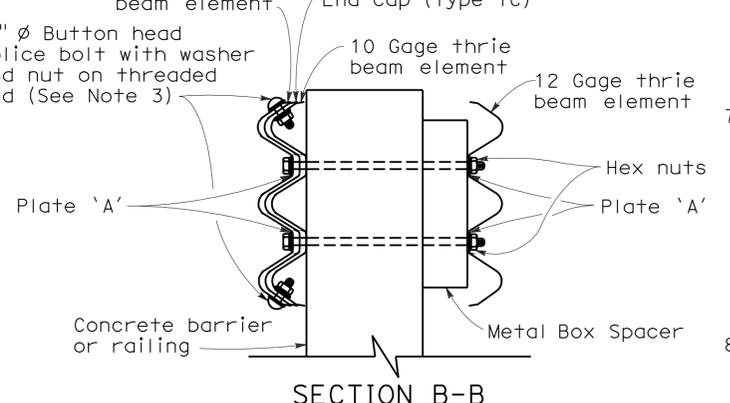
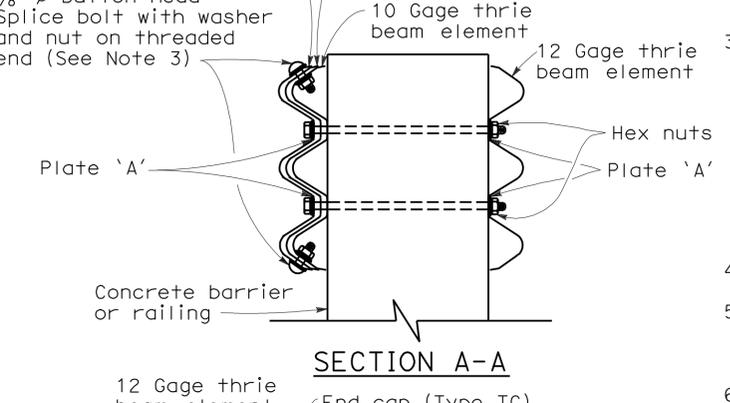
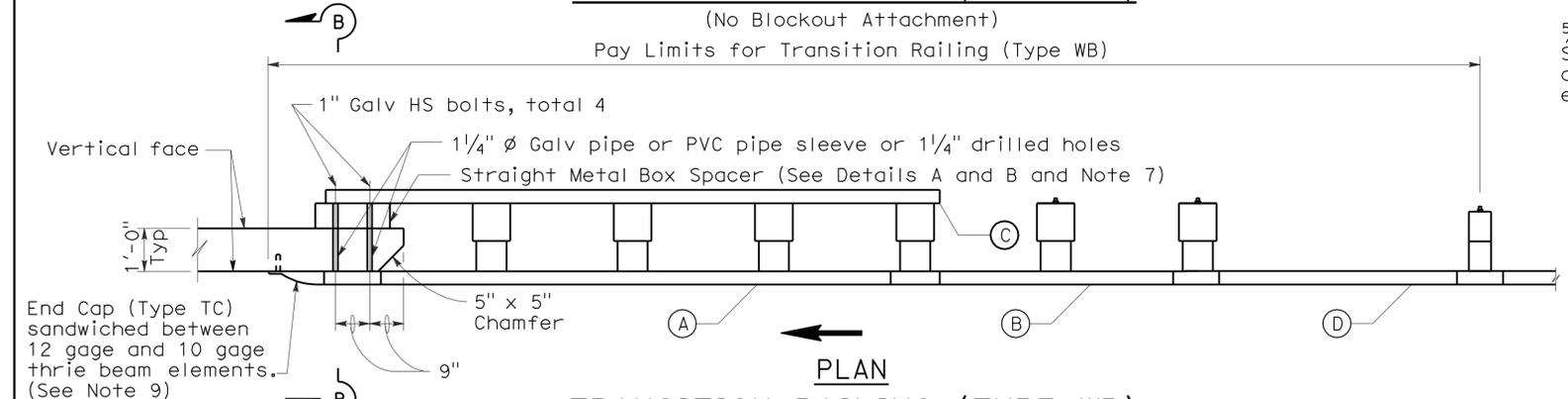
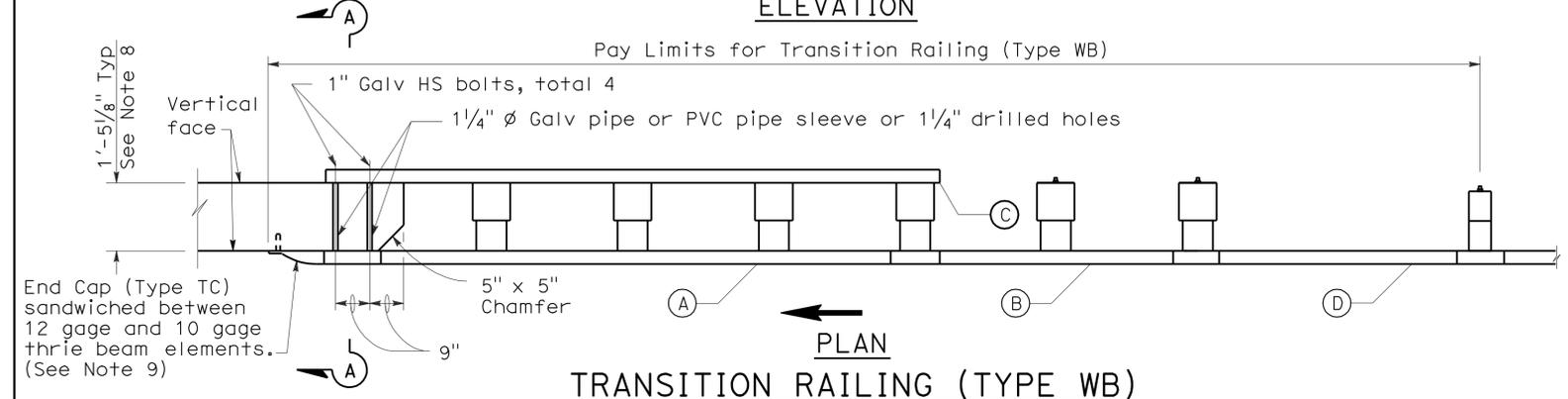
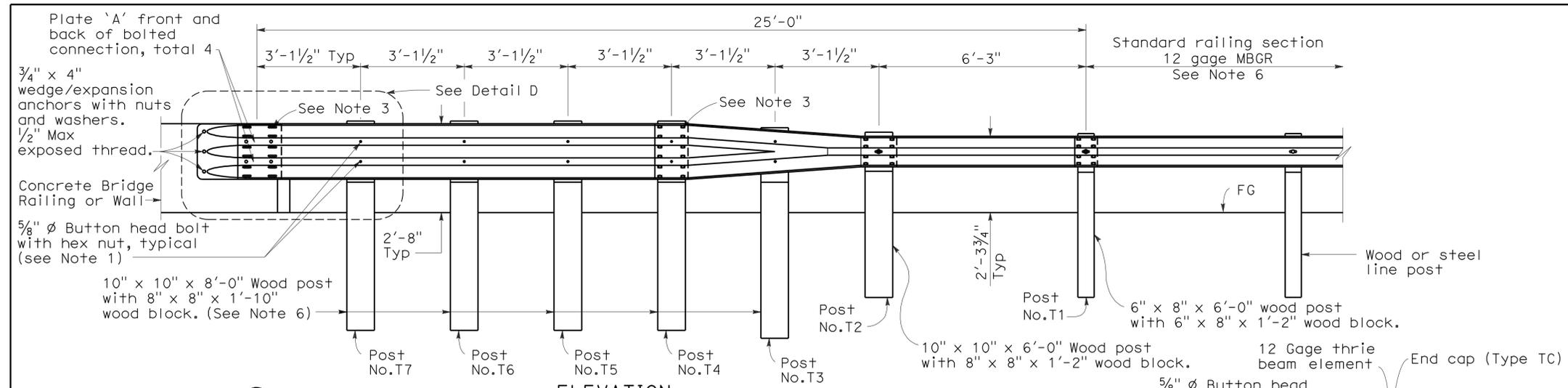
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	750	1132

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
STATE OF CALIFORNIA
CIVIL



- LEGEND**
- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
 - (B) One 10 gage "W" beam to thrie beam element.
 - (C) One 12 gage thrie beam element.
 - (D) One 10 gage "W" beam rail element (7'-3 1/2" length)
- 10 gage = 0.135" thick
12 gage = 0.108" thick

- NOTES:** To accompany plans dated 10-11-10
1. Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. The nested rail elements, end cap, and "W" beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 3. Exterior splice bolt holes for rail element splices at Post No. T4 and the connection to the concrete barrier or railing shall be the standard 29/32" x 1 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4" ϕ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No. T4 and the connection to the concrete barrier or railing.
 4. Direction of adjacent traffic indicated by \rightarrow .
 5. The top elevation of Post Nos. T2 through T7 shall not project more than 1" above the top elevation of the rail element.
 6. Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No. T1.
 7. The depth of the metal box spacer varies from the 5 1/8" to 1 1/2" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2", metal plates similar to Plate 'A' are to be used as spacers.
 8. Where the width of the concrete railing or wall is greater than 17 1/8", wood blocks are to be used to fill the space created between the backside of Posts No. 4 through No. 7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 9. End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TRANSITION RAILING
(TYPE WB)**

NO SCALE

RSP A77J4 DATED JUNE 5, 2009 SUPERSEDES RSP A77J4 DATED JUNE 6, 2008
AND STANDARD PLAN A77J4 DATED MAY 1, 2006 -
PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4

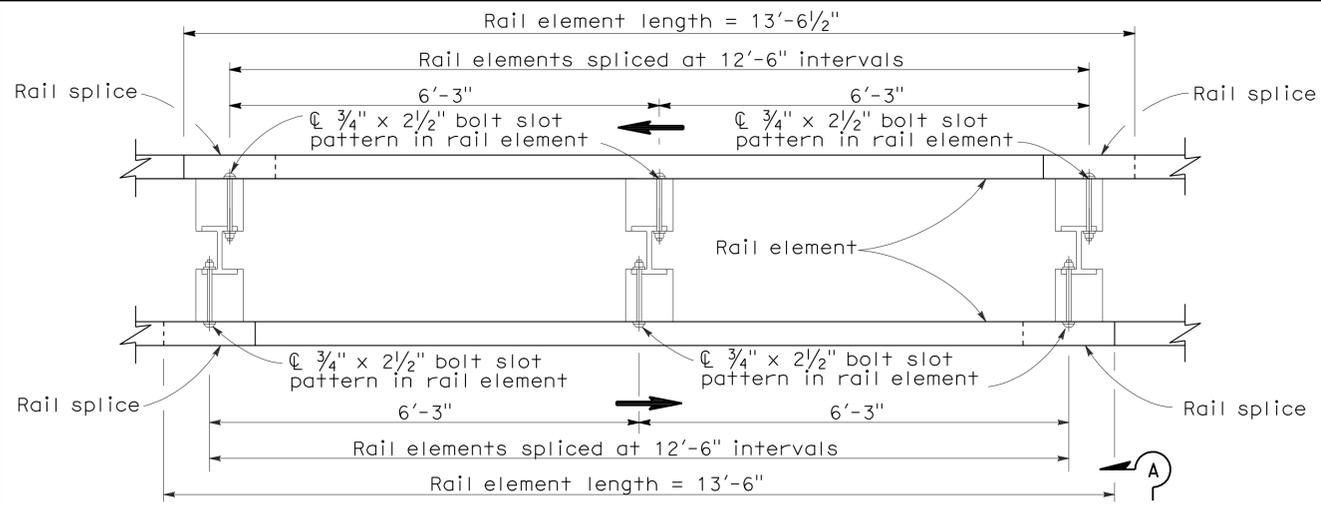
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	751	1132

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

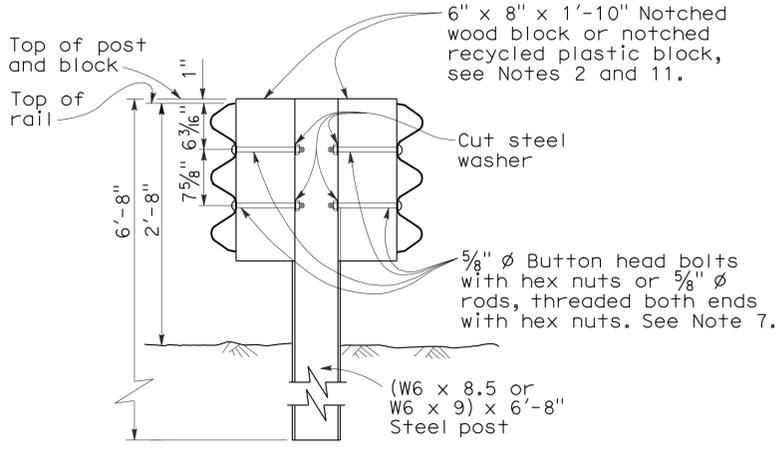
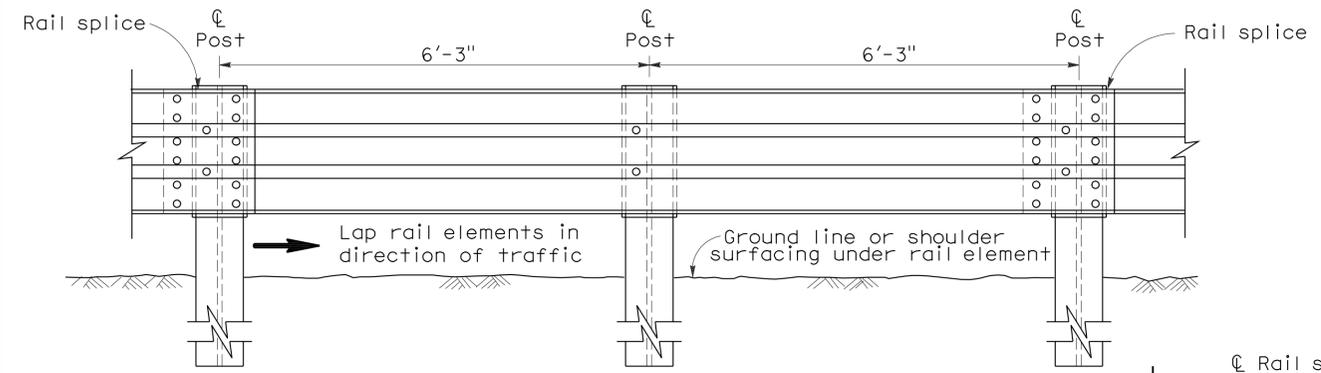
June 6, 2008
PLANS APPROVAL DATE

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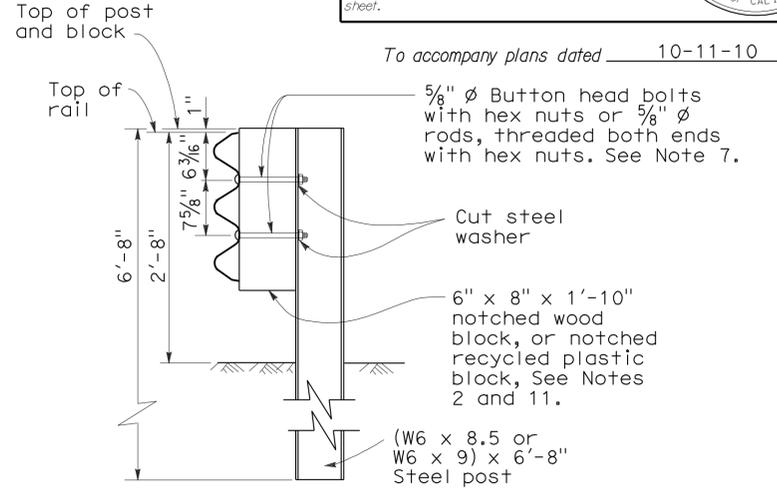
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



DOUBLE THRIE BEAM BARRIER
(Steel post with notched wood or notched plastic blocks)
See Note 1

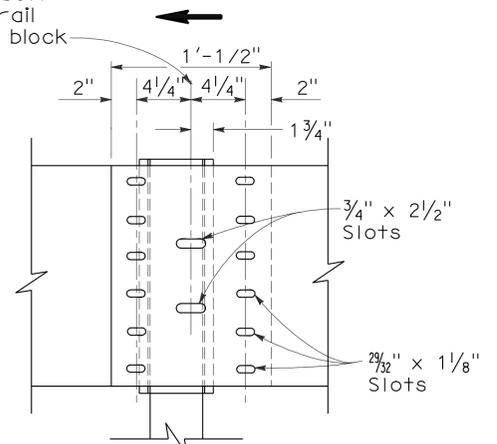


SECTION A-A
TYPICAL STEEL LINE POST INSTALLATION



SECTION B-B
TYPICAL STEEL LINE POST INSTALLATION

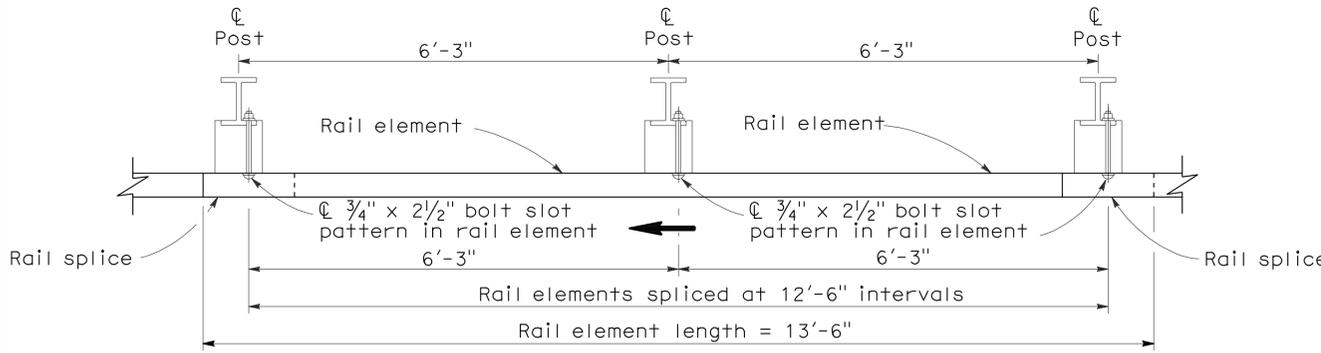
⊙ Rail splice and slots for 5/8" ⌀ button head bolt to connect rail to post and block



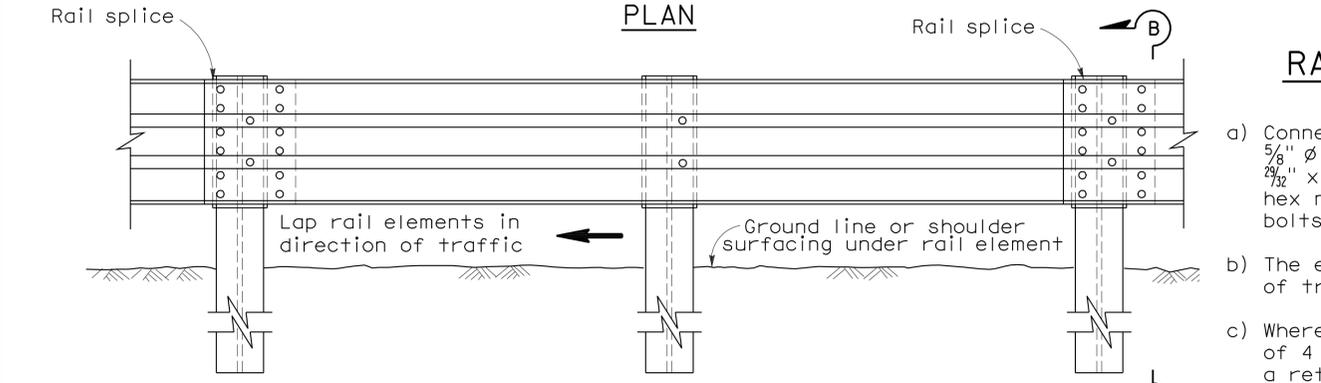
RAIL ELEMENT SPLICE DETAIL

NOTES:

- For details of the cross section of the thrie beam rail element and details for wood post with wood block installations, see Standard Plan A78A.
- For details of standard hardware, posts and blocks used to construct thrie beam barrier, see Revised Standard Plan RSP A78C1 and Standard Plan 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 A78E1, A78E2 and A78E3, Revised Standard Plans RSPs A78F1 and A78F2, Standard Plan A78G and Revised Standard Plan RSP A78H.
- For connection to Concrete Barrier, see Revised Standard Plan RSP A78I.
- Attach rail element to block and steel post with 2 bolts or rods on approaching traffic side of block and post web. No washer on rail face for rod or bolted connections to line post.
- For details of thrie beam barrier on bridges, see Standard Plan A78D2. For details of thrie beam barrier at fixed objects, see Standard Plan A78D1.
- Direction of traffic indicated by →.
- Notched face of block faces steel post.



SINGLE THRIE BEAM BARRIER
(Steel post with notched wood or notched plastic blocks)
See Note 1



- Connect the overlapped ends of the thrie beam rail elements with 5/8" ⌀ x 1 1/8" button head oval shoulder bolts inserted into the 29/32" x 1/8" slots and bolted together with 5/8" ⌀ x 1/8" 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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**THRIE BEAM BARRIER
STANDARD BARRIER RAILING
SECTION (STEEL POST
WITH NOTCHED WOOD BLOCK
OR NOTCHED RECYCLED
PLASTIC BLOCK)**

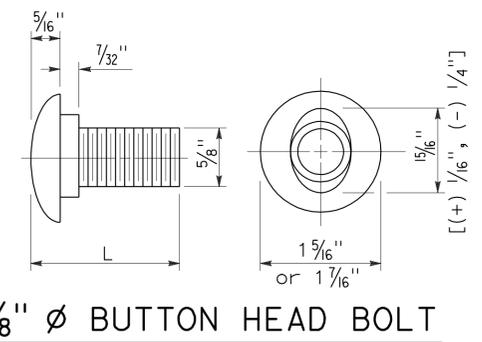
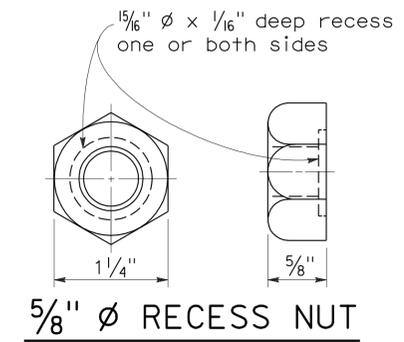
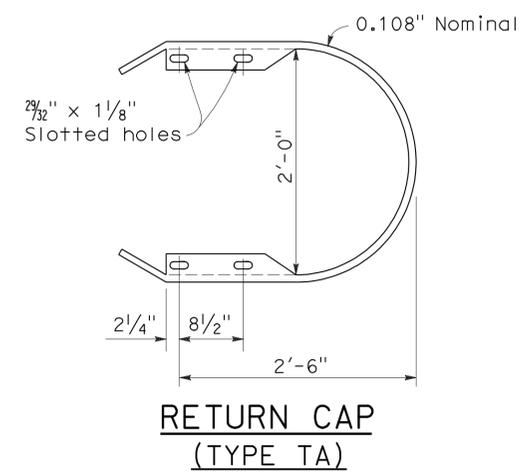
NO SCALE

RSP A78B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78B
DATED MAY 1, 2006 - PAGE 84 OF THE STANDARD PLANS BOOK DATED MAY 2006.

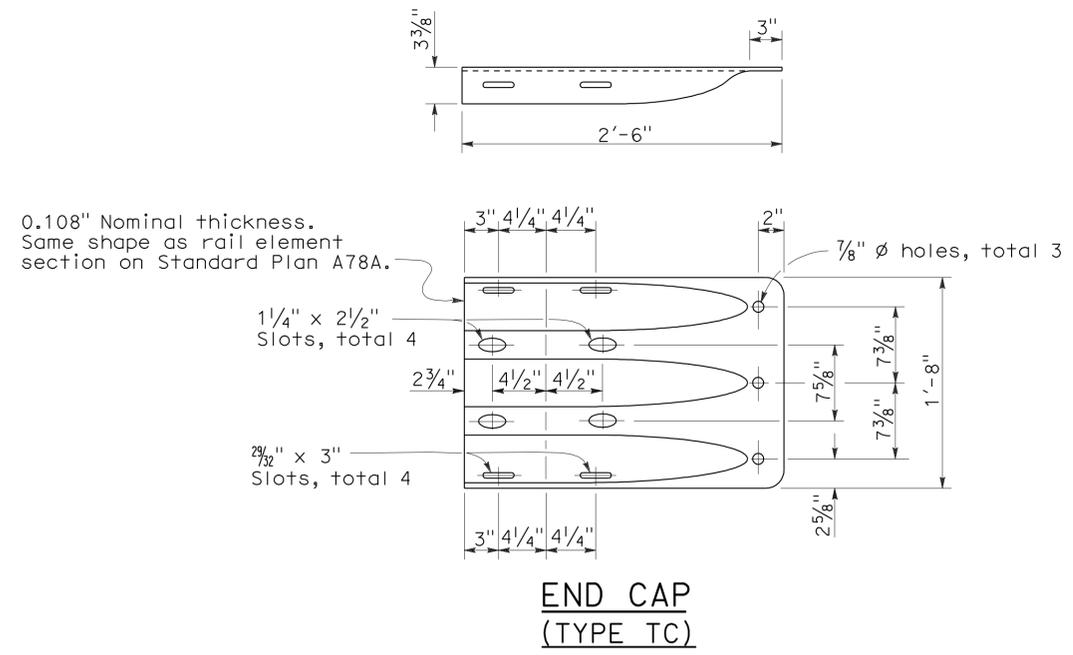
REVISED STANDARD PLAN RSP A78B

2006 REVISED STANDARD PLAN RSP A78B

To accompany plans dated 10-11-10



L	THREAD LENGTH
1 1/4"	full thread length
2"	full thread length
9/2"	4" Min thread length
18"	4" Min thread length



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**THRIE BEAM BARRIER
STANDARD HARDWARE DETAILS**

NO SCALE

RSP A78C1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78C1
DATED MAY 1, 2006 - PAGE 85 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A78C1

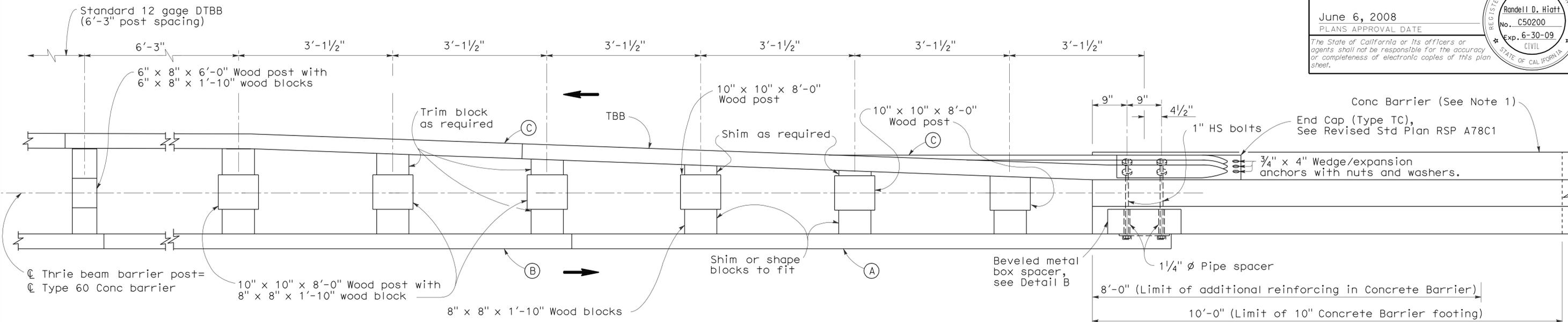
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	753	1132

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

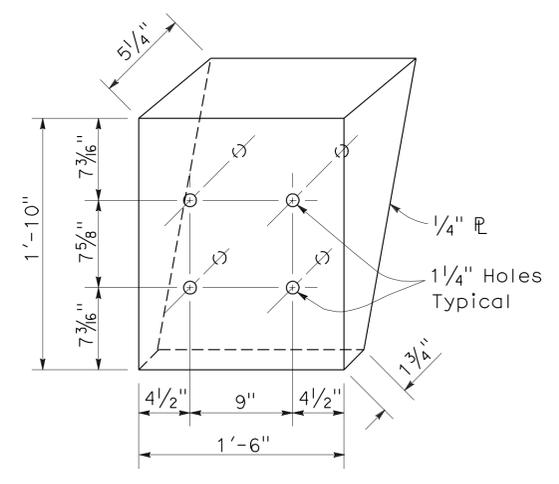
June 6, 2008
PLANS APPROVAL DATE

Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

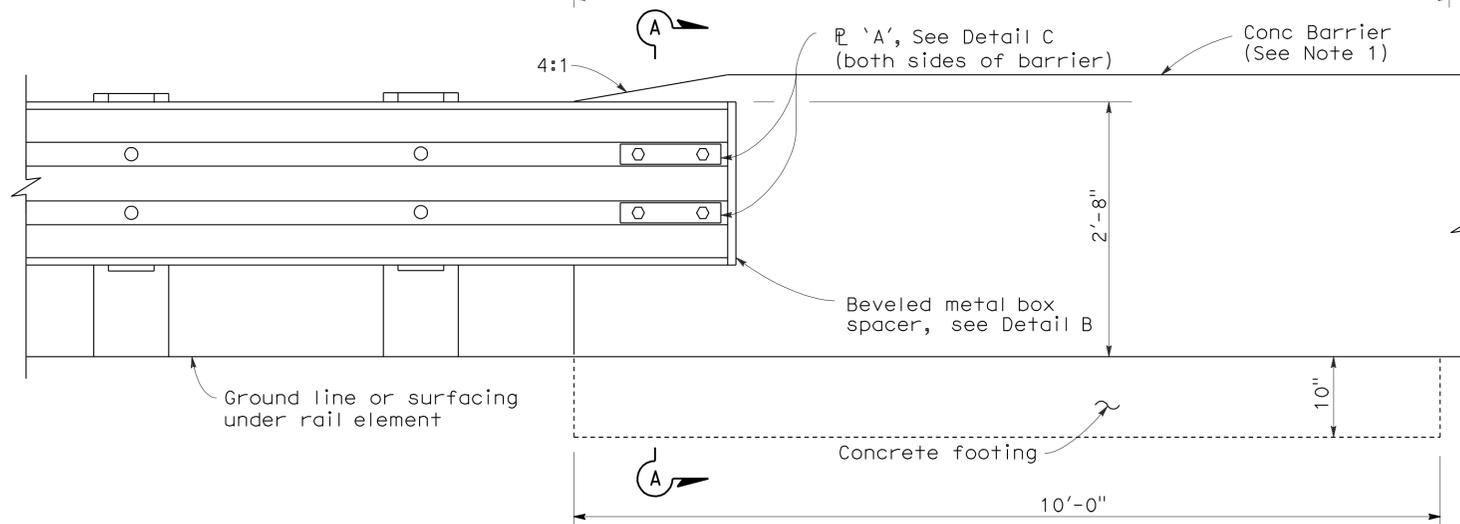
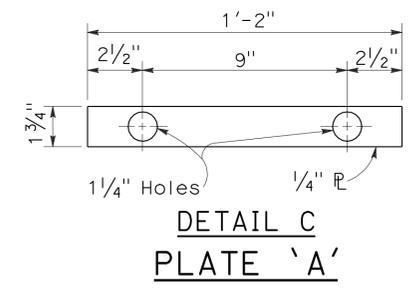
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PLAN



Beveled metal box spacer
See Note 3



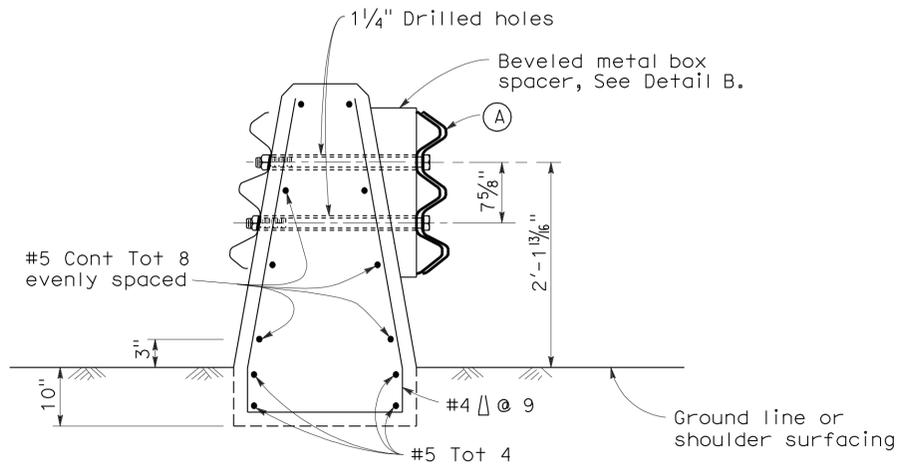
ELEVATION

NOTES:

1. For details of Concrete Barrier Type 60, see Revised Standard Plan RSP A76A. Thrie beam barrier connections to Concrete Barrier Type 60S and Type 60G are similar to details shown on this plan.
2. For additional thrie beam barrier details, see Standard Plan A78A, Revised Standard Plans RSPs A78B and A78C1, and Standard Plan A78C2.
3. Where beveled metal box spacer is installed, place 1/4" ø x 3/4" and 1/4" ø x 2" pipe spacers on 1" HS bolts passing through interior of box.
4. Direction of traffic indicated by →.

LEGEND

- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
 - (B) One 10 gage thrie beam element.
 - (C) One 12 gage thrie beam element.
- 10 gage = 0.135" thick
12 gage = 0.108" thick



SECTION A-A

(Type 60 Conc Barrier shown)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

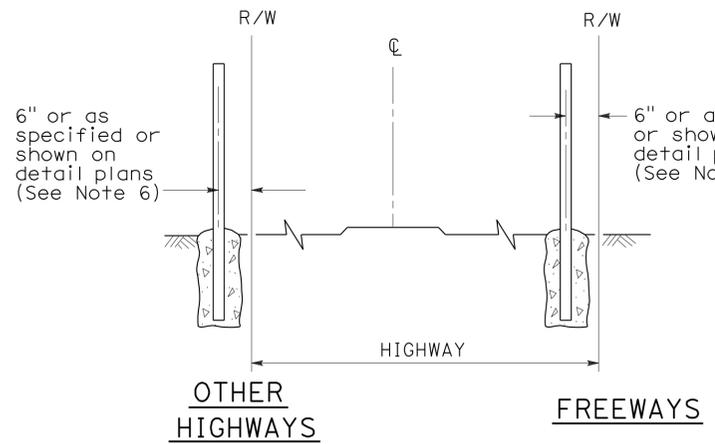
**DOUBLE THRIE BEAM BARRIER
CONNECTION TO CONCRETE
BARRIER**

NO SCALE

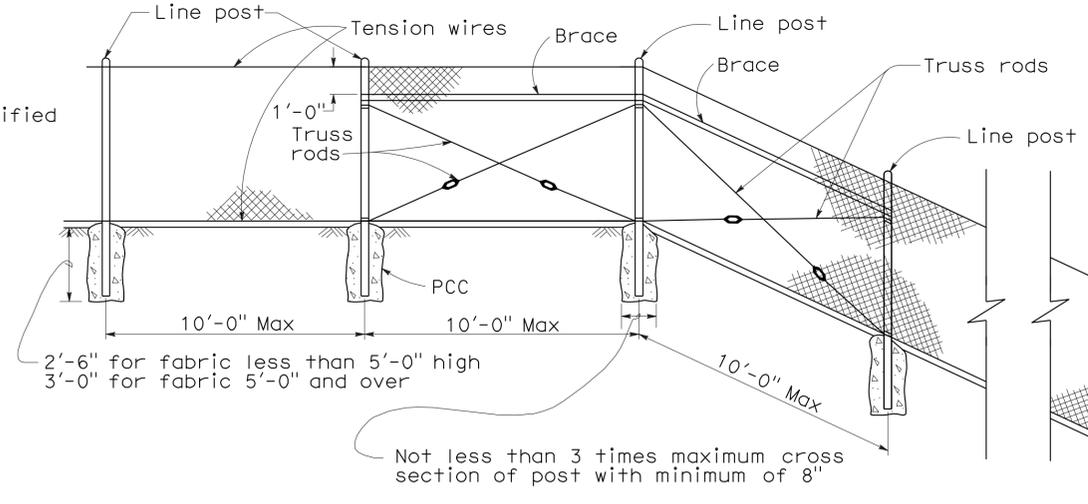
RSP A78I DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78I
DATED MAY 1, 2006 - PAGE 96 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A78I

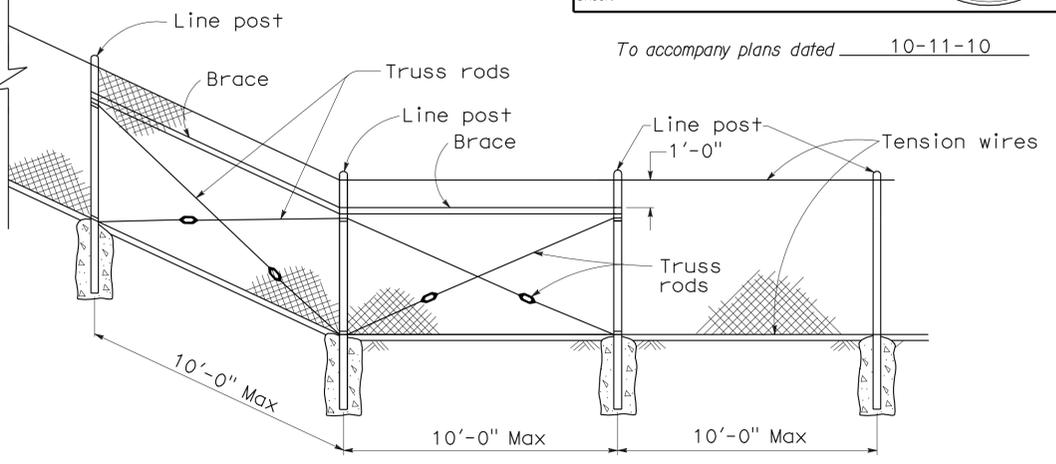
2006 REVISED STANDARD PLAN RSP A78I



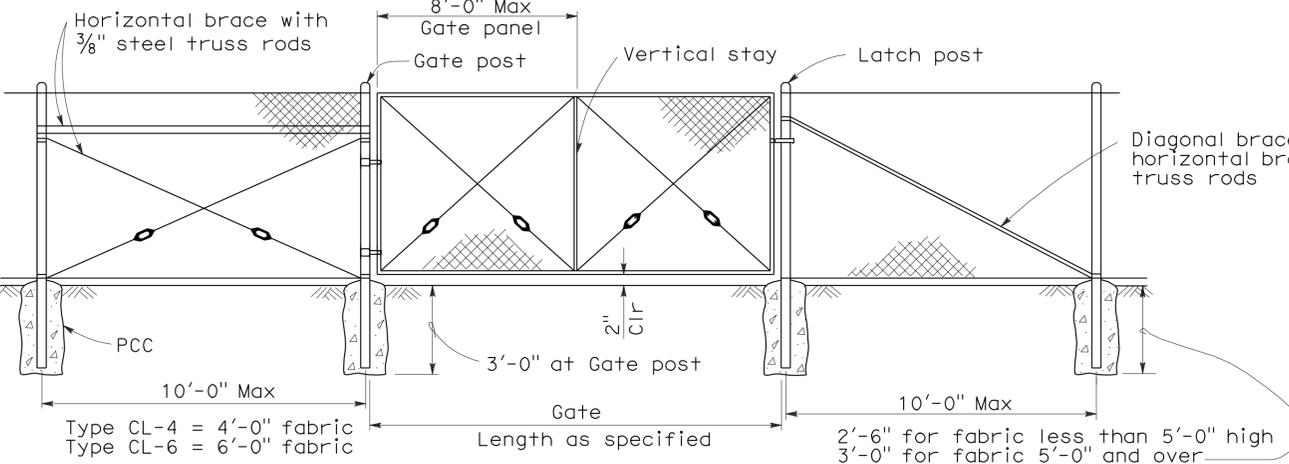
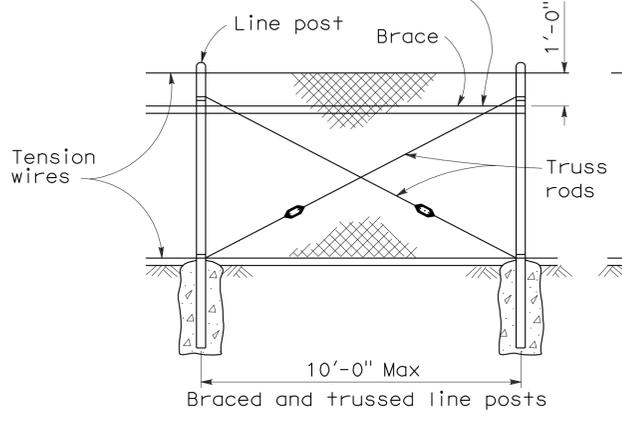
FENCE LOCATION



CHAIN LINK FENCE ON SHARP BREAK IN GRADE



Brace to be removed after all other fence construction is completed unless otherwise directed by the Engineer



CHAIN LINK GATE INSTALLATION

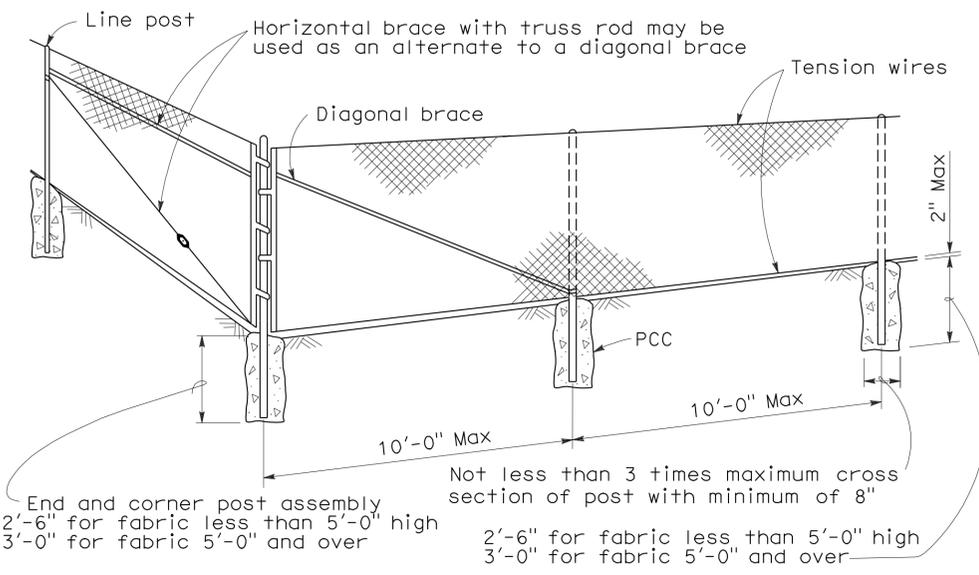
GATE POST			
FENCE HEIGHT	GATE WIDTHS	NOMINAL ID	WEIGHT PER FOOT
6'-0" and Less	Up thru 6'-0"	2 1/2"	4.95 LB
	Over 6'-0" thru 12'-0"	4"	10.79 LB
	Over 12'-0" thru 18'-0"	5"	14.62 LB
Over 6'-0"	Over 18'-0" to 24'-0" Max	6"	18.97 LB
	Up thru 6'-0"	3"	7.58 LB
	Over 6'-0" thru 12'-0"	5"	14.62 LB
	Over 12'-0" thru 18'-0"	6"	18.97 LB
	Over 18'-0" to 24'-0" Max	8"	28.55 LB

Above post dimensions and weights are minimums. Larger sizes may be used on approval of the Engineer.

NOTES:

- The below table shows examples of post and brace sections which may comply with the Specifications.
- Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
- Other sections which comply with the strength requirements and other provisions of the Specifications may be used on approval of the Engineer.
- Options exercised shall be uniform on any one project.
- Dimensions shown are nominal.
- Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.

FENCE HEIGHT	TYPICAL MEMBER DIMENSIONS (See Notes)									
	LINE POSTS			END, LATCH & CORNER POSTS			BRACES			
	ROUND ID	H	ROLL FORMED	ROUND ID	ROLL FORMED		ROUND ID	H	ROLL FORMED	
6' & less	1 1/2"	1 7/8" x 1 5/8"	1 7/8" x 1 5/8"	2"	3 1/2" x 3 1/2"	2" x 1 3/4"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"
Over 6'	2"	2 1/4" x 2"	2" x 1 3/4"	2 1/2"	3 1/2" x 3 1/2"	2 1/2" x 2 1/2"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"



CORNER POST

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE
 NO SCALE

RSP A85 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN A85
 DATED MAY 1, 2006 - PAGE 111 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A85

2006 REVISED STANDARD PLAN RSP A85

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	755	1132

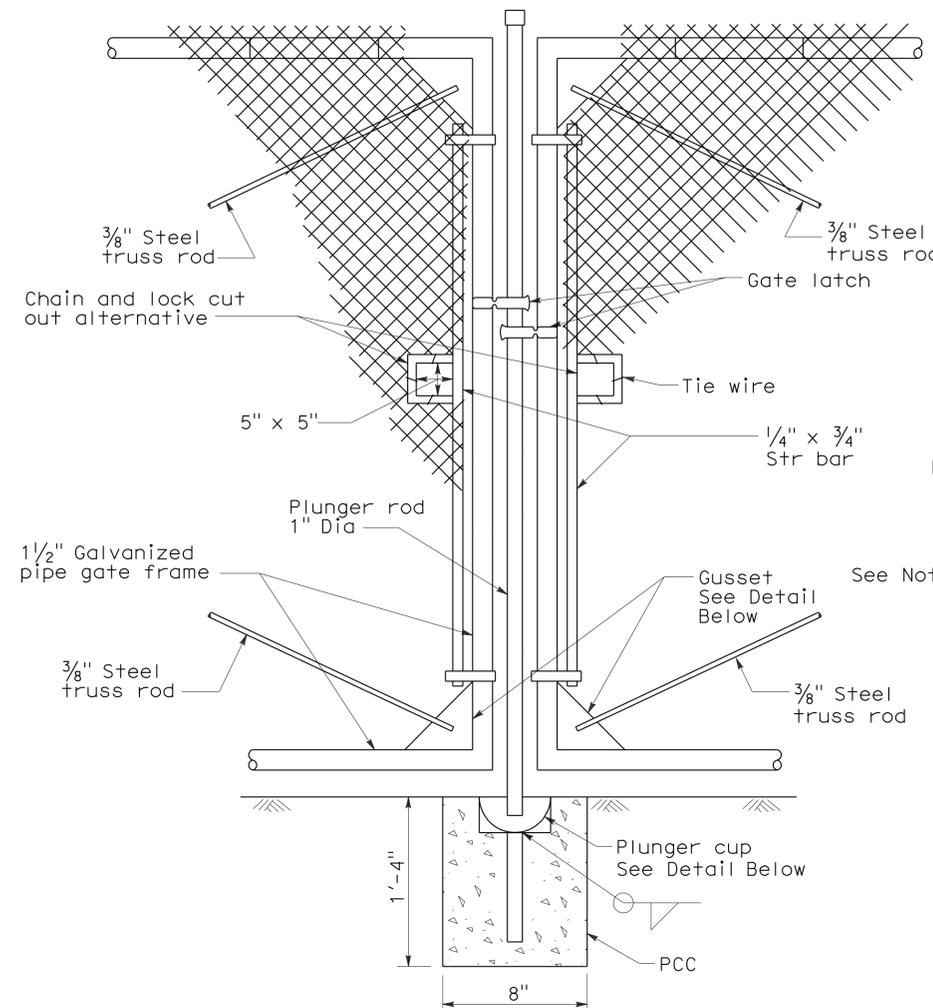
Glenn DeCou
 REGISTERED CIVIL ENGINEER
 No. C34547
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

June 5, 2009
 PLANS APPROVAL DATE

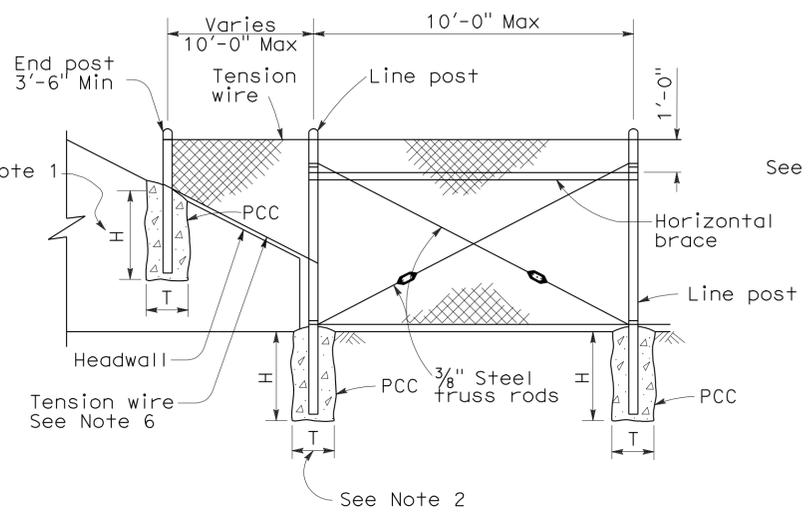
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To accompany plans dated 10-11-10

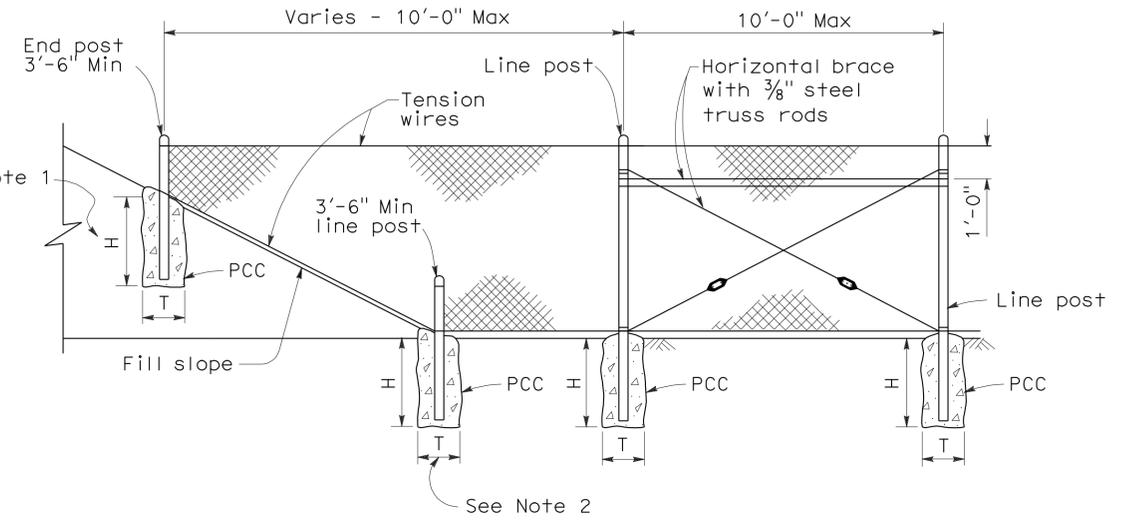
- NOTES:**
- H is 2'-6" for fabric less than 5'-0" high.
H is 3'-0" for fabric 5'-0" and over.
 - T is not less than 3 times maximum cross section of post with minimum of 8".
 - Arms with barbed wire to be used where shown on plans.
 - See Revised Standard Plan RSP A85 for Chain Link Fencing dimensions.
 - Reinforcing must comply with ASTM A 706.
 - See Detail A on New Standard Plan NSP A86B for connection at headwall.



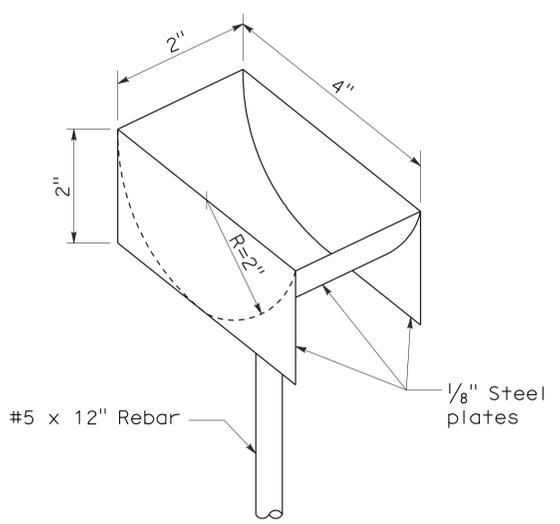
TYPICAL DOUBLE GATE REMOVABLE CENTER POST



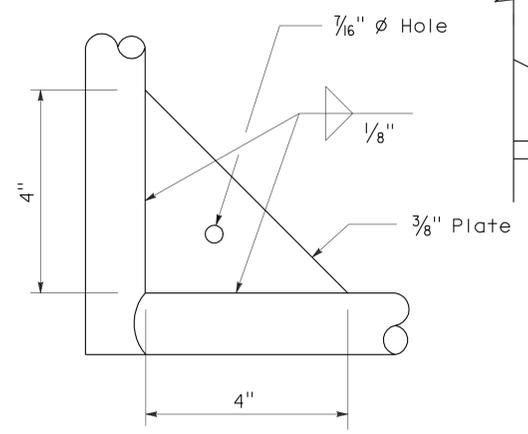
METHOD OF TYING FENCE TO HEADWALL



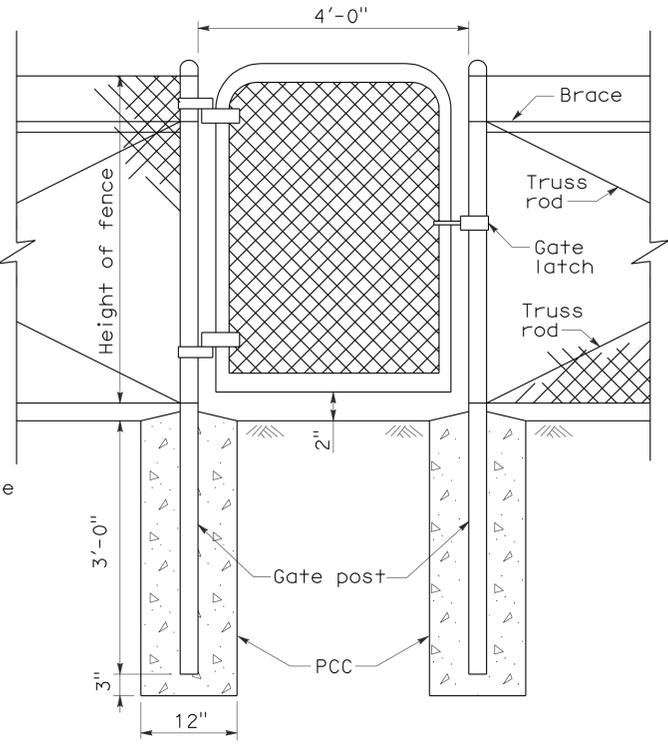
METHOD OF ERECTING FENCE FOR FILL SLOPE



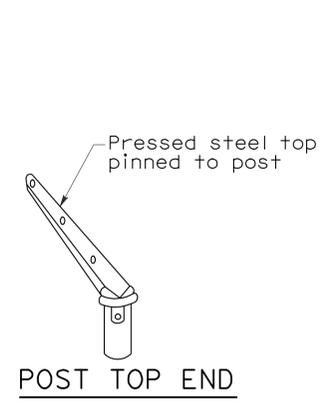
PLUNGER CUP DETAIL



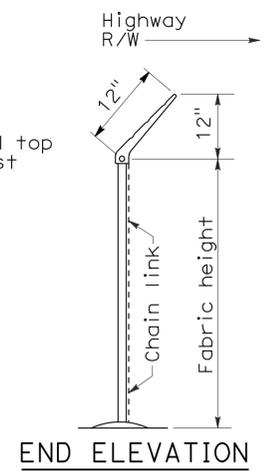
GUSSET DETAIL



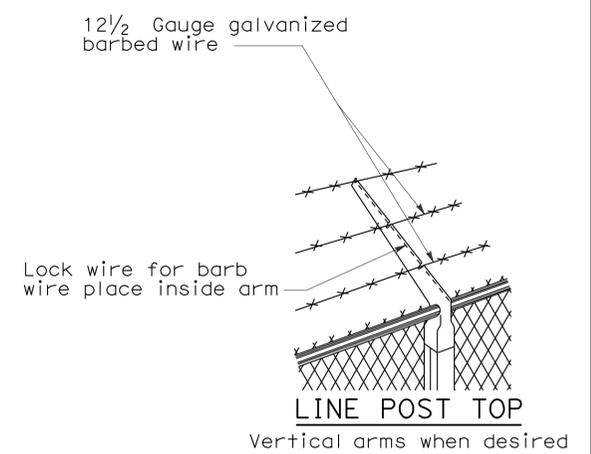
WALK GATE



POST TOP END



BARBED WIRE POST TOP
See Note 3



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE DETAILS
 NO SCALE

NSP A85A DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A85A

2006 NEW STANDARD PLAN NSP A85A

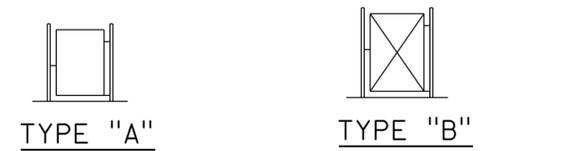
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	756	1132

Glenn DeCou
 REGISTERED CIVIL ENGINEER
 No. C34547
 Exp. 9-30-09
 STATE OF CALIFORNIA

June 5, 2009
 PLANS APPROVAL DATE

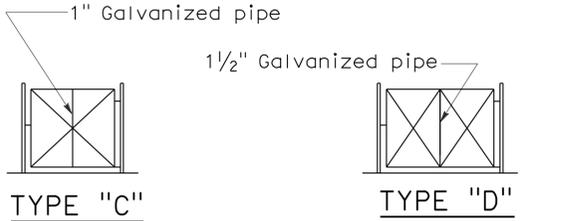
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 10-11-10



TYPE "A"
3' and 6' Single
6' and 12' Double

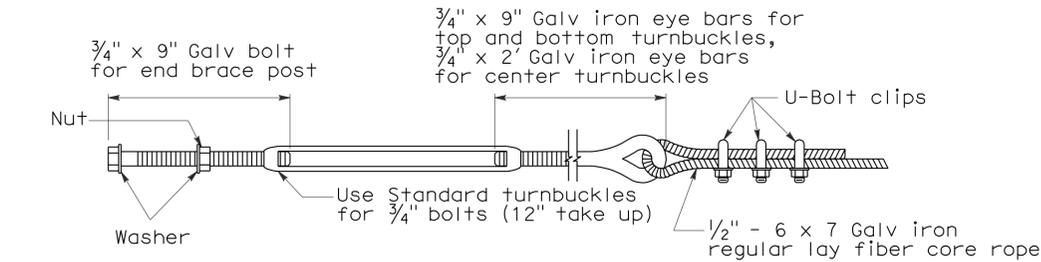
TYPE "B"
Over 6' to 12' Single.
Over 12' to 24' Double



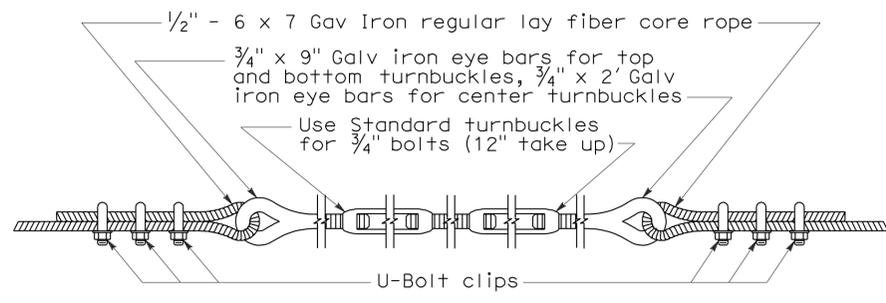
TYPE "C"
Over 12' to 18' Single
Over 24' to 36' Double.

TYPE "D"
Over 18' to 24' Single
Over 36' to 48' Double

TYPICAL FRAMEWORK SHOWING NUMBER OF BAYS IN GATE



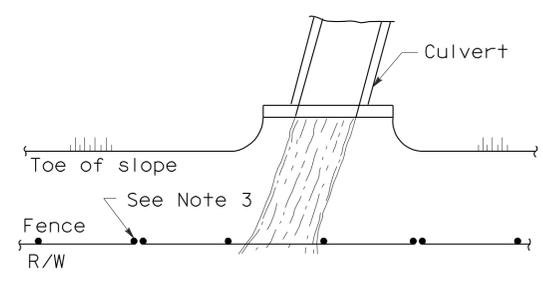
TURNBUCKLE A



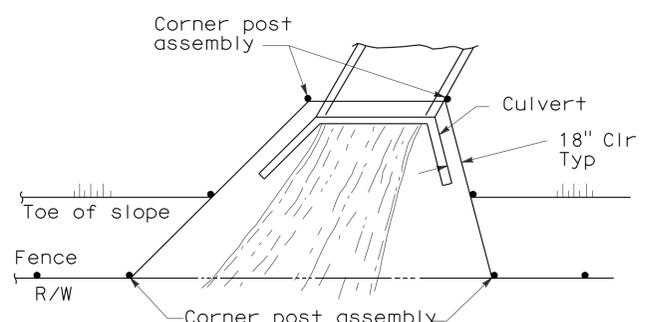
TURNBUCKLE B

NOTES:

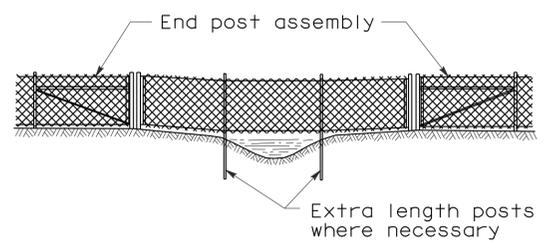
1. All material for abutment connection to be galvanized.
2. The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts.
3. When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved by the Engineer shall be used.
4. Fencing over stream and around headwall may also use Barbed Wire or Wire Mesh fencing with either wood post or steel post installation.
5. See Revised Standard Plan RSP A85 for Chain Link fence dimensions. See Standard Plan A86 for Barbed Wire and Wire Mesh fence dimensions and for wood post and steel post installation.



PLAN

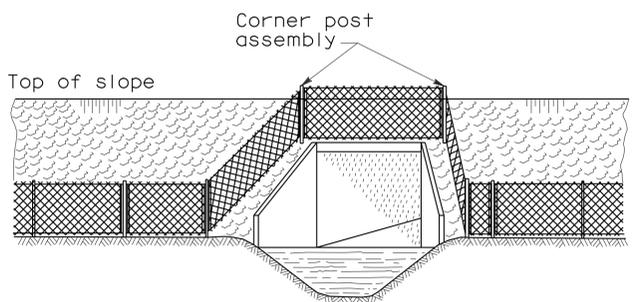


PLAN



ELEVATION

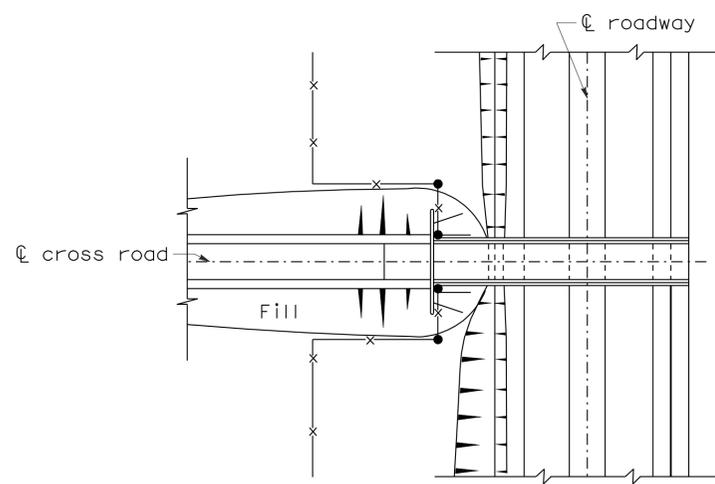
INSTALLATION OVER STREAM



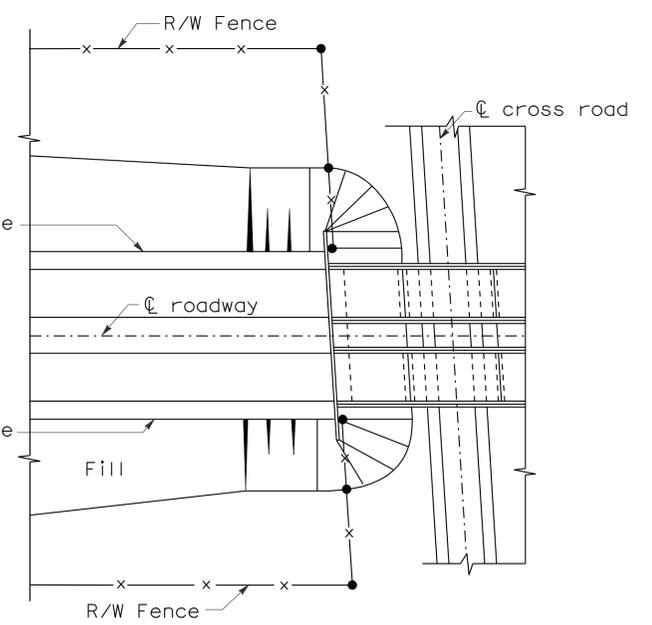
ELEVATION

INSTALLATION AROUND HEADWALL

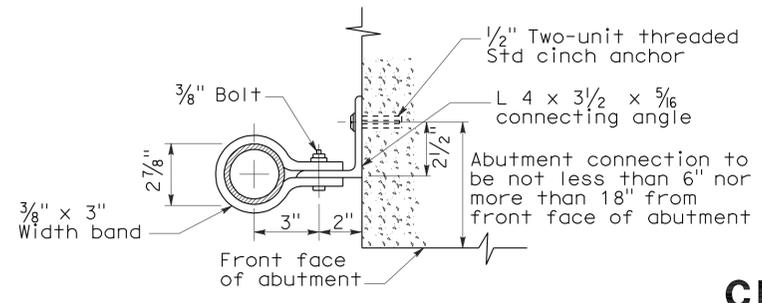
See Note 4



PLAN OF ROADWAY - UNDERPASS



PLAN OF ROADWAY - OVERPASS



ABUTMENT CONNECTION

TYPICAL INSTALLATION AT BRIDGES

CHAIN LINK FENCE DETAILS

NO SCALE

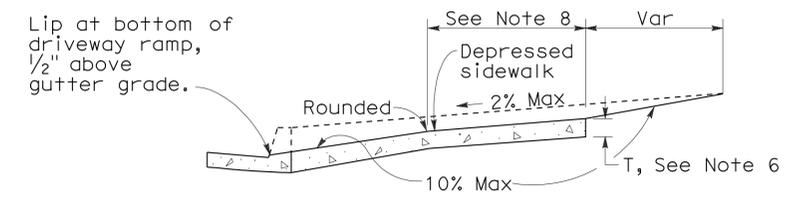
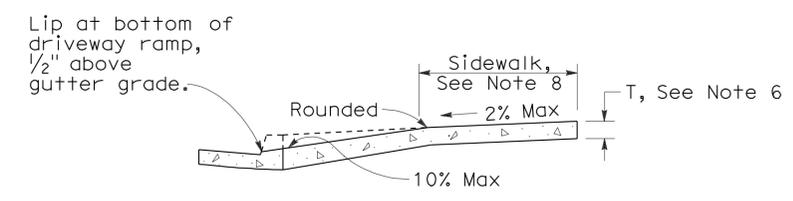
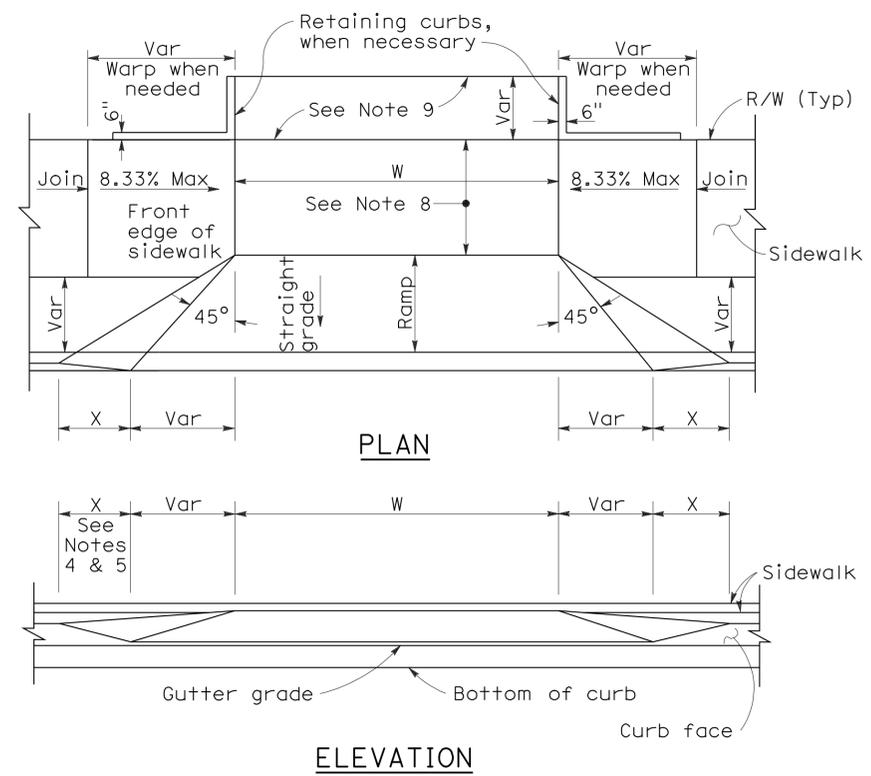
NSP A85B DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP A85B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	757	1132

REGISTERED CIVIL ENGINEER
 November 17, 2006
 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.

REGISTERED PROFESSIONAL ENGINEER
 Michael Janzen
 No. 44788
 Exp. 03-31-08
 STATE OF CALIFORNIA
 CIVIL



CASE A

Typical driveway, sidewalk not depressed

CASE B

Driveway with depressed sidewalk

SECTIONS

CURB QUANTITIES

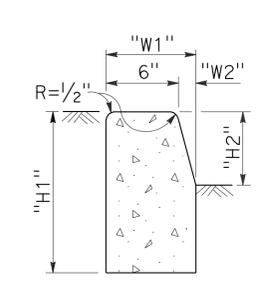
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

TABLE A

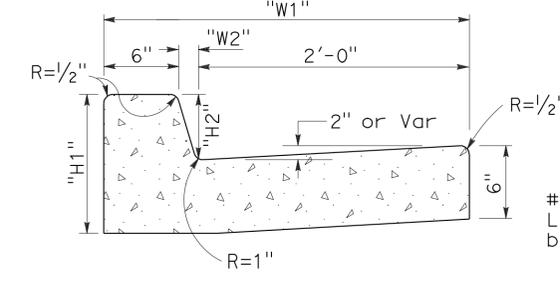
CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4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

To accompany plans dated 10-11-10

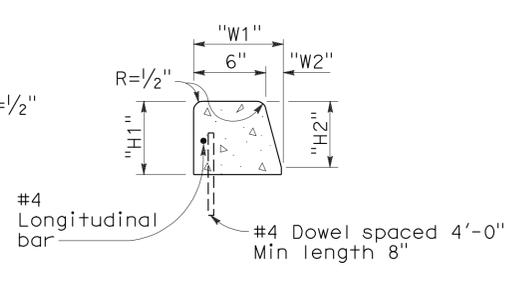
DRIVEWAYS



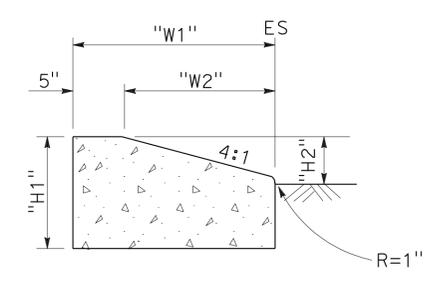
TYPE A1 CURBS
See Table A



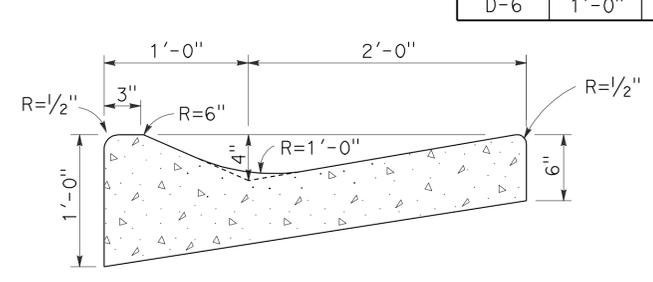
TYPE A2 CURBS
See Table A



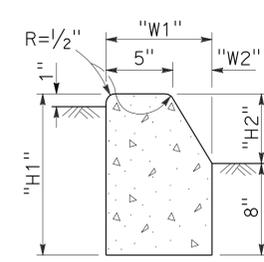
TYPE A3 CURBS
Superimposed on existing pavement
See Table A



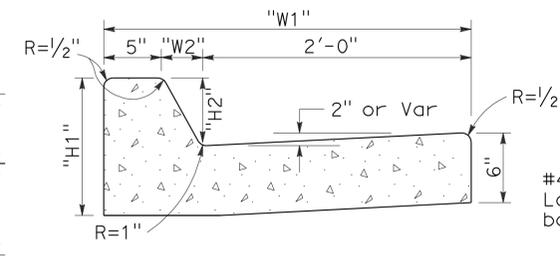
TYPE D CURBS
See Table A



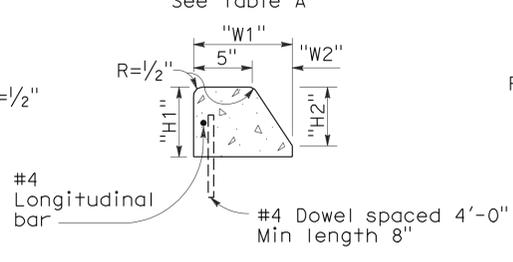
TYPE E CURB



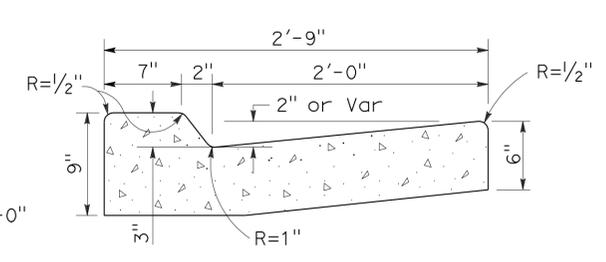
TYPE B1 CURBS
See Table A



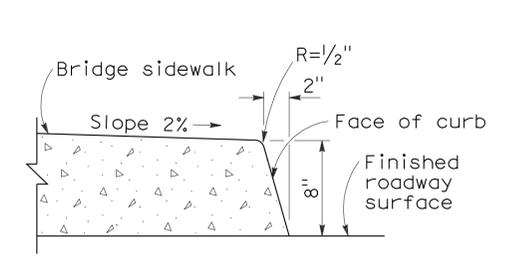
TYPE B2 CURBS
See Table A



TYPE B3 CURBS
Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB
On Bridges

NOTES:

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- 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'-0".
- 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.

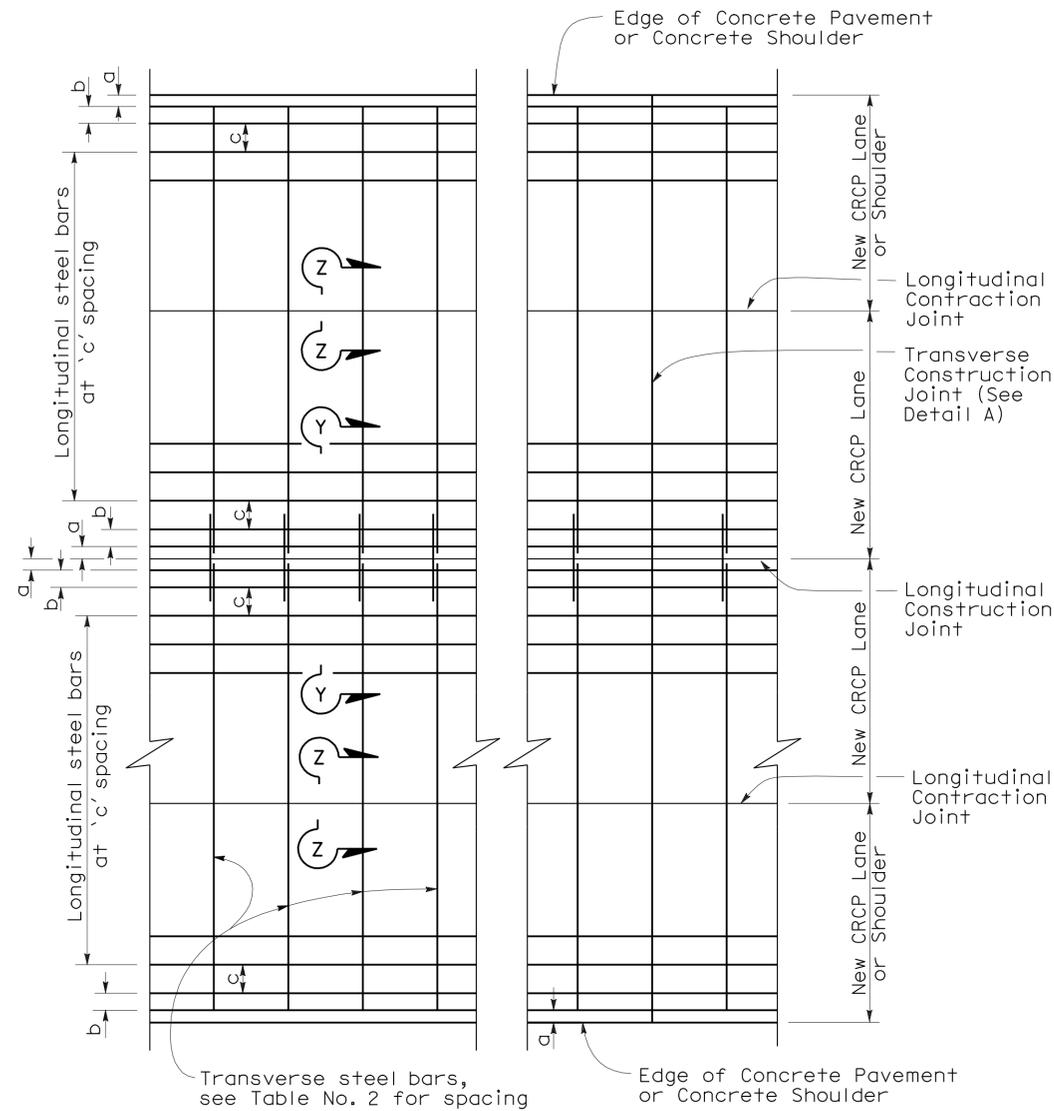
CURBS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

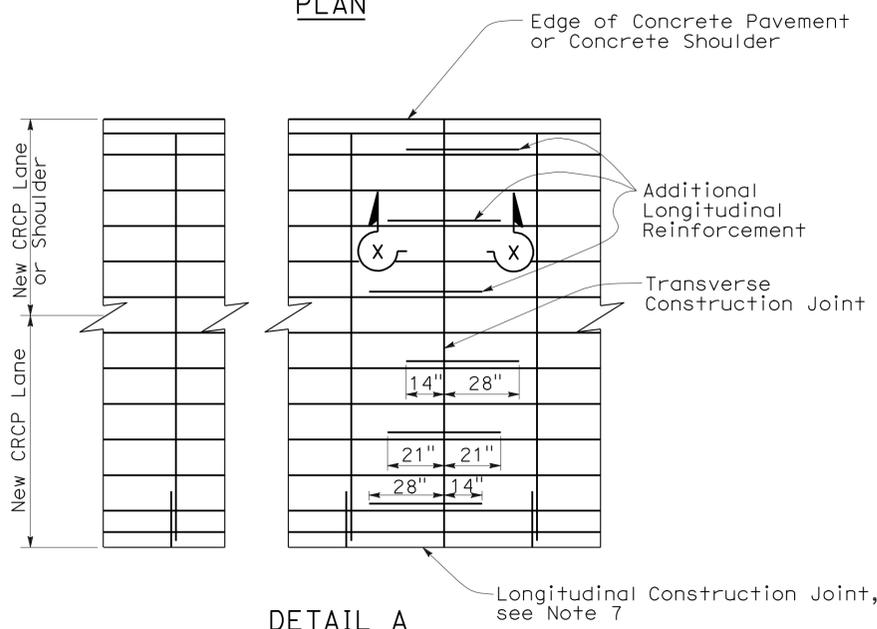
CURBS AND DRIVEWAYS

NO SCALE

2006 REVISED STANDARD PLAN RSP A87A



PLAN



DETAIL A

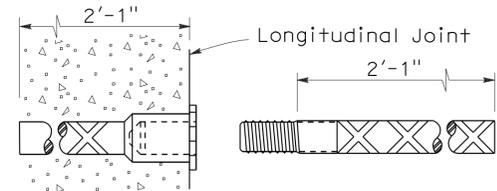
ADDITIONAL LONGITUDINAL REINFORCEMENT AT TRANSVERSE CONSTRUCTION JOINT

TABLE No. 1 LONGITUDINAL STEEL

Slab Thickness and Bar Size	First Spacing at Edge or Joint	Second Spacing from Edge or Joint	Regular Steel Bars	Additional Reinforcement at Transverse Construction Joint	Clr		
D	Bar Size	Spacing a	Spacing b	Spacing c	Spacing $2 \times c$	Length L	X
.80'	#6	3" TO 4"	3" TO 8"	8"	16"	42"	4"
.85'	#6	3" TO 4"	3" TO 7"	7"	14"	42"	4"
.90'	#6	3" TO 4"	3" TO 6.5"	6.5"	13"	42"	4"
.95'	#6	3" TO 4"	3" TO 6"	6.5"	13"	42"	4"
1.00'	#6	3" TO 4"	3" TO 6"	6"	12"	42"	4.25"
1.05'	#6	3" TO 4"	3" TO 5.5"	6"	12"	42"	4.5"
1.10'	#6	3" TO 4"	3" TO 5.5"	5.5"	11"	42"	4.75"

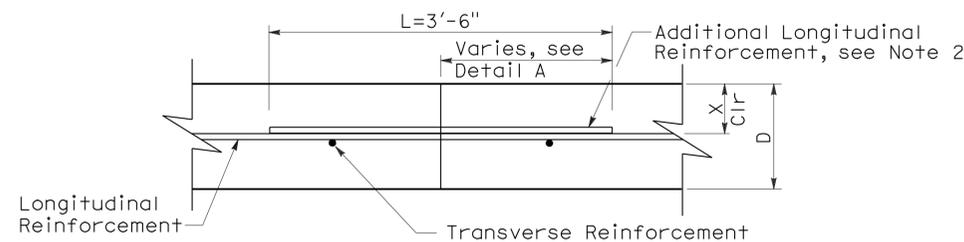
TABLE No. 2 TRANSVERSE STEEL

Slab Thickness and Bar Size	Pvmt Width (From Edge of Conc Pvmt or Conc Shld to Nearest Edge of Conc Pvmt or Conc Shld)							
	$\leq 48'$	$\leq 60'$	$\leq 72'$	$\leq 84'$	$\leq 96'$	$\leq 108'$	$\leq 120'$	
D	Bar Size	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing
.80'	#6	3'	3'	3'	2.5'	2'	2'	1.5'
.85'	#6	3'	3'	2.5'	2.5'	2'	1.5'	1.5'
.90'	#6	3'	2.5'	2.5'	2'	2'	1.5'	1.5'
.95'	#6	3'	2.5'	2'	2'	1.5'	1.5'	1'
1.00'	#6	3'	2.5'	2'	2'	1.5'	1.5'	1'
1.05'	#6	2.5'	2.5'	2'	1.5'	1.5'	1.5'	1'
1.10'	#6	2.5'	2.5'	2'	1.5'	1.5'	1.5'	1'



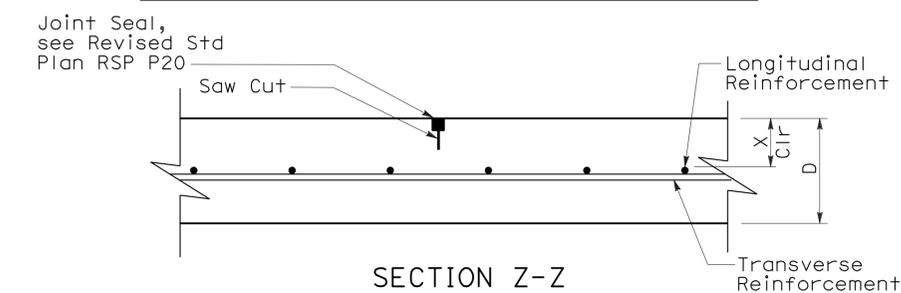
TIE BAR SPLICE DETAIL

(Splice Coupler)



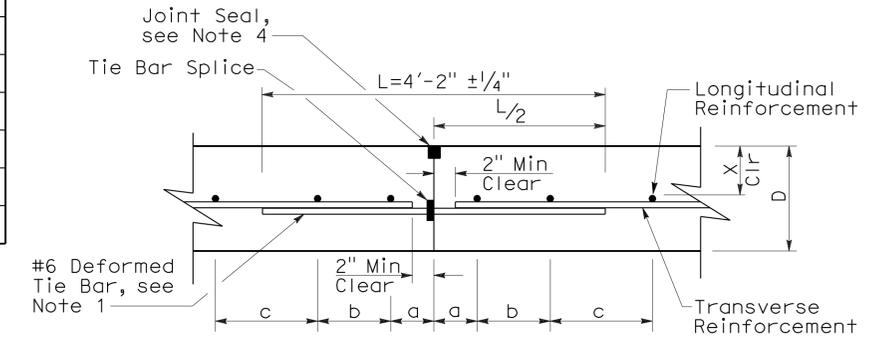
SECTION X-X

TRANSVERSE CONSTRUCTION JOINT

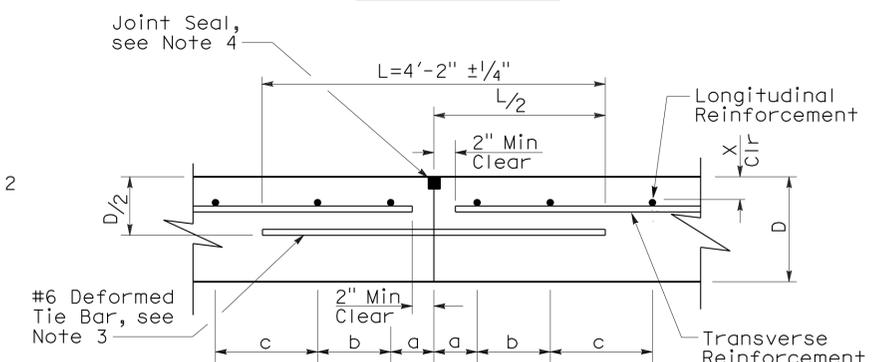


SECTION Z-Z

LONGITUDINAL CONTRACTION JOINT



SECTION Y-Y



ALTERNATE

LONGITUDINAL CONSTRUCTION JOINT

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
 CONCRETE PAVEMENT**

NO SCALE

RNSP P4 DATED JUNE 5, 2009 SUPERSEDES NSP P4 DATED MAY 15, 2009 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

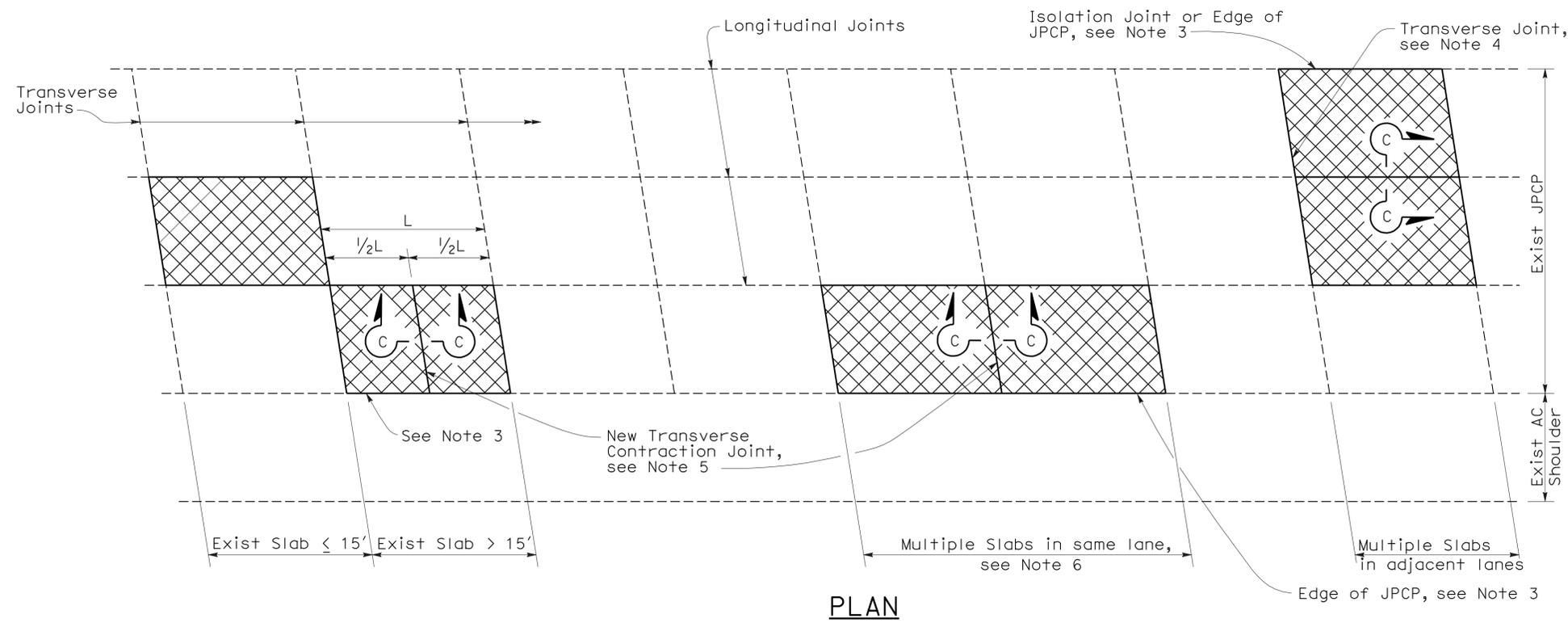
2006 REVISED NEW STANDARD PLAN RNSP P4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	759	1132

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 10-11-10

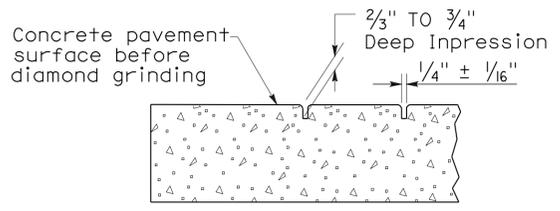
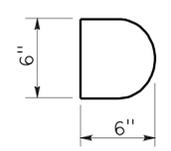
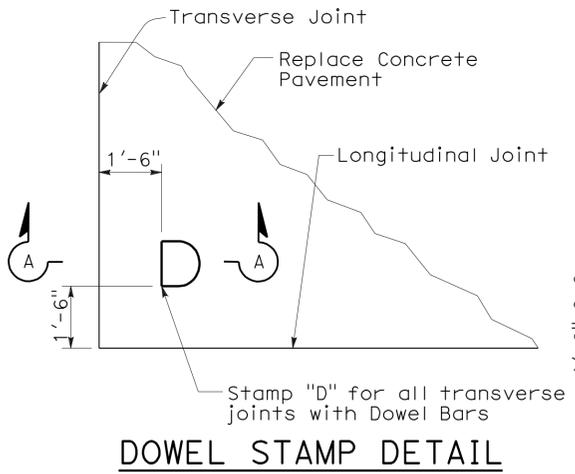


PLAN

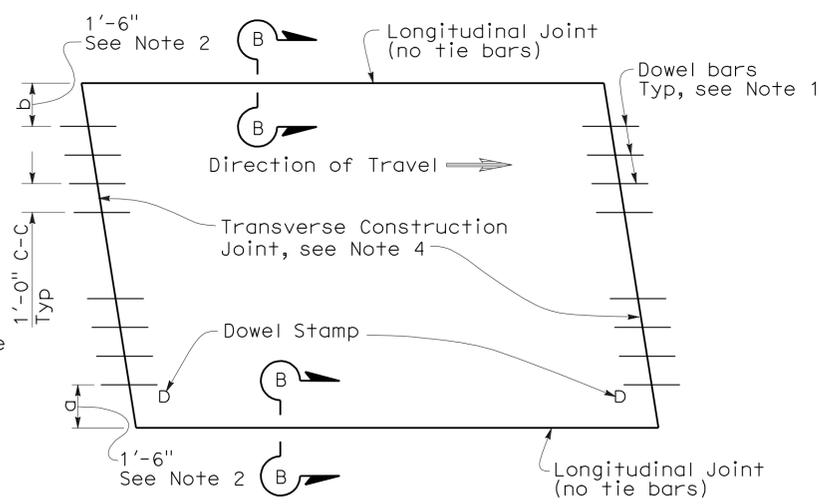
NOTES:

- For details not shown, see Revised Standard Plan RSP P10.
- Where the existing outer shoulder pavement is asphalt concrete pavement, the "a" dimension shall be 1'-0" and the "b" dimension shall be 2'-0".
- Side forms shall be used where edge of pavement is adjacent to asphalt concrete.
- For detail, see Transverse Construction Joint for existing concrete pavement detail on Revised Standard Plan RSP P10.
- Transverse joint to match skew of existing joint. Omit dowel bars.
- This Standard Plan only applicable when replacing multiple slabs in the same lane is less than 100'.

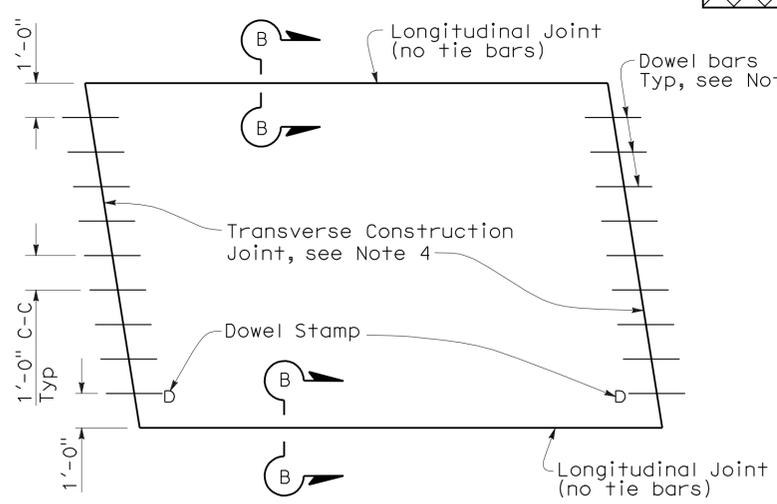
LEGEND



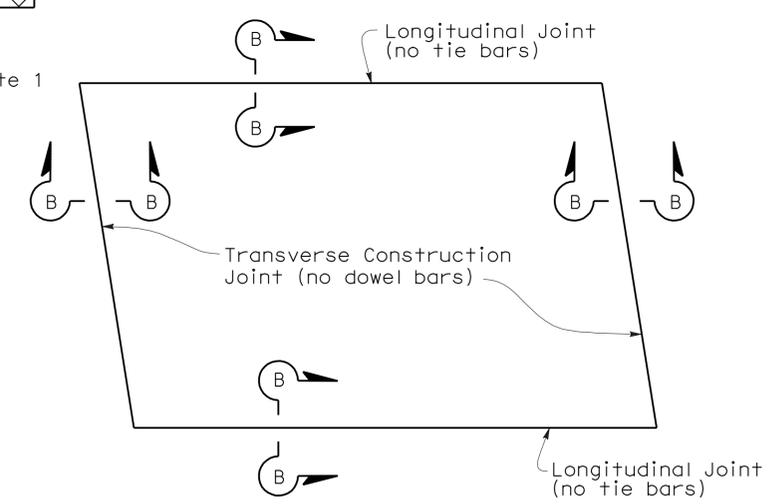
SECTION A-A



TYPE I
(traffic lane lines match longitudinal joints)

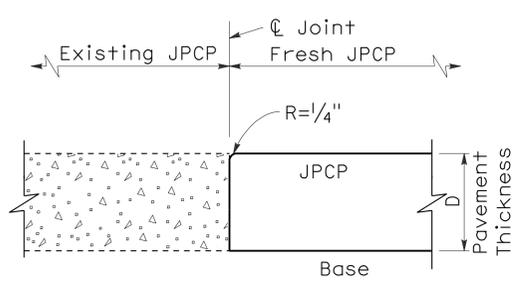


TYPE II
(traffic lane lines do not match longitudinal joints)

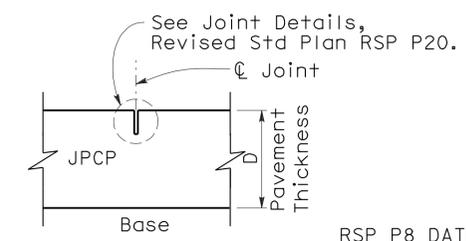


TYPE III
(for short term repairs < 5 yrs design life or for slab replacements with a cracking and seating operation)

SLAB LAYOUT



SECTION B-B



SECTION C-C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

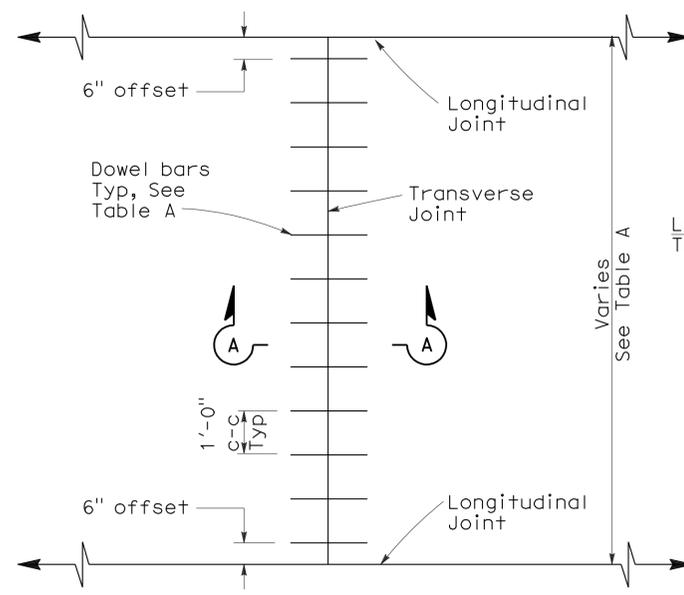
JOINTED PLAIN CONCRETE PAVEMENT-INDIVIDUAL SLAB REPLACEMENT

NO SCALE

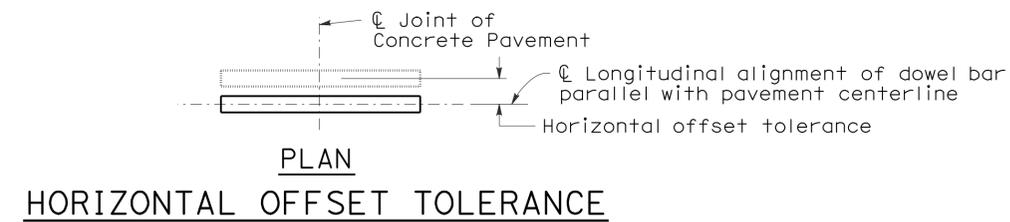
RSP P8 DATED MAY 15, 2009 SUPERSEDES RSP P8 DATED SEPTEMBER 1, 2006 AND STANDARD PLAN P8 DATED MAY 1, 2006 - PAGE 123 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P8

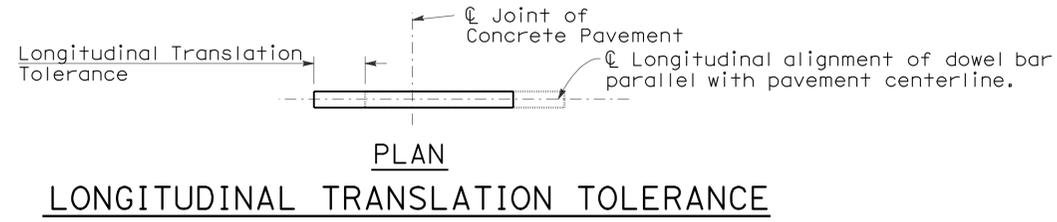
2006 REVISED STANDARD PLAN RSP P8



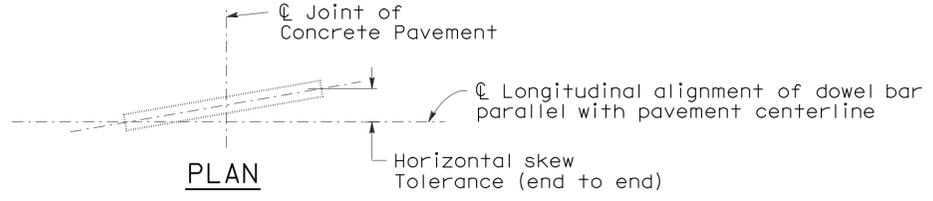
TRANSVERSE JOINT DOWEL BAR LAYOUT



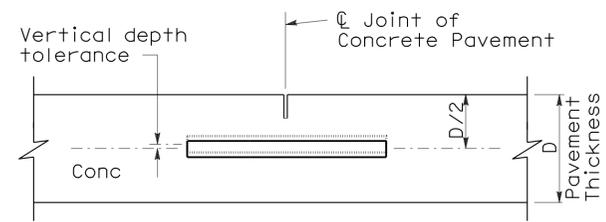
HORIZONTAL OFFSET TOLERANCE



LONGITUDINAL TRANSLATION TOLERANCE

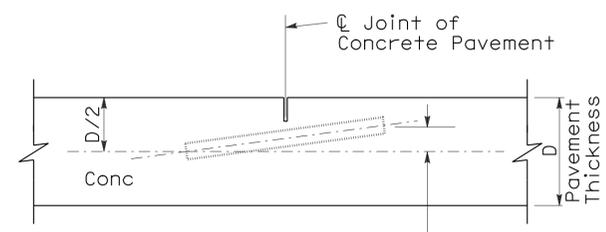


HORIZONTAL SKEW TOLERANCE



ELEVATION

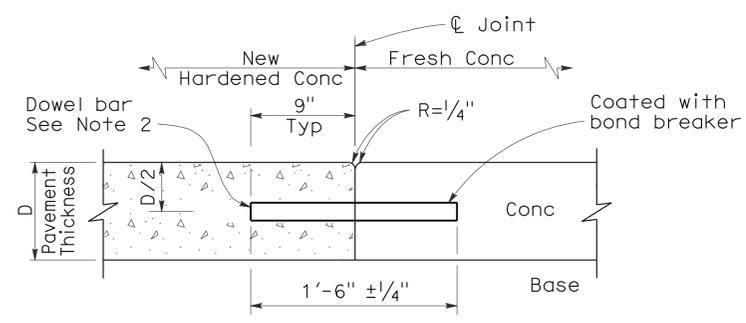
VERTICAL DEPTH TOLERANCE



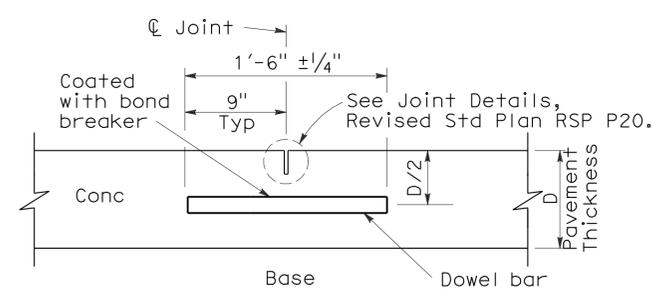
ELEVATION

VERTICAL SKEW TOLERANCE

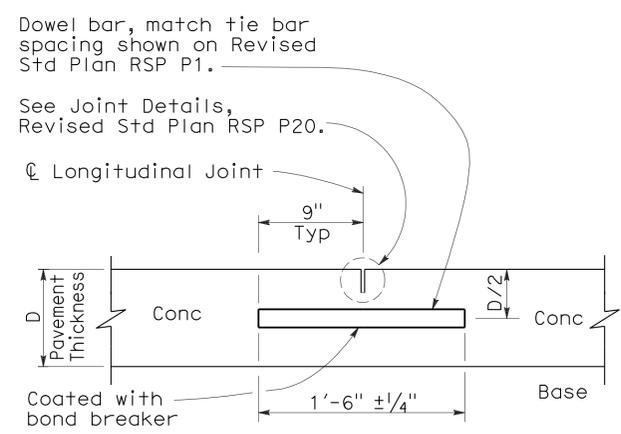
- To accompany plans dated 10-11-10
- NOTES:**
- See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
 - 1 1/2" Dia smooth dowel bars are to be used with a pavement thickness, D, equal to or greater than 0.70 feet. For pavement thickness, D, less than 0.70 feet, use 1 1/4" Dia smooth dowel bars.
 - For widths not shown, see Project Plans.
 - If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the 1/4" radius, as shown.



SECTION A-A TRANSVERSE CONSTRUCTION JOINT DETAIL

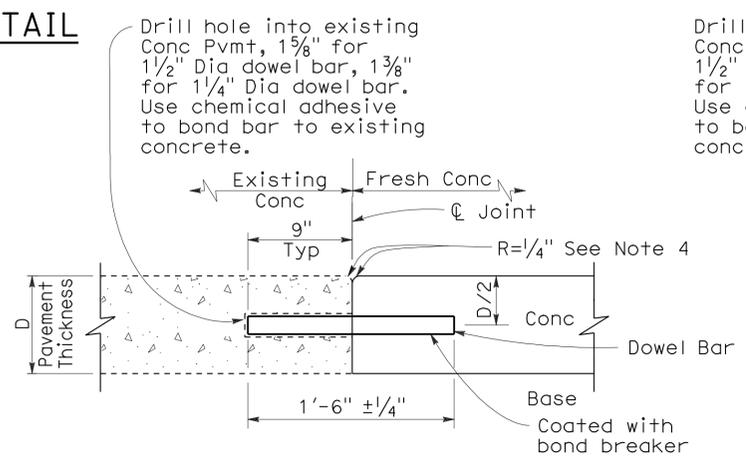


TRANSVERSE CONTRACTION JOINT



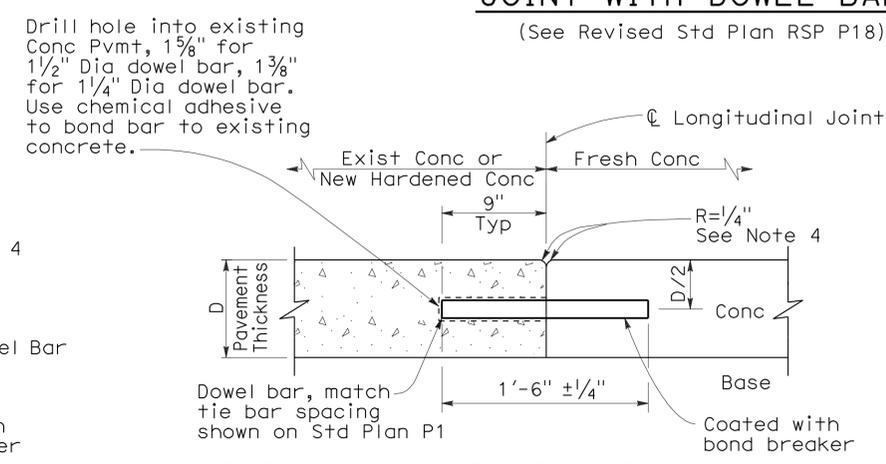
LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS

(See Revised Std Plan RSP P18)



TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT

(Drill and bond locations)



LONGITUDINAL CONSTRUCTION JOINT WITH DOWEL BARS

(See Revised Std Plan RSP P18)

TABLE A (See Note 3)

Dowel Bar Transverse Spacing Table

Width between Longitudinal Joints	Number of Dowels between Longitudinal Joints
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-DOWEL BAR DETAILS

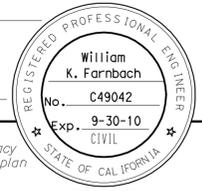
NO SCALE

RSP P10 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P10 DATED MAY 1, 2006 - PAGE 124 OF THE STANDARD PLANS BOOK DATED MAY 2006.

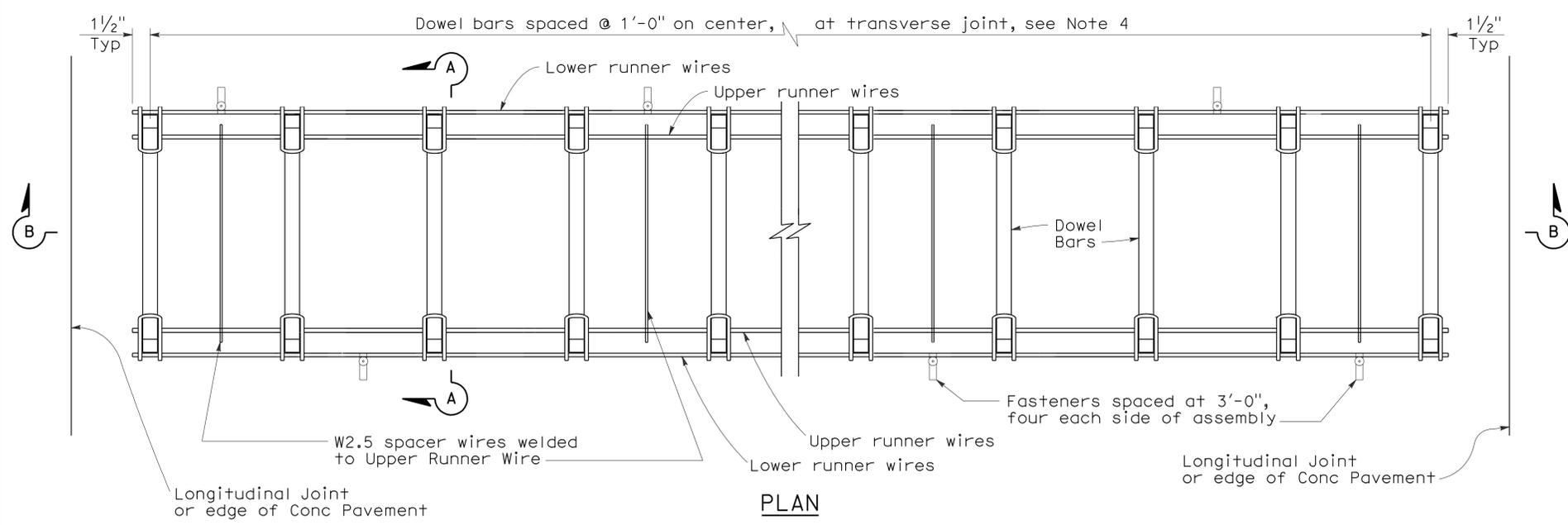
2006 REVISED STANDARD PLAN RSP P10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	761	1132

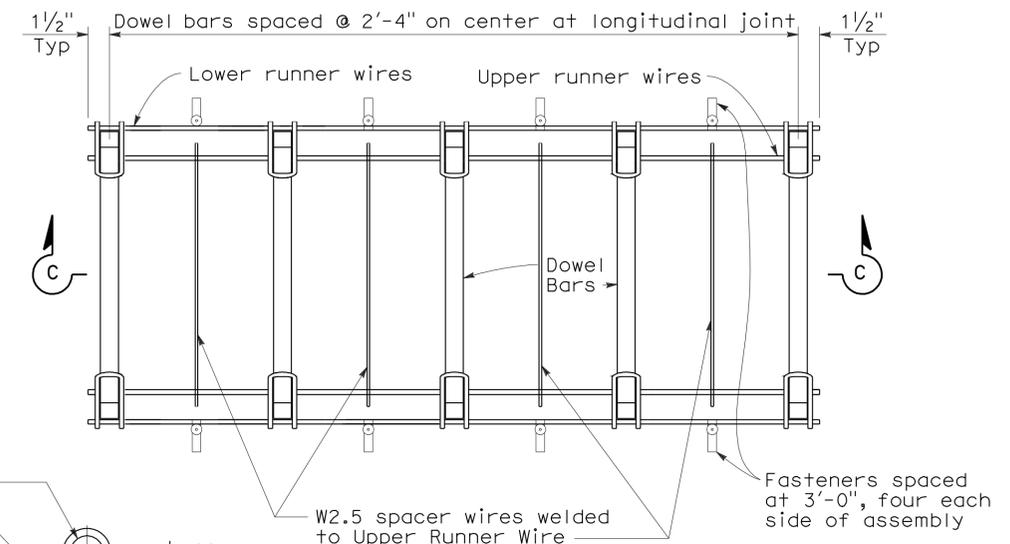
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE
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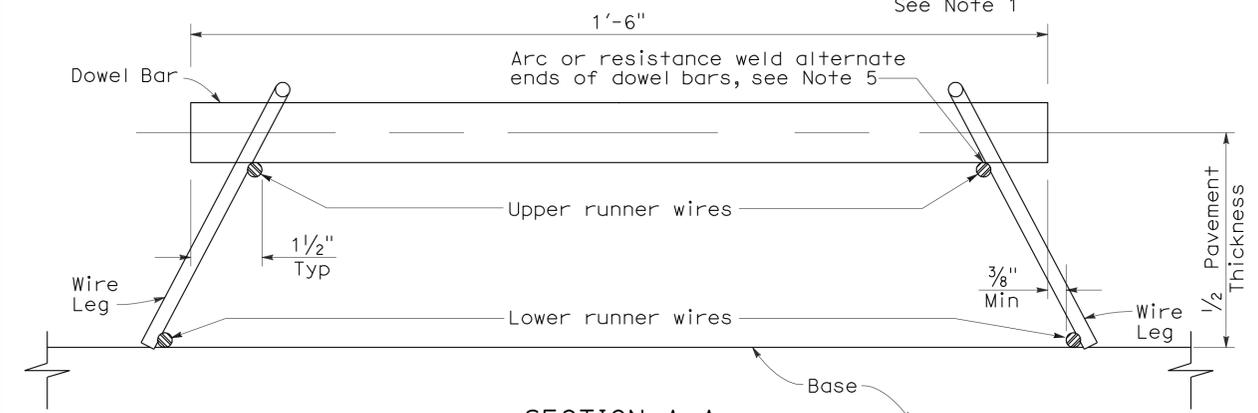
To accompany plans dated 10-11-10



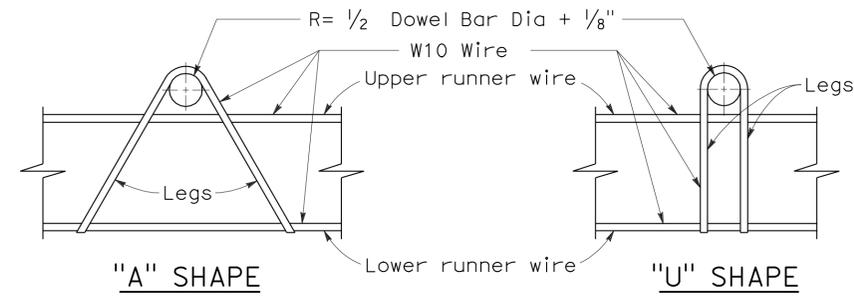
**PLAN
DOWEL BAR BASKET
(TRANSVERSE JOINT)**
See Note 1



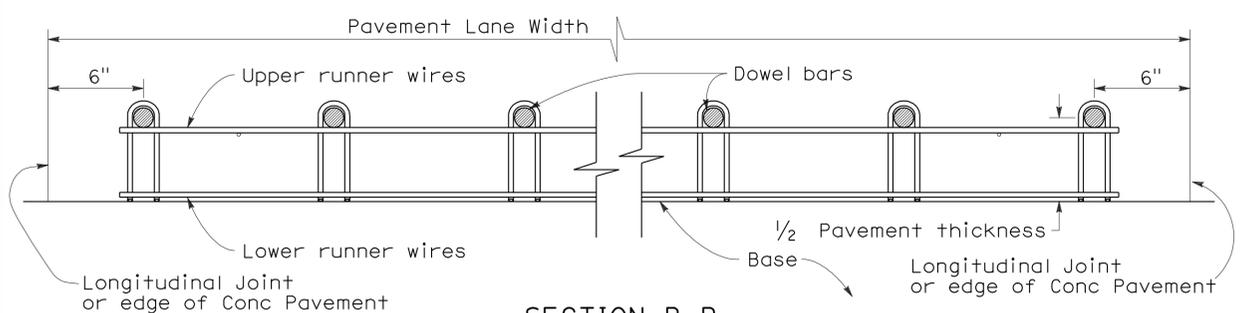
**PLAN
DOWEL BAR BASKET
(LONGITUDINAL JOINT)**
See Note 1



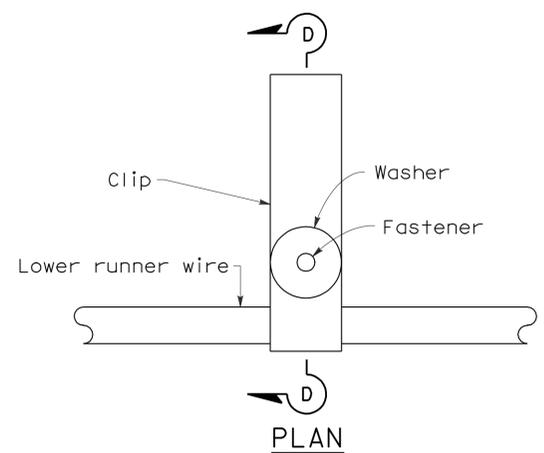
SECTION A-A



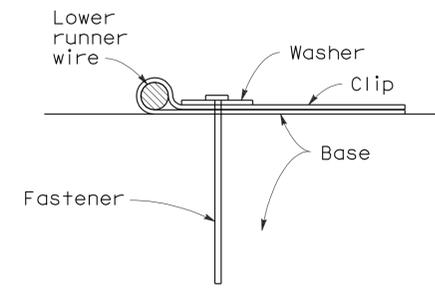
ASSEMBLY FRAME DETAILS



SECTION B-B
See Note 1



FASTENER DETAIL



SECTION D-D

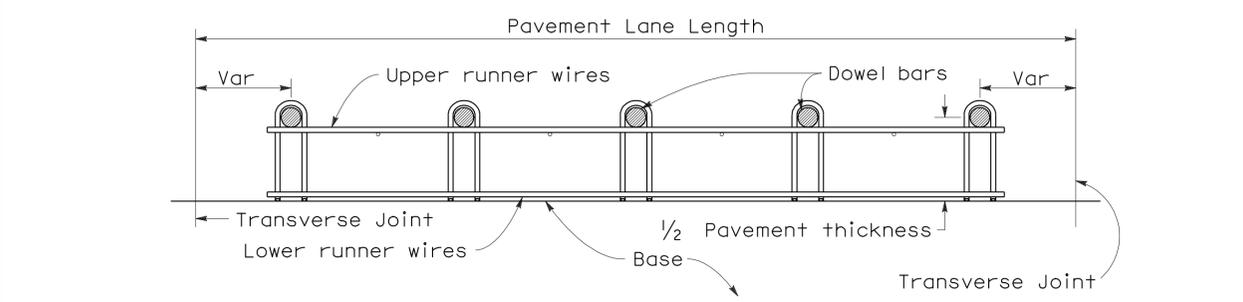
NOTES:

- "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
- Wire sizes shown are minimum required.
- All wire intersections are to be resistance welded.
- Use tie bar spacing for longitudinal dowel bar locations. See Revised Std Plans RSPs P1, P2, and P3 for tie bar requirements.
- Weld may be at top or bottom of dowel bar.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONCRETE PAVEMENT-
DOWEL BAR BASKET
DETAILS**

NO SCALE



SECTION C-C
See Notes 1 and 4

RSP P12 DATED MAY 15, 2009 SUPERSEDES RSP P12 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P12 DATED MAY 1, 2006 - PAGE 125 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P12

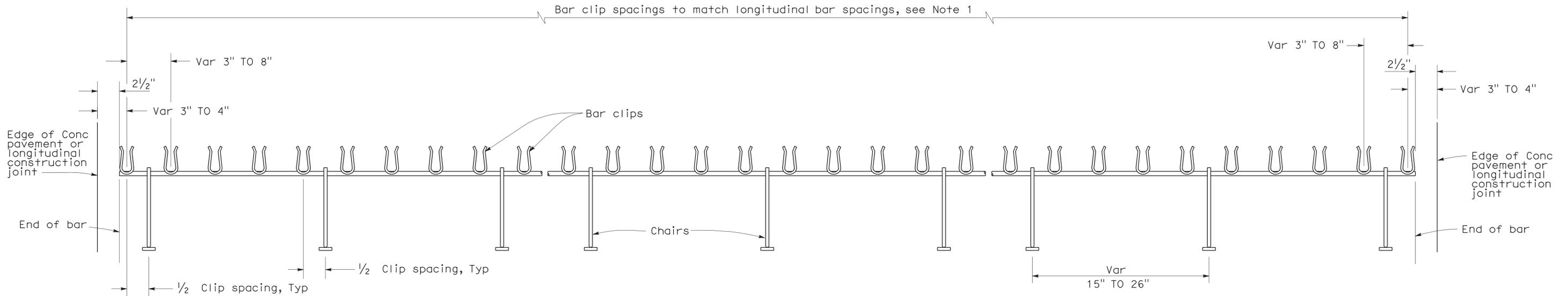
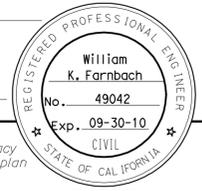
2006 REVISED STANDARD PLAN RSP P12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	762	1132

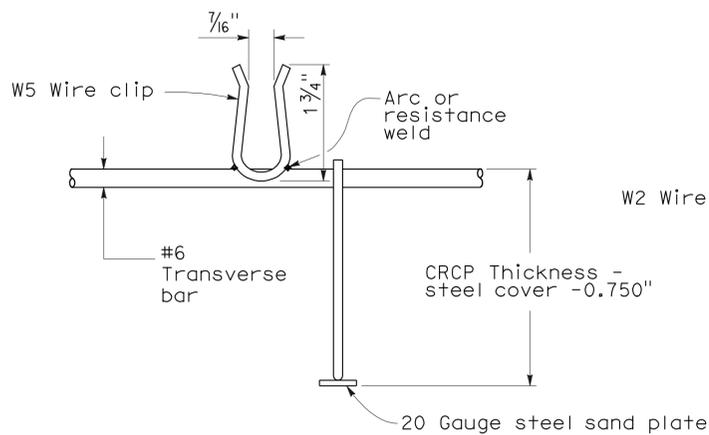
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE

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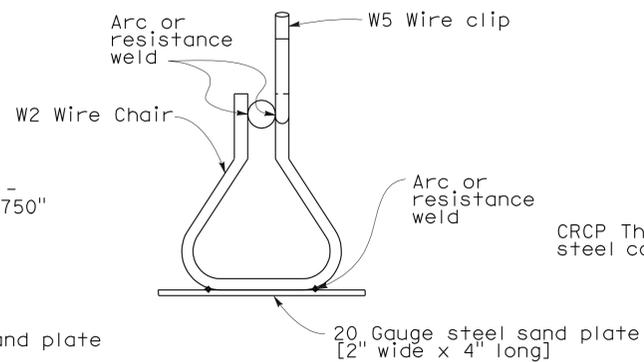
To accompany plans dated 10-11-10



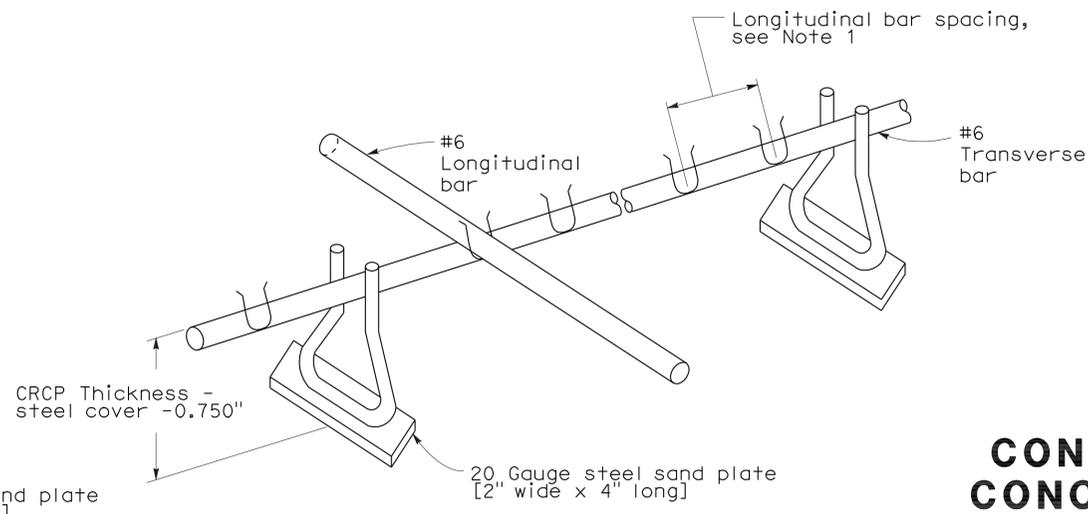
TRANSVERSE BAR ASSEMBLY



#6 BAR CLIP DETAIL



CHAIR DETAIL



ISOMETRIC VIEW OF CHAIR ASSEMBLY

NOTES:

1. See New Standard Plan NSP P4 for spacing of longitudinal bars.
2. Tensile strength of chair shall be at least 50,000 psi.
3. Wire sizes shown are minimum required.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
CONCRETE PAVEMENT-SINGLE
PIECE TRANSVERSE BAR
ASSEMBLY**

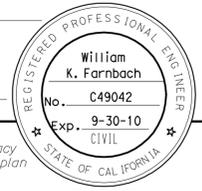
NO SCALE
NSP P13 DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP P13

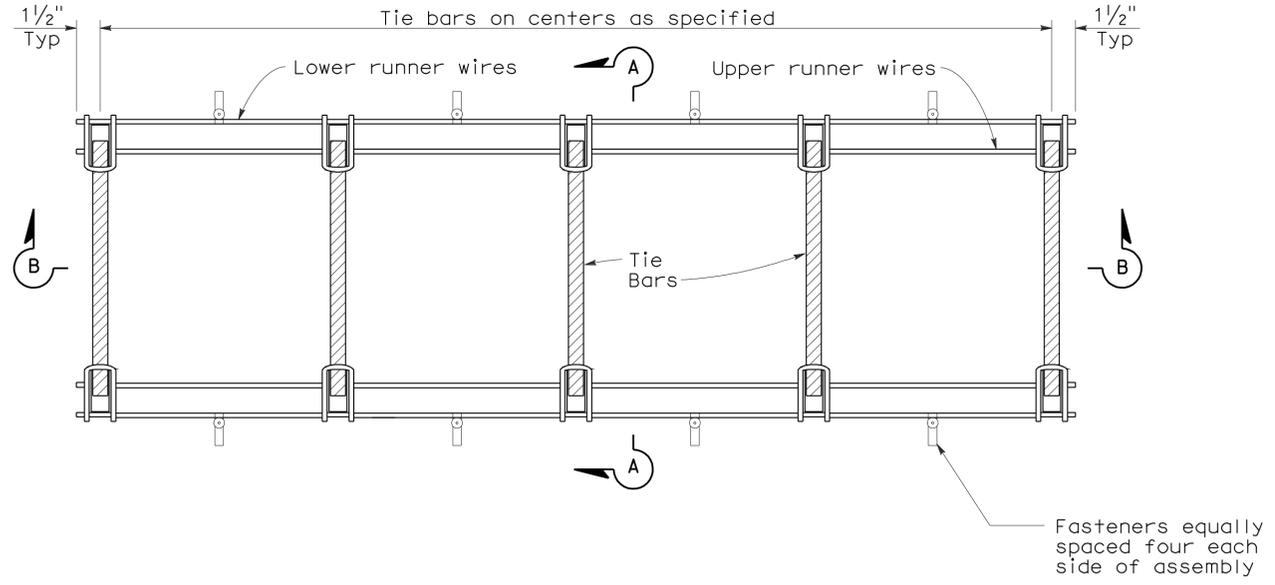
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	763	1132

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE

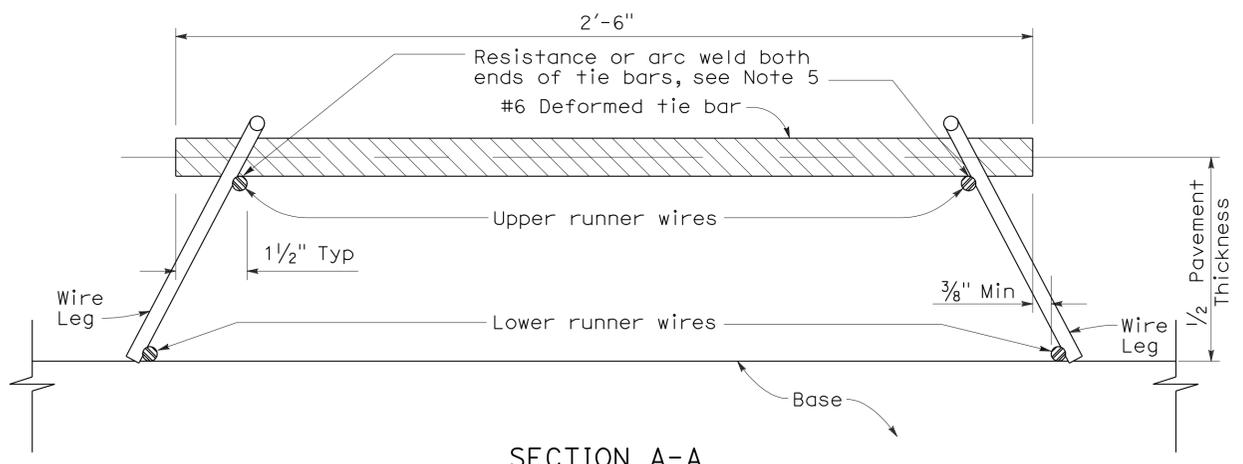
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



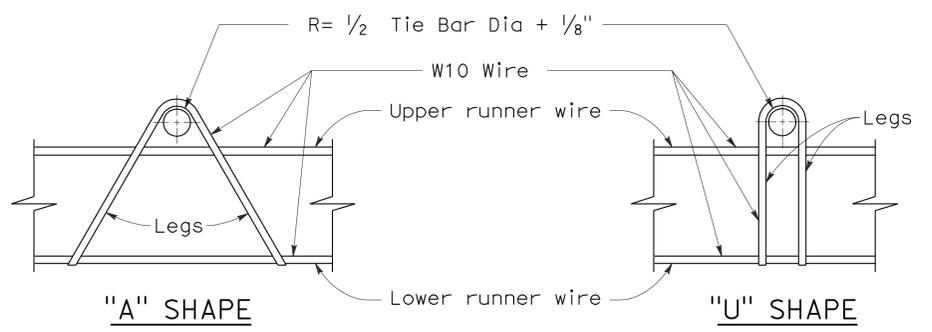
To accompany plans dated 10-11-10



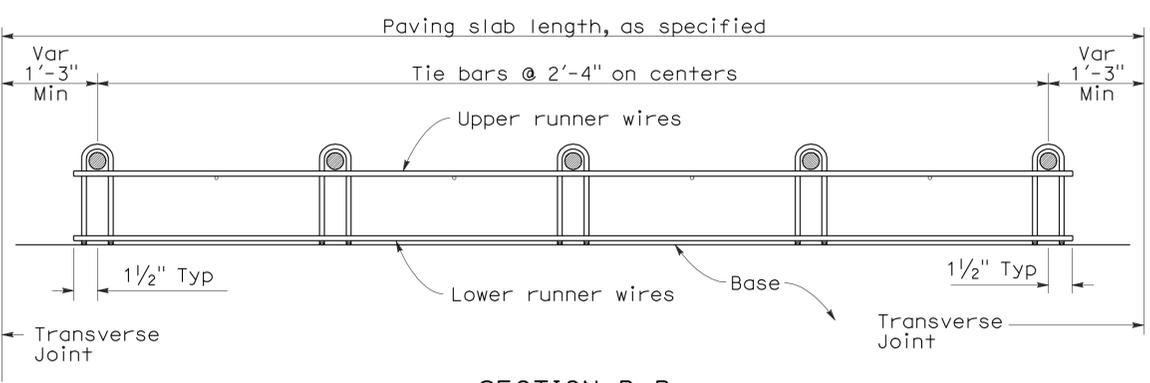
PLAN
TIE BAR BASKET
(TIE BARS AT LONGITUDINAL JOINT)
See Note 1



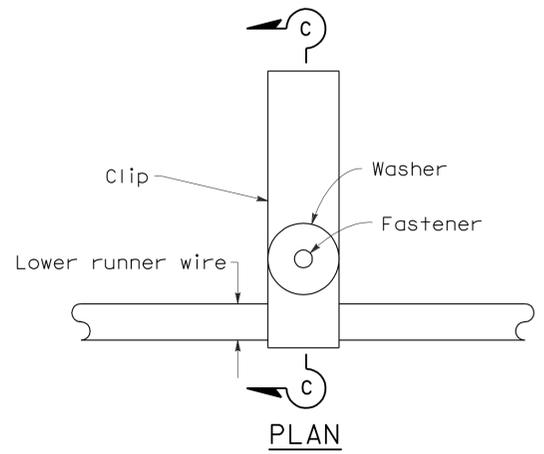
SECTION A-A



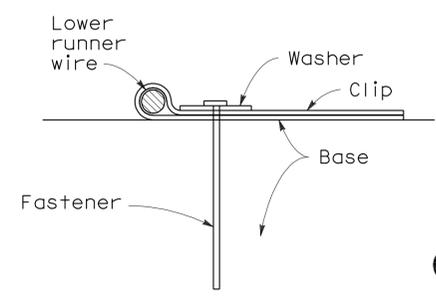
ASSEMBLY FRAME DETAILS



SECTION B-B
See Note 1



PLAN



SECTION C-C

FASTENER DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT -
TIE BAR BASKET
DETAILS**

NO SCALE

NOTES:

- "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
- Wire sizes shown are minimum required.
- All wire intersections are to be resistance welded.
- Not for use on nondoweled skewed jointed plain concrete pavement.
- Weld may be at top or bottom of tie bar.

RSP P17 DATED MAY 15, 2009 SUPERSEDES RSP P17 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P17 DATED MAY 1, 2006 - PAGE 126 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P17

2006 REVISED STANDARD PLAN RSP P17

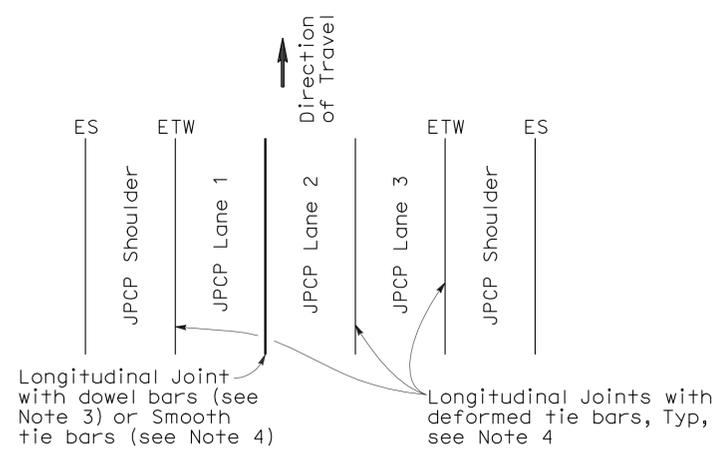
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	764	1132

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE

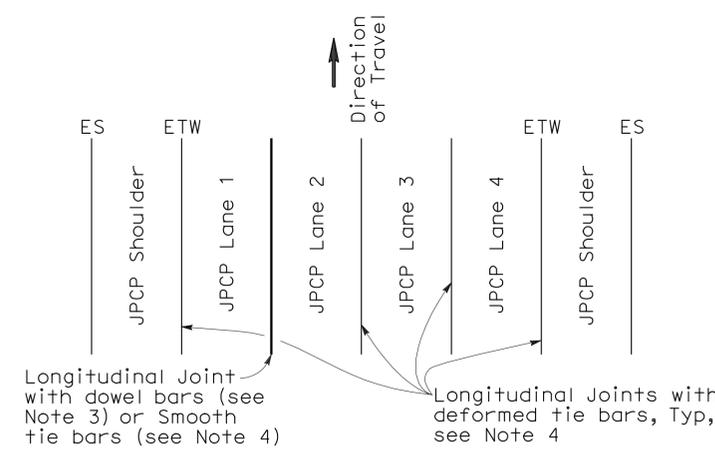
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To accompany plans dated 10-11-10

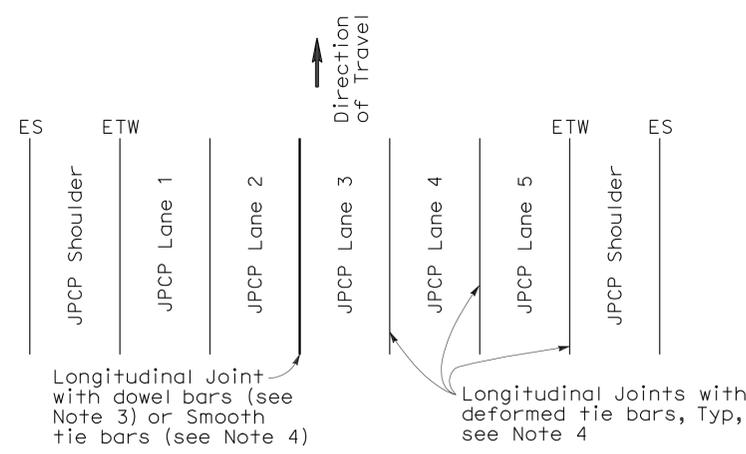
2006 REVISED STANDARD PLAN RSP P18



3 LANES WITH TIED CONCRETE SHOULDERS
PLAN

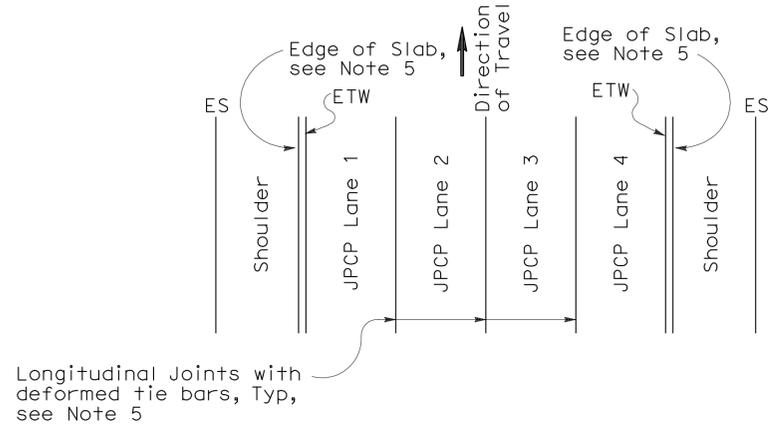


4 LANES WITH TIED CONCRETE SHOULDERS
PLAN

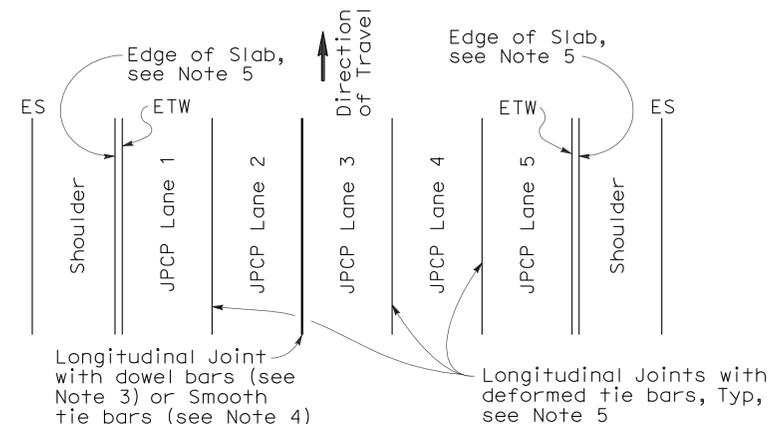


5 LANES WITH TIED CONCRETE SHOULDERS
PLAN

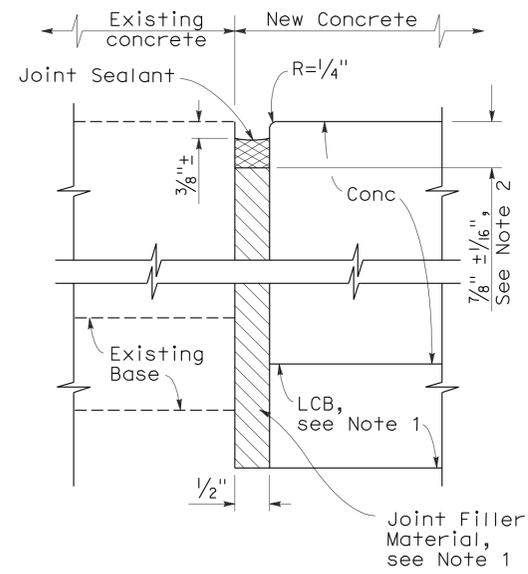
- NOTES:**
- Where Lean Concrete Base is not used as base material, the joint filler material used for the longitudinal isolation joint shall only extend to the bottom of the new concrete slab. See Detail A.
 - Use 5/8" ± 1/16" dimension for silicone sealant.
 - See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
 - See Revised Standard Plan RSP P1.
 - See Revised Standard Plan RSP P2.



4 LANES OR LESS WITH WIDENED SLAB
PLAN

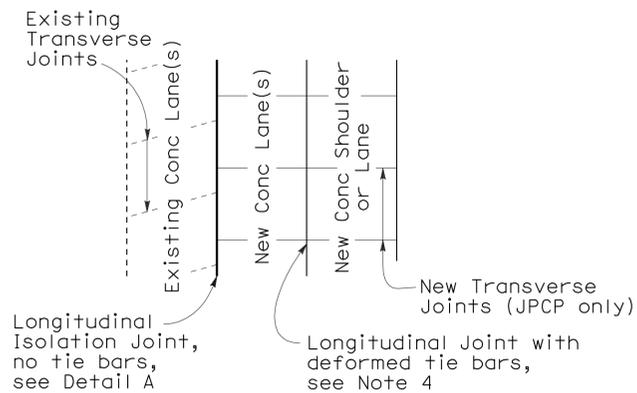


5 LANES WITH WIDENED SLAB
PLAN



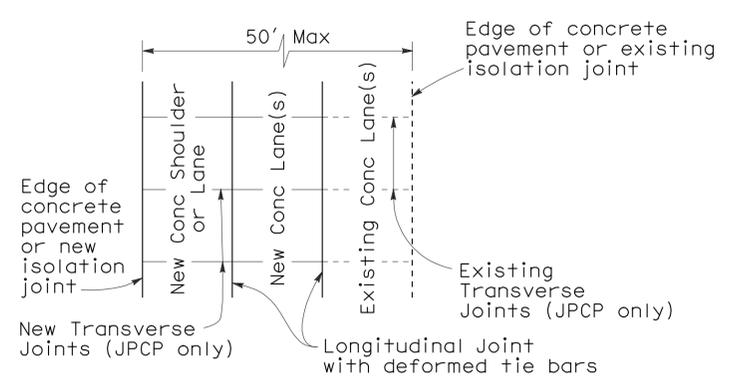
DETAIL A
ISOLATION JOINT

NEW CONSTRUCTION
Location of Longitudinal Joints
(For JPCP)



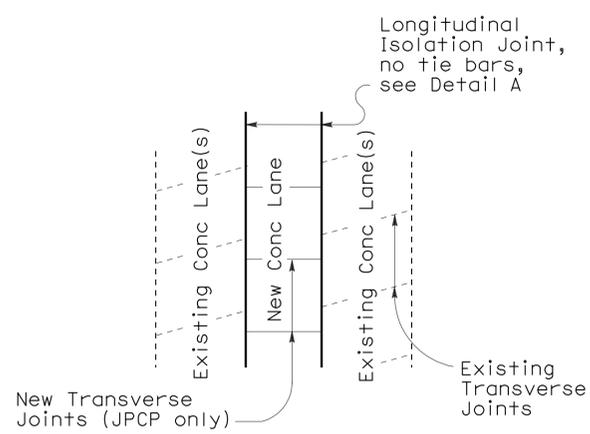
CASE 1
PLAN

Transverse Joints do not align between new and existing



CASE 2
PLAN

Transverse Joints align between new and existing



CASE 3 (INTERIOR LANE REPLACEMENT)
PLAN

Transverse Joints do not align between new and existing

LANE/SHOULDER ADDITION OR RECONSTRUCTION
(For JPCP and CRCP)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
LANE SCHEMATICS
AND ISOLATION JOINT DETAIL**
NO SCALE

RSP P18 DATED JUNE 5, 2009 SUPERSEDES RSP P18 DATED MAY 15, 2009, RSP P18 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P18 DATED MAY 1, 2006 - PAGE 127 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P18

NOTE:

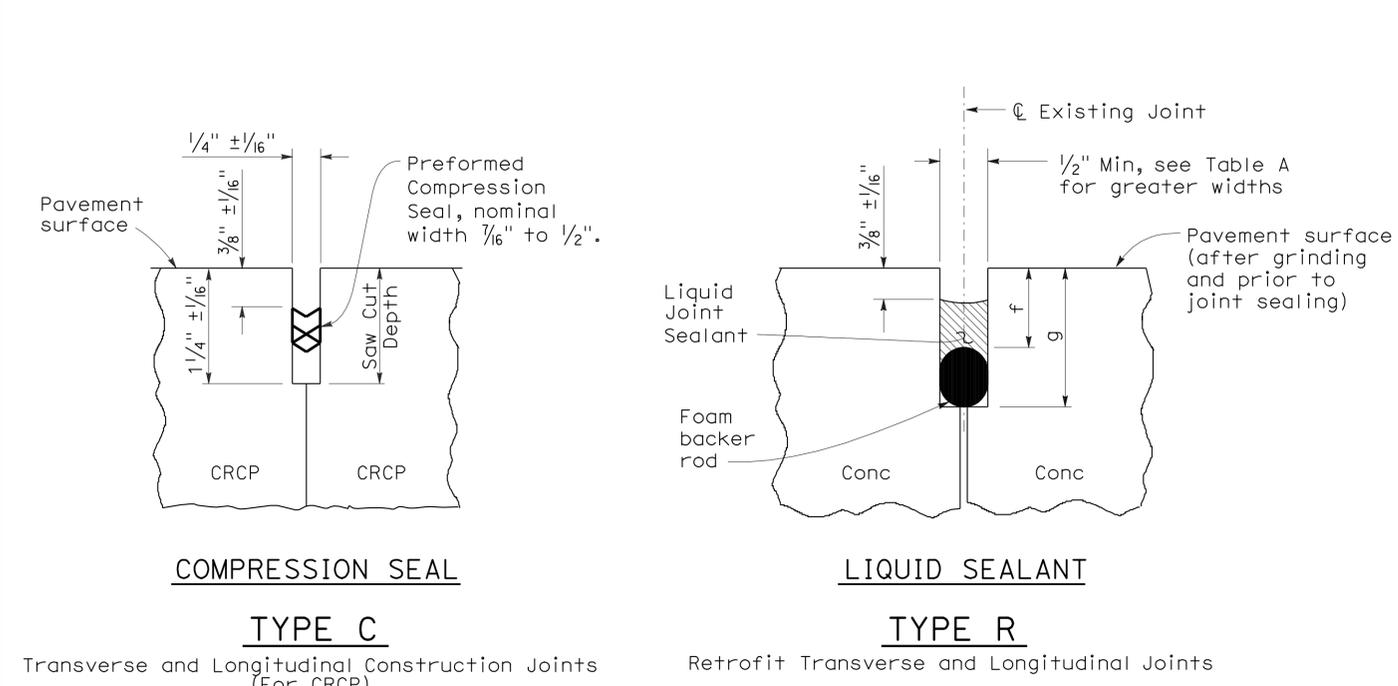
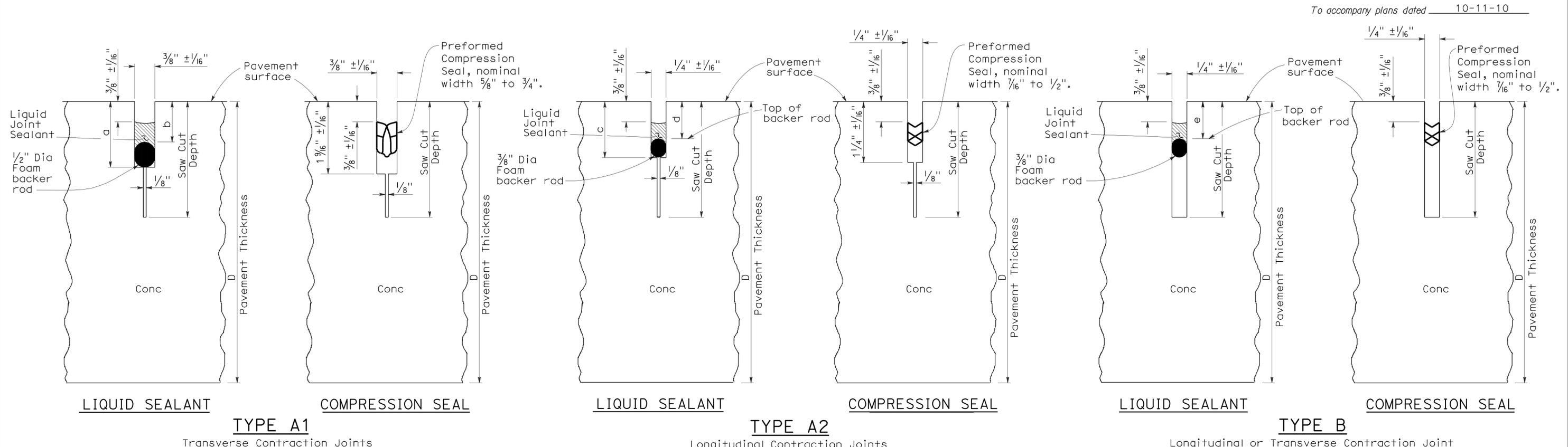
1. Tie bars, dowel bars, and reinforcement are not shown in joint seal details, see Revised Standard Plans RSP P1, RSP P3, RSP P10, RSP P35, RSP P45, or RSP P46 as applicable.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	765	1132

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

May 15, 2009
 PLANS APPROVAL DATE

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LIQUID SEALANT RESERVOIR DEPTH

LIQUID SEALANT MATERIAL	3/8" Joint Width Type A1		1/4" Joint Width Type A2		1/4" Joint Width Type B
	DIMENSION		DIMENSION		DIMENSION
	a	b	c	d	e
SILICONE	1" ± 1/16"	5/8" ± 1/16"	15/16" ± 1/16"	9/16" ± 1/16"	9/16" ± 1/16"
ASPHALT RUBBER	1 3/16" ± 1/16"	3/4" ± 1/16"	1 1/16" ± 1/16"	11/16" ± 1/16"	11/16" ± 1/16"

TABLE A (TYPE R JOINT)

Sawn Joint Width	Backer Rod Diameter ± 1/16"	DIMENSION "f"	DIMENSION "g"
1"	1 5/16"	7/8"	2 1/4"
7/8"	1 3/16"	13/16"	2"
3/4"	1"	3/4"	1 3/4"
5/8"	7/8"	11/16"	1 1/2"
1/2"	11/16"	5/8"	1 1/4"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
 JOINT DETAILS**
 NO SCALE

RSP P20 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P20
 DATED MAY 1, 2006 - PAGE 128 OF THE STANDARD PLANS BOOK DATED MAY 2006.

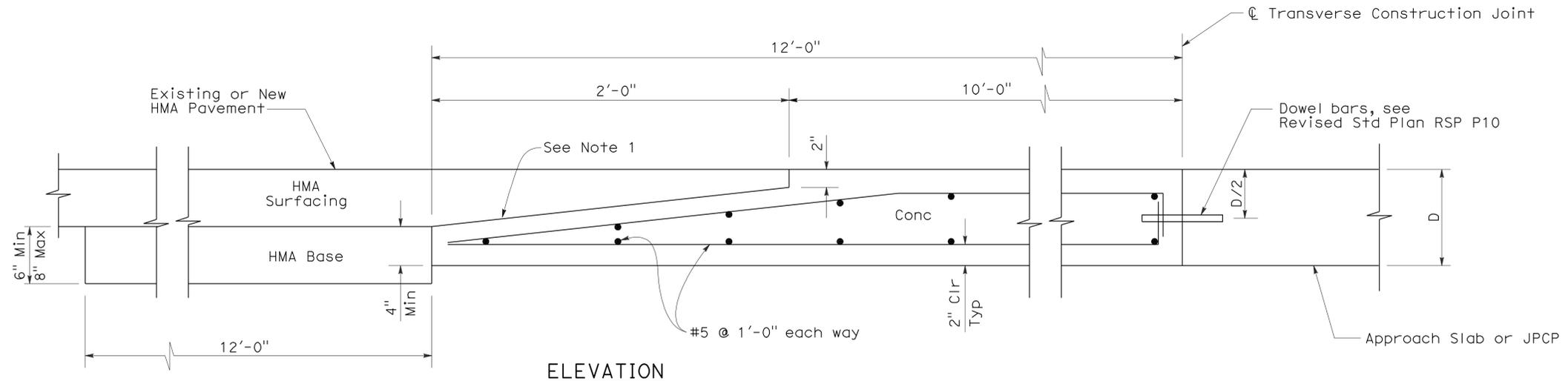
REVISED STANDARD PLAN RSP P20

2006 REVISED STANDARD PLAN RSP P20

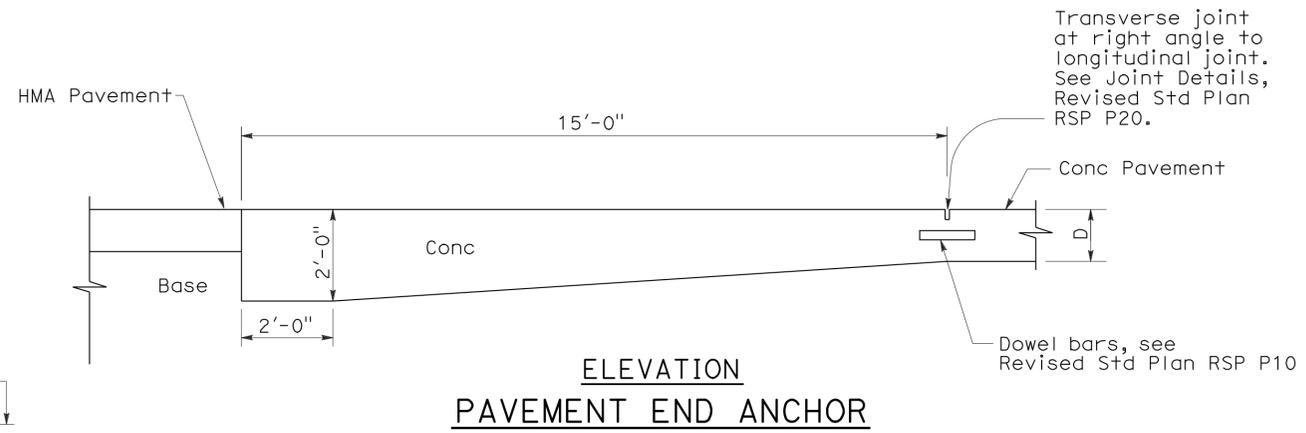
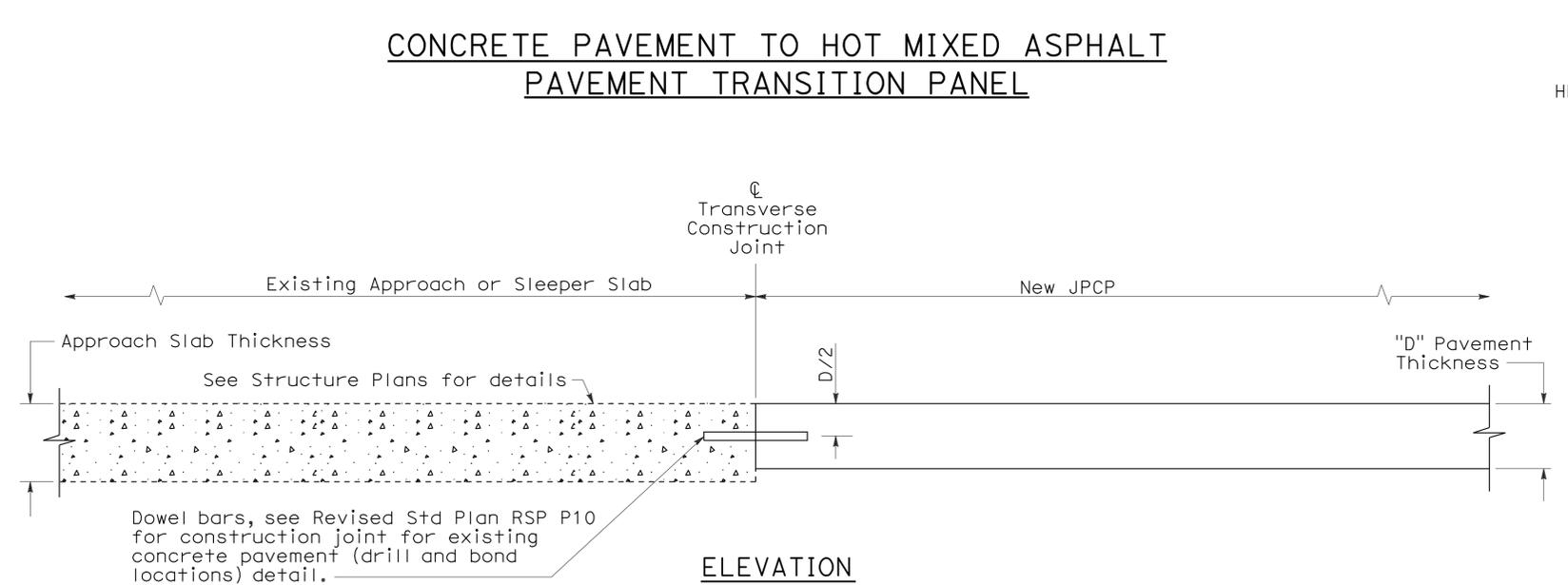
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	766	1132

William K. Farnbach
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 May 15, 2009
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To accompany plans dated 10-11-10

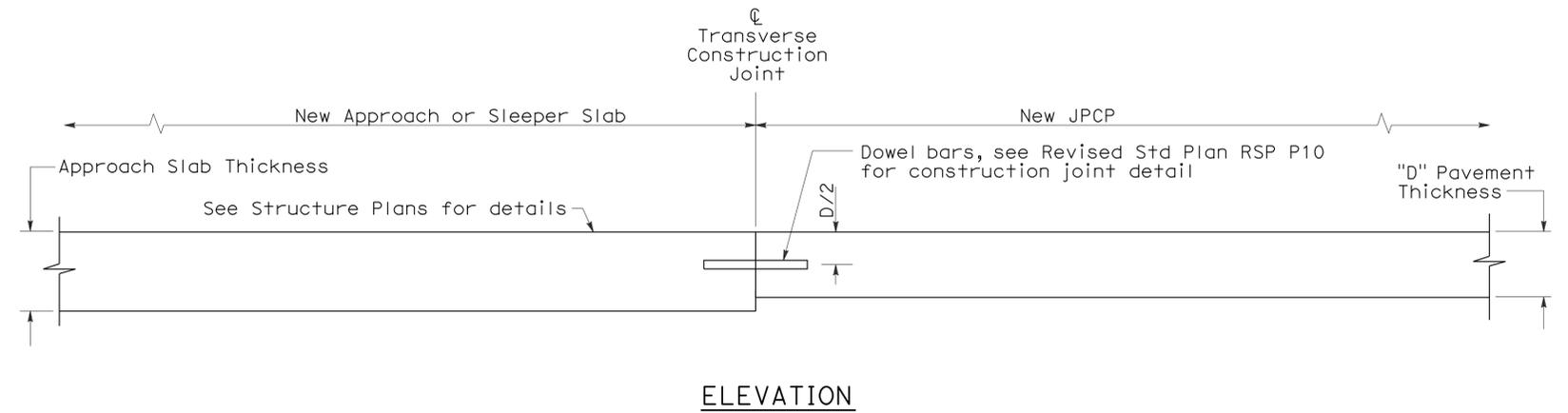


CONCRETE PAVEMENT TO HOT MIXED ASPHALT PAVEMENT TRANSITION PANEL



PAVEMENT END ANCHOR

NOTE:
1. Heavy broom finish.



CONCRETE PAVEMENT TRANSITION TO APPROACH OR SLEEPER SLAB

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**JOINTED PLAIN CONCRETE PAVEMENT-
END PANEL
PAVEMENT TRANSITIONS**
NO SCALE

RSP P30 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P30
DATED MAY 1, 2006 - PAGE 129 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P30

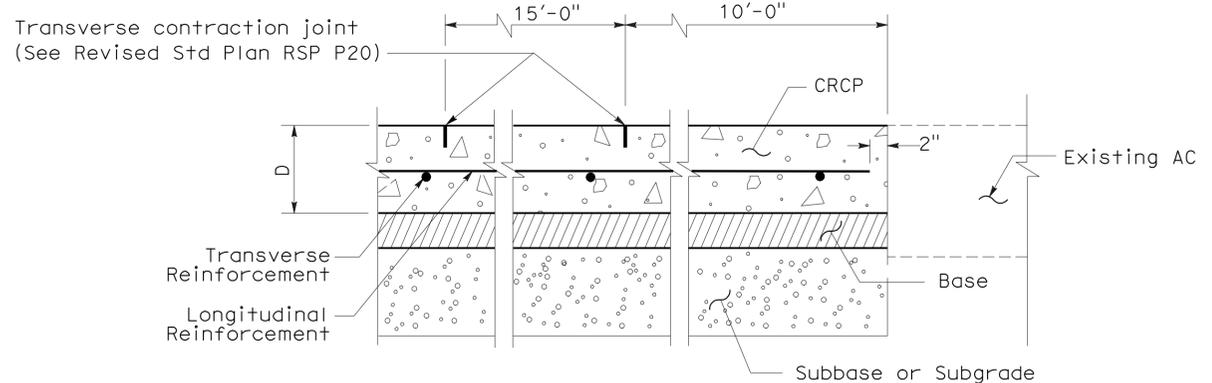
2006 REVISED STANDARD PLAN RSP P30

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	767	1132

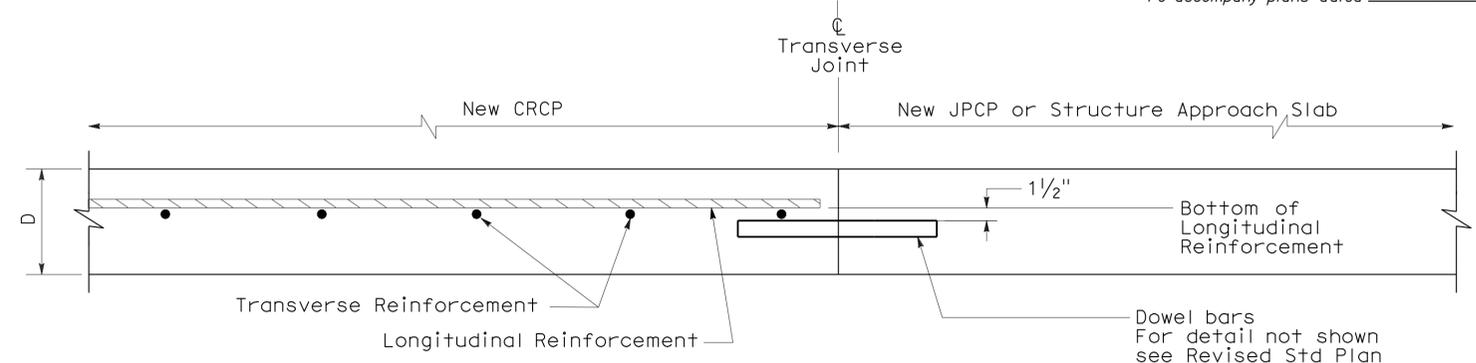
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. 49042
 Exp. 09-30-10
 STATE OF CALIFORNIA

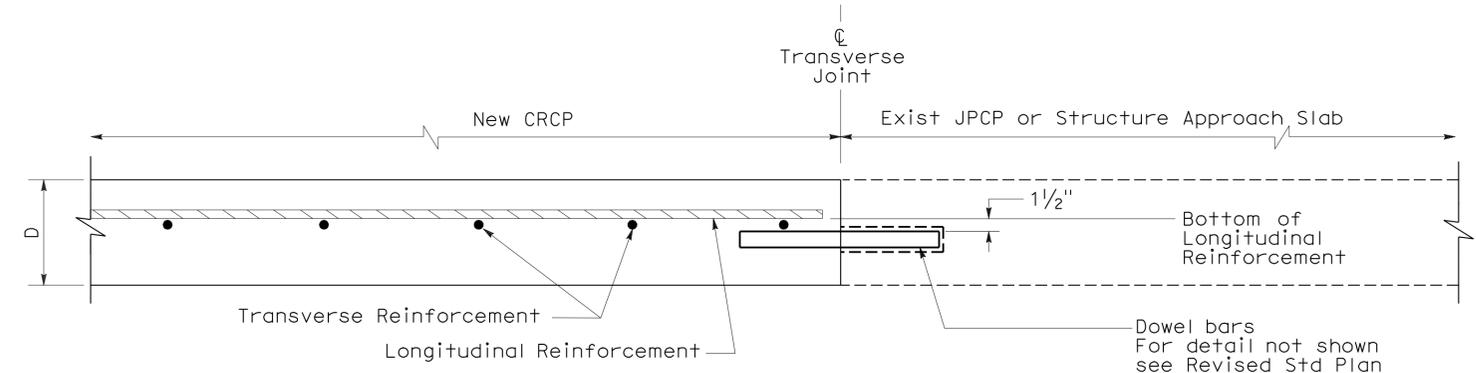
To accompany plans dated 10-11-10



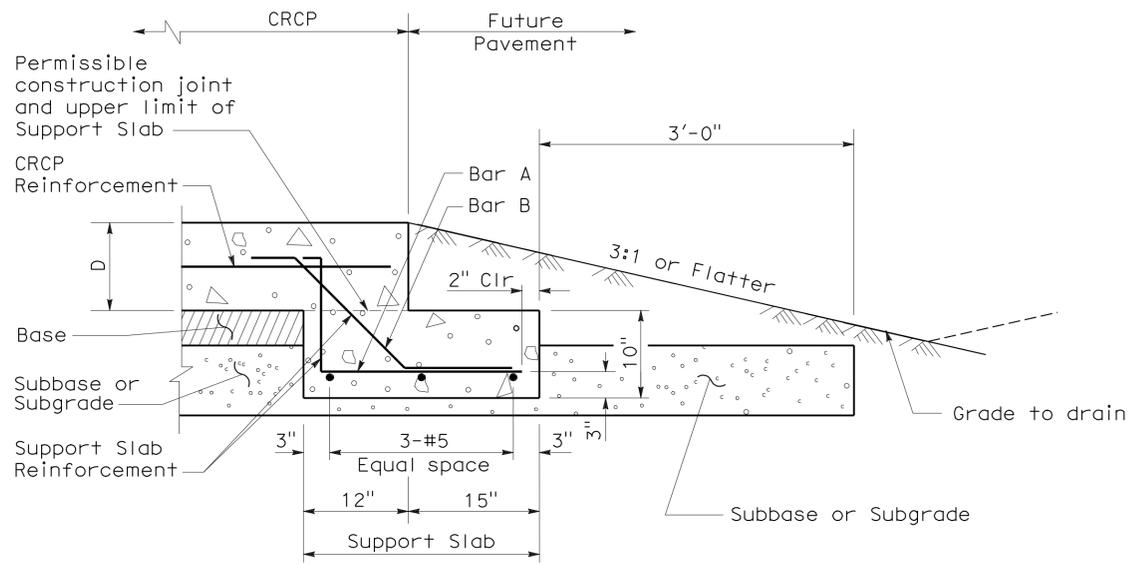
TERMINAL JOINT TYPE A
(For Existing AC)



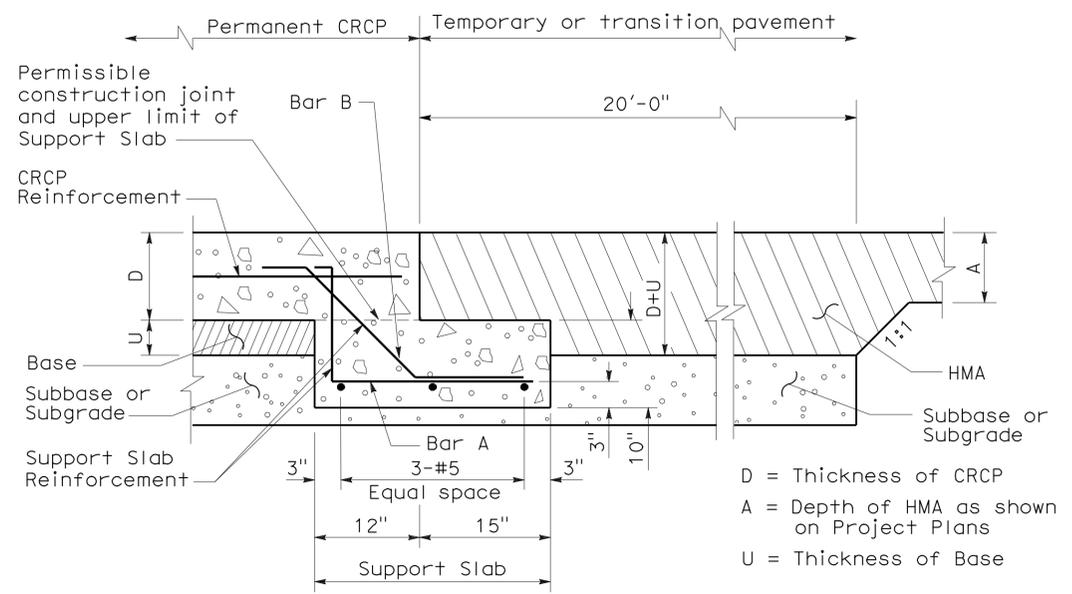
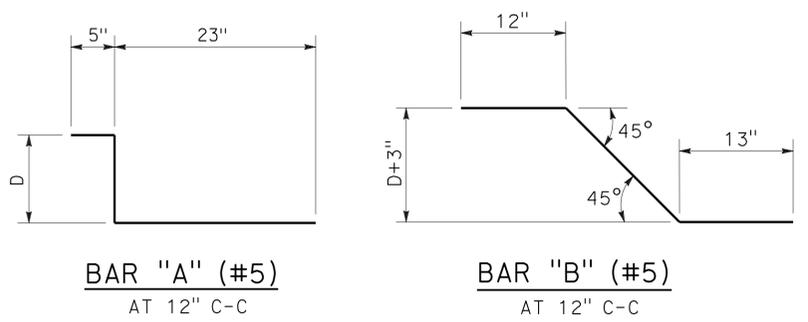
TERMINAL JOINT TYPE E
(For New JPCP or Structure Approach Slabs)



TERMINAL JOINT TYPE D
(For Existing JPCP or Structure Approach Slabs)



TERMINAL JOINT TYPE B
(For Future Pavement)



TERMINAL JOINT TYPE C
(For Temporary HMA Pavement)

D = Thickness of CRCP
 A = Depth of HMA as shown on Project Plans
 U = Thickness of Base

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
 CONCRETE PAVEMENT -
 TERMINAL JOINT DETAILS**

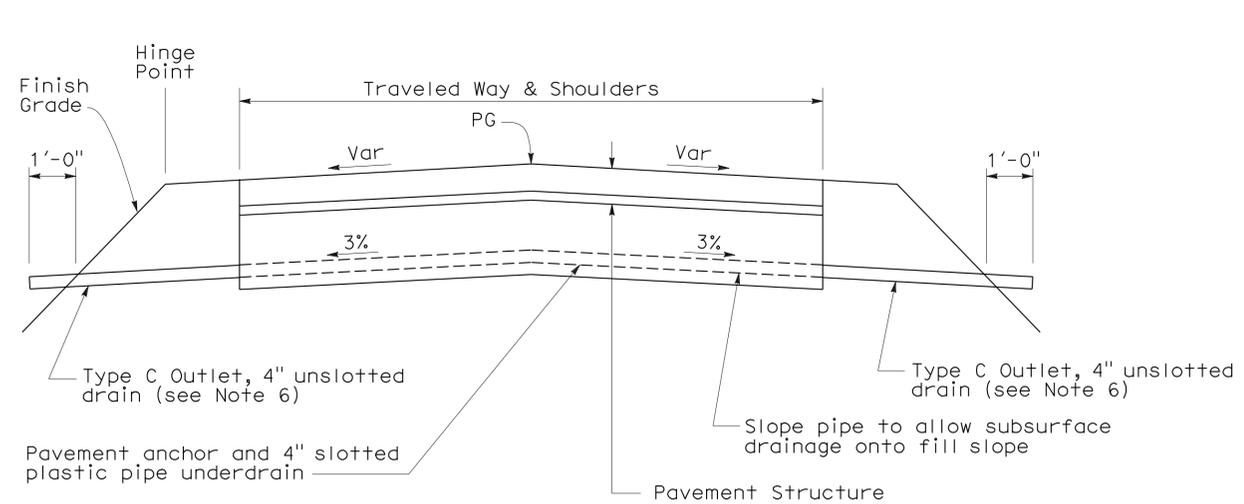
NO SCALE
 NSP P31A DATED JUNE 5, 2009 SUPPLEMENTS THE
 STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP P31A

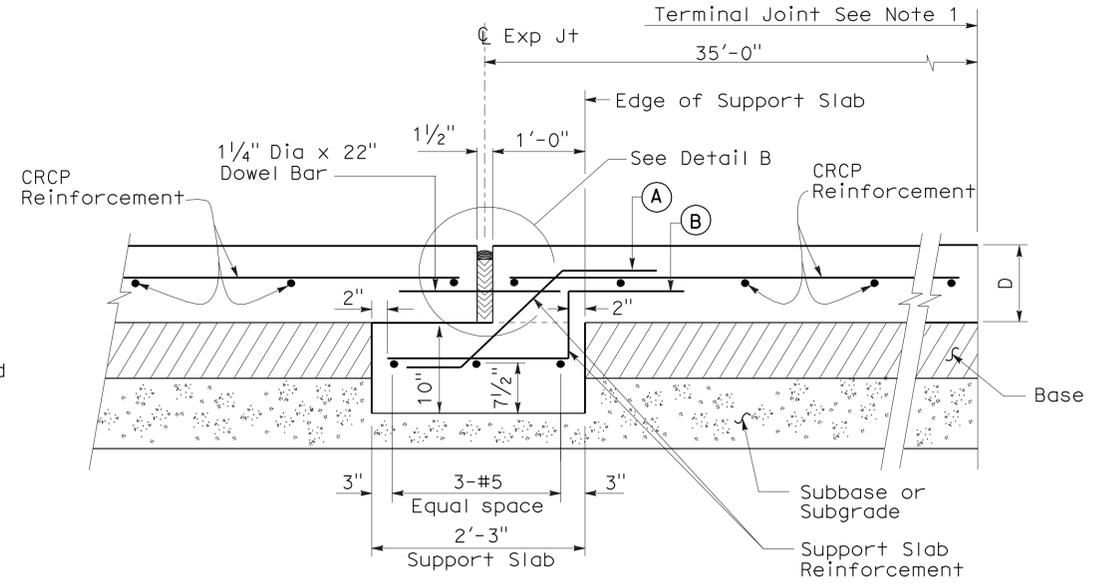
2006 NEW STANDARD PLAN NSP P31A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	768	1132

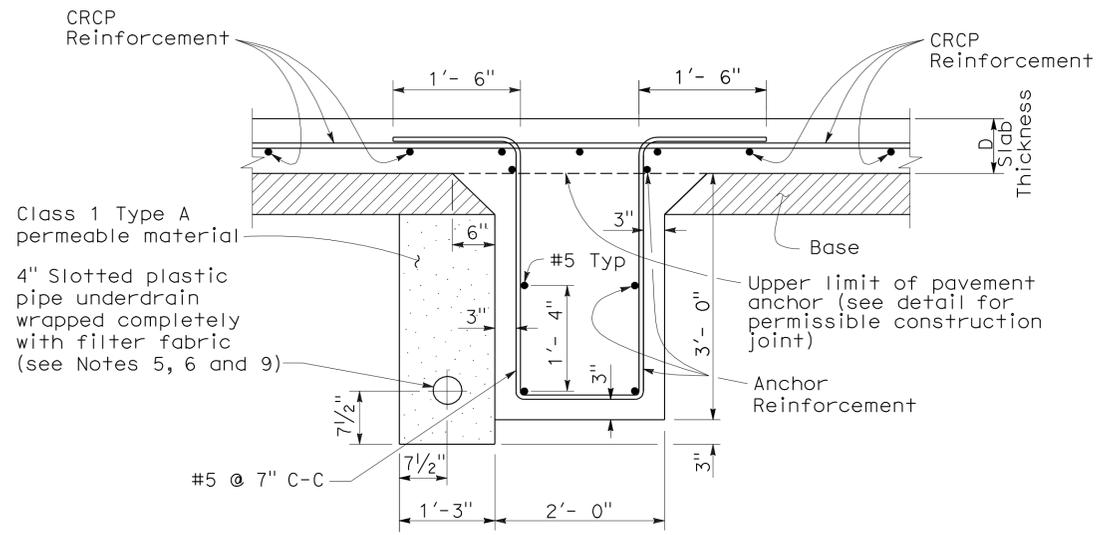
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE
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 REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. 49042
 Exp. 09-30-10
 STATE OF CALIFORNIA



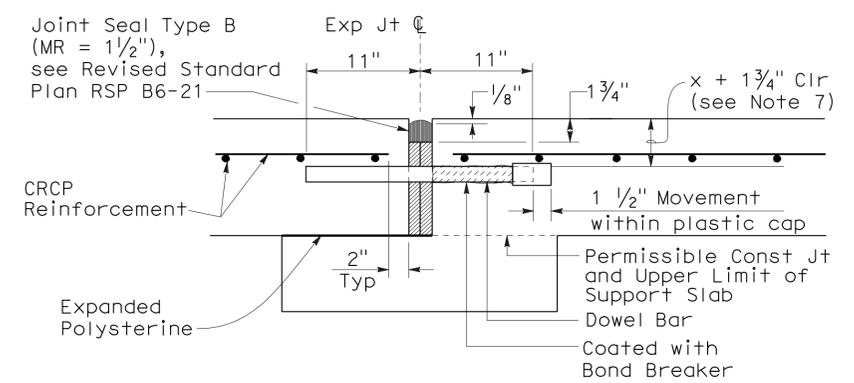
PAVEMENT ANCHOR PROFILE



EXPANSION JOINT TYPE AN



PAVEMENT ANCHOR

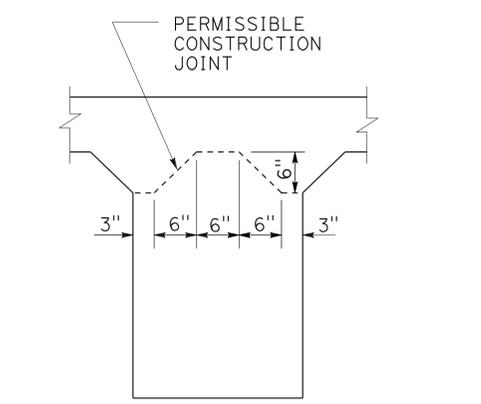


DETAIL B

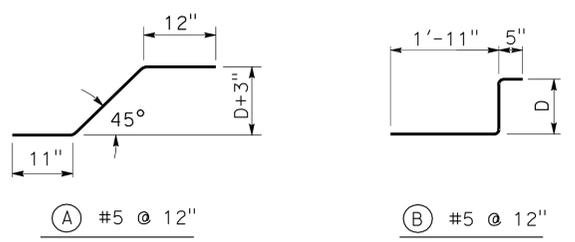
(For layout, tolerances, and other details not shown, see Revised Standard Plan RSP P10.)

NOTES:

1. For the locations of the terminal joints, expansion joints and pavement anchors, see project plans.
2. The CRCP shall continue across the pavement anchor and expansion joints as shown.
3. Details of reinforcement, tie bars, and longitudinal joints (and if necessary, transverse construction joints) are shown on New Standard Plan NSP P4.
4. Transverse construction joints are not allowed within 20'-0" of the pavement anchor.
5. When placing pipe through concrete barrier, use 4" unslotted plastic pipe wrapped completely with 3/8" polystyrene.
6. See Standard Plan D99B for details not shown.
7. See New Standard Plan NSP P4 for "x".
8. D = thickness of CRCP
9. Place the 4" Slotted Plastic Pipe on the high side of the longitudinal grade.



PAVEMENT ANCHOR DETAIL SHOWING PERMISSIBLE CONSTRUCTION JOINT



REINFORCEMENT DETAIL

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CONTINUOUSLY REINFORCED CONCRETE PAVEMENT - EXPANSION JOINT AND ANCHOR DETAILS

NO SCALE
 NSP P31B DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP P31B

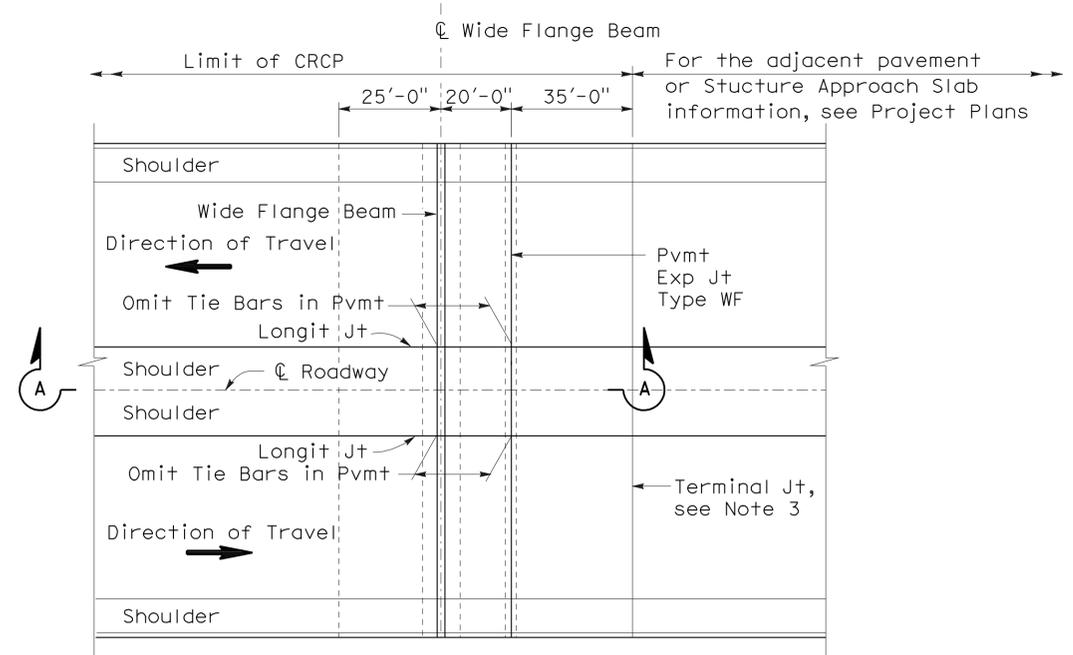
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	769	1132

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. 49042
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

June 5, 2009
 PLANS APPROVAL DATE

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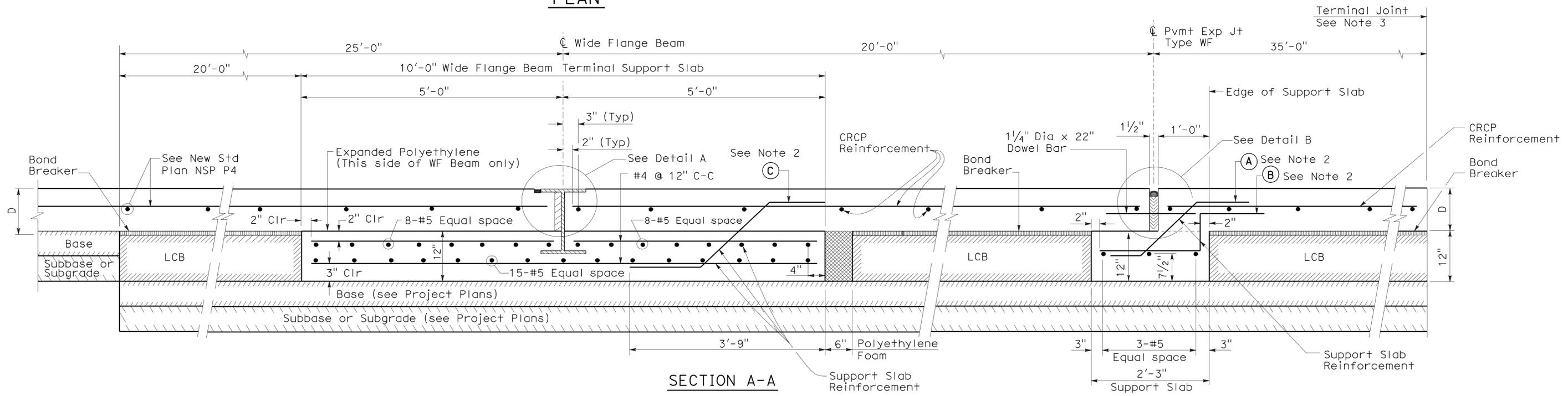
To accompany plans dated 10-11-10



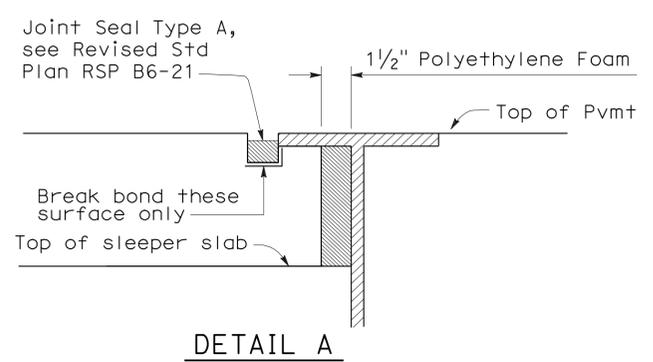
PLAN

NOTES:

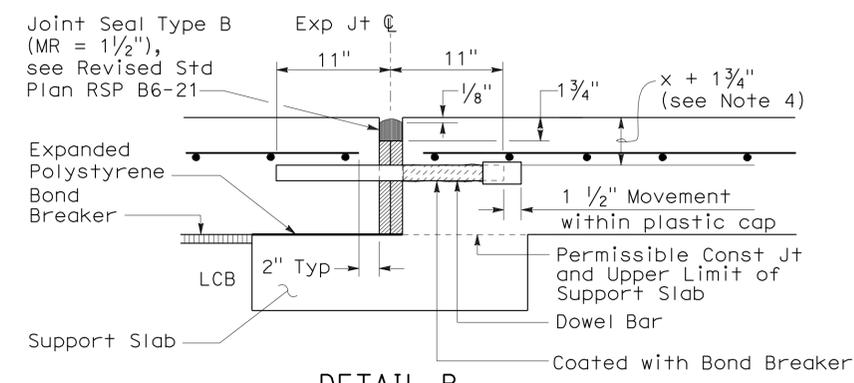
- For additional details on reinforcement member quantities of the wide flange beam terminal and Pavement Expansion Joint Type WF, see New Standard Plan NSP P32B.
 - For reinforcement (A), (B), and (C) Details, see New Standard Plan NSP P32B.
 - For the Pavement Terminal Joint Details, see New Standard Plan NSP P31A. For Pavement Terminal Joint Type, see Project Plans.
 - See New Standard Plan NSP P4 for "x".
- D = Thickness of CRCP



SECTION A-A



DETAIL A



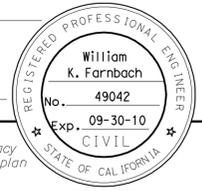
DETAIL B

(For layout, tolerances, and other details not shown see Revised Std Plan RSP P10.)

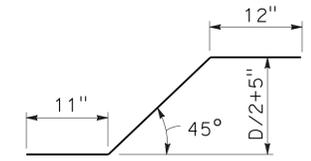
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONTINUOUSLY REINFORCED
 CONCRETE PAVEMENT -
 WIDE FLANGE BEAM TERMINALS**
 NO SCALE
 NSP P32A DATED JUNE 5, 2009 SUPPLEMENTS
 THE STANDARD PLANS BOOK DATED MAY 2006

NEW STANDARD PLAN NSP P32A

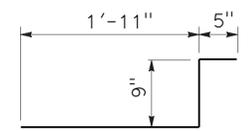
2006 NEW STANDARD PLAN NSP P32A



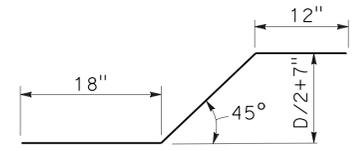
To accompany plans dated 10-11-10



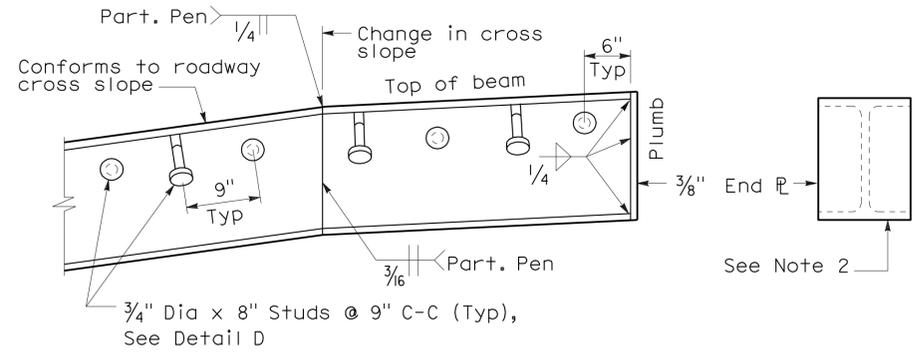
(A) #5 @ 12"



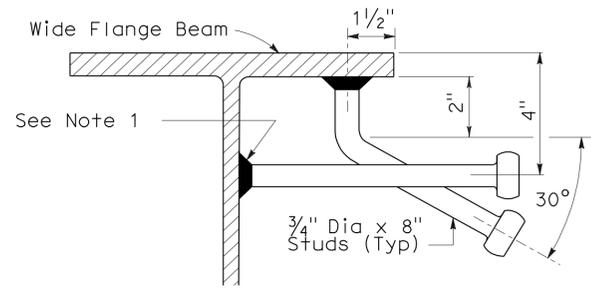
(B) #5 @ 12"



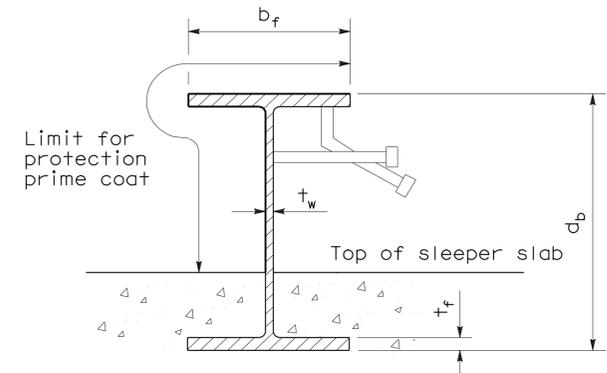
(C) #4 @ 12"



WIDE FLANGE DETAIL



DETAIL D



WIDE FLANGE PAINTING DETAIL

SEE "TABLE OF BEAM SIZES"

LEGEND:

- b_f - flange width
- t_f - flange thickness
- t_w - web thickness
- d_b - beam depth

NOTES:

- Studs shall be electric arc end welded with complete fusion. Any stud which is dislodged in shipping or can be dislodged by hammer shall be replaced.
- Weld 3/8" Plate to each end of wide flange beam at pavement edges only. End plate covers entire wide flange beam.

CONCRETE AND STEEL QUANTITIES

ITEM	PAVEMENT THICKNESS						
	.80'	.85'	.90'	.95'	1.00'	1.05'	1.10'
Wide Flange Beam Concrete	4.81CY						
Terminal Slab Reinforcing Steel	552.2 LBS	552.4 LBS	552.6 LBS	552.8 LBS	553.0 LBS	553.1 LBS	553.3 LBS
Exp Joint Type Concrete	1.1 CY						
WF Support Slab Reinforcing Steel	99.9 LBS	100.2 LBS	100.5 LBS	100.8 LBS	101.1 LBS	101.1 LBS	101.6 LBS
Steel Beam (Weight of Wide Flange Beam and Studs)	69.51 LBS/LF +2 PLATES @ 14.87 LBS EA	90.51 LBS/LF +2 PLATES @ 18.46 LBS EA	90.51 LBS/LF +2 PLATES @ 18.46 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA	98.51 LBS/LF +2 PLATES @ 22.01 LBS EA

TABLE OF BEAM SIZES

PAVEMENT THICKNESS	WIDE FLANGE BEAM DESIGNATION	d _b	b _f	t _f	t _w
.80'	W14 X 68	14.04"	10.04"	0.72"	0.42"
.85'	W16 X 89	16.75"	10.37"	0.88"	0.53"
.90'	W16 X 89	16.75"	10.37"	0.88"	0.53"
.95'	W18 X 97	18.59"	11.15"	0.87"	0.54"
1.00'	W18 X 97	18.59"	11.15"	0.87"	0.54"
1.05'	W18 X 97	18.59"	11.15"	0.87"	0.54"
1.10'	W18 X 97	18.59"	11.15"	0.87"	0.54"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONTINUOUSLY REINFORCED
CONCRETE PAVEMENT -
WIDE FLANGE BEAM TERMINALS**

NO SCALE

NSP P32B DATED JUNE 5, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006

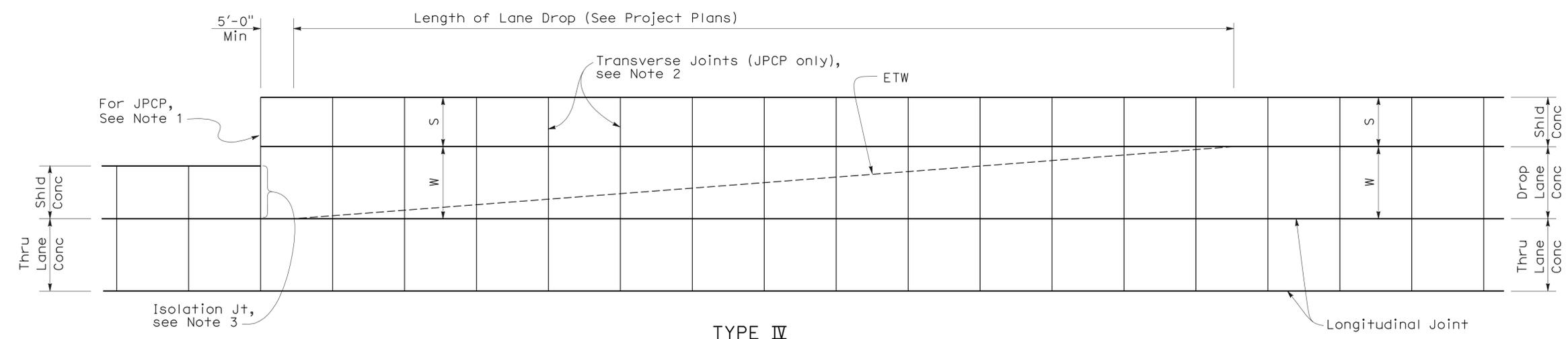
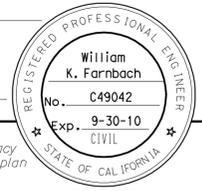
2006 NEW STANDARD PLAN NSP P32B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	771	1132

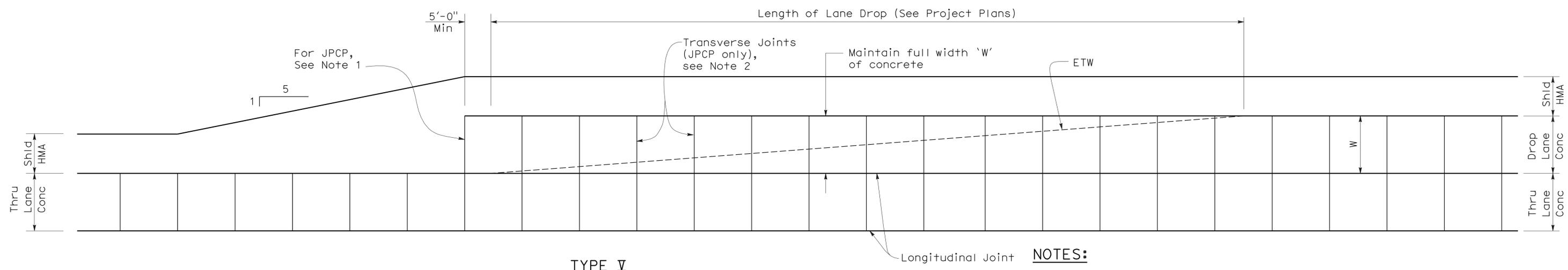
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE

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To accompany plans dated 10-11-10

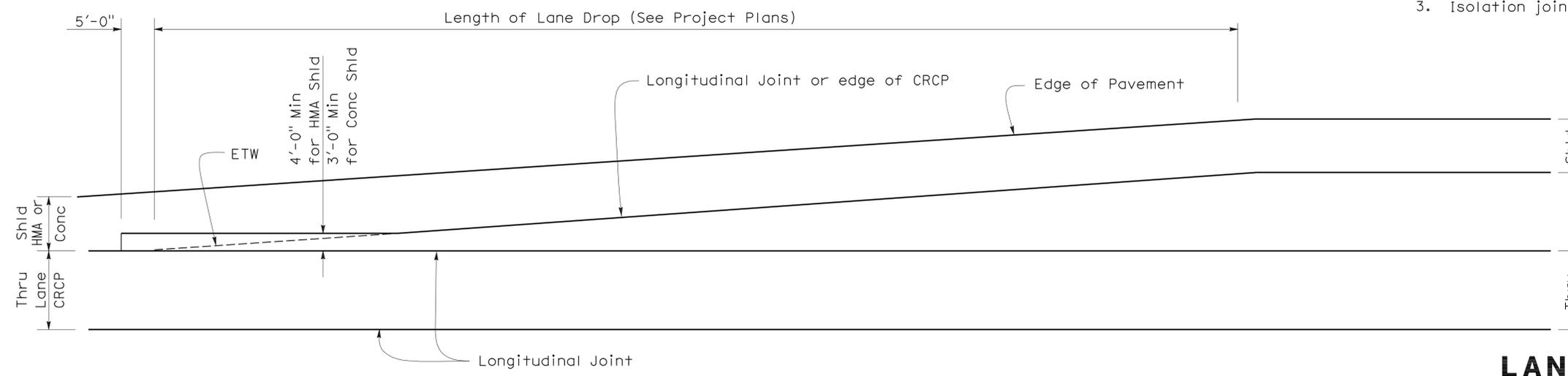


TYPE IV
JOINED PLAIN AND CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
 (See Revised Std Plans RSP P1, RSP P2, or New Std Plan NSP P4 for details not shown)



TYPE V
JOINED PLAIN AND CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
 (See Revised Std Plans RSP P1, RSP P2, or New Std Plan NSP P4 for details not shown)

- NOTES:**
1. Location of transverse joint to match transverse joint of adjacent lane.
 2. Place transverse joint of lane and shoulder perpendicular to longitudinal joint of through lane.
 3. Isolation joint detail shown on Revised Standard Plan RSP P18.



TYPE VI
CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
 (See New Std Plan NSP P4 for details not shown)

LEGEND

S - Shoulder width
W - Lane width

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT -
LANE DROP PAVING DETAILS No. 2
 NO SCALE
 NSP P34 DATED MAY 15, 2009 SUPPLEMENTS THE
 STANDARD PLANS BOOK DATED MAY 2006.
NEW STANDARD PLAN NSP P34

2006 NEW STANDARD PLAN NSP P34

NOTES:

1. Details for gore area paving are applicable to both exit and entrance ramps.
2. Transverse Joint Layouts are not shown. Refer to Revised Standard Plan RSP P1 or Project Plans for details regarding joint layouts, tie bars, and dowel bars not shown.
3. WWF 4 x 4 - W4.0 x W4.0 can be used in place of steel reinforcement for gore area paving only.
4. Omit longitudinal joint when concrete on ramp shoulder is less than 3'-0".
5. Place joint perpendicular to ramp longitudinal joints. Match location of joint with ramp transverse joints.
6. Place joint perpendicular to ramp longitudinal joints. Match location of joint with mainline transverse joints.
7. Isolation joint detail shown on Revised Standard Plan RSP P18.
8. For jointed plain concrete pavement, transverse joints to be spaced from fixed transverse joint and shall follow spacing pattern on Revised Standard Plan RSP P1. Minimum spacing shall be 6 feet.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	772	1132

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. C49042
 Exp. 9-30-10
 STATE OF CALIFORNIA

May 15, 2009
 PLANS APPROVAL DATE

To accompany plans dated 10-11-10

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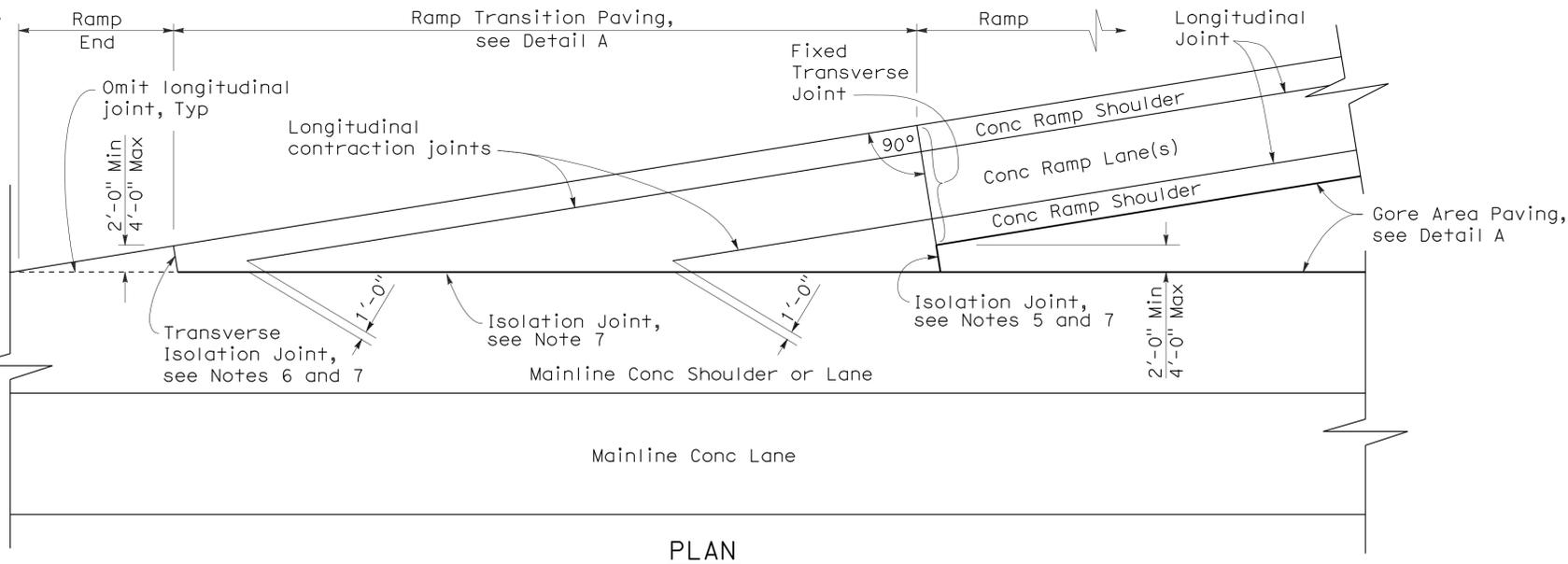
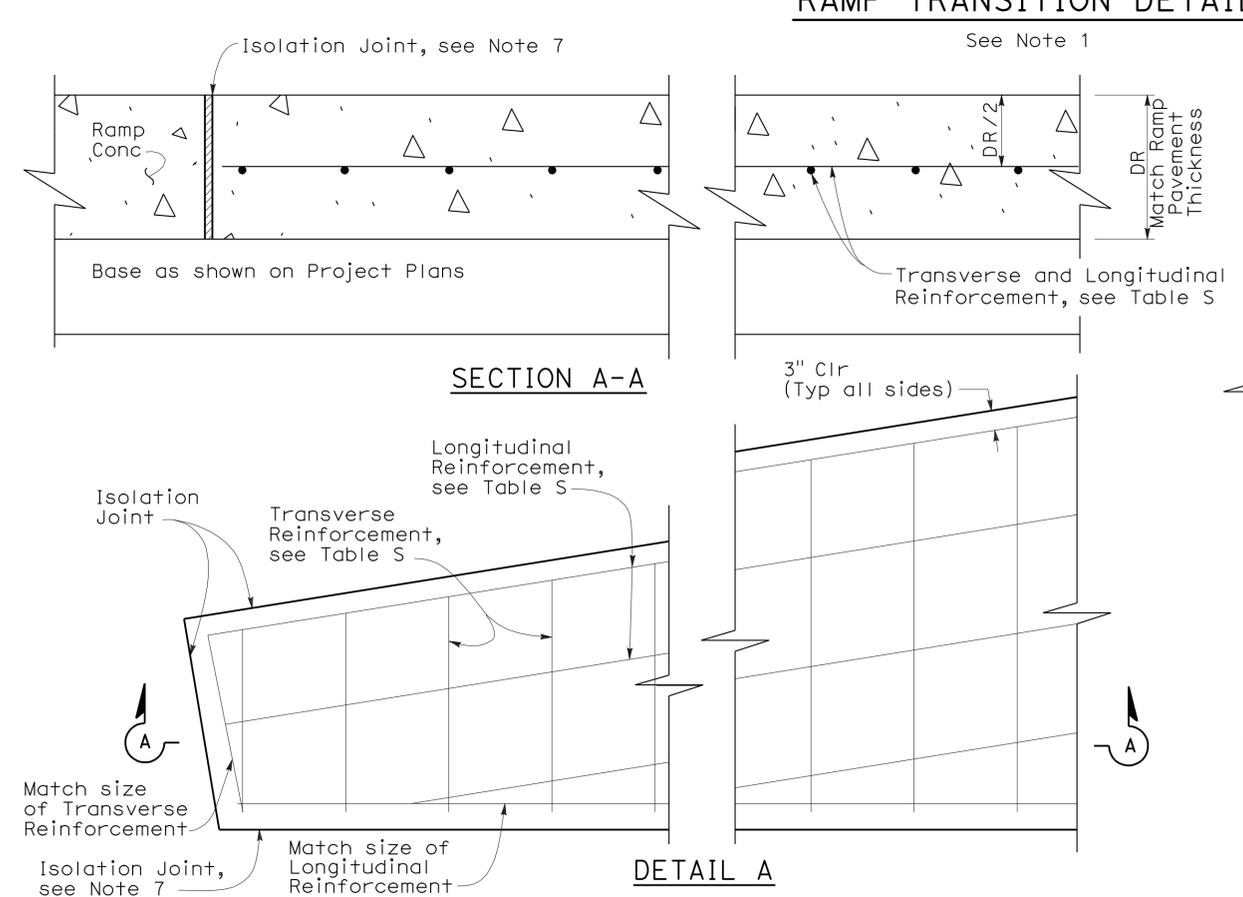
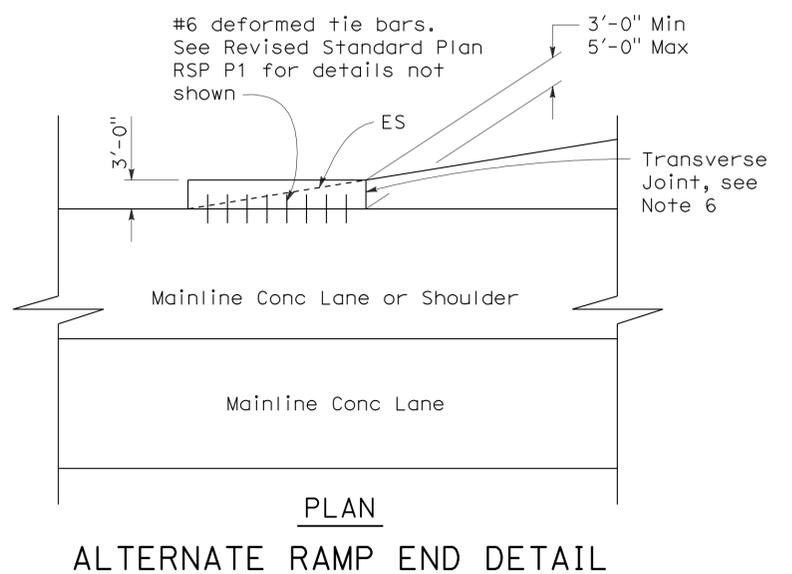
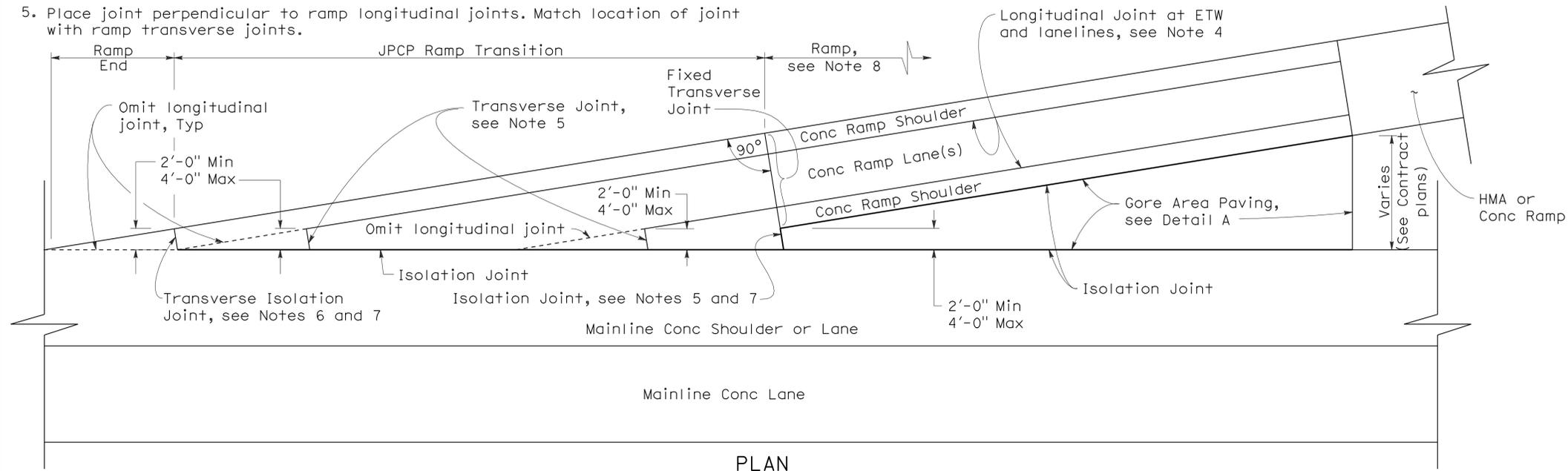


TABLE S
(For JPCP and CRCP)

Location	Transverse Reinf	Longitudinal Reinf
Gore Area Paving	#4 @ 1'-0" *	#4 @ 1'-0" *
Ramp Transition (JPCP)	#6 @ 1'-6"	#6 @ 9"
Ramp Transition (CRCP)	See NSP P4, Table No. 2	See NSP P4, Table No. 1

* See Note 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

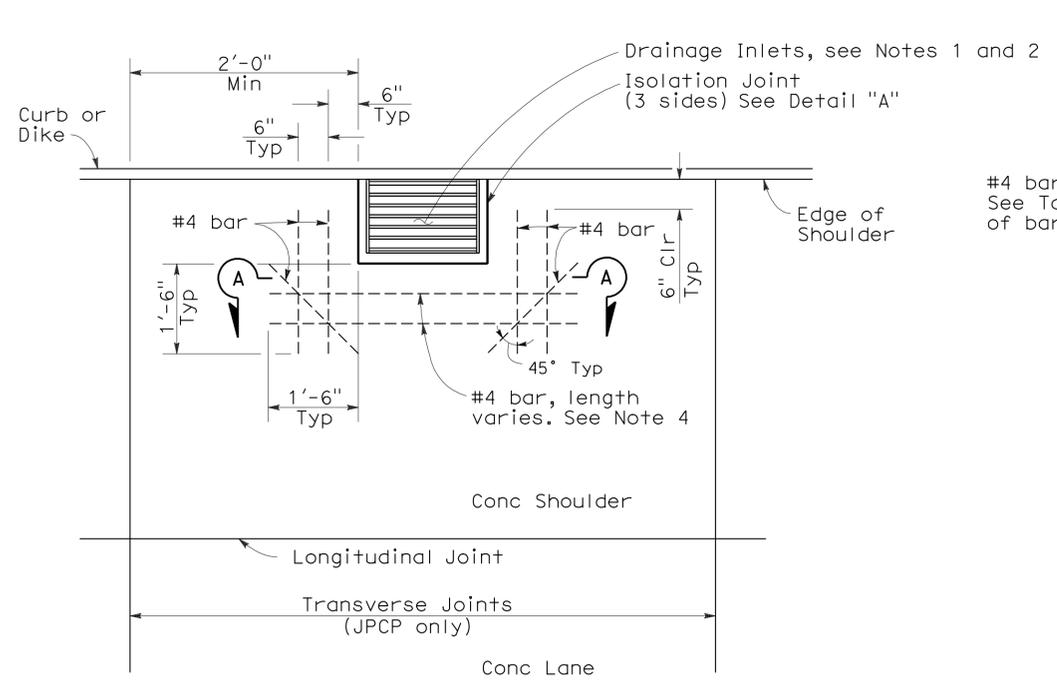
**CONCRETE PAVEMENT-
RAMP TRANSITION
PAVING DETAILS**

NO SCALE

RSP P35 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P35
DATED MAY 1, 2006 - PAGE 131 OF THE STANDARD PLANS BOOK DATED MAY 2006.

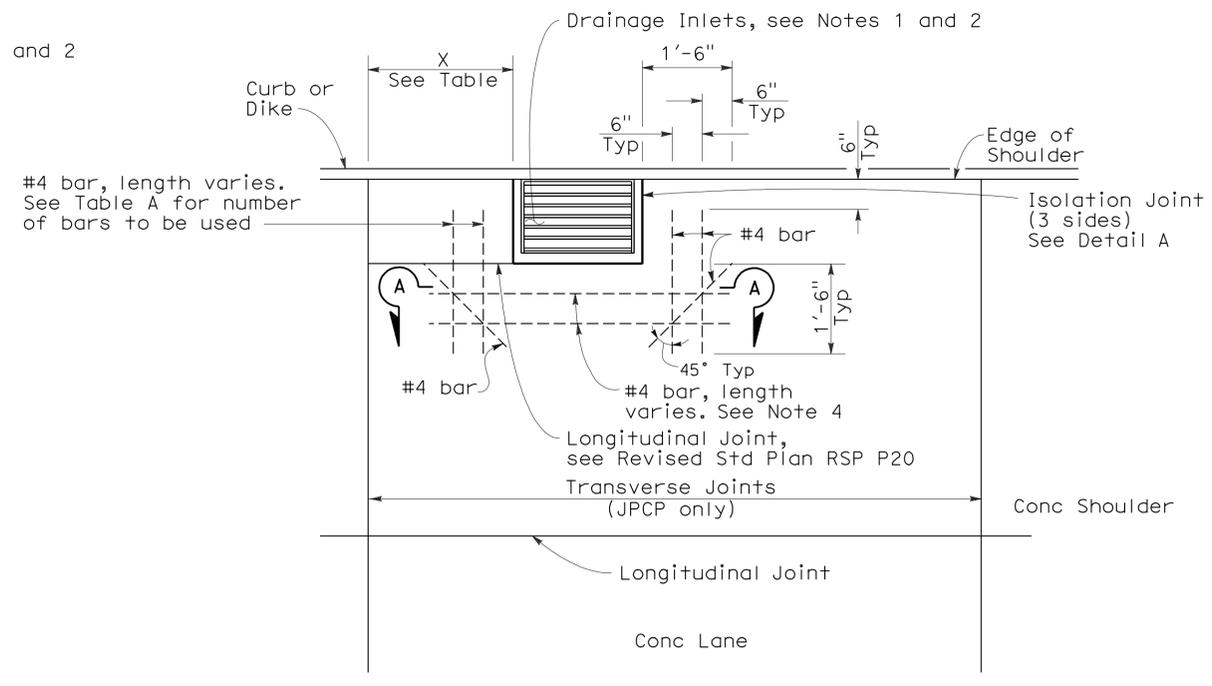
REVISED STANDARD PLAN RSP P35

2006 REVISED STANDARD PLAN RSP P35



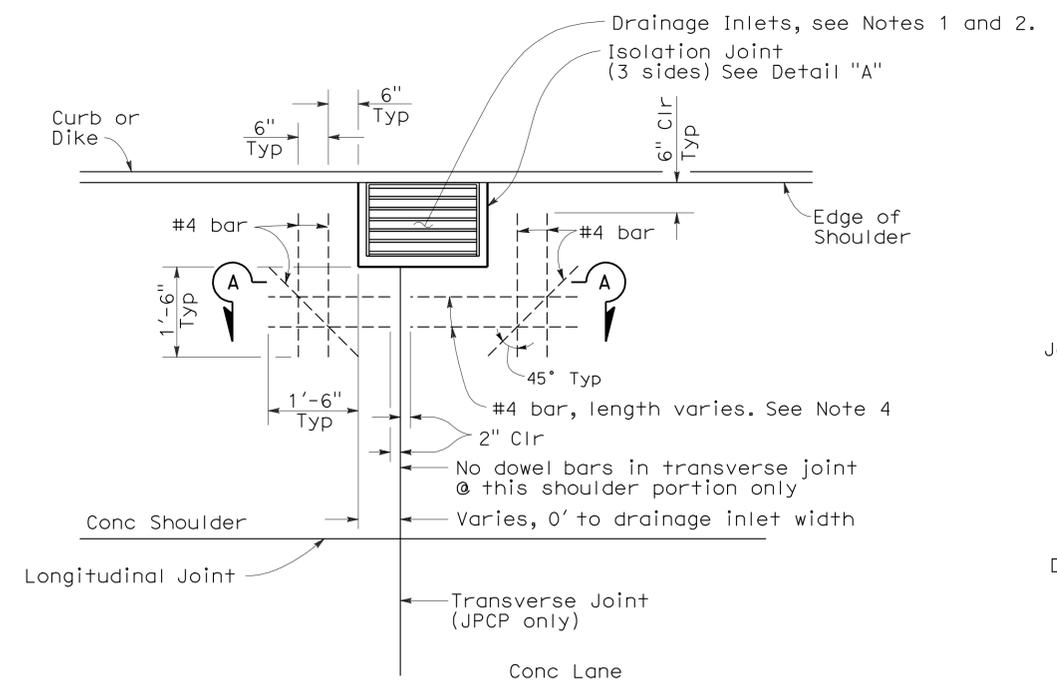
CASE 1

Transverse joint more than 2'-0" clear of drainage inlet wall or no transverse joint



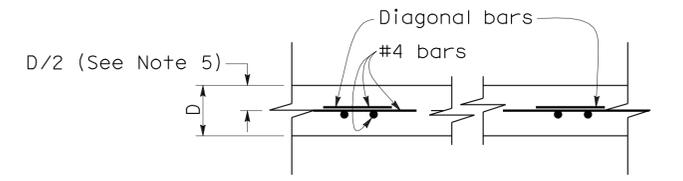
CASE 3

Transverse joint within 2'-0" of drainage inlet wall, or matches drainage inlet wall.

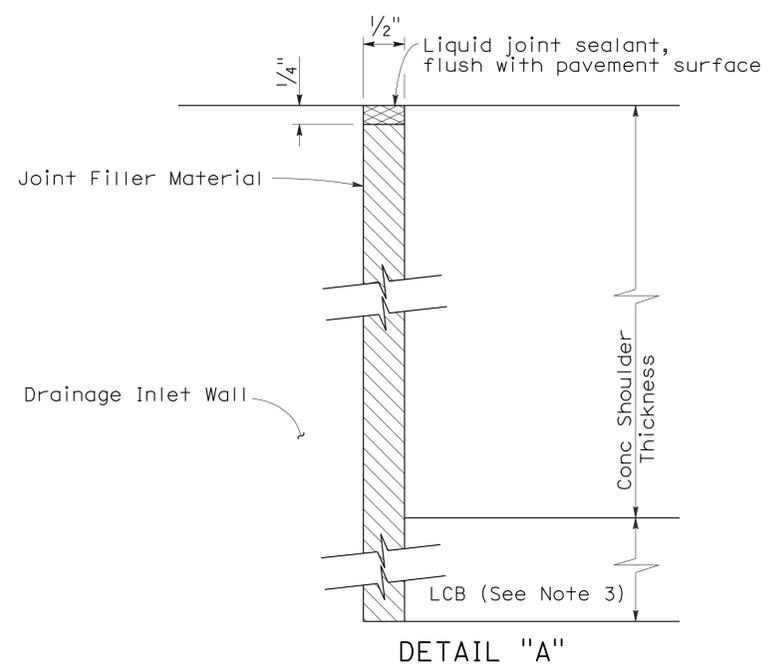


CASE 2

Transverse joint intersects drainage inlet, or matches drainage inlet wall.



SECTION A-A
D = Pavement Thickness



DETAIL "A"

ISOLATION JOINT AROUND DRAINAGE INLET

NOTES:

1. Refer to Project Plans for location and Type of drainage inlets.
2. Top of inlet shall be flush with shoulder surface.
3. Extend joint filler material to bottom of Lean Concrete Base. Where Lean Concrete Base is not used as base material, the joint filler material shall only extend to the bottom of the new concrete pavement.
4. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, terminate pavement steel reinforcement 2" clear from all outside edges of isolation joint.
5. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, see New Standard Plan NSP P4.
6. Dowel and tie bars not shown, see Revised Standard Plan RSP P1.

TABLE A

DISTANCE X	BARS REQUIRED
2'-0" to 1'-6"	2
1'-6" to 9"	1 @ X/2
9" or less	None

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
DRAINAGE INLET
DETAILS No. 1**
NO SCALE

RSP P45 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P45
DATED MAY 1, 2006 - PAGE 132 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P45

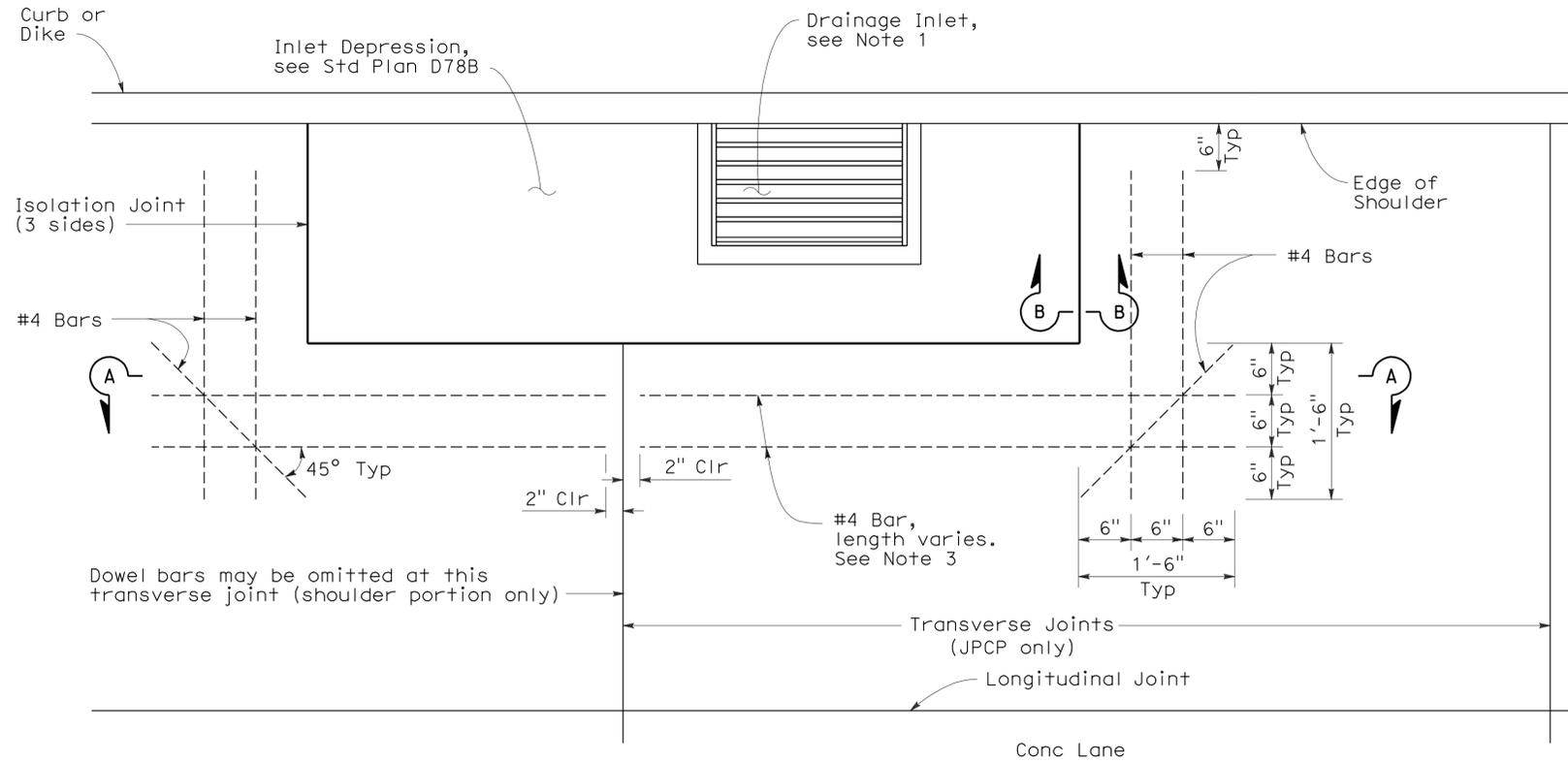
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	774	1132

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE

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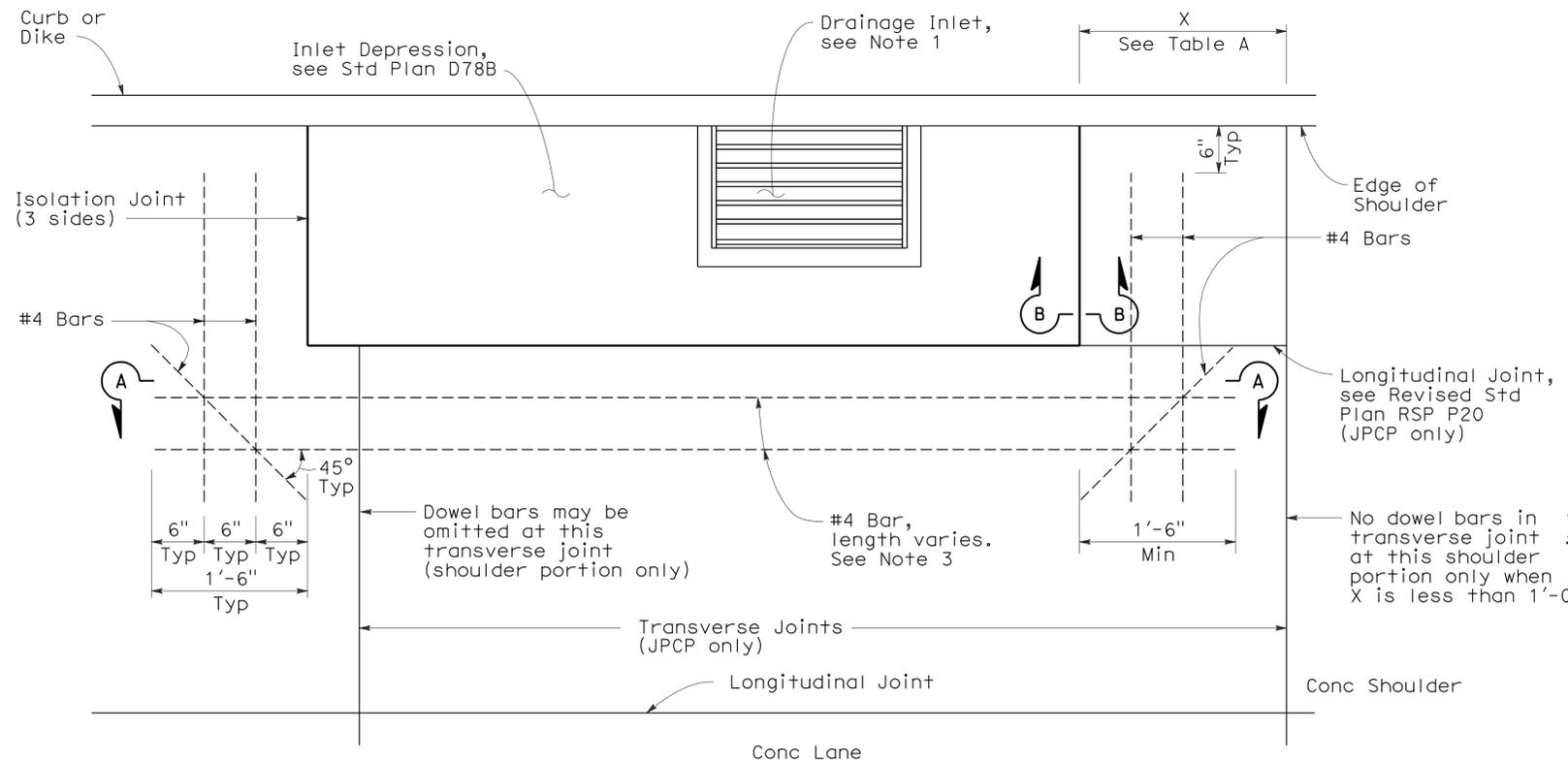
To accompany plans dated 10-11-10

2006 REVISED STANDARD PLAN RSP P46



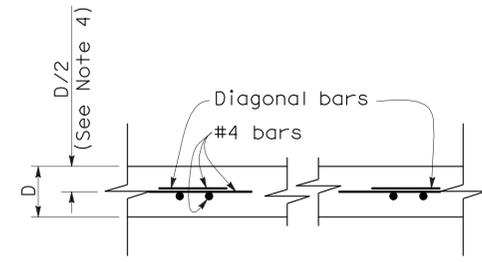
CASE A

Transverse Joint intersects inlet depression or no transverse joints.



CASE B

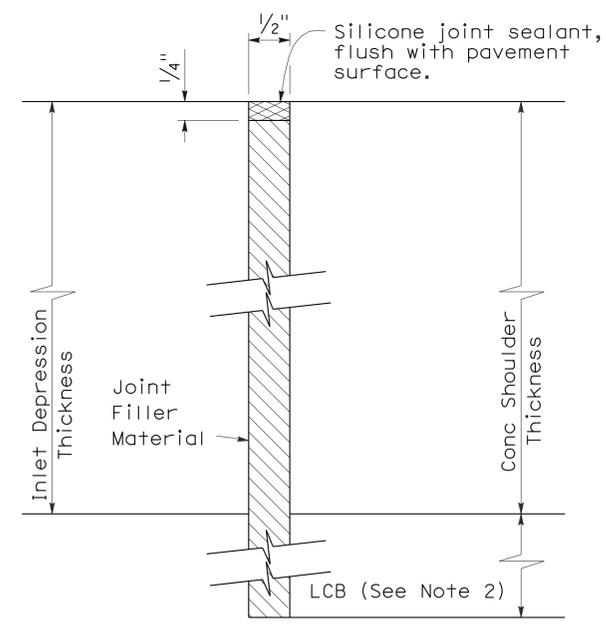
Transverse Joint within 2'-0" of edge of inlet depression.



SECTION A-A
D = Pavement Thickness

TABLE A

DISTANCE X	BARS REQUIRED
2'-0" to 1'-6"	2
1'-6" to 1'-0"	1
1'-0" or less	None



SECTION B-B

NOTES:

1. Refer to Project Plans for location and type of drainage inlets.
2. Extend joint filler material to bottom of Lean Concrete Base. Where Lean Concrete Base is not used as base material, the joint filler material shall only extend to the bottom of the new concrete pavement.
3. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, terminate pavement steel reinforcement 2" clear from all outside edges of isolation joint.
4. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, see New Standard Plan NSP P4.

ISOLATION JOINT AROUND INLET DEPRESSION

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
 DRAINAGE INLET
 DETAILS No. 2**
 NO SCALE

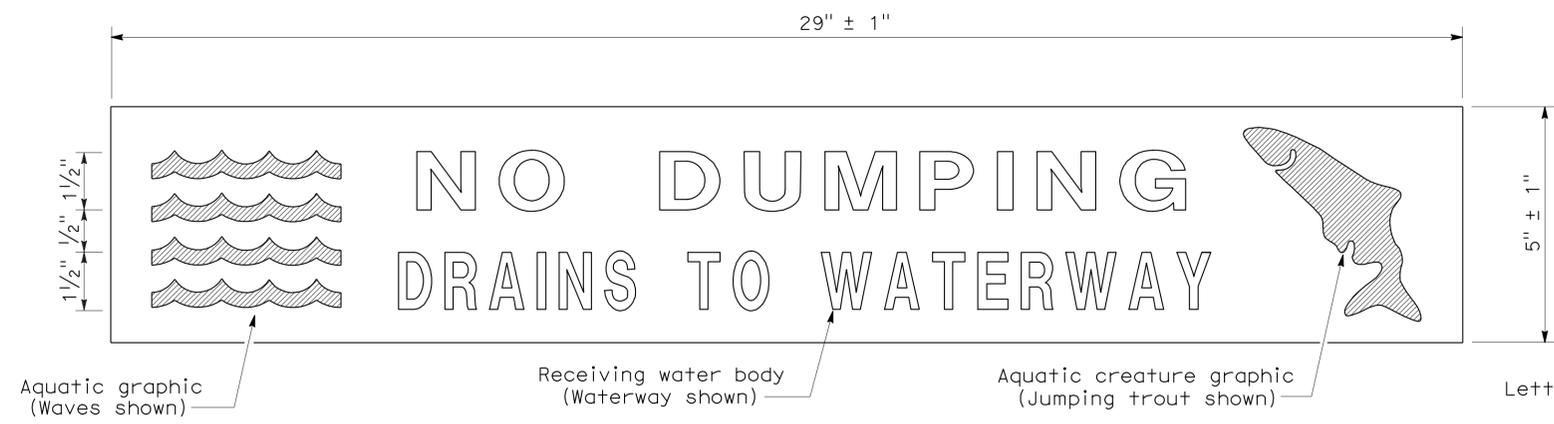
RSP P46 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P46
 DATED MAY 1, 2006 - PAGE 133 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P46

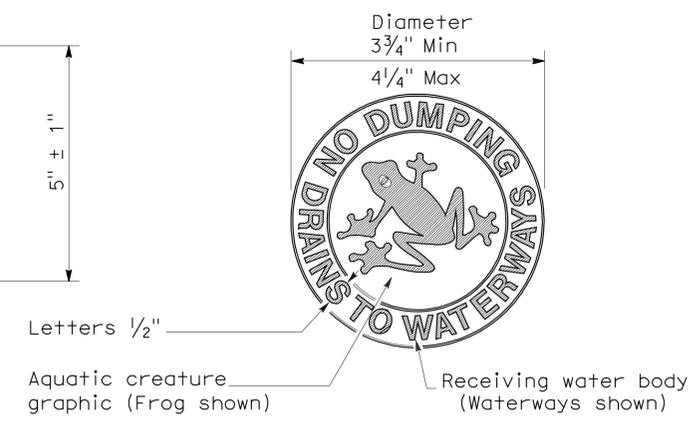
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	775	1132

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
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To accompany plans dated 10-11-10



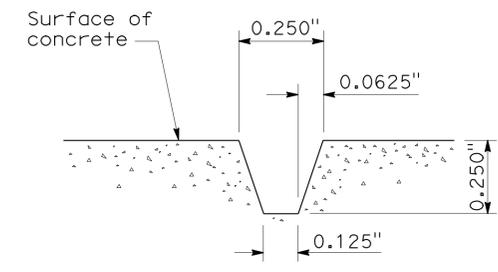
PLAN
DRAINAGE INLET MARKER
(PREFABRICATED THERMOPLASTIC)



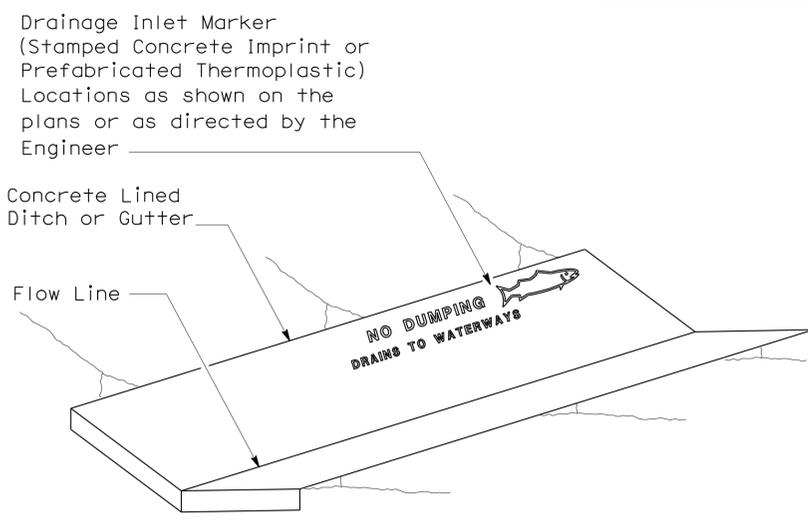
PLAN
DRAINAGE INLET MARKER
(MEDALLION)



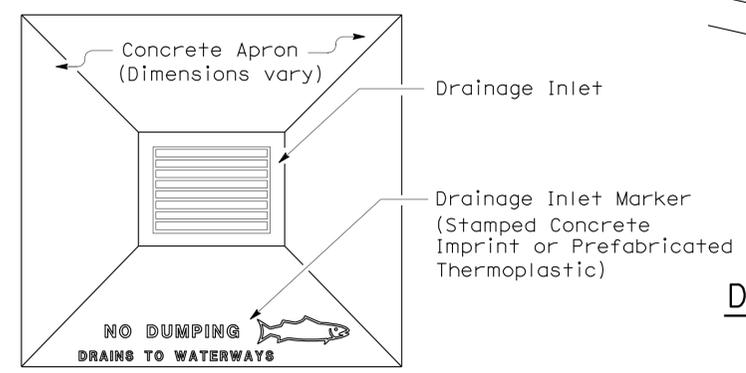
PLAN
DRAINAGE INLET MARKER
(STAMPED CONCRETE IMPRINT)



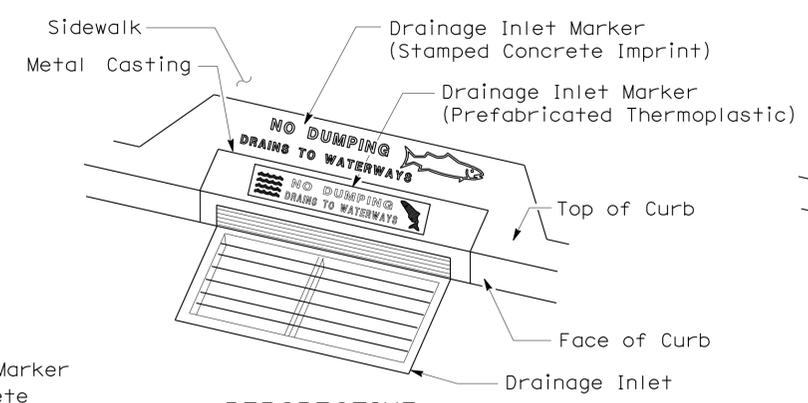
SECTION A-A
STAMPED CONCRETE
IMPRINT DETAIL



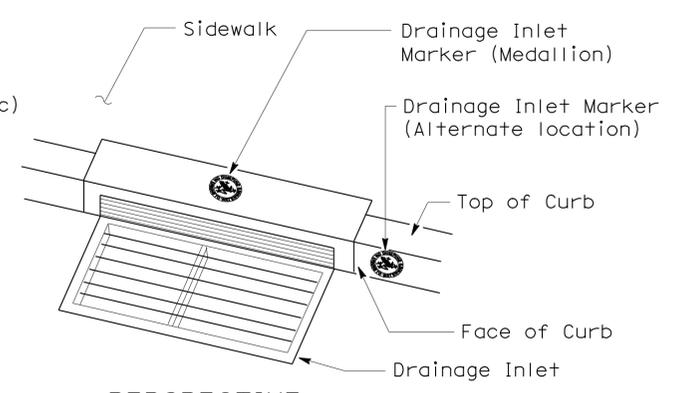
PERSPECTIVE
DRAINAGE INLET MARKER ON
CONCRETE LINED DITCH



PLAN
DRAINAGE INLET MARKER ON
DRAINAGE INLET APRON



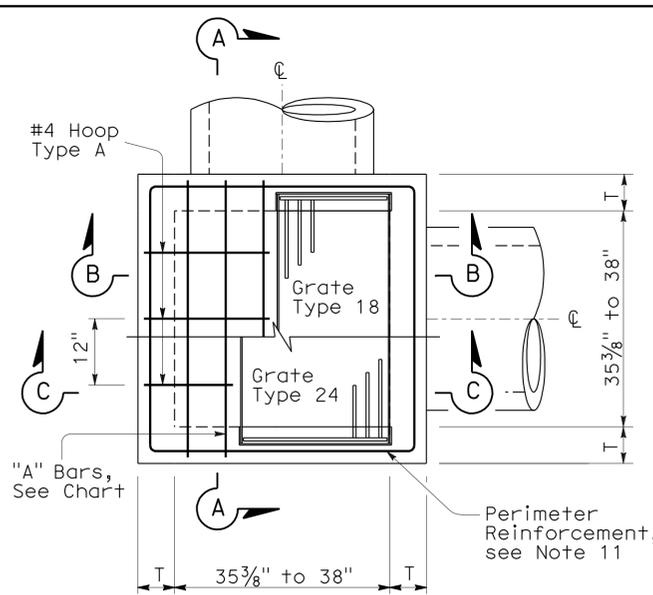
PERSPECTIVE
DRAINAGE INLET MARKER ON
DRAINAGE INLET



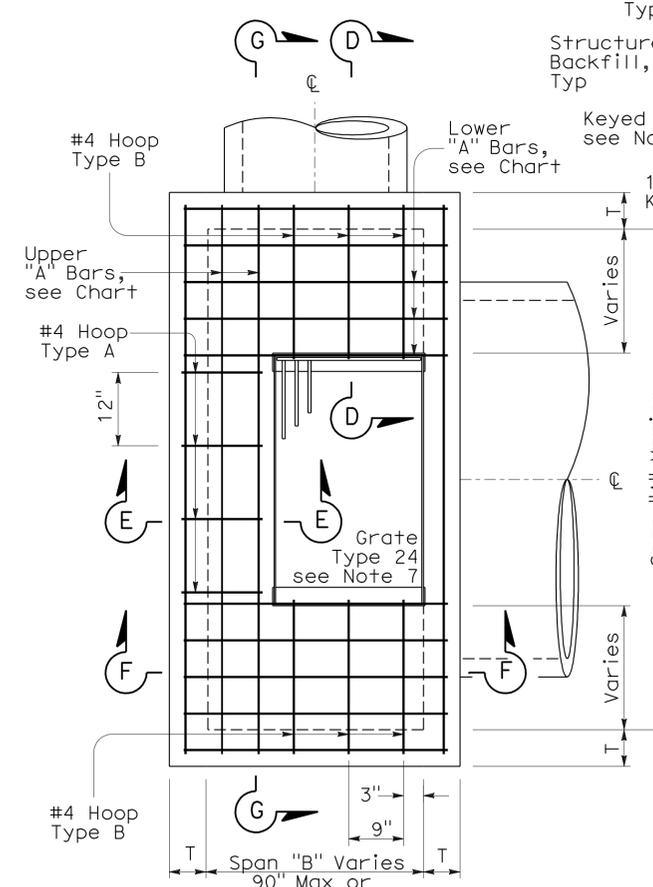
PERSPECTIVE
DRAINAGE INLET MARKER (MEDALLION)
ON DRAINAGE INLET

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DRAINAGE INLET MARKERS
NO SCALE
NSP D71 DATED APRIL 3, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

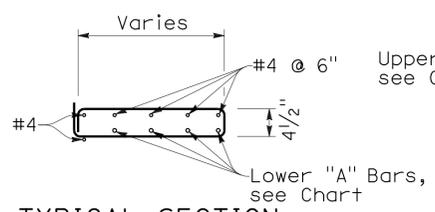
2006 NEW STANDARD PLAN NSP D73A



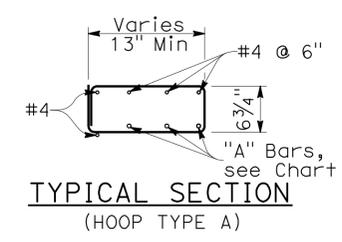
STANDARD TYPE G2 OR G4



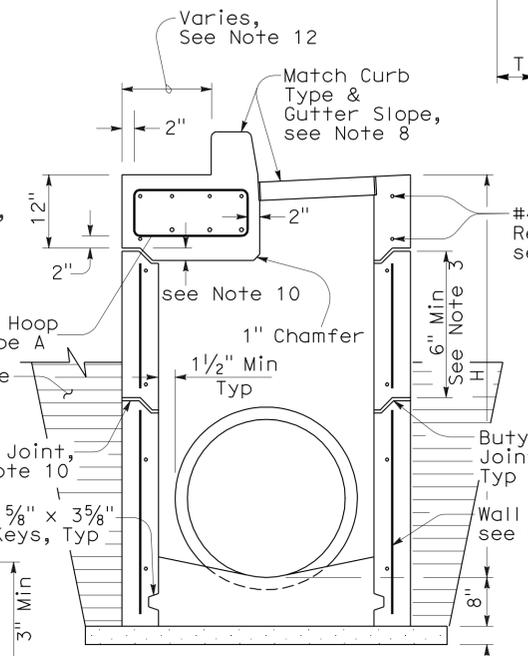
EXPANDED TYPE G2 OR G4
(Top Rebar Not Shown)



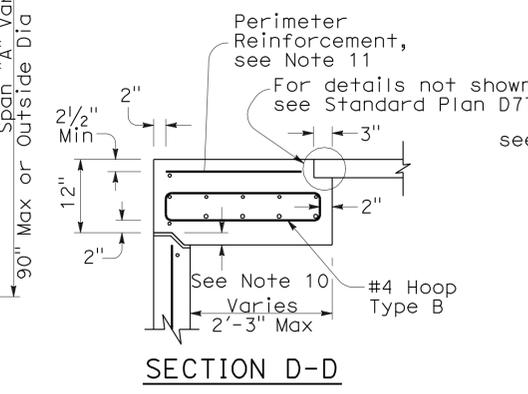
TYPICAL SECTION
(HOOP TYPE B)



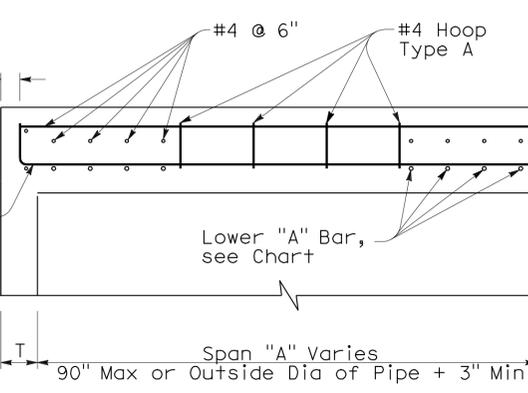
TYPICAL SECTION
(HOOP TYPE A)



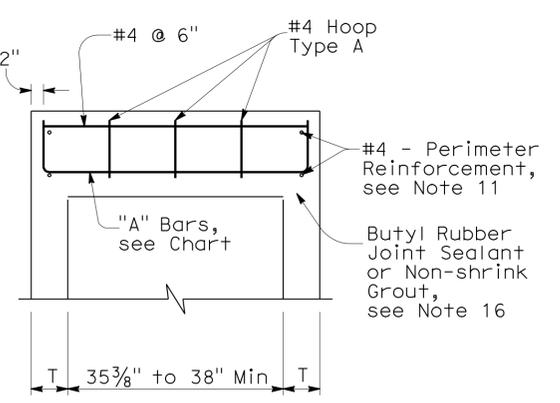
SECTION B-B
(with G4 Top)



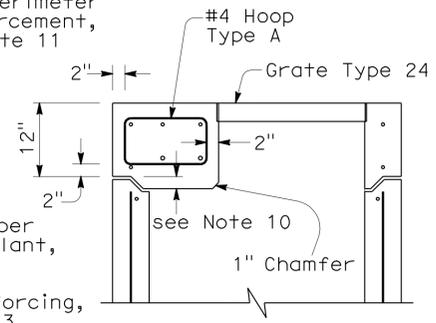
SECTION D-D



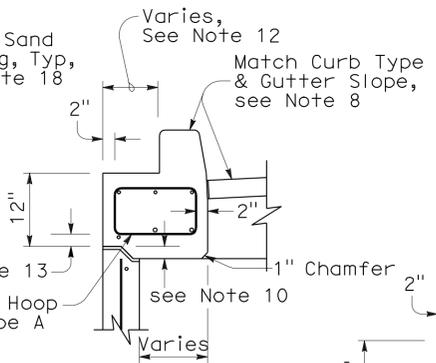
SECTION G-G



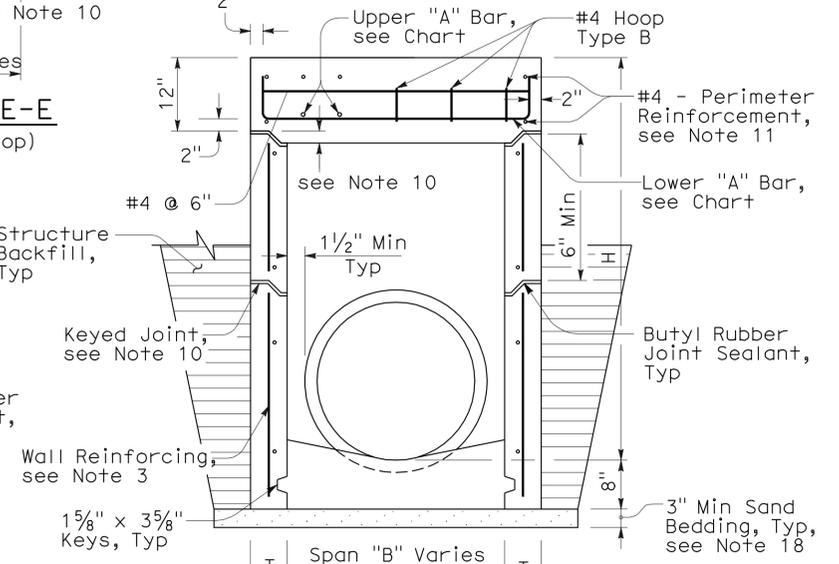
SECTION A-A



SECTION C-C
(with G2 Top)



SECTION E-E
(with G4 Top)



SECTION F-F
(with G2 Top)

NOTES:

- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
- For "T" wall thickness: T=6" when "H" is 8' or less. T=8" when "H" is over 8'.
- Wall reinforcing not required when "H" is 8' or less and the unsupported width or length is 6'-0" or less. Reinforce wall exceeding these limits with #4 bars @ 1'-6" ± centers placed 2" clear to the inside of inlet unless otherwise shown. Short independent wall sections or height adjustment rings 6" to 24" high must have a minimum of two #4 horizontal bars.
- Seal pre-cast inlets connection openings between wall and pipe with non-shrink grout or resilient connectors as specified in the Special Provisions.
- Steps - None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below bottom of lid. The distance between steps must not exceed 1'-0" and be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step inserts must comply with State Industrial Safety Requirements. See Standard Plan D74C for step details.
- Pipe(s) can be placed in any wall.
- Set inlet so that grate bars are parallel to direction of principal surface flow.
- Type G4 inlet can use Grate Type 18 or 24. Type G2 inlet uses Grate Type 24. See Revised Standard Plan RSP D77A and Standard Plan D77B for grate and frame details and weights of miscellaneous Iron and Steel.
- G4 inlet details are the same as the G2 with the addition of a curb and sloped grate that matches the adjacent curb and gutter depression. See Standard Plans D78A & D78B for gutter and inlet depression details. See Revised Standard Plan RSP A87A & Standard Plan A87B for Curb and Dike Details.
- Provide pre-cast inlets with separate top sections for final grade adjustment under Standard Specification Section 51-1.02. Provide keyed joints between the top and wall and multiple wall sections. Joint design may vary but must be 1" to 3" in depth.
- Perimeter reinforcement serves as a rigid frame to position and attach the required structural reinforcement and may be tack welded at outer corners when using ASTM A706 weldable bars.
- This dimension will vary with different grates, curbs types, box width and wall thickness.
- 2" unless inlet is expanded in the Span "A" direction, then clearance is 2" plus the diameter of the lower "A" bar.
- Place "A" Bars at an angle so hooked ends will maintain 2" clear coverage.
- Refer to Standard Plan D73, Table A for concrete quantities.
- Non-shrink grout can be used for upper most joint to facilitate final top grade adjustment.
- Slope inlet floors 4:1 towards the outlet pipe. Pre-cast inlets may have monolithic sloped floors, flat floors, or no floors in which case a sloped floor must be cast in the field. Inlet floors do not require reinforcing.
- Extend sand bedding under all structure backfill.

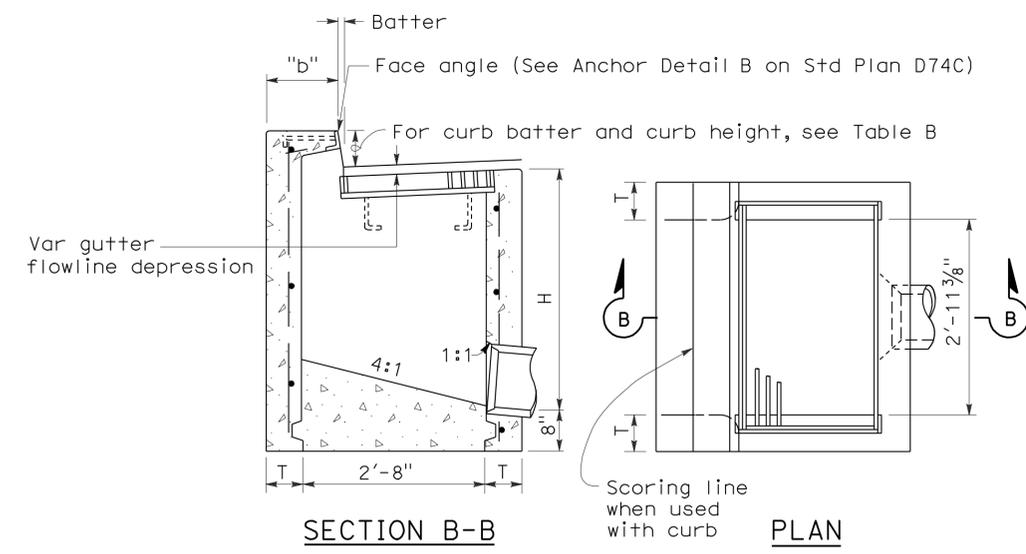
Span	"A" Bars	Required steel area per foot (in ² /ft)
Under 38" with Type 24 Grate	#5 @ 7" C-C 2-#5 Min	0.525
Under 38" with Type 18 Grate	#5 @ 7" C-C 3-#5 Min	0.525
38"-60"	#5 @ 6" C-C	0.621
61"-72"	#5 @ 5" C-C	0.744
73"-90"	#6 @ 6" C-C	0.811

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DRAINAGE INLETS
(PRECAST)

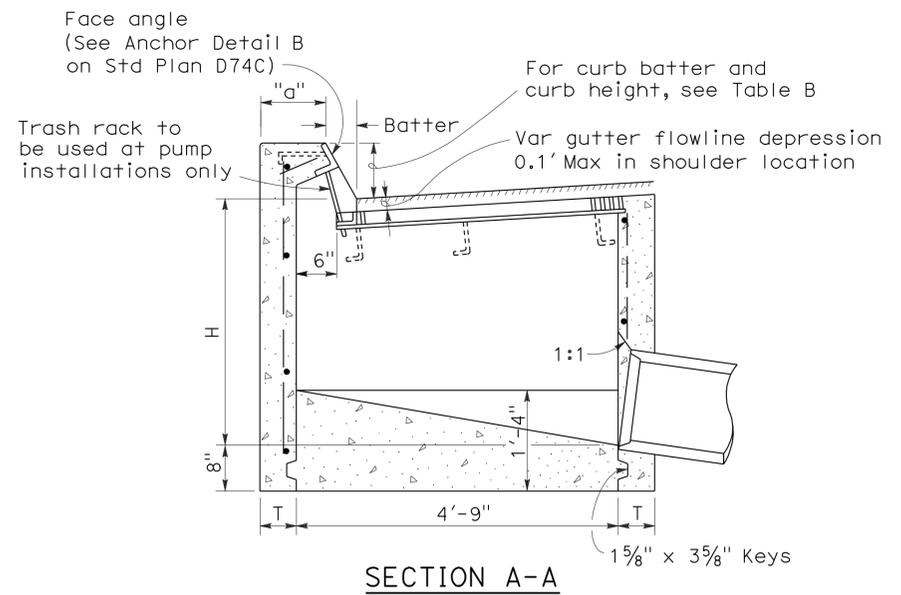
NO SCALE

NSP D73A DATED JUNE 5, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

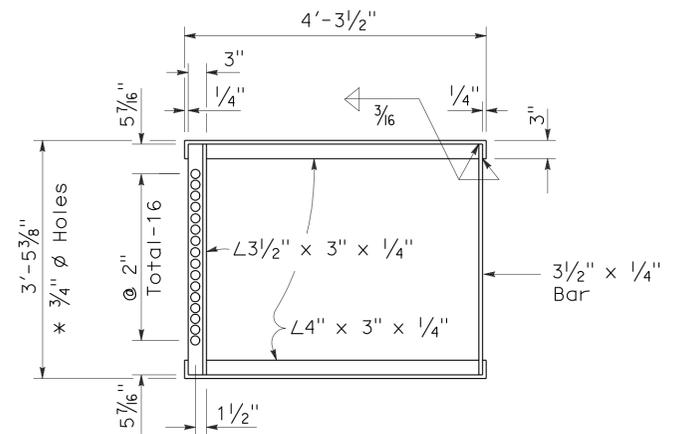
NEW STANDARD PLAN NSP D73A



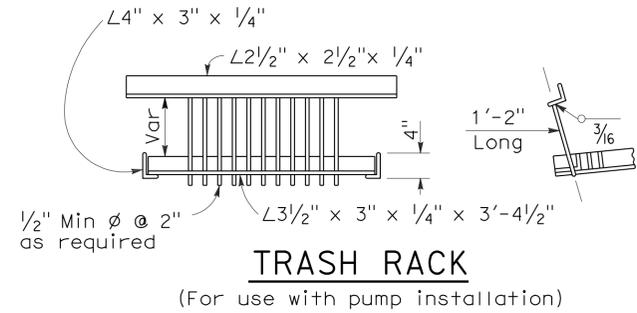
TYPE GO



SECTION A-A



GRATE FRAME FOR TYPE GDO INLET

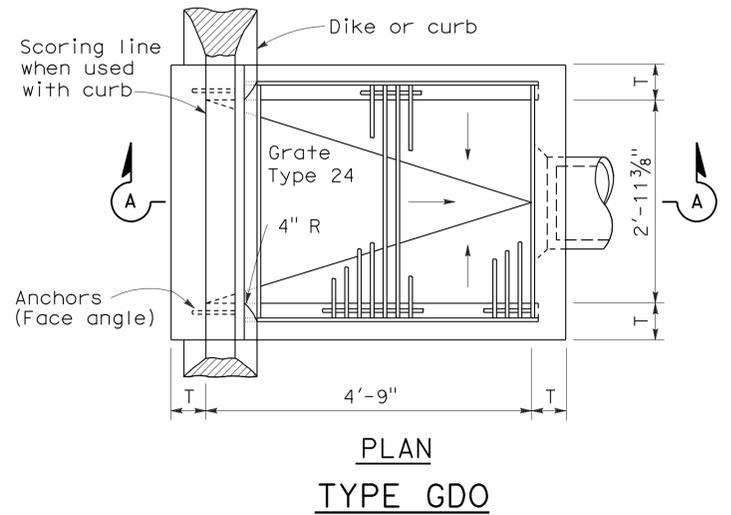


TRASH RACK
(For use with pump installation)

TABLE A
CONCRETE QUANTITIES

TYPE	H=3'-0" TO 8'-0" (T=6")	H=8'-1" TO 20'-0" (T=8")	
	ADDITIONAL PCC PER FOOT (CY)	H=8'-1" (CY)	ADDITIONAL PCC PER FOOT (CY)
GO	1.24	3.39	0.346
GDO	1.62	4.36	0.446

Table based on 8" floor slab, no deduction for pipe openings, and curb type giving highest quantity of concrete. No deductions or adjustments are to be made to these quantities because of pipe openings, different floor alternatives or different curb type.



PLAN
TYPE GDO

TABLE B

CURB TYPE	NORMAL CURB HEIGHT	CURB BATTER	"a" DIMENSION	"b" DIMENSION
A1-6	6"	1 1/2"	T+7 1/2"	T+6 1/2"
A1-8	8"	2"	T+7"	T+6"
B1-6	6"	4"	T+5"	T+4"
Type A Dike	6"	3"	T+6"	T+5"

NOTES:

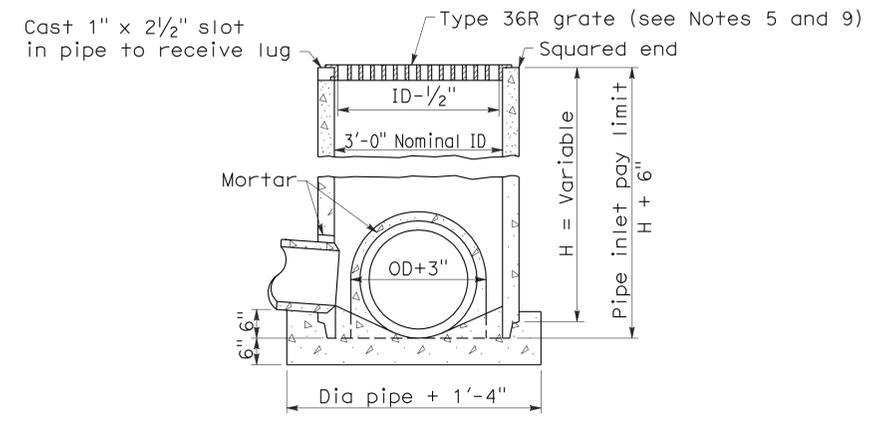
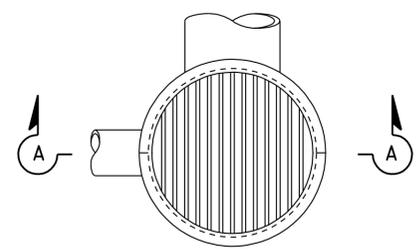
- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undeepressed.
- For "T" wall thickness, see Table A below.
- Wall reinforcing not required when "H" is 8'-0" or less and the unsupported width or length is 7'-0" or less. Walls exceeding these limits shall be reinforced with #4 @ 18"± centers placed 1/2" clear to inside of box unless otherwise shown.
- Inlet bottom reinforcing not required. See Standard Plan D74C for alternative reinforced bottom.
- Steps - None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below top of inlet. The distance between steps shall not exceed 1'-0" and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Step inserts may be substituted for the bar steps. Step Inserts shall comply with State Industrial Safety requirements. See Standard Plan D74C for step details.
- When shown on the project plans, place a 3/4" plain round protection bar horizontally across the length of the opening and bend back 4" into the inlet wall on each side.
- Pipe(s) can be placed in any wall.
- Curb section shall match adjacent curb.
- Basin floors shall have wood trowel finish and shall slope toward the outlet pipe as shown.
- Galvanizing - See Standard Specifications or Special Provisions.
- See Standard Plan D77A and D77B for grate and frame details and weights of miscellaneous iron and Steel.
- See Standard Plan D78A for gutter depression details.
- Full penetration butt welds may be substituted for the fillet welds on all anchors.
- Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
- Cast-in-place or precast alternative is optional with contractor. See Standard Specifications.
- Cast-in-place inlets to be formed around all pipes/stubs intersecting the inlet and concrete poured in one continuous operation. Precast inlets shall have mortared pipe connections conforming to details for Type GCP inlets on Standard Plan D75B. See Standard Specifications for mortar composition.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DRAINAGE INLETS
NO SCALE

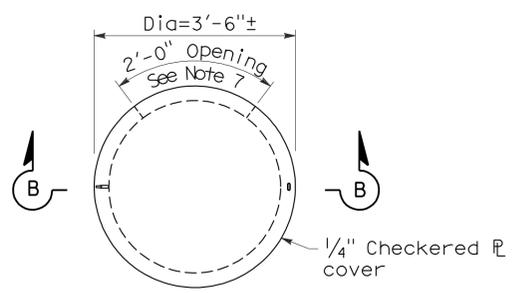
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	778	1132

Raymond Don Tsztso
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 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.

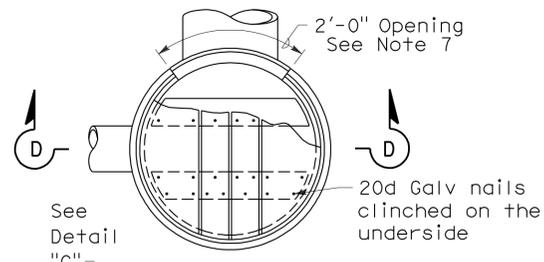
2006 REVISED STANDARD PLAN RSP D75B



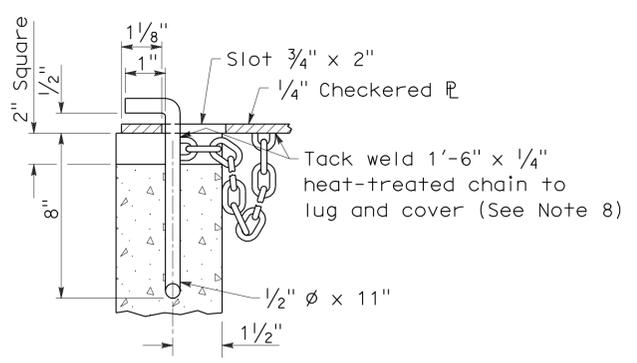
SECTION A-A
TYPE GCP
CONCRETE PIPE INLET WITH GRATE



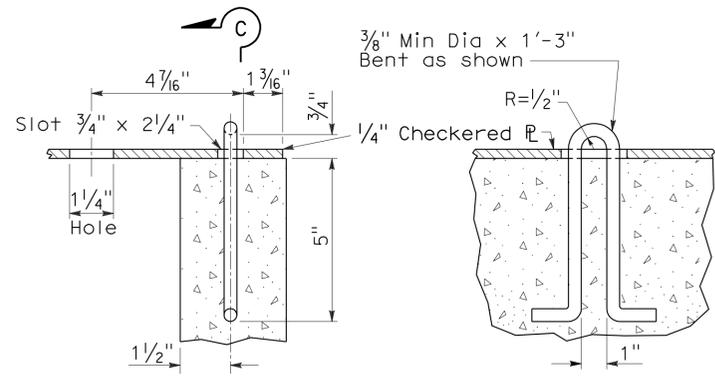
SECTION B-B
TYPE OCP or OCPI
CONCRETE PIPE INLET WITH STEEL COVER
(See Note 6)



SECTION D-D
TYPE OCP or OCPI
CONCRETE PIPE INLET WITH REDWOOD COVER
(See Notes 6 and 10)

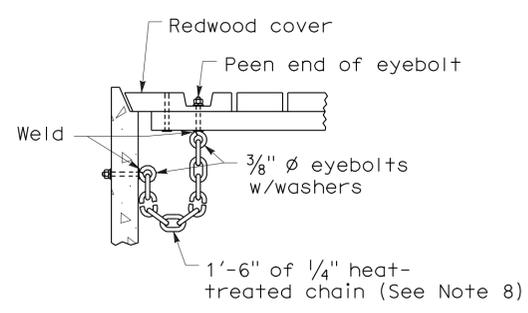


DETAIL 'E'



SECTION C-C

DETAIL 'F'



DETAIL 'G'

NOTES:

- For details of steel pipe inlets, see Standard Plan D75A.
- For details of ladder and steps and when ladder or steps are required, see Standard Plan D75C.
- Inlet pipes shall not protrude into basin.
- Except for inlets used for junction boxes, basin floors shall have minimum slope of 4:1 from all directions toward outlet pipe, and a wood trowel finish.
- See Revised Standard Plan RSP D77A and Standard Plan D77B for Grate and Frame Details and Weights of Miscellaneous Iron and Steel.
- Designation of Type OCPI pipe inlets on plans indicates trash racks are to be furnished and installed on all side openings. See Standard Plan D75C for Trash Rack details.
- More than one side opening may be required. Location and number as ordered by the Engineer. Opening may be cast in pipe.
- Chain to be provided when specified.
- Place pipe so bars of grate will be parallel with main surface flow.
- Redwood covers shall only be placed at locations designated on the plans.

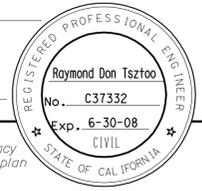
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PIPE INLETS

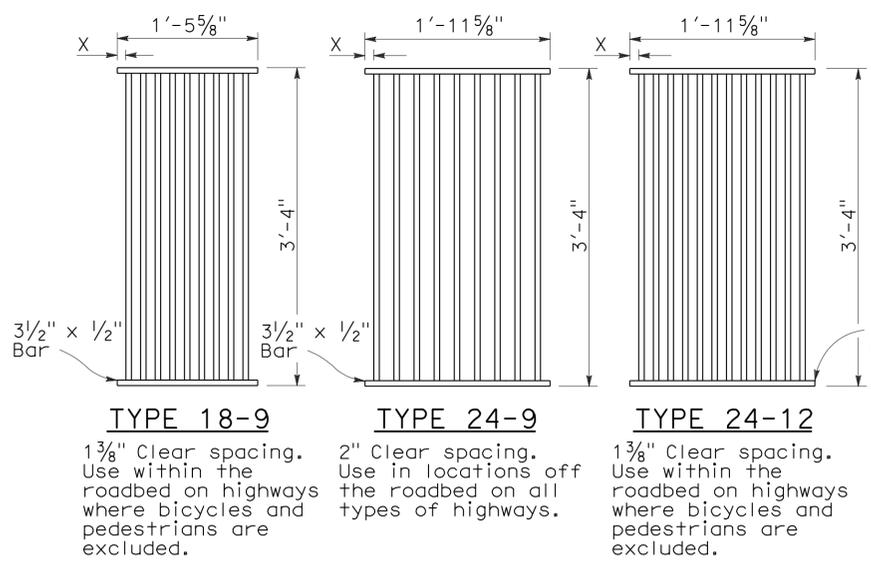
NO SCALE

RSP D75B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D75B
DATED MAY 1, 2006 - PAGE 153 OF THE STANDARD PLANS BOOK DATED MAY 2006.

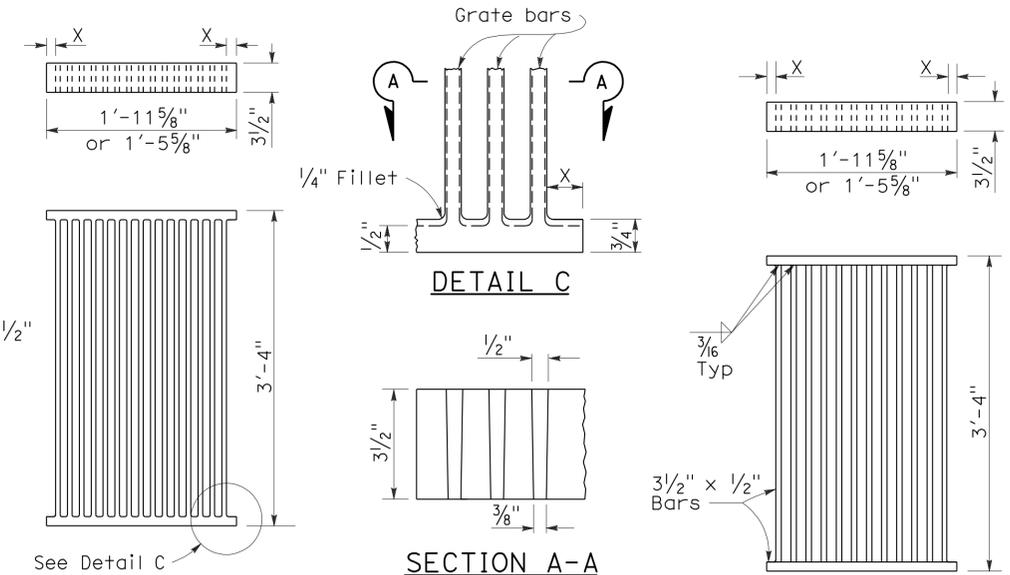
REVISED STANDARD PLAN RSP D75B



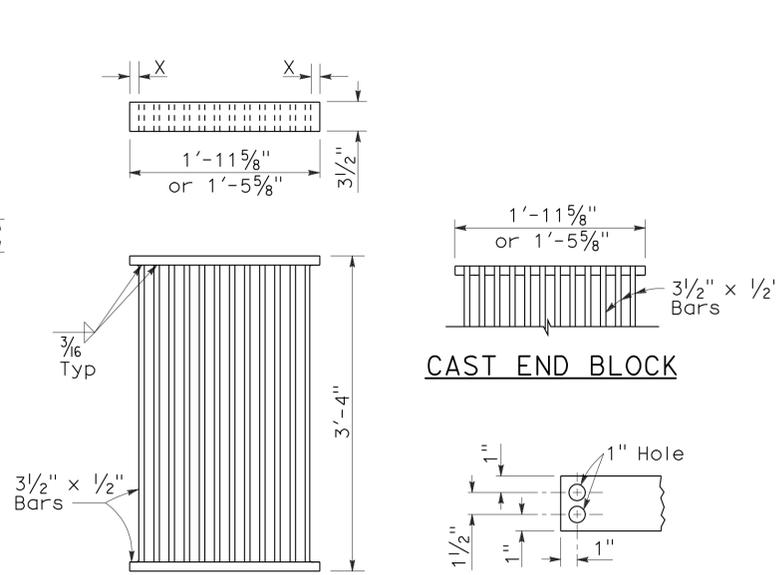
To accompany plans dated 10-11-10



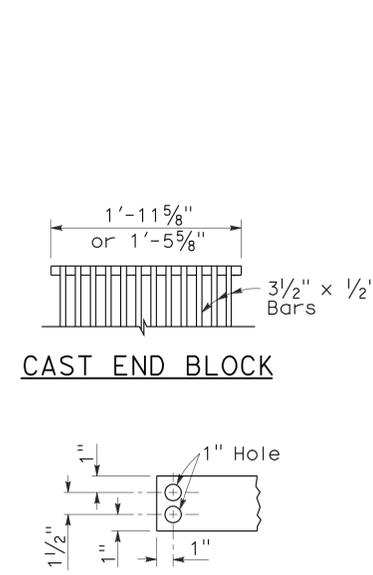
RECTANGULAR GRATE DETAILS
(See table below)



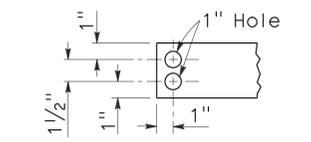
ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE



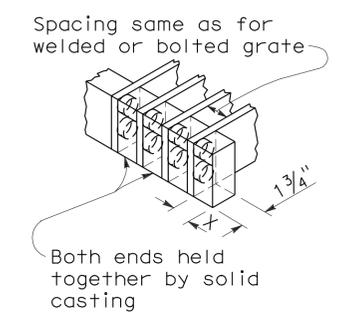
ALTERNATIVE WELDED GRATE



CAST END BLOCK

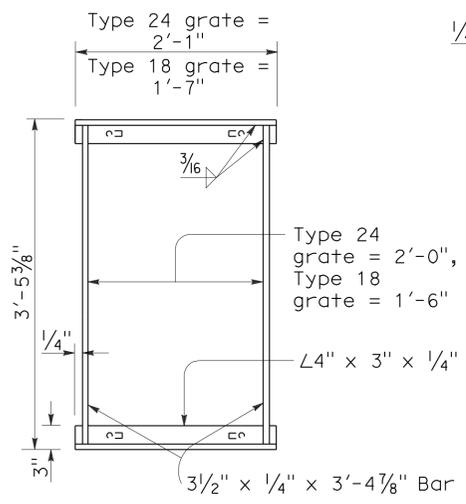


END OF BAR

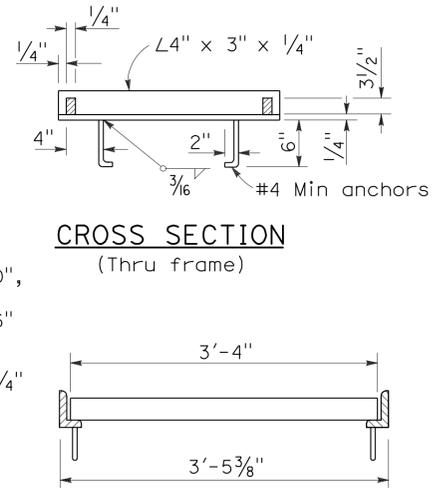


ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE

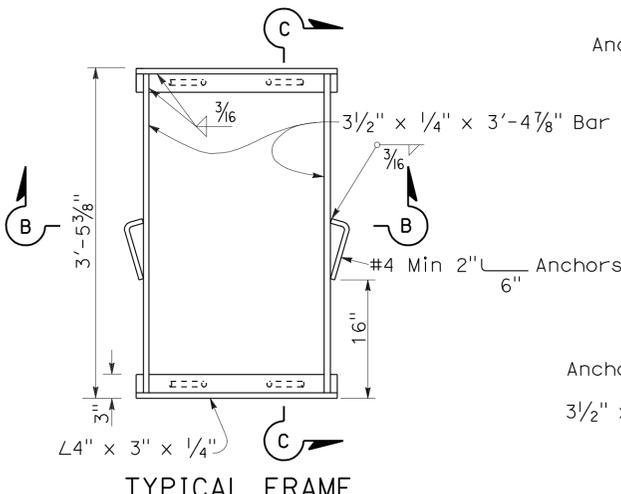
- NOTES:**
1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
 2. Contractor has the option of using cast nodular iron, cast steel, welded, bolted, or cast end block grate.
 3. See Special Provisions for requirements pertaining to galvanizing or asphalt dipping of grates and frames.
 4. Rounded top of bars optional on all grates.
 5. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
 6. Full penetration butt welds may be substituted for the fillet welds on all anchors.
 7. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
 8. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).



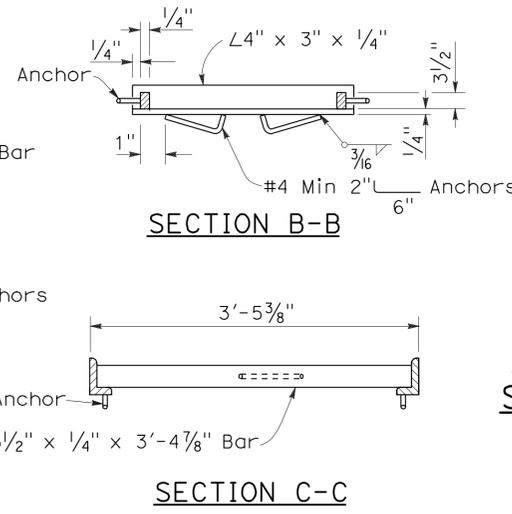
TYPICAL FRAME



LONGITUDINAL SECTION
(Thru frame and grate)



ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME
(For details not shown, See Rectangular Frame Details)



SECTION B-B
SECTION C-C

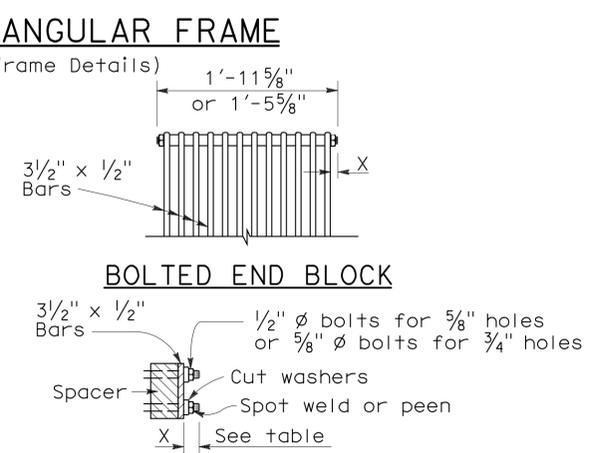
RECTANGULAR FRAME DETAILS
(For all rectangular grates)

GRATE BAR SPACING TABLE

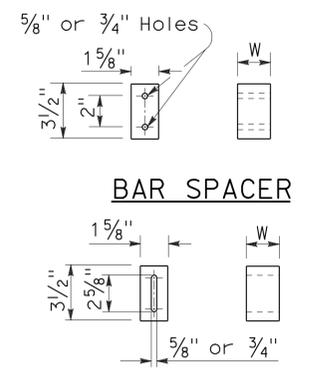
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	NO. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
G0,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22



BOLTED END BLOCK
BOLTING DETAIL
ALTERNATIVE BOLTED GRATE



ALTERNATIVE SPACER
W = 1 3/8" or 2"

BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS
(See General Notes, No 8)

2006 REVISED STANDARD PLAN RSP D77A

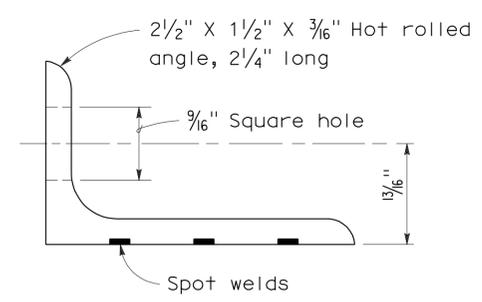
RSP D77A DATED JANUARY 18, 2008 SUPERSEDES STANDARD PLAN D77A DATED MAY 1, 2006 - PAGE 155 OF THE STANDARD PLANS BOOK DATED MAY 2006.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
GRATE DETAILS
NO SCALE

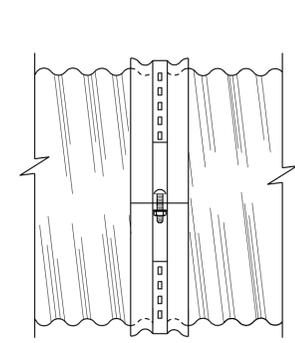
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	780	1132

Raymond Don Tsztoo
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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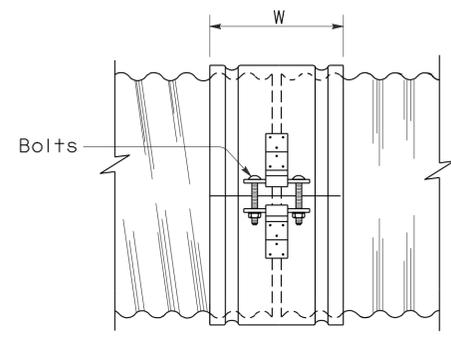
To accompany plans dated 10-11-10



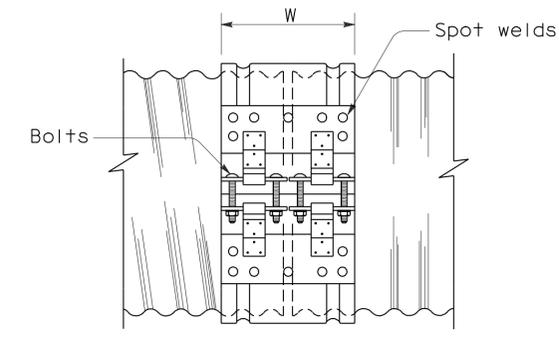
ANGLE



SIDE VIEW ANGLE



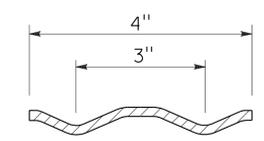
SIDE VIEW SINGLE BAR AND STRAP



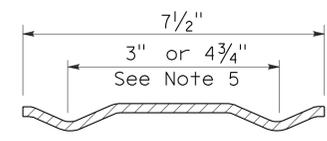
SIDE VIEW DOUBLE BAR AND STRAP

NOTES:

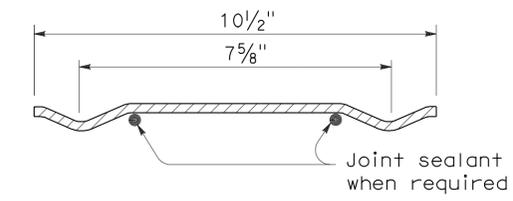
1. All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
2. Dimensions and thicknesses shown are minimum.
3. Spot welds shall develop minimum required strength of strap.
4. Fillet welds of equivalent strength may be substituted for spot welds or rivets.
5. Dimension depends upon whether end condition is lips up or lips down.



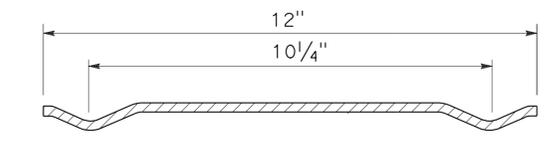
SECTION H-4 HUGGER BAND



SECTION H-7 HUGGER BAND



SECTION H-10 HUGGER BAND



SECTION H-12 HUGGER BAND

HUGGER COUPLING BANDS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CORRUGATED METAL PIPE
 COUPLING DETAILS No. 4
 HUGGER COUPLING BANDS**

NO SCALE

RSP D97D DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97D
 DATED MAY 1, 2006 - PAGE 186 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97D

2006 REVISED STANDARD PLAN RSP D97D

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAR AND STRAP (CSP ONLY)				ANGLE							
				CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND	
				CSP	CAP	CSP	CAP					CSP	CAP	CSP	CAP	CSP	CAP	CSP	
TWO PIECE INTEGRAL FLANGE	1 1/2' x 1/4"	6"-10"	7"	0.052"-0.079"	0.048"-0.060"	0.052"	0.060"							2-3/8"	2-3/8"				
				12"-18"	7"	0.052"-0.079"										2-1/2"			
				2 2/3" x 1/2"	12"-24"	7"	0.052"-0.079"	0.060"-0.105"	0.064"	0.060"							2-1/2"	2-1/2"	
UNIVERSAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.052"-0.138"	0.060"-0.135"	0.052"	0.060"						2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	3-1/2"
		42"-60"	12"	0.052"-0.168"	0.075"-0.164"	0.052"	0.060"						2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		THROUGH 72"	12"	0.052"-0.168"	0.164"	0.052"	0.105"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"	
		78"-84"	16 1/4"	0.168"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
ANNULAR	2 2/3" x 1/2"	THROUGH 36"	7"	0.064"-0.138"	0.060"-0.135"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	2-1/2"	2-1/2"	3-3/8"	3-3/8"	3-1/2"	
		42"-72"	12"	0.064"-0.168"	0.075"-0.164"	0.052"	0.105"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"	
		78"-84"	12"	0.168"		0.079"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"	
	3" x 1"	48"-90"	14"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"	
		96"-120"	14"	0.079"-0.109"		0.052"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		4-3/8"			
		42"-108"	14"		0.060"-0.135"		0.060"					2" x 2" x 3/16"		3-1/2"		3-3/8"			
HELICAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.052"-0.138"	0.060"-0.135"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	3-1/2"	
		42"-72"	12"	0.052"-0.168"	0.075"-0.164"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"	
		78"-84"	12"	0.168"		0.079"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"	
	3" x 1"	48"-90"	14"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"	
		96"-120"	14"	0.079"-0.109"		0.052"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		4-3/8"			
		42"-108"	14"		0.060"-0.135"		0.060"					2" x 2" x 3/16"		3-1/2"		3-3/8"			
HUGGER	2 2/3" x 1/2"	REROLLED END	12"-54"	4"	0.052"-0.109"		0.052"					2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"				3-1/2"	
			60"-66"	4"	0.109"		0.064"						2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"			3-1/2"	
			36"-48"	4"	0.138"		0.064"						2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"			3-1/2"	
			THROUGH 72"	10 1/2"	0.052"-0.168"		0.052"		0.079"	1/2"	7/8"	32 ksi							
	3" x 1"	REROLLED END	48"-90"	10 1/2"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi							
			96"-120"	10 1/2"	0.079"-0.109"		0.052"		0.109"	1/2"	7/8"	45 ksi							
			48"-66"	7 1/2"	0.064"-0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"				3-1/2"
			72"-90"	7 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi	2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"				3-1/2"
	5" x 1"	REROLLED END	48"-90"	7 1/2"	0.064"-0.138"		0.064"		0.079"	1/2"	7/8"	32 ksi							
			48"-120"	12" SEE	0.064"-0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi							
			48"-84"	12" NOTE	0.138"		0.064"		0.079"	1/2"	7/8"	32 ksi							
			90"-120"	12" 11	0.138"		0.064"		DOUBLE 0.079"	1/2"	7/8"	32 ksi							

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAR AND STRAP (SSRP ONLY)				ANGLE						
				SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP					SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		42"-60"	12"	0.064"-0.109"	0.075"-0.105"	0.052"	0.105"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		66"-72"	12"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		78"-114"	12"	0.079"-0.109"		0.079"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
HUGGER	2 2/3" x 1/2" * REROLLED END	24"-72"	10 1/2"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi							
		78"-84"	10 1/2"	0.109"		0.079"		0.109"	1/2"	7/8"	45 ksi							

* See Note 14.

14. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

- NOTES:** To accompany plans dated 10-11-10
- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
 - For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
 - Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
 - Use 1 1/4" gage line dimension on attached angle leg for rivets and spot welds.
 - Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
 - Dimensions, thicknesses and strengths shown are minimum.
 - For pipe arches use same width band as for round pipe of equal periphery.
 - Fillet welds of equivalent strength may be substituted for spot welds or rivets.
 - Spot welds shall develop minimum required strength of strap.
 - Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
 - In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
 - Two piece bands are required for pipes greater than 42" diameter.
 - The 2 1/4" x 2" x 0.109" thick galvanized die-formed angle connector may be used in lieu of the 2" x 2" x 3/16" angle connector for standard joints only on pipes through 72" diameter.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CORRUGATED METAL PIPE
COUPLING DETAILS No. 5
STANDARD JOINT**
NO SCALE

RSP D97E DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97E
DATED MAY 1, 2006 - PAGE 187 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	781	1132

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Raymond Don Tsztoo
No. C37332
Exp. 6-30-08
CIVIL
STATE OF CALIFORNIA

2006 REVISED STANDARD PLAN RSP D97E

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAND THICKNESS				BAR AND STRAP (CSP ONLY)				ANGLE						
				CSP		CAP		CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No. - Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				CSP	CAP	CSP	CAP	CSP	CAP	CSP	CAP					CSP	CAP	CSP	CAP	CSP	CAP	CSP
TWO PIECE INTEGRAL FLANGE	1 1/2" x 1/4"	6"-10"	7"	0.064"-0.079"	0.060"	0.064"	0.060"									2-3/8"	2-3/8"					
UNIVERSAL	2 2/3" x 1/2"	12"-24"	12"		0.060"-0.105"		0.060"										3-1/2"					
ANNULAR	2 2/3" x 1/2"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"							2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"		
		42"-60"	12"	0.064"-0.079"		0.064"								2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"		
		42"-60"	12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"							2" x 2" x 1/4"	2" x 2" x 1/4"	3-1/2"	3-1/2"	5-3/8"	5-3/8"			
		66"-72"	24"		0.164"		0.105"							2" x 2" x 1/4"		5-1/2"		7-3/8"		5-1/2"		
		66"-84"	24"	0.109"-0.168"		0.064"								2" x 2" x 1/4"		5-1/2"		7-3/8"				
		42"-54"	12"		0.060"-0.105"		0.060"							2" x 2" x 3/16"		3-1/2"		3-3/8"		3-3/8"		
	3" x 1"	48"-60"	14"	0.064"-0.079"		0.064"								2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"		
		48"-60"	14"	0.109"		0.064"								2" x 2" x 3/16"		3-1/2"		5-3/8"				
		66"-120"	25"	0.064"-0.109"		0.064"								2" x 2" x 3/16"		5-1/2"		9-3/8"				
		42"-60"	14"		0.060"-0.105"		0.060"							2" x 2" x 3/16"		3-1/2"		5-3/8"				
		42"-60"	14"		0.135"		0.075"							2" x 2" x 1/4"		3-1/2"		5-3/8"				
		66"-96"	25"		0.060"-0.135"		0.060"							2" x 2" x 1/4"		5-1/2"		7-3/8"				
	HELICAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"							2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"	
			42"-54"	12"		0.060"-0.105"		0.060"							2" x 2" x 3/16"		3-1/2"		3-3/8"			
42"-60"			12"	0.064"-0.079"		0.064"								2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"		
42"-60"			12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"							2" x 2" x 1/4"	2" x 2" x 1/4"	3-1/2"	3-1/2"	5-3/8"	5-3/8"			
66"-84"			24"	0.109"-0.168"		0.064"								2" x 2" x 1/4"		5-1/2"		7-3/8"				
3" x 1"		48"-60"	14"	0.064"-0.079"		0.064"								2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"		
		48"-60"	14"	0.109"		0.064"								2" x 2" x 3/16"		3-1/2"		5-3/8"				
		66"-120"	25"	0.064"-0.109"		0.064"								2" x 2" x 3/16"		5-1/2"		9-3/8"				
		42"-60"	14"		0.060"-0.105"		0.060"							2" x 2" x 3/16"		3-1/2"		5-3/8"				
		42"-60"	14"		0.135"		0.075"							2" x 2" x 1/4"		3-1/2"		5-3/8"				
HUGGER	2 2/3" x 1/2" REROLLED END	THROUGH 48"	10 1/2"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi											
		54"-66"	10 1/2"	0.109"		0.064"		DOUBLE 0.079"	1/2"	7/8"	32 ksi											
		THROUGH 54"	10 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi											
		THROUGH 60"	10 1/2"	0.138"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi											
		66"-72"	10 1/2"	0.138"		0.109"		DOUBLE 0.079"	1/2"	7/8"	32 ksi											
	3" x 1" REROLLED END	THROUGH 72"	10 1/2"	0.168"		0.109"		DOUBLE 0.109"	1/2"	7/8"	45 ksi											
		48"-84"	10 1/2"	0.109"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi											
		48"-90"	10 1/2"	0.064"-0.079"		0.064"		DOUBLE 0.079"	1/2"	7/8"	32 ksi											
		96"-102"	10 1/2"	0.079"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi											
		90"-120"	10 1/2"	0.109"		0.109"		DOUBLE 0.109"	1/2"	7/8"	45 ksi											

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAND THICKNESS				BAR AND STRAP (SSRP ONLY)				ANGLE						
				SSRP		ASRP		SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP					SSRP	ASRP	SSRP	ASRP	SSRP		
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.064"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"				
		42"-60"	12"	0.064"-0.079"	0.075"-0.105"	0.064"	0.075"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"				
		42"-60"	12"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"		3-1/2"		5-3/8"						
		66"-84"	24"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"		5-1/2"		7-3/8"						
HUGGER	2 2/3" x 1/2" * REROLLED END	24"-54"	10 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi											
		24"-48"	10 1/2"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi											
		54"-66"	10 1/2"	0.109"		0.064"		Double 0.079"	1/2"	7/8"	32 ksi											

* See Note 13.

13. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

CORRUGATED METAL PIPE COUPLING DETAILS No. 6 POSITIVE JOINT

NO SCALE

RSP D97F DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97F DATED MAY 1, 2006 - PAGE 188 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97F

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	782	1132

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Raymond Don Tsztoo
No. C37332
Exp. 6-30-08
STATE OF CALIFORNIA

To accompany plans dated 10-11-10

NOTES:

- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
- For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
- Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
- Use 1/4" gage line dimension on attached angle leg for rivets and spot welds.
- Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
- Dimensions, thicknesses and strengths shown are minimum.
- For pipe arches use same width band as for round pipe of equal periphery.
- Fillet welds of equivalent strength may be substituted for spot welds or rivets.
- Spot welds shall develop minimum required strength of strap.
- Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
- In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
- Two piece bands are required for pipes greater than 42" diameter.

2006 REVISED STANDARD PLAN RSP D97F

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	783	1132

Raymond Don Tsztso
 REGISTERED CIVIL ENGINEER

June 6, 2008
 PLANS APPROVAL DATE

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ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAR AND STRAP (CSP ONLY)			ANGLE									
				CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND			
				CSP	CAP	CSP	CAP				CSP	CAP	CSP	CAP	CSP	CAP	CSP			
TWO PIECE INTEGRAL FLANGE	1 1/2' x 1/4"	6"	7"	0.064"-0.168"		0.052"														
	1 1/2' x 1/4"	8"-10"	7"	0.064"-0.168"		0.060"-0.164"		0.064"	0.060"											
ANNULAR	2 2/3" x 1/2"	THROUGH 24"	12"	0.064"-0.168"		0.060"-0.164"		0.064"	0.060"											
HUGGER	2 2/3" x 1/2" REROLLED END	THROUGH 24"	10 1/2"	0.064"-0.168"		0.064"		0.079"	1/2"	7/8"										

- NOTES: To accompany plans dated 10-11-10
- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
 - For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
 - Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
 - Use 1 1/4" gage line dimension on attached angle leg for rivets and spot welds.
 - Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
 - Dimensions, thicknesses and strengths shown are minimum.
 - For pipe arches use same width band as for round pipe of equal periphery.
 - Fillet welds of equivalent strenght may be substituted for spot welds or rivets.
 - Spot welds shall develop minimum required strength of strap.
 - Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
 - For downdrain applications, two piece integral flange couplers shall have factory applied sleeve type rubber gaskets with a minimum length of 7" measured along the length of the pipe.

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAR AND STRAP (SSRP ONLY)			ANGLE									
				SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND			
SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP				SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP			
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"	12"	0.064"-0.168"		0.060"-0.164"		0.064"	0.060"											
HUGGER	2 2/3" x 1/2" * REROLLED END	24"	10 1/2"	0.064"-0.168"		0.064"		0.079"	1/2"	7/8"										

* See Note 12.

12. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

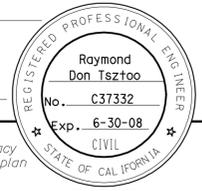
**CORRUGATED METAL PIPE
COUPLING DETAILS No. 7
DOWNDRAIN**

NO SCALE

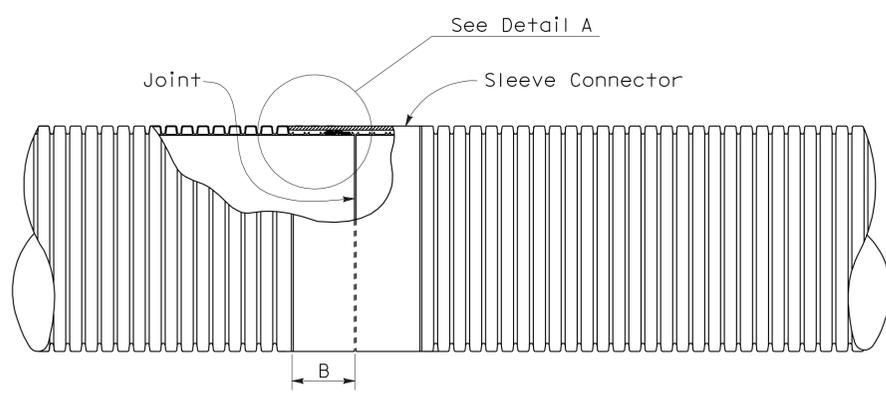
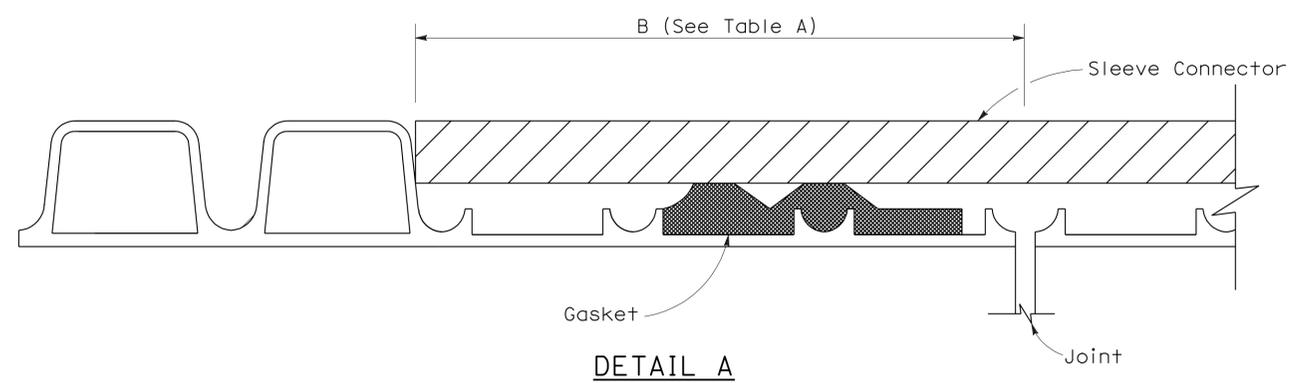
RSP D97G DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97G
DATED MAY 1, 2006 - PAGE 189 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97G

2006 REVISED STANDARD PLAN RSP D97G



To accompany plans dated 10-11-10



- NOTES:**
- For pipe sections installed on straight alignment, the pipe sections shall be joined to achieve maximum joint overlap at all points on the periphery as indicated in Table A where the plans call for positive or watertight joints. Maximum joint overlap is recommended where the plans call for standard joints, but in no case shall the joint overlap be less than 3/2".
 - For pipe sections installed on curved alignment, the maximum angle of deflection from straight alignment at any joint shall not exceed two degrees. Where the plans call for watertightness, field testing for compliance is required. Where plans call for positive joints, the pipe sections shall be joined to achieve Table A Dimensions on one side of the joint. Joints classified as standard shall have no less than 3/2" joint overlap at any point on the periphery.
 - Factory applied insertion line limit shall be placed on spigot.
 - Liner insert to be used inside of existing pipe.

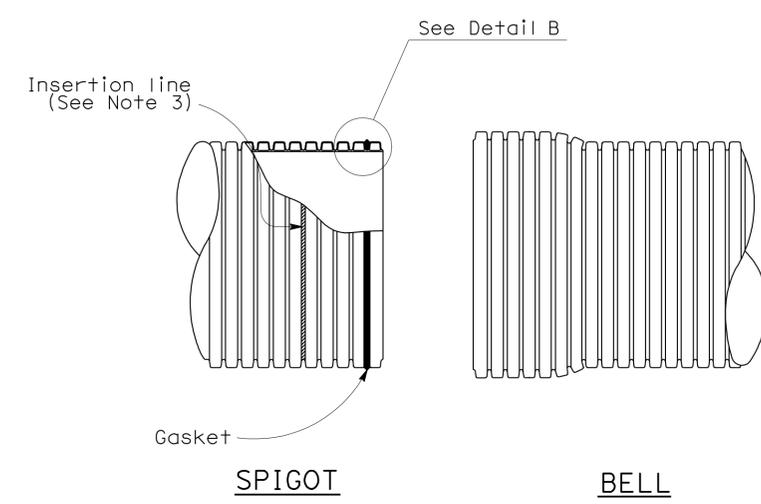
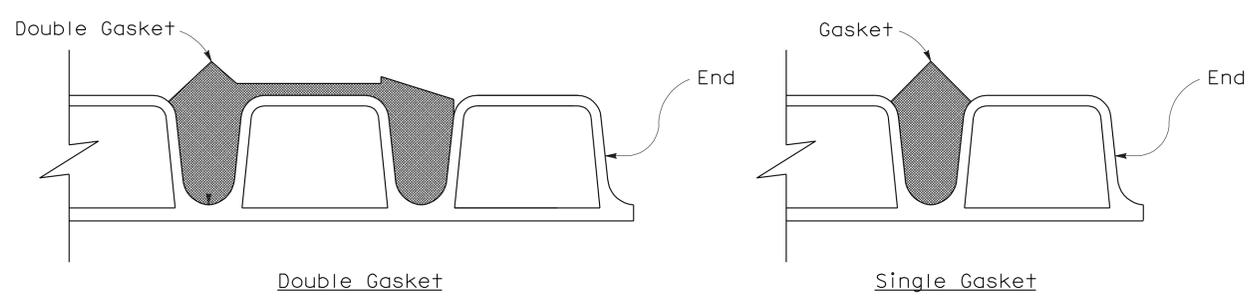
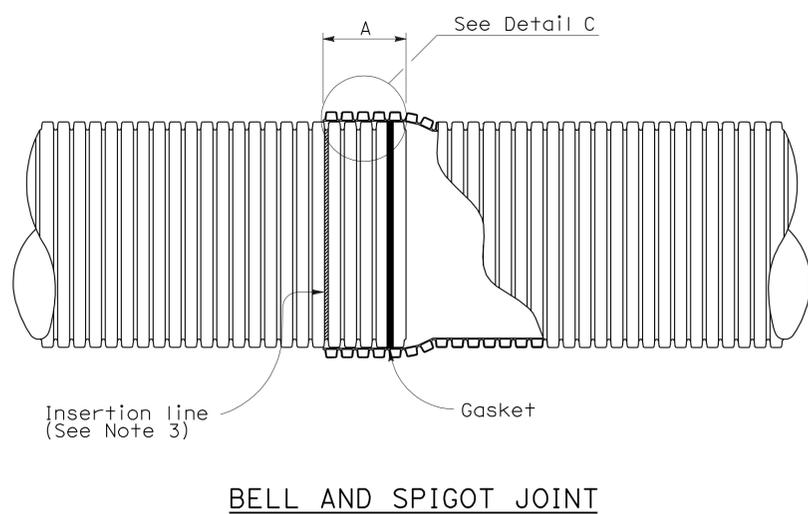
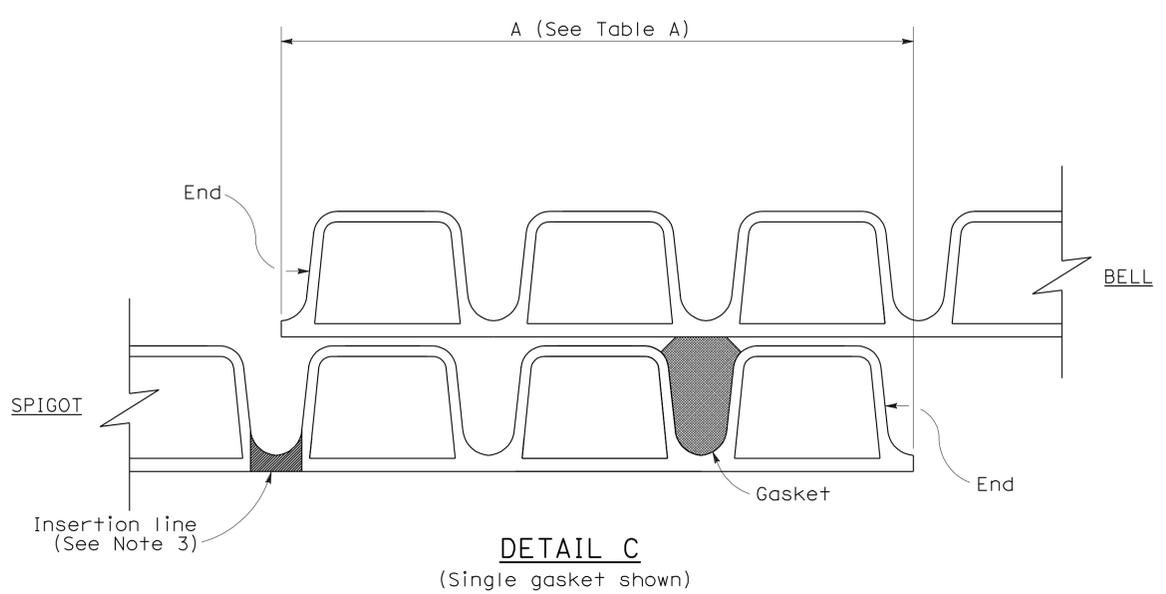


TABLE A

JOINT OVERLAP DIMENSIONS		
PIPE Dia (NOMINAL)	A	B
12"	5 3/4"	4 1/4"
15"	6 3/4"	5 5/8"
18"	6 3/4"	5 5/8"
21"	8 1/2"	5 5/8"
24"	8 1/2"	6 1/8"
30"	8 1/2"	7 1/8"
36"	8 1/2"	8 1/8"



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CORRUGATED POLYVINYL CHLORIDE PIPE WITH SMOOTH INTERIOR STANDARD AND POSITIVE JOINTS
NO SCALE
NSP D97I DATED MARCH 7, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP D97I

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	785	1132

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

June 5, 2009
PLANS APPROVAL DATE

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT
2-28-11
5-14-09
date

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To accompany plans dated 10-11-10

2006 REVISED STANDARD PLAN RSP H1

A

AB aggregate base
 ABS acrylonitrile-butadiene-styrene
 AC asphalt concrete
 Adj adjacent/adjustable
 AIC auxiliary irrigation controller
 Alt alternative
 AMEND amendment
 ARV air release valve
 AUTO automatic
 AUX auxiliary
 AVB atmospheric vacuum breaker

B

B&B balled and burlapped
 B/B brass/bronze
 B/B/PL brass/bronze/plastic
 B/PL brass/plastic
 BFM bonded fiber matrix
 Bit Ctd bituminous coated
 BP booster pump
 BPA backflow preventer assembly
 BPAE backflow preventer assembly in enclosure
 BPE backflow preventer enclosure
 BV ball valve

C

CAP corrugated aluminum pipe
 CARV combination air release valve
 CCA cam coupler assembly
 CEC controller enclosure cabinet
 CHDPE corrugated high density polyethylene
 CL chain link
 CNC control and neutral conductors
 Conc concrete
 Cond conduit
 CSP corrugated steel pipe
 CST center strip
 CV check valve

D

Dia diameter
 DIP ductile iron pipe
 DN diameter nominal

E

EA each
 Elect electric/electrical
 Elev elevation
 ENCL enclosure
 EP edge of pavement
 ES edge of shoulder
 EST end strip
 ESTB establishment
 ETW edge of traveled way

F

F full circle
 F/P full/part circle
 FAU filter assembly unit
 FCV flow control valve
 FERT fertilizer
 FG finished grade
 FIPT female iron pipe thread
 FIS fertilizer injector system
 FL flow line
 FM flow monitor
 FS flow sensor
 Ft foot/feet
 FV flush valve

G

GAL Gallon(s)
 Galv galvanized
 GARV garden valve
 GPH gallons per hour
 GPM gallons per minute
 GSP galvanized steel pipe
 GV gate valve

H

H half circle
 HB hose bib
 HDPE high density polyethylene
 HP horsepower/hinge point
 HPL high pressure line
 Hwy highway

I

IC irrigation controller
 ICC irrigation controller(s) in controller enclosure cabinet
 ID inside diameter
 In inches
 IFS irrigation filtration system
 IPS iron pipe size
 IPT iron pipe thread
 Irr irrigation

L

L length
 LF linear foot

M

Max maximum
 MBGR metal beam guard railing
 MCV manual control valve
 MIC master irrigation controller
 Min minimum
 MIPT male iron pipe thread
 Misc miscellaneous
 Mtl material
 MVP maintenance vehicle pullout

N

NCN no common name
 NL nozzle line
 No. number
 NPT national pipe thread

O

O/C on center
 OD outside diameter
 Oz ounce

P

P part circle
 PB pull box
 PCC portland cement concrete
 PE polyethylene
 Pkt packet
 PL plastic
 PLT plant/planting
 PLT ESTB plant establishment
 PM post mile
 PR pressure rated
 PRLV pressure relief valve
 PSFM polymer stabilized fiber matrix
 PSI pounds per square inch
 PRV pressure reducing valve
 PVC polyvinyl chloride
 Pvmt pavement

Q

Q quarter circle
 QCV quick coupling valve

R

R radius
 RCP reinforced concrete pipe
 RCV remote control valve
 RCVM remote control valve (master)
 RCVMF remote control valve (master) w/ flow meter
 RCW recycled/reclaimed water
 RECP rolled erosion control product
 REQ required
 R/W right of way

S

S slip
 SCC sprinkler control conduit
 SCH schedule
 SF state-furnished
 Shld shoulder
 SQFT square foot/feet
 SQYD square yard(s)
 SST side strip
 Sta station
 Std standard
 SW sidewalk/sound wall

T

T third circle/thread
 TLS truck loading standpipe
 TQ three quarter circle
 TRM turf reinforcement mat
 TRVD traveled
 TT two third circle
 Typ typical

U

UG underground

V

VAU valve assembly unit

W

W width
 W/ with
 WM water meter
 WS wye strainer
 WSP welded steel pipe
 WWM welded wire mesh

NOTE:
 FOR ADDITIONAL ABBREVIATIONS,
 SEE STANDARD PLANS A10A AND A10B.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
 ABBREVIATIONS**

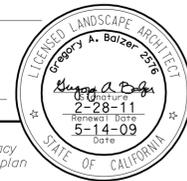
NO SCALE

RSP H1 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H1
 DATED MAY 1, 2006 - PAGE 201 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	786	1132

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 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.

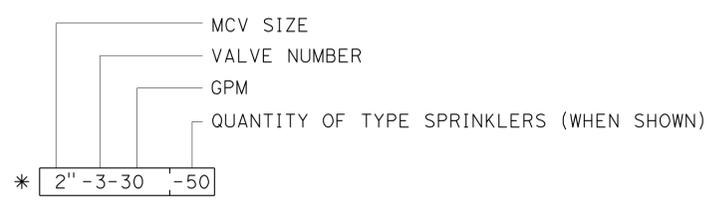
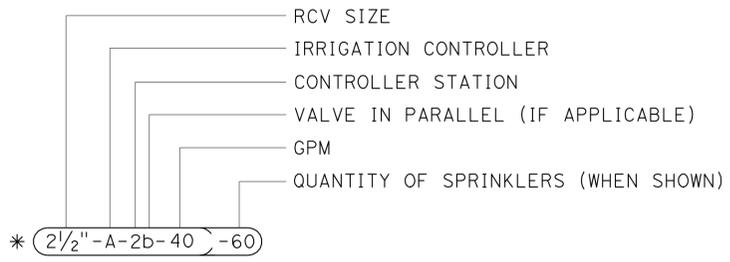


To accompany plans dated 10-11-10

EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)/ IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		SPRINKLER CONTROL CONDUIT (SCC)
		IRRIGATION CROSSOVER
		EXTEND IRRIGATION CROSSOVER
		IRRIGATION SLEEVE
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)
		PLASTIC PIPE (IRRIGATION LINE)
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		MANUAL CONTROL VALVE (MCV)
		VALVE ASSEMBLY UNIT (VAU)
		WYE STRAINER (WS)
		FILTER ASSEMBLY UNIT (FAU)
		GATE VALVE (GV)
		BALL VALVE (BV)

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE



* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

PLANTING AND IRRIGATION SYMBOLS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

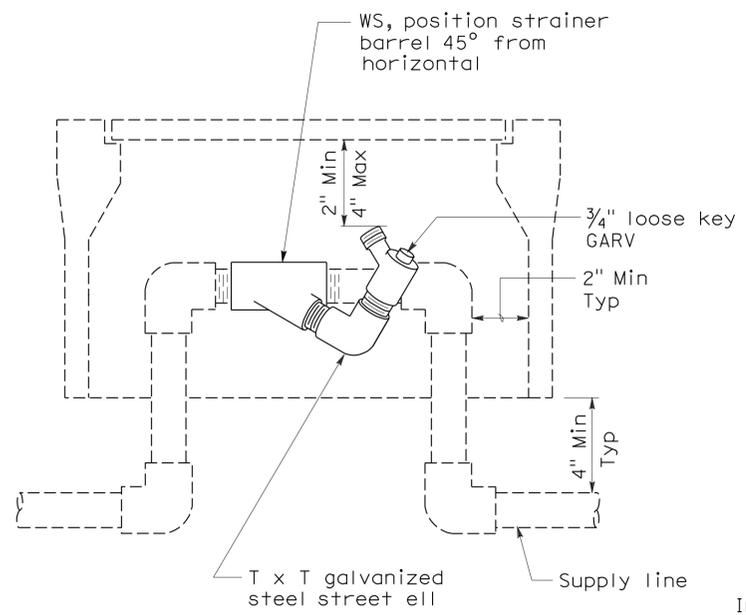
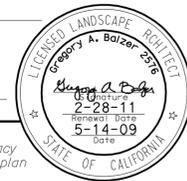
RSP H2 DATED JUNE 5, 2009 SUPERSEDES RSP H2 DATED MARCH 7, 2008 AND STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H2

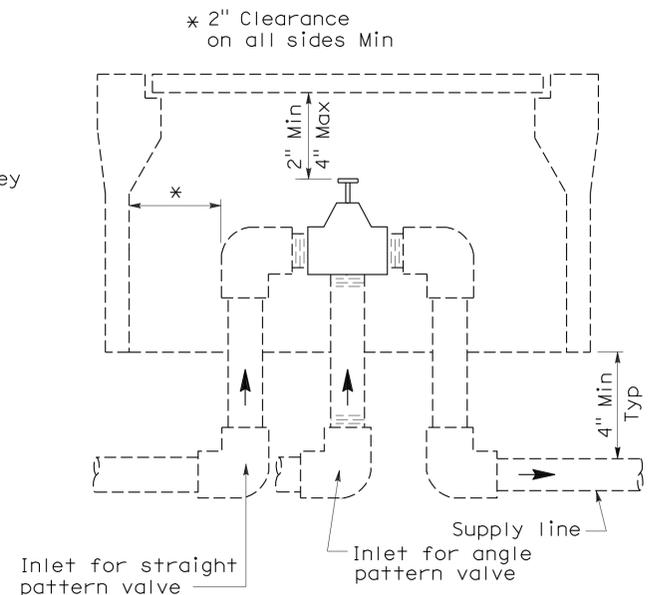
2006 REVISED STANDARD PLAN RSP H2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	787	1132

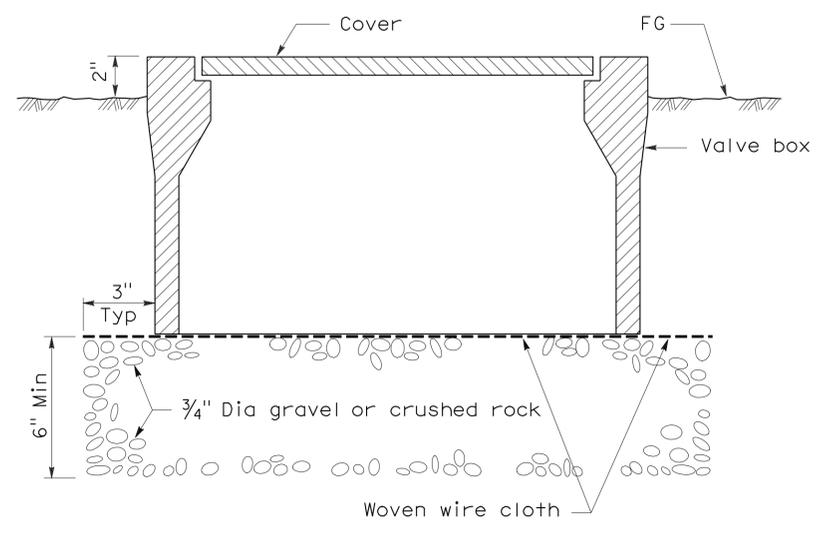
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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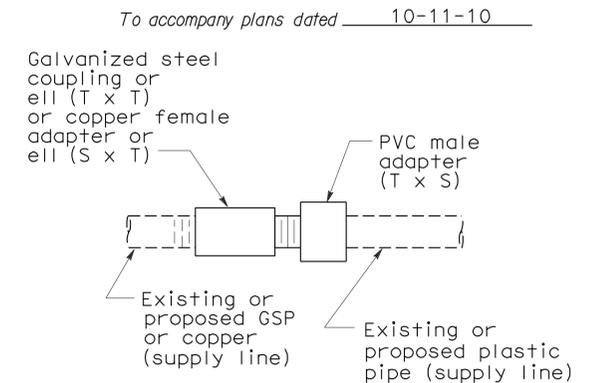
ELEVATION
WYE STRAINER



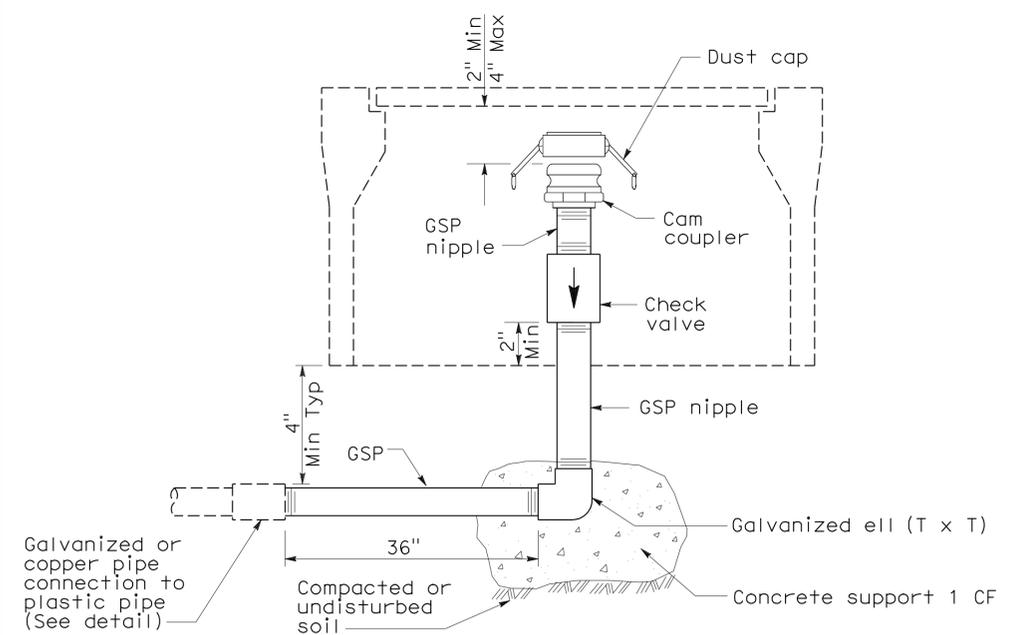
ELEVATION
VALVE



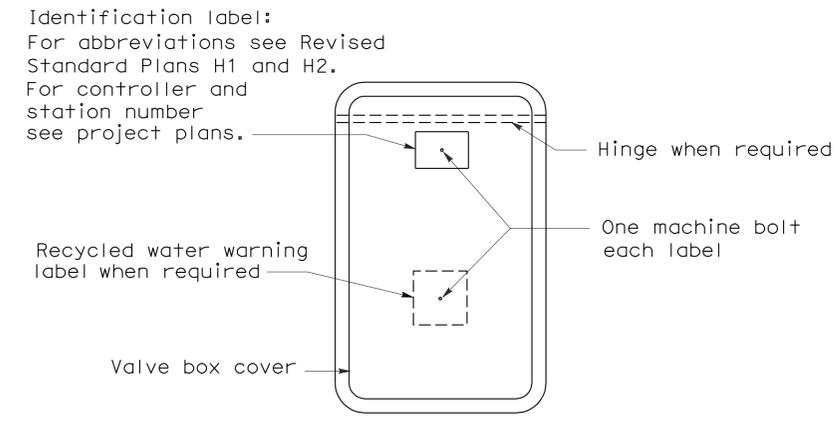
SECTION
VALVE BOX



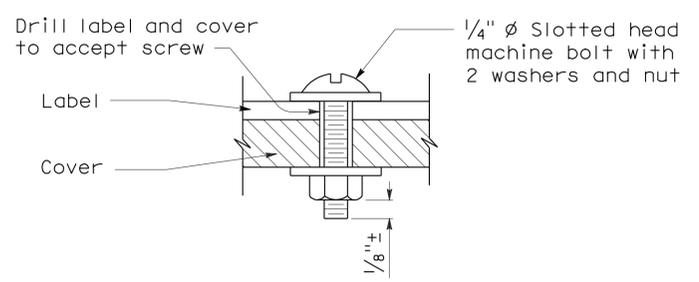
PLAN
GALVANIZED OR COPPER PIPE CONNECTION TO PLASTIC PIPE



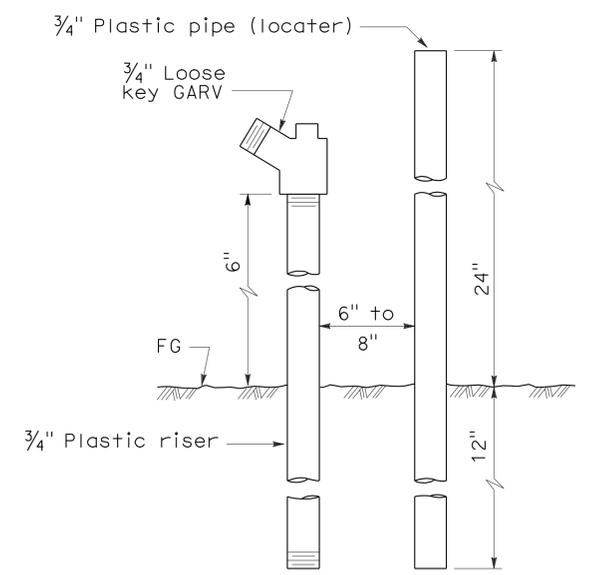
ELEVATION
CAM COUPLER ASSEMBLY



PLAN
VALVE BOX IDENTIFICATION



SECTION
VALVE BOX IDENTIFICATION



ELEVATION
FLUSH VALVE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PLANTING AND IRRIGATION DETAILS

NO SCALE

RSP H7 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H7
DATED MAY 1, 2006 - PAGE 207 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H7

2006 REVISED STANDARD PLAN RSP H7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	788	1132

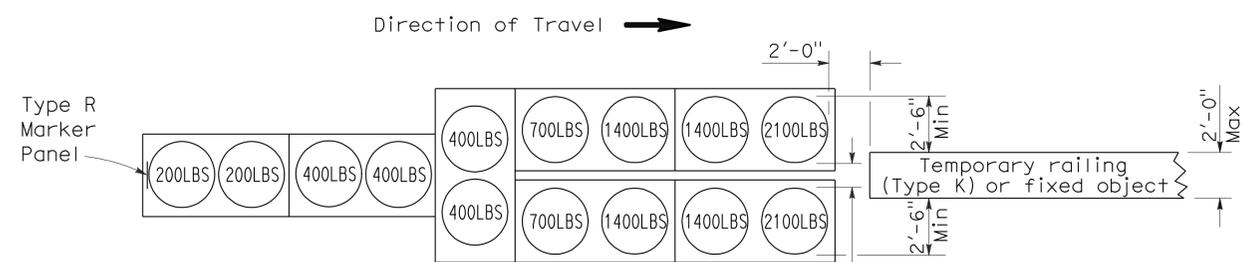
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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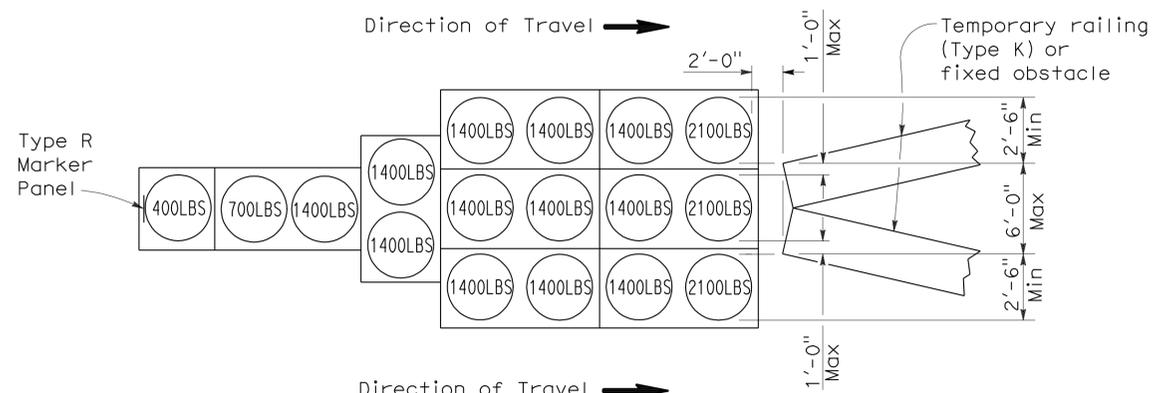
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 10-11-10



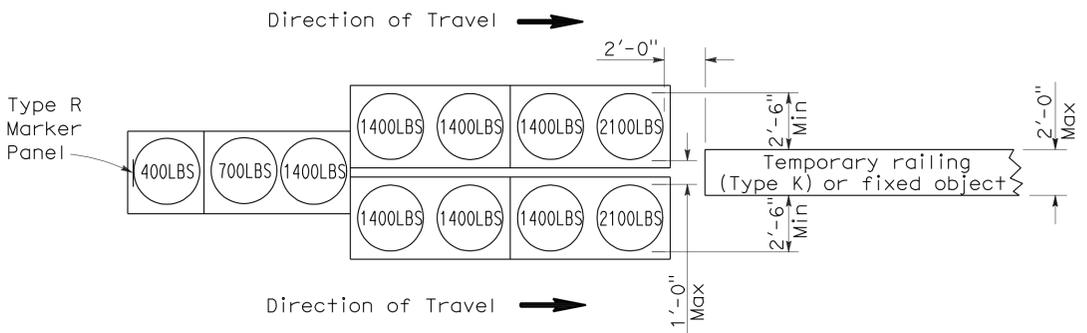
ARRAY 'TU14'

Approach speed 45 mph or more



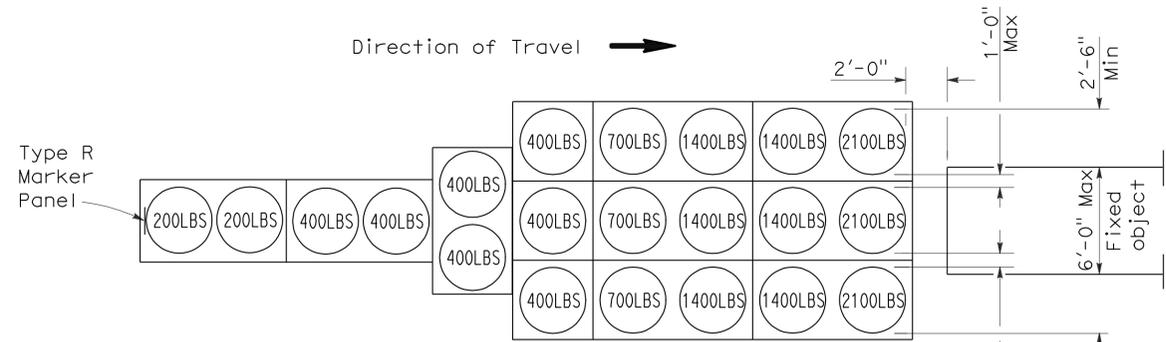
ARRAY 'TU17'

Approach speed less than 45 mph



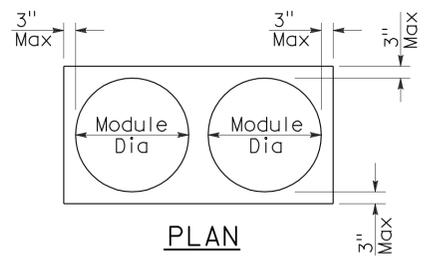
ARRAY 'TU11'

Approach speed less than 45 mph

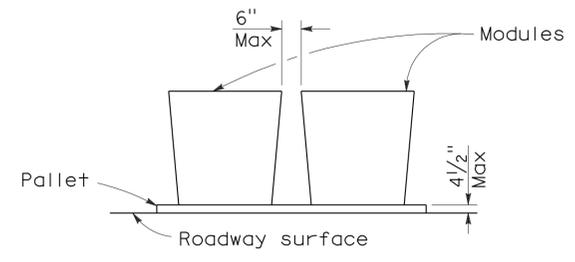


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

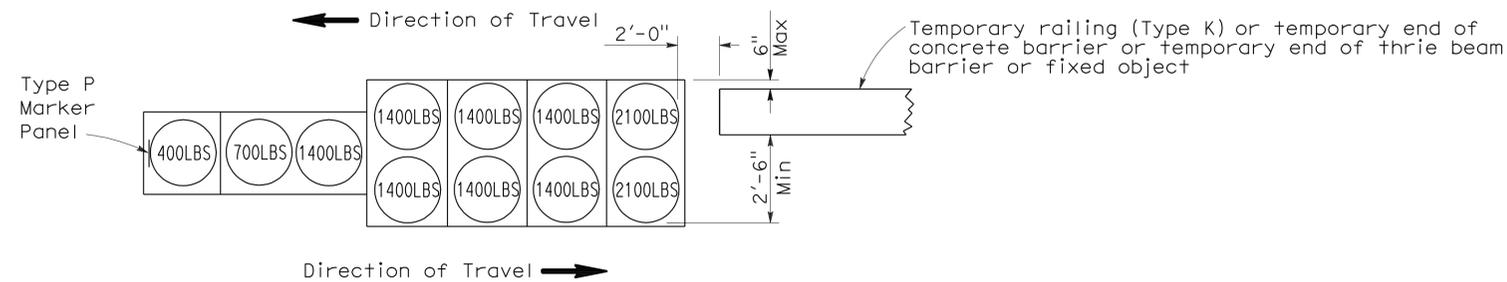
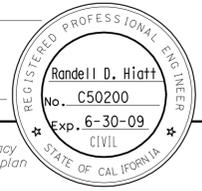
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	789	1132

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

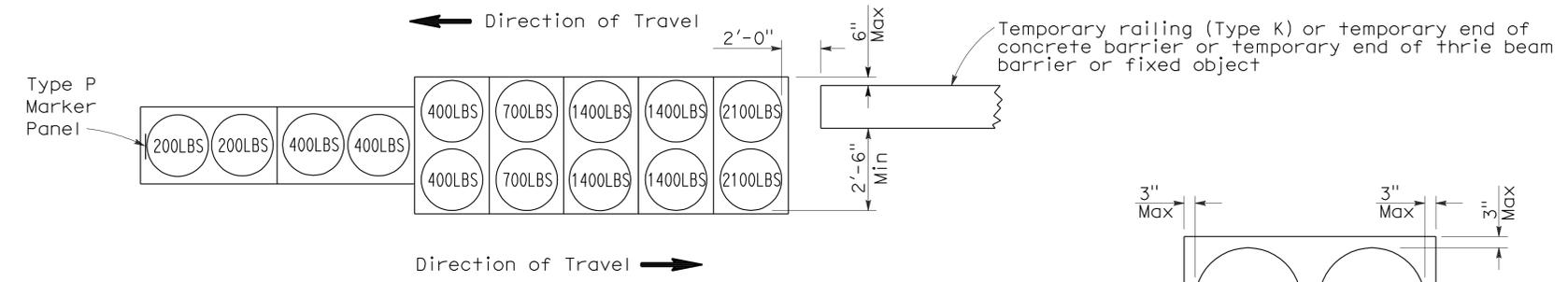
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To accompany plans dated 10-11-10



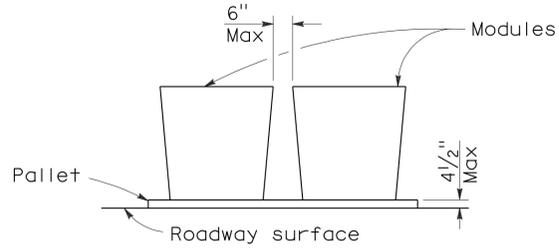
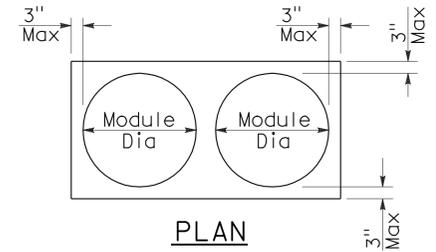
ARRAY 'TB11'

Approach speed less than 45 mph



ARRAY 'TB14'

Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL
See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(BIDIRECTIONAL)**

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

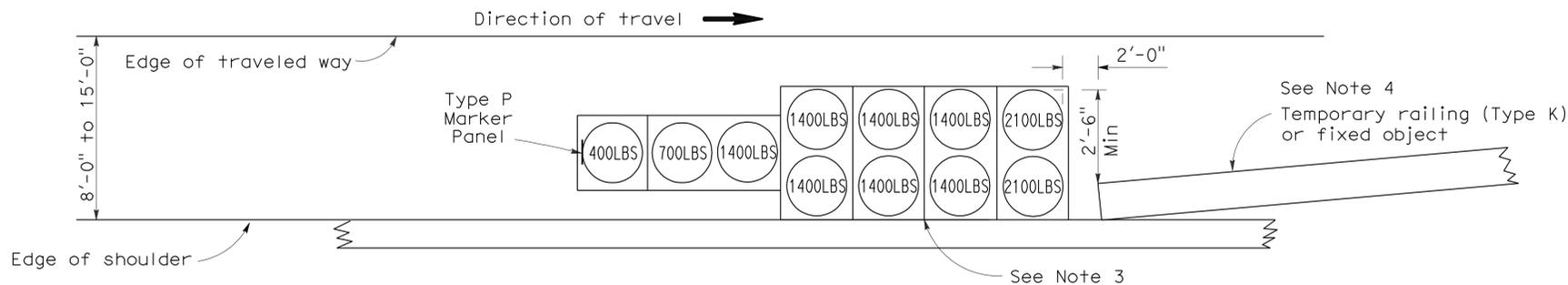
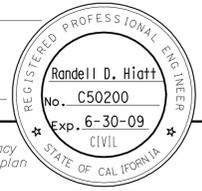
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	790	1132

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

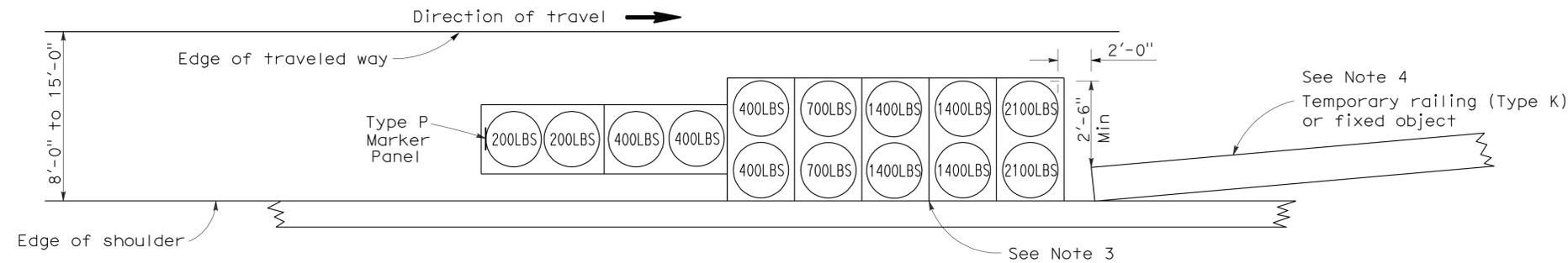
June 6, 2008
PLANS APPROVAL DATE

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.

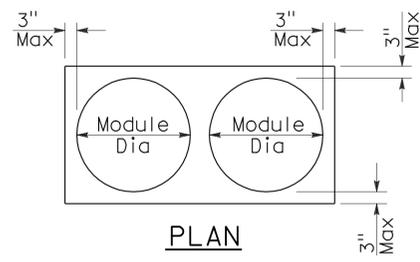
To accompany plans dated 10-11-10



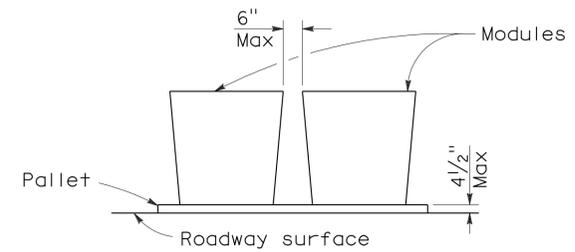
ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



ARRAY 'TS14'
Approach speed 45 mph or more
See Note 9



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

- (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
- All sand weights are nominal.
- The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
- If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**

NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

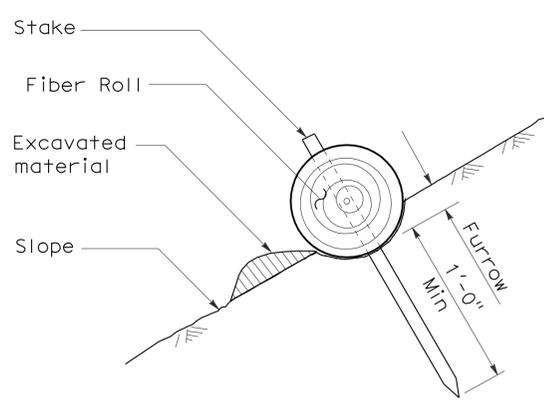
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	792	1132

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 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.

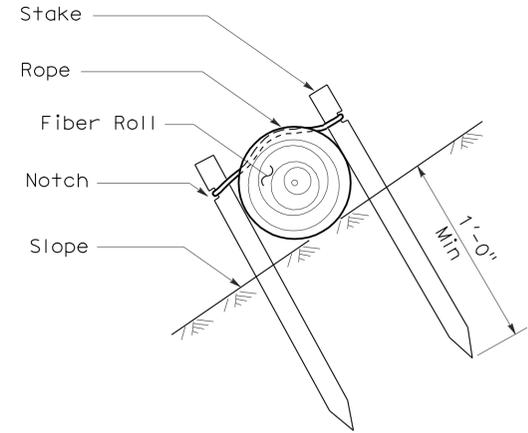
To accompany plans dated 10-11-10

NOTES:

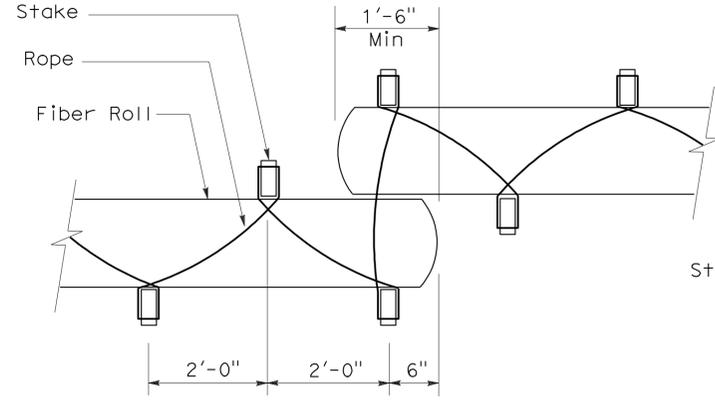
1. Temporary fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



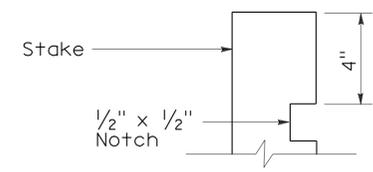
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



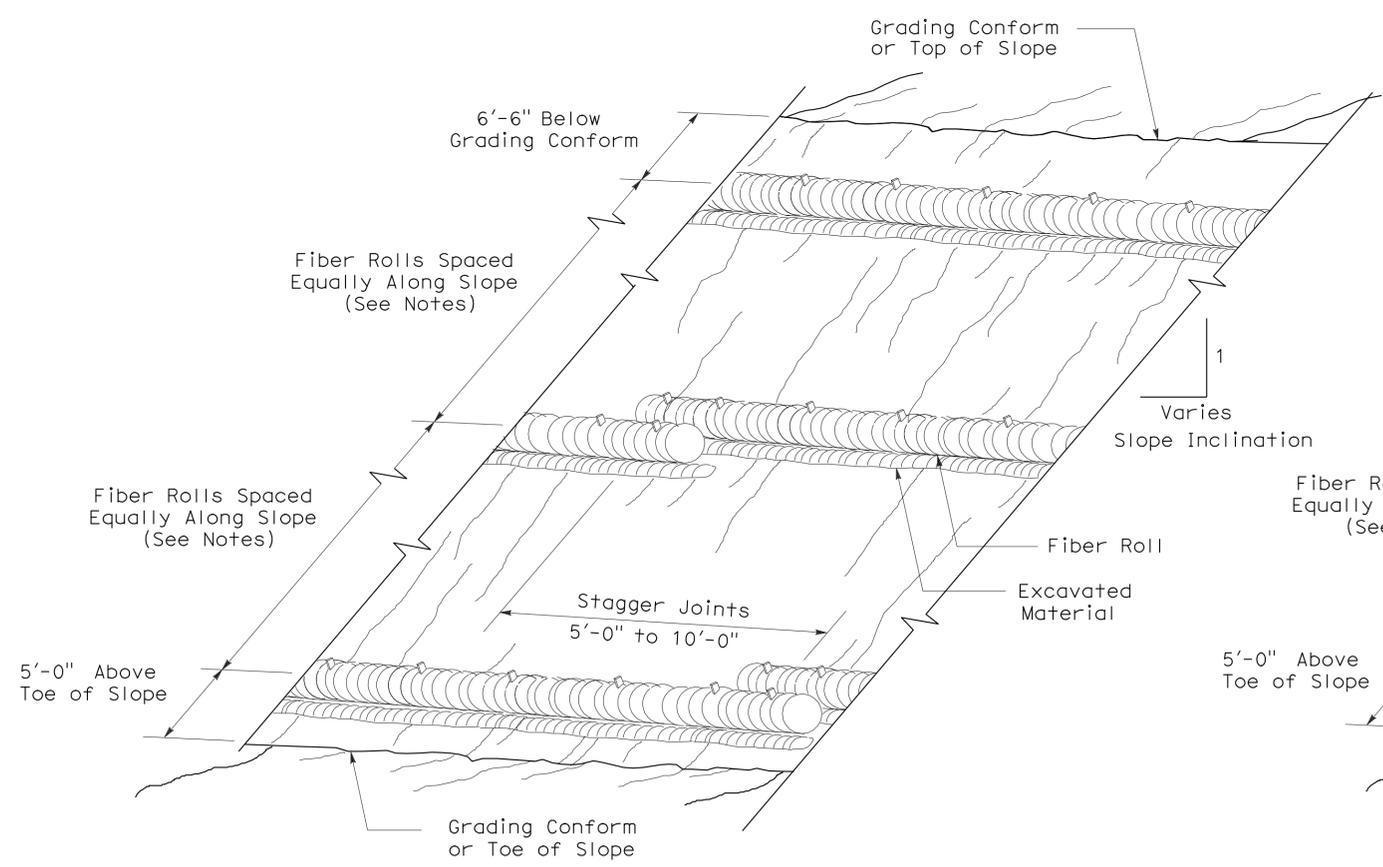
SECTION
TEMPORARY FIBER ROLL (TYPE 2)



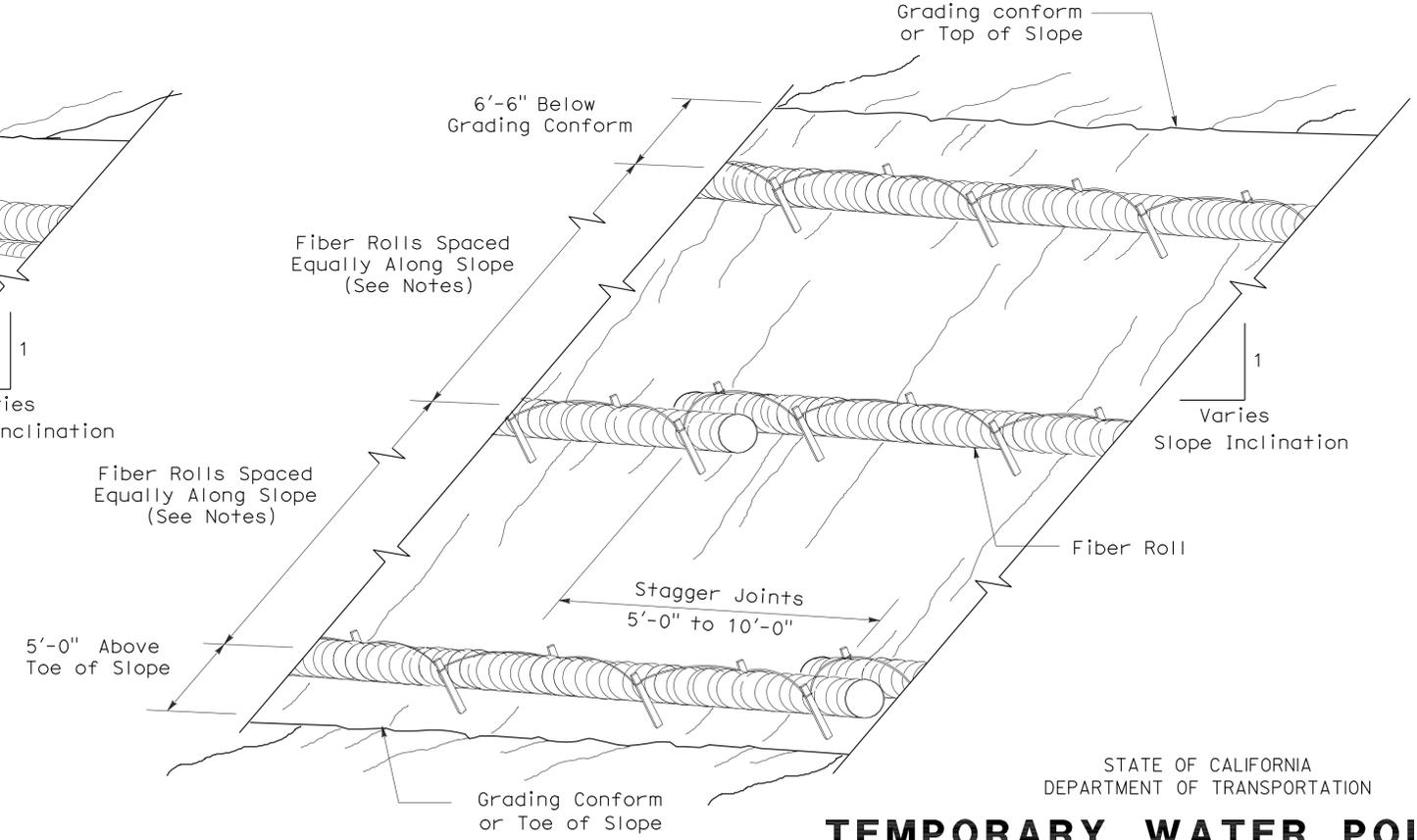
PLAN



ELEVATION
STAKE NOTCH DETAIL



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56 DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T56

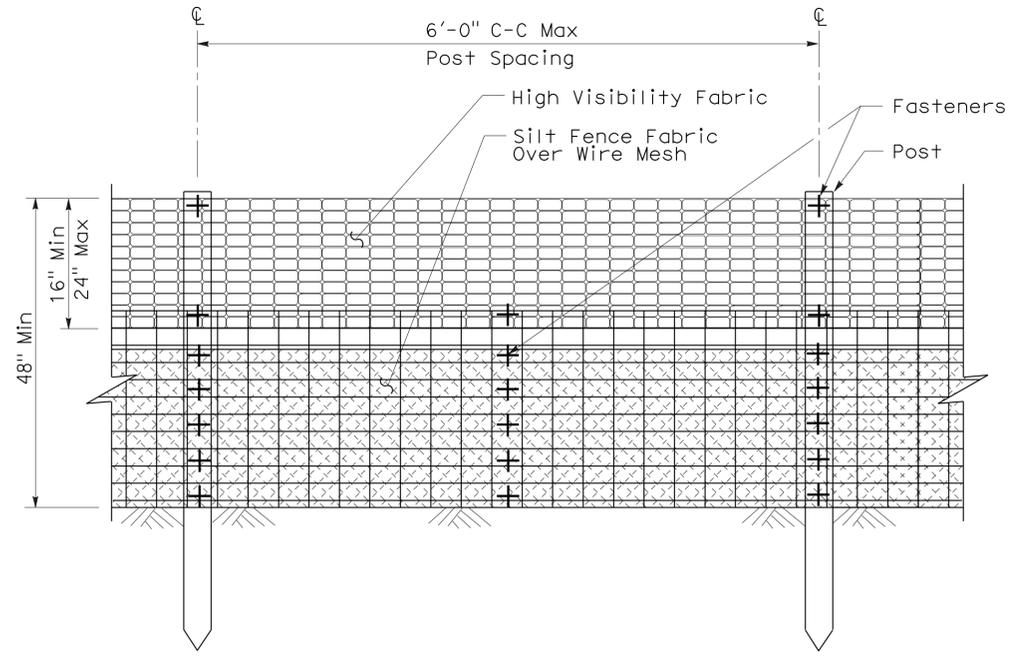
2006 REVISED STANDARD PLAN RSP T56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	793	1132

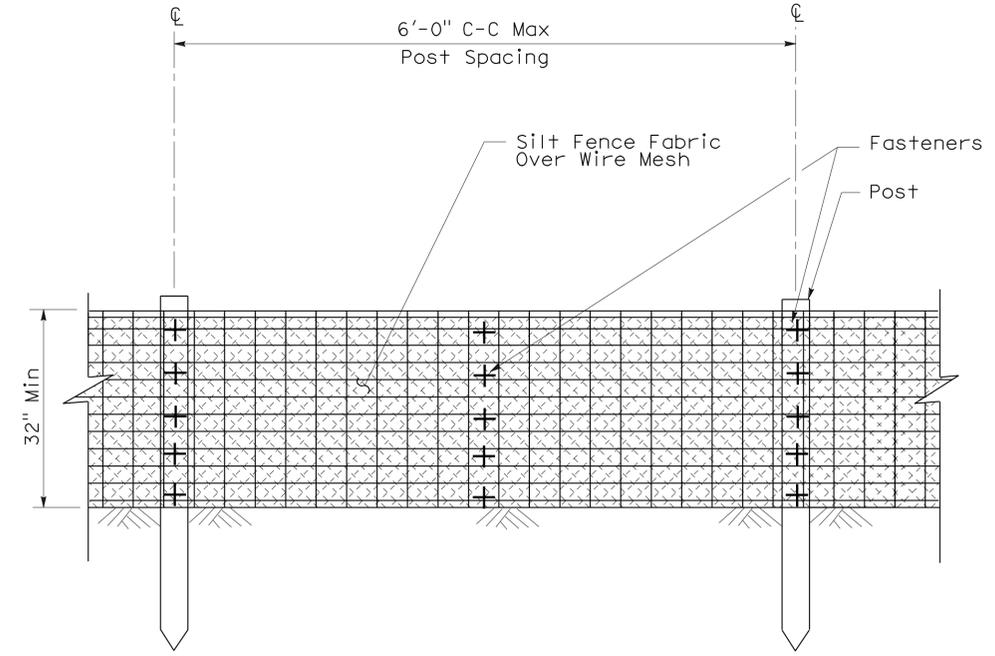
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
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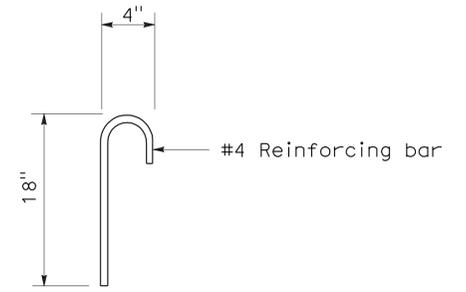
To accompany plans dated 10-11-10



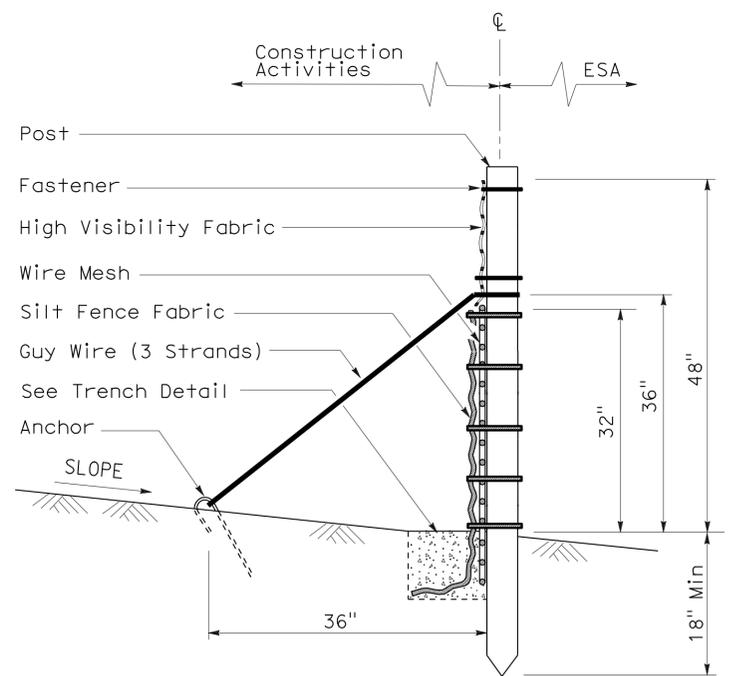
ELEVATION



ELEVATION

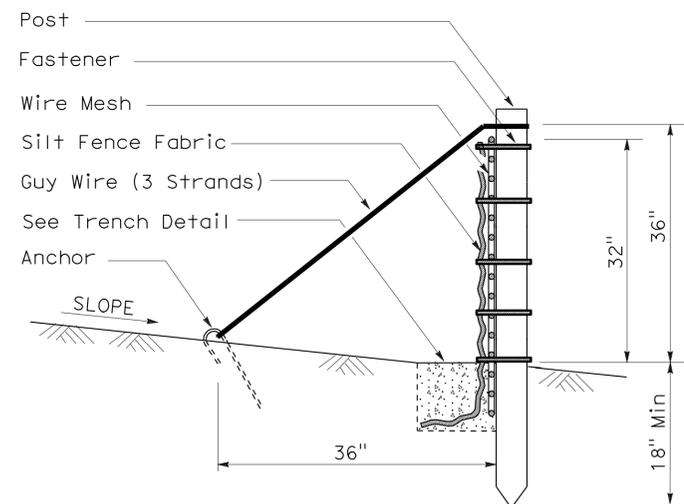


ANCHOR



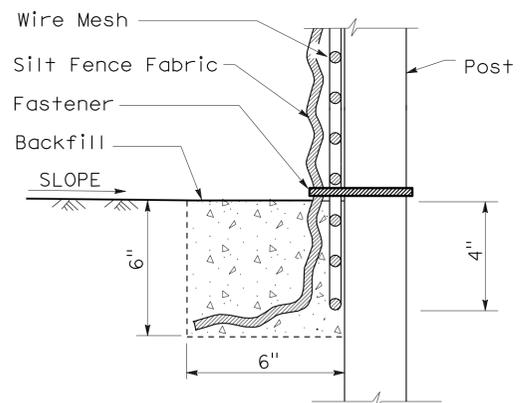
SECTION

TEMPORARY REINFORCED SILT FENCE (TYPE 1)



SECTION

TEMPORARY REINFORCED SILT FENCE (TYPE 2)



SECTION
TRENCH DETAIL

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS
(TEMPORARY REINFORCED SILT FENCE)
 NO SCALE
 NSP T60 DATED APRIL 3, 2009 SUPPLEMENTS
 THE STANDARD PLANS BOOK DATED MAY 2006.

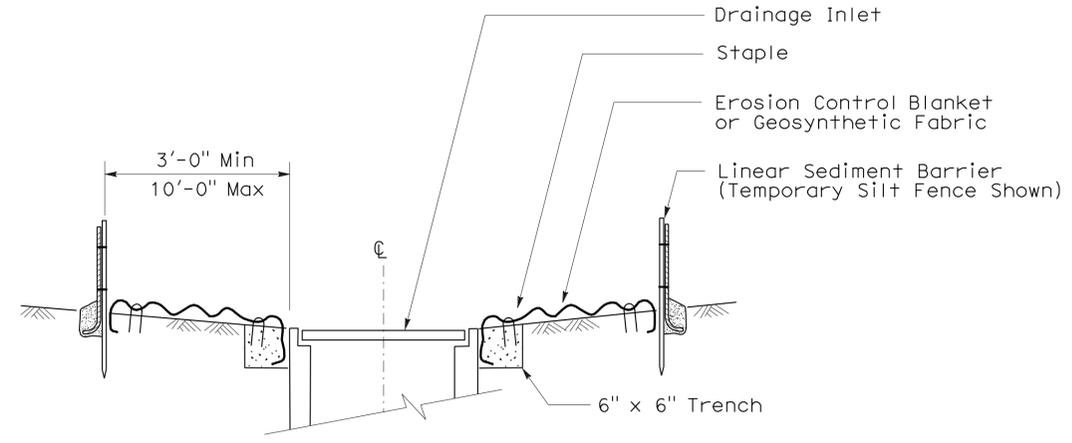
2006 NEW STANDARD PLAN NSP T60

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	794	1132

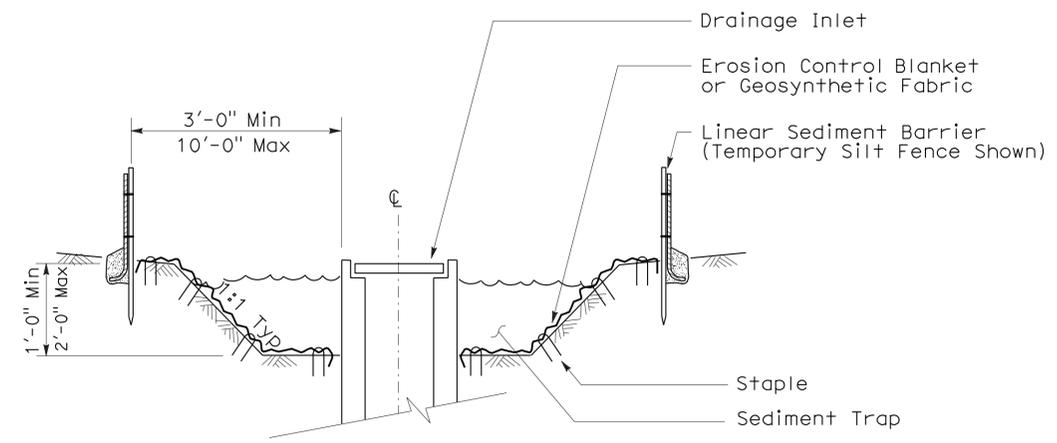
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS Approval DATE
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To accompany plans dated 10-11-10

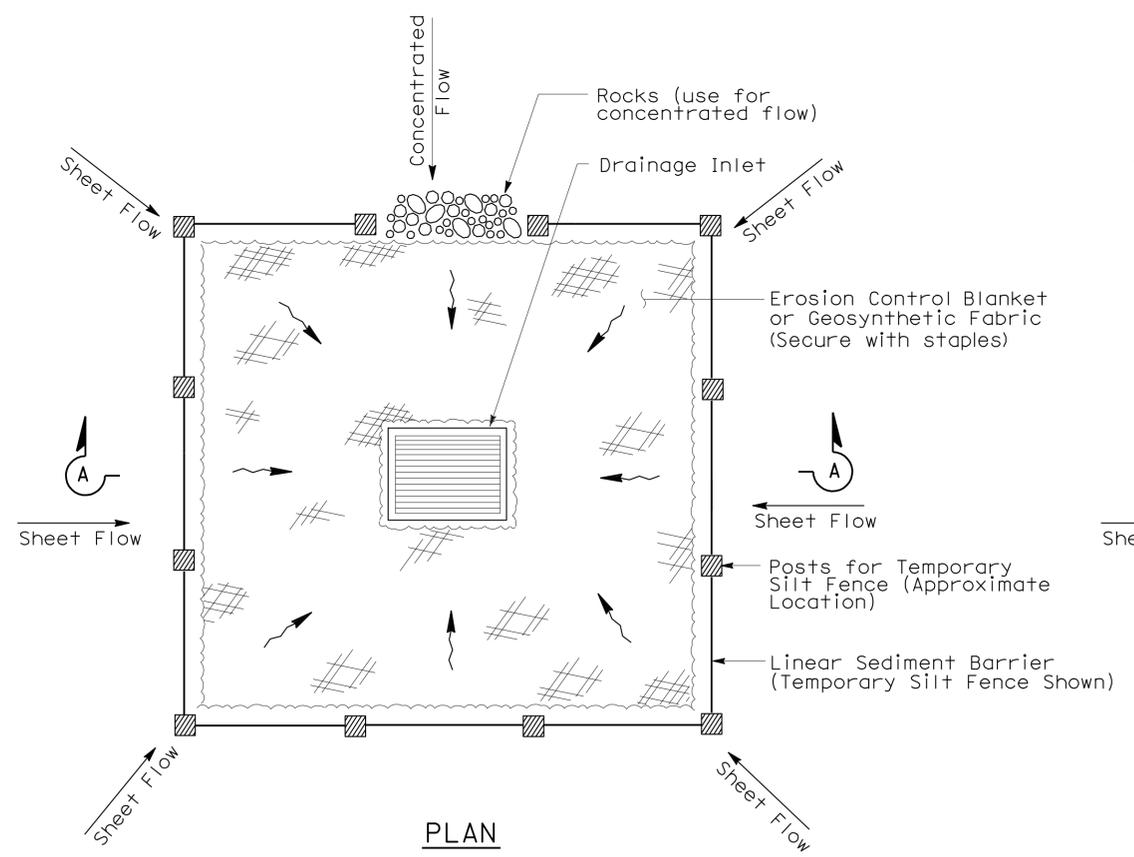
- NOTES:**
- See Standard Plan T51 for Temporary Silt Fence.
 - Dimensions may vary to fit field conditions.



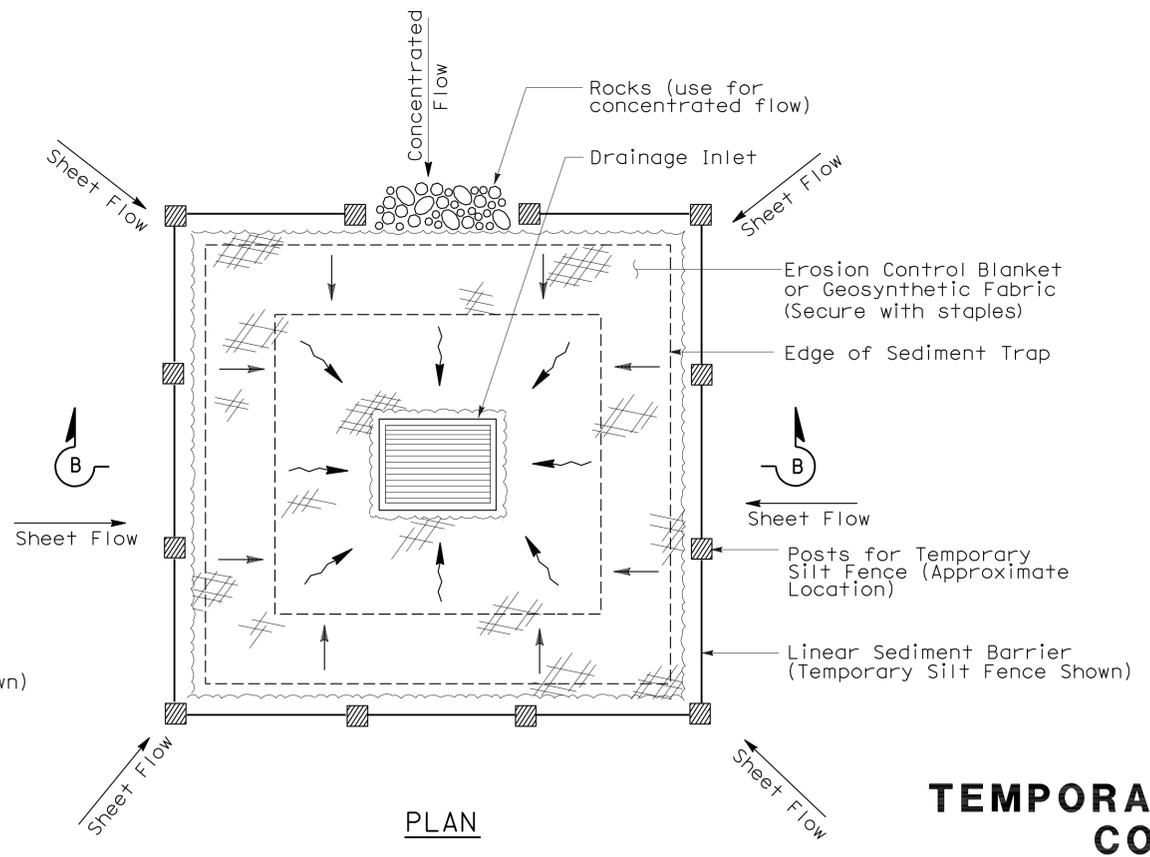
SECTION A-A



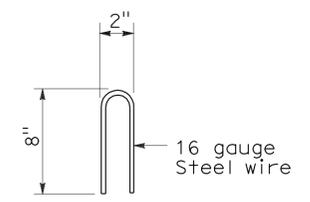
SECTION B-B



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (EXCAVATED SEDIMENT TRAP)



STAPLE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

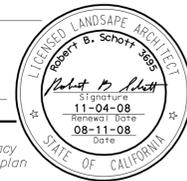
NO SCALE

NSP T61 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T61

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	795	1132

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
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To accompany plans dated 10-11-10

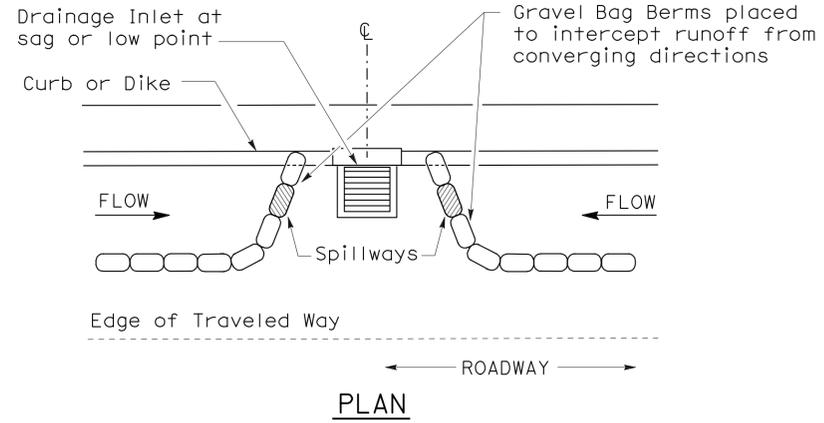
NOTES:

1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.

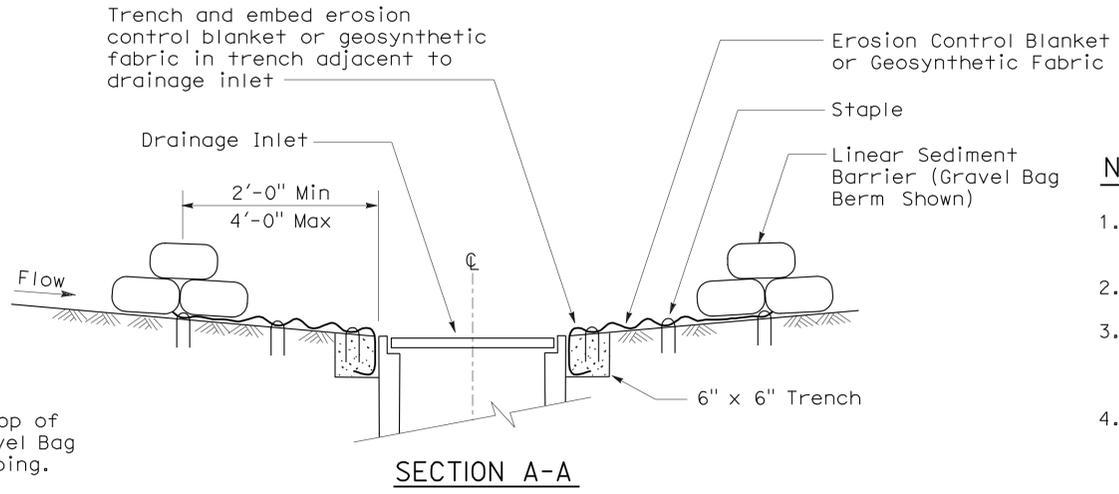
GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100'	75'	50'	25'	12'

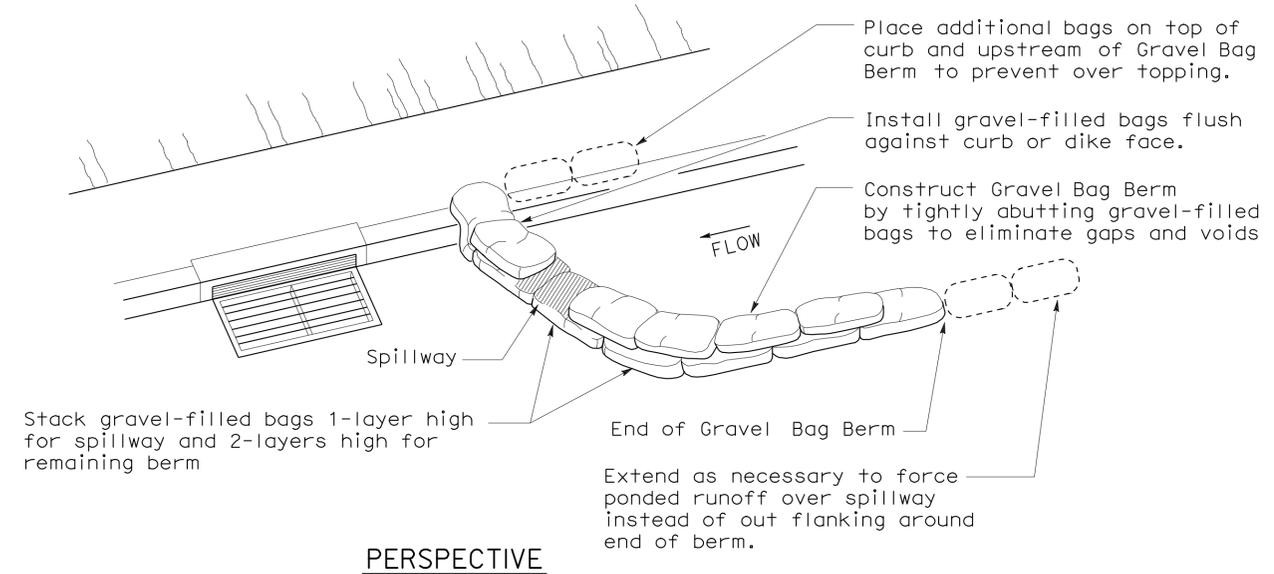
For slope of less than 1%, install barriers only if erosion/sediment is prevalent



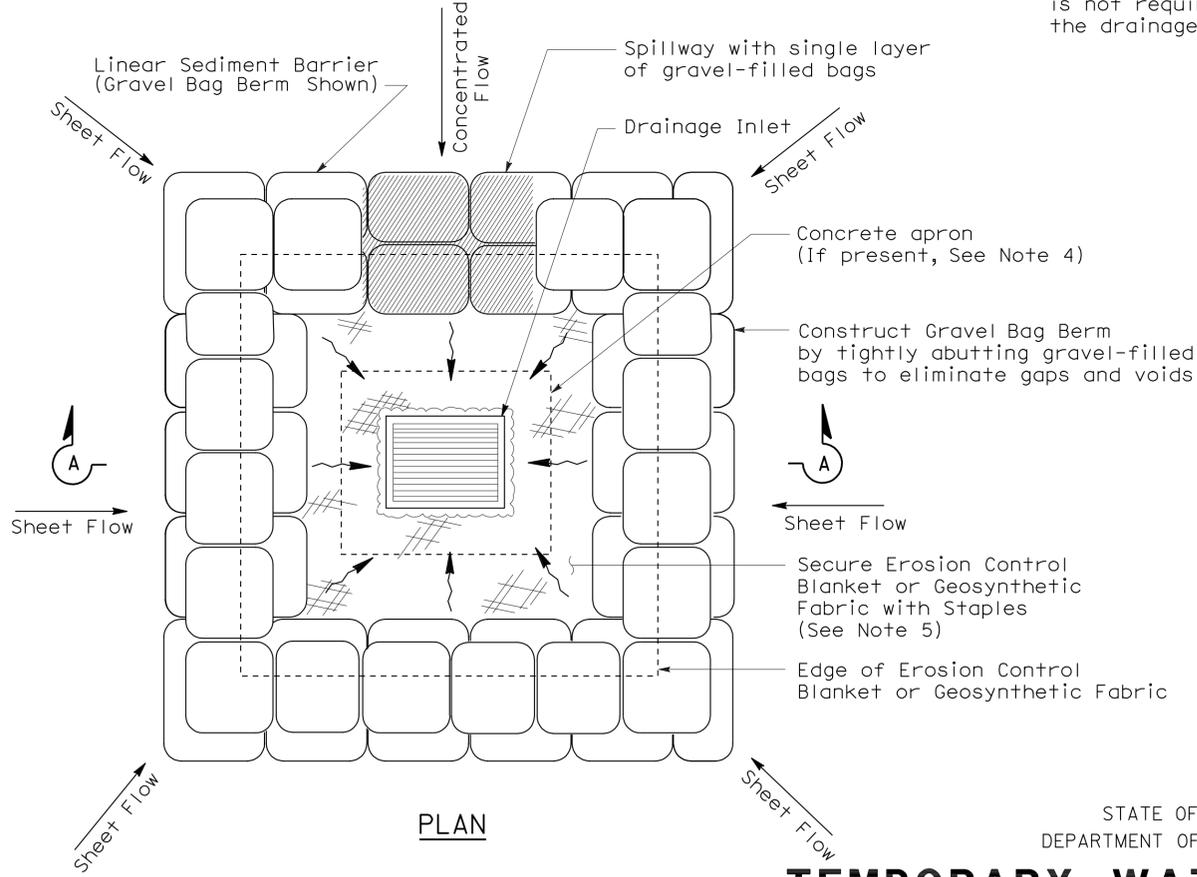
**PLAN
CONFIGURATION FOR SAG POINT INLET
(GRAVEL BAG BERM)**



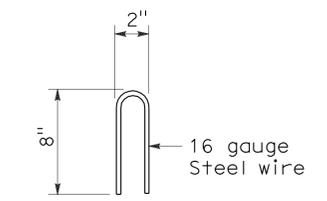
SECTION A-A



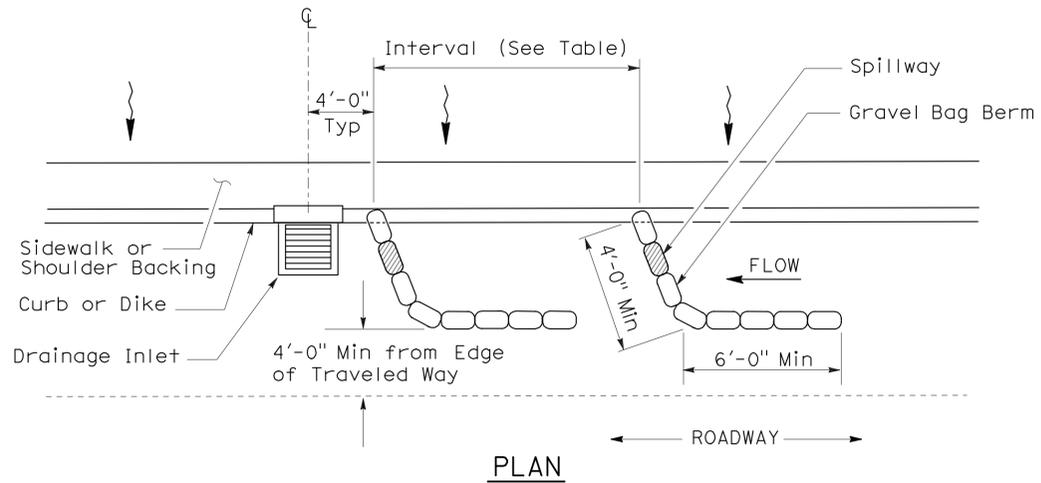
PERSPECTIVE



**PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 3B)**



STAPLE DETAIL



**PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 3A)
(GRAVEL BAG BERM)**

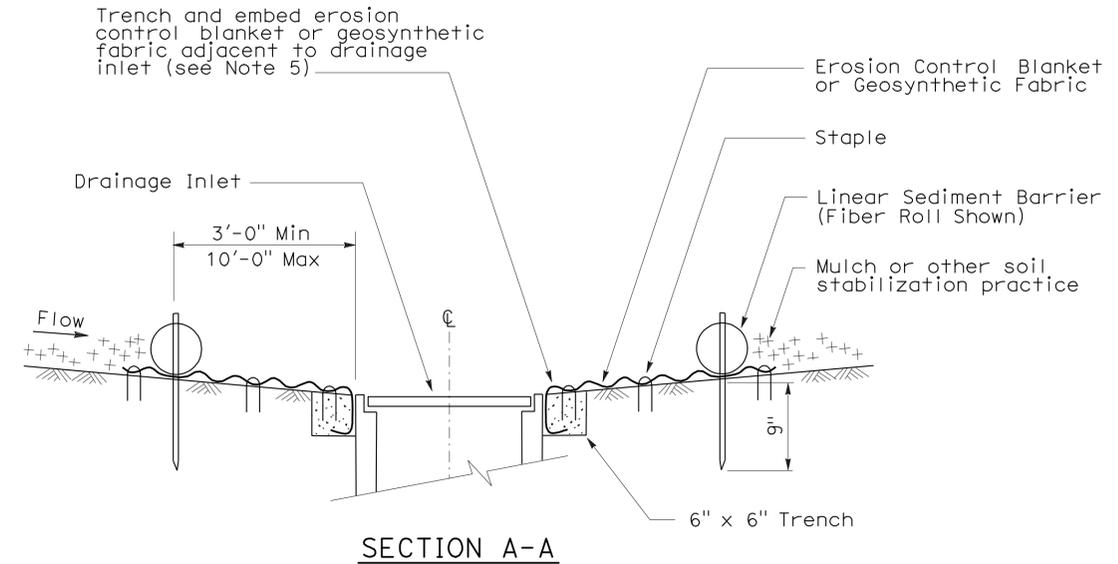
**STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY DRAINAGE
INLET PROTECTION)**

NO SCALE
NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

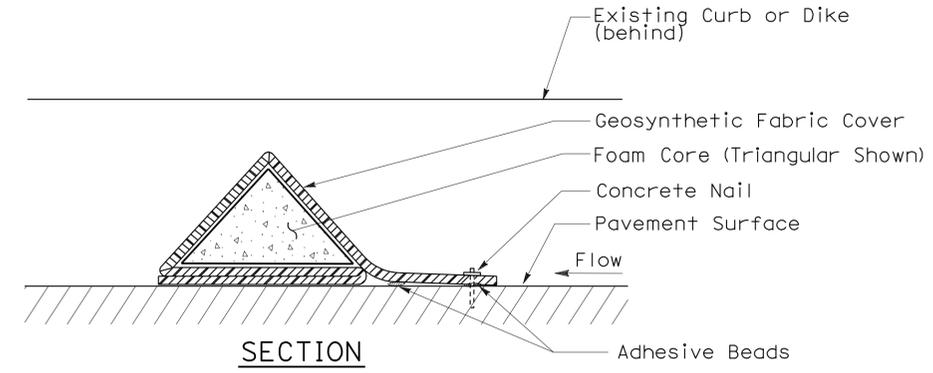
2006 NEW STANDARD PLAN NSP T62

FLEXIBLE SEDIMENT BARRIER SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	0 to 0.9	1 to 1.9	2 to 2.9	3 to 4	5+
INTERVAL BETWEEN BARRIERS	50'	35'	30'	25'	20'
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6'	6'	6'	6'	6'



SECTION A-A

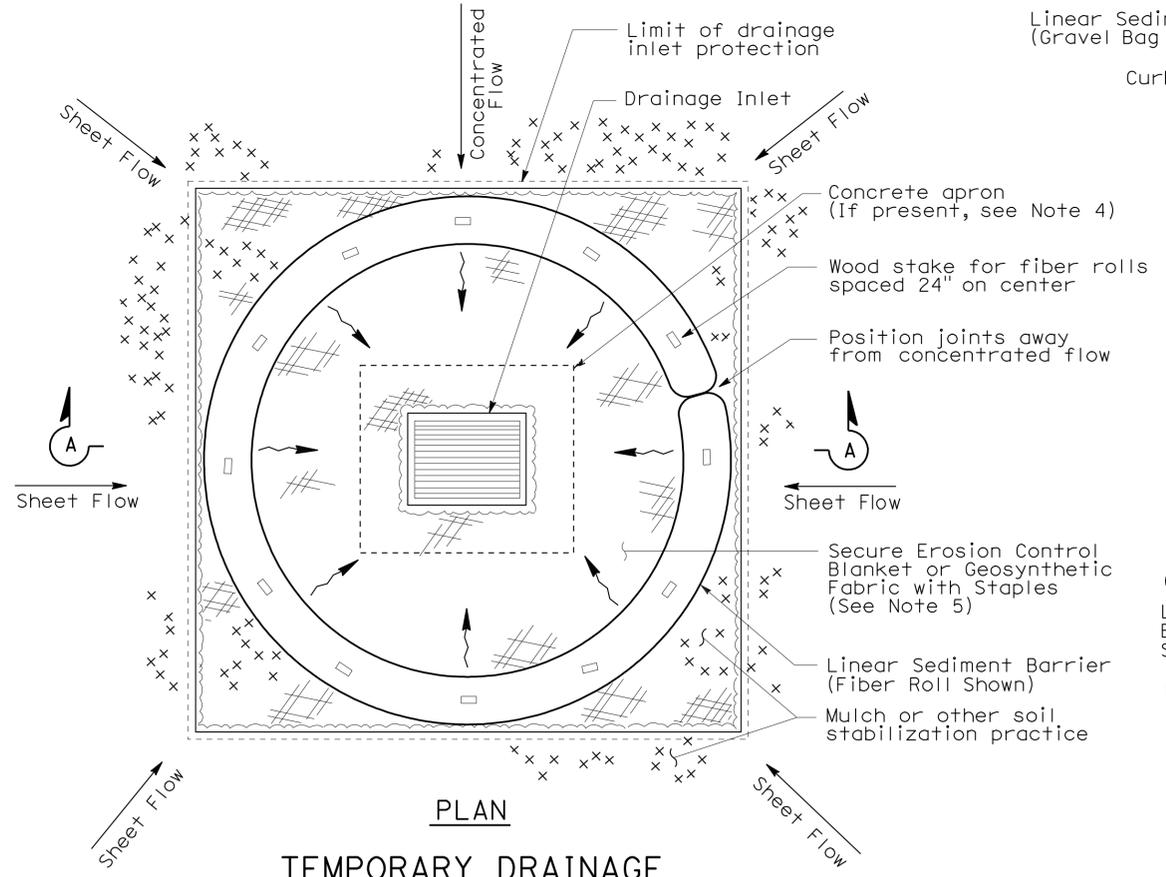


SECTION FLEXIBLE SEDIMENT BARRIER DETAIL (FOAM BARRIER SHOWN)

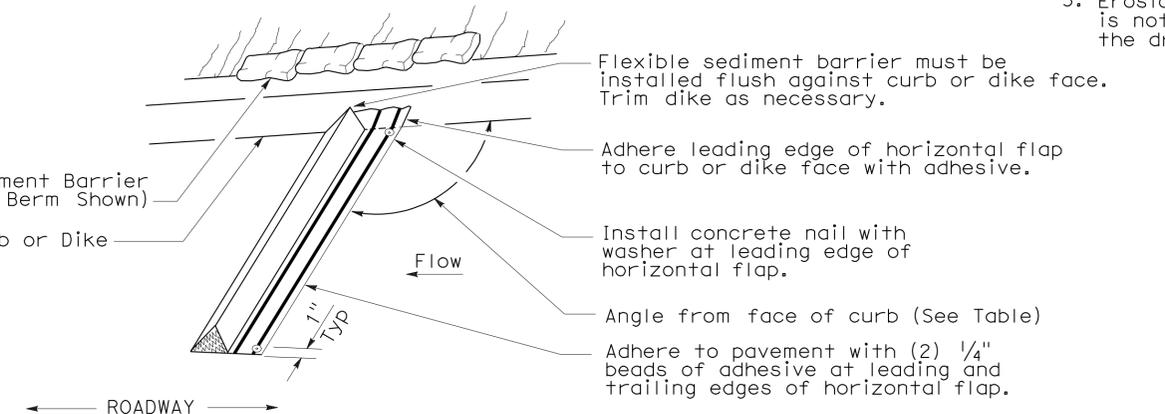
NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated.

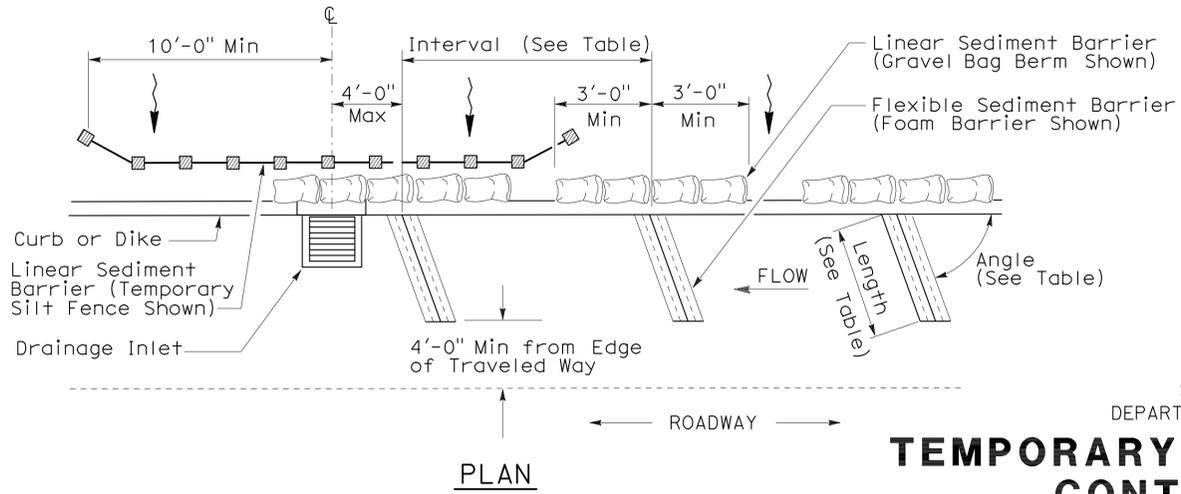
To accompany plans dated 10-11-10



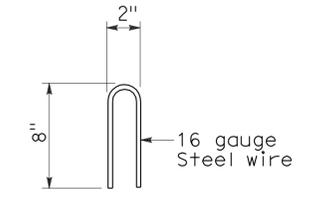
PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4A)



PERSPECTIVE



PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4B) FLEXIBLE SEDIMENT BARRIER



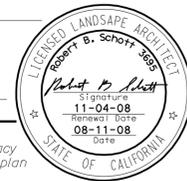
STAPLE DETAIL

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

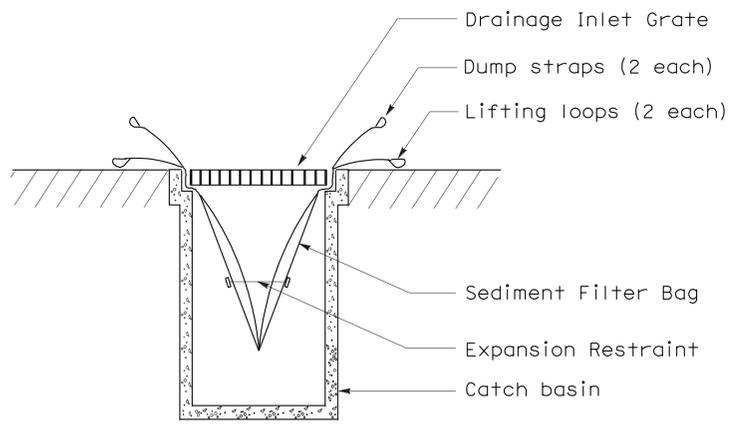
NO SCALE
 NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	797	1132

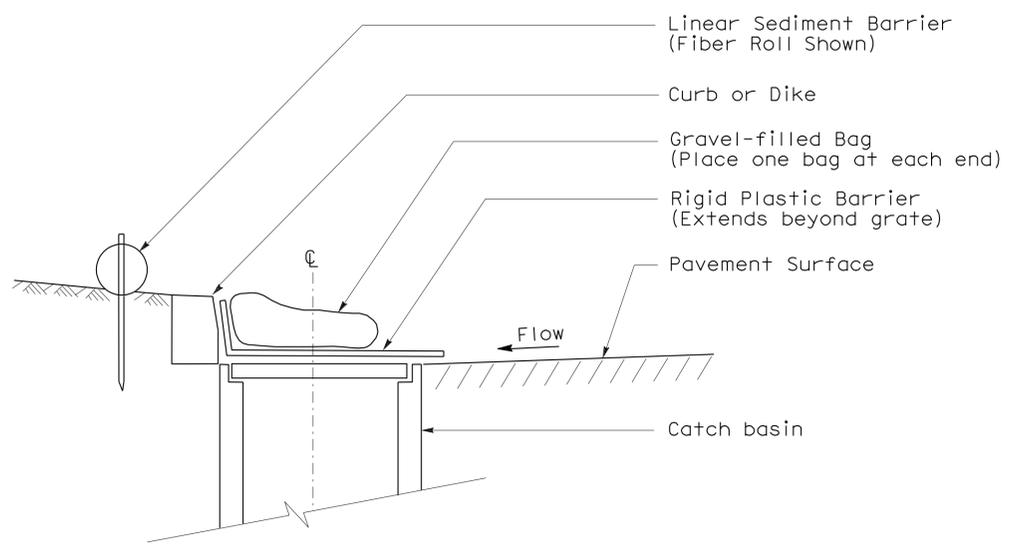
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
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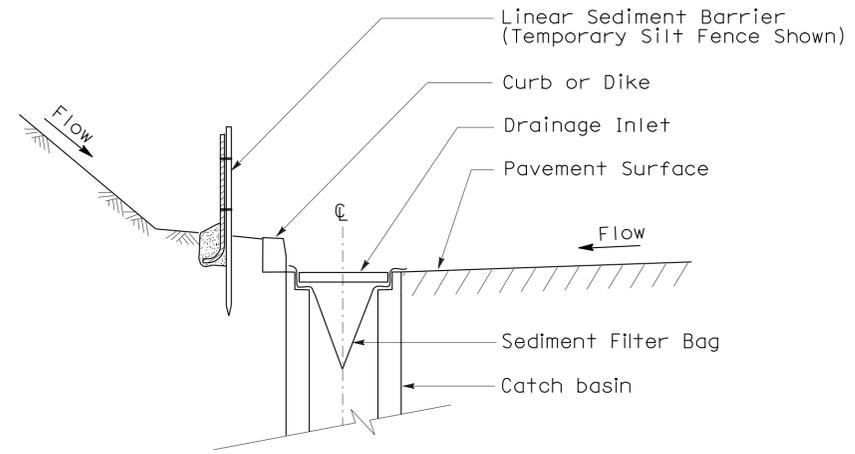
To accompany plans dated 10-11-10



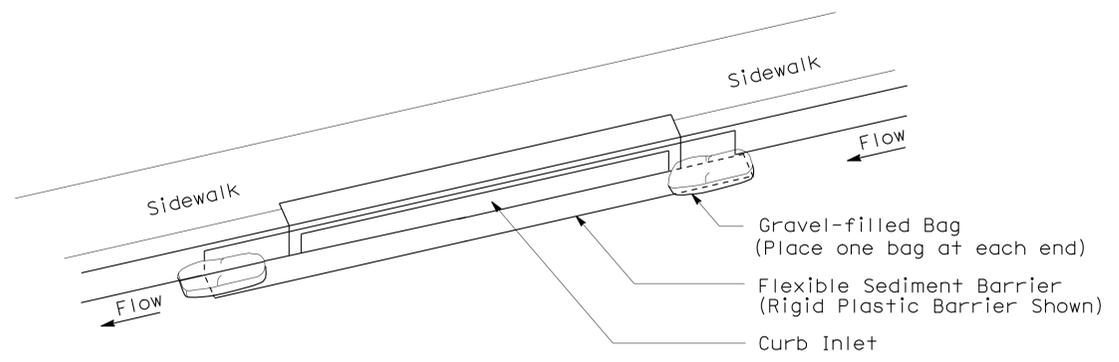
SECTION B-B
SEDIMENT FILTER BAG DETAIL



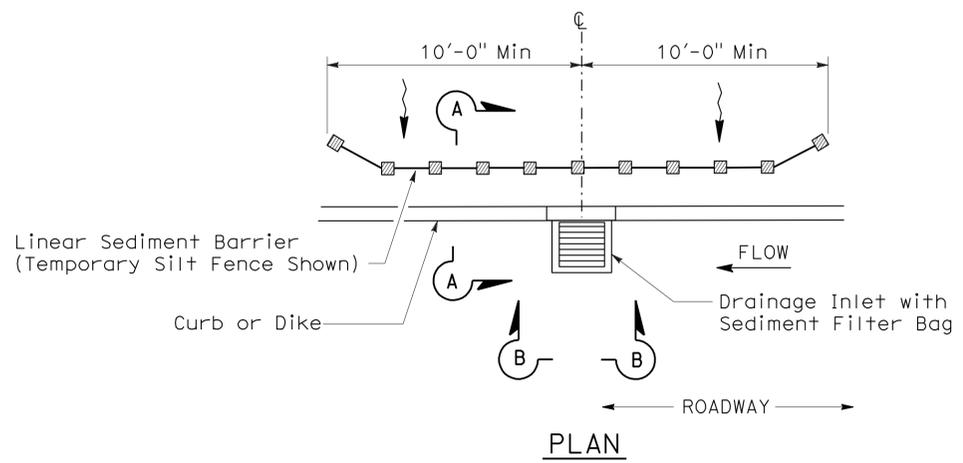
SECTION
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6A)
(CATCH BASIN WITH GRATE)



SECTION A-A



PERSPECTIVE
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6B)
(CURB INLET WITHOUT GRATE)



PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 5)
(SEDIMENT FILTER BAG)

NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

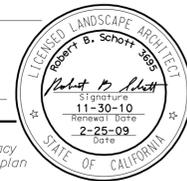
NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T64

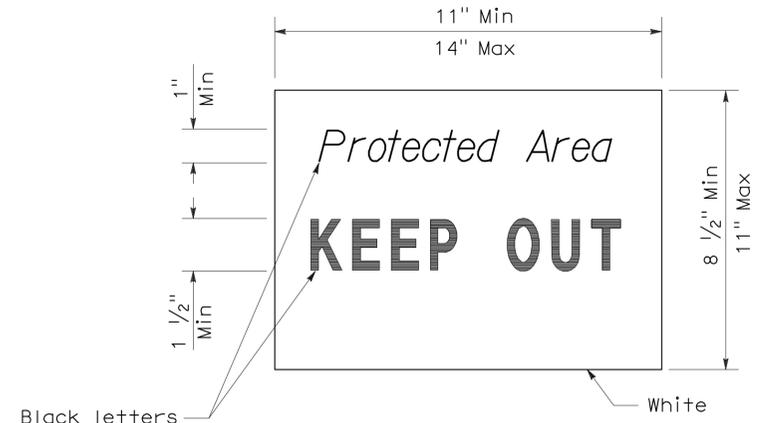
2006 NEW STANDARD PLAN NSP T64

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	798	1132

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
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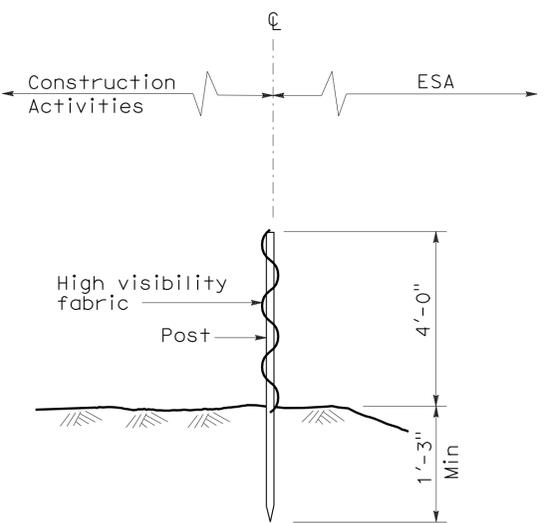
To accompany plans dated 10-11-10



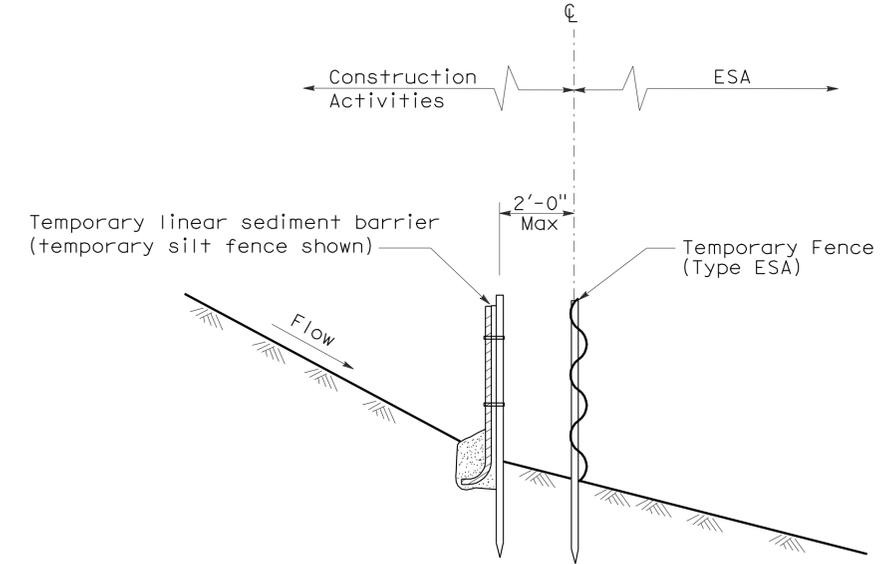
SIGN DETAIL

NOTE:

1. Temporary silt fence and temporary straw bale barrier shown for reference purposes only.

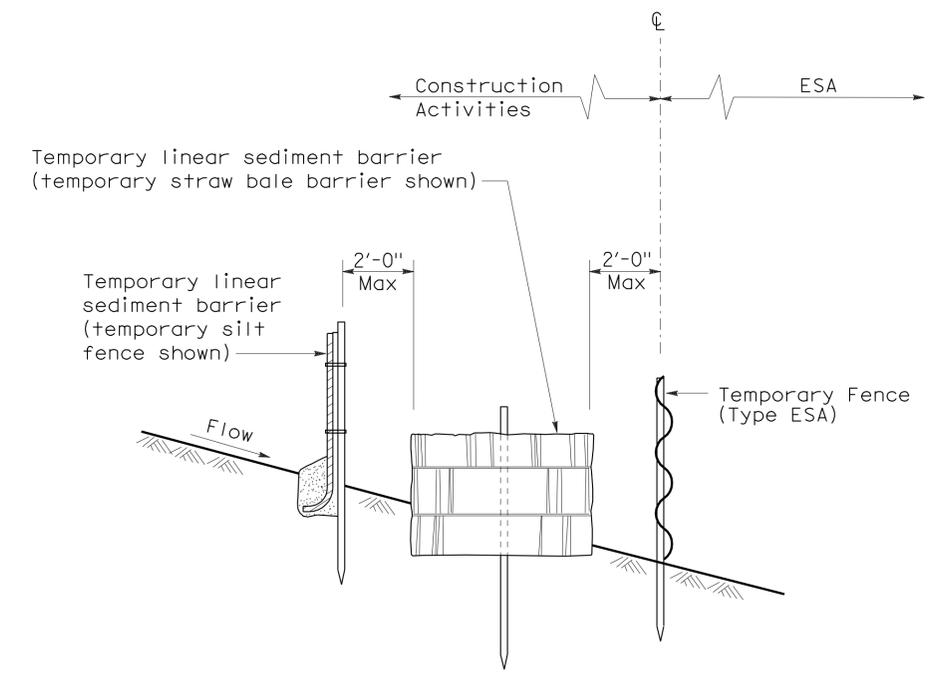


SECTION TEMPORARY FENCE (TYPE ESA)



SECTION PLACEMENT DETAIL FOR TEMPORARY LINEAR SEDIMENT BARRIER USED WITH TEMPORARY FENCE (TYPE ESA)

(See Note 1)



SECTION PLACEMENT DETAIL FOR TEMPORARY SILT FENCE AND TEMPORARY STRAW BALE BARRIER USED WITH TEMPORARY FENCE (TYPE ESA)

(See Note 1)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS [TEMPORARY FENCE (TYPE ESA)]

NO SCALE

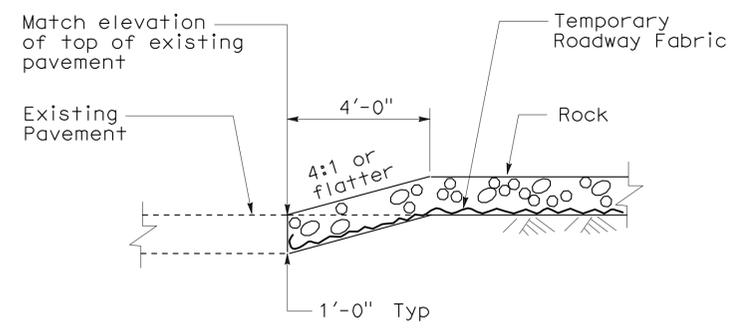
NSP T65 DATED APRIL 3, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T65

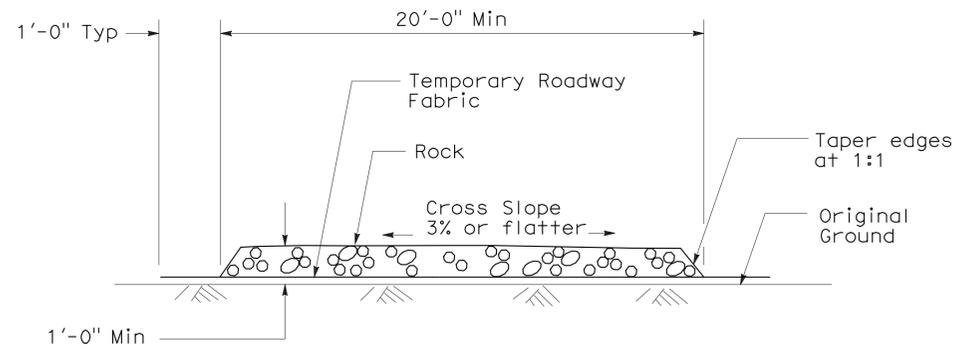
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	25.0/32.7	799	1132

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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To accompany plans dated 10-11-10



SECTION
CONFORM DETAIL



SECTION
TEMPORARY CONSTRUCTION ROADWAY

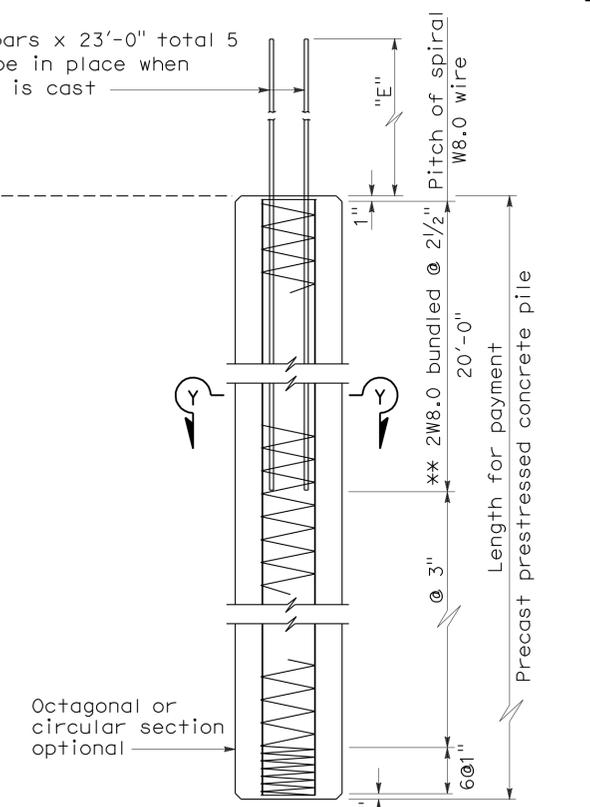
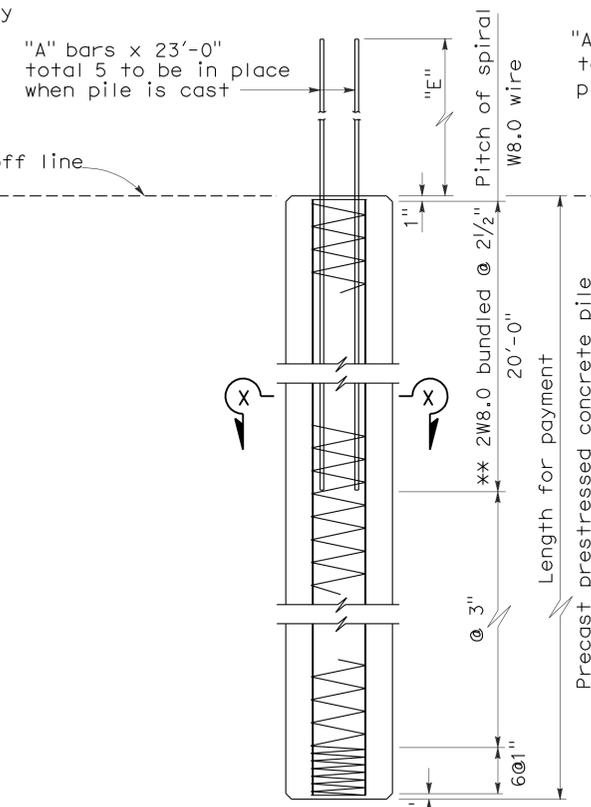
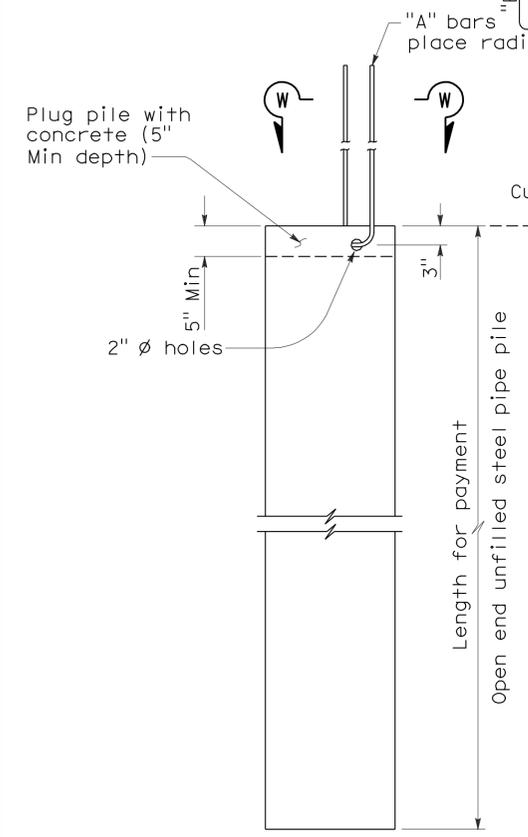
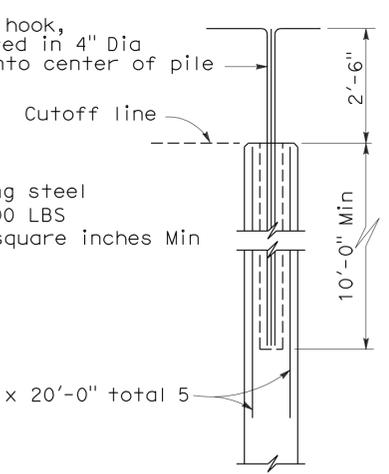
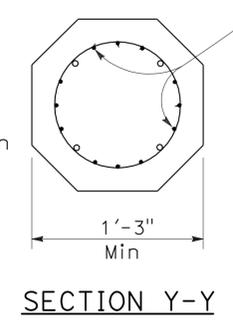
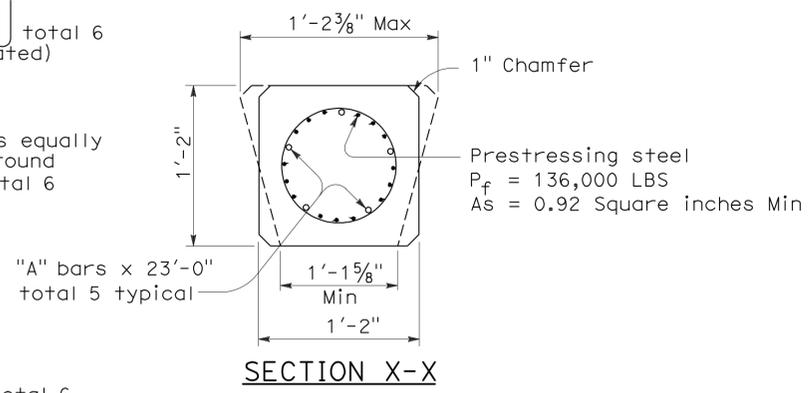
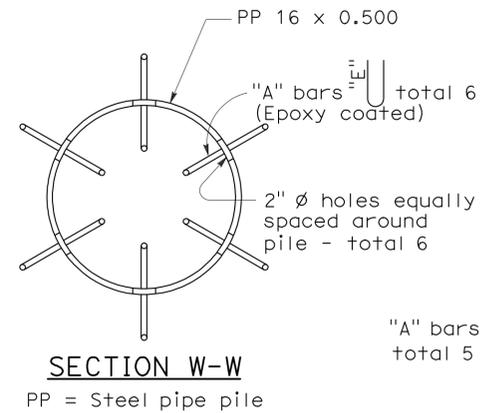
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY CONSTRUCTION
ROADWAY)**

NO SCALE
NSP T67 DATED JUNE 5, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

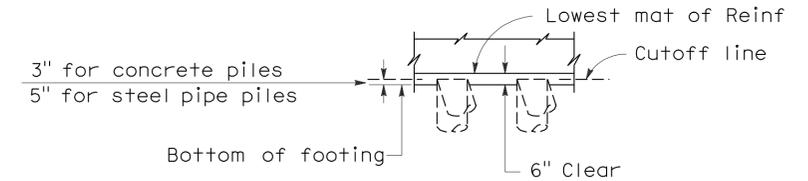
2006 NEW STANDARD PLAN NSP T67

2006 REVISED STANDARD PLAN RSP B2-8



	Nominal Resistance (Tension) *	
	Not Required	Required
"A" bars	#6	#8
"E" Dimension	2'-0"	2'-10"

* See Pile Data Table in the Project Plans for Nominal Resistance (Tension) Requirements



DESIGN NOTES:

DESIGN CAPACITY :

- Compression = 200 kip (Service state)
- = 400 kip (Nominal axial strength)
- Tension = 80 kip (Service state)
- = 200 kip (Nominal axial strength)

REINFORCED CONCRETE

f'c = 4,000 psi
fy = 60,000 psi

PRECAST PRESTRESSED PILES

Pf = Prestress Force (After losses)
Concrete Strength f'c @ 28 days = 7,000 psi
fci @ transfer = 4,000 psi

STEEL PIPE PILE

Fy (minimum yield strength) = 45,000 psi
Fu (minimum tensile strength) = 66,000 psi

NOTES:

1. Pile reinforcement extending into footing shall be hooked as required to provide clearance to top of footing.
2. Lapped splices in spiral pile reinforcement shall be lapped 80 wire diameters minimum. Spiral pile reinforcement at splices and at ends shall be terminated by a 135° hook with 6" tail hooked around a longitudinal bar or strand.
3. At the Contractor's option, alternative steel pipe with at least the diameter and wall thickness shown on these plans may be used. The diameter shall not exceed 1'-6".
4. Alternative "W" piles shall not be used for corrosive environments.
5. Maximum cut-off length at the top of the Alternative "X" and Alternative "Y" piles is 10'-0".