

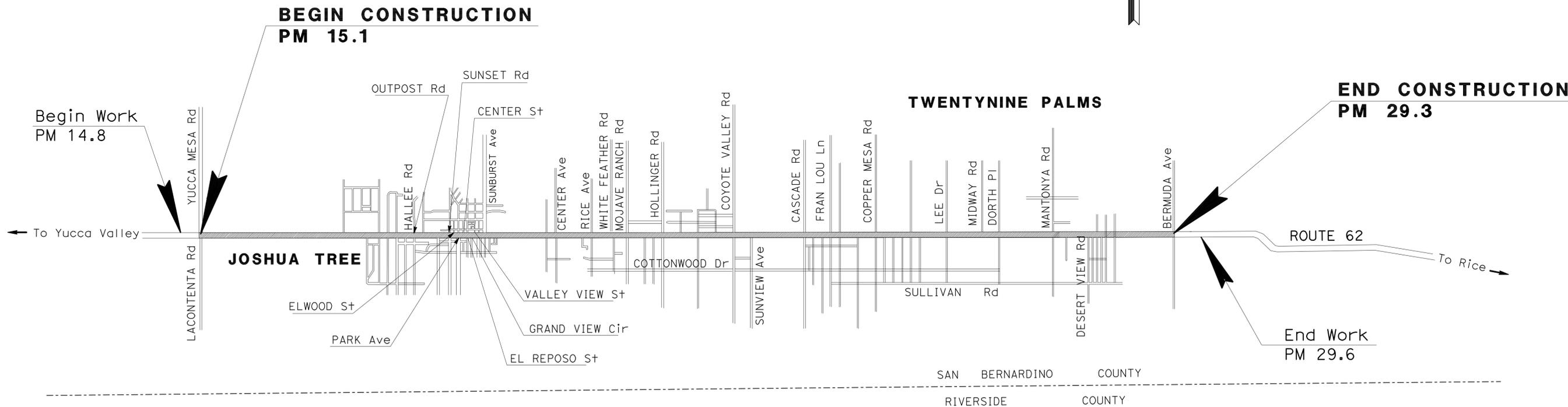
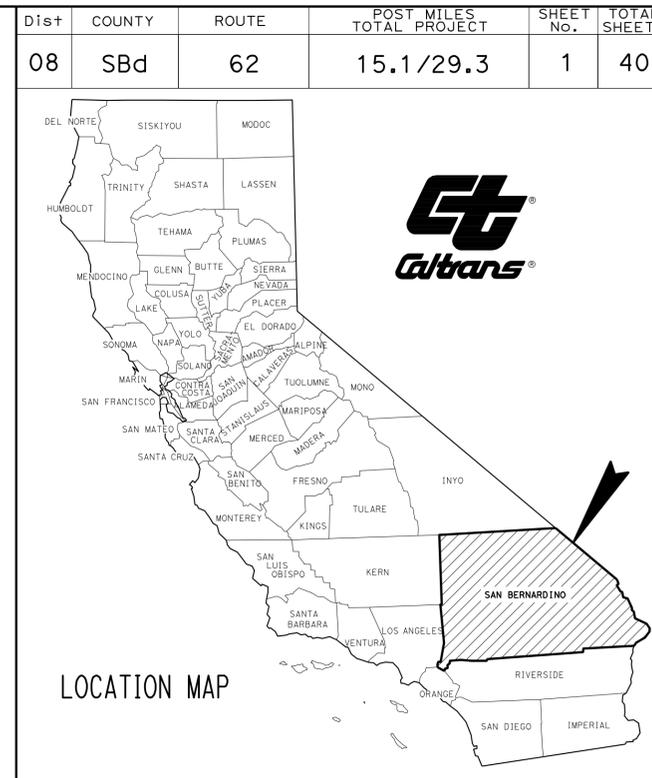
INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2-4	TYPICAL CROSS SECTIONS
5-16	CONSTRUCTION DETAILS
17	CONSTRUCTION AREA SIGNS
18	PAVEMENT DELINEATION QUANTITIES
19-20	SIGN PLANS
21	SIGN DETAILS AND QUANTITIES
22-23	SUMMARY OF QUANTITIES
24-26	ELECTRICAL PLANS
27-40	REVISED AND NEW STANDARD PLANS

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA ACNH-P062(033)E
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SAN BERNARDINO COUNTY
AT JOSHUA TREE AND TWENTYNINE PALMS
FROM YUCCA MESA ROAD
TO BERMUDA AVENUE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



PROJECT MANAGER
MOHAMMAD MOLLAZADEH

DESIGN ENGINEER
HAO V HO

Vankho 08-13-12
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
 August 13, 2012
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



NO SCALE

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

CONTRACT No.	08-0Q7304
PROJECT ID	0800020455

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	2	40

Van Hao		08-13-12
REGISTERED CIVIL ENGINEER	DATE	
HAO V HO		
No. 64720		
Exp. 06-30-13		
CIVIL		

08-13-12
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.

NOTES:

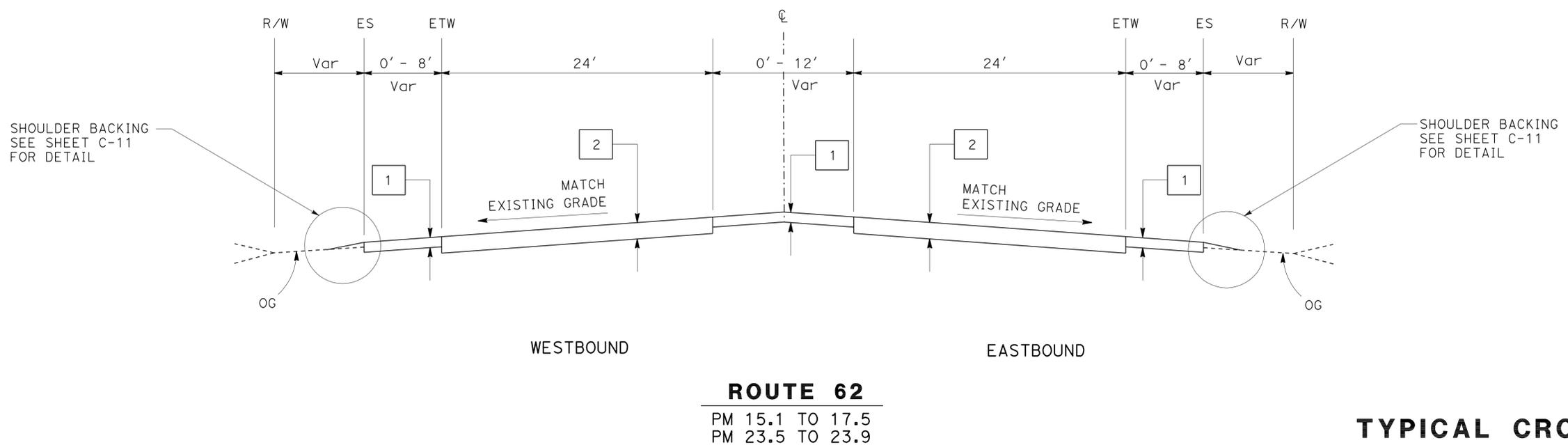
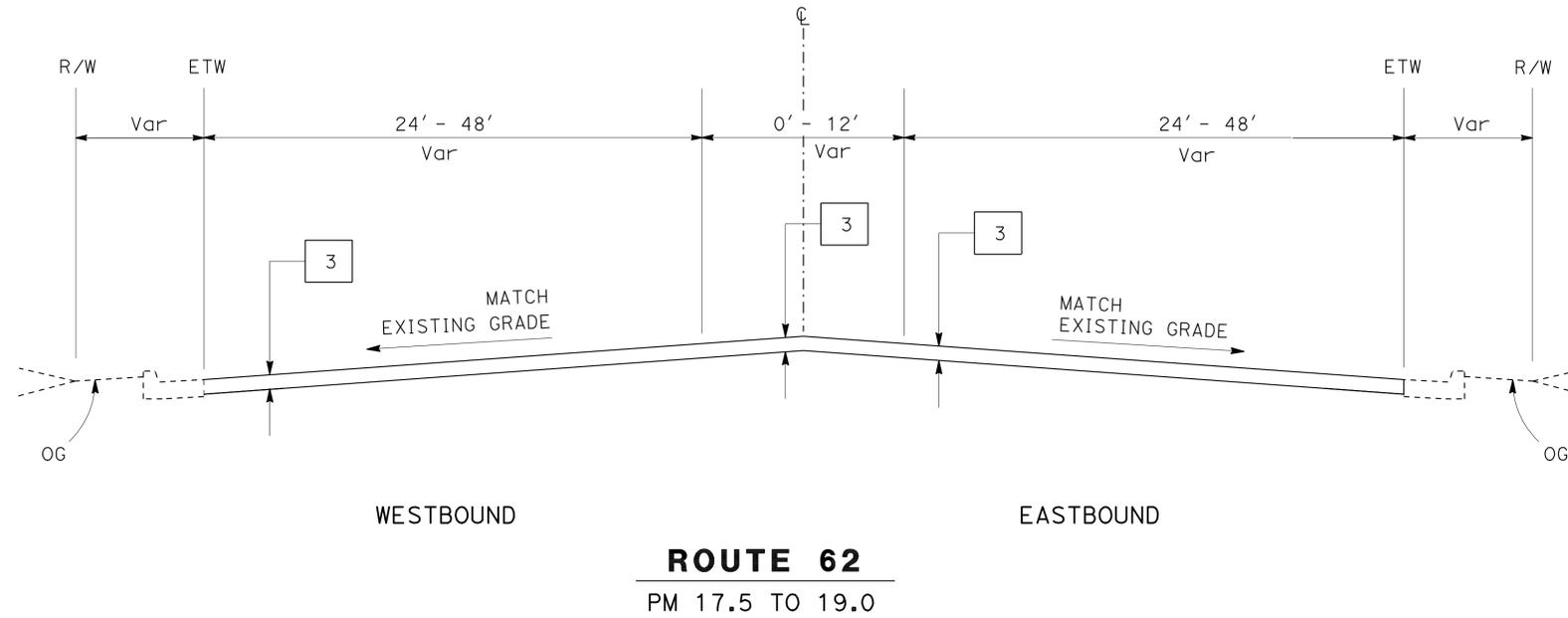
1. DIMENSIONS OF THE PAVEMENT STRUCTURE SECTION (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATIONS ARE SHOWN ON THE SUPERELEVATIONS DIAGRAMS.

STRUCTURAL SECTION NOTES:

- 1 0.15' COLD PLANE AC PAVEMENT
0.25' HOT MIX ASPHALT (TYPE C)
0.10' RUBBERIZED HOT MIX ASPHALT-GAP GRADED (RHMA-G)
- 2 0.15' COLD PLANE AC PAVEMENT
0.40' HOT MIX ASPHALT (TYPE C)
0.10' RUBBERIZED HOT MIX ASPHALT-GAP GRADED (RHMA-G)
- 3 0.35' COLD PLANE AC PAVEMENT
0.25' HOT MIX ASPHALT (TYPE C)
0.10' RUBBERIZED HOT MIX ASPHALT-GAP GRADED (RHMA-G)
- 4 0.50' COLD PLANE AC PAVEMENT
0.40' HOT MIX ASPHALT (TYPE C)
0.10' RUBBERIZED HOT MIX ASPHALT-GAP GRADED (RHMA-G)
- 5 0.15' RUBBERIZED HOT MIX ASPHALT-GAP GRADED (RHMA-G)

DESIGN DESIGNATION

ADT (2012)	19,500	D	52%
ADT (2032)	24,700	T	8%
DHV	2,220	V	55 MPH
ESAL	5,389,471	TI	11

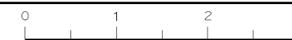


TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE DESIGN
 FUNCTIONAL SUPERVISOR: MICHAEL RISTIC
 CALCULATED/DESIGNED BY: HAO V HO
 CHECKED BY: MICHAEL RISTIC
 REVISIONS: (None shown)
 REVISOR: (None shown)
 DATE: (None shown)

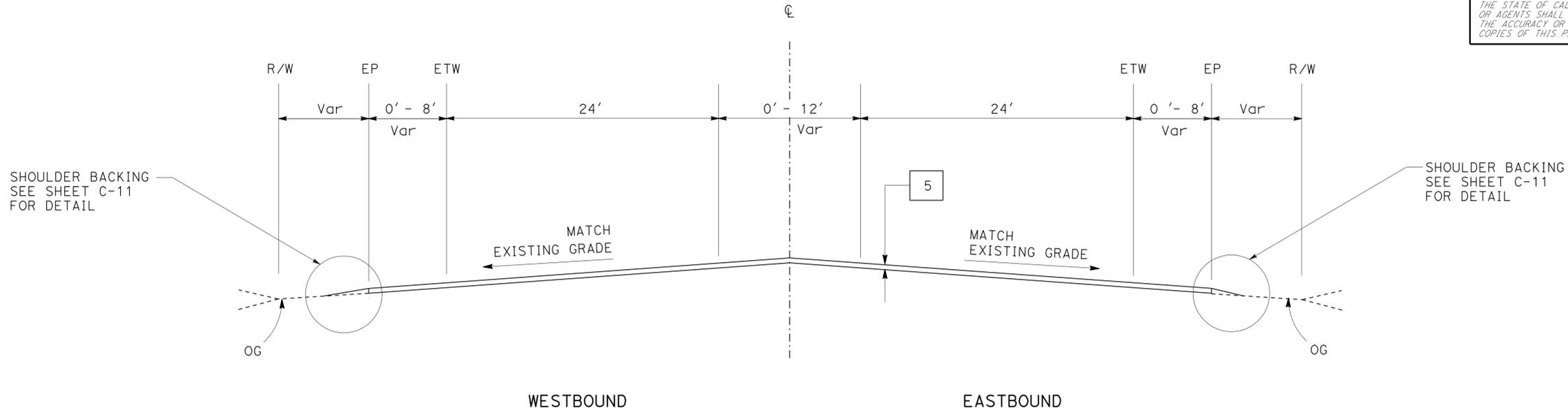


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	3	40

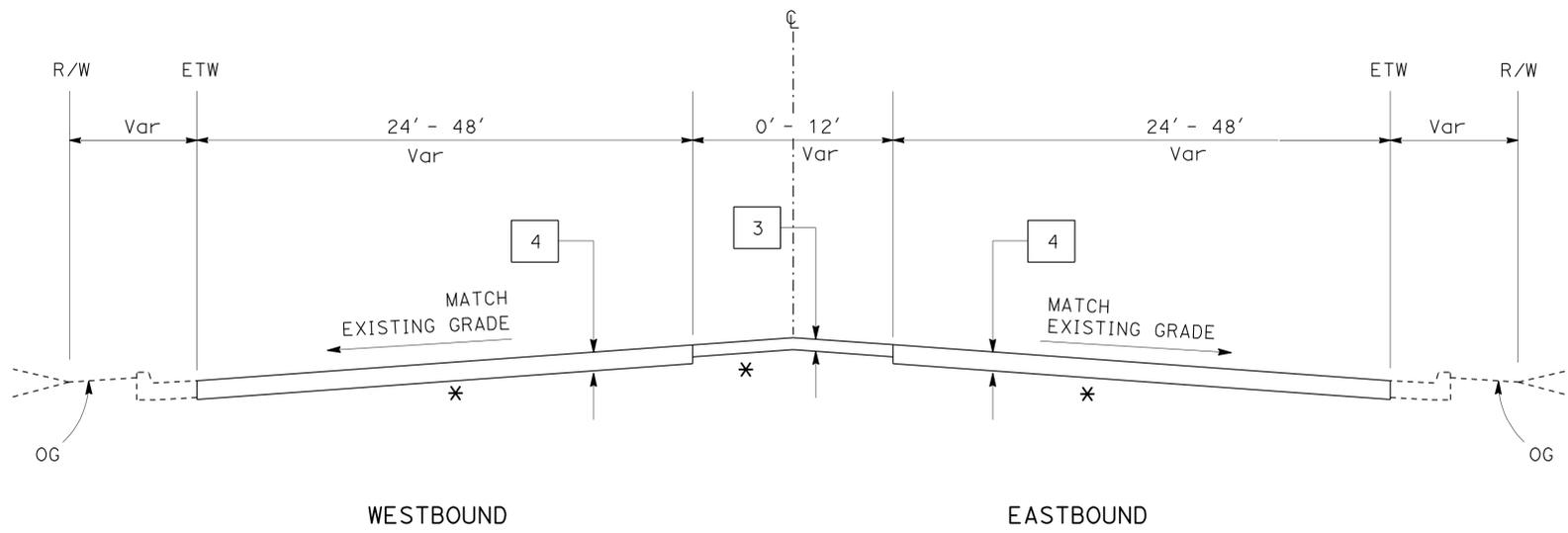
<i>Vankho</i>	08-13-12
REGISTERED CIVIL ENGINEER	DATE
08-13-12	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
HAO V HO
No. 64720
Exp. 06-30-13
CIVIL

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.



ROUTE 62
PM 20.7 TO 23.5



ROUTE 62
PM 19.0 TO 20.7
* PRIME COAT IS REQUIRED

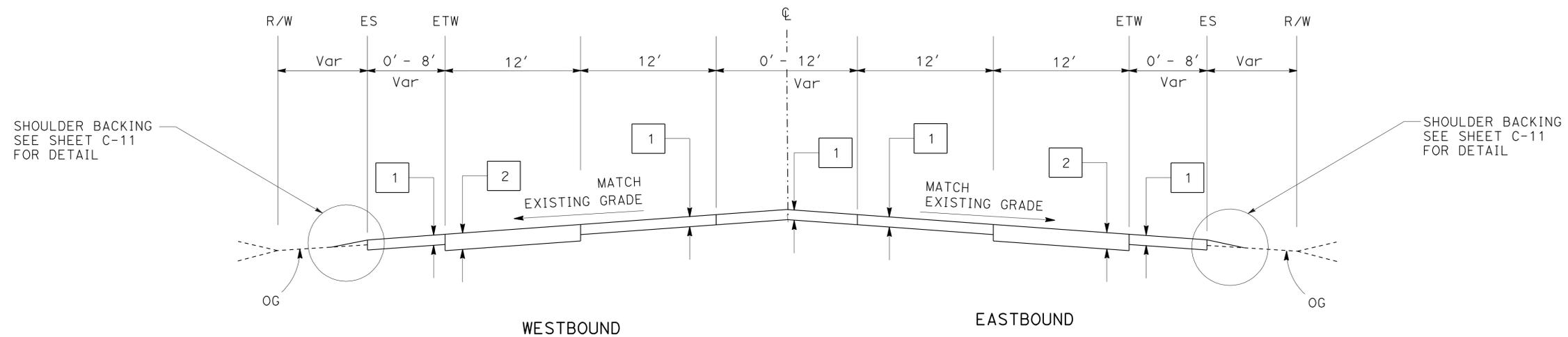
TYPICAL CROSS SECTIONS

NO SCALE **X-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE DESIGN
FUNCTIONAL SUPERVISOR
MICHAEL RISTIC
CALCULATED/DESIGNED BY
CHECKED BY
HAO V HO
MICHAEL RISTIC
REVISED BY
DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	4	40
Vanho		08-13-12		REGISTERED CIVIL ENGINEER DATE	
08-13-12		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>					

HAO V HO	REVISOR	DATE
MICHAEL RISTIC	DESIGNER	
	CHECKED BY	
	FUNCTIONAL SUPERVISOR	
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		
Caltrans MAINTENANCE DESIGN		



ROUTE 62
PM 23.9 TO 29.3

TYPICAL CROSS SECTIONS
NO SCALE
X-3

LAST REVISION | DATE PLOTTED => 20-AUG-2012
05-03-12 | TIME PLOTTED => 10:04

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	5	40

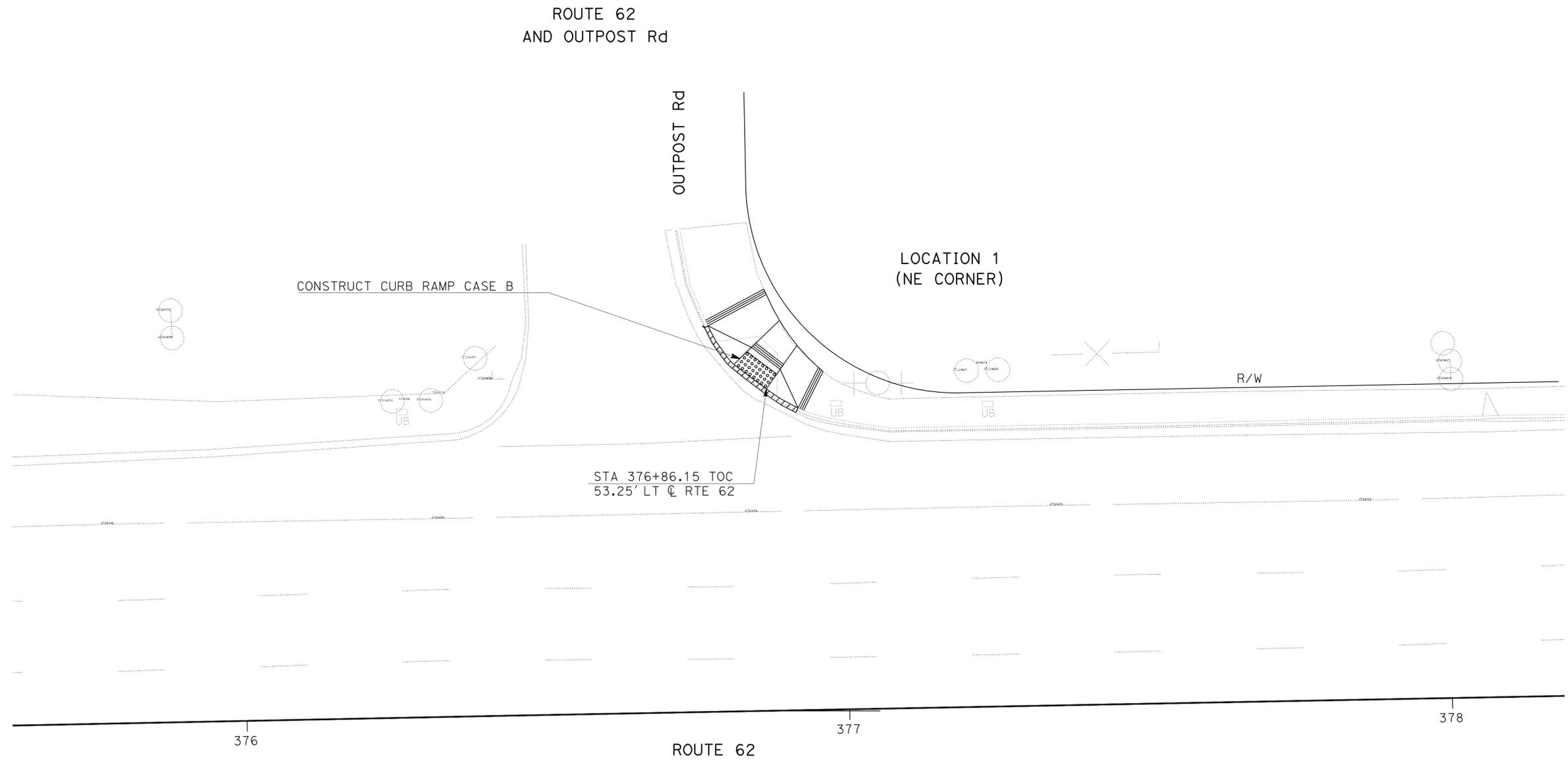
<i>Vankho</i>	08-13-12
REGISTERED CIVIL ENGINEER	DATE
HAO V HO	
No. 64720	
Exp. 06-30-13	
CIVIL	

PLANS APPROVAL DATE 08-13-12

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.

THESE NOTES APPLY TO SHEETS C-1 THRU C-10 ONLY

- 1- FOR CURB RAMP DETAILS SEE REVISED STANDARD PLAN A88A AND STANDARD PLAN A88B.
- 2- FOR DRIVEWAY AND TYPE A2 CURB, SEE REVISED STANDARD PLAN A87A.
- 3- FOR DETECTABLE WARNING SURFACE, USE CONCRETE PAVERS.
- 4- FOR ADDITIONAL SIDEWALK AND DRIVEWAY CONSTRUCTIONS, SEE SHEET C-10
- 5- MATCH EXISTING CURB, SIDEWALK AND GUTTER FLOWLINE.
- 6- RAMP SLOPE TO BE 7.5% OR FLATTER.
- 7- SIDEWALK SLOPE TO BE 1.5% OR FLATTER.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE DESIGN
 FUNCTIONAL SUPERVISOR: MICHAEL RISTIC
 CALCULATED/DESIGNED BY: CHECKED BY:
 HAO V HO MICHAEL RISTIC
 REVISED BY: DATE REVISED:
 USERNAME => s106356
 DGN FILE => 800730ga001.dgn

CONSTRUCTION DETAILS

SCALE: 1"=10' **C-1**

LAST REVISION | DATE PLOTTED => 20-AUG-2012
 05-03-12 | TIME PLOTTED => 10:04

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	6	40

<i>Vanhao</i>	08-13-12
REGISTERED CIVIL ENGINEER	DATE
08-13-12	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
HAO V HO
No. 64720
Exp. 06-30-13
CIVIL

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.

ROUTE 62
AND SUNSET Rd



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	HAO V HO	REVISED BY	
Caltrans MAINTENANCE DESIGN	MICHAEL RISTIC	CHECKED BY	MICHAEL RISTIC	DATE	

CONSTRUCTION DETAILS

SCALE: 1"=10'

C-2

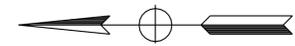


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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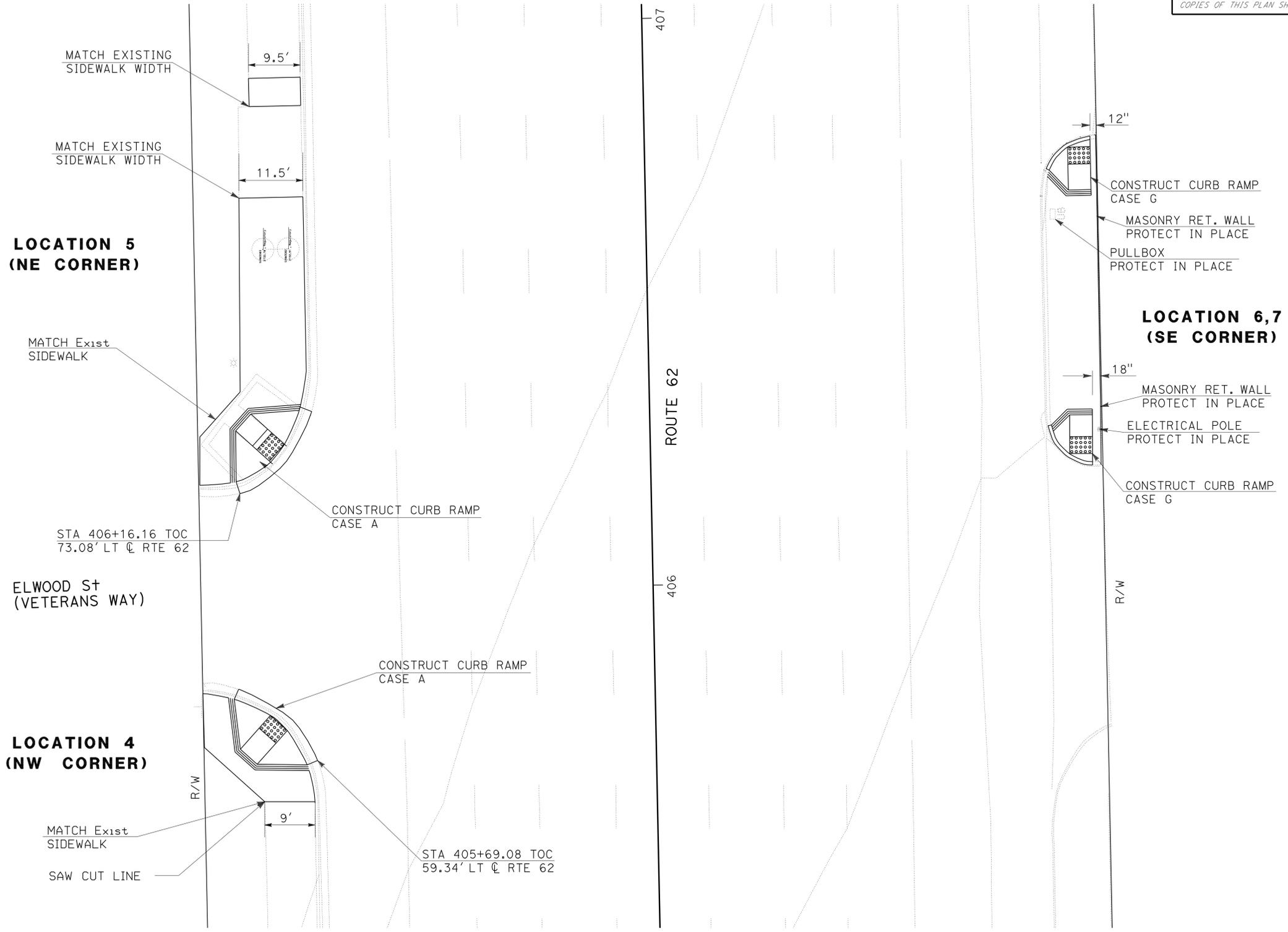
<i>Vankho</i> 08-13-12 REGISTERED CIVIL ENGINEER DATE	
08-13-12 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
HAO V HO
No. 64720
Exp. 06-30-13
CIVIL
STATE OF CALIFORNIA

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



ROUTE 62
AND ELWOOD ST (VETERANS WAY)



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	HAO V HO	REVISER BY
Caltrans MAINTENANCE DESIGN	MICHAEL RISTIC	DATE REVISED
FUNCTIONAL SUPERVISOR	CHECKED BY	
MICHAEL RISTIC		
CALCULATED/DESIGNED BY		

CONSTRUCTION DETAILS

SCALE: 1"=10'

C-3



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	8	40

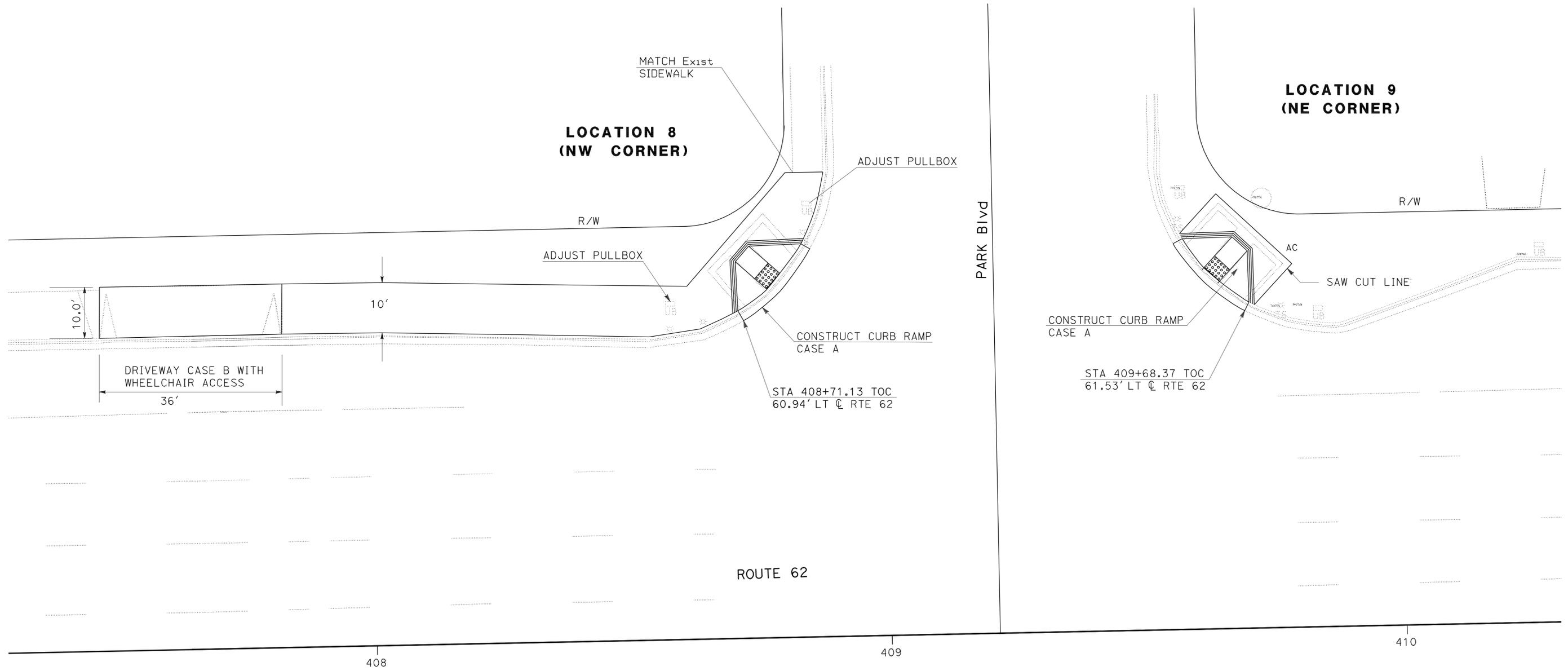
<i>Vankho</i> 08-13-12	
REGISTERED CIVIL ENGINEER	DATE
08-13-12	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER	HAO V HO
No. 64720	
Exp. 06-30-13	
CIVIL	

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.



ROUTE 62
AND PARK Blvd



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	HAO V HO	REVISOR BY	
Caltrans MAINTENANCE DESIGN	MICHAEL RISTIC	CHECKED BY	MICHAEL RISTIC	DATE	

CONSTRUCTION DETAILS

SCALE: 1"=10'

C-4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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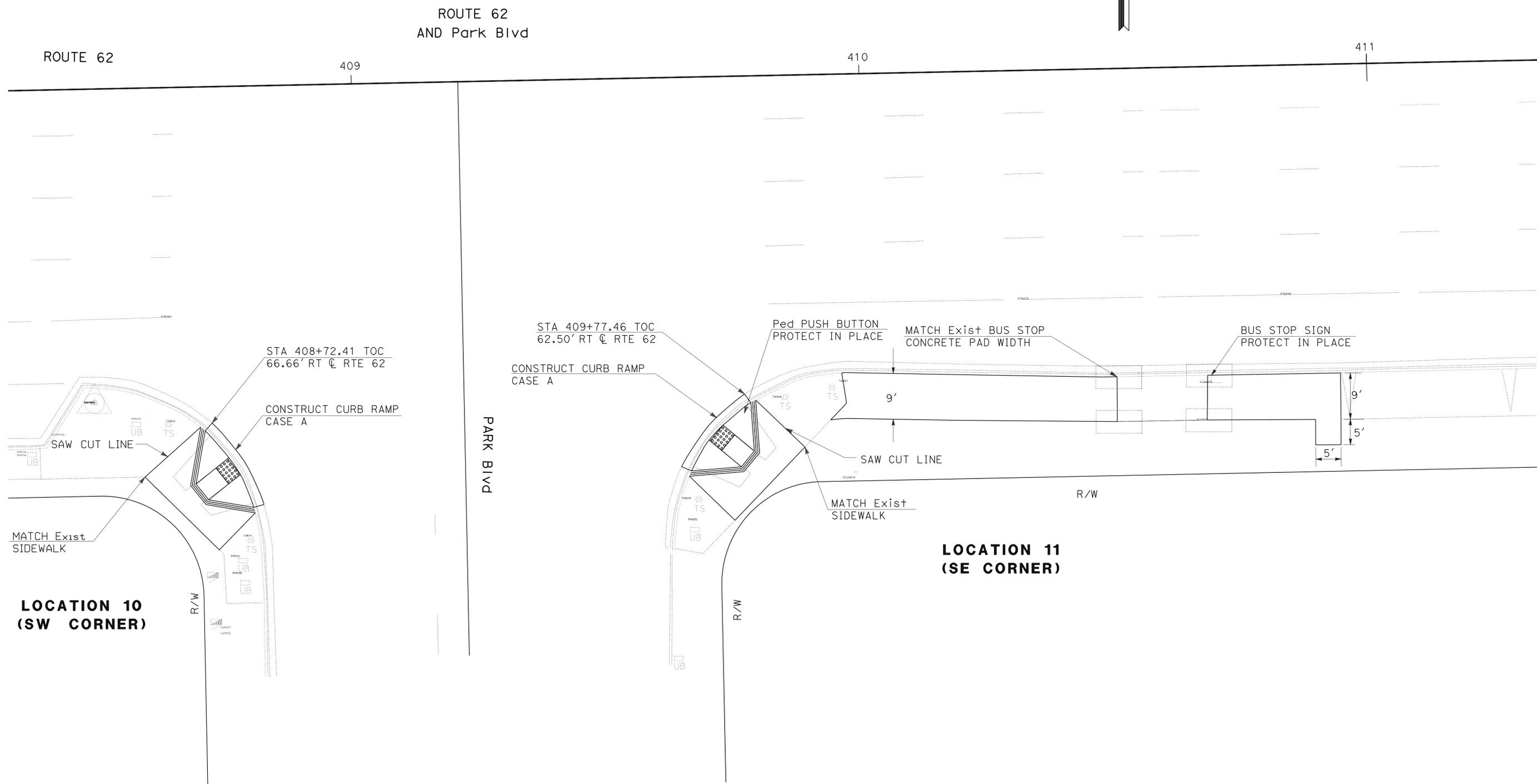
<i>Vanitas</i>	08-13-12
REGISTERED CIVIL ENGINEER	DATE
08-13-12	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
HAO V HO
No. 64720
Exp. 06-30-13
CIVIL
STATE OF CALIFORNIA

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE DESIGN
FUNCTIONAL SUPERVISOR
HAO V HO
REVISOR
HAO V HO
DESIGNED BY
HAO V HO
CHECKED BY
MICHAEL RISTIC
DATE
08-13-12



CONSTRUCTION DETAILS

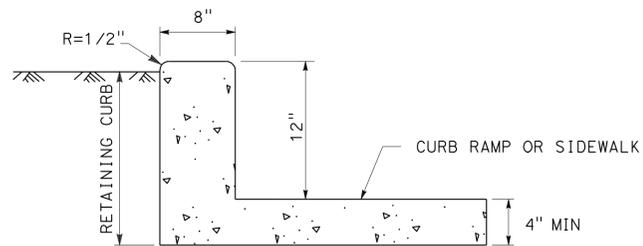
SCALE: 1"=10' **C-5**

LAST REVISION | DATE PLOTTED => 20-AUG-2012 05-03-12 | TIME PLOTTED => 10:04

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	10	40

<i>VanHoo</i>	08-13-12
REGISTERED CIVIL ENGINEER	DATE
HAO V HO	No. 64720
PLANS APPROVAL DATE	Exp 06-30-13

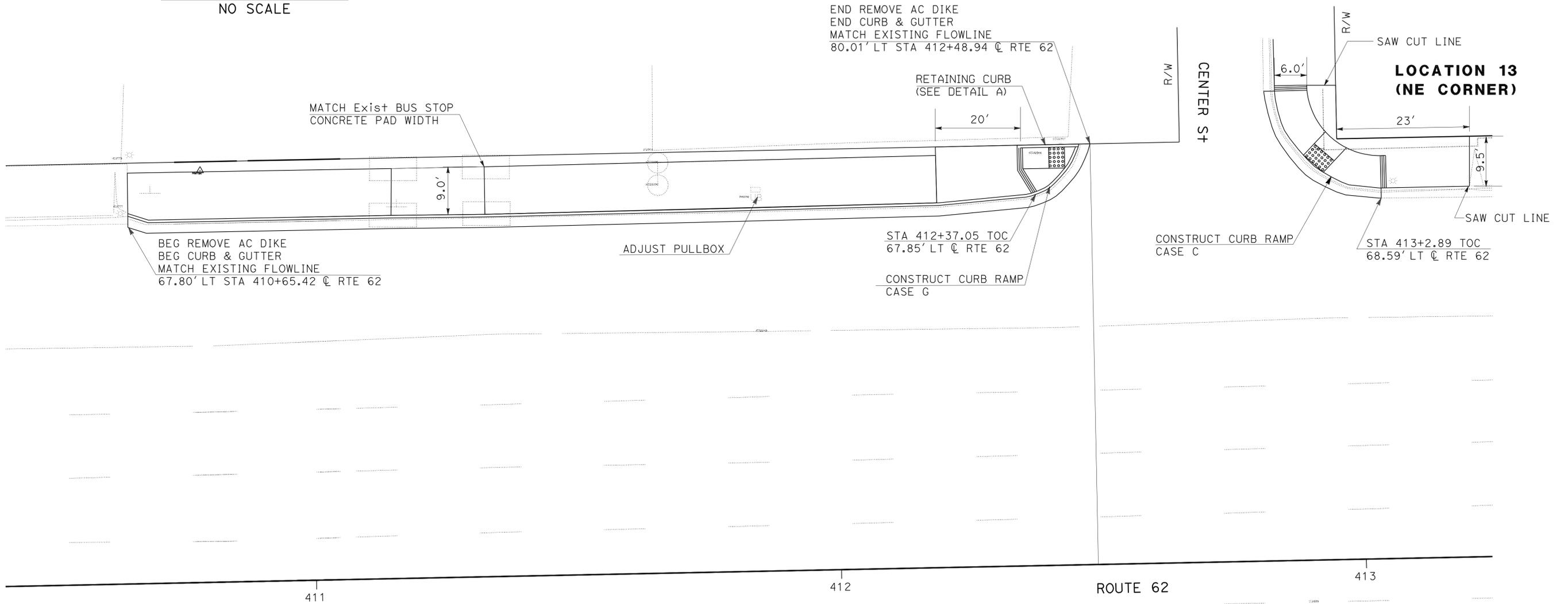
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



**DETAIL A
RETAINING CURB
ELEVATION VIEW**
NO SCALE

**LOCATION 12
(NW CORNER)**

ROUTE 62
AND CENTER ST



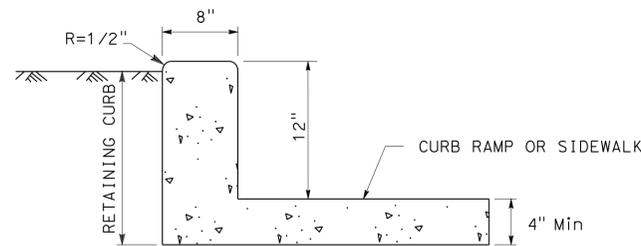
CONSTRUCTION DETAILS

SCALE: 1"=10'

C-6

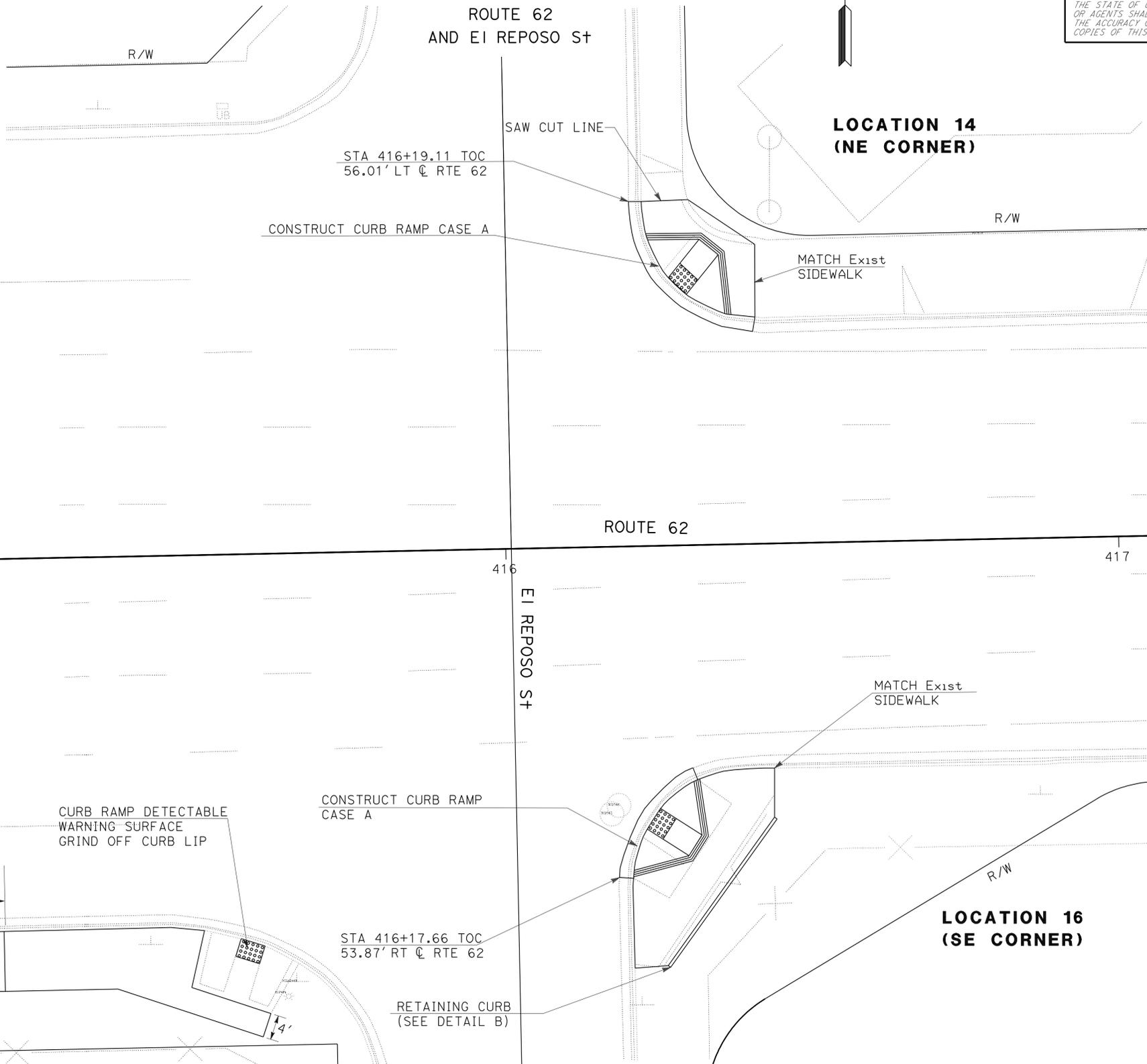
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans MAINTENANCE DESIGN	MICHAEL RISTIC	HAO V HO	HAO V HO
		CHECKED BY	DATE
		MICHAEL RISTIC	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	11	40
Van Hao		08-13-12			
REGISTERED CIVIL ENGINEER		DATE			
		08-13-12			
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
REGISTERED PROFESSIONAL ENGINEER HAO V HO No. 64720 Exp. 06-30-13 CIVIL STATE OF CALIFORNIA					



**DETAIL B
RETAINING CURB
ELEVATION VIEW**

NO SCALE



CONSTRUCTION DETAILS

SCALE: 1"=10' **C-7**

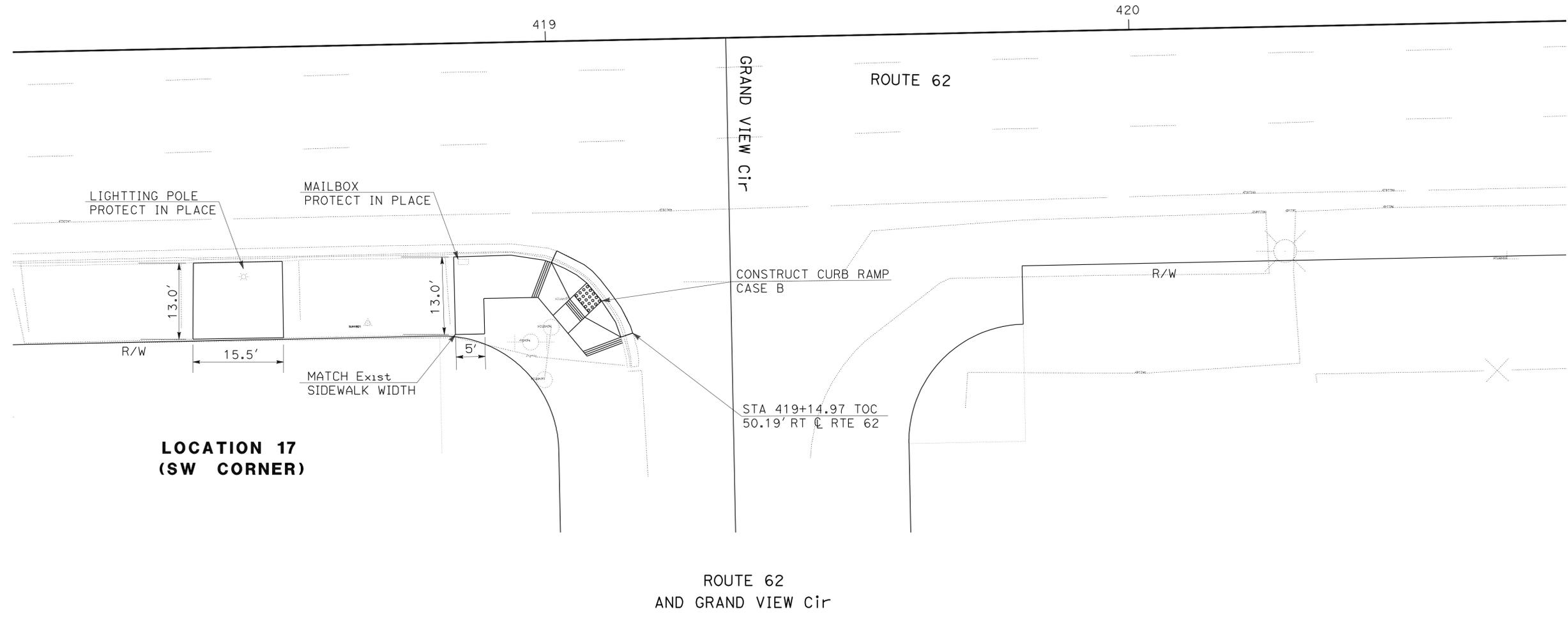
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	HAO V HO	REVISOR
Caltrans MAINTENANCE DESIGN	MICHAEL RISTIC	MICHAEL RISTIC	DATE
	CHECKED BY	DESIGNED BY	DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	12	40

Vankho 08-13-12
 REGISTERED CIVIL ENGINEER DATE
 08-13-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 HAO V HO
 No. 64720
 Exp. 06-30-13
 CIVIL
 STATE OF CALIFORNIA

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



**LOCATION 17
(SW CORNER)**

ROUTE 62
AND GRAND VIEW Cir

CONSTRUCTION DETAILS

SCALE: 1"=10' **C-8**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	HAO V HO	REVISER BY
Caltrans MAINTENANCE DESIGN	MICHAEL RISTIC	DATE
FUNCTIONAL SUPERVISOR	MICHAEL RISTIC	DESIGNED BY
		CHECKED BY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	13	40

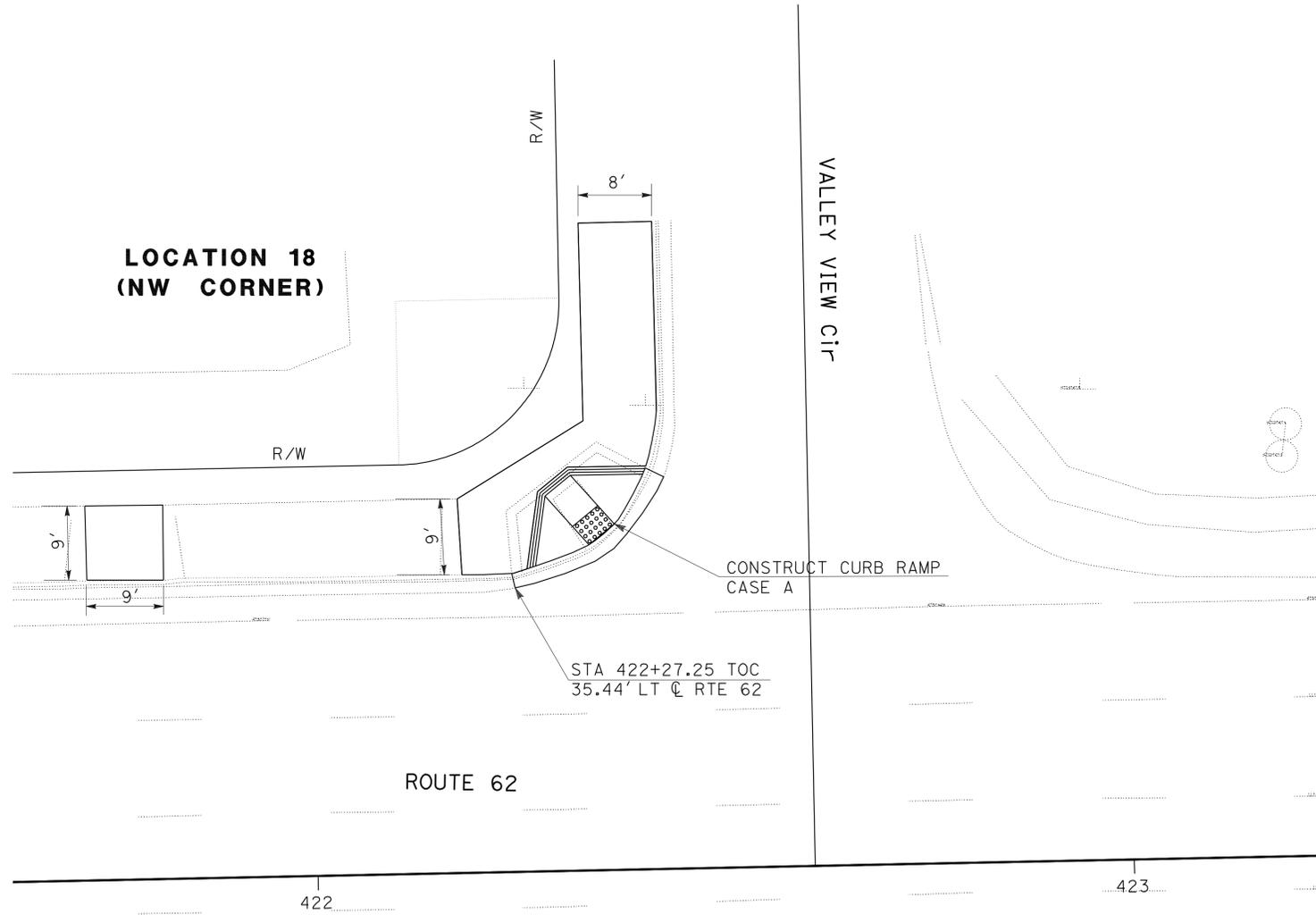
Van Ho 08-13-12
 REGISTERED CIVIL ENGINEER DATE
 08-13-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 HAO V HO
 No. 64720
 Exp. 06-30-13
 CIVIL
 STATE OF CALIFORNIA

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



ROUTE 62
AND VALLEY VIEW Cir



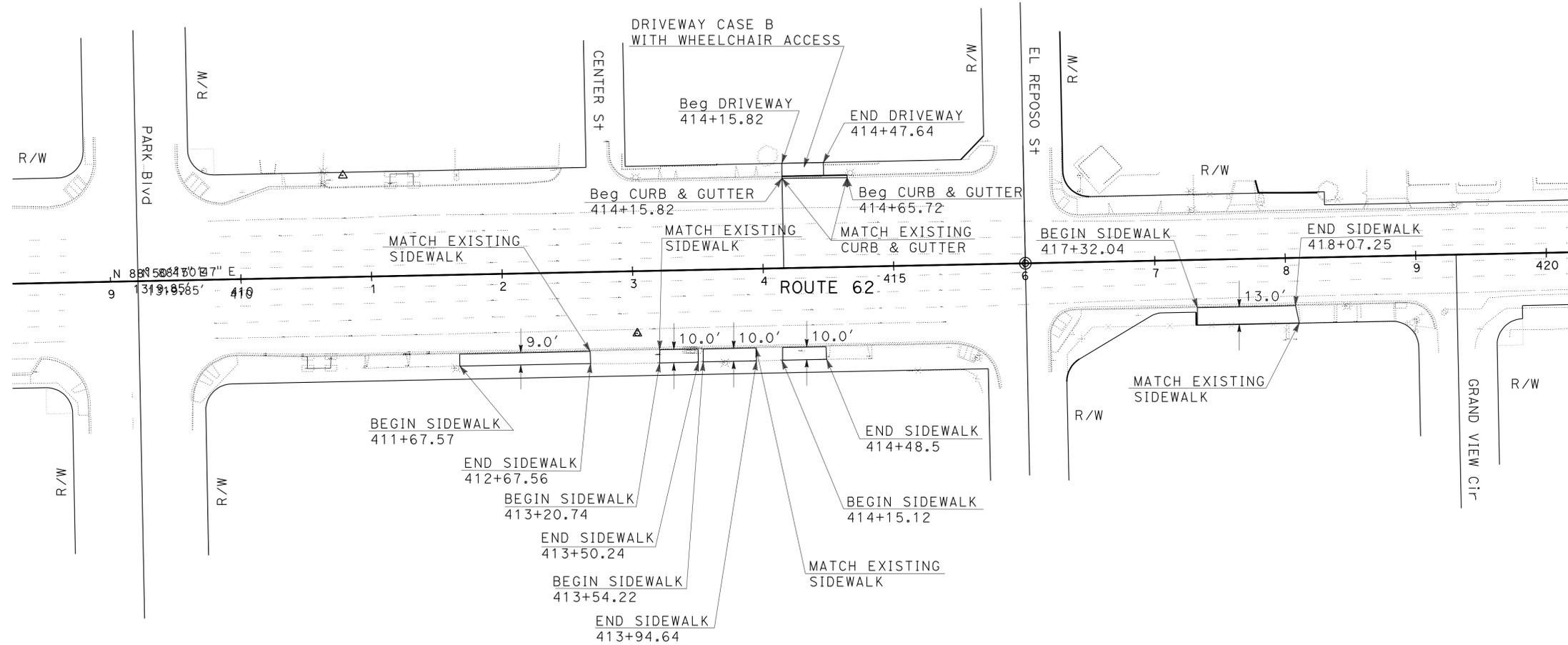
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	HAO V HO	REVISOR	DATE
Caltrans MAINTENANCE DESIGN	MICHAEL RISTIC	DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	MICHAEL RISTIC		

CONSTRUCTION DETAILS

SCALE: 1"=10'

C-9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	14	40
<i>Vankho</i> REGISTERED CIVIL ENGINEER		08-13-12 DATE			
08-13-12 PLANS APPROVAL DATE		HAO V HO No. 64720 Exp. 06-30-13 CIVIL			
<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>					



ADDITIONAL SIDEWALKS AND DRIVEWAY

CONSTRUCTION DETAILS

SCALE: 1"=50' **C-10**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	HAO V HO	REVISOR	DATE
Caltrans MAINTENANCE DESIGN	MICHAEL RISTIC	DESIGNER	
FUNCTIONAL SUPERVISOR	MICHAEL RISTIC	CHECKED BY	
CALCULATED/DESIGNED BY		REVISOR	DATE
		REVISOR	DATE

USERNAME => s106356
DGN FILE => 800730ga010.dgn



UNIT 2343

PROJECT NUMBER & PHASE

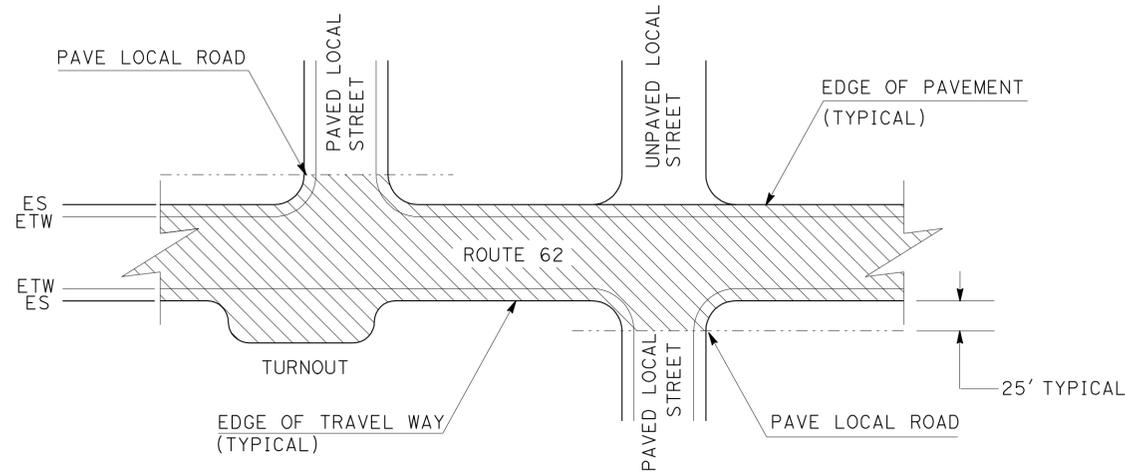
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LAST REVISION | DATE PLOTTED => 20-AUG-2012
05-03-12 | TIME PLOTTED => 10:04

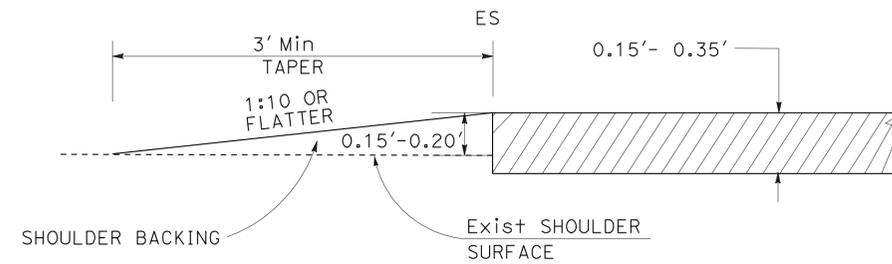
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	15	40
<i>VanHo</i> 08-13-12 REGISTERED CIVIL ENGINEER DATE					
08-13-12 PLANS APPROVAL DATE					
HAO V HO No. 64720 Exp. 06-30-13 CIVIL					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

LEGEND:

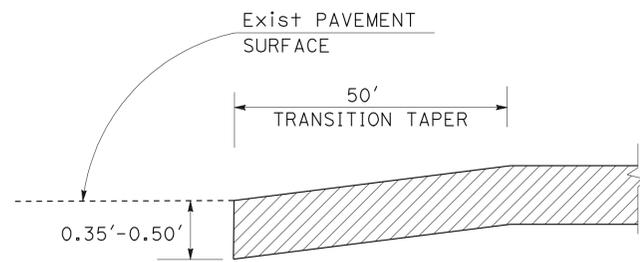
-  HMA-TYPE C AND RHMA-GAP GRADED
-  LIMIT OF WORK



PAVING LIMITS OF WORK

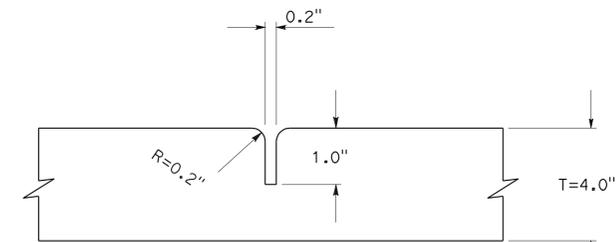


SHOULDER BACKING



PAVEMENT CONFORM (LONGITUDINAL)

BEGIN / END CONSTRUCTION



WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 20' INTERVAL

WEAKENED PLANE JOINT DETAIL

CONSTRUCTION DETAILS

NO SCALE

C-11

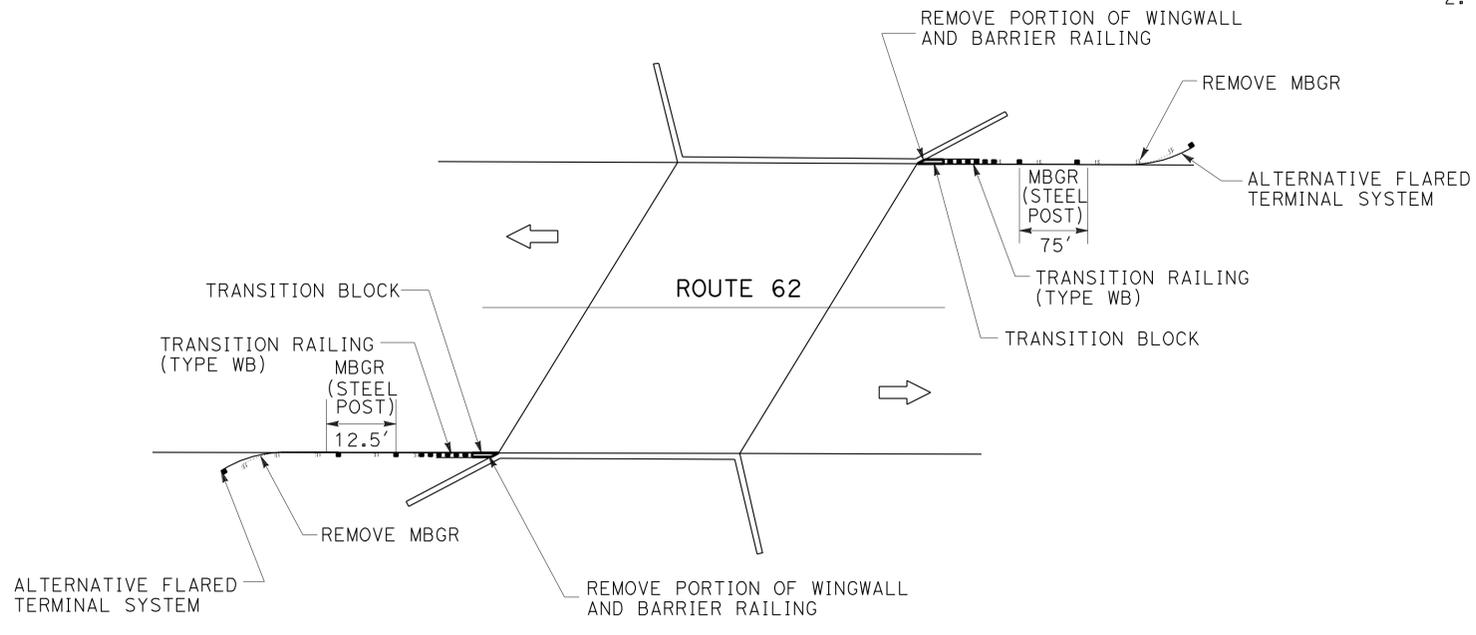
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE DESIGN
 FUNCTIONAL SUPERVISOR: MICHAEL RISTIC
 CALCULATED/DESIGNED BY: MICHAEL RISTIC
 CHECKED BY: MICHAEL RISTIC
 HAO V HO
 MICHAEL RISTIC
 REVISOR BY: MICHAEL RISTIC
 DATE REVISOR: MICHAEL RISTIC

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING
 SUPERVISING ENGINEER **MICHAEL RISTIC**
 HAO V HO
 MICHAEL RISTIC
 REVISIONS: REVISED BY DATE
 CALCULATED/DESIGNED BY CHECKED BY

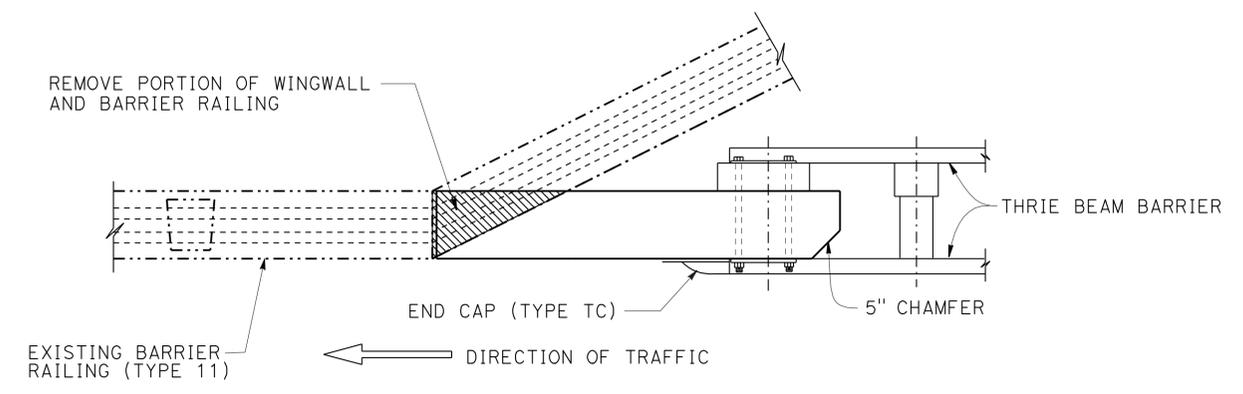
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	16	40

08-13-12
 REGISTERED CIVIL ENGINEER DATE
 HAO V HO
 No. 64720
 Exp. 06-30-13
 CIVIL
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

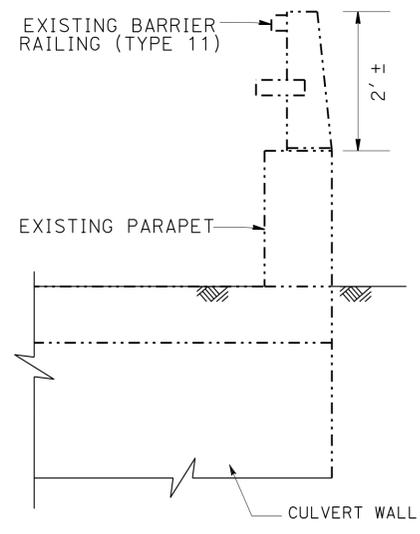
- NOTES:**
1. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
 2. SEE STANDARD PLANS A78F1 AND A78F2 FOR DETAILS NOT SHOWN.



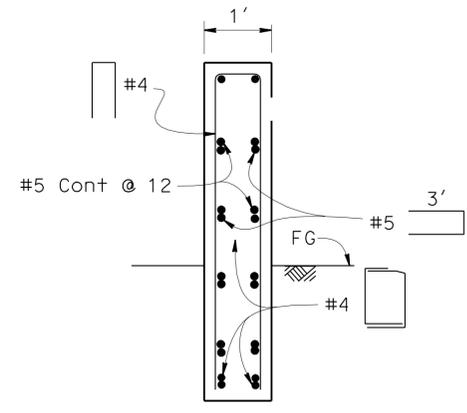
PLAN
 QUAIL WASH BRIDGE



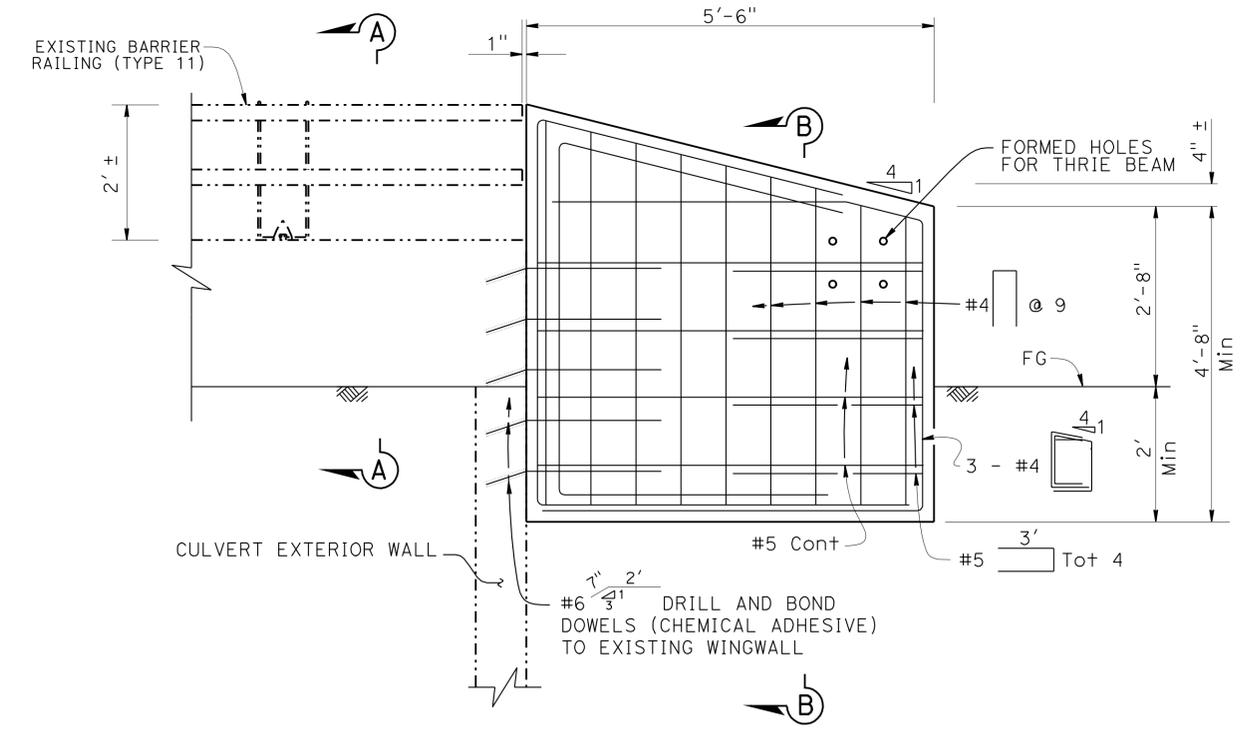
PLAN



SECTION A-A



SECTION B-B



ELEVATION

CONSTRUCTION DETAILS

NO SCALE **C-12**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	17	40

M.M. Kamgar Hayhybn 08-13-12
REGISTERED CIVIL ENGINEER DATE

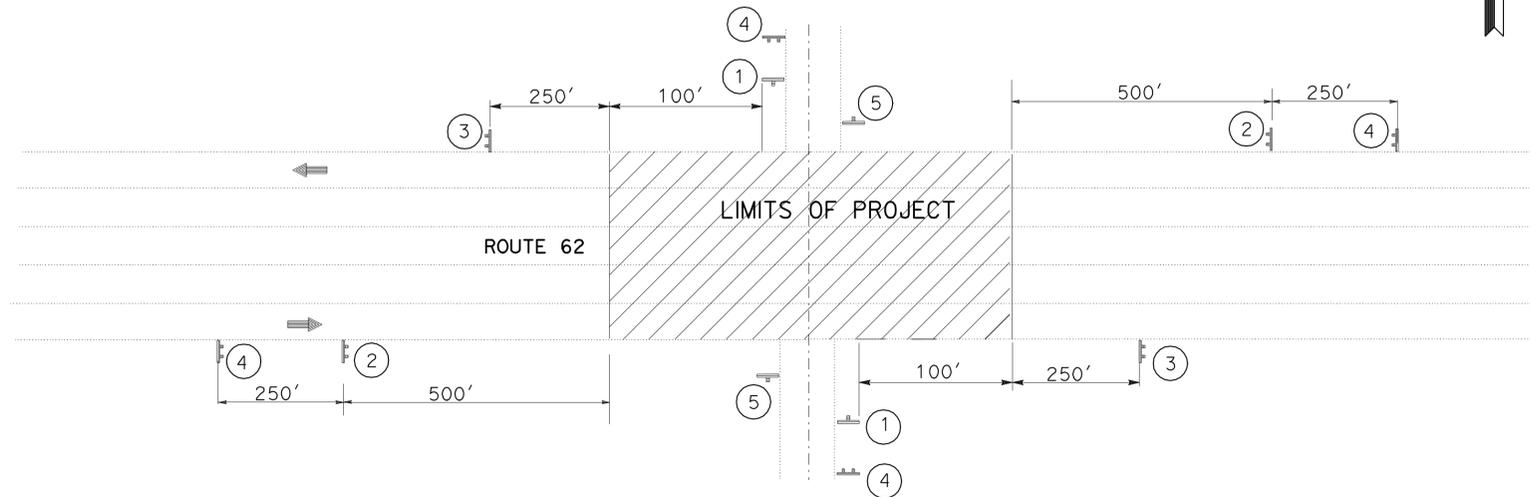
08-13-12
PLANS APPROVAL DATE

M.M. KAMGAR
No. 58039
Exp. 6-30-12
CIVIL

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.

NOTES:

1. LOCATIONS OF CONSTRUCTION AREA SIGNS ARE APPROXIMATE; EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. EXACT LOCATIONS OF PCMS TO BE DETERMINED BY THE ENGINEER.



TYPICAL INSTALLATION OF CONSTRUCTION AREA SIGNS FOR EACH DIRECTION

PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

LOCATION	QUANTITY
	EA
VARIOUS	2

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No. ①	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
①	W20-1		36" X 36"	ROAD WORK AHEAD	1 - 4" X 6"	43
②	W20-1		48" X 48"	ROAD WORK AHEAD	2 - 4" X 6"	2
③	G20-2		48" X 48"	END ROADWORK	2 - 4" X 6"	45
④	C40		48" X 48"	TRAFFIC FINE DOUBLED IN CONSTRUCTION ZONE	2 - 4" X 6"	45
⑤	G20-2		36" X 30"	END ROADWORK	1 - 4" X 6"	43

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: BILL WASSER
 CALCULATED/DESIGNED BY: MEHDI KAMGAR
 CHECKED BY: BILL WASSER
 REVISED BY: MEHDI KAMGAR
 DATE REVISED: BILL WASSER



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	18	40

M.M. Kamgar *M.M. Kamgar* 08-13-12
REGISTERED CIVIL ENGINEER DATE

08-13-12
PLANS APPROVAL DATE

M.M. KAMGAR
No. 58039
Exp. 30-12
CIVIL

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.

PAVEMENT DELINEATION QUANTITIES

DETAIL No.	PAVEMENT MARKERS (RETROREFLECTIVE-RECESS)		THERMOPLASTIC TRAFFIC STRIPE(SPRAYABLE)			8" THERMOPLASTIC TRAFFIC STRIPE
	TYPE G	TYPE D	4"	4"	4"	WHITE SOLID
			WHITE SOLID	WHITE BROKEN	YELLOW SOLID	
	EA		LF			
12	3100			147626		
22		1710			40947	
27B			149282			
32		8560			136780	
38	95					4461
TOTAL	13465		474635			4461

PAVEMENT MARKING QUANTITIES

TERMOPLASTIC	
DETAIL No.	SQFT
ARROW TYPE IV	1620
ARROW TYPE VI	252
12" CROSS WALK	3492
8" X - HATCH	170
SIGNAL	320
AHEAD	310
STOP	1012
TOTAL	7176

PAVEMENT DELINEATION QUANTITIES

NO SCALE **PDQ-1**

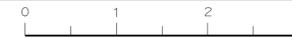
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans **TRAFFIC DESIGN**

FUNCTIONAL SUPERVISOR: BILL WASSER

MEHDI KAMGAR
BILL WASSER

REVISOR: MEHDI KAMGAR
DATE: 08-13-12

DESIGNED BY: M.M. KAMGAR
CHECKED BY: BILL WASSER

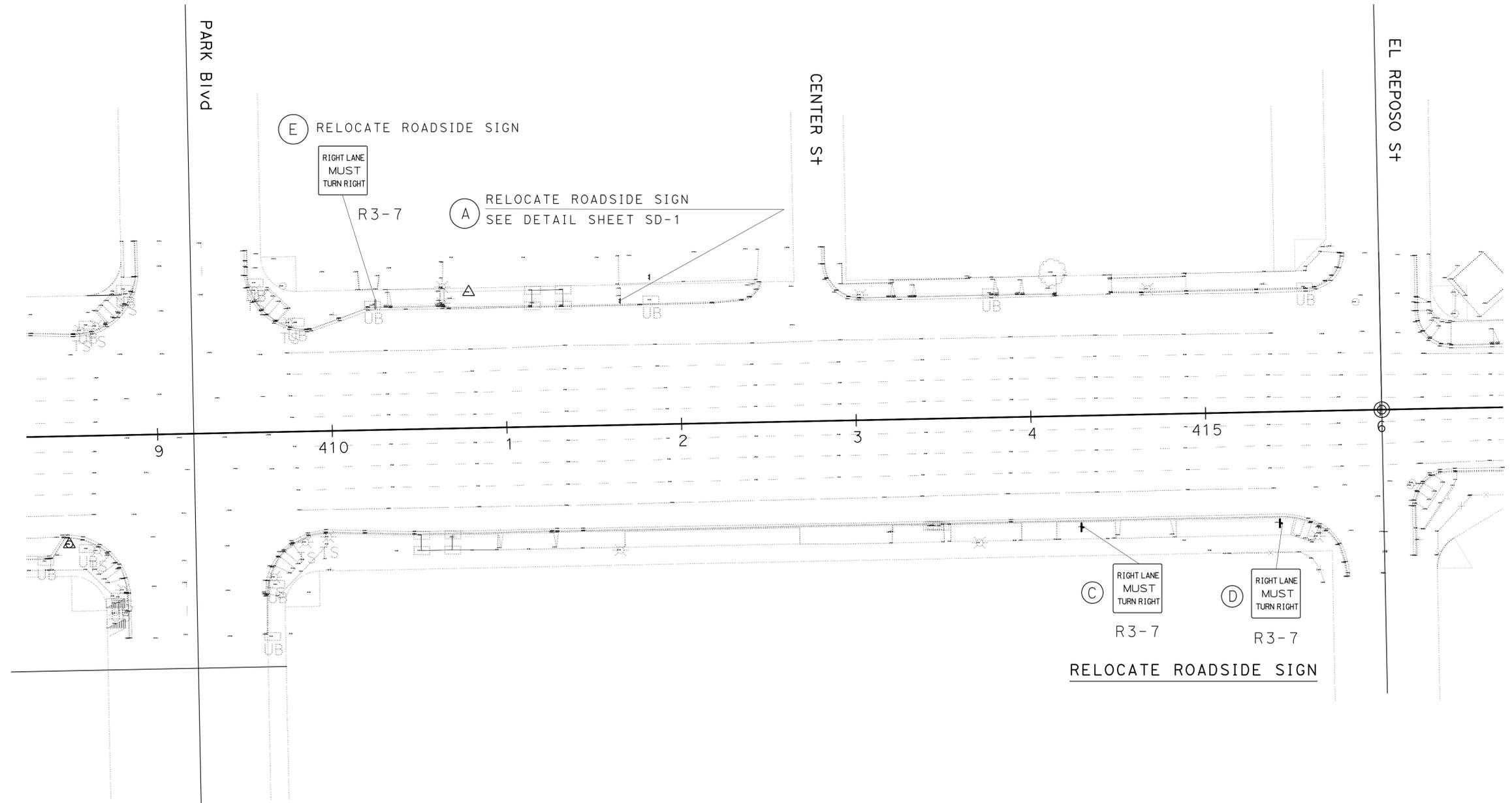


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	19	40
M.M. Kamgar Highway			08-13-12		
REGISTERED CIVIL ENGINEER			DATE		
08-13-12					
PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



NOTE:

1. EXACT RELOCATE ROADSIDE SIGNS LOCATIONS TO BE DETERMINED BY THE ENGINEER.

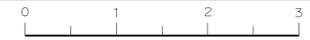


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CHECKED BY	REVISOR BY
Caltrans	BILL WASSER	BILL WASSER	MEHDI KAMGAR
TRAFFIC DESIGN			

APPROVED FOR SIGN PLAN WORK ONLY

SIGN PLAN

NO SCALE **S-1**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	MEHDI KANGAR	REVISED BY	
	TRAFFIC DESIGN	CHECKED BY	BILL WASSER	DATE	
Caltrans	BILL WASSER				

RELOCATE ROADSIDE SIGN
SEE DETAIL SHEET SD-1

ELWOOD ST
(VETERANS WAY)

(B)

R/W

R/W

ROUTE 62
AND ELWOOD ST

ROUTE 62

407

406



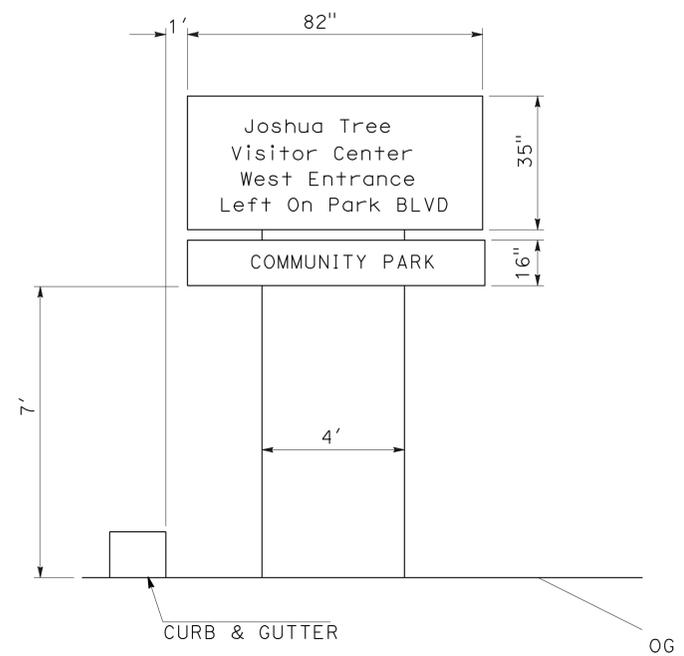
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	20	40
M.M. Kamgar Highgh			08-13-12		
REGISTERED CIVIL ENGINEER			DATE		
08-13-12			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



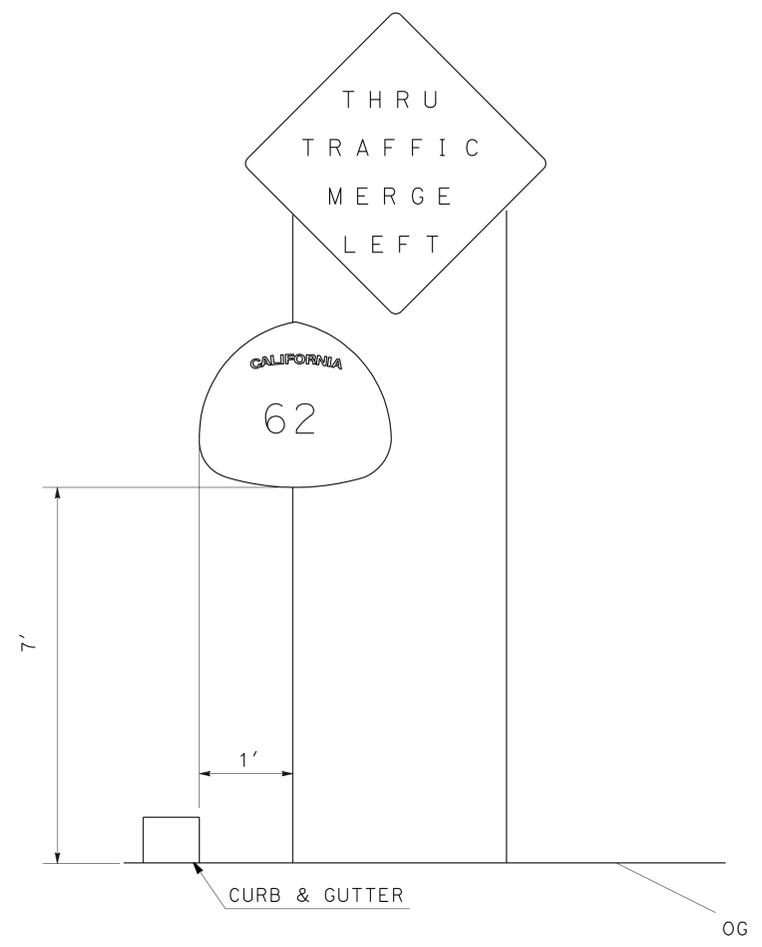
SIGN PLAN

NO SCALE **S-2**

APPROVED FOR SIGN PLAN WORK ONLY



DETAIL ROADSIDE SIGN A



DETAIL ROADSIDE SIGN B

RELOCATE ROADSIDE SIGN QUANTITIES

SHEET No.	SIGN No.	RELOCATE	MESSAGE
		EA	
S-1	A	1	SEE ABOVE DETAIL
S-2	B	1	SEE ABOVE DETAIL
S-1	C	1	RIGHT LANE MUST TURN RIGHT (R3-7)
S-1	D	1	RIGHT LANE MUST TURN RIGHT (R3-7)
S-1	E	1	RIGHT LANE MUST TURN RIGHT (R3-7)
TOTAL		5	

SIGN DETAILS AND QUANTITIES

NO SCALE

SD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	23	40

 08-13-12
 REGISTERED CIVIL ENGINEER DATE
 08-13-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 PHILLIP PHAN
 No. C76425
 Exp. 12-30-12
 CIVIL
 STATE OF CALIFORNIA

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

ROADWAY QUANTITIES

LOCATION	DESCRIPTION	CURB RAMP CASE (N)	ROADWAY EXCAVATION	REMOVE CONCRETE	MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)	CURB RAMP DETECTABLE WARNING SURFACE	ADJUST PULLBOX TO GRADE
			CY	CY	CY	SQFT	EA
1	CURB AND CURB RAMP	B	-	2.5	2.5	-	-
2	CURB, GUTTER, CURB RAMP, AND SIDEWALK	A	3.7	2.3	6.0	-	-
3	DETECTABLE WARNING SURFACE	-	-	-	-	12	-
4	CURB, GUTTER, CURB RAMP, AND SIDEWALK	A	3.5	-	3.5	-	-
5	CURB, GUTTER, CURB RAMP, AND SIDEWALK	A	5.7	2.8	8.5	-	-
6	CURB AND CURB RAMP	G	-	0.9	0.9	-	-
7	CURB AND CURB RAMP	G	-	0.9	0.9	-	-
8	CURB, GUTTER, CURB RAMP, SIDEWALK, AND DRIVEWAY	A	16.4	2.5	18.9	-	2
9	CURB, GUTTER, CURB RAMP, AND SIDEWALK	A	0.7	2.7	3.4	-	-
10	CURB, GUTTER, CURB RAMP, AND SIDEWALK	A	3.9	-	3.9	-	-
11	CURB, GUTTER, CURB RAMP, AND SIDEWALK	A	9.2	4.0	13.2	-	-
12	CURB, GUTTER, CURB RAMP, RETAINING CURB, AND SIDEWALK	G	18.7	-	31.5	-	1
13	CURB, GUTTER, CURB RAMP, AND SIDEWALK	C	-	5.6	5.6	-	-
14	CURB, GUTTER, CURB RAMP, AND SIDEWALK	A	-	4.0	4.0	-	-
15	DETECTABLE WARNING SURFACE, SIDEWALK, AND DRIVEWAY	A	-	9.1	9.1	12	-
16	CURB, GUTTER, CURB RAMP, RETAINING CURB, AND SIDEWALK	A	0.7	5.4	6.1	-	-
17	CURB, GUTTER, CURB RAMP, AND SIDEWALK	B	6.4	-	6.4	-	-
18	CURB, GUTTER, CURB RAMP, AND SIDEWALK	A	5.8	2.3	8.1	-	-
SHEET C-10	ADDITION SIDEWALK AND DRIVEWAY		45.0	-	45.0	-	-
TOTAL			119.7	45.0	177.5	24	3

(N) NOT A SEPERATE BID ITEM, FOR INFORMATION ONLY.

TEMPORARY WATER POLLUTION CONTROL

DESCRIPTION	UNIT	QUANTITIES
TEMPORARY CONCRETE WASHOUT BIN	EA	2

SUMMARY OF QUANTITIES

Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE DESIGN
 PHILLIP PHAN
 HAO V. HO
 REVISOR BY
 DATE REVISOR
 CALCULATED/DESIGNED BY
 CHECKED BY
 FUNCTIONAL SUPERVISOR
 MICHAEL RISTIC

LAST REVISION | DATE PLOTTED => 20-AUG-2012
 05-03-12 | TIME PLOTTED => 10:05

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	24	40

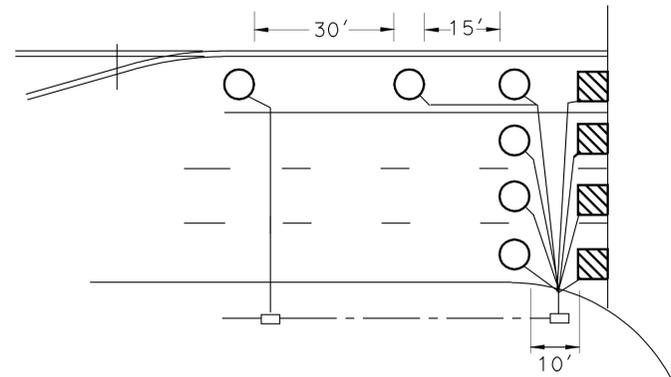
Ferdinand De La Cruz 08-13-12
 REGISTERED ELECTRICAL ENGINEER DATE
 08-13-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 FERDINAND DE LA CRUZ
 No. E 17215
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

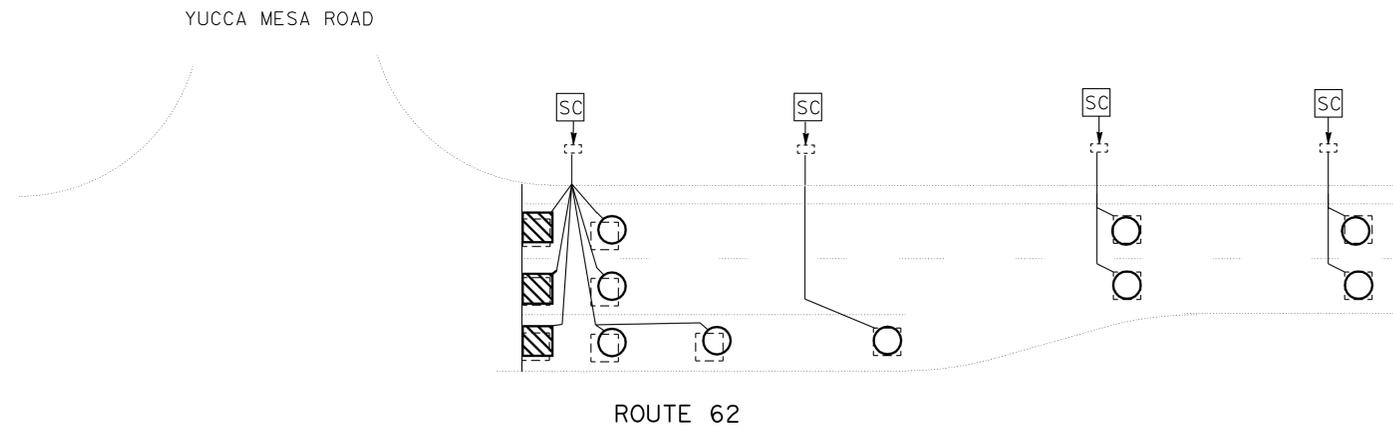
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

GENERAL NOTES FOR SHEET E-1 THRU E-2:

1. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF OF THE INDUCTIVE LOOP DETECTORS.
2. **AB** ALL EXISTING INDUCTIVE LOOP DETECTORS SHOWN.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 3 WORKING DAYS PRIOR TO INSTALLING DETECTOR LOOP.
4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 5 WORKING DAYS PRIOR TO ANY WORK PERFORM AT TRAFFIC SIGNAL LOCATIONS.
5. LABEL CONDUCTOR ENDS AS PER STNADARD PLAN ES-13B.
6. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



TYPICAL LOOP DETECTOR LAYOUT



ROUTE 62

LA CONTENTA ROAD

LOCATION 1

TRAFFIC SIGNAL
 SBd-62 AND LA CONTENTA ROAD
 PM 15.1

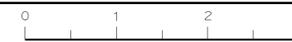
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	REVISOR	DATE
Caltrans ELECTRICAL DESIGN B	SANDY TUNG	
FUNCTIONAL SUPERVISOR	FERDINAND DE LA CRUZ	
CALCULATED/DESIGNED BY	CHECKED BY	

APPROVED FOR ELECTRICAL WORK ONLY

INDUCTIVE LOOP DETECTOR

SCALE : 1" = 20'

E-1



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR
 FERDINAND DE LA CRUZ

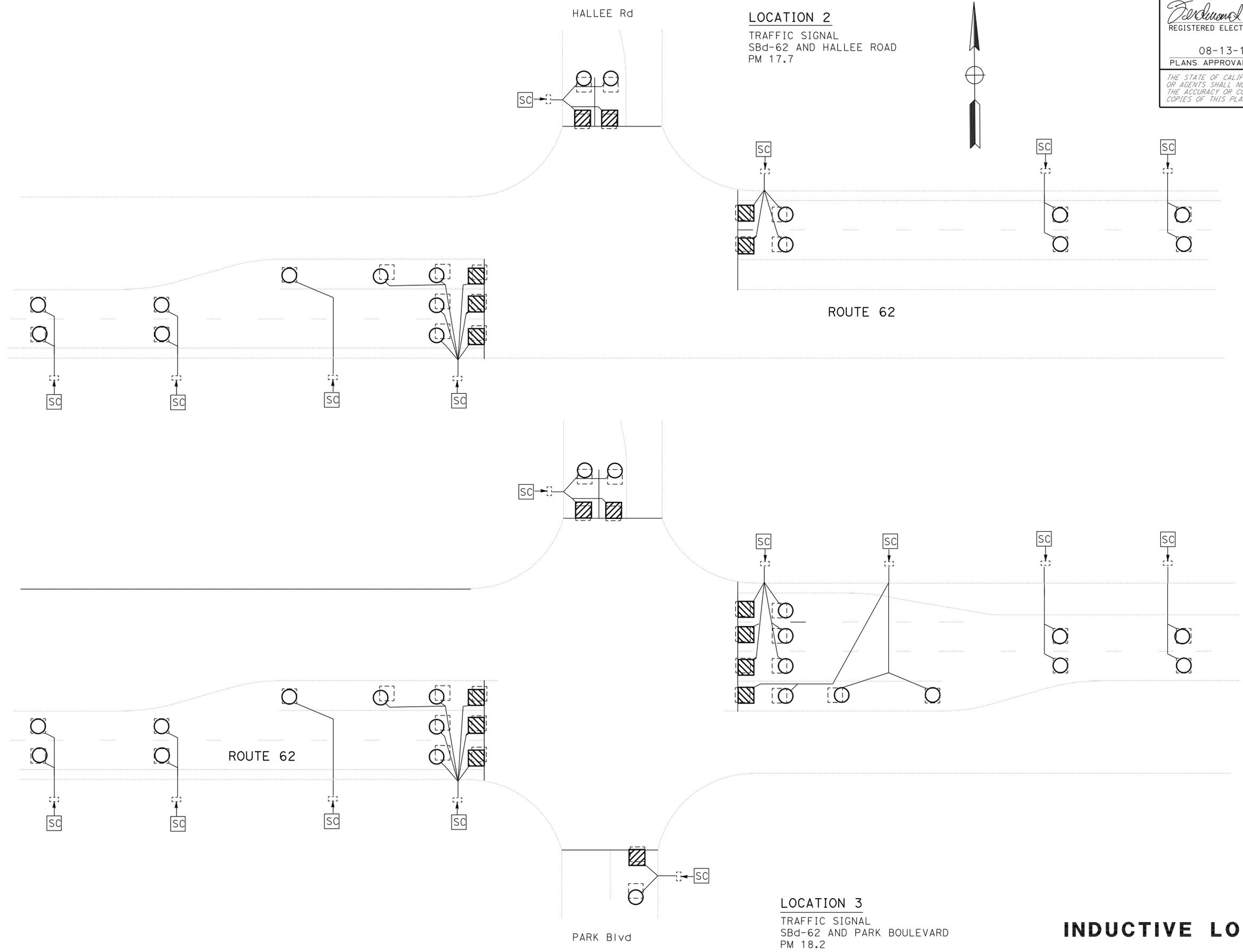
CALCULATED/DESIGNED BY
 CHECKED BY

SANDY TUNG
 FERDINAND DE LA CRUZ

REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	25	40

Ferdinand De La Cruz 08-13-12
 REGISTERED ELECTRICAL ENGINEER DATE
 08-13-12
 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.



APPROVED FOR ELECTRICAL WORK ONLY

INDUCTIVE LOOP DETECTOR

SCALE : 1" = 20'

E-2

USERNAME => s106356
 DGN FILE => 800730ud002.dgn



UNIT 2292

PROJECT NUMBER & PHASE

08000204551

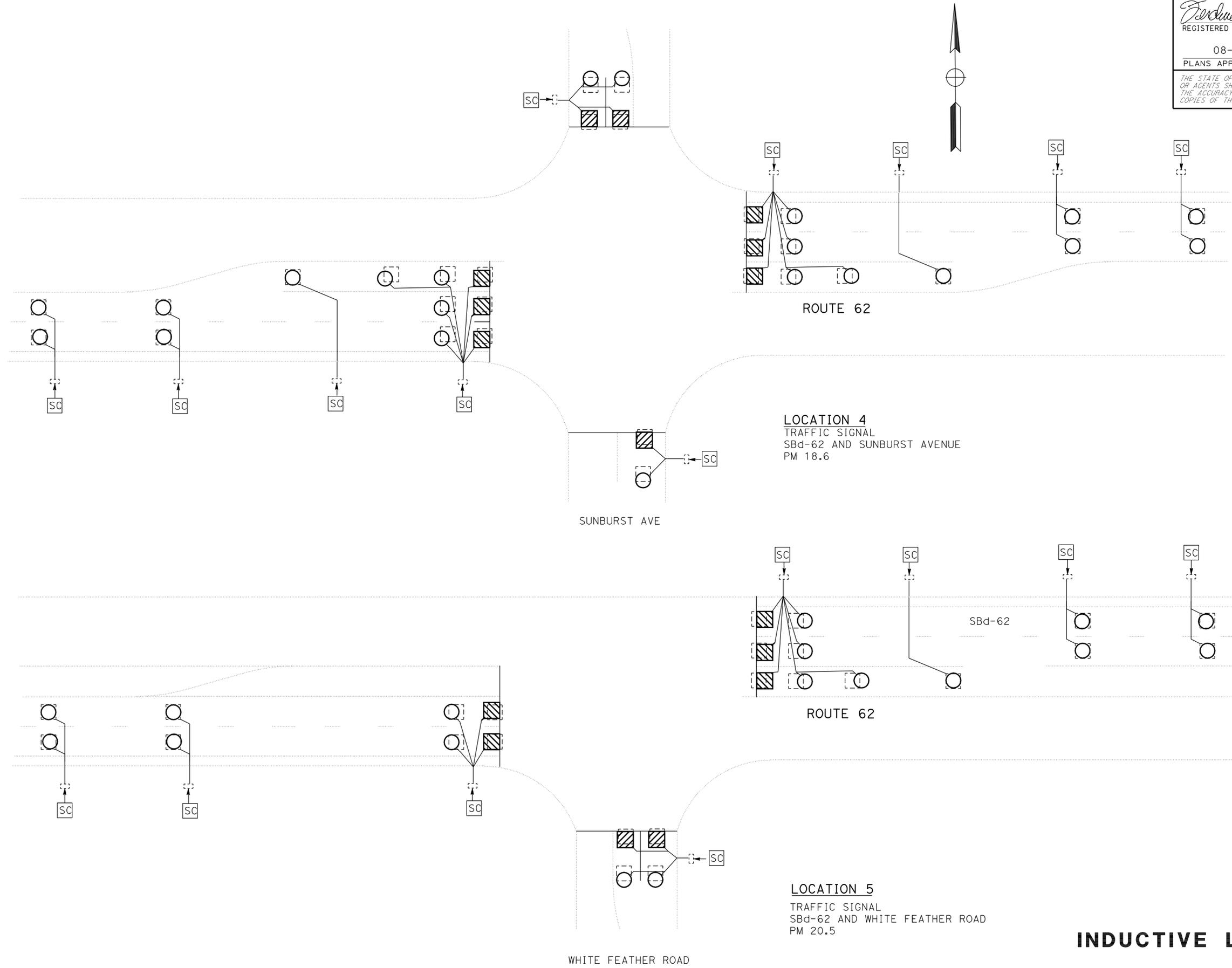
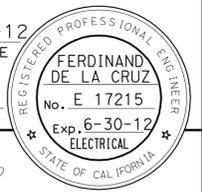
BORDER LAST REVISED 7/2/2010

LAST REVISION | DATE PLOTTED => 20-AUG-2012
 05-03-12 | TIME PLOTTED => 10:05

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	26	40

08-13-12
 REGISTERED ELECTRICAL ENGINEER DATE
 08-13-12
 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.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B
 FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
 CHECKED BY: SANDY TUNG
 DESIGNED BY: FERDINAND DE LA CRUZ
 REVISIONS: (None listed)
 REVISOR: (None listed)
 DATE: (None listed)

APPROVED FOR ELECTRICAL WORK ONLY

INDUCTIVE LOOP DETECTOR

SCALE : 1" = 20'

E-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	27	40

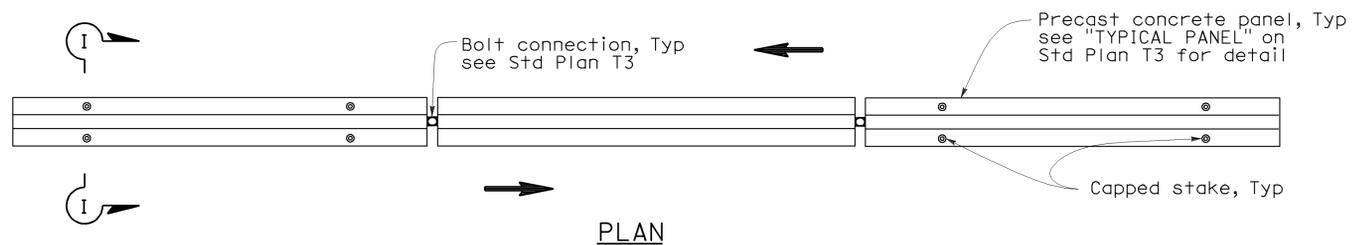
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

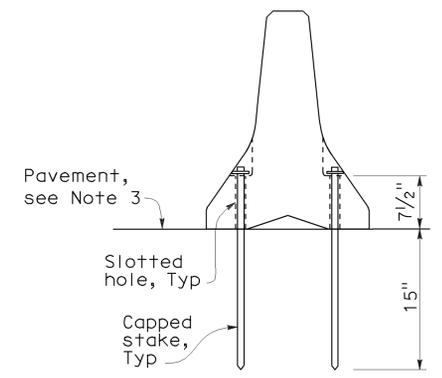
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Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 08-13-12



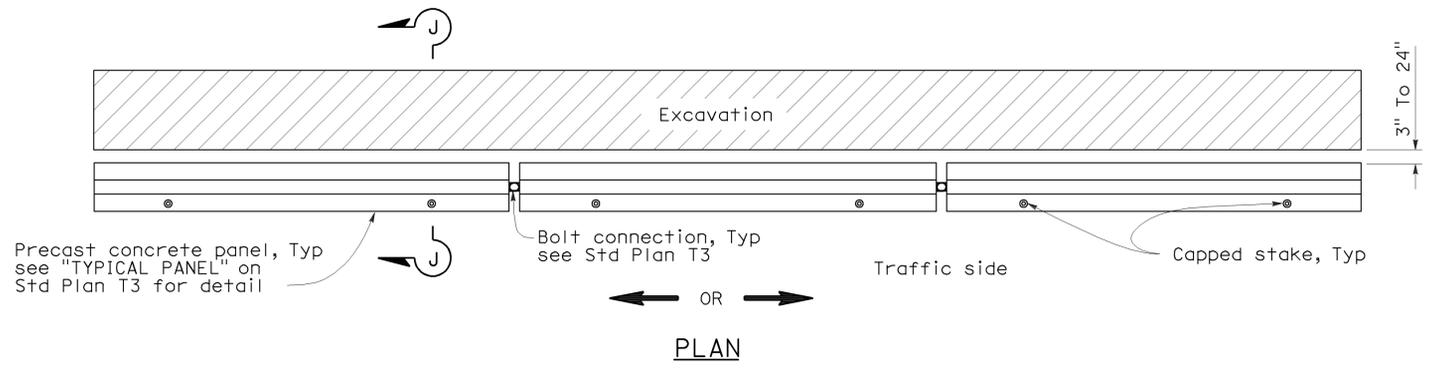
RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1



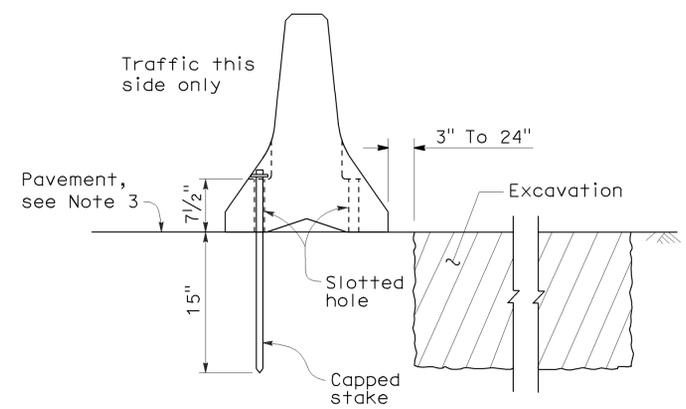
SECTION I-I

NOTES:

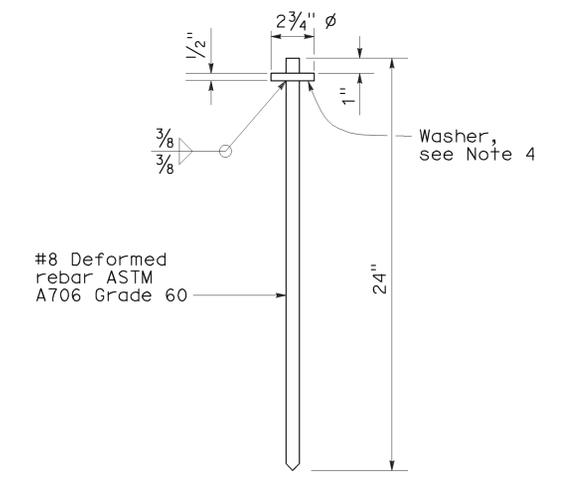
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of an excavation on highways, use two capped stakes per panel along the traffic side.
3. Staked Type K Temporary Railing must be supported by at least 4" thick concrete, hot mix asphalt or existing asphalt pavement.
4. The minimum yield strength for the washer must be 60,000 psi.
5. Direction of adjacent traffic indicated by →.



RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION
See Note 2



SECTION J-J



CAPPED STAKE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY RAILING
(TYPE K)**
NO SCALE

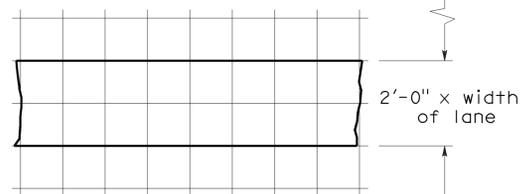
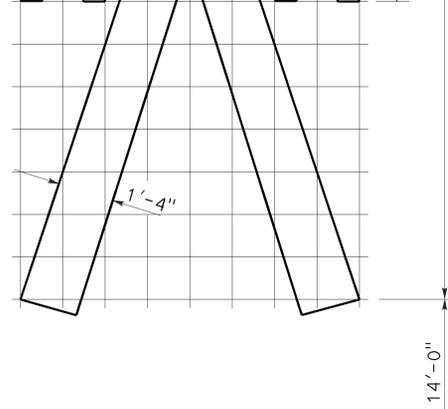
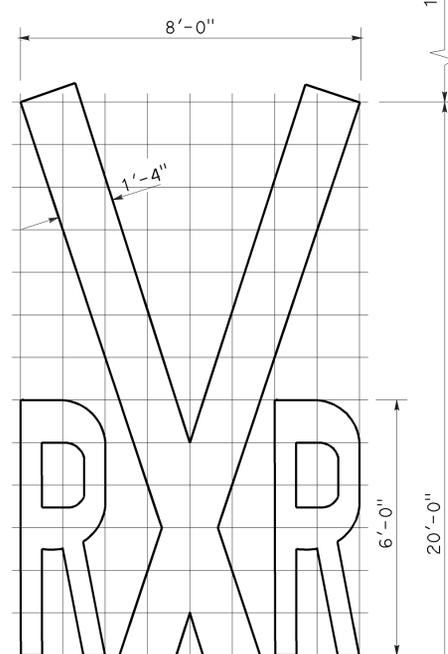
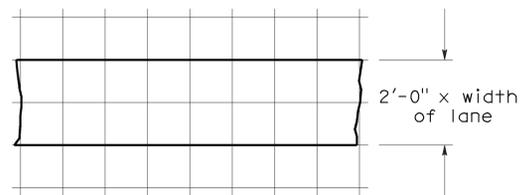
NSP T3A DATED MAY 20, 2011 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	62	15.1/29.3	28	40

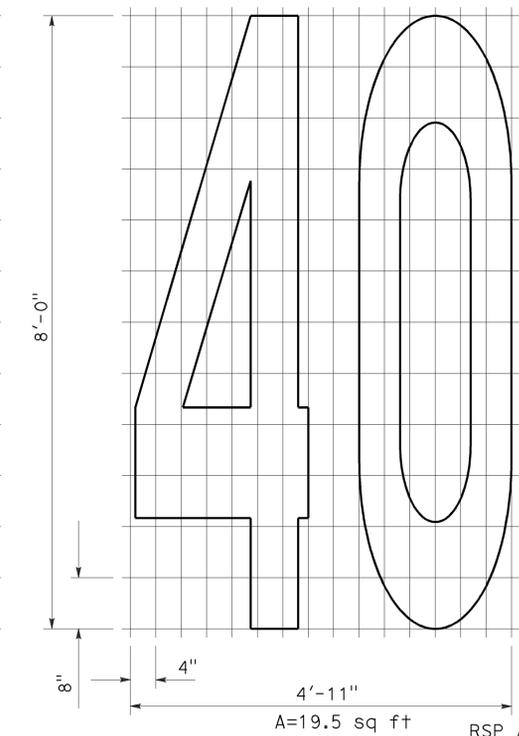
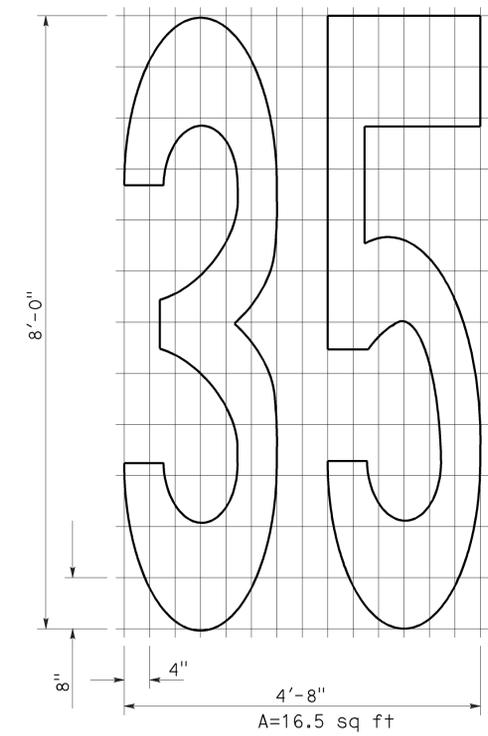
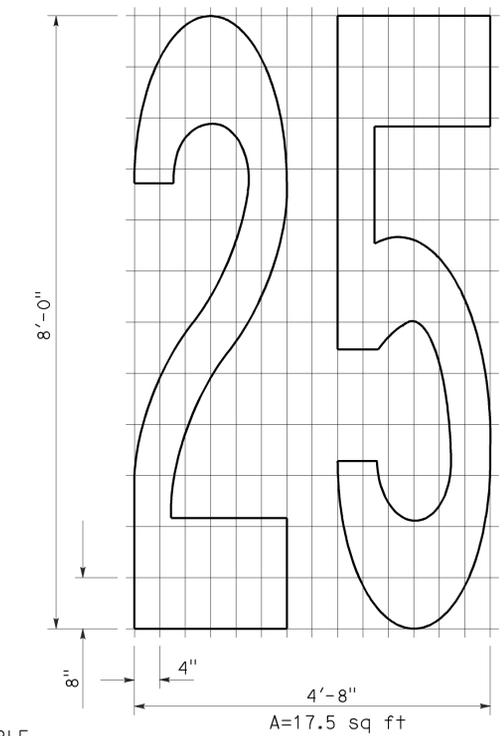
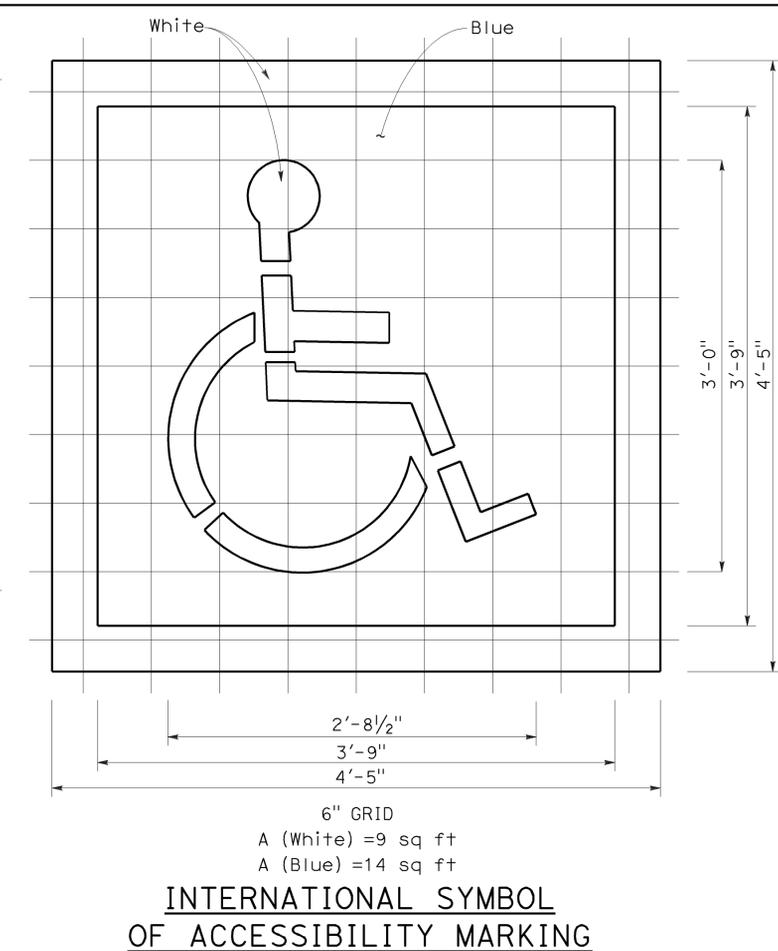
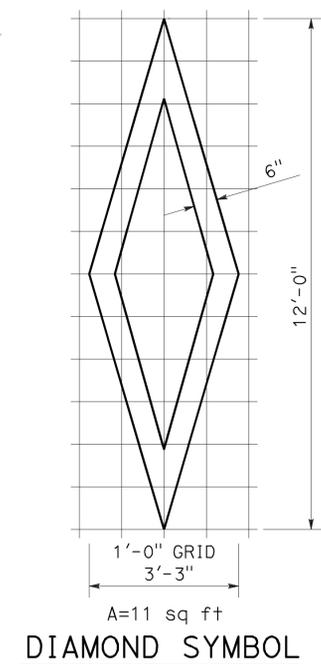
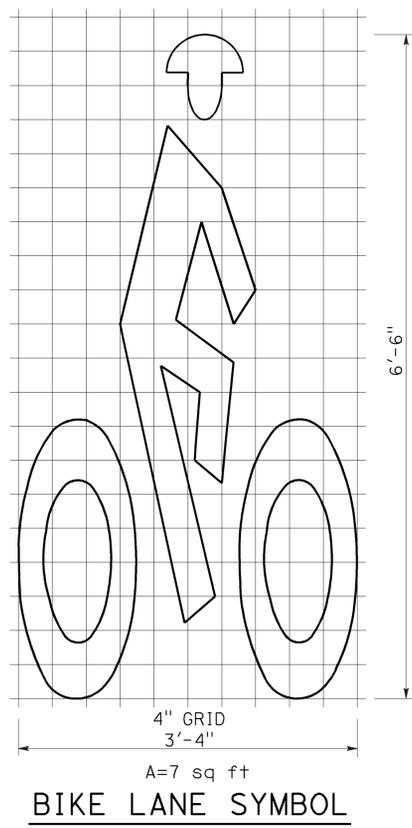
Donald E. Howe
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Donald E. Howe
 No. C46402
 Exp. 3-31-09
 CIVIL
 STATE OF CALIFORNIA

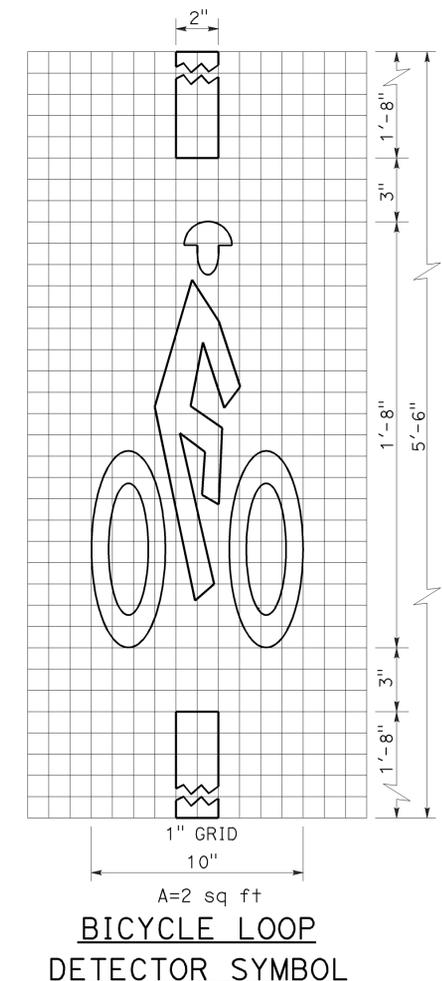
To accompany plans dated 08-13-12



1'-0" GRID
A=70 sq ft *
RAILROAD CROSSING SYMBOL
*70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



NUMERALS



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

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

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED MAY 1, 2006 - PAGE 11 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A24C

2006 REVISED STANDARD PLAN RSP A24C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	29	40

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
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
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 08-13-12

NOTES:

- For details of steel post installations, see Standard Plan A77A2.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of wood posts and wood blocks used to construct guard railing, see Standard Plan A77C1.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For guard railing connection details to abutments and walls, see Standard Plan A77J3.
- Direction of adjacent traffic indicated by →.
- For typical guard railing delineation and dike positioning details, see Standard Plan A77C4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Standard Plan A77C1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

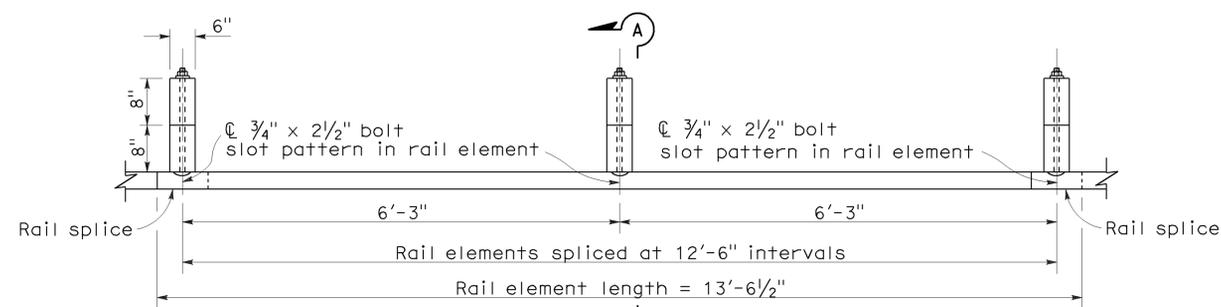
**METAL BEAM GUARD RAILING
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

NO SCALE

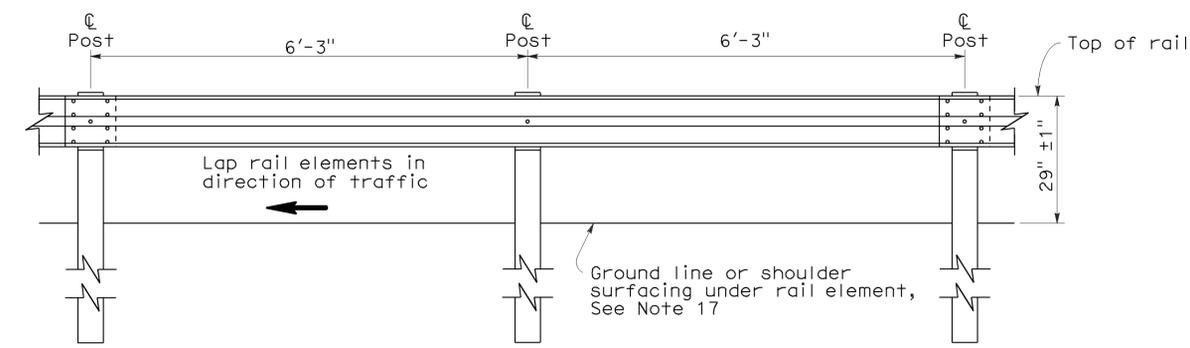
RSP A77A1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A1
DATED MAY 1, 2006 - PAGE 41 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A1

2006 REVISED STANDARD PLAN RSP A77A1

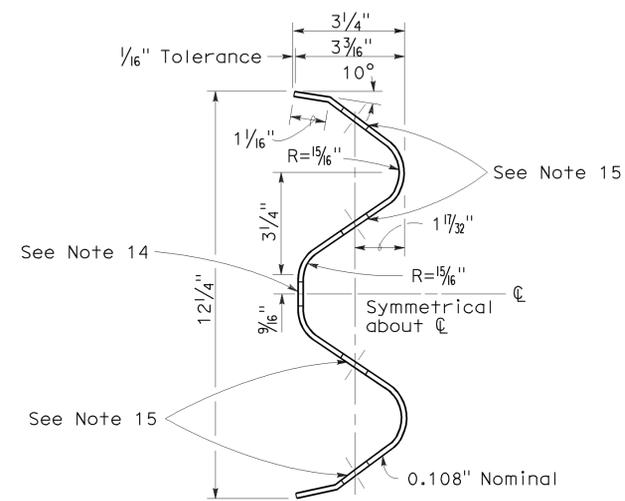


PLAN

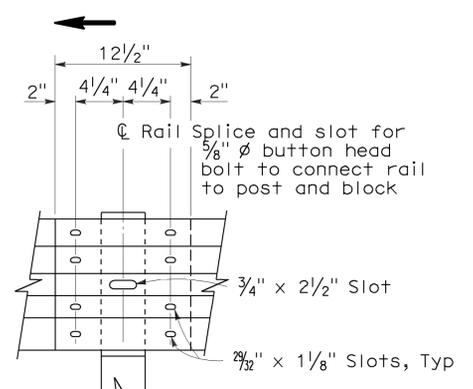


ELEVATION

METAL BEAM GUARD RAILING WITH WOOD POST AND BLOCKS

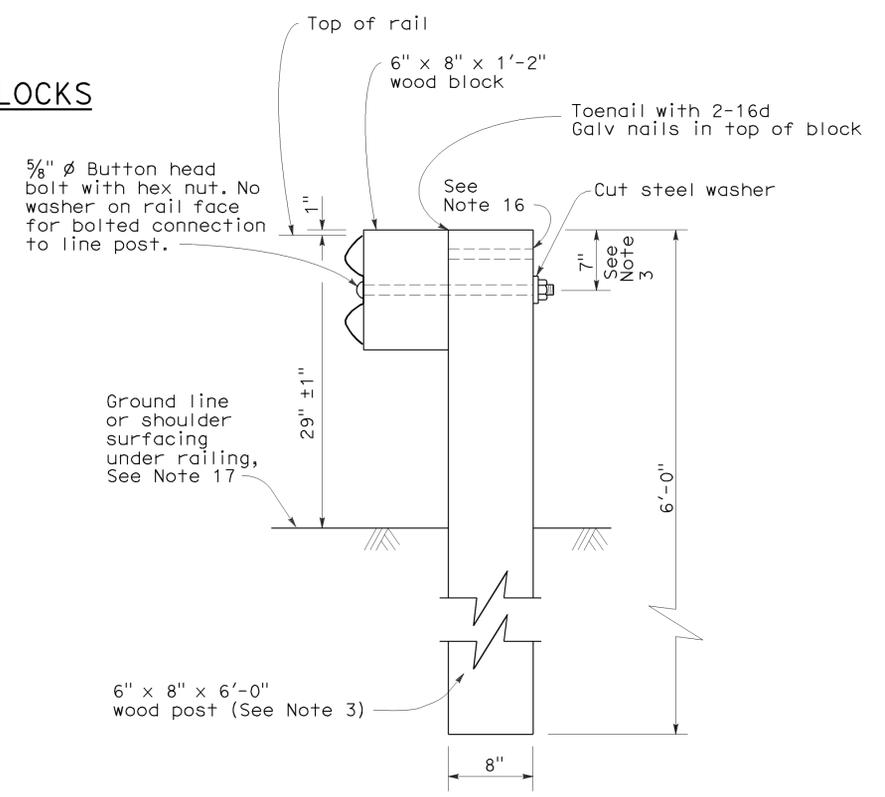


**SECTION THRU
RAIL ELEMENT**



**ELEVATION
RAIL ELEMENT SPLICE DETAIL**

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



**SECTION A-A
TYPICAL WOOD LINE
POST INSTALLATION**

See Note 4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	30	40

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

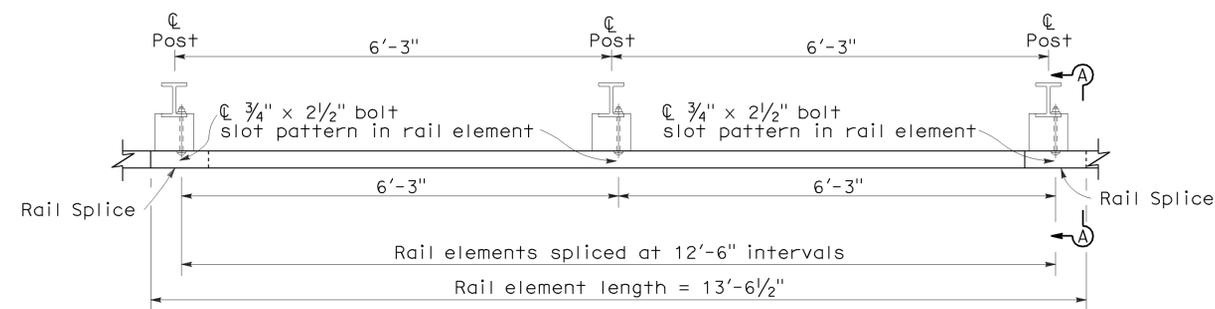
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

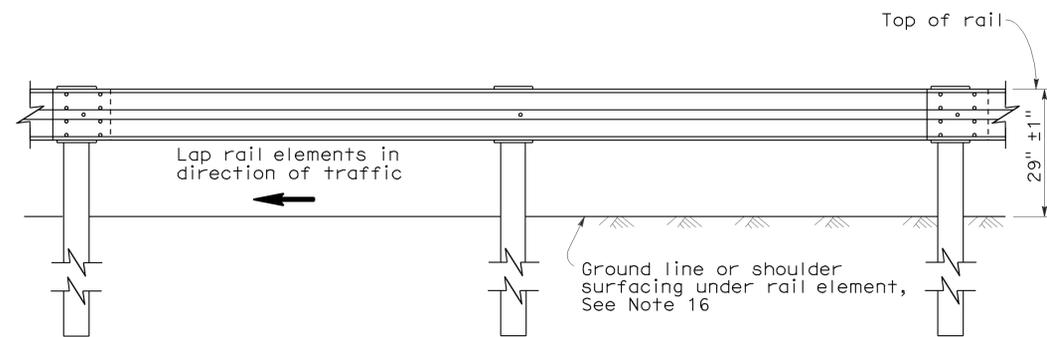
To accompany plans dated 08-13-12

NOTES:

- For details of wood post installations, see Standard Plan A77A1.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of steel posts and notched wood blocks used to construct guard railing, see Standard Plan A77C2.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For dike positioning and guard railing delineation details, see Standard Plan A77C4.
- Direction of adjacent traffic indicated by → .
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.

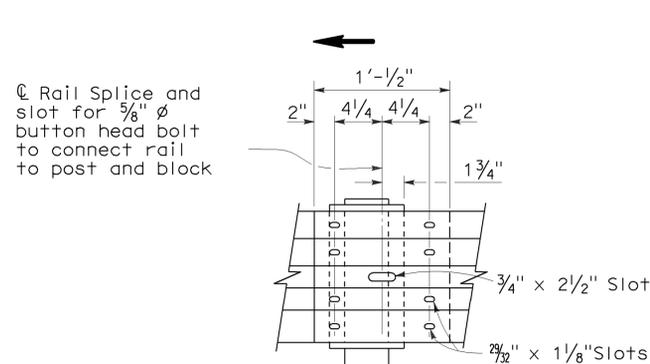


PLAN



ELEVATION

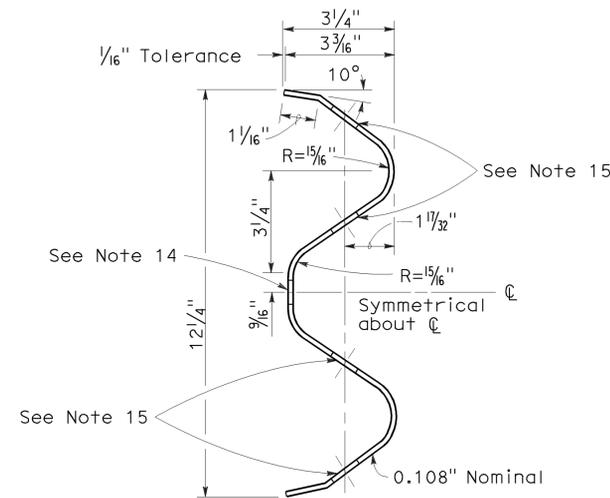
METAL BEAM GUARD RAILING WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



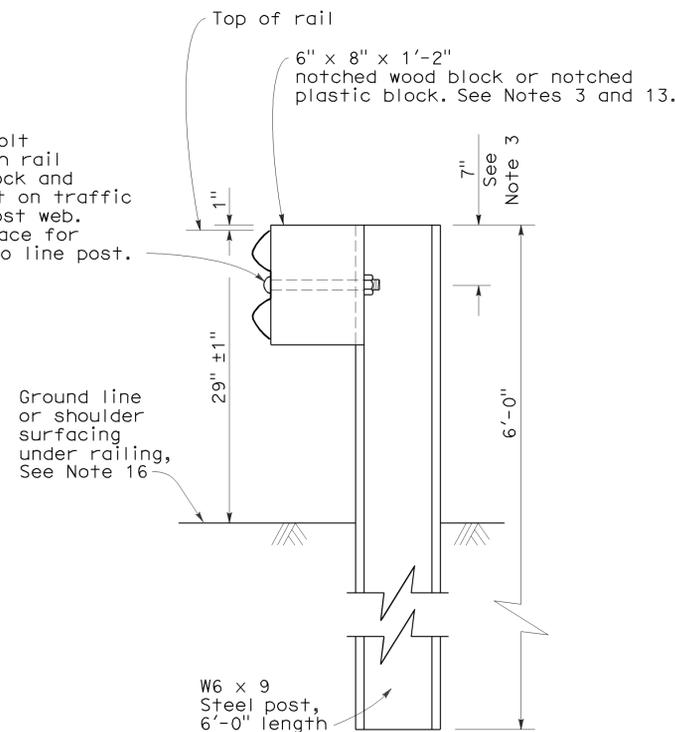
ELEVATION

RAIL ELEMENT SPLICE DETAIL

- Connect the overlapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $2\frac{7}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



SECTION A-A TYPICAL STEEL LINE POST INSTALLATION

See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

NO SCALE

RSP A77A2 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A2 DATED MAY 1, 2006 - PAGE 42 OF THE STANDARD PLANS BOOK DATED MAY 2006.

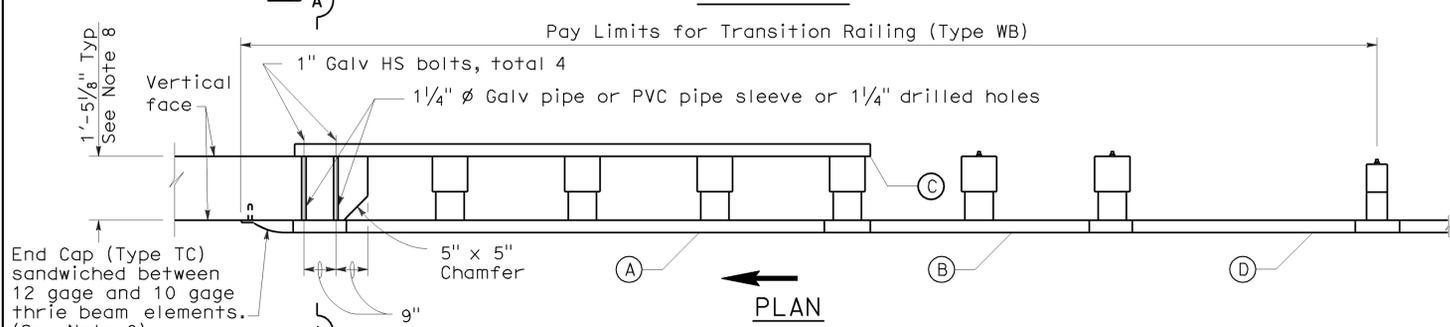
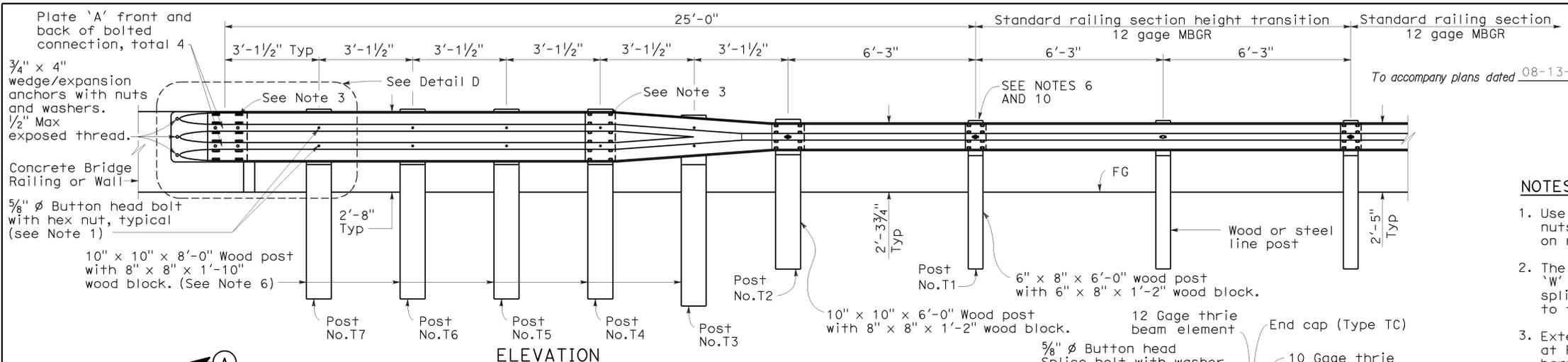
REVISED STANDARD PLAN RSP A77A2

2006 REVISED STANDARD PLAN RSP A77A2

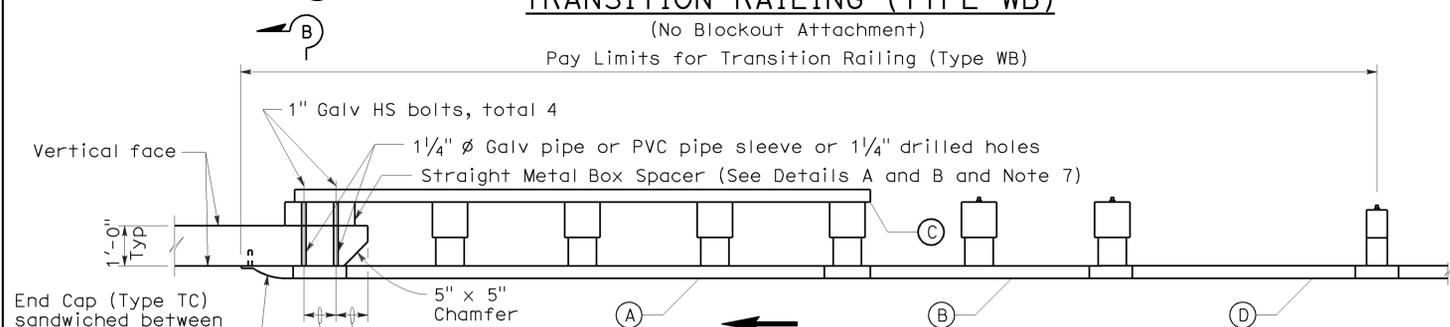
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	62	15.1/29.3	31	40

Randell D. Hiatt
 REGISTERED CIVIL ENGINEER
 May 20, 2011
 PLANS APPROVAL DATE
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2006 REVISED STANDARD PLAN RSP A77J4



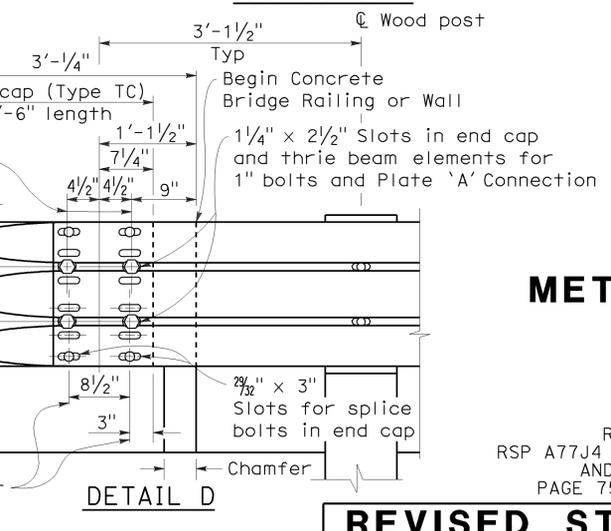
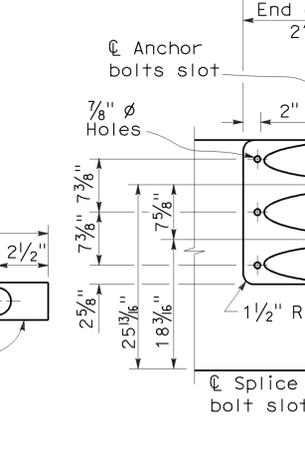
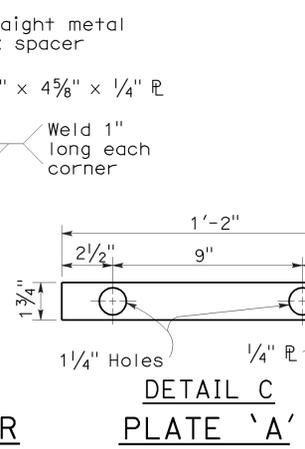
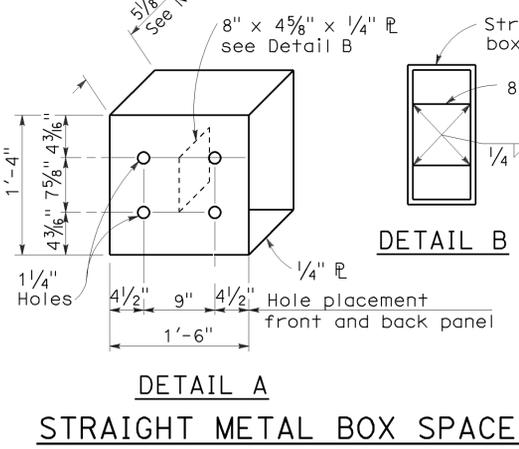
TRANSITION RAILING (TYPE WB)
(No Blockout Attachment)



TRANSITION RAILING (TYPE WB)
(Blockout Attachment)

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:**
- Use 5/8" Ø Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 - 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.
 - 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 3/8" x 1 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4" Ø. 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.
 - Direction of adjacent traffic indicated by →.
 - The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing with height transition ratio of 120:1 or an approved Caltrans end treatment attached to Post No. T1.
 - The depth of the metal box spacer varies from the 5/8" 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.
 - 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. T4 through No. T7 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.
 - 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.
 - Conform standard railing section height to 2'-3 3/4" at Post No. T1 using height transition ratio of 120:1.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
 TRANSITION RAILING
 (TYPE WB)**
 NO SCALE
 RSP A77J4 DATED MAY 20, 2011 SUPERSEDES
 RSP A77J4 DATED JUNE 5, 2009, RSP A77J4 DATED JUNE 6, 2008
 AND STANDARD PLAN A77J4 DATED MAY 1, 2006 -
 PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

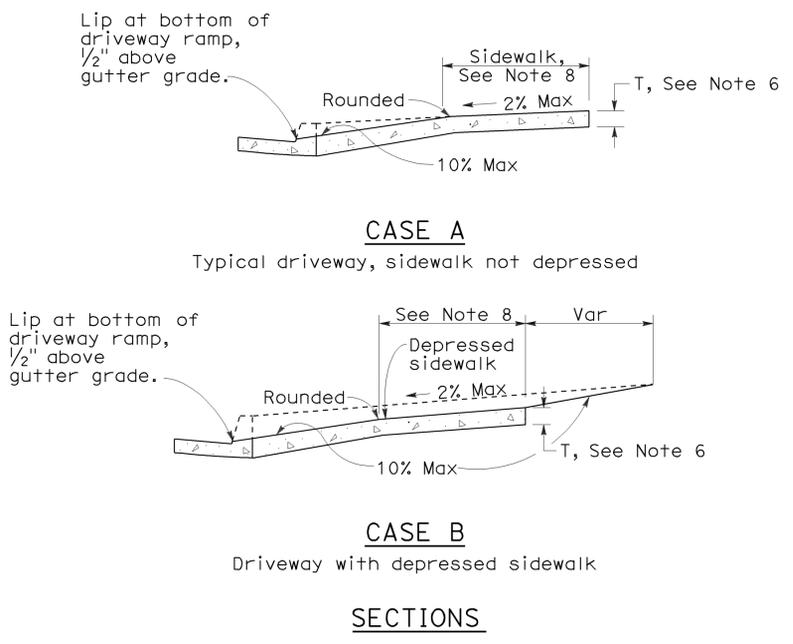
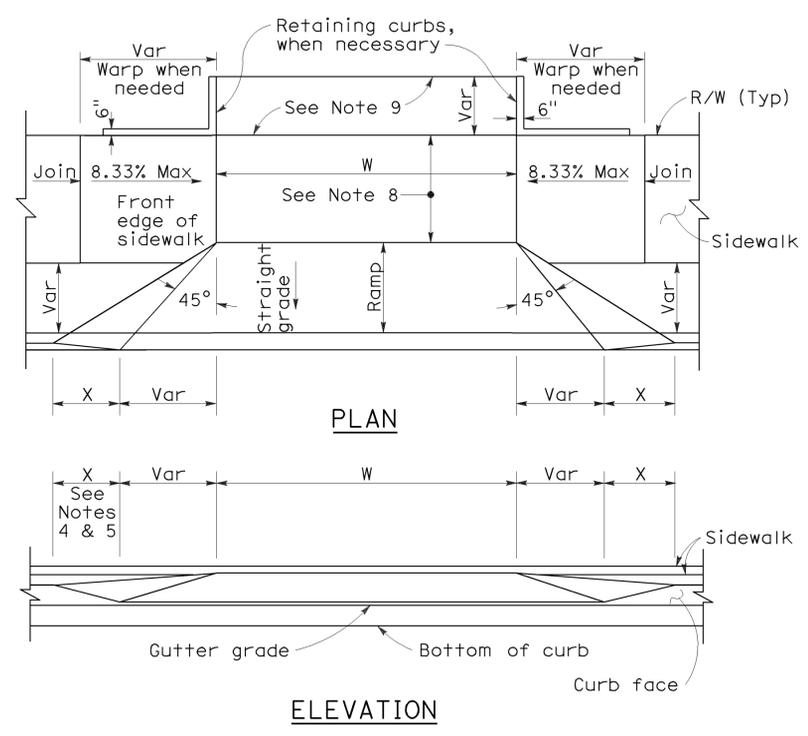
REVISED STANDARD PLAN RSP A77J4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	62	15.1/29.3	32	40



 REGISTERED CIVIL ENGINEER
 November 17, 2006
 PLANS APPROVAL DATE
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To accompany plans dated 08-13-12

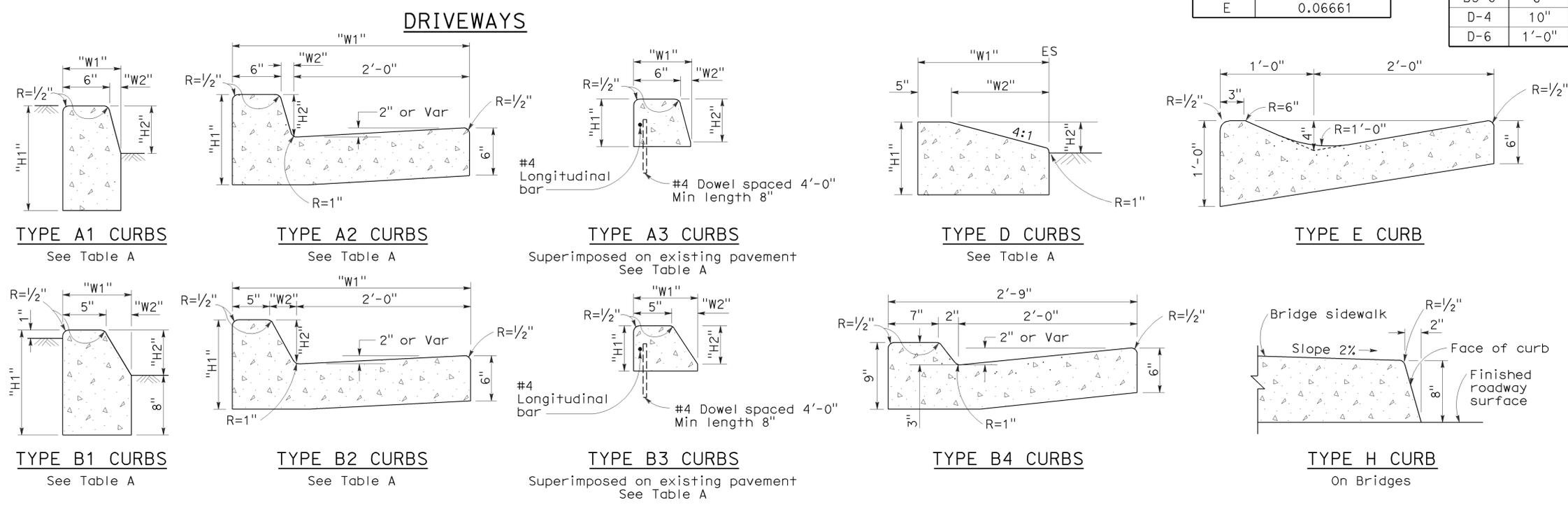


CURB QUANTITIES

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"



- 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.

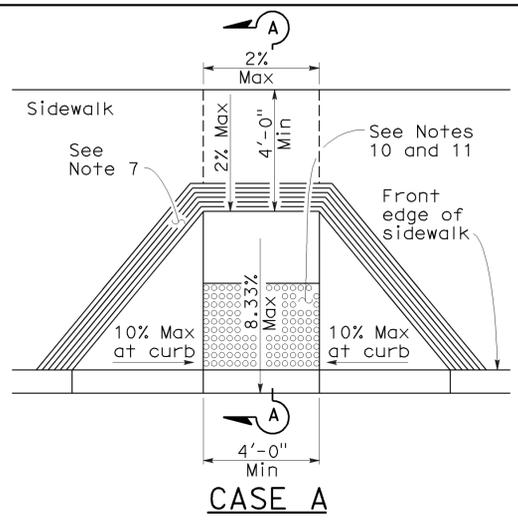
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CURBS AND DRIVEWAYS
 NO SCALE

RSP A87A DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A87A
 DATED MAY 1, 2006 - PAGE 113 OF THE STANDARD PLANS BOOK DATED MAY 2006.
REVISED STANDARD PLAN RSP A87A

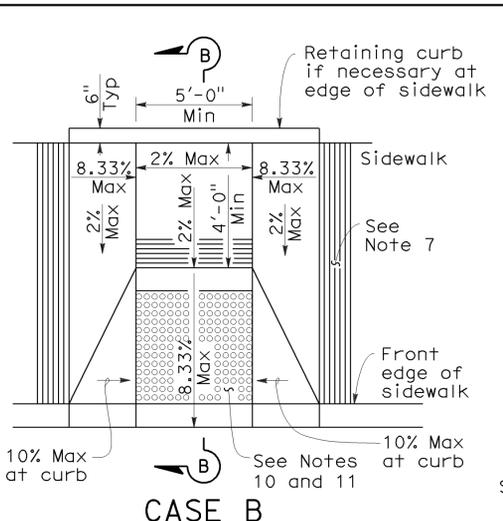
2006 REVISED STANDARD PLAN RSP A87A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	62	15.1/29.3	33	40

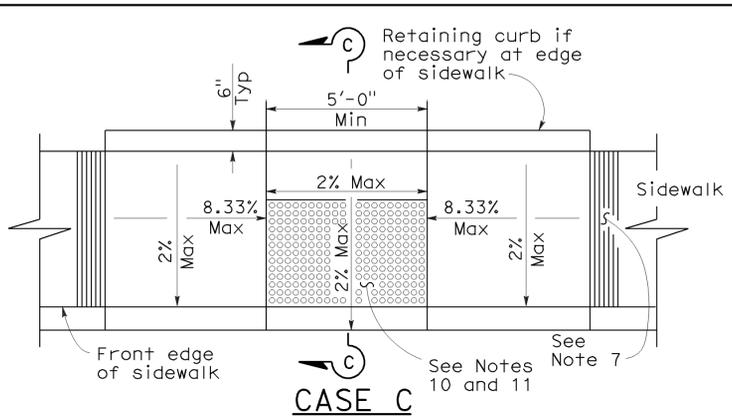
H. David Cordova
 REGISTERED CIVIL ENGINEER
 September 1, 2006
 PLANS APPROVAL DATE
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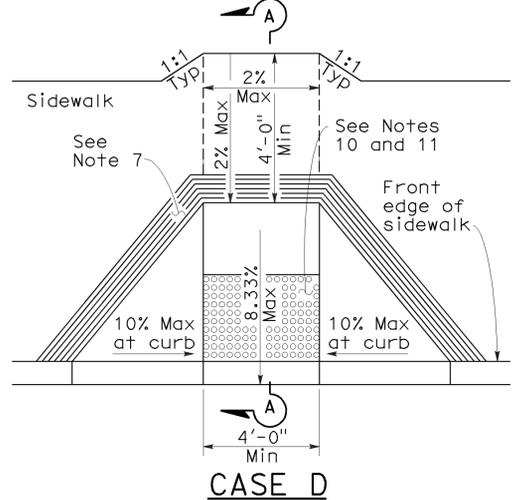
CASE A



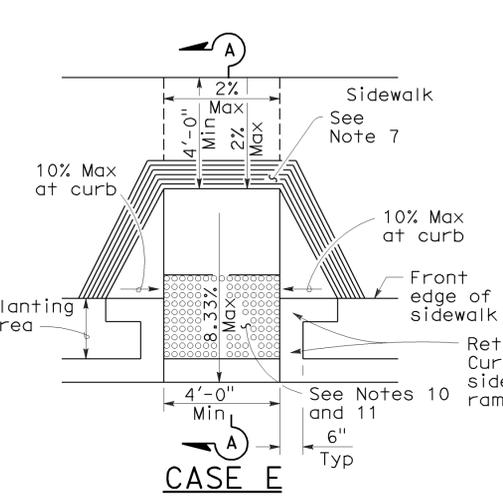
CASE B



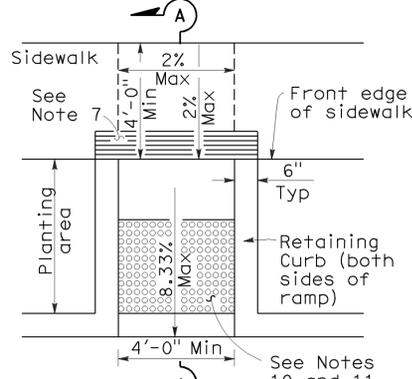
CASE C



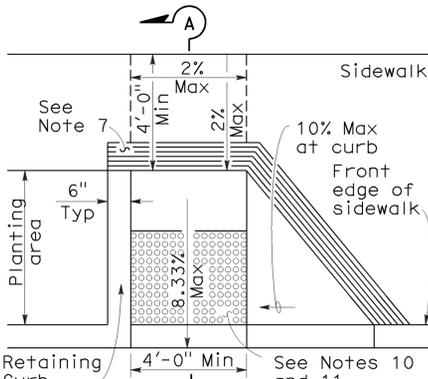
CASE D



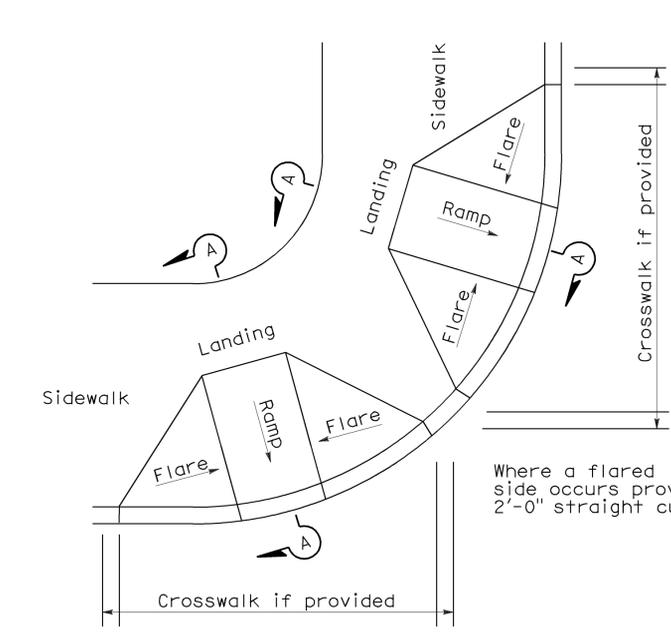
CASE E



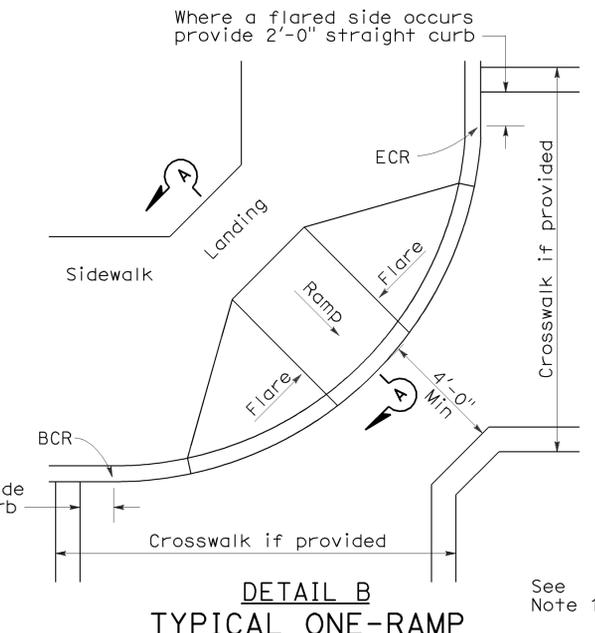
CASE F



CASE G



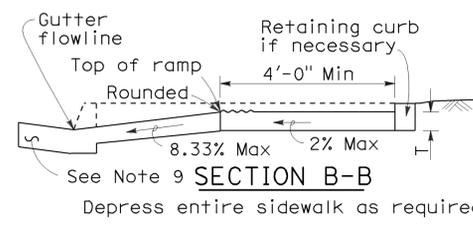
DETAIL A



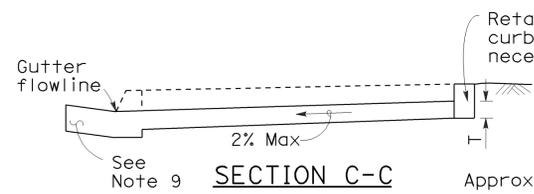
DETAIL B



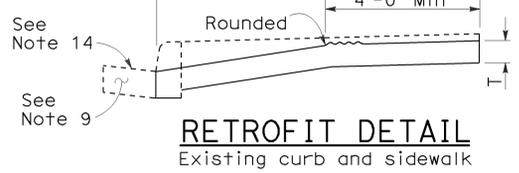
SECTION A-A



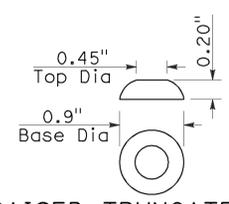
SECTION B-B



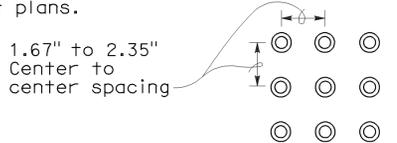
SECTION C-C



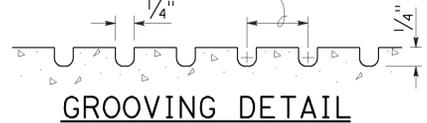
RETROFIT DETAIL



RAISED TRUNCATED DOME



RAISED TRUNCATED DOME PATTERN (IN-LINE) DETECTABLE WARNING SURFACE



GROOVING DETAIL

NOTES:

- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-0" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-0".
- Side slope of ramp flares vary uniformly from a maximum of 10% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
- The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
- Transitions from ramps and landing to walks, gutters or streets shall be flush and free of abrupt changes.
- Maximum slopes of adjoining gutters, the road surface immediately adjacent to the curb ramp or accessible route shall not exceed 5 percent within 4'-0" of the top and bottom of the curb ramp.
- Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Special Provisions.
- The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Sidewalk and ramp thickness, "T", shall be 3/2" minimum.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
- For retrofit conditions, removal and replacement of curb apron will be at the Contractor's option, unless otherwise shown on project plans.

TYPICAL TWO-RAMP CORNER INSTALLATION

See Note 1

TYPICAL ONE-RAMP CORNER INSTALLATION

See Notes 1 and 3

RETROFIT DETAIL

Existing curb and sidewalk

REVISED STANDARD PLAN RSP A88A

RSP A88A DATED SEPTEMBER 1, 2006 SUPERSEDES STANDARD PLAN A88A DATED MAY 1, 2006 - PAGE 115 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A88A

ELECTROLIERS

STANDARD TYPES	Symbol	Description
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)

NOTES:

- Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.
- Variations noted adjacent to symbol on project plans.

Electrolier (see project notes or project plans)

Luminaire on wood pole

STANDARD NOTES:

AB	Abandon. If applied to conduit, remove conductors.
BC	Install pull box in existing conduit run.
BP	Pedestrian barricade, type as indicated on plan.
CB	Install conduit into existing pull box.
CC	Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
CF	Conduit to remain for future use. Remove conductors. Install pull wire or rope.
DH	Detector handhole.
FA	Foundation to be abandoned.
IS	Install sign on signal mast arm.
NS	No slip base on standard.
PEC	Photoelectric control.
PEU	Photoelectric unit.
RC	Equipment or material to be removed and become the property of the Contractor.
RE	Remove electrolier, fuses and ballast. Tape ends of conductors.
RL	Relocate equipment.
RR	Remove and reuse equipment.
RS	Remove and salvage equipment.
SC	Splice new to existing conductors.
SD	Service disconnect.
SF	Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
TSP	Telephone service point.

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	
MAS-4C	mas-4C	
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL		Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	62	15.1/29.3	34	40

Jeffrey G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Jeffrey G. McRae
No. E14512
Exp. 6-30-08
ELECTRICAL
STATE OF CALIFORNIA

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To accompany plans dated 08-13-12

SOFFIT AND WALL MOUNTED LUMINAIRES

	Pendant, 70 W HPS unless otherwise specified.
	Flush, 70 W HPS unless otherwise specified.
	Wall surface, 70 W HPS unless otherwise specified.
	Existing soffit or wall luminaire to remain unmodified.
	Existing soffit or wall luminaire to be modified as specified.

NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A
DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	62	15.1/29.3	35	40

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 08-13-12

CONDUIT

PROPOSED	EXISTING	
		Lighting Conduit, unless otherwise indicated or noted
		Traffic signal conduit
		Communication conduit
		Telephone conduit
		Fire alarm conduit
		Fiber optic conduit
		Conduit termination
		Conduit riser in/on structure or service pole

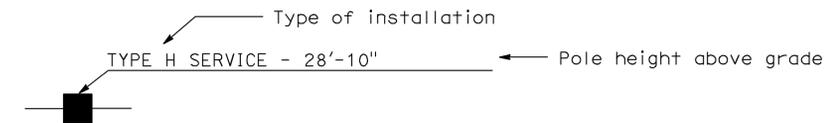
SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections lowered "LG" indicates lowered green section only "PV" indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

SERVICE EQUIPMENT

PROPOSED	EXISTING	
		Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with electrolier

SIGNAL EQUIPMENT Cont

PROPOSED	EXISTING	
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency Vehicle detector

NOTES:

1. All signal sections shall be 12" unless shown otherwise.
2. Signal heads shall be provided with backplates unless shown otherwise.
3. Signal indication shall be LED.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SYMBOLS AND ABBREVIATIONS)**
 NO SCALE

RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

2006 REVISED STANDARD PLAN RSP ES-1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	62	15.1/29.3	36	40

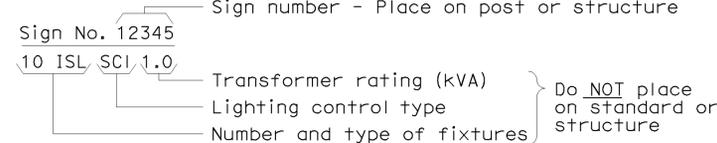
Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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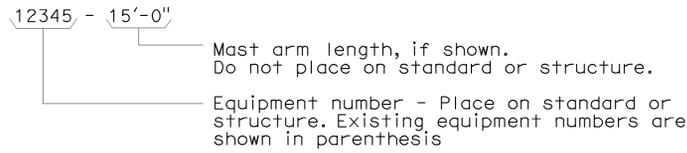
To accompany plans dated 08-13-12

EQUIPMENT IDENTIFICATION

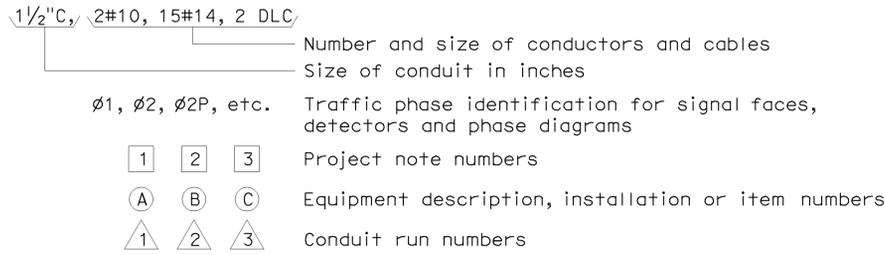
ILLUMINATED SIGN IDENTIFICATION NUMBER:



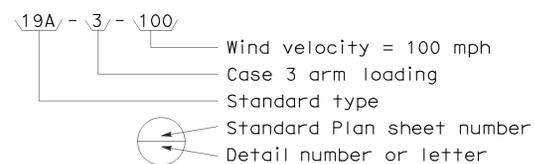
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



MISCELLANEOUS EQUIPMENT

PROPOSED	EXISTING	
		Changeable message sign
		Closed circuit television camera
		Highway advisory radio pole and antenna
		Extinguishable message sign
		Detection device
		M = Microwave sensor V = Video image sensor

WIRING DIAGRAM LEGEND

P	Pole	----	External conductor
CB	Circuit breaker	—	Conductor or bus
A	Ampere	•	Tie point
V	Volt	—/—	Contactor coil
M	Metered	— —	Contactor, Contact NO
UM	Unmetered	— —	Contactor, Contact NC
NB	Neutral bus	— —	Terminal blocks
GB	Ground bus	— —	Enclosure bond
G	Equipment grounding conductor	— —	Grounding electrode
N	Grounded conductor (Neutral)	— —	Circuit breaker
		Ⓜ	Receptacle

PULL BOXES

PROPOSED	EXISTING	
		Pull box-No. 5 unless otherwise indicated or noted.
3	9A(21)	Pull box-Additional designations or descriptions
3		(C) = Communications pull box
5		(E) = Pull box with extension
6		(S) = Sprinkler control pull box
7		(21) = Anchor bolts and conduit for future installation of Type 21 Standard
8		(T) = Traffic pull box
9		
9A		

VEHICLE DETECTORS

PROPOSED	EXISTING	
		Vehicle detector designation
5 J 9 U		U = Upper L = Lower Slot number in input file Input file (I or J) Phase
		Type A detector loop. Outline of sawcut shown.
		Type B detector loop. Outline of sawcut shown.
		Type C detector loop. Outline of sawcut shown.
		Type D detector loop. Outline of sawcut shown.
		Type E detector loop. Outline of sawcut shown.
		Type Q detector loop. Outline of sawcut shown.
		Magnetic detector
		Detector handhole
		Microwave or video detection zone

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C
 DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	62	15.1/29.3	37	40

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 No. E14512
 Exp. 6-30-08
 STATE OF CALIFORNIA

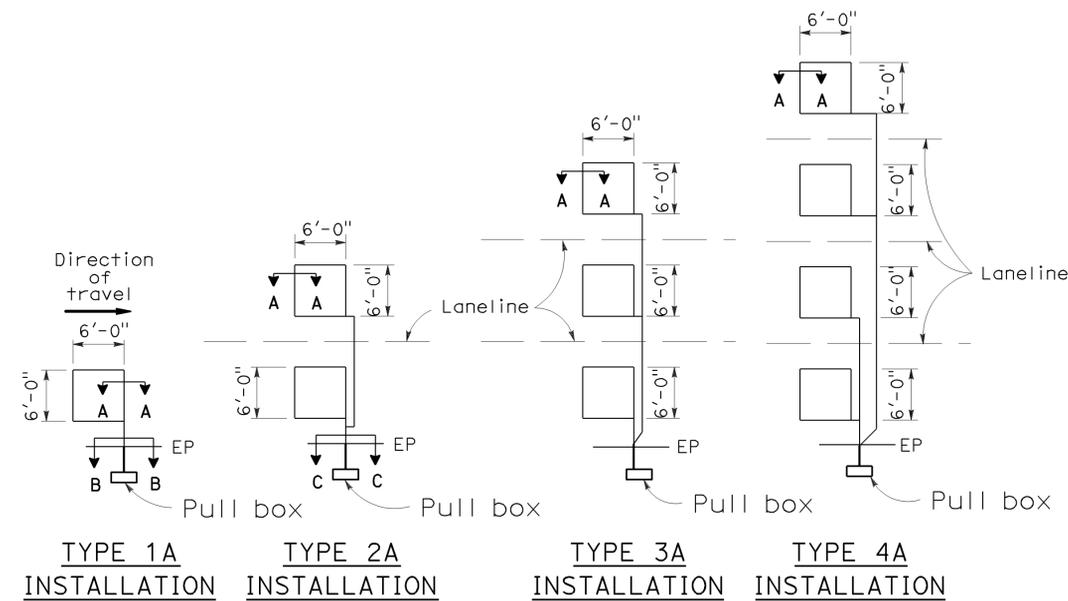
October 5, 2007
 PLANS APPROVAL DATE

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 08-13-12

LOOP INSTALLATION PROCEDURE

- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
- Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.

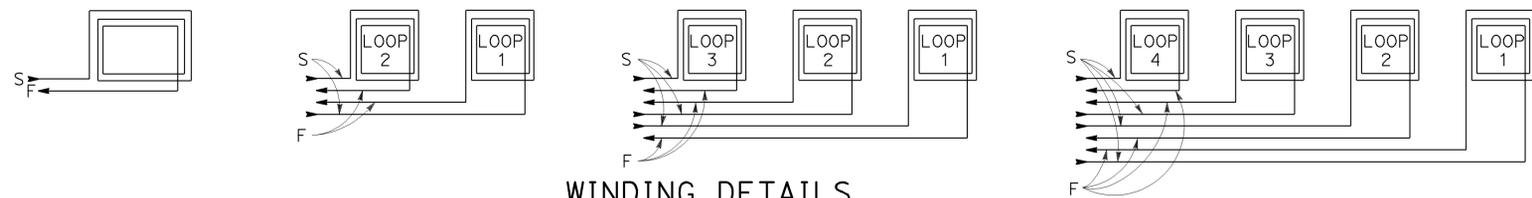


TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION

SAWCUT DETAILS

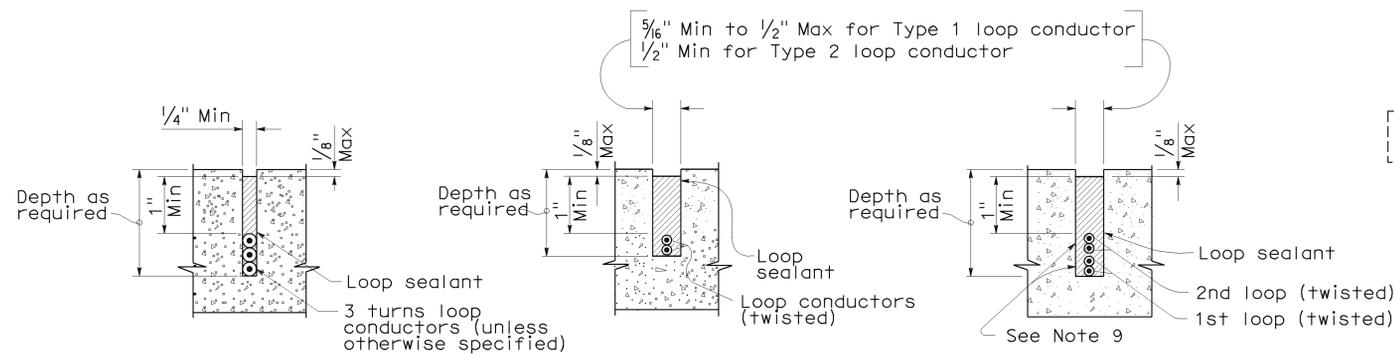
(Type A loop detector configurations illustrated)

- 1A thru 4A = 1 Type A loop configuration in each lane.
 - 1B thru 4B = 1 Type B loop configuration in each lane.
 - 1C = 1 Type C loop configuration entering lanes as required.
 - 1D thru 4D = 1 Type D loop configuration in each lane.
 - 1E thru 4E = 1 Type E loop configuration in each lane.
 - 1Q thru 4Q = 1 Type Q loop configuration in each lane.
- (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)

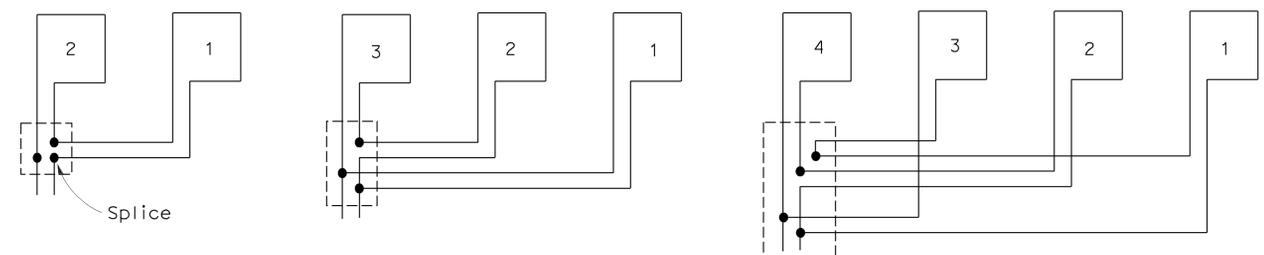


WINDING DETAILS

See Notes 6 and 7



SECTION A-A SECTION B-B SECTION C-C
 SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A
DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-5A

2006 REVISED STANDARD PLAN RSP ES-5A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	62	15.1/29.3	38	40

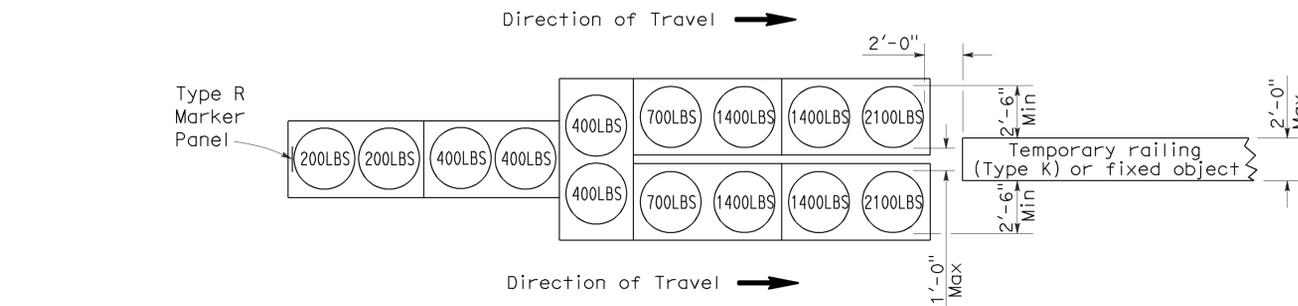
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

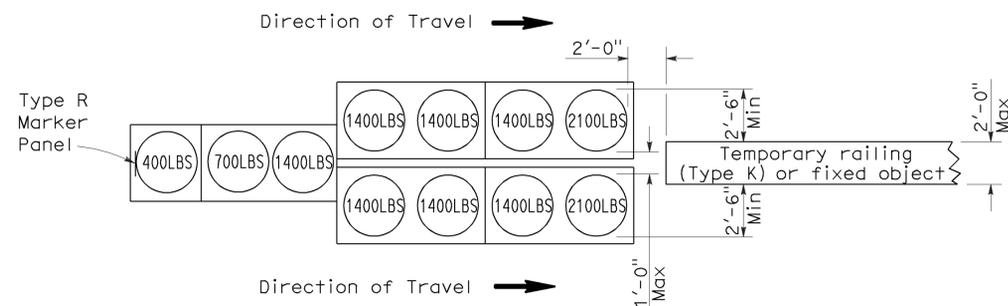
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REGISTERED PROFESSIONAL ENGINEER
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Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

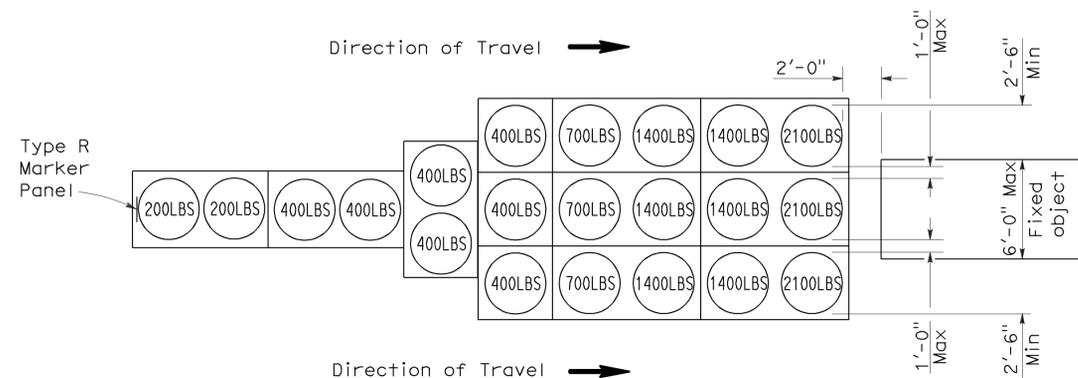
To accompany plans dated 08-13-12



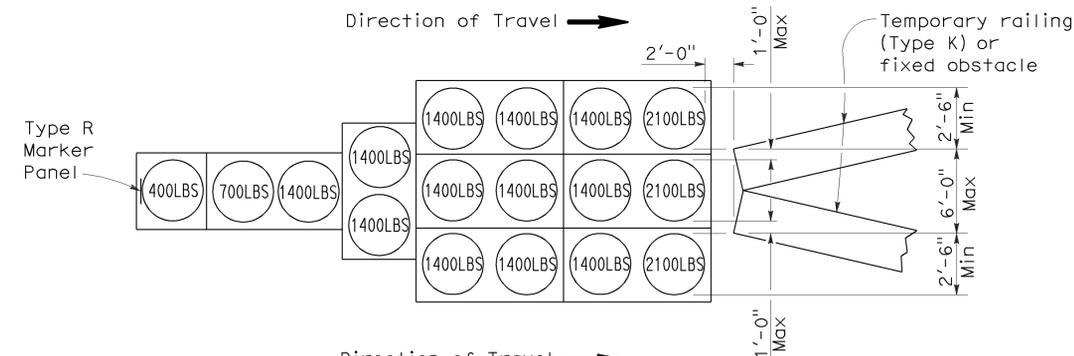
ARRAY 'TU14'
Approach speed 45 mph or more



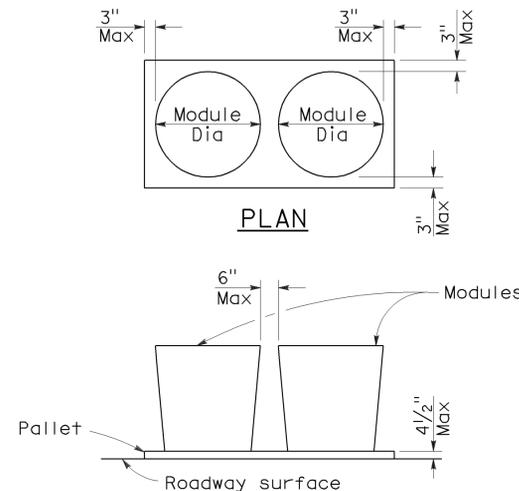
ARRAY 'TU11'
Approach speed less than 45 mph



ARRAY 'TU21'
Approach speed 45 mph or more



ARRAY 'TU17'
Approach speed less than 45 mph



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

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.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Place the top of Type R marker panel 1" below the module lid.
- Refer to Standard Plan A73B for marker details.
- 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
(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
08	SBd	62	15.1/29.3	39	40

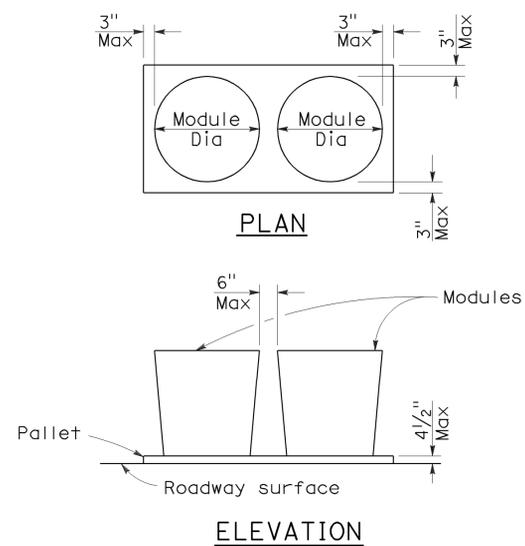
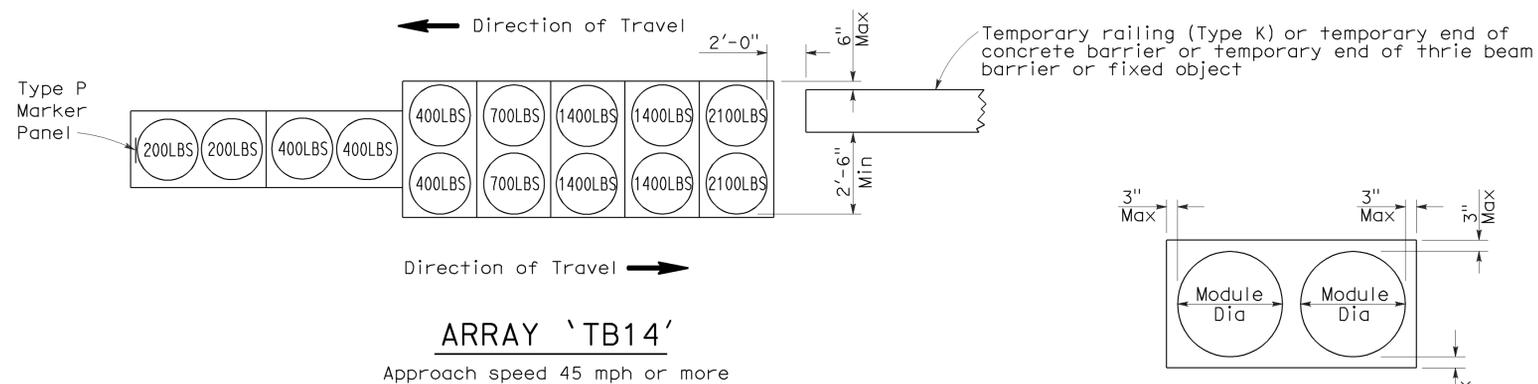
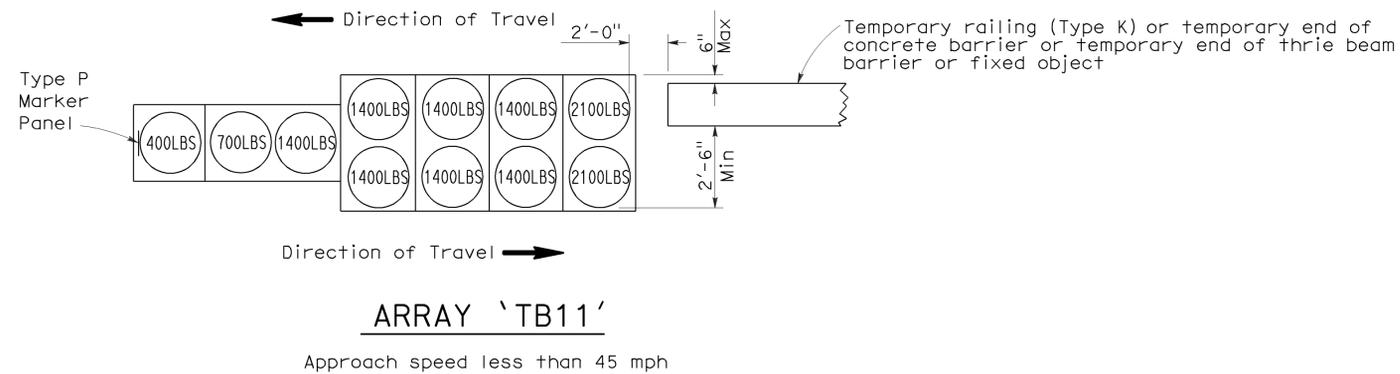
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

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 08-13-12



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
08	SBd	62	15.1/29.3	40	40

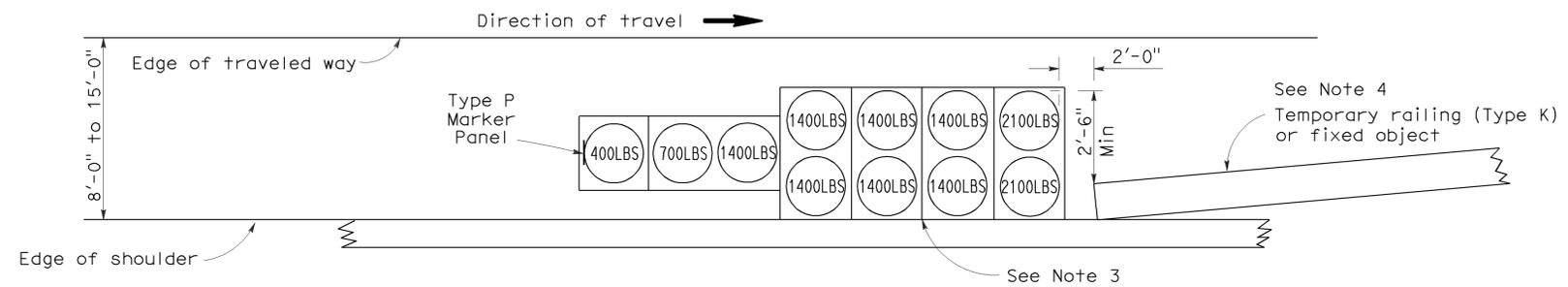
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

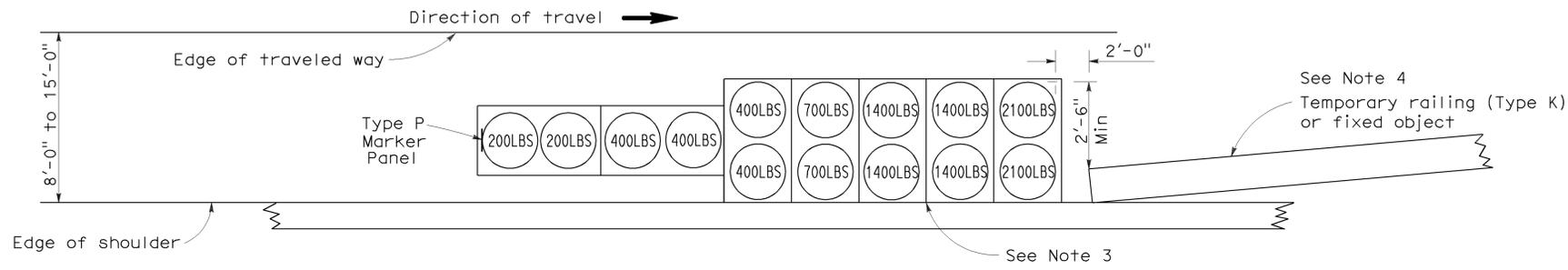
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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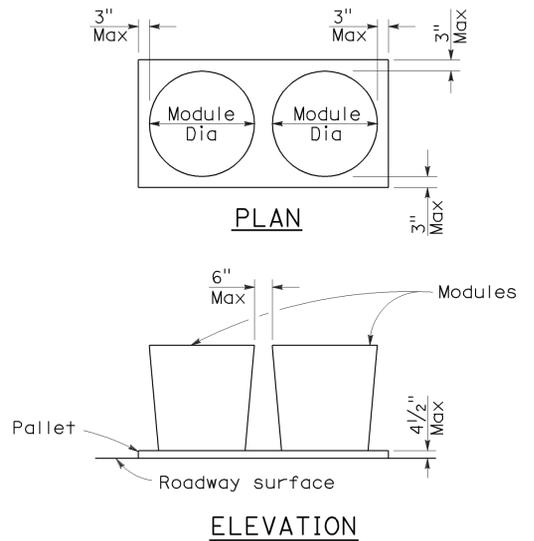
To accompany plans dated 08-13-12



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



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



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