

INDEX OF PLANS

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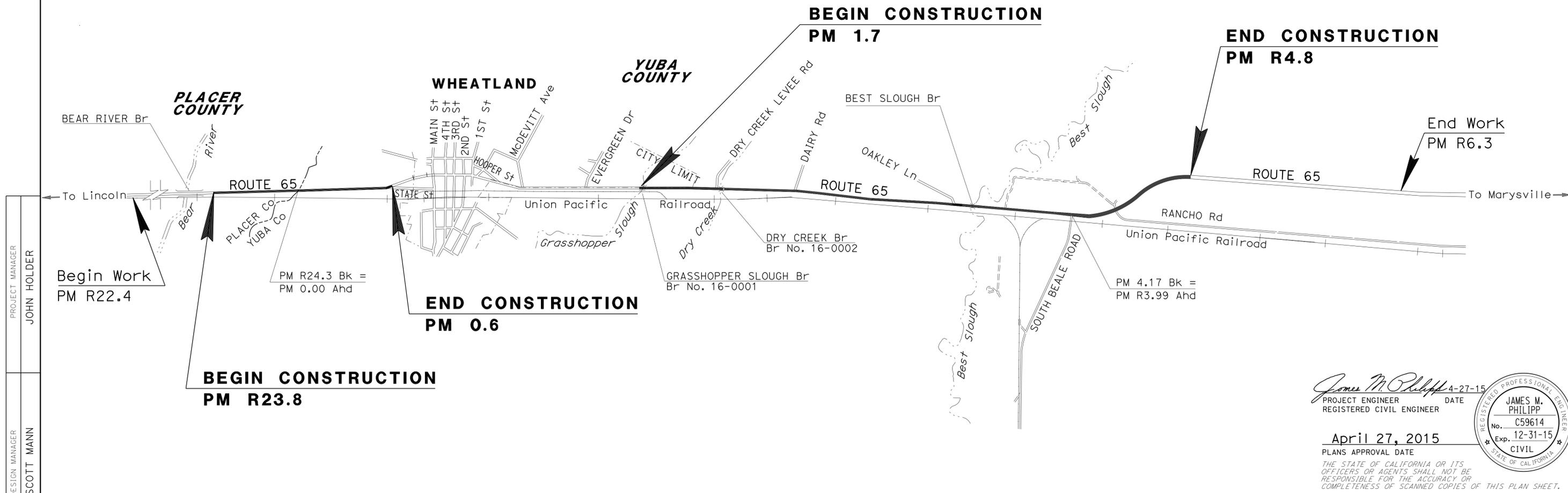
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA ACSTP-P065(102)  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY**  
**IN PLACER AND YUBA COUNTIES IN AND NEAR WHEATLAND FROM 0.2 MILE NORTH OF BEAR RIVER BRIDGE TO 0.2 MILE SOUTH OF MAIN STREET AND FROM GRASSHOPPER SLOUGH BRIDGE TO 0.8 MILE NORTH OF SOUTH BEALE ROAD**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	1	42

LOCATION MAP



PROJECT MANAGER  
**JOHN HOLDER**  
 DESIGN MANAGER  
**SCOTT MANN**

*James M. Philipp* 4-27-15  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER  
**April 27, 2015**  
 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

JAMES M. PHILIPP

No. C59614  
Exp. 12-31-15  
CIVIL  
STATE OF CALIFORNIA

EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS. THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

NO SCALE

LAST REVISION: 00-00-00  
 TIME PLOTTED => 12:58  
 DATE PLOTTED => 09-JUN-2015

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	2	42

REGISTERED CIVIL ENGINEER	DATE
<i>James M. Philipp</i>	4-27-15
PLANS APPROVAL DATE	
	4-27-15

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:**

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- EXACT LOCATIONS AND TYPES OF DIKE AND GUARDRAILING ARE SHOWN ON THE CONSTRUCTION DETAILS SHEETS AND IN THE SUMMARY OF QUANTITIES SHEETS.
- TOTAL THICKNESS OF ALL SAFETY EDGES IS 0.20'.
- PLACE CENTERLINE RUMBLE STRIPS AS PER DELINEATION DETAIL SHEETS BY FOLLOWING SOUTHBOUND DETAIL 22 PRIOR TO PM 3.70.
- EXACT LOCATIONS AND DETAILS OF REPLACE ASPHALT CONCRETE SURFACING ARE SHOWN ON THE CONSTRUCTION DETAILS SHEETS AND IN THE SUMMARY OF QUANTITIES SHEETS.

**ABBREVIATIONS:**

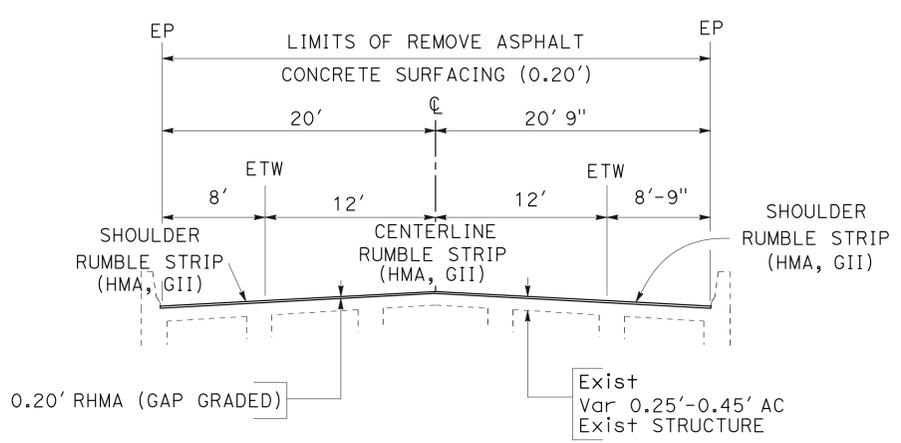
GII	GROUND-IN INDENTATIONS
LTS	LIME TREATED SUBBASE
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
RAC	RUBBERIZED ASPHALT CONCRETE
RACS	RUBBERIZED ASPHALT CONCRETE SURFACING
RHMA-O (OGFC)	RUBBERIZED HOT MIX ASPHALT-OPEN GRADED (OPEN GRADED FRICTION COURSE)

**DESIGN DESIGNATION**

ADT (2014)	19,800	D	60%
ADT (2020)	24,000	T	19%
ADT (2030)	31,000	TI <sub>10</sub>	12
ESAL	21,980,000	TI <sub>20</sub>	13

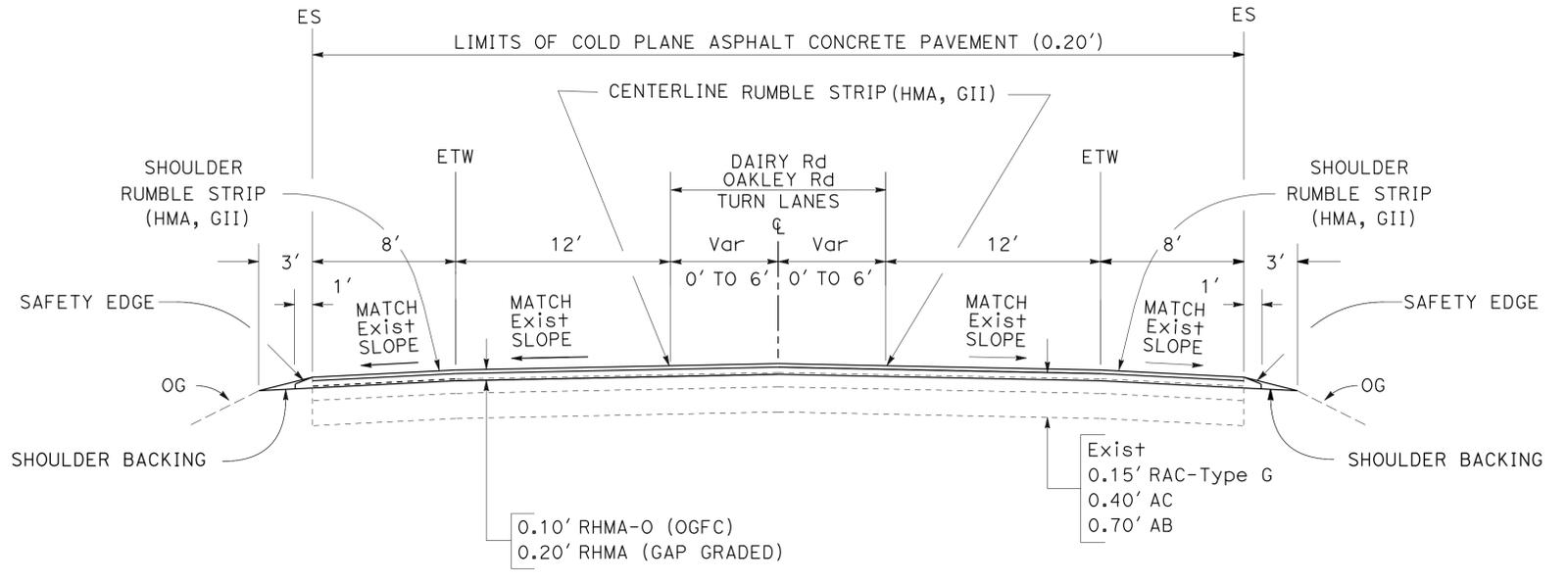
**PAVEMENT CLIMATE REGION**

INLAND VALLEY



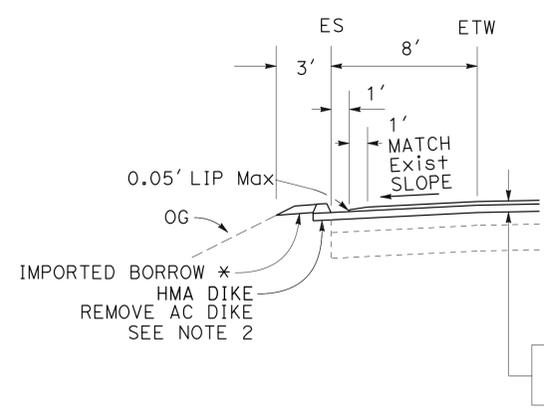
**ROUTE YUB-65**

BRIDGE No. 16-0001  
PM 1.79 TO 1.80  
BRIDGE No. 16-0002  
PM 2.21 TO 2.25



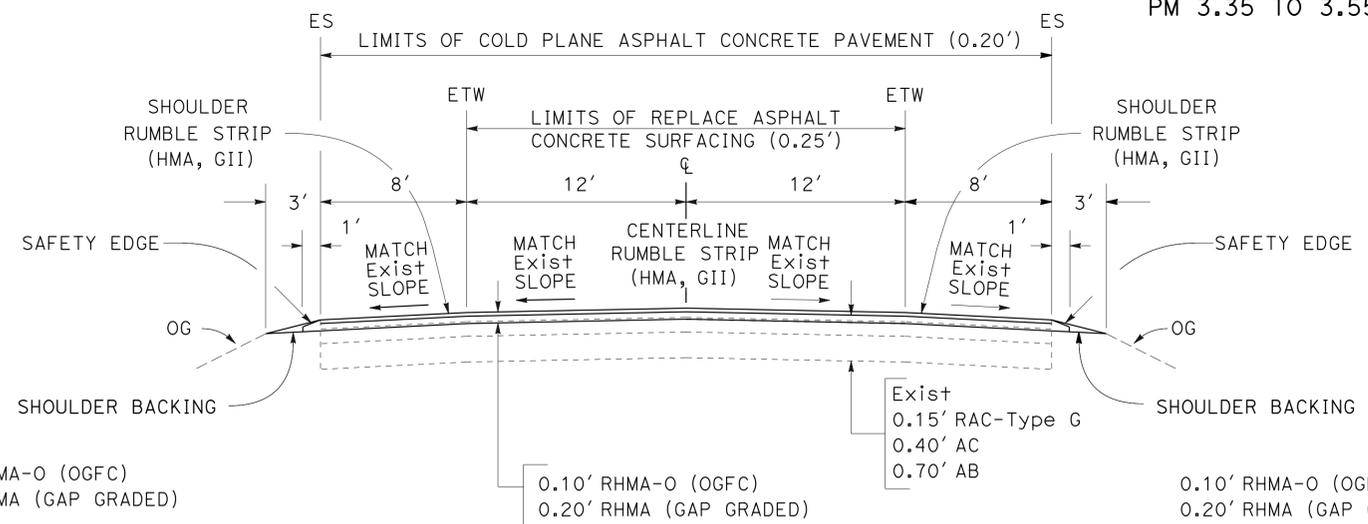
**ROUTE YUB-65**

PM 2.50 TO 2.73  
PM 3.35 TO 3.55



**ROUTE PLA-65**

PM R23.90 TO R24.01  
\* PLACE BEHIND MOUNTABLE DIKE ONLY

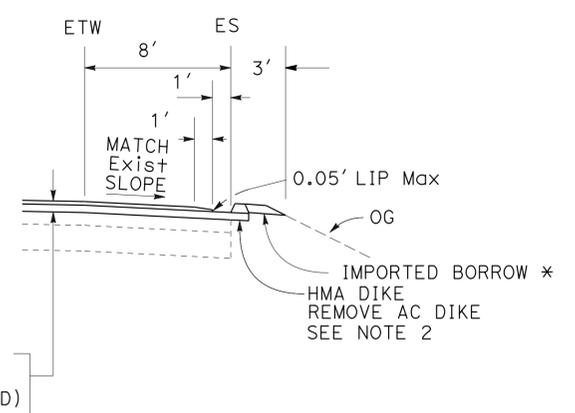


**ROUTE PLA-65**

PM R23.90 TO R24.01  
\* PLACE BEHIND MOUNTABLE DIKE ONLY

**ROUTE YUB-65**

PM 0.00 TO 0.52  
PM 1.77 TO 1.79  
PM 1.80 TO 2.21  
PM 2.25 TO 2.50  
PM 2.73 TO 3.35  
PM 3.57 TO 3.77



**ROUTE PLA-65**

PM R23.90 TO R24.01  
\* PLACE BEHIND MOUNTABLE DIKE ONLY

**TYPICAL CROSS SECTIONS**

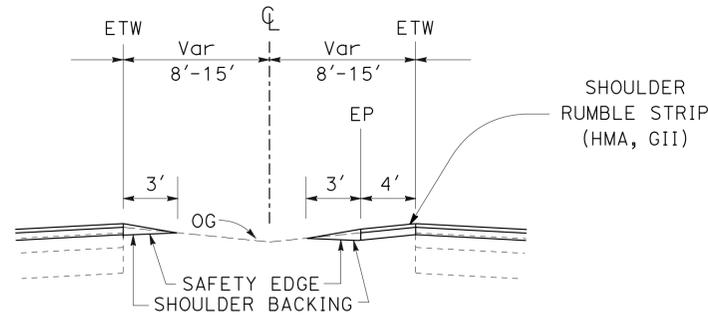
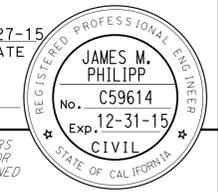
NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN

LAST REVISION DATE PLOTTED => 09-JUN-2015  
00-00-00 TIME PLOTTED => 11:12

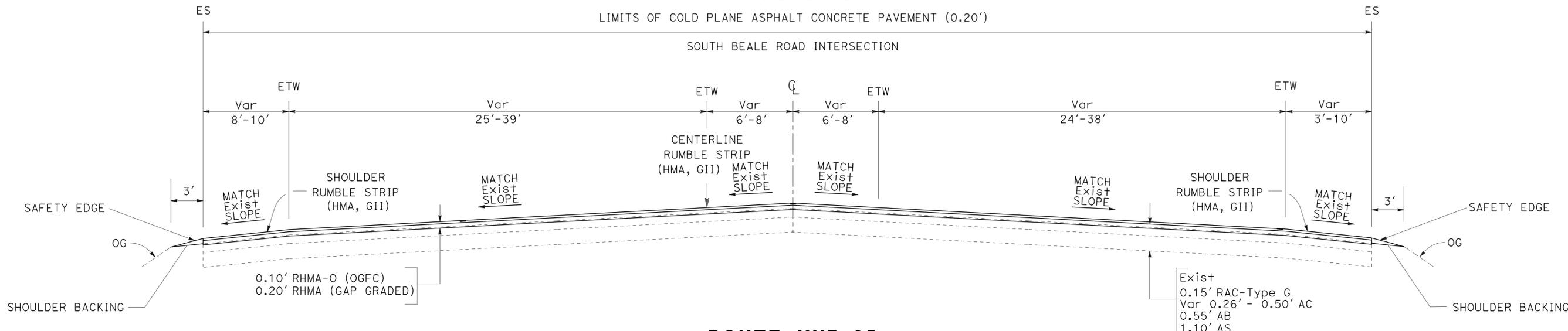
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Plq, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	3	42
			REGISTERED CIVIL ENGINEER	DATE	
			4-27-15		
			PLANS APPROVAL DATE		
			THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.		



PM R4.10 TO R4.17

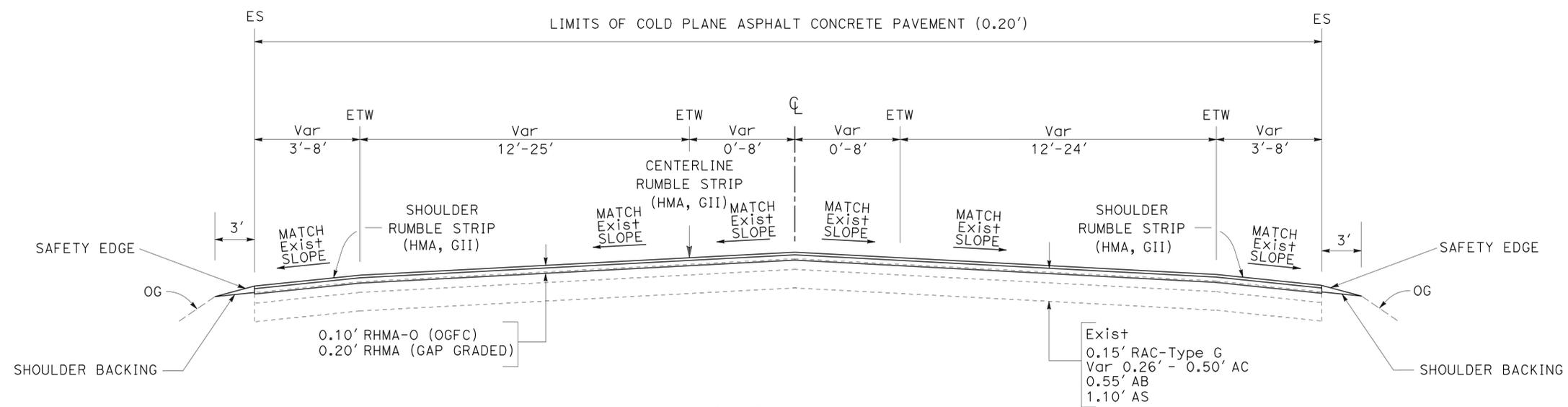
LIMITS OF COLD PLANE ASPHALT CONCRETE PAVEMENT (0.20')

SOUTH BEALE ROAD INTERSECTION



ROUTE YUB-65  
PM 3.95 TO R4.17

Exist  
0.15' RAC-Type G  
Var 0.26' - 0.50' AC  
0.55' AB  
1.10' AS



ROUTE YUB-65  
PM 3.77 TO 3.95

Exist  
0.15' RAC-Type G  
Var 0.26' - 0.50' AC  
0.55' AB  
1.10' AS

TYPICAL CROSS SECTIONS  
NO SCALE

X-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN

FUNCTIONAL SUPERVISOR: SCOTT MANN

CALCULATED/DESIGNED BY: JAMES PHILIPP

CHECKED BY: TED COPPIN

REVISOR: JAMES PHILIPP

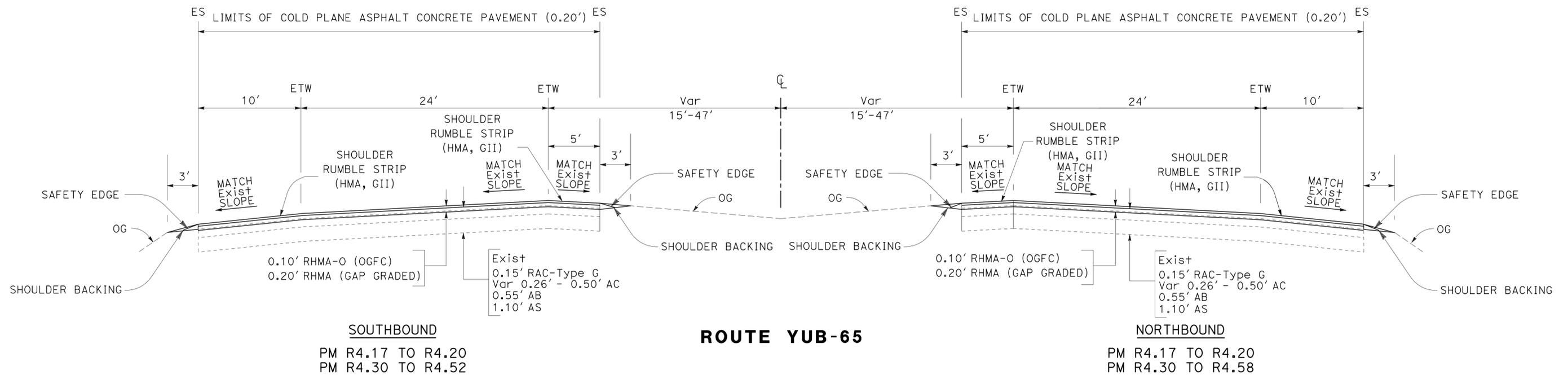
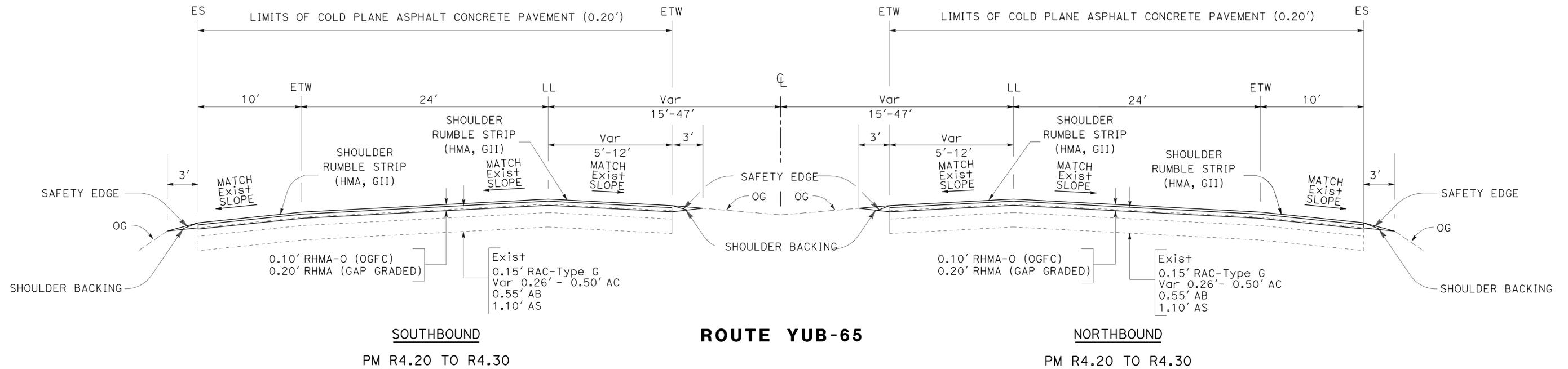
DATE: 4-27-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	4	42

REGISTERED CIVIL ENGINEER  
 DATE 4-27-15  
 4-27-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 JAMES M. PHILIPP  
 No. C59614  
 Exp. 12-31-15  
 CIVIL  
 STATE OF CALIFORNIA

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**TYPICAL CROSS SECTIONS**  
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN  
 FUNCTIONAL SUPERVISOR SCOTT MANN  
 CALCULATED/DESIGNED BY JAMES PHILIPP  
 CHECKED BY TED COPPIN  
 REVISED BY JAMES PHILIPP  
 DATE REVISIONS





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	6	42

REGISTERED CIVIL ENGINEER  
 4-27-15  
 DATE  
 4-27-15  
 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.

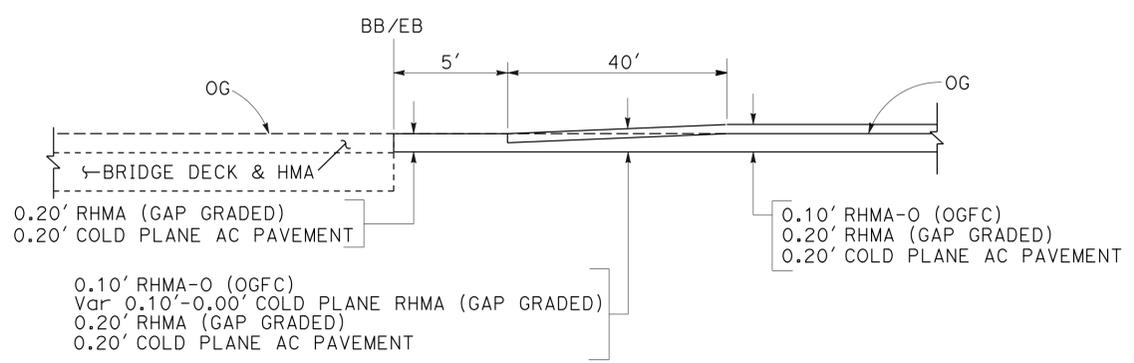
REGISTERED PROFESSIONAL ENGINEER  
 JAMES M. PHILIPP  
 No. C59614  
 Exp. 12-31-15  
 CIVIL  
 STATE OF CALIFORNIA

**NOTES:**

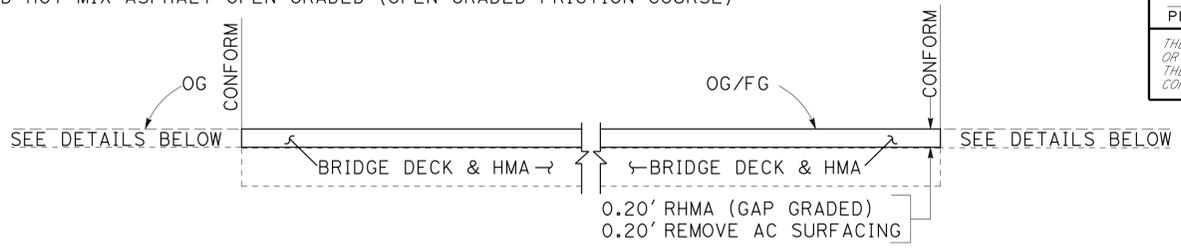
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- SEE MANUFACTURER'S PLANS FOR AFTS INSTALLATION DETAILS.
- EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

**ABBREVIATIONS:**

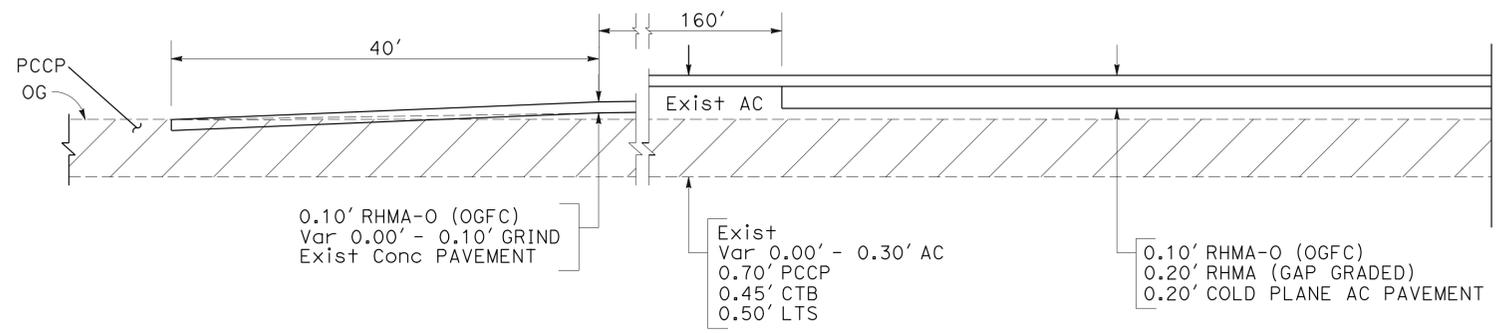
- PCCP PORTLAND CEMENT CONCRETE PAVEMENT  
 AFTS ALTERNATIVE FLARED TERMINAL SYSTEM  
 RHMA-O (OGFC) RUBBERIZED HOT MIX ASPHALT-OPEN GRADED (OPEN GRADED FRICTION COURSE)



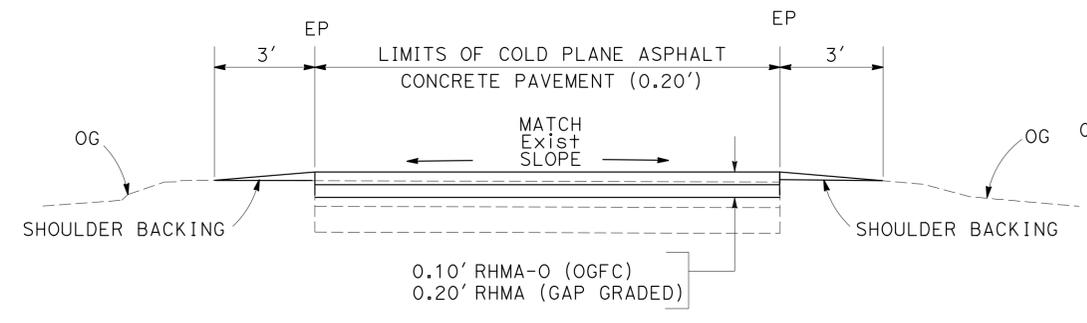
**RHMA-O (OGFC) CONFORM NEAR BRIDGES**  
 (EB 16-0013, EB 16-0001, BB & EB 16-0002, BB & EB 16-0003)



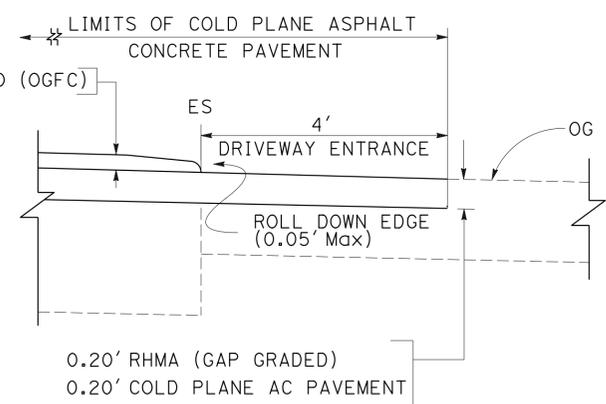
**BRIDGE DECK PAVING**  
 (BRIDGE NOS. 16-0001 & 16-0002)



**PCCP CONFORM**  
 PM R4.73 TO R4.77



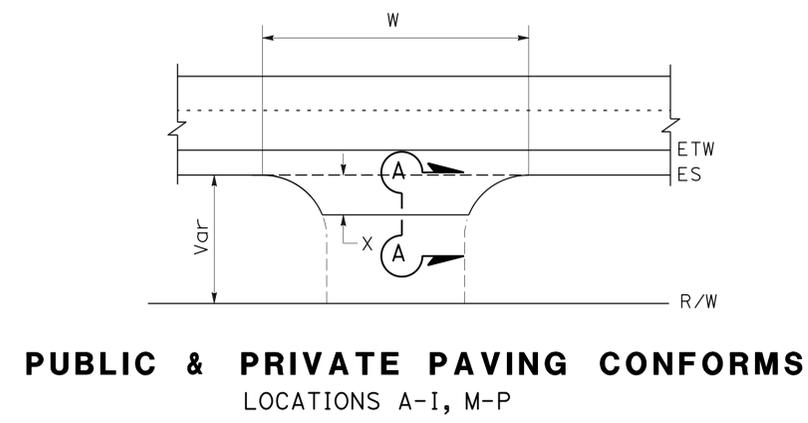
**TYPICAL SECTION**  
 PUBLIC AND PRIVATE CONNECTIONS



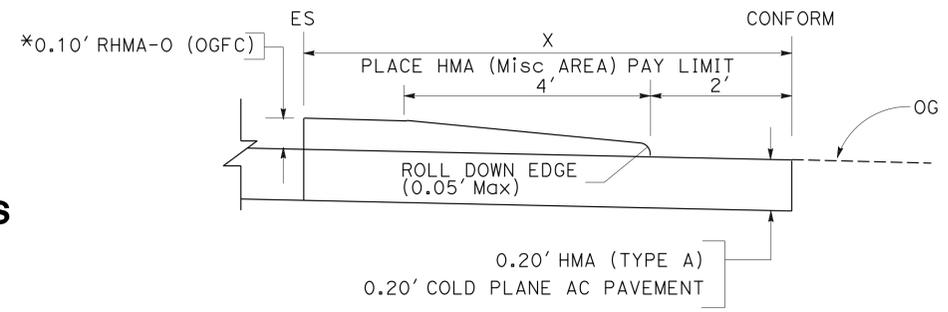
**DRIVEWAY CONFORMS**  
 LOCATIONS: DRIVEWAYS J,K,L

**LOCATIONS OF PLACE HMA (Misc AREA)**

Loc	DESCRIPTION		PM	X (FT)	W (FT)
A	LEVEE ACCESS Rd	R+	R24.00	22	140
B	LEVEE ACCESS Rd	L+	R24.00	22	140
C	STATE St	R+	0.47	75	110
D	DRY CREEK LEVEE Rd	L+	2.18	25	90
E	DRY CREEK LEVEE Rd	R+	2.18	18	75
F	DRIVEWAY	L+	2.34	20	95
G	DRIVEWAY	R+	2.35	18	60
H	DRIVEWAY	L+	2.48	20	100
I	DAIRY Rd	L+	2.61	20	125
J	DRIVEWAY	R+	2.64	4	100
K	DRIVEWAY	L+	2.65	4	60
L	DRIVEWAY	R+	2.89	4	60
M	OAKLEY LANE	L+	3.45	25	250
N	SOUTH BEALE Rd	R+	4.10/R3.99	50	500
O	RANCHO Rd	R+	R4.25	30	160
P	MORRISON Rd	L+	R4.25	30	160



**PUBLIC & PRIVATE PAVING CONFORMS**  
 LOCATIONS A-I, M-P



**SECTION A-A**  
 \* COUNTY ROADS

**CONSTRUCTION DETAILS**  
 NO SCALE

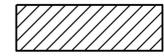
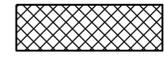
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 SCOTT MANN  
 FUNCTIONAL SUPERVISOR  
 CHECKED BY  
 JAMES PHILIPP  
 TED COPPIN  
 REVISOR BY  
 DATE

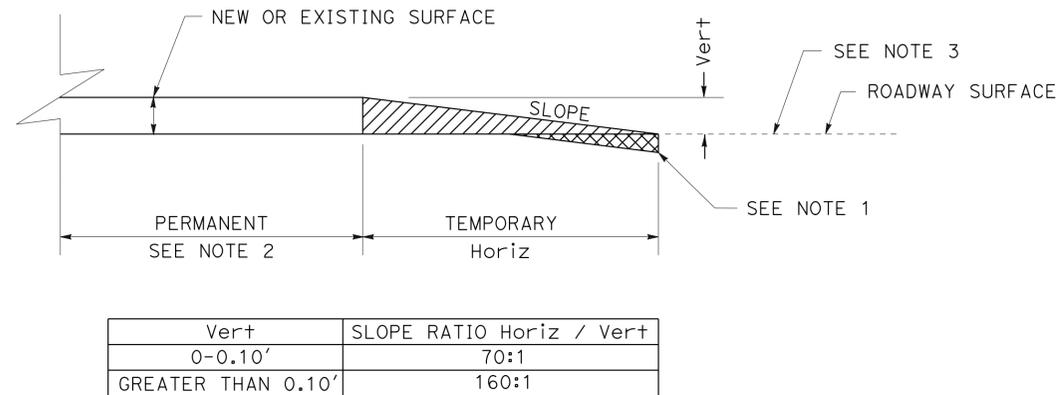
LAST REVISION DATE PLOTTED => 09-JUN-2015  
 00-00-00 TIME PLOTTED => 11:12

**NOTES:**

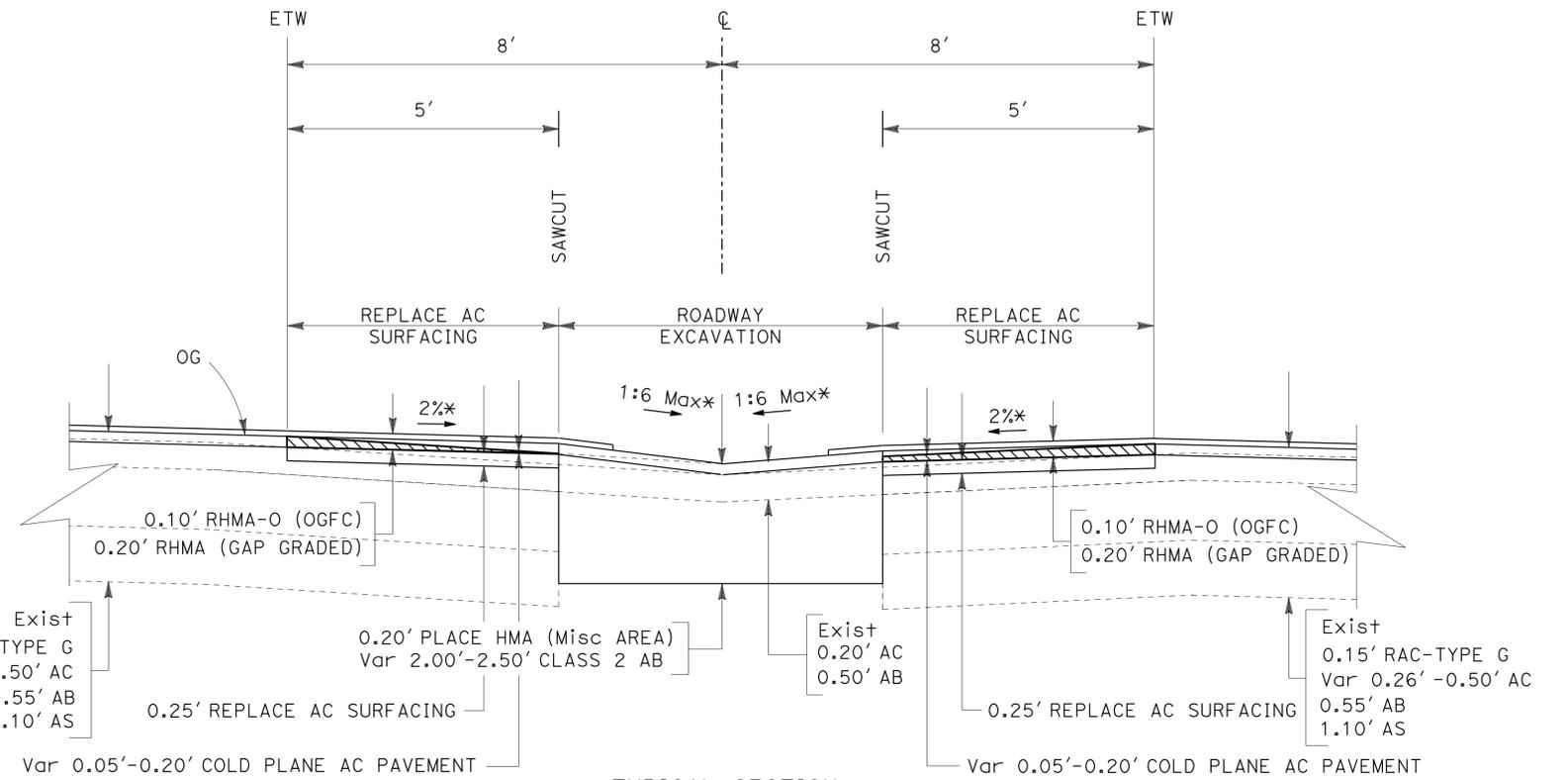
- GRIND EXISTING SURFACES TO ACCOMODATE A MINIMUM TAPER THICKNESS OF 0.10' WHEN EITHER:
  - HMA MATERIAL SUCH AS RUBBERIZED, POLYMER AND OPEN GRADED IS UNSUITABLE FOR RAKING TO A MAXIMUM 0.02' THICKNESS AT THE CONFORM.
  - TEMPORARY TAPER TO BE IN PLACE FOR MORE THAN 14 DAYS.
- PERMANENT SURFACE MAY BE EXISTING OR NEW PAVEMENT.
- ROADWAY SURFACE IS THE TOP OF EXISTING SURFACE OR THE TOP OF THE PLANED SURFACE.
- EXACT LOCATION OF REPLACE ASPHALT CONCRETE SURFACING TO BE DETERMINED BY THE ENGINEER.
- EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

**LEGEND:**

-  HMA MATERIALS (TEMPORARY TAPER)
-  IF NECESSARY, COLD PLANE ASPHALT CONCRETE PAVEMENT AND PLACE HMA MATERIAL (SEE NOTE 1)
-  Var 0.05'-0.20' COLD PLANE AC PAVEMENT

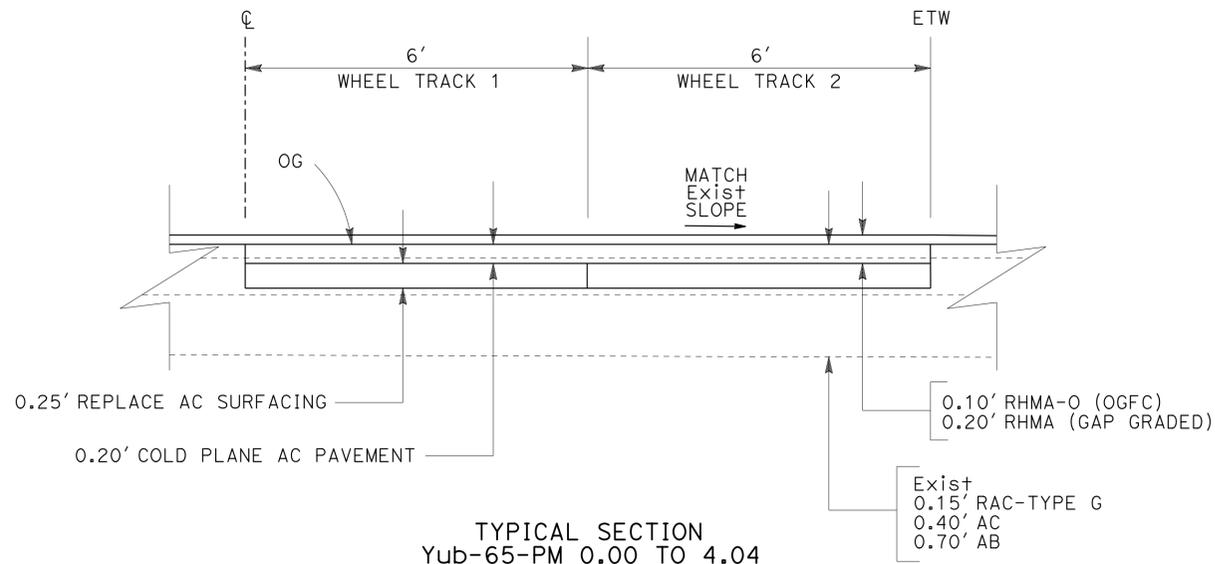


**TYPICAL PAVING CONFORM FOR TEMPORARY CONSTRUCTION TAPERS**

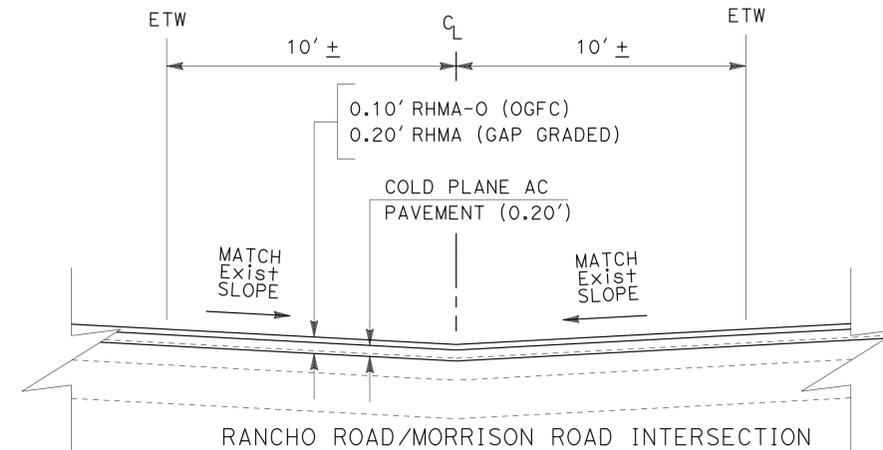


**TYPICAL SECTION Yub-65-PM 4.04 TO 4.09 REPLACE AC SURFACING AND MEDIAN CONSTRUCTION**

\* MATCH EXISTING SLOPE THROUGH INTERSECTION



**TYPICAL SECTION Yub-65-PM 0.00 TO 4.04 REPLACE AC SURFACING**



**CONSTRUCTION DETAILS NO SCALE**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	8	42

<i>James M. Philipp</i> REGISTERED CIVIL ENGINEER	4-27-15 DATE
4-27-15 PLANS APPROVAL DATE	

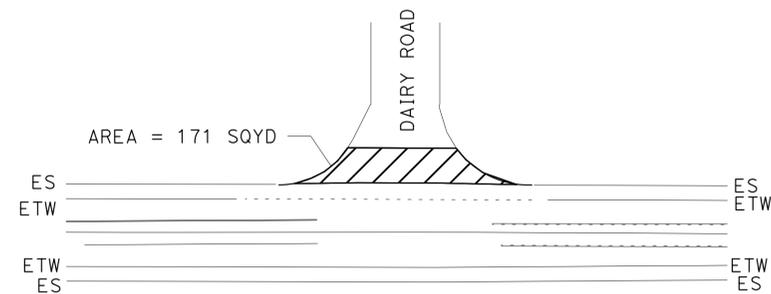
REGISTERED PROFESSIONAL ENGINEER JAMES M. PHILIPP No. C59614 Exp. 12-31-15 CIVIL STATE OF CALIFORNIA
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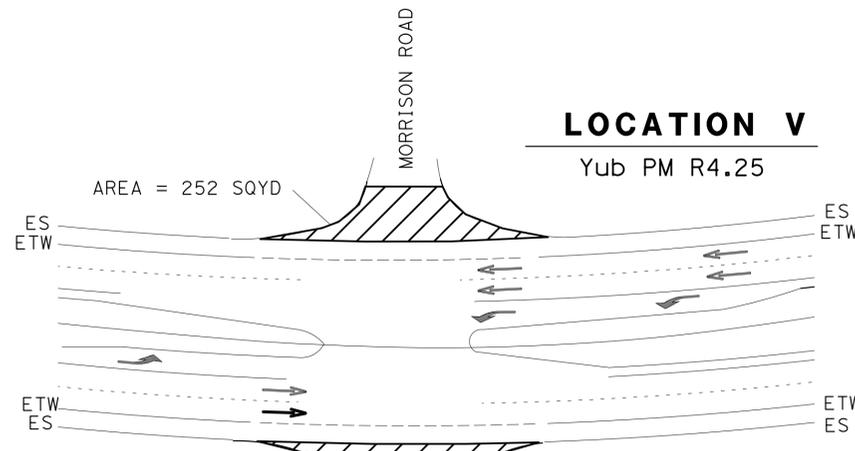
**NOTES:**

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. A KINDER MORGAN FIELD REPRESENTATIVE IS REQUIRED AT THE JOB SITE DURING ELECTRICAL WORK & EXCAVATIONS.
2. UTILITIES SHOWN ARE NOT COMPLETE.

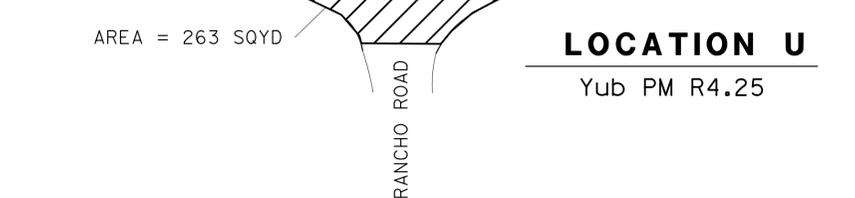
**LEGEND**  
 PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)



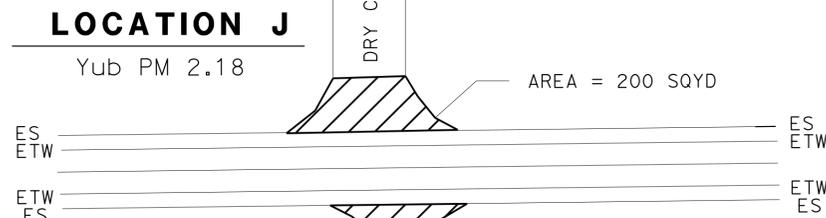
**LOCATION O**  
Yub PM 2.61



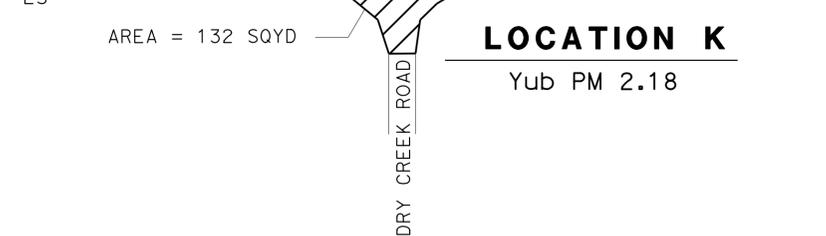
**LOCATION V**  
Yub PM R4.25



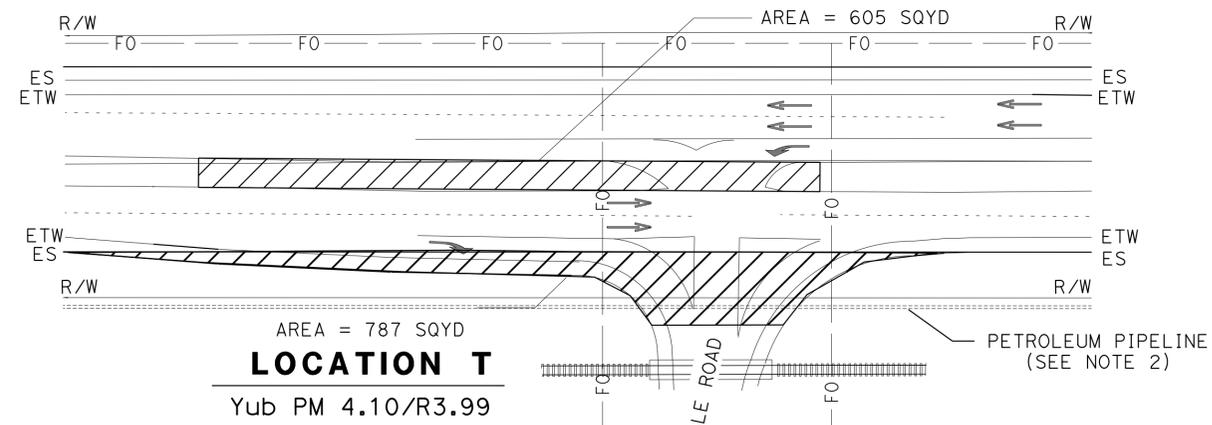
**LOCATION U**  
Yub PM R4.25



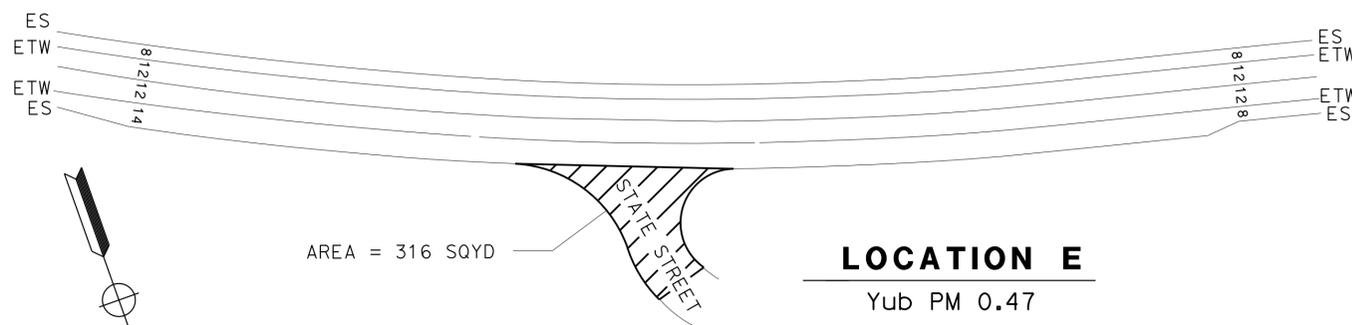
**LOCATION J**  
Yub PM 2.18



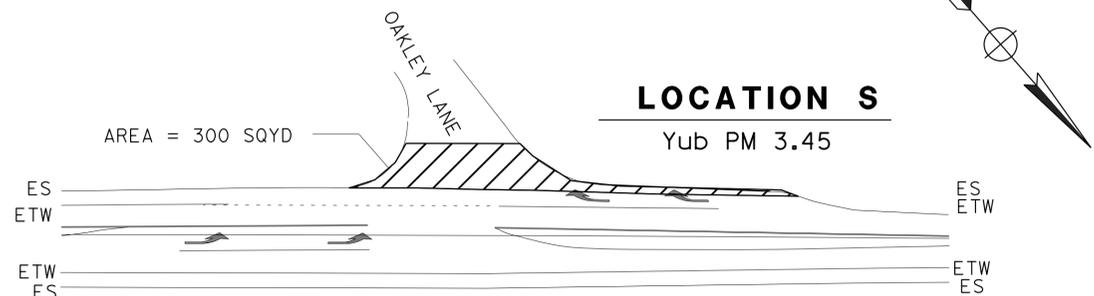
**LOCATION K**  
Yub PM 2.18



**LOCATION T**  
Yub PM 4.10/R3.99



**LOCATION E**  
Yub PM 0.47



**LOCATION S**  
Yub PM 3.45

**PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)**

**CONSTRUCTION DETAILS**  
NO SCALE

**C-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
SCOTT MANN	FUNCTIONAL SUPERVISOR
TED COPPIN	CHECKED BY
JAMES PHILIPP	DESIGNED BY
DATE	REVISOR
DATE	REVISION

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	9	42

*James M. Philipp*  
 REGISTERED CIVIL ENGINEER DATE 4-27-15  
 4-27-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 JAMES M. PHILIPP  
 No. C59614  
 Exp. 12-31-15  
 CIVIL  
 STATE OF CALIFORNIA

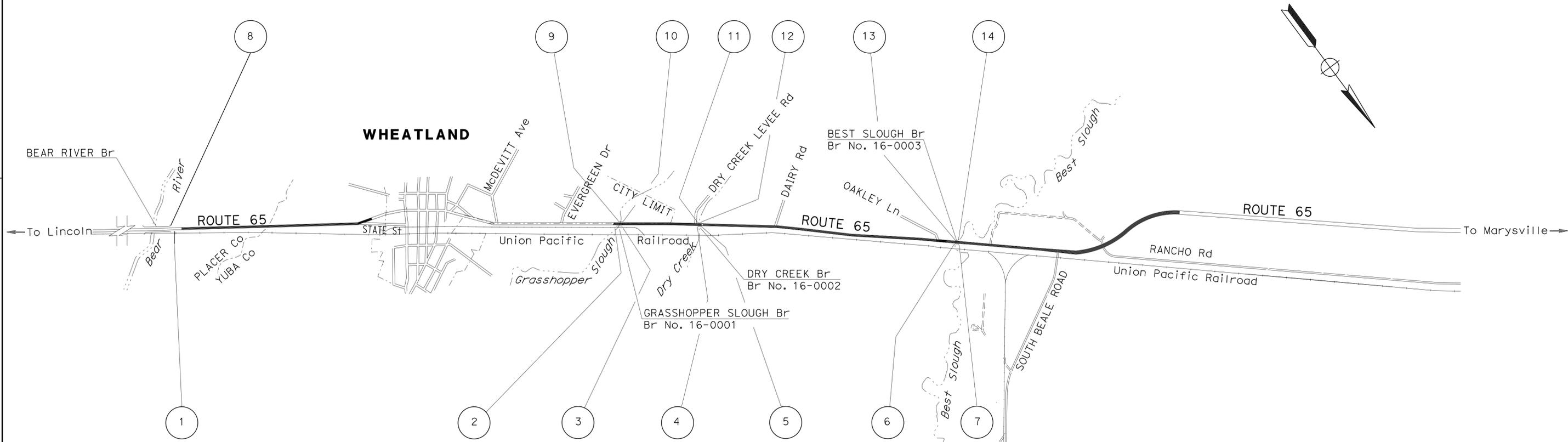
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTE:**

1. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

**LOCATIONS OF MIDWEST GUARDRAIL SYSTEM CONSTRUCTION**

Loc	COUNTY	ROUTE	PM	DIRECTION	DESCRIPTION
1	Pla	65	R23.9	NB	NO WORK
2	Yub	65	1.8	NB	ATTACH TO Br No. 16-0001 (GRASSHOPPER SLOUGH APPROACH)
3	Yub	65	1.8	NB	ATTACH TO Br No. 16-0001 (GRASSHOPPER SLOUGH DEPARTURE)
4	Yub	65	2.2	NB	ATTACH TO Br No. 16-0002 (DRY CREEK APPROACH)
5	Yub	65	2.2	NB	ATTACH TO Br No. 16-0002 (DRY CREEK DEPARTURE)
6	Yub	65	3.6	NB	ATTACH TO Br No. 16-0003 (BEST SLOUGH APPROACH)
7	Yub	65	3.6	NB	ATTACH TO Br No. 16-0003 (BEST SLOUGH DEPARTURE)
8	Pla	65	R23.9	SB	NO WORK
9	Yub	65	1.8	SB	ATTACH TO Br No. 16-0001 (GRASSHOPPER SLOUGH DEPARTURE)
10	Yub	65	1.8	SB	ATTACH TO Br No. 16-0001 (GRASSHOPPER SLOUGH APPROACH)
11	Yub	65	2.2	SB	ATTACH TO Br No. 16-0002 (DRY CREEK DEPARTURE)
12	Yub	65	2.2	SB	ATTACH TO Br No. 16-0002 (DRY CREEK APPROACH)
13	Yub	65	3.6	SB	ATTACH TO Br No. 16-0003 (BEST SLOUGH DEPARTURE)
14	Yub	65	3.6	SB	ATTACH TO Br No. 16-0003 (BEST SLOUGH APPROACH)



**CONSTRUCTION DETAILS**

NO SCALE

**C-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: SCOTT MANN  
 CALCULATED/DESIGNED BY: [blank]  
 CHECKED BY: [blank]  
 TYPED BY: TED COPPIN  
 SAEED AAZAMI  
 REVISED BY: [blank]  
 DATE REVISED: [blank]

LAST REVISION | DATE PLOTTED => 09-JUN-2015  
 00-00-00 | TIME PLOTTED => 12:46

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	10	42

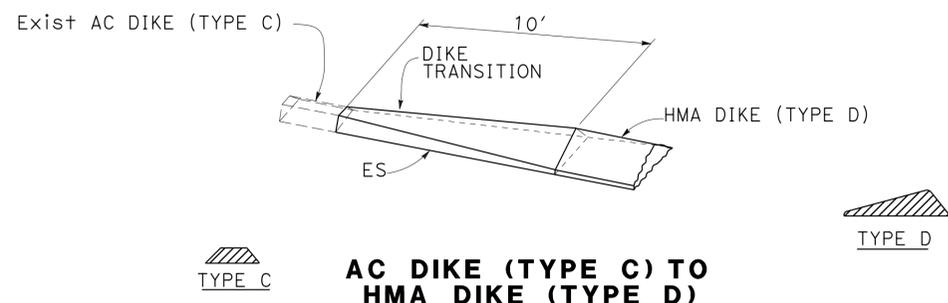
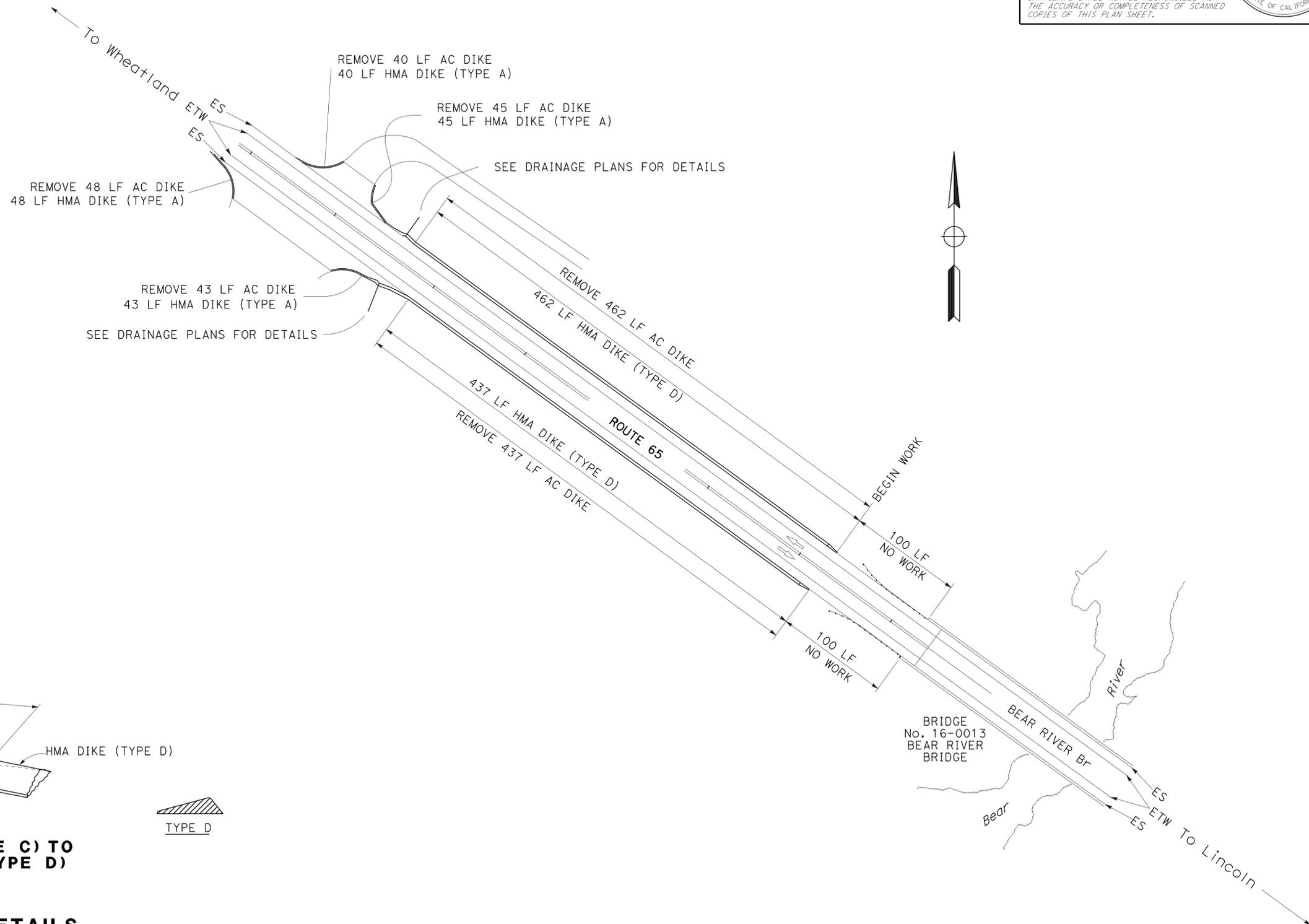
<i>James M. Philipp</i>	4-27-15
REGISTERED CIVIL ENGINEER	DATE
4-27-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
JAMES M. PHILIPP
No. C59614
Exp. 12-31-15
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.

**NOTE:**  
1. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.



**DIKE TRANSITION DETAILS**

**CONSTRUCTION DETAILS**

NO SCALE

**C-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
<b>Caltrans</b>	
FUNCTIONAL SUPERVISOR	SCOTT MANN
CALCULATED/DESIGNED BY	CHECKED BY
JAMES PHILIPP	TED COPPIN
REVISOR	DATE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Plq, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	12	42

<i>James M. Philipp</i> REGISTERED CIVIL ENGINEER	4-27-15 DATE
4-27-15 PLANS APPROVAL DATE	

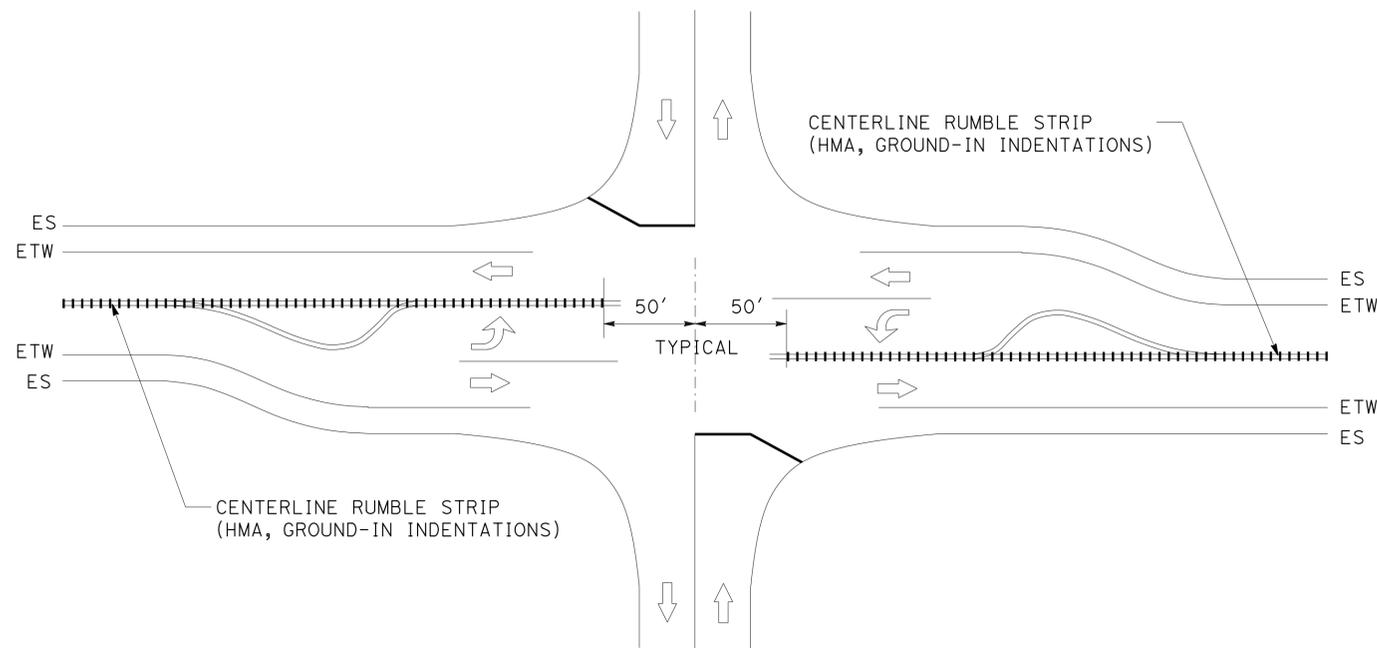
  

REGISTERED PROFESSIONAL ENGINEER JAMES M. PHILIPP No. C59614 Exp. 12-31-15 CIVIL STATE OF CALIFORNIA
---

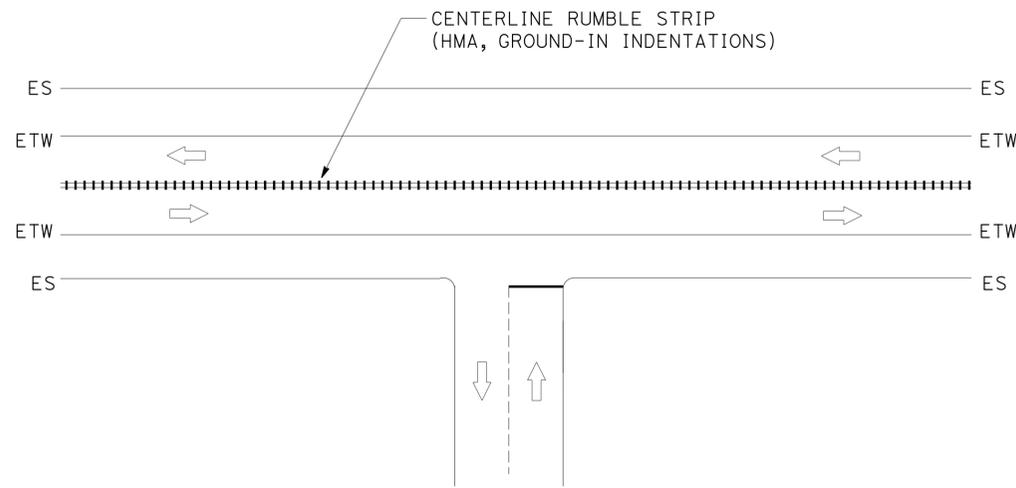
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTE:**

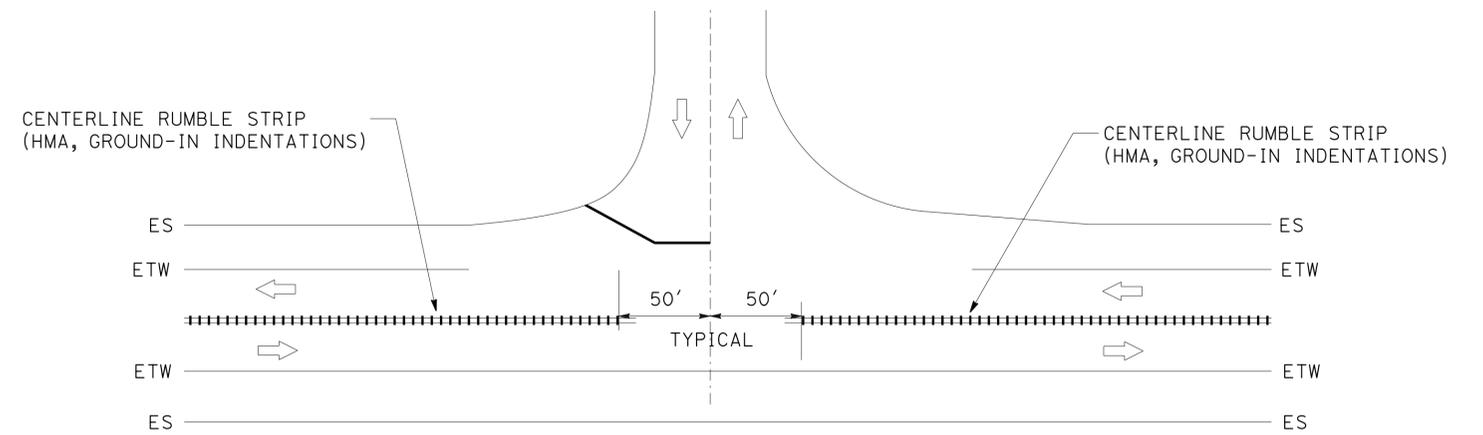
1. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.



**CENTERLINE RUMBLE STRIP  
AT INTERSECTION WITH LEFT TURN POCKETS**



**CENTERLINE RUMBLE STRIP  
AT DRIVEWAY/PRIVATE ROAD APPROACH**



**CENTERLINE RUMBLE STRIP  
AT PUBLIC ROAD T-INTERSECTION**

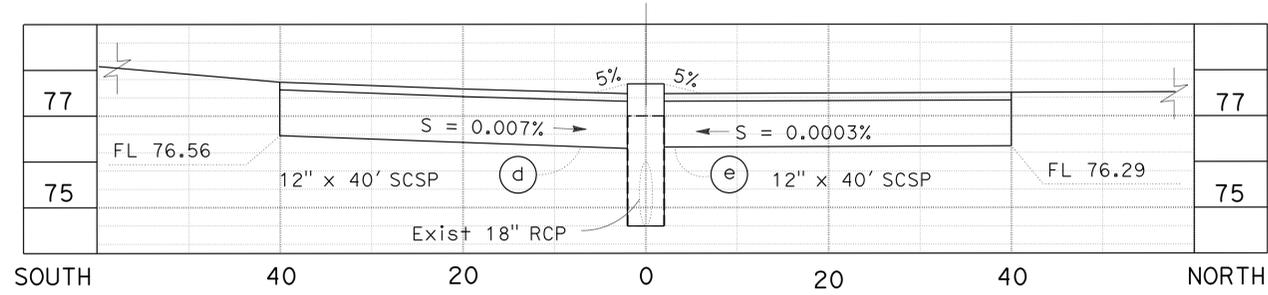
**CONSTRUCTION DETAILS**  
NO SCALE

**C-7**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	SCOTT MANN
CALCULATED/DESIGNED BY	CHECKED BY
JAMES PHILIPP	TED COPPIN
REVISOR BY	DATE REVISED

NOTES:

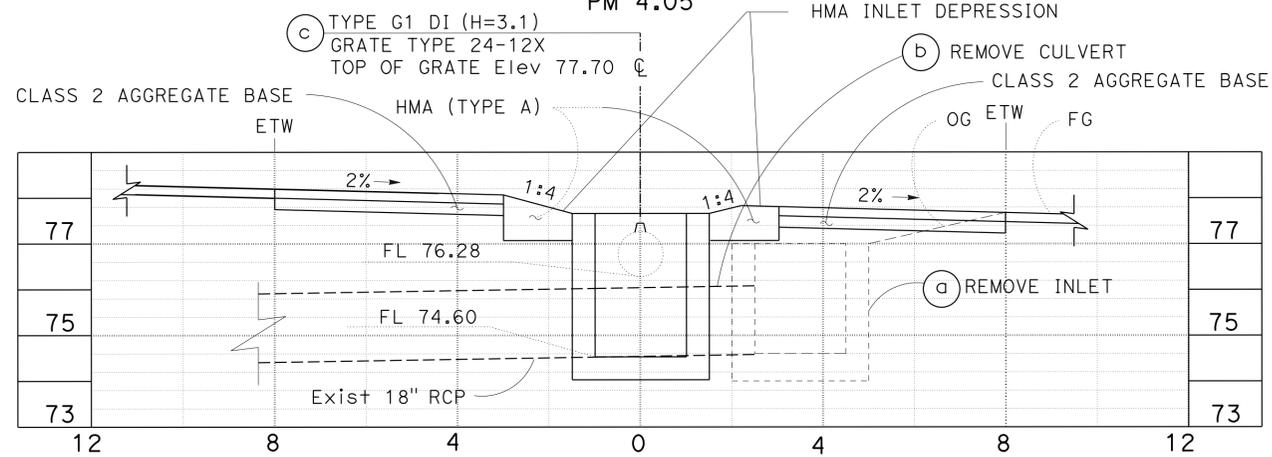
- Exist DI GRATE CENTER ASSUMED Elev TO BE 77.00 FT., TIED TO BOLT ON SOUTH/EAST CORNER OF CALL BOX FOUNDATION ON SB SIDE AT 78 FT.
- FOR PLACE HMA (Misc AREA) AND HMA QUANTITIES FOR DRAIN INLETS, SEE QUANTITY SHEETS.
- EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.



SCALE: Horiz 1" = 10', Vert 1" = 2'

**SECTION**

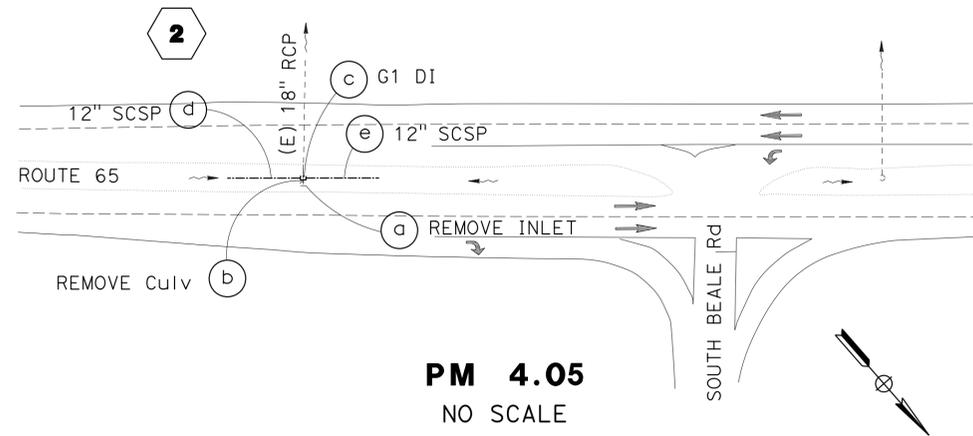
PM 4.05



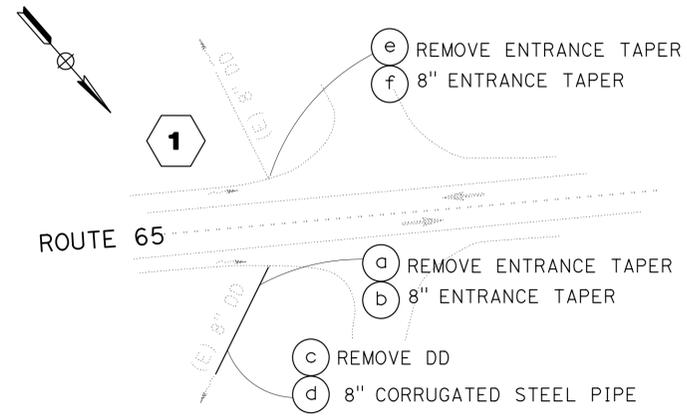
SCALE Horiz 1" = 2', Vert 1" = 2'

**PROFILE**

PM 4.05



PM 4.05  
NO SCALE



**PM R23.99**

NO SCALE

**DRAINAGE QUANTITIES**

DRAINAGE SYSTEM No.	DRAINAGE UNIT	REMOVE CULVERT	REMOVE INLET	REMOVE DOWNDRAIN	REMOVE ENTRANCE TAPER	8" ENTRANCE TAPER	MINOR CONCRETE (MINOR STRUCTURE)	MISCELLANEOUS IRON AND STEEL	CLASS 2 AGGREGATE BASE *	8" CORRUGATED STEEL PIPE (.079" THICK)	12" SLOTTED CORRUGATED STEEL PIPE (.079" THICK)	DESCRIPTION
		LF	EA	EA	EA	EA	CY	LB	CY	LF	LF	
1	a				1							REMOVE ENTRANCE TAPER
	b					1						8" ENTRANCE TAPER
	c			1						25		REMOVE DD
2	d											8" CSP
	e				1							REMOVE ENTRANCE TAPER
	f					1						8" ENTRANCE TAPER
TOTAL	a		1									REMOVE DI
	b	3										REMOVE CULVERT (18" RCP)
	c						0.95	239	1			G1 DI (H=3.1')
	d										40	12" SCSP
	e										40	12" SCSP
	TOTAL	3	1	1	2	2	0.95	239	1	25	80	

\* SEE SHEET Q1 FOR TOTAL QUANTITY

**DRAINAGE PLAN, PROFILES AND QUANTITIES**

APPROVED FOR DRAINAGE WORK ONLY

### STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN LETTER	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POST AND SIZE	NUMBER OF SIGNS
A	C40(Mod)<CA>	48" x 36"	TRAFFIC FINES DOUBLED IN WORK ZONES	1 - 4" x 6"	3
B	W20-1	48" x 48"	ROAD WORK AHEAD	1 - 6" x 6"	8
C	G20-2	36" x 18"	END ROAD WORK	1 - 4" x 4"	9
D	C40(Mod) <CA>	96" x 60"	TRAFFIC FINES DOUBLED IN WORK ZONES	2 - 6" x 6"	1
E	W20-1	60" x 60"	ROAD WORK AHEAD	2 - 4" x 6"	2

#### SIGN DETAILS



RETROREFLECTIVE WHITE BACKGROUND WITH BLACK LEGEND AND BORDERS.

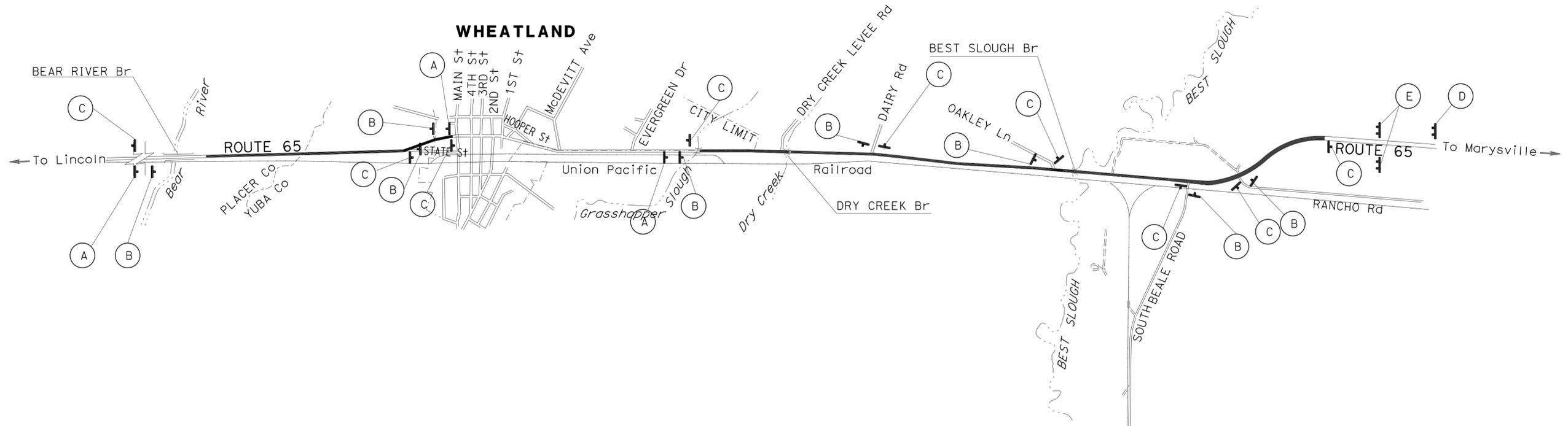
#### SIGN DETAILS



RETROREFLECTIVE WHITE BACKGROUND WITH BLACK LEGEND AND BORDERS.

#### NOTES:

1. EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.
2. ALL SIGN CODES SHOWN ARE FEDERAL SIGN CODES UNLESS OTHERWISE DESIGNATED AS A CALIFORNIA SIGN CODE.
3. <CA> = CALIFORNIA SIGN CODE.



### CONSTRUCTION AREA SIGNS

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

NO SCALE

CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	15	42

<i>James M. Philipp</i>		4-27-15
REGISTERED CIVIL ENGINEER	DATE	
4-27-15		
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER	JAMES M. PHILIPP
No. C59614	Exp. 12-31-15
CIVIL	

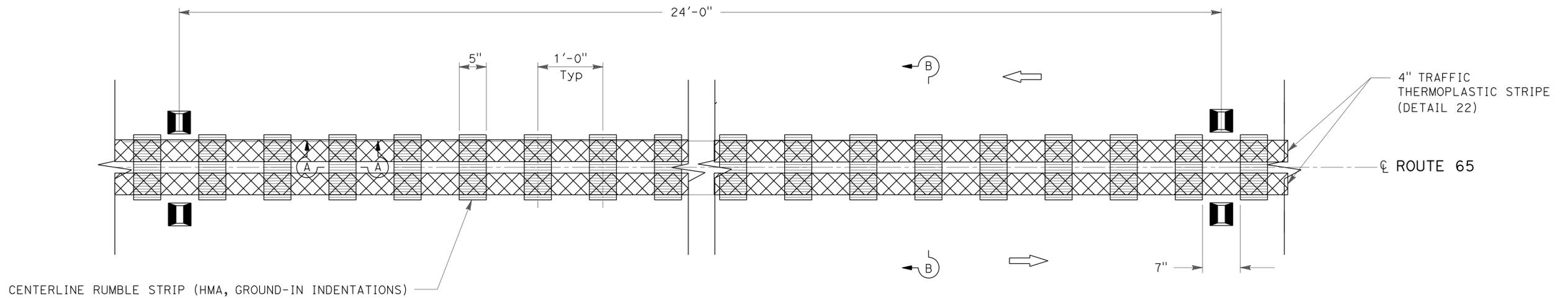
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

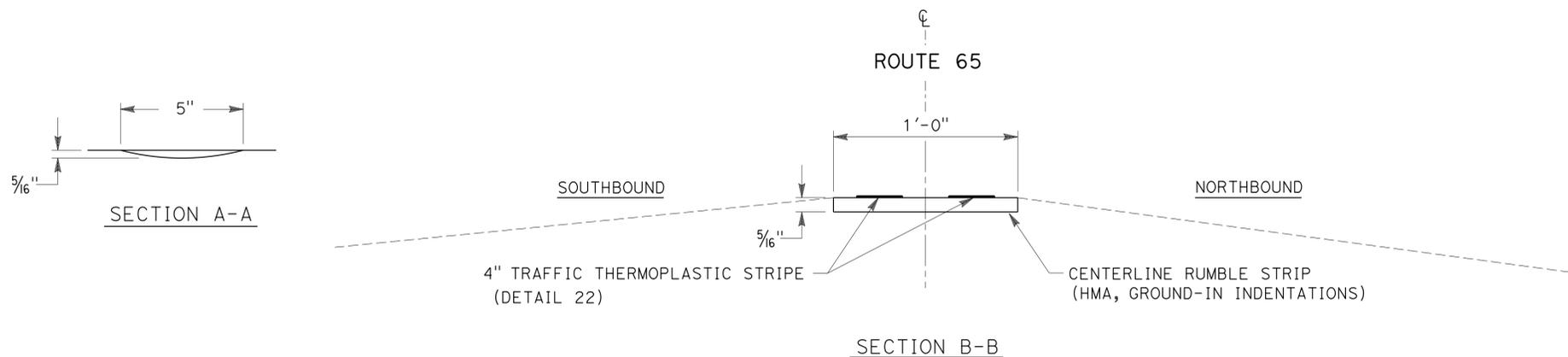
- GROUND-IN RUMBLE STRIPS AS SHOWN ON THIS PLAN SHALL NOT BE CONSTRUCTED ON BRIDGE DECKS.
- THIS PLAN ACCURATE FOR CENTERLINE RUMBLE STRIP AND PAVEMENT DELINEATION DETAILS ONLY.

**LEGEND**

 TYPE D TWO-WAY YELLOW PAVEMENT MARKER (RETROREFLECTIVE)



DETAIL 22 AND CENTERLINE RUMBLE STRIP DETAIL



**PAVEMENT DELINEATION DETAILS**  
NO SCALE

**PDD-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	SCOTT MANN
CALCULATED/DESIGNED BY	CHECKED BY
JAMES PHILIPP	TED COPPIN
REVISOR BY	DATE REVISED



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Plq,Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	17	42

*Kris M. Albers* 4-27-15  
REGISTERED CIVIL ENGINEER DATE

4-27-15  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
Kris M. Albers  
No. 49986  
Exp. 6-30-15  
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.

**NOTE:**

1. PM 4.17 Bk = R3.99 Ahd

**PAVEMENT DELINEATION QUANTITIES**

POST MILE/LOCATON	REMOVE THERMOPLASTIC TRAFFIC STRIPE	4" THERMOPLASTIC TRAFFIC STRIPE (EWNV)					4" THERMOPLASTIC TRAFFIC STRIPE (EWNV) (BROKEN 36-12)		4" THERMOPLASTIC TRAFFIC STRIPE (EWNV) (BROKEN 12-3)		8" THERMOPLASTIC TRAFFIC STRIPE (EWNV)		THERMOPLASTIC PAVEMENT MARKING (EWNV)					REMARKS
		DETAIL	DETAIL	DETAIL	DETAIL	DETAIL	DETAIL	DETAIL	DETAIL	DETAIL	DETAIL	STOP	LIMIT LINE	TYPE III ARROW	TYPE V ARROW	TYPE VI ARROW	RR Xing LIMIT LINE	
		22 LF	22 LF	25 LF	27B LF	29 LF	32 LF	12 LF	32 LF	27C LF	38 LF	38A LF	SQFT	SQFT	SQFT	SQFT	SQFT	
03-Plq-65																		
23.86 - 24.26		4228		4228														
03-Yub-65																		
0.00 - 0.44		4648		4648														
0.44 - 0.46										106								
STATE STREET		100										22	25					
0.46 - 0.52										54								
1.79 - 2.49		7396		7396														
2.49 - 2.55				636	1272							22	30					
2.55 - 2.58		320		190						30	60			84				
2.58 - 2.59				30						54								
DAIRY Rd												22	35	126				
2.59 - 2.60				30			30		30	30								
2.60 - 2.65				528			528		528									
2.65 - 2.72				740	1480													
2.72 - 3.34		6548		6548														
3.34 - 3.45		200		1164	2328					50	200							
3.45 - 3.54				952	1904					318	318							
Br No. 16-0003	244	244																
OAKLEY LANE												22	38	168				
3.54 - 3.75		2220		2220														
3.75 - 3.90				1584	3168												66	
3.90 - 3.94				424	848					212				42			66	84
3.94 - 4.07				1376	2752					1376								42
4.07 - 4.10				320	640					320							66	
SOUTH BEALE Rd											300	150						
3.99 - 4.02				100	100					200		300	150	22			42	66
4.02 - 4.21				2008	2008					2008								
4.21 - 4.25				424	424					424							84	132
RANCHO Rd	500																	
4.25 - 4.29				424	424					424				44	70		84	132
4.29 - 4.77				5072	5072					5072								
<b>SUBTOTAL</b>	244	26,404	8028	41,042	14,392	558	10,036	558	952	1690	300	154	198	630	528	126	100	
<b>TOTAL</b>	244			90,424			10,594		952	1990				1736				

**ABBREVIATION:**

EWNV = ENHANCED WET NIGHT VISIBILITY

**PAVEMENT DELINEATION QUANTITIES PDQ-1**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	18	42

*Kris M. Albers* 4-27-15  
REGISTERED CIVIL ENGINEER DATE

4-27-15  
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**  
 FUNCTIONAL SUPERVISOR  
 NARAYAN SELWAL  
 CALCULATED/DESIGNED BY  
 KRIS ALBERS  
 CHECKED BY  
 JACK KEMMERLY  
 REVISED BY  
 DATE REVISED

**PAVEMENT MARKER**

DETAIL NUMBER	RETROREFLECTIVE		
	TYPE D	TYPE G	TYPE H
	EA	EA	EA
12		211	
22	1110		
22(Mod)	13		
25			169
29	302		
32	34		
38		68	
<b>SUBTOTAL</b>	1459	279	169
<b>TOTAL</b>	1907		

**PAVEMENT MARKER  
(NON-REFLECTIVE)**

DETAIL NUMBER	TYPE AY
	EA
22 MOD	54
<b>TOTAL</b>	54

**PAVEMENT DELINEATION  
QUANTITIES PDQ-2**

EWNV = ENHANCED WET NIGHT VISABILITY



NOTE:

1. EXACT LOCATIONS FOR REPLACE ASPHALT CONCRETE SURFACING WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

**ROADWAY QUANTITIES**

LOCATION (PM)	DIRECTION	COLD PLANE ASPHALT CONCRETE PAVEMENT	REMOVE ASPHALT CONCRETE SURFACING	GRIND EXISTING CONCRETE PAVEMENT	REMOVE ASPHALT CONCRETE DIKE	TACK COAT	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	RUBBERIZED HOT MIX ASPHALT-OPEN GRADED (OGFC)	PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)	HOT MIX ASPHALT (TYPE A)	PLACE HOT MIX ASPHALT DIKE (TYPE A)	PLACE HOT MIX ASPHALT DIKE (TYPE D)	IMPORTED BORROW	CLASS 2 AGGREGATE BASE	SHOULDER BACKING	ROADWAY EXCAVATION
		SQYD	SQFT	SQYD	LF	TON	TON	TON	SQYD	TON	LF	LF	CY	CY	TON	CY
03-Pla-65																
R23.88 to R24.26	NB/SB	8,756			1,075	7.41	1,197	584		59	176	899	17		158	
03-Yub-65																
0.00 to 0.52	NB/SB	12,711				10.76	1,737	847							270	
1.77 to 1.79	NB/SB	444				0.38	61	30							8	
GRASSHOPPER SLOUGH BRIDGE	NB/SB		3,677			0.19	52									
1.80 to 2.21	NB/SB	9,258				7.84	1,265	617							167	
DRY CREEK BRIDGE	NB/SB		9,139			0.44	121									
2.25 to 2.50	NB/SB	6,391				5.41	873	426							115	
2.50 to 2.73	NB/SB	6,460				5.47	883	431							775	
2.73 to 3.35	NB/SB	13,960				11.82	1,908	931							251	
3.35 to 3.55	NB/SB	5,174				4.38	707	345							621	
BEST SLOUGH BRIDGE	NB/SB															
3.57 to 3.77	NB/SB	3,973				3.36	543	265							72	
3.77 to 3.95	NB/SB	5,439				4.61	743	363							653	
3.95 to R4.17*	NB/SB	13,107				10.94	1,791	874							1,575	
R4.17 to R4.20*	NB/SB	6,093				5.09	833	406							56	
R4.20 to R4.30	NB/SB	5,350				4.47	731	357							642	
R4.30 to R4.52	SB	4,706				3.99	643	314							87	
R4.30 to R 4.58	NB	6,080				5.15	831	405							112	
R4.52 to R4.73	SB	4,645				3.94	635	310							86	
R4.58 to R4.73	NB	3,272				2.77	447	218							60	
R4.73 to R4.77	NB/SB	1,733		347		1.45	237	116							16	
STATE STREET	EAST	171				0.14	11	171	23						6	
DAIRY ROAD	WEST	297				0.24	20	297	41						2	
OAKLEY LANE	WEST	787				0.65	52	787	108						2	
SOUTH BEALE ROAD	EAST	263				0.22	18	263	36						4	
RANCHO ROAD	EAST	251				0.21	17	251	34						2	
MORRISON ROAD	WEST	153				0.13	10	153	21						2	
R24.00 R+	EAST	119				0.06		119	16							
R24.00 L+	WEST	221				0.11		221	30							
0.47 to 0.50 R+*	EAST															
2.18 R+	EAST	100				0.05		100	14							
2.18 L+	WEST	195				0.10		195	27							
2.34 L+	WEST	70				0.03		70	10							
2.35 R+	EAST	74				0.04		74	10							
2.48 L+	WEST	132				0.07		132	18							
2.64 R+*	EAST															
2.65 L+*	WEST															
2.89 R+*	EAST															
R23.88 BEAR RIVER CONFORM	NB/SB	134														
1.79 GRASSHOPPER CONFORMS	NB/SB	268														
2.21 DRY CREEK CONFORMS	NB/SB	268														
3.55 BEST SLOUGH CONFORMS	NB/SB	268														
R4.77 NORTH RHMA-O CONFORMS	NB/SB	260														
R24.0 DOWNDRAIN INLETS	NB/SB							5	2							
S BEALE Rd MEDIAN REVISION	MEDIAN							160	22					120		131
SUBTOTAL FROM D-1														1		
<b>TOTAL</b>		<b>121,583</b>	<b>12,816</b>	<b>347</b>	<b>1,075</b>	<b>101.92</b>	<b>16,238</b>	<b>7,967</b>	<b>2,998</b>	<b>471</b>	<b>176</b>	<b>899</b>	<b>17</b>	<b>121</b>	<b>5,742</b>	<b>131</b>

\* DRIVEWAY QUANTITIES INCLUDED IN MAINLINE QUANTITIES

**REPLACE ASPHALT CONCRETE SURFACING**

LOCATION (PM)	DIRECTION	(N)	(N)	(N)	(N)	REPLACE ASPHALT CONCRETE SURFACING
		SEGMENT LENGTH	WHEEL TRACK	WIDTH	DEPTH	
		(LF)		(LF)	(FT)	CY
03-Yub-65						
0.01 to 0.02	SB	65	2	6	0.25	4
0.02 to 0.03	SB	40	2	6	0.25	2
0.07 to 0.08	SB	70	1	6	0.25	4
0.09 to 0.11	SB	125	2	6	0.25	7
0.21 to 0.23	NB	104	2	6	0.25	6
0.23 to 0.30	NB	345	1 & 2	12	0.25	38
0.25 to 0.26	SB	40	1 & 2	12	0.25	4
0.26 to 0.28	SB	110	2	6	0.25	6
0.30 to 0.30	SB	45	2	6	0.25	3
0.39 to 0.40	NB	80	2	6	0.25	4
0.42 to 0.43	NB	50	1 & 2	12	0.25	6
0.43 to 0.49	NB	310	2	6	0.25	17
1.78 to 1.78	NB/SB	25		40	0.25	9
4.04 to 4.10	MEDIAN	340		16	0.25	50
<b>TOTAL</b>						<b>160</b>

**SUMMARY OF QUANTITIES**

**Q-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	19	42

*James M. Philipp*  
 REGISTERED CIVIL ENGINEER 4-27-15 DATE  
 4-27-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 JAMES M. PHILIPP  
 No. C59614  
 Exp. 12-31-15  
 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**  
 DESIGN  
 SCOTT MANN  
 FUNCTIONAL SUPERVISOR  
 CHECKED BY  
 CALCULATED/DESIGNED BY  
 JAMES PHILIPP  
 TED COPPIN  
 REVISED BY  
 DATE REVISED

**NOTES:**

- TOTAL THICKNESS OF ALL SAFETY EDGES IS 0.20 FT.
- (N) NOT A SEPARATE PAY ITEM. FOR INFORMATION ONLY

**SAFETY EDGE**

POST MILE LOCATION	DIRECTION	(N)	(N)	(N)
		LF	TON	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
03-Pla-65				
R24.01-R24.26	NB	1,365	3.54	
R24.01-R24.26	SB	1,365	3.54	
03-Yub-65				
0.00-0.44	NB	2,340	6.07	
0.00-0.52	SB	2,745	7.12	
STATE STREET				
0.48-0.50	NB	65	0.17	
0.51-0.52	NB	40	0.10	
1.78-1.79	NB	50	0.13	
1.78-1.79	SB	50	0.13	
GRASSHOPPER SLOUGH BRIDGE				
1.80-2.17	NB	1,955	5.07	
1.80-2.17	SB	1,955	5.07	
DRY CREEK BRIDGE				
2.22-2.34	NB	635	1.65	
2.22-2.33	SB	580	1.50	
2.35-2.47	SB	635	1.65	
2.36-2.63	NB	1,426	3.70	
2.50-2.60	SB	530	1.38	
DAIRY Rd				
2.62-2.88	SB	1,372	3.56	
2.65-3.54	NB	4,699	12.19	
2.90-3.44	SB	2,850	7.39	
OAKLEY LANE				
3.46-3.54	SB	425	1.10	
BEST SLOUGH BRIDGE				
3.57-4.09	NB	2,745	7.12	
3.57-4.10	SB	2,800	7.27	
* SOUTH BEALE Rd				
R3.99-R4.23	NB	2,640	6.85	
R3.99-R4.23	SB	2,640	6.85	
MORRISON Rd				
RANCHO Rd				
R4.25-R4.72	NB	4,965	12.88	
R4.25-R4.73	SB	5,070	13.16	
<b>TOTAL</b>		<b>23,017</b>	<b>119.19</b>	

\* PM 4.17 Bk = R3.99 Ahd  
 SEE SUMMARY OF QUANTITIES SHEET Q-1 FOR TOTAL  
 RHMA (GAP GRADED). (SAFETY EDGE QUANTITIES INCLUDED).

**RUMBLE STRIP (SHOULDER)**

POST MILE LOCATION	DIRECTION	(N)	(N)	SHOULDER RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)
		LF	STA	
03-Pla-65				
23.88-23.99	NB	580	5.8	
23.88-23.99	SB	580	5.8	
24.01-24.26	NB	1,320	13.2	
24.01-24.26	SB	1,320	13.2	
03-Yub-65				
0.00-0.41	NB	2,165	21.7	
0.00-0.41	SB	2,165	21.7	
STATE STREET				
1.77-1.79	NB	100	1.0	
1.77-1.79	SB	100	1.0	
GRASSHOPPER SLOUGH BRIDGE	NB/SB	170	1.7	
1.80-2.17	NB	1,955	19.6	
1.80-2.17	SB	1,955	19.6	
2.19-2.21	NB	105	1.1	
2.19-2.21	SB	105	1.1	
DRY CREEK BRIDGE	NB/SB	400	4.0	
2.21-2.34	NB	690	6.9	
2.22-2.33	SB	580	5.8	
2.35-2.47	SB	635	6.4	
2.36-2.63	NB	1,430	14.3	
2.49-2.60	SB	580	5.8	
DAIRY Rd				
2.63-2.88	SB	1,320	13.2	
2.65-3.54	NB	4,700	47.0	
2.90-3.44	SB	2,850	28.5	
OAKLEY LANE				
3.50-3.54	SB	215	2.2	
BEST SLOUGH BRIDGE				
3.57-4.01	NB	2,325	23.3	
3.57-4.10	SB	2,800	28.0	
SOUTH BEALE Rd				
R3.99-R4.23	SB	1,270	12.7	
R4.02-R4.23	NB	1,100	11.0	
R3.99-R4.20	NB*	1,050	10.5	
R4.05-R4.21	SB*	850	8.5	
RANCHO Rd				
R4.25-R4.75	SB	2,640	26.4	
R4.25-R4.75	NB	2,640	26.4	
R4.25-R4.77	NB*	2,670	26.7	
R4.29-R4.77	SB*	2,550	25.5	
<b>SUBTOTAL</b>		<b>45,915</b>	<b>459.6</b>	
<b>TOTAL</b>		<b>45,915</b>	<b>459.6</b>	

\* MEDIAN SHOULDER

**RUMBLE STRIP (CENTERLINE)**

POST MILE LOCATION	DIRECTION	(N)	(N)	CENTERLINE RUMBLE STRIP (HMA, GROUND-IN INDENTATION)
		LF	STA	
03-Pla-65				
R23.88-R24.26	NB/SB	2,010	20.1	
03-Yub-65				
0.00-0.43	NB/SB	2,270	22.7	
STATE STREET				
1.77-1.79	NB/SB	100	1.0	
GRASSHOPPER SLOUGH BRIDGE		85	0.9	
1.80-2.17		1,955	19.6	
DRY CREEK BRIDGE		200	2.0	
2.21-2.59		2,010	20.1	
DAIRY Rd				
2.67-3.45	NB/SB	4,120	41.2	
OAKLEY LANE				
3.47-3.54	NB/SB	370	3.7	
BEST SLOUGH BRIDGE				
3.56-3.75	NB/SB	1,005	10.1	
3.75-3.92	SB	900	9.0	
3.92-4.10	SB	950	9.5	
* SOUTH BEALE Rd				
<b>SUBTOTAL</b>		<b>15,975</b>	<b>159.9</b>	
<b>TOTAL</b>		<b>15,975</b>	<b>159.9</b>	

**SUMMARY OF QUANTITIES**

**Q-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	20	42

REGISTERED CIVIL ENGINEER  
 4-27-15 DATE  
 4-27-15 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.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	21	42

*James M. Philipp*  
 REGISTERED CIVIL ENGINEER DATE 4-27-15  
 4-27-15  
 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.

### TEMPORARY WATER POLLUTION CONTROL QUANTITIES

SHEET NUMBER	LOCATION	DIRECTION	DESCRIPTION	TEMPORARY DRAINAGE INLET PROTECTION
				EA
D-1	Pla PM R23.99	NB	TEMPORARY ENTRANCE PROTECTION FOR DOWNDRAIN	1
D-1	Pla PM R23.99	SB	TEMPORARY ENTRANCE PROTECTION FOR DOWNDRAIN	1
D-1	Yub PM 4.05	MEDIAN	TEMPORARY INLET PROTECTION FOR DRAINAGE INLET	1
TOTAL				3

### MIDWEST GUARDRAIL SYSTEM

SHEET NUMBER	LOCATION	PM	TO	PM	DIRECTION	DESCRIPTION	REMOVE GUARDRAIL	ALTERNATIVE FLARED TERMINAL SYSTEM	TRANSITION RAILING (TYPE WB-31)	VEGETATION CONTROL (MINOR CONCRETE)	OBJECT MARKER (TYPE L-1)	TREATED WOOD WASTE
							LF	EA	EA	SQYD	EA	LB
C-4	1	R23.880	+	R23.894	NB	Br No. 16-0013 (BEAR RIVER DEPARTURE)	NO WORK THIS LOCATION					
C-5	2	1.782	+	1.796	NB	ATTACH TO Br No. 16-0001 (GRASSHOPPER SLOUGH APPROACH)	87.5	1	1	63	1	2,211
C-5	3	1.814	+	1.823	NB	ATTACH TO Br No. 16-0001 (GRASSHOPPER SLOUGH DEPARTURE)	62.5	1	1	63	1	1,275
C-5	4	2.186	+	2.200	NB	ATTACH TO Br No. 16-0002 (DRY CREEK APPROACH)	74.5	1	1	63	1	2,211
C-5	5	2.239	+	2.253	NB	ATTACH TO Br No. 16-0002 (DRY CREEK DEPARTURE)	62.5	1	1	63	1	1,275
C-5	6	3.536	+	3.550	NB	ATTACH TO Br No. 16-0003 (BEST SLOUGH APPROACH)	87.5	1	1	63	1	2,211
C-5	7	3.575	+	3.589	NB	ATTACH TO Br No. 16-0003 (BEST SLOUGH DEPARTURE)	62.5	1	1	63	1	1,275
C-4	8	R23.880	+	R23.894	SB	Br No. 16-0013 (BEAR RIVER APPROACH)	NO WORK THIS LOCATION					
C-5	9	1.782	+	1.796	SB	ATTACH TO Br No. 16-0001 (GRASSHOPPER SLOUGH DEPARTURE)	62.5	1	1	63	1	1,275
C-5	10	1.814	+	1.823	SB	ATTACH TO Br No. 16-0001 (GRASSHOPPER SLOUGH APPROACH)	87.5	1	1	63	1	2,211
C-5	11	2.186	+	2.200	SB	ATTACH TO Br No. 16-0002 (DRY CREEK DEPARTURE)	62.5	1	1	63	1	1,275
C-5	12	2.239	+	2.253	SB	ATTACH TO Br No. 16-0002 (DRY CREEK APPROACH)	87.5	1	1	63	1	2,211
C-5	13	3.536	+	3.550	SB	ATTACH TO Br No. 16-0003 (BEST SLOUGH DEPARTURE)	62.5	1	1	63	1	1,275
C-5	14	3.575	+	3.589	SB	ATTACH TO Br No. 16-0003 (BEST SLOUGH APPROACH)	87.5	1	1	63	1	2,211
TOTAL							887.0	12	12	756	6	20,916

### SUMMARY OF QUANTITIES

Q-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 SCOTT MANN  
 JAMES PHILIPP  
 TED COPPIN  
 REVISIONS: 00-00-00 DATE PLOTTED => 09-JUN-2015 TIME PLOTTED => 11:13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR STEVEN BLOCK  
 CALCULATED/DESIGNED BY CHECKED BY  
 ZAHRA NIKNAFS RUPINDER PAL GILL  
 REVISED BY DATE REVISED

**NOTES:**

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FOR EXACT LOCATION OF THE DETECTOR LOOPS, CONTACT CENSUS AT (530) 218-3253 FORTY-EIGHT HOURS PRIOR TO INSTALLATION.
3. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.
4. FOR TRAFFIC PULL BOX WELDING DETAIL SEE SHEET E-3.

**LEGEND (THIS SHEET ONLY):**

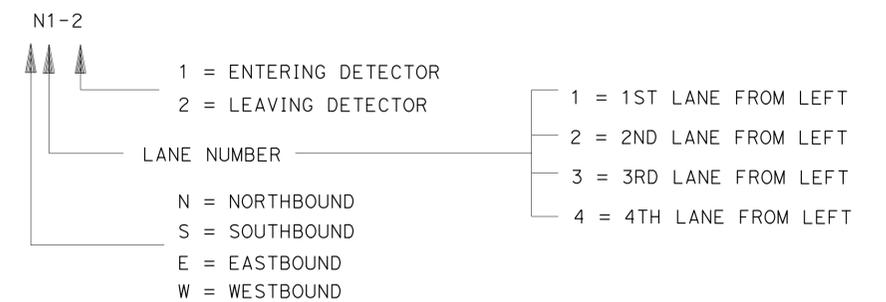
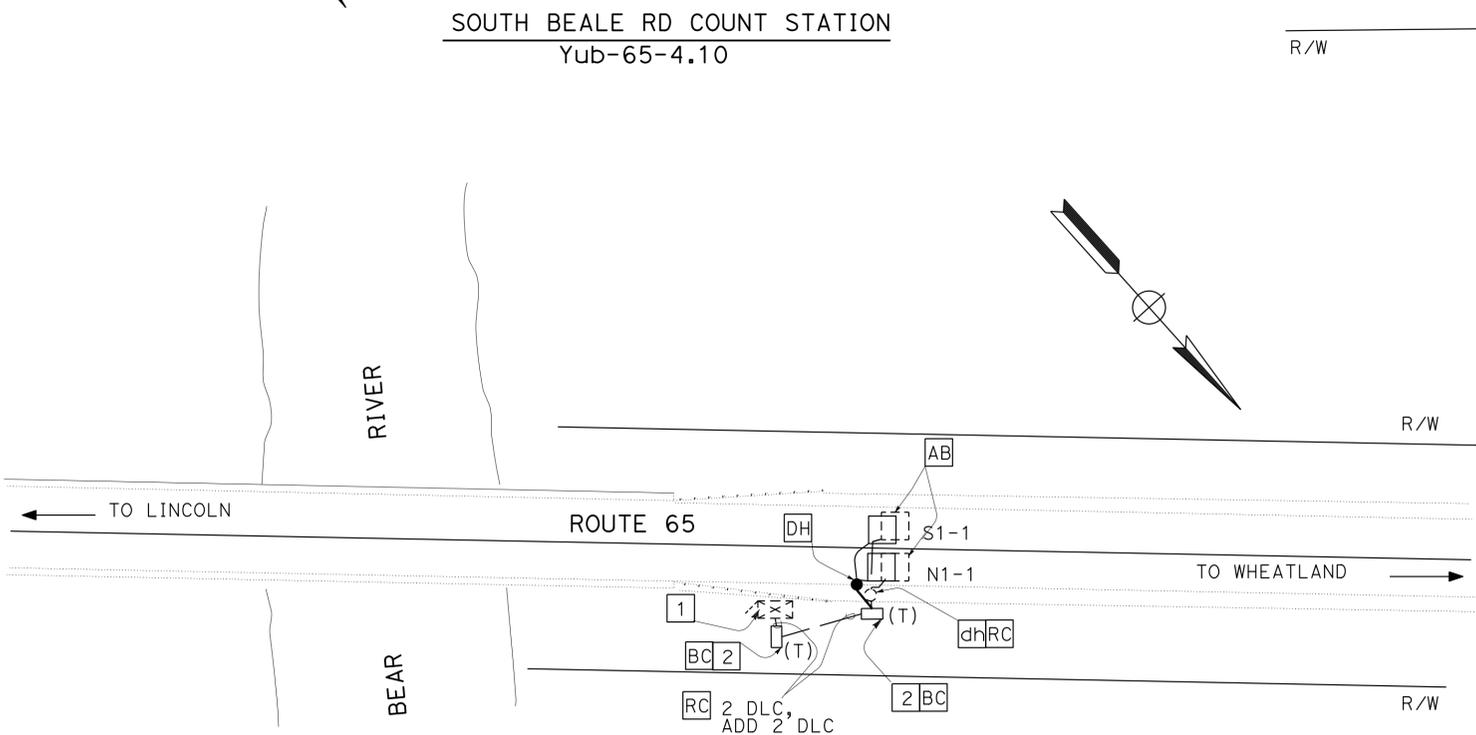
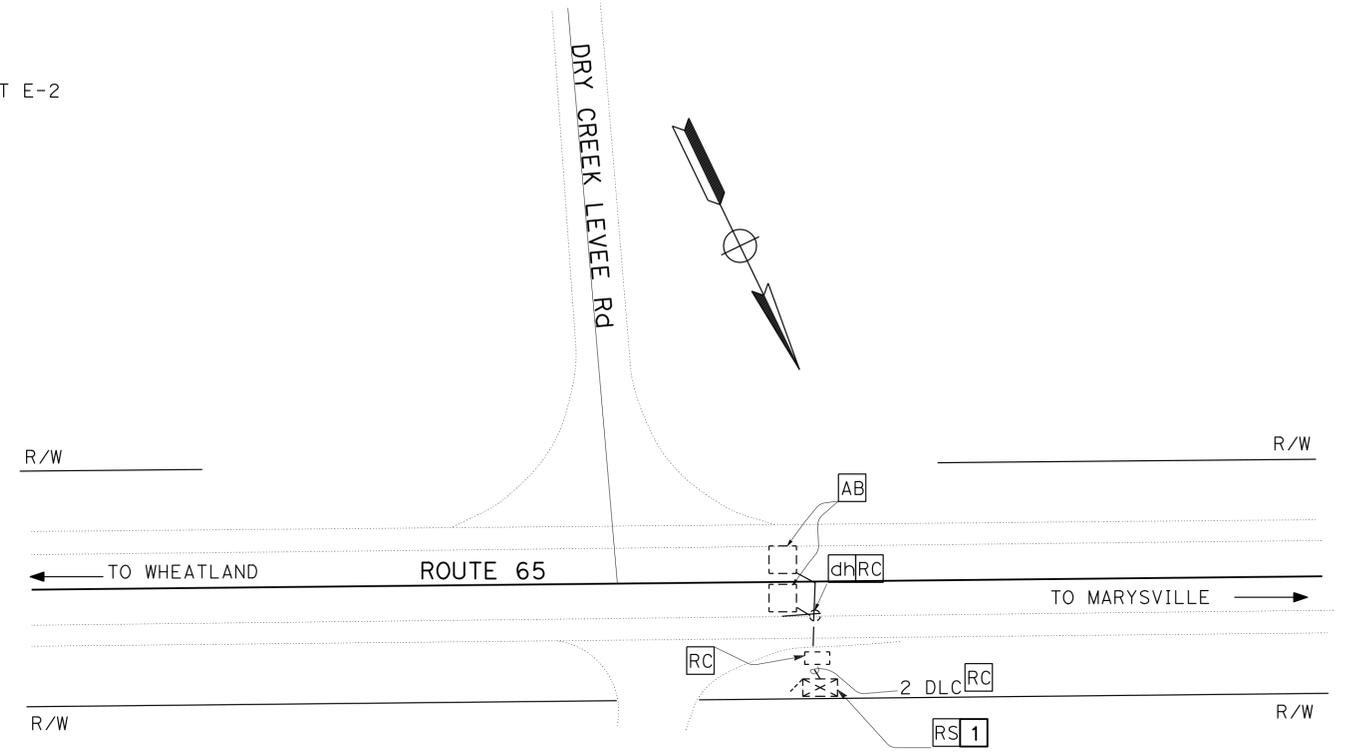
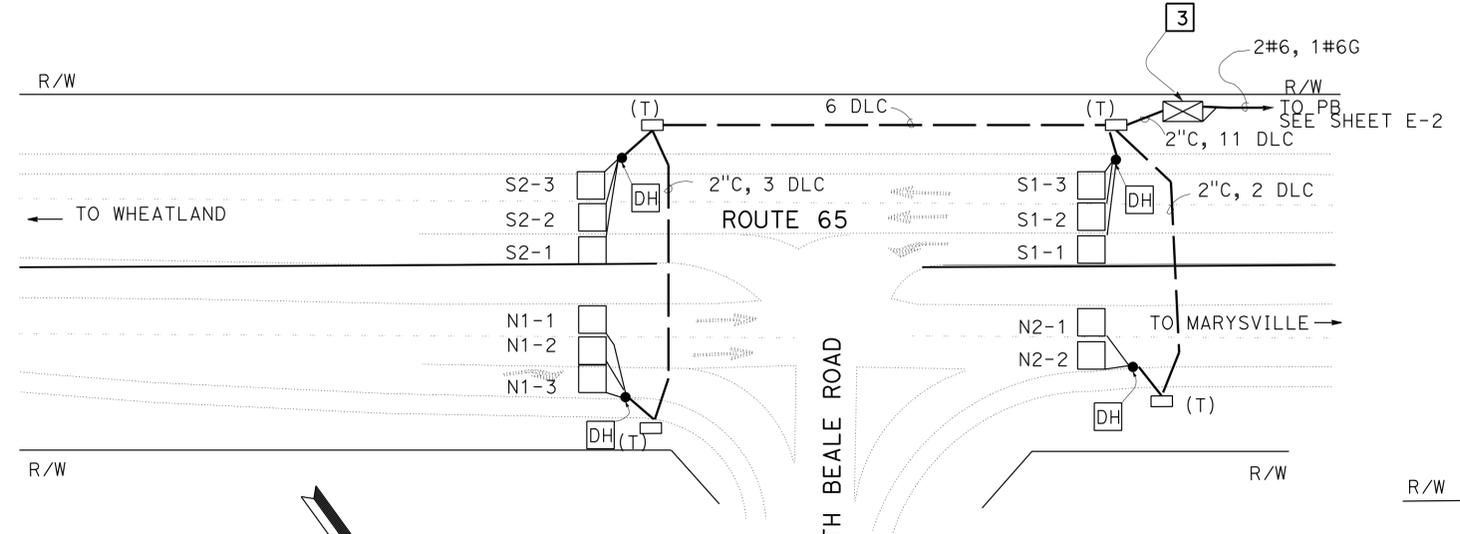
- 1 EXISTING TYPE H CABINET.
- 2 RC EXISTING PB.
- 3 INSTALL MODEL 334L CONTROLLER CABINET AT MINIMUM 20' FROM ETW. COIL 10' DLC INSIDE THE CABINET.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	22	42

R. P. Gill  
 REGISTERED ELECTRICAL ENGINEER DATE 4-27-15  
 4-27-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 RUPINDER PAL GILL  
 No. 16642  
 Exp. 06-30-16  
 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.



**TRAFFIC MONITORING STATION (COUNT)**

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE **E-1**

LAST REVISION DATE PLOTTED => 09-JUN-2015 05-27-15 TIME PLOTTED => 11:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	23	42
<i>R. P. Gill</i> REGISTERED ELECTRICAL ENGINEER			4-27-15	DATE	
4-27-15 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>					

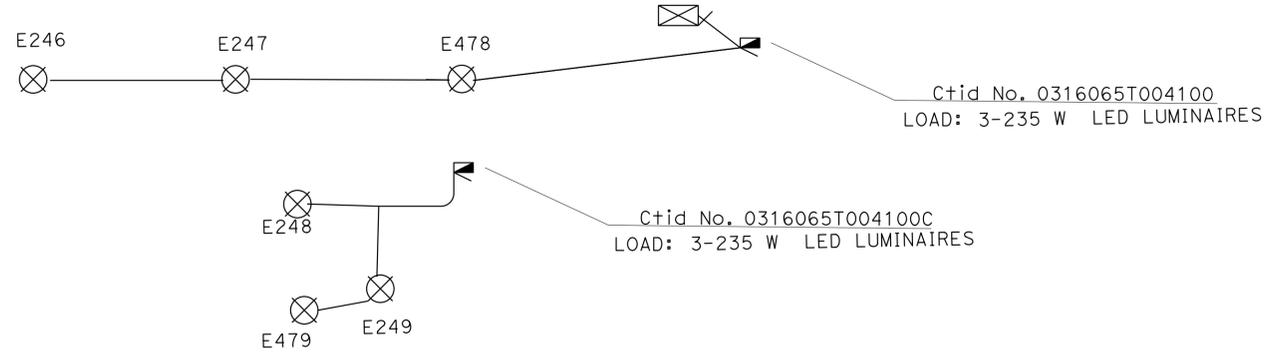
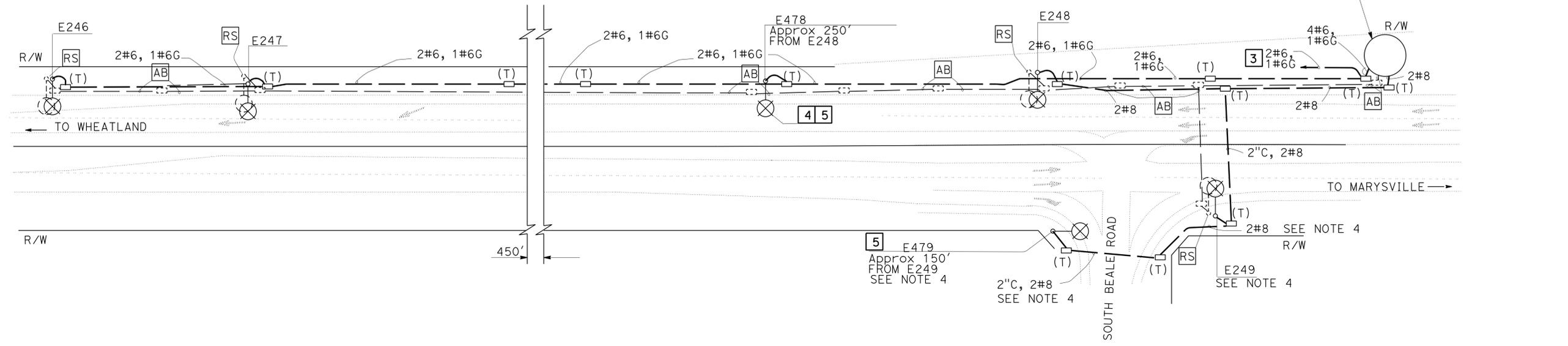
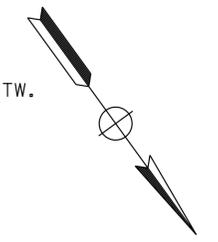


**NOTES:**

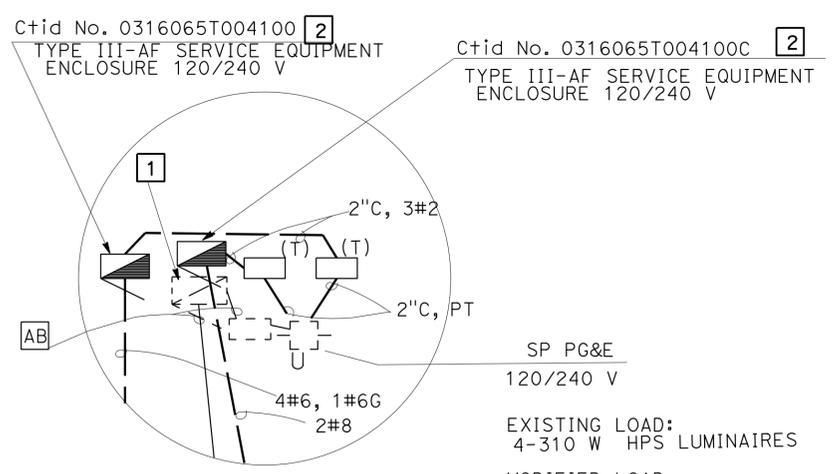
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR TRAFFIC PULL BOX WELDING DETAIL SEE SHEET E-3.
- EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.
- A KINDER MORGAN FIELD REPRESENTATIVE IS REQUIRED AT THE JOB SITE DURING ELECTRICAL WORK AND EXCAVATIONS.

**LEGEND (THIS SHEET ONLY):**

- RS** EXISTING TYPE II SERVICE EQUIPMENT ENCLOSURE.
- INSTALL TYPE III-AF SERVICE EQUIPMENT ENCLOSURE AT MINIMUM 20' FROM ETW. PROVIDE ITEMS ① THRU ⑧, ⑩, ⑬, ⑯, ⑱, ⑳, ㉑, ㉒.
- TO MODEL 334L CABINET, SEE SHEET E-1.
- INSTALL ELECTROLIER WITH 17' MINIMUM RADIAL CLEARANCE FROM OVERHEAD UTILITY LINES AND AS DIRECTED BY THE ENGINEER.
- EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.



**CIRCUIT DIAGRAMS**



**DETAIL A**

**MODIFY LIGHTING**

NO SCALE

**E-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: STEVEN BLOCK  
 CALCULATED/DESIGNED BY: ZARHA NIKNAFS  
 CHECKED BY: RUPINDER PAL GILL  
 REVISED BY: DATE REVISED



**NOTE:**

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Plq, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	25	42

*R. P. Gill*  
REGISTERED ELECTRICAL ENGINEER DATE 4-27-15

4-27-15  
PLANS APPROVAL DATE

No. 16642  
Exp. 06-30-16  
ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER  
RUPINDER PAL GILL  
No. 16642  
Exp. 06-30-16  
ELECTRICAL  
STATE OF CALIFORNIA

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**TRAFFIC MONITORING STATION (COUNT)**

SHEET No.	TYPE A LOOP	DLC	DETECTOR HANDHOLE	TRAFFIC PB	1 1/2" C	TYPE 334L CONTROLLER CABINET	2" C
	EA	FT	EA	EA	FT	EA	FT
E-1	13	2700	5	6	350	1	350

**MODIFY LIGHTING**

SHEET No.	TYPE 30 ELECTROLIER	1 1/2" C	TRAFFIC PB	TYPE III-AF SERVICE EQUIPMENT ENCLOSURE	CONDUCTOR #6	2" C	CONDUCTOR #8
	EA	FT	EA	EA	FT	FT	FT
E-2	6	1800	15	2	4800	220	1200

**ELECTRICAL QUANTITIES**

**E - 4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**® ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: STEVEN BLOCK  
 CALCULATED/DESIGNED BY: ZARHA NIKNAFS  
 CHECKED BY: RUPINDER PAL GILL  
 REVISED BY: [ ] DATE: [ ]



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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	26	42

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 4-27-15

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

**TABLE A**

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

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

**TABLE B**

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

\* For use on a sign panel only

STATE OF CALIFORNIA  
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**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

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

2010 REVISED STANDARD PLAN RSP A10B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	27	42

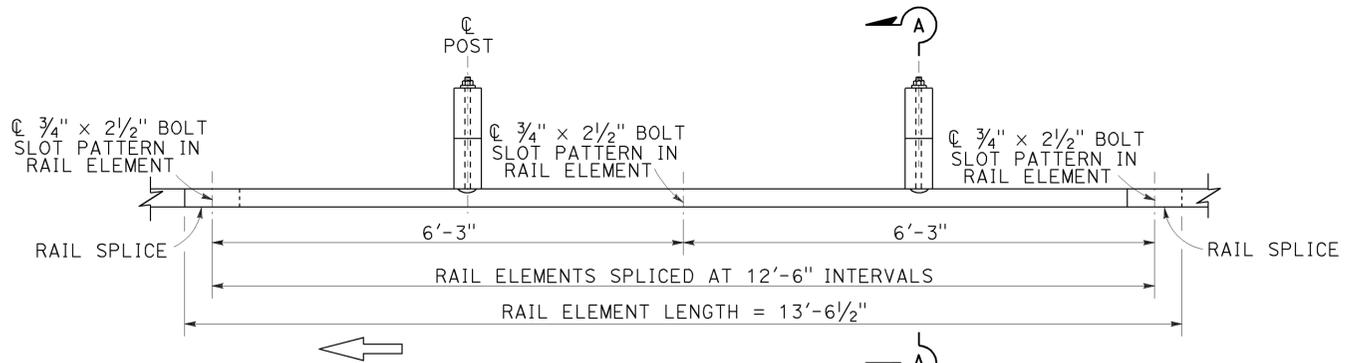
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

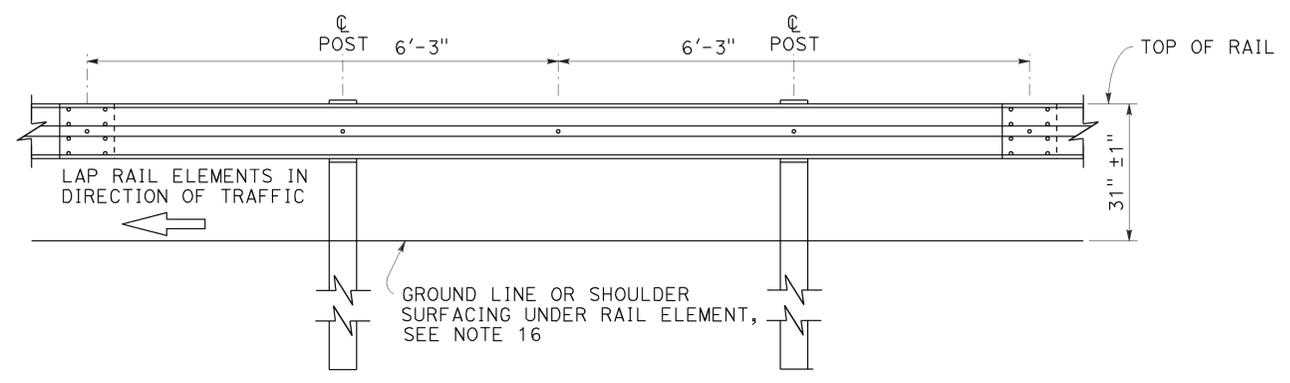
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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 4-27-15

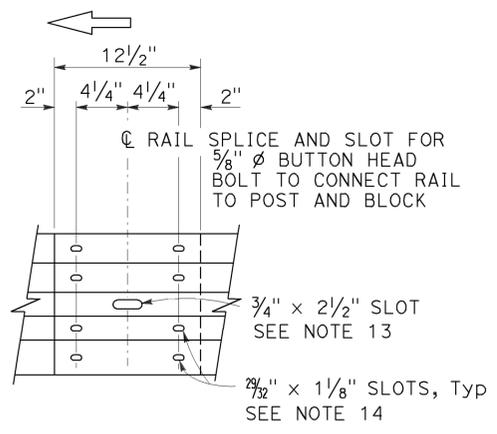


PLAN



ELEVATION

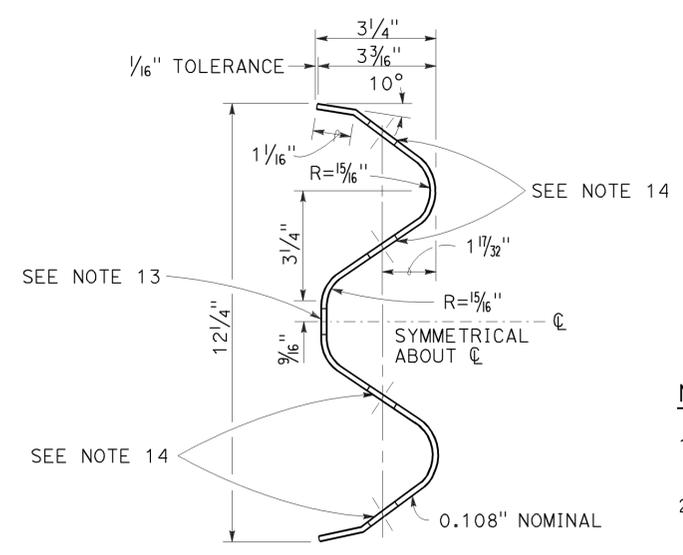
**MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS**



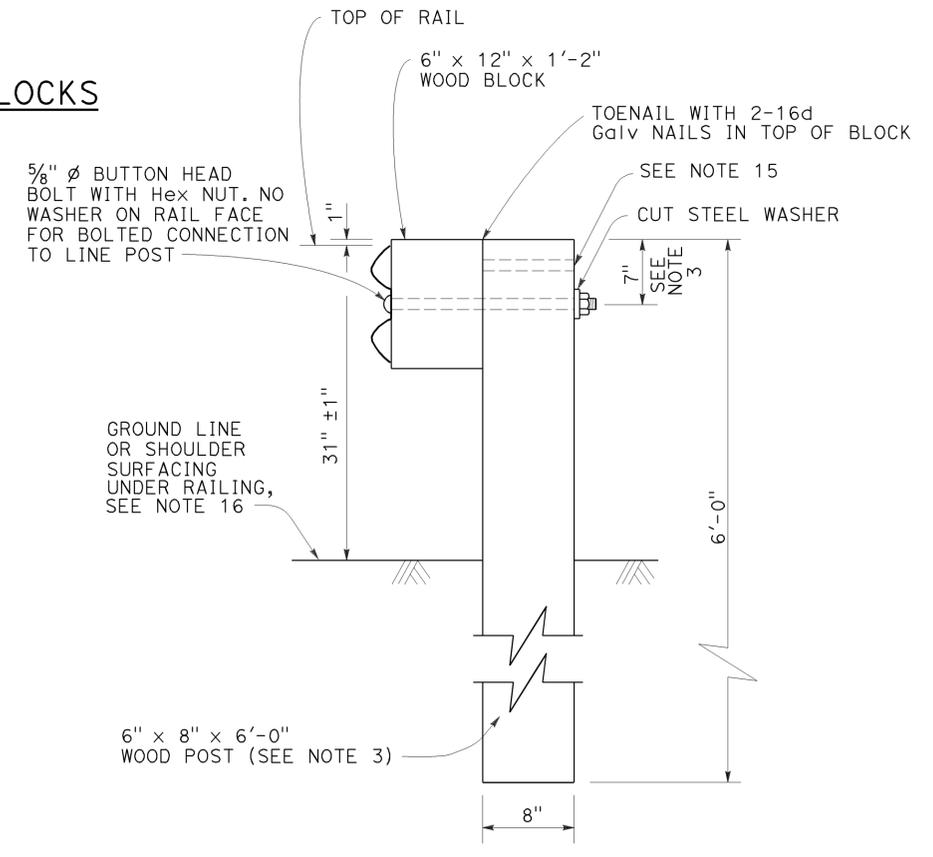
ELEVATION

**RAIL ELEMENT SPLICE DETAIL**

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



SECTION THRU RAIL ELEMENT



SECTION A-A  
TYPICAL WOOD LINE POST INSTALLATION

See Note 4

**NOTES:**

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

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

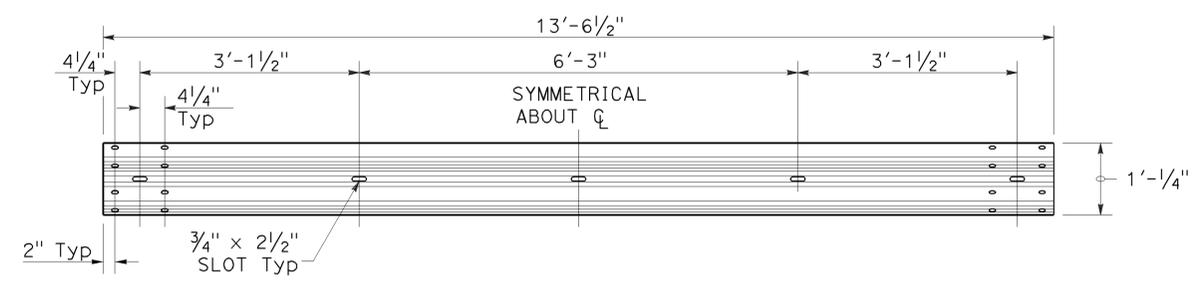
NO SCALE

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

**REVISED STANDARD PLAN RSP A77L1**

2010 REVISED STANDARD PLAN RSP A77L1

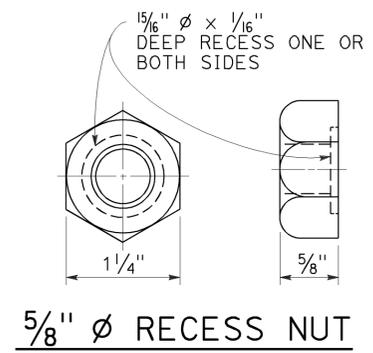
TO ACCOMPANY PLANS DATED 4-27-15



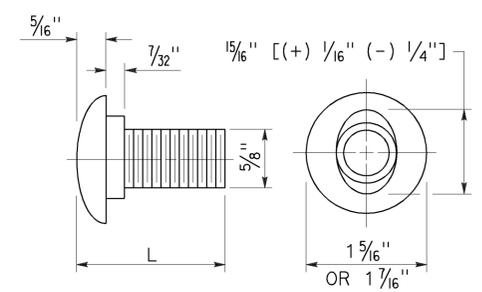
**TYPICAL RAIL ELEMENT**

**NOTE:**

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



**5/8" Ø RECESS NUT**

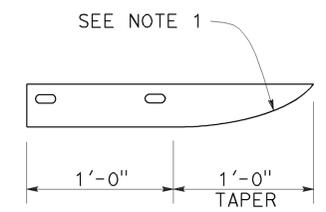


**5/8" Ø BUTTON HEAD BOLT**

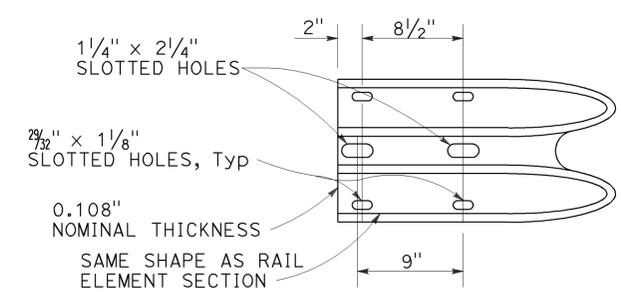
**BUTTON HEAD BOLT**

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

\*\* For nested rail applications.



**PLAN**



**ELEVATION  
END CAP  
(TYPE A)**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
STANDARD HARDWARE**

NO SCALE

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

**REVISED STANDARD PLAN RSP A77M1**

2010 REVISED STANDARD PLAN RSP A77M1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	29	42

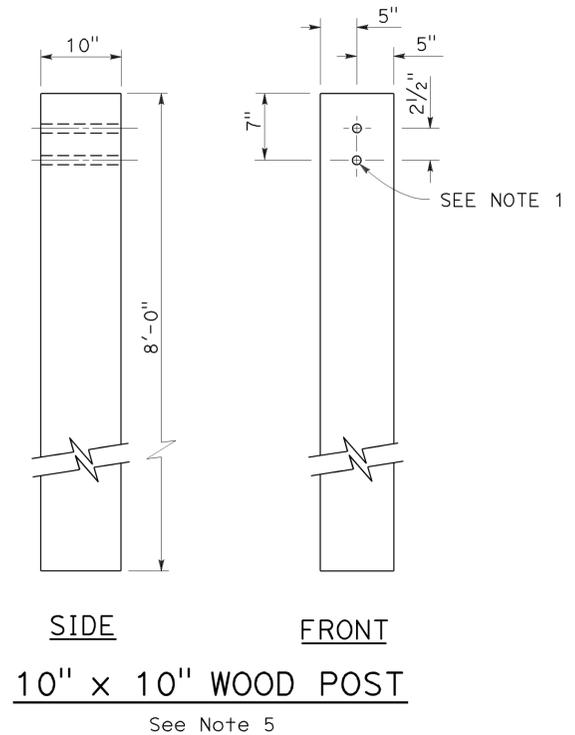
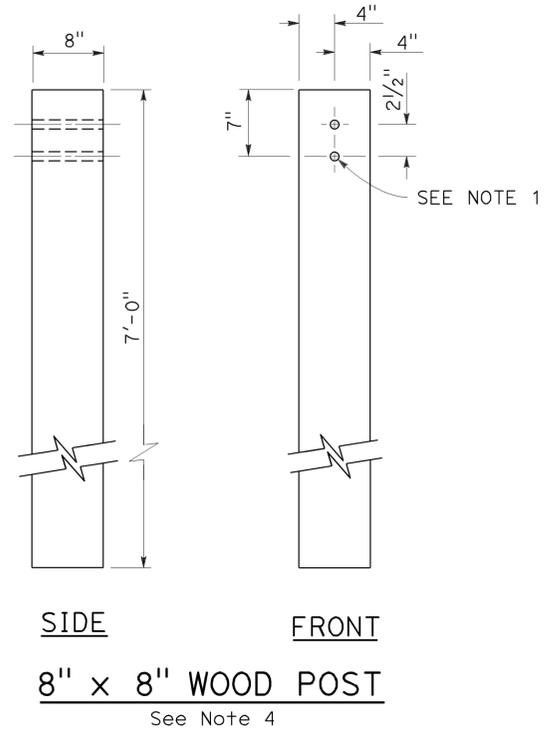
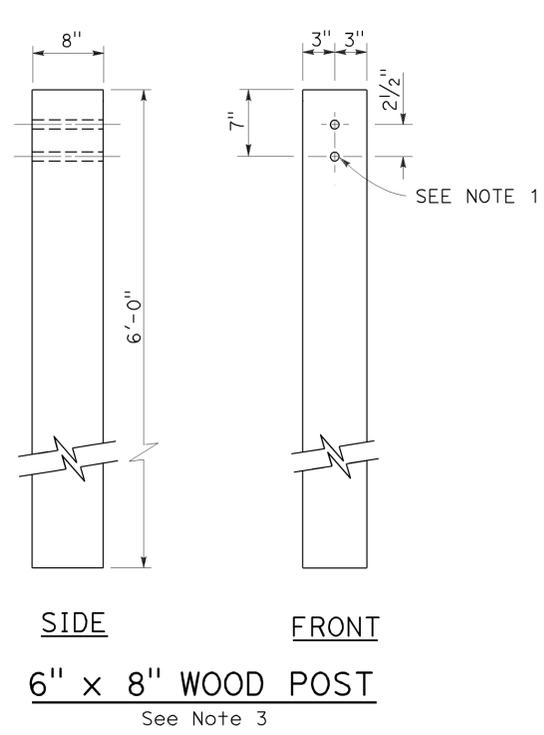
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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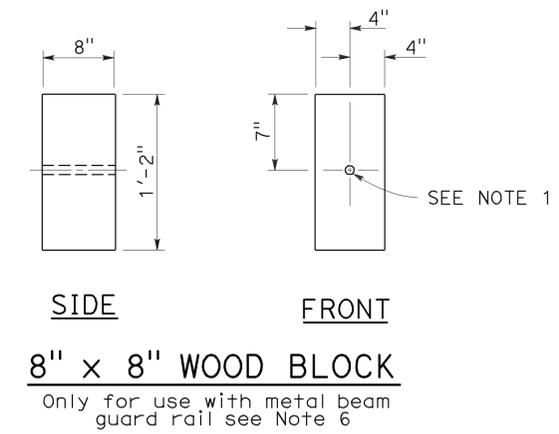
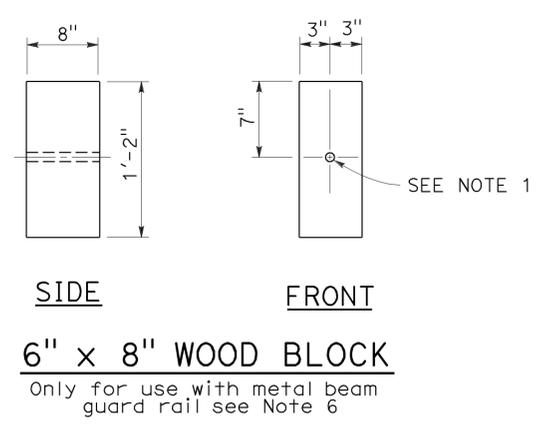
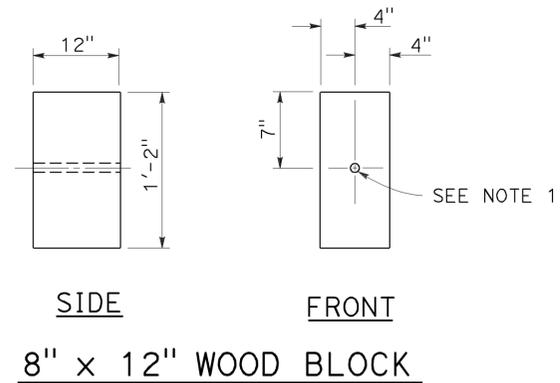
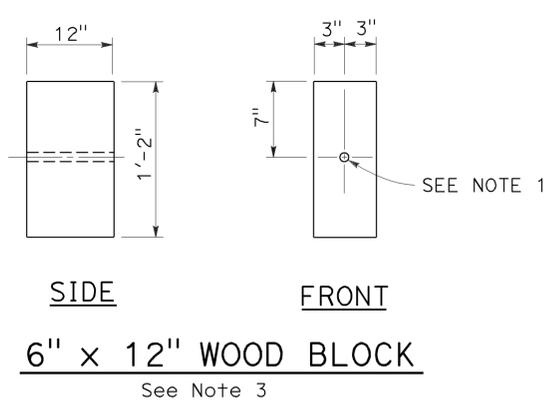
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 4-27-15



**NOTES:**

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



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77N1**

2010 REVISED STANDARD PLAN RSP A77N1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	30	42

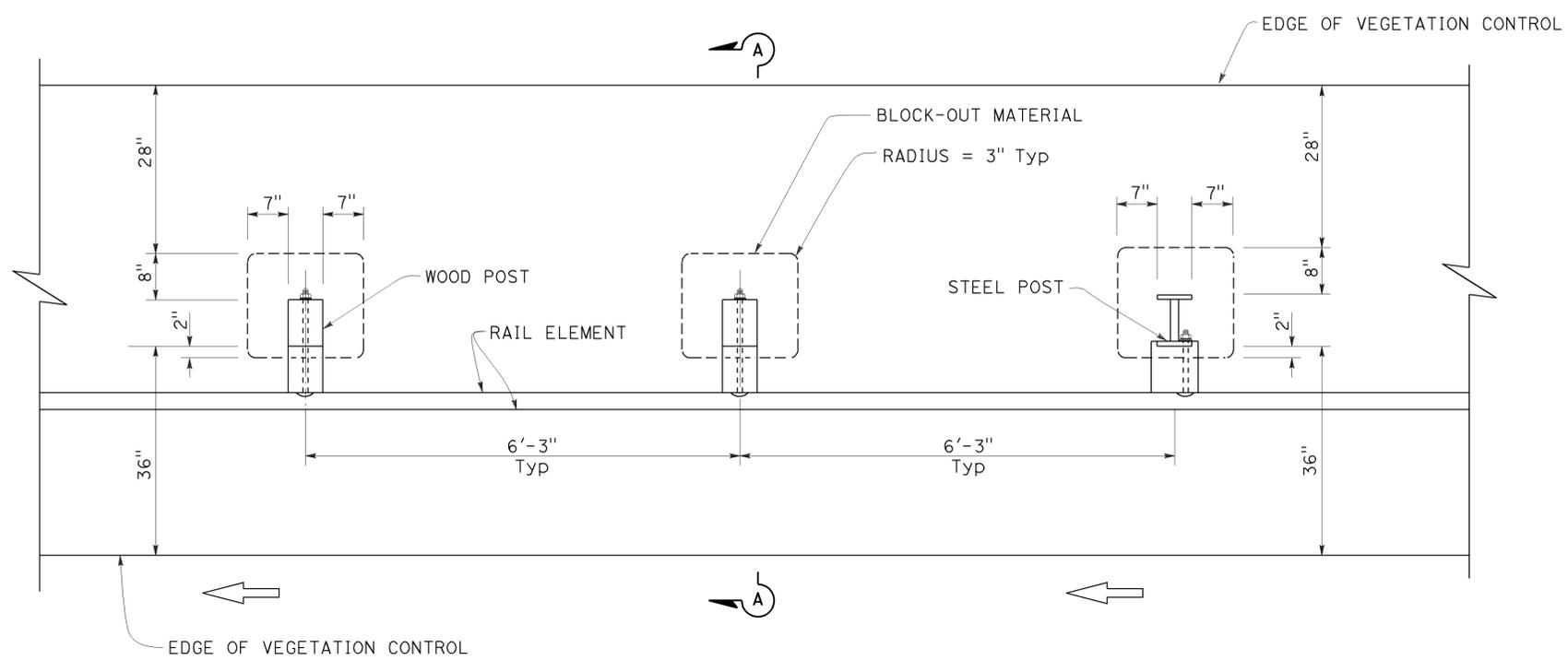
Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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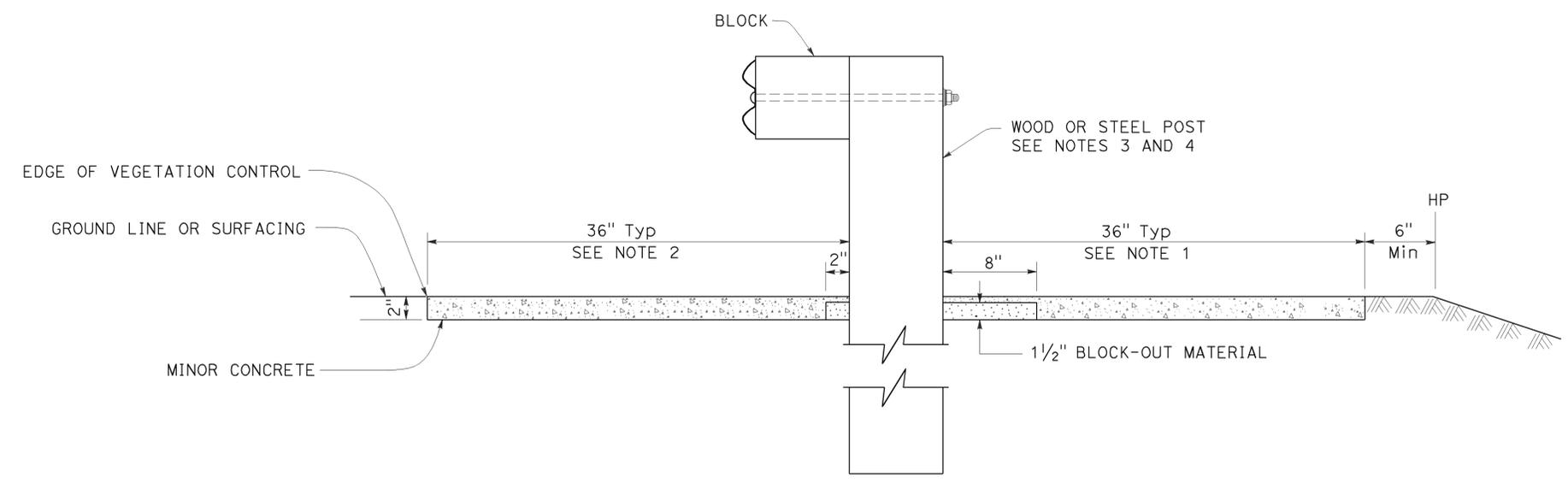
TO ACCOMPANY PLANS DATED 4-27-15



PLAN

NOTES:

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



SECTION A-A

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77N5**

2010 REVISED STANDARD PLAN RSP A77N5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	31	42

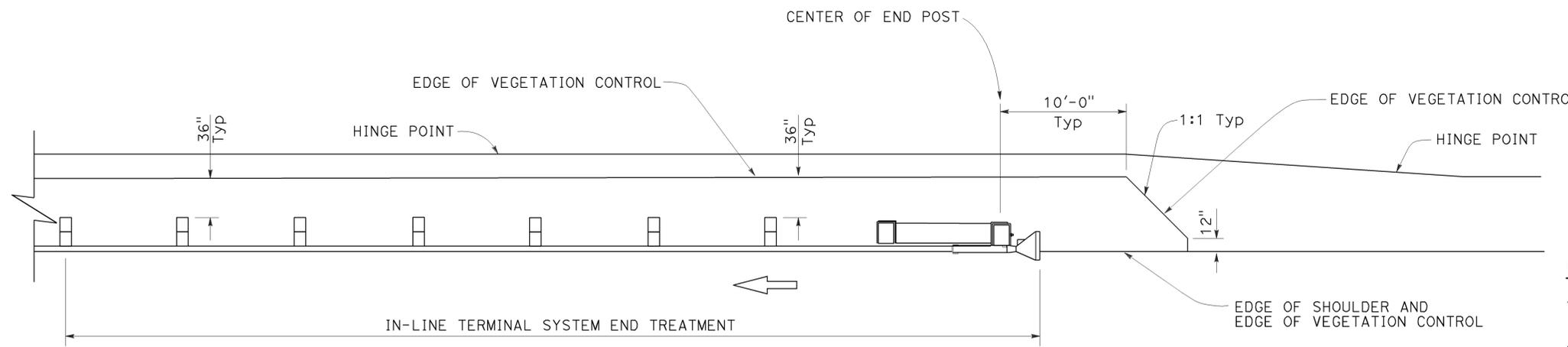
Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

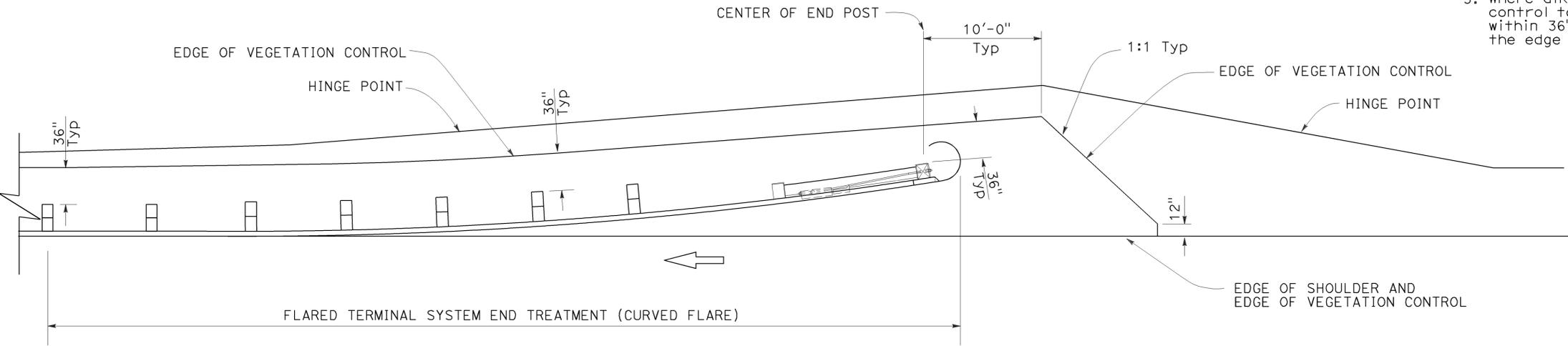
TO ACCOMPANY PLANS DATED 4-27-15



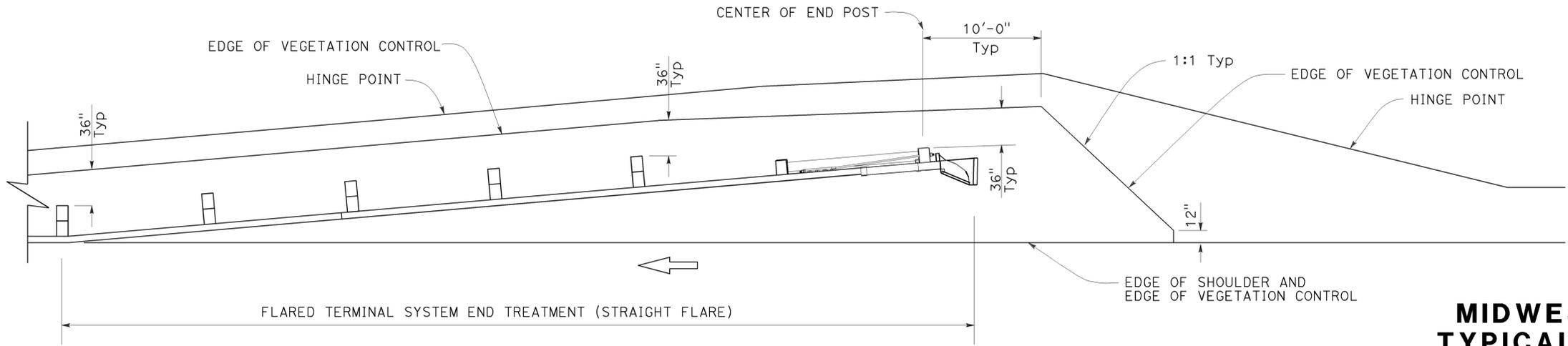
PLAN

**NOTES:**

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



PLAN



PLAN

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77N6**

2010 REVISED STANDARD PLAN RSP A77N6

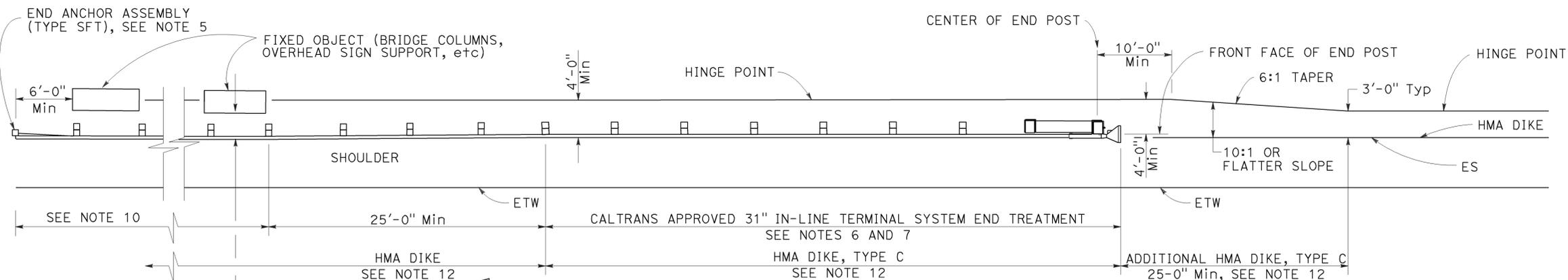
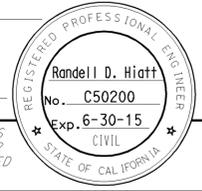
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	32	42

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

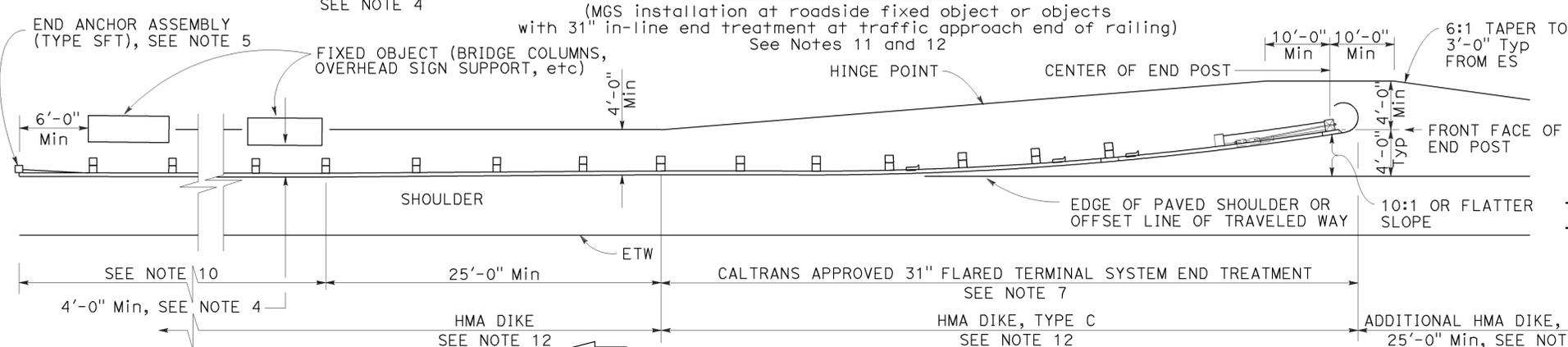
July 19, 2013  
PLANS APPROVAL DATE

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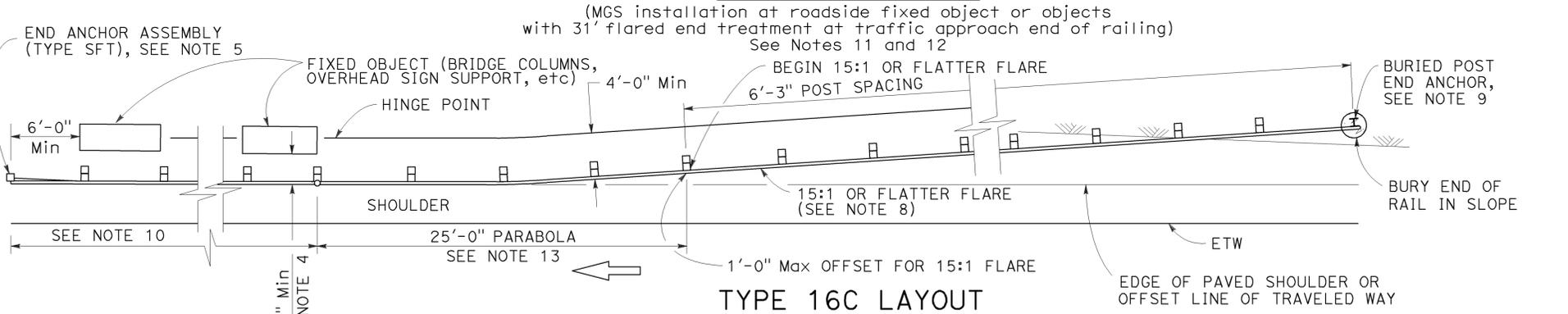
TO ACCOMPANY PLANS DATED 4-27-15



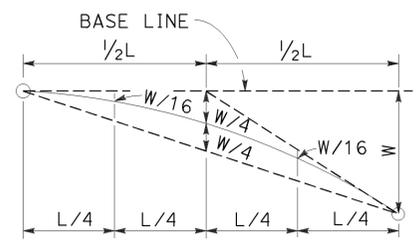
**TYPE 16A LAYOUT**



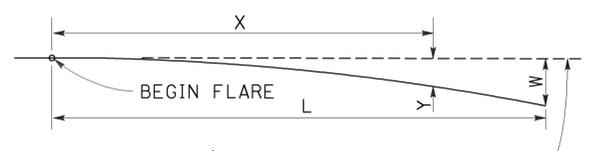
**TYPE 16B LAYOUT**



**TYPE 16C LAYOUT**



**TYPICAL PARABOLIC LAYOUT**



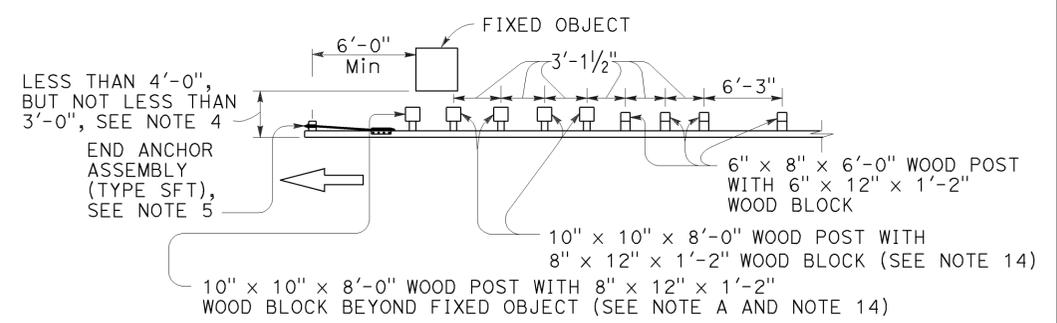
BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

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

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

**NOTES:**

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



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

**STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
TYPICAL LAYOUTS FOR  
ROADSIDE FIXED OBJECTS**

NO SCALE

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

**REVISED STANDARD PLAN RSP A77R3**

2010 REVISED STANDARD PLAN RSP A77R3

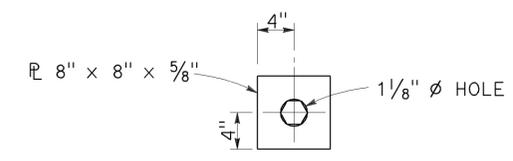
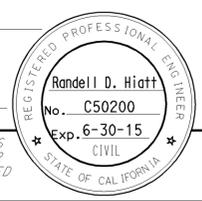
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	33	42

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

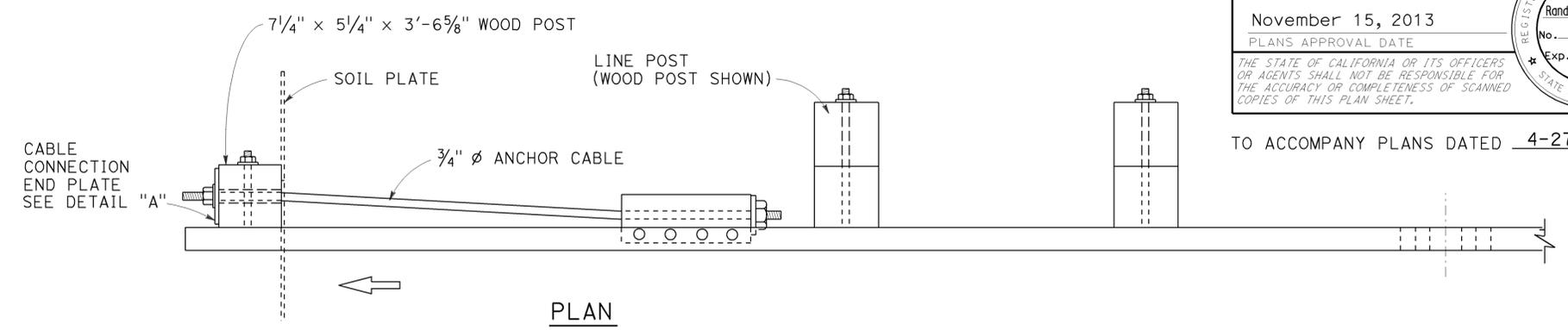
November 15, 2013  
PLANS APPROVAL DATE

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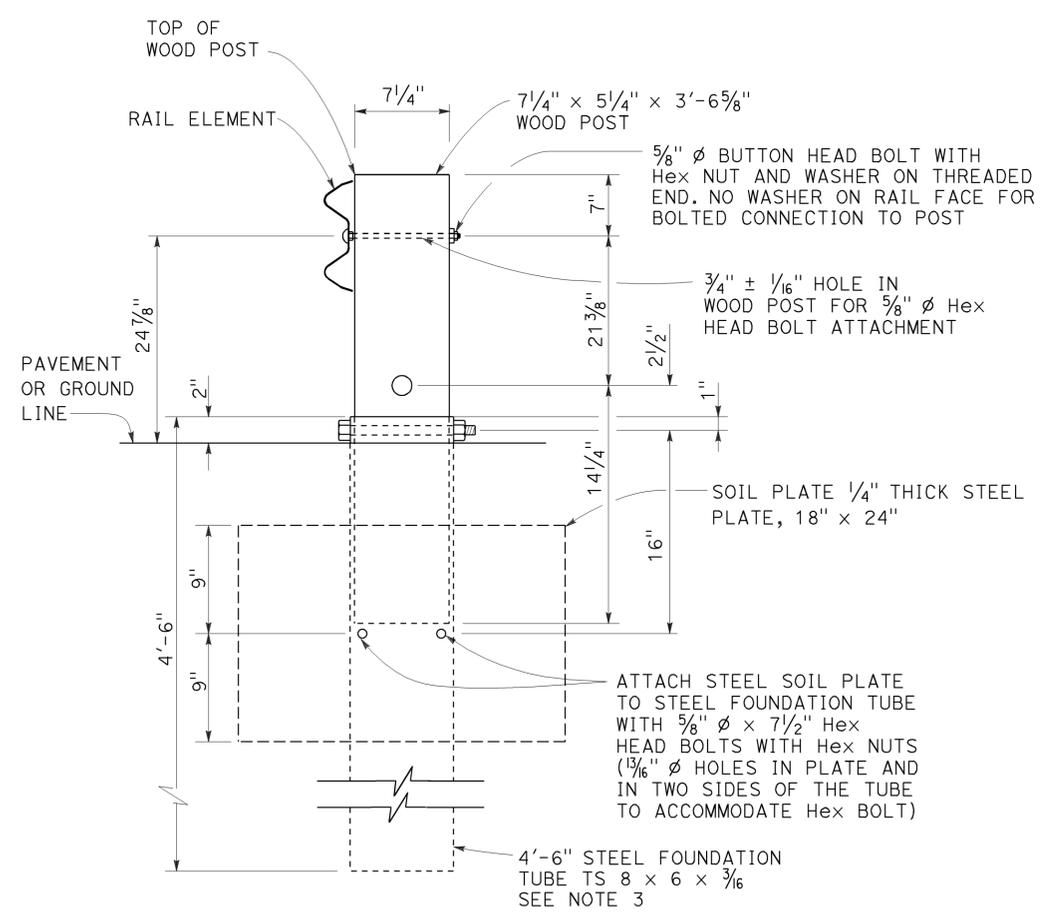
TO ACCOMPANY PLANS DATED 4-27-15



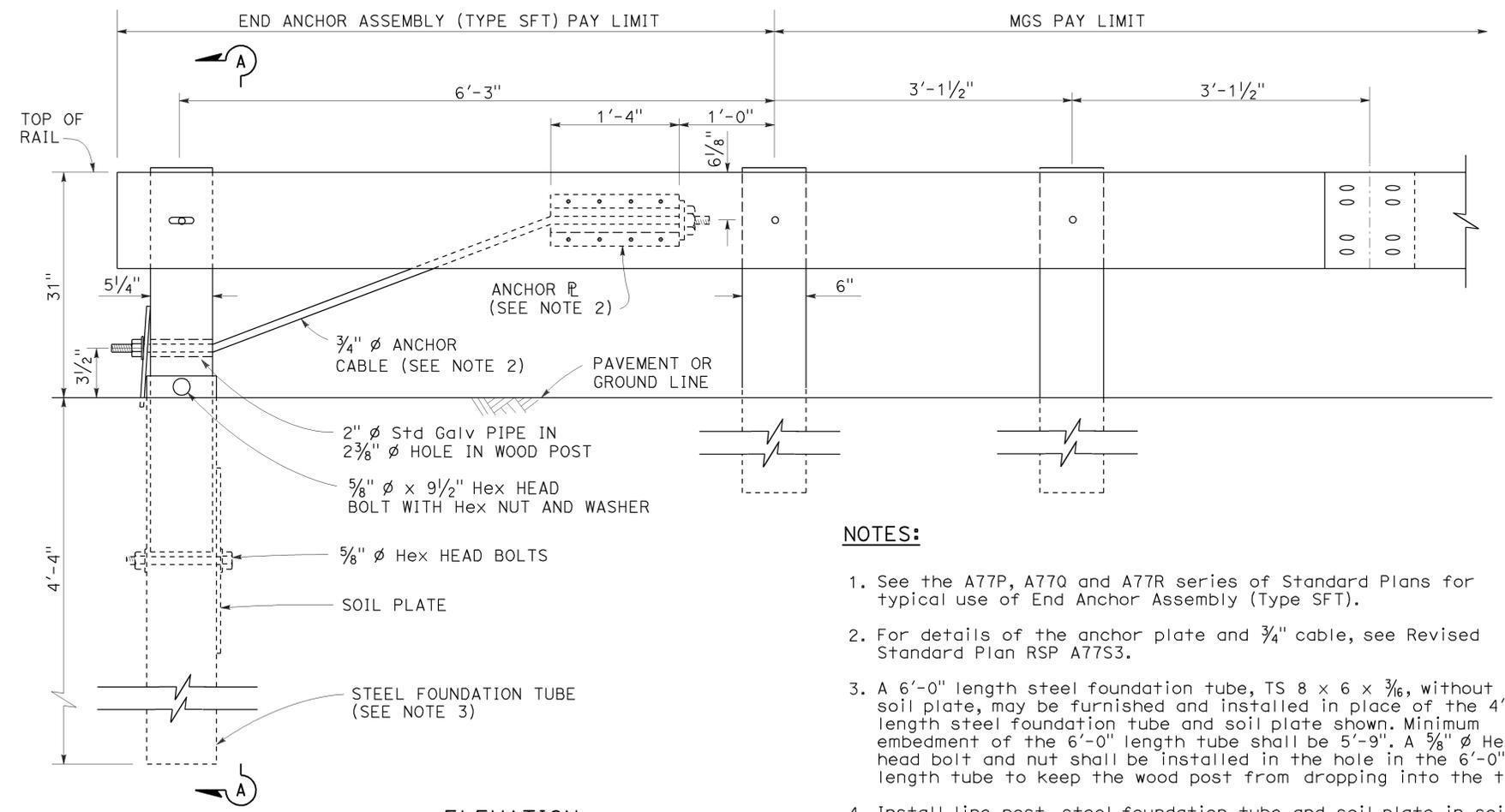
**DETAIL "A"**  
**CABLE CONNECTION**  
**END PLATE**



**PLAN**



**SECTION A-A**



**ELEVATION**

**END ANCHOR**  
**ASSEMBLY (TYPE SFT)**  
See Note 1

**NOTES:**

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

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77S1**

**2010 REVISED STANDARD PLAN RSP A77S1**

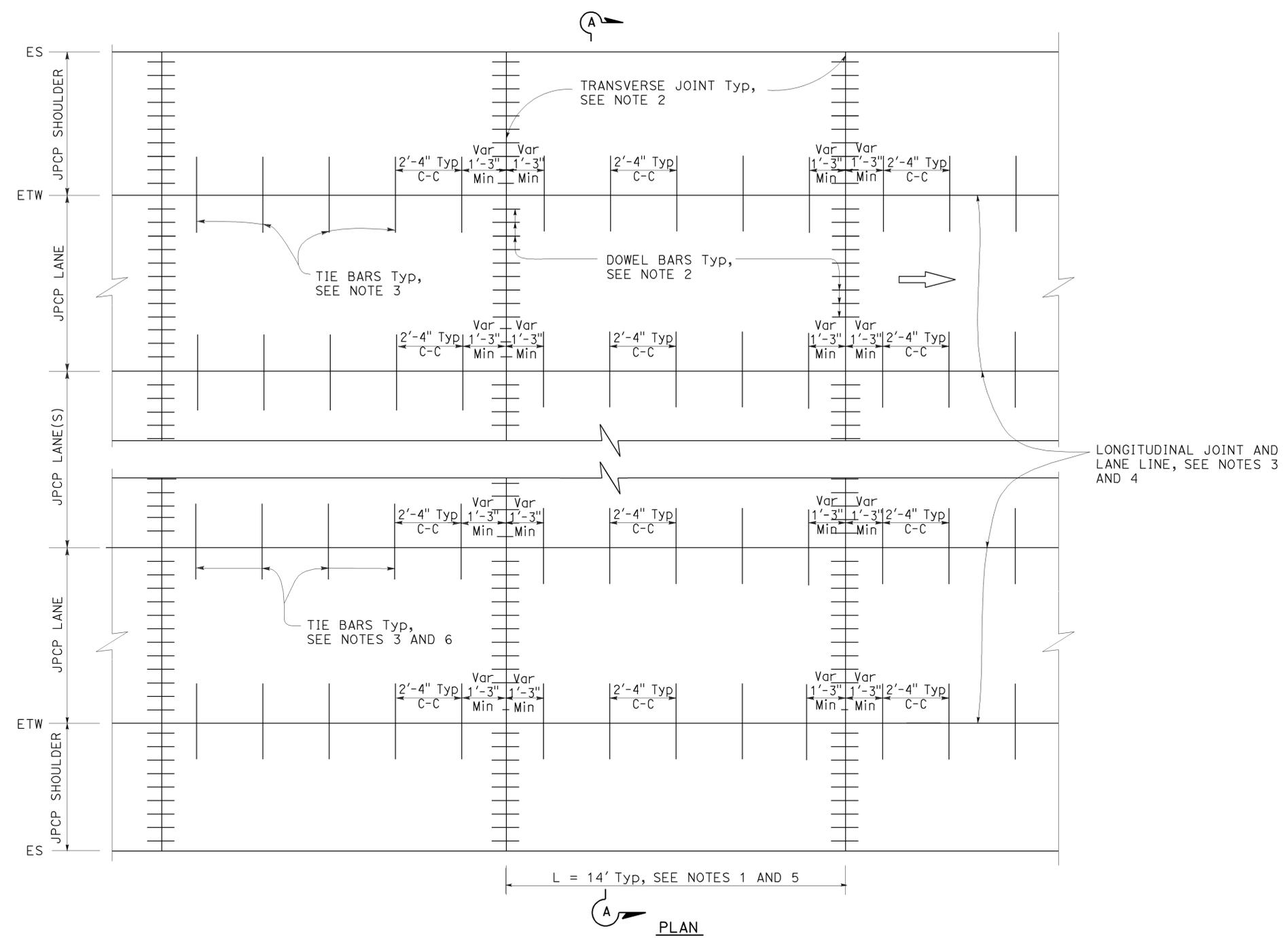
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	34	42

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

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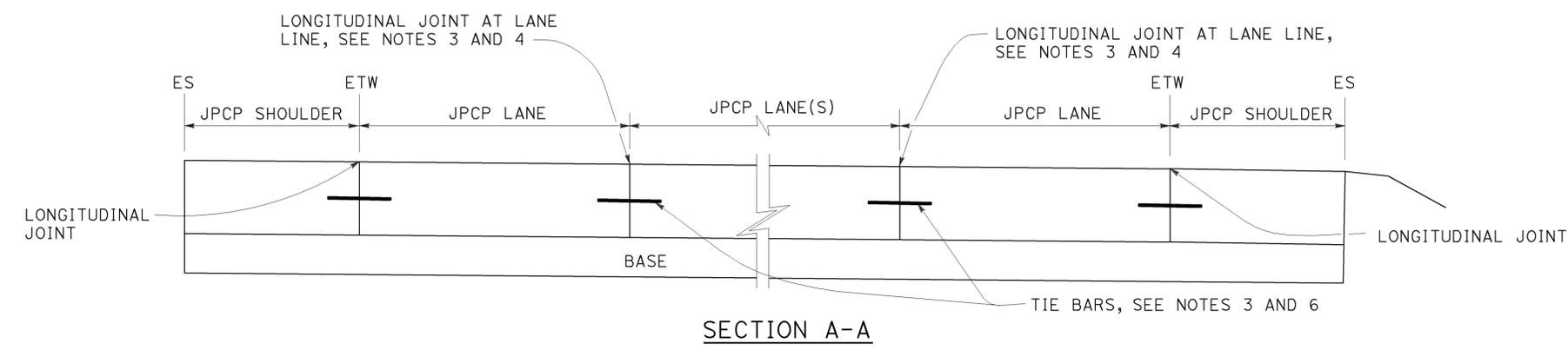
REGISTERED PROFESSIONAL ENGINEER  
 William K. Farnbach  
 No. C49042  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 4-27-15



**NOTES:**

1. Transverse joint spacing may be adjusted to no less than 10' and no more than 14' to conform to bridges, change in pavement type, and hardened concrete pavement.
2. For transverse joint and dowel bar details not shown, see Revised Standard Plan RSP P10.
3. For longitudinal joint and tie bar details not shown, see Revised Standard Plan RSP P15.
4. For additional longitudinal joint layout details, see Revised Standard Plan RSP P18.
5. For joint layout at intersections, see Project Plans.
6. For dowel bars at longitudinal joint. see Revised Standard Plan RSP P18.



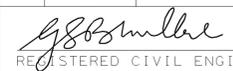
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**JOINTED PLAIN  
 CONCRETE PAVEMENT  
 NEW CONSTRUCTION**  
 NO SCALE

RSP P1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P1 DATED MAY 20, 2011 - PAGE 125 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P1**

2010 REVISED STANDARD PLAN RSP P1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	35	42

  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE



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

TO ACCOMPANY PLANS DATED 4-27-15

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

\* - For other offsets, use the following merging taper length formula for L:  
 For speed of 40 mph or less,  $L = WS^2/60$   
 For speed of 45 mph or more,  $L = WS$

Where: L = Taper length in feet  
 W = Width of offset in feet  
 S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

\*\* - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

\* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph  
 \*\* - Longitudinal buffer space or flagger station spacing  
 \*\*\* - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

\* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

## TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP T9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	36	42

REGISTERED CIVIL ENGINEER  
*Gurinderpal Bhullar*  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

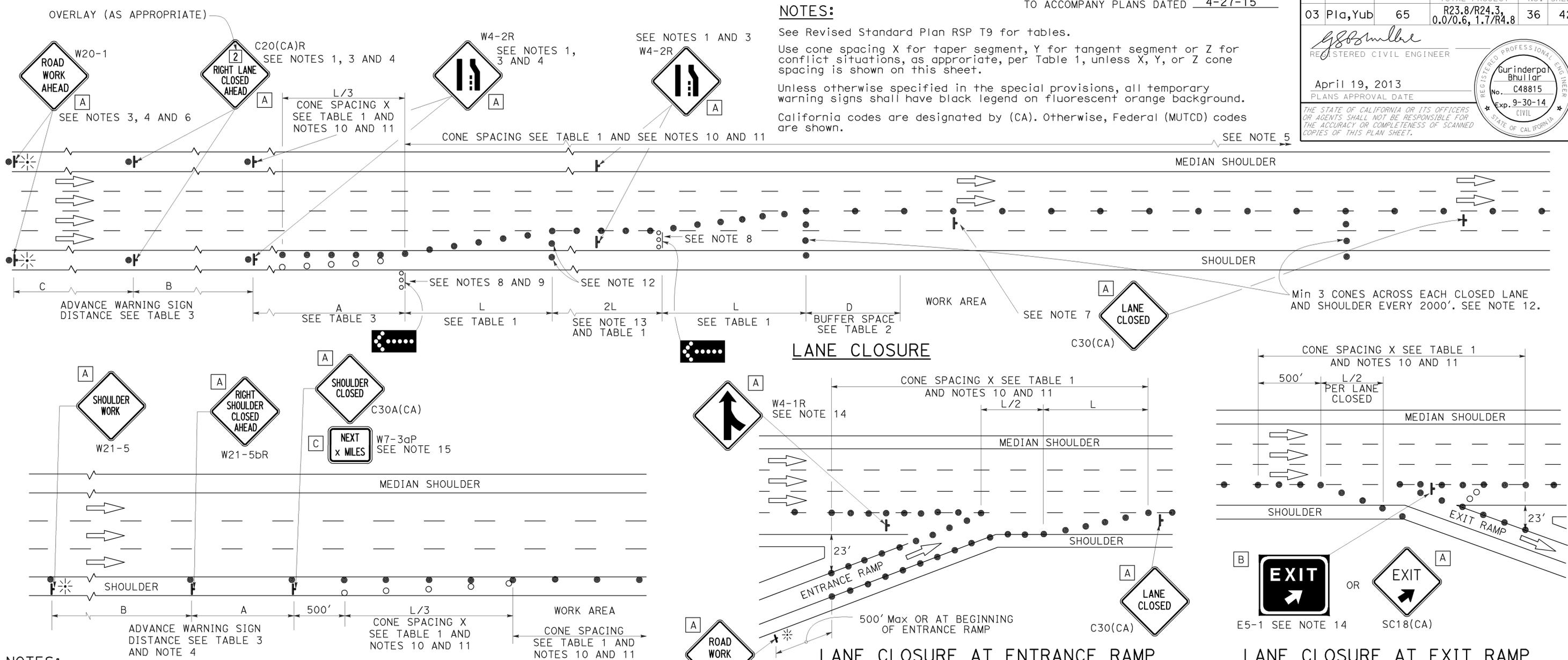
April 19, 2013  
 PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 4-27-15

**NOTES:**

See Revised Standard Plan RSP T9 for tables.  
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.  
 Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.  
 California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



**NOTES:**

1. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
3. Duplicate sign installations are not required:
  - a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
  - b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
5. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

**SHOULDER CLOSURE**

6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_ MILES", use a C20(CA) sign for the first advance warning sign.
7. Place a C30(CA) sign every 2000' throughout length of lane closure.
8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

**LANE CLOSURE AT ENTRANCE RAMP**

12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
13. Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
14. Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
15. A W7-3aP "NEXT \_\_\_ MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

**LEGEND**

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⬢ FLASHING ARROW SIGN (FAS)
- ⬢ FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

**SIGN PANEL SIZE (Min)**

- A 48" x 48"
- B 72" x 60"
- C 36" x 30"

**TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS**

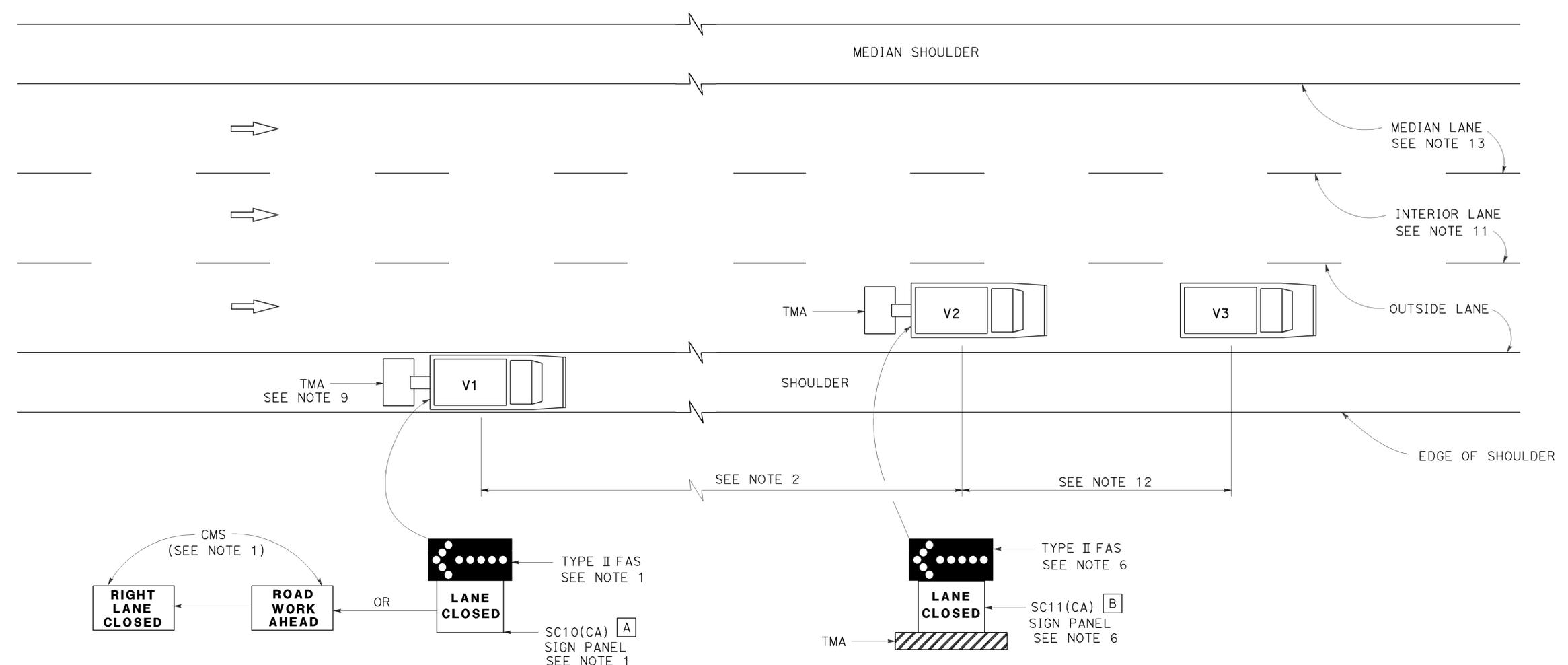
NO SCALE

RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T10**

2010 REVISED STANDARD PLAN RSP T10

TO ACCOMPANY PLANS DATED 4-27-15



**SIGN PANEL SIZE (Min)**

- A 66" x 36"
- B 54" x 42"

**LEGEND**

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- FLASHING ARROW SIGN (FAS)
- CMS CHANGEABLE MESSAGE SIGN
- TMA TRUCK-MOUNTED ATTENUATOR

**MOVING LANE CLOSURE ON MEDIAN LANE OR  
OUTSIDE LANE OF MULTILANE HIGHWAYS**

**NOTES:**

1. Either a changeable message sign or a SC10(CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "RIGHT LANE CLOSED" message. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right and the changeable message sign shall show "LEFT LANE CLOSED".
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
13. When the work/application vehicle V3 occupies the median lane, sign vehicle V1 should drive in the median shoulder and indicate left lane closed ahead.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM  
FOR MOVING LANE CLOSURE  
ON MULTILANE HIGHWAYS**  
NO SCALE

RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15  
DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T15**

2010 REVISED STANDARD PLAN RSP T15

**LEGEND:**

<b>AB</b>	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
<b>BC</b>	INSTALL PULL BOX IN EXISTING CONDUIT RUN
<b>BP</b>	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
<b>CB</b>	INSTALL CONDUIT INTO EXISTING PULL BOX
<b>CC</b>	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
<b>CF</b>	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
<b>DH</b>	DETECTOR HANDHOLE
<b>FA</b>	FOUNDATION TO BE ABANDONED
<b>IS</b>	INSTALL SIGN ON SIGNAL MAST ARM
<b>NS</b>	NO SLIP BASE ON STANDARD
<b>PEC</b>	PHOTOELECTRIC CONTROL
<b>PEU</b>	PHOTOELECTRIC UNIT
<b>RC</b>	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
<b>RE</b>	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
<b>RL</b>	RELOCATE EQUIPMENT
<b>RR</b>	REMOVE AND REUSE EQUIPMENT
<b>RS</b>	REMOVE AND SALVAGE EQUIPMENT
<b>SC</b>	SPLICE NEW TO EXISTING CONDUCTORS
<b>SD</b>	SERVICE DISCONNECT
<b>TSP</b>	TELEPHONE SERVICE POINT

**ABBREVIATIONS**

APS	ACCESSIBLE PEDESTRIAN SIGNAL	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BBS	BATTERY BACKUP SYSTEM	Mtg	MOUNTING
BC	BOLT CIRCLE	MV	MERCURY VAPOR LIGHTING FIXTURE
BPB	BICYCLE PUSH BUTTON	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
C	CONDUIT	N	NEUTRAL (GROUNDED CONDUCTOR)
CB	CIRCUIT BREAKER	NB	NEUTRAL BUS
CCTV	CLOSED CIRCUIT TELEVISION	NC	NORMALLY CLOSE
Ck+	CIRCUIT	NO	NORMALLY OPEN
CMS	CHANGEABLE MESSAGE SIGN	P	CIRCUIT BREAKER'S POLE
Ctid	CALTRANS IDENTIFICATION	PB	PULL BOX
Comm	COMMUNICATION	PBA	PUSH BUTTON ASSEMBLY
DLC	LOOP DETECTOR LEAD-IN CABLE	PEC	PHOTOELECTRIC CONTROL
EMS	EXTINGUISHABLE MESSAGE SIGN	Ped	PEDESTRIAN
EVUC	EMERGENCY VEHICLE UNIT CABLE	PEU	PHOTOELECTRIC UNIT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	PT	CONDUIT WITH PULL TAPE
FB	FLASHING BEACON	RE	RELOCATED EQUIPMENT
FBCA	FLASHING BEACON CONTROL ASSEMBLY	RM	RAMP METERING
FBS	FLASHING BEACON WITH SLIP BASE	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FO	FIBER OPTIC	SB	SLIP BASE
G	EQUIPMENT GROUNDING CONDUCTOR	SIC	SIGNAL INTERCONNECT CABLE
GB	GROUND BUS	Sig	SIGNAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SMA	SIGNAL MAST ARM
HAR	HIGHWAY ADVISORY RADIO	SNS	STREET NAME SIGN
Hex	HEXAGONAL	SP	SERVICE POINT
HPS	HIGH PRESSURE SODIUM	TDC	TELEPHONE DEMARCATION CABINET
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TMS	TRAFFIC MONITORING STATION
ISL	INDUCTION SIGN LIGHTING	TOS	TRAFFIC OPERATIONS SYSTEM
LED	LIGHT EMITTING DIODE	Veh	VEHICLE
LMA	LUMINAIRE MAST ARM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
LPS	LOW PRESSURE SODIUM	WIM	WEIGH-IN-MOTION
Ltg	LIGHTING	Xfmr	TRANSFORMER
Lum	LUMINAIRE		
M	METERED		
MAT	MAST ARM MOUNTING TOP ATTACHMENT		
MAS	MAST ARM MOUNTING SIDE ATTACHMENT		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	38	42

Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

Theresa  
Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 4-27-15

**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.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
$\Omega$	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
$\mu$	MICRO
P	PICO
HZ	HERTZ

**MISCELLANEOUS ELECTROLIERS**

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

- NOTES:**
- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
  - LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W 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.

**STANDARD ELECTROLIER**

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

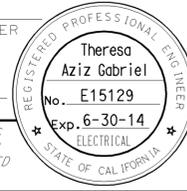
**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1A**

2010 REVISED STANDARD PLAN RSP ES-1A



TO ACCOMPANY PLANS DATED 4-27-15

### CONDUIT

NEW	EXISTING	
---	---	LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
---	---	TRAFFIC SIGNAL CONDUIT
---C---	---c---	COMMUNICATION CONDUIT
---T---	---t---	TELEPHONE CONDUIT
---F---	---f---	FIRE ALARM CONDUIT
---FO---	---fo---	FIBER OPTIC CONDUIT
---	---	CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

### SIGNAL EQUIPMENT

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)
		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

### SERVICE EQUIPMENT

NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

### POLE-MOUNTED SERVICE DESIGNATION

	TYPE H SERVICE, 28'-10"	TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE
--	-------------------------	--

### FLASHING BEACON

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

### SIGNAL EQUIPMENT Cont

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

### NOTES:

- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.

### ILLUMINATED OVERHEAD SIGN

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

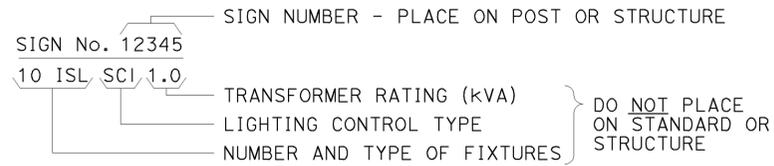
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1B**

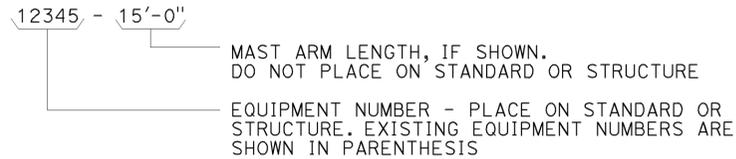
2010 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

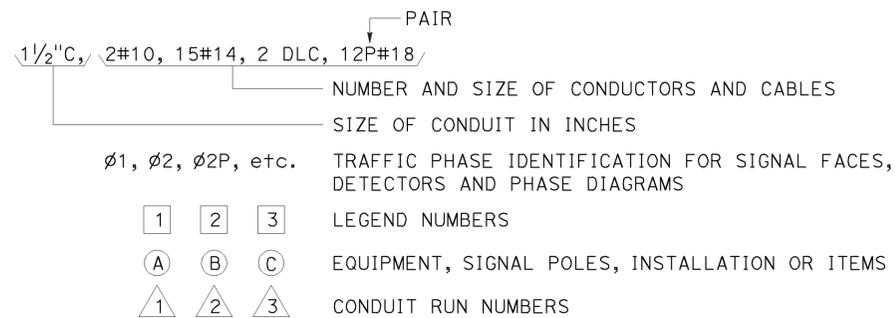
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



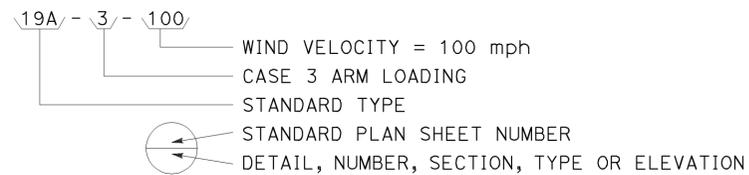
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



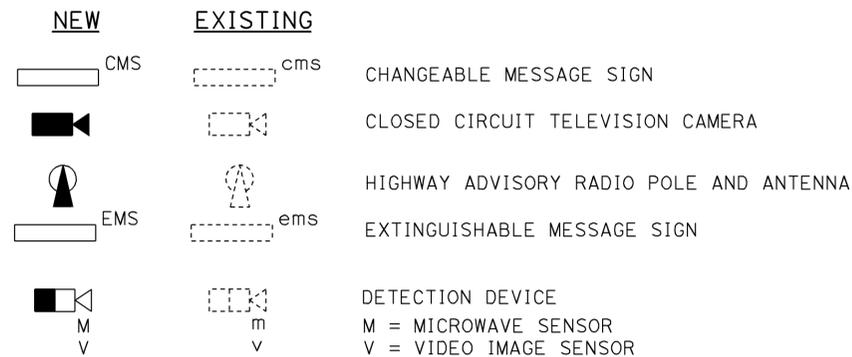
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



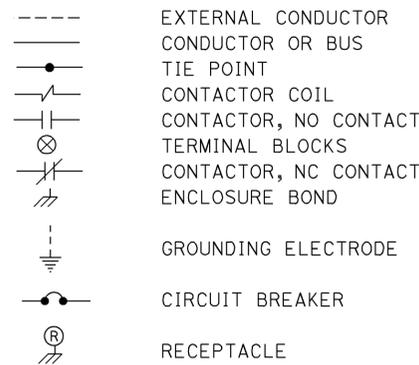
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



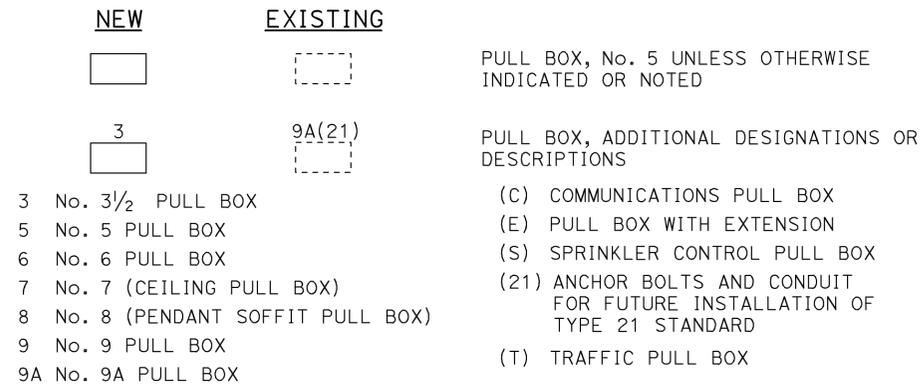
### MISCELLANEOUS EQUIPMENT



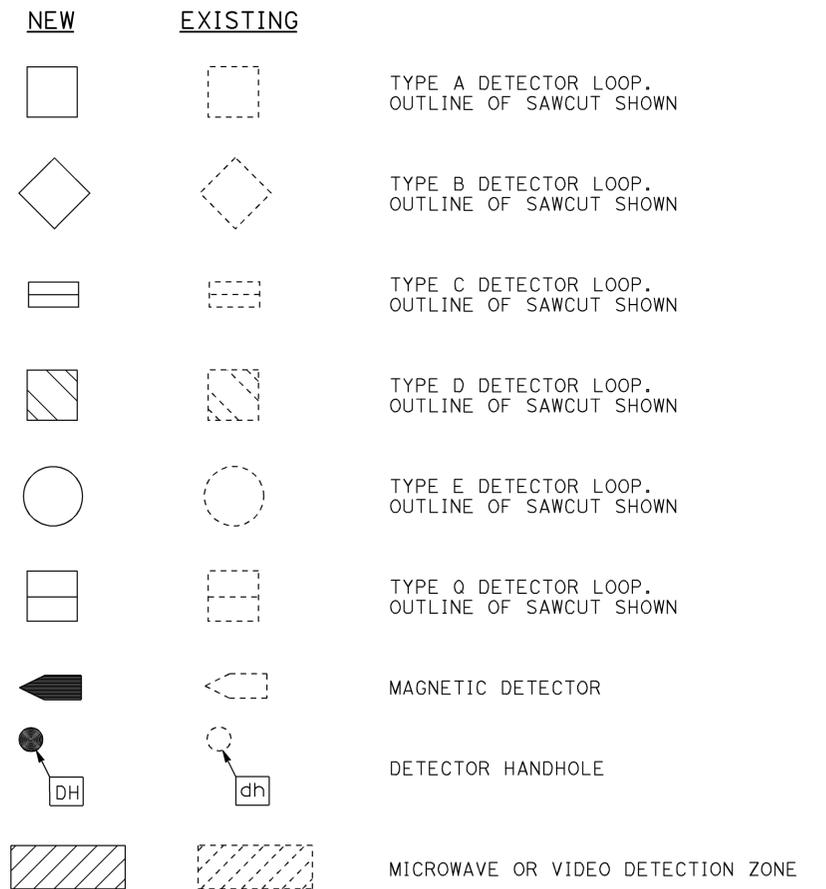
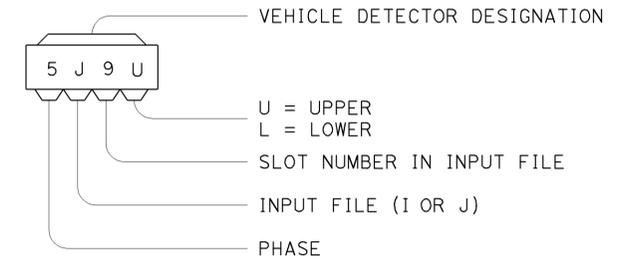
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



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## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

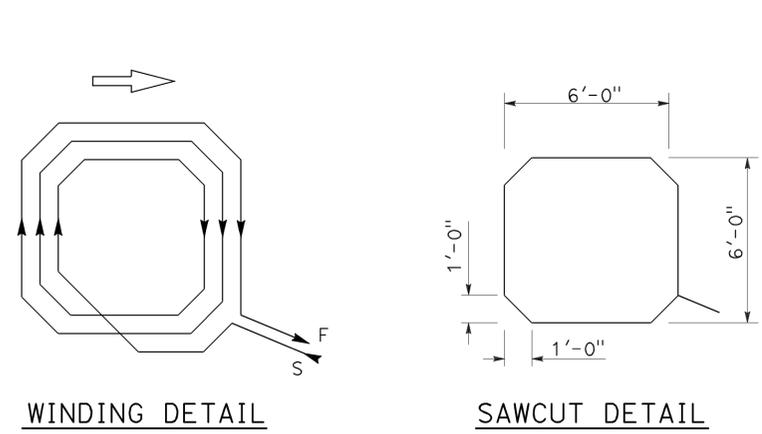
RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1C**

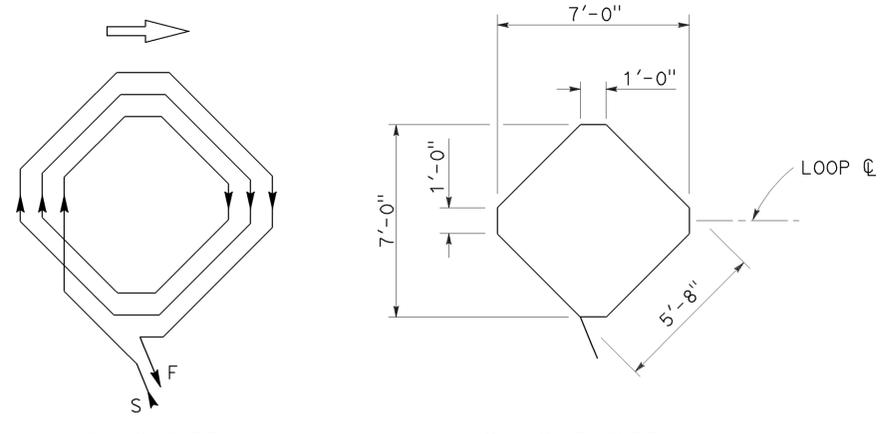
2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Pla, Yub	65	R23.8/R24.3, 0.0/0.6, 1.7/R4.8	41	42
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
REGISTERED PROFESSIONAL ENGINEER Theresa Aziz Gabriel No. E15129 Exp. 6-30-14 ELECTRICAL STATE OF CALIFORNIA					

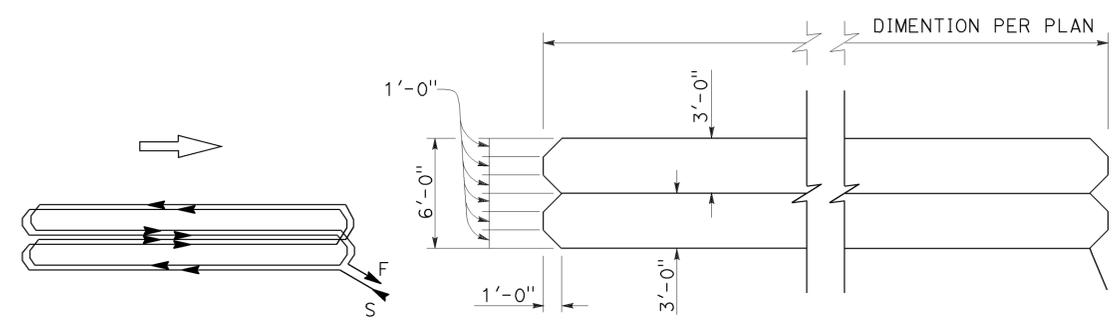
TO ACCOMPANY PLANS DATED 4-27-15



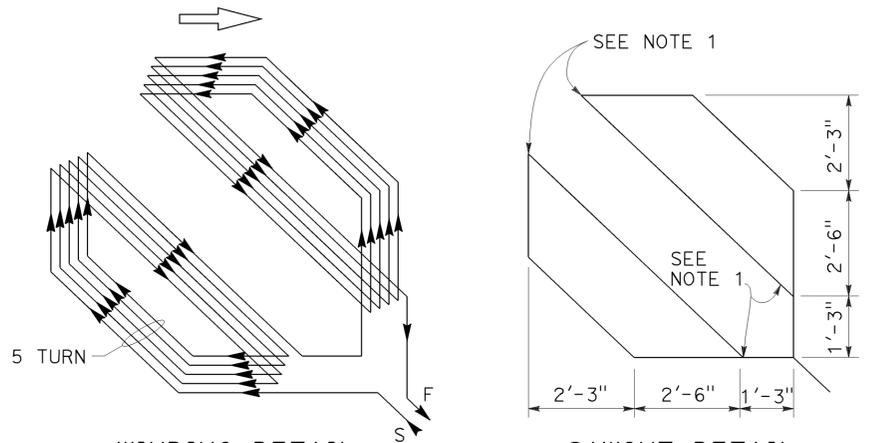
WINDING DETAIL  
SAWCUT DETAIL  
TYPE A LOOP DETECTOR CONFIGURATION



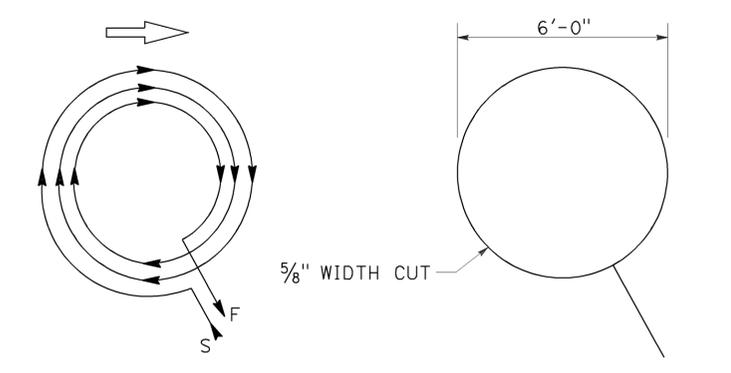
WINDING DETAIL  
SAWCUT DETAIL  
TYPE B LOOP DETECTOR CONFIGURATION



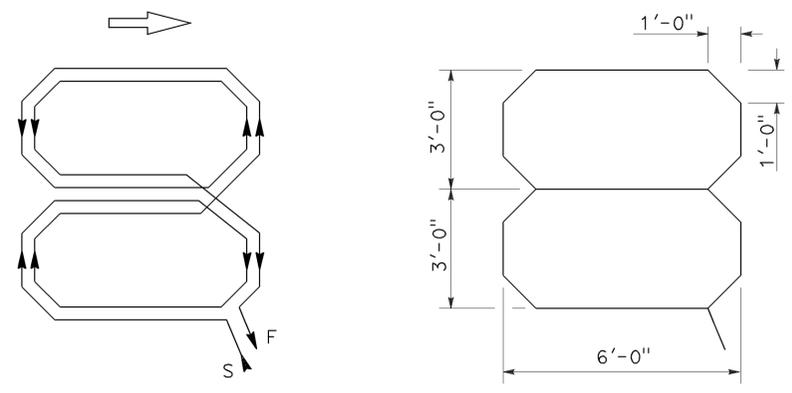
WINDING DETAIL  
SAWCUT DETAIL  
TYPE C LOOP DETECTOR CONFIGURATION



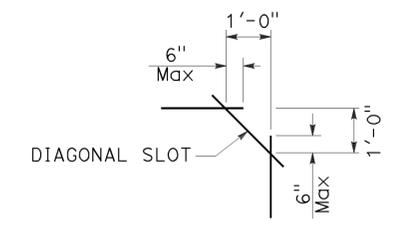
WINDING DETAIL  
SAWCUT DETAIL  
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL  
SAWCUT DETAIL  
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL  
SAWCUT DETAIL  
TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
  2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

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**ELECTRICAL SYSTEMS (DETECTORS)**

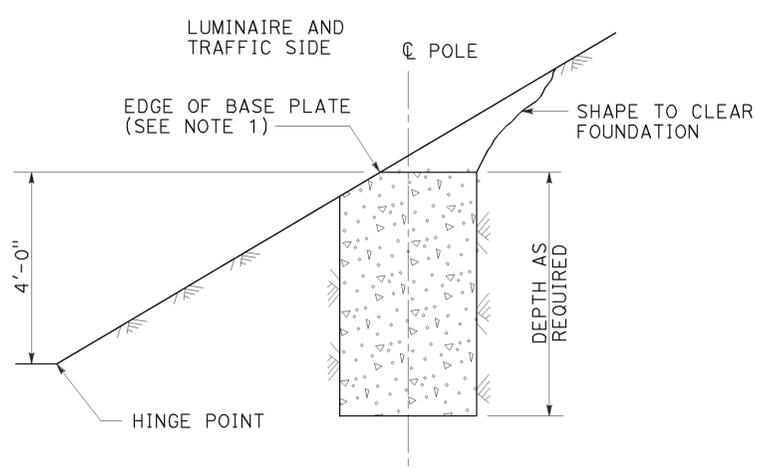
NO SCALE

RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

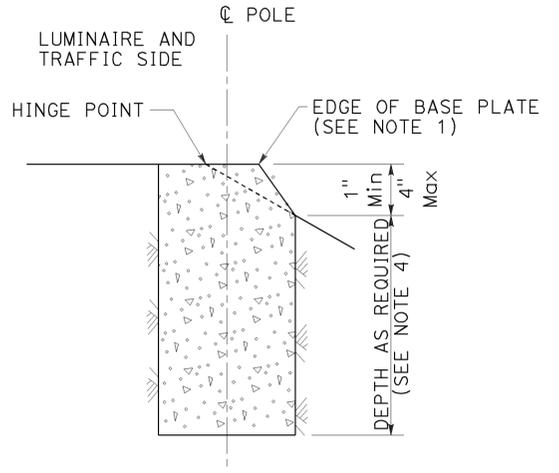
2010 REVISED STANDARD PLAN RSP ES-5B

TO ACCOMPANY PLANS DATED 4-27-15

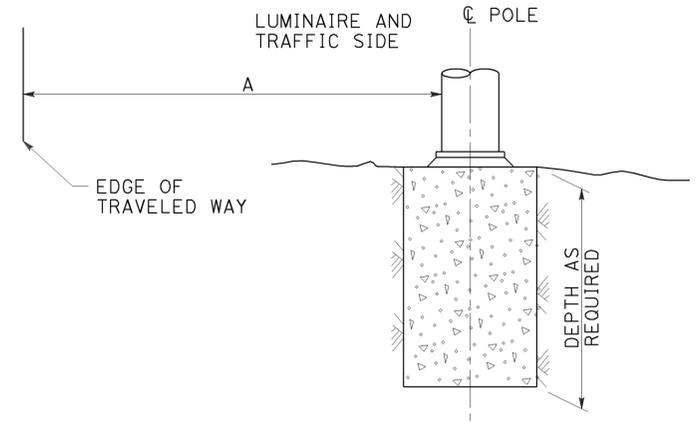
STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)



CUT SLOPES  
STEEPER THAN 4:1,  
LESS THAN 2:1  
DETAIL A-1  
 See Note 2 and 3



FILL SLOPES  
STEEPER THAN 4:1,  
LESS THAN 2:1  
DETAIL A-2  
 See Note 2 and 3

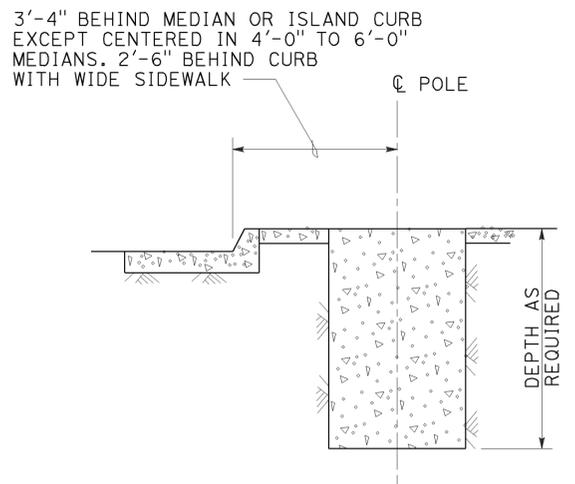


FLAT SECTIONS, CUT OR FILL SLOPES  
4:1 OR FLATTER  
DETAIL A-3  
 See Note 2

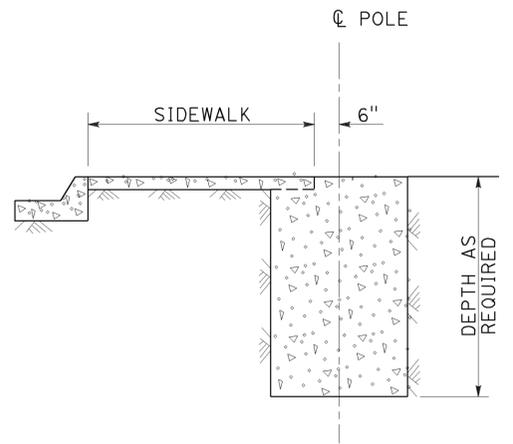
FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT  
IN SIDEWALK, MEDIAN AND ISLAND AREAS  
DETAIL A

NOTES:

1. Where a portion of the foundation is above grade, the top edges shall have a 1" chamfer.
2. Slopes shall be horizontal to vertical ratio (Horizontal : Vertical).
3. Horizontal setbacks on cut and fill slopes steeper than 4:1 shall not exceed the distance shown for flat sections.
4. CIDH embedment depth shall be increased beyond standard depths by the diameter of the CIDH.



MEDIAN, ISLAND  
OR WIDE SIDEWALK  
DETAIL B-1  
 7' Wide and wider



NARROW SIDEWALK  
DETAIL B-2  
 Less than 7' wide

FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS  
DETAIL B

STATE OF CALIFORNIA  
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**ELECTRICAL SYSTEMS**  
**(FOUNDATION INSTALLATIONS)**  
 NO SCALE

RSP ES-11 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-11  
 DATED MAY 20, 2011 - PAGE 488 OF THE STANDARD PLANS BOOK DATED 2010.