

INDEX OF PLANS

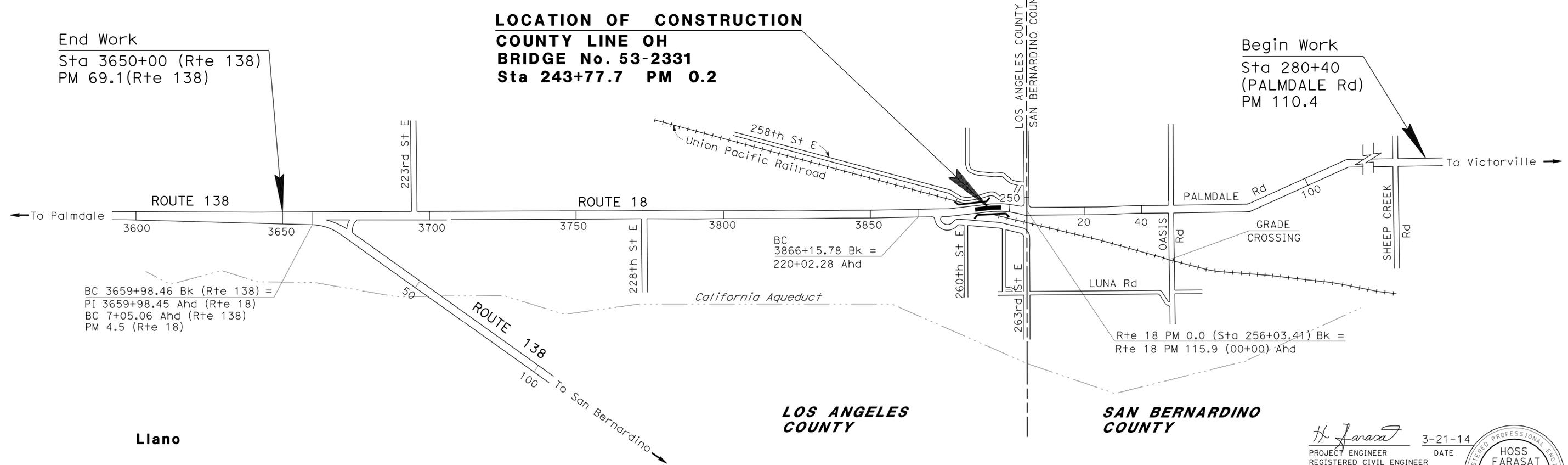
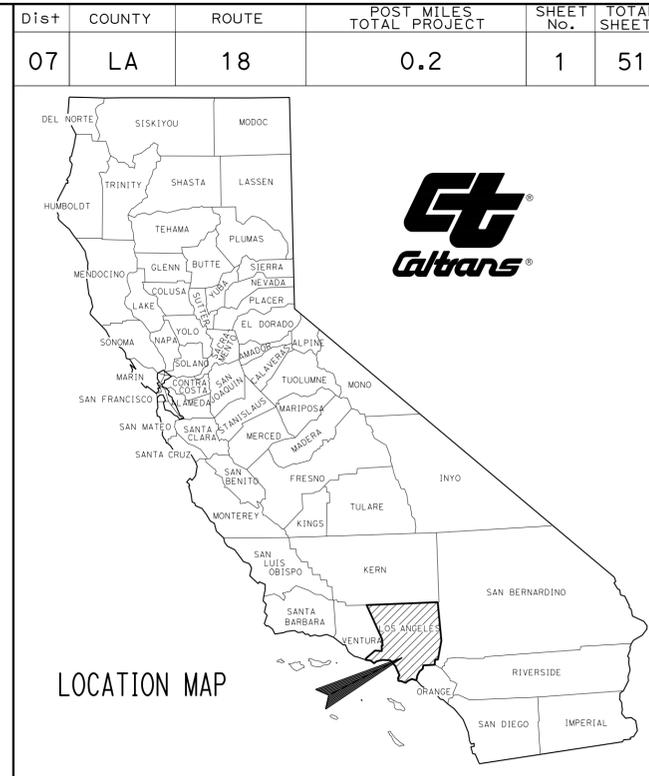
SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	LAYOUT
3	CONSTRUCTION DETAILS
4	UTILITY PLAN
5	TRAFFIC HANDLING PLAN
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8	PAVEMENT DELINEATION PLAN
9	SIGN PLAN AND QUANTITIES
10	SUMMARY OF QUANTITIES
11-32	REVISED STANDARD PLANS

STRUCTURE PLANS
33-51 COUNTY LINE OVERHEAD

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

STATE OF CALIFORNIA ACNHP-P018(047)E
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN LOS ANGELES COUNTY AT LLANO
AT COUNTY LINE OVERHEAD

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



PROJECT MANAGER
ADEL GIRGIS

DESIGN MANAGER
MANSOOR KHAN

H. Farasat 3-21-14
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER

June 2, 2014
 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.

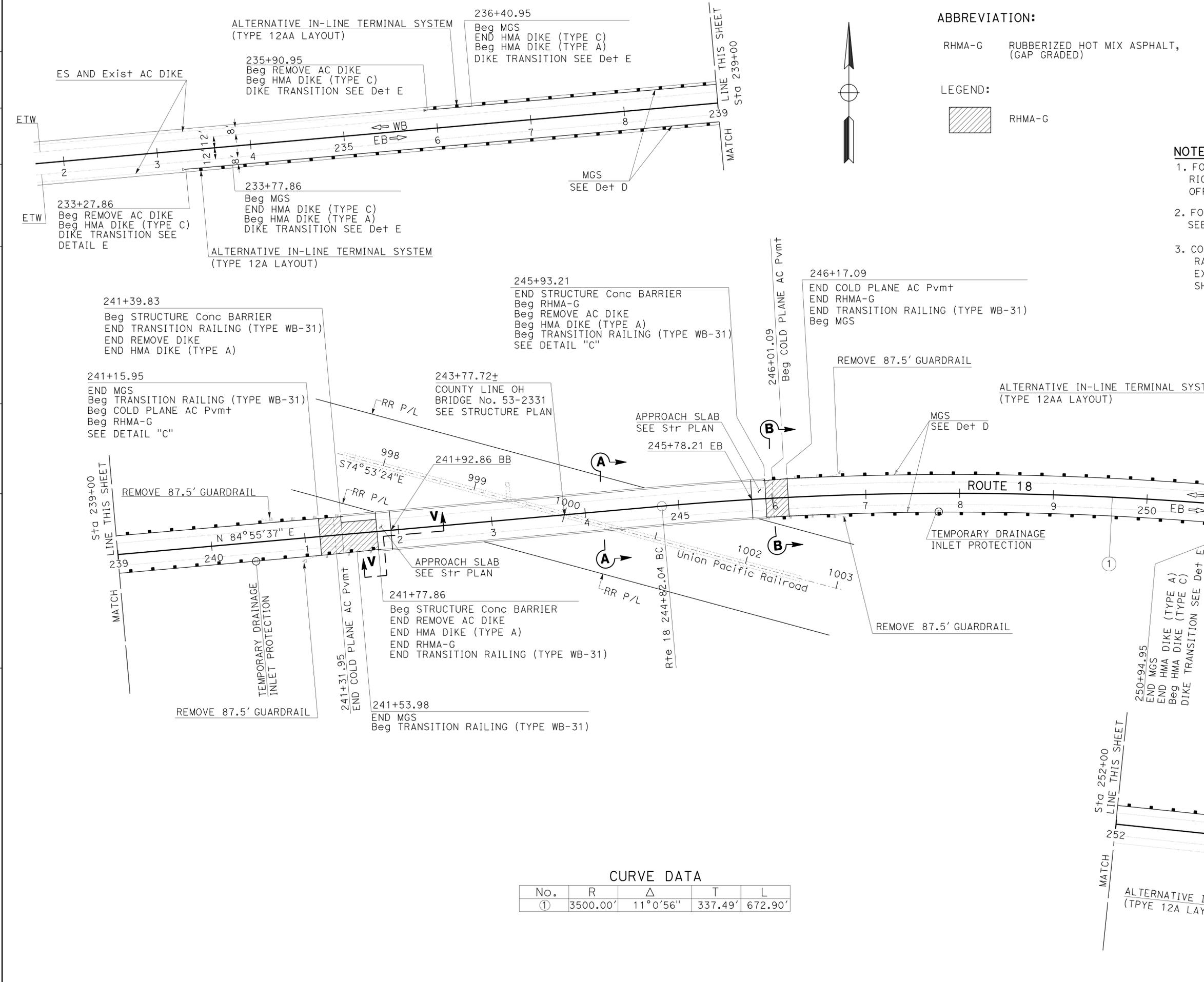


THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

NO SCALE

CONTRACT No.	07-274804
PROJECT ID	070000516

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN



ABBREVIATION:
 RHMA-G RUBBERIZED HOT MIX ASPHALT, (GAP GRADED)

LEGEND:
 RHMA-G

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	2	51

REGISTERED CIVIL ENGINEER
 H. Farasat
 No. C45672
 Exp 12-31-14
 CIVIL

3-21-14
 DATE

6-2-2014
 PLANS APPROVAL DATE

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

- NOTES:**
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 - FOR DETAILS, SECTIONS AND VIEW, SEE CONSTRUCTION DETAILS SHEET C-1
 - CONSTRUCT VEGETATION CONTROL AT GUARD RAILING AREAS AS SHOWN ON STANDARD PLAN EXCEPT AT OVERLAID PORTIONS THAT ARE AS SHOWN ON SECTION B-B AND DETAIL F SHEET C-1

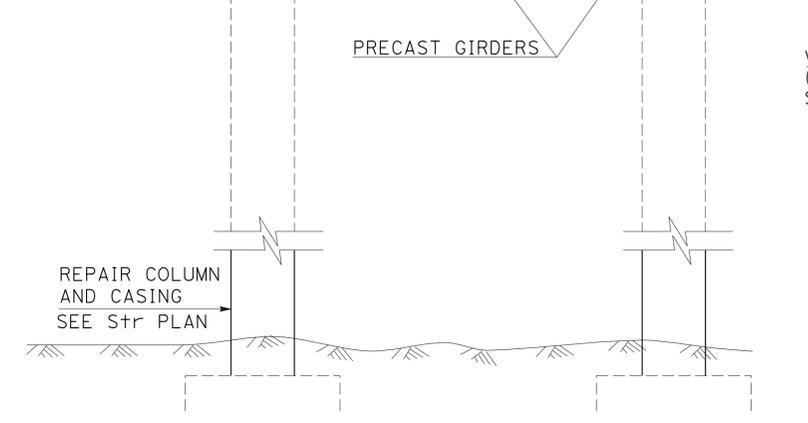
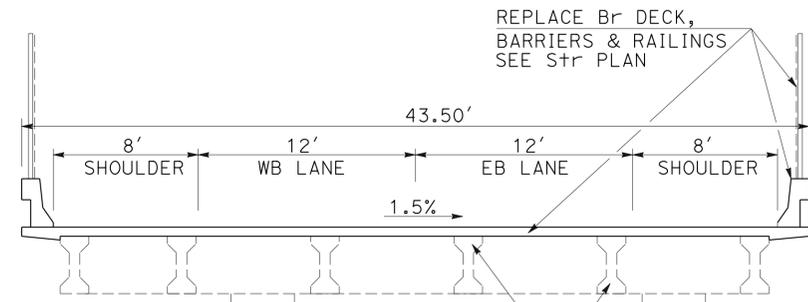
CURVE DATA

No.	R	Δ	T	L
①	3500.00'	11°0'56"	337.49'	672.90'

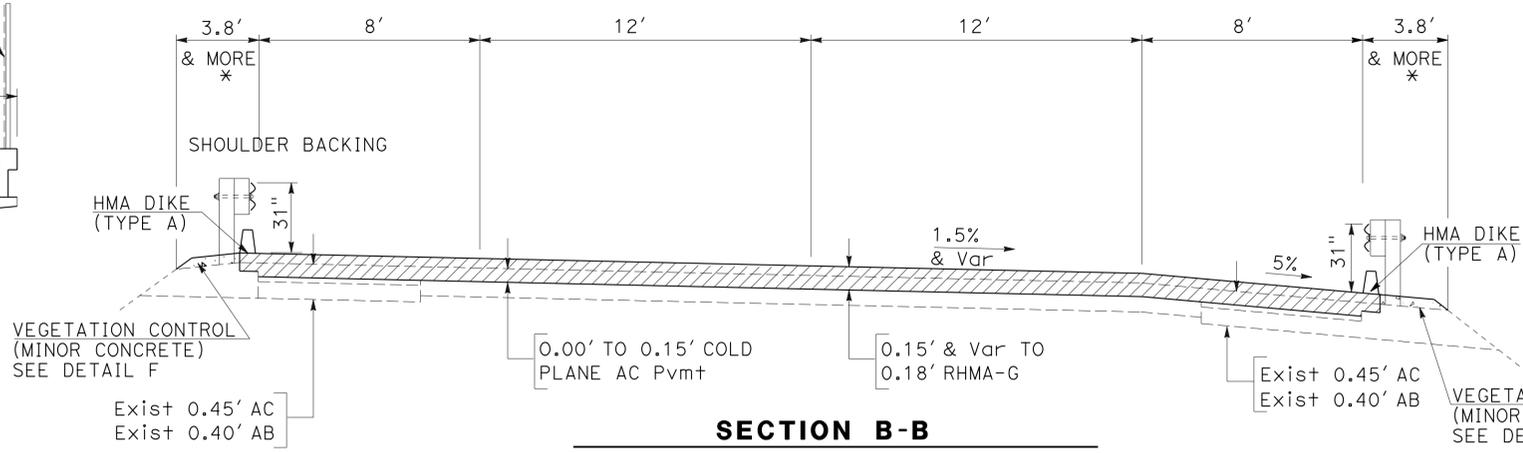


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	3	51

H. Farasat
 REGISTERED CIVIL ENGINEER DATE 3-21-14
 6-2-2014
 PLANS APPROVAL DATE
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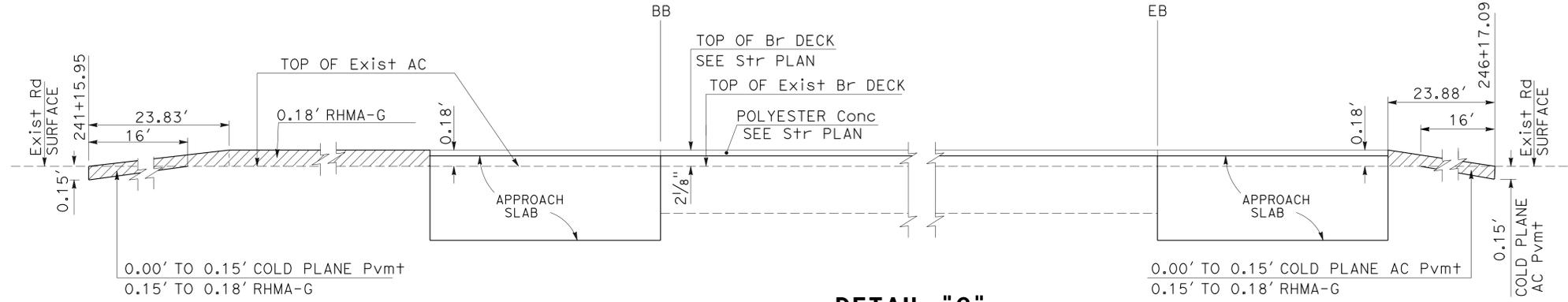
SECTION A-A



SECTION B-B

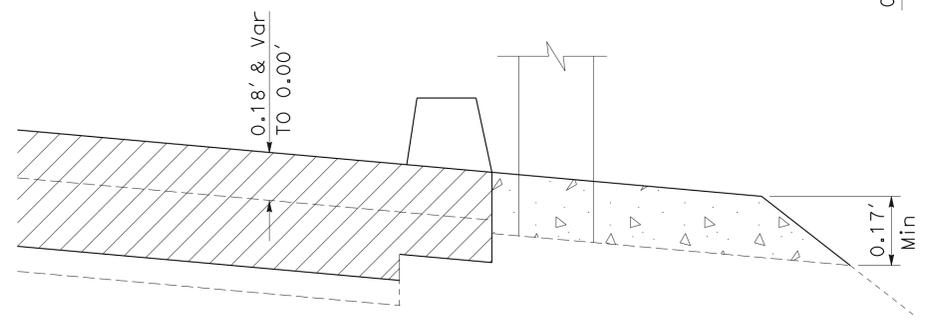
* CONTRACTOR TO VERIFY BEFORE CONSTRUCTION

- LEGEND:**
- RHMA-G
 - IMPORTED BORROW
 - ROADWAY EXCAVATION (REMOVE ERODED MATERIAL)
 - VEGETATION CONTROL (MINOR CONCRETE)

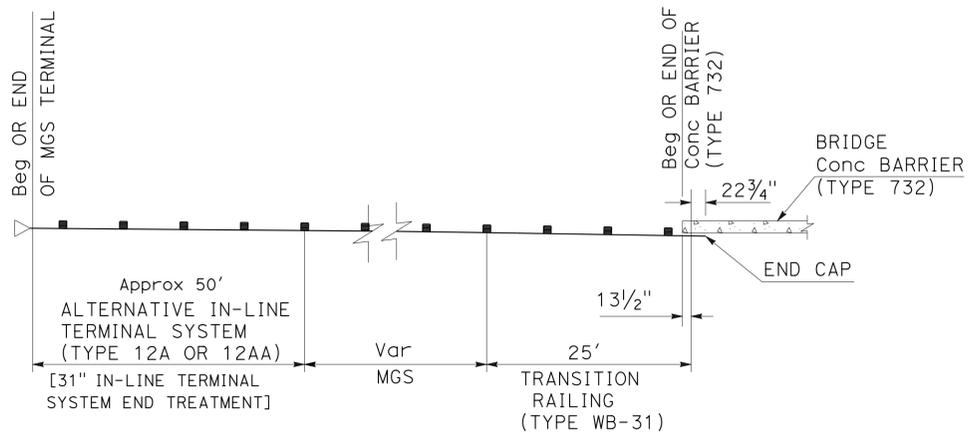


DETAIL "C"

LONGITUDINAL GRADE IS NOT SHOWN FOR CLARITY

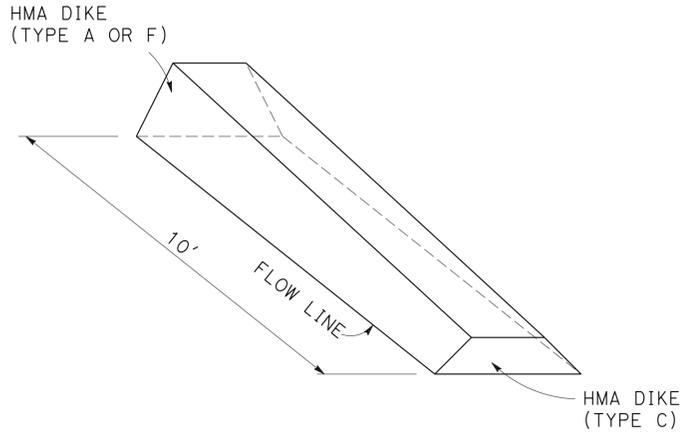


DETAIL F



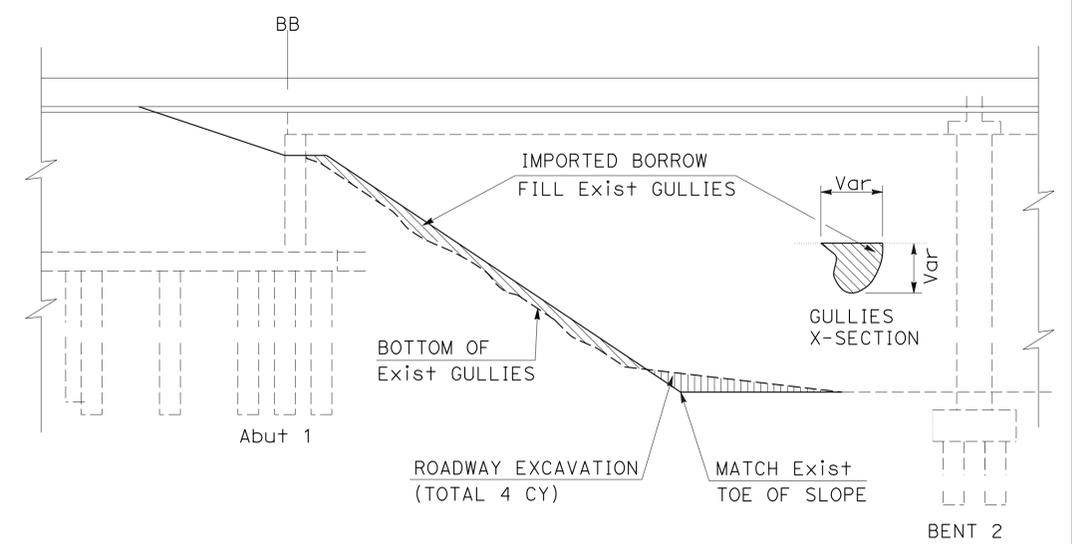
MGS DETAIL D

DIKES ARE NOT SHOWN FOR CLARITY



DETAIL E

HMA DIKE TRANSITION DETAIL



SECTION V-V

CONSTRUCTION DETAILS
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 FUNCTIONAL SUPERVISOR: MANSOOR KHAN
 CHECKED BY: MANSOOR KHAN
 CALCULATED/DESIGNED BY: MANSOOR KHAN
 HOSS FARASAT
 REVISOR: MANSOOR KHAN
 DATE: 6-2-2014

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	4	51

N. Celina Aviles 3-21-14
 REGISTERED CIVIL ENGINEER DATE
 6-2-2014
 PLANS APPROVAL DATE

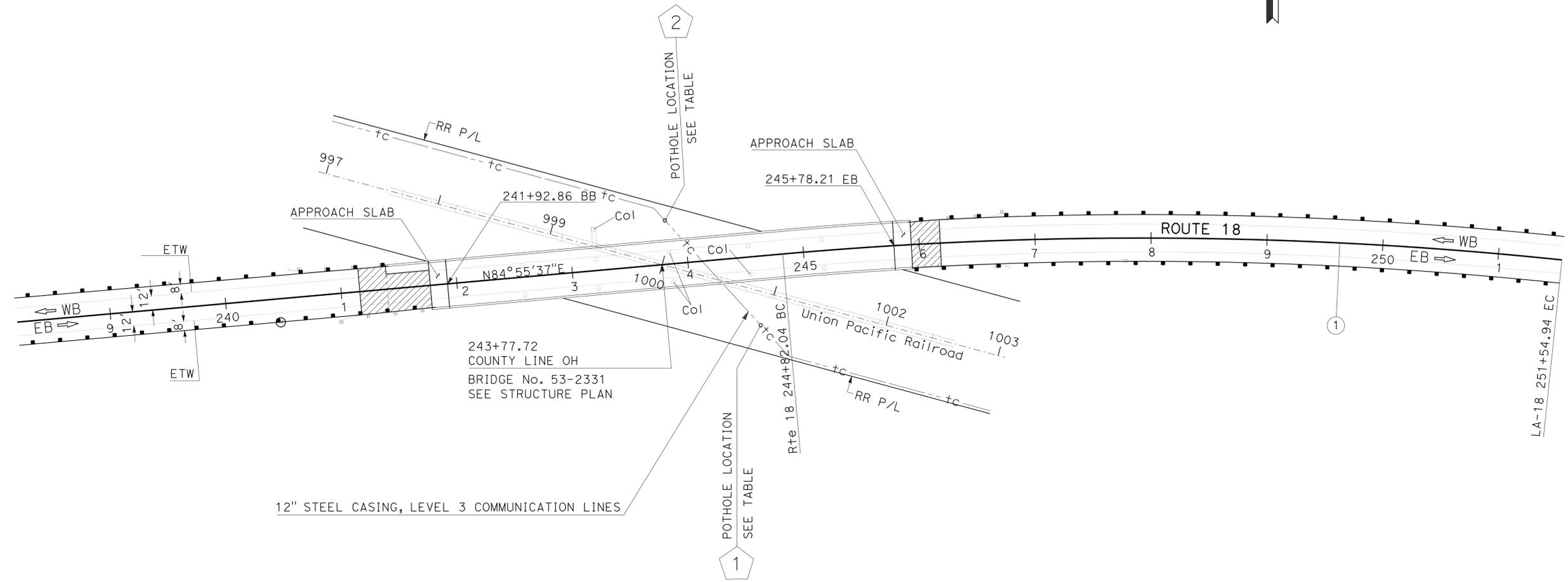
REGISTERED PROFESSIONAL ENGINEER
 N. CELINA AVILES
 No. C57106
 Exp. 2-31-13
 CIVIL
 STATE OF CALIFORNIA

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



NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICTS 7 AND DISTRICT 8 OFFICES.
- UTILITY OWNERSHIP: LEVEL 3 COMMUNICATIONS



POSITIVE LOCATION INFORMATION

No.	LOCATION	SURFACE ELEVATION	ELEVATION AT TOP OF CABLE	METHOD
①	1000+95.65 C/L RR1 28.10' Rt	3392.91'	3384.38'	POTHOLING
②	999+92.32 C/L RR1 37.451' Lt	3390.68'	3381.68'	POTHOLING

NOTE:
ELEVATIONS ARE BASED ON NGVD 29.

UTILITY PLAN
SCALE 1"=50'

U-1

APPROVED FOR UTILITY INFORMATION ONLY

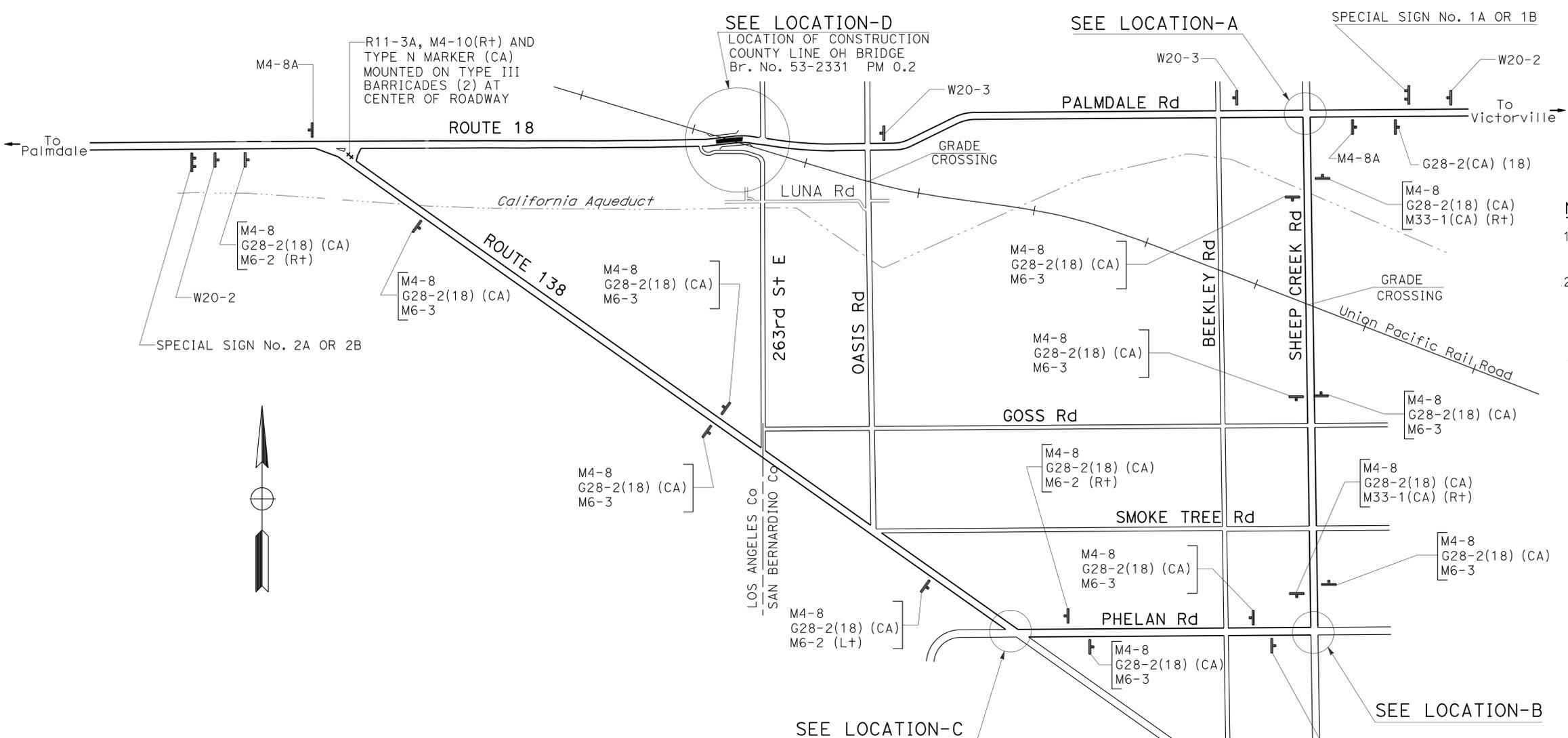
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 UTILITY
 FUNCTIONAL SUPERVISOR: JERREL B. KAM
 CALCULATED/DESIGNED BY: N. CELINA AVILES
 CHECKED BY: N. CELINA AVILES
 REVISED BY: N. CELINA AVILES
 DATE REVISED:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: MANSOOR KHAN
 CALCULATED/DESIGNED BY: HOSS FARASAT
 CHECKED BY: MANSOOR KHAN
 REVISED BY: HOSS FARASAT
 DATE REVISED: MANSOOR KHAN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	5	51

REGISTERED CIVIL ENGINEER
 H. Farasat
 No. C45672
 Exp 12-31-14
 CIVIL
 3-21-14
 DATE
 6-2-2014
 PLANS APPROVAL DATE

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



- NOTES:**
- LOCATIONS OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
 - SIGNS MUST BE STATIONARY MOUNTED, EXCEPT WHERE SHOWN FOR SIGNS MOUNTED ON BARRICADES.
 - SIGNS MUST BE ILLUMINATED OR REFLECTORIZED.
 - SPECIAL SIGNS NUMBERS 1, 1A, 2 AND 2A MUST HAVE BLACK LETTERS ON WHITE BACKGROUND. SEE SHEET THD-2 FOR DETAIL.
 - ADVANCE NOTICE SIGN MUST HAVE BLACK LETTERS ON ORANGE BACKGROUND. SEE SHEET THD-2 FOR DETAIL.
 - FOR DETAIL OF TAPER OF LEFT-TURN-LANE, SEE SHEET THD-2.
 - FOR LOCATION DETAILS "A", "B", "C" AND "D", SEE SHEET THD-1.

- LEGEND:**
- ↓ SIGN
 - ‡ TYPE III BARRICADE (ONE OR MULTIPLE)
 - EXISTING TRAFFIC STRIPE
 - ++++ REMOVE TRAFFIC STRIPE
 - TEMPORARY TRAFFIC STRIPE
 - XX
XX
XX SIGNS MOUNTED ON ONE POST

SIGNS (TABLE 1)

SIGN CODE		PANEL SIZE (INCHES)	SIGN MESSAGE	NUMBER OF POSTS AND SIZE (INCHES)	No OF SIGNS
FEDERAL	CALIFORNIA				
W20-3		48 X 48	ROAD CLOSED AHEAD	1-6 X 6	2
W20-2		48 X 48	DETOUR AHEAD	1-6 X 6	2
R11-2		48 X 30	BRIDGE CLOSED	*	2
R11-3A		60 X 30	ROAD CLOSED 5 MILES AHEAD LOCAL TRAFFIC ONLY	*	2
M4-10(R+)		48 x 18	DETOUR →	*	1
M4-10(L+)		48 x 18	← DETOUR	*	1
M4-8		21 x 9	DETOUR	1-4 X 4**	15
M4-8A		30 x 18	END DETOUR	1-4 X 4	2
R1-1		30 x 30	STOP	1-4 X 6	2
W3-1		36 x 36	STOP AHEAD	1-4 X 6	2
W23-1A		24 x 18	STOP AHEAD	**	2
		48 x 48	ADVANCE NOTICE	1-6 X 6	2
	TYPE N MARKER (CA)	18 x 18		*	4

SIGNS (TABLE 2)

TYPE OF SIGNS	SIGN CODE		SIGN MESSAGE	PANEL SIZE (INCHES)	NUMBER OF POSTS AND SIZE (INCHES)	No OF SIGNS
	FEDERAL	CALIFORNIA				
SPECIAL SIGN No. 1A & 1B	SPECIAL		SEE SH+ THD-2	48 X 96	2-6 X 6	1
SPECIAL SIGN No. 2A & 2B	SPECIAL		SEE SH+ THD-2	48 X 96	2-6 X 6	1
SPECIAL SIGN No. 3	SPECIAL		SEE SH+ THD-2	48 X 48	1-6 X 6	2
GUIDE SIGN		G28-2(18)	(18)	21 X 18	1-4 X 4	1
GUIDE SIGN		G28-1(18)	(18)	9 X 10.5	**	2
GUIDE SIGN		G28-1(138)	(138)	11 X 15	**	1
GUIDE SIGN		G28-2(18)	(18)	21 X 18	**	15
GUIDE SIGN		G33-1(R+)	→	21 X 15	**	2
GUIDE SIGN		G33-1(L+)	←	21 X 15	**	1
GUIDE SIGN	M6-3		↑	21 X 15	**	8
GUIDE SIGN	M6-2 (L+)		↙	21 X 15	**	1
GUIDE SIGN	M6-2 (R+)		↘	21 X 15	**	2

* MOUNTED ON TYPE III BARRICADE.
 ** MOUNTED ON SAME POST IN COMBINATION WITH OTHER SIGNS AS SHOWN

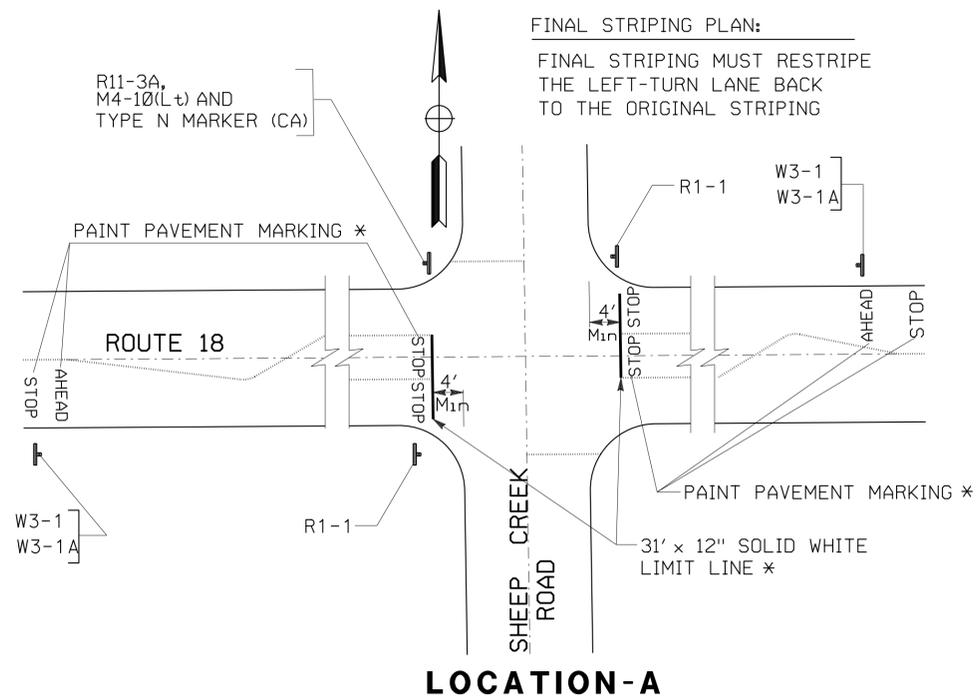
APPROVED FOR TRAFFIC HANDLING AND DETOUR WORK ONLY

TRAFFIC HANDLING PLAN
 (DETOUR LAYOUT & CONSTRUCTION AREA SIGNS)
 NO SCALE

TH-1

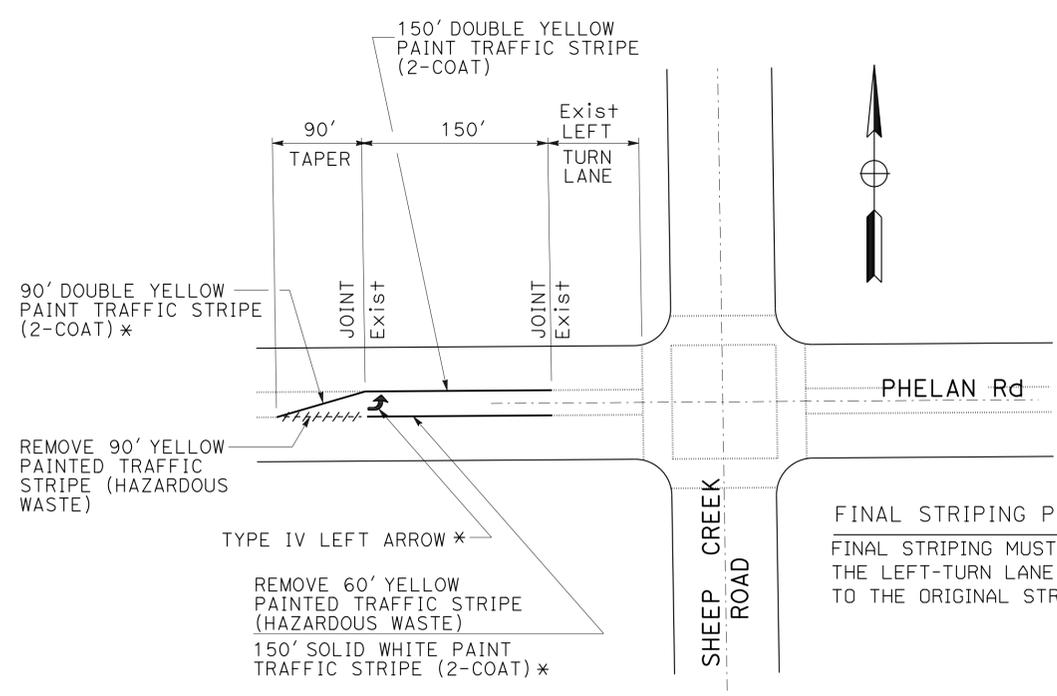
NOTE:

1. EXACT LOCATION OF TEMPORARY RAILING (TYPE K) WILL BE DETERMINED BY THE ENGINEER.



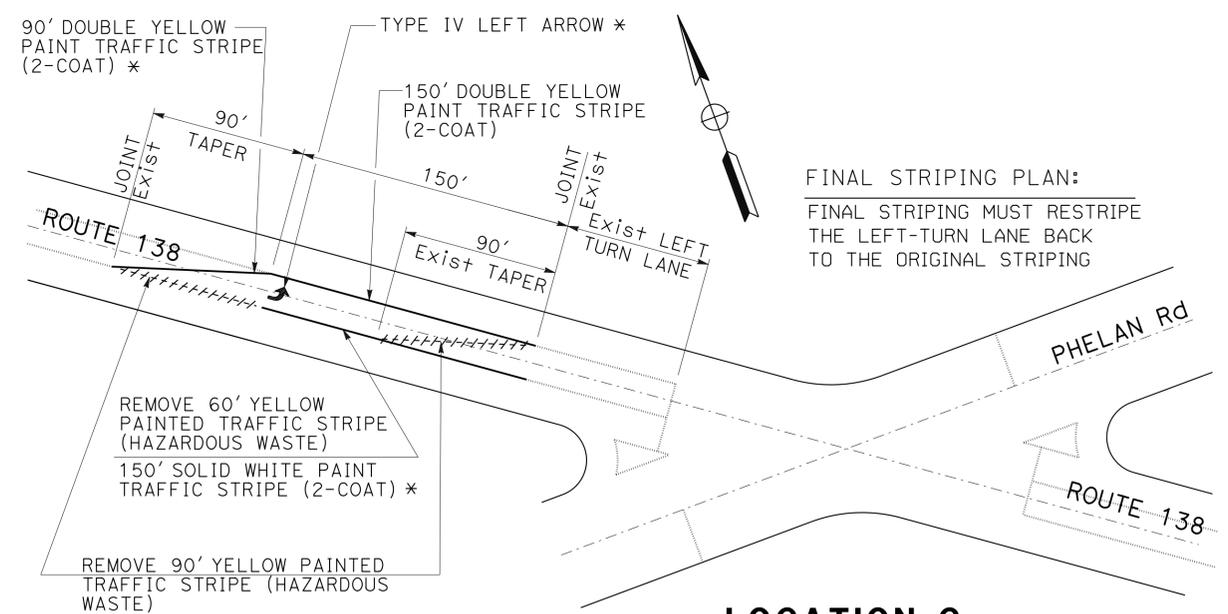
LOCATION-A

* NOTE: REMOVE THIS STRIPE OR MARKING BEFORE FINAL STRIPING



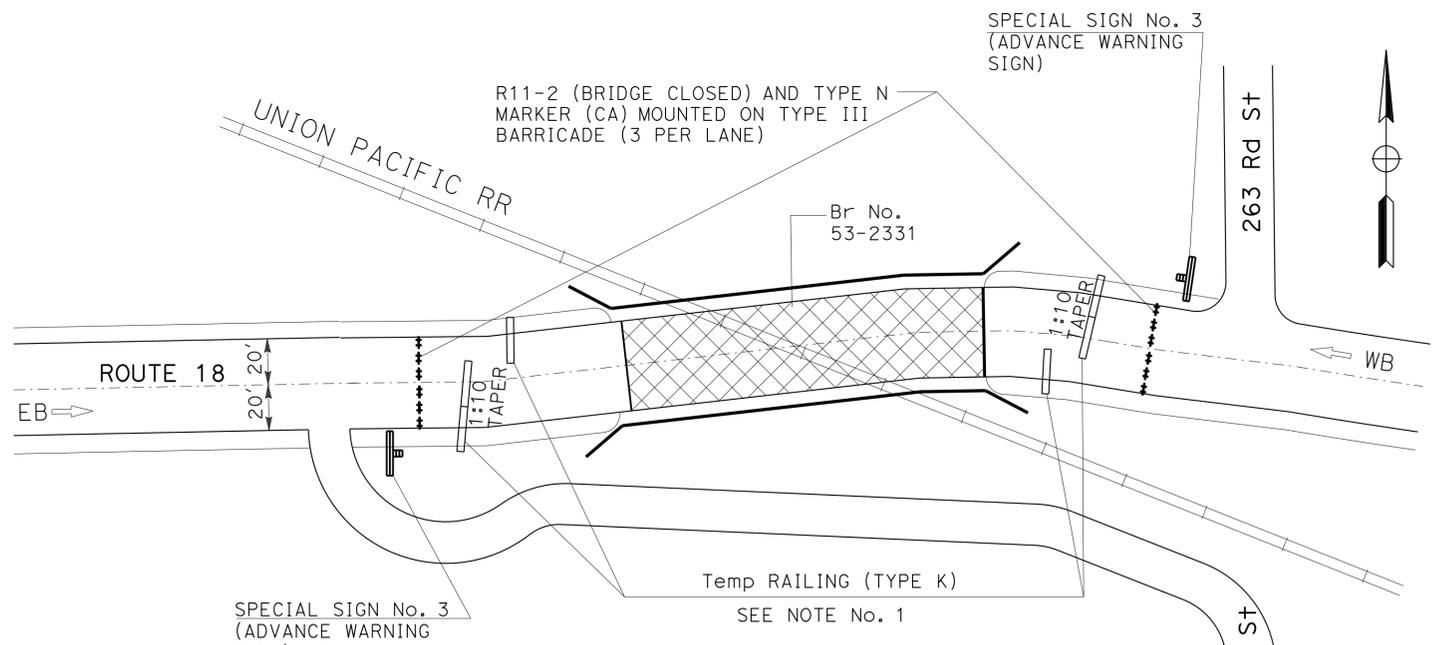
LOCATION-B

* NOTE: REMOVE THIS STRIPE OR MARKING BEFORE FINAL STRIPING



LOCATION-C

* NOTE: REMOVE THIS STRIPE OR MARKING BEFORE FINAL STRIPING



LOCATION D

PAVEMENT DELINEATION QUANTITIES

LOCATIONS (ON SHEET THD-1)	REMOVE PAINTED TRAFFIC STRIPE		PAINT TRAFFIC STRIPE (2-COAT)		PAINT PAVEMENT MARKING (2-COAT) SQFT	REMOVE PAINTED PAVEMENT MARKING SQFT
	4"	2-4" YELLOW	4" WHITE	2-4" YELLOW		
Rte 138 AT PHELAN Rd (Loc-C)	330	480	150	480	15	15
PHELAN Rd AT SHEEP CREEK Rd (Loc-B)	330	300	150	390	15	15
Rte 18 AT SHEEP CREEK Rd (Loc-A)					256	256
TOTAL	660	780	300	870	286	286

SEE SHEET Q-1 FOR SUMMARY OF PAVEMENT DELINEATION QUANTITIES

TRAFFIC HANLING DETAILS
NO SCALE

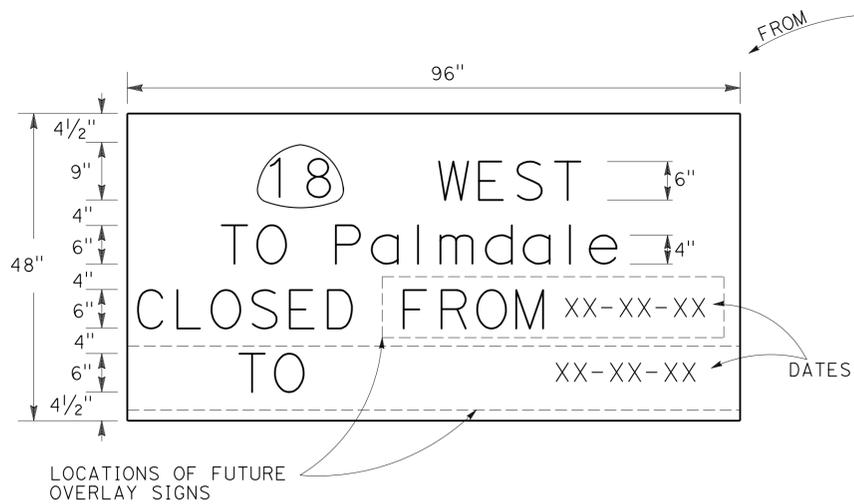
THD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 HOSS FARASAT
 MANSOOR KHAN
 MANSOOR KHAN
 MANSOOR KHAN
 MANSOOR KHAN

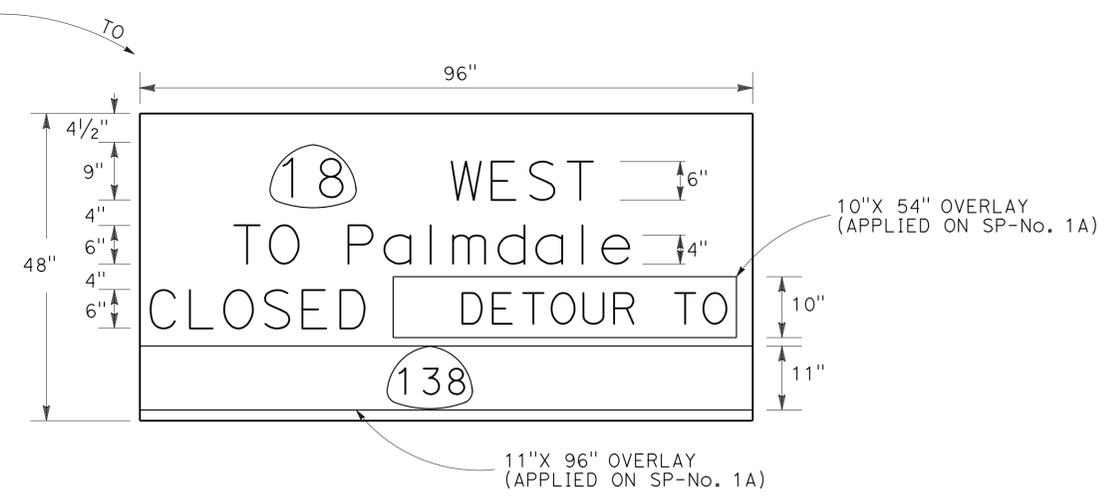
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	7	51

H. Farasat
 REGISTERED CIVIL ENGINEER DATE 3-21-14
 6-2-2014
 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
 HOSS FARASAT
 No. C45672
 Exp! 2-31-14
 CIVIL
 STATE OF CALIFORNIA

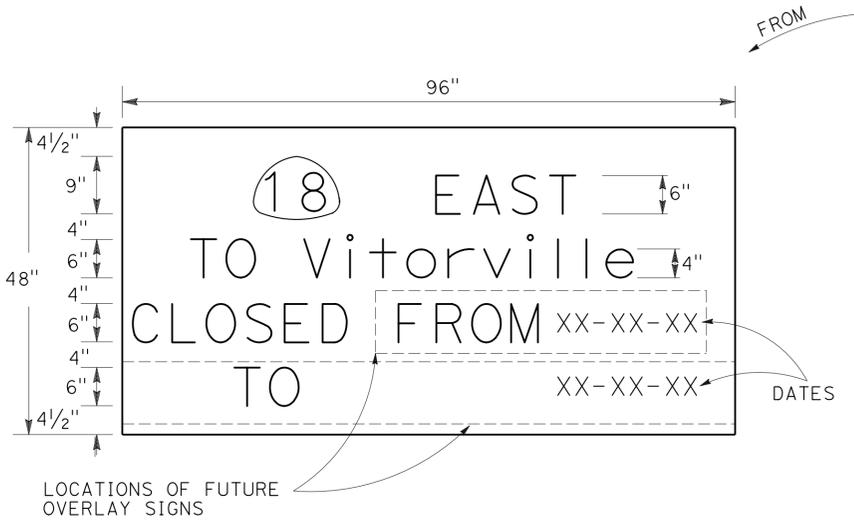


SPECIAL SIGN No. 1A
ADVANCE WARNING SIGN

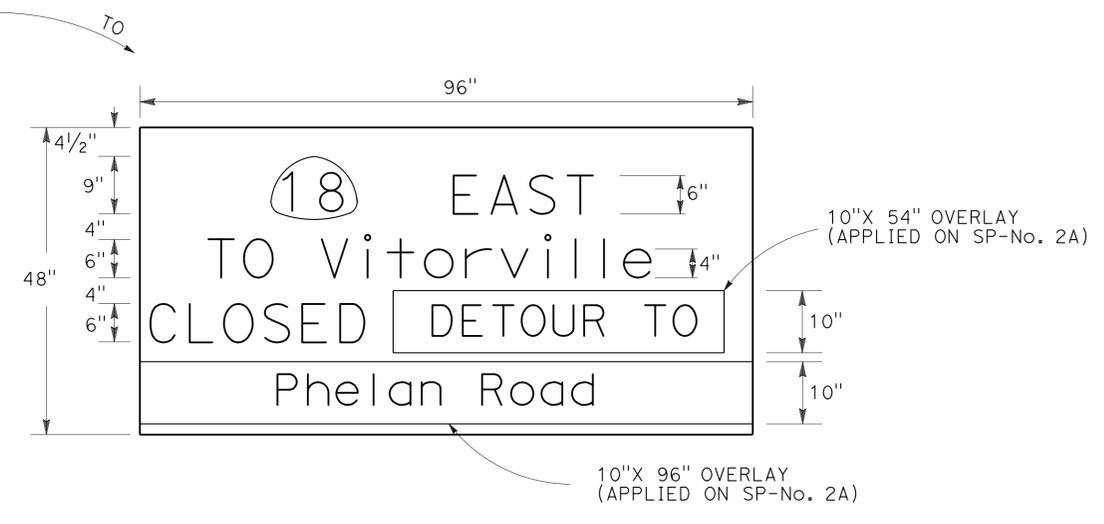


SPECIAL SIGN No. 1B
(OVERLAIED)

- NOTES:**
- ADVANCE WARNING SIGNS 1A AND 2A MUST BE INSTALLED AT LEAST 90 DAYS BEFORE ROAD CLOSURE.
 - SIGNS 1B AND 2B (OVERLAYS) MUST BE INSTALLED WHEN PUBLIC IS ROUTED ON DETOUR.

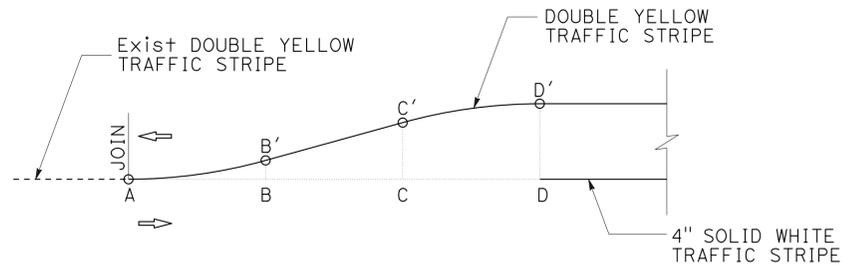


SPECIAL SIGN No. 2A
ADVANCE WARNING SIGN



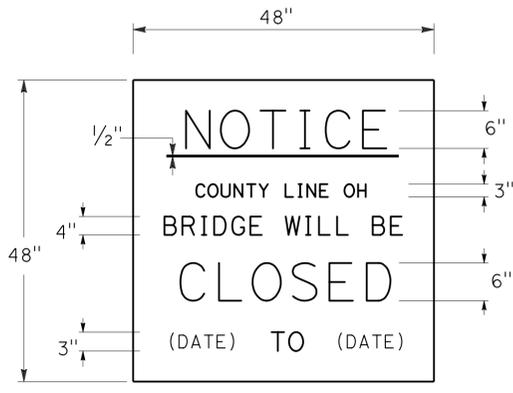
SPECIAL SIGN No. 2B
(OVERLAIED)

90 FEET LENGTH OF TAPER	OFFSET DISTANCE (IN FEET)
DISTANCE FROM POINT "A" (IN FEET)	DD' = 11'
—	0.0
7.5	0.17
15.0	0.69
22.5	1.55
30.0	2.67
45.0	5.50
60.0	8.25
67.5	9.15
75.0	10.31
82.5	10.83
90.0	11.00



AD = LENGTH OF TAPER
 AB = BC = CD = 1/3 AD
 AB' & C'D' ARE PARABOLIC CURVE
 B'C' = TANGENT
 ⇨ DIRECTION OF TRAVEL

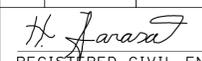
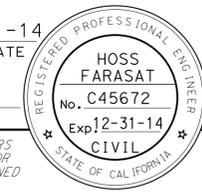
TAPER FOR LEFT-TURN LANE

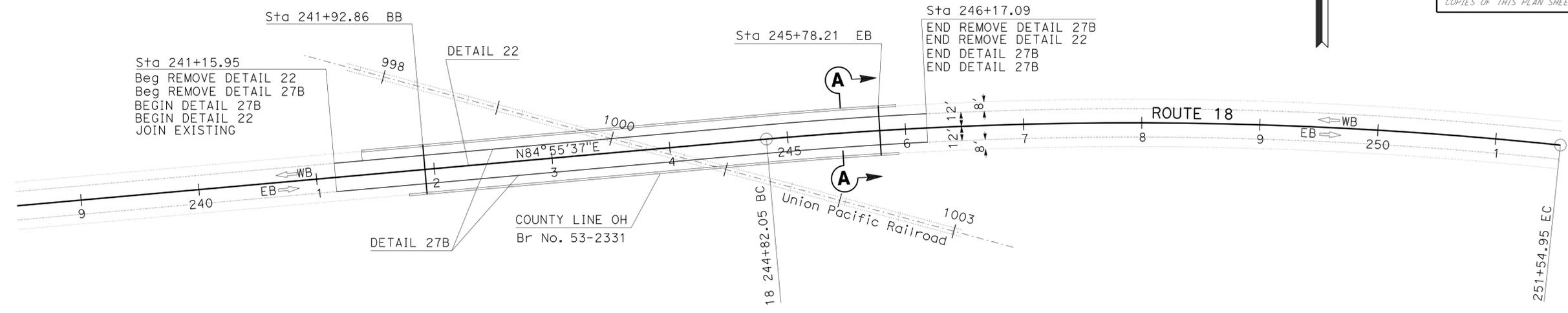


SPECIAL SIGN No. 3
ADVANCE WARNING SIGN

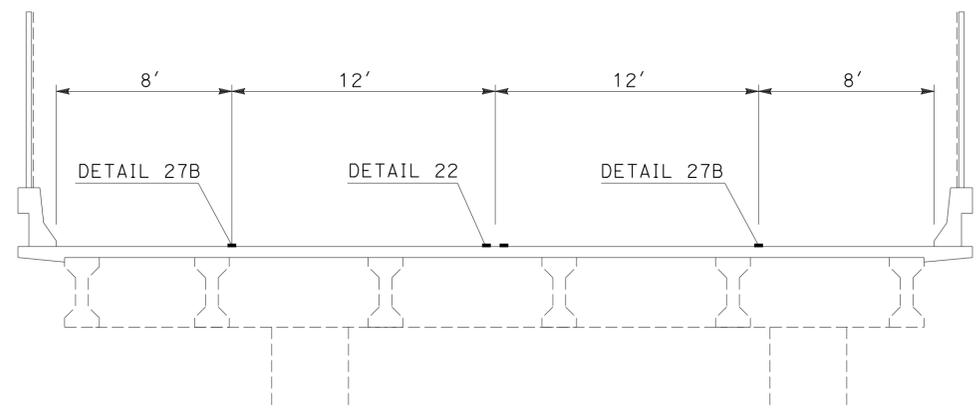
TRAFFIC HANDLING DETAILS
NO SCALE

REVISOR: HOSS FARASAT, MANSOOR KHAN
 CALCULATED/DESIGNED BY: MANSOOR KHAN
 FUNCTIONAL SUPERVISOR: MANSOOR KHAN
 DEPARTMENT OF TRANSPORTATION DESIGN
 STATE OF CALIFORNIA - CALtrans

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	8	51
 REGISTERED CIVIL ENGINEER			DATE	3-21-14	
PLANS APPROVAL DATE 6-2-2014					
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PAVEMENT DELINEATION PLAN
SCALE 1"=50'



SECTION A-A
NO SCALE

PAVEMENT DELINEATION QUANTITIES

STATION LIMITS	DETAIL No.	REMOVE PAVEMENT MARKER	REMOVE PAINTED TRAFFIC STRIPE (N)	REMOVE YELLOW PAINTED TRAFFIC STRIPE (N)	REMOVE PAINTED TRAFFIC STRIPE	REMOVE YELLOW PAINTED TRAFFIC STRIPE	PAVEMENT MARKER RETROREFLECTIVE-RECESSED	PAINT TRAFFIC STRIPE (2-COAT)		
		EA	LF	LF	LF	LF	(TYPE D) EA	4" WHITE LF	2-4" YELLOW LF	
241+16 TO 246+17	27B		926		76			1002		
241+16 TO 246+17	22	42		926		76	42		501	
TOTAL		42	926	926	76	76	42	1002	501	
TOTAL									1503	

(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
SEE SHEET Q-1 FOR SUMMARY OF PAVEMENT DELINEATION QUANTITIES.

PAVEMENT DELINEATION PLAN AND QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Hoss Farasat
 Mansoor Khan
 Mansoor Khan
 DESIGN

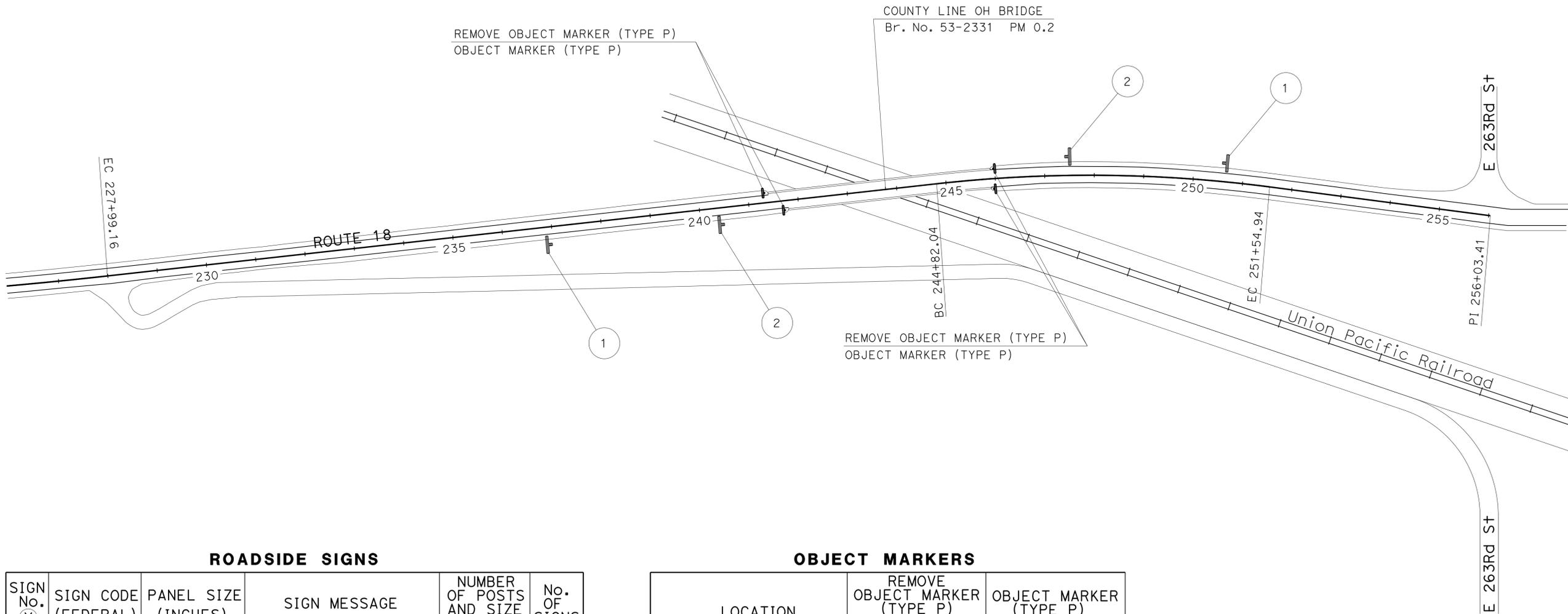
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	9	51

H. Farasat
 REGISTERED CIVIL ENGINEER DATE 3-21-14
 6-2-2014
 PLANS APPROVAL DATE

HOSS FARASAT
 No. C45672
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA

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- LEGEND:**
-  ROADSIDE SIGN SINGLE POST
 -  OBJECT MARKER



ROADSIDE SIGNS

SIGN No. (X)	SIGN CODE (FEDERAL)	PANEL SIZE (INCHES)	SIGN MESSAGE	NUMBER OF POSTS AND SIZE (INCHES)	No. OF SIGNS
1	W8-13	48 X 48	BRIDGE ICES BEFORE ROAD	1-6 X 6	2
2	W8-5	48 X 48	SLIPPERY WHEN WET	1-6 X 6	2
TOTAL					4

OBJECT MARKERS

LOCATION	REMOVE OBJECT MARKER (TYPE P) (N)	OBJECT MARKER (TYPE P)
		EA
WEST END OF Br BARRIERS	2	2
EAST END OF Br BARRIERS	2	2
TOTAL		4

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

SIGN PLAN AND QUANTITIES
NO SCALE

APPROVED FOR SIGN WORK ONLY

S-1

DESIGN	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	HOSS FARASAT	REVISOR	DATE
	MANSOOR KHAN	CHECKED BY	MANSOOR KHAN		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	10	51

H. Farasat
 REGISTERED CIVIL ENGINEER DATE 3-21-14
 6-2-2014
 PLANS APPROVAL DATE

HOSS FARASAT
 No. C45672
 Exp. 12-31-14
 CIVIL

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PAVEMENT STRUCTURE AND EARTHWORK QUANTITIES

STATION TO STATION	LOCATION OF ES	REMOVE ASPHALT CONCRETE DIKE	PLACE HMA DIKE (TYPE A)	PLACE HMA DIKE (TYPE C)	HOT MIX ASPHALT, (TYPE A)	RUBBERIZED HOT MIX ASPHALT, (GAP GRADED)	COLD PLANE ASPHALT CONCRETE PAVEMENT	IMPORTED BORROW	ROADWAY EXCAVATION	TACK COAT	VEGETATION CONTROL (MINOR Conc)
		LF	LF	LF	TON	TON	SQYD	CY	CY	TON	SQYD
235+90.96 TO 241+39.83	L+	548.88	498.88	50.00	14.02	17.16	71.11	8.5	4.0	0.13	780
233+27.86 TO 241+77.86	R+	848.88	800.00	50.00	22.25						
245+93.21 TO 254+38.88	L+	848.88	798.88	50.00	22.22	11.82	71.11	8.5	4.0	0.13	780
245+93.21 TO 251+45.24	R+	548.88	498.88	50.00	14.02						
TOTAL		2,795.52	2,461.98	200.00	72.51	28.98	142.22	8.5	4.0	0.13	780

TREATED WOOD WASTE

DESCRIPTION	NUMBER OF POSTS (N)	WEIGHT PER POST (N)	TOTAL WEIGHT
	EA	LB/EA	LB
Sta 240+52 TO Sta 247+05	56	59	3,304

(N) - NOT A SEPARATE PAY ITEM, INFORMETION ONLY.

TEMPORARY RAILING AND BARRICADE

LOCATION AND DESCRIPTION	TEMPORARY RAILING (TYPE K)	TYPE III BARRICADE
	LF	EA
WEST OF BRIDGE No. 53-2331	60	8
EAST OF BRIDGE No. 53-2331	60	5
TOTAL	120	13

MIDWEST GUARDRAIL SYSTEM AND REMOVALS

STATION TO STATION	WORK AREA DESCRIPTION	REMOVE GUARDRAIL	TRANSITION RAILING (TYPE WB-31)	MIDWEST GUARDRAIL SYSTEM (7' POST)	ALTERNATIVE IN-LINE TERMINAL SYSTEM	
		LF	EA	LF	TYPE 12A LAYOUT	TYPE 12AA LAYOUT
		EA	EA	EA	EA	EA
235+90.96 TO 241+39.83	DEPARTURE AT WEST OF Br No. 53-2331	87.5	1	475		1
233+27.86 TO 241+77.86	APPROACH AT WEST OF Br No. 53-2331	87.5	1	775	1	
245+93.21 TO 254+38.88	APPROACH AT EAST OF Br No. 53-2331	87.5	1	775	1	
245+93.21 TO 251+45.24	DEPARTURE AT EAST OF Br No. 53-2331	87.5	1	475		1
TOTAL		350	4	2500	2	2

4

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

DESCRIPTION	UNIT	QUANTITY
TEMPORARY COVER	SQYD	400
TEMPORARY DRAINAGE INLET PROTECTION	EA	2
TEMPORARY FIBER ROLL	LF	3,600
TEMPORARY GRAVEL BAG BERM	LF	300

SUMMARY PAVEMENT DELINEATION QUANTITIES

LOCATIONS (ON SHEET THD-1)	REMOVE PAVEMENT MARKER	PAVEMENT MARKER (RETROREFLECTIVE-RECESSED)	REMOVE PAINTED TRAFFIC STRIPE	REMOVE YELLOW PAINTED TRAFFIC STRIPE (HAZARDOUS WASTE)	PAINT TRAFFIC STRIPE (2-COAT)		PAINT PAVEMENT MARKING (2-COAT)	REMOVE PAINTED PAVEMENT MARKING
	EA	(TYPE D) EA	4" LF	2-4" YELLOW LF	4" WHITE LF	2-4" YELLOW LF	SQFT	SQFT
	EA	EA	LF	LF	LF	LF	SQFT	SQFT
FROM SHEET THD-1			660	780	300	870	286	286
FROM SHEET PD-1	42	42	76	76	1,002	501		
TOTAL	42	42	736	856	1,302	1,371	286	286

2,673

SUMMARY OF QUANTITIES

Q-1

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	11	51

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 6-2-14

UNIT OF MEASUREMENT SYMBOLS:

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

TABLE A

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

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

TABLE B

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

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

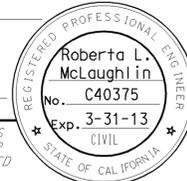
NO SCALE

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

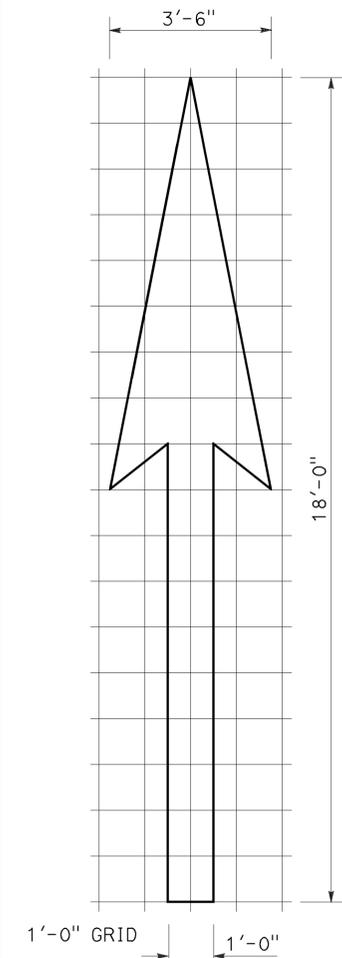
2010 REVISED STANDARD PLAN RSP A10B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	12	51

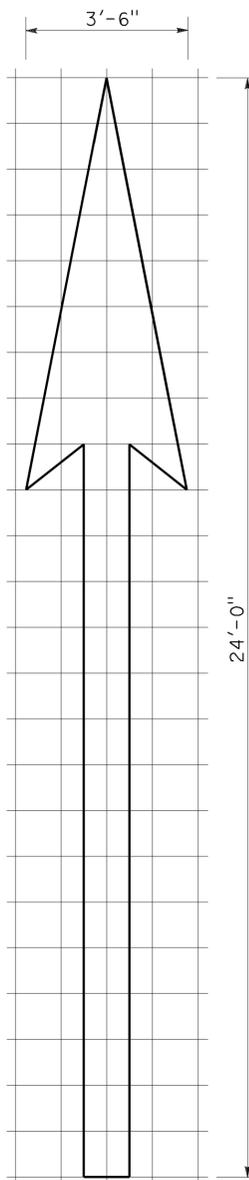
Robert L. McLaughlin
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE
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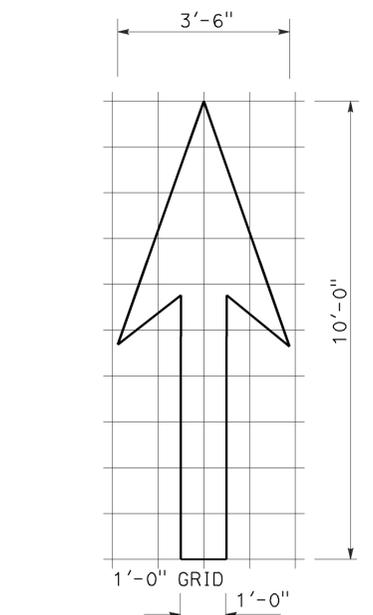
TO ACCOMPANY PLANS DATED 6-2-14



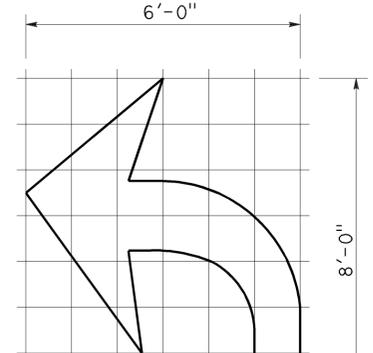
A=25 ft²
TYPE I 18'-0" ARROW



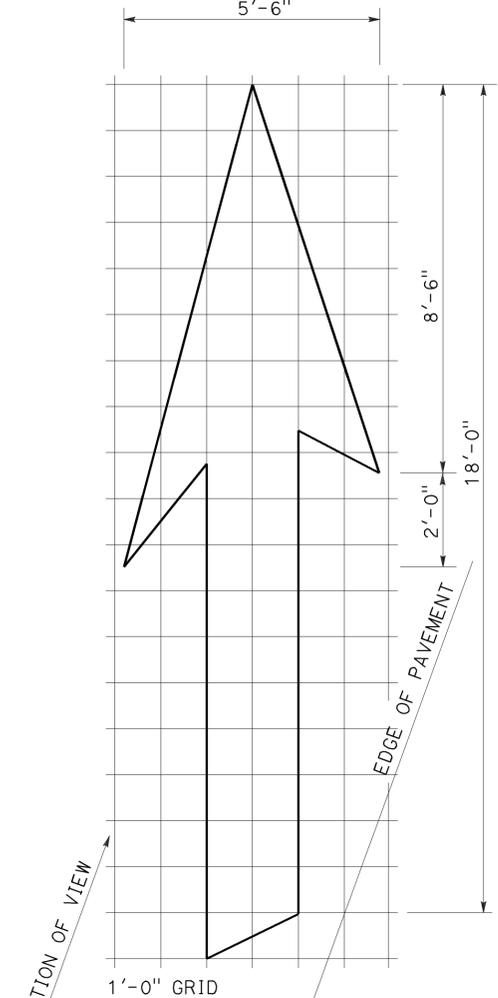
A=31 ft²
TYPE I 24'-0" ARROW



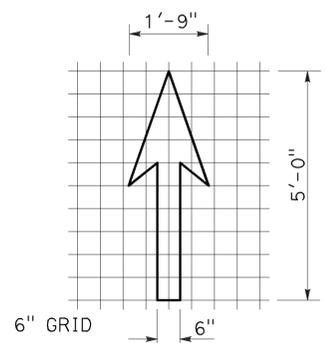
A=14 ft²
TYPE I 10'-0" ARROW



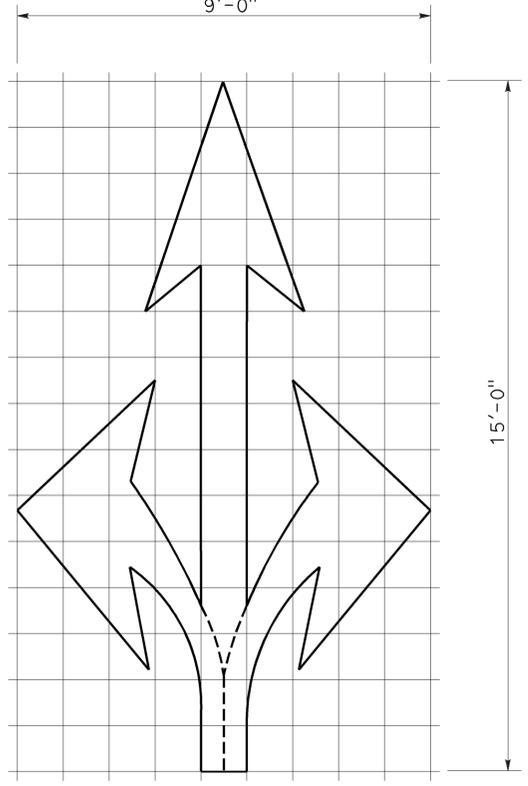
A=15 ft²
TYPE IV (L) ARROW
(For Type IV (R) arrow, use mirror image)



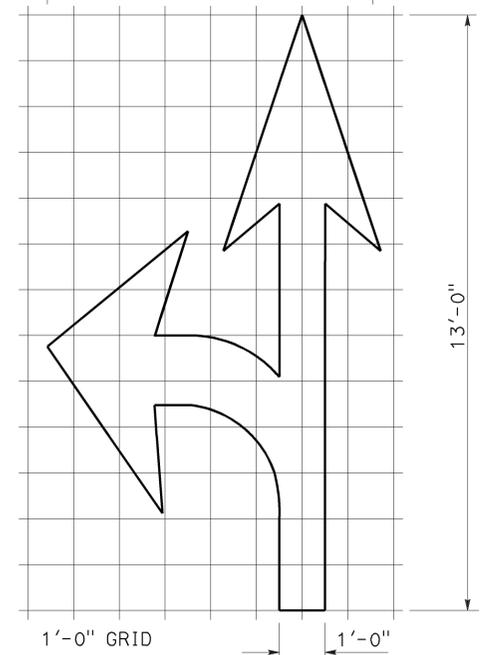
A=42 ft²
TYPE VI ARROW
Right lane drop arrow
(For left lane, use mirror image)



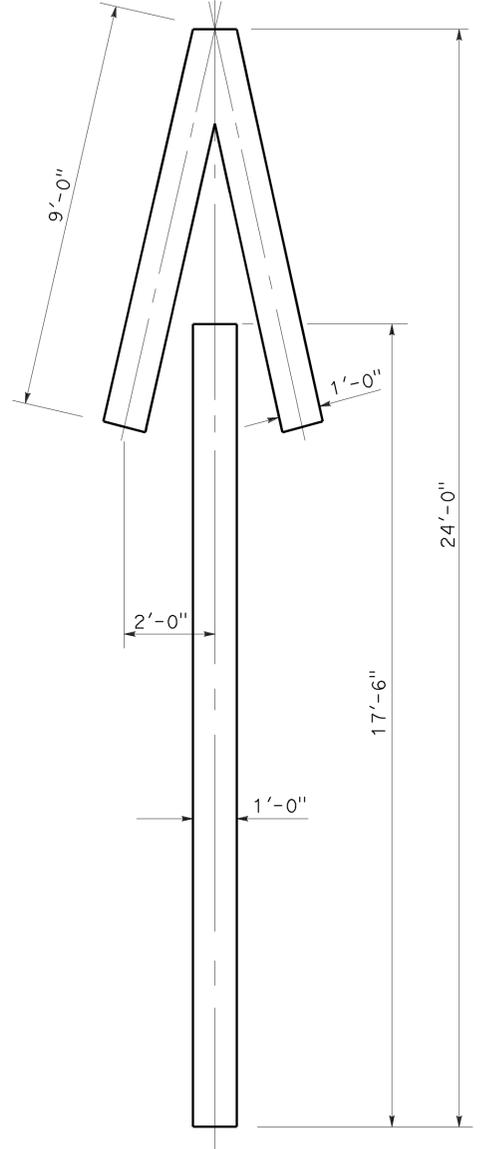
A=3.5 ft²
BIKE LANE ARROW



A=36 ft²
TYPE VIII ARROW



A=27 ft²
TYPE VII (L) ARROW
(For Type VII (R) arrow, use mirror image)



A=33 ft²
TYPE V ARROW

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

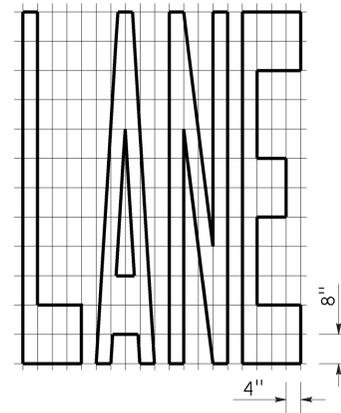
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
ARROWS**
NO SCALE

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

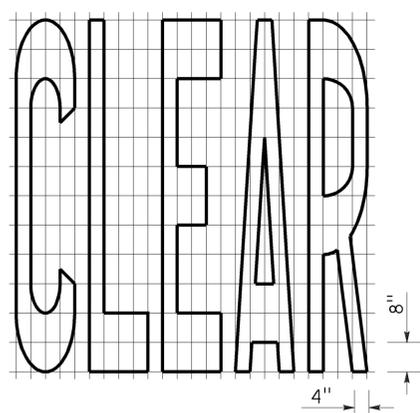
REVISED STANDARD PLAN RSP A24A

2010 REVISED STANDARD PLAN RSP A24A

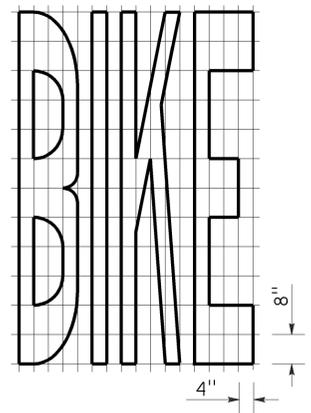
TO ACCOMPANY PLANS DATED 6-2-14



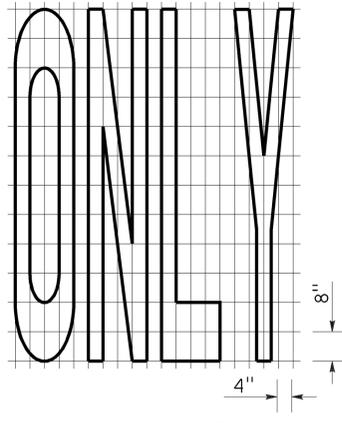
A=24 ft²



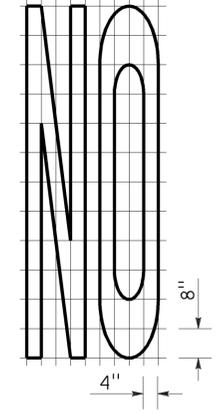
A=27 ft²



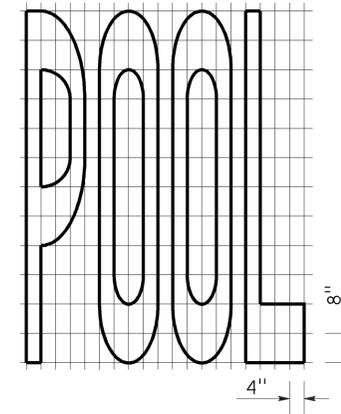
A=21 ft²



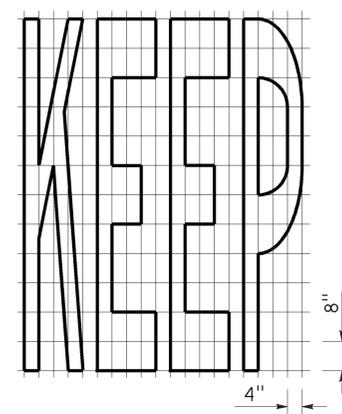
A=22 ft²



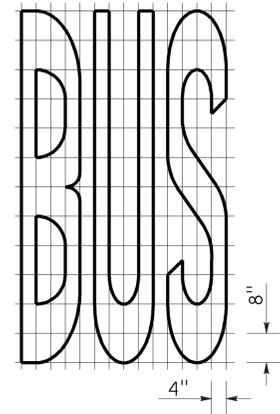
A=14 ft²



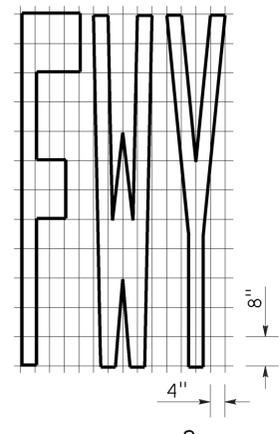
A=23 ft²



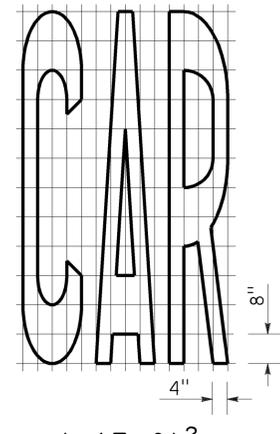
A=24 ft²



A=20 ft²

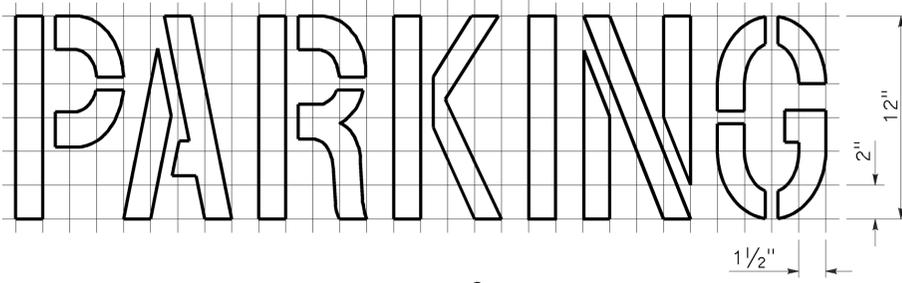
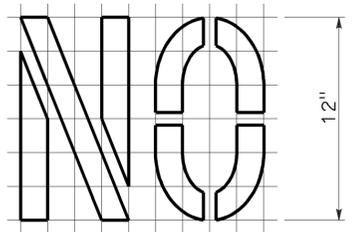


A=16 ft²

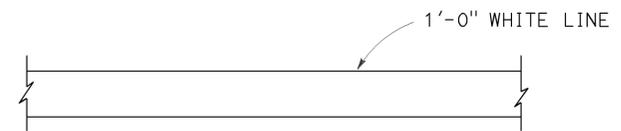


A=17 ft²

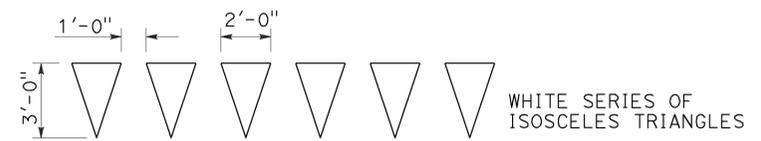
WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	14	51

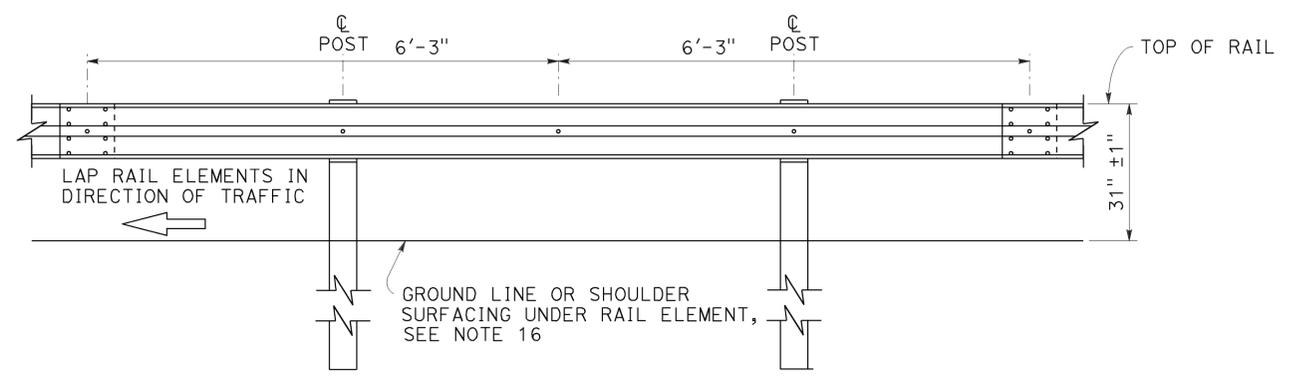
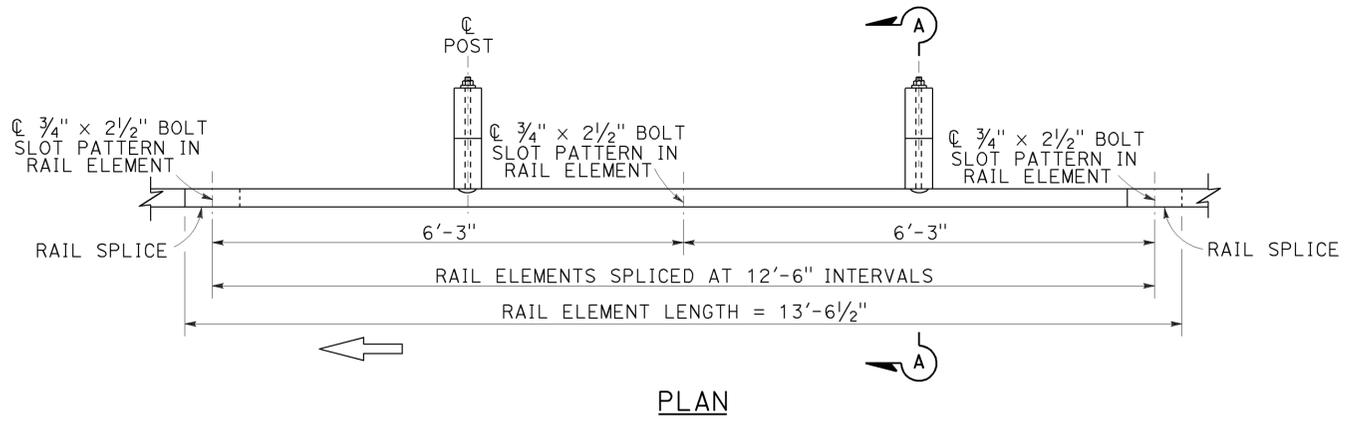
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

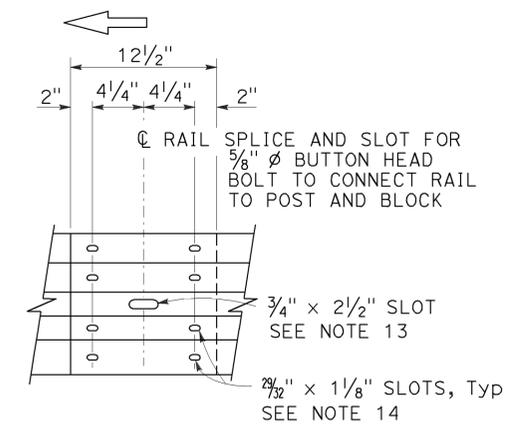
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

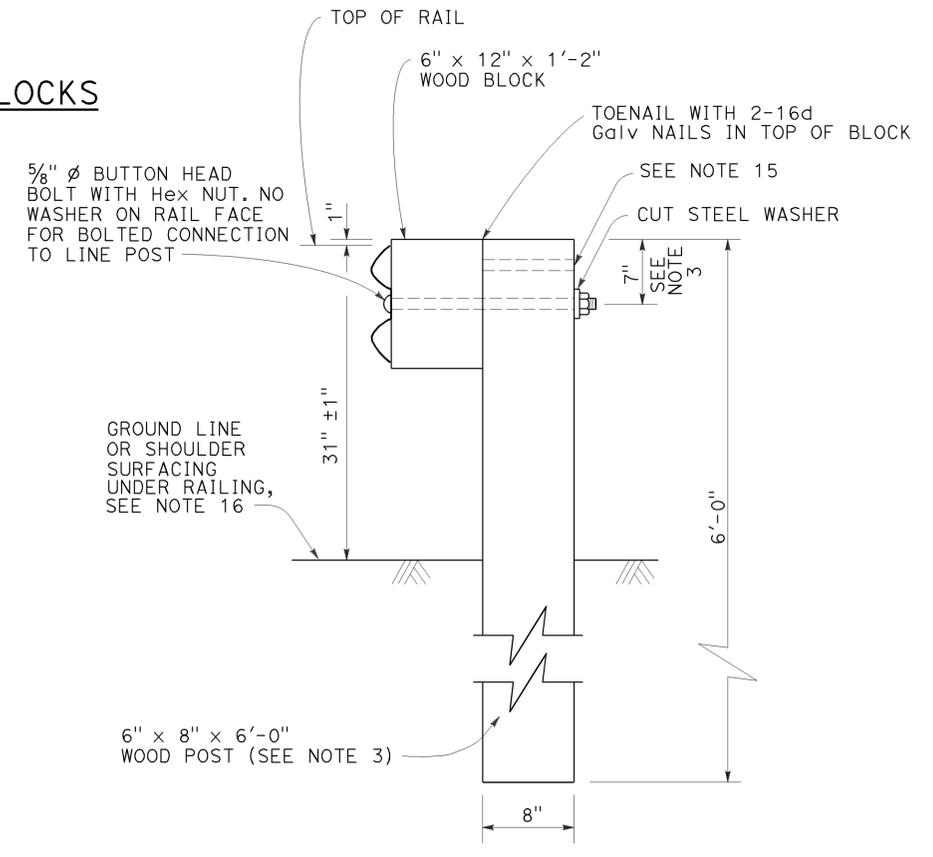
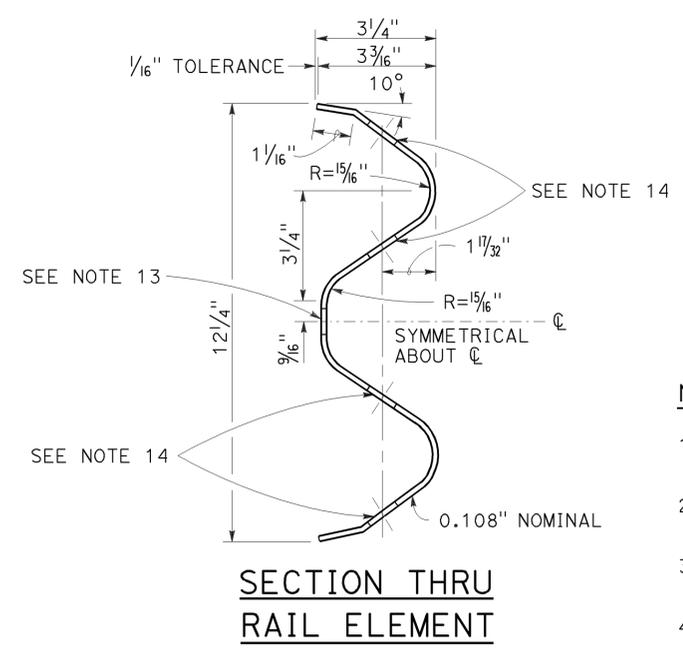
TO ACCOMPANY PLANS DATED 6-2-14



MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



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



SECTION 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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	15	51

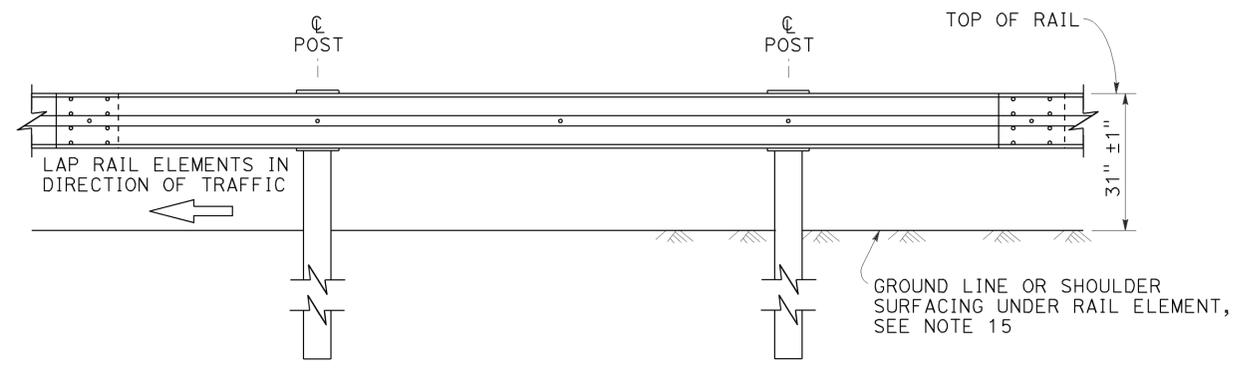
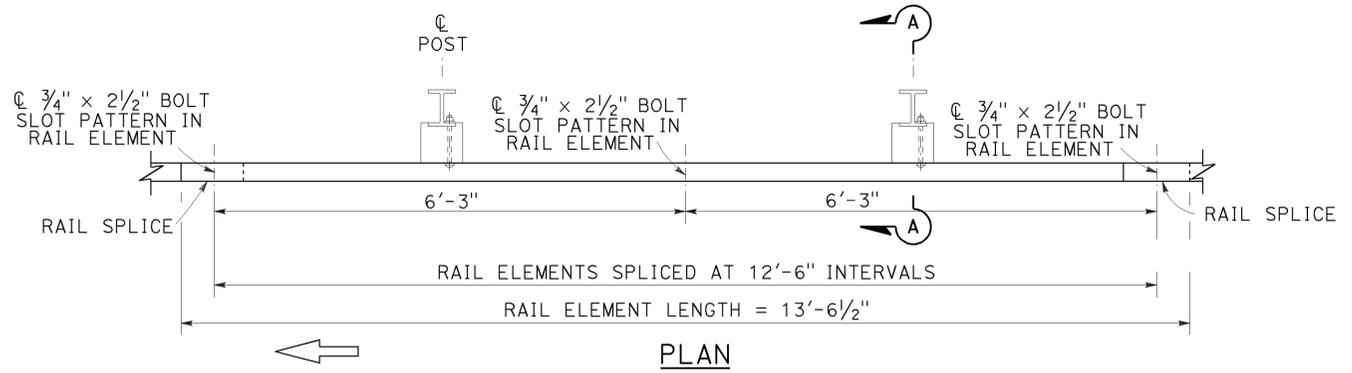
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

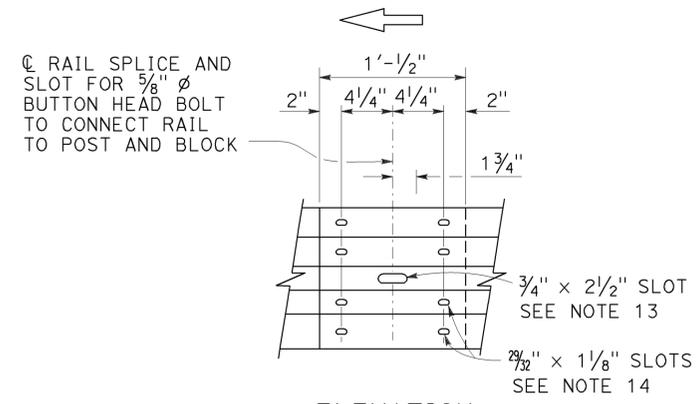
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TO ACCOMPANY PLANS DATED 6-2-14

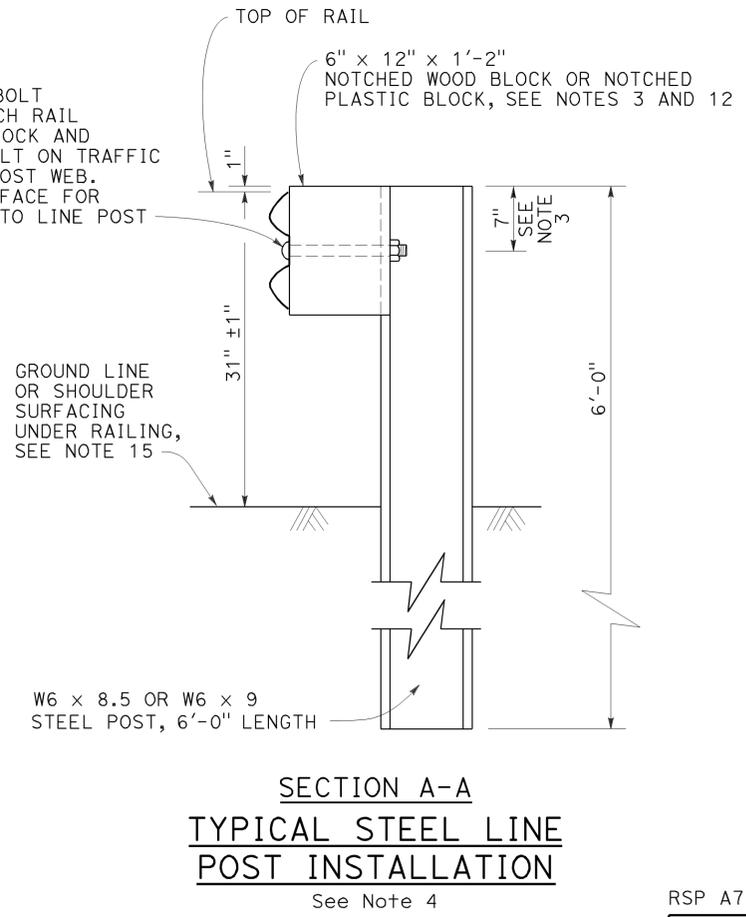
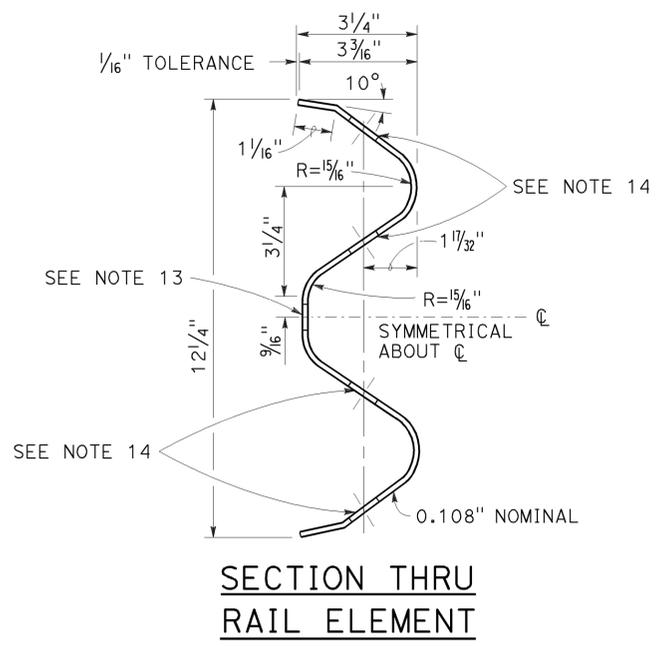
2010 REVISED STANDARD PLAN RSP A77L2



MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



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



NOTES:

- For details of wood post installations, see Revised Standard Plan RSP A77L1.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of steel posts and notched wood blocks used to construct MGS, see Revised Standard Plan RSP A77N2.
- 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 railings, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.

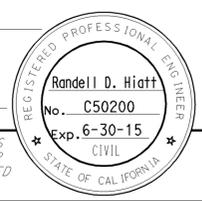
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(STEEL POST WITH NOTCHED
WOOD OR NOTCHED
RECYCLED PLASTIC BLOCK)**

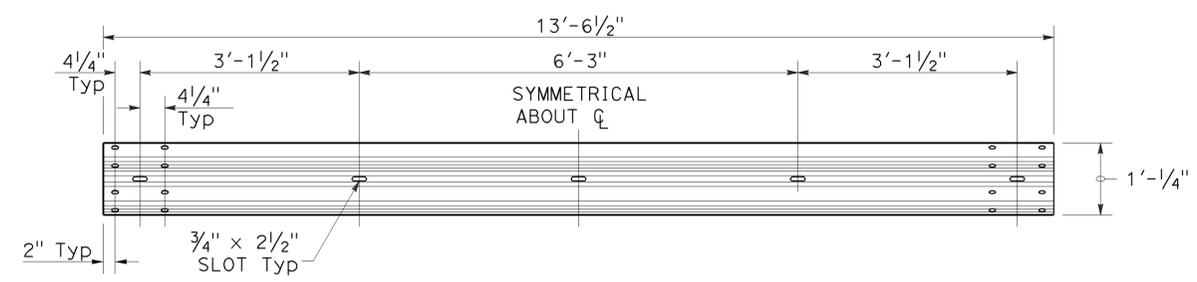
NO SCALE

RSP A77L2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L2



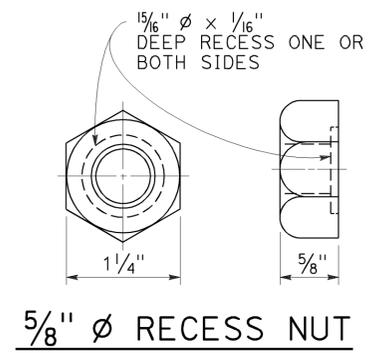
TO ACCOMPANY PLANS DATED 6-2-14



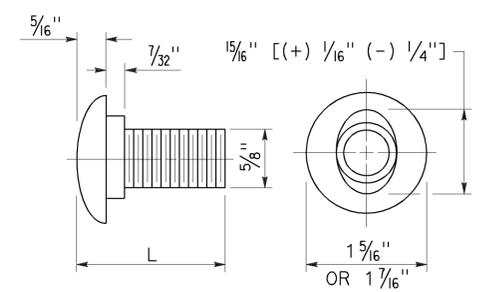
TYPICAL RAIL ELEMENT

NOTE:

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



5/8" Ø RECESS NUT

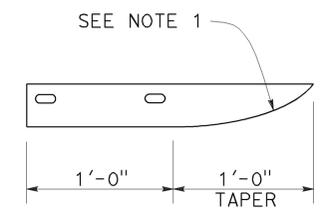


5/8" Ø BUTTON HEAD BOLT

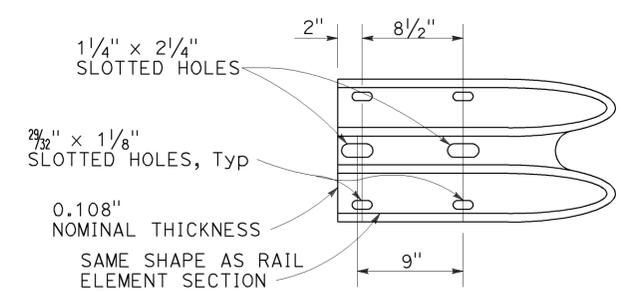
BUTTON HEAD BOLT

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
07	LA	18	0.2	17	51

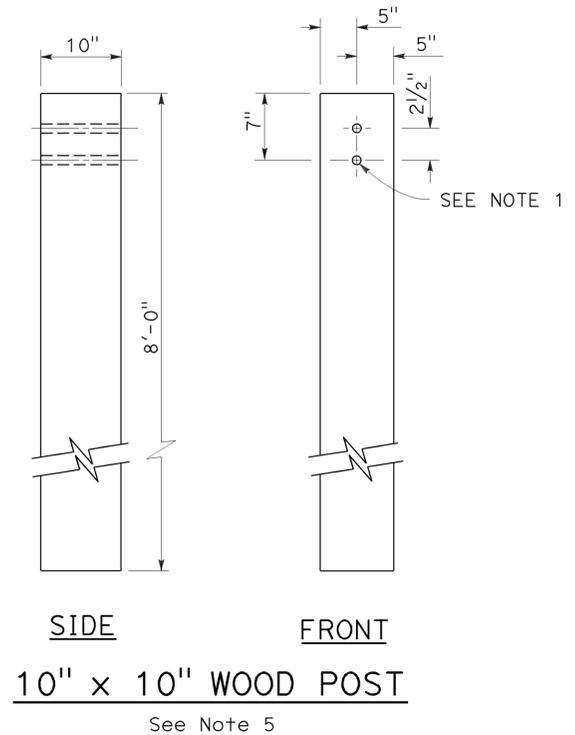
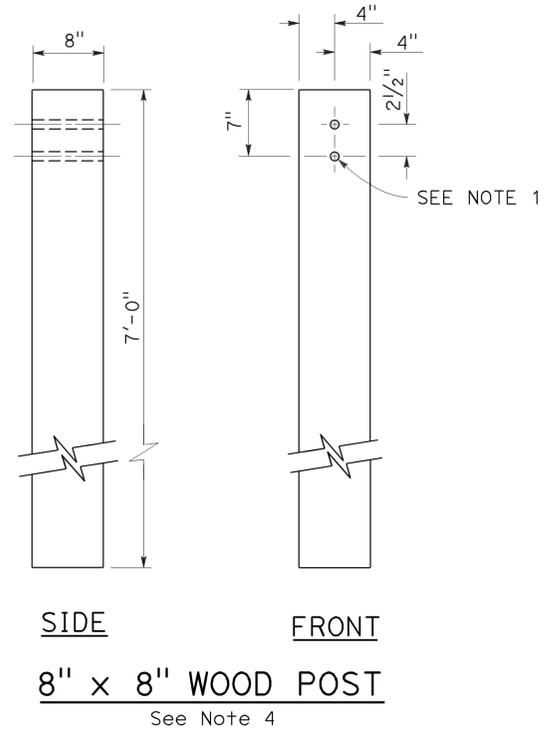
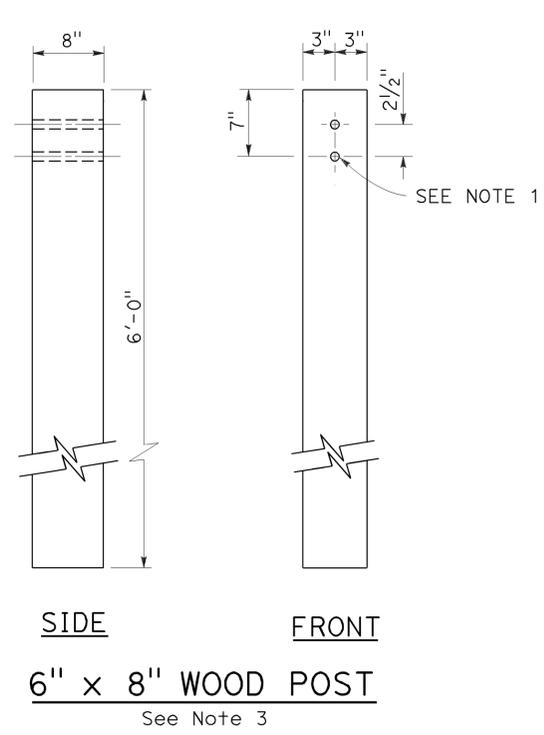
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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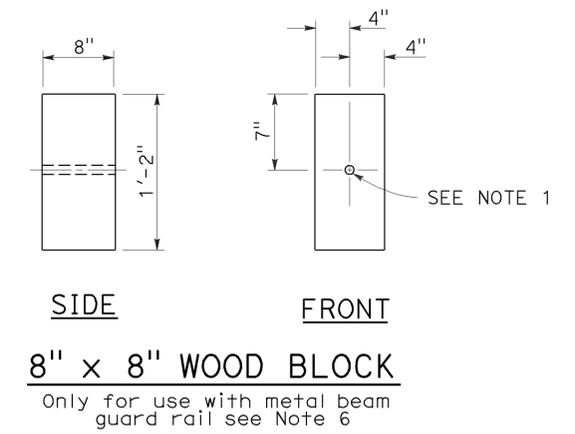
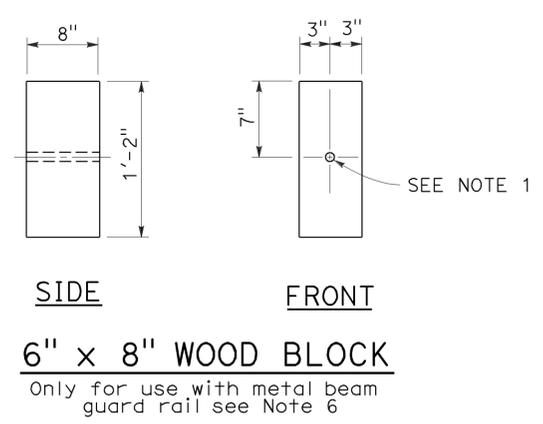
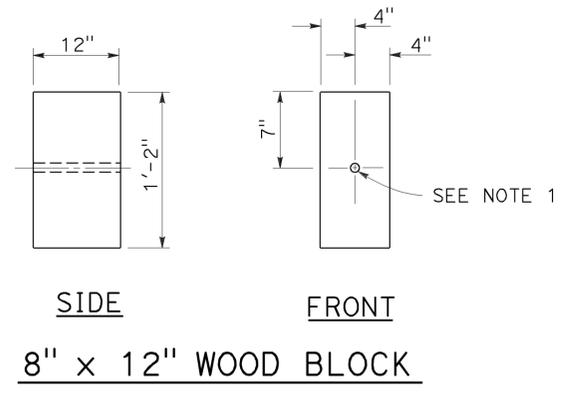
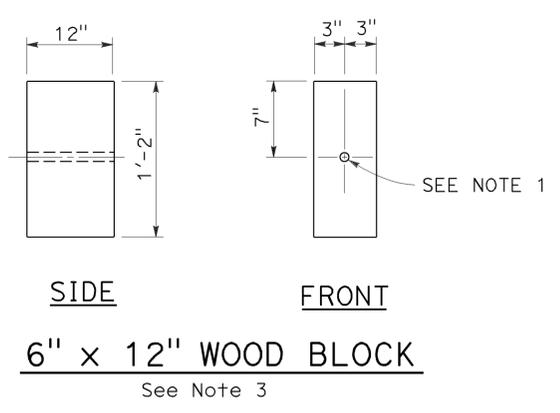
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-2-14



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
07	LA	18	0.2	18	51

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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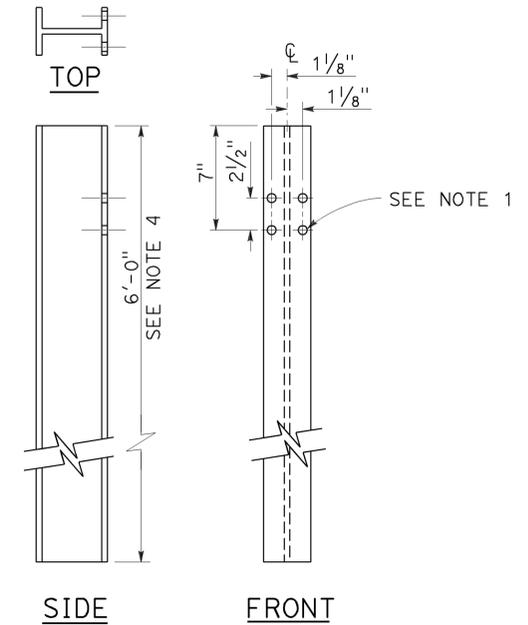
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-2-14

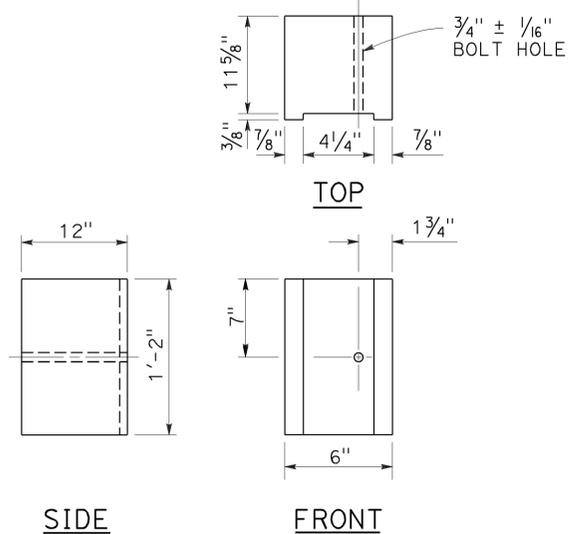
NOTES:

1. All holes in steel post shall be $\frac{13}{16}$ " Dia maximum.
2. Dimensions shown for wood block are nominal.
3. Notched face of block faces steel post.
4. 6'-0" length posts to be used for typical roadway installation. See Revised Standard Plan RSP A77N3.
5. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" notched wood blocks.
6. This post and 8" x 12" block combination to be used for line post sections of MGS on narrow roadways and where strengthened line post sections of MGS are warranted to shield fixed objects.

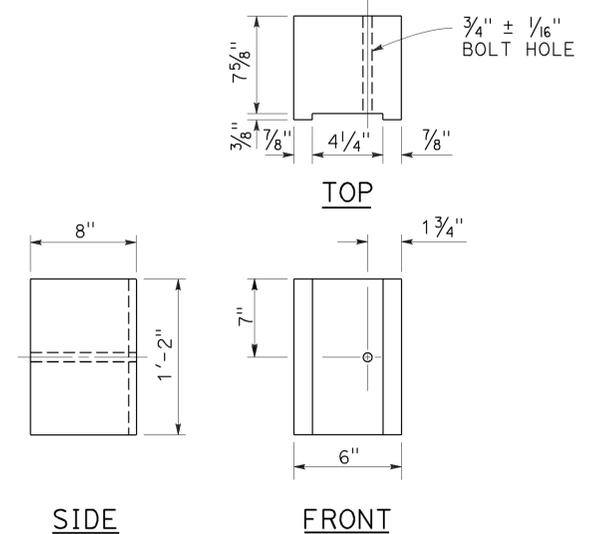
2010 REVISED STANDARD PLAN RSP A77N2



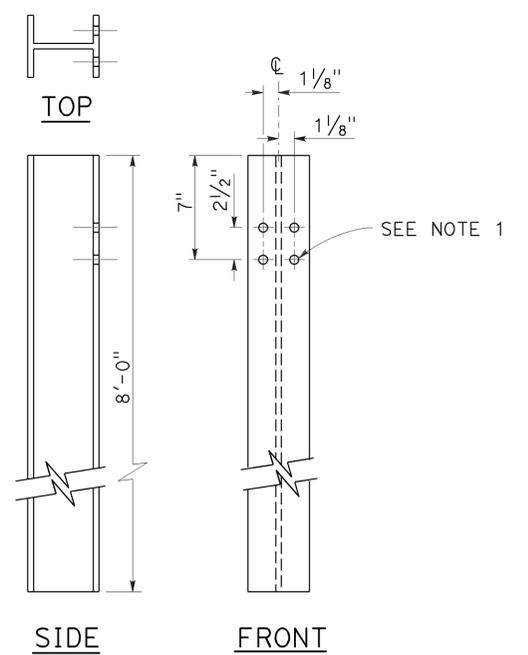
W6 x 9 OR W6 x 8.5
STEEL POST
See Note 4



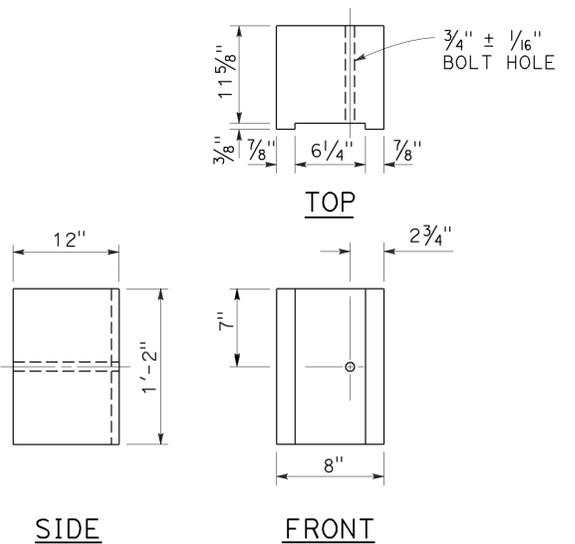
6" x 12"
NOTCHED WOOD BLOCK
See Notes 2 and 3



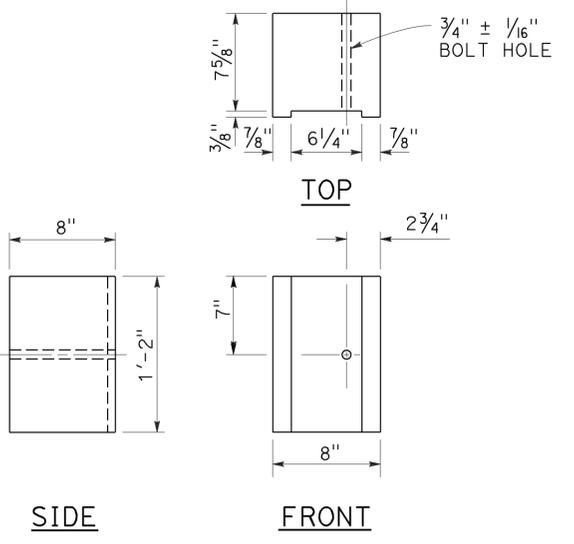
6" x 8"
NOTCHED WOOD BLOCK
Only for use with metal beam guard railing. See Note 5



W6 x 15
STEEL POST
See Note 6



8" x 12"
NOTCHED WOOD BLOCK
See Notes 2 and 3



8" x 8"
NOTCHED WOOD BLOCK
Only for use with metal beam guard railing. See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
STEEL POST AND
NOTCHED WOOD BLOCK DETAILS

NO SCALE

RSP A77N2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N2
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	19	51

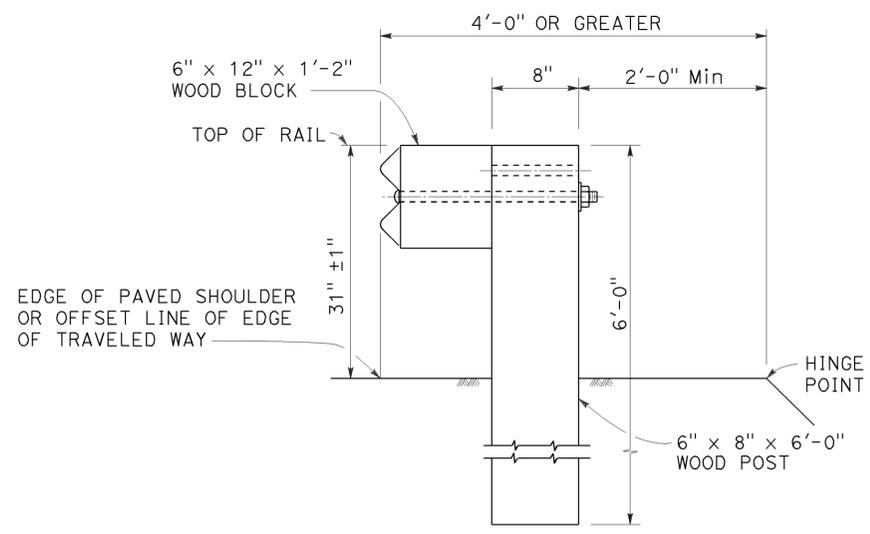
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

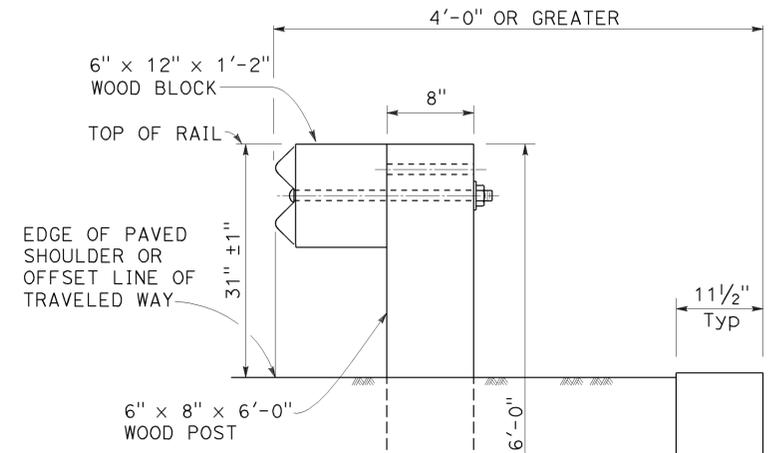
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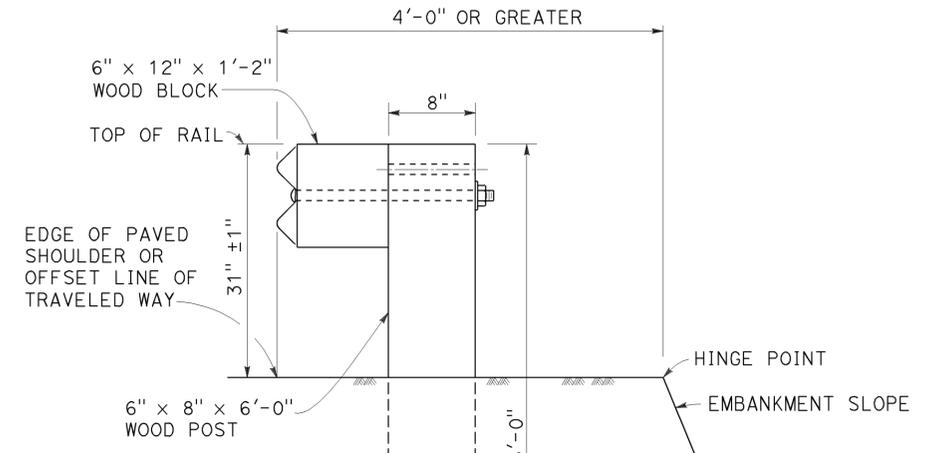
TO ACCOMPANY PLANS DATED 6-2-14



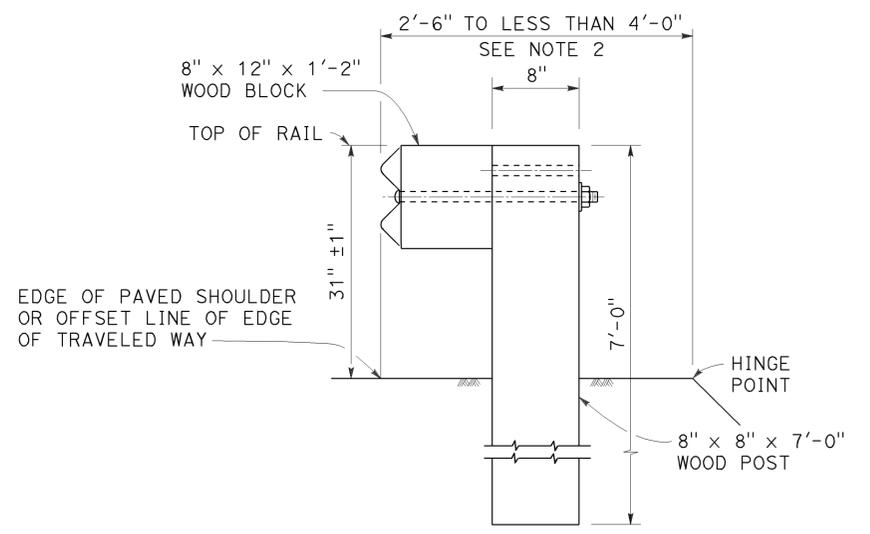
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL C



DETAIL D



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

INSTALLATION AT EARTH RETAINING WALLS

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77N3

2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	20	51

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REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

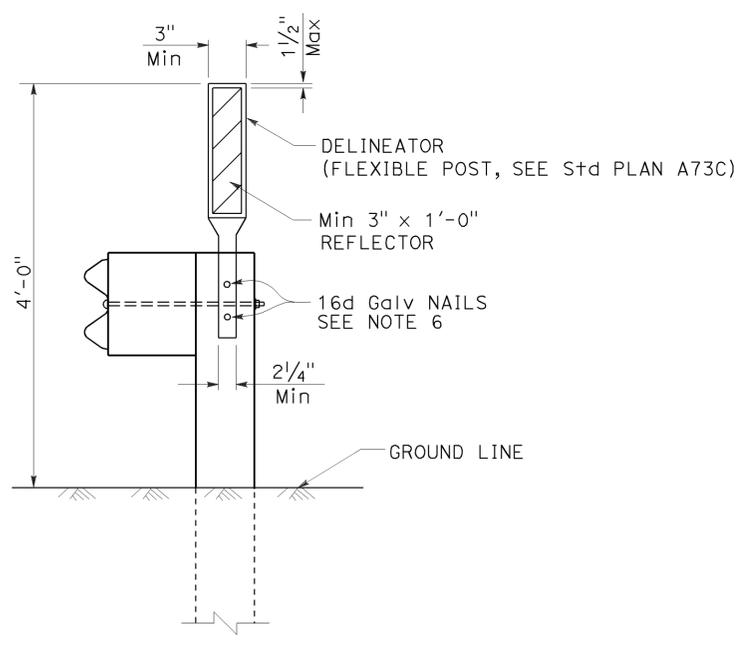
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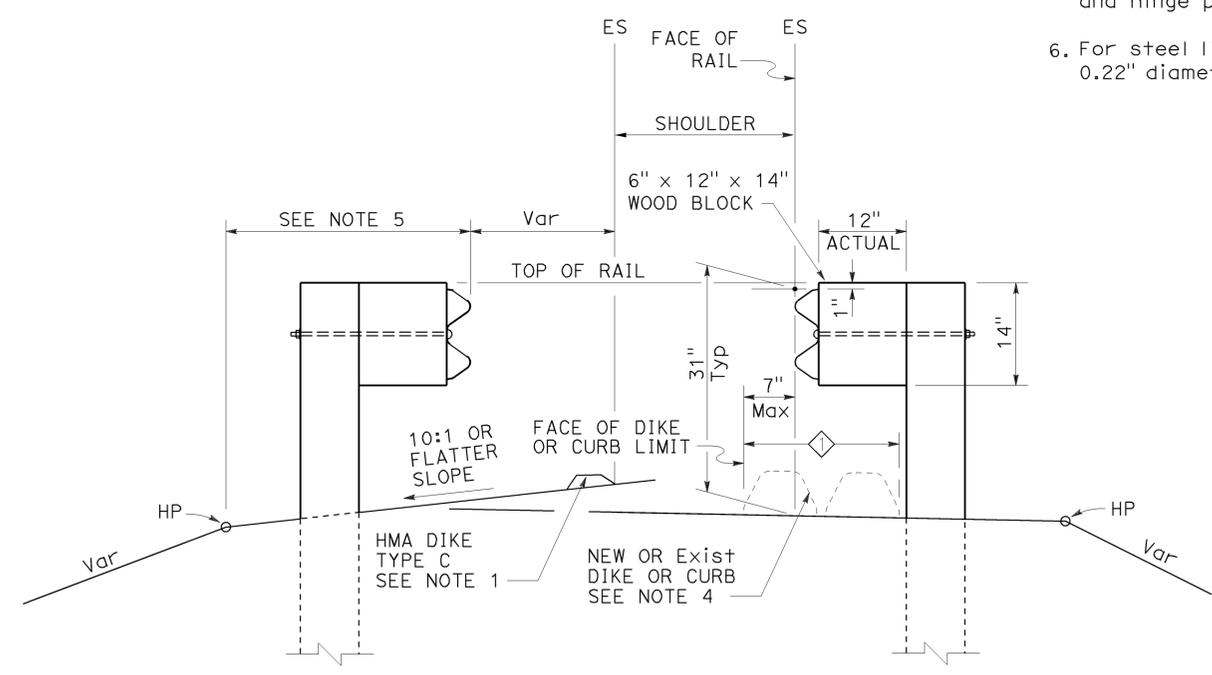
TO ACCOMPANY PLANS DATED 6-2-14

NOTES:

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



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

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

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	21	51

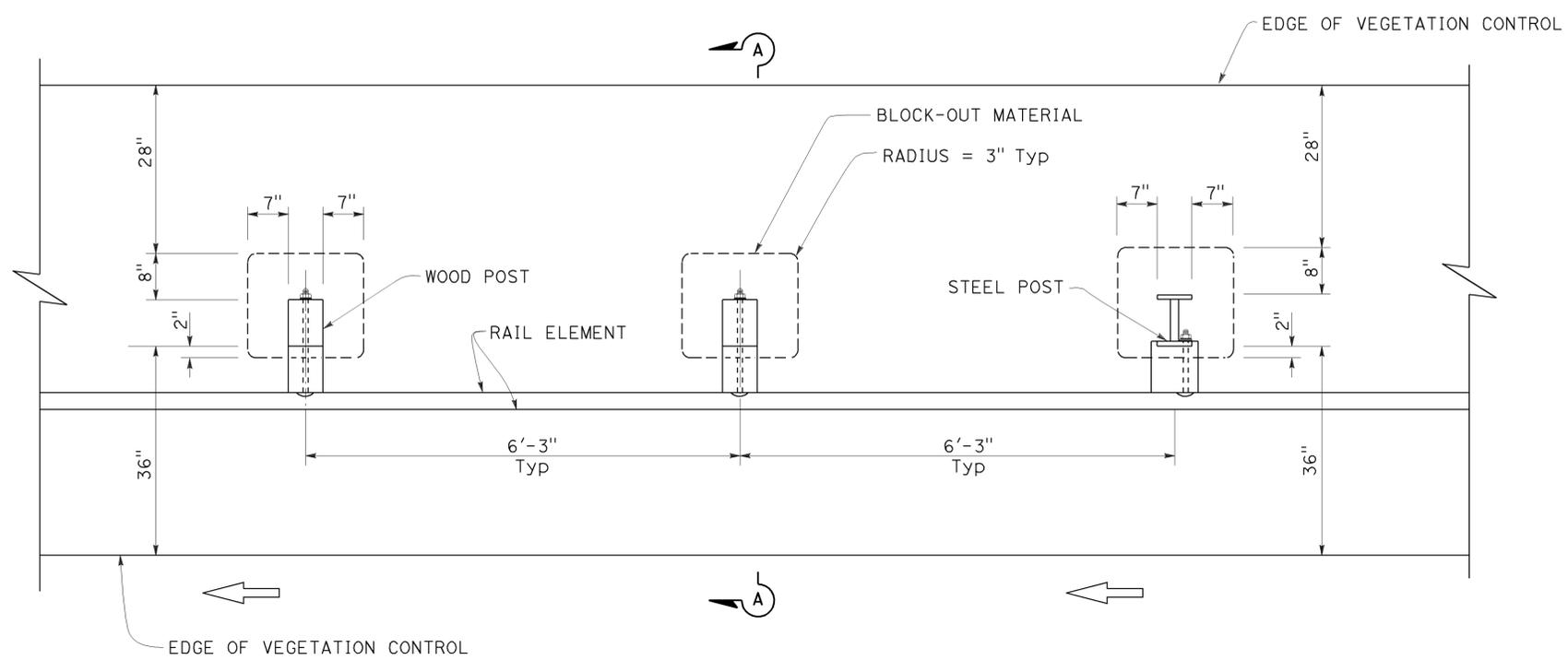
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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STATE OF CALIFORNIA

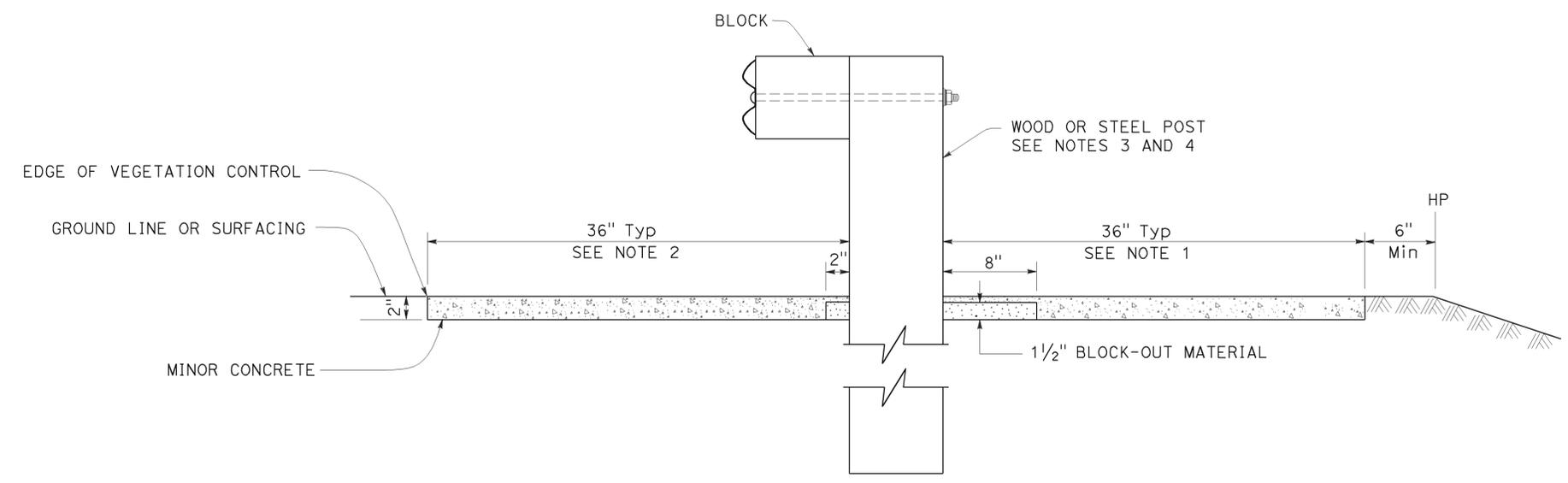
TO ACCOMPANY PLANS DATED 6-2-14



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

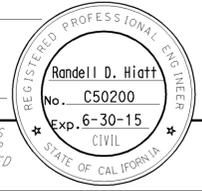
RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

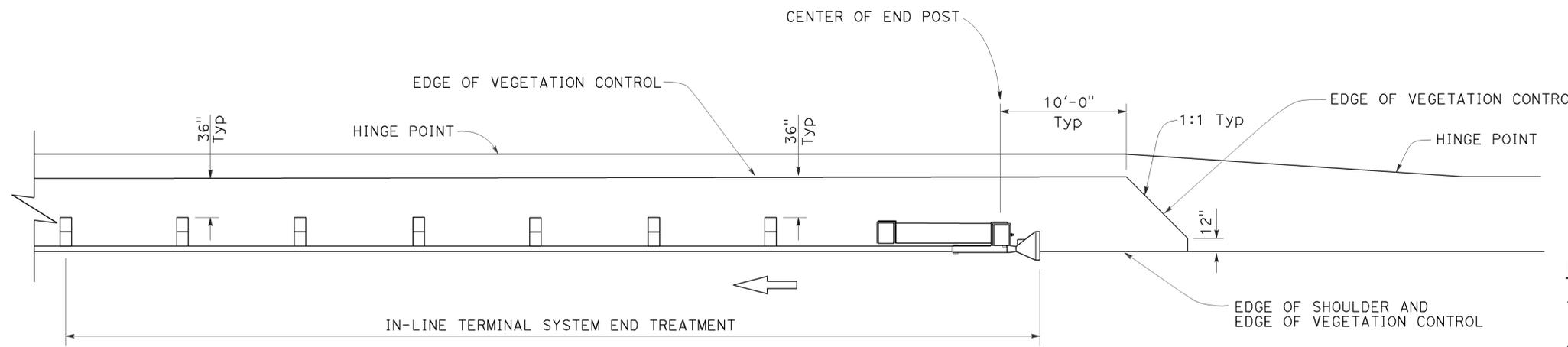
2010 REVISED STANDARD PLAN RSP A77N5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	22	51

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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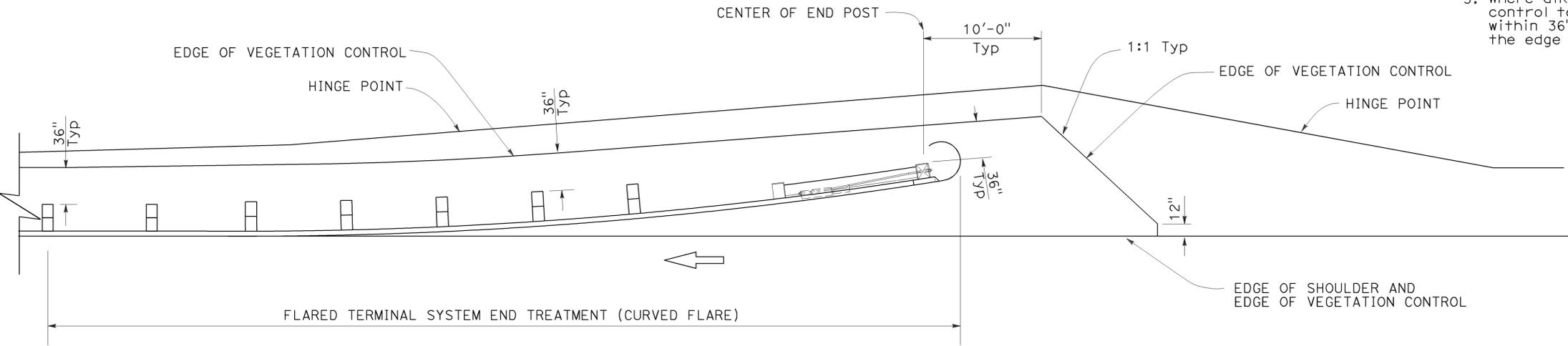
TO ACCOMPANY PLANS DATED 6-2-14



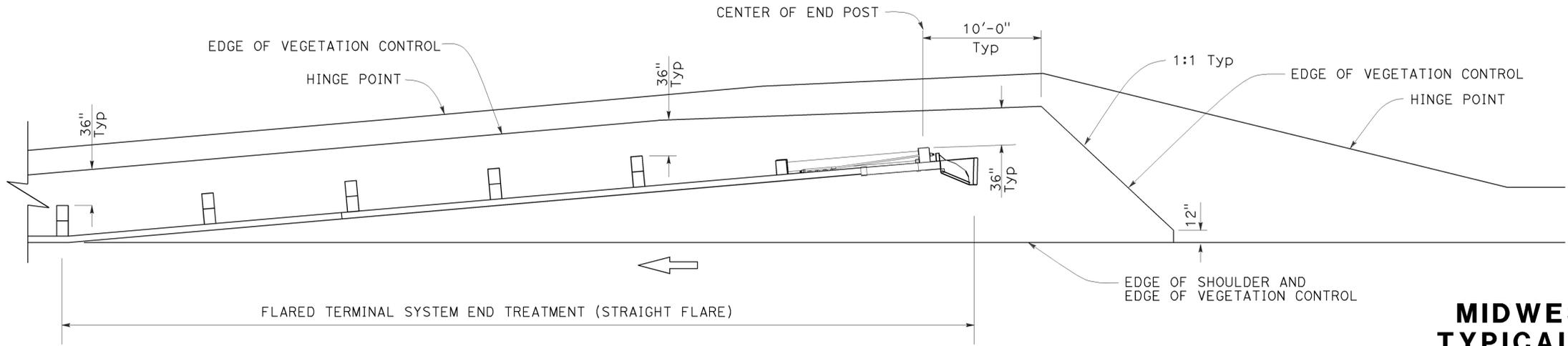
PLAN

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
07	LA	18	0.2	23	51

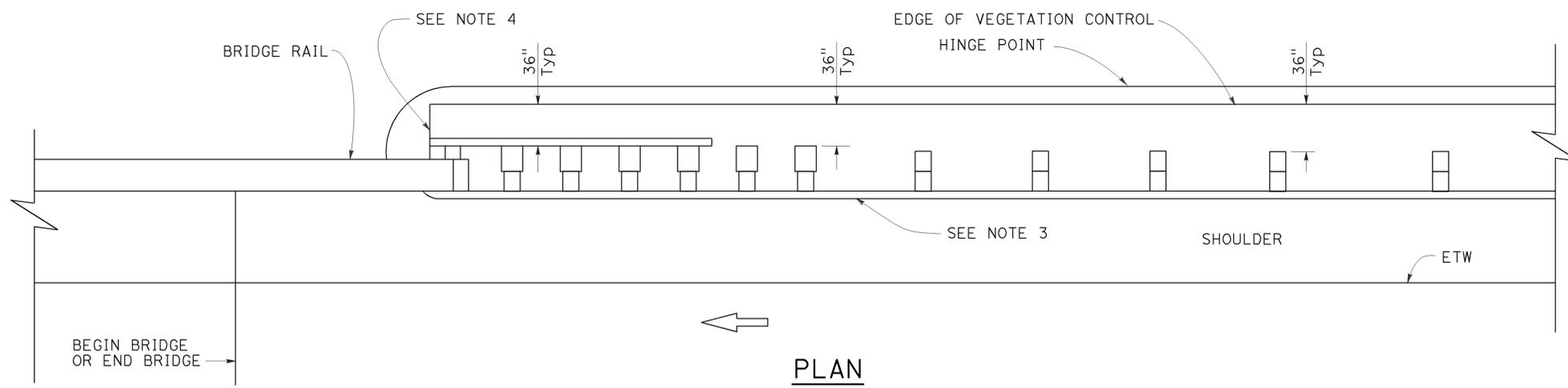
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

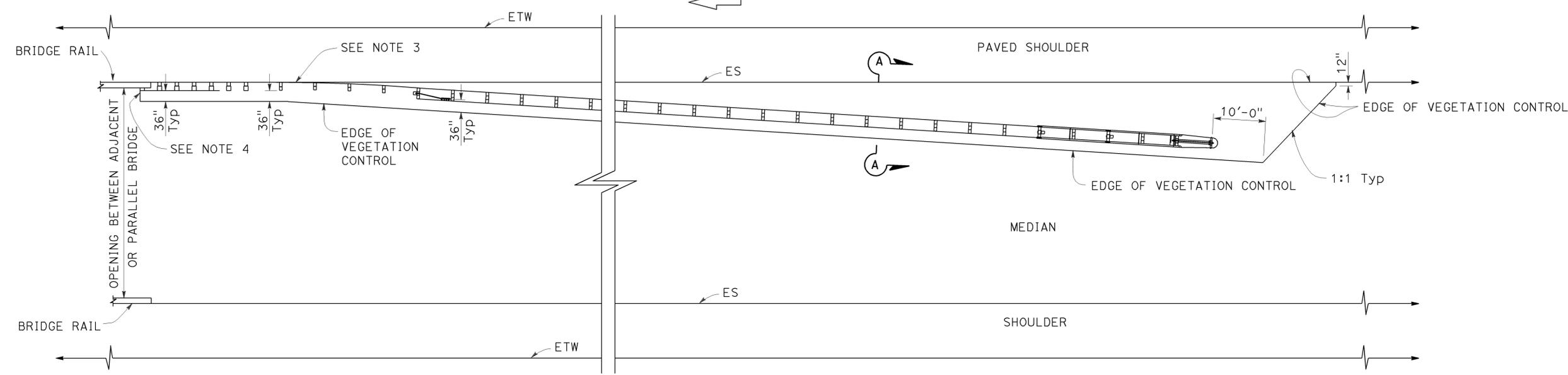
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TO ACCOMPANY PLANS DATED 6-2-14

2010 REVISED STANDARD PLAN RSP A77N7



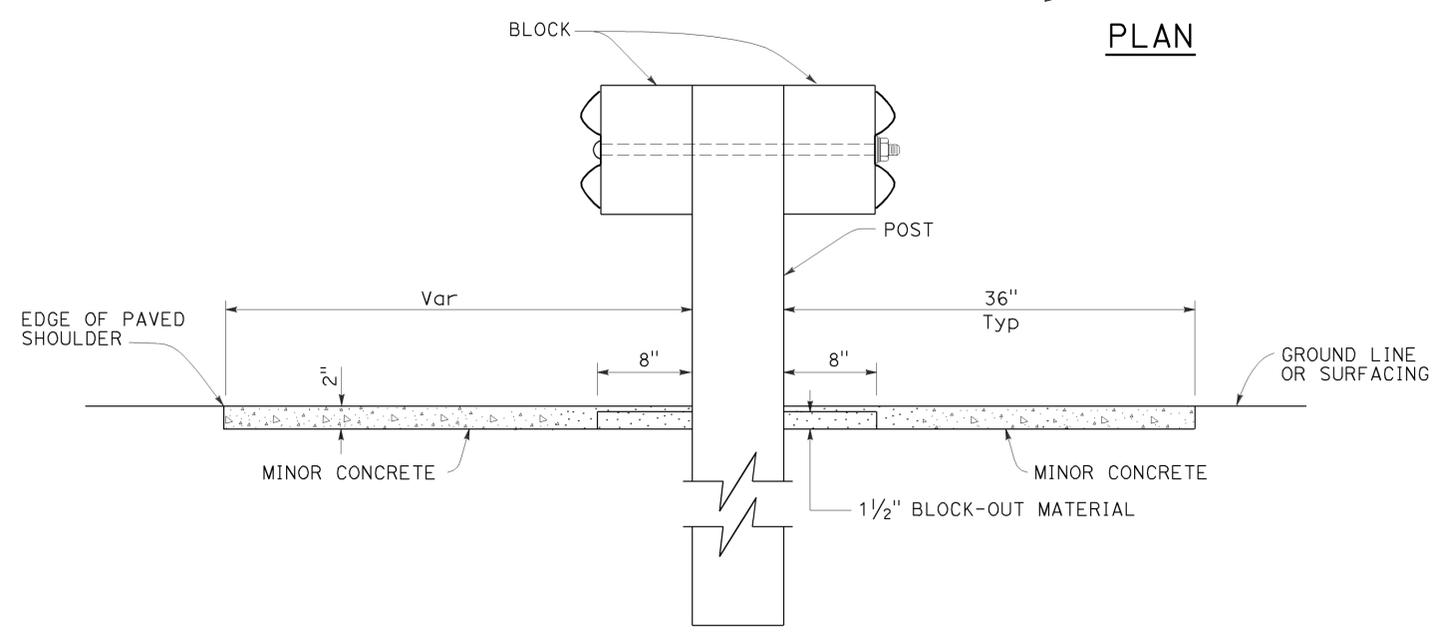
PLAN



PLAN

NOTES:

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



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT STRUCTURE APPROACH**

NO SCALE

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

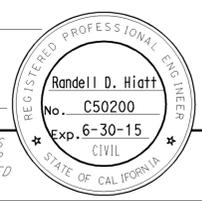
REVISED STANDARD PLAN RSP A77N7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	24	51

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

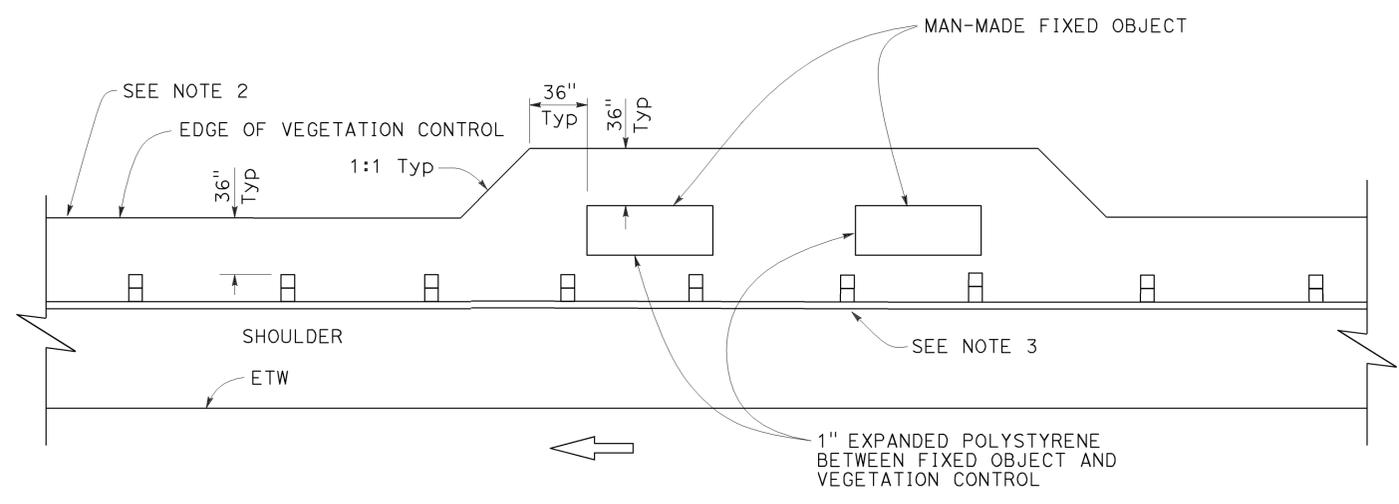
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TO ACCOMPANY PLANS DATED 6-2-14

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
Fixed object(s) on shoulder

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77N8

2010 REVISED STANDARD PLAN RSP A77N8

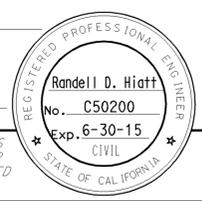
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	25	51

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

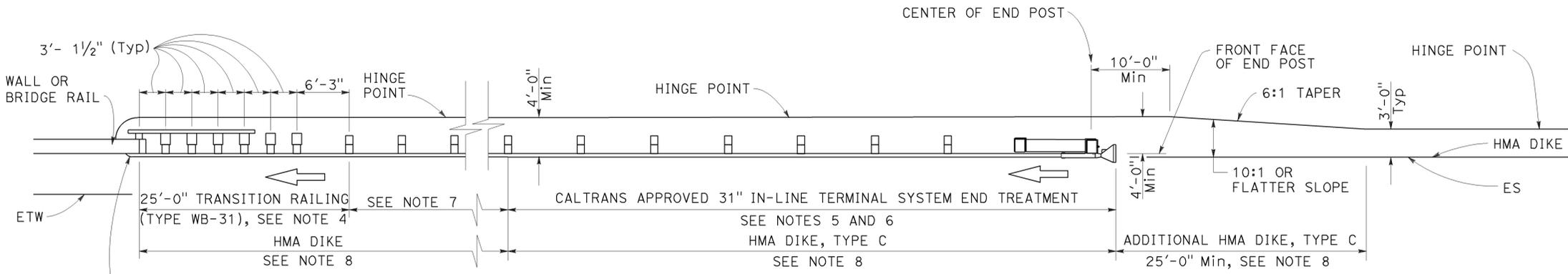
July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 6-2-14

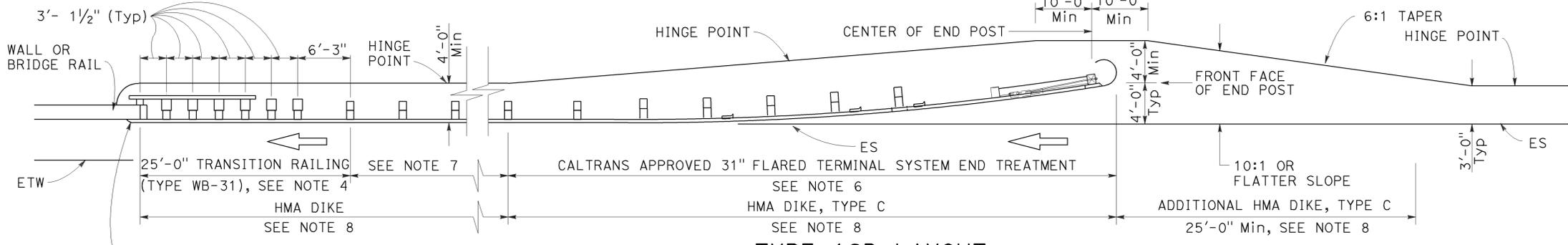


2010 REVISED STANDARD PLAN RSP A77Q1



TYPE 12A LAYOUT

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing)
See Notes 5 and 6
SEE NOTE 8
SEE NOTE 9



TYPE 12B LAYOUT

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing)
SEE NOTE 6
SEE NOTE 8
SEE NOTE 9

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	26	51

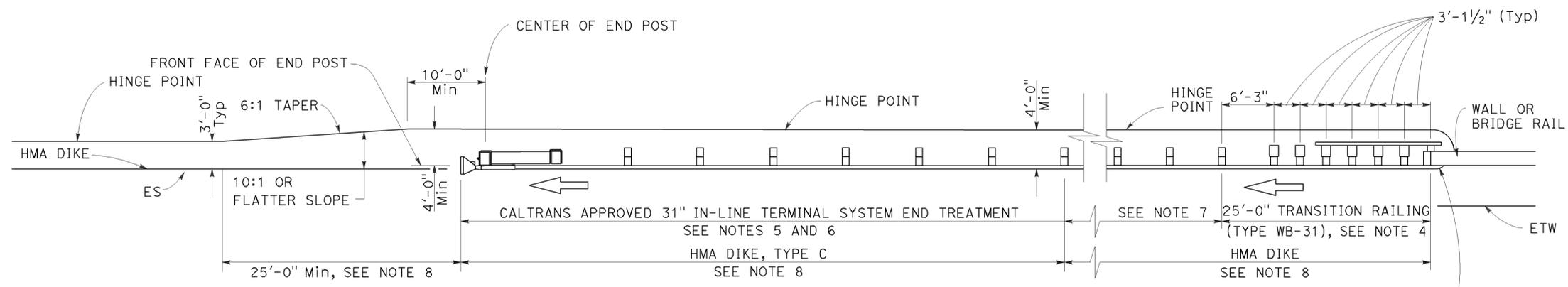
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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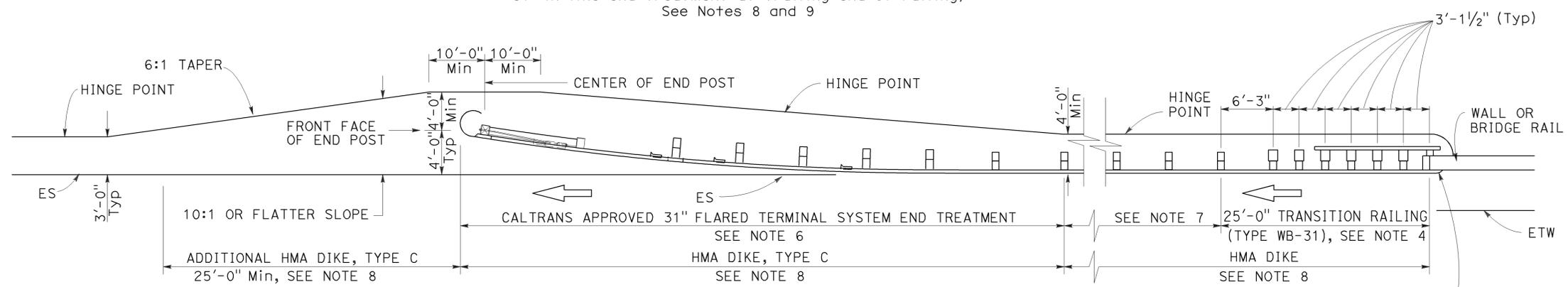
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-2-14



TYPE 12AA LAYOUT

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



TYPE 12BB LAYOUT

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**
NO SCALE

RSP A77Q4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q4

2010 REVISED STANDARD PLAN RSP A77Q4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	27	51

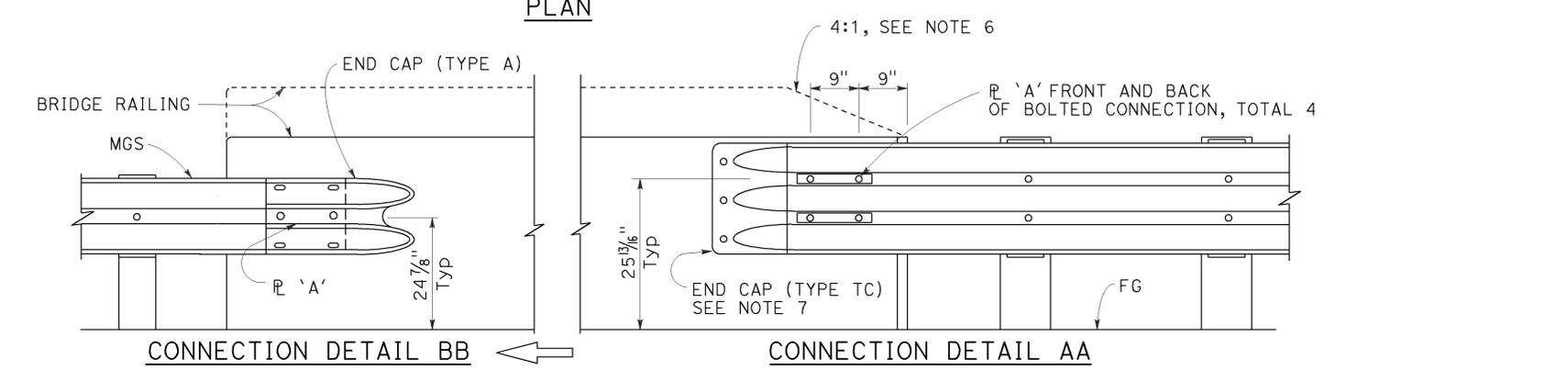
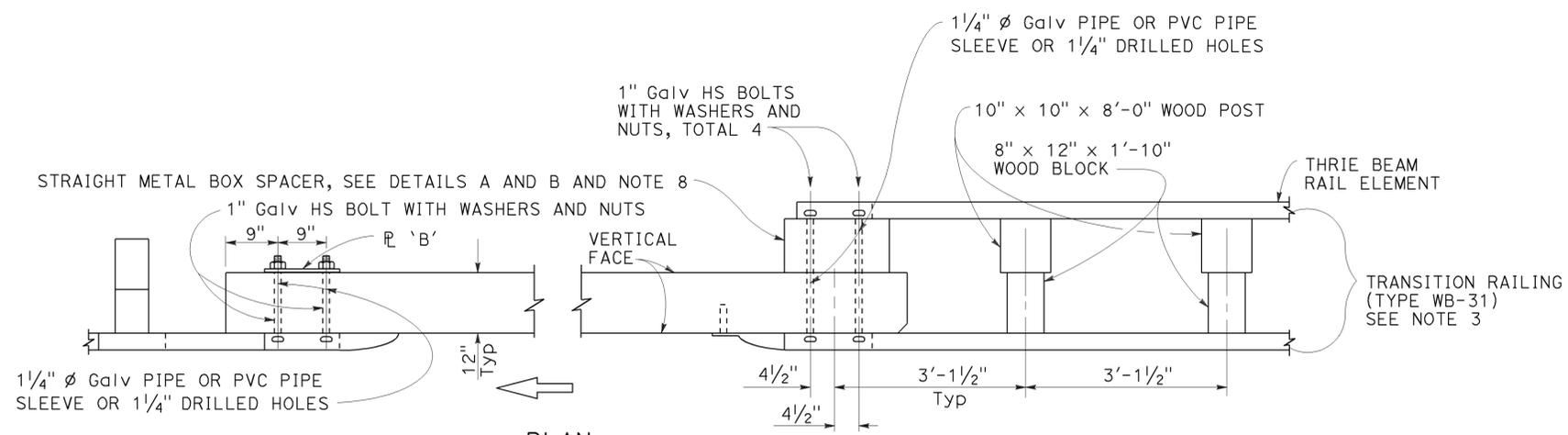
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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STATE OF CALIFORNIA

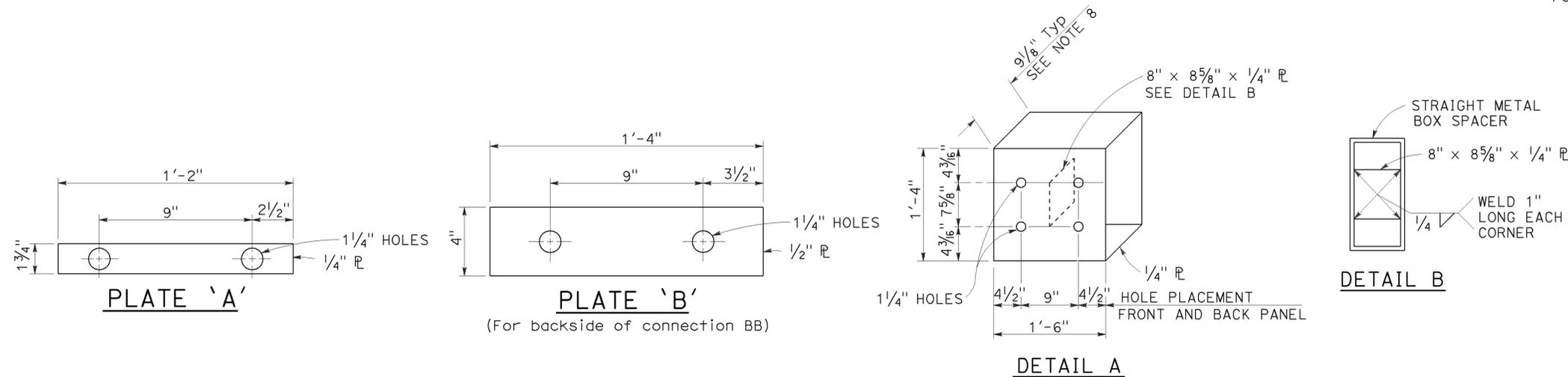
TO ACCOMPANY PLANS DATED 6-2-14



NOTES:

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

MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK



STRAIGHT METAL BOX SPACER

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

NO SCALE

RSP A77U1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U1

2010 REVISED STANDARD PLAN RSP A77U1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	28	51

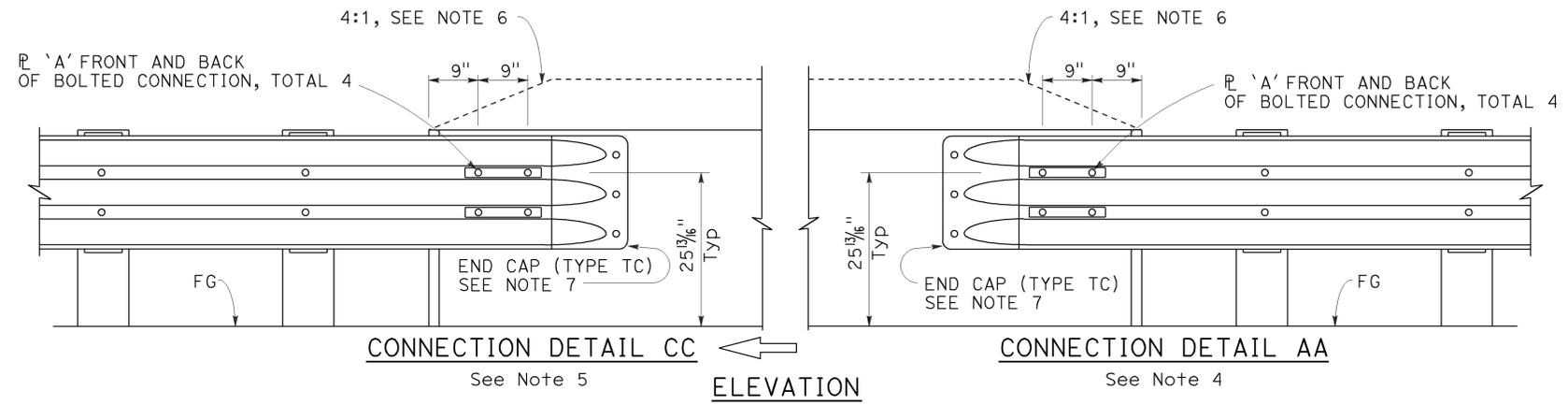
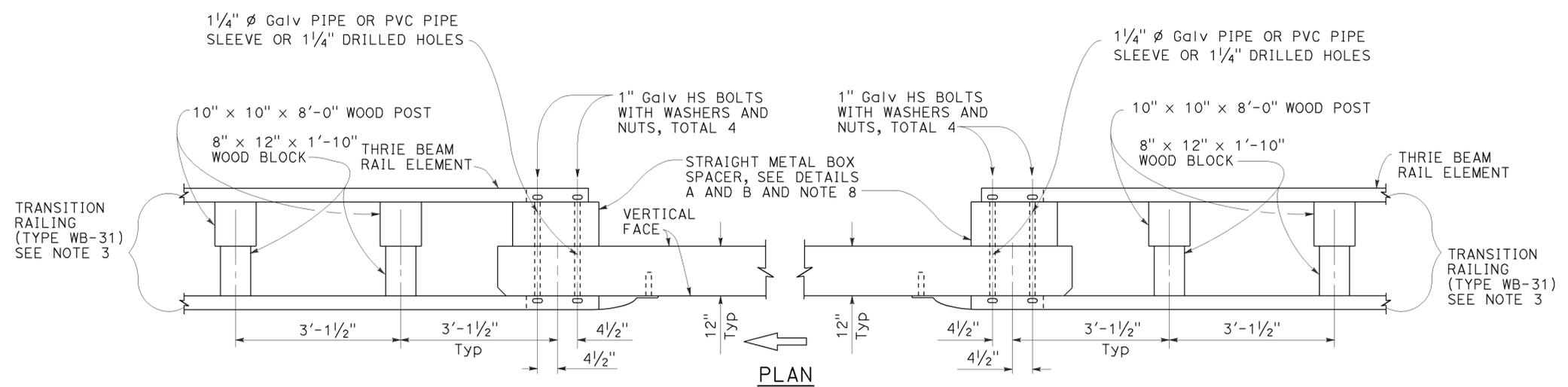
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

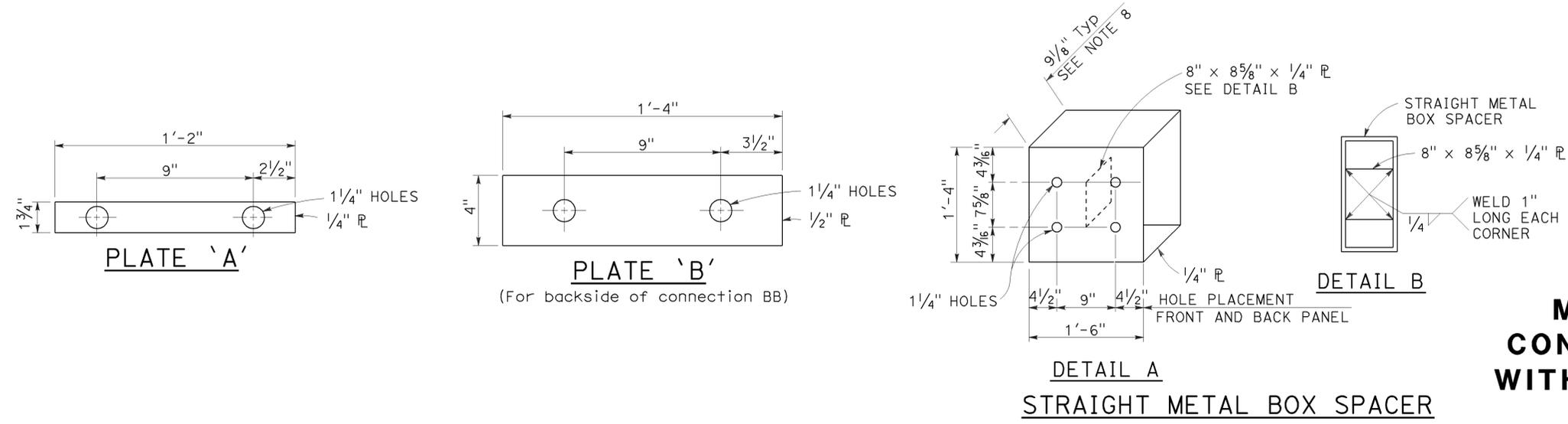
TO ACCOMPANY PLANS DATED 6-2-14



MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

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



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77U2

2010 REVISED STANDARD PLAN RSP A77U2

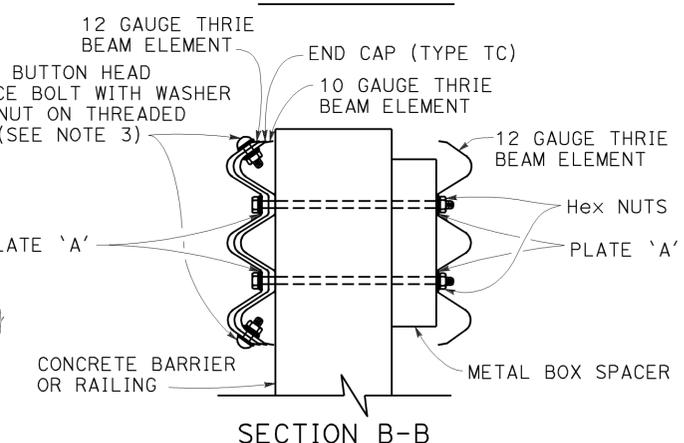
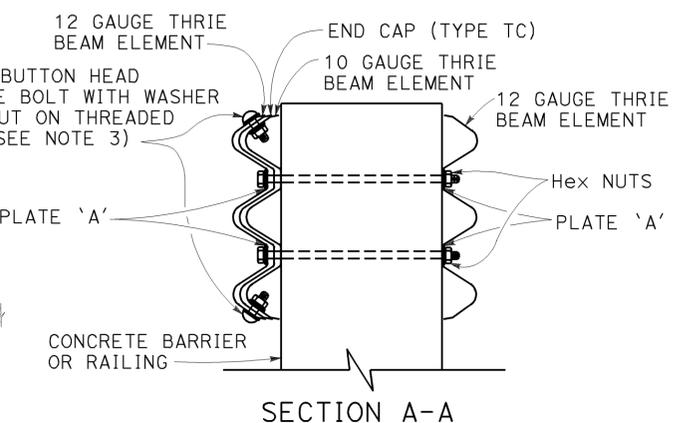
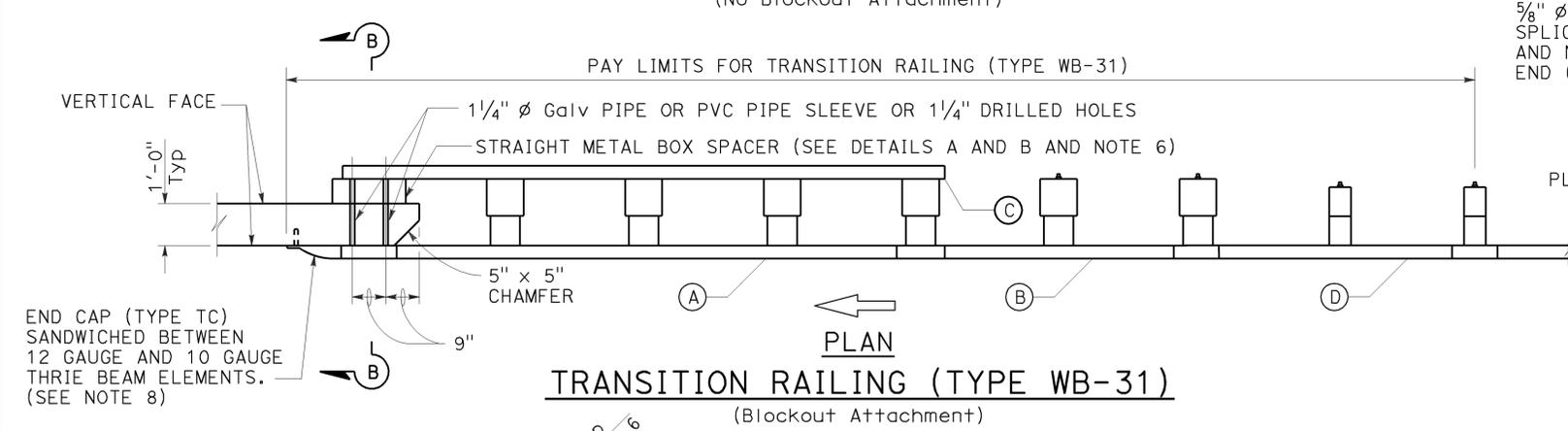
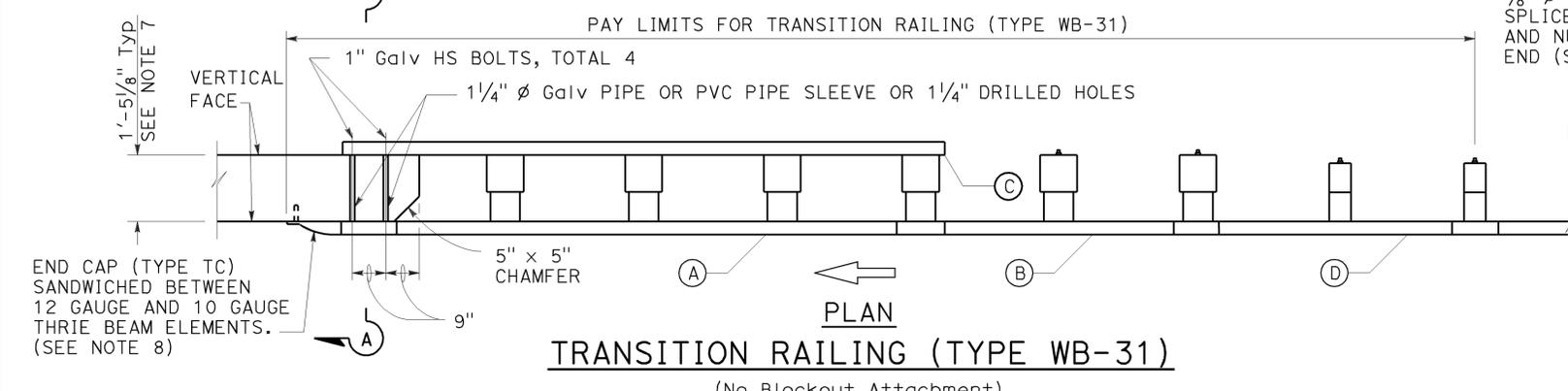
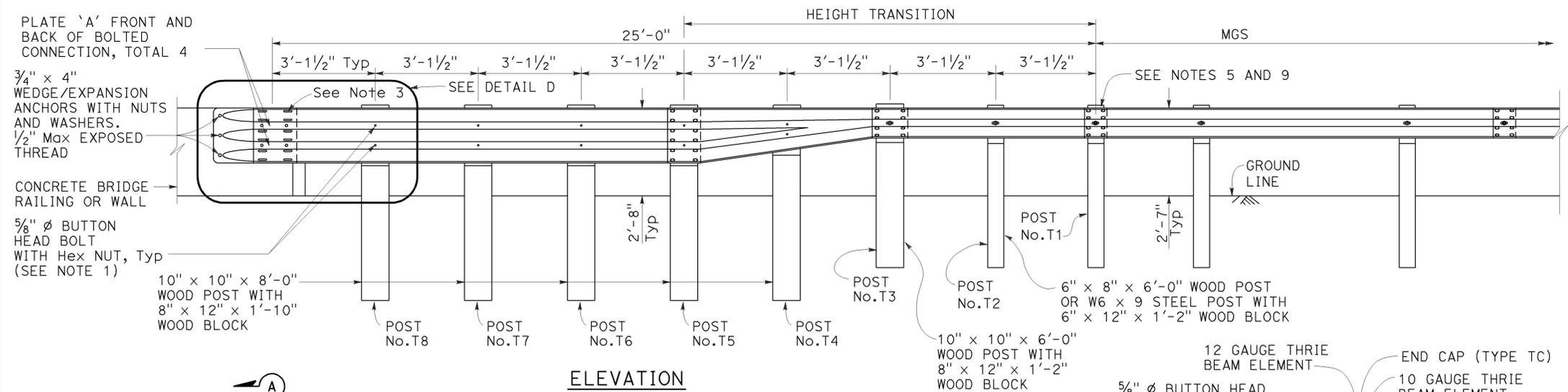
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	29	51

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

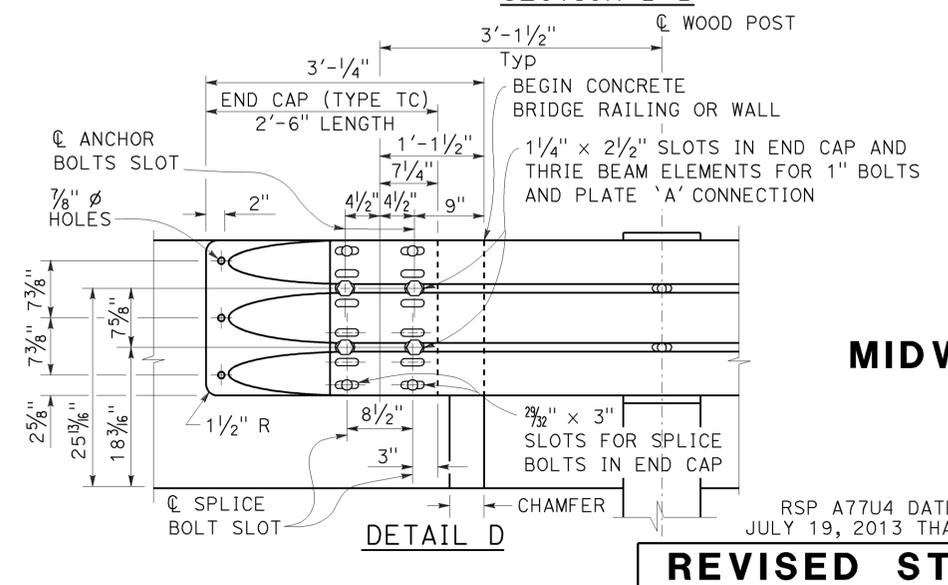
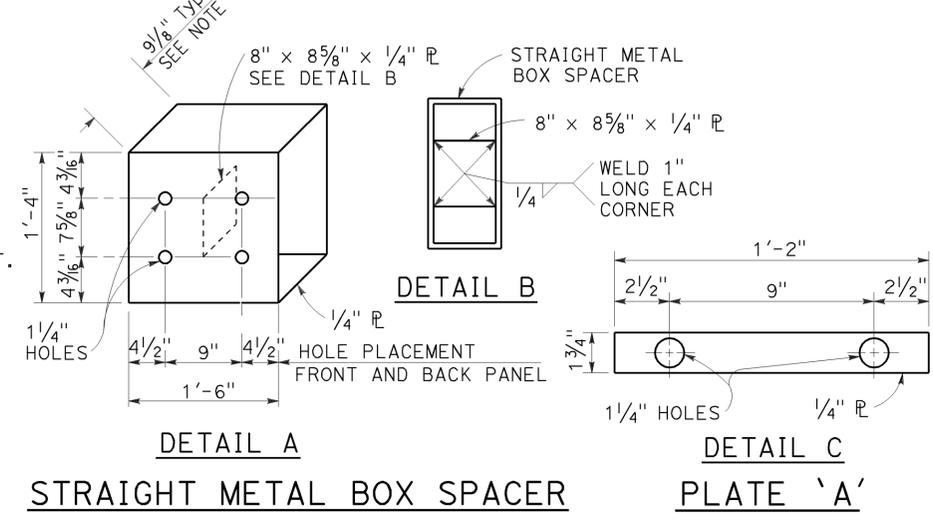
November 15, 2013
PLANS APPROVAL DATE

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



- LEGEND:**
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
 - (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
 - (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
 - (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3 1/2" LENGTH)
- 10 GAUGE = 0.138" THICK
12 GAUGE = 0.108" THICK



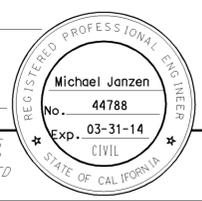
- NOTES:** TO ACCOMPANY PLANS DATED 6-2-14
1. Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. The nested rail elements, end cap, and "W" beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 3. Exterior splice bolt holes for rail element splices at Post No. T5 and the connection to the concrete barrier or railing shall be the standard 29/32" x 1 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4" ϕ . Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
 4. The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 5. Typically, the railing connected to Transition Railing (Type WB-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
 6. The depth of the metal box spacer varies from the 9/8" to 1 1/2" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 21 1/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2", metal plates similar to Plate 'A' are to be used as spacers.
 7. Where the width of the concrete railing or wall is greater than 17 1/8", wood blocks are to be used to fill the space created between the backside of Posts No. T5 through No. T8 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 8. End cap may be installed over 12 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
 9. Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

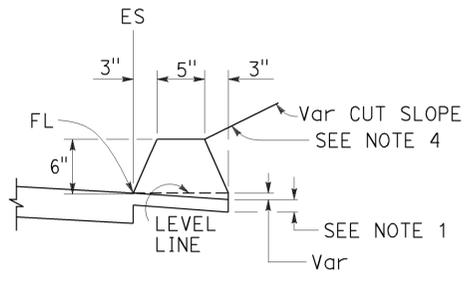
**MIDWEST GUARDRAIL SYSTEM
TRANSITION RAILING
(TYPE WB-31)**
NO SCALE

RSP A77U4 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77U4 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

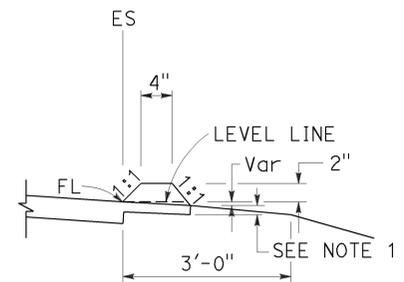
2010 REVISED STANDARD PLAN RSP A77U4



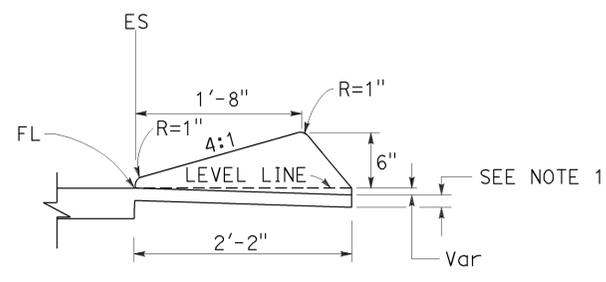
TO ACCOMPANY PLANS DATED 6-2-14



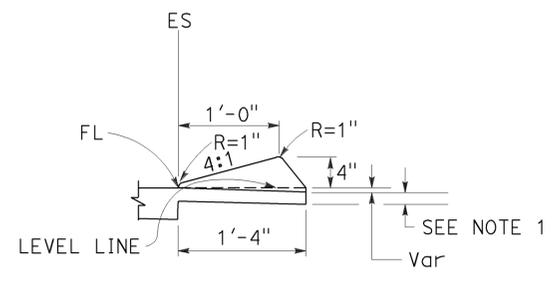
TYPE A
See Note 3



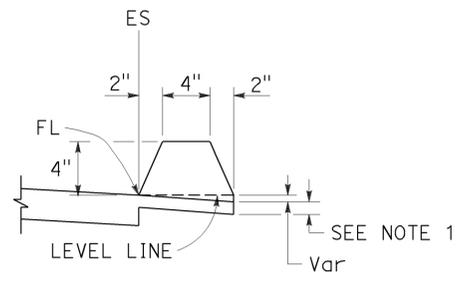
TYPE C



TYPE D

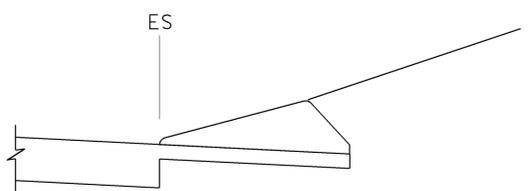


TYPE E

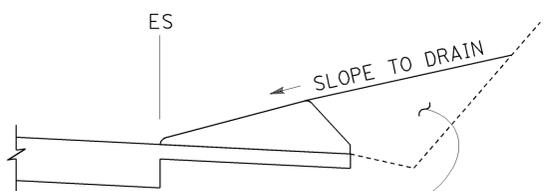


TYPE F
See Note 5

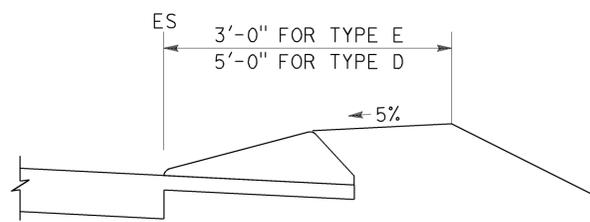
DIKES



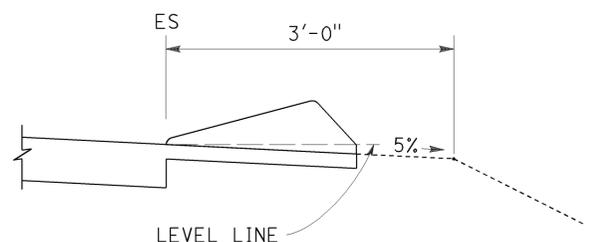
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

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

DIKE QUANTITIES

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

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

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

REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

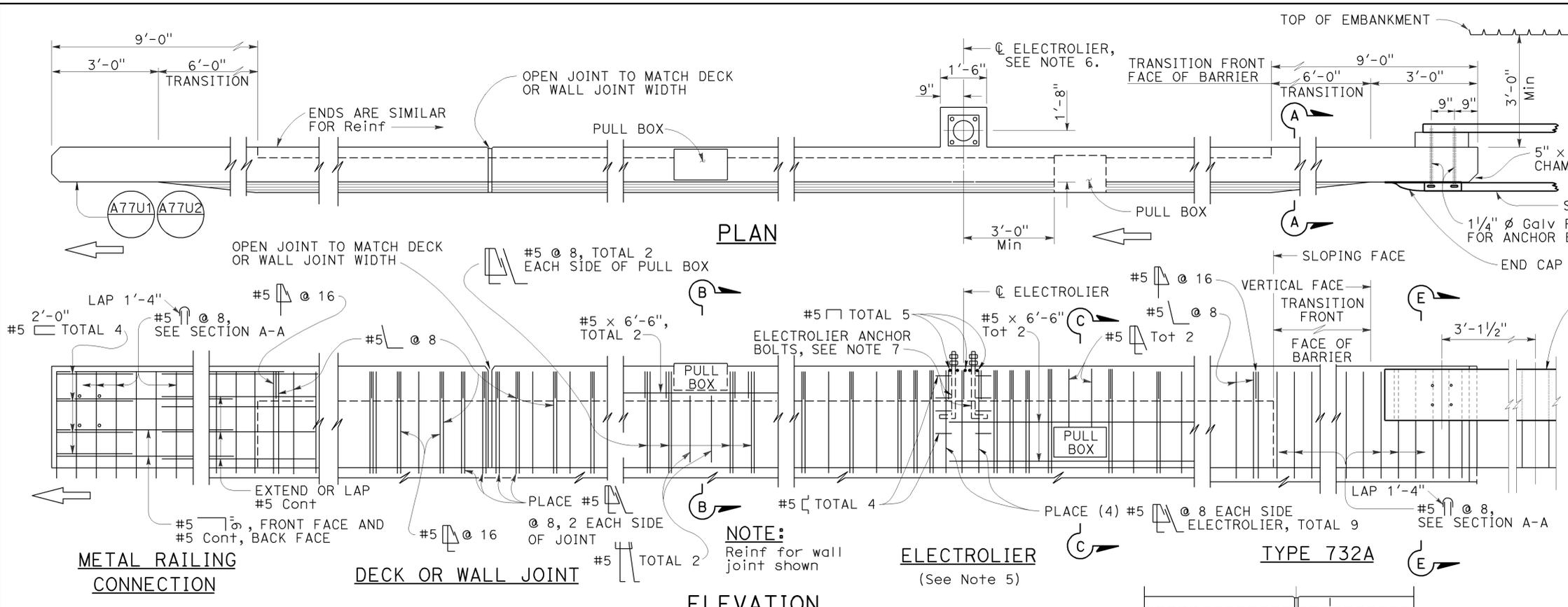
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	31	51

REGISTERED CIVIL ENGINEER

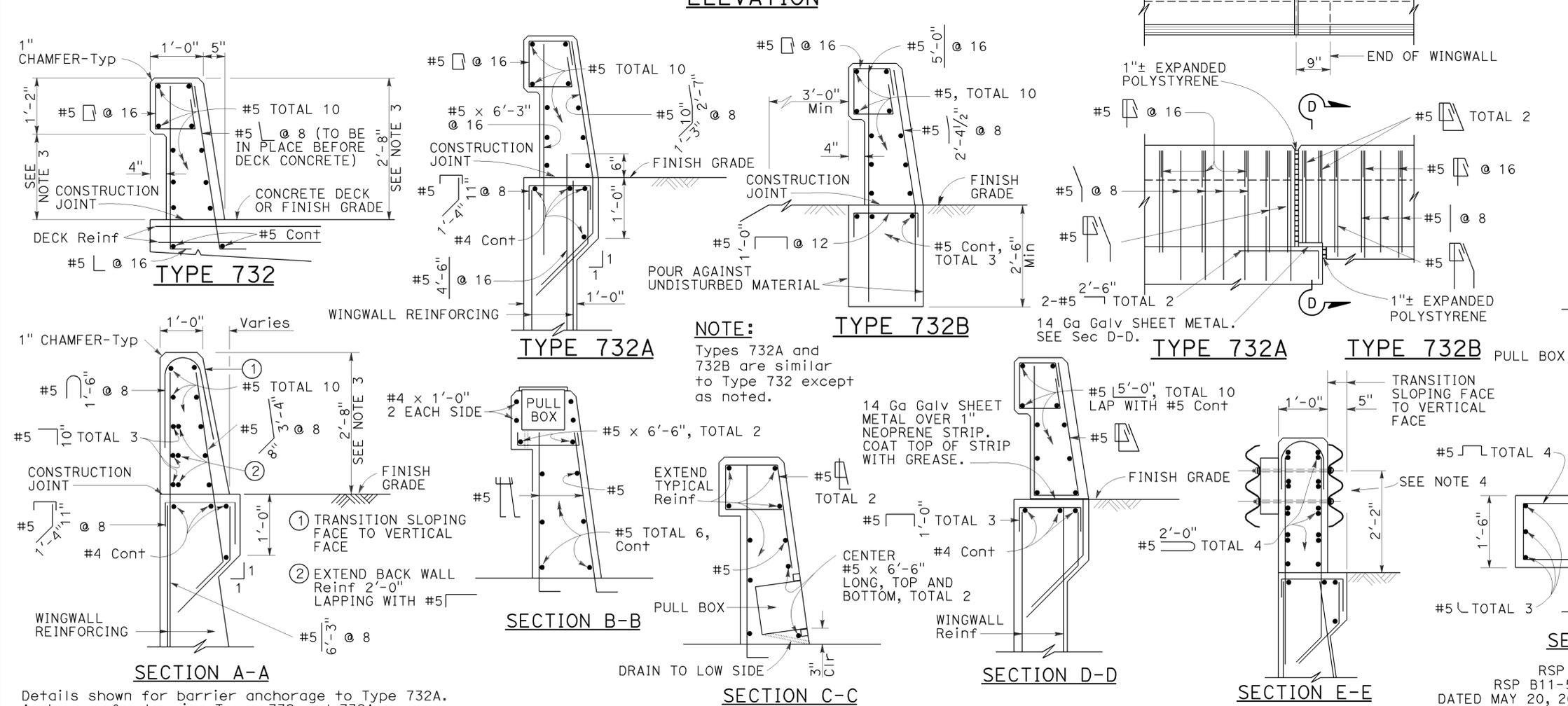
November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Tillett Satter
No. C42892
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-2-14



- NOTES:**
1. Walls are to be backfilled before barrier is placed.
 2. Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
 3. Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
 4. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77U1 and RSP A77U2.
 5. See Standard Plans ES-9A, ES-9B, ES-9C, ES-9D and ES-9E for electrical details. The maximum number of conduits in the barrier is limited to two 2" conduits along with one 3" conduit. When a 3" conduit is used, it is restricted to the base of the barrier.
 6. For electrolier mounting details, See Standard Plans ES-6A and ES-6B.
 7. Minimum concrete edge distance, to the reinforcing shown, shall be maintained. Edge distance may be adjusted to accommodate increase in concrete cover for architectural treatment.



Details shown for barrier anchorage to Type 732A. Anchorage for barrier Types 732 and 732A are similar to their respective details.

RSP B11-55 DATED NOVEMBER 15, 2013 SUPERSEDES RSP B11-55 DATED JULY 19, 2013 AND STANDARD PLAN B11-55 DATED MAY 20, 2011 - PAGE 297 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-55

2010 REVISED STANDARD PLAN RSP B11-55

NOTES:

See Revised Standard Plan RSP T9 for tables.

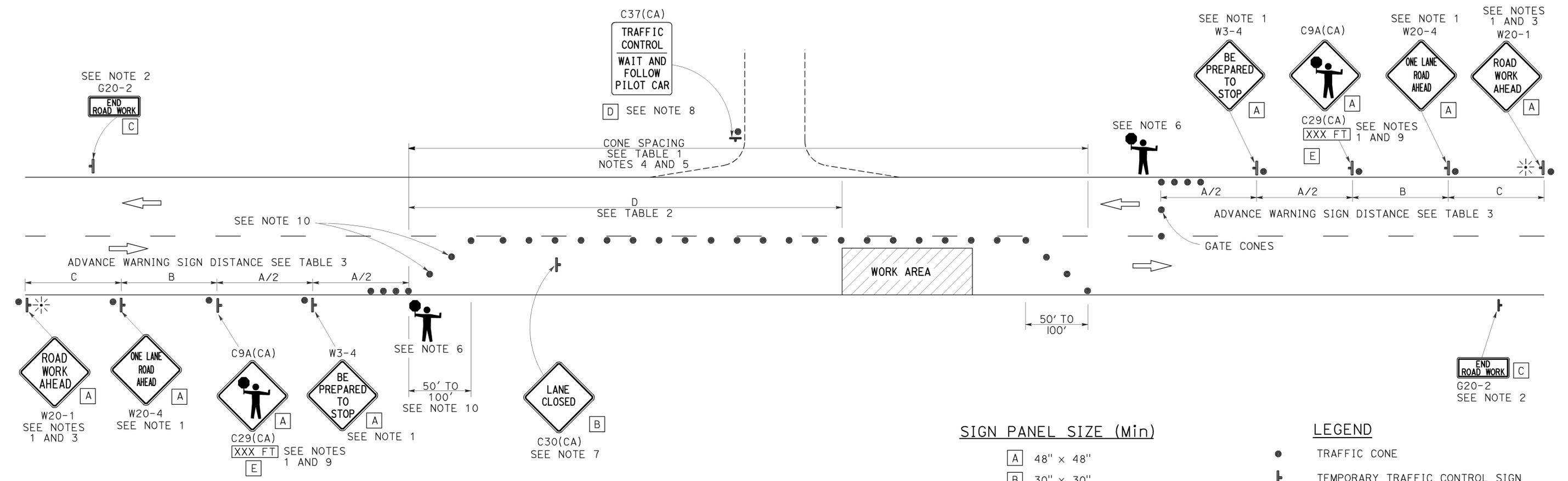
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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.

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

TO ACCOMPANY PLANS DATED 6-2-14



NOTES:

- Each advance warning sign in each direction of travel 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.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM
FOR LANE CLOSURE ON
TWO LANE CONVENTIONAL
HIGHWAYS**

NO SCALE

RSP T13 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T13
DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T13

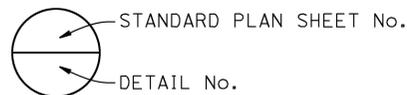
2010 REVISED STANDARD PLAN RSP T13

STANDARD PLANS DATED 2010

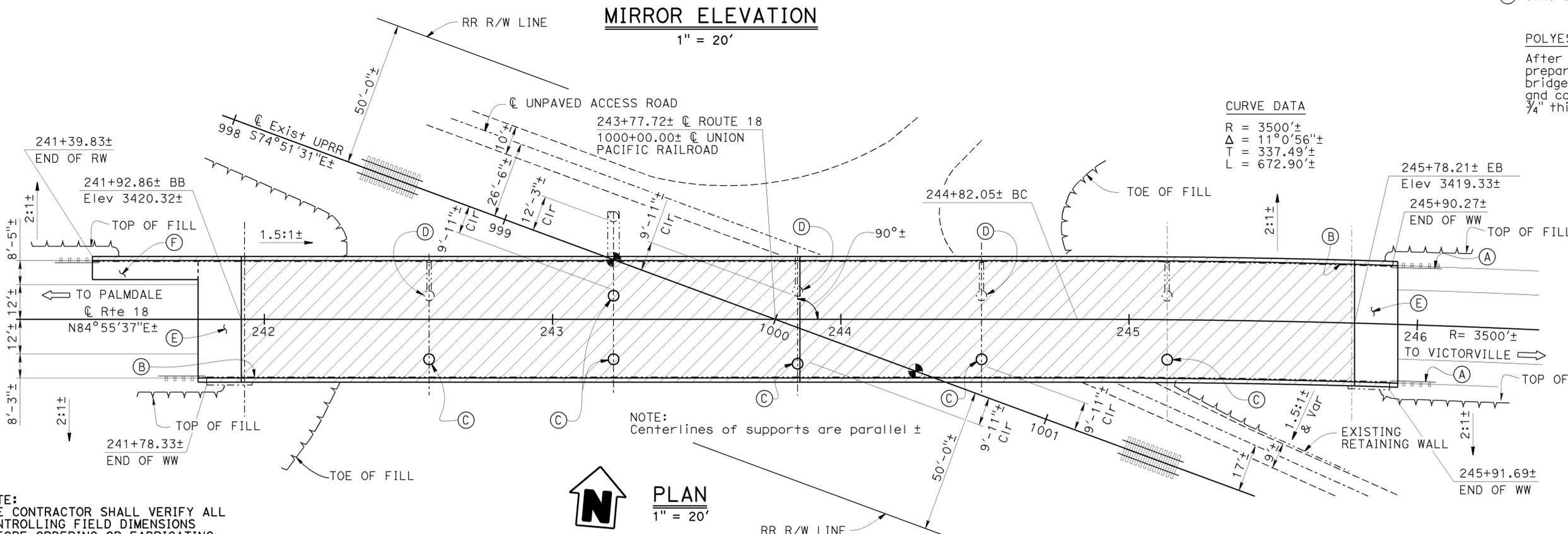
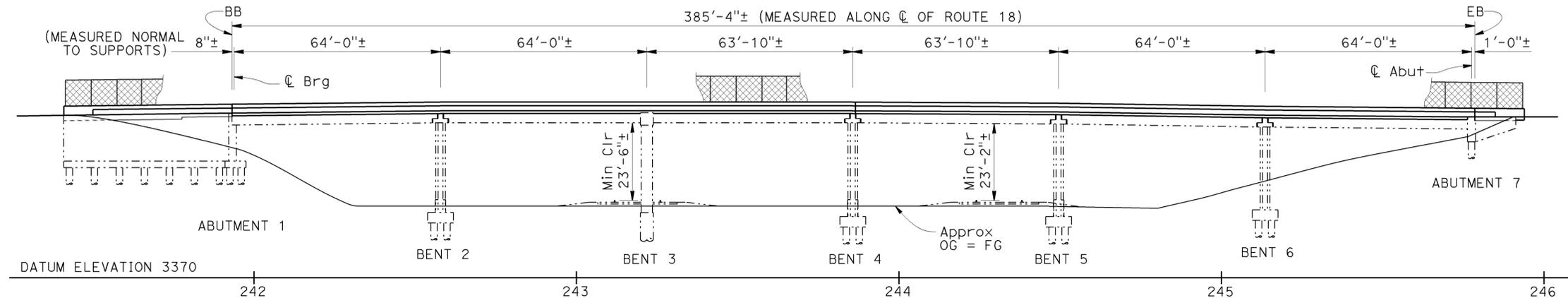
INDEX TO PLANS

- A10A ABBREVIATIONS (SHEET 1 OF 2)
- RSP A10B ABBREVIATIONS (SHEET 2 OF 2)
- B0-5 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- RSP B11-55 CONCRETE BARRIER TYPE 732

Sheet No.	Title	Sheet No.	Title
1	GENERAL PLAN NO. 1	11	GIRDER LAYOUT NO. 2
2	GENERAL PLAN NO. 2	12	DECK DETAILS NO. 1
3	ABUTMENT DETAILS	13	DECK DETAILS NO. 2
4	COLUMN REPAIR & RETROFIT	14	DECK DETAILS NO. 3
5	STEEL COLUMN CASING	15	ADDITIONAL GIRDER REINFORCEMENT
6	BENT 4 LAYOUT	16	MISCELLANEOUS DETAILS NO. 1
7	BENT 4 DETAILS NO. 1	17	MISCELLANEOUS DETAILS NO. 2
8	BENT 4 DETAILS NO. 2	18	STRUCTURE APPROACH TYPE R MODIFIED
9	TYPICAL SECTION	19	CHAIN LINK RAILING TYPE 7 (MOD)
10	GIRDER LAYOUT NO. 1		



NOTE:
 Bridge Removal (portion) not shown.



NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	33	51

Richard Schendel
 REGISTERED CIVIL ENGINEER
 DATE 02/14/14
 PLANS APPROVAL DATE 6-2-14

RICHARD E. SCHENDEL
 No. C64259
 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 electronic copies of this plan sheet.

- LEGEND:**
- Indicates New Structure
 - Indicates Existing Structure
 - ▨ Bridge Removal (Portion)
 - Denotes Points of Minimum Vertical Clearance

- NOTES:**
- (A) MGS, Typ, see "ROAD PLANS"
 - (B) Paint Bridge Name and Number
 - (C) Steel Column Casing (Type F)
 - (D) Repair Existing Column (remove and replace existing reinforcement cover concrete from top of footing to 2'-0" above OG)
 - (E) Structure Approach Type R Modified
 - (F) Concrete Barrier Slab

POLYESTER CONCRETE OVERLAY NOTE:
 After placement of new concrete barrier, prepare concrete surfaces of new bridge deck, structure approach slabs, and concrete barrier slab, and place 3/4" thick polyester concrete overlay.

- NOTES:**
1. For "TYPICAL SECTIONS" and "GENERAL NOTES", see "GENERAL PLAN NO. 2" sheet.
 2. For "QUANTITIES", see "ABUTMENT DETAILS" sheet.
 3. For utility information, see "ROAD PLANS".

X DESIGN ENGINEER	DESIGN	BY Richard Schendel	CHECKED William Addlespurger	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53-2331	COUNTY LINE OVERHEAD GENERAL PLAN NO. 1
	DETAILS	BY Minh Tran	CHECKED William Addlespurger	LAYOUT	BY Minh Tran			POST MILE	0.19	
	QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal	SPECIFICATIONS	BY Karen Doll			PLANS AND SPECS COMPARED	Karen Doll	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3603
 PROJECT NUMBER & PHASE: 0700000516 1
 CONTRACT NO.: 07-274801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12/31/12 02/28/13 02/14/14	1	19

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 53-2331-a-gp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	34	51

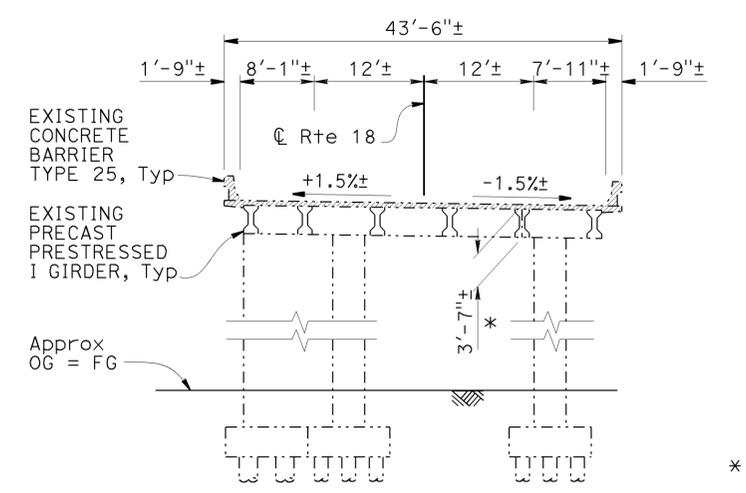
<i>Richard Schendel</i>		02/14/14
REGISTERED CIVIL ENGINEER		DATE
6-2-14		
PLANS APPROVAL DATE		

RICHARD E. SCHENDEL	
No. C64259	Exp. 6-30-15
CIVIL	

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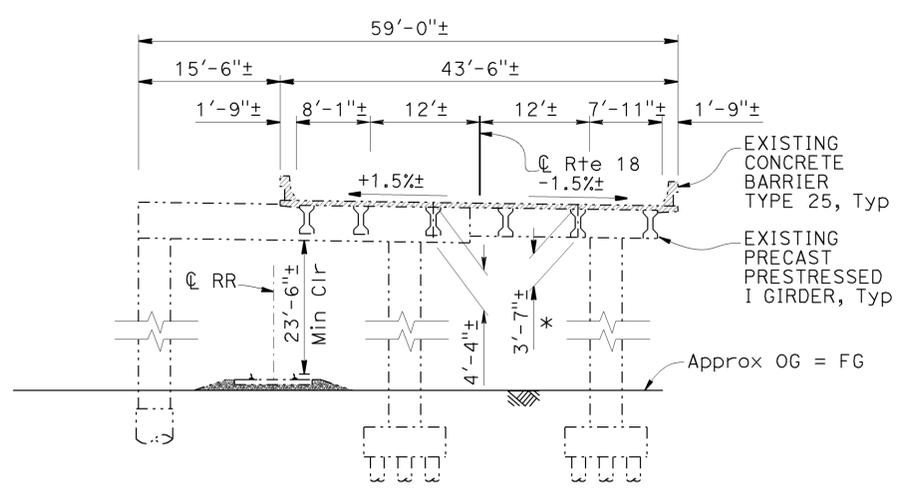
LEGEND:

- Indicates New Structure
- - - - - Indicates Existing Structure
- ▨ Bridge Removal (Portion)



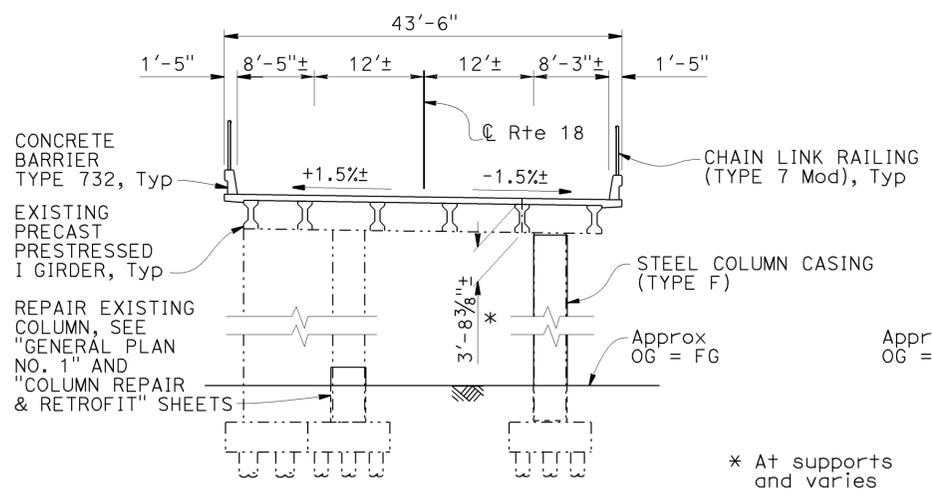
BENTS 2, 4, 5 & 6

Note: Railroad between columns at Bent 4 not shown



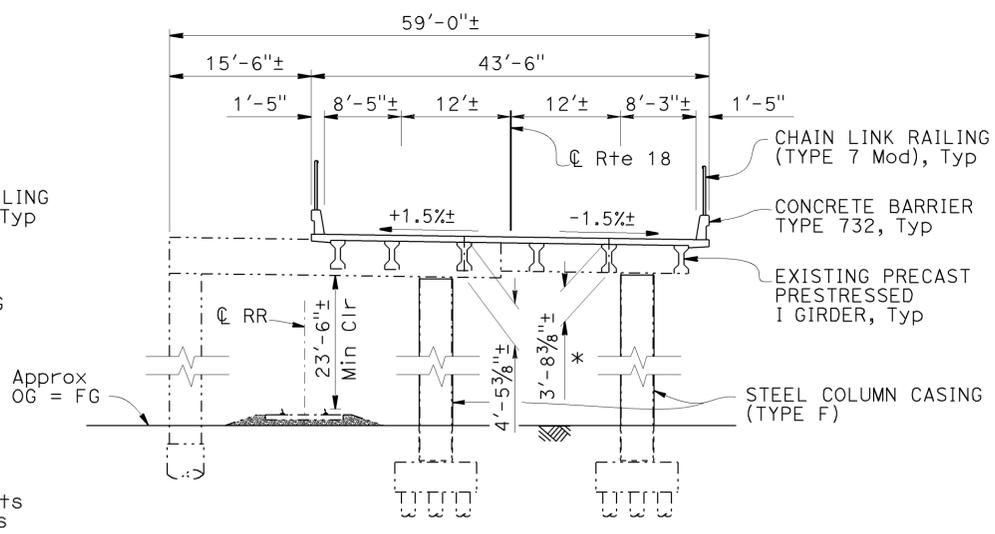
BENT 3

TYPICAL SECTION REMOVAL
1" = 10'



BENTS 2, 4, 5 & 6

Note: Railroad between columns at Bent 4 not shown



BENT 3

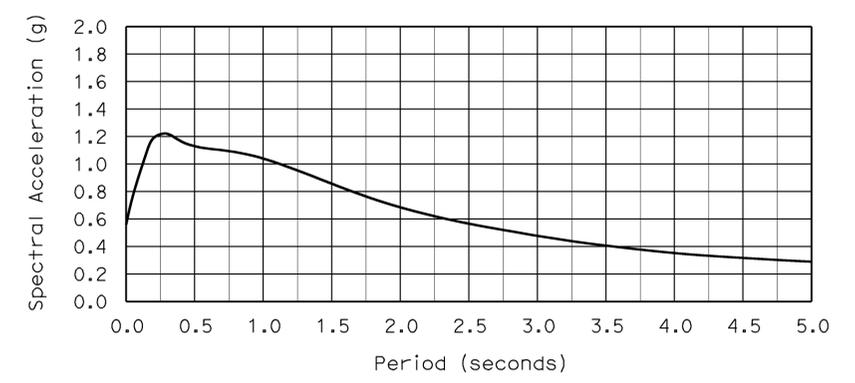
TYPICAL SECTION
1" = 10'

NOTE: Polyester concrete overlay not shown.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition and the Caltrans Amendments, preface dated November 2011 (new design elements only)
- SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), Version 1.6, November 2010
- DEAD LOAD: Does not include any load for future wearing surface or future utilities
- LIVE LOADING: HL93 and permit design load (new design elements only)
- SEISMIC LOADING: See "ACCELERATION RESPONSE SPECTRA CURVE"
Soil Profile: $V_{s30} = 774$ ft/sec
Moment Magnitude: $M_{max} = 7.8$
Peak Ground Acceleration = 0.6 g
- CONCRETE:
 $f_y = 60$ ksi
 $f'_c = 3.6$ ksi
- COLUMN CASING:
 $f_y = 36$ ksi



ACCELERATION RESPONSE SPECTRA CURVE

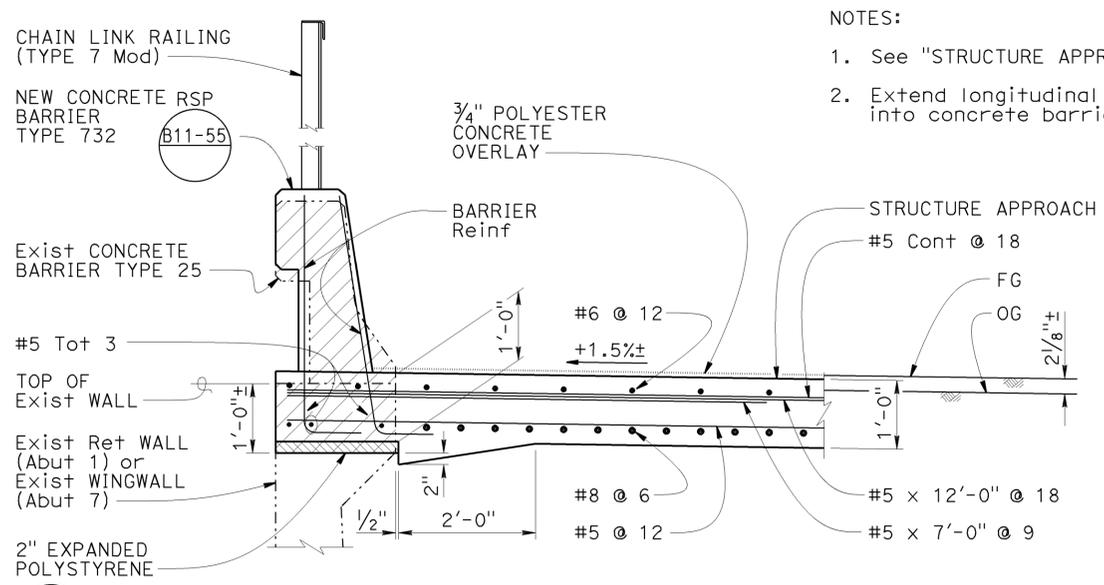
X DESIGN ENGINEER	DESIGN	BY Richard Schendel	CHECKED William Addlespurger	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53-2331	COUNTY LINE OVERHEAD GENERAL PLAN NO. 2	
	DETAILS	BY Minh Tran	CHECKED William Addlespurger	LAYOUT	BY Minh Tran			CHECKED Richard Schendel	POST MILE		0.19
	QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal	SPECIFICATIONS	BY Karen Doll			CHECKED Karen Doll	PLANS AND SPECS COMPARED		REVISION DATES

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3
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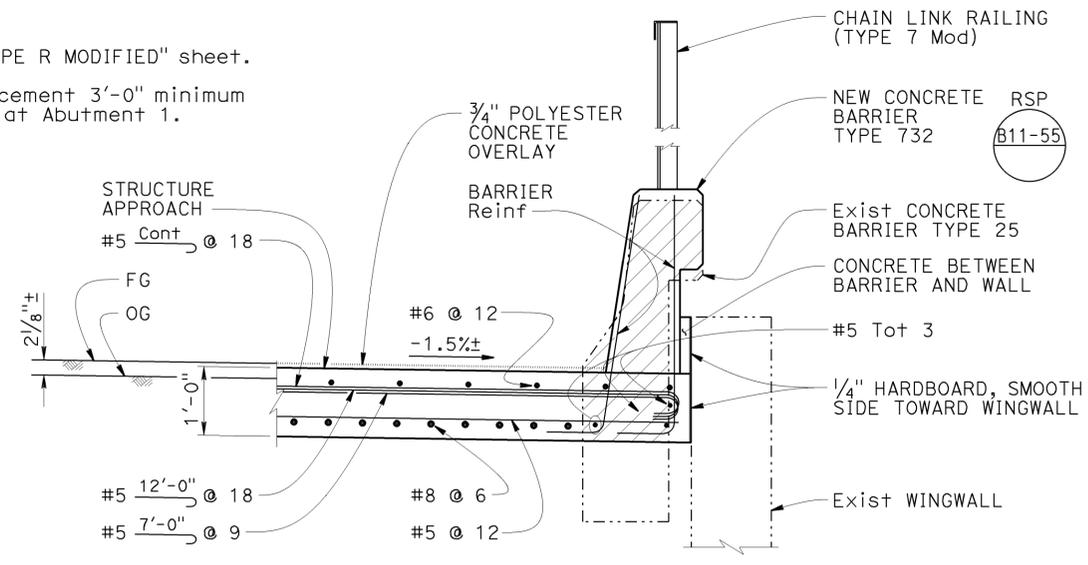
UNIT: 3603	PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 2 OF 19
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	35	51

Richard Schendel
 REGISTERED CIVIL ENGINEER 02/14/14 DATE
 6-2-14
 PLANS APPROVAL DATE
 RICHARD E. SCHENDEL
 No. C64259
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
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**ABUTMENT 1 & 7 LEFT
STRUCTURE APPROACH SLAB SECTION**
3/4" = 1'-0"



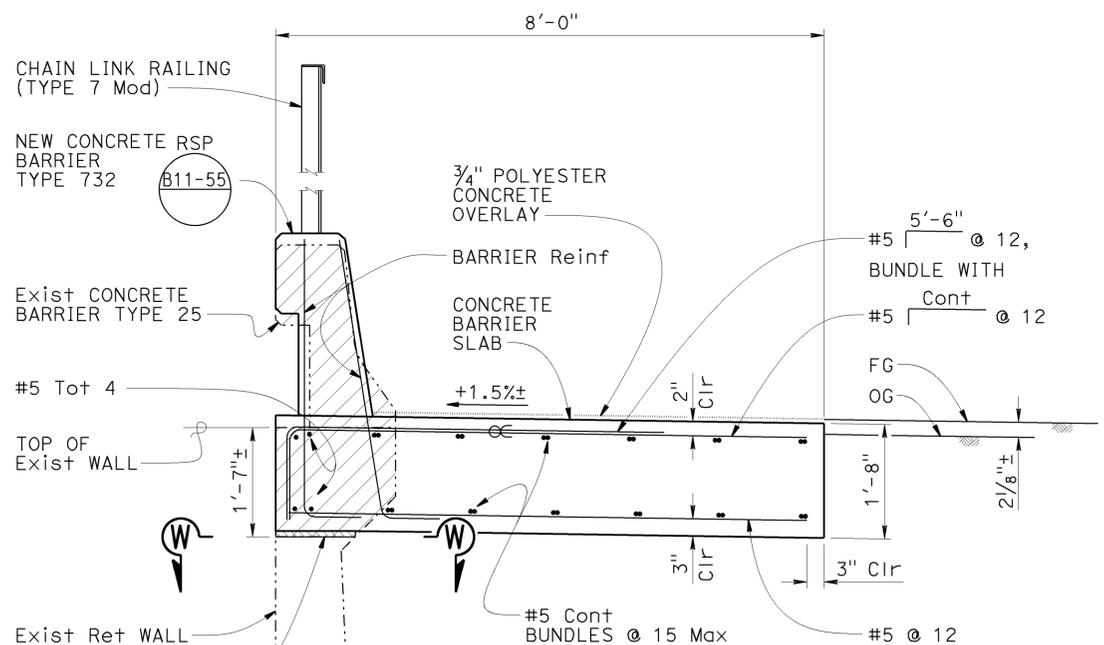
**ABUTMENT 1 & 7 RIGHT
STRUCTURE APPROACH SLAB SECTION**
3/4" = 1'-0"

LEGEND:

- Indicates New Structure
- - - - - Indicates Existing Structure
- ▨ Bridge Removal (Portion)

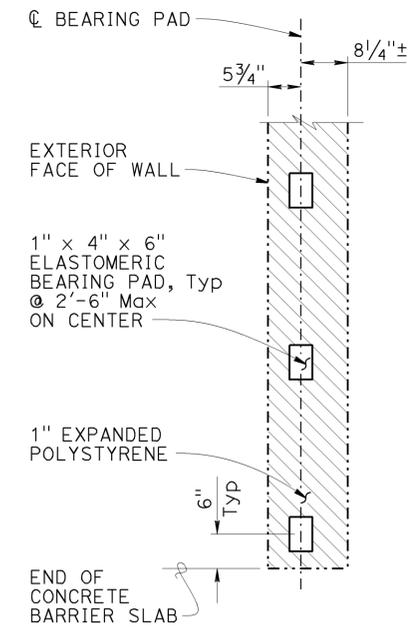
NOTES:

1. All barrier reinforcement not shown.
2. All reinf shown and barrier reinf not shown shall be Epoxy Coated Reinforcement.



**ABUTMENT 1 LEFT
CONCRETE BARRIER SLAB SECTION**
3/4" = 1'-0"

- NOTES:**
1. No expansion joints allowed in Concrete Barrier Slab.
 2. Place barrier slab concrete continuous with structure approach concrete.
- ⊙ Indicates horizontally bundled bars



SECTION W-W
3/4" = 1'-0"

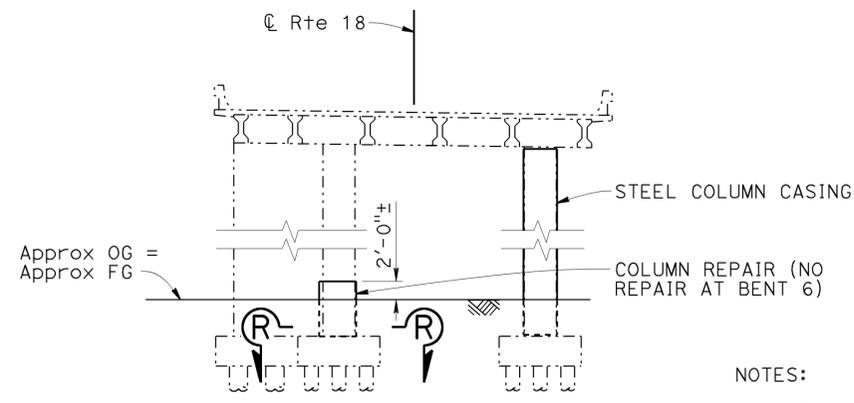
QUANTITIES

INJECT CRACK (EPOXY)	8 LF
PREPARE CONCRETE BRIDGE DECK SURFACE	17,170 SQFT
FURNISH POLYESTER CONCRETE OVERLAY	1,080 CF
PLACE POLYESTER CONCRETE OVERLAY	17,170 SQFT
CORE CONCRETE (3")	12 LF
BRIDGE REMOVAL (PORTION)	LUMP SUM
STRUCTURE EXCAVATION (BRIDGE)	52 CY
STRUCTURE BACKFILL (BRIDGE)	50 CY
STRUCTURAL CONCRETE, BRIDGE	425 CY
STRUCTURAL CONCRETE, BARRIER SLAB	18 CY
AGGREGATE BASE (APPROACH SLAB)	5 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R MODIFIED)	48 CY
PAVING NOTCH EXTENSION	32 CF
DRILL AND BOND DOWEL	60 LF
DRILL AND BOND DOWEL (CHEMICAL ADHESIVE)	2 EA
SNOWPLOW DEFLECTOR	30 EA
JOINT SEAL (MR 1")	43 LF
JOINT SEAL (MR 1 1/2")	43 LF
JOINT SEAL (MR 2")	43 LF
BAR REINFORCING STEEL (BRIDGE)	245 LB
BAR REINFORCING STEEL (EPOXY COATED)(BRIDGE)	124,200 LB
ASPHALT MEMBRANE WATERPROOFING	340 SQFT
SILANE WATERPROOFING TREATMENT	70 SQFT
COLUMN CASING	29,200 LB
MISCELLANEOUS METAL (RESTRAINER - CABLE TYPE)	95 LB
CHAIN LINK RAILING (TYPE 7 MODIFIED)	870 LF
CONCRETE BARRIER (TYPE 732)	870 LF

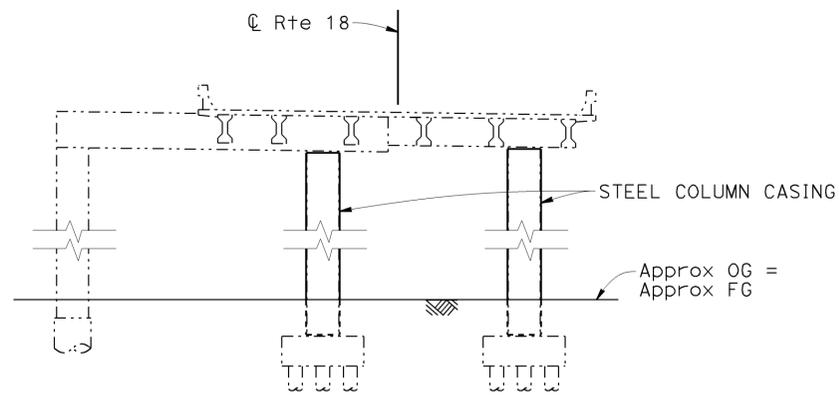
DESIGN	BY Richard Schendel	CHECKED William Adlespurger
DETAILS	BY Richard Schendel	CHECKED William Adlespurger
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 18

COUNTY LINE OVERHEAD
ABUTMENT DETAILS
 BRIDGE NO. 53-2331
 POST MILE 0.19



BENTS 2, 4, 5 & 6

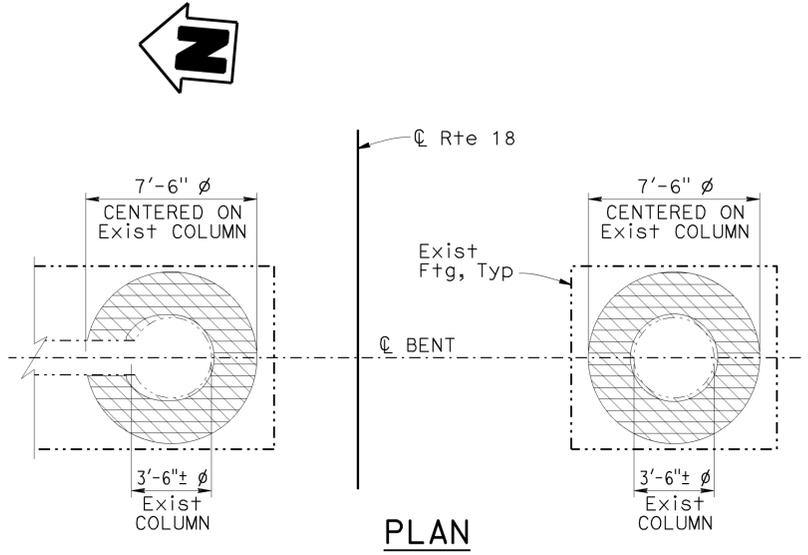


BENT 3

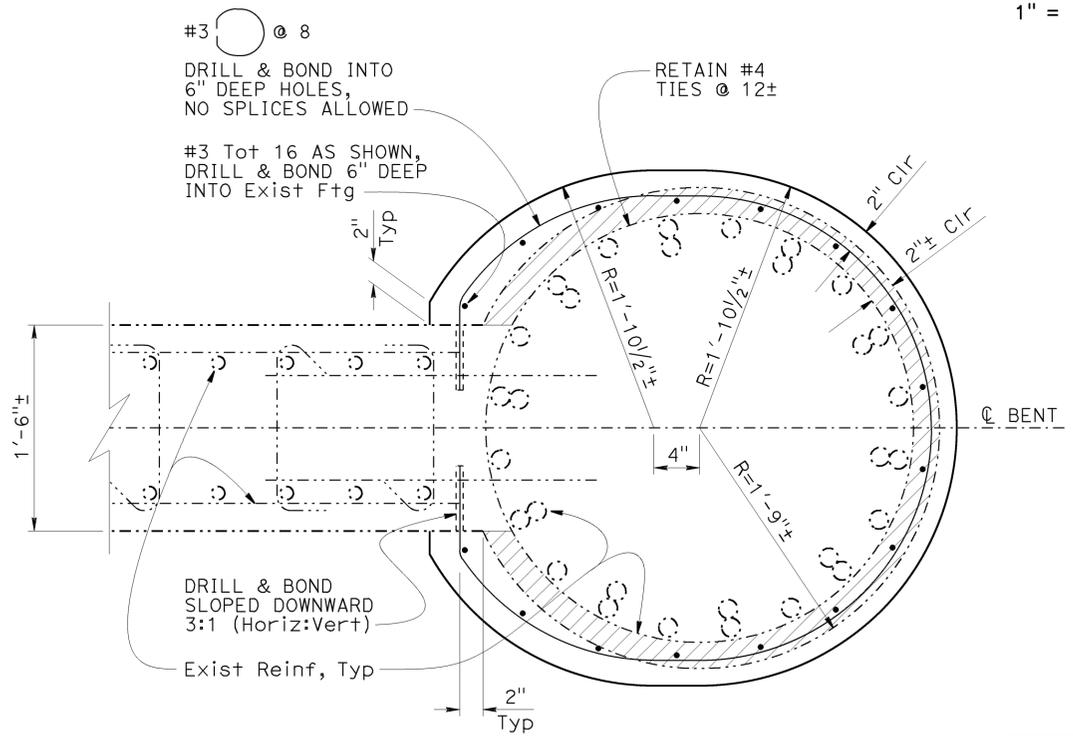
- NOTES:
- Railroad not shown.
 - Bridge Removal (Portion), new deck, and new concrete barriers not shown.
 - For Steel Column Casing details, see "STEEL COLUMN CASING" sheet.

ELEVATION

1" = 10'



NOTE:
Bent 2 shown, other locations similar.



SECTION R-R

1/2" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND:

- Indicates New Structure
- - - - - Indicates Existing Structure
- ▨ Bridge Removal (Portion)

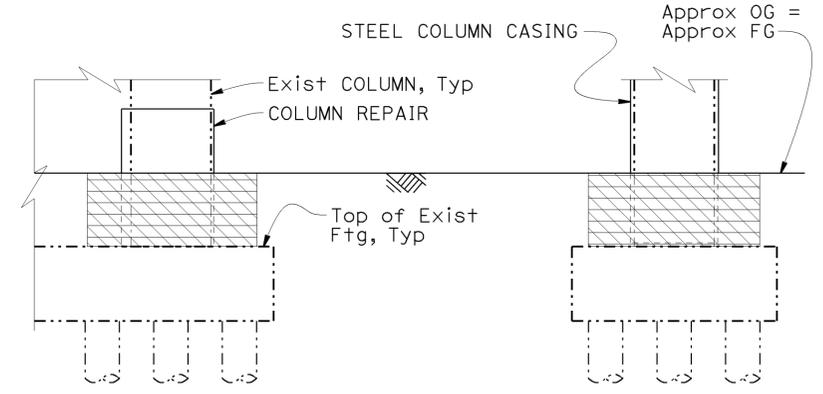
COLUMN REPAIR DATA

Location	Top of Footing Elevation (ft)	Approx OG Elevation (ft)
Bent 2 Lt	3,389.8 ±	3,393 ±
Bent 4 Lt	3,388.3 ±	3,393 ±
Bent 5 Lt	3,388.3 ±	3,393 ±

COLUMN CASING DATA

Location	Column Height (ft)	Casing Class	Casing Thickness	Top of Footing Elevation (ft)	Approx OG Elevation (ft)
Bent 2 Rt	27.3 ±	F	3/8"	3,389.8 ±	3,393 ±
Bent 3 Middle	28.5 ±	F	3/8"	3,388.3 ±	3,393 ±
Bent 3 Rt	28.9 ±	F	3/8"	3,388.3 ±	3,393 ±
Bent 4 Rt	28.7 ±	F	3/8"	3,388.3 ±	3,393 ±
Bent 5 Rt	28.5 ±	F	3/8"	3,388.3 ±	3,393 ±
Bent 6 Rt	26.0 ±	F	3/8"	3,390.3 ±	3,397 ±

Note: Column height measured from soffit of bentcap to top of footing.



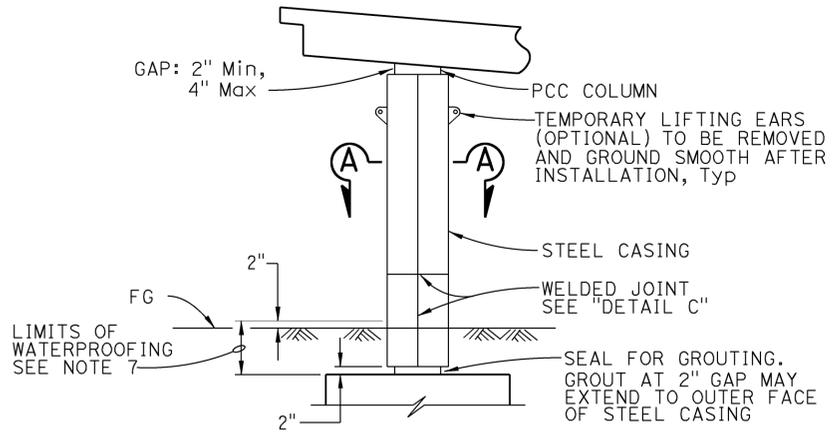
ELEVATION

- ▨ Denotes Structure Excavation, Bridge
- ▨ Denotes Structure Backfill, Bridge

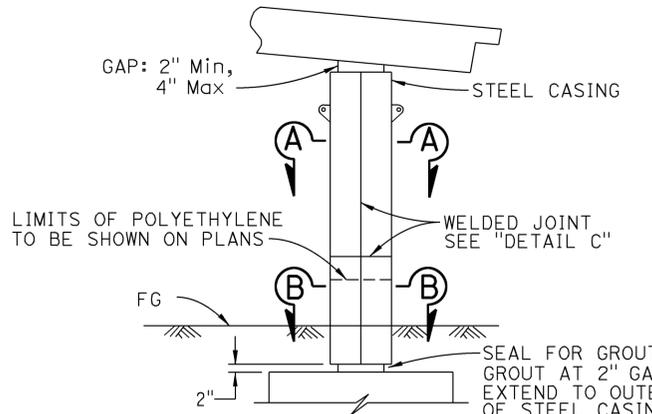
PAY LIMITS FOR STRUCTURE EXCAVATION AND BACKFILL

1/4" = 1'-0"

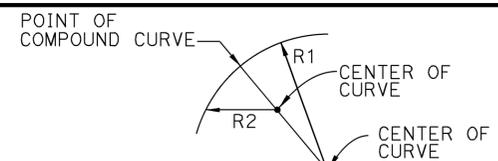
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	37	51
Richard Schendel REGISTERED CIVIL ENGINEER			02/14/14 DATE	RICHARD E. SCHENDEL No. C64259 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA	
6-2-14 PLANS APPROVAL DATE					
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CLASS F COLUMN

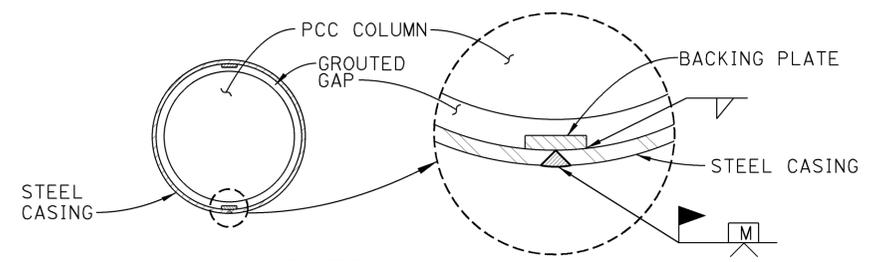


CLASS P/F COLUMN



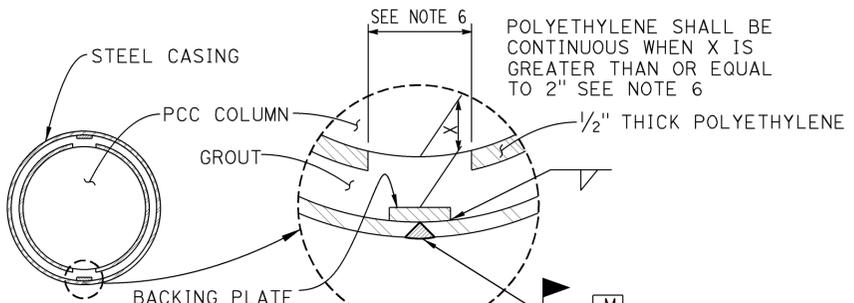
ELLIPTICAL CASING DETAIL CLASS F AND P/F COLUMN

RADII R1 AND R2 TO BE DETERMINED BY THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE ENGINEER



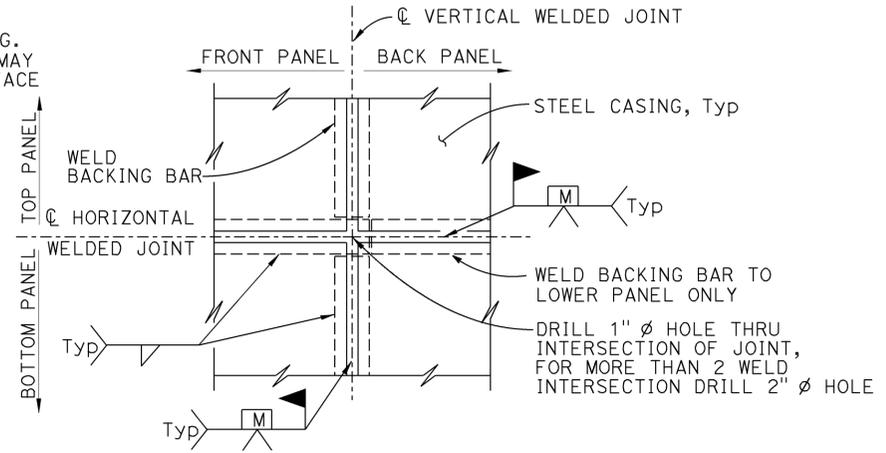
SECTION A-A

MINIMUM INSIDE DIAMETER OF STEEL CASING = 1 1/2" GREATER THAN NOMINAL COLUMN DIAMETER FOR CLASS F AND 2 1/2" FOR CLASS P/F



SECTION B-B

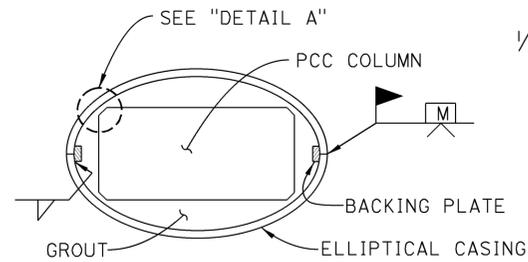
MINIMUM INSIDE DIAMETER OF STEEL CASING = 2 1/2" GREATER THAN NOMINAL COLUMN DIAMETER FOR CLASS P/F



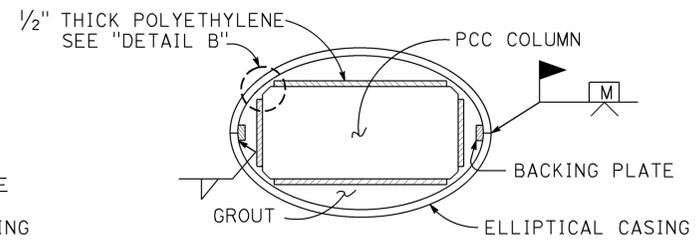
(TWO WELD INTERSECTION JOINT)

DETAIL C

ROUND COLUMN

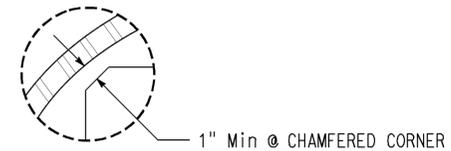


SECTION A-A



SECTION B-B

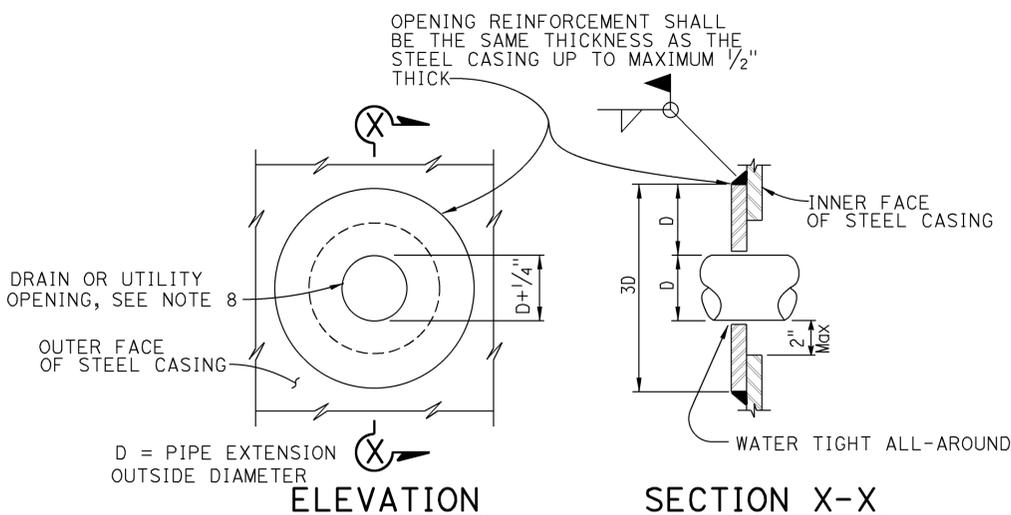
RECTANGULAR COLUMN



DETAIL A



DETAIL B



CASING OPENING

NOTE: OPENING REINFORCEMENT REQUIRED FOR DRAIN OR UTILITY OPENINGS LARGER THAN 4"

NOTES:

- For varying thickness, steel casing inside surface to remain flush. Minimum clearance from PCC column to casing shall be maintained
- Appropriate injection nozzles to be provided on casing, but removed and ground flush following completion of grouting operation
- All voids between steel casing and polyethylene (Class P/F), and steel casing and PCC column (Class F) to be filled with grout
- Location and number of vertical and horizontal welds to be determined by the Contractor and subject to the approval of the Engineer. The location of casing welds are for illustration. No skip welds allowed
- Circular steel casing to be 1/4" thick minimum for casings with a 4'-4" diameter or less; all other steel casings to be 3/8" thick unless noted differently on contract plans. Backing plates to be the same thickness as casing up to maximum 3/8" thick
- Contractor shall remove 12" polyethylene strip behind backing plate if backing plate is closer than 2" from face of column
- Waterproof limits for steel casings. Typical for Class "F" and "P/F"
- For pipe extensions, opening shall be no more than 1/4" greater than the pipe extension diameter. For other openings, the opening diameter to be determined by the Engineer

NO SCALE

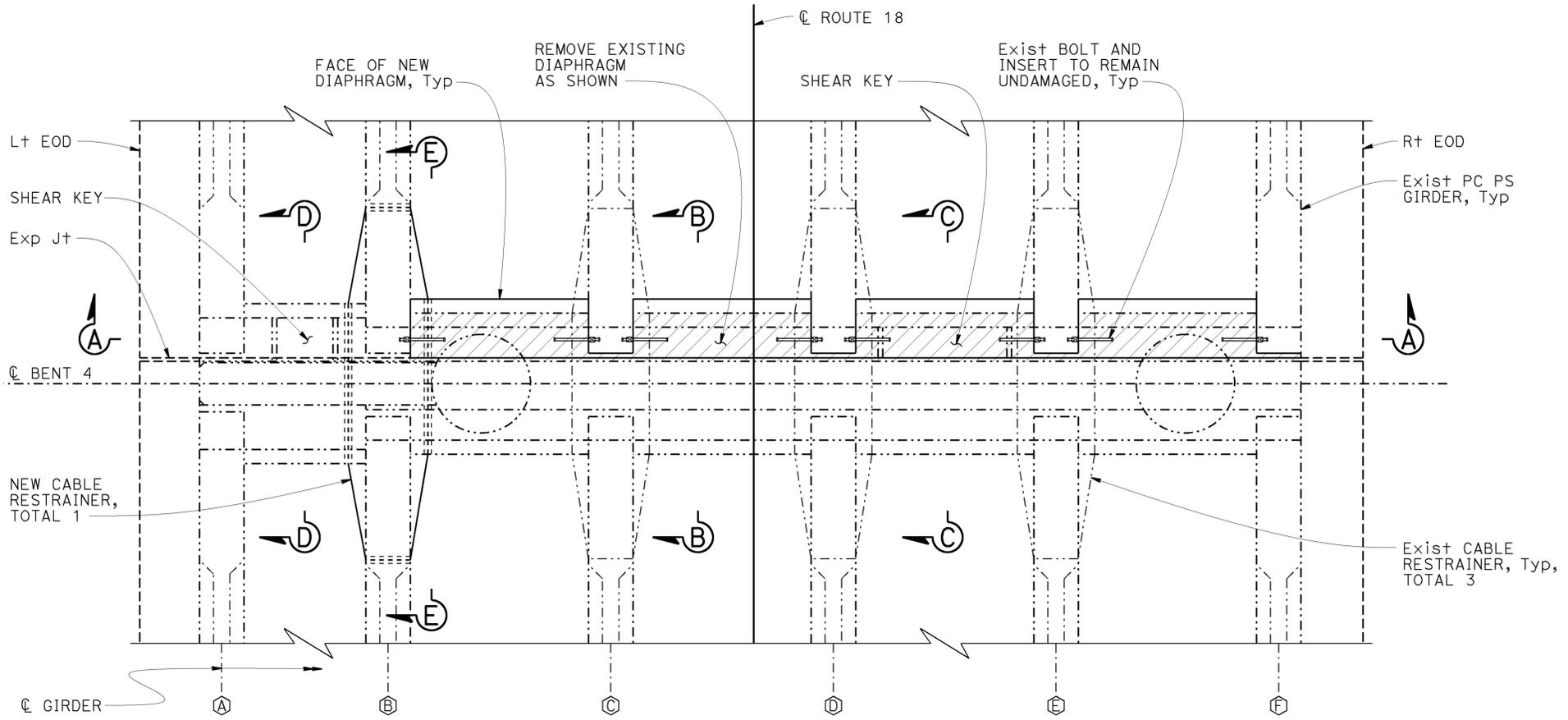
STANDARD DRAWING	
FILE NO. xs7-010	APPROVAL DATE July 2011

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	
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DIVISION OF ENGINEERING SERVICES	
BRIDGE NO. 53-2331	POST MILE 0.19

COUNTY LINE OVERHEAD STEEL COLUMN CASING	
REVISION DATES	SHEET 5 OF 19

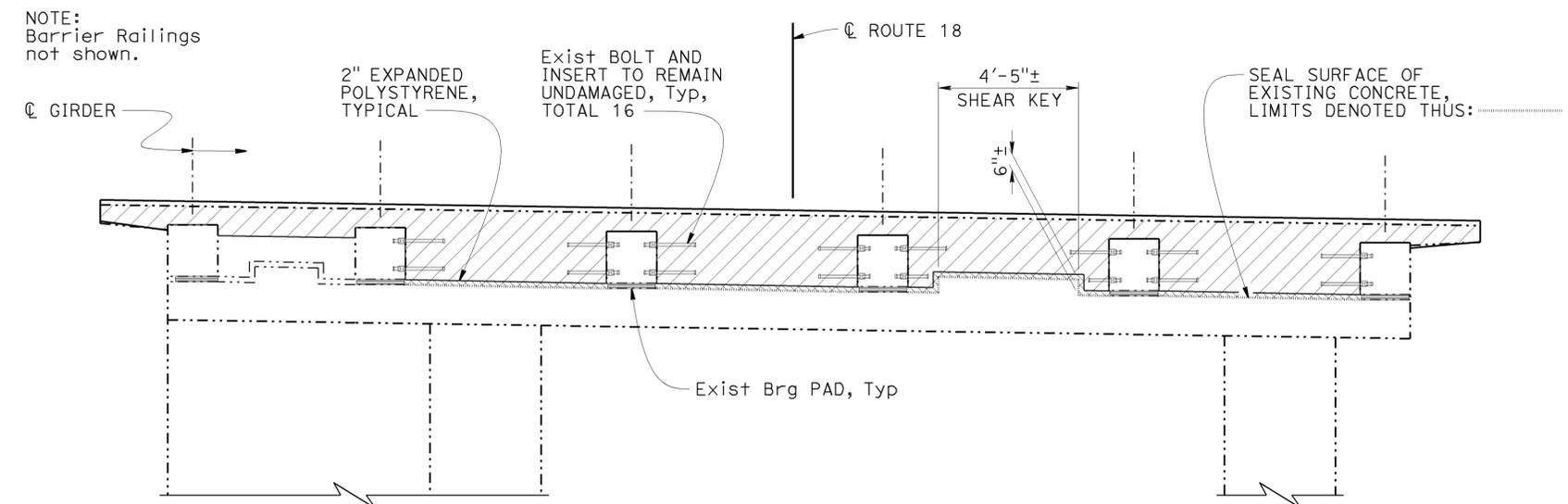
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	38	51
<i>Richard Schendel</i> REGISTERED CIVIL ENGINEER			02/14/14 DATE	RICHARD E. SCHENDEL No. C64259 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA	
6-2-14 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



- LEGEND:**
- Indicates New Structure
 - - - - - Indicates Existing Structure
 - ▨ Bridge Removal (Portion)
 - ⋯ Silane Waterproofing Treatment

- NOTES:**
1. Reinforcement not shown for clarity.
 2. Steel Column Casing not shown.
 3. For SECTIONS "B-B", "C-C", and "D-D", see "BENT 4 DETAILS NO. 1" sheet.
 4. For "ELEVATION E-E", see "BENT 4 DETAILS NO. 2" sheet.

PLAN
 $\frac{3}{8}'' = 1'-0''$



SECTION A-A
 $\frac{3}{8}'' = 1'-0''$

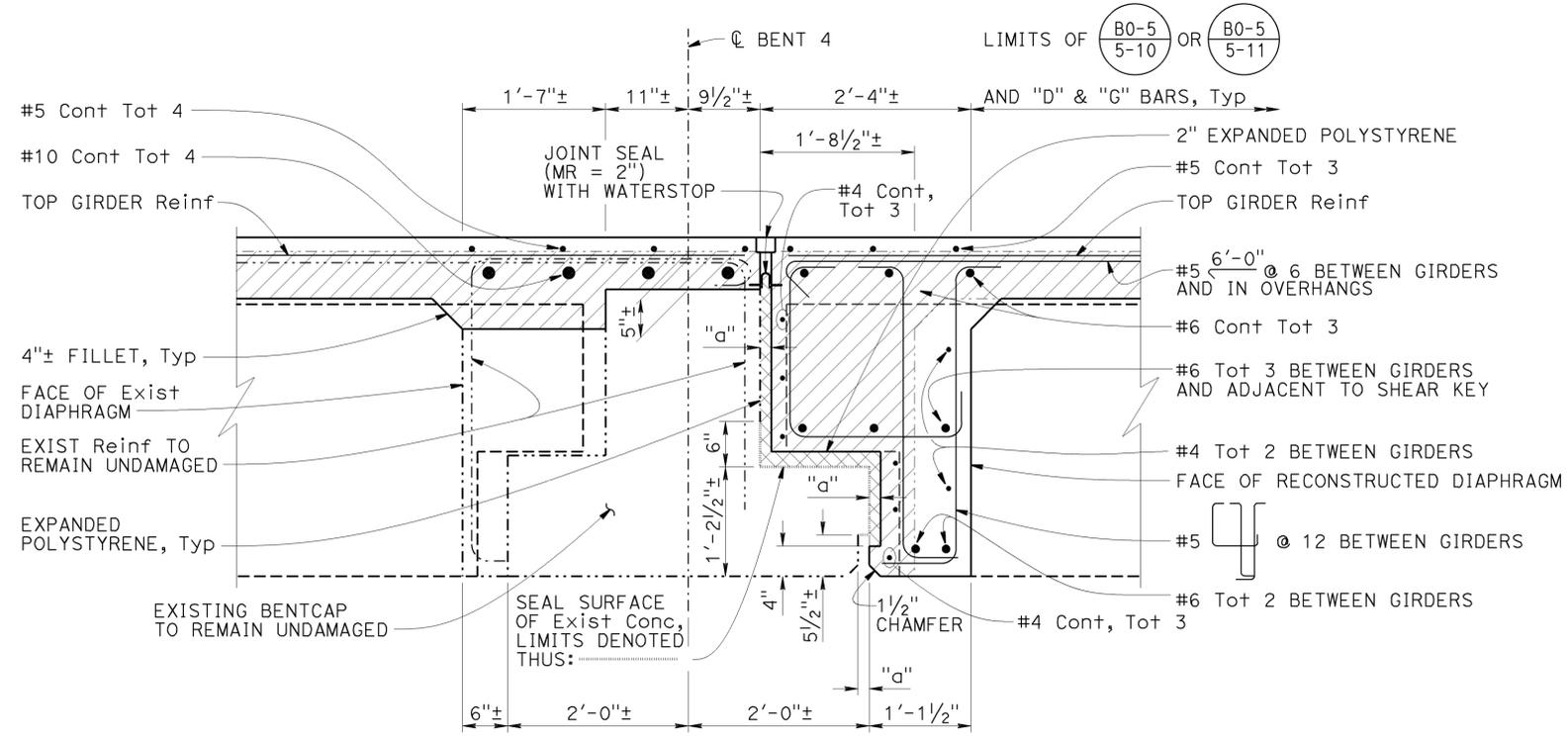
NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTE:
 Columns and Pier Wall shown for clarity.

DESIGN BY Richard Schendel CHECKED BY William Addlespurger DETAILS BY Richard Schendel CHECKED BY William Addlespurger QUANTITIES BY Richard Schendel CHECKED BY Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2331	COUNTY LINE OVERHEAD BENT 4 LAYOUT				
			POST MILE 0.19					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			UNIT: 3603 PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 08/29/12 12/29/12 02/22/13	SHEET 6	OF 19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	39	51

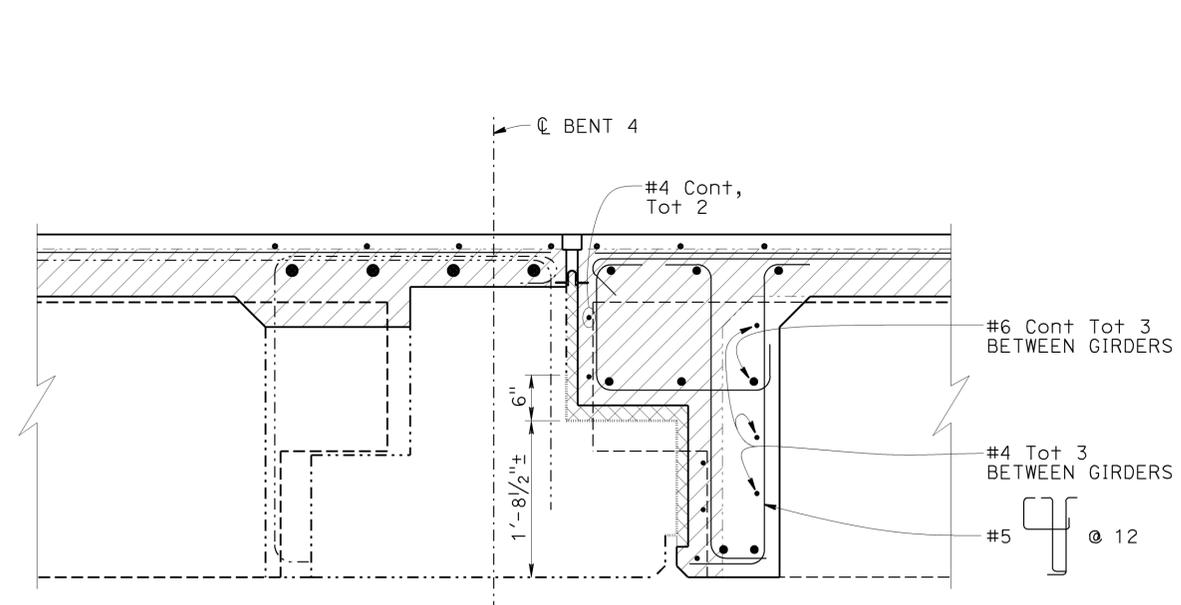
Richard Schendel
 REGISTERED CIVIL ENGINEER 02/14/14 DATE
 6-2-14
 PLANS APPROVAL DATE
 RICHARD E. SCHENDEL
 No. C64259
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
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SECTION B-B
1" = 1'-0" (B0-13 13-1, B0-13 13-2, B6-21)

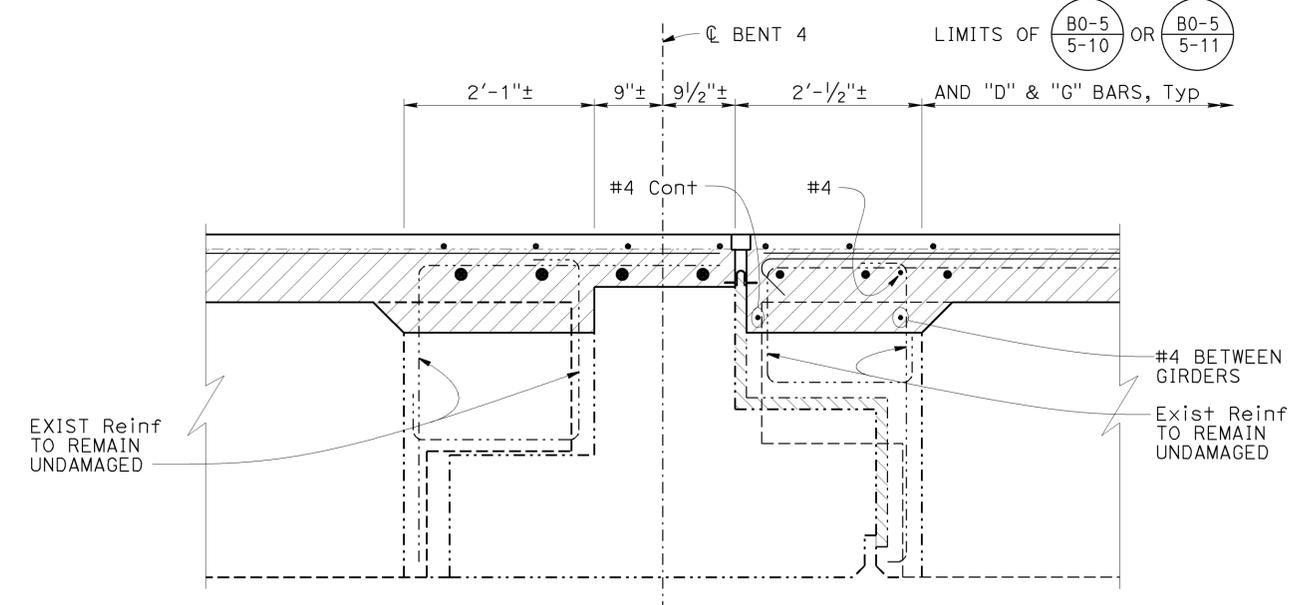
- LEGEND:**
- Indicates New Structure
 - - - - - Indicates Existing Structure
 - - - - - Indicates Existing PC PS Girder
 - ▨ Bridge Removal (Portion)
 - Silane Waterproofing Treatment

- NOTES:**
- No portion of existing PC PS Girder shall be removed. Girder shall remain undamaged.
 - All reinforcement not shown.
 - All new reinforcement shall be Epoxy Coated Reinforcement.
 - Columns not shown.



NOTE:
For details not shown, or for details shown but not noted, see "SECTION B-B".

SECTION C-C
1" = 1'-0"



NOTE:
For details not shown, or for details shown but not noted, see "SECTION B-B".

SECTION D-D
1" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY	Richard Schendel	CHECKED	William Addlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53-2331	COUNTY LINE OVERHEAD BENT 4 DETAILS NO. 1
	DETAILS	BY	Richard Schendel	CHECKED			William Addlespurger	POST MILE	
QUANTITIES	BY	Richard Schendel	CHECKED	Prem Rimal	UNIT: 3603 PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 7 OF 19

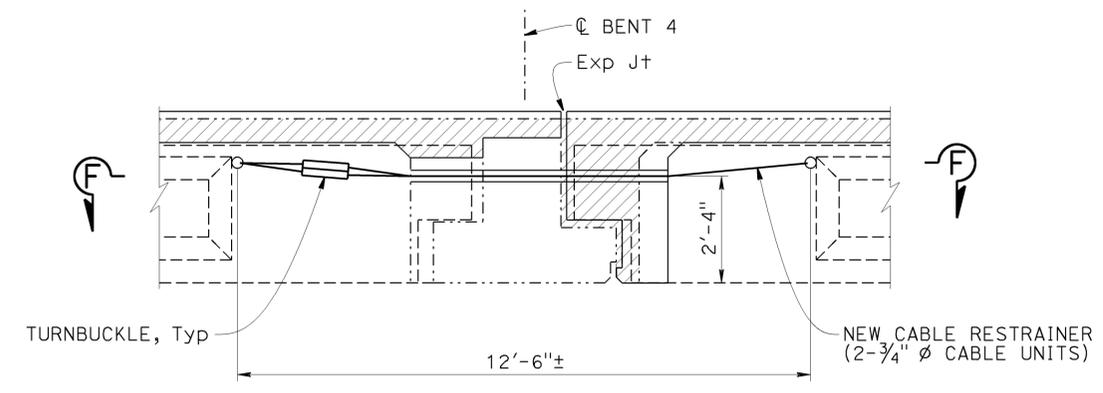
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

FILE => 53-2331-h-b04d#01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	40	51

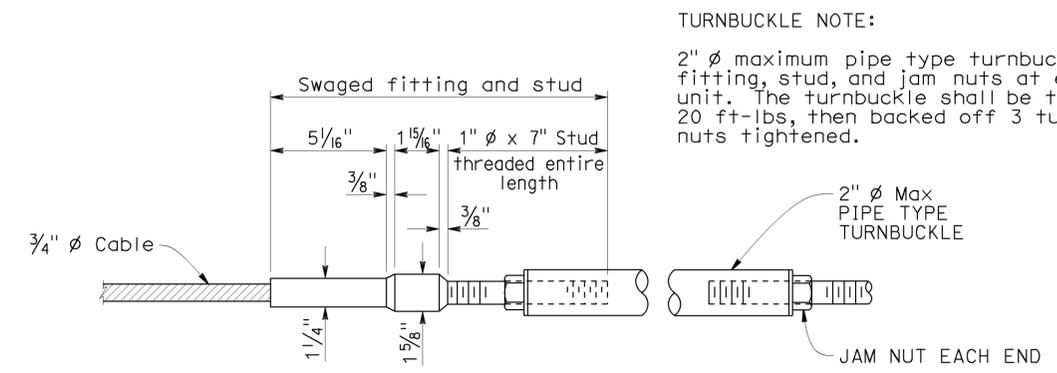
Richard Schendel
 REGISTERED CIVIL ENGINEER 02/14/14 DATE
 6-2-14
 PLANS APPROVAL DATE
 RICHARD E. SCHENDEL
 No. C64259
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
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- LEGEND:**
- Indicates New Structure
 - - - - - Indicates Existing Structure
 - - - - - Indicates Exist PC PS Girder
 - ▨ Bridge Removal (Portion)



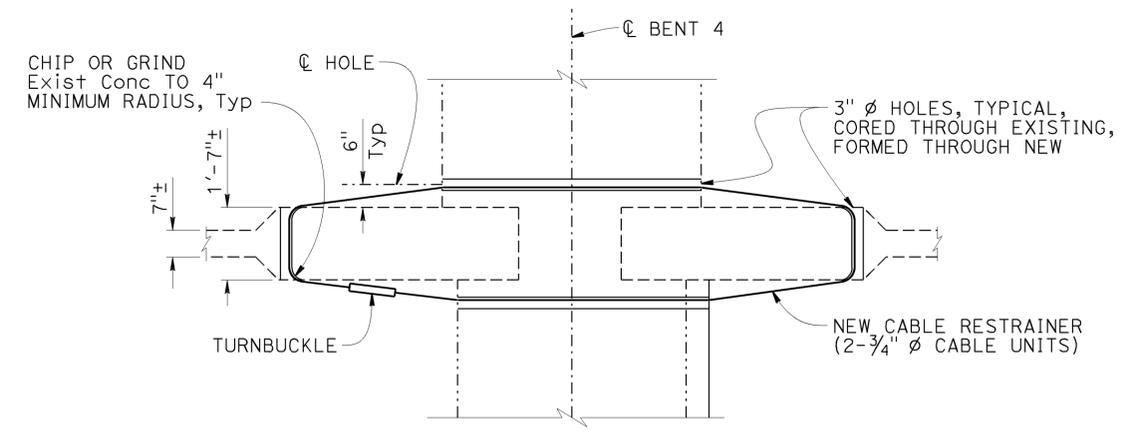
ELEVATION E-E
 $\frac{1}{2}'' = 1'-0''$

NOTE:
 One cable unit consists of one cable loop with two swaged ends, one turnbuckle, and jam nuts.



CABLE END ANCHORAGE
 $3'' = 1'-0''$

TURNBUCKLE NOTE:
 2" Ø maximum pipe type turnbuckle with swaged fitting, stud, and jam nuts at each end of cable unit. The turnbuckle shall be tightened to 20 ft-lbs, then backed off 3 turns and jam nuts tightened.



SECTION F-F
 $\frac{1}{2}'' = 1'-0''$

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Richard Schendel	CHECKED William Addlespurger
DETAILS	BY Richard Schendel	CHECKED William Addlespurger
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53-2331
POST MILE	0.19

COUNTY LINE OVERHEAD
BENT 4 DETAILS NO. 2

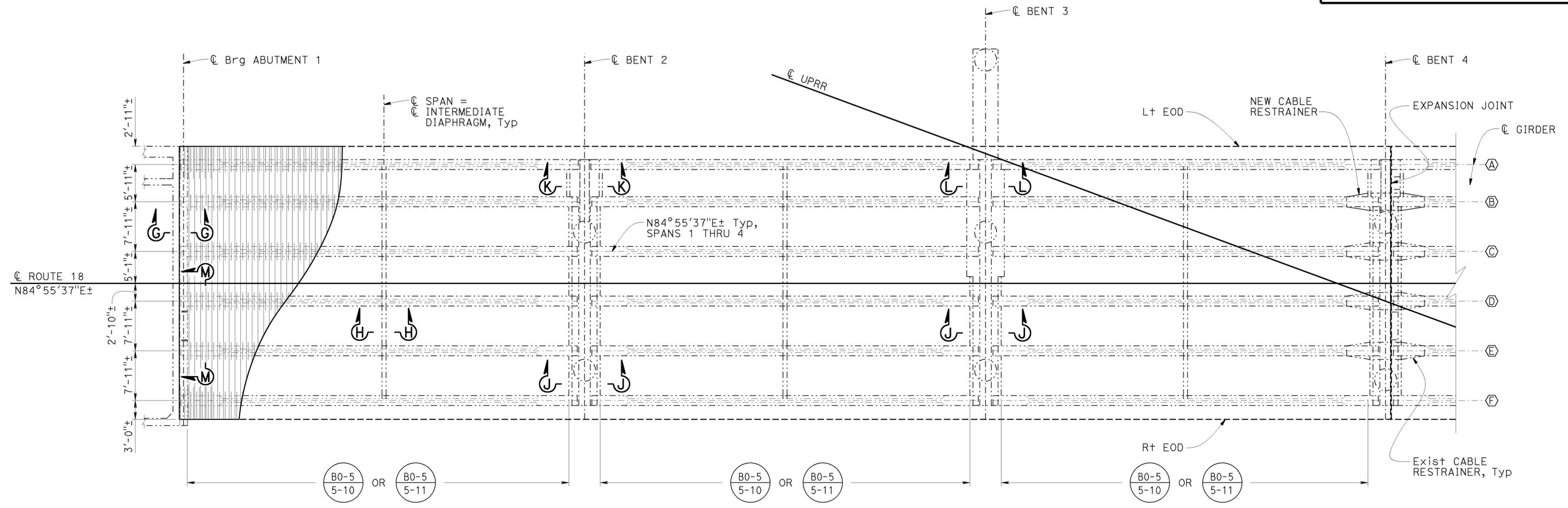
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	42	51

Richard Schendel
REGISTERED CIVIL ENGINEER
DATE 02/14/14

6-2-14
PLANS APPROVAL DATE

RICHARD E. SCHENDEL
No. C64259
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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N
PLAN
1/8" = 1'-0"

GIRDER DEFLECTIONS

Midspan Dead Load Deflection	
Deck	Overlay and Rails
0.08 ft	0.00 ft

NOTES:

1. For SECTIONS "G-G" and "H-H", see "DECK DETAILS NO. 1" sheet.
2. For SECTIONS "J-J", "K-K", and "L-L", see "DECK DETAILS NO. 2" sheet.
3. For "ELEVATION M-M", see "MISCELLANEOUS DETAILS NO. 1" sheet.

LEGEND:

- Indicates New Structure
- - - - - Indicates Existing Structure

NOTE:
Bridge Removal (Portion) not shown.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY Richard Schendel	CHECKED William Addlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO. 53-2331	COUNTY LINE OVERHEAD GIRDER LAYOUT NO. 1
DETAILS BY Richard Schendel	CHECKED William Addlespurger		DESIGN BRANCH 18	POST MILE 0.19	
QUANTITIES BY Richard Schendel	CHECKED Prem Rimal		UNIT: 3603 PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES: 08/29/12, 10/29/12, 12/31/12
				SHEET 10 OF 19	

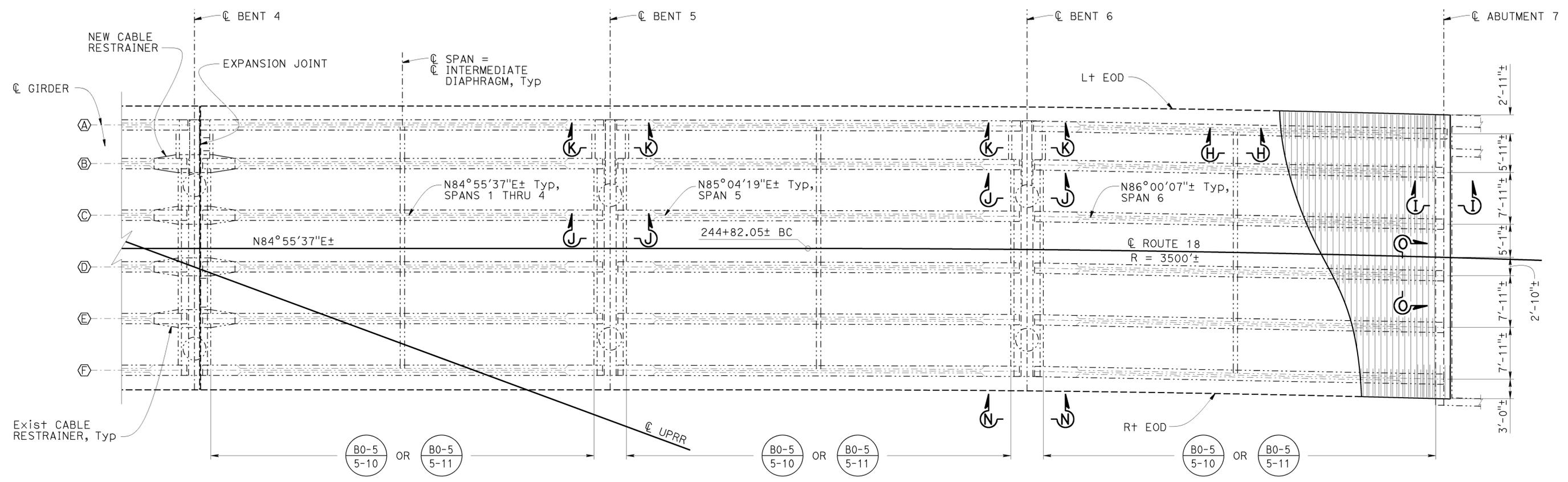
FILE => 53-2331-1-g_1001.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	43	51

Richard Schendel
 REGISTERED CIVIL ENGINEER
 DATE 02/14/14
 PLANS APPROVAL DATE 6-2-14

RICHARD E. SCHENDEL
 No. C64259
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NOTE:
Dimensions shown at
Girder and Abut 7.

N
PLAN
1/8" = 1'-0"

NOTES:

1. For SECTIONS "H-H" and "I-I", see "DECK DETAILS NO. 1" sheet.
2. For SECTIONS "J-J" and "K-K", see "DECK DETAILS NO. 2" sheet.
3. For "ELEVATION N-N", see "MISCELLANEOUS DETAILS NO. 1" sheet.
4. For "ELEVATION O-O", see "MISCELLANEOUS DETAILS NO. 2" sheet.

LEGEND:

- Indicates New Structure
- - - - - Indicates Existing Structure

NOTE:
Bridge Removal (Portion) not shown.

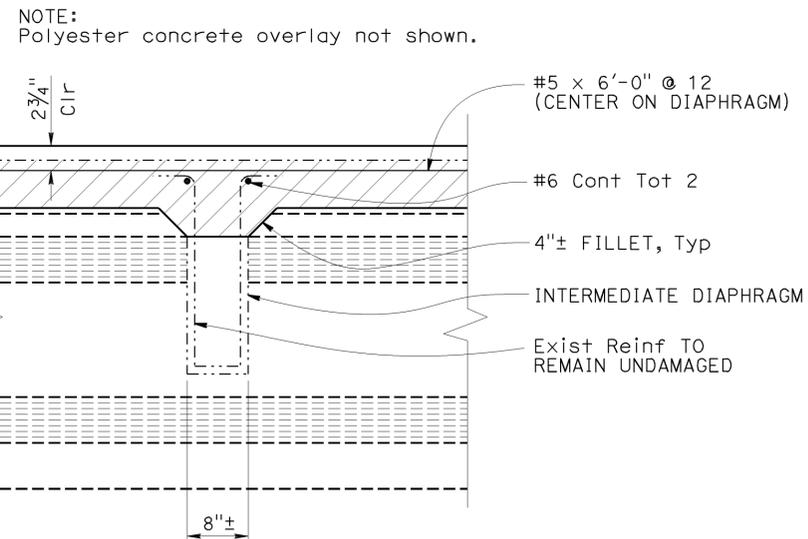
NOTE:
For girder deflections, see
"GIRDER LAYOUT NO. 1" sheet.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

DESIGN	BY Richard Schendel	CHECKED William Addlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	COUNTY LINE OVERHEAD GIRDER LAYOUT NO. 2				
DETAILS	BY Richard Schendel	CHECKED William Addlespurger			53-2331					
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal			POST MILE 0.19					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3603 PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	DISREGARD PRINTS BEARING EARLIER REVISION DATES				
				0	1	2	3	REVISION DATES	SHEET	OF
								08/23/12 12/31/12	11	19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	44	51

Richard Schendel
 REGISTERED CIVIL ENGINEER
 02/14/14 DATE
 6-2-14
 PLANS APPROVAL DATE
 RICHARD E. SCHENDEL
 No. C64259
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
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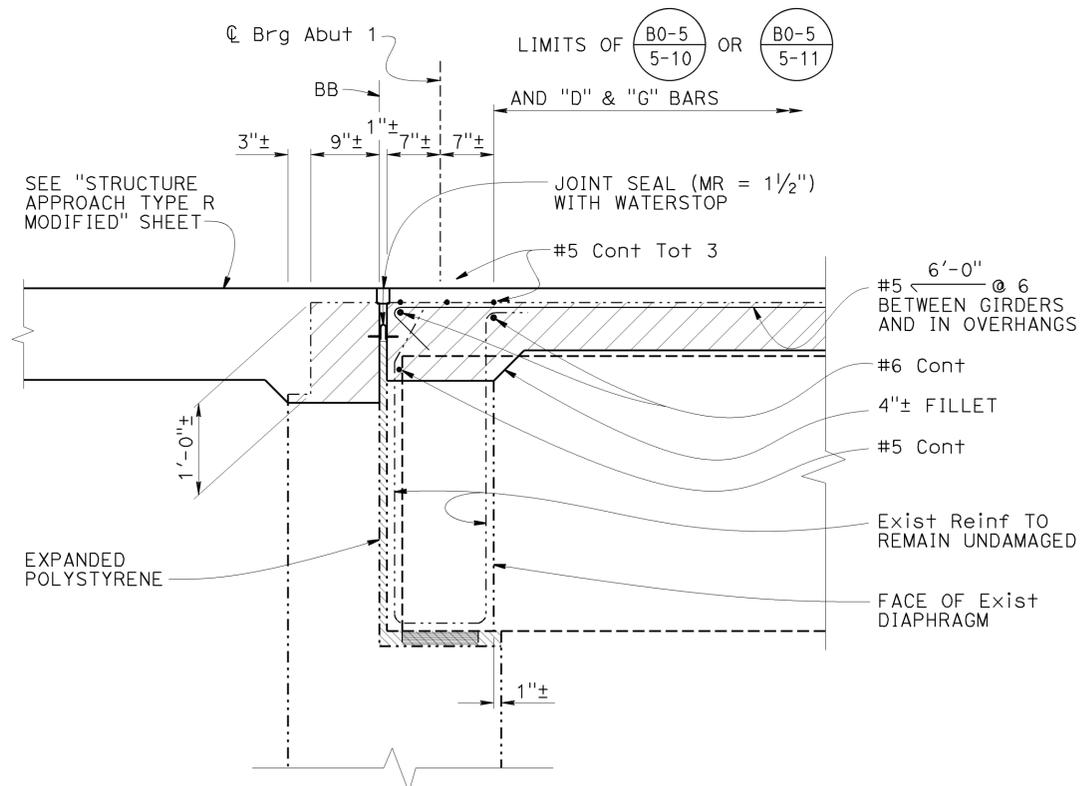


SECTION H-H
1" = 1'-0"

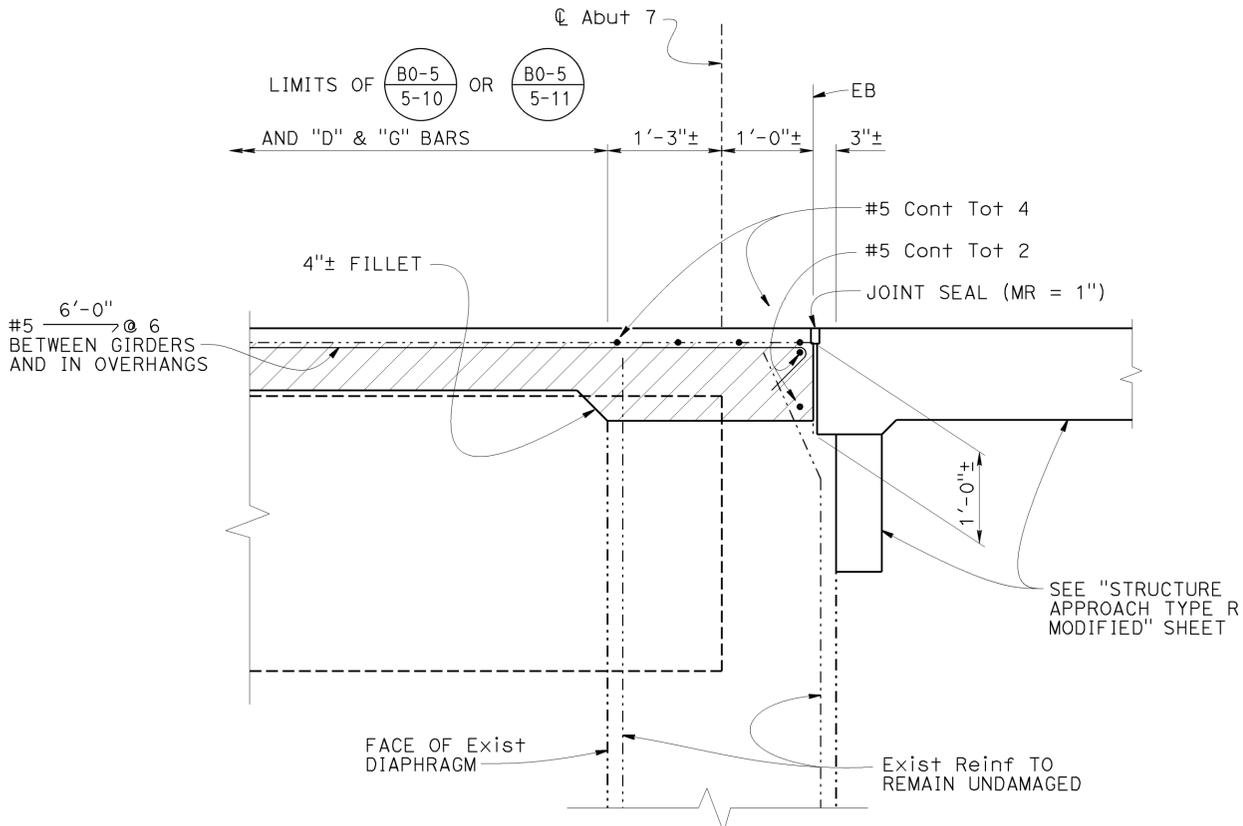
LEGEND:

- Indicates New Structure
- - - - - Indicates Existing Structure
- - - - - Indicates Existing PC PS Girder
- ▨ Bridge Removal (Portion)

- NOTES:**
- No portion of existing PC PS Girder shall be removed. Girder shall remain undamaged.
 - All reinforcement not shown.
 - All new reinforcement shall be Epoxy Coated Reinforcement.
 - Columns not shown.



SECTION G-G (B6-21)
1" = 1'-0"



SECTION I-I (B6-21)
1" = 1'-0"

NOTE:
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DESIGN	BY Richard Schendel	CHECKED William Addlespurger
DETAILS	BY Minh Tran	CHECKED William Addlespurger
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53-2331
POST MILE	0.19

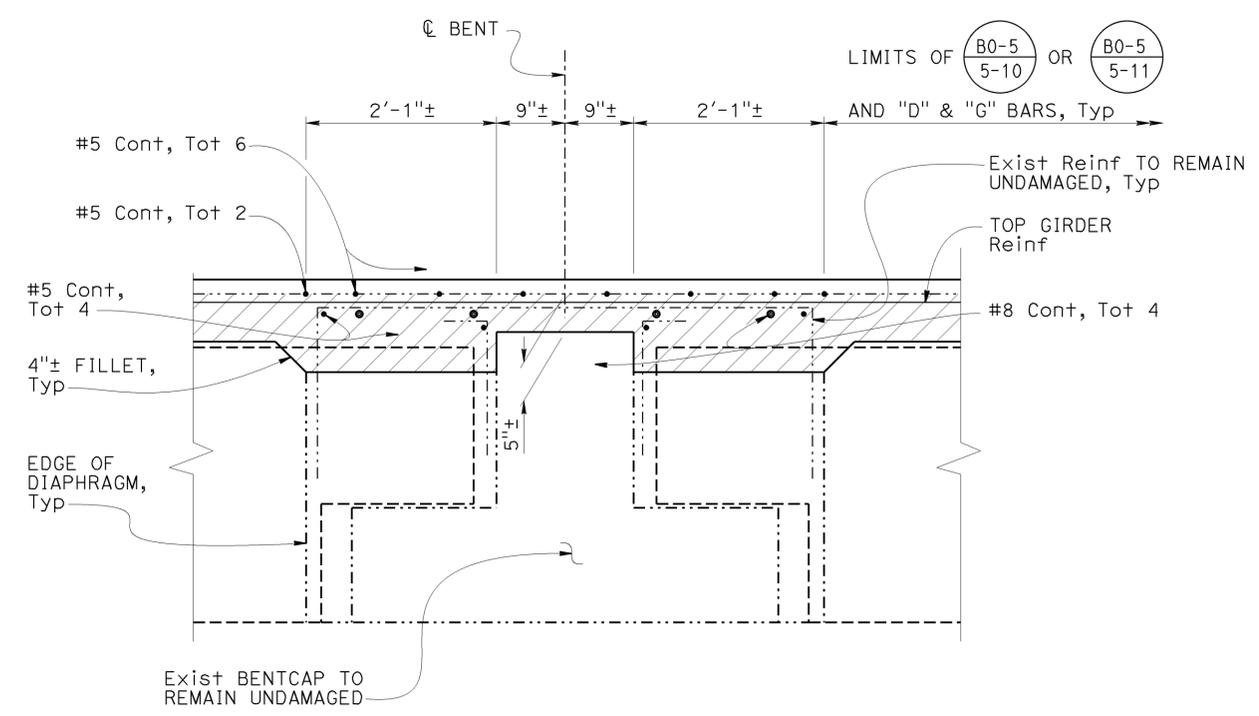
COUNTY LINE OVERHEAD
DECK DETAILS NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	45	51

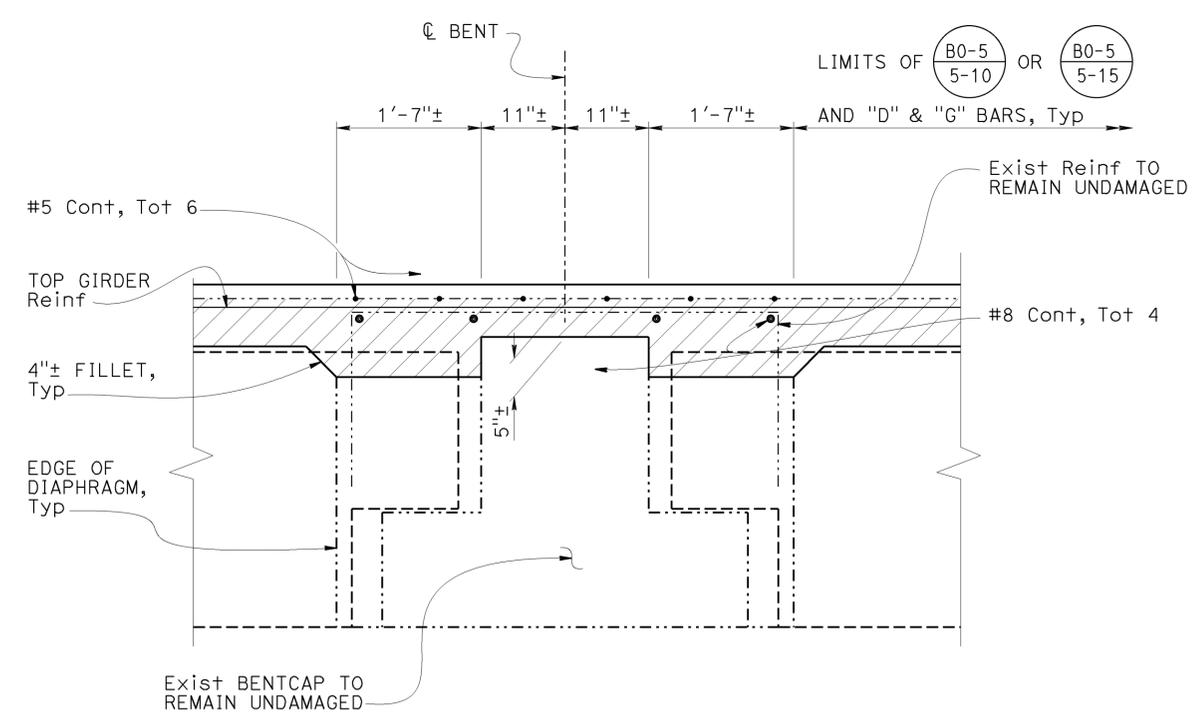
Richard Schendel
 REGISTERED CIVIL ENGINEER
 DATE 02/14/14
 6-2-14
 PLANS APPROVAL DATE
 RICHARD E. SCHENDEL
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LEGEND:

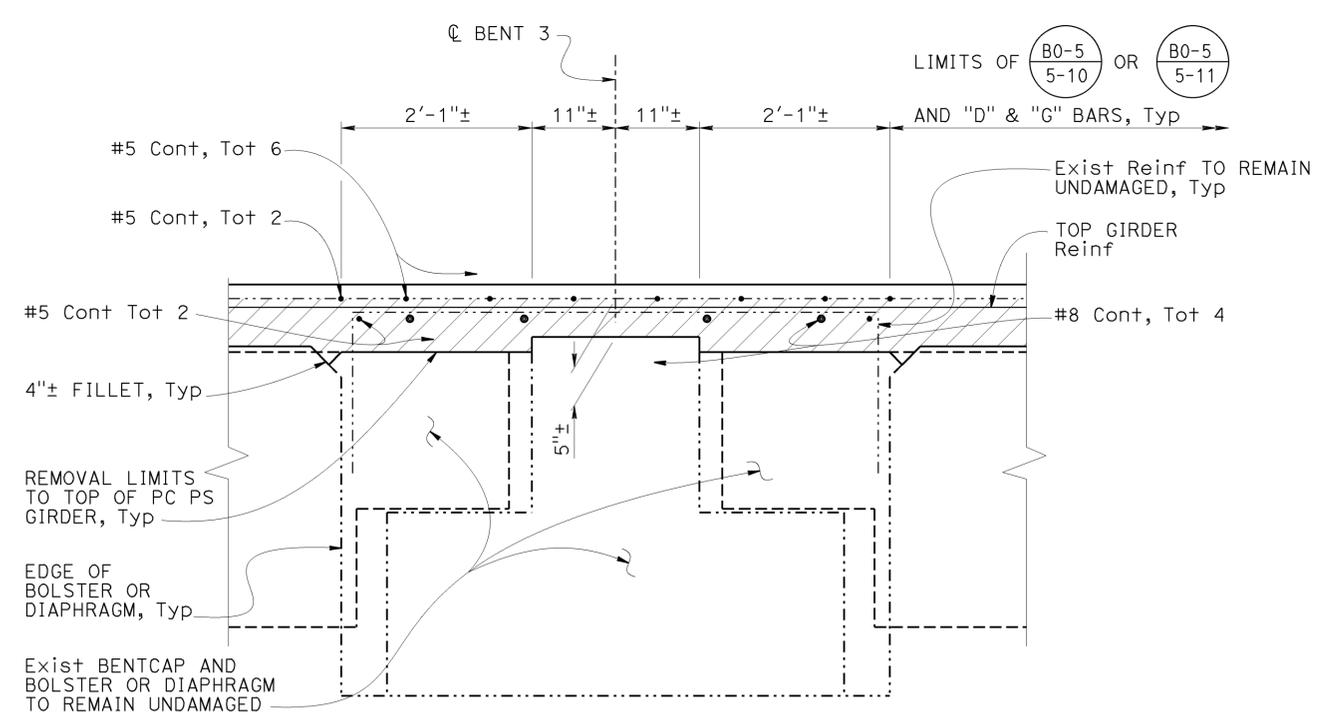
- Indicates New Structure
- - - - - Indicates Existing Structure
- - - - - Indicates Existing PC PS Girder
- ▨ Bridge Removal (Portion)



SECTION K-K
1" = 1'-0"



SECTION J-J
1" = 1'-0"



SECTION L-L
1" = 1'-0"

NOTE:
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DESIGN	BY Richard Schendel	CHECKED William Addlespurger
DETAILS	BY Minh Tran	CHECKED William Addlespurger
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

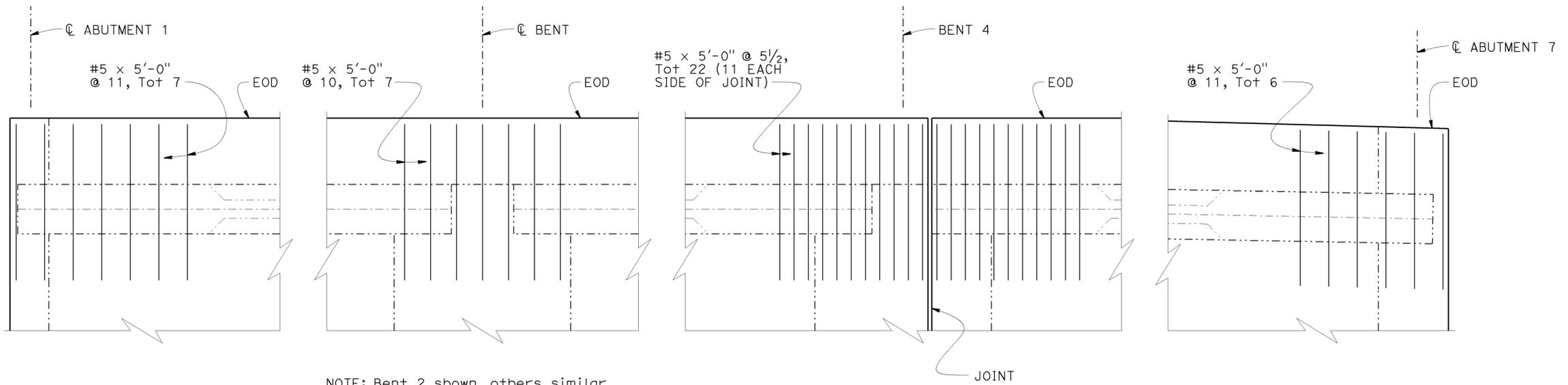
BRIDGE NO.	53-2331
POST MILE	0.19

COUNTY LINE OVERHEAD
DECK DETAILS NO. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	46	51

Richard Schendel
 REGISTERED CIVIL ENGINEER
 DATE 02/14/14
 PLANS APPROVAL DATE 6-2-14
 No. C64259
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER

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NOTE: Bent 2 shown, others similar.

ABUTMENT 1

BENTS 2, 3, 5 & 6

BENT 4

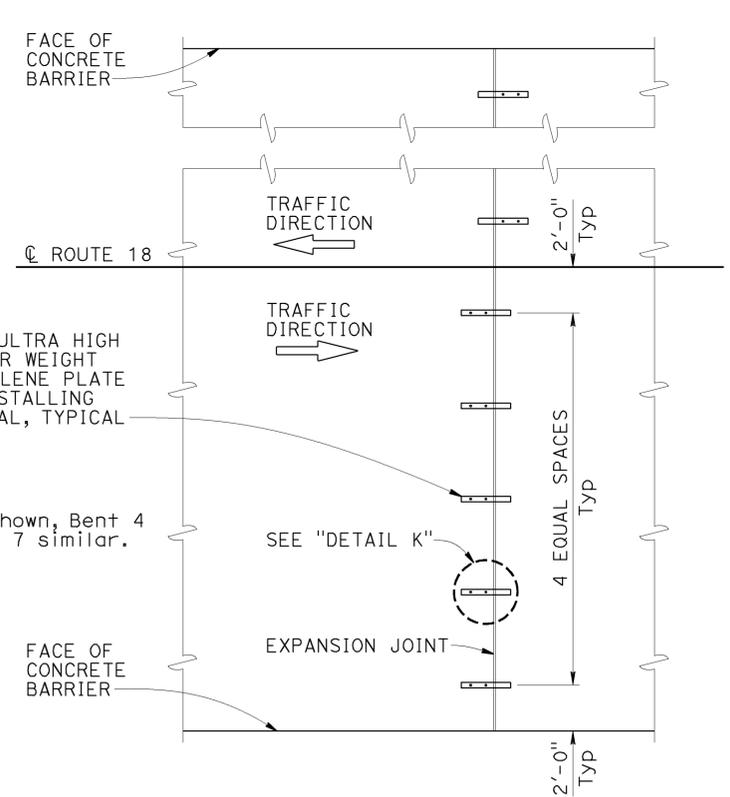
ABUTMENT 7

ADDITIONAL TOP DECK TRANSVERSE REINFORCEMENT

1/2" = 1'-0"

NOTES:

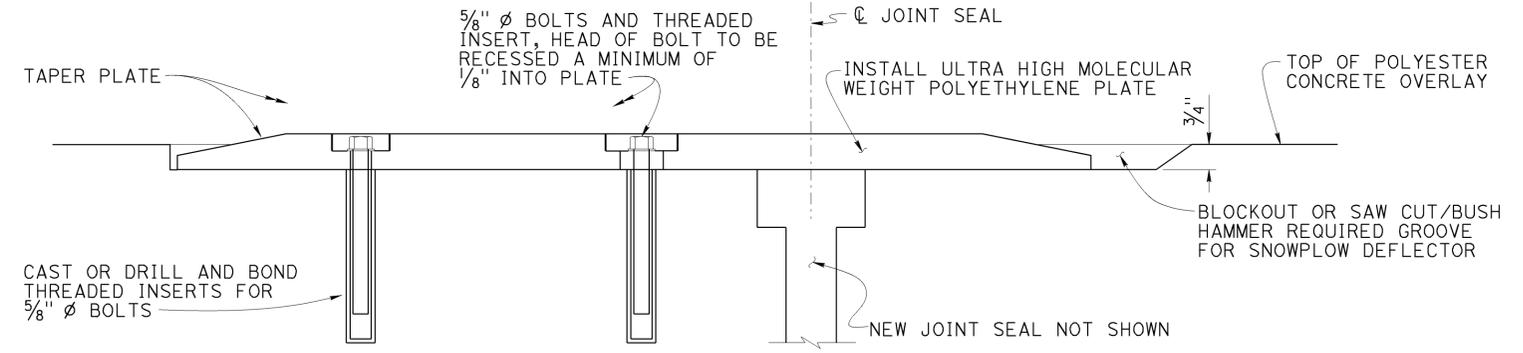
- All reinforcement shall be Epoxy Coated Reinforcement.
- Bars may be bundled with adjacent top deck transverse reinforcement to meet minimum spacing requirements.
- Left side of deck shown, right side similar.



NOTE: Abut 1 shown, Bent 4 and Abut 7 similar.

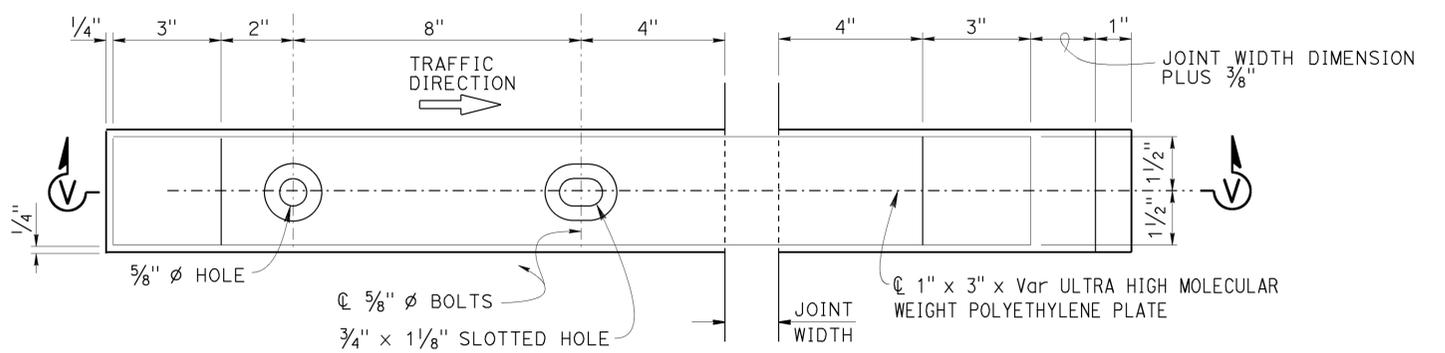
SNOWPLOW DEFLECTOR TYPICAL PLAN

1/4" = 1'-0"



SECTION V-V

NO SCALE



DETAIL K

NO SCALE

DESIGN	BY Richard Schendel	CHECKED William Addlespurger
DETAILS	BY Richard Schendel	CHECKED William Addlespurger
QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53-2331
POST MILE	0.19

**COUNTY LINE OVERHEAD
DECK DETAILS NO. 3**

USERNAME => s129690 DATE PLOTTED => 24-MAR-2014 TIME PLOTTED => 1:35:56

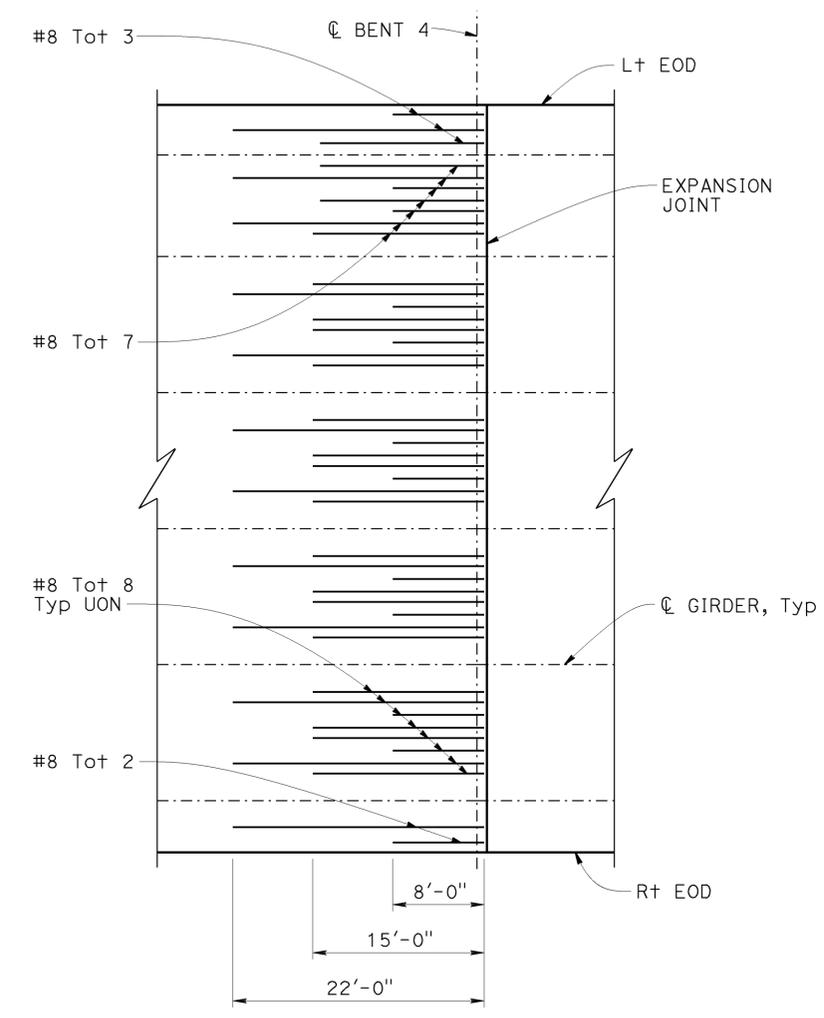
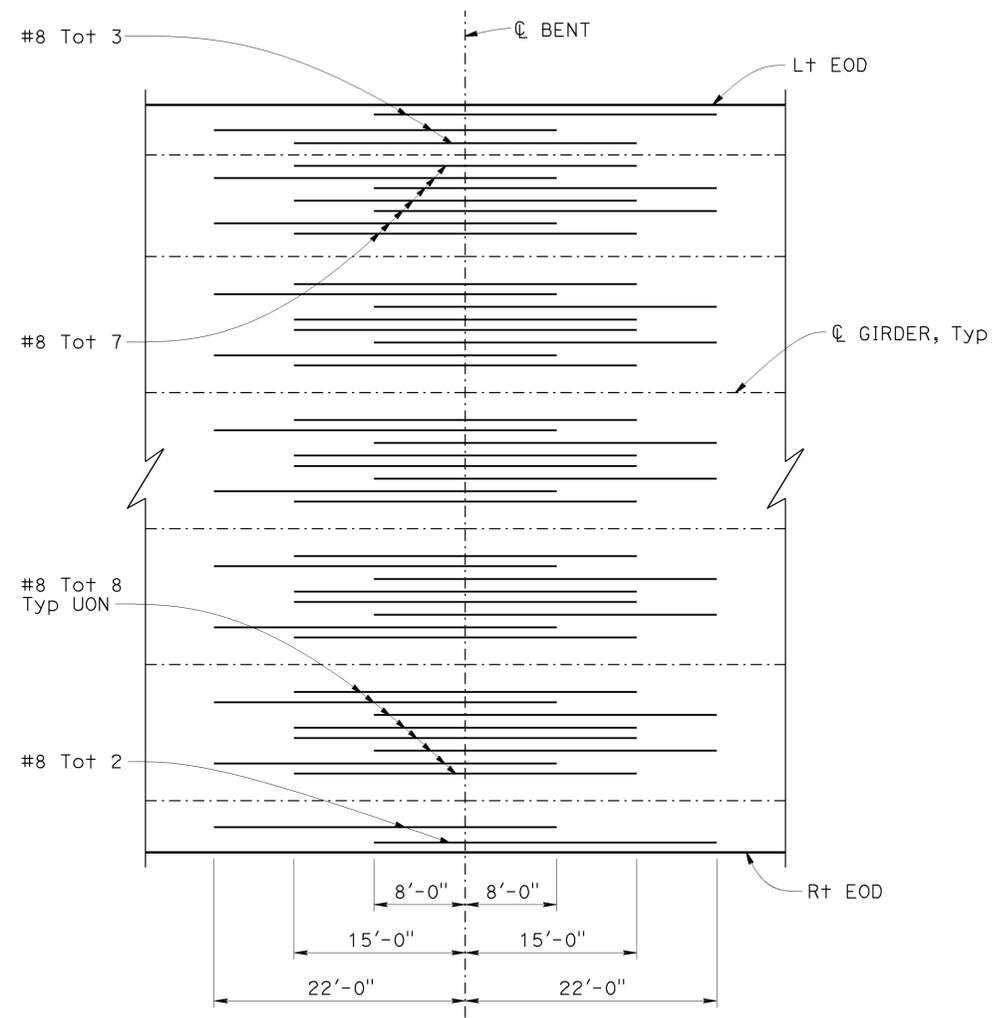
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	47	51

Richard Schendel
 REGISTERED CIVIL ENGINEER DATE 02/14/14
 6-2-14
 PLANS APPROVAL DATE

RICHARD E. SCHENDEL
 No. C64259
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

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NOTE:
Bent 2 shown,
Bents 3, 5, & 6 similar.



TOP GIRDER REINFORCEMENT
 HORIZONTAL: 1/8" = 1'-0"
 VERTICAL: NO SCALE

- NOTES:**
1. All reinforcement not shown.
 2. No splices allowed in reinforcement shown.
 3. All reinforcement shall be Epoxy Coated Reinforcement.

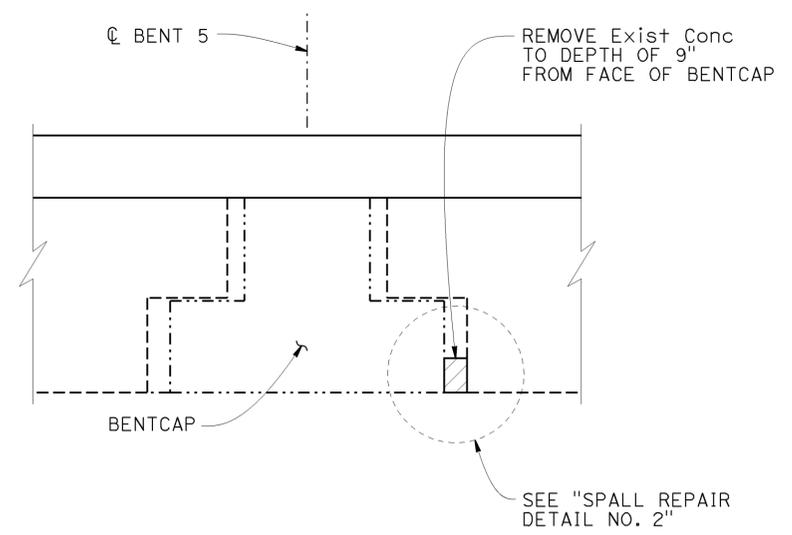
DESIGN BY Richard Schendel CHECKED William Addlespurger DETAILS BY Richard Schendel CHECKED William Addlespurger QUANTITIES BY Richard Schendel CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2331	COUNTY LINE OVERHEAD ADDITIONAL GIRDER REINFORCEMENT			
			POST MILE 0.19				
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			UNIT: 3603 PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 08/29/12 12/29/12 02/04/13 02/22/13	SHEET OF 15 19

USERNAME => s129690 DATE PLOTTED => 24-MAR-2014 TIME PLOTTED => 13:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	48	51

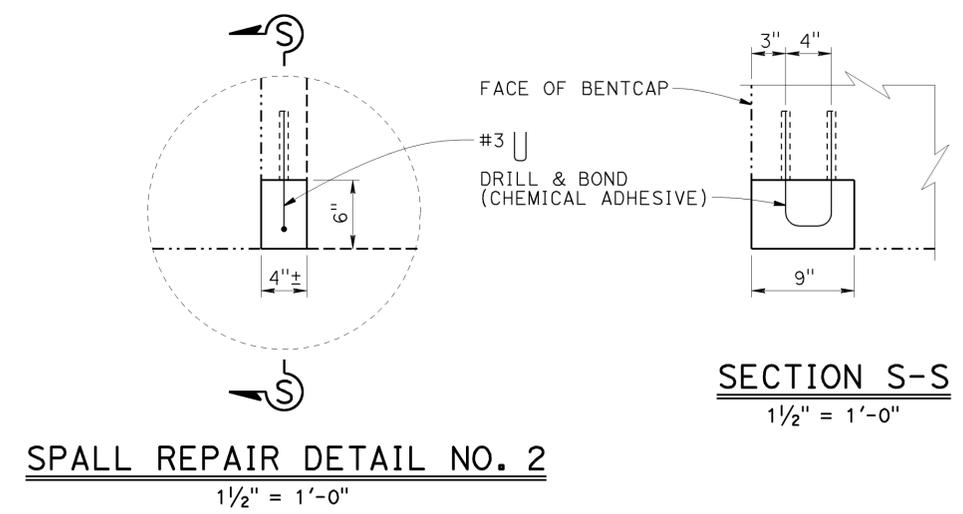
Richard Schendel
 REGISTERED CIVIL ENGINEER
 DATE 02/14/14
 6-2-14
 PLANS APPROVAL DATE
 No. C64259
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 RICHARD E. SCHENDEL
 REGISTERED PROFESSIONAL ENGINEER

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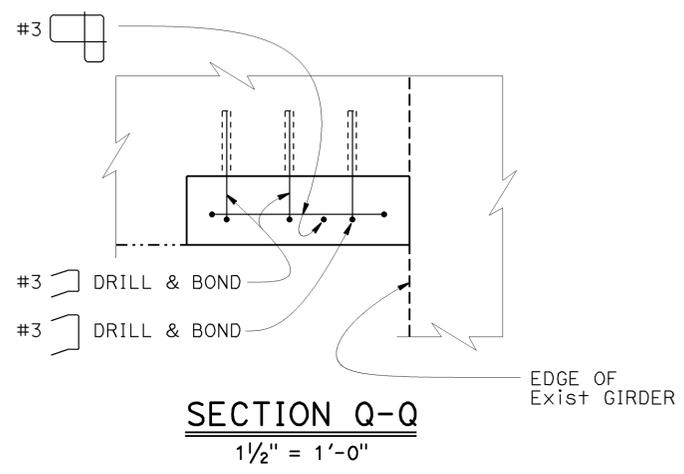
ELEVATION N-N
3/4" = 1'-0"

- LEGEND:**
- Indicates New Structure
 - - - - - Indicates Existing Structure
 - - - - - Indicates Exist PC PS Girder
 - ▨ Bridge Removal (Portion)

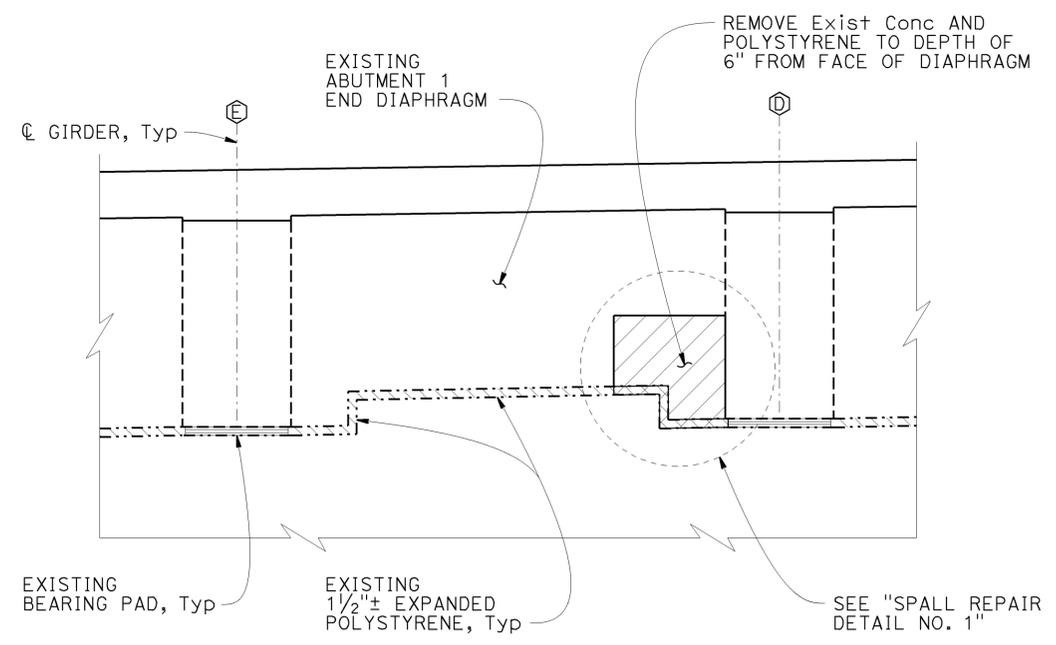


SPALL REPAIR DETAIL NO. 2
1/2" = 1'-0"

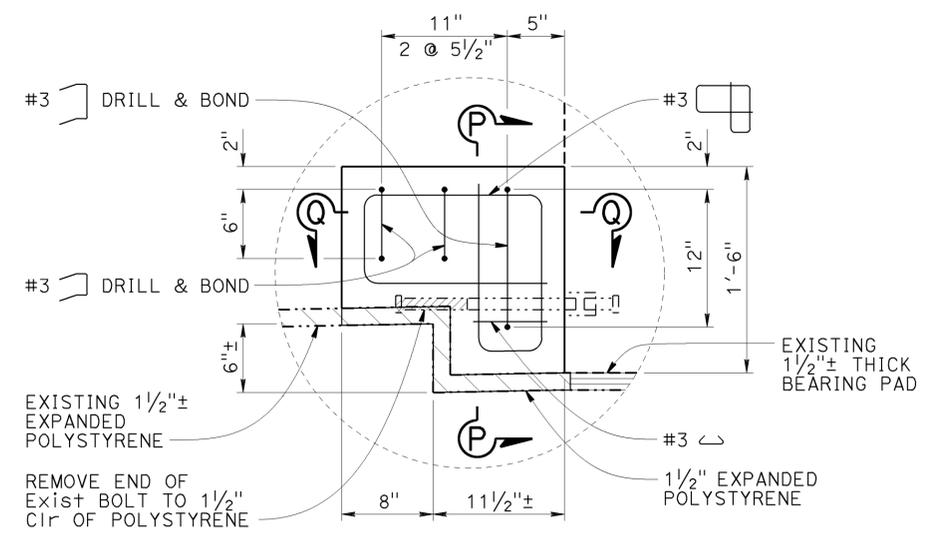
- NOTES:**
- Existing reinforcement not shown. Any existing reinforcement protruding into removal area shall remain undamaged.
 - Existing bolt shown in approximate location.
 - For location of "ELEVATION M-M", see "GIRDER LAYOUT NO. 1" sheet.
 - For location of "ELEVATION N-N", see "GIRDER LAYOUT NO. 2" sheet.



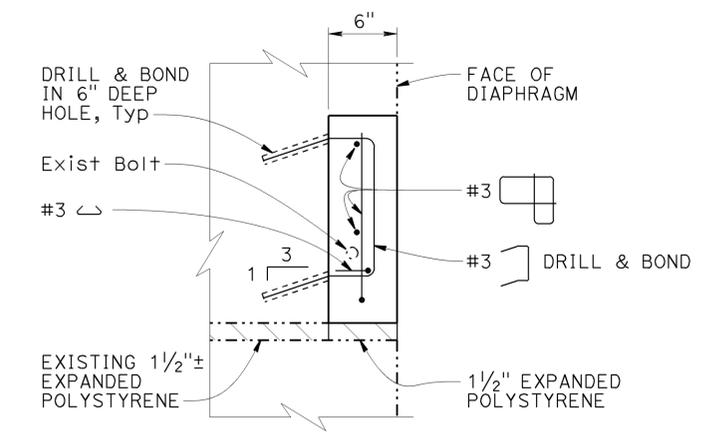
SECTION Q-Q
1/2" = 1'-0"



ELEVATION M-M
3/4" = 1'-0"



SPALL REPAIR DETAIL NO. 1
1/2" = 1'-0"



SECTION P-P
1/2" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY	Richard Schendel	CHECKED	William Adlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53-2331	COUNTY LINE OVERHEAD MISCELLANEOUS DETAILS NO. 1		
	DETAILS	BY	Richard Schendel	CHECKED			William Adlespurger	POST MILE		0.19	
QUANTITIES	BY	Richard Schendel	CHECKED	Prem Rimal	UNIT: 3603 PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	SHEET	OF
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	07/23/12 12/06/12 12/31/12	16	19		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	49	51

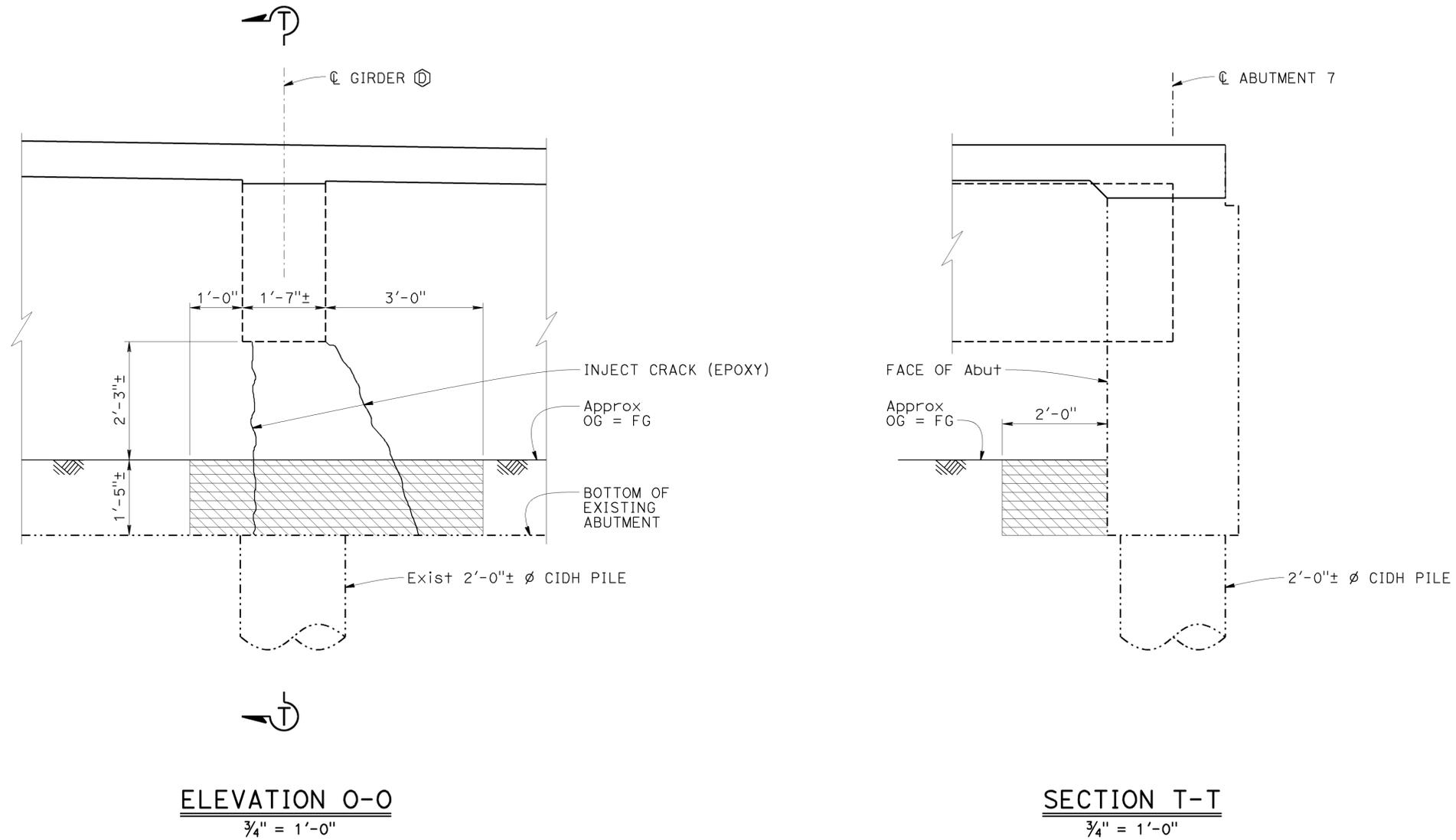
Richard Schendel
 REGISTERED CIVIL ENGINEER DATE 02/14/14
 6-2-14
 PLANS APPROVAL DATE

RICHARD E. SCHEDEL
 No. C64259
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

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LEGEND:

- Indicates New Structure
- - - - - Indicates Existing Structure
- - - - - Indicates Existing PC PS Girder
-  Pay Limits for Structure Excavation, Bridge
-  Pay Limits for Structure Backfill, Bridge



ELEVATION 0-0
 $\frac{3}{4}'' = 1'-0''$

SECTION T-T
 $\frac{3}{4}'' = 1'-0''$

NOTE:

- For location of "ELEVATION 0-0", see "GIRDER LAYOUT NO. 2" sheet.

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

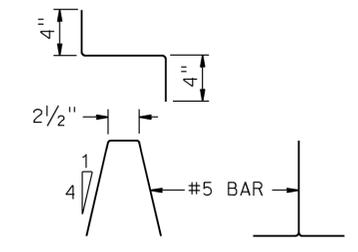
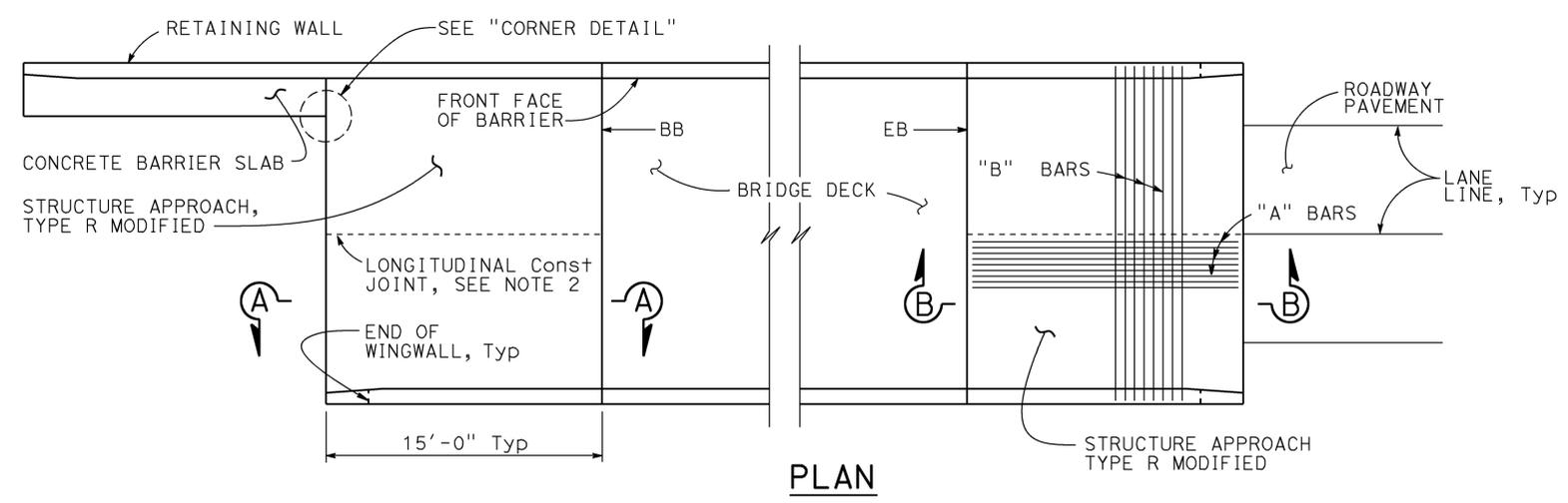
DESIGN BY Richard Schendel CHECKED William Addlespurger DETAILS BY Richard Schendel CHECKED William Addlespurger QUANTITIES BY Richard Schendel CHECKED Prem Rimal	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2331	COUNTY LINE OVERHEAD MISCELLANEOUS DETAILS NO. 2			
			POST MILE 0.19				
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			UNIT: 3603 PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 08/29/12 10/31/12 12/31/12	SHEET 17 OF 19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	50	51

<i>Richard Schendel</i>		02/14/14
REGISTERED CIVIL ENGINEER		DATE
6-2-14		
PLANS APPROVAL DATE		

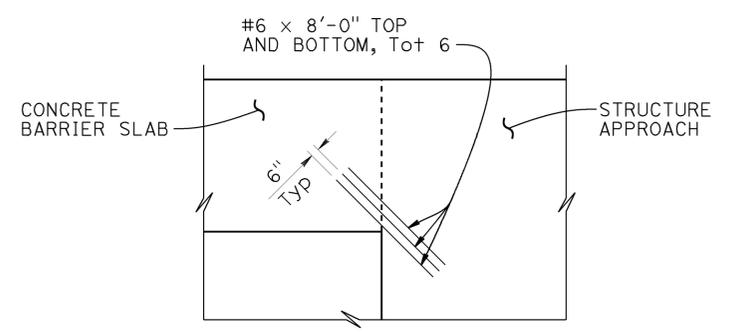
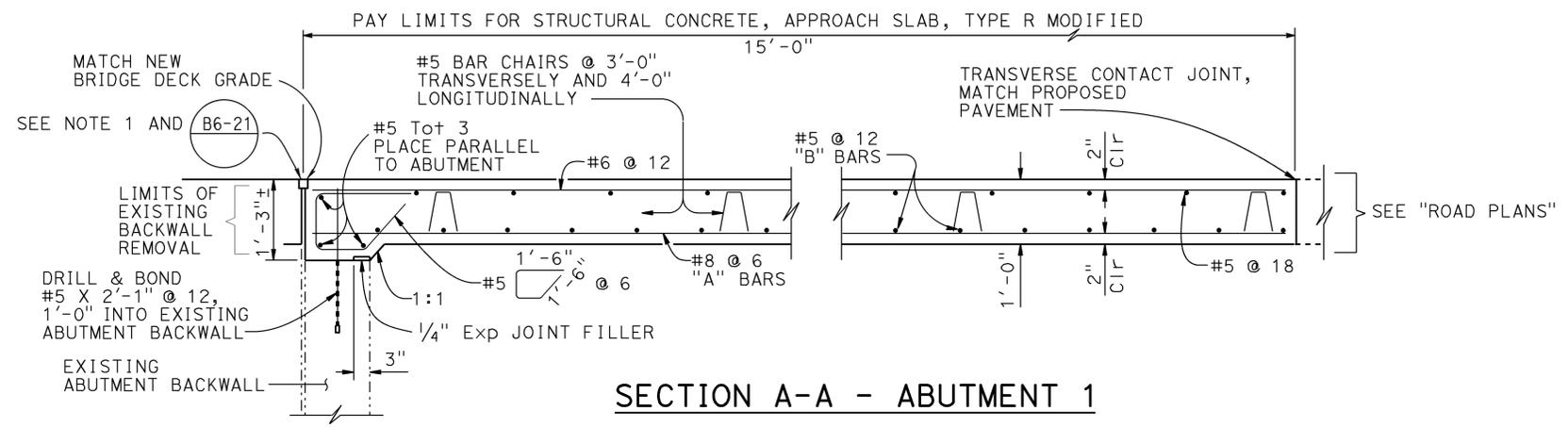
REGISTERED PROFESSIONAL ENGINEER	
RICHARD E. SCHENDEL	No. C64259
Exp. 6-30-15	
CIVIL	

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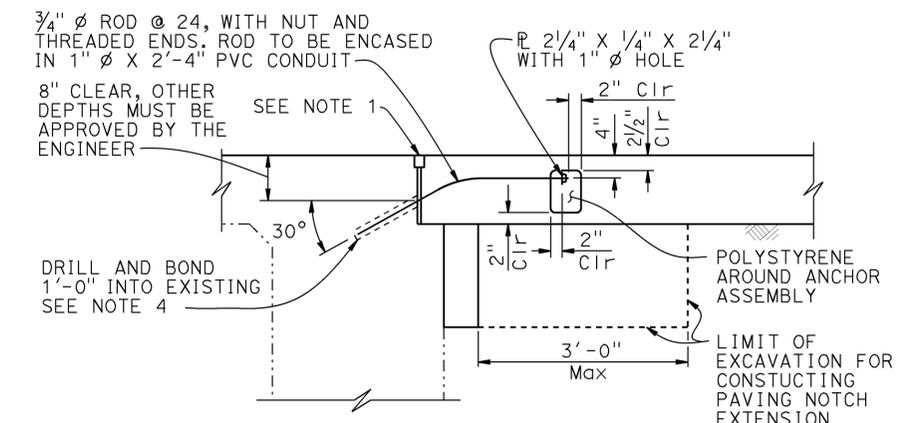
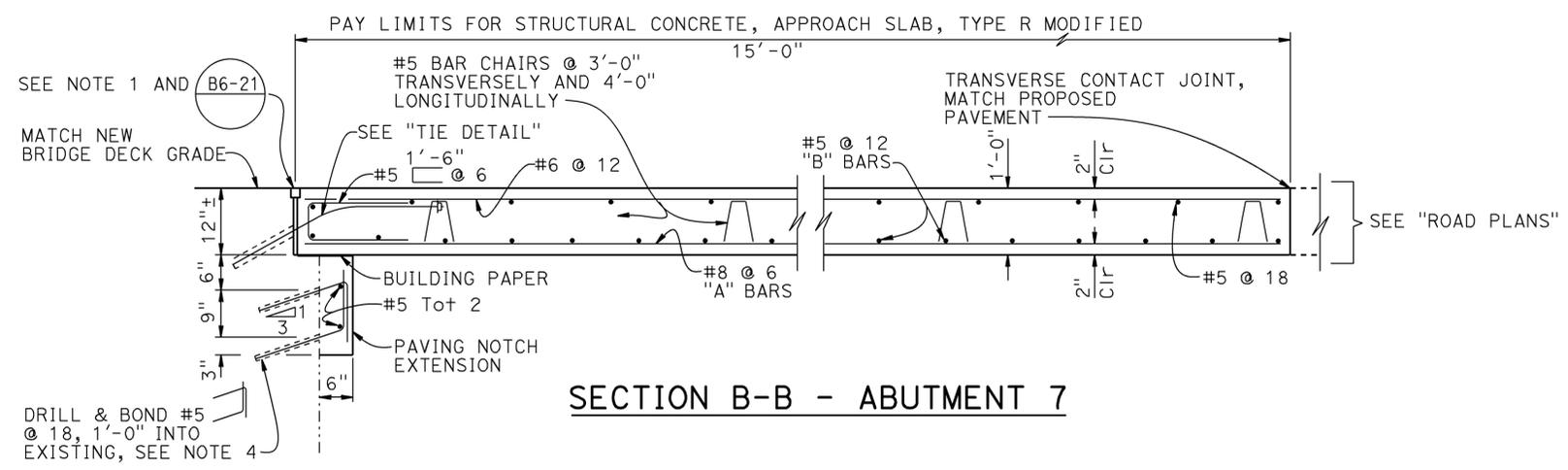


LEGEND:
 ——— Indicates New Structure
 - - - - - Indicates Existing Structure

- NOTES:**
1. Sealed joint, adjust bar reinforcement to clear a sawcut for sealed joint.
 2. Longitudinal construction joints, when permitted by Engineer, shall be located on lane lines.
 3. All reinforcement shall be Epoxy Coated Reinforcement.
 4. Space to avoid existing main reinforcement.
 5. Polyester concrete overlay not shown.



CORNER DETAIL



TIE DETAIL

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NO SCALE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Richard Schendel	CHECKED William Adlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53-2331	COUNTY LINE OVERHEAD STRUCTURE APPROACH TYPE R MODIFIED
	DETAILS	BY Richard Schendel	CHECKED William Adlespurger			POST MILE	0.19	
	QUANTITIES	BY Richard Schendel	CHECKED Prem Rimal			PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	

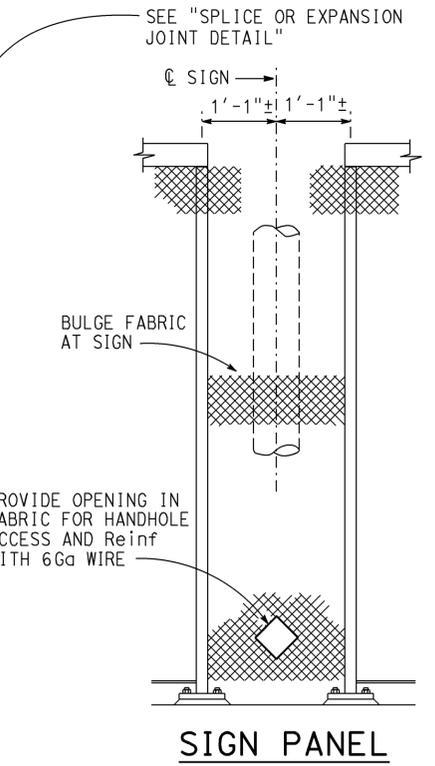
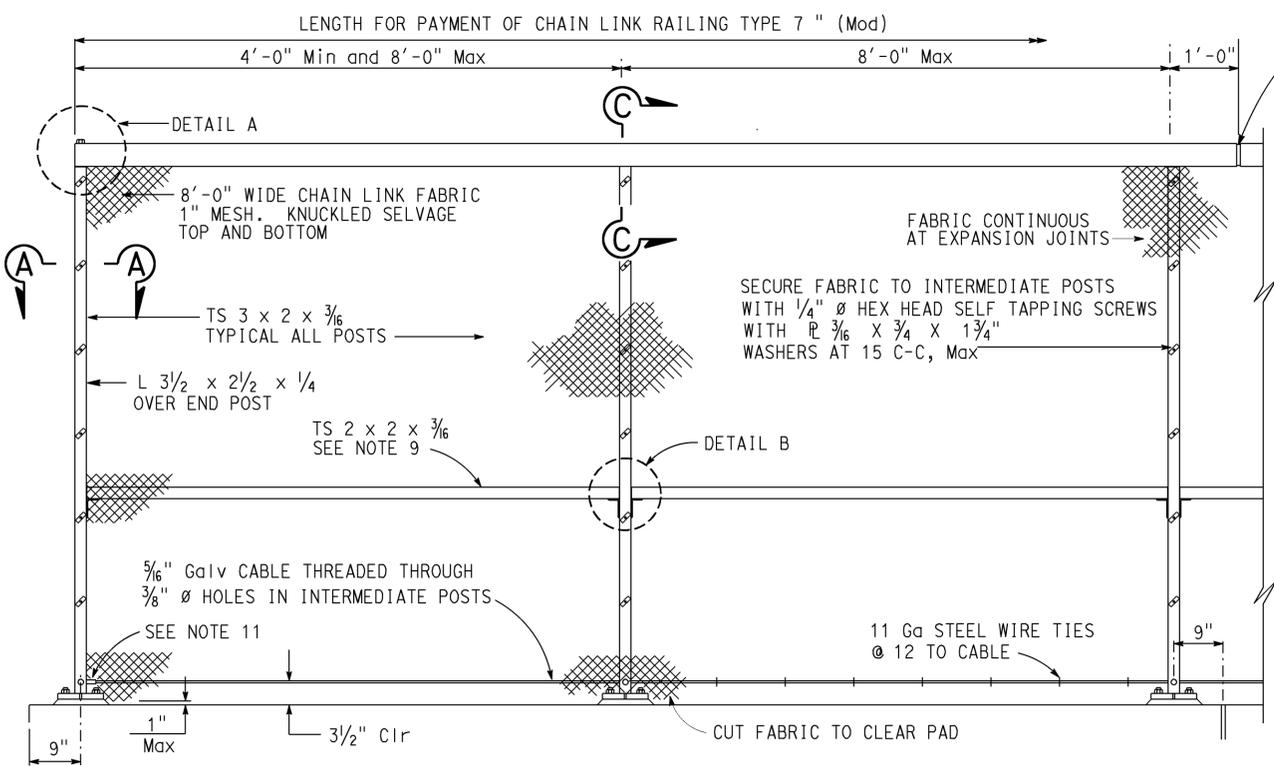
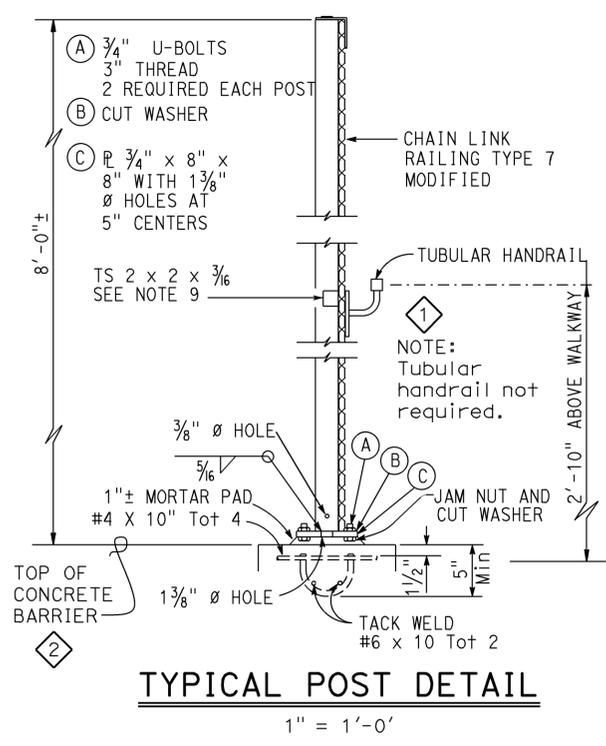
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3
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UNIT: 3603	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 18 OF 19
PROJECT NUMBER & PHASE: 0700000516 1	CONTRACT NO.: 07-274801	02/22/13 12/31/12 02/28/13	

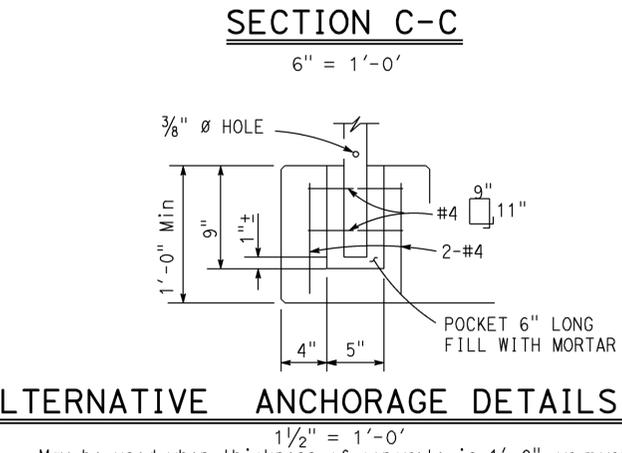
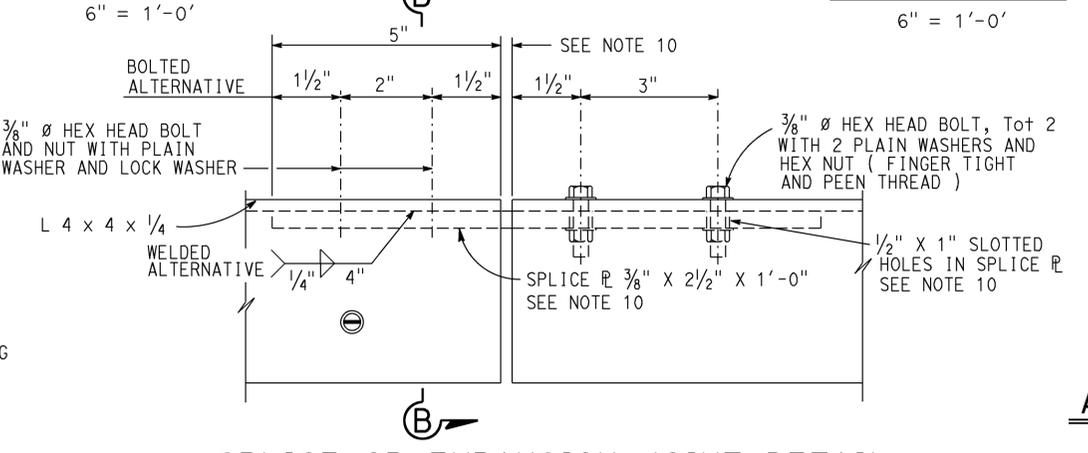
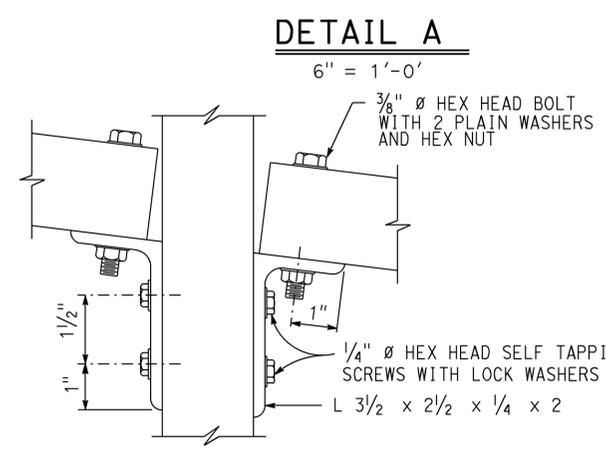
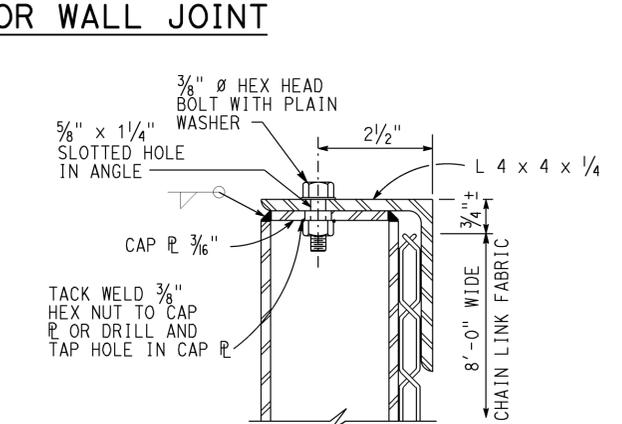
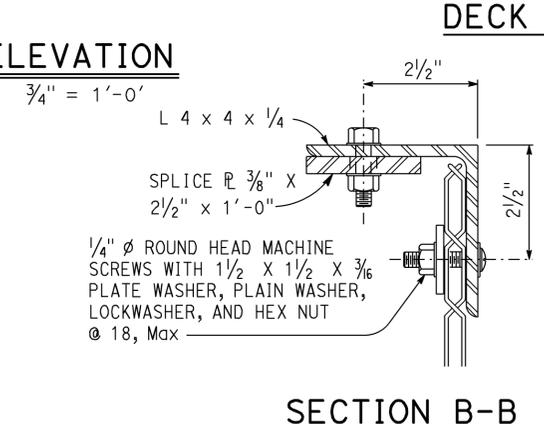
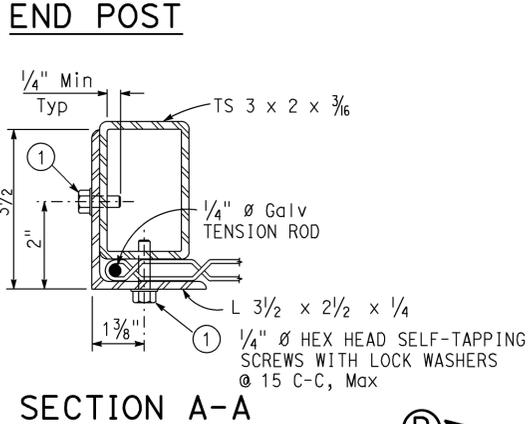
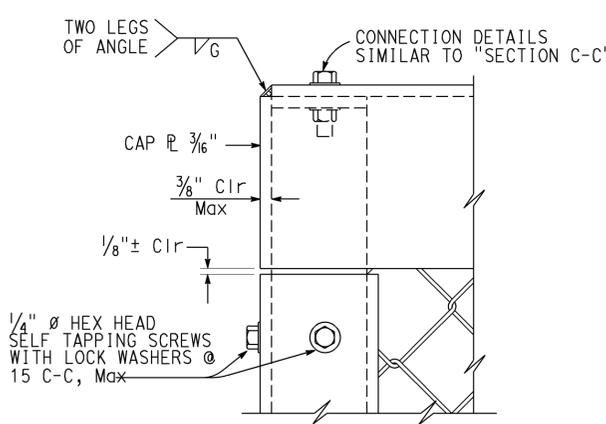
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	18	0.2	51	51

<i>Richard E. Schendel</i> REGISTERED CIVIL ENGINEER DATE 02/14/14	
6-2-14 PLANS APPROVAL DATE	
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REGISTERED PROFESSIONAL ENGINEER RICHARD E. SCHENDEL No. C64259 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA	
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- NOTES:
- Railing assembly except chain link fabric to be galvanized after fabrication
 - Railing shall conform to horizontal and vertical alignment. Post shall be vertical. Horizontal angle shall be bent to conform to horizontal alignment if radius is 150'-0" or less.
 - Horizontal angle shall be continuous over not less than two intermediate posts, except that a shorter length is permitted at expansion joints and other rail discontinuities.
 - When railing is placed on curved horizontal alignment with radius of 150'-0" or less, drill 1/2" Ø x 3" deep hole in slab and set in epoxy adhesives 3/8" Ø welded eyebolt for 5/16" cable to limit the mid-ordinate distance between the 5/16" cable and curve to be 1" Max.
 - Place fabric parallel to slope.
 - Alternative details may be submitted by the Contractor for Engineer's approval.
 - Provide thimbles at all cable loops.
 - Peen all exposed bolts.
 - TS 2 x 2 x 3/16 required for curves with radius of 150'-0" or less. Bend to conform to curve.
 - Expansion joint same dimension as expansion joint in deck or wall. Increase slotted hole length and splice R length correspondingly.
 - Anchor 5/16" galvanized cable at end post and end posts adjacent to electrolier openings or deck or wall joints with 1/2" Ø stud socket assembly or 1/2" Ø welded eyebolt and crimped sleeve clamp. Provide 1/2" minimum take-up at each anchorage.



SPECIAL DETAILS

REVISED STANDARD DRAWING	
FILE NO. xs16-220-1	APPROVAL DATE July 2011

- 1 Added note
- 2 Added callout

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES
BRIDGE NO. 53-2331	POST MILE 0.19

COUNTY LINE OVERHEAD	
CHAIN LINK RAILING TYPE 7 (MOD)	