

INDEX OF PLANS

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

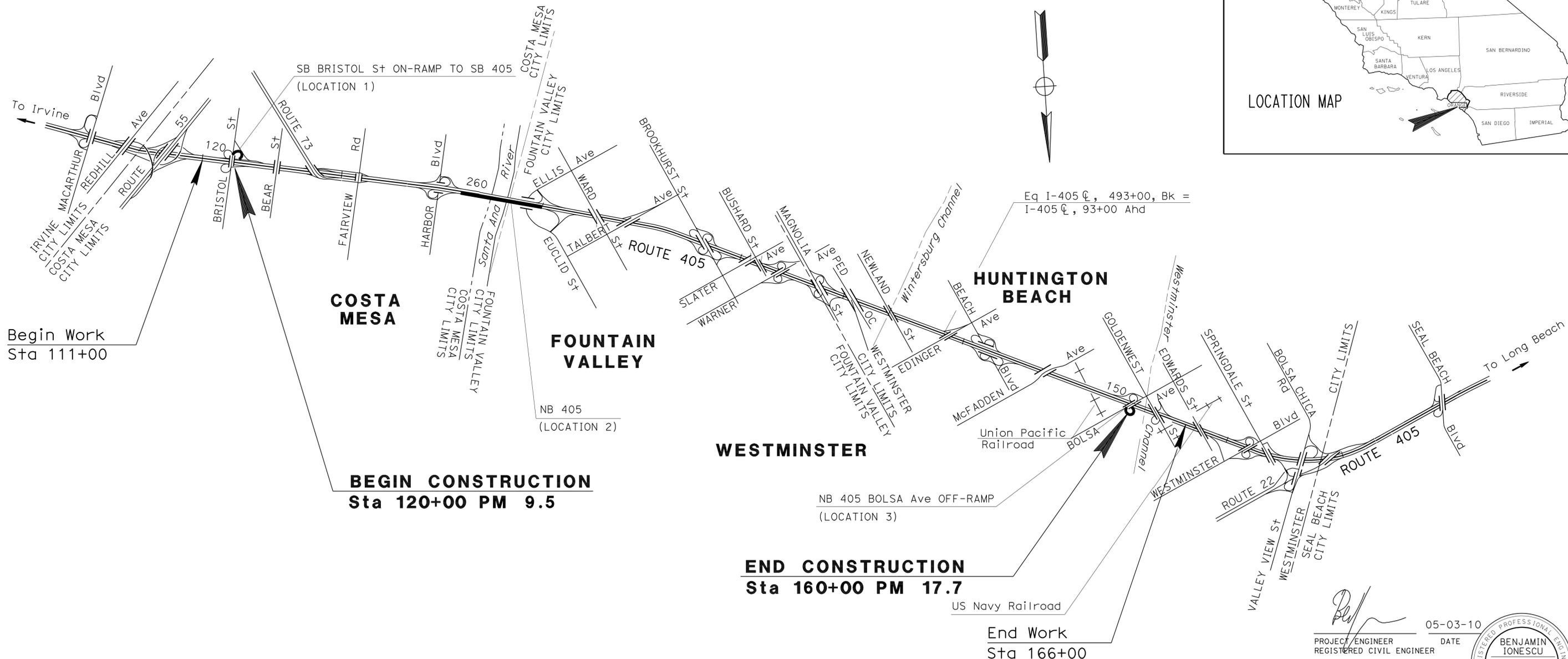
IM-405-2(950)102E

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN ORANGE COUNTY
AT VARIOUS LOCATIONS
FROM BRISTOL STREET
TO BOLSA AVENUE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	9.5/17.7	1	39

Caltrans



Begin Work
Sta 111+00

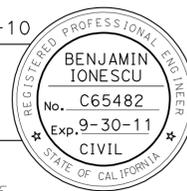
BEGIN CONSTRUCTION
Sta 120+00 PM 9.5

END CONSTRUCTION
Sta 160+00 PM 17.7

End Work
Sta 166+00

PROJECT MANAGER	VINH PHAM
DESIGN ENGINEER	BEN IONESCU

Ben Ionescu
PROJECT ENGINEER DATE 05-03-10
REGISTERED CIVIL ENGINEER



May 24, 2010
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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Org	405	9.5/17.7	2	39

05-03-10	REGISTERED CIVIL ENGINEER DATE
5-24-10	PLANS APPROVAL DATE

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

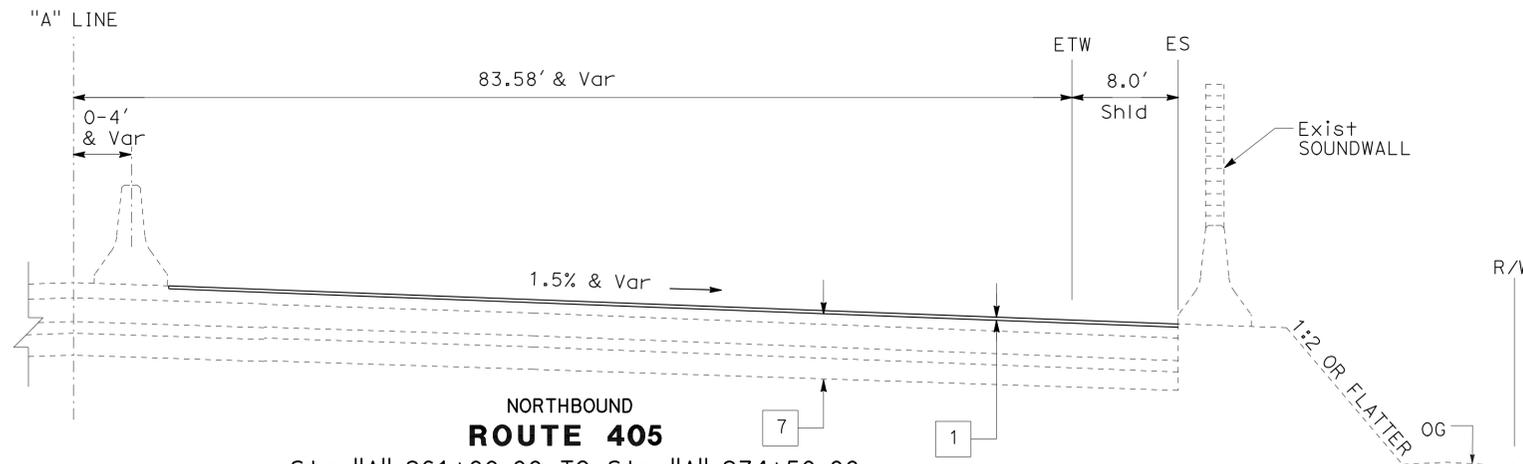


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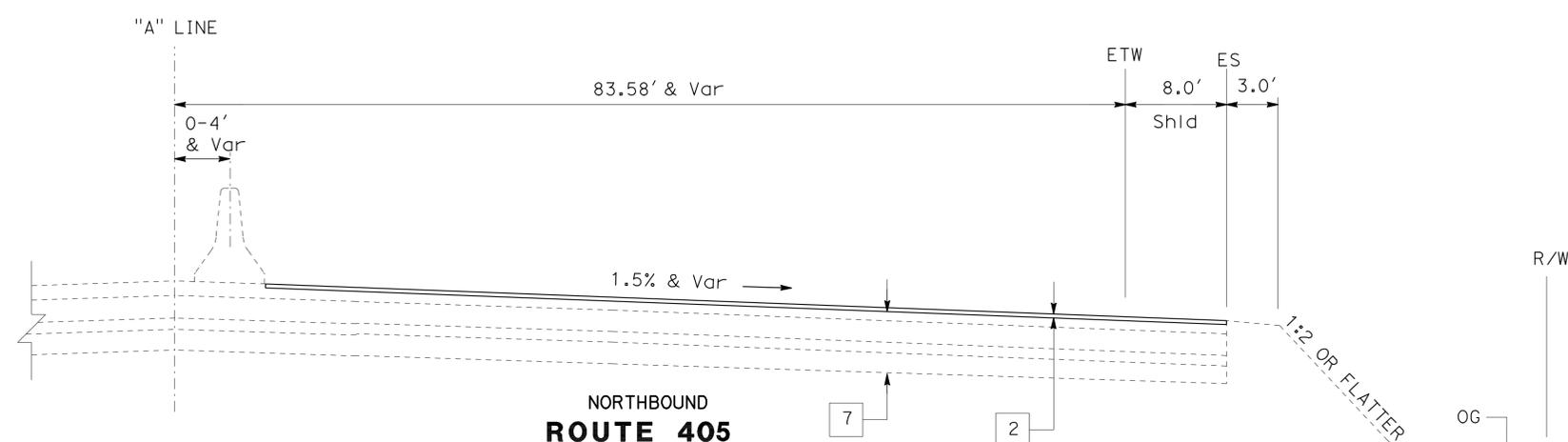
- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY MAPS AT DISTRICT OFFICE.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON PORTIONS OF THESE PLANS.
- FOR TYPE AND LOCATION OF AC DIKES & Misc AREAS, MBGR SEE LAYOUT PLANS.

STRUCTURAL SECTION TYPES

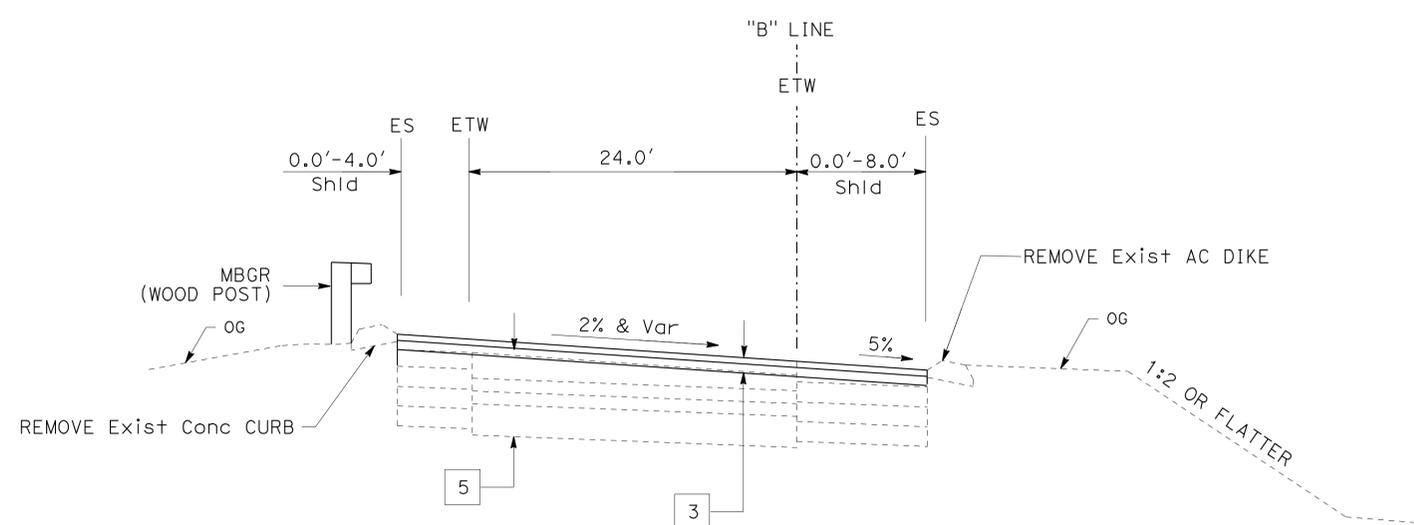
- | | |
|---|--|
| 1 | 0.10' HMA (OPEN GRADED) |
| 2 | GROOVE EXISTING CONCRETE PAVEMENT |
| 3 | 0.10' HMA (OPEN GRADED)
0.20' RUBBERIZED HMA (GAP GRADED) |
| 4 | 0.70' HMA (TYPE A)
0.50' CLASS 2 AS |
| 5 | Exist
0.43' DGAC
0.79' CTB |
| 6 | Exist
0.34' AC
0.67' RMCTB
0.33' AB
0.67' AS |
| 7 | Exist
0.76' DGAC
0.60' CTB |



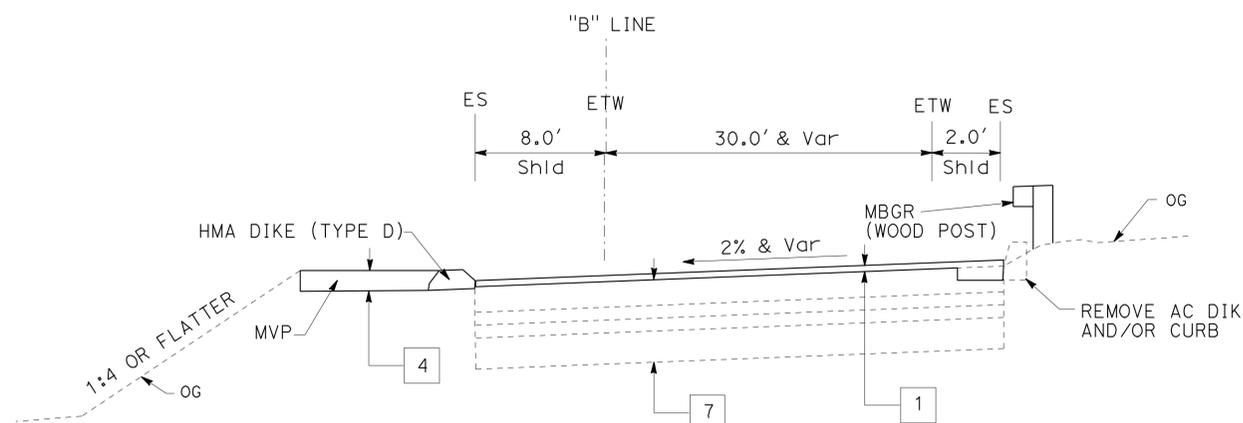
NORTHBOUND ROUTE 405
Sta "A" 261+00.00 TO Sta "A" 274+50.00
Sta "A" 278+90.00 TO Sta "A" 292+00.00
(LOCATION 2)



NORTHBOUND ROUTE 405
Sta "A" 274+50.00 TO Sta "A" 278+90.00
(LOCATION 2)



BOLSA OFF-RAMP
Sta "B" 47+88.84 TO Sta "B" 65+22.33
(LOCATION 3)



BRISTOL ON-RAMP
Sta "B" 19+12.21 TO Sta "B" 30+90.00
(LOCATION 1)

TYPICAL CROSS SECTION

NO SCALE

X-1



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN DIVISION

FUNCTIONAL SUPERVISOR: K. MAZHAR
CALCULATED/DESIGNED BY: K. MAZHAR
CHECKED BY: B. IONESCU
REVISOR: B. IONESCU
DATE REVISED: K. MAZHAR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN DIVISION

FUNCTIONAL SUPERVISOR
 KAMRAN MAZHAR

CALCULATED/DESIGNED BY
 CHECKED BY

B. IONESCU
 K. MAZHAR

REVISED BY
 DATE REVISED

NOTES:

- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY MAPS AT DISTRICT OFFICE.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON PORTIONS OF THESE PLANS.

LEGEND:

- No - STRUCTURAL SECTION No.
- No - CURVE DATA No.
- MVP - MAINTENANCE VEHICLE PULLOUT

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Org	405	9.5/17.7	3	39

05-03-10
 REGISTERED CIVIL ENGINEER DATE

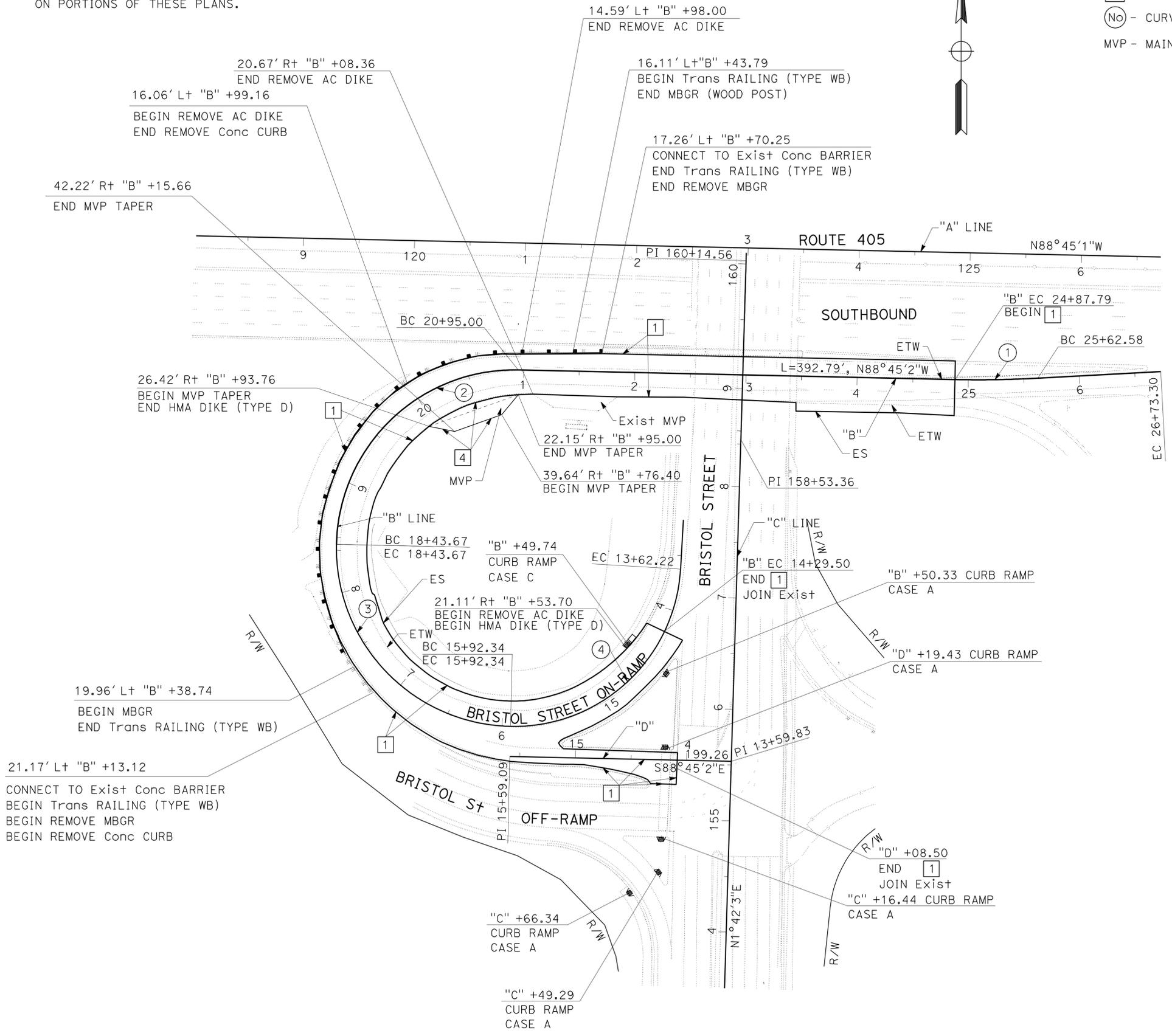
5-24-10
 PLANS APPROVAL DATE

BENJAMIN IONESCU
 No. C65482
 Exp. 9-30-11
 CIVIL

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

CURVE DATA

No.	R	Δ	T	L
①	988'	4°20'14"	37.41'	74.79'
②	160'	90°0'00"	160.00'	251.33'
③	160'	69°21'13"	110.69'	193.67'
④	160'	19°11'05"	27.04'	53.57'



**LAYOUT
 (LOCATION 1)**

SCALE: 1" = 50'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN DIVISION

FUNCTIONAL SUPERVISOR
 KAMRAN MAZHAR

CALCULATED/DESIGNED BY
 CHECKED BY

REVISOR
 DATE

B. IONESCU
 K. MAZHAR

NOTES:

- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY MAPS AT DISTRICT OFFICE.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON PORTIONS OF THESE PLANS.

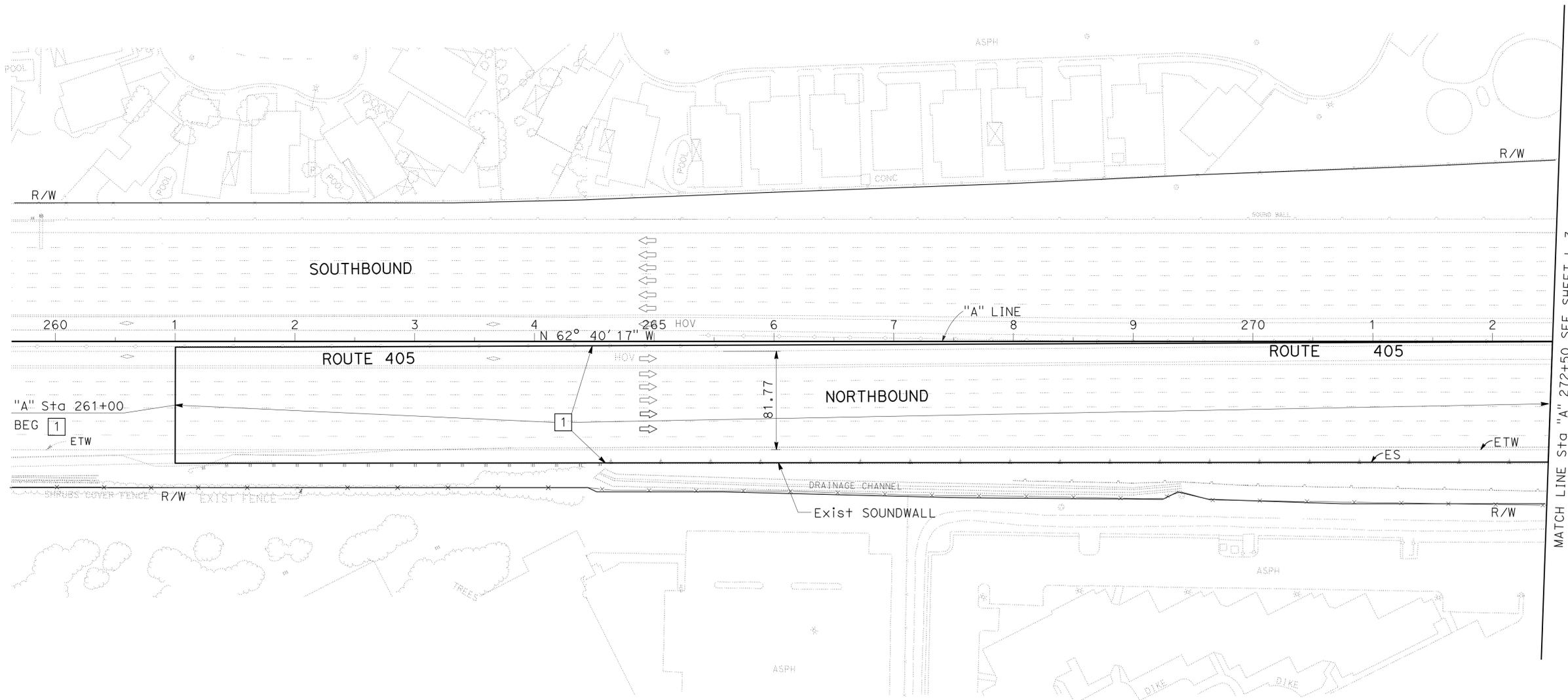
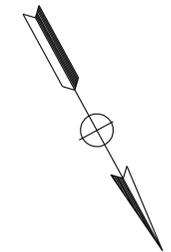
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Org	405	9.5/17.7	4	39

05-03-10
 REGISTERED CIVIL ENGINEER DATE

5-24-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 BENJAMIN IONESCU
 No. C65482
 Exp. 9-30-11
 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.

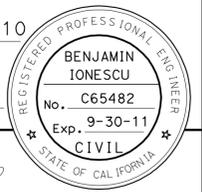


MATCH LINE STA "A" 272+50 SEE SHEET L-3

LAYOUT
(LOCATION 2)
 SCALE: 1" = 50'

L-2

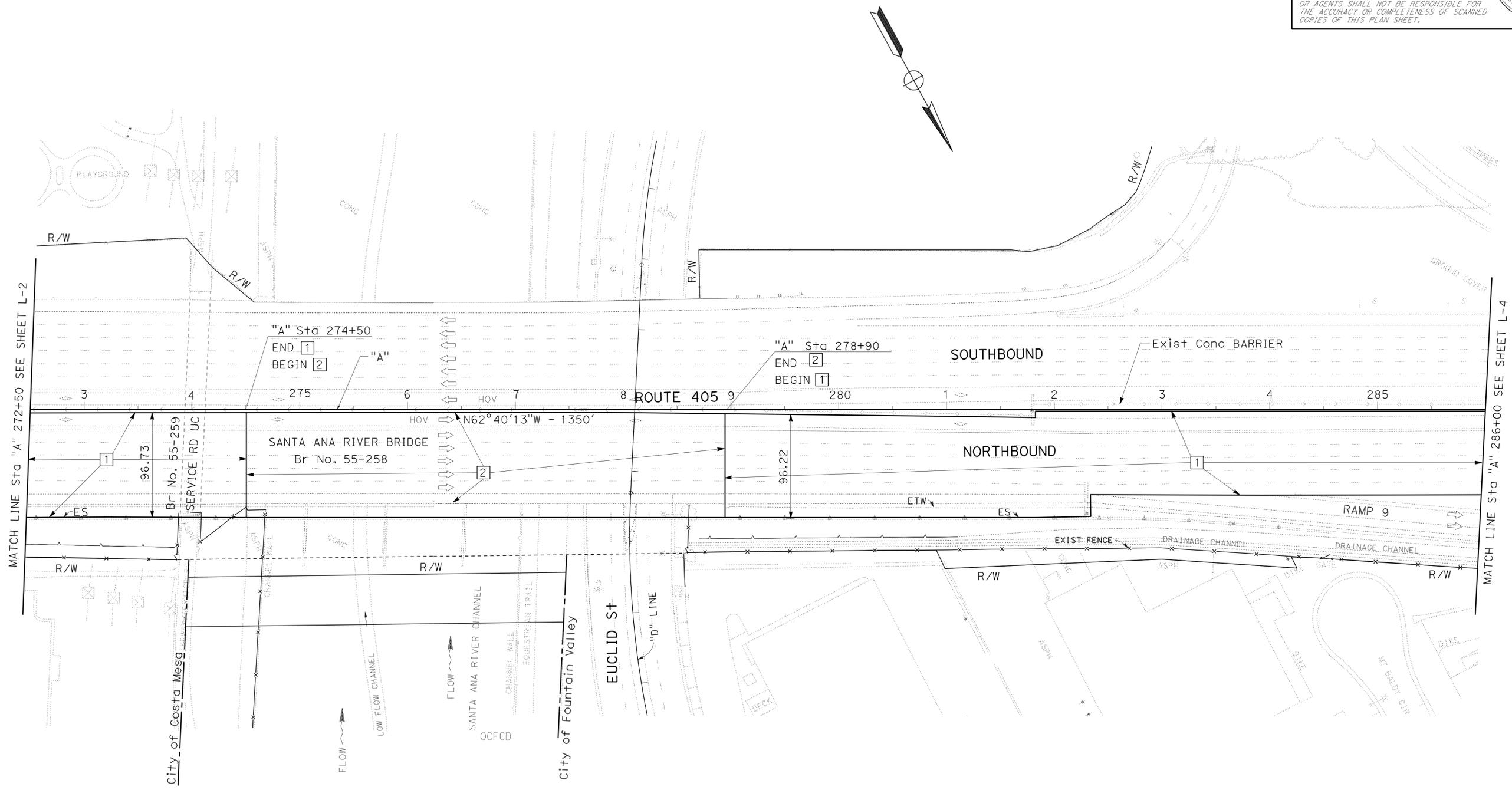
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Org	405	9.5/17.7	5	39
			05-03-10		
			REGISTERED CIVIL ENGINEER DATE		
			5-24-10		
			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



NOTES:

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY MAPS AT DISTRICT OFFICE.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON PORTIONS OF THESE PLANS.

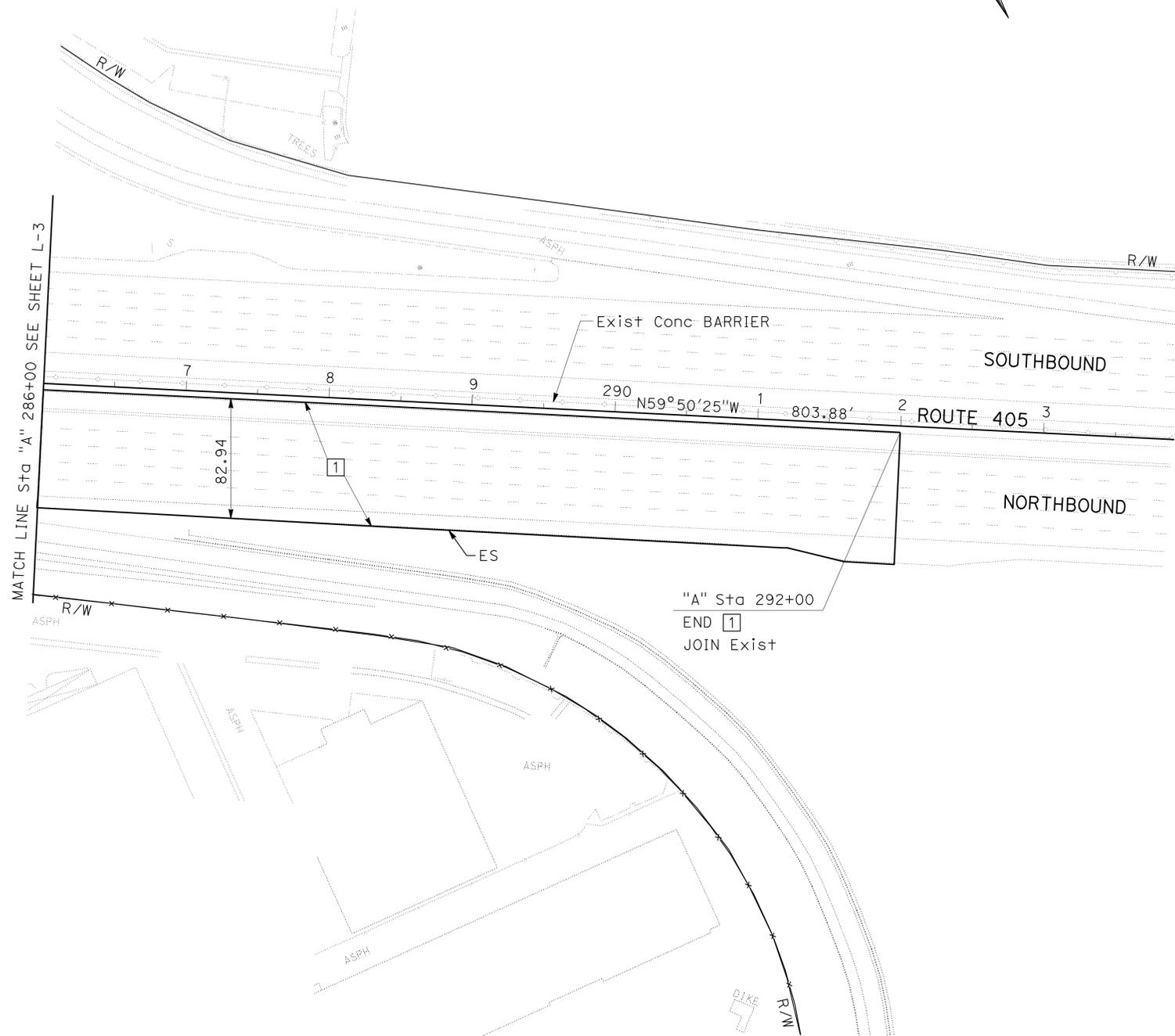
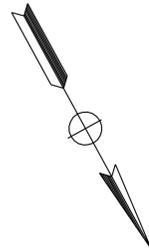
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans	KAMRAN MAZHAR	B. IONESCU	B. IONESCU
DESIGN DIVISION		CHECKED BY	DATE REVISED
		K. MAZHAR	



LAYOUT
(LOCATION 2)
 SCALE: 1" = 50'

NOTES:

- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY MAPS AT DISTRICT OFFICE.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON PORTIONS OF THESE PLANS.



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	405	9.5/17.7	6	39

05-03-10
 REGISTERED CIVIL ENGINEER DATE

5-24-10
 PLANS APPROVAL DATE

BENJAMIN IONESCU
 No. C65482
 Exp. 9-30-11
 CIVIL

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

LAYOUT
(LOCATION 2)
 SCALE: 1" = 50'

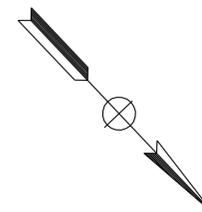
L-4

NOTES:

- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY MAPS AT DISTRICT OFFICE.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON PORTIONS OF THESE PLANS.

CURVE DATA

No.	R	Δ	T	L
⑥	150.00'	250°35'55"	211.86'	656.07'
⑦	1200.03'	3°16'19"	34.27'	68.53'
⑧	175.00'	63°53'06"	109.11'	195.13'

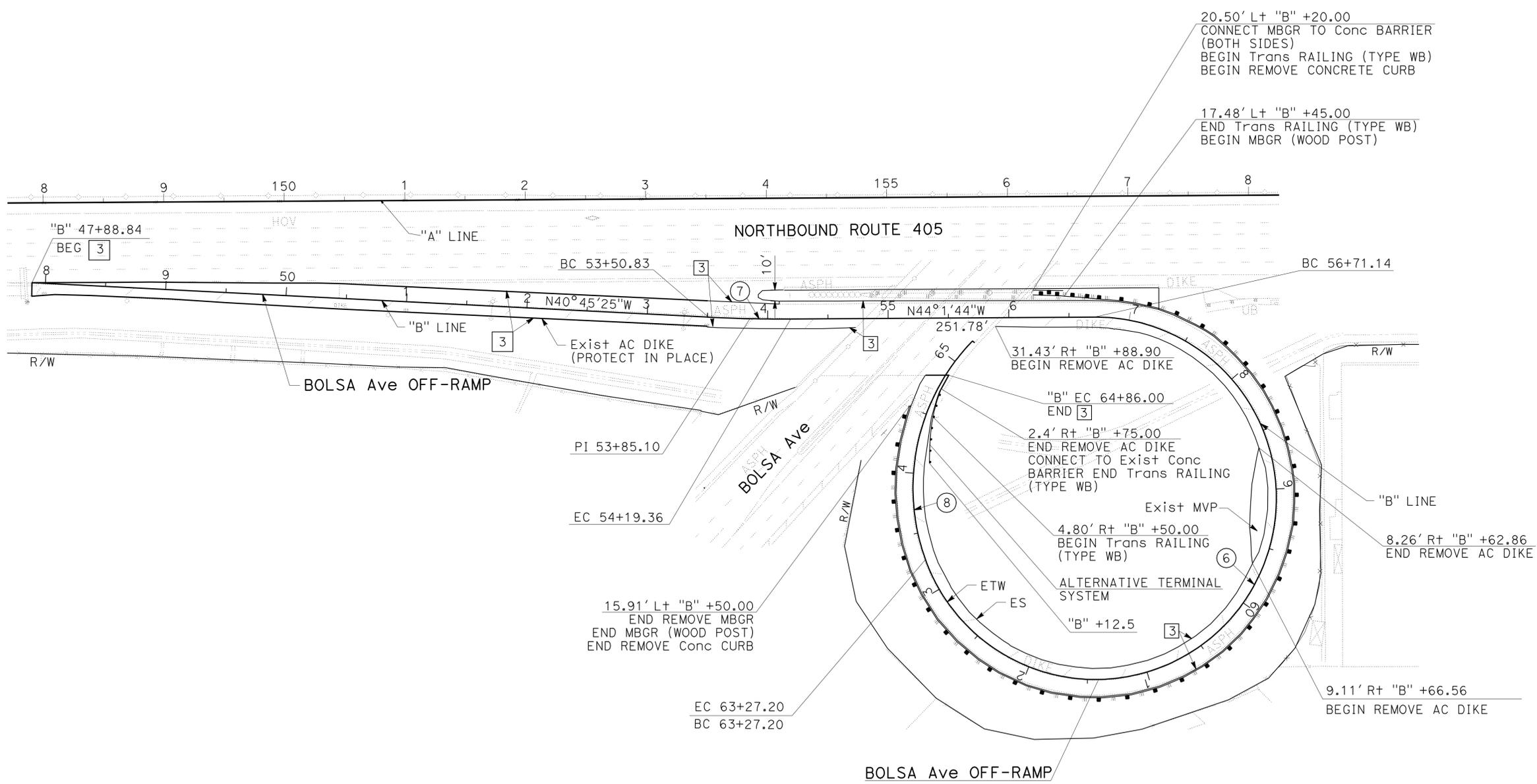


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	405	9.5/17.7	7	39

05-03-10
 REGISTERED CIVIL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE

BENJAMIN IONESCU
 No. C65482
 Exp. 9-30-11
 CIVIL

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LAYOUT (LOCATION 3)

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN DIVISION

FUNCTIONAL SUPERVISOR: KAMRAN MAZHAR
 CALCULATED/DESIGNED BY: B. IONESCU
 CHECKED BY: K. MAZHAR
 REVISED BY: B. IONESCU
 DATE REVISED: K. MAZHAR

LAST REVISION DATE PLOTTED => 25-MAY-2010
 04-28-10 TIME PLOTTED => 10:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	405	9.5/17.7	8	39

Brandon Tran 05-03-10
 REGISTERED CIVIL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE

B. TRAN
 No. C58283
 Exp. 6/30/10
 CIVIL

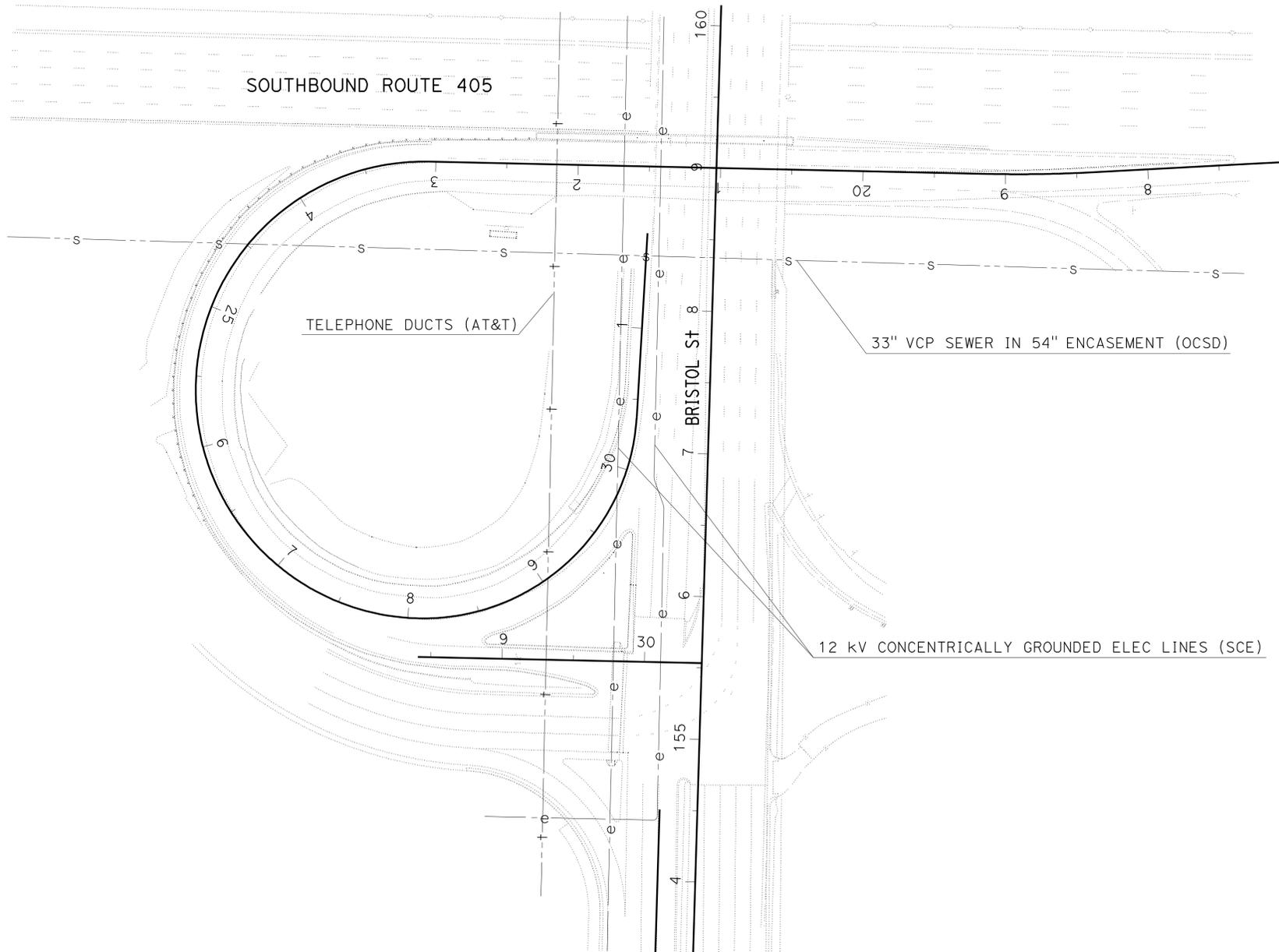
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- LOCATIONS OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- ALL ELEVATIONS SHOWN REFER TO THE TOP OF PIPE ELEVATION UNLESS OTHERWISE INDICATED.
- UTILITY OWNERSHIP ON THIS PROJECT:
 SEWER-ORANGE COUNTY SANITATION DISTRICT (OCSD)
 ELECTRIC-SOUTHERN CALIFORNIA EDISON (SCE)
 TELEPHONE-AMERICAN TELEPHONE & TELEGRAPH (AT&T)
 GAS-SOUTHERN CALIFORNIA GAS COMPANY (SCG)
 WATER-CITY OF WESTMINSTER

LEGEND:

☒☒ POTHOLE NUMBER



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	BRANDON TRAN	REVISOR BY	DATE
DESIGN	CHRISTOPHER LE	CHECKED BY	DESIGNED BY
FUNCTIONAL SUPERVISOR			



UTILITY PLAN

SCALE: 1" = 50'

U-1

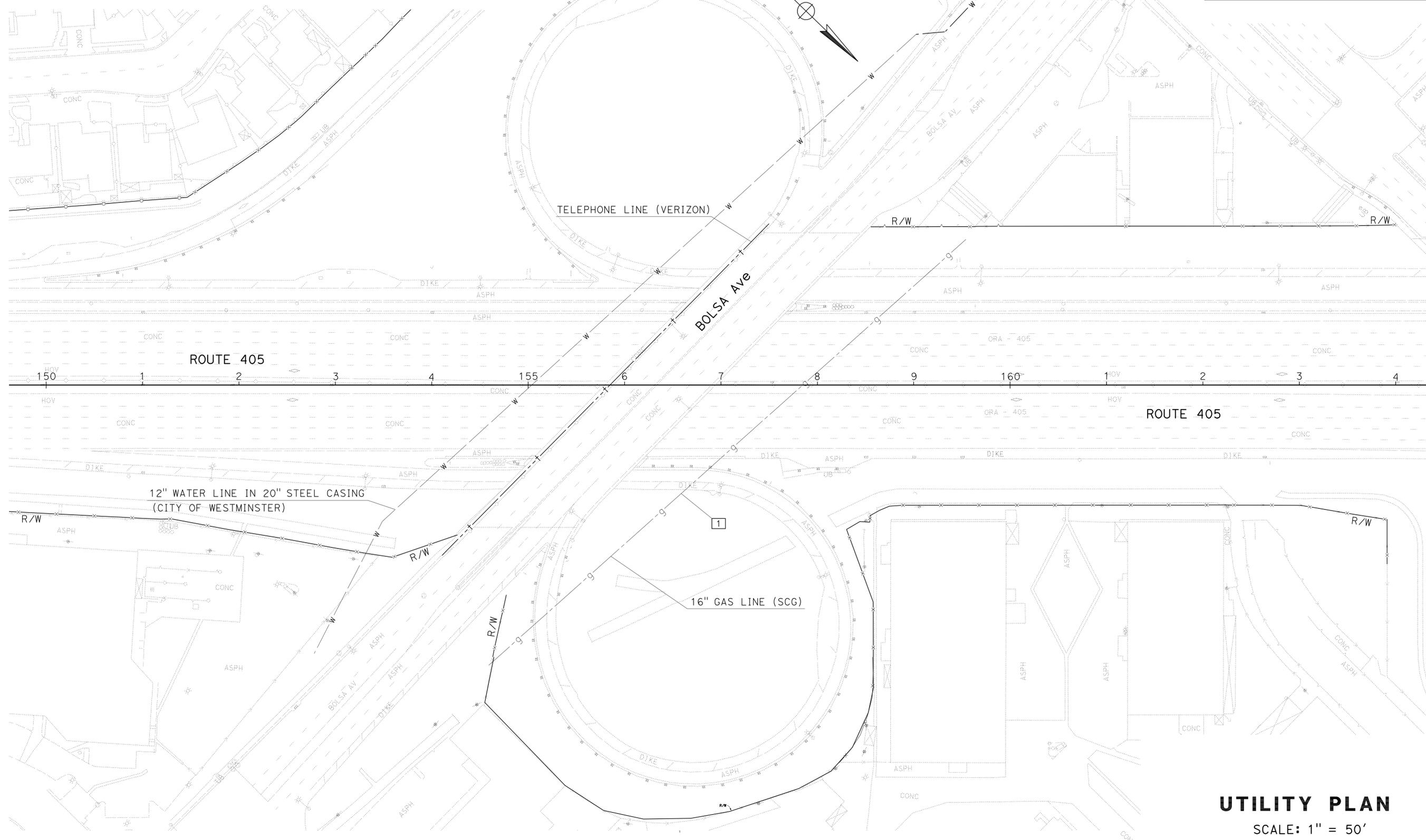
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	9.5/17.7	9	39

Brandon Tran 05-03-10
 REGISTERED CIVIL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



POTHOLE DATA

POTHOLE No.	DISTANCE TO Lt OR Rt	STATION	DEPTH OF COVER	UTILITY OWNER
1	112.4' Rt	Rte 405 @ 156+58.7	8.0'	SCG



UTILITY PLAN
 SCALE: 1" = 50'

U-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: CHRISTOPHER LE
 CALCULATED/DESIGNED BY: BRANDON TRAN
 CHECKED BY: BRANDON TRAN
 REVISED BY: BRANDON TRAN
 DATE REVISED: BRANDON TRAN

THIS PLAN ACCURATE FOR UTILITY INFORMATION ONLY



USERNAME => trstrk
 DGN FILE => c0k510ka002.dgn

CU 12236

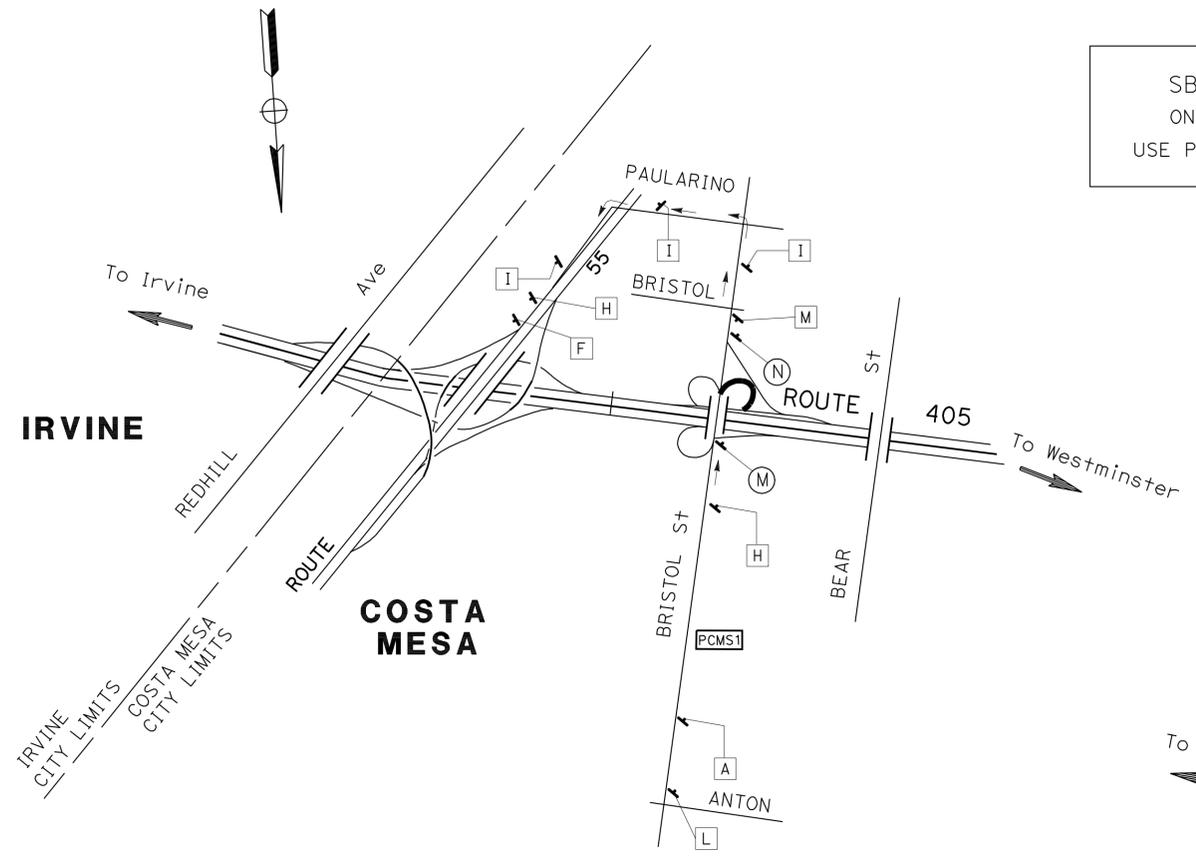
EA 0K5101

BORDER LAST REVISED 4/11/2008

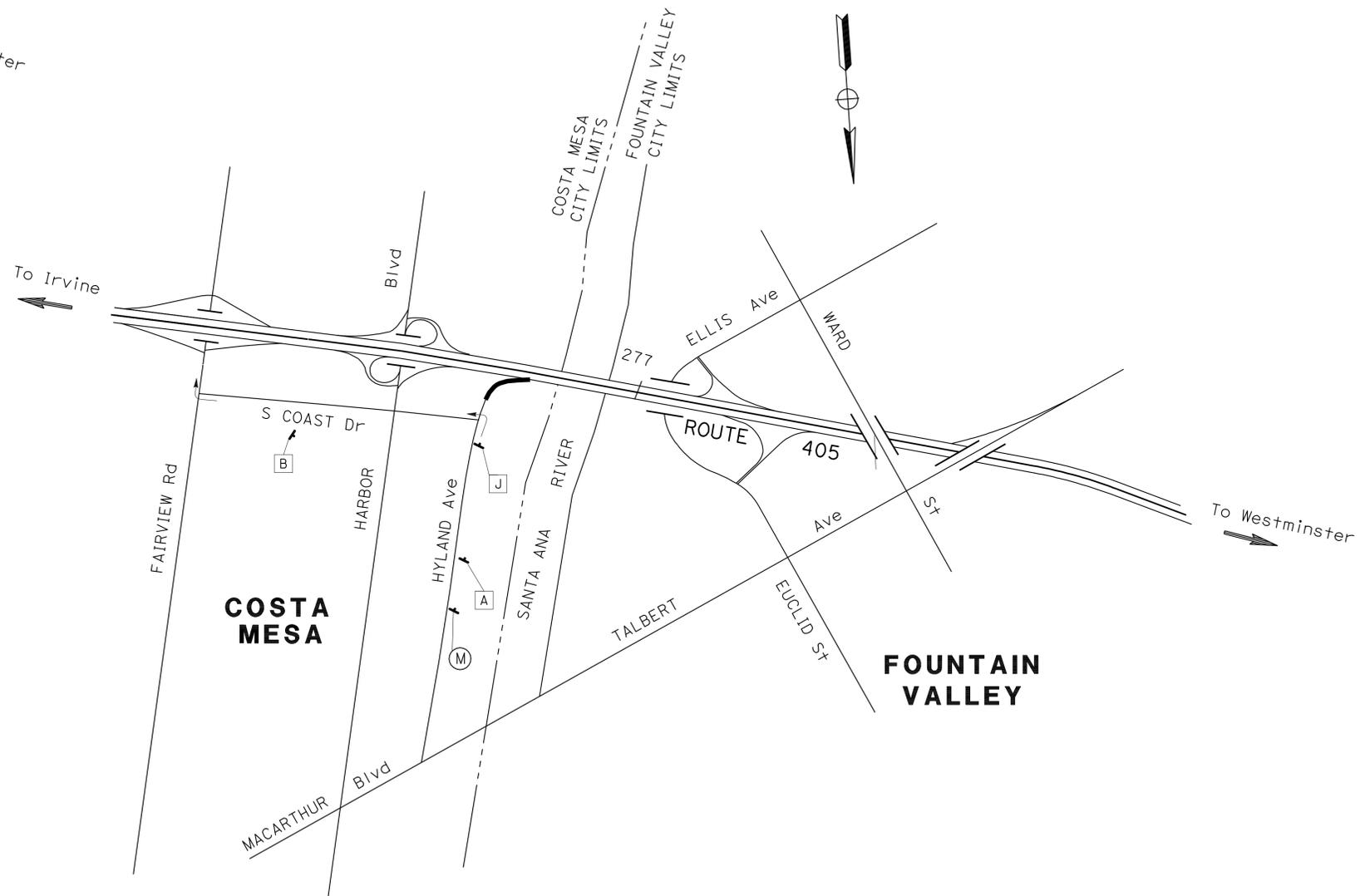
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 04-28-10 TIME PLOTTED => 10:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orange	405	9.5/17.7	10	39
			05-03-10	DATE	
			5-24-10	PLANS APPROVAL DATE	
			REGISTERED CIVIL ENGINEER BEN IONESCU No. 65482 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

SB ROUTE 405
ON-RAMP CLOSED
USE PAULARINO AVENUE
PCMS 1



**CLOSURE DETOUR FOR NB Rte 405
ON-RAMP FROM SB BRISTOL St**
(LOCATION 1)



**CLOSURE DETOUR FOR NB Rte 405
ON-RAMP FROM HYLAND Ave**
(LOCATION 2)

**TRAFFIC HANDLING PLAN
(DETOUR)**

NO SCALE

TH-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN DIVISION

FUNCTIONAL SUPERVISOR
KAMRAN MAZHAR

CALCULATED/DESIGNED BY
CHECKED BY

B.I.
K.M.

REVISED BY
DATE REVISED

THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY

RELATIVE BORDER SCALE
IS IN INCHES



USERNAME => trstrk
DGN FILE => c0k510md001.dgn

CU 12231

EA 0K5101

BORDER LAST REVISED 4/11/2008

LAST REVISION DATE PLOTTED => 25-MAY-2010
04-28-10 TIME PLOTTED => 10:48

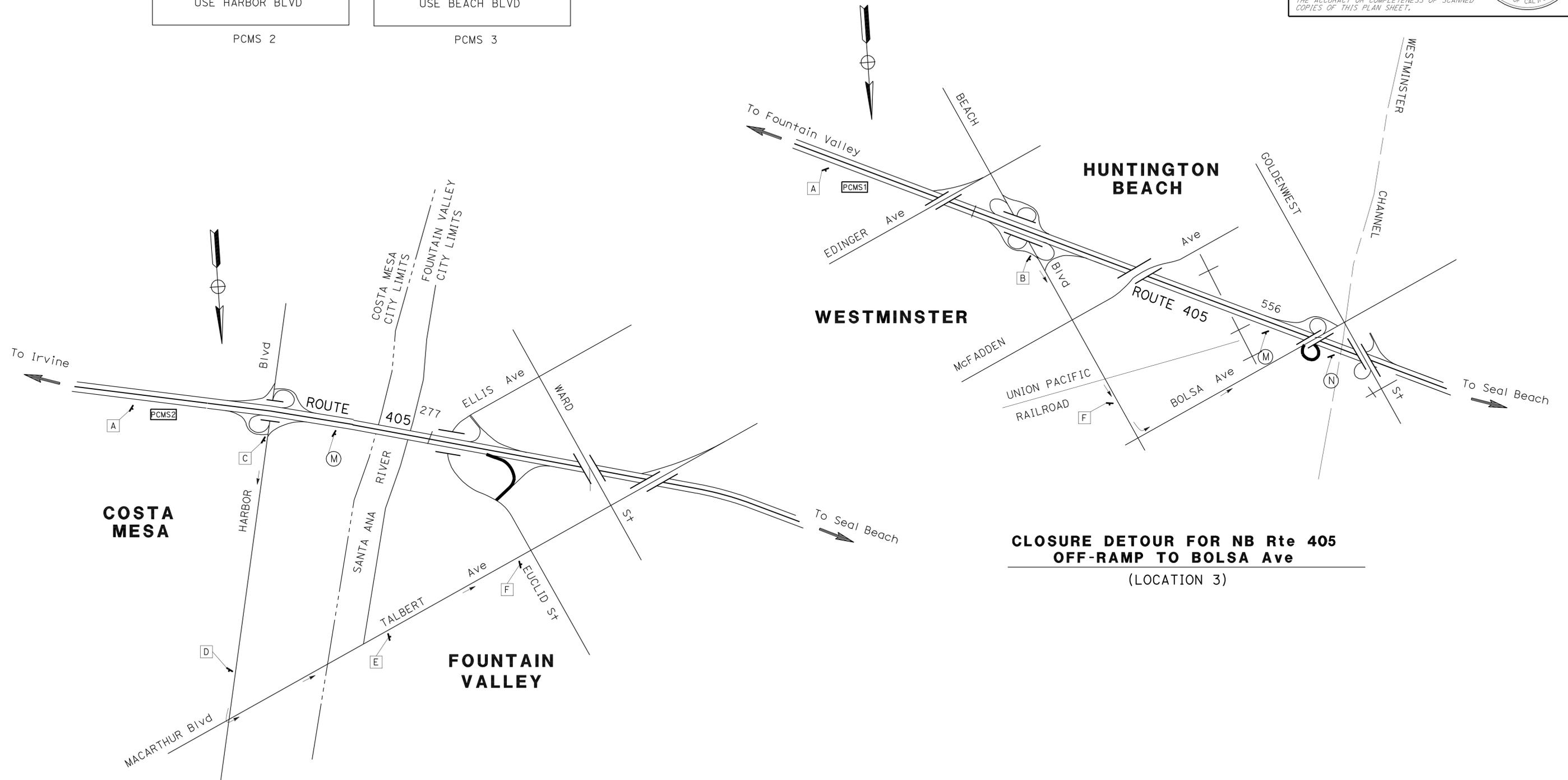
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orange	405	9.5/17.7	11	39

REGISTERED CIVIL ENGINEER	DATE
<i>B.I.</i>	05-03-10
PLANS APPROVAL DATE	
5-24-10	

REGISTERED PROFESSIONAL ENGINEER
BEN IONESCU
No. C65482
Exp. 9-30-11
CIVIL

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

EUCLID St OFF-RAMP CLOSED USE HARBOR BLVD PCMS 2	WB BOLSA AVE OFF-RAMP CLOSED USE BEACH BLVD PCMS 3
---	---



**CLOSURE DETOUR FOR NB Rte 405
OFF-RAMP TO EUCLID St**
(LOCATION 2)

**CLOSURE DETOUR FOR NB Rte 405
OFF-RAMP TO BOLSA Ave**
(LOCATION 3)

**TRAFFIC HANDLING PLAN
(DETOUR)**
NO SCALE

TH-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN DIVISION
 FUNCTIONAL SUPERVISOR: KAMRAN MAZHAR
 B.I. K.M.
 REVISIONS: REVISED BY, DATE, REVISED, DATE, REVISED

THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY



USERNAME => trstrk
DGN FILE => c0k510md002.dgn

CU 12231

EA 0K5101

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orange	405	9.5/17.7	12	39

05-03-10
 REGISTERED CIVIL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE

BEN IONESCU
 No. C65482
 Exp. 9-30-11
 CIVIL

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NOTE:

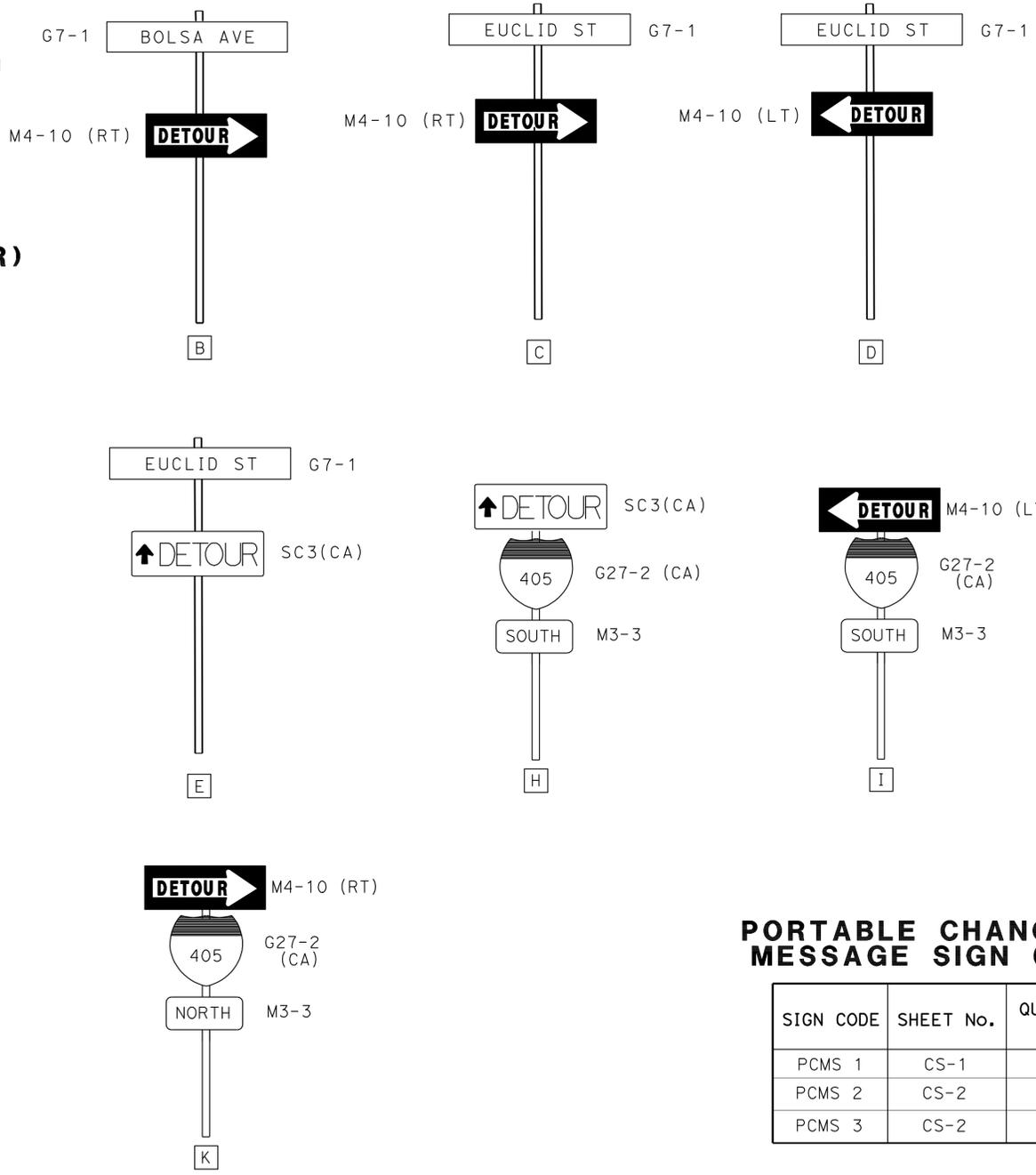
1. LOCATIONS OF CONSTRUCTION DETOUR SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.

LEGEND:

- PCMS PORTABLE CHANGABLE MESSAGE SIGN
- DIRECTION OF TRAFFIC
- X CONSTRUCTION DETOUR SIGN
- ⊗ CONSTRUCTION AREA SIGN

STATIONARY MOUNTED CONSTRUCTION SIGNS (DETOUR)

SIGN SYMBOL	SIGN CODE	SIGN MESSAGE	PANEL SIZE	No. OF POST AND SIZE	QUANTITY (EA)
A	W20-2	DETOUR AHEAD	48" x 48"	1 - 6" x 6"	4
B	G7-1	BOLSA Ave	54" x 12"	1 - 4" x 6"	1
	M4-10 (RT)	DETOUR (R+)	48" x 18"		
C	G7-1	EUCLID St	54" x 12"	1 - 4" x 6"	1
	M4-10 (RT)	DETOUR (R+)	48" x 18"		
D	G7-1	EUCLID St	54" x 12"	1 - 4" x 6"	1
	M4-10 (RT)	DETOUR (L+)	48" x 18"		
E	G7-1	EUCLID St	54" x 12"	1 - 4" x 6"	1
	SC3-CA	↑ DETOUR	48" x 18"		
F	M4-8a	END DETOUR	24" x 18"	1 - 4" x 6"	3
G	R9-11 (RT)	SIDEWALK CLOSED AHEAD CROSS HERE	24" x 12"		1
H	SC3(CA) G27-2 (CA) M3-3	SOUTH 405 DETOUR (STRAIGHT)	24" x 12" 30" x 24" 24" x 12"	1 - 4" x 6"	2
I	M4-10 (LT) G27-2 (CA) M3-3	SOUTH 405 DETOUR (LEFT)	24" x 12" 30" x 24" 24" x 12"	1 - 4" x 6"	3
J	M4-10 (LT) G27-2 (CA) M3-3	NORTH 405 DETOUR (LEFT)	24" x 12" 30" x 24" 24" x 12"	1 - 4" x 6"	1
K	M4-10 (LT) G27-2 (CA) M3-3	NORTH 405 DETOUR (RIGHT)	24" x 12" 30" x 24" 24" x 12"	1 - 4" x 6"	1
L	R9-11	SIDEWALK CLOSED AHEAD CROSS HERE	24" x 12"		1



PORTABLE CHANGABLE MESSAGE SIGN (PCMS)

SIGN CODE	SHEET No.	QUANTITY (EA)
PCMS 1	CS-1	1
PCMS 2	CS-2	1
PCMS 3	CS-2	1

CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)

SIGN SYMBOL	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POST AND SIZE	No. OF SIGNS
M	W20-1	48" x 48"	ROAD WORK AHEAD	2- 4" x 6"	4
N	G20-2	36" x 18"	END ROAD WORK	2- 4" x 6"	2

TRAFFIC HANDLING QUANTITIES (DETOUR)

NO SCALE

THQ-1

THIS PLAN ACCURATE FOR TRAFFIC HANDLING QUANTITIES ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN DIVISION
 FUNCTIONAL SUPERVISOR: KAMRAN MAZHAR
 CALCULATED/DESIGNED BY: B. IONESCU, K. MAZHAR
 CHECKED BY:
 REVISED BY: B. IONESCU, K. MAZHAR
 DATE REVISED:

LAST REVISION: 04-28-10
 DATE PLOTTED => 25-MAY-2010
 TIME PLOTTED => 10:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	405	9.5/17.7	13	39

Mostafa Aliakbarzadeh REGISTERED CIVIL ENGINEER No. C53003 Exp. 03-31-11 CIVIL	05-03-10 DATE 5-24-10 PLANS APPROVAL DATE
--	--

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

NOTES:

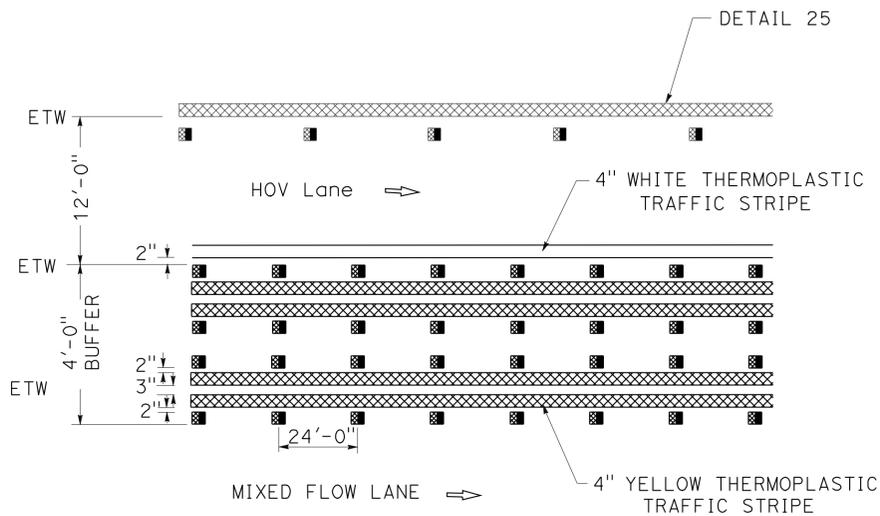
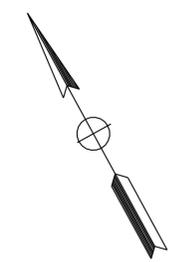
1. ALL CONFLICTING STRIPING AND PAVEMENT MARKING SHALL BE REMOVED.
2. NEW PAVEMENT DELINEATION REPLACE OBLIETRATED PAVEMENT DELINEATION AT THE SAME LOCATION.
3. ALL TRAFFIC STRIPING AND PAVEMENT MARKING SHALL BE THERMOPLASTIC UNLESS OTHERWISE NOTED.
4. PROTECT IN PLACE ALL REGULATORY HIGH OCCUPANCY VEHICLES SIGNS (BLACK ON WHITE).
5. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
6. ALL CHEVRON MARKINGS SHALL BE 45 DEGREE ANGLE FROM MEDIAN ISLAND STRIPING.
7. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON PORTIONS OF THESE PLANS.

LEGEND:

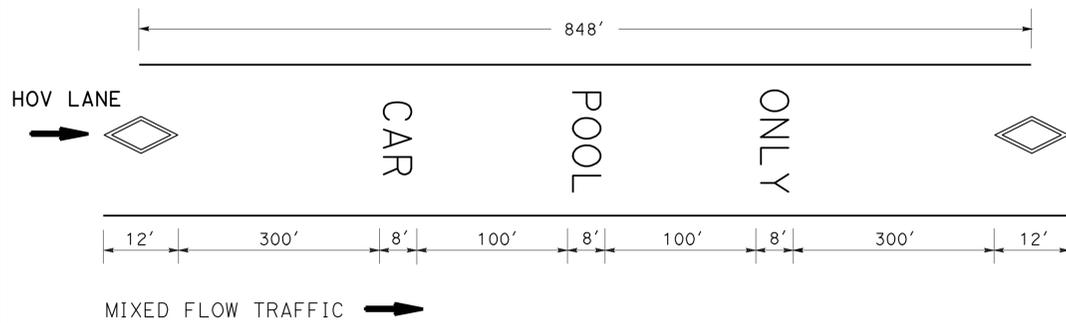
- 4" WHITE THERMOPLASTIC TRAFFIC STRIPE
- 4" YELLOW THERMOPLASTIC TRAFFIC STRIPE
- TRAFFIC DIRECTION
- PAVEMENT DELINEATION DETAIL
- CHANGE IN PAVEMENT DELINEATION DETAIL
- TYPE A WHITE NON-REFLECTIVE MARKER
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE MARKER
- TYPE H ONE-WAY YELLOW RETROREFLECTIVE MARKER
- SIGN IDENTIFICATION DETAIL NUMBER

ABBREVIATIONS

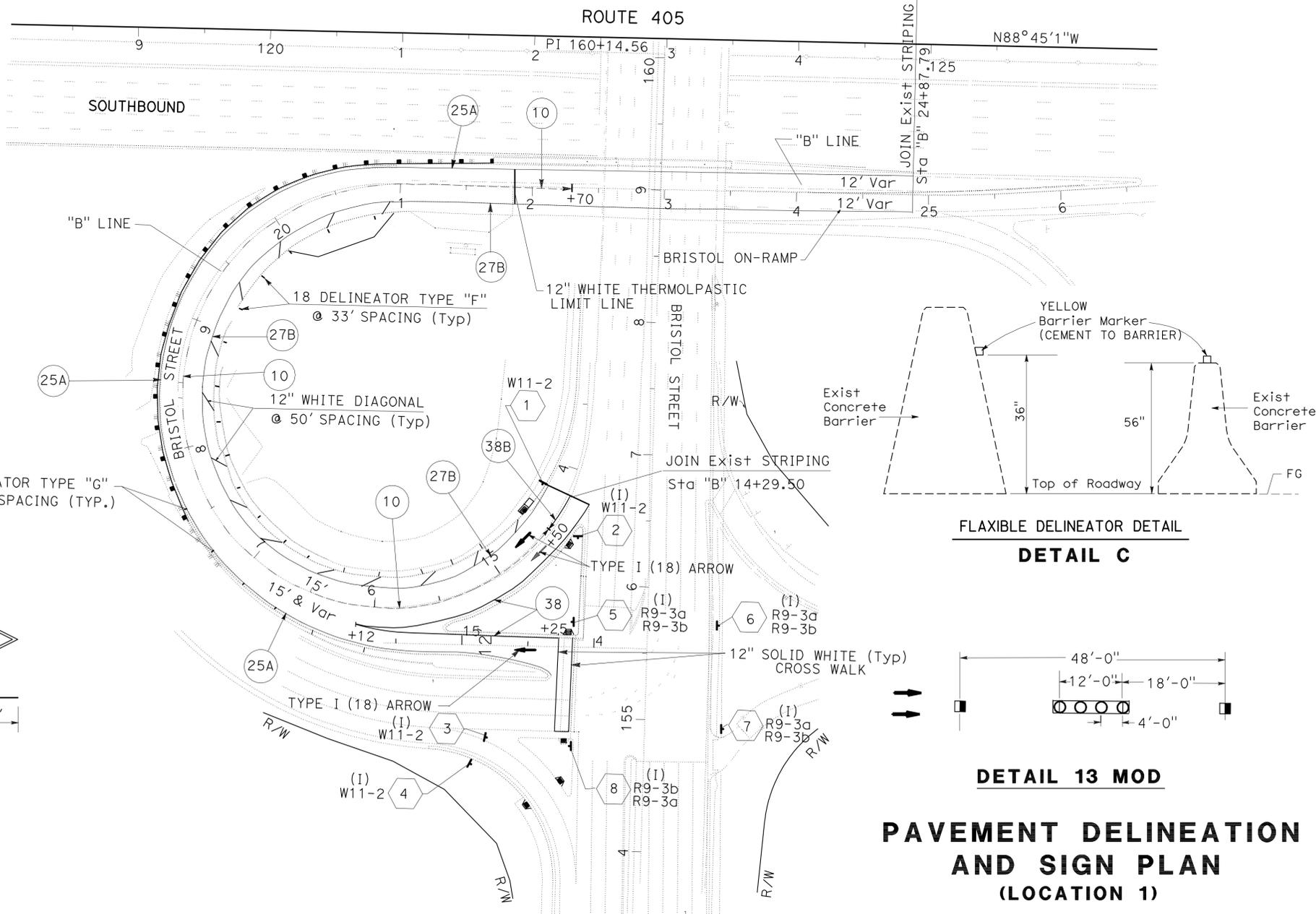
- HOV HIGH OCCUPANCY VEHICLE
- IS INSTALL ROADSIDE SIGN



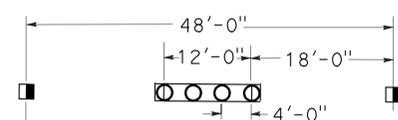
DETAIL A
HOV LANE BUFFER STRIPING DETAIL
BUFFER WIDTH - 4 FEET



DETAIL E
HOV LANE PAVEMENT MARKING
EXCEPT AT INGRESS/EGRESS LOCATIONS



DETAIL C
FLXIBLE DELINEATOR DETAIL



DETAIL 13 MOD

PAVEMENT DELINEATION AND SIGN PLAN (LOCATION 1)

SCALE: 1" = 50'

PD-1

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

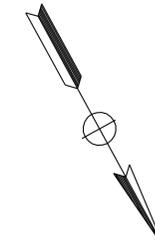
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
TRAFFIC DESIGN
FUNCTIONAL SUPERVISOR: ADEL MALEK
CALCULATED/DESIGNED BY: M. ALIAKBARZADEH
CHECKED BY: M. ALIAKBARZADEH
REVISOR BY: M. ALIAKBARZADEH
DATE REVISED: M. ALIAKBARZADEH

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	405	9.5/17.7	14	39

Mostafa Aliakbarzadeh 05-03-10
 REGISTERED CIVIL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE

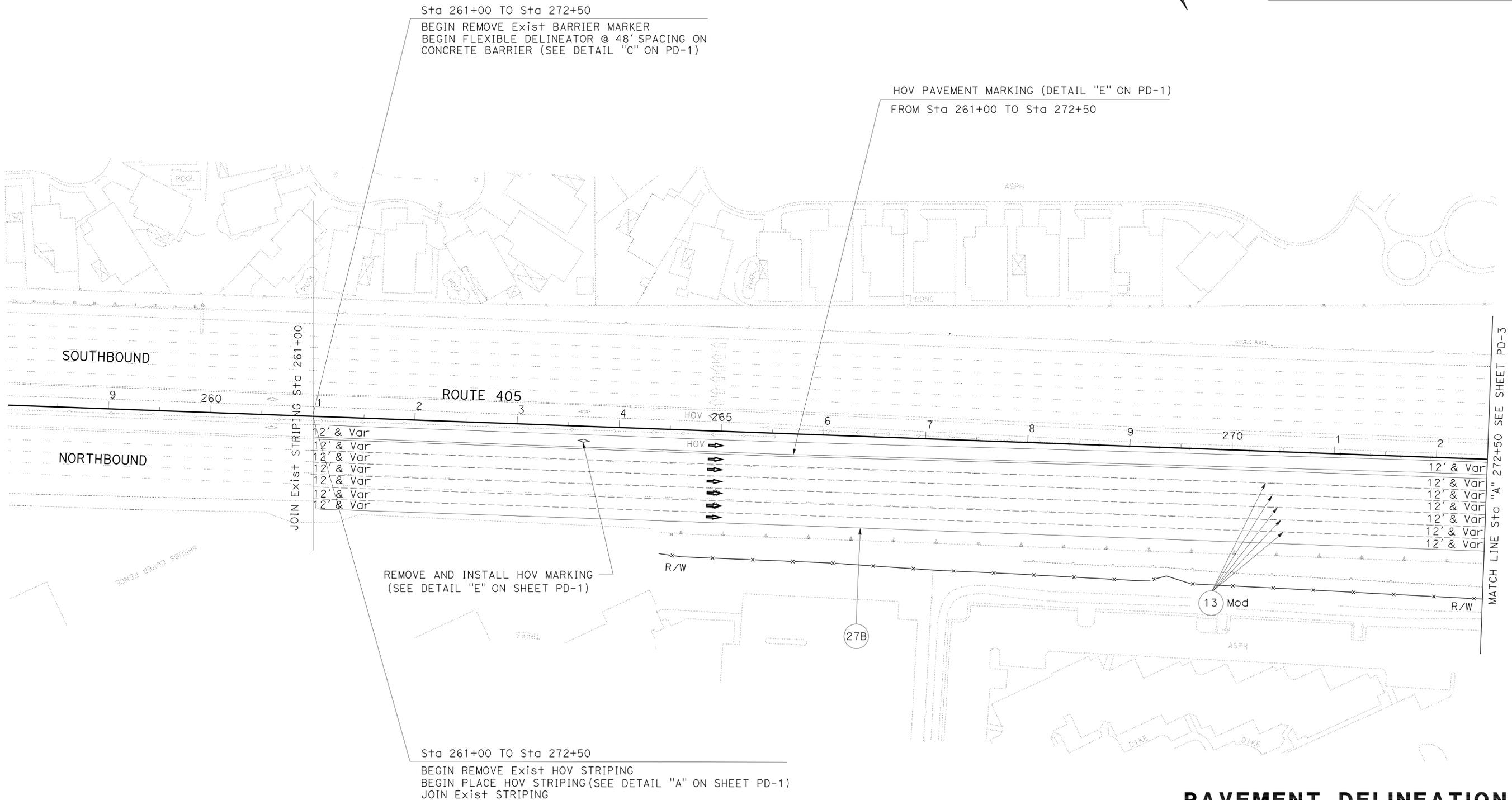
REGISTERED PROFESSIONAL ENGINEER
 MOSTAFA ALIAKBARZADEH
 No. C53003
 Exp. 03-31-11
 CIVIL
 STATE OF CALIFORNIA

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



NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: ADEL MALEK
 CALCULATED/DESIGNED BY: M-ALIAKBARZADEH
 CHECKED BY: M-ALIAKBARZADEH
 REVISED BY: M-ALIAKBARZADEH
 DATE REVISED:



REMOVE AND INSTALL HOV MARKING
 (SEE DETAIL "E" ON SHEET PD-1)

Sta 261+00 TO Sta 272+50
 BEGIN REMOVE Exist HOV STRIPING
 BEGIN PLACE HOV STRIPING (SEE DETAIL "A" ON SHEET PD-1)
 JOIN Exist STRIPING

PAVEMENT DELINEATION AND SIGN PLAN

(LOCATION 2)

SCALE: 1" = 50'

PD-2

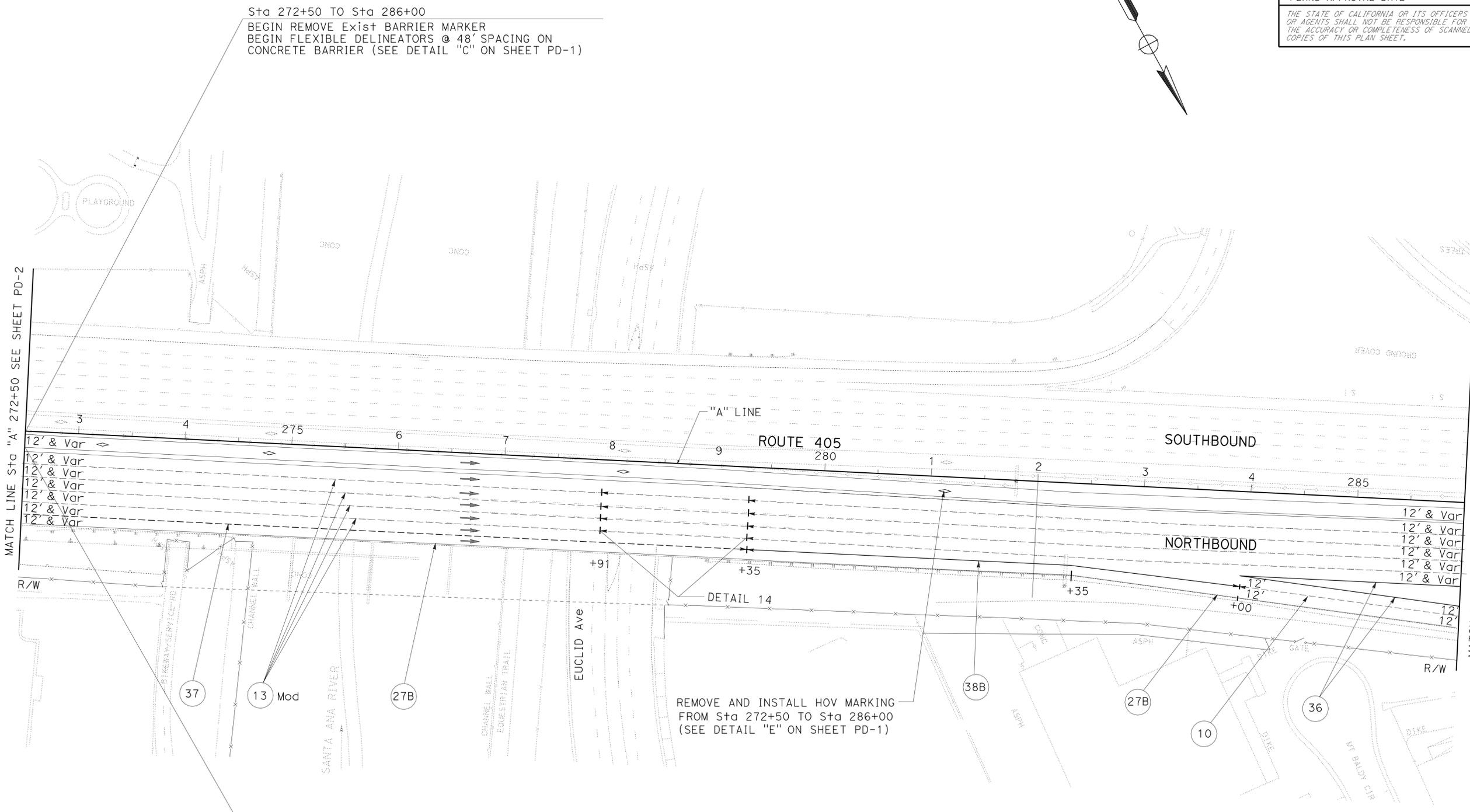
THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

FUNCTIONAL SUPERVISOR	ADEL MALEK
CALCULATED/DESIGNED BY	CHECKED BY
M. ALIAKBARZADEH	M. ALIAKBARZADEH
REVISED BY	DATE REVISED

NOTE:
 FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
 SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	9.5/17.7	15	39

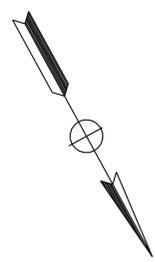
Mostafa Aliakbarzadeh 05-03-10
 REGISTERED CIVIL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



Sta 272+50 TO Sta 286+00
 BEGIN REMOVE Exist BARRIER MARKER
 BEGIN FLEXIBLE DELINEATORS @ 48' SPACING ON
 CONCRETE BARRIER (SEE DETAIL "C" ON SHEET PD-1)

Sta 272+50 TO Sta 286+00
 BEGIN REMOVE Exist HOV STRIPING
 BEGIN PLACE HOV STRIPING (SEE DETAIL "A" ON DETAIL PD-1)
 JOIN Exist STRIPING

REMOVE AND INSTALL HOV MARKING
 FROM Sta 272+50 TO Sta 286+00
 (SEE DETAIL "E" ON SHEET PD-1)



**PAVEMENT DELINEATION
 AND SIGN PLAN**

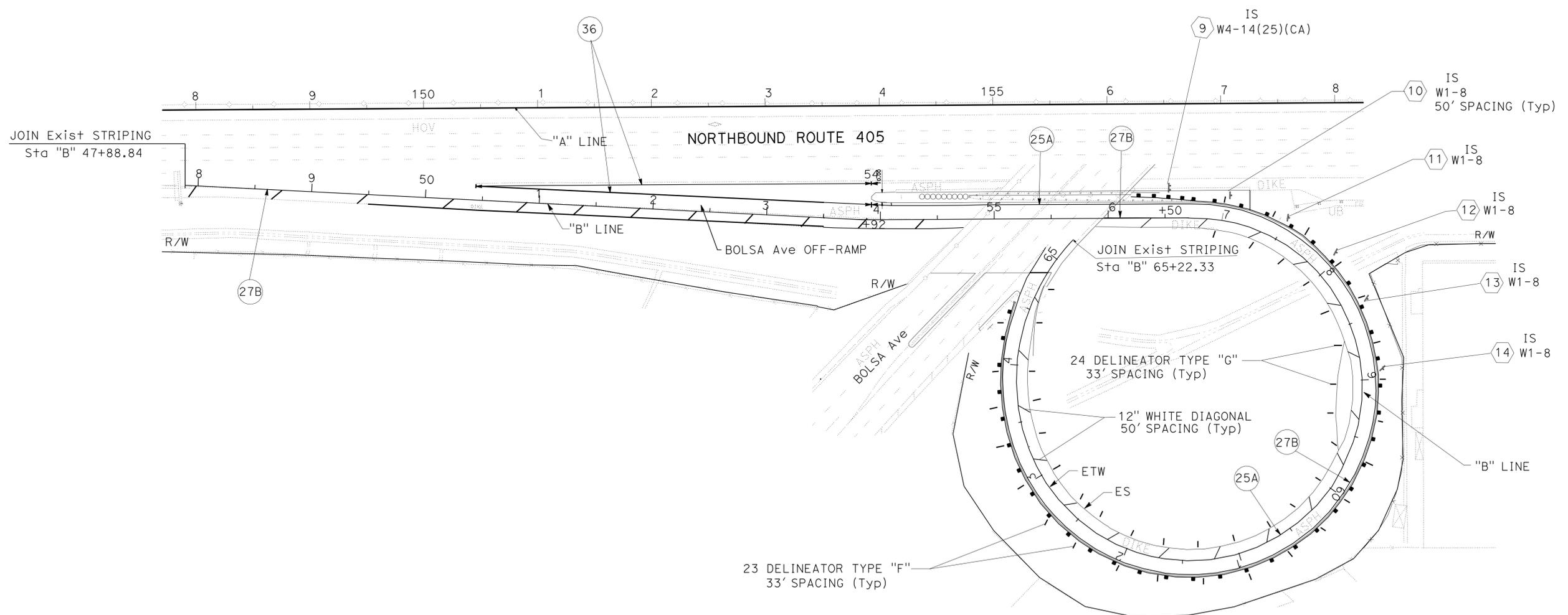
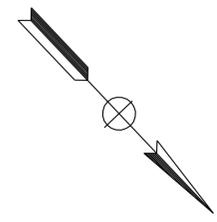
(LOCATION 2)
 SCALE: 1" = 50'
PD-3

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	405	9.5/17.7	17	39
<i>Mostafa Al-Iakbarzadeh</i> 05-03-10 REGISTERED CIVIL ENGINEER DATE					
5-24-10			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE:

FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.



PAVEMENT DELINEATION AND SIGN PLAN
 (LOCATION 3)

SCALE: 1" = 50'

PD-5

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGN PLAN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR
 ADEL MALEK

CALCULATED/DESIGNED BY
 CHECKED BY

M. ALI AKBARZADEH
 M. ALI AKBARZADEH

REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	405	9.5/17.7	18	39

Mostafa Alakbarzadeh 05-03-10
 REGISTERED CIVIL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE

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PAVEMENT DELINEATION

SHEET NUMBER	STATION LIMITS	LOCATIONS	THERMOPLASTIC TRAFFIC STRIPE						THERMOPLASTIC PAVEMENT MARKING	PAVEMENT MARKER				FLEXIBLE DELINEATOR (YELLOW)	DELINEATOR CLASS 1		REMOVE						
			DETAIL 25A 4" SOLID YELLOW	DETAIL 27B 4" SOLID WHITE	HOV		DETAIL 13 (MOD) 4" BROKEN WHITE (36'-12')	DETAIL 36, 38B, 38 8" SOLID WHITE	DETAIL 37 8" BROKEN WHITE (12-3)	SYMBOLS, DIAGONALS, ARROW CROSS WALK, LIMIT LINE	NON-REFLECTIVE		RETRO-REFLECTIVE		TYPE F	TYPE G	THERMOPLASTIC TRAFFIC STRIPE	YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	PAVEMENT MARKER	THERMOPLASTIC PAVEMENT MARKING	FLEXIBLE DELINEATOR	DELINEATOR	
					TYPE A	TYPE G					TYPE C	TYPE H	EA										EA
PD-1	24+87.79 TO 14+29.50	ROUTE 405-SB BRISTOL Ave ON-RAMP (LOCATION 1)	1058	1058			391		310	150	48		49		18	6	1194	1059	165	190		6	
PD-2	261+00 TO 272+50	ROUTE 405-NB (LOCATION 2)		1150	1150	5750	1440		39	480	117		233	24			2590	5750	834	39	24		
PD-3	272+50 TO 286+00	ROUTE 405-NB (LOCATION 2)		1350	1350	6750	1692	865	685	156	588	200	4	271	29		7492	6750	1059	156	29		
PD-4	286+00 TO 292+00	ROUTE 405-NB (LOCATION 2)		600	600	3000	600		39	200	50		130	13			1800	3000	380	39	13		
PD-5	50+43.00 TO 65+22	ROUTE 405-SB BOLSA Ave OFF-RAMP (LOCATION 3)	1172	1479			614		384		27		50		24	24	2400	1479	50	384		6	
SUBTOTAL			2230	5637	3100	15500	3732	1870	685	928	1418	442	4	733	66	42	30	15476	18038	2488	808	66	
TOTAL			26467				3732	2555	928	1418	1179			66	72		15476	18038	2488	808	66	12	

PAVEMENT DELINEATION AND SIGN QUANTITIES

PDQ-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	405	9.5/17.7	19	39

Mostafa Aliakbarzadeh 05-03-10
 REGISTERED CIVIL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE

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

ROADSIDE SIGN QUANTITIES

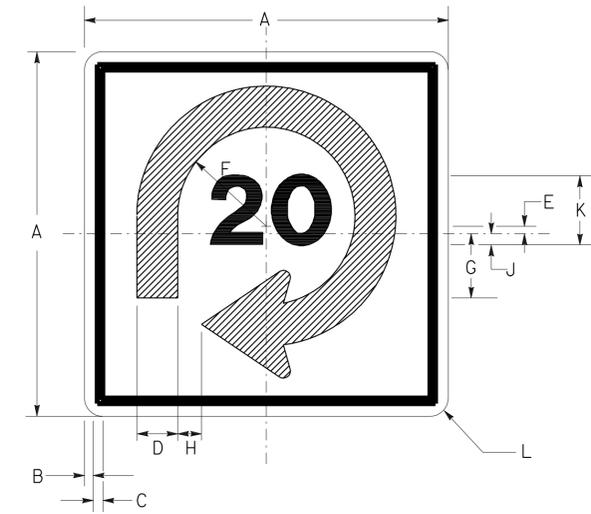
SHEET No.	SIGN No.	SIGN CODE	PANEL SIZE	POST SIZE	POST LENGTH		ROADSIDE SIGN	
					L+	R+	ONE POST	TWO POST
							EA	EA
PD-3	1	W11-2	24" x 24"	4" x 4"		15'	1	
	2	W11-2	24" x 24"	4" x 4"		15'	1	
	3	W11-2	24" x 24"	4" x 4"		15'	1	
	4	W11-2	24" x 24"	4" x 4"		15'	1	
	5	R9-3a	18" x 18"	4" x 4"	15'	1		
		R9-3b	18" x 18"					
	6	R9-3a	18" x 18"	4" x 4"	15'	1		
		R9-3b	18" x 18"					
7	R9-3a	18" x 18"	4" x 4"	15'	1			
	R9-3b	18" x 18"						
8	R9-3a	18" x 18"	4" x 4"	15'	1			
	R9-3b	18" x 18"						
PD-8	9	W1-1a(20)(CA)	96" x 96"	4" x 6"		13'		1
	10	W1-8	24" x 30"	4" x 4"		13'	1	
	11	W1-8	24" x 30"	4" x 4"		13'	1	
	12	W1-8	24" x 30"	4" x 4"		13'	1	
	13	W1-8	24" x 30"	4" x 4"		13'	1	
	14	W1-8	24" x 30"	4" x 4"		13'	1	
TOTAL							13	1

PAVEMENT DELINEATION AND SIGN QUANTITIES

PDQ-2

MATERIAL SUMMARY-CONTRACTOR FURNISHED SIGNS

SHEET No.	SIGN No.	SIGN CODE	PANEL SIZE	SINGLE FACED	BACKGROUND		LEGEND		PROTECTIVE FILM	ROADSIDE SIGN		
					SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	SHEETING COLOR	RETROREFLECTIVE ASTM TYPE		STANDARD	SINGLE SHEET UNFRAMED ALUMINUM	SINGLE SHEET FRAMED ALUMINUM
											0.063 inch	0.080 inch
PD-3	1	W11-2	24" x 24"	x	YELLOW	III	BLACK	non	x	4		
	2	W11-2	24" x 24"	x	YELLOW	III	BLACK	non	x	4		
	3	W11-2	24" x 24"	x	YELLOW	III	BLACK	non	x	4		
	4	W11-2	24" x 24"	x	YELLOW	III	BLACK	non	x	4		
	5	R9--3a	24" x 24"	x	WHITE	VII	BLACK/RED	VII	x	4		
		R9-3b	18" x 12"	x	WHITE	VII	BLACK	VII	x	1.5		
	6	R9--3a	24" x 24"	x	WHITE	VII	BLACK/RED	VII	x	4		
		R9-3b	18" x 12"	x	WHITE	VII	BLACK	VII	x	1.5		
7	R9--3a	24" x 24"	x	WHITE	VII	BLACK/RED	VII	x	4			
	R9-3b	18" x 12"	x	WHITE	VII	BLACK	VII	x	1.5			
8	R9-3a	24" x 24"	x	WHITE	VII	BLACK/RED	VII	x	4			
	R9-3b	18" x 12"	x	WHITE	VII	BLACK	VII	x	1.5			
PD-8	9	W4-14(20)(CA)	96" x 96"	x	YELLOW	III	BLACK	non	x		64	
	10	W1-8	24" x 30"	x	YELLOW	III	BLACK	non	x	5		
	11	W1-8	24" x 30"	x	YELLOW	III	BLACK	non	x	5		
	12	W1-8	24" x 30"	x	YELLOW	III	BLACK	non	x	5		
	13	W1-8	24" x 30"	x	YELLOW	III	BLACK	non	x	5		
	14	W1-8	24" x 30"	x	YELLOW	III	BLACK	non	x	5		
TOTAL										60.24	64	



W4-14 (20)(CA)

Sign size	DIMENSIONS (Inches)										
	A	B	C	D	E	F	G	H	I	J	K
96" x 96"	96	1-1/4	2-1/4	12	3	26	21	7	4	20E	6

PAVEMENT DELINEATION AND SIGN QUANTITIES

PDQ-3

METAL BEAM GUARD RAILING (WOOD POST)

SHEET No.	LOCATION	SIDE	STATION LIMITS	MBGR (WOOD POST)	ALTERNATIVE FLARED TERMINAL SYSTEM	Trans RAILING (TYPE WB)
				LF		
L-1	SB LOOP ON-RAMP FROM SB BRISTOL	L+	"B" 17+13.12 TO "B" 21+70.25	382		2
L-5	NB 405 OFF-RAMP TO BOLSA	L+	"B" 56+20.00 TO "B" 64+50.00	815		1
L-5	NB 405 OFF-RAMP TO BOLSA	R+	"B" 64+12.50 TO "B" 64+75.00	-	1	1
TOTAL				1197	1	4

HMA DIKE

SHEET No.	LOCATION	SIDE	STATION LIMITS	DIKE TYPE D
				LF
L-1	SB LOOP ON-RAMP FROM SB BRISTOL	R+	"B" 14+53.70 TO "B" 19+93.76	545

REMOVE CONCRETE CURB

SHEET No.	LOCATION	SIDE	STATION LIMITS	REMOVE CONCRETE CURB
				LF
L-1	SB LOOP ON-RAMP FROM SB BRISTOL	L+	"B" 17+13.12 TO "B" 19+99.16	287
L-5	NB 405 OFF-RAMP TO BOLSA	L+	"B" 56+20.00 TO "B" 64+50.00	830
TOTAL				1117

REMOVE ASPHALT CONCRETE DIKE

SHEET No.	LOCATION	SIDE	STATION LIMITS	REMOVE ASPHALT CONCRETE DIKE
				LF
L-1	SB LOOP ON-RAMP FROM SB BRISTOL	L+	"B" 19+99.16 TO "B" 20+98.00	99
L-1	SB LOOP ON-RAMP FROM SB BRISTOL	R+	"B" 14+53.70 TO "B" 21+08.36	655
L-5	NB 405 OFF-RAMP TO BOLSA	R+	"B" 55+88.90 TO "B" 58+62.86	274
L-5	NB 405 OFF-RAMP TO BOLSA	R+	"B" 59+66.56 TO "B" 64+75.00	509
TOTAL				1537

GROOVE EXISTING CONCRETE PAVEMENT

SHEET No.	LOCATION	STATION LIMITS	GROOVE EXISTING CONCRETE PAVEMENT
			SQYD
L-2	NB 405 (MAINLINE)	"A" 274+50.00 TO "A" 278+90.00	4890
TOTAL			4890

REMOVE METAL BEAM GUARD RAILING

DESCRIPTION AND LOCATION				REMOVE MBGR (WOOD POST)
SHEET No.	STATION LINE	FROM	TO	
L-1	"B"	17+13.12	21+70.25	458.13
L-5	"B"	56+20.00	64+50.00	830
L-5	"B"	64+12.50	64+75.00	62.50
L-5	"A"	154+77.64	156+10.92	133.28
TOTAL				1485

SUMMARY OF QUANTITIES

Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	405	9.5/17.7	21	39

05-03-10
 REGISTERED CIVIL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE

BEN IONESCU
 No. 65482
 Exp. 9-30-11
 CIVIL

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN DIVISION
 FUNCTIONAL SUPERVISOR: KAMRAN MAZHAR
 CALCULATED/DESIGNED BY: B. IONESCU
 CHECKED BY: K. MAZHAR
 REVISIONS: REVISED BY: B. IONESCU, DATE: 05-03-10
 BORDER LAST REVISED 4/11/2008



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	405	9.5/17.7	22	39

05-03-10
REGISTERED CIVIL ENGINEER DATE
5-24-10
PLANS APPROVAL DATE

BEN IONESCU
No. 65482
Exp. 9-30-11
CIVIL

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ROADWAY QUANTITIES

SHEET NO.	LOCATION	STATION LIMITS	Pvmt Str Sec Type	MINOR CONCRETE (Curb Ramp)	REMOVE Conc CURB RAMP	HOT MIX ASPHALT (OPEN GRADED) 0.10'	HOT MIX ASPHALT (TYPE A) DEPTH		RUBBERIZED HOT MIX ASPHALT (Gap Graded) 0.20	TACK COAT	COLD PLANE AC Pvmt 0.20'	CLASS 2 AGGREGATE SUBBASE 0.50'
							0.10'	0.70'				
							CY	CY				
L-1	SB LOOP ON-RAMP FROM SB BRISTOL	"B" 19+12.21 TO "B" 23+05.00	1			81				0.47		
L-1	SB LOOP ON-RAMP FROM SB BRISTOL	"B" 23+05.55 TO "B" 24+06.24	MVP					2.2				20.9
L-1	SB LOOP ON-RAMP FROM SB BRISTOL	"B" 23+05.00 TO "B" 27+54.04	1			105				0.62		
L-1	SB LOOP ON-RAMP FROM SB BRISTOL	"B" 27+54.04 TO "B" 29+70.50	1			66				0.39		
L-1		"B" 29+49.67	CURB RAMP	3	3							
L-1		"B" 29+50.26	CURB RAMP	3	3							
L-1		"D" 29+80.57	CURB RAMP	3	3							
L-1		"C" 155+83.56	CURB RAMP	3	3							
L-1		"C" 154+50.71	CURB RAMP	3	3							
L-1		"C" 154+33.66	CURB RAMP	3	3							
L-2	NB 405 (MAINLINE)	"A" 261+00.00 TO "A" 272+50.00	1			632				3.72		
L-3	NB 405 (MAINLINE)	"A" 272+50.00 TO "A" 274+50.00	1			110				0.64		
L-3	NB 405 (MAINLINE)	"A" 278+90.00 TO "A" 286+00.00	1			334				1.97		
L-4	NB 405 (MAINLINE)	"A" 286+00.00 TO "A" 292+00.00	1			247				1.45		
L-5	NB 405 OFF-RAMP TO BOLSA	"B" 47+88.84 TO "B" 53+50.00	1 4				21		55	0.24	415	
L-5	NB 405 OFF-RAMP TO BOLSA	"B" 53+50.00 TO "B" 64+86.00	1 4				155		406	1.81	3105	
SUBTOTAL							176	2.2				
TOTAL				18	18	1575	179		461	11.4	3520	20.9

ROADWAY EXCAVATION

SHEET NO.	LOCATION	STATION LIMITS	TYPE Y-1 (AERIALY DEPOSITED LEAD)
			EA
L-5	NB 405 OFF-RAMP TO BOLSA	"B" 59+50.00 TO 60+50.00	2
TOTAL			2

SUMMARY OF QUANTITIES

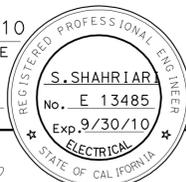
Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN DIVISION
B. IONESCU
K. MAZHAR
KAMRAN MAZHAR
FUNCTIONAL SUPERVISOR
CALCULATED/DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

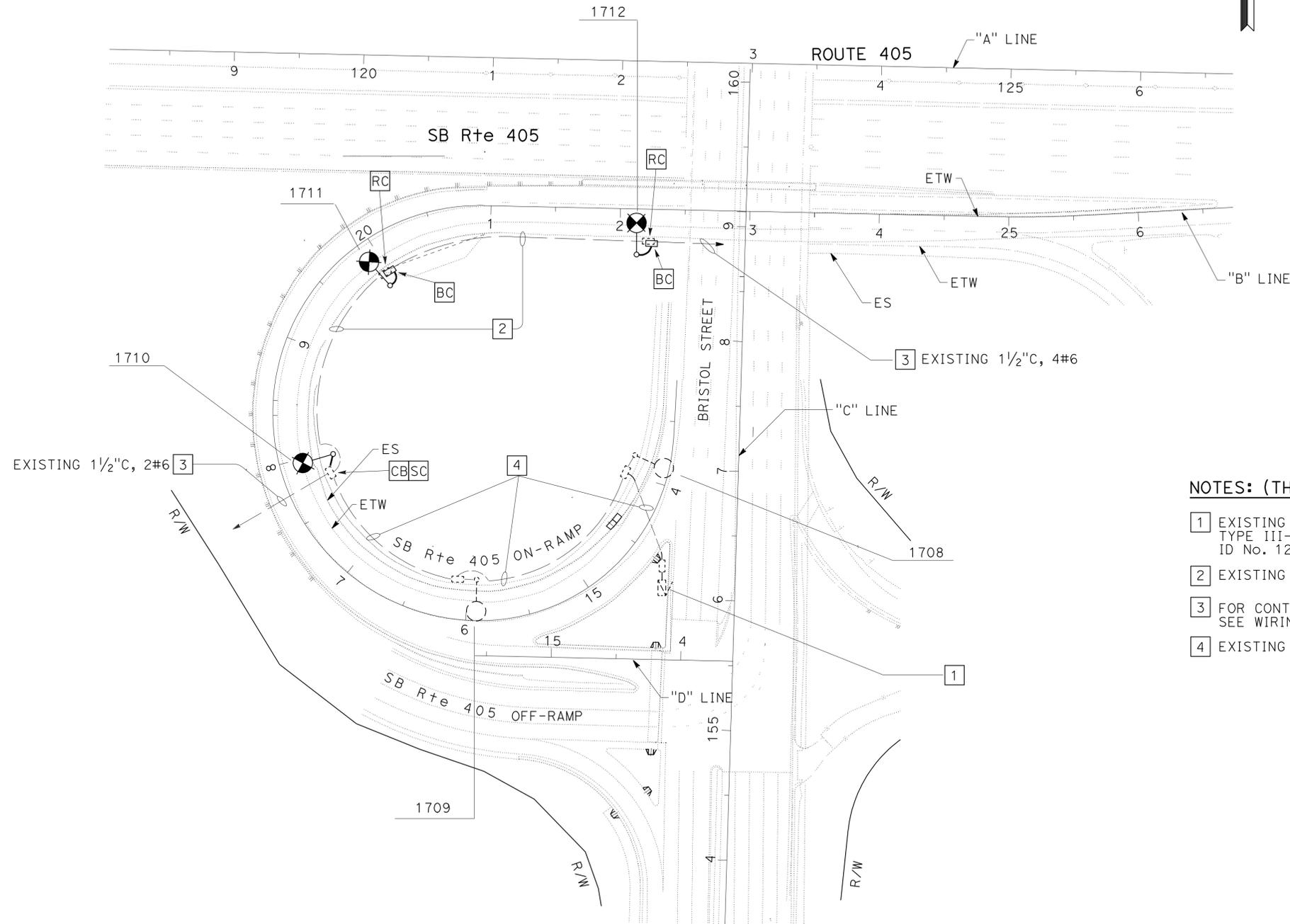
NOTE:

FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	9.5/17.7	23	39
			05-03-10		
			REGISTERED ELECTRICAL ENGINEER DATE		
			5-24-10		
			PLANS APPROVAL DATE		



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NOTES: (THIS SHEET ONLY)

- 1 EXISTING 480 V METERED SERVICE IN TYPE III-BF SERVICE EQUIPMENT ENCLOSURE. ID No. 12-55-405-0-009.510
- 2 EXISTING 1/2" C, 4#6. ADD 2#6.
- 3 FOR CONTINUATION OF CIRCUIT, SEE WIRING DIAGRAM ON SHEET E-3.
- 4 EXISTING 1/2" C, 6#6.

MODIFY LIGHTING
SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	Caltrans	ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR	SHAHRAM SHAHRIARI	
CALCULATED, DESIGNED BY	CHECKED BY	
ANTHONY C FERNANDEZ	VANESSA TRUONG	
REVISED BY	DATE REVISED	
04-26-10		

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



USERNAME => frmikesl
DGN FILE => c0k510ua001.dgn

CU 12390

EA 0K5101

BORDER LAST REVISED 4/11/2008

LAST REVISION | DATE PLOTTED => 26-MAY-2010
04-29-10 | TIME PLOTTED => 05:52

NOTE:

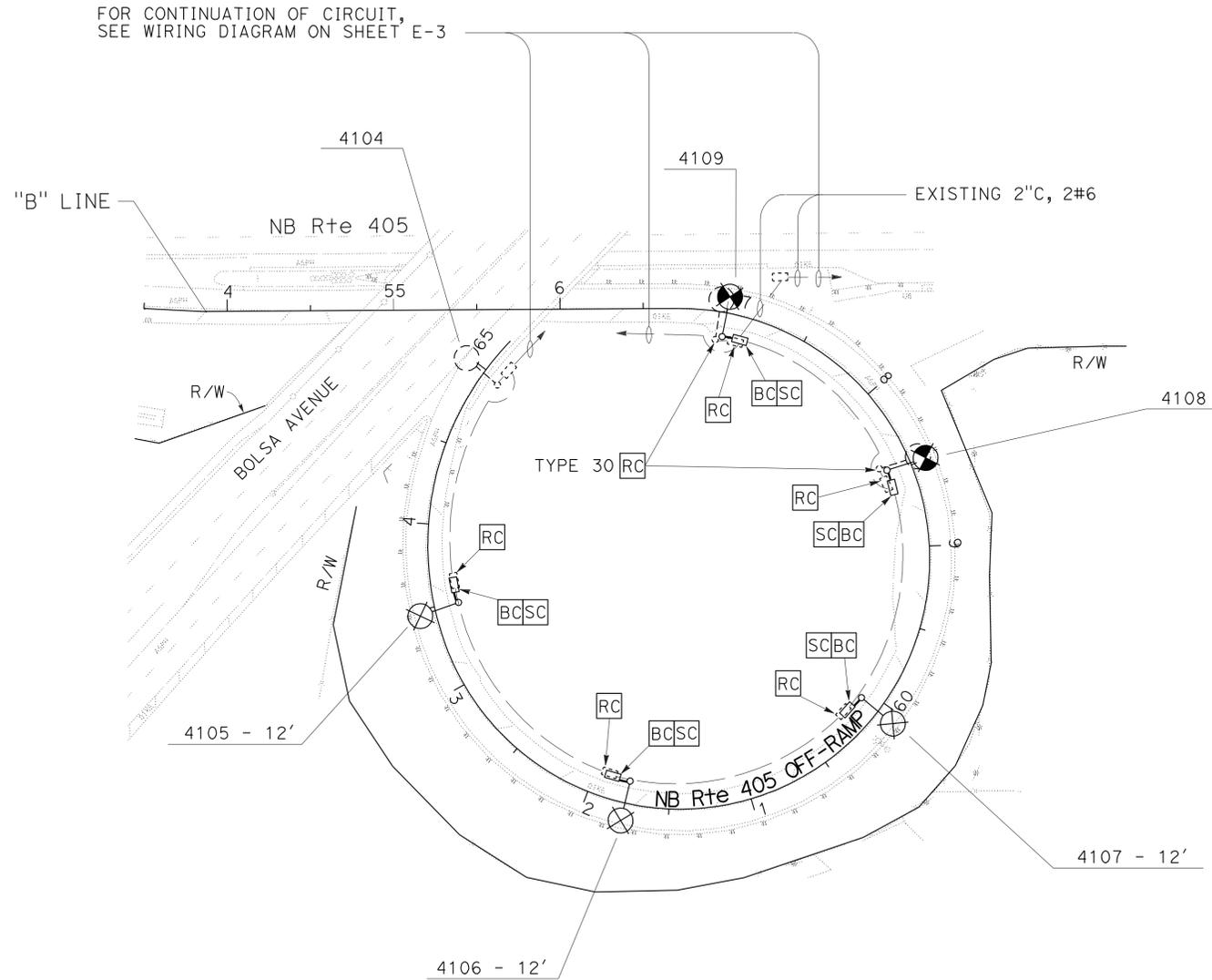
FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	9.5/17.7	24	39

S. Shahriari 05-03-10
 REGISTERED ELECTRICAL ENGINEER DATE
 5-24-10
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 S. SHAHRIARI
 No. E 13485
 Exp. 9/30/10
 ELECTRICAL
 STATE OF CALIFORNIA

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



FOR CONTINUATION OF CIRCUIT, SEE WIRING DIAGRAM ON SHEET E-3

NOTE: (THIS SHEET ONLY)

- ALL EXISTING CONDUITS ARE 1/2" WITH 2#6 UNLESS OTHERWISE NOTED.

MODIFY LIGHTING

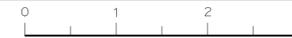
SCALE: 1" = 50'

E-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Caltrans ELECTRICAL DESIGN	SHAHAM SHAHRIARI	SHAHAM SHAHRIARI	ANTHONY C FERNANDEZ	04-26-10
		CHECKED BY	VANESSA TRUONG	

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

RELATIVE BORDER SCALE
IS IN INCHES



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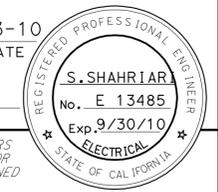
CU 12390

EA 0K5101

BORDER LAST REVISED 4/11/2008

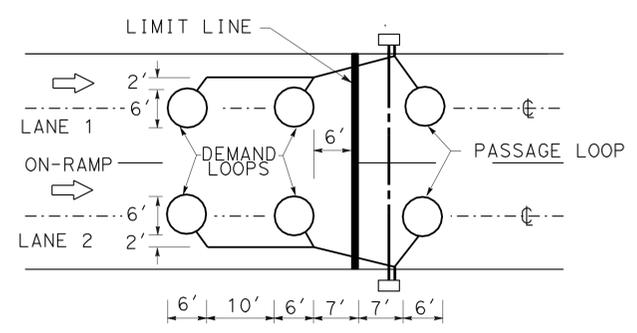
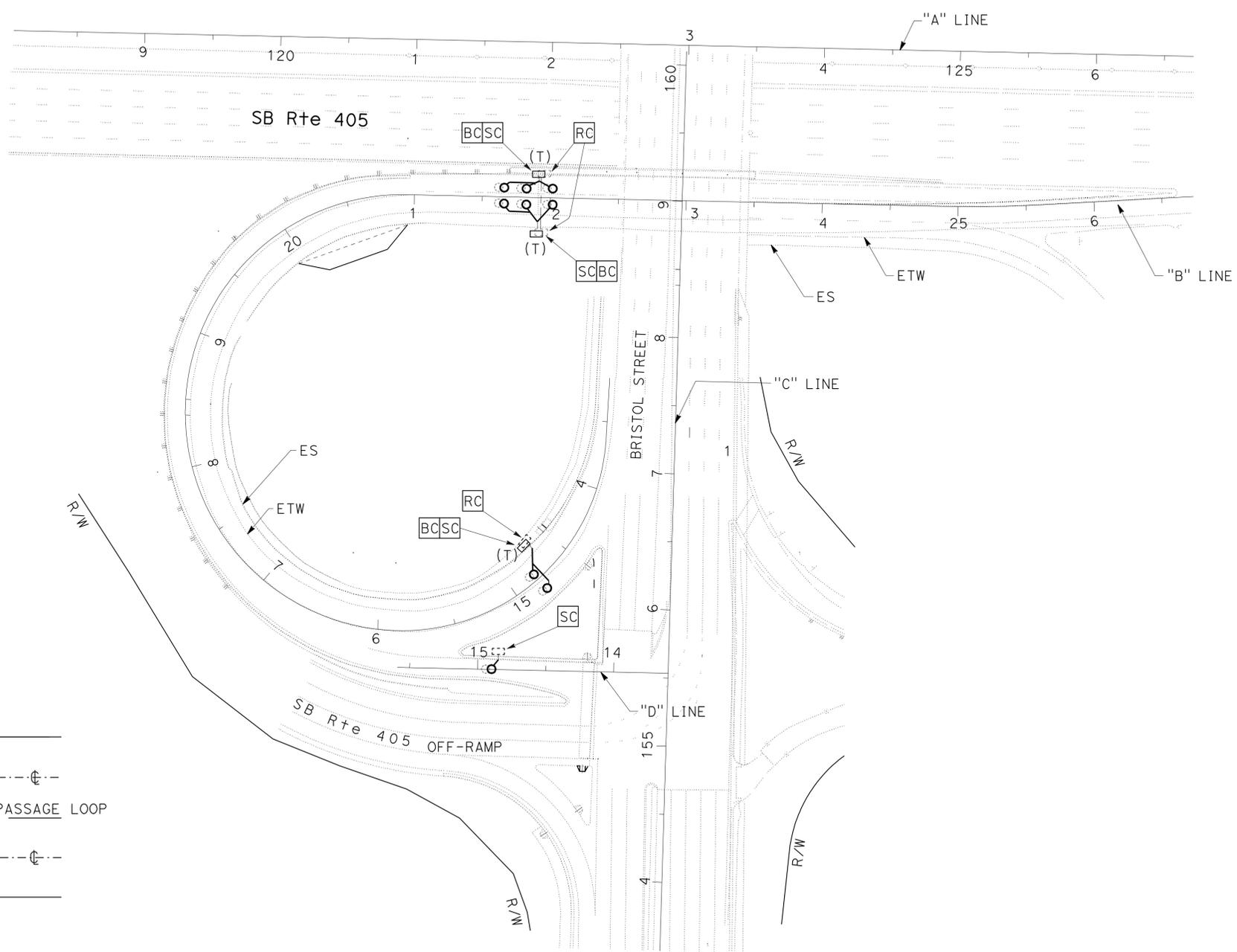
LAST REVISION | DATE PLOTTED => 26-MAY-2010
04-29-10 TIME PLOTTED => 05:53

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	9.5/17.7	26	39
			05-03-10	REGISTERED ELECTRICAL ENGINEER DATE	
			5-24-10	PLANS APPROVAL DATE	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



NOTES: (THIS SHEET ONLY)

1. THE CONTRACTOR SHALL LOCATE EXISTING PULL BOXES, LOOPS, AND d/c BEFORE CUTTING NEW LOOPS. EXISTING STUB-OUT SHALL BE RE-USED.
2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. **AB** EXISTING INDUCTIVE LOOPS.
4. ALL NEW LOOPS SHALL BE INSTALLED AFTER FINAL PAVEMENT AND PAVEMENT DELINEATION.
5. THE REST OF CIRCUIT NOT SHOWN.



**TYPICAL 2-LANE RAMP METERING
LOOP INSTALLATION DETAIL**
NO SCALE

INDUCTIVE LOOP DETECTOR

SCALE: 1" = 50'

E-4

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.



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DGN FILE => c0k510ua004.dgn

CU 12390

EA 0K5101

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: SHAHRAM SHAHRIARI
DESIGNED BY: ANTHONY C FERNANDEZ
CHECKED BY: VANESSA TRUONG
REVISOR: ANTHONY C FERNANDEZ
DATE REVISED: 04-26-10

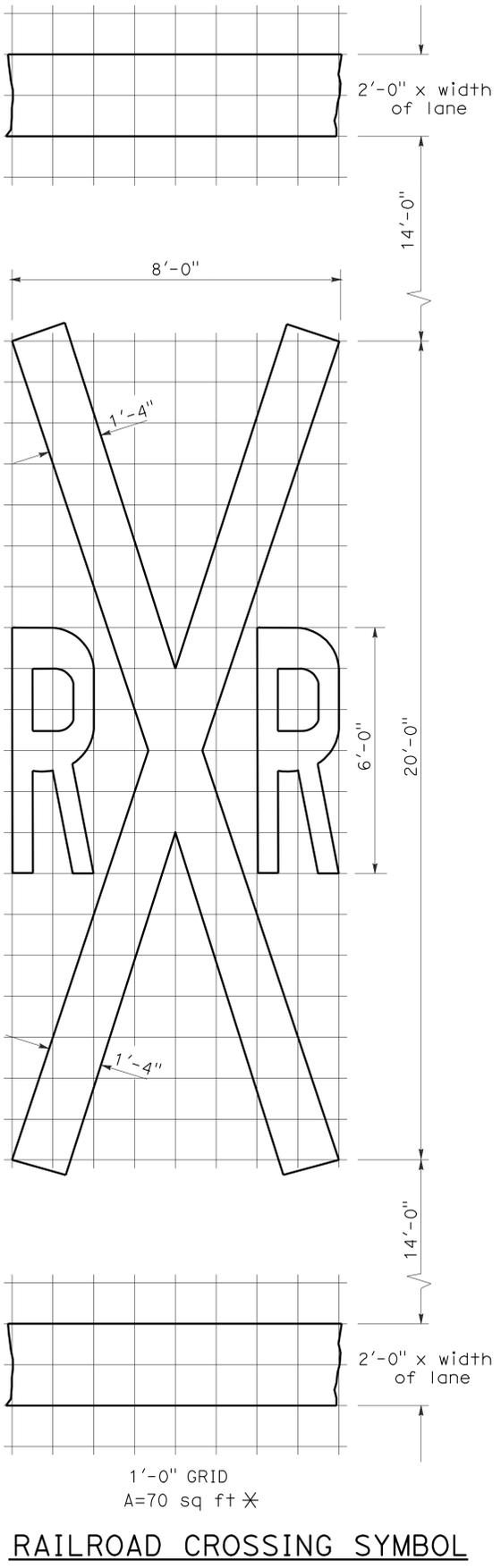
LAST REVISION: DATE PLOTTED => 26-MAY-2010
04-29-10 TIME PLOTTED => 05:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	9.5/17.7	27	39

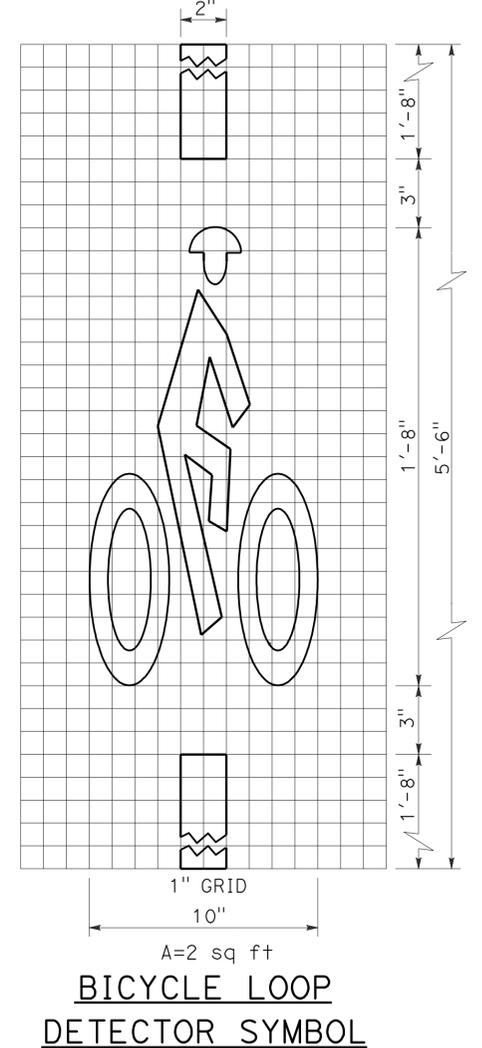
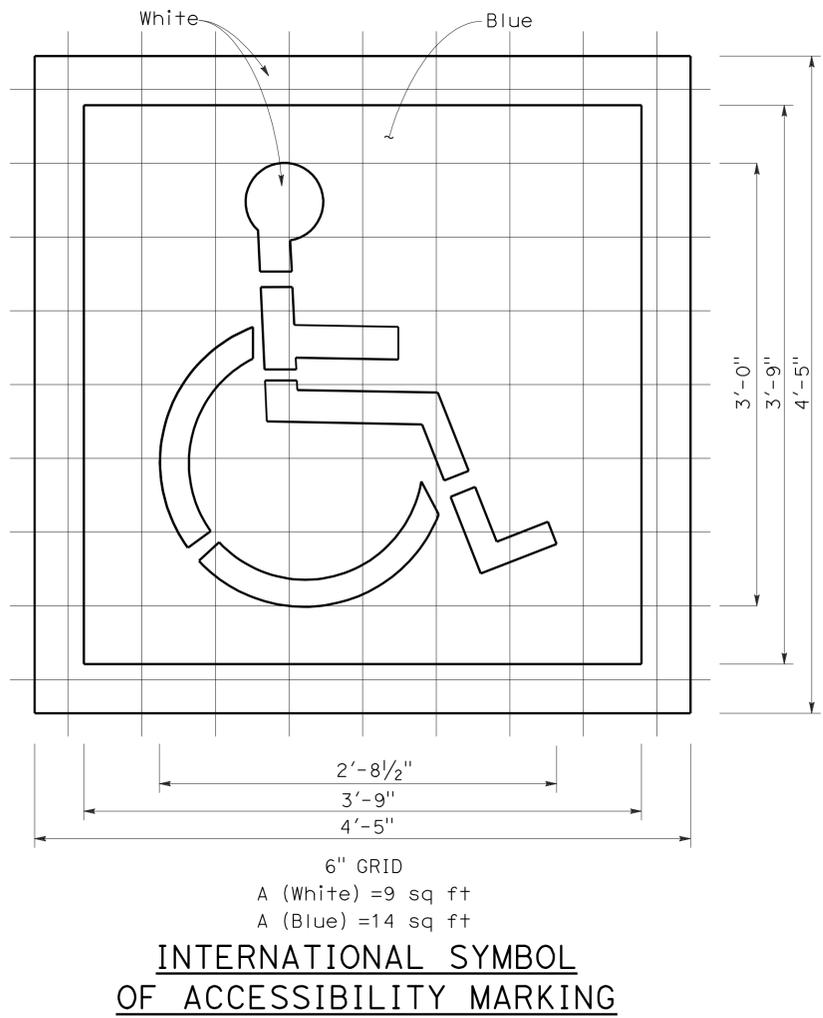
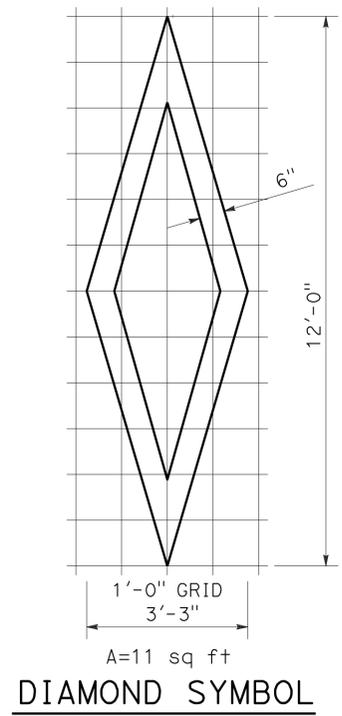
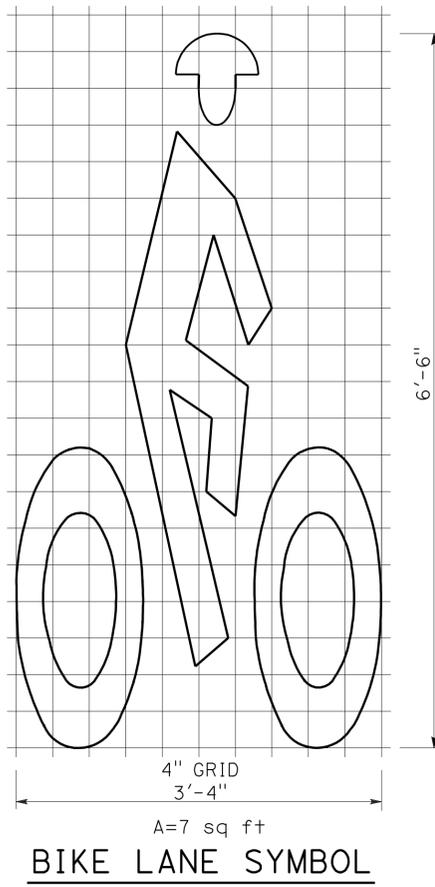
Donald E. Howe
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Donald E. Howe
 No. C46402
 Exp. 3-31-09
 CIVIL
 STATE OF CALIFORNIA

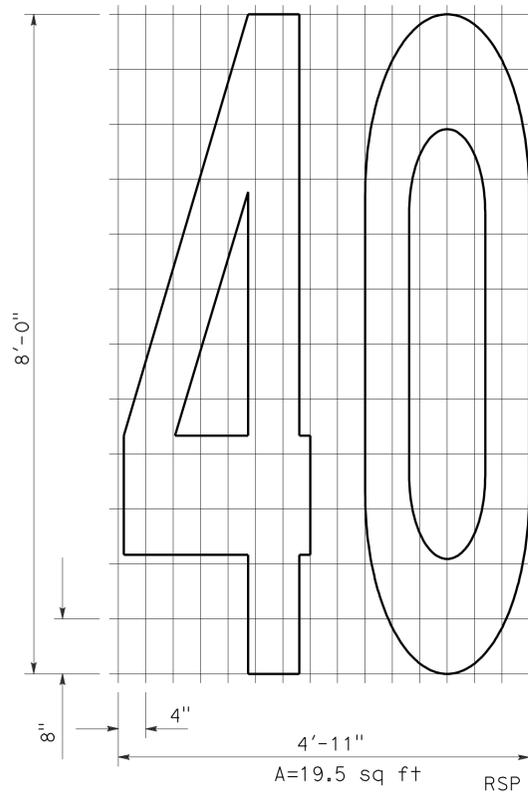
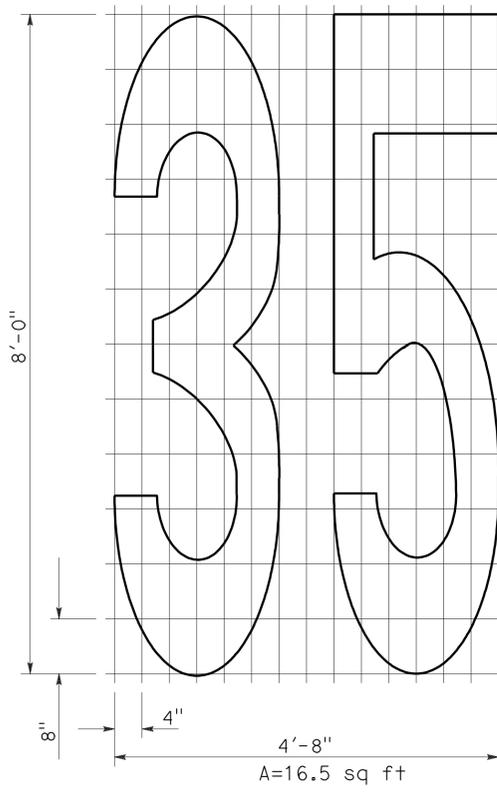
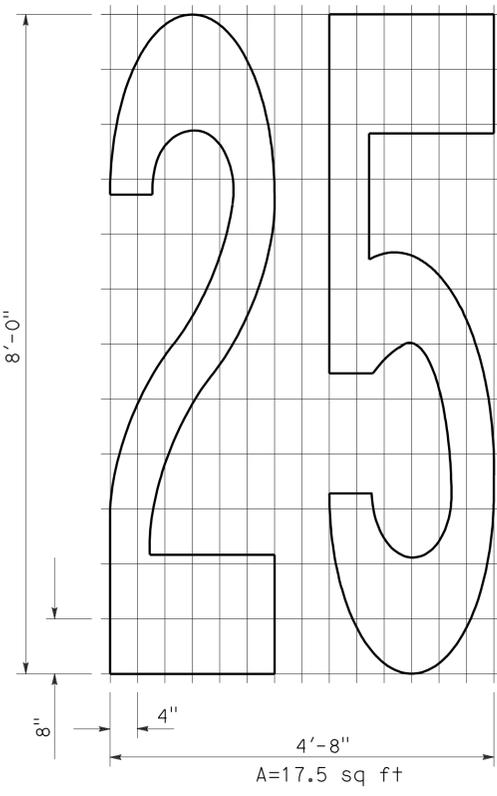
To accompany plans dated 5-24-10



*70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



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



NUMERALS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS SYMBOLS AND NUMERALS

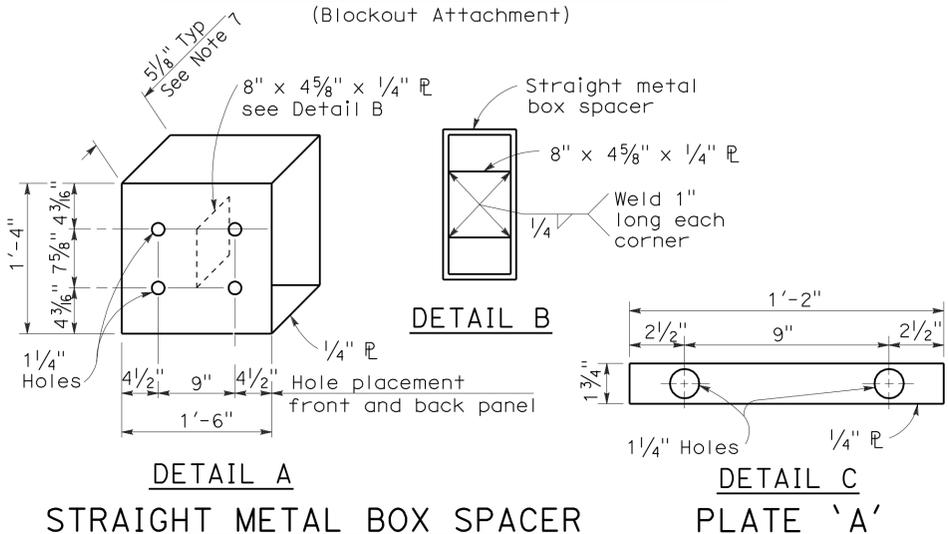
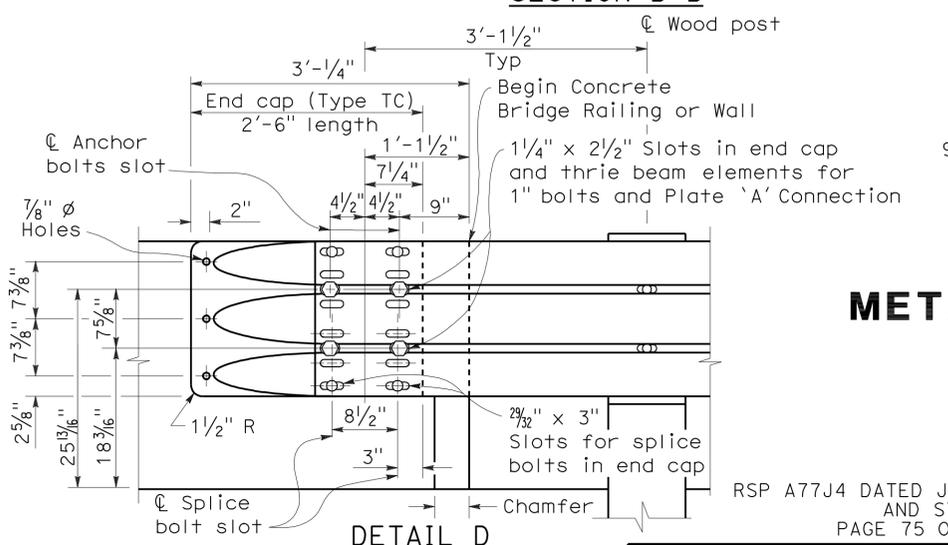
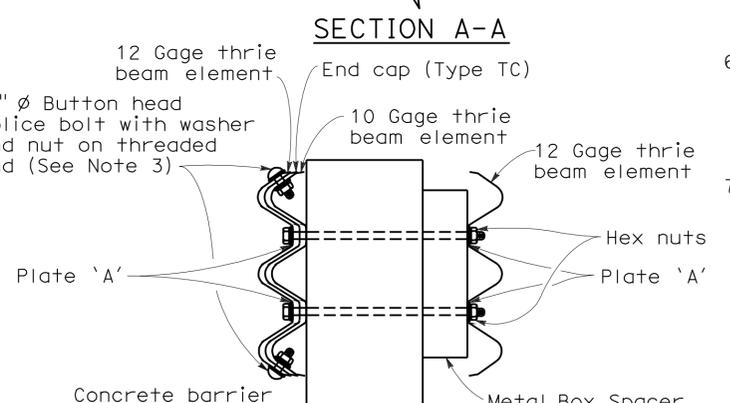
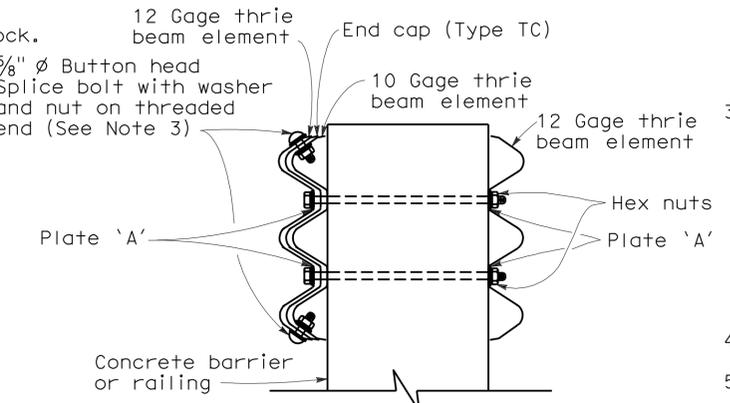
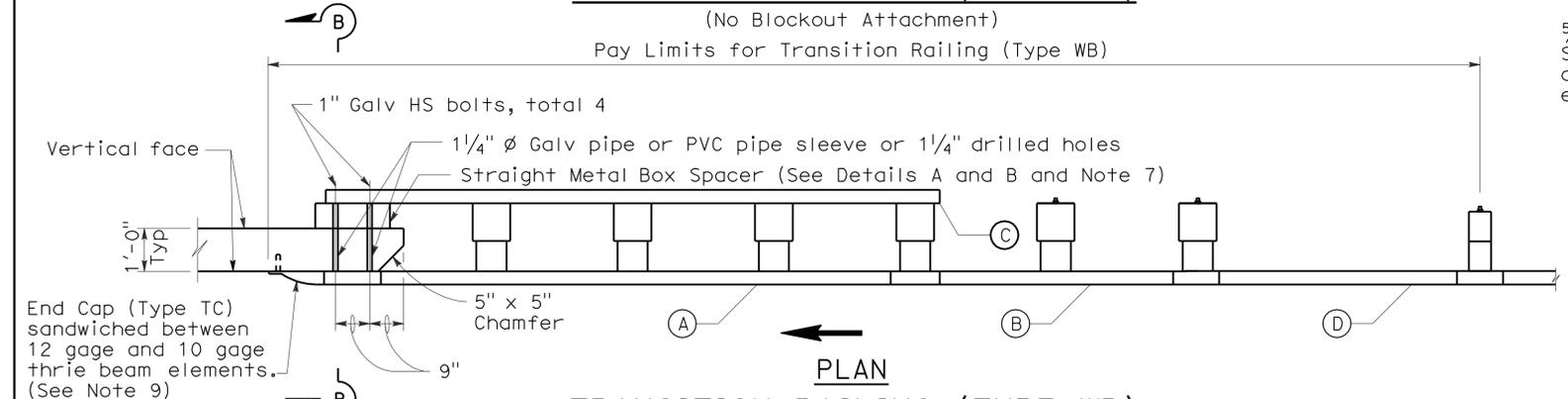
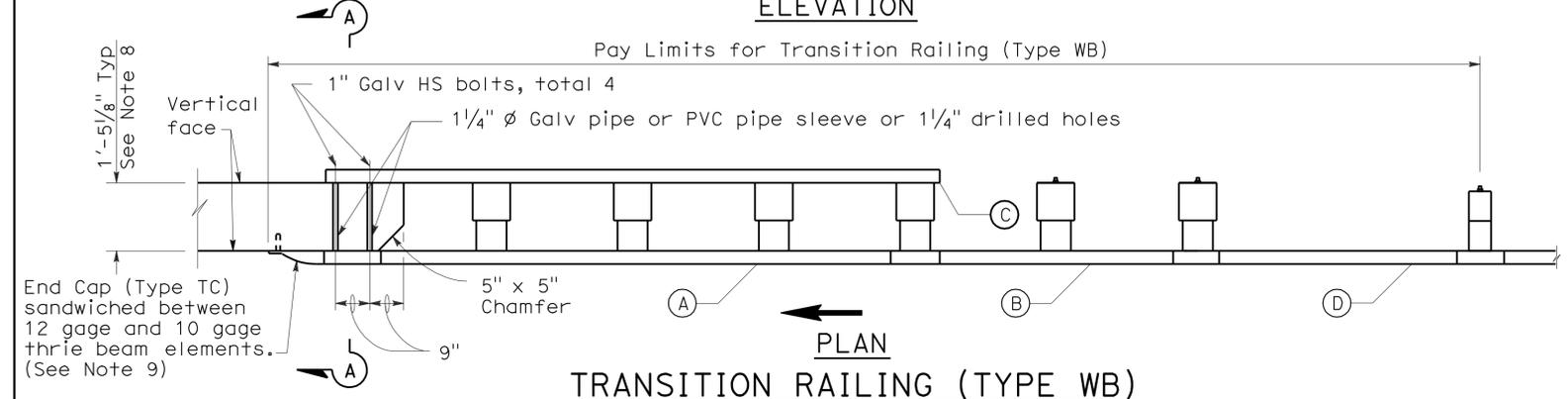
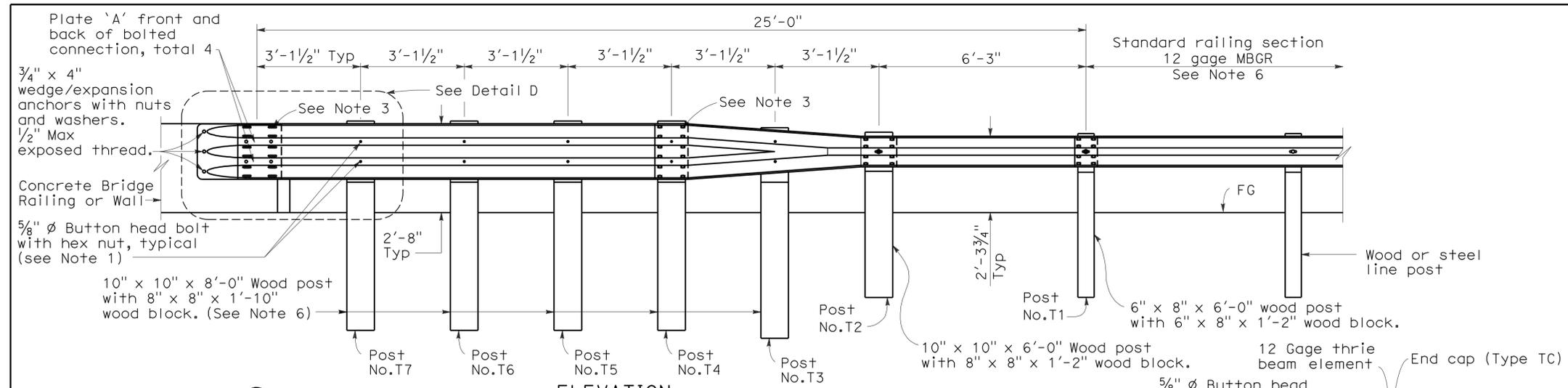
NO SCALE

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

2006 REVISED STANDARD PLAN RSP A24C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	9.5/17.7	28	39

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE
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- LEGEND**
- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
 - (B) One 10 gage "W" beam to thrie beam element.
 - (C) One 12 gage thrie beam element.
 - (D) One 10 gage "W" beam rail element (7'-3 1/2" length)
- 10 gage = 0.135" thick
12 gage = 0.108" thick

- NOTES:** To accompany plans dated 5-24-10
- Use 5/8 " ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 - The nested rail elements, end cap, and "W" beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 - Exterior splice bolt holes for rail element splices at Post No.T4 and the connection to the concrete barrier or railing shall be the standard 29/32 " x 1 1/8 " slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4 " ϕ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No.T4 and the connection to the concrete barrier or railing.
 - Direction of adjacent traffic indicated by \rightarrow .
 - The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
 - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No.T1.
 - The depth of the metal box spacer varies from the 5 1/8 " to 1 1/2 " and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8 ". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2 ", metal plates similar to Plate 'A' are to be used as spacers.
 - Where the width of the concrete railing or wall is greater than 17 1/8 ", wood blocks are to be used to fill the space created between the backside of Posts No.4 through No.7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 - End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

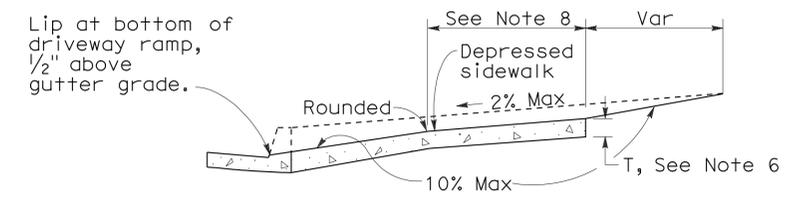
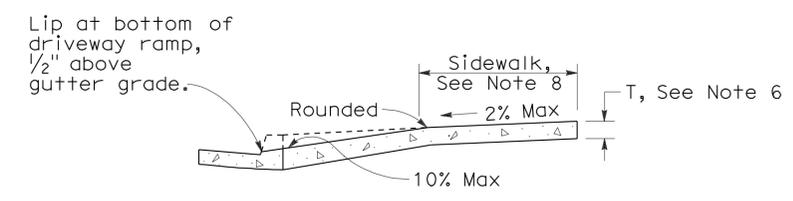
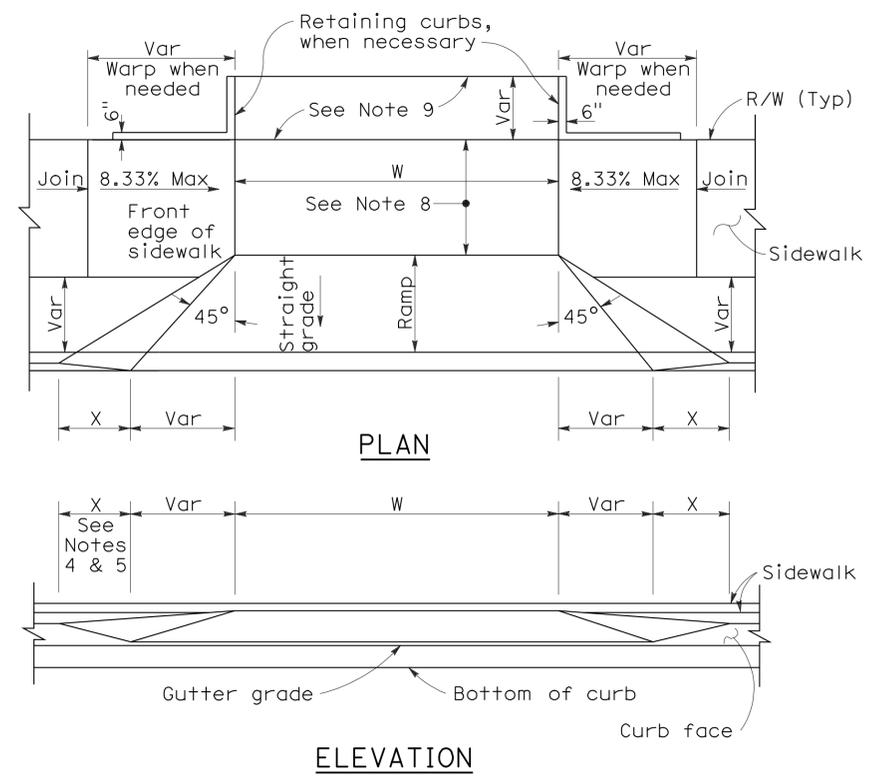
METAL BEAM GUARD RAILING TRANSITION RAILING (TYPE WB)

NO SCALE

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

REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4



CASE A

Typical driveway, sidewalk not depressed

CASE B

Driveway with depressed sidewalk

SECTIONS

CURB QUANTITIES

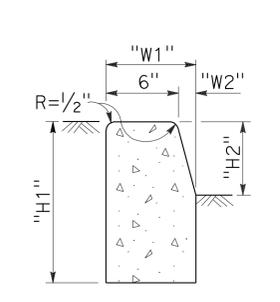
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

TABLE A

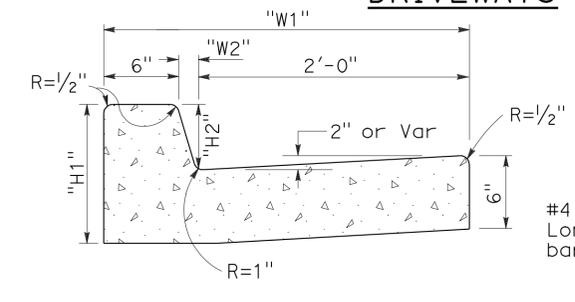
CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4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

To accompany plans dated 5-24-10

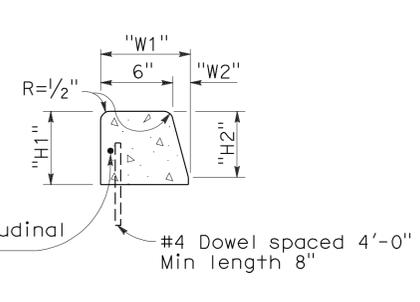
DRIVEWAYS



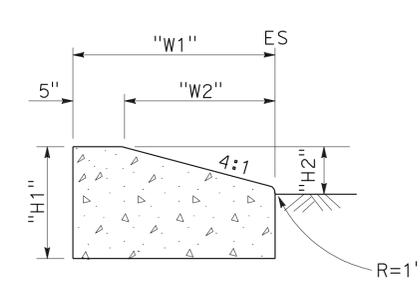
TYPE A1 CURBS
See Table A



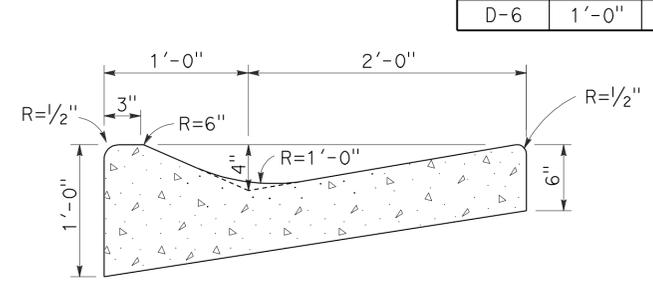
TYPE A2 CURBS
See Table A



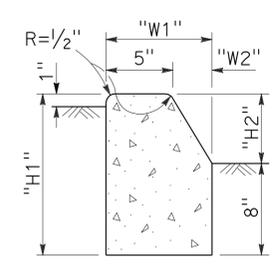
TYPE A3 CURBS
Superimposed on existing pavement
See Table A



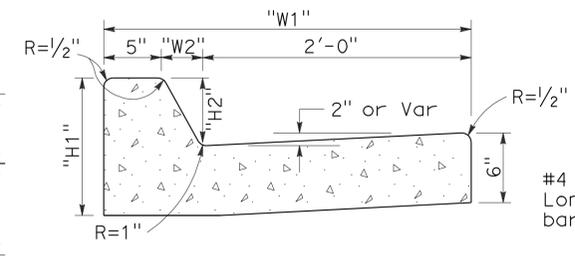
TYPE D CURBS
See Table A



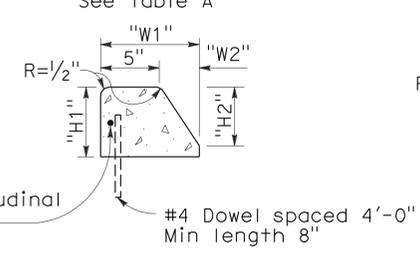
TYPE E CURB



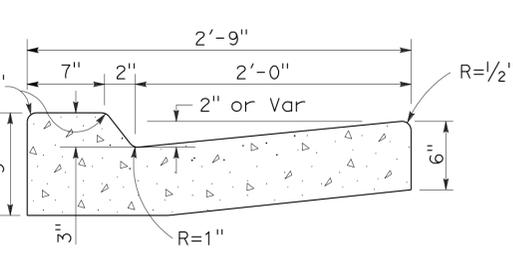
TYPE B1 CURBS
See Table A



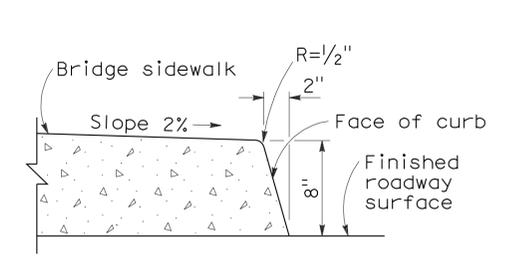
TYPE B2 CURBS
See Table A



TYPE B3 CURBS
Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB
On Bridges

NOTES:

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
- Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
- Minimum width of clear passageway for sidewalk shall be 4'-0".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

CURBS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

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

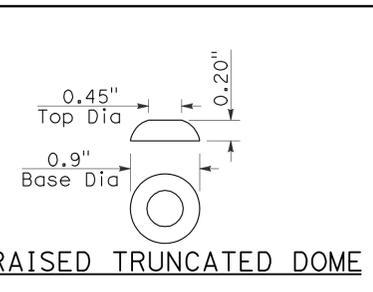
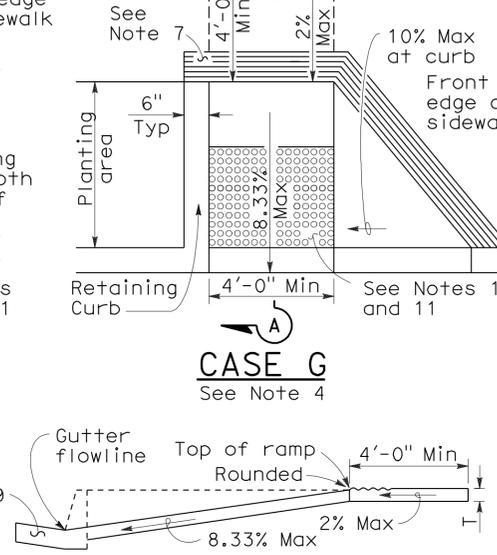
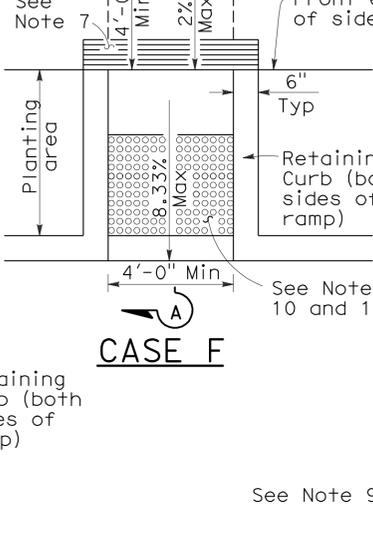
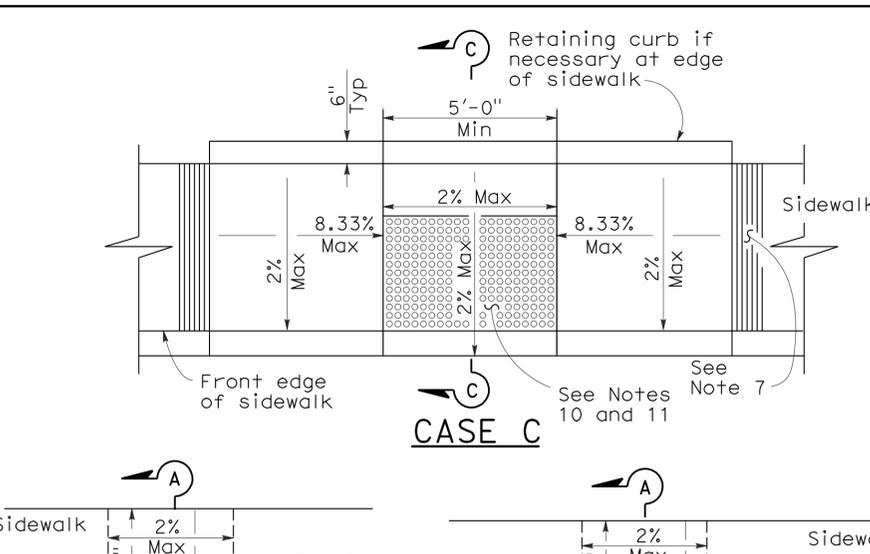
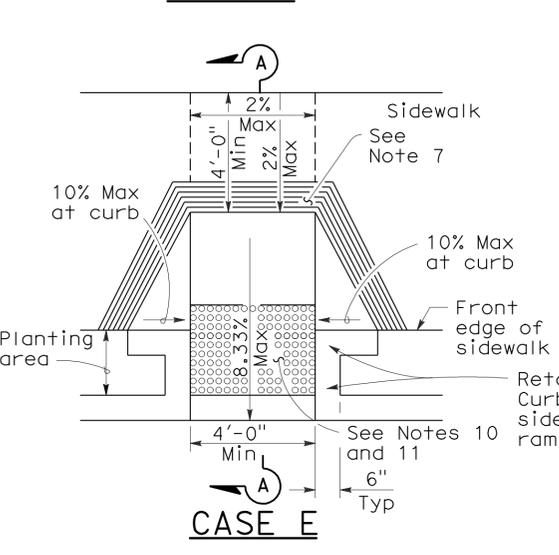
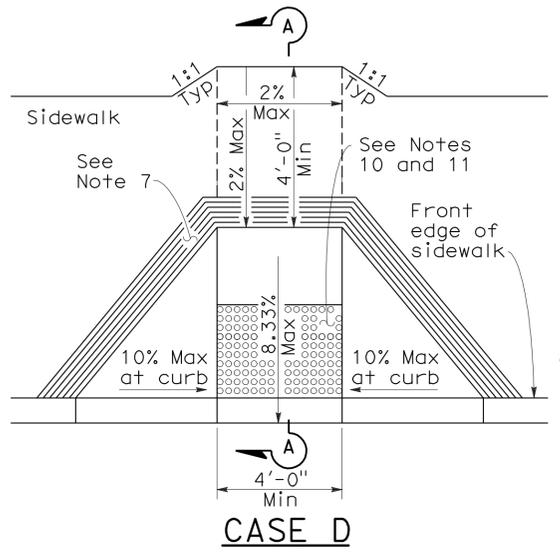
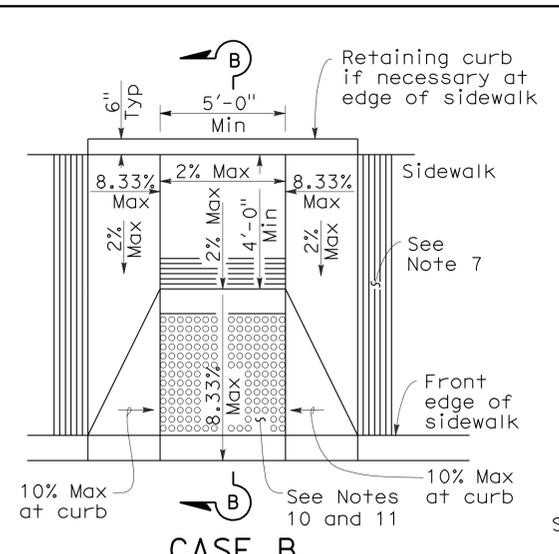
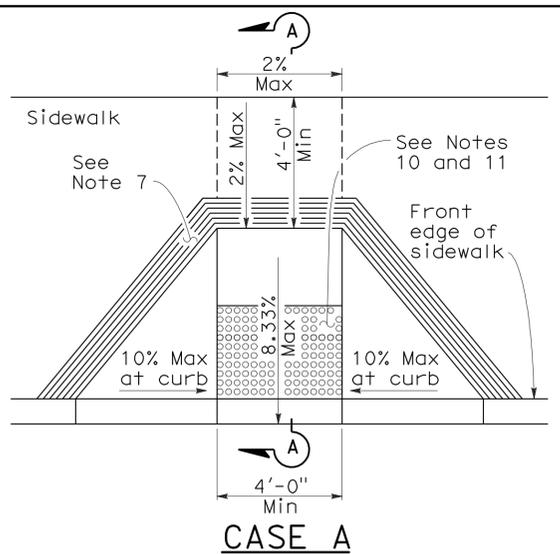
REVISED STANDARD PLAN RSP A87A

2006 REVISED STANDARD PLAN RSP A87A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	9.5/17.7	30	39

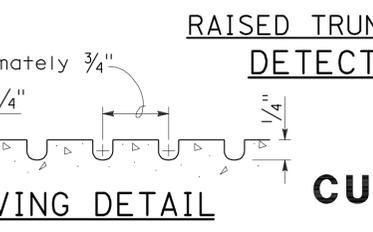
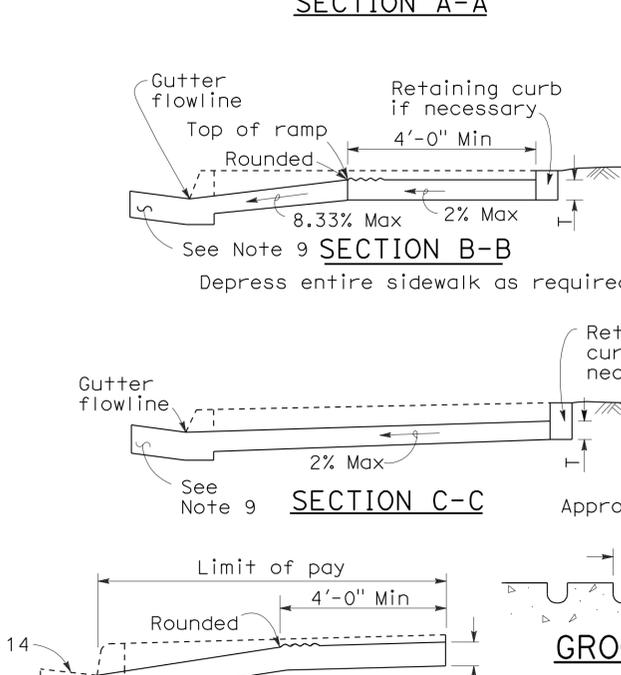
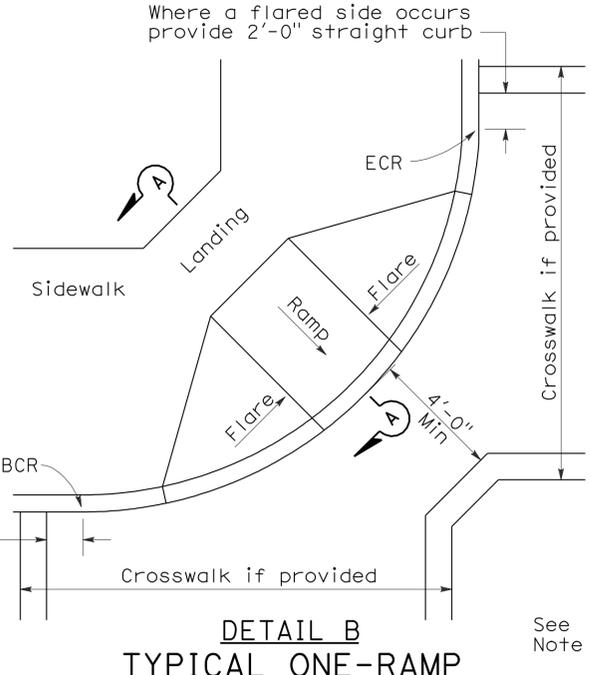
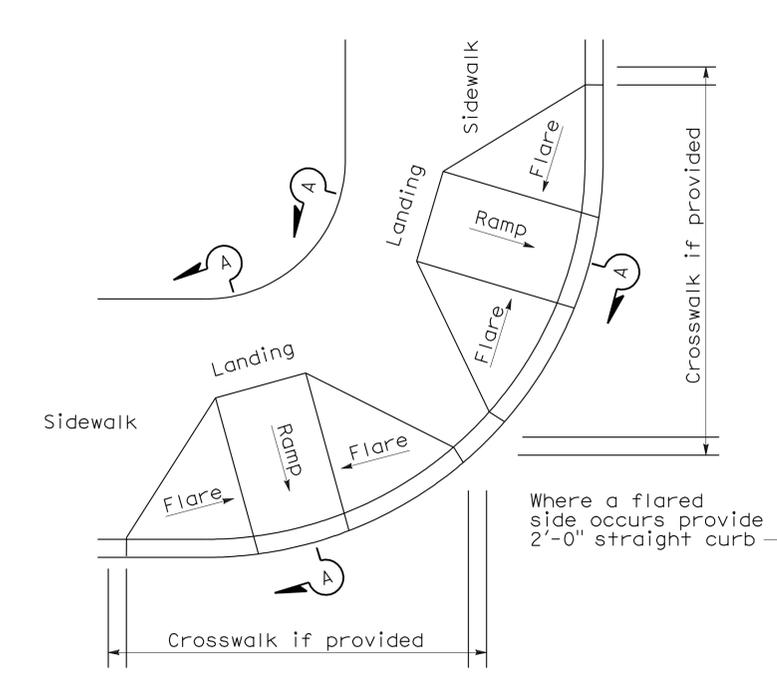
H. David Cordova
 REGISTERED CIVIL ENGINEER
 September 1, 2006
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Hector David Cordova
 No. C41957
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA



NOTES:

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



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

See Note 10
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

NO SCALE

TYPICAL TWO-RAMP CORNER INSTALLATION

See Note 1

TYPICAL ONE-RAMP CORNER INSTALLATION

See Notes 1 and 3

RETROFIT DETAIL

Existing curb and sidewalk

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

REVISED STANDARD PLAN RSP A88A

2006 REVISED STANDARD PLAN RSP A88A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	9.5/17.7	31	39

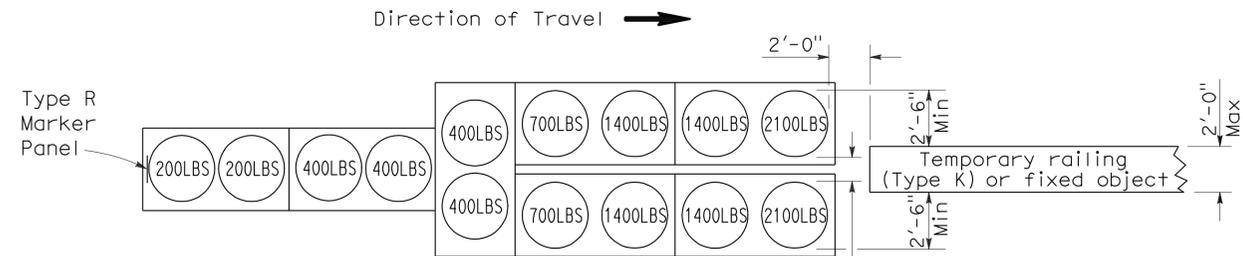
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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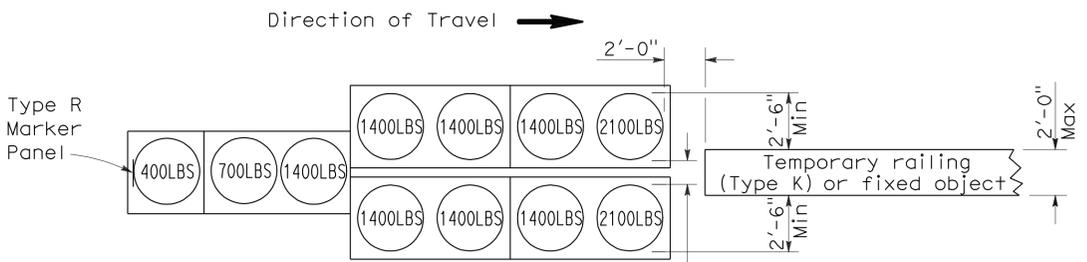
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 5-24-10



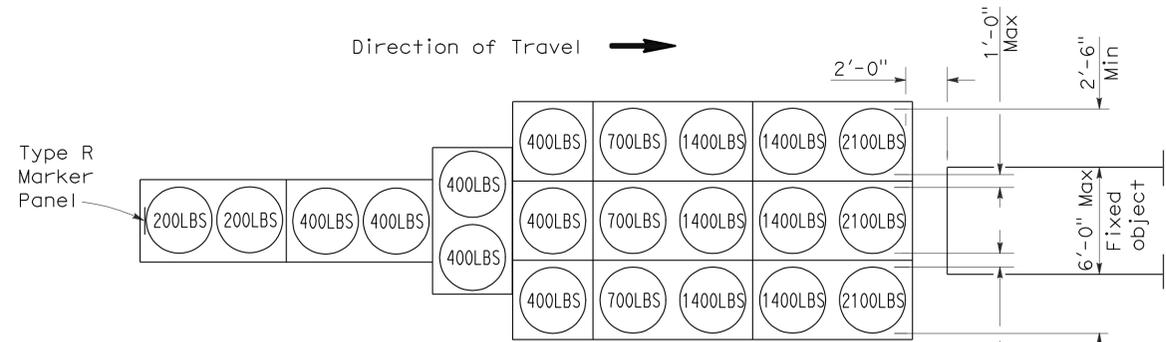
ARRAY 'TU14'

Approach speed 45 mph or more



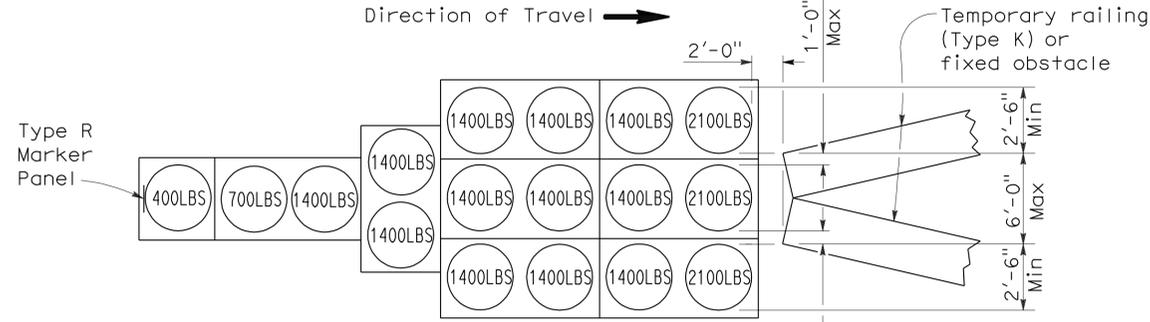
ARRAY 'TU11'

Approach speed less than 45 mph



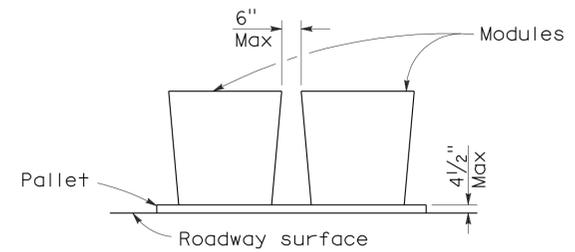
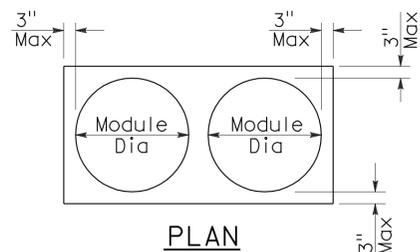
ARRAY 'TU21'

Approach speed 45 mph or more



ARRAY 'TU17'

Approach speed less than 45 mph



CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

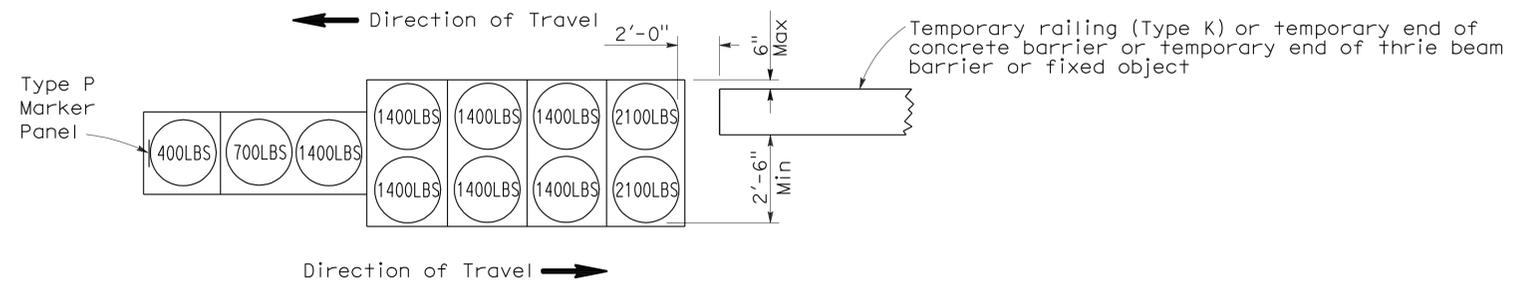
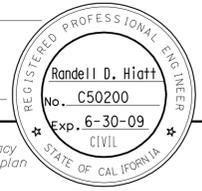
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	9.5/17.7	32	39

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

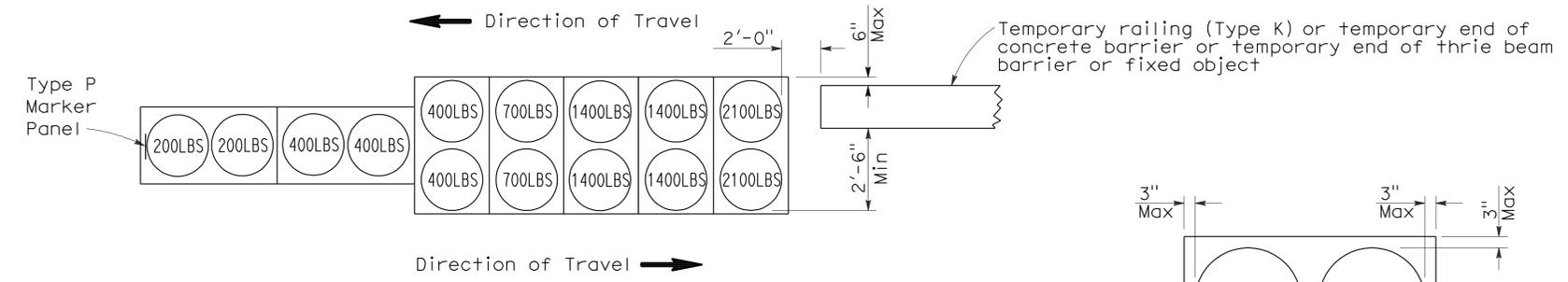
June 6, 2008
PLANS APPROVAL DATE

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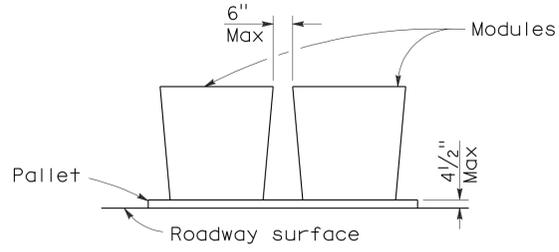
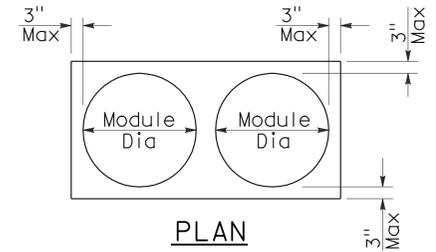
To accompany plans dated 5-24-10



ARRAY 'TB11'
Approach speed less than 45 mph



ARRAY 'TB14'
Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL
See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

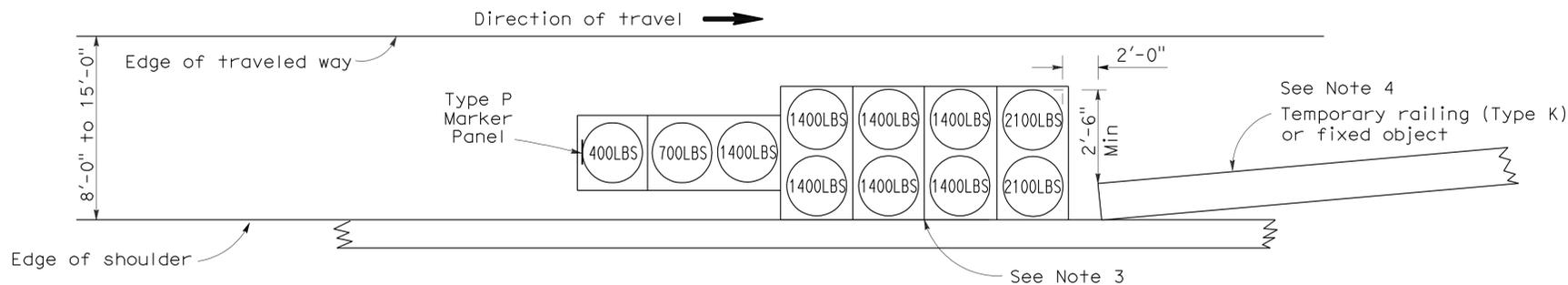
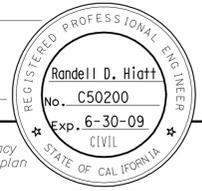
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	9.5/17.7	33	39

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

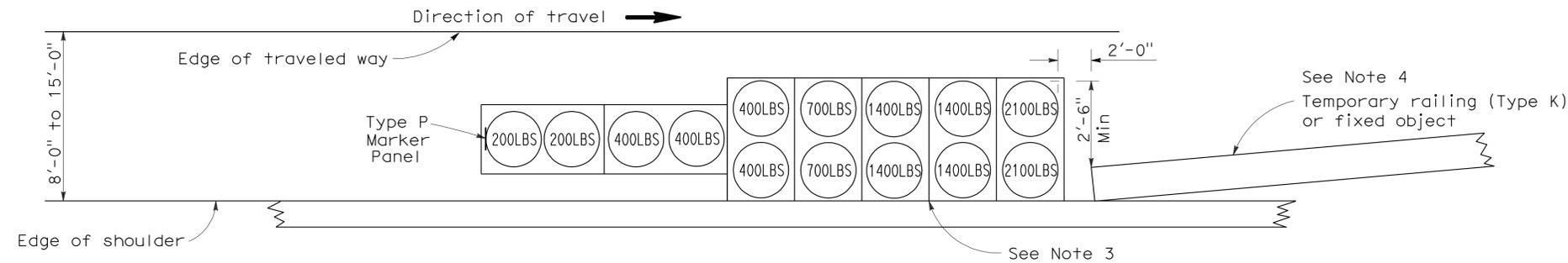
June 6, 2008
PLANS APPROVAL DATE

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To accompany plans dated 5-24-10



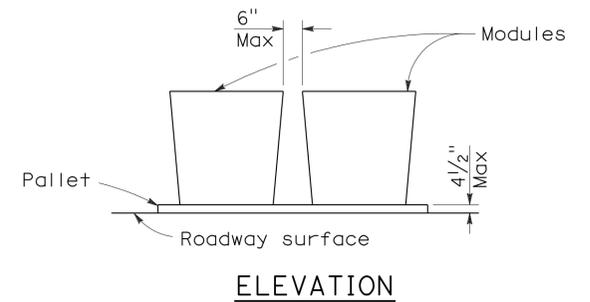
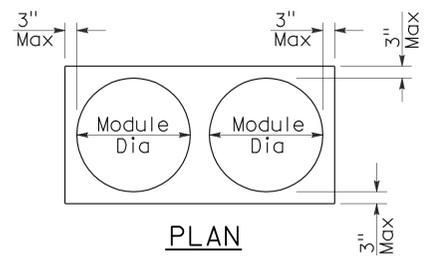
ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



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

NOTES:

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



CRASH CUSHION PALLET DETAIL
See Note 11

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**
NO SCALE

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

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

ELECTROLIERS

STANDARD TYPES		
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)
31		
32		
35		
36-20A		

NOTES:

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

- Electrolier (see project notes or project plans)
- Luminaire on wood pole

STANDARD NOTES:

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

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	9.5/17.7	35	39

Jeffrey G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 5-24-10

SOFFIT AND WALL MOUNTED LUMINAIRES

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

NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	405	9.5/17.7	36	39

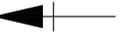
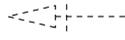
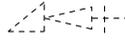
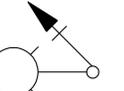
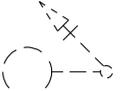
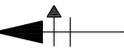
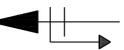
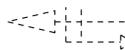
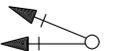
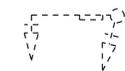
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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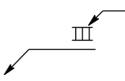
CONDUIT

PROPOSED	EXISTING	
---	---	Lighting Conduit, unless otherwise indicated or noted
---	---	Traffic signal conduit
-C-	-c-	Communication conduit
-T-	-t-	Telephone conduit
-F-	-f-	Fire alarm conduit
-FO-	-fo-	Fiber optic conduit
---	---	Conduit termination 
		Conduit riser in/on structure or service pole

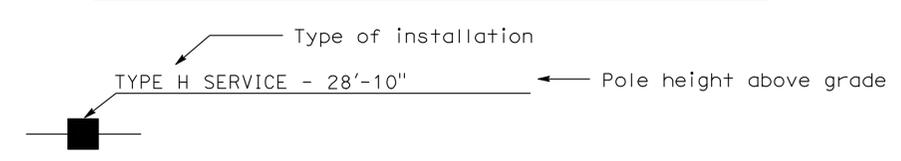
SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections louvered "LG" indicates louvered green section only "PV" indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign

SERVICE EQUIPMENT

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

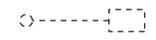
POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

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

SIGNAL EQUIPMENT Cont

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

NOTES:

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

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

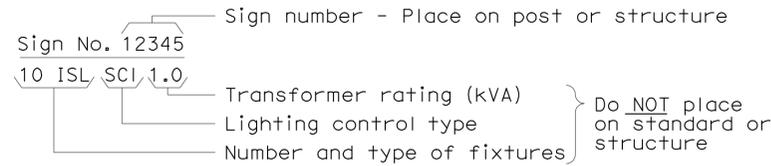
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

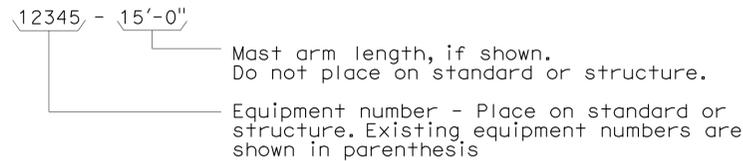
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

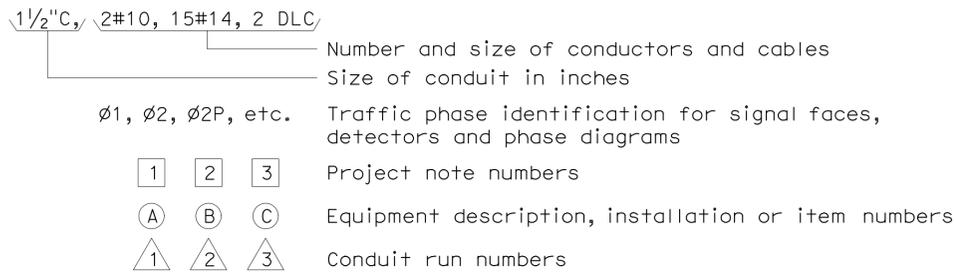
ILLUMINATED SIGN IDENTIFICATION NUMBER:



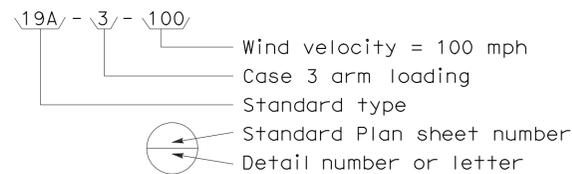
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



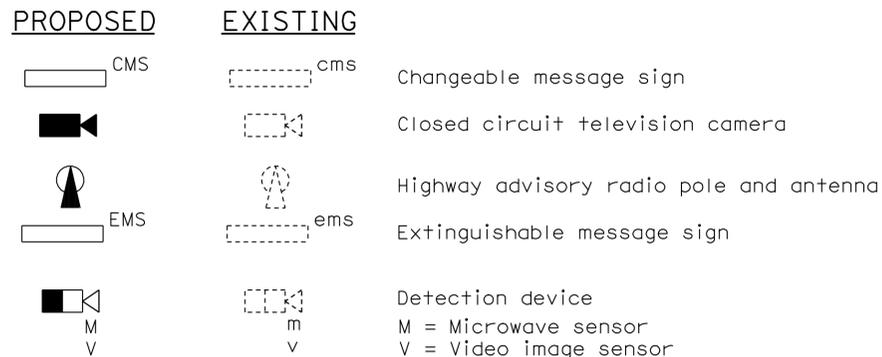
CONDUIT AND CONDUCTOR IDENTIFICATION:



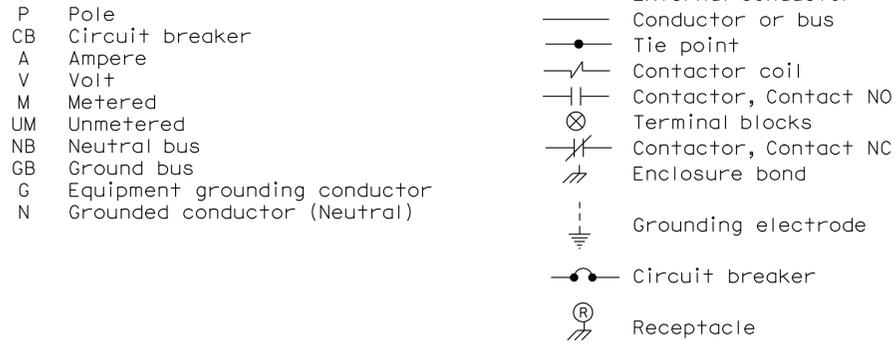
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



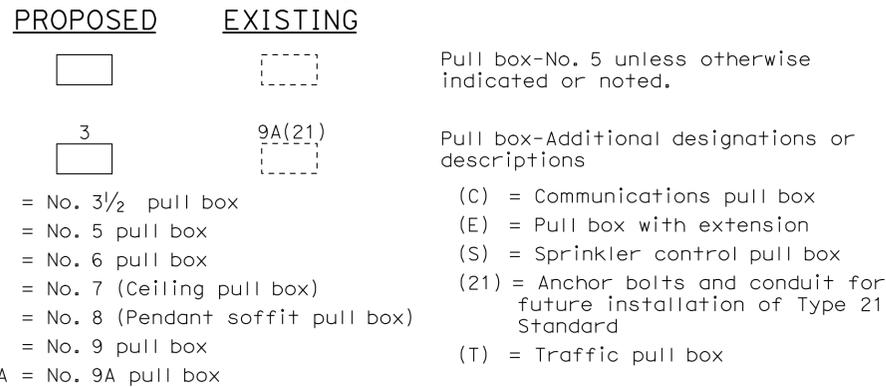
MISCELLANEOUS EQUIPMENT



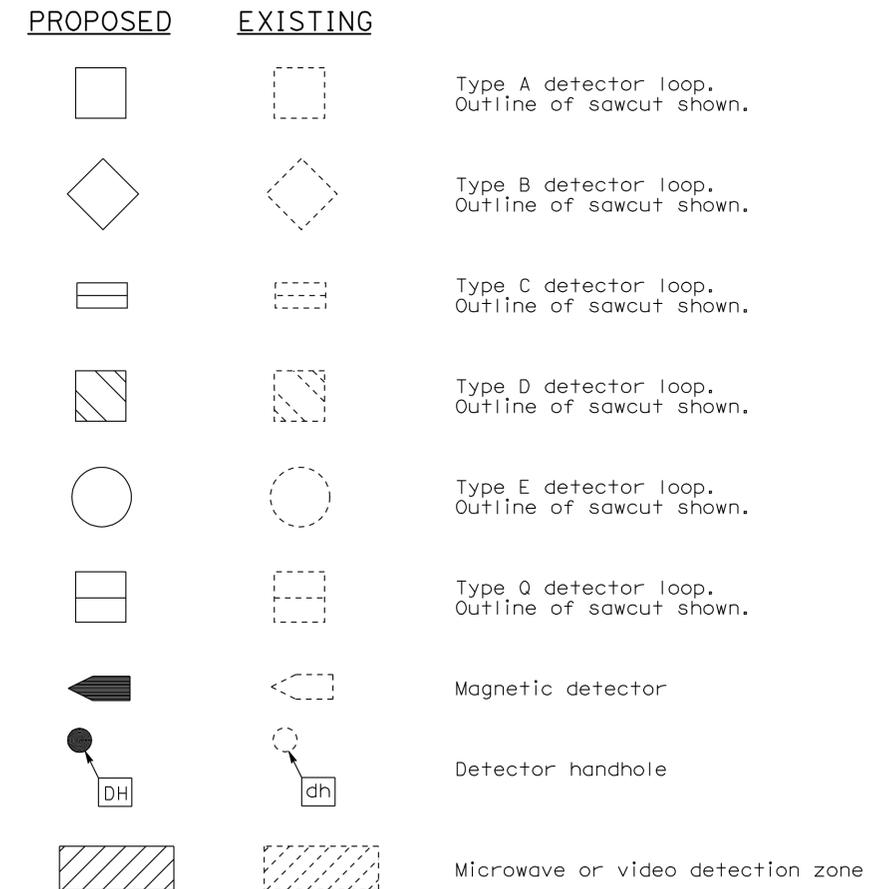
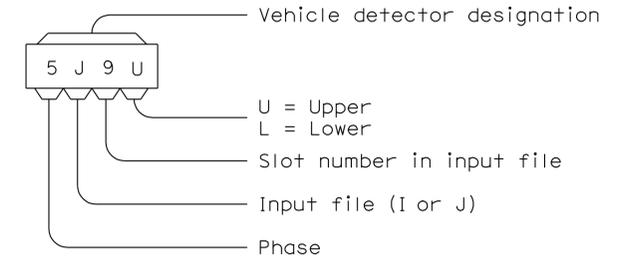
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

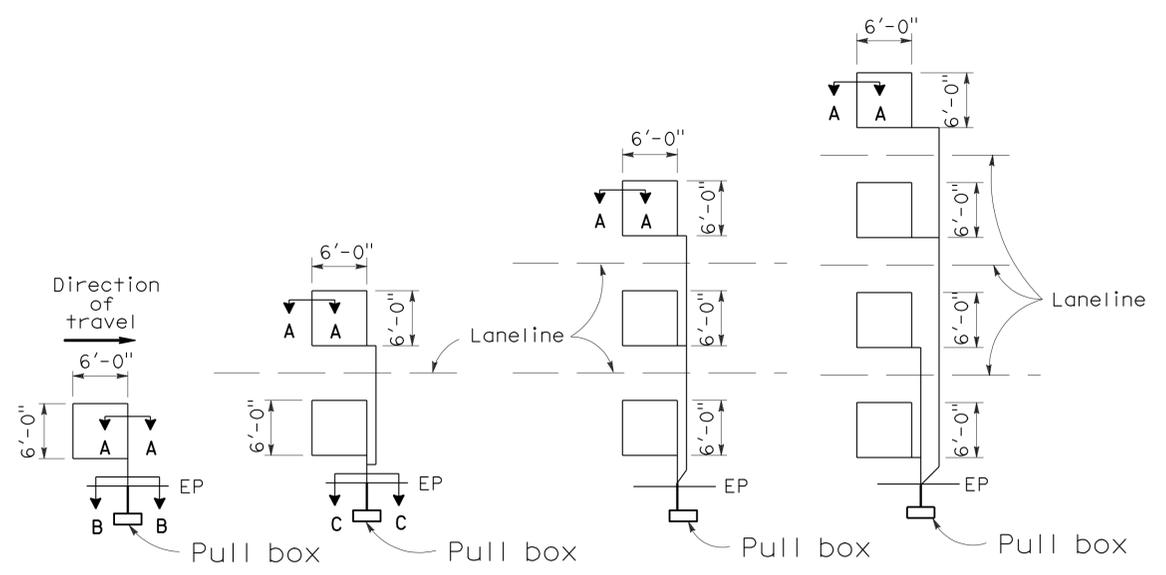
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	9.5/17.7	38	39

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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2006 REVISED STANDARD PLAN RSP ES-5A

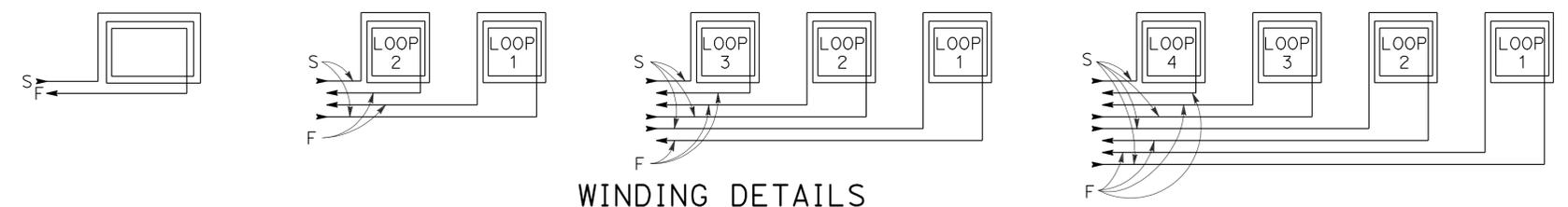
LOOP INSTALLATION PROCEDURE

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



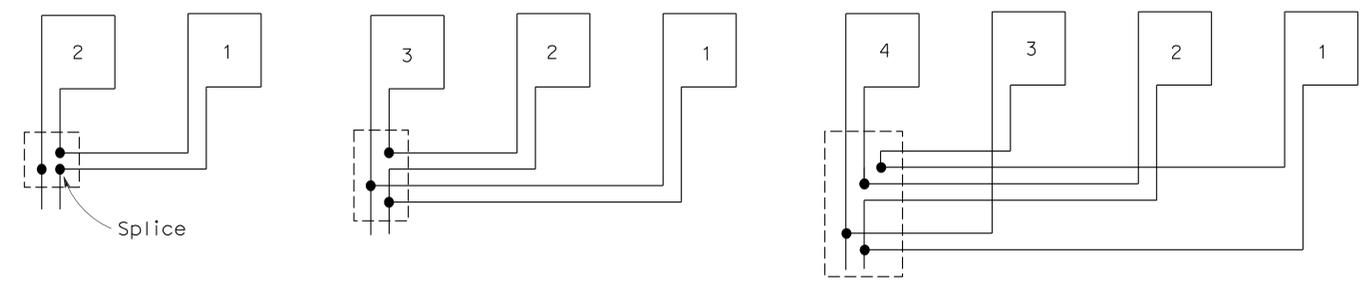
TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION
SAWCUT DETAILS

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



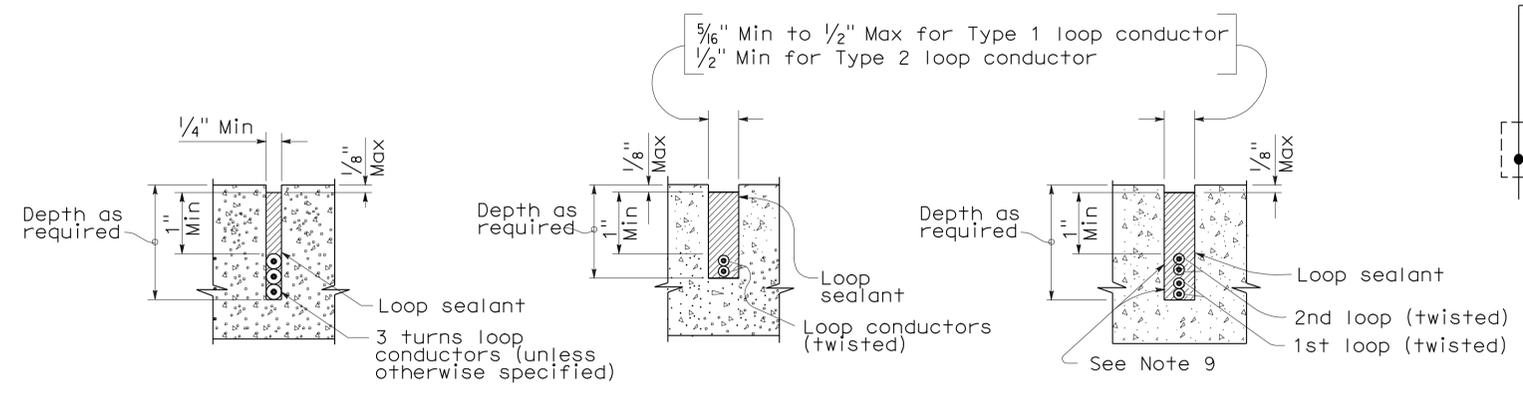
WINDING DETAILS

See Notes 6 and 7



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (DETECTORS)**

NO SCALE

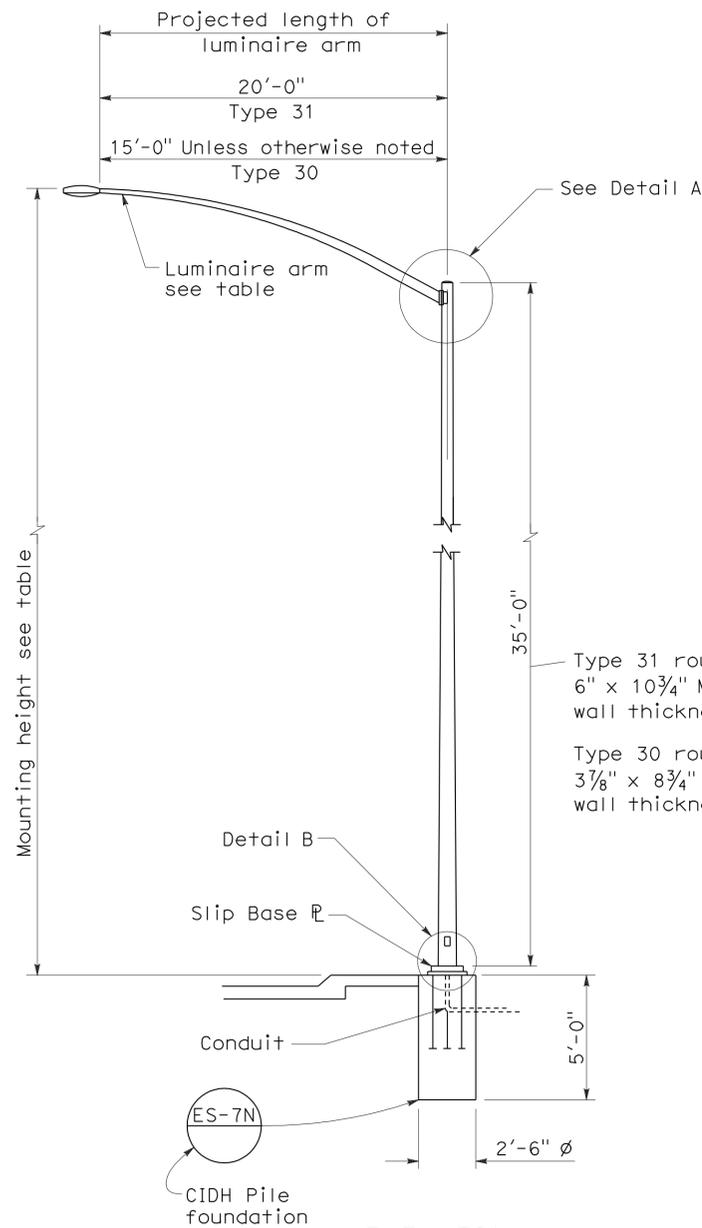
RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A
 DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-5A

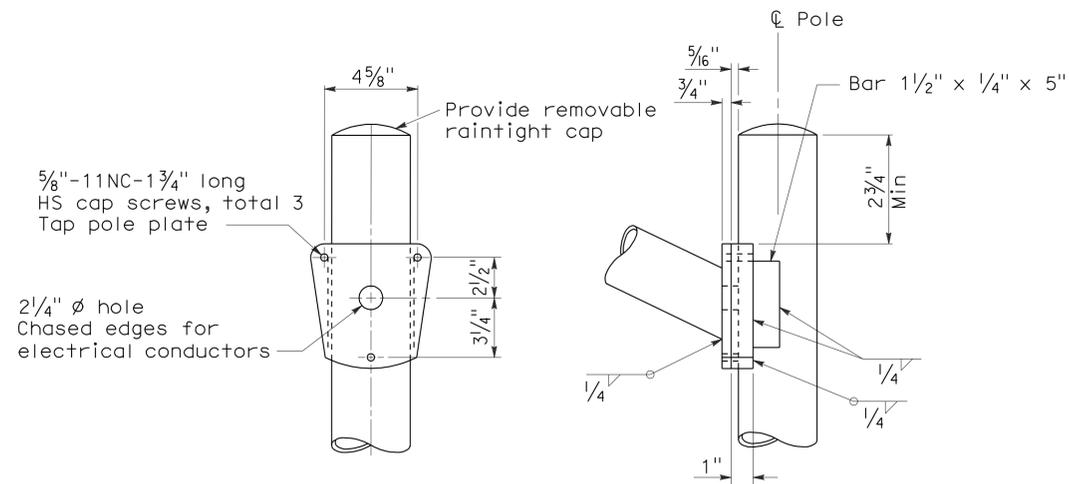
LUMINAIRE ARM DATA

PROJECTED LENGTH	THICKNESS	MINIMUM OD @ POLE	MOUNTING HEIGHT
* 6'-0"	0.1196"	3 1/4"	36'-9"±
8'-0"		3 1/2"	37'-3"±
10'-0"		3 3/4"	38'-0"±
12'-0"		3 3/4"	39'-0"±
15'-0"		4 1/4"	39'-6"±
** 20'-0"	0.1793"	5"	37'-0"±

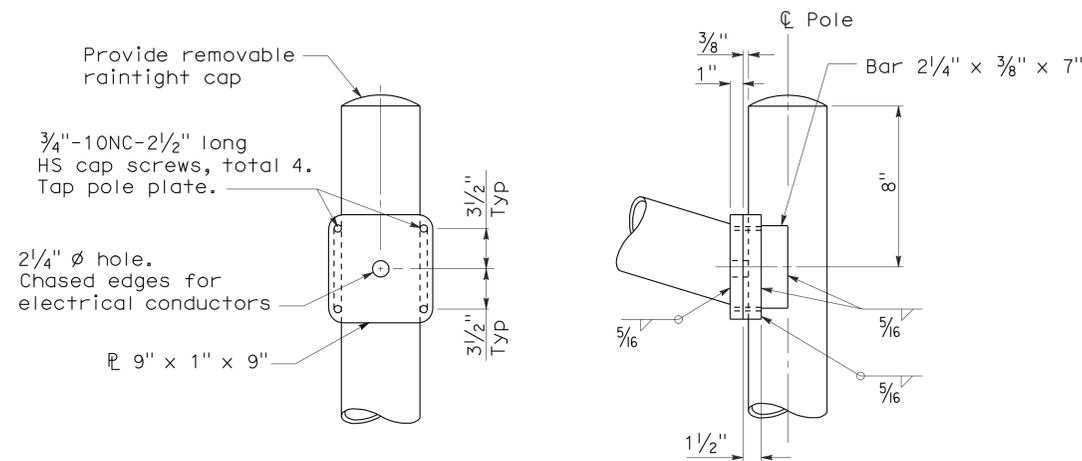
* Type 30 - arm length 6'-0" - 15'-0" maximum
 ** Type 31 - arm lengths 20'-0"



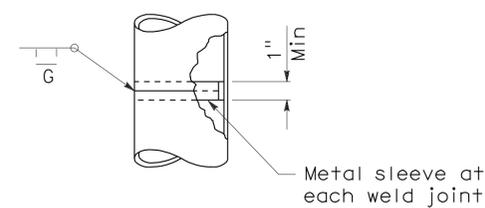
ELEVATION



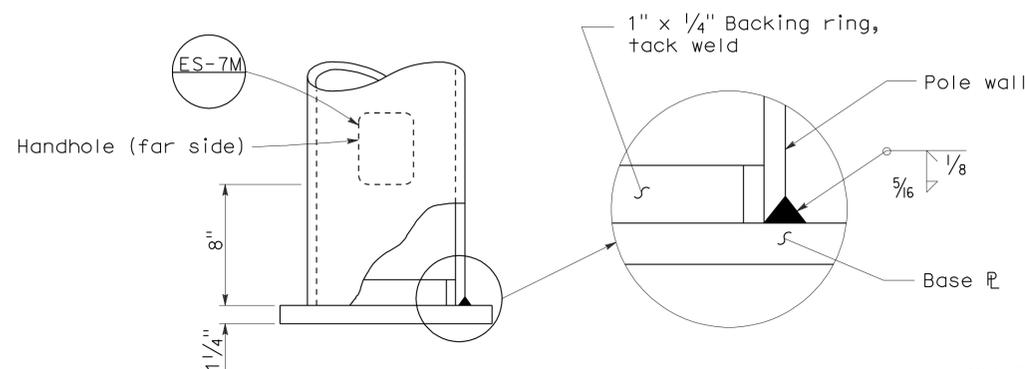
DETAIL A - TYPE 30



DETAIL A - TYPE 31



POLE SPLICE



DETAIL B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	9.5/17.7	39	39

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 No. C57793
 Exp. 03-31-08
 CIVIL
 STATE OF CALIFORNIA

January 18, 2008
 PLANS APPROVAL DATE

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

To accompany plans dated 5-24-10

NOTES:

- Sheet steel shall have a minimum yield of 48,000 psi.
- For slip base details see Standard Plan ES-6F.
- For Type 30 fixed base use Type 15 base plate, and foundation shown on Revised Standard Plan RSP ES-6A. Use 1 1/4" Dia x 3'-6" x 4" anchor bolts.
- For Type 31 fixed base use Type 32 base plate, anchor bolts and foundation on Standard Plan ES-6G.
- Handhole shall be located on downstream side of traffic unless noted otherwise on plans.
- For additional general notes refer to Standard Plan ES-7M.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LIGHTING STANDARD
 TYPES 30 AND 31)**

NO SCALE

RSP ES-6E DATED JANUARY 18, 2008 SUPERCEDES STANDARD PLAN ES-6E DATED MAY 1, 2006 - PAGE 430 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-6E

2006 REVISED STANDARD PLAN RSP ES-6E