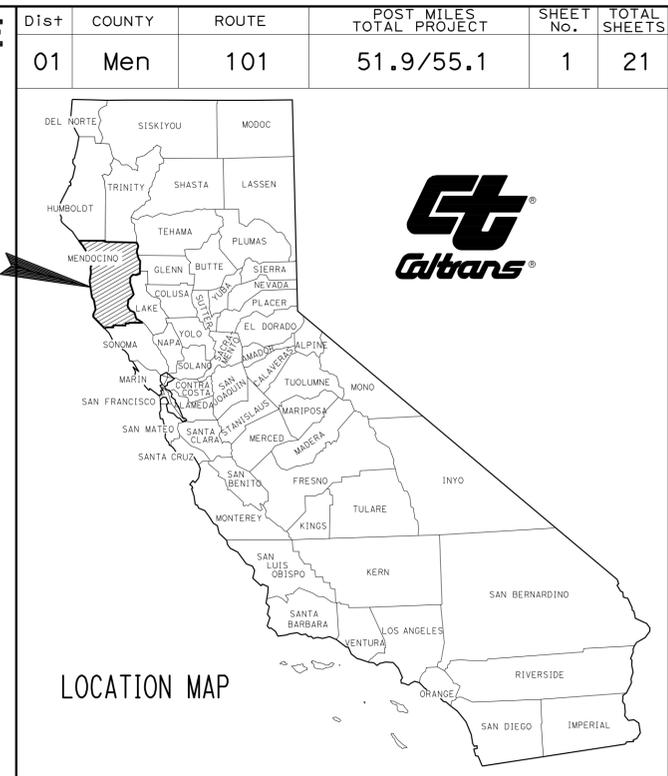


STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY  
IN MENDOCINO COUNTY NEAR WILLITS  
FROM 0.9 MILE NORTH OF OUTLET CREEK BRIDGE  
TO 1.7 MILES SOUTH OF ARNOLD BRIDGE OVERHEAD

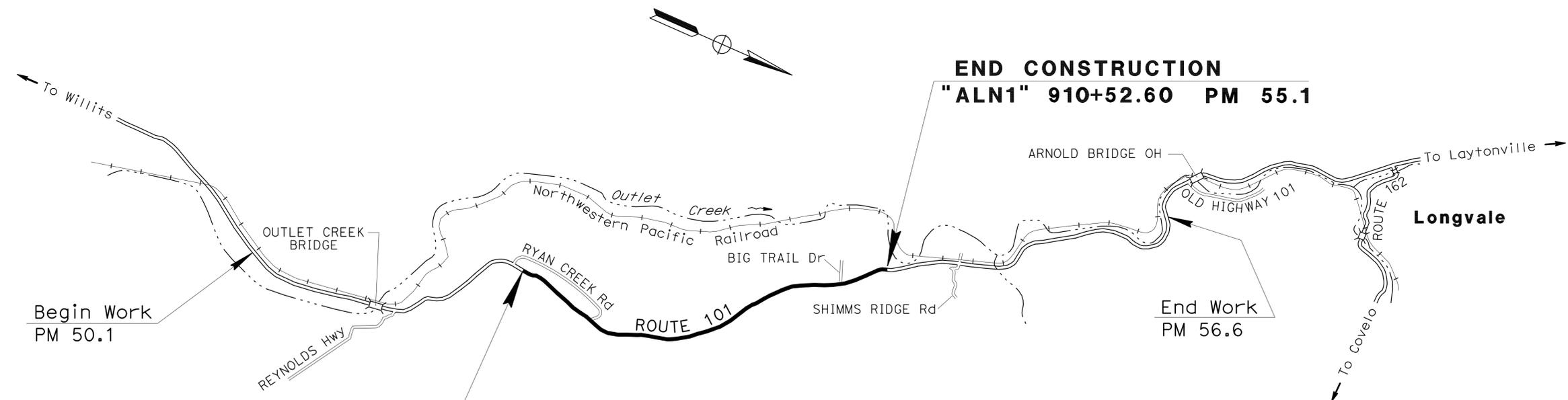


INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTION
3-7	LAYOUT
8	CONSTRUCTION DETAILS
9	CONSTRUCTION AREA SIGNS
10	SUMMARY OF QUANTITIES
11-12	ELECTRICAL PLANS
13-18	NEW OR REVISED STANDARD PLANS
STRUCTURE PLANS	
19-21	STRUCTURE PLANS

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

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



Begin Work  
PM 50.1

**BEGIN CONSTRUCTION**  
"ALN1" 737+68.00 PM 51.9

**END CONSTRUCTION**  
"ALN1" 910+52.60 PM 55.1

End Work  
PM 56.6

PROJECT MANAGER	Grace Tell
DESIGN ENGINEER	Steven Hughes

David A. Morgan 5/6/11  
PROJECT ENGINEER DATE  
REGISTERED CIVIL ENGINEER

May 9, 2011  
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.	<b>01-490804</b>
PROJECT ID	<b>0100000458</b>

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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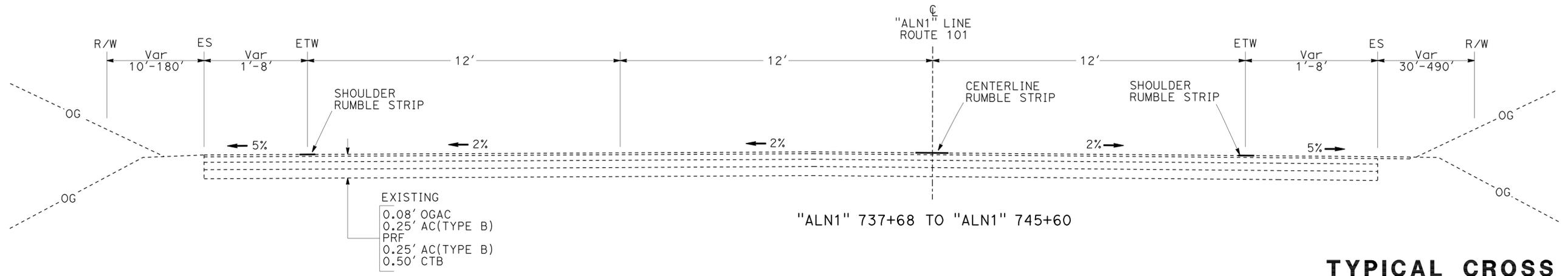
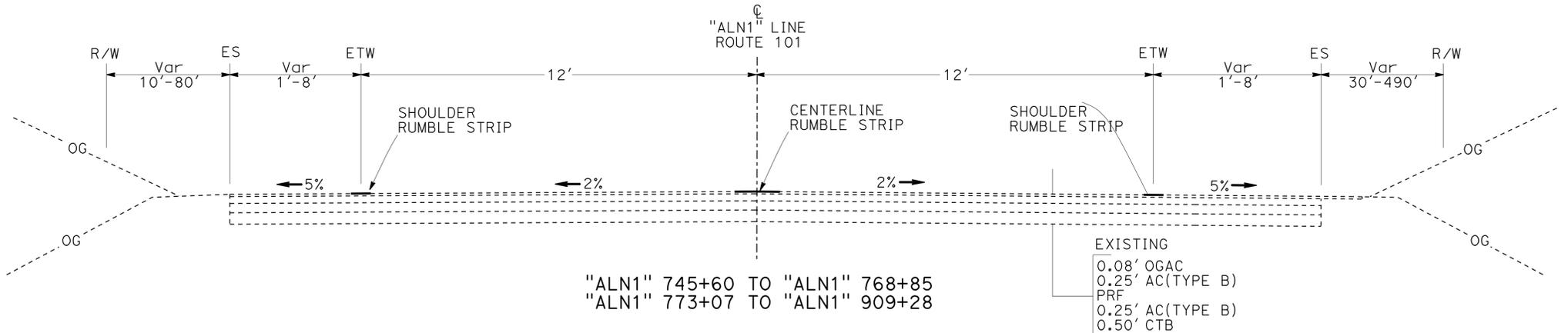
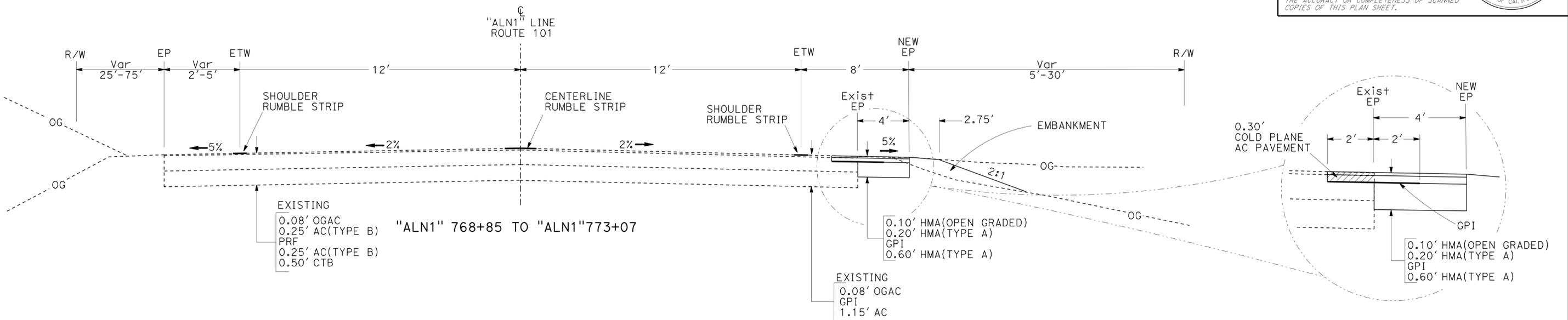
<i>David A. Morgan</i> REGISTERED CIVIL ENGINEER No. 72321 Exp 6/30/12 CIVIL		5-6-11 DATE
May 9, 2011 PLANS APPROVAL DATE		

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:**
- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
  - SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
  - FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
  - FOR RUMBLESTRIP LOCATIONS, SEE LAYOUTS AND QUANTITIES.

**LEGEND**  
 GPI = GEOSYNTHETIC PAVEMENT INTERLAYER

**DESIGN DESIGNATION (ROUTE 101)**  
 (2012) AADT= 7630 D = 60%  
 (2023) AADT= 9760 T = 10%  
 (2012) DHV = 118 V = 70 mph  
 ASAL<sub>20</sub> = 4,444,00 TI<sub>20</sub> = 10.5



**TYPICAL CROSS SECTION X-1**  
 NO SCALE

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

REVISED BY  
 DATE

David Morgan  
 X

CALCULATED-DESIGNED BY  
 CHECKED BY

FUNCTIONAL SUPERVISOR  
 Steven Hughes

DESIGN



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

FUNCTIONAL SUPERVISOR: Steven Hughes  
 CALCULATED/DESIGNED BY: David Morgan  
 CHECKED BY: X  
 REVISED BY: X  
 DATE REVISION: X

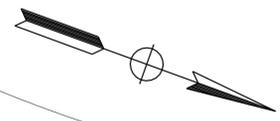
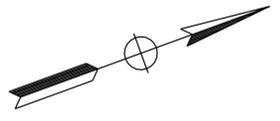
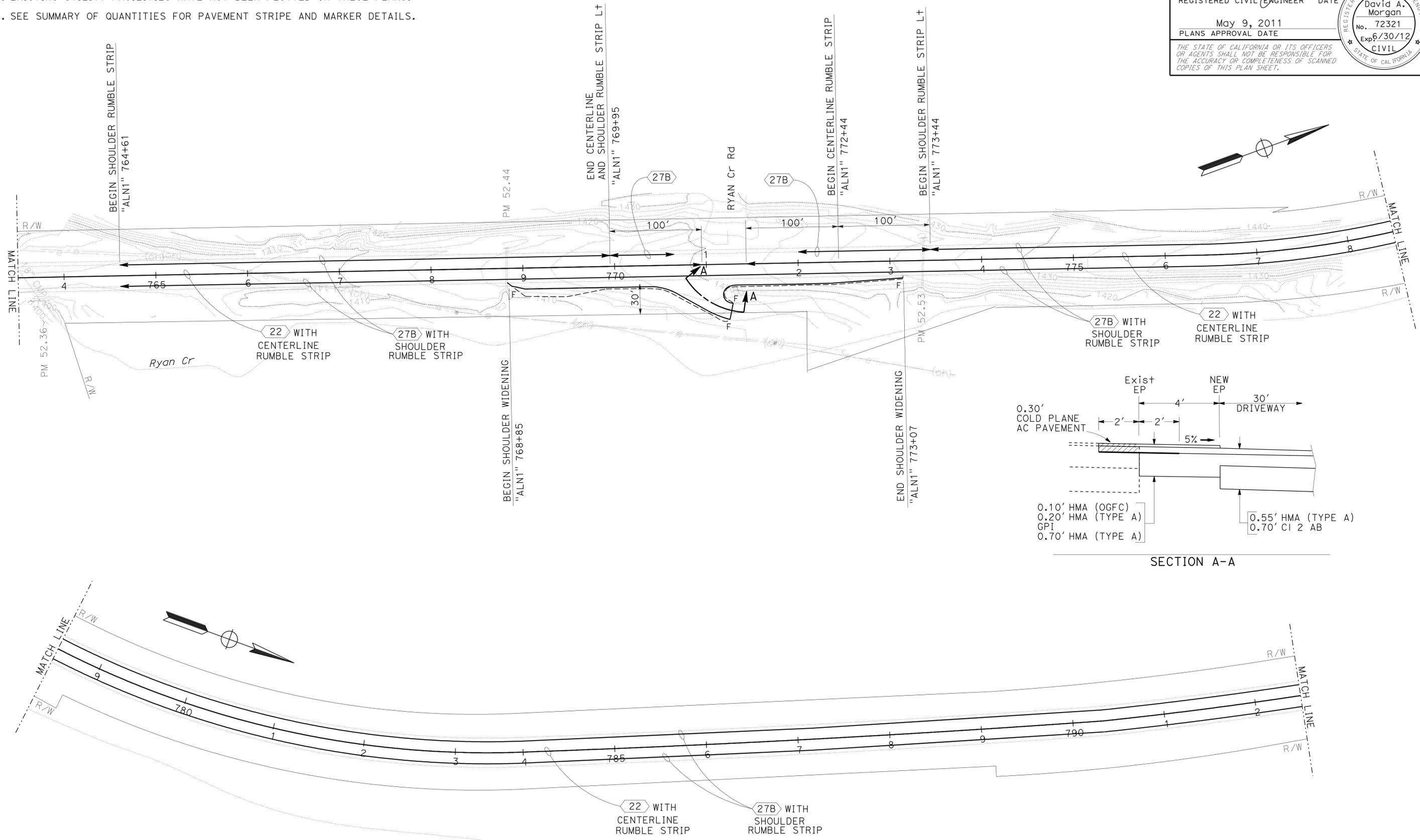
- NOTES:**
- FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
  - EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
  - SEE SUMMARY OF QUANTITIES FOR PAVEMENT STRIPE AND MARKER DETAILS.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	51.9/55.1	4	21

David A. Morgan  
 REGISTERED CIVIL ENGINEER  
 No. 72321  
 Exp 6/30/12  
 CIVIL  
 STATE OF CALIFORNIA

May 9, 2011  
 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.



**LAYOUT L-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	51.9/55.1	5	21

David A. Morgan  
 REGISTERED CIVIL ENGINEER  
 DATE 5-6-11  
 May 9, 2011  
 PLANS APPROVAL DATE

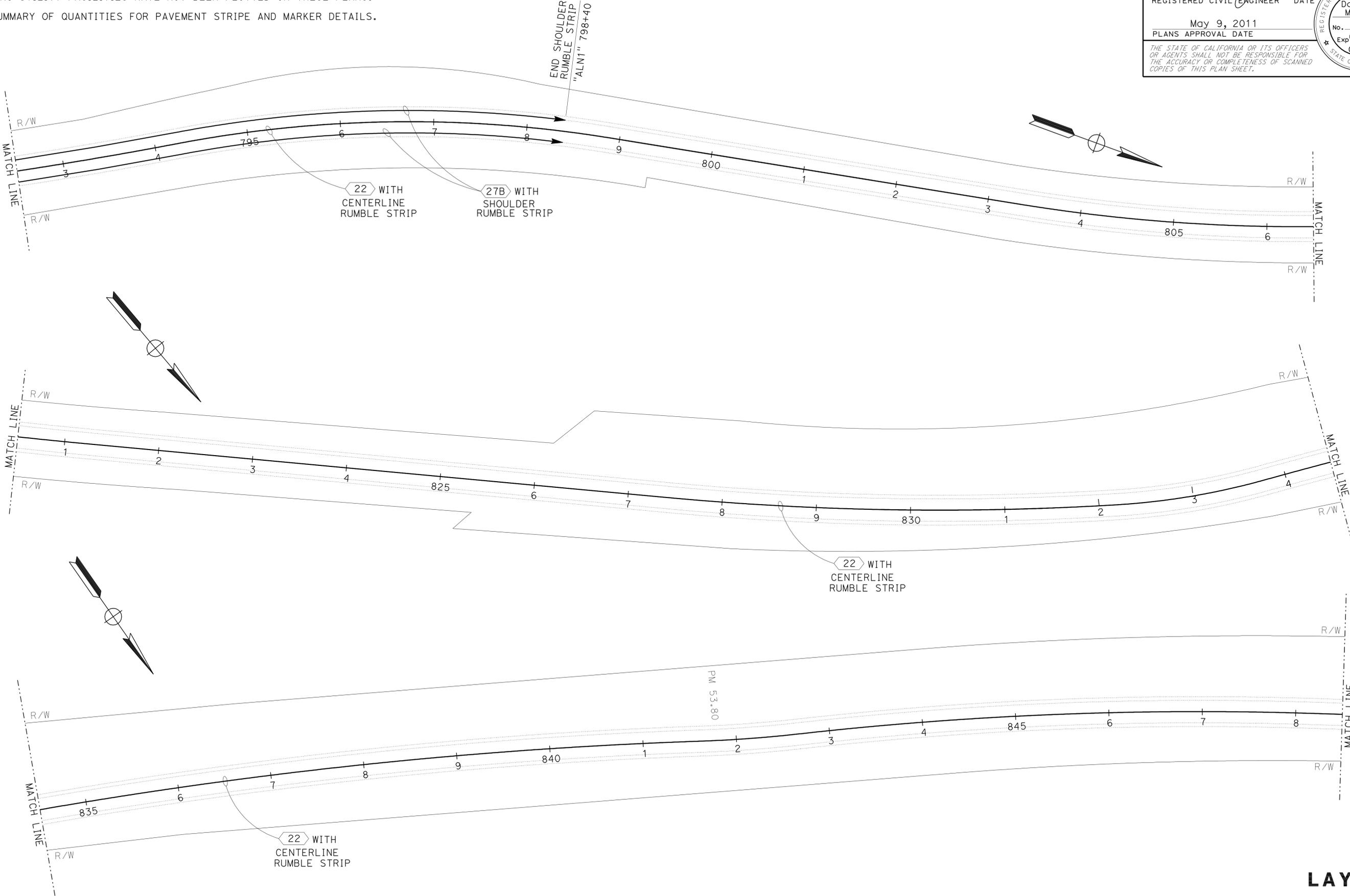
REGISTERED PROFESSIONAL ENGINEER  
 David A. Morgan  
 No. 72321  
 Exp 6/30/12  
 CIVIL  
 STATE OF CALIFORNIA

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

- NOTES:**
- FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
  - EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
  - SEE SUMMARY OF QUANTITIES FOR PAVEMENT STRIPE AND MARKER DETAILS.

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

FUNCTIONAL SUPERVISOR: Steven Hughes  
 CALCULATED/DESIGNED BY: [Blank]  
 CHECKED BY: [Blank]  
 REVISOR: David Morgan  
 DATE REVISION: [Blank]





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	51.9/55.1	7	21

<i>David A. Morgan</i>	5-6-11
REGISTERED CIVIL ENGINEER	DATE
May 9, 2011	
PLANS APPROVAL DATE	

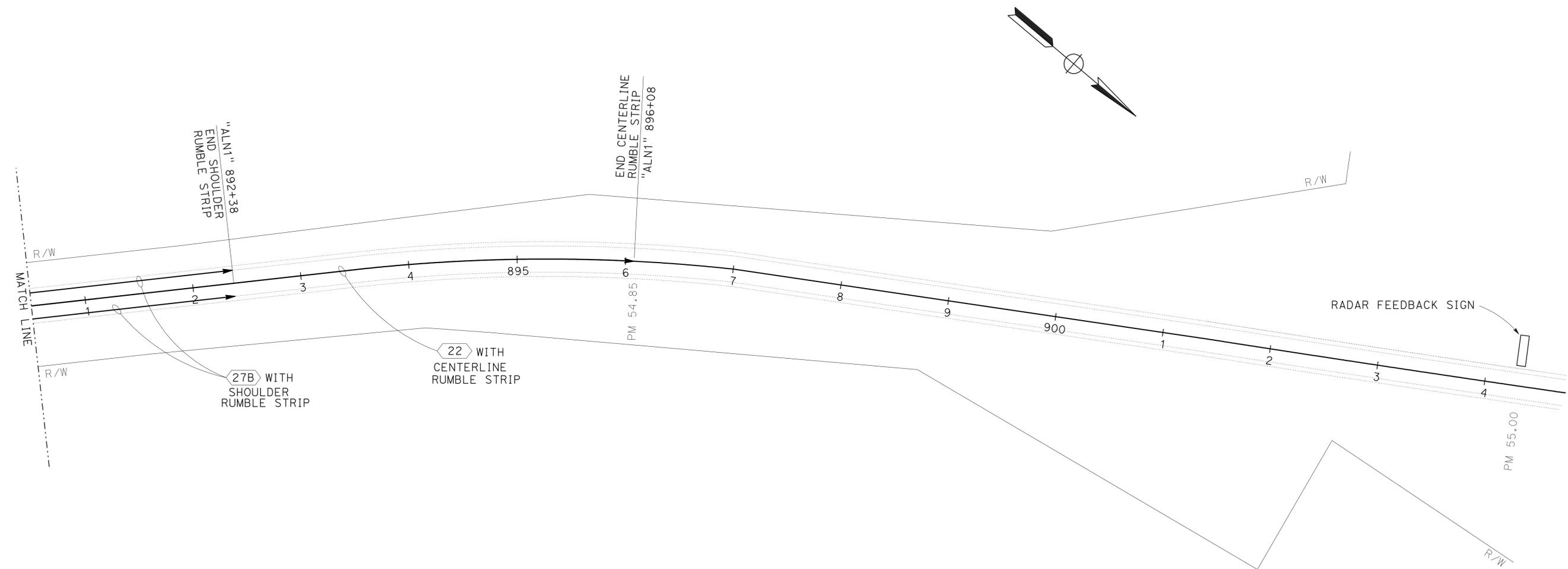
  

REGISTERED PROFESSIONAL ENGINEER
David A. Morgan
No. 72321
Exp 6/30/12
CIVIL

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

- NOTES:**
- FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
  - EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
  - SEE SUMMARY OF QUANTITIES FOR PAVEMENT STRIPE AND MARKER DETAILS.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
<b>Caltrans</b>	
FUNCTIONAL SUPERVISOR	Steven Hughes
CALCULATED/DESIGNED BY	CHECKED BY
David Morgan	X
REVISOR BY	DATE REVISED





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	51.9/55.1	9	21

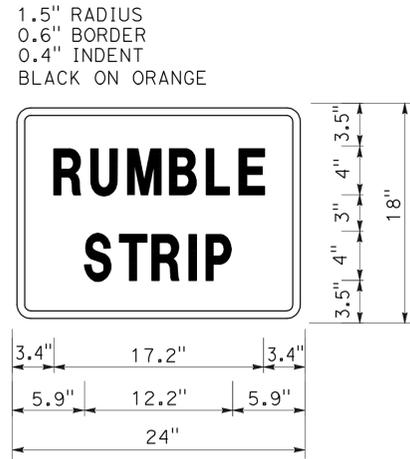
David A. Morgan  
 REGISTERED CIVIL ENGINEER DATE 5-6-11  
 May 9, 2011  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 David A. Morgan  
 No. 72321  
 Exp. 6/30/12  
 CIVIL  
 STATE OF CALIFORNIA

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

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS					
SIGN	SIGN CODE	SIGN MESSAGE	PANEL SIZE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
A	C40 (CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	72"x36"	2 - 4"x6"	2
B	W20-1	ROAD WORK AHEAD	48"x48"	1 - 4"x6"	2
	C23B (CA)	RUMBLE STRIP	24"x18"		
C	W20-1	ROAD WORK AHEAD	36"x36"	1 - 4"x4"	6
D	W11-1	BICYCLE SYMBOL	36"x36"	1 - 4"x4"	2
	W16-1	SHARE THE ROAD	30"x24"		
E	G20-2	END ROAD WORK	36"x18"	1 - 4"x4"	2

NOTE: EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.



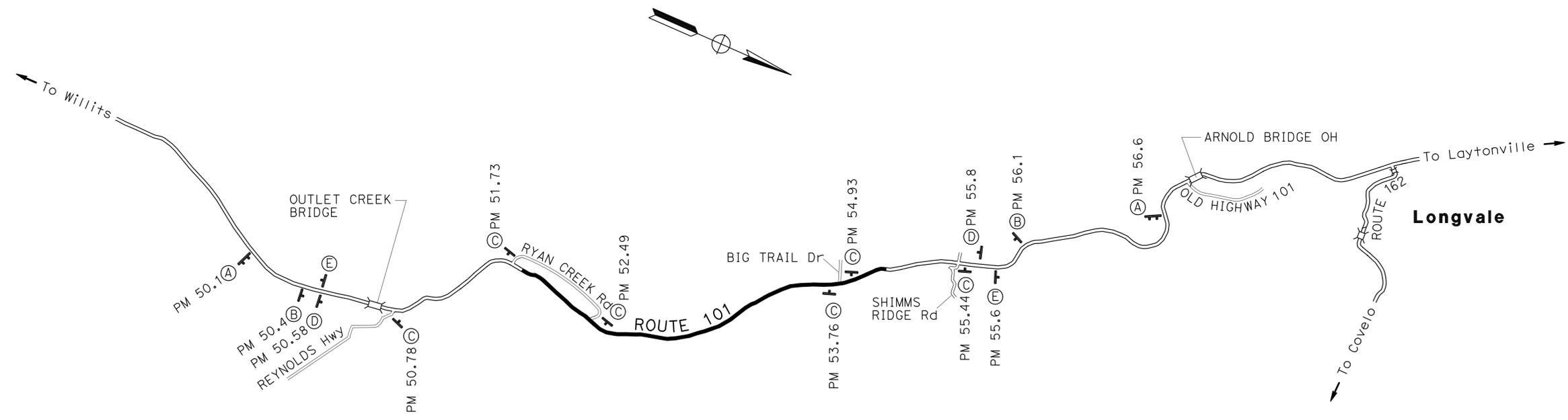
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN

FUNCTIONAL SUPERVISOR  
 Steven Hughes

CALCULATED/DESIGNED BY  
 CHECKED BY

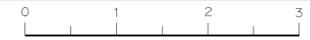
David Morgan  
 X

REVISED BY  
 DATE REVISED



**CONSTRUCTION AREA SIGNS CS-1**

NO SCALE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	51.9/55.1	10	21

*David A. Morgan*  
 REGISTERED CIVIL ENGINEER DATE 5-6-11  
 May 9, 2011  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 David A. Morgan  
 No. 72321  
 Exp. 6/30/12  
 CIVIL  
 STATE OF CALIFORNIA

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

### SHOULDER RUMBLE STRIP AND PAVEMENT DELINEATION

LOCATION "ALN1" LINE	STRIPING DETAIL	DETAIL LENGTH	SHOULDER RUMBLE STRIP		THERMOPLASTIC TRAFFIC STRIPE 4" WHITE SOLID	
			Lt Shld	Rt Shld	Lt Shld	Rt Shld
			Sta		LF	
737+68 TO 752+46	27B	1478	14.78	14.78	1478	1478
764+61 TO 769+95	27B	534	5.34		534	
764+61 TO 798+40	27B	3379		33.79		3379
773+44 TO 798+40	27B	2496	24.96		2496	
848+56 TO 867+04	27B	1848	18.48	18.48	1848	1848
872+32 TO 892+38	27B	2006	20.06	20.06	2006	2006
SUBTOTALS			83.62	87.11	8362	8711
TOTALS			170.73		17,073	

### PERMANENT EROSION CONTROL

LOCATION "ALN1" LINE			EROSION CONTROL (COMPOST BLANKET)
FROM	TO	L+/R+	CY
769+30	770+00	R+	5.6
TOTAL			5.6

### CENTERLINE RUMBLE STRIP AND PAVEMENT DELINEATION

LOCATION "ALN1" LINE	EXISTING STRIPING DETAIL	NEW STRIPING DETAIL	DETAIL LENGTH	CENTERLINE RUMBLE STRIP	THERMOPLASTIC TRAFFIC STRIPE	PAVEMENT MARKER (RETROREFLECTIVE- RECESSED)	(N)
					4" YELLOW SOLID	TYPE D	REMOVE PAVEMENT MARKER
					LF	EA	EA
737+68-748+24	22	22	1056	10.56	2112	88	88
748+24-756+16	19R	22	792	7.92	1584	66	50
756+16-767+78	6	22	1162	11.62	2324	97	25
767+78-777+28	19L	22	950	7.00	1800	80	60
777+28-840+64	22	NC	6336	63.36	12672	528	528
840+64-856+48	19L	22	1584	15.84	3168	132	99
856+48-896+08	22	22	4160	41.60	8320	347	347
SUBTOTALS							
TOTALS				157.9	31,980	1338	1197

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

### ROADWAY

LOCATION "ALN1" LINE			ROADWAY EXCAVATION	(N)	CLASS 2 AGGREGATE BASE	HOT MIX ASPHALT (TYPE A)	HOT MIX ASPHALT (OPEN GRADED)	GEOSYNTHETIC PAVEMENT INTERLAYER	COLD PLANE ASPHALT CONCRETE PAVEMENT	REMOVE ROADSIDE SIGN	TACK COAT
FROM	TO	L+/R+	CY	TON	SQYD	EA	TON				
768+85	773+07	R+	63	20	21	210	20	190	120	1	0.2
740+32											
TOTAL			63	20	21	210	20	190	120	1	0.2

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

## SUMMARY OF QUANTITIES Q-1

NO SCALE

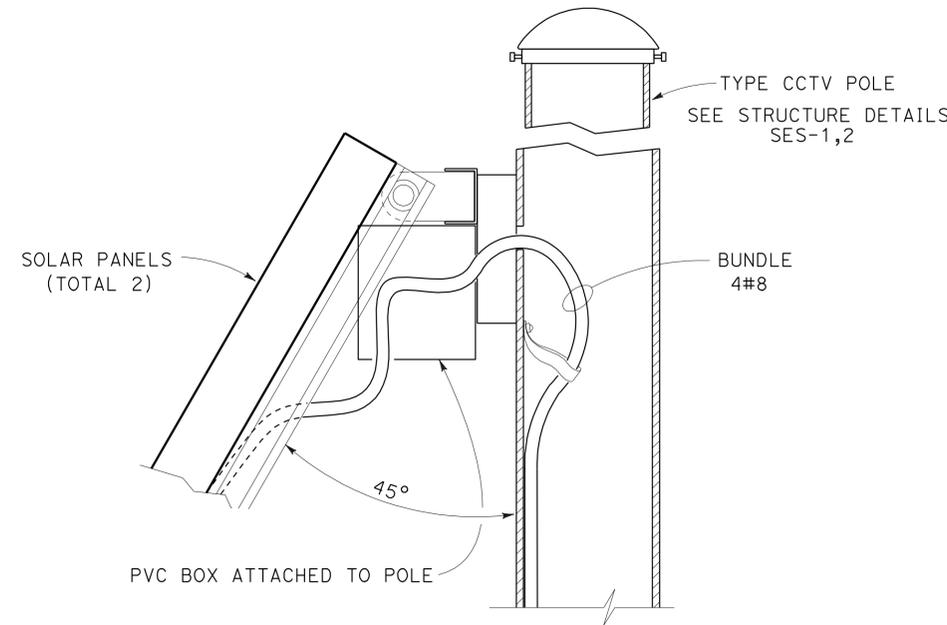
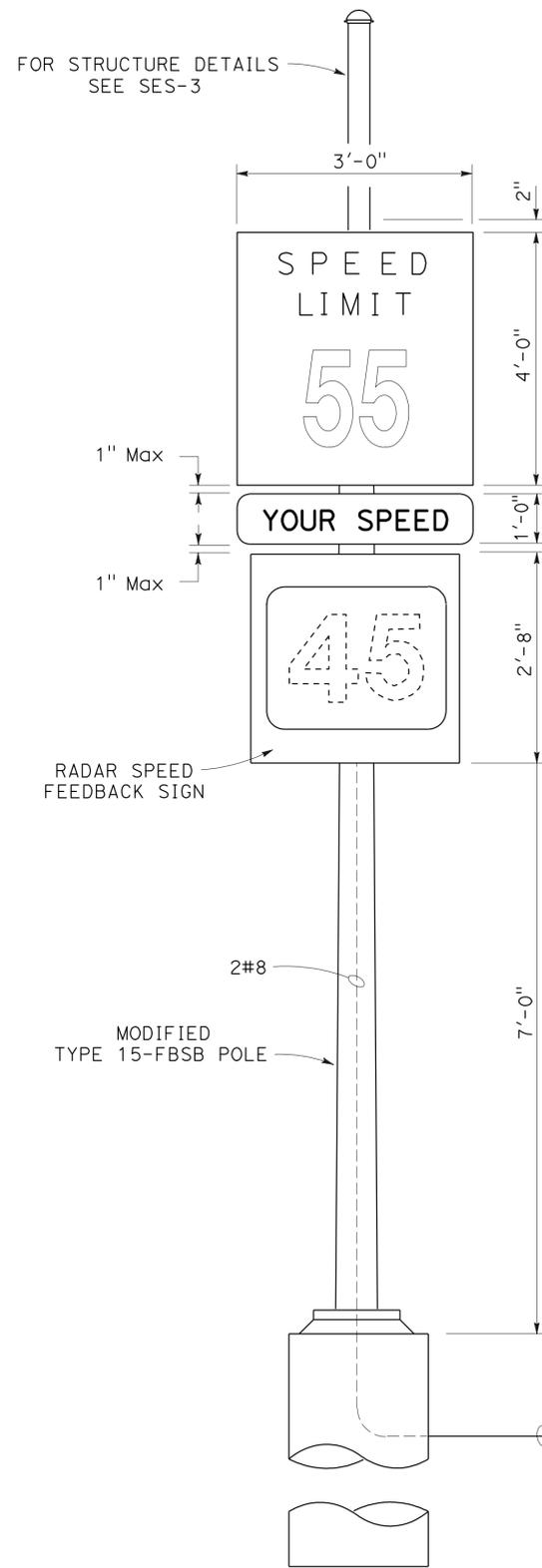
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: Steven Hughes  
 CALCULATED/DESIGNED BY: David Morgan  
 CHECKED BY: X  
 REVISED BY: DATE: REVISIONS:



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	101	51.9/55.1	12	21

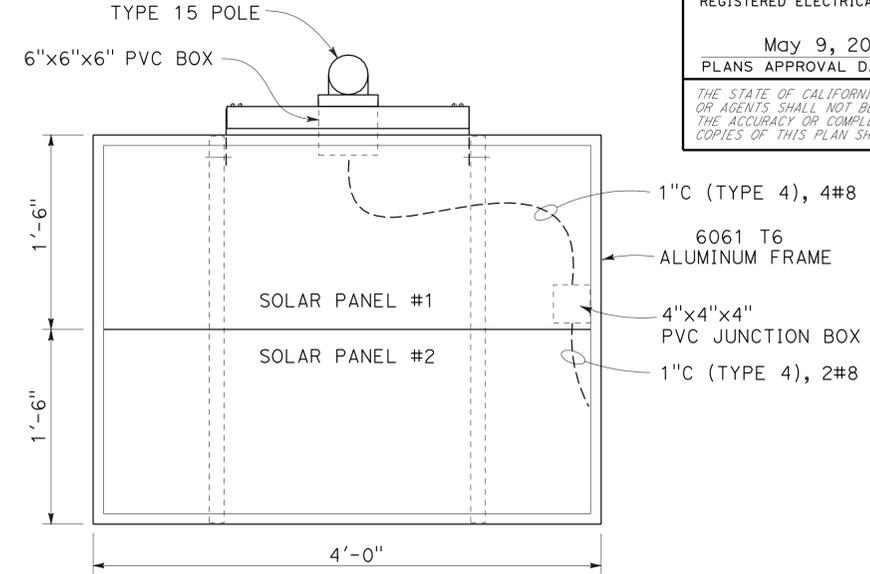
  

<i>Brian T. Finck</i> REGISTERED ELECTRICAL ENGINEER DATE 5/6/11	
May 9, 2011 PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>	

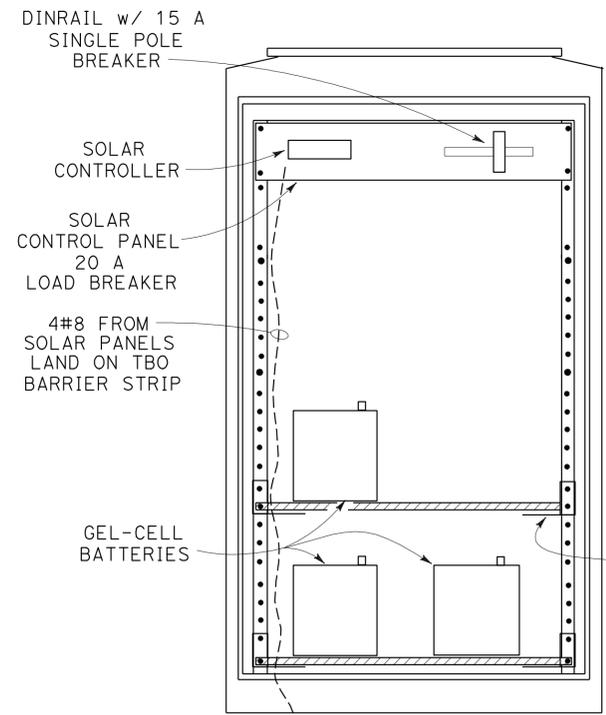


**SOLAR PANEL ASSEMBLY  
DETAIL FOR TYPE CCTV 30**

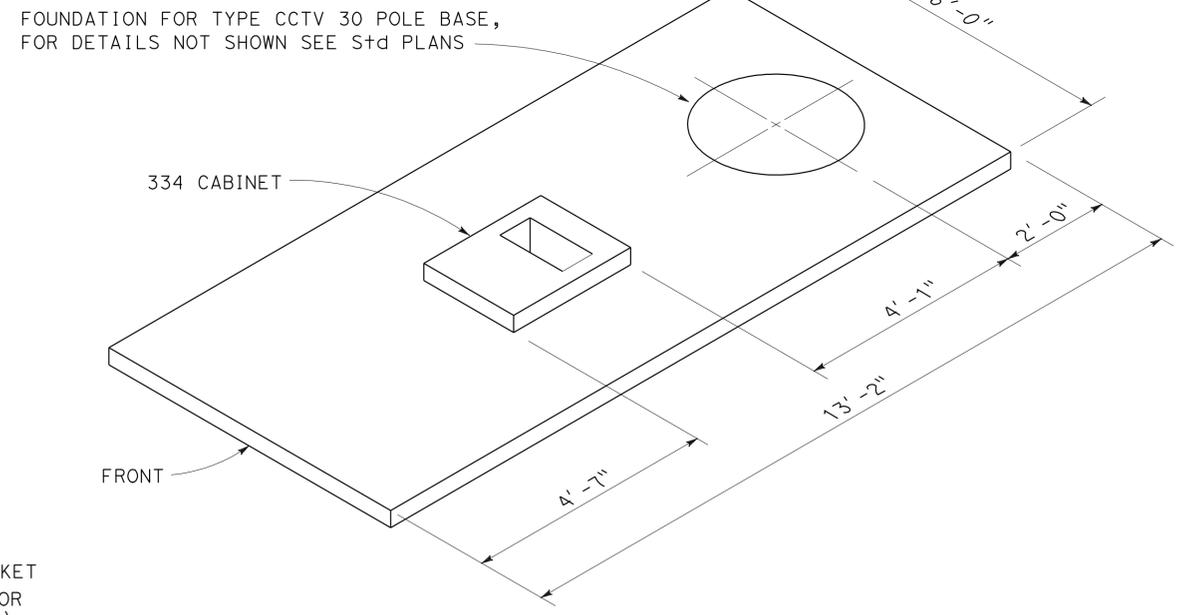
FOR GENERAL LIGHT STANDARD INSTALLATION  
AND FOR DETAILS NOT SHOWN SEE STANDARD  
PLAN ES-16A



**2-75W-PANELS  
SOLAR PANEL MOUNTING DETAIL**



**MODEL 334 CONTROLLER CABINET  
(MODIFIED)  
SOLAR**



**FOUNDATION DETAILS  
FOR MODEL 334 CABINET**

**RADAR SPEED FEEDBACK SIGNS  
(SOLAR)**

**ELECTRICAL DETAILS  
E-2**

THIS SHEET ACCURATE FOR ELECTRICAL WORK ONLY

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC ELECTRICAL  
 FUNCTIONAL SUPERVISOR: Troy Arseneau  
 REVISIONS: Brian Finck (DESIGNED BY), Troy Arseneau (CHECKED BY)  
 REVISIONS: Brian Finck (DESIGNED BY), Troy Arseneau (CHECKED BY)

USERNAME => t1donh  
DGN FILE => 149080ua002.dgn

RELATIVE BORDER SCALE IS IN INCHES



UNIT 0045

PROJECT NUMBER & PHASE

01000004581

LAST REVISION DATE PLOTTED => 16-JUN-2011  
 00-00-00 TIME PLOTTED => 10:18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Men	101	51.9/55.1	13	21

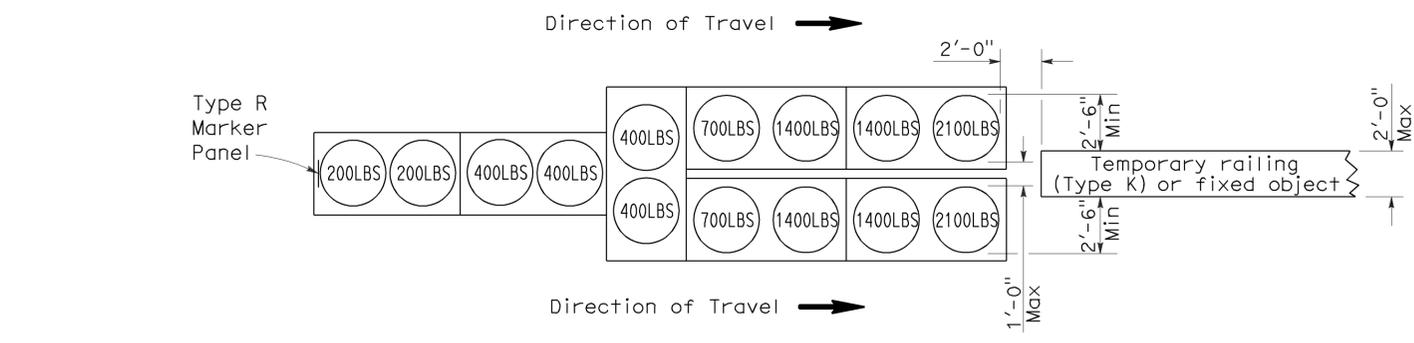
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

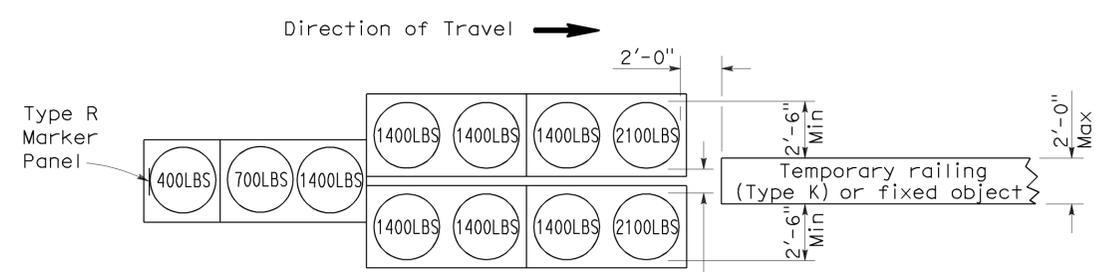
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To accompany plans dated May 9, 2011



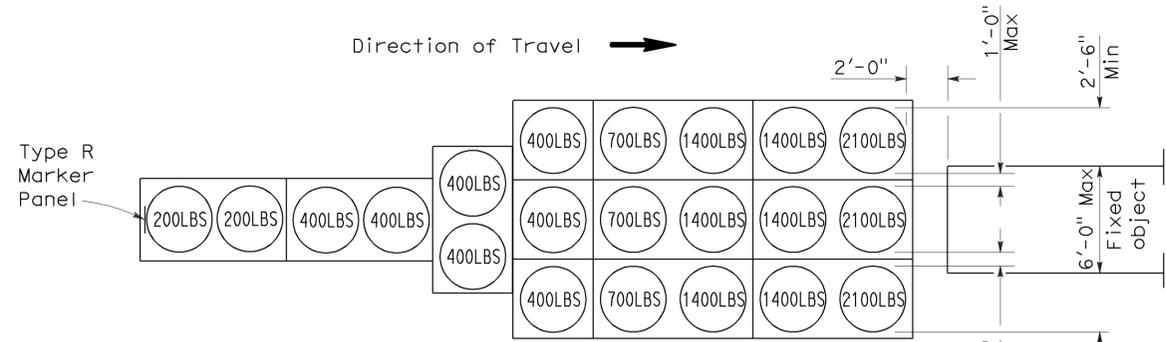
**ARRAY 'TU14'**

Approach speed 45 mph or more



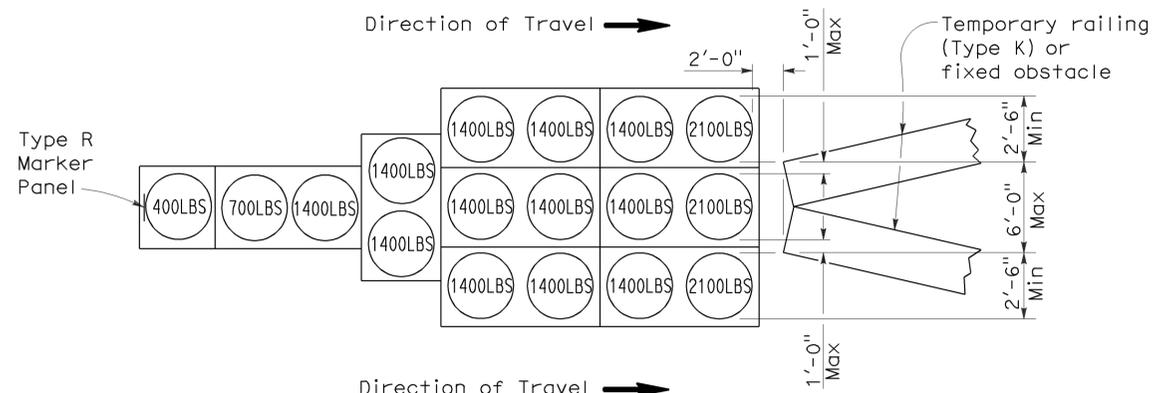
**ARRAY 'TU11'**

Approach speed less than 45 mph



**ARRAY 'TU21'**

Approach speed 45 mph or more

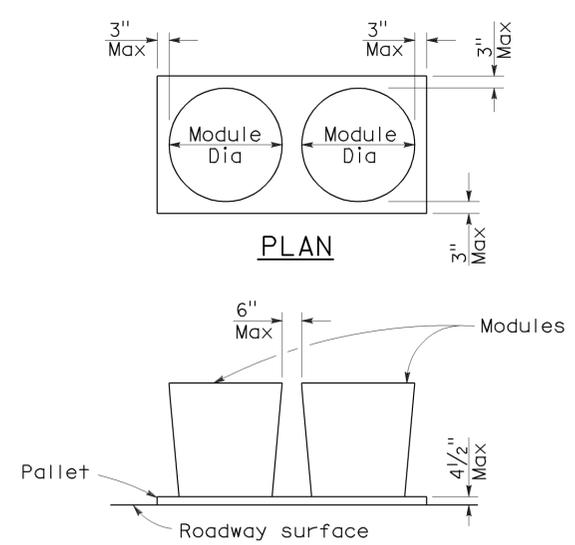


**ARRAY 'TU17'**

Approach speed less than 45 mph

**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.



**CRASH CUSHION PALLET DETAIL**  
See Note 7

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
01	Men	101	51.9/55.1	14	21

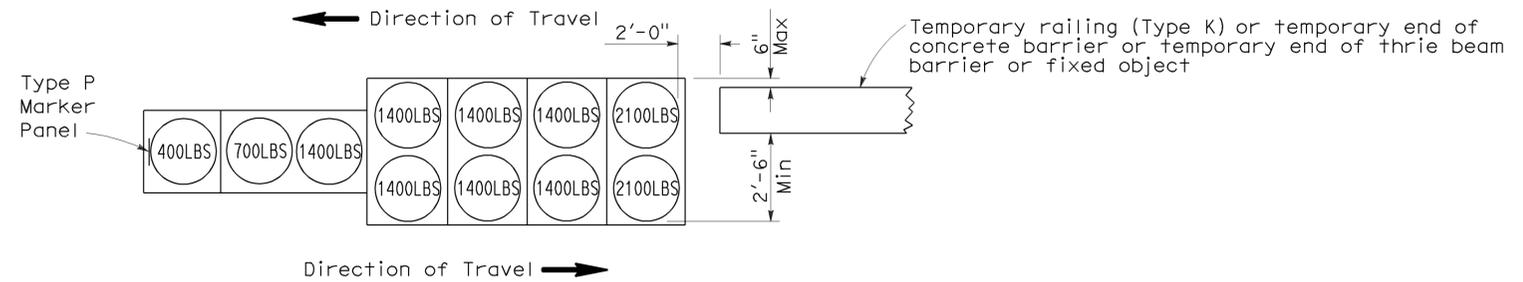
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

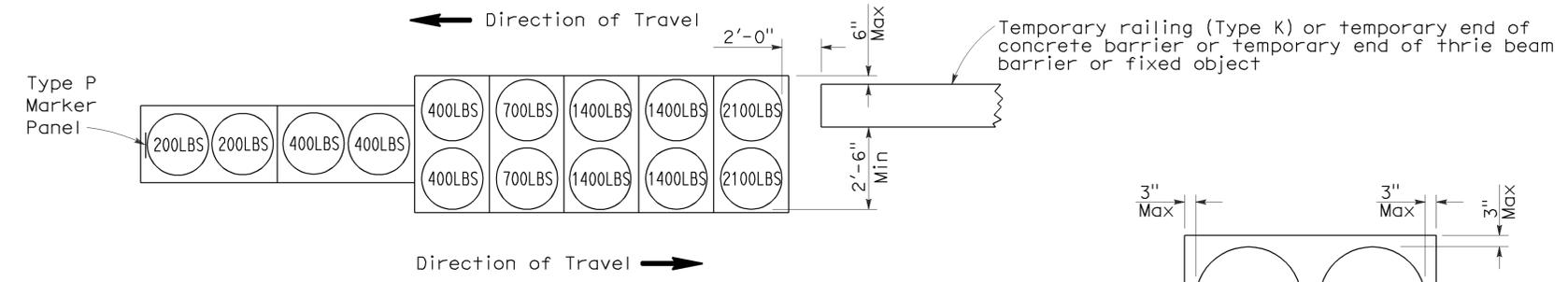
*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

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.

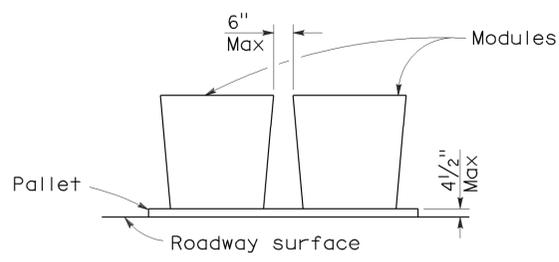
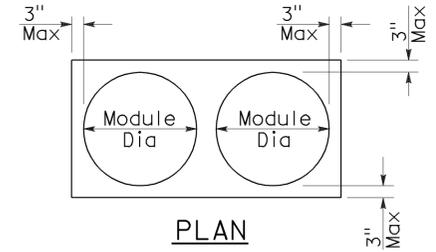
To accompany plans dated May 9, 2011



**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
01	Men	101	51.9/55.1	15	21

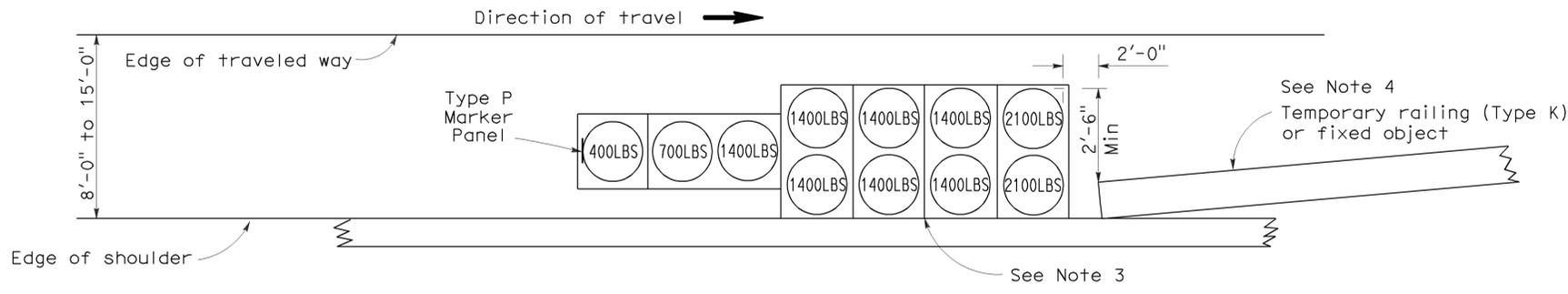
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

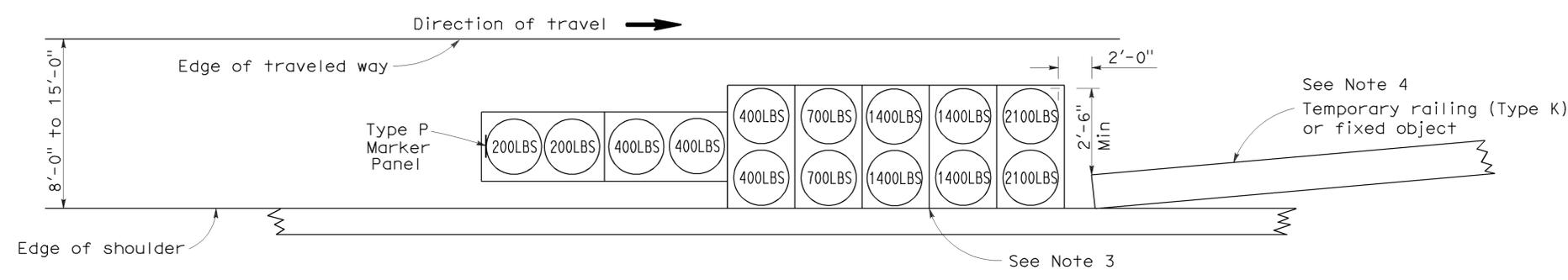
*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

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.

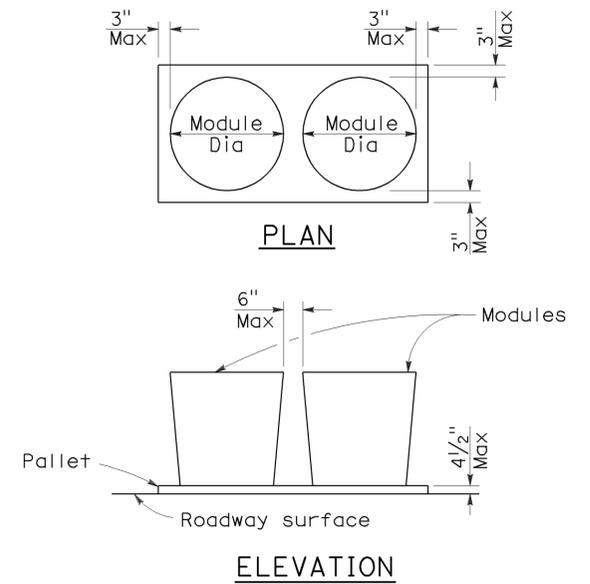
To accompany plans dated May 9, 2011



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



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



**CRASH CUSHION PALLET DETAIL**  
See Note 11

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(SHOULDER INSTALLATIONS)**

NO SCALE

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

**REVISED STANDARD PLAN RSP T2**

2006 REVISED STANDARD PLAN RSP T2

# ELECTROLIERS

STANDARD TYPES	Symbol	Description
15, 15D		High mast light pole
15		Double Arm lighting standard
21, 21D		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

PROPOSED	EXISTING	Description
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	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4C	mas-4C	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
N	N	Mercury vapor lighting fixture
NC	NC	Neutral (Grounded Conductor)
NO	NO	Normally closed
PB	pb	Normally open
PEC	pec	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	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
01	Men	101	51.9/55.1	16	21

*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

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 May 9, 2011

## 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
01	Men	101	51.9/55.1	17	21

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated May 9, 2011

### CONDUIT

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

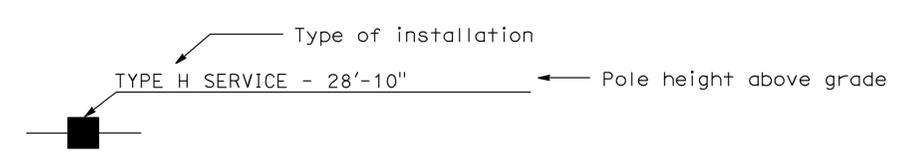
### SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections 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
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

### SERVICE EQUIPMENT

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

### POLE-MOUNTED SERVICE DESIGNATION



### ILLUMINATED OVERHEAD SIGN

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

### SIGNAL EQUIPMENT Cont

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

### NOTES:

- 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

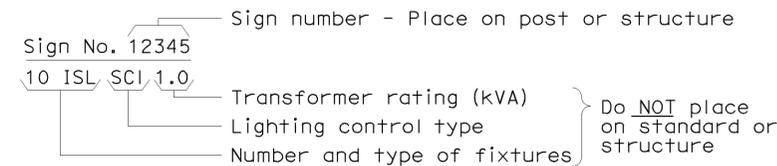
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B  
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

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

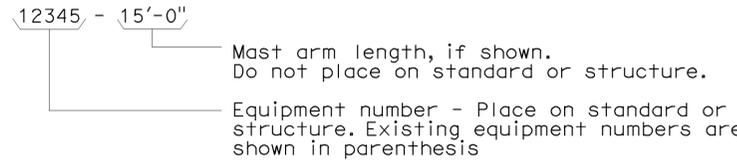
2006 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

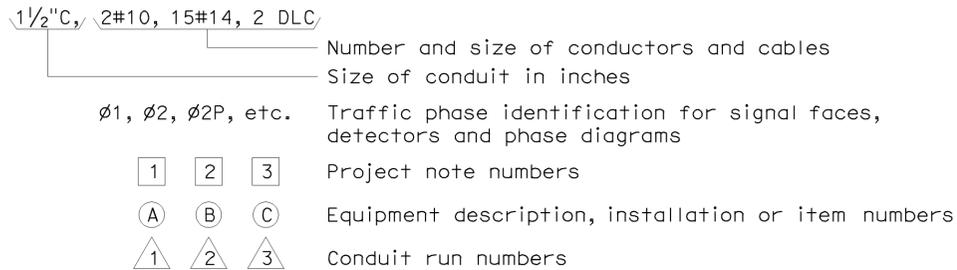
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



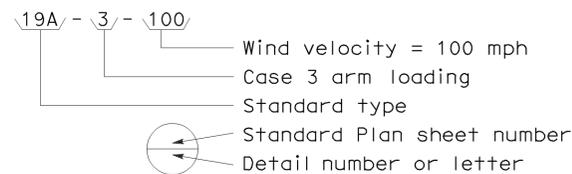
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



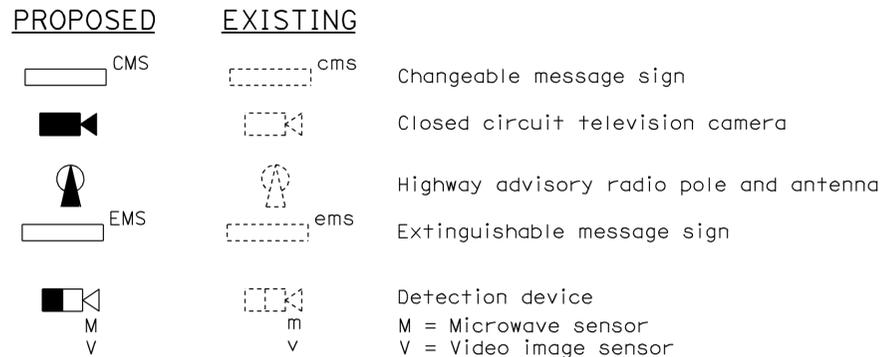
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



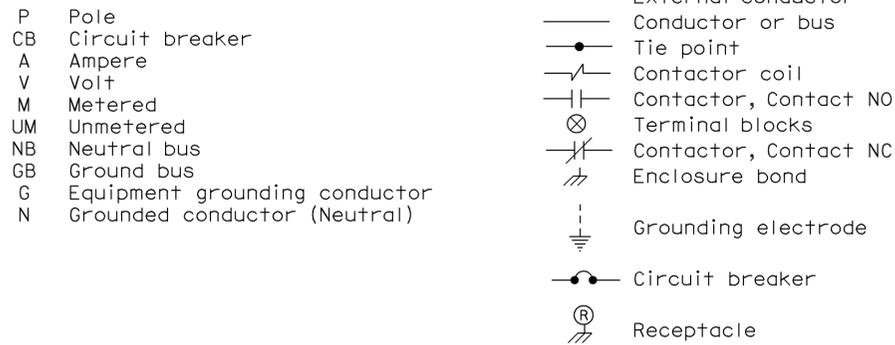
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



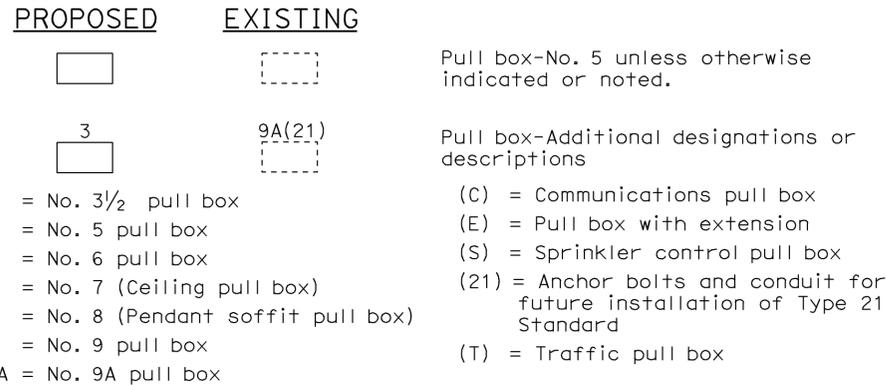
### MISCELLANEOUS EQUIPMENT



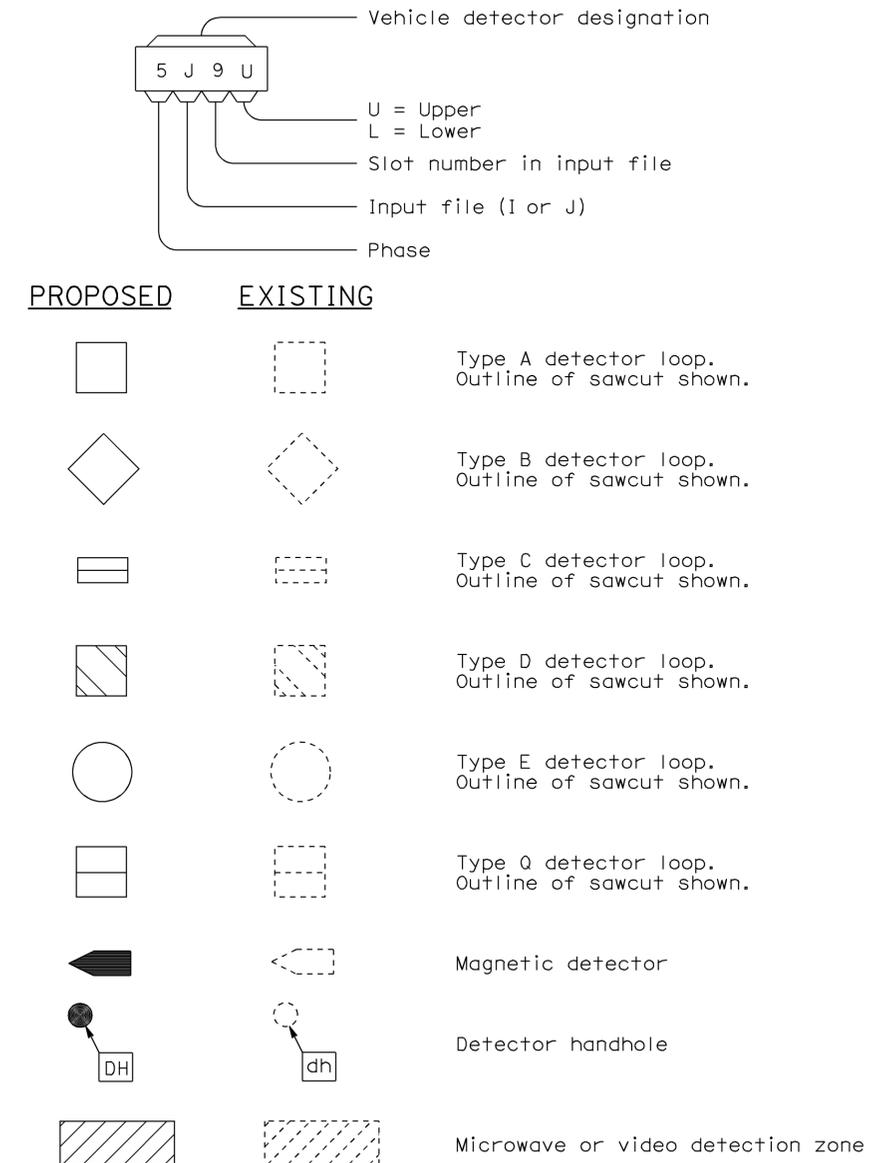
### WIRING DIAGRAM LEGEND



### 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
01	Men	101	51.9/55.1	19	21

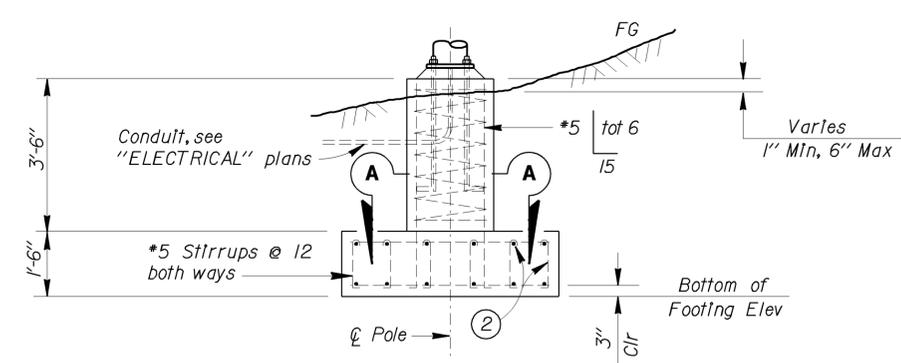
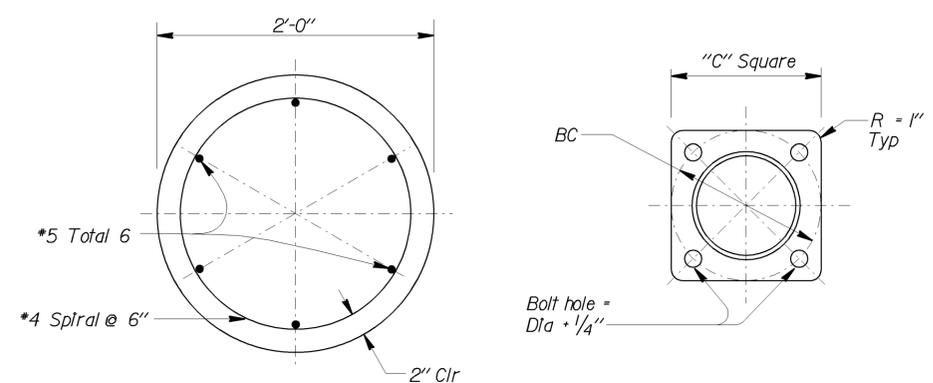
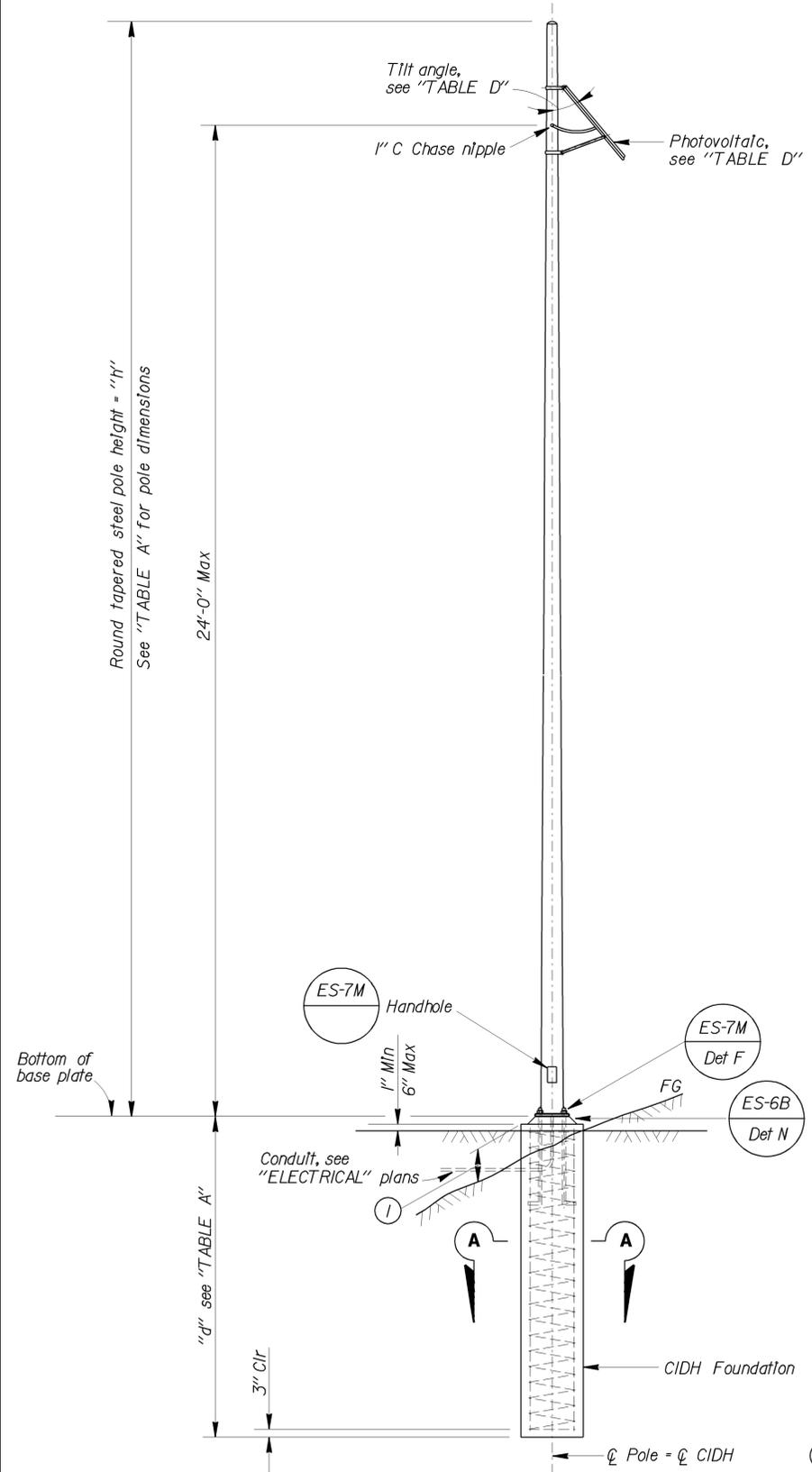
Eliseo Lopez  
 REGISTERED CIVIL ENGINEER DATE 4/15/11  
 5/9/11  
 PLANS APPROVAL DATE  
 No. C72910  
 Exp. 12/31/12  
 CIVIL  
 STATE OF CALIFORNIA

POLE TYPE	POLE DATA				BASE PLATE DATA				"d" 2'-0" Ø CIDH Pile		STRUCTURAL STEEL LBS PLUS 3.5% GALVANIZING
	HEIGHT "H"	Min OD		THICKNESS	"C"	THICKNESS	ANCHOR BOLTS		LEVEL GROUND	SLOPING GROUND	
		BASE	TOP				SIZE	BC = BOLT CIRCLE			
CCTV 30	30'	8"	3 7/8"	0.1793"	1'-0"	1"	1" x 3'-0" x 4"	11"	8'-0"	10'-0"	475

TABLE B		
ATTACHMENT	MOUNTING HEIGHT	WEIGHT LIMITS (Max)
Photovoltaic	24'-0" Max	44 lbs

TABLE C		
SPREAD FOOTING		
GROUND	FOOTING SIZE LENGTH x WIDTH x DEPTH	REINFORCEMENT TOP & BOTTOM
Level	6'-0" x 6'-0" x 1'-6"	7 - #4
Sloping	7'-0" x 7'-0" x 1'-6"	8 - #4

TABLE D	
PHOTOVOLTAIC PANEL LIMITS	
PANEL SIZE	TILT ANGLE
12 ft <sup>2</sup> max	45° Min



- ① 1'-3" Max for sloped finished grade.
- ② \*5 Bars and \*5 stirrups (Top and bottom) to run both longitudinal and transverse directions.

**ABBREVIATIONS:**  
 CCTV = Closed Circuit Television

**DESIGN NOTES:**  
 SPECIFICATIONS  
 Design : AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2001.

**LOADING**  
 Wind Loadings: 100 mph

**UNIT STRESSES**  
 Structural steel:  $f_y = 48,000$  psi tapered steel pole  
 $f_y = 36,000$  psi unless otherwise noted.  
 Anchor bolts = A307  
 Reinforced concrete:  $f'_c = 3,600$  psi  
 $f_y = 60,000$  psi

**NOTES:**

- For pole locations, see "ELECTRICAL" plans.
- All steel shall be galvanized after fabrication.
- During pole erection the pole shall be raked as necessary with the use of levelling nuts to provide a plumb pole axis.
- The foundation shall be treated as level ground condition if the slope inclination is flatter than 4H:1V.
- Foundation design is based on AASHTO 2001 article 13.6 Broms' approximate procedure assuming a cohesionless material. The angle of internal friction used is 30 degrees and unit weight of soil used is 120 lbs/ft<sup>3</sup>.
- For details not shown, see 2006 "STANDARD PLANS" and 2006 "REVISED STANDARD PLANS".

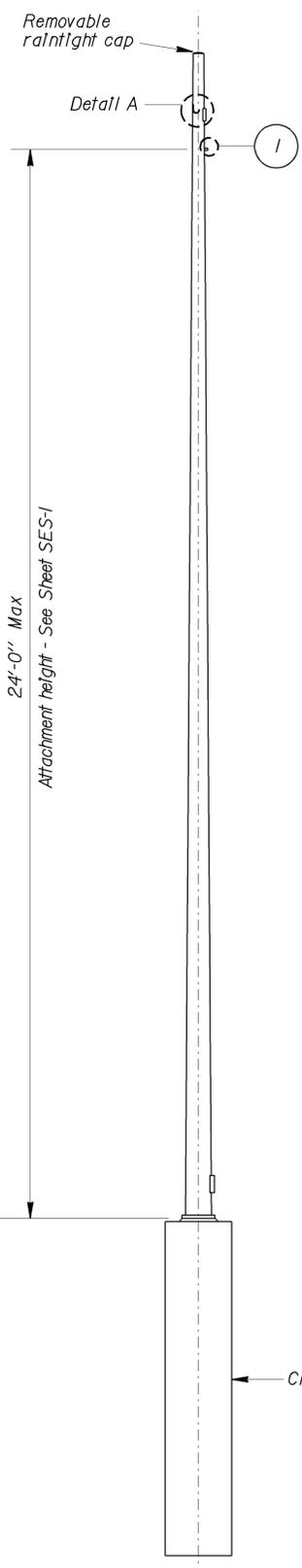
NOTE:  
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

BRANCH CHIEF <b>JEFF WOODY</b>	DESIGN BY ELISEO LOPEZ	CHECKED DEVANG VORA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH	BRIDGE NO.	<b>CLOSED CIRCUIT TELEVISION POLE DETAILS</b>	SHEET 19 OF 21
	DETAILS BY R. YEE	CHECKED ELISEO LOPEZ			POST MILE		
QUANTITIES BY ELISEO LOPEZ CHECKED DEVANG VORA			NO SCALE		UNIT: 3619 PROJECT NUMBER & PHASE: 0100000458-1 CONTRACT NO.: 01-490801		

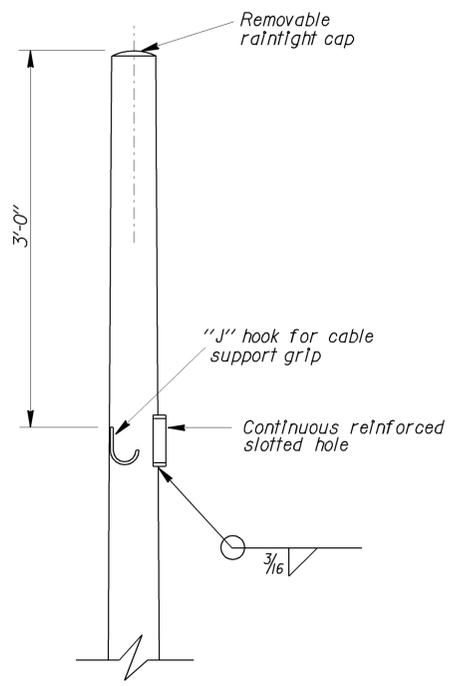
(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DATE PLOTTED => 13-MAY-2011 08:13 USERNAME => rjyee

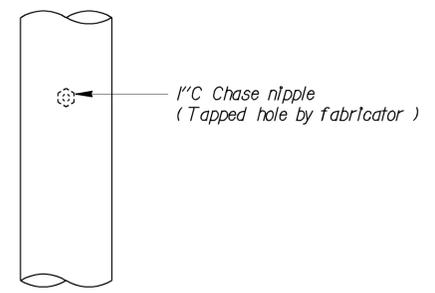
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Men	101	51.9/55.1	20	21
<i>Eliseo Lopez</i> REGISTERED CIVIL ENGINEER			4/15/11 DATE		
5/9/11 PLANS APPROVAL DATE					
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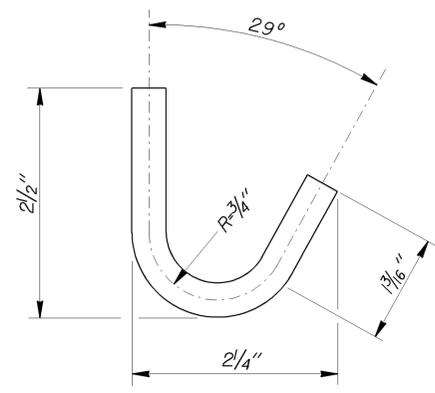
1 Drill and tap for 1" chase nipple and plug with raintight plugs. 1" chase nipple per attachment per pole. See "DETAIL B".



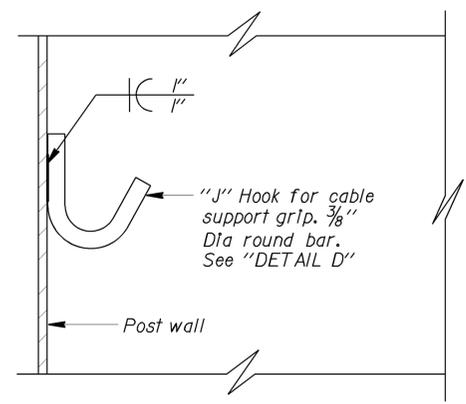
**DETAIL A**



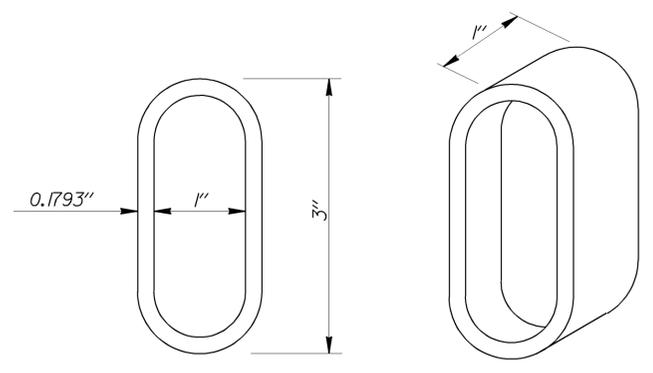
**DETAIL B**  
**TYPICAL ELECTRICAL ACCESS DETAIL**



**DETAIL D**



**J HOOK DETAIL**



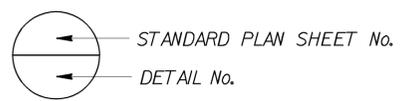
**SLOTTED HOLE**

**NOTES:**

1. Place all couplings on the same side of pole.
2. Chase nipples and slotted hole have a raintight plug. Plug should only be removed if chase nipple or slotted hole is used.
3. The chase nipples shall be 1'-0" min vertical clearance from the slotted hole and not on the same side as the slotted hole.
4. For attachment details, see sheet SES-1.
5. All attachments, unless otherwise noted, shall be mounted to pole with stainless steel straps or other method without drilling holes in pole.

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

**ELEVATION**  
CCTV 30



BRANCH CHIEF	<b>JEFF WOODY</b>
--------------	-------------------

DESIGN	BY <i>ELISEO LOPEZ</i>	CHECKED <i>DEVANG VORA</i>
DETAILS	BY <i>R. YEE</i>	CHECKED <i>ELISEO LOPEZ</i>
QUANTITIES	BY <i>ELISEO LOPEZ</i>	CHECKED <i>DEVANG VORA</i>

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
DESIGN AND TECHNICAL SERVICES  
SPECIAL DESIGNS BRANCH **A**

NO SCALE

BRIDGE NO.	
POST MILE	

**CLOSED CIRCUIT TELEVISION  
POLE DETAILS**

**SES-20**

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 3619  
PROJECT NUMBER & PHASE: 0100000458-1 CONTRACT NO.: 01-490801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			
4/20/11	4/20/11	5/11/11	

SHEET OF

DATE PLOTTED => 13-MAY-2011 USERNAME => rjyee

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	Men	101	51.9/55.1	21	21

Eliseo Lopez  
 REGISTERED CIVIL ENGINEER DATE 4/15/11  
 5/9/11  
 PLANS APPROVAL DATE

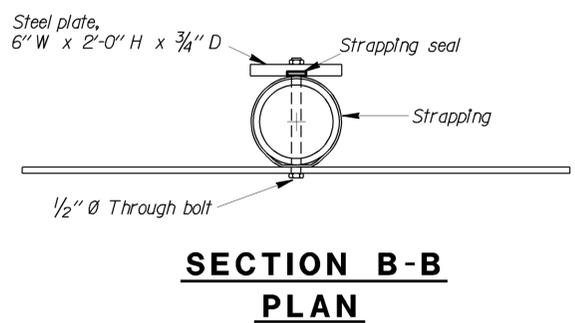
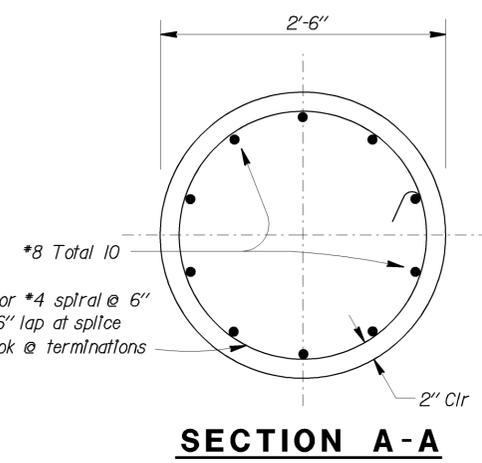
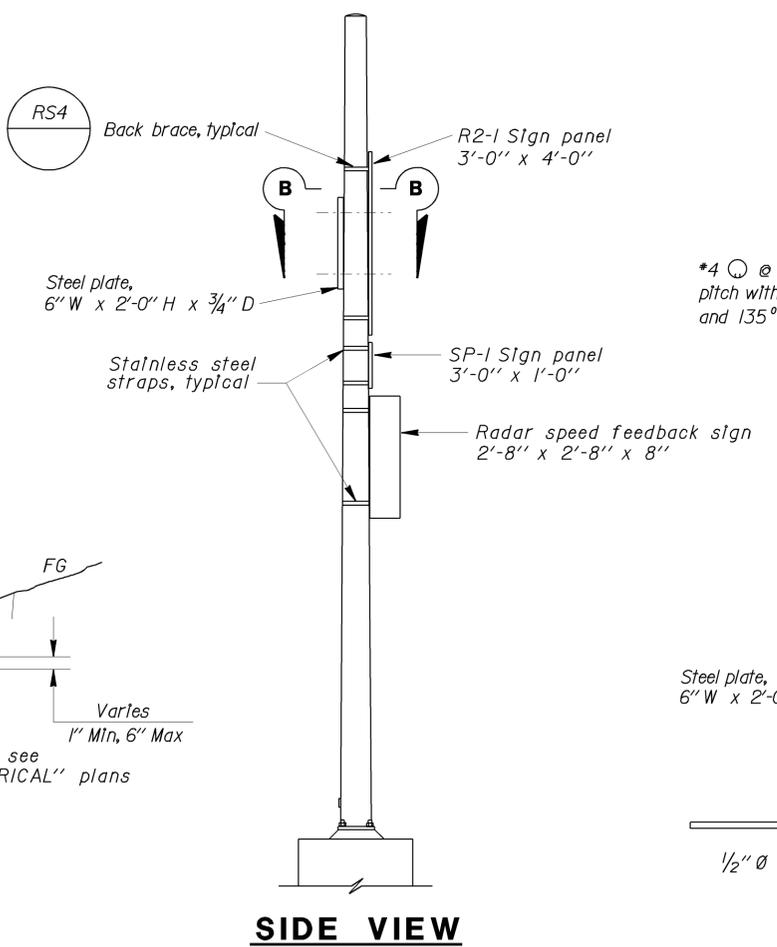
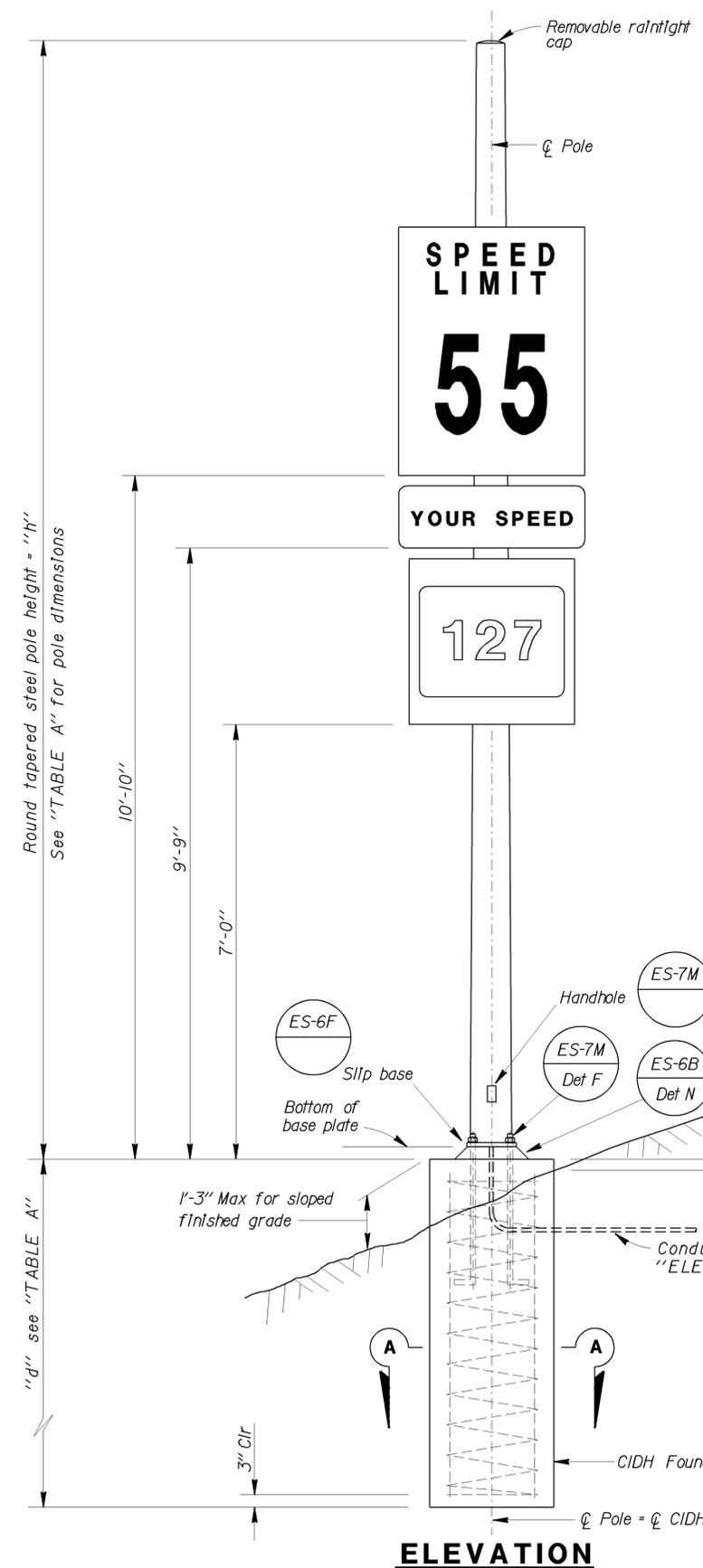
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**TABLE A**

POLE TYPE	POLE DATA			BASE PLATE DATA - SEE STANDARD PLAN ES-6F				"d" 2'-6" Ø CIDH Pile		STRUCTURAL STEEL LBS PLUS 3.5% GALVANIZING	
	HEIGHT "H"	Min OD		THICKNESS	"C"	THICKNESS	H.S. ANCHOR BOLTS (A325)				
		BASE	TOP				SIZE	BC = BOLT CIRCLE	LEVEL GROUND		SLOPING GROUND
15-FBS MODIFIED	18'	8"	5/2"	0.1196"	—	—	1" x 3'-0" x 4"	1'-2"	7'-0"	9'-0"	381

**TABLE B**

ATTACHMENT	MOUNTING HEIGHT	WEIGHT LIMITS (Max)
Radar Speed Feedback Sign 2'-8" x 2'-8" x 8"	7'-0" Bottom Clr	45 lbs
SP-1 Sign Panel 3'-0" x 1'-0"	9'-9" Bottom Clr	7 lbs
R2-1 Sign Panel 3'-0" x 4'-0"	10'-10" Bottom Clr	23 lbs



**GENERAL NOTES:**

**SPECIFICATIONS**

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2001.

**LOADING**

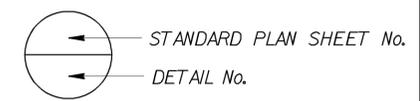
Wind Loadings: 100 mph

**UNIT STRESSES**

Structural steel:  $f_y = 48,000$  psi tapered steel pole  
 $f_y = 36,000$  psi unless otherwise noted  
 H.S. Anchor bolts = A325  
 Reinforced concrete:  $f'_c = 3,600$  psi  
 $f_y = 60,000$  psi

**NOTES:**

- For pole locations, see sheet E-1.
- All steel shall be galvanized after fabrication.
- During pole erection the pole shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
- The foundation shall be treated as level ground condition if the slope inclination is flatter than 4H:1V.
- Foundation design is based on AASHTO 2001 article 13.6 Broms' approximate procedure assuming a cohesionless material. The angle of internal friction used is 30 degrees and unit weight of soil is 120 lb/ft<sup>3</sup>.
- All attachments, unless otherwise noted, shall be mounted to pole with stainless steel straps or other method without drilling holes in pole.
- For details not shown, see 2006 "STANDARD PLANS" and 2006 "REVISED STANDARD PLANS".
- For Type 15-FBS pole, see 2006 Standard Plan ES-7J.
- Steel plate, 6" W x 2'-0" H x 3/4" D to be centered between back braces.



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

BRANCH CHIEF **JEFF WOODY**

DESIGN	BY ELISEO LOPEZ	CHECKED DEVANG VORA
DETAILS	BY R. YEE	CHECKED ELISEO LOPEZ
QUANTITIES	BY ELISEO LOPEZ	CHECKED DEVANG VORA

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 DESIGN AND TECHNICAL SERVICES  
 SPECIAL DESIGNS BRANCH **A**

NO SCALE

BRIDGE NO.	
POST MILE	

**TYPE 15 FBS ( MODIFIED )  
 POLE DETAILS**

**SES-21**