

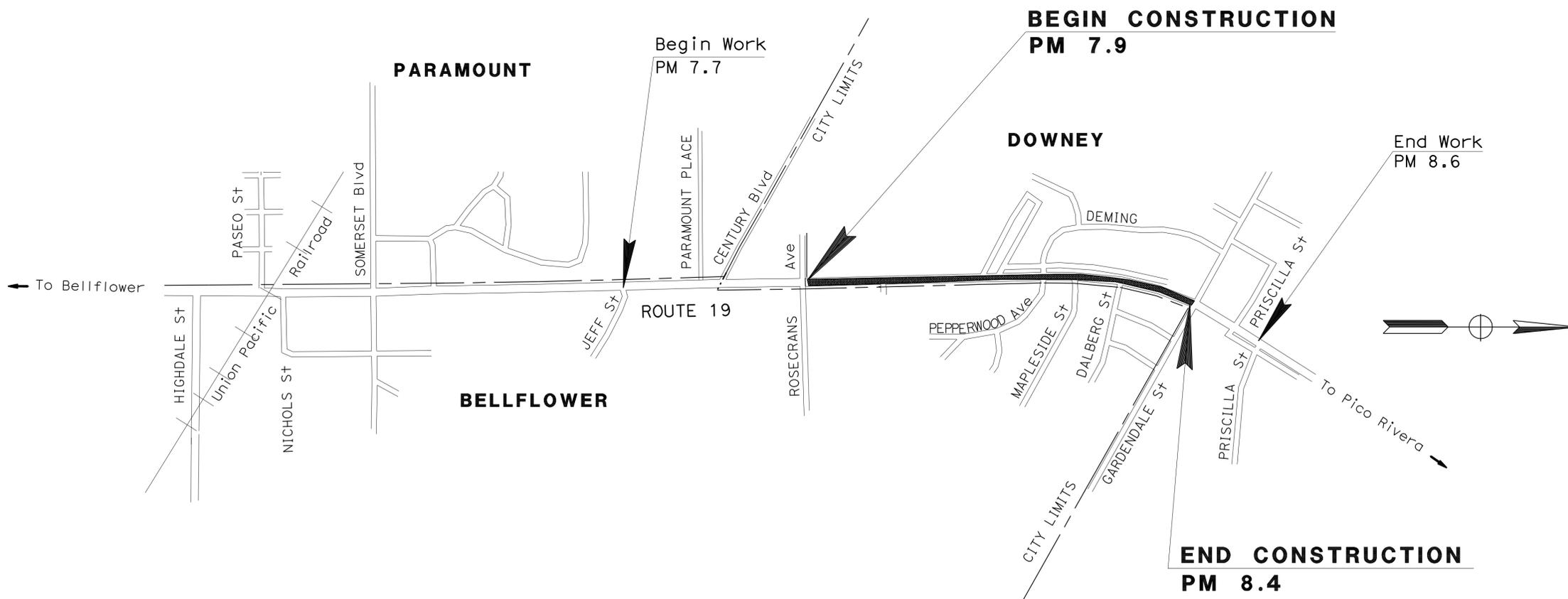
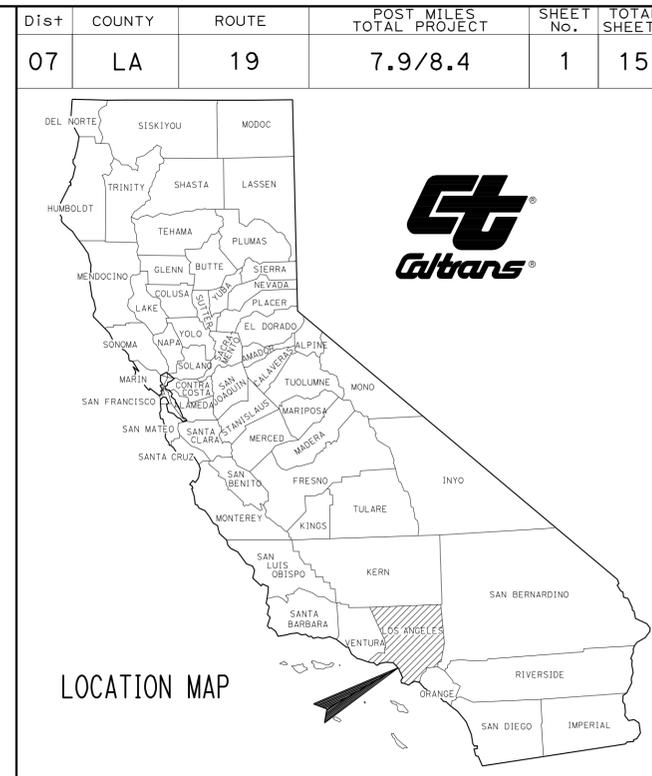
INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3	CONSTRUCTION DETAILS
4	CONSTRUCTION AREA SIGNS
5	SUMMARY OF QUANTITIES
6	ELECTRICAL PLAN
7-15	REVISED AND NEW STANDARD PLANS

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PROJECT PLANS FOR CONSTRUCTION ON
 STATE HIGHWAY
 IN LOS ANGELES COUNTY
 IN DOWNEY AND BELLFLOWER
 FROM ROSECRANS AVENUE TO GARDENDALE STREET**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

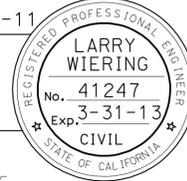


PROJECT MANAGER
GARY KEVORKIAN
 DESIGN ENGINEER
LARRY WIERING

NO SCALE

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE " BID BOOK."

Larry Wiering 12-6-11
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
December 19, 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.



CONTRACT No.	07-4Y5604
PROJECT ID	0700001878

DATE PLOTTED => 13-DEC-2011
 TIME PLOTTED => 14:38
 LAST REVISION 00-00-00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19	7.9/8.4	2	15

Larry Wiering 12-6-11
 REGISTERED CIVIL ENGINEER DATE
 12-19-11
 PLANS APPROVAL DATE

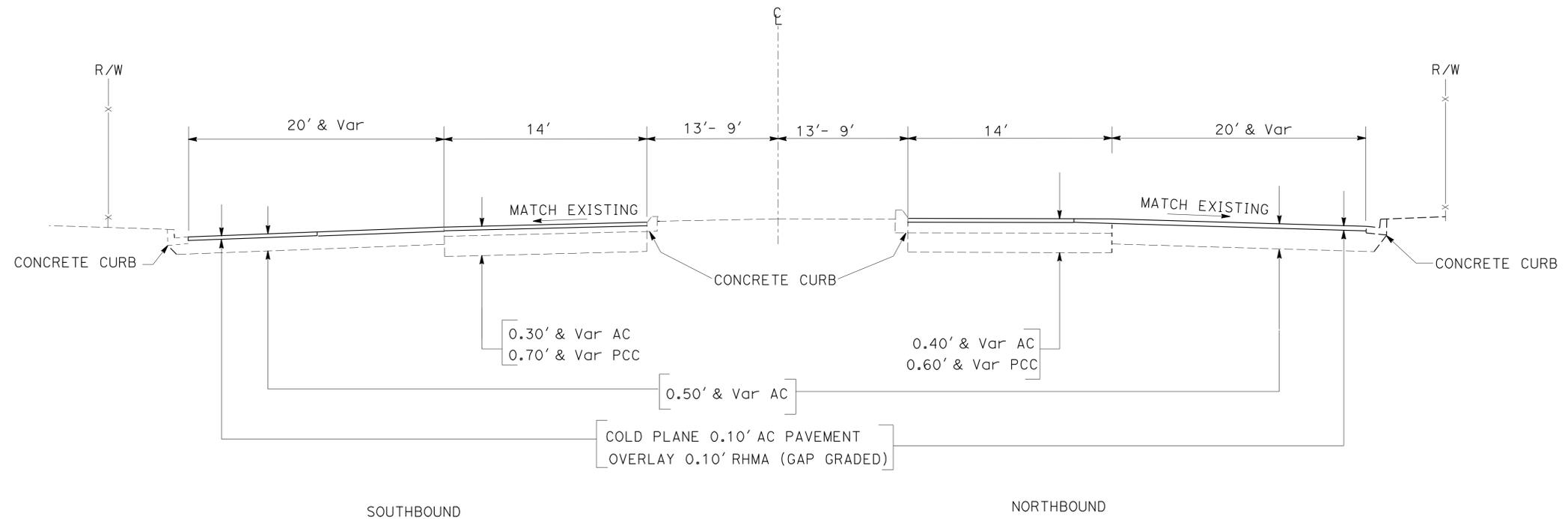
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIC IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATIONS AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- SEE CONSTRUCTION DETAILS SHEET FOR LOCATIONS AND DIMENSIONS OF DIGOUT AREAS, EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

ABBREVIATION:

RHMA RUBBERIZED HOT MIX ASPHALT (GAP GRADED)



ROUTE 19
 PM 7.9 TO PM 8.4
 LOCATIONS 2 THROUGH 6
 FOR LOCATION 1, SEE CONSTRUCTION DETAILS

TYPICAL CROSS SECTIONS
 NO SCALE

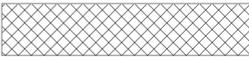
X-1

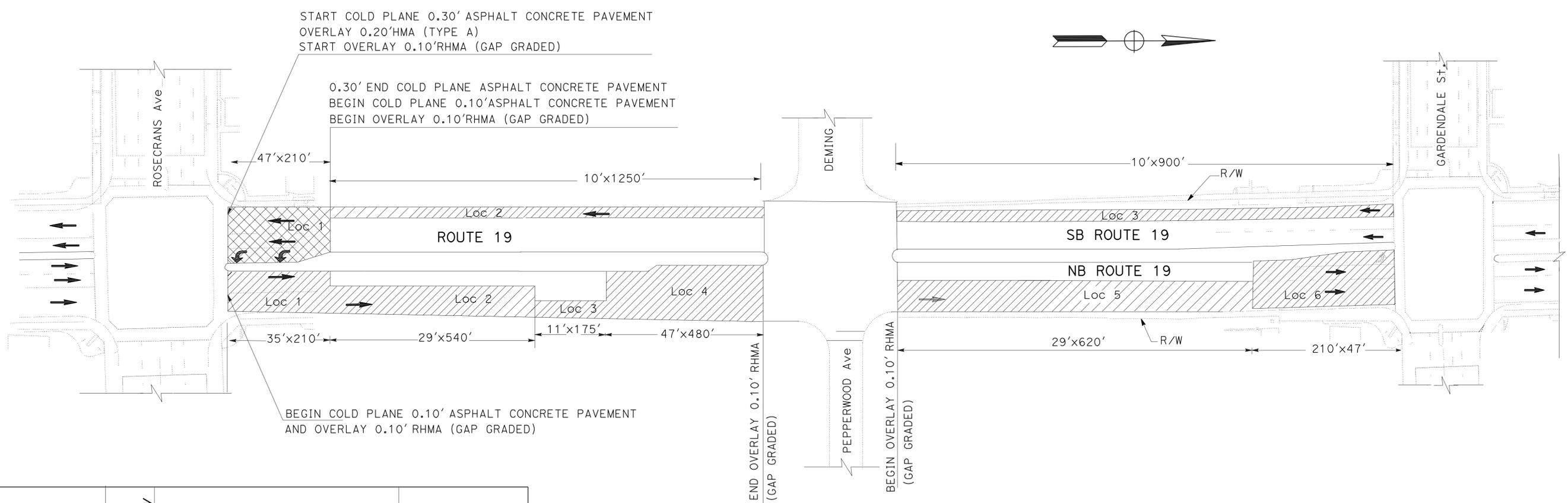
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans MAINTENANCE ENGINEERING	HECTOR OBESO	CHECKED BY	DATE
		GEHAN ATTALLAH	LARRY WIERING

NOTES:

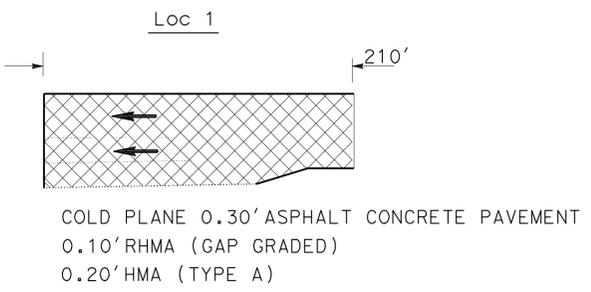
- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIC IN THE STANDARD SPECIFICATIONS.
- DO NOT COLD PLANE AND OVERLAY ON PCC PAVEMENT AND GUTTER.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXISTING DRAINAGE INLETS HAVE NOT BEEN PLOTTED ON THESE PLANS.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

LEGEND:

-  0.10' COLD PLANE ASPHALT CONCRETE PAVEMENT OVERLAY 0.10' RHMA (GAP GRADED)
-  0.30' COLD PLANE ASPHALT CONCRETE PAVEMENT OVERLAY 0.10' RHMA (GAP GRADED) OVERLAY 0.20' HMA (TYPE A)



DIRECTION	LOCATION No.	DISCRIPTION	DIMENSIONS
SB	1	NORTH OF ROSECRANS INTERSECTION	47'X210'
SB	2	200' N/O ROSECRANS INTERSECTION	10'X1250'
SB	3	S/O GARDENDALE INTERSECTION	10'X900'
NB	1	NORTH OF ROSECRANS INTERSECTION	35'X210'
NB	2	200' N/O ROSECRANS INTERSECTION	29'X540'
NB	3	740' N/O ROSECRANS INTERSECTION	11'X175'
NB	4	S/O PEPPERWOOD Ave INTERSECTION	47'X480'
NB	5	N/O PEPPERWOOD Ave INTERSECTION	29'X620'
NB	6	S/O GARDENDALE INTERSECTION	47'X210'



CONSTRUCTION DETAILS

NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans MAINTENANCE ENGINEERING
 FUNCTIONAL SUPERVISOR: HECTOR OBESO
 CALCULATED/DESIGNED BY: GEHAN ATTALAH
 CHECKED BY: LARRY WIERING
 REVISED BY: [] DATE: []
 REVISIONS: []

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19	7.9/8.4	4	15

Larry Wiering 12-6-11
 REGISTERED CIVIL ENGINEER DATE

12-19-11
 PLANS APPROVAL DATE

LARRY WIERING
 No. C41247
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

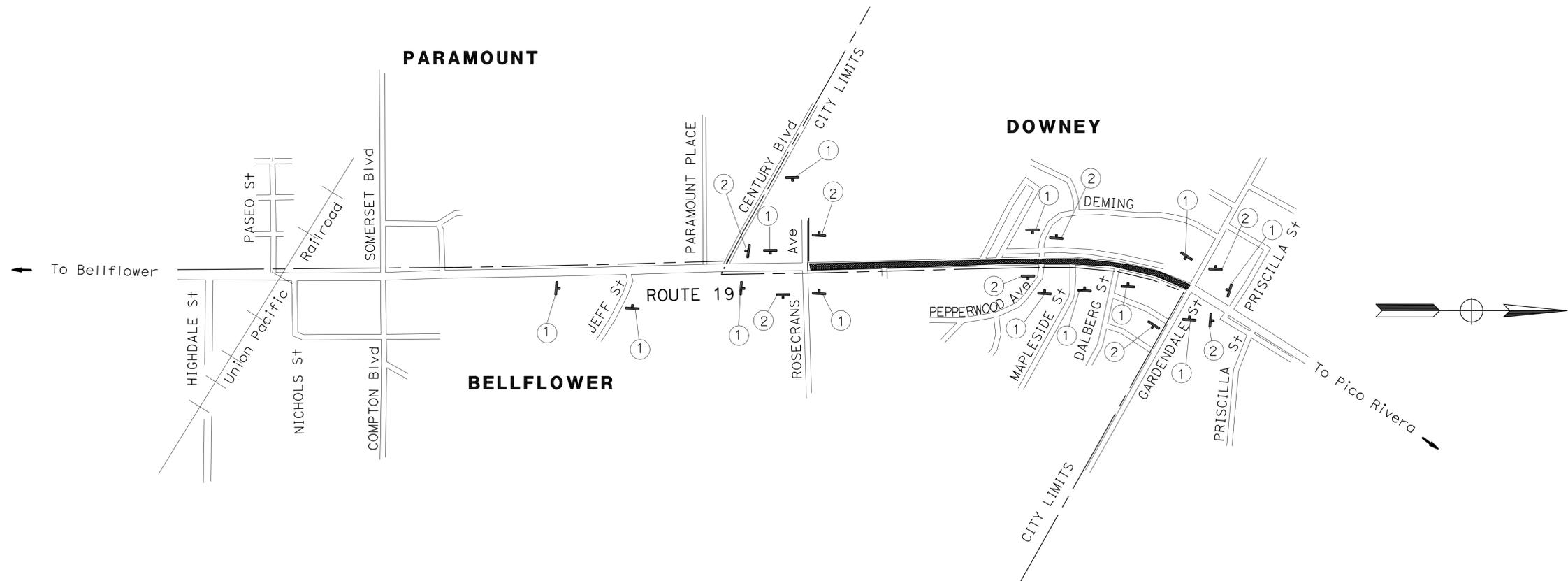
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. LOCATIONS OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
2. "TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES" SIGN SHALL BE PLACED APPROXIMATELY 500' IN ADVANCE OF "ROAD WORK AHEAD" SIGN OR AS DETERMINED BY THE ENGINEER.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN NUMBER	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
①	W20-1	36" x 36"	ROAD WORK AHEAD	1-6" x 6"	13
②	G20-2	36" x 18"	END ROAD WORK	1-4" x 6"	8



CONSTRUCTION AREA SIGNS
 NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

REVISOR BY DATE

GEHAN ATTALAH LARRY WIERING

CALCULATED/DESIGNED BY CHECKED BY

FUNCTIONAL SUPERVISOR LARRY WIERING

USERNAME => s115263
 DGN FILE => 74y5601a001.dgn

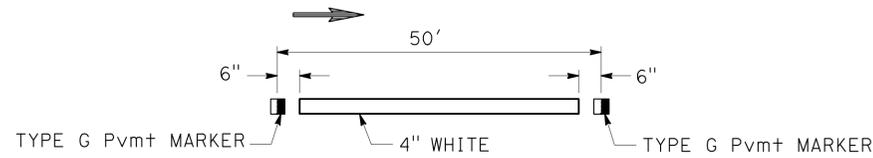
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19	7.9/8.4	5	15

Larry Wiering 12-6-11
REGISTERED CIVIL ENGINEER DATE

12-19-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
LARRY WIERING
No. 41247
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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



DETAIL A
LEFT TURN POCKET
NO SCALE

PAVEMENT DELINEATION QUANTITIES					
LOCATION	THERMOPLASTIC TRAFFIC STRIPE		REMOVE PAVEMENT MARKER	PAVEMENT MARKER (RETROREFLECTIVE)	THERMOPLASTIC PAVEMENT MARKING
	DETAIL				
	9	A			
4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 17-7)	4" SOLID WHITE				
DIRECTION	LF	LF	EA	EA	SQFT
NB	2500	360	110	110	260
SB		350	110	110	300
TOTAL	2500	710	220	220	560

ROADWAY QUANTITIES				
DIRECTION	COLD PLANE ASPHALT CONCRETE PAVEMENT	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	HOT MIX ASPHALT CONCRETE (TYPE A)	CRACK TREATMENT
	SQYD	TON	TON	LNMI
NB	8,295	660		0.5
SB	3,462	334	220	0.5
TOTAL	11,757	994	220	1.0

SUMMARY OF QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HECTOR OBESO
CALCULATED/DESIGNED BY: GEHAN ATTALAH
CHECKED BY: LARRY WIERING

REVISOR: REVISOR BY DATE
REVISOR BY DATE

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19	7.9/8.4	6	15

Kenny Nguyen 12-6-11
REGISTERED ELECTRICAL ENGINEER DATE

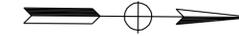
12-19-11
PLANS APPROVAL DATE

KENNY NGUYEN
No. E17759
Exp. 6/30/12
ELECTRICAL

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.

INDUCTIVE LOOP DETECTOR SCHEDULE

WORK LOCATION ON ROUTE 19	SEE DETAIL A THIS SHEET FOR TYPICAL LOCATION OF INDUCTIVE LOOP DETECTOR																		No. OF STUB-OUT
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
ROSECRANS Ave.							X	X	X	X	X	X	X	X	X	X	X	X	2
GARDENDALE St.	X	X	X	X	X	X													2



X - INSTALL NEW INDUCTIVE LOOP DETECTORS AS SHOWN.

PROJECT NOTE: (THIS SHEET ONLY)

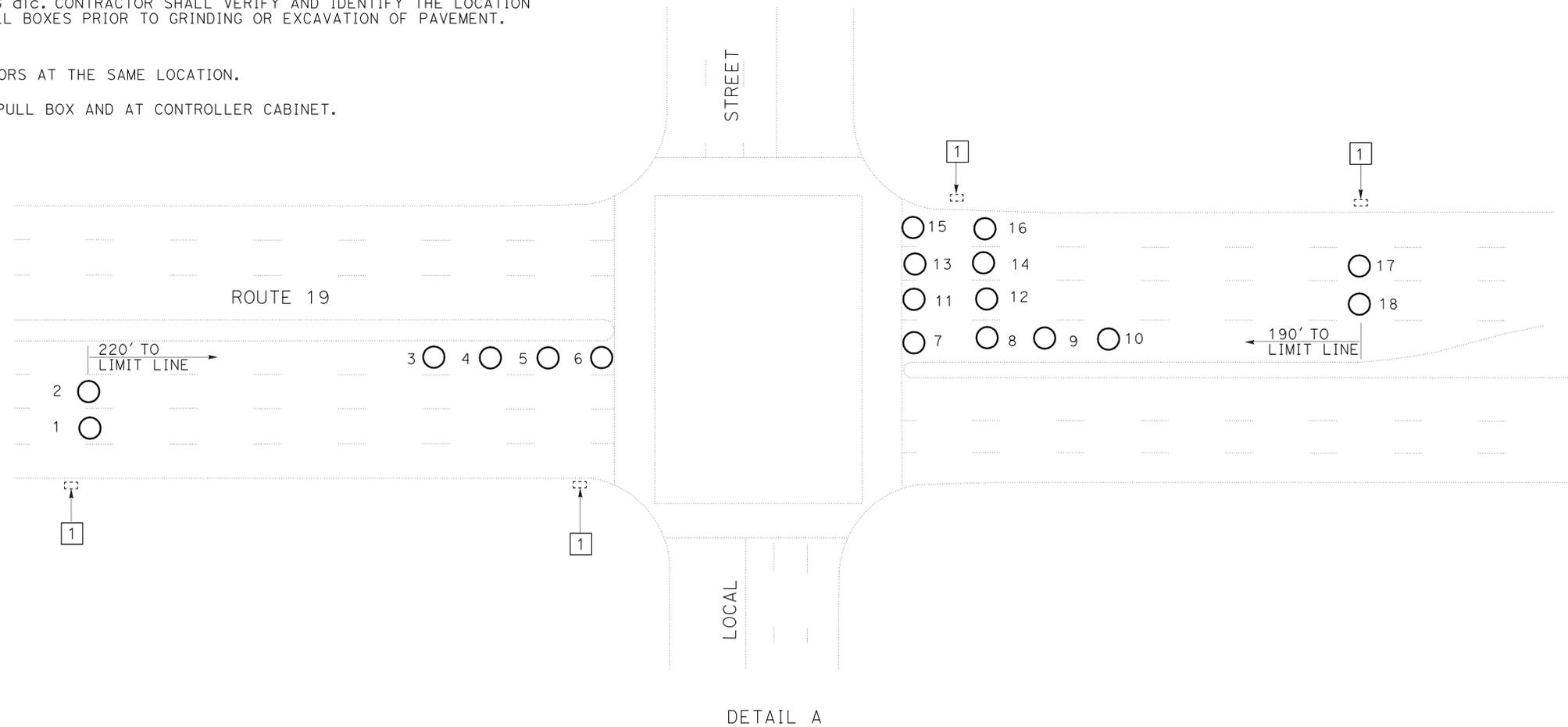
- 1 INSTALL 2" C STUB-OUT FOR NEW LOOPS.

GENERAL NOTES: (THIS SHEET ONLY)

- SC NEW LOOP WIRES TO EXISTING d/c. CONTRACTOR SHALL VERIFY AND IDENTIFY THE LOCATION OF EXISTING DETECTORS AND PULL BOXES PRIOR TO GRINDING OR EXCAVATION OF PAVEMENT.
- AB INDUCTIVE LOOP DETECTOR. INSTALL INDUCTIVE LOOP DETECTORS AT THE SAME LOCATION.
- TAG EXISTING d/c IN ADJACENT PULL BOX AND AT CONTROLLER CABINET.

PROJECT LEGEND: (THIS SHEET)

- TYPE E INDUCTIVE LOOP DETECTOR TO BE INSTALLED.



INDUCTIVE LOOP DETECTOR
(REPLACEMENT)

NO SCALE

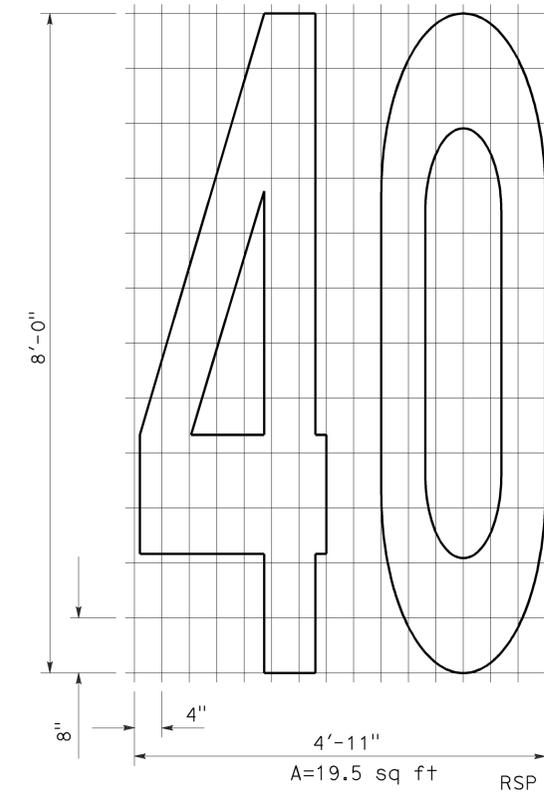
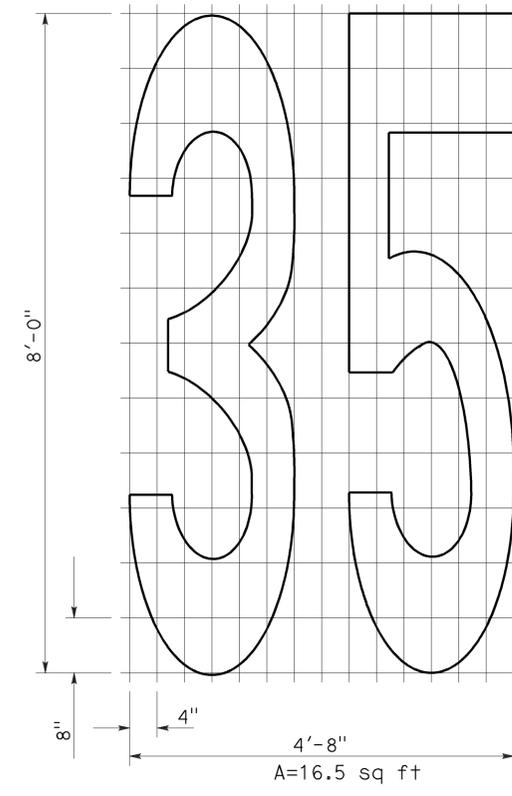
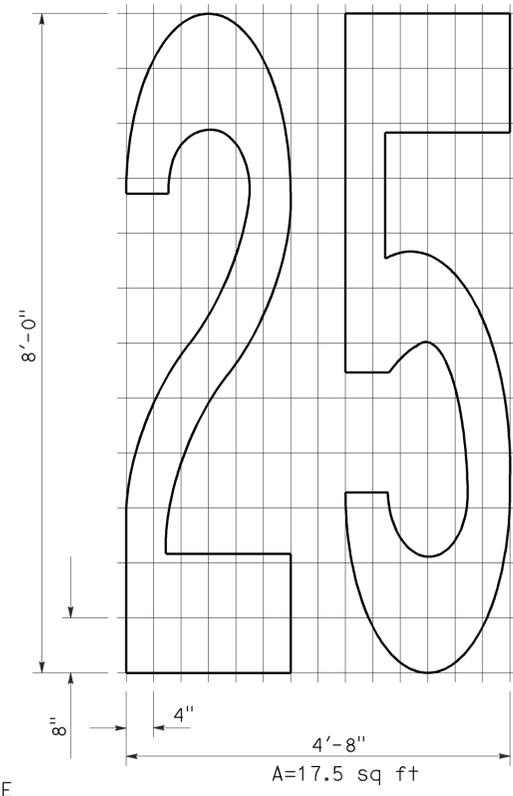
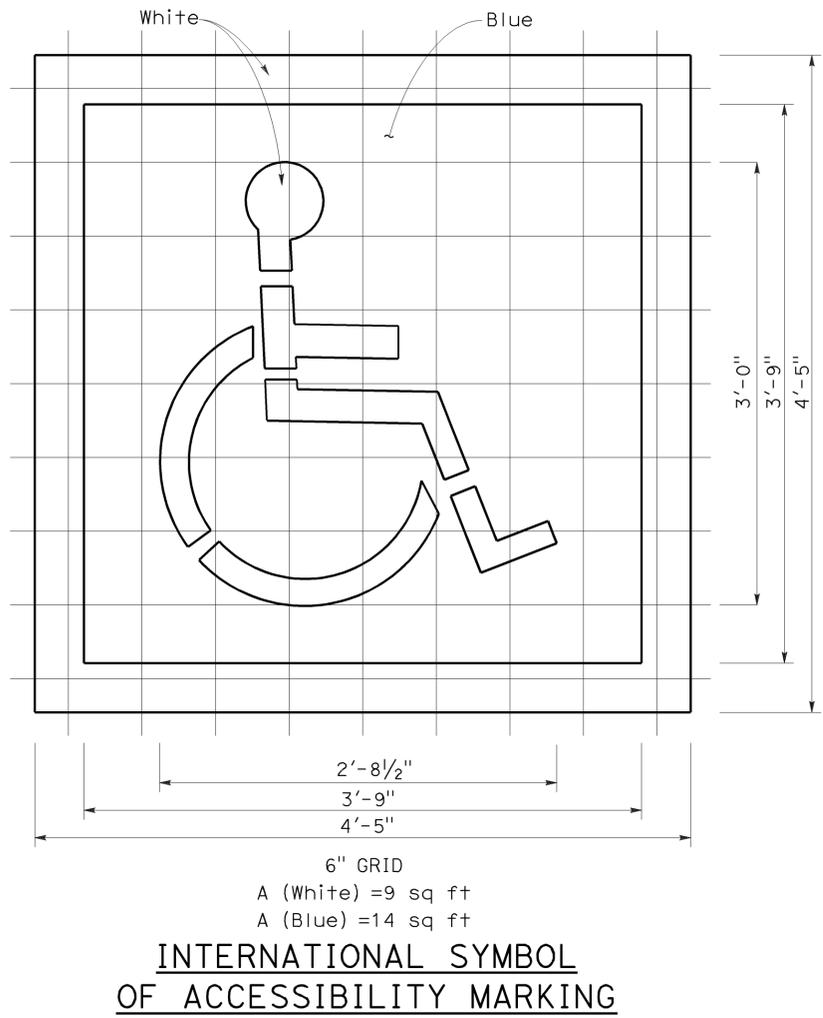
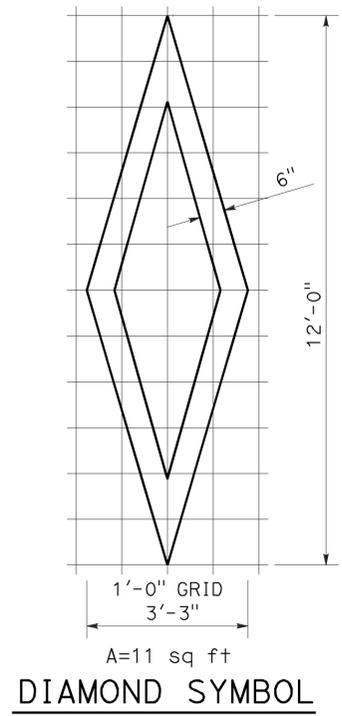
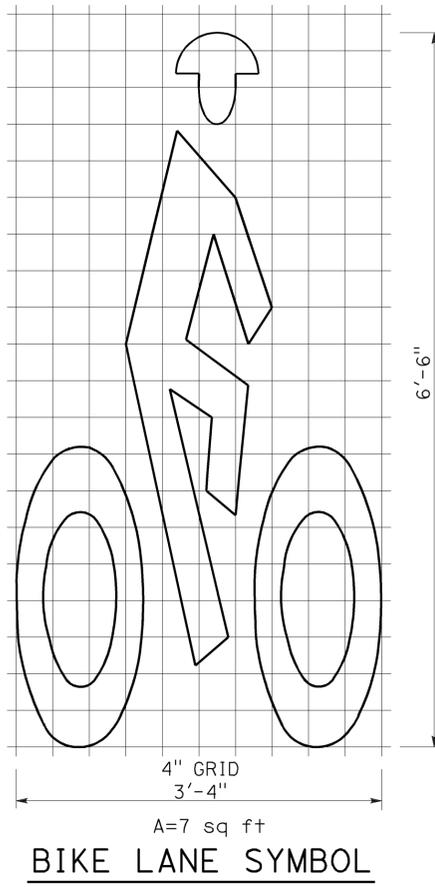
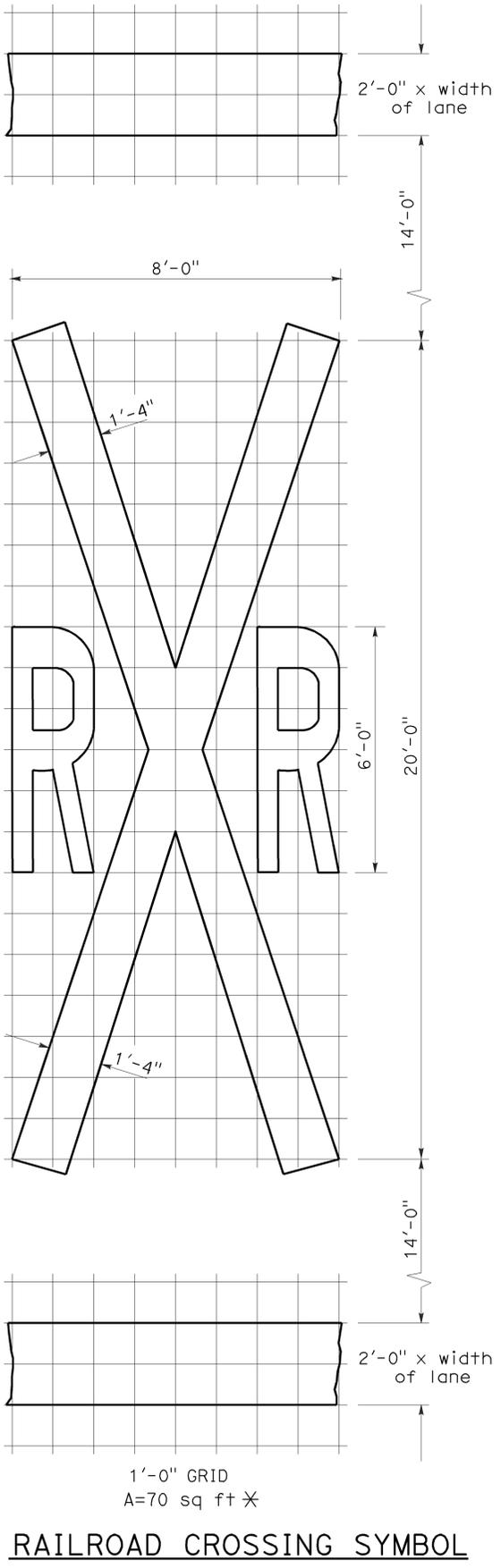
APPROVED FOR ELECTRICAL WORK ONLY.

E-1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	19	7.9/8.4	7	15

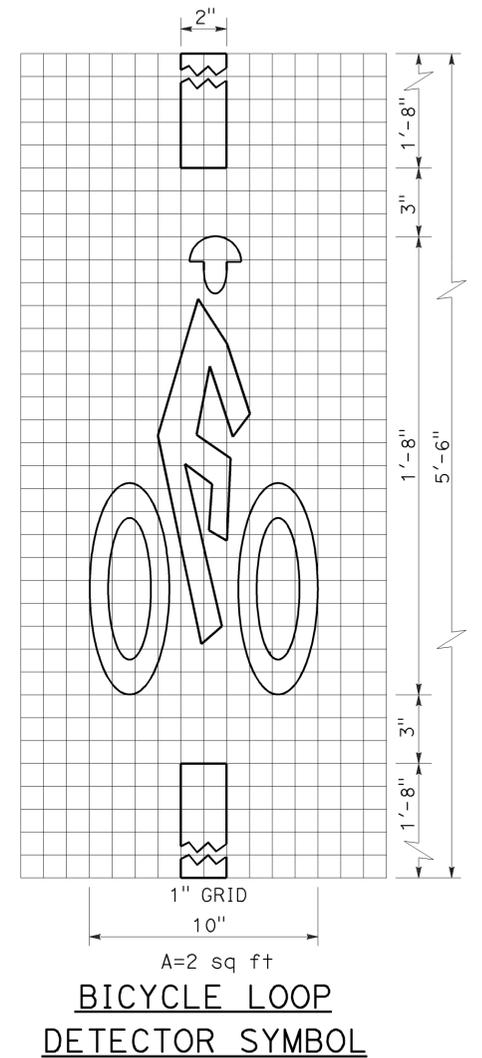
Donald E. Howe
 REGISTERED CIVIL ENGINEER
 No. C46402
 Exp. 3-31-09
 CIVIL
 STATE OF CALIFORNIA

June 6, 2008
 PLANS APPROVAL DATE
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NUMERALS

To accompany plans dated 12-19-11



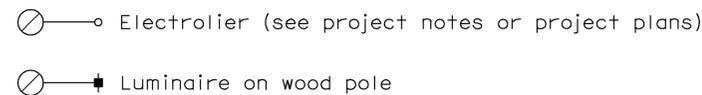
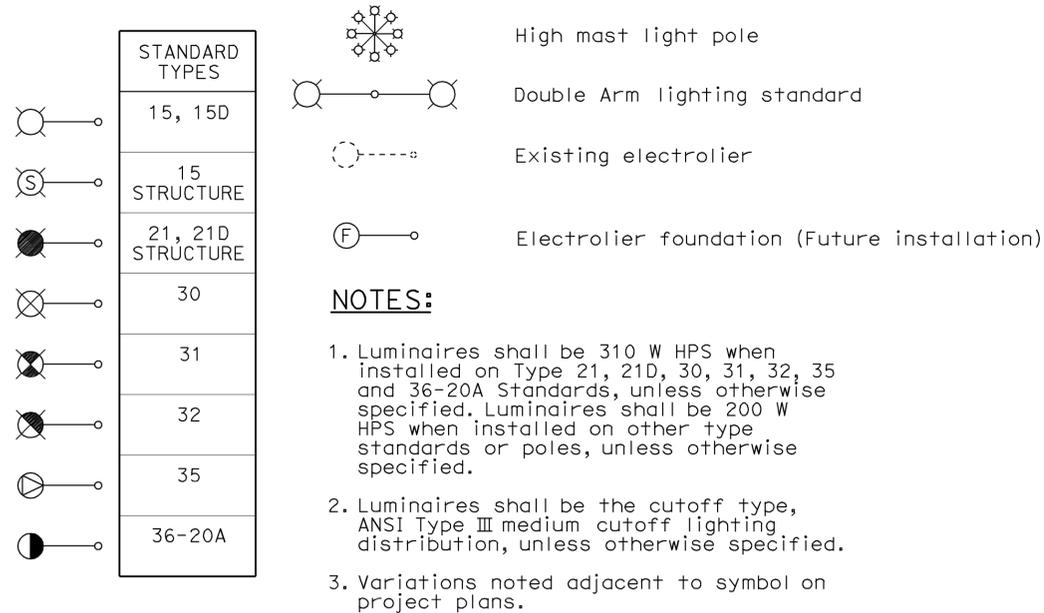
NOTE:
1. Minor variations in dimensions may be accepted by the Engineer.

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

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

2006 REVISED STANDARD PLAN RSP A24C

ELECTROLIERS



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
07	LA	19	7.9/8.4	8	15

Jeffrey G. McRae
REGISTERED ELECTRICAL ENGINEER

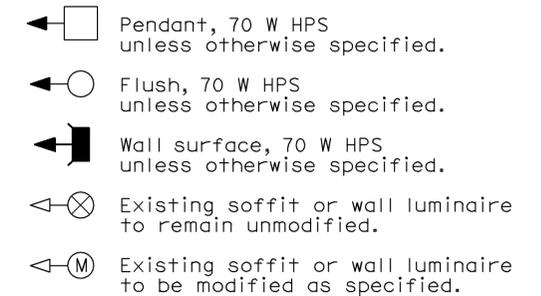
October 5, 2007
PLANS APPROVAL DATE

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

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 12-19-11

SOFFIT AND WALL MOUNTED LUMINAIRES



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
07	LA	19	7.9/8.4	9	15

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.

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

To accompany plans dated 12-19-11

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

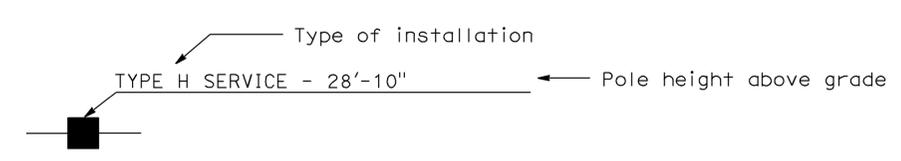
SIGNAL EQUIPMENT

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
		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	
---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

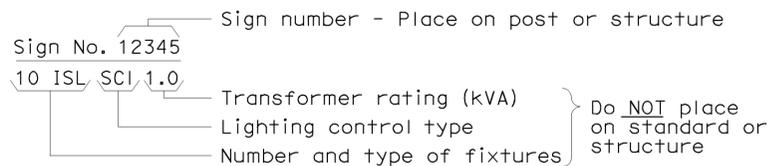
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

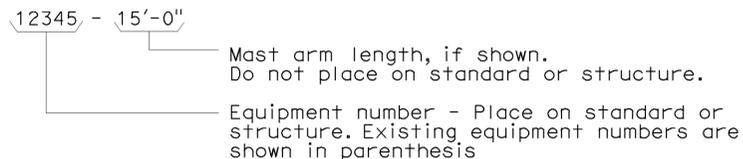
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

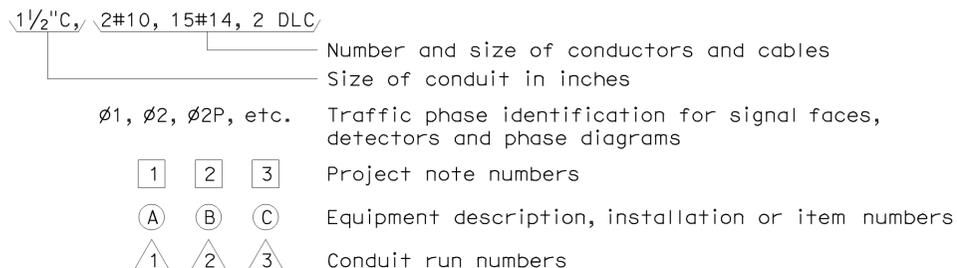
ILLUMINATED SIGN IDENTIFICATION NUMBER:



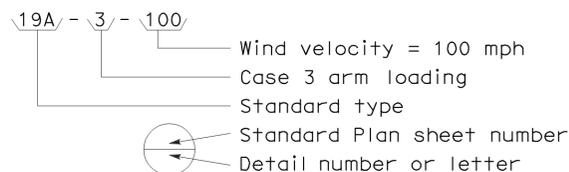
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



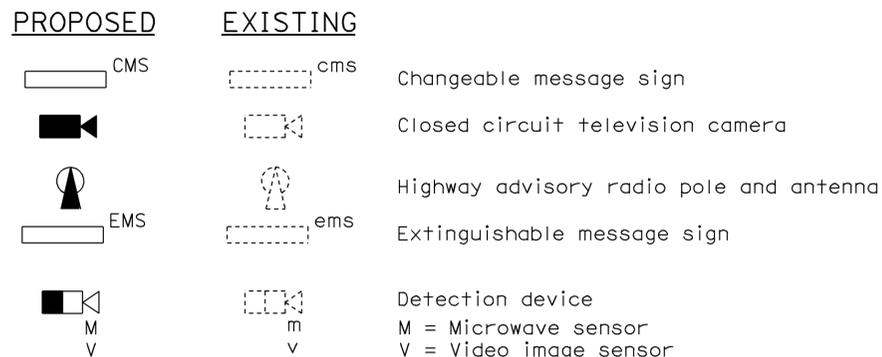
CONDUIT AND CONDUCTOR IDENTIFICATION:



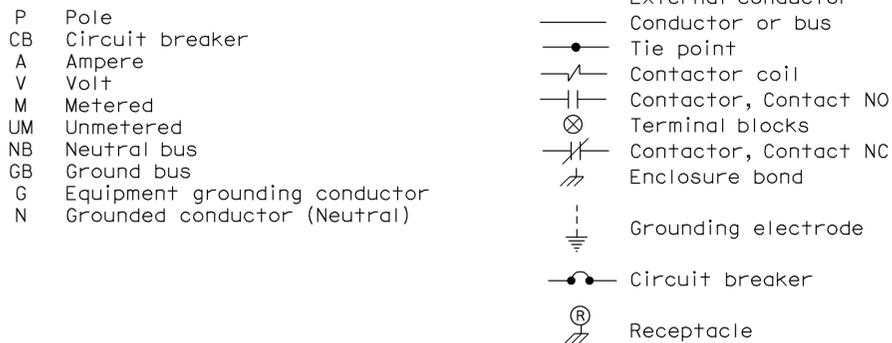
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



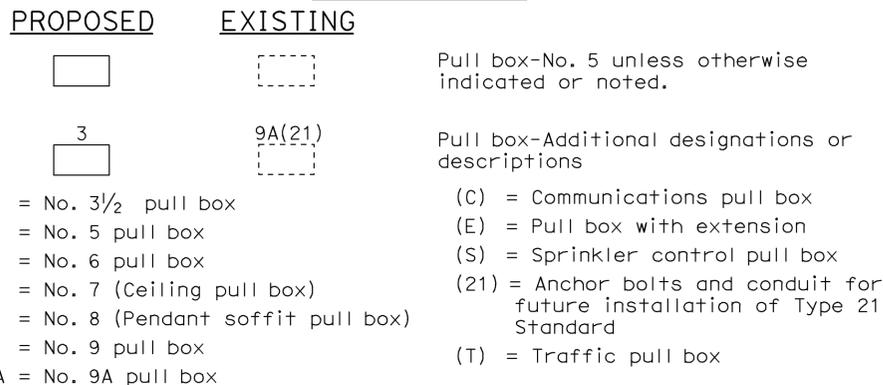
MISCELLANEOUS EQUIPMENT



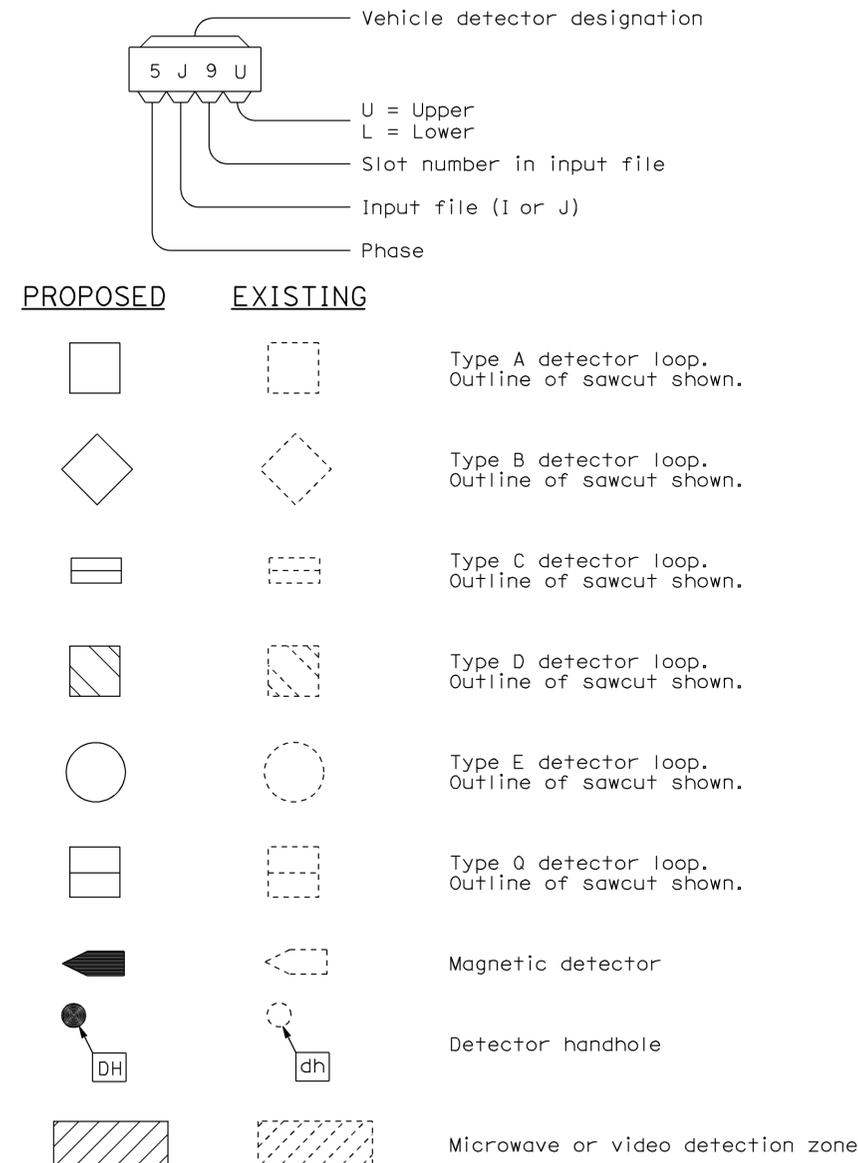
WIRING DIAGRAM LEGEND



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.

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

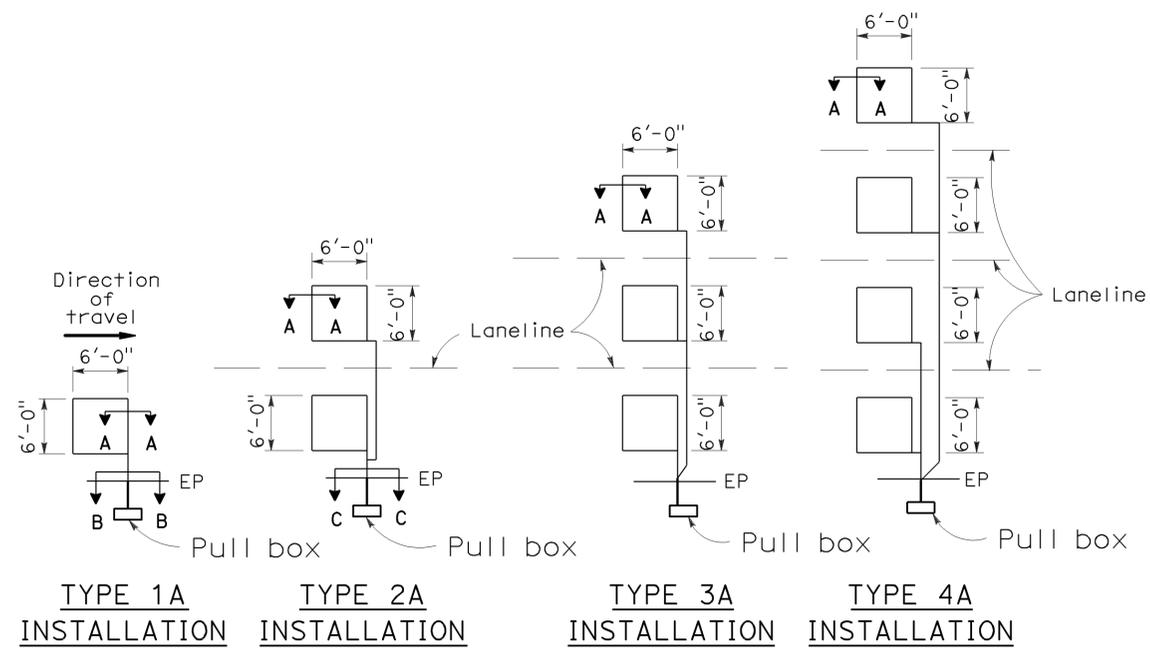
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	19	7.9/8.4	11	15

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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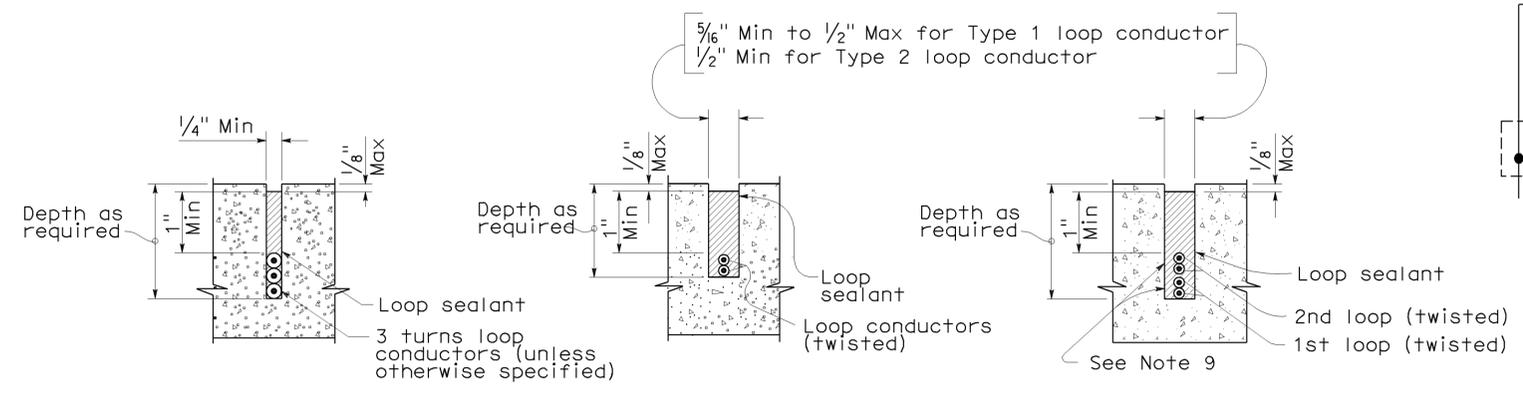
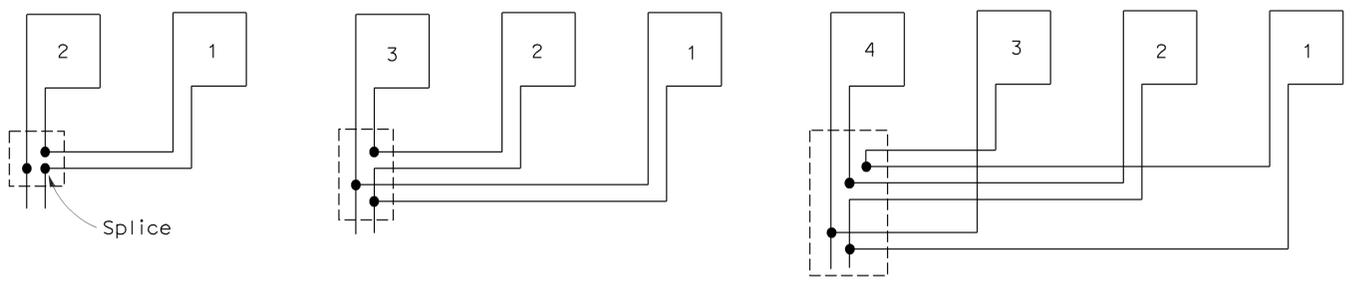
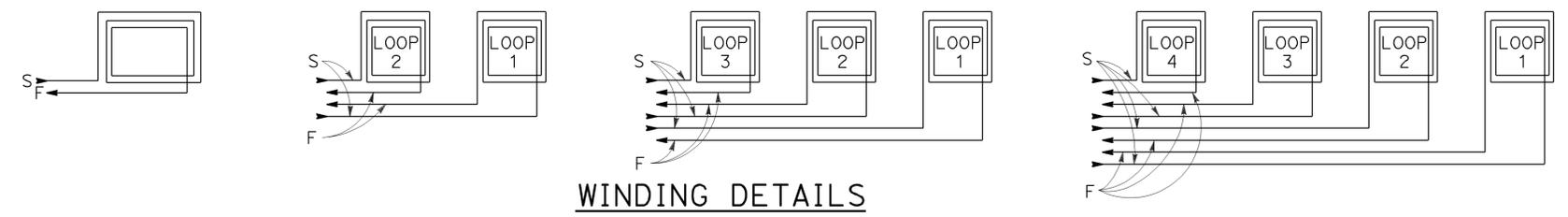
To accompany plans dated 12-19-11

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.



- 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)



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (DETECTORS)**
 NO SCALE

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

REVISED STANDARD PLAN RSP ES-5A

2006 REVISED STANDARD PLAN RSP ES-5A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	19	7.9/8.4	12	15

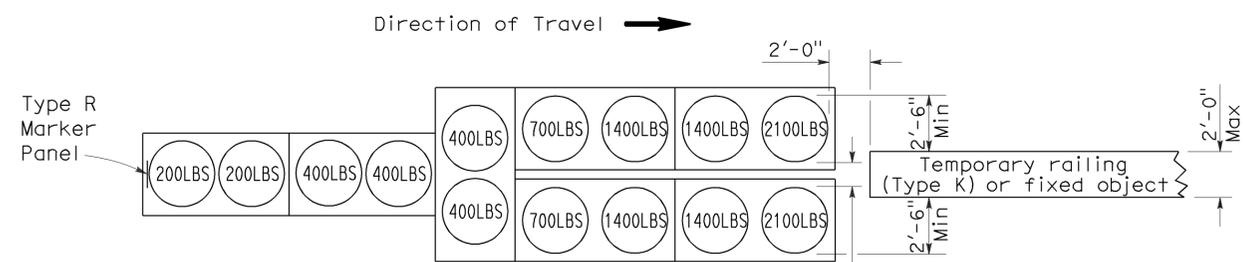
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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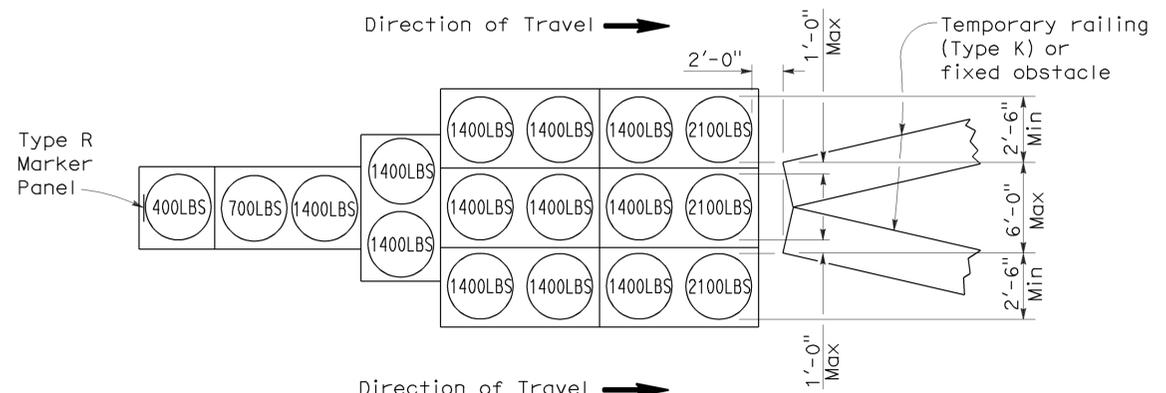
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 12-19-11



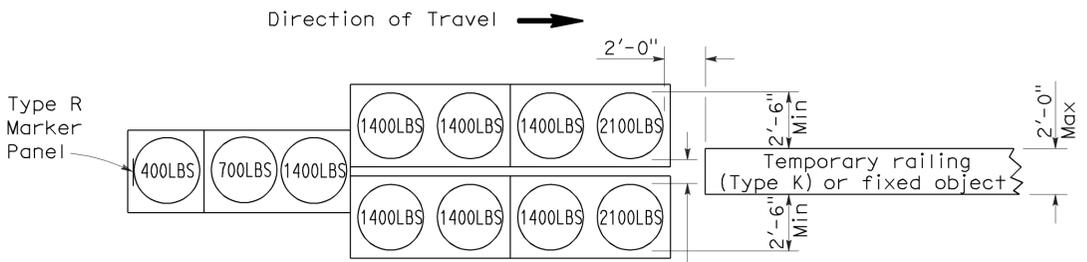
ARRAY 'TU14'

Approach speed 45 mph or more



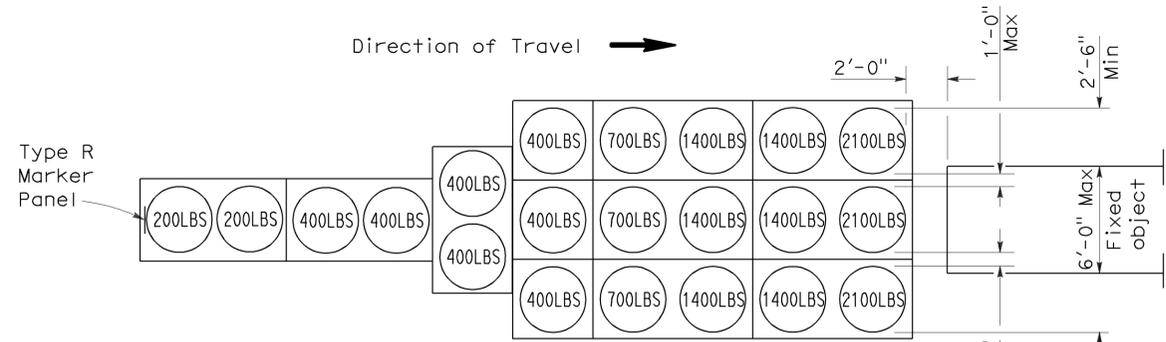
ARRAY 'TU17'

Approach speed less than 45 mph



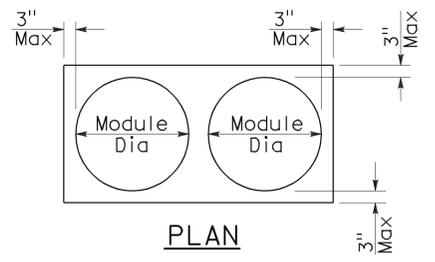
ARRAY 'TU11'

Approach speed less than 45 mph

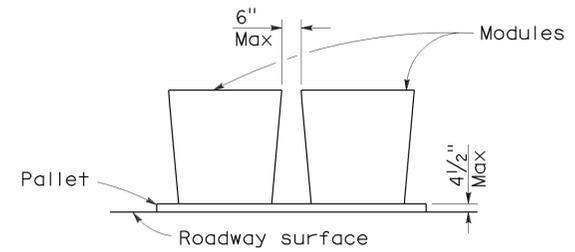


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

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
07	LA	19	7.9/8.4	13	15

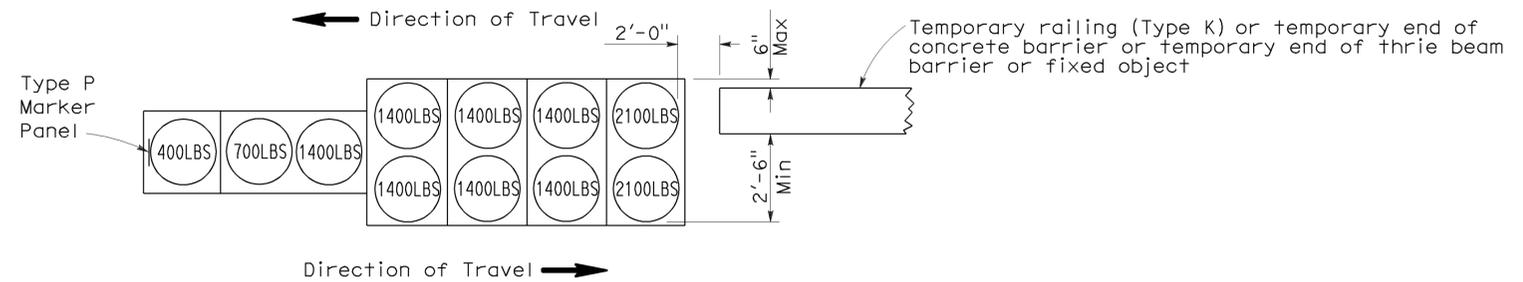
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

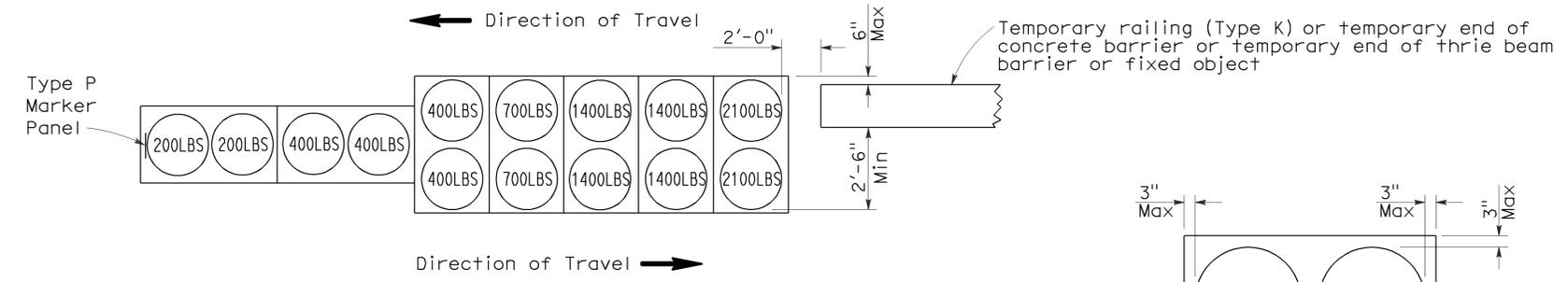
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To accompany plans dated 12-19-11



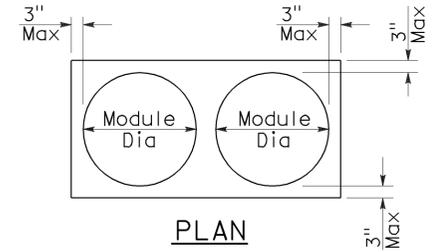
ARRAY 'TB11'

Approach speed less than 45 mph

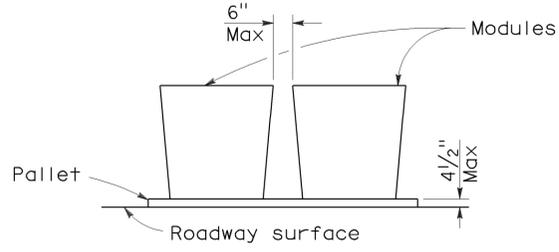


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

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

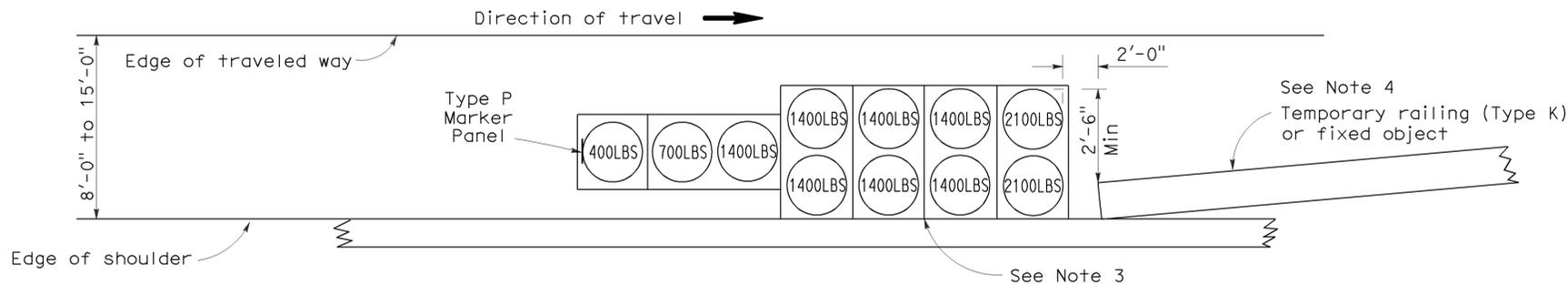
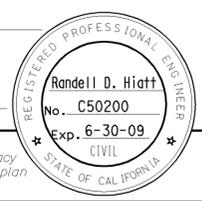
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	19	7.9/8.4	14	15

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

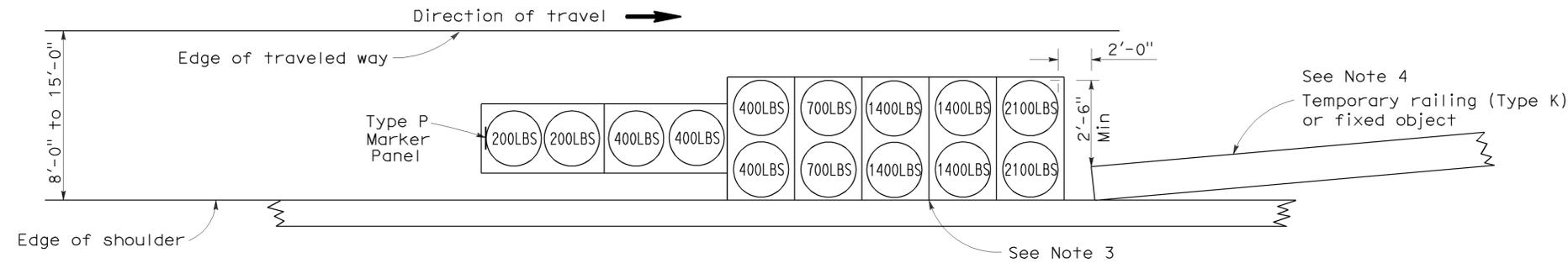
June 6, 2008
PLANS APPROVAL DATE

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To accompany plans dated 12-19-11



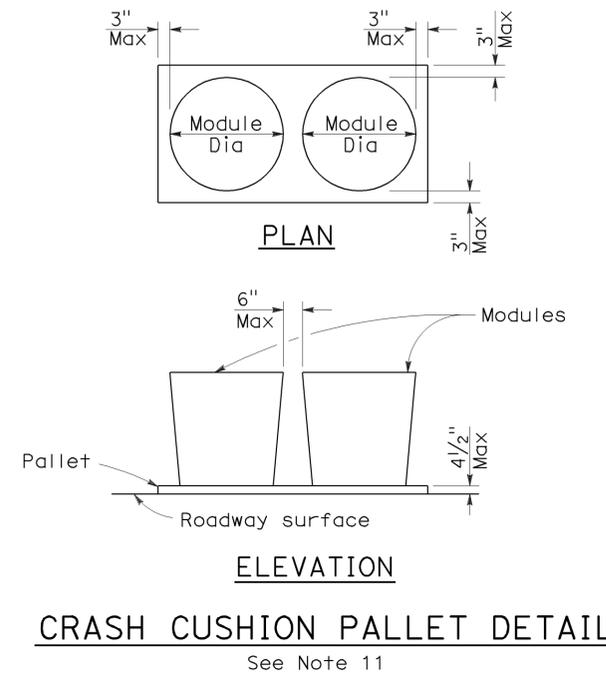
ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



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

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. 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.
4. 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.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. 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.
10. Approach speeds indicated conform to NCHRP 350 Report criteria.
11. 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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19	7.9/8.4	15	15

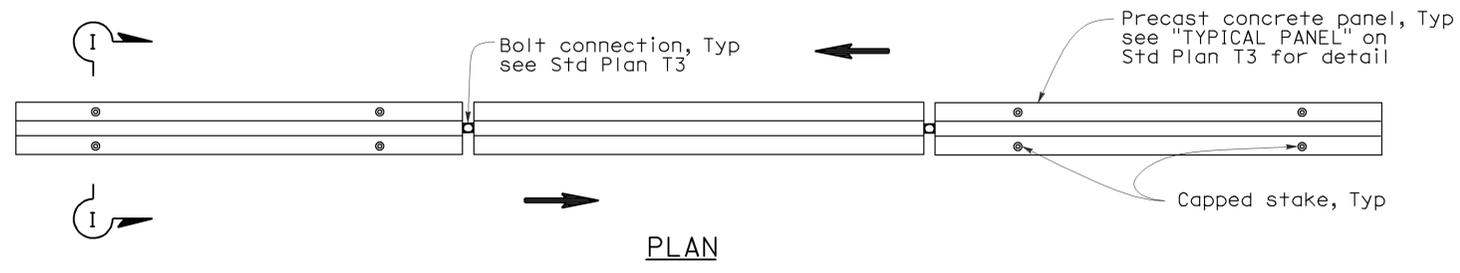
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

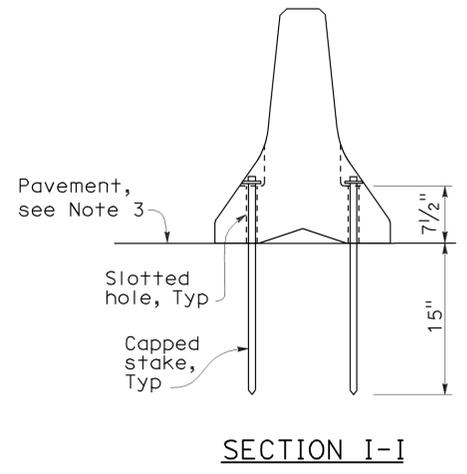
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 12-19-11

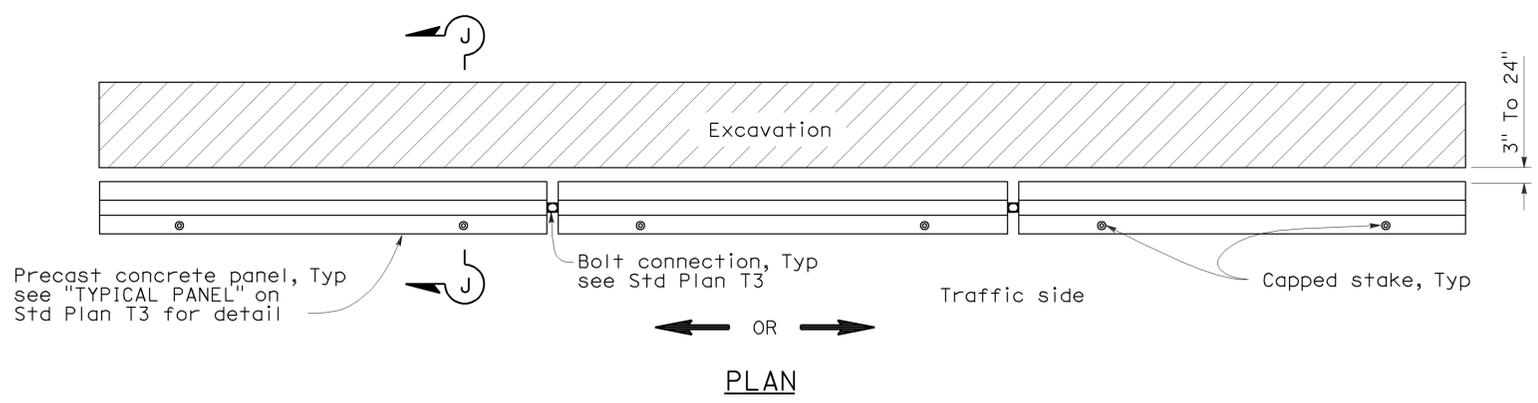


RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1

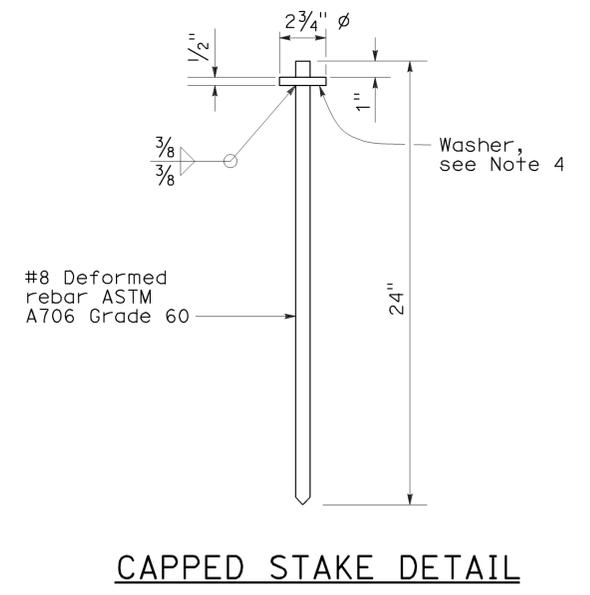
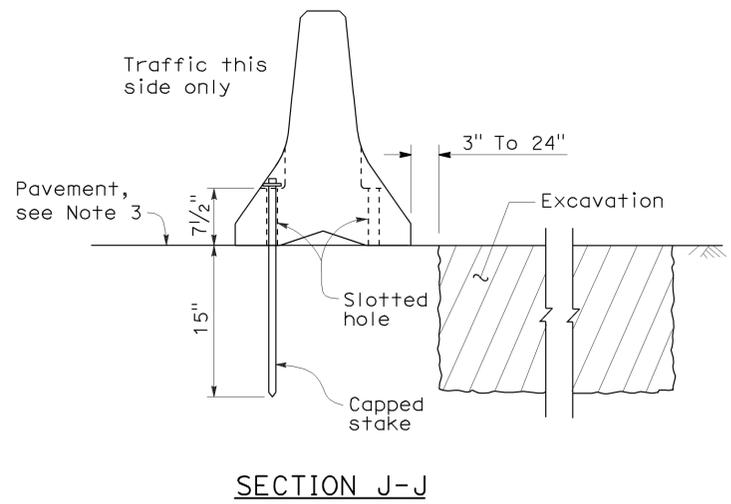


NOTES:

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



RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION
See Note 2



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY RAILING
(TYPE K)**

NO SCALE

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

2006 NEW STANDARD PLAN NSP T3A