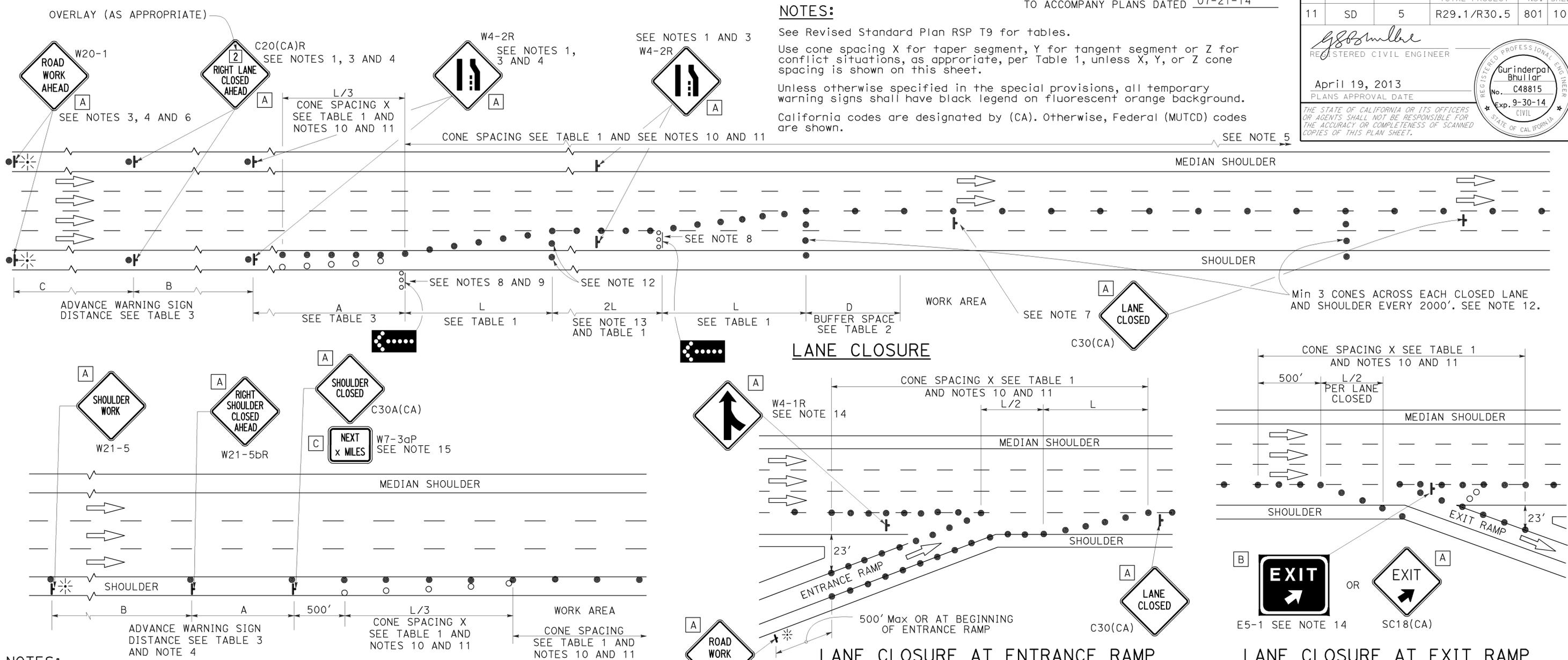


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	801	1012

REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE

Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL ENGINEER  
 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. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
  2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
  3. Duplicate sign installations are not required:
    - a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
    - b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
  4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
  5. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

- SHOULDER CLOSURE**
6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a C20(CA) and W4-2L signs shall be used.
  7. Place a C30(CA) sign every 2000' throughout length of lane closure.
  8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
  9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
  10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
  11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

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

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

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

**TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS**  
 NO SCALE

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

**REVISED STANDARD PLAN RSP T10**

2010 REVISED STANDARD PLAN RSP T10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	802	1012

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

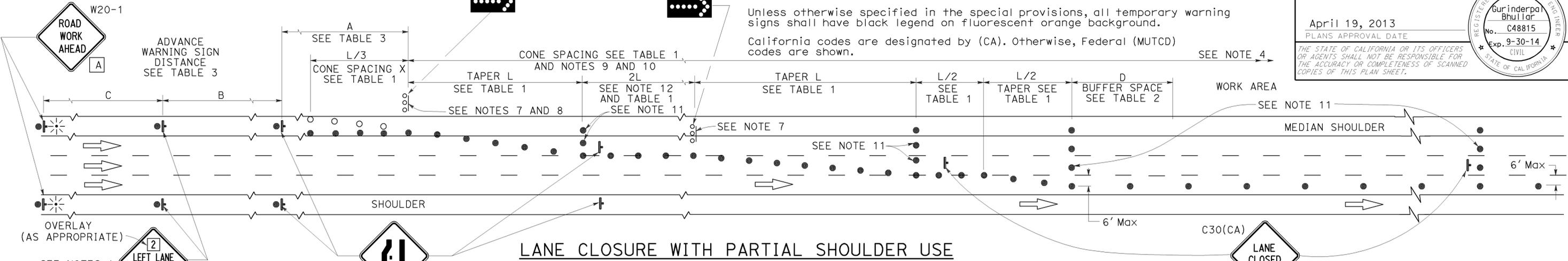
April 19, 2013  
 PLANS APPROVAL DATE

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

**NOTES:** See Revised Standard Plan RSP T9 for tables.  
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

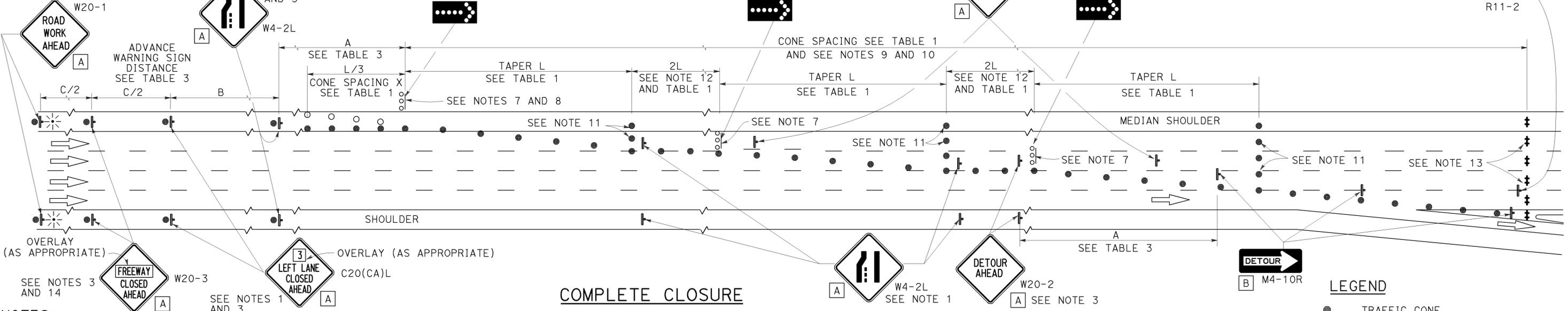
Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.  
 California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

SEE NOTES 3 AND 5



**LANE CLOSURE WITH PARTIAL SHOULDER USE**

SEE NOTES 3 AND 5



**COMPLETE CLOSURE**

**NOTES:**

- Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" X 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_ MILES", use a C20(CA) sign for the first advance warning sign.
- Place a C30(CA) sign every 2000' throughout length of lane closure.

- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.

- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- A minimum of Two Type II or III barricades shall be placed across each closed lane and shoulder at the location shown and every 2000' within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

**SIGN PANEL SIZE (Min)**

- A 48" x 48"
- B 48" x 18"
- C 48" x 30"

**LEGEND**

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

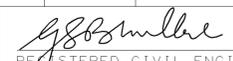
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR LANE CLOSURES ON  
 FREEWAYS AND EXPRESSWAYS**  
 NO SCALE

RSP T10A DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10A DATED MAY 20, 2011 - PAGE 238 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T10A**

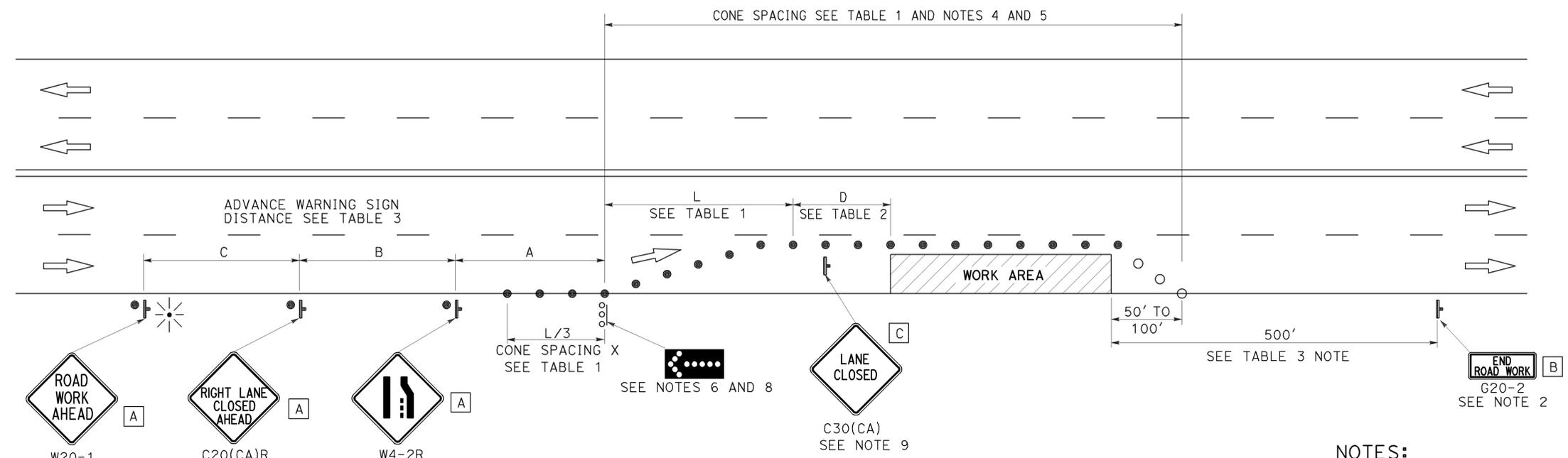
2010 REVISED STANDARD PLAN RSP T10A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	803	1012

  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
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TO ACCOMPANY PLANS DATED 07-21-14



**TYPICAL LANE CLOSURE**

**NOTES:**

See Revised Standard Plan RSP T9 for tables.

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

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

**NOTES:**

- Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a C20(CA) sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

- A 48" x 48"
- B 36" x 18"
- C 30" x 30"

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
FOR LANE CLOSURE ON  
MULTILANE CONVENTIONAL  
HIGHWAYS**

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11  
DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T11**

2010 REVISED STANDARD PLAN RSP T11

# TYPICAL RAMP CLOSURES

## SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 36" x 36"
- D 48" x 36"

## LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ⚡ PORTABLE FLASHING BEACON

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	804	1012

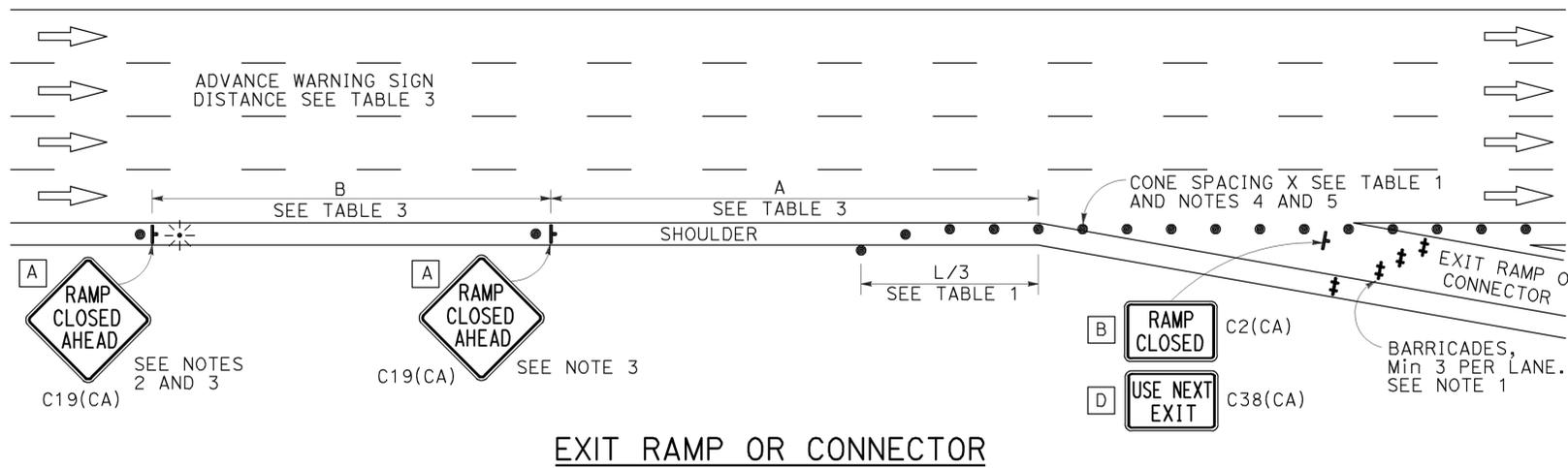
*Gurinderpal Bhullar*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
**Gurinderpal Bhullar**  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

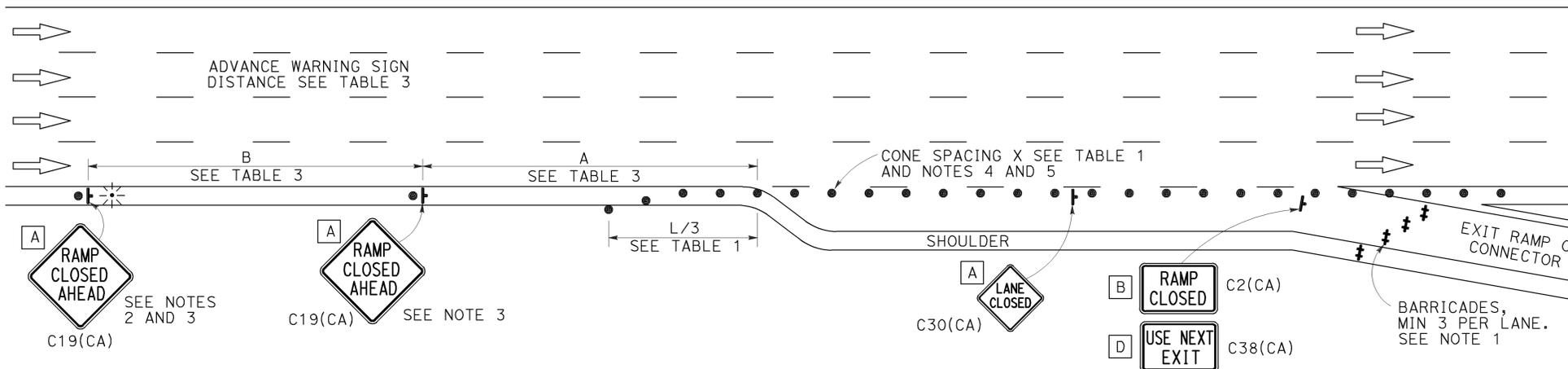
TO ACCOMPANY PLANS DATED 07-21-14

## NOTES:

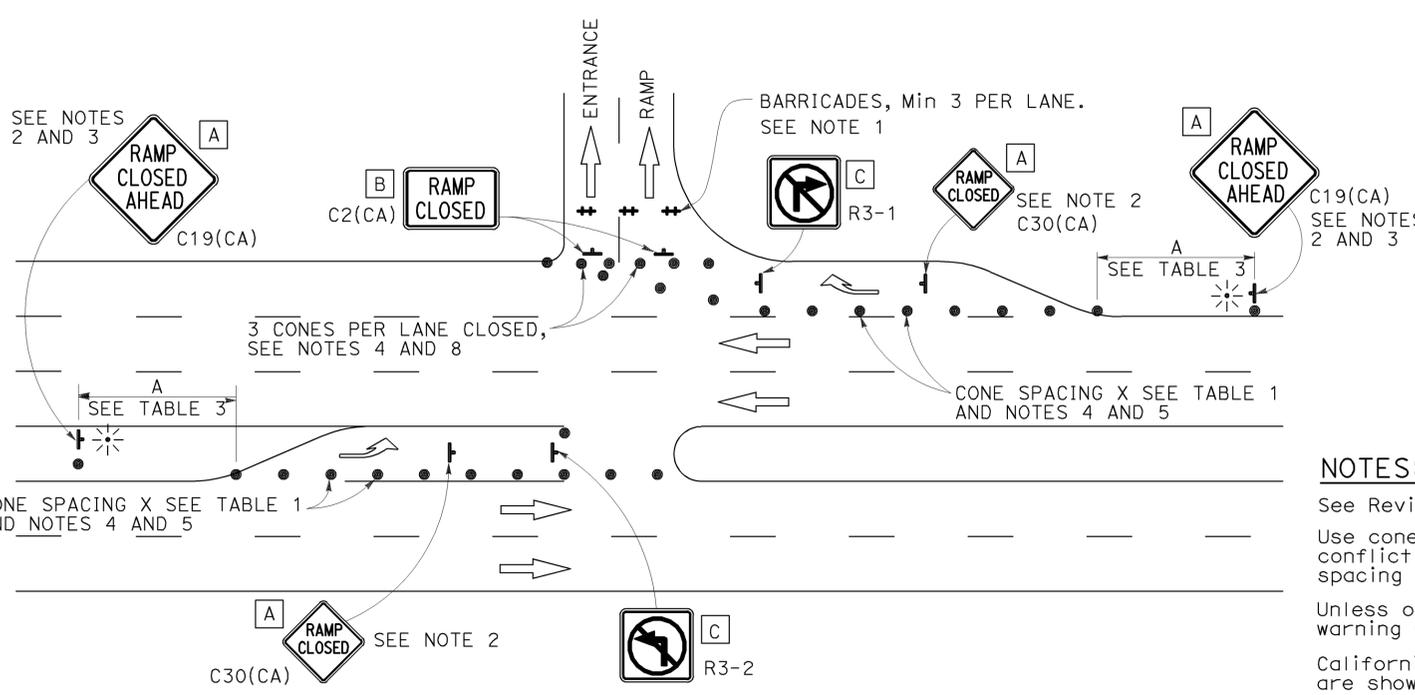
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
- Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
- All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
- At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
- The existing "EXIT" signs shall be covered during ramp closures.
- A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.



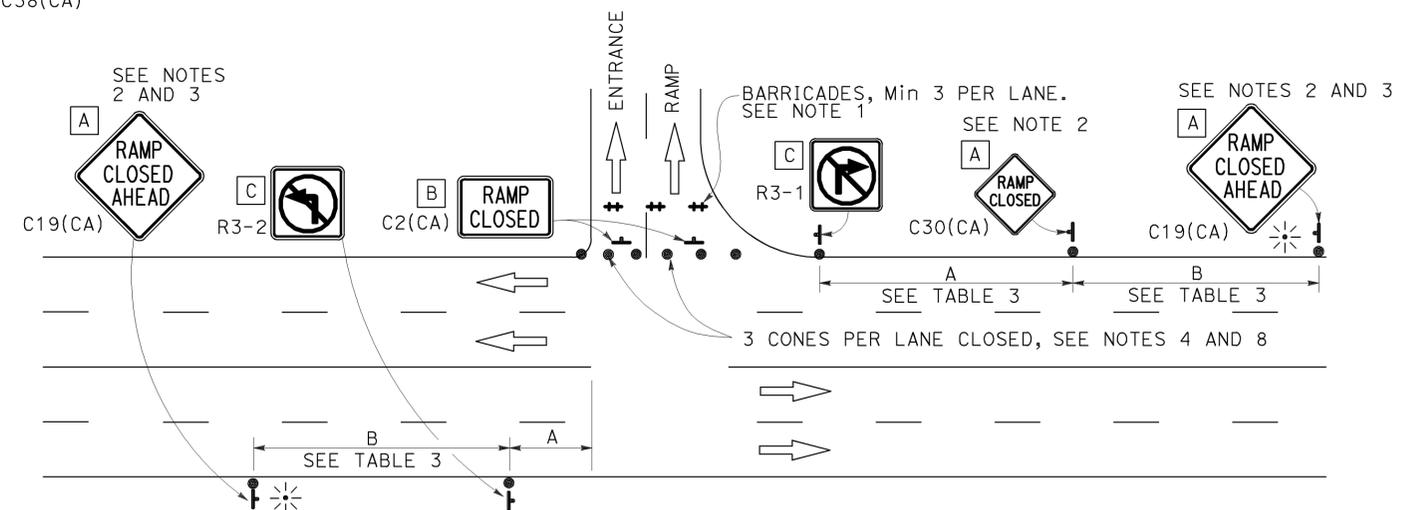
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## NOTES:

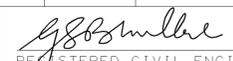
- See Revised Standard Plan RSP T9 for tables.
- Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
- Unless otherwise specified in the special provisions, all temporary warning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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR RAMP CLOSURE**  
 NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14  
 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.  
**REVISED STANDARD PLAN RSP T14**

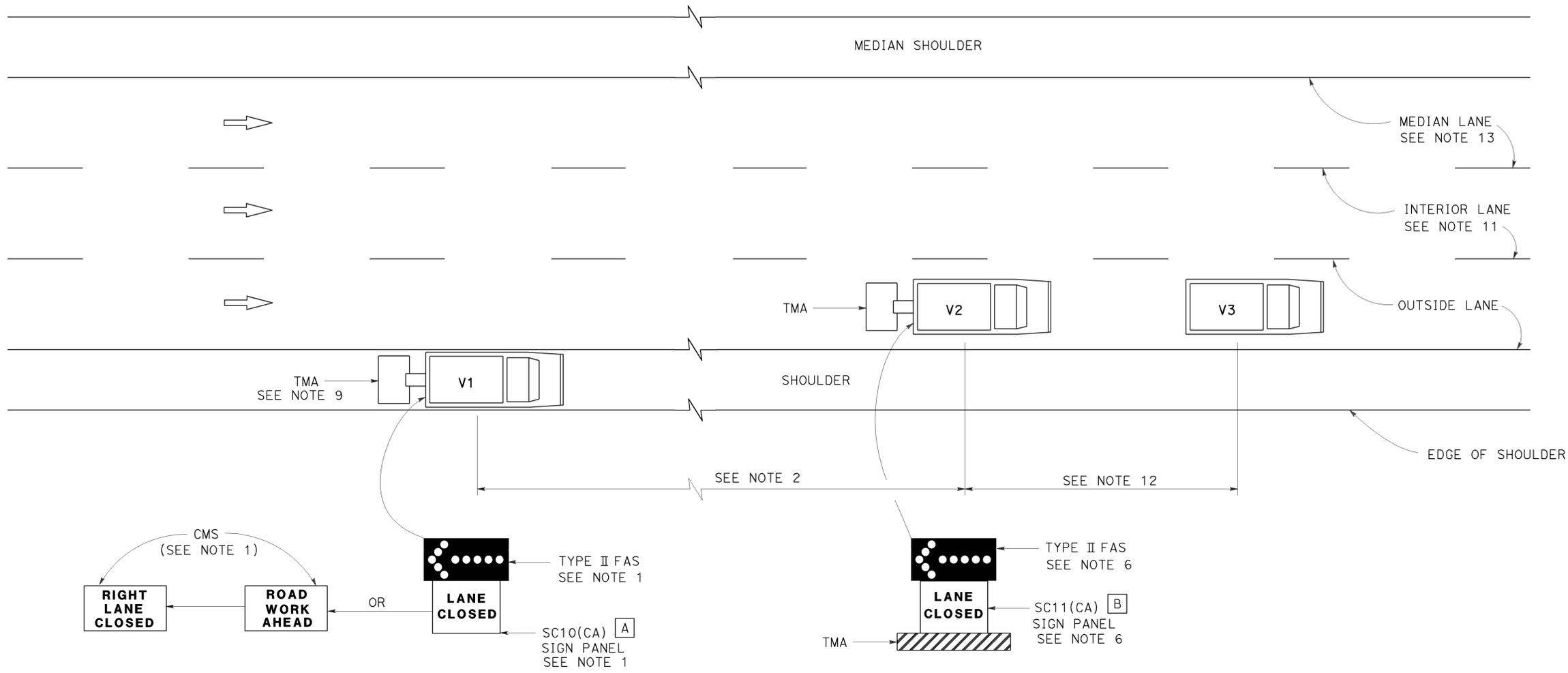
2010 REVISED STANDARD PLAN RSP T14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	805	1012

  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
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REGISTERED PROFESSIONAL ENGINEER  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 07-21-14



**SIGN PANEL SIZE (Min)**

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

**LEGEND**

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

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

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM  
FOR MOVING LANE CLOSURE  
ON MULTILANE HIGHWAYS**

NO SCALE

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

**REVISED STANDARD PLAN RSP T15**

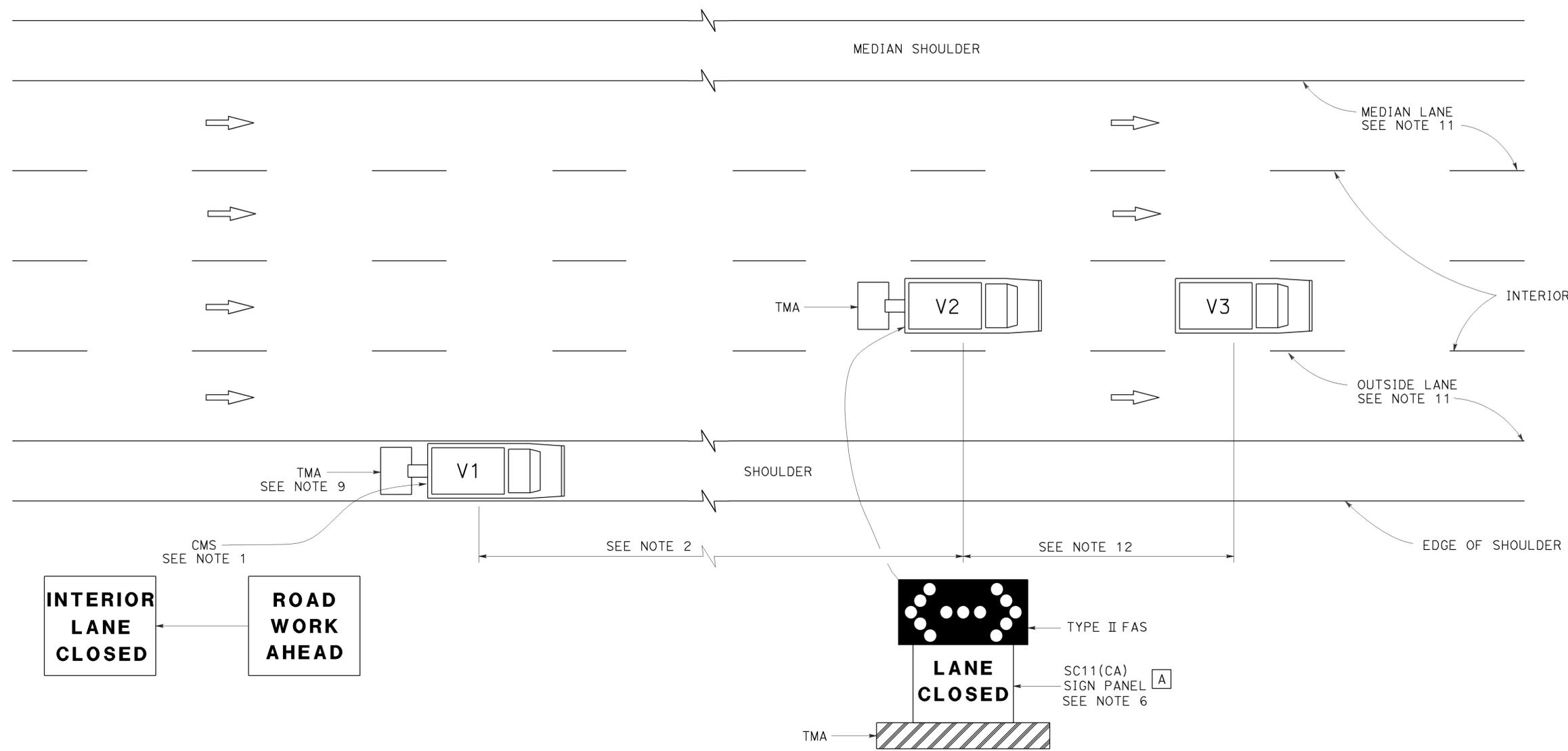
2010 REVISED STANDARD PLAN RSP T15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	806	1012

*Gurinderpal Bhullar*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
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TO ACCOMPANY PLANS DATED 07-21-14



SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

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

**MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS**

NOTES:

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median lane or outside lane of multilane highways, use Revised Standard Plan T15.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR MOVING LANE CLOSURE  
 ON MULTILANE HIGHWAYS**  
 NO SCALE

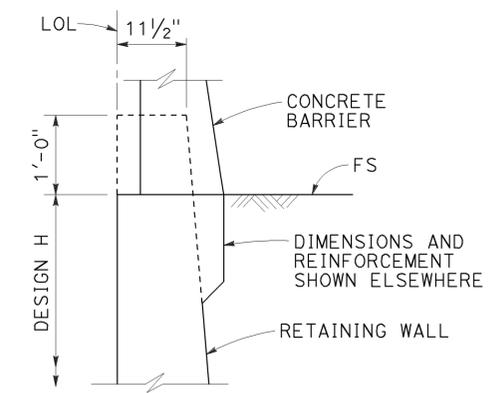
RSP T16 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T16 DATED MAY 20, 2011 - PAGE 244 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T16**

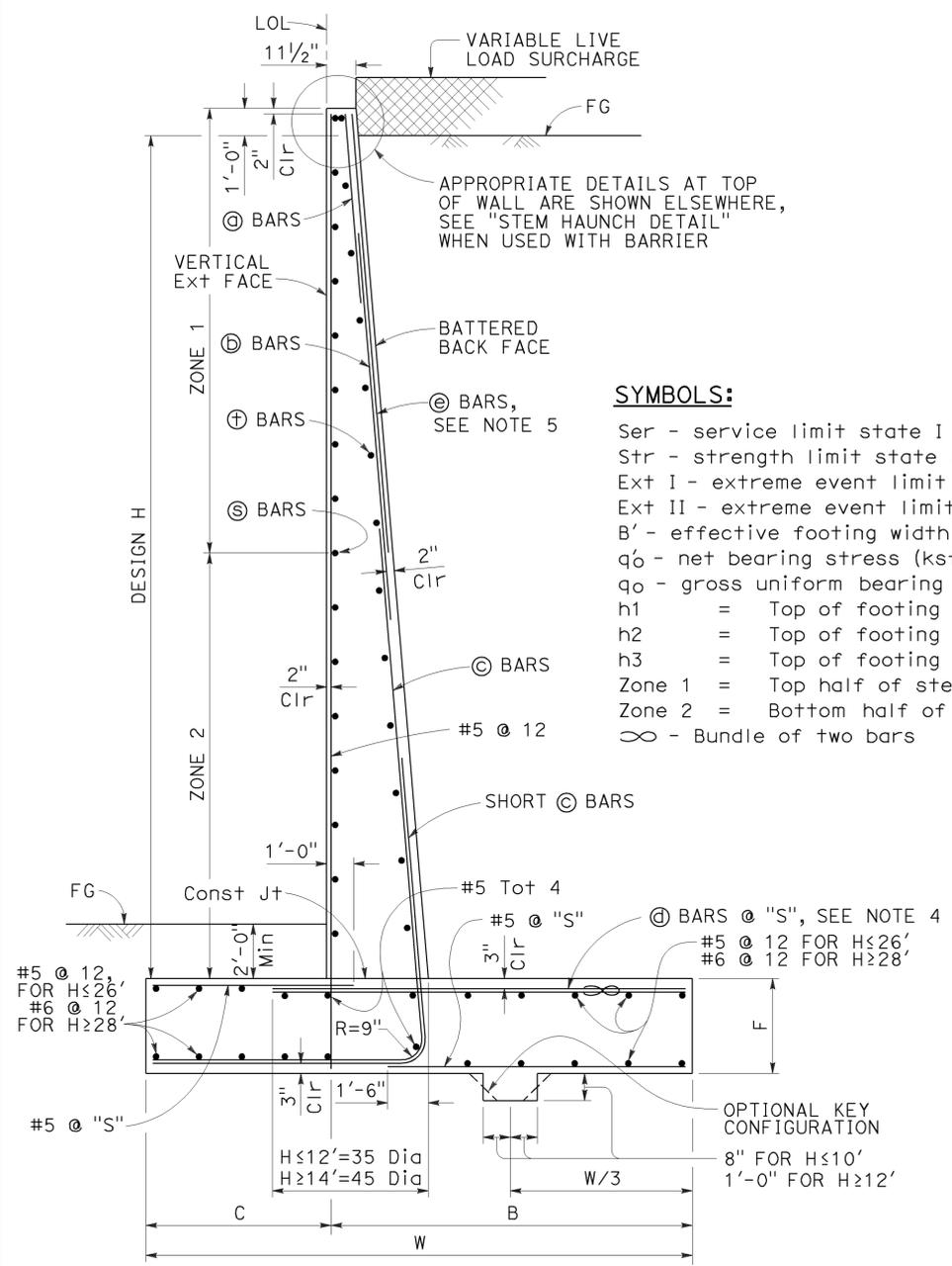
2010 REVISED STANDARD PLAN RSP T16

**DESIGN CONDITIONS:**

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.



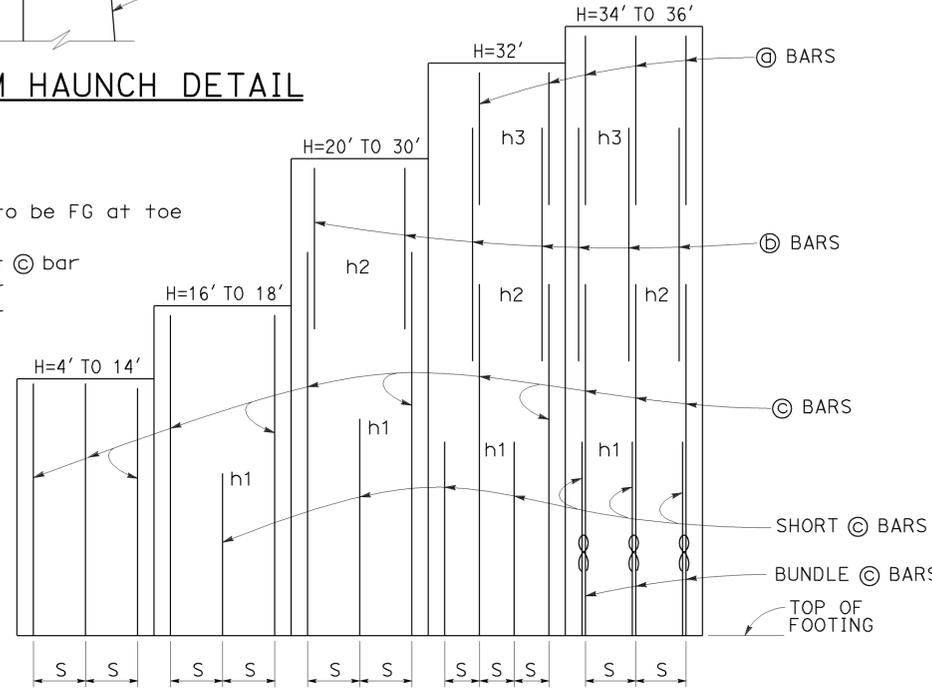
**STEM HAUNCH DETAIL**



**TYPICAL SECTION**

**SYMBOLS:**

- Ser - service limit state I
- Str - strength limit state I
- Ext I - extreme event limit state I
- Ext II - extreme event limit state II
- B' - effective footing width (ft)
- q<sub>0</sub> - net bearing stress (ksf), OG assumed to be FG at toe
- q<sub>o</sub> - gross uniform bearing stress (ksf)
- h1 = Top of footing to top of short © bar
- h2 = Top of footing to top of © bar
- h3 = Top of footing to top of Ⓞ bar
- Zone 1 = Top half of stem height
- Zone 2 = Bottom half of stem height
- ∞ - Bundle of two bars



**ELEVATION**

**DESIGN NOTES:**

- TO ACCOMPANY PLANS DATED 07-21-14
- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
  - LS: Varied surcharge on level ground surface
  - DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered
  - CT: 54 kip transverse force applied at H<sub>e</sub> = 32', distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.
  - SEISMIC: k<sub>h</sub> = 0.2, k<sub>v</sub> = 0.0
  - SOIL: φ = 34°, γ = 120 pcf
  - REINFORCED CONCRETE: f'c = 3,600 psi, fy = 60,000 psi
  - LOAD COMBINATIONS AND LIMIT STATES:
    - Service I Q = 1.00DC+1.00EV+1.00EH+1.00LS
    - Strength I Q = αDC+βEV+ηEH+1.75LS
    - Extreme I Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
    - Extreme II Q = 1.00DC+1.00EV+1.00EH+1.00CT
  - Where:
    - Q: Force Effects
    - α: 1.25 or 0.90, Whichever Controls Design
    - β: 1.35 or 1.00, Whichever Controls Design
    - η: 1.50 or 0.90, Whichever Controls Design
    - DC: Dead Load of Structure Components
    - EH: Horizontal Earth Fill Pressure
    - EV: Vertical Earth Pressure from Earth Fill Weight
    - LS: Live Load Surcharge
    - EQE: Seismic Earth Pressure
    - EQD: Soil and Structural and Nonstructural Components Inertia
    - CT: Vehicular Collision Force

**NOTES:**

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At © bars:
  - H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
  - H > 6', no splices are allowed within H/4 above the top of footing.
4. Bundle Ⓞ bars for H = 34' & 36'.
5. Provide #6 @ 10" x 15'-0" © bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations. For H ≤ 14', hook © bar into footing and reduce bar length as needed to maintain Min Clr cover.

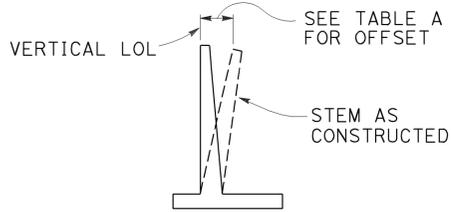
TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA																	
DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-10"	7'-0"	7'-3"	7'-7"	8'-4"	9'-7"	10'-9"	12'-0"	13'-3"	14'-6"	15'-9"	17'-1"	18'-5"	19'-10"	21'-2"	22'-7"	24'-0"
C	2'-2"	2'-3"	2'-3"	2'-4"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-5"	6'-0"	6'-6"	7'-2"	7'-8"	8'-2"	9'-0"
B	4'-8"	4'-9"	5'-0"	5'-3"	5'-10"	6'-7"	7'-3"	8'-0"	8'-9"	9'-6"	10'-4"	11'-1"	11'-11"	12'-8"	13'-6"	14'-5"	15'-0"
F	1'-4"	1'-4"	1'-4"	1'-4"	1'-6"	1'-8"	1'-8"	1'-9"	1'-9"	1'-11"	2'-2"	2'-5"	2'-10"	3'-3"	3'-6"	4'-0"	4'-3"
BATTER	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	1/2: 12	5/8: 12	5/8: 12	3/4: 12	7/8: 12	1 : 12	1 : 12	1 : 12
SPACING "S"	9"	9"	9"	9"	9"	7"	6"	5"	6"	6"	6"	6"	6"	6"	6"	10"	8"
© BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ⓞ BARS	-	-	-	-	-	-	-	-	#7	#7	#7	#7	#7	#7	#7	#7	#7
© BARS	#6	#6	#6	#6	#6	#6	#7	#7	#8	#9	#9	#9	#10	#10	#10	#11	#11
Ⓞ BARS	#5	#5	#6	#6	#6	#6	#9	#8	#8	#9	#9	#10	#10	#10	#11	#11	#11
h1	-	-	-	-	-	-	5'-9"	5'-10"	8'-0"	9'-0"	10'-1"	11'-0"	12'-1"	13'-0"	13'-0"	12'-7"	11'-6"
h2	-	-	-	-	-	-	-	-	10'-5"	13'-0"	14'-7"	17'-6"	19'-0"	20'-5"	19'-0"	18'-0"	20'-2"
h3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21'-0"	21'-10"	24'-0"
ZONE 1 © BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
ZONE 2 © BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12
ZONE 1 Ⓞ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12
ZONE 2 Ⓞ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
Ser: B', q <sub>0</sub>	6.8, 0.7	6.5, 1.0	6.2, 1.3	6.0, 1.6	6.3, 2.0	7.5, 2.1	8.6, 2.2	9.8, 2.3	11.0, 2.4	12.1, 2.5	13.2, 2.8	14.4, 2.9	15.5, 3.1	16.8, 3.3	18.0, 3.5	19.2, 3.7	20.6, 3.7
Str: B', q <sub>o</sub>	6.6, 1.6	5.0, 1.8	3.6, 2.3	3.0, 3.3	3.2, 4.0	4.3, 3.8	5.3, 3.7	6.4, 3.7	7.4, 3.8	8.2, 4.1	9.0, 4.4	9.9, 4.6	10.7, 4.9	11.7, 5.2	12.6, 5.4	13.6, 5.8	14.6, 5.9
Ext I: B', q <sub>o</sub>	5.2, 1.1	4.7, 1.5	3.9, 2.2	3.1, 3.4	2.8, 4.8	3.2, 5.3	3.6, 5.7	4.1, 6.1	4.6, 6.4	5.0, 6.9	5.3, 7.6	5.8, 8.1	6.1, 8.9	6.7, 9.4	7.1, 10.0	7.5, 10.7	8.2, 10.9
Ext II: B', q <sub>o</sub>	2.6, 2.2	2.7, 2.6	2.8, 3.1	2.9, 3.6	3.7, 3.6	5.2, 3.3	6.7, 3.1	8.3, 3.0	9.8, 3.0	11.2, 3.1	12.5, 3.2	13.9, 3.4	15.2, 3.6	16.7, 3.8	18.0, 4.0	19.3, 4.2	20.8, 4.3

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**RETAINING WALL TYPE 1 (CASE 1)**  
NO SCALE

RSP B3-1A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP B3-1A

2010 REVISED STANDARD PLAN RSP B3-5

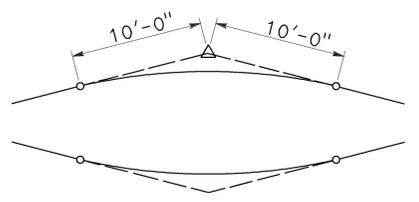


**TABLE A**

H	OFFSET
4'-12'	H/200
14'-16'	H/160
18'-20'	H/140
22'-24'	H/130
26'-36'	2 1/2"

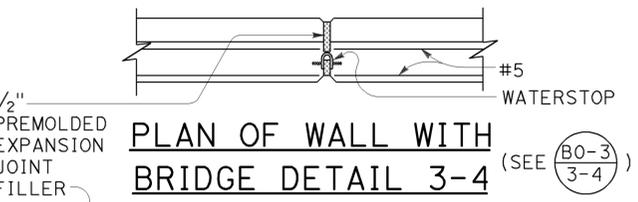
**APPROXIMATE WALL OFFSET VALUES**

Values for offsetting forms to be determined by the Engineer.

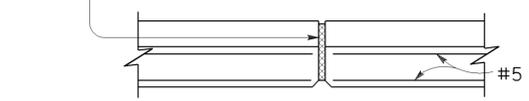


**20'-0" VC AT TOP OF WALL SLOPE CHANGE**

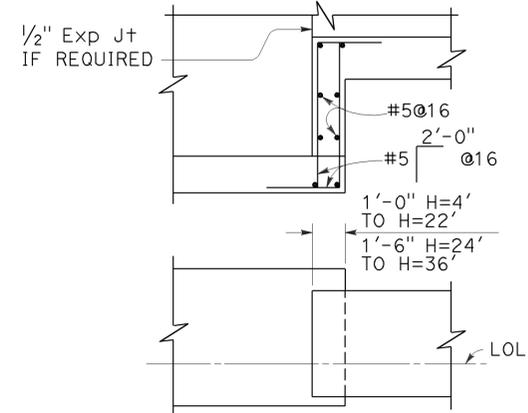
Where shown on the plans



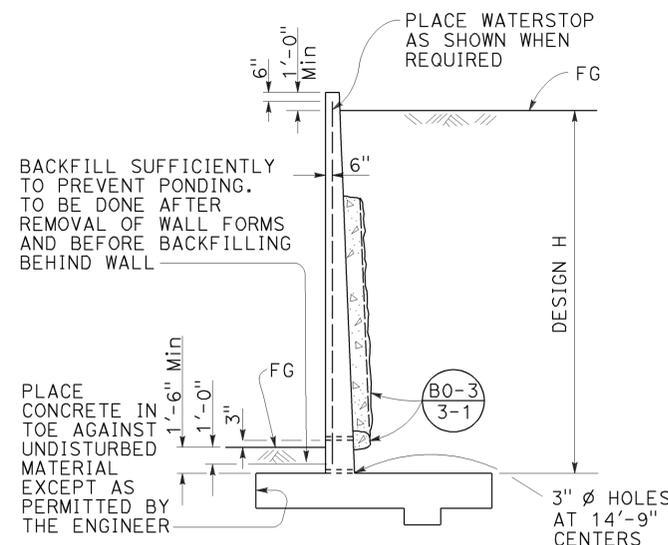
**PLAN OF WALL WITH BRIDGE DETAIL 3-4**



**PLAN OF WALL WITH EXPANSION JOINT ONLY**



**FOOTING STEP**



**DESIGN AND DRAINAGE**

**DESIGN CONDITIONS:**

Design "H" may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in table

Return wall not required unless shown elsewhere

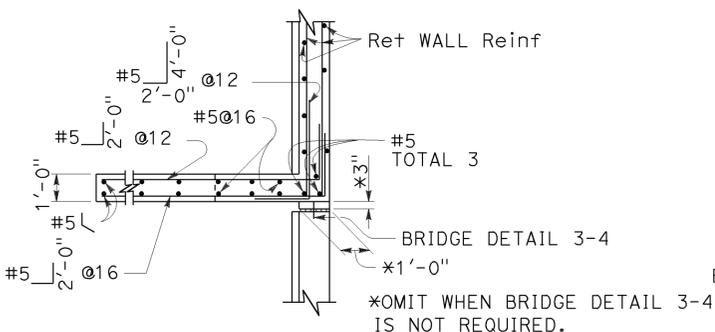
**DESIGN NOTES:**

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

LIVE LOAD: Surcharge on level ground surface

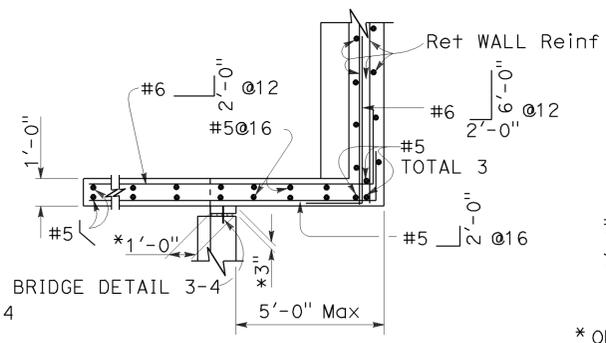
SOIL:  $\phi = 34^\circ$   
 $\gamma = 120$  pcf

REINFORCED CONCRETE:  $f_y = 60,000$  psi  
 $f_c' = 3,600$  psi



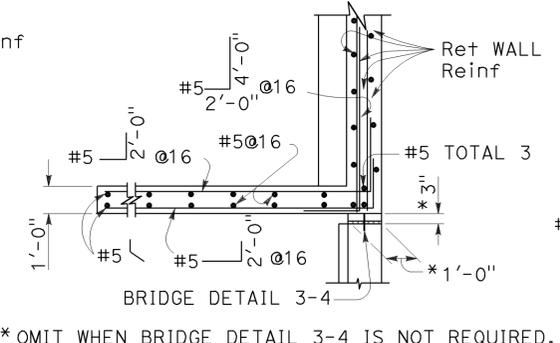
**PLAN**

(For return wall Type "A")



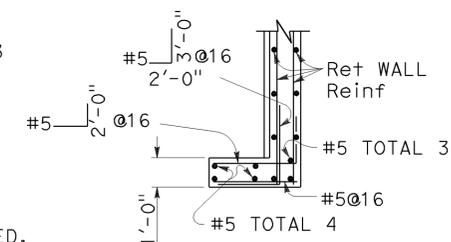
**PLAN**

(For return wall Type "B")



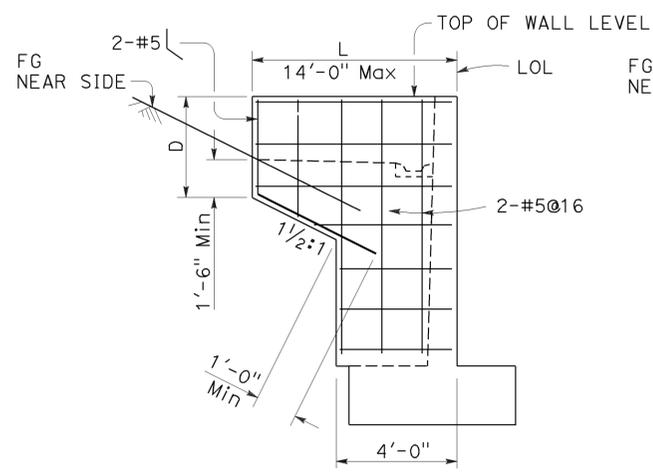
**PLAN**

(For return wall Type "C")



**PLAN**

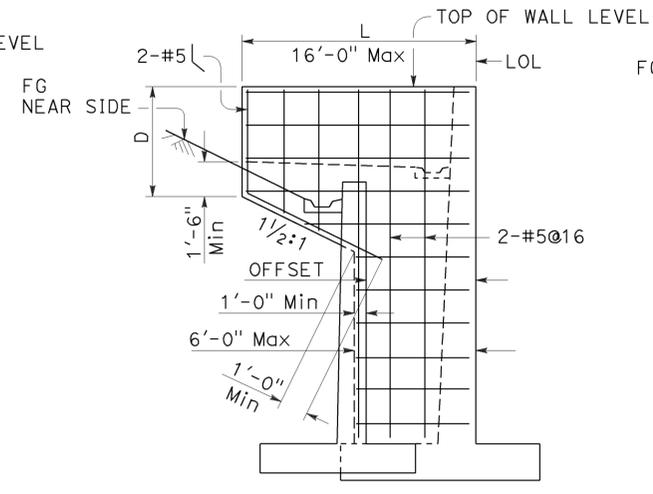
(For return wall Type "D")



**ELEVATION**

**RETURN WALL TYPE "A"**

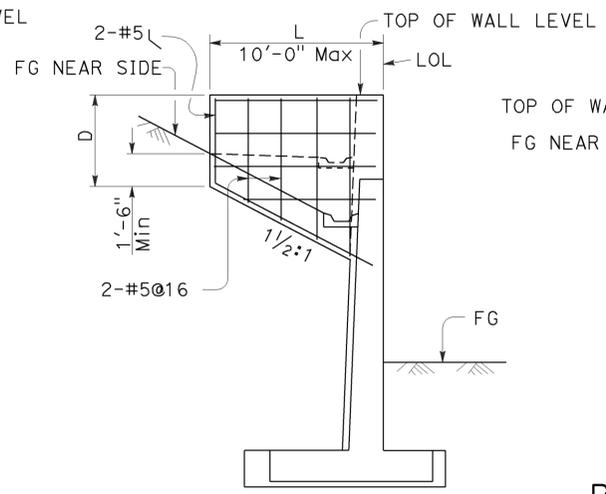
Use where H=8' or less



**ELEVATION**

**RETURN WALL TYPE "B"**

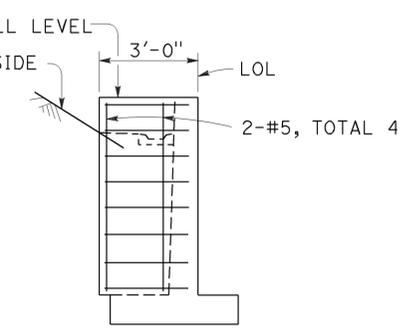
Use where H=10' or more on offset walls



**ELEVATION**

**RETURN WALL TYPE "C"**

Use where H=10' or more on straight walls



**ELEVATION**

**RETURN WALL TYPE "D"**

Use where H=6' or less

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**RETAINING WALL DETAILS No. 1**

NO SCALE

RSP B3-5 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN B3-5 DATED MAY 20, 2011 - PAGE 277 OF THE STANDARD PLANS BOOK DATED 2010.

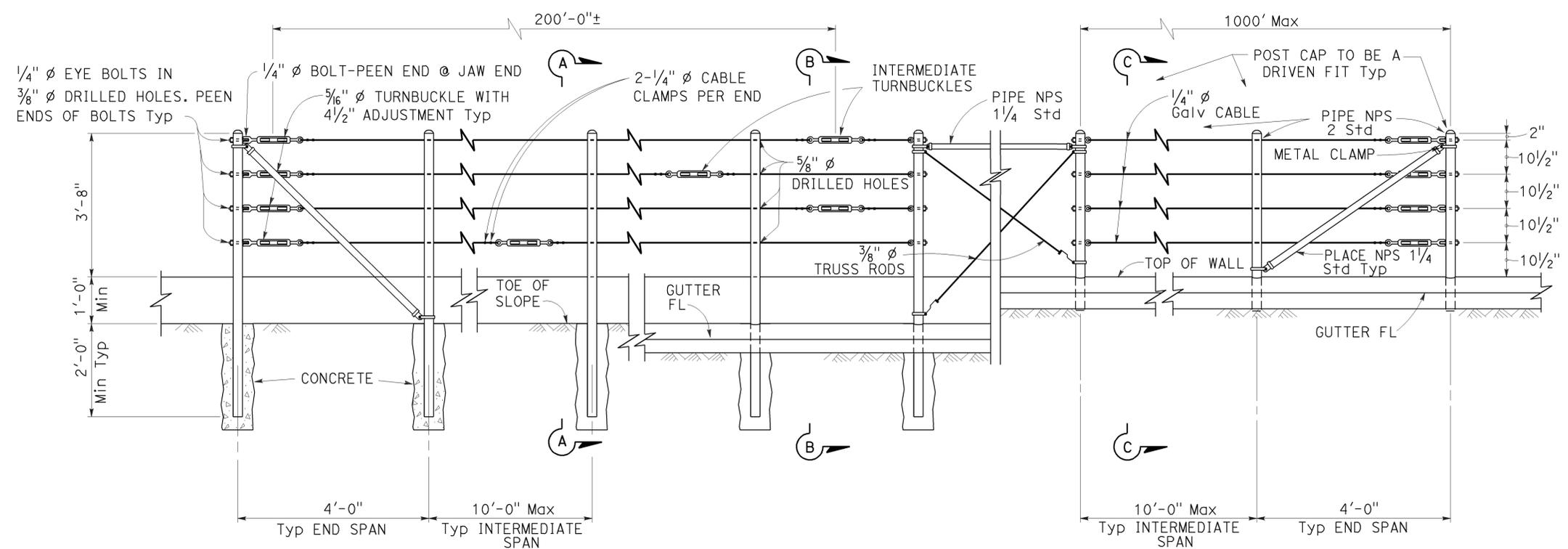
**REVISED STANDARD PLAN RSP B3-5**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	810	1012

REGISTERED CIVIL ENGINEER	
October 21, 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.	

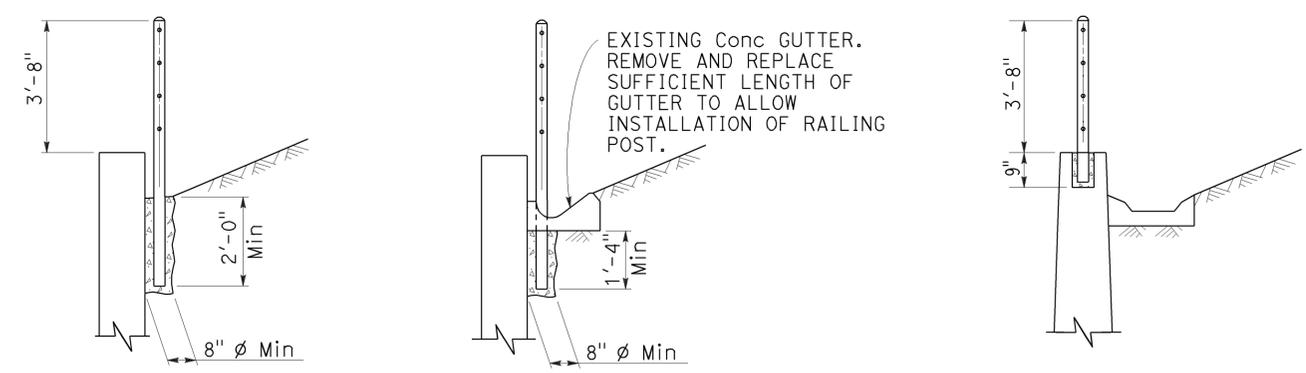


EXISTING WALL (WITHOUT GUTTER)  
Existing
RETAINING WALL (WITH GUTTER)  
Existing
RETAINING WALL (WITH GUTTER)  
New construction

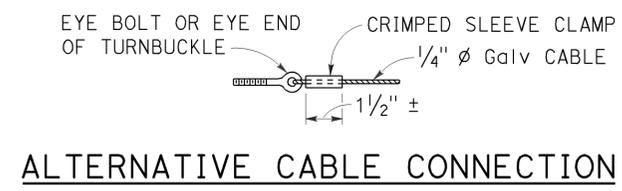
**ELEVATION**

**NOTES:**

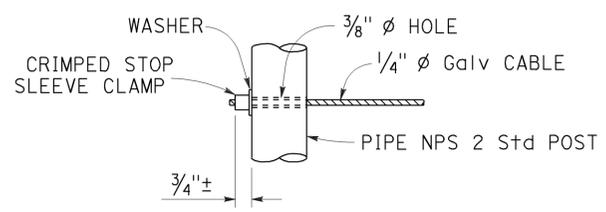
1. Maximum distance between turnbuckles shall be 200'-0"±.
2. Intermediate turnbuckles to be placed in adjacent spans.
3. Cable shall not be spliced between intermediate turnbuckles and end posts.
4. Posts to be vertical.
5. Alignment of holes in posts may vary to conform to slope of top of retaining wall.
6. The Contractor shall verify all dependent dimensions in the field before ordering or fabricating any material.
7. Line posts shall be braced horizontally and trussed diagonally in both directions at intervals not to exceed 1000'.
8. Post pockets to be centered in top of wall.
9. Typical end spans, braced in both directions, shall be constructed at changes in line where the angle of deflection is 15° or more.
10. Provide thimbles at all cable loops.



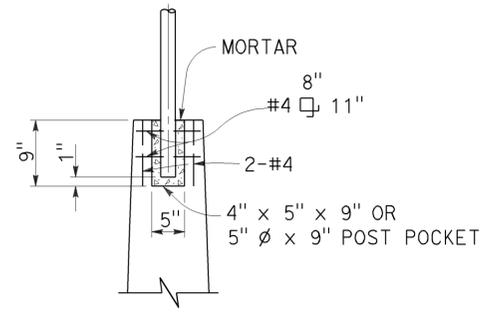
SECTION A-A  
Existing
SECTION B-B  
Existing
SECTION C-C  
New construction



**ALTERNATIVE CABLE CONNECTION**



**ALTERNATIVE DEAD END ANCHORAGE**



**POST POCKET**

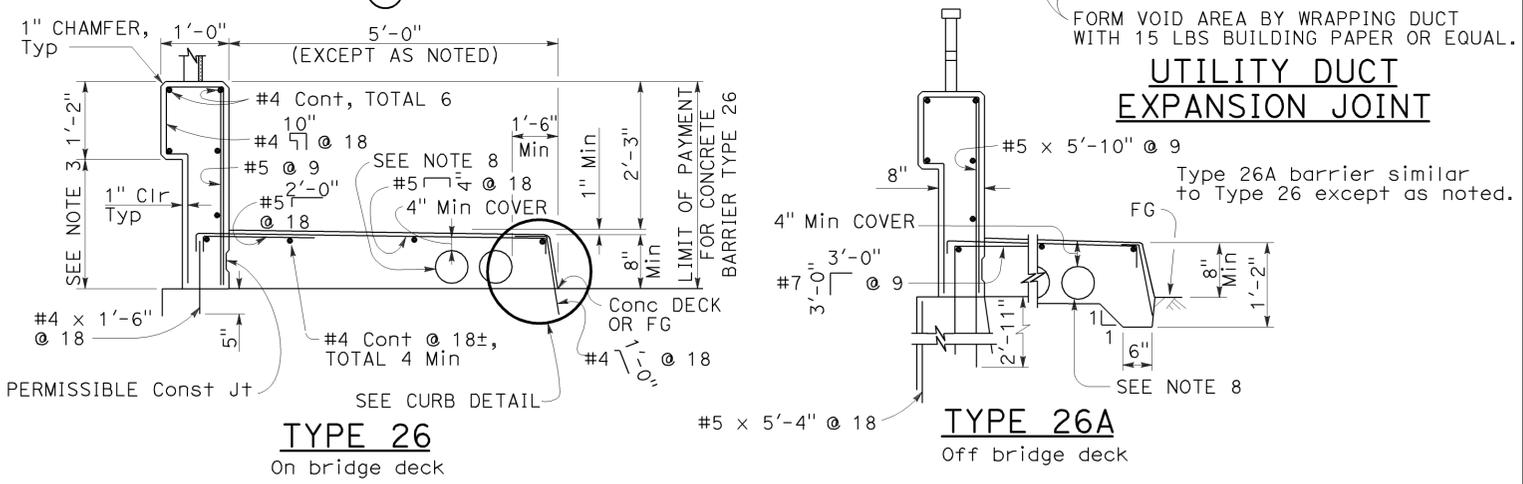
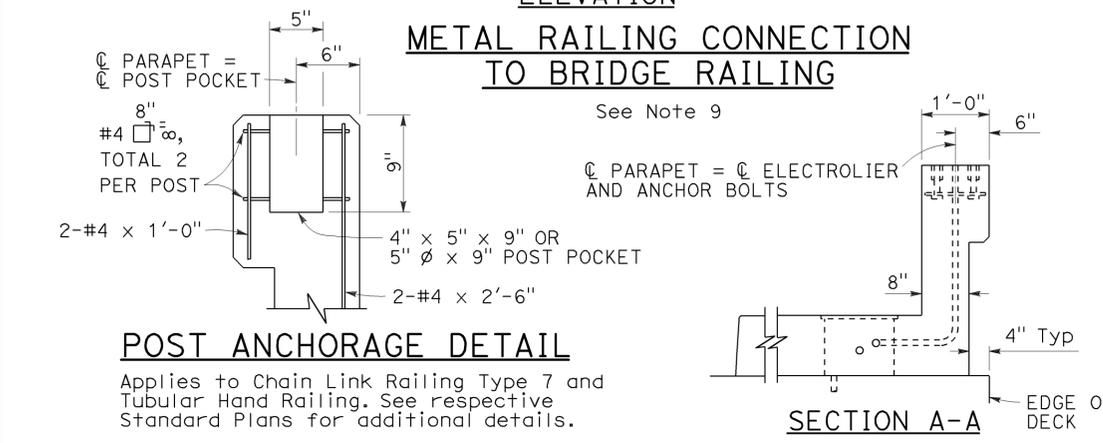
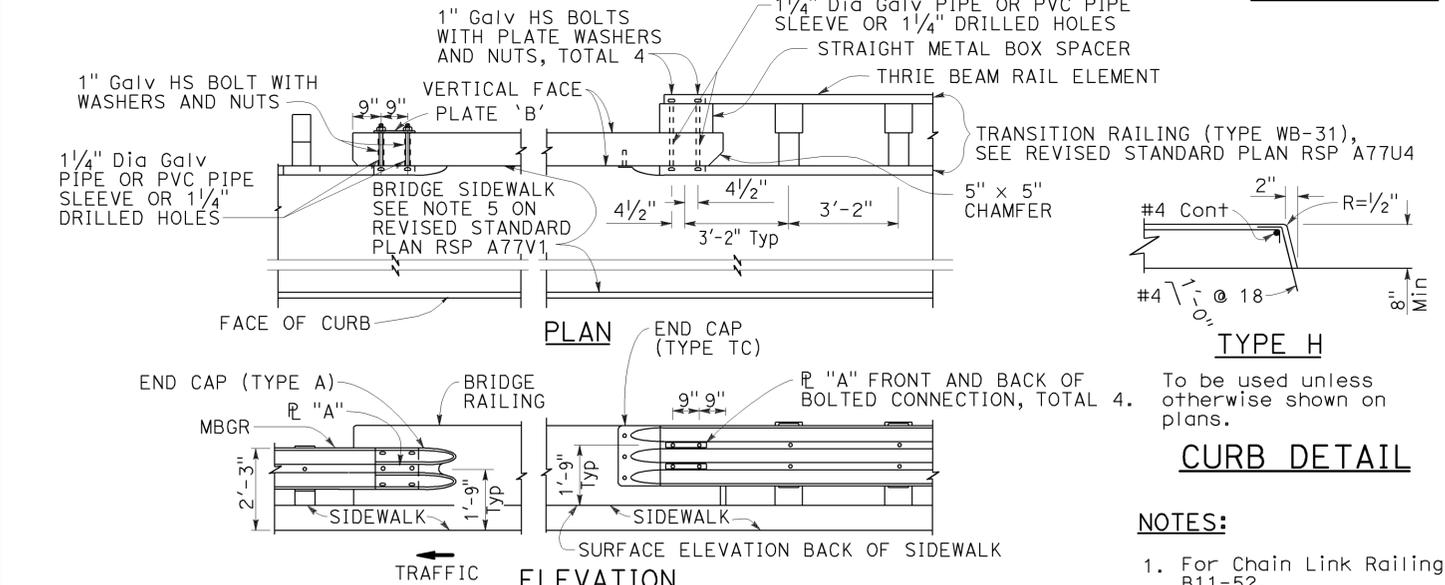
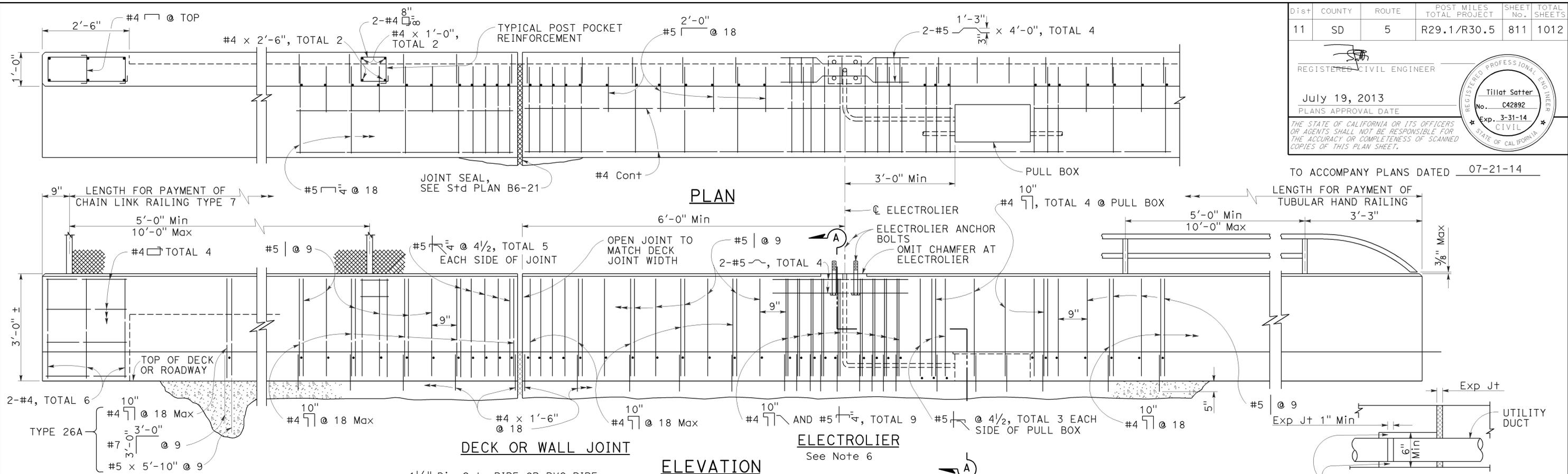
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**CABLE RAILING**

NO SCALE

RSP B11-47 DATED OCTOBER 21, 2011 SUPERSEDES STANDARD PLAN B11-47  
DATED MAY 20, 2011 - PAGE 293 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP B11-47**

2010 REVISED STANDARD PLAN RSP B11-47



**NOTES:**

1. For Chain Link Railing notes and details not shown, see Standard Plan B11-52.
2. For Hand Railing notes and details not shown, see Standard Plan B11-51.
3. Dimensions will vary with cross slope and with certain thicknesses of surfacing. See Project Plans.
4. Walls are to be backfilled before railing is placed.
5. Clearance to reinforcing steel in curb and railing to be 1" except as noted. Longitudinal reinforcement to stop at all expansion joints.
6. See Project Plans for electrolier locations and pull box type.
7. For electrical details, see Standard Plans ES-9A, ES-9B, ES-9C, ES-9D, and ES-9E.
8. A maximum of five - 4" and a minimum of two - 4" round openings for future utilities. Openings are to be sealed at ends and extended 8" minimum past end of sidewalk if not used. Duct forms are to be tied down. Minimum of 6" from face of rail to utility opening.
9. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77K1 and RSP A77K2.
10. This barrier is to be used only for speeds of 45 MPH or less. For speeds greater than 45 MPH, pedestrians should be protected by a separation traffic barrier.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CONCRETE BARRIER TYPE 26**  
NO SCALE

RSP B11-54 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN B11-54 DATED MAY 20, 2011 - PAGE 296 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP B11-54**

2010 REVISED STANDARD PLAN RSP B11-54

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	812	1012

REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

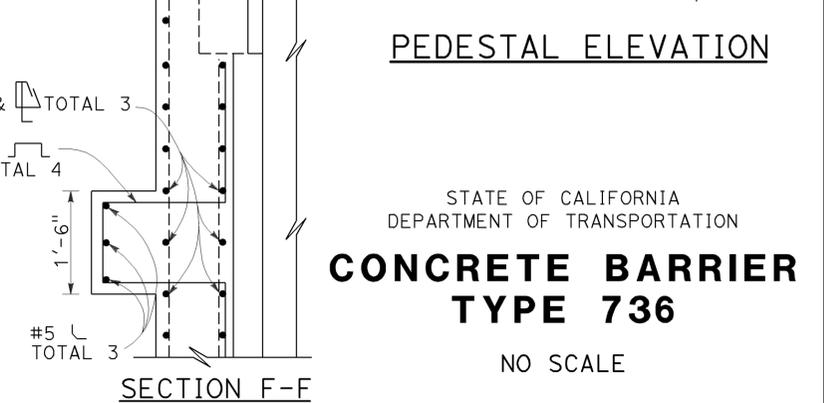
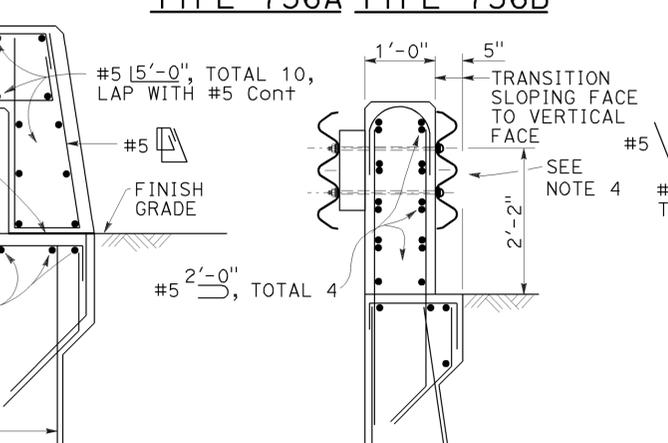
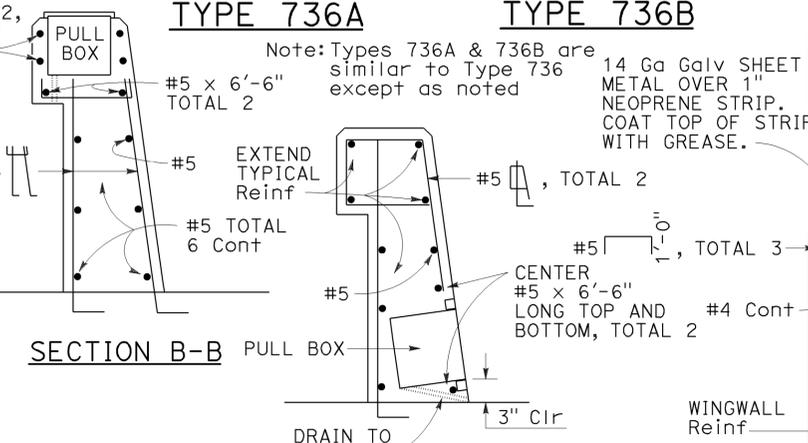
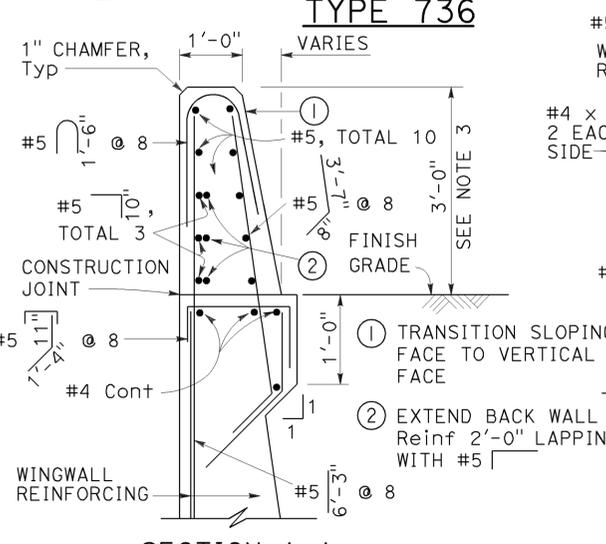
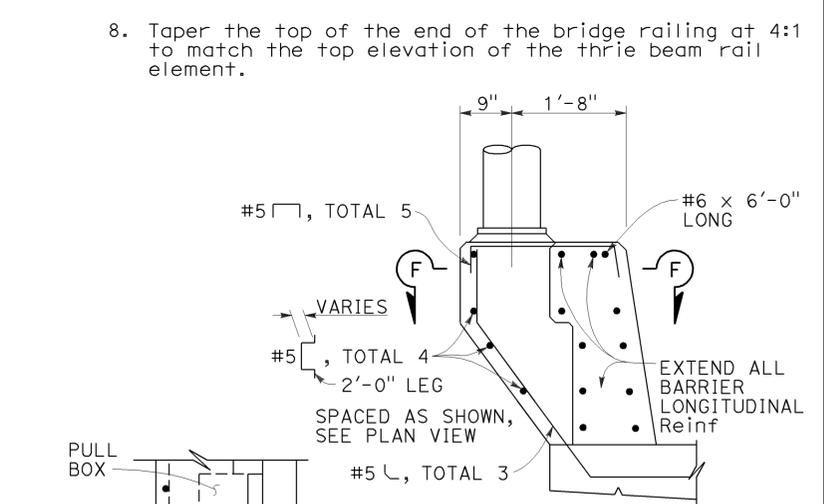
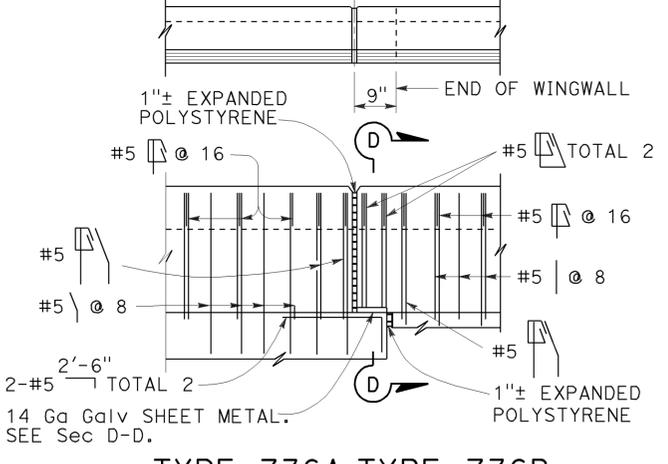
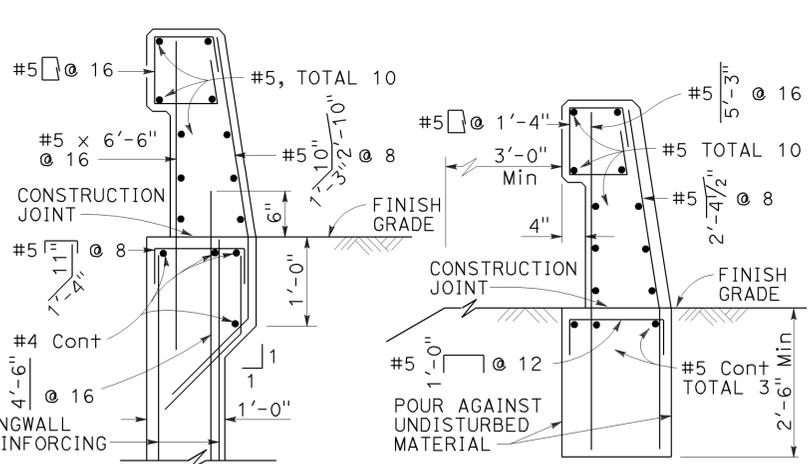
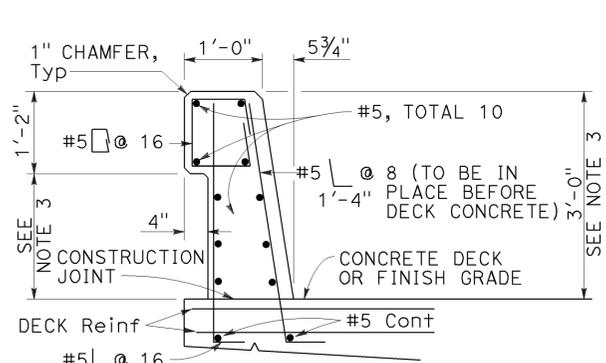
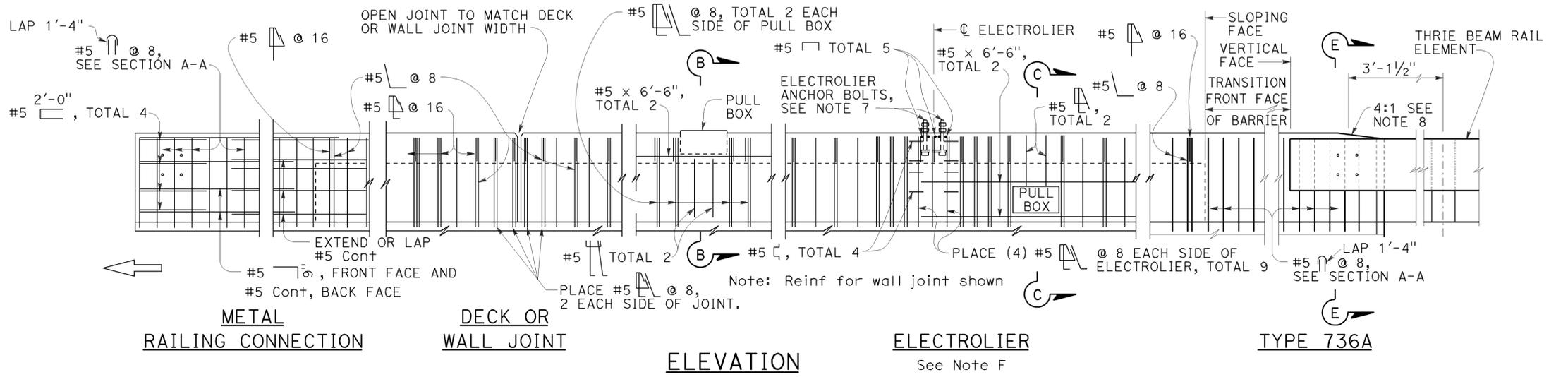
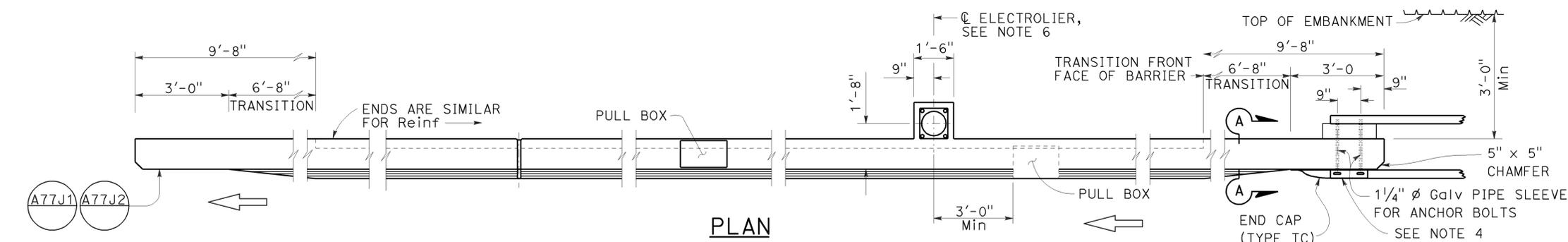
REGISTERED PROFESSIONAL ENGINEER  
Tillat Satter  
No. C42892  
Exp. 3-31-14  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 07-21-14

**NOTES:**

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

2010 REVISED STANDARD PLAN RSP B11-56



Details shown for barrier anchorage to Type 736A. Anchorage for barrier Types 736 and 736B are similar to their respective details.

Note: Types 736A & 736B are similar to Type 736 except as noted.

14 Ga Galv SHEET METAL OVER 1" NEOPRENE STRIP. COAT TOP OF STRIP WITH GREASE.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CONCRETE BARRIER  
TYPE 736**  
NO SCALE

RSP B11-56 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN B11-56 DATED MAY 20, 2011 - PAGE 298 OF THE STANDARD PLANS BOOK DATED 2010.  
**REVISED STANDARD PLAN RSP B11-56**

**INSTRUCTIONS TO FABRICATOR**

**PROJECT PLANS SHOW:**

1. Sign structure location.
2. Length of structure frame.
3. Panel size and locations on structure.
4. Walkway length for two post signs.
5. Post type and height to bottom of frame.
6. Base plate elevation.
7. Footing elevation or location of pile foundation.
8. Photoelectric unit location if required.

REFER TO THE FOLLOWING STANDARD PLANS FOR DETAILS NOT SHOWN ON PROJECT PLANS:

**Sheet No. SHEET NAME**

- S1 Overhead Signs-Truss, Instructions and Examples
- S2 Overhead Signs-Truss, Single Post Type, Post Types II to IX
- S3 Overhead Signs-Truss, Single Post Type, Base Plate and Anchorage Details
- S4 Overhead Signs-Truss, Single Post Type, Structural Frame Members Details No. 1
- S5 Overhead Signs-Truss, Single Post Type, Structural Frame Members Details No. 2
- S6 Overhead Signs-Truss, Gusset Plate Details
- S8 Overhead Signs-Truss, Single Post Type, Round Pedestal Pile Foundation
- S9 Overhead Signs-Truss, Two Post Type, Post Types I-S through VII-S
- S10 Overhead Signs-Truss, Two Post Type, Base Plate and Anchorage Details
- S11 Overhead Signs-Truss, Two Post Type, Structural Frame Members
- S12 Overhead Signs-Truss, Structural Frame Details
- S13 Overhead Signs-Truss, Frame Juncture Details
- S15 Overhead Signs-Truss, Two Post Type, Round Pedestal Pile Foundation
- S16 Overhead Signs, Walkway Details No. 1
- S17 Overhead Signs, Walkway Details No. 2
- S17A Overhead Signs, Walkway Details No. 3
- S18 Overhead Signs, Walkway Safety Railing Details
- S19 Overhead Signs-Truss, Sign Mounting Details, Laminated Panel-Type A
- S20 Overhead Signs, Steel Frames, Removable Sign Panel Frames
- S21 Overhead Signs, Removable Sign Panel Frames, Mounting Details
- S22 Overhead Signs-Truss, Removable Sign Panel Frames, 9'-2" and 10'-0" Sign Panels

**WALKWAY BRACKETS:**

Space all walkway brackets maintaining uniform spacing where possible. Maximum spacing shall not exceed 5'-6".

**LIGHTING FIXTURE SUPPORTS:**

Where distance from walkway bracket to end of sign panel exceeds 1'-4", extend lighting fixture supports to next walkway bracket. See Example No. 2.

**WALKWAY AND SAFETY RAILING:**

Walkway to be continuous for entire length of frame for single post signs. For two post signs, see Project Plans. Safety railing to protect entire walkway, but continuous for no more than 11'-0" in one unit.



**NOTES:**

1. Signs are shown and dimensioned looking in the direction of traffic. Double faced signs are shown and dimensioned looking ahead along stationing.
2. Mandatory dimension limit.

**GENERAL NOTES:**

**LOADING:**

**WIND LOADING:**

Normal to face of sign: 40.3 psf on 100% Truss surface area (i.e. 100% panel coverage).

Transverse to face of sign: 20% of normal force.

**WALKWAY LOADING:**

Dead load +500 LB concentrated live load.

**UNIT STRESSES:**

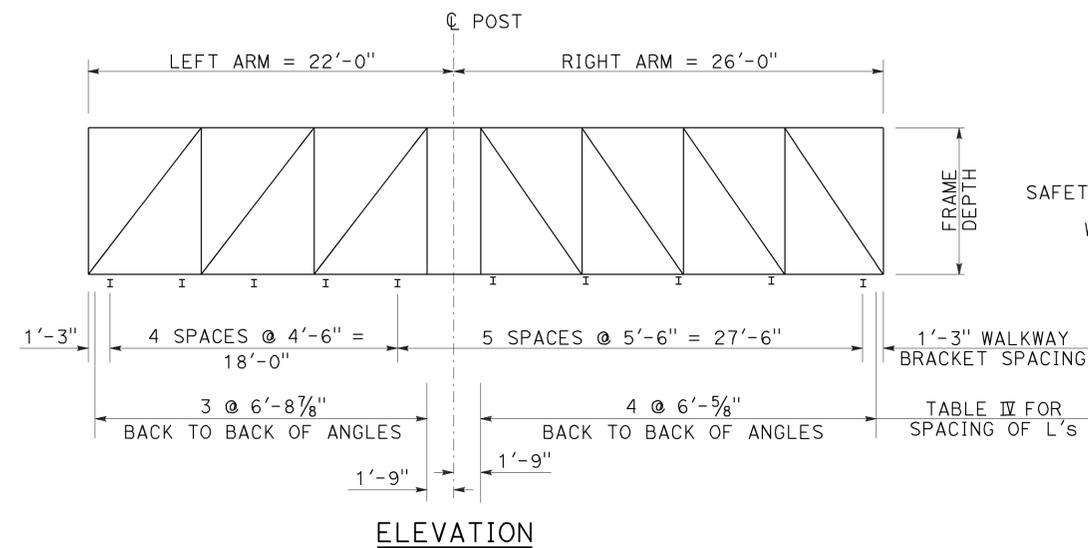
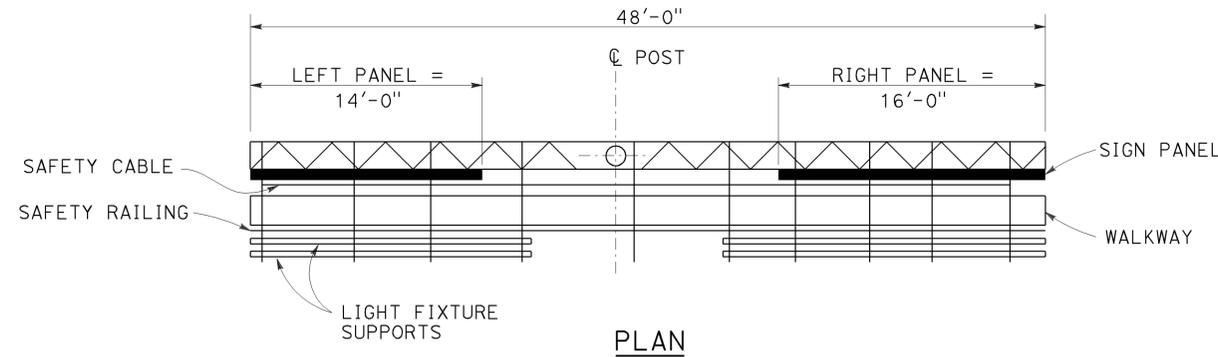
STRUCTURAL STEEL:  $f_y = 36,000$  psi  
 REINFORCED CONCRETE:  $f_y = 60,000$  psi  
 $f'_c = 3600$  psi  
 FOOTING SOIL PRESSURE: 2.5 ksf (spread footing)

**MINIMUM CLEARANCE**

Vertical roadway clearance 18'-0" (bottom of walkway system)

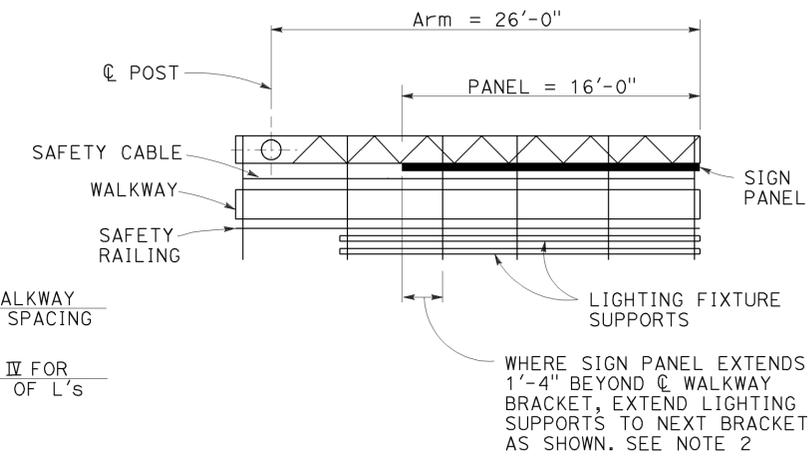
**WELDING:**

All welding continuous unless otherwise noted on the plans.



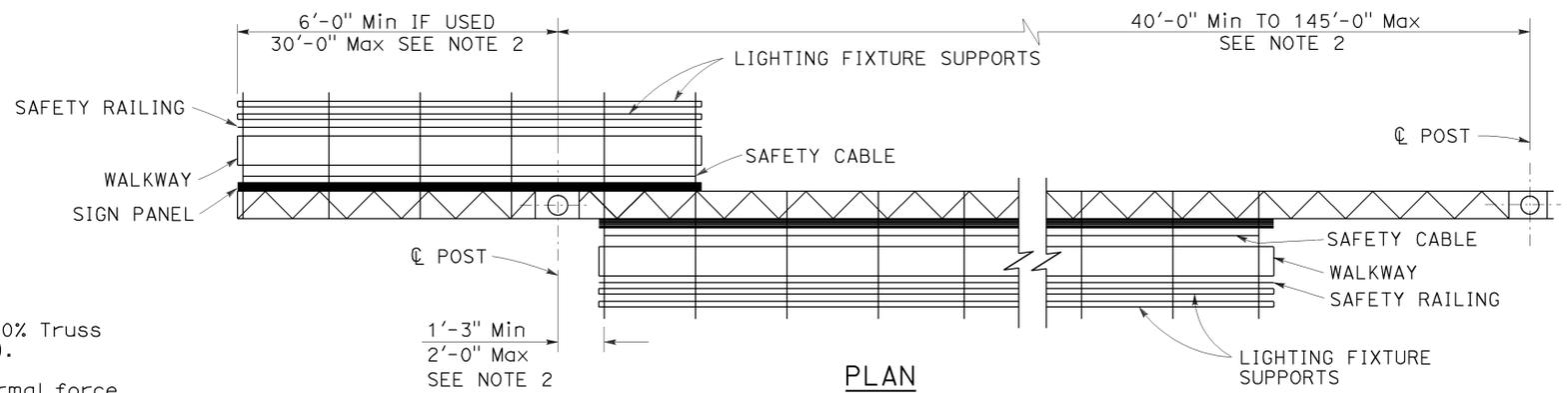
**UNBALANCED SINGLE POST TYPE**

Example No. 1



**CANTILEVER SINGLE POST TYPE**

Example No. 2



**TWO POST TYPE WITH CANTILEVER (PART DOUBLE-FACED)**

Example No. 3

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**OVERHEAD SIGNS-TRUSS INSTRUCTIONS AND EXAMPLES**

NO SCALE

RSP S1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN S1 DATED MAY 20, 2011 - PAGE 334 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP S1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	813	1012

Stanley P. Johnson  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

Stanley P. Johnson  
No. C57793  
Exp. 3-31-14  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 07-21-14

2010 REVISED STANDARD PLAN RSP S1

**TABLE XV**

POST TYPE	PIPE		CAP PLATE SIZE FOR CHORD L's 5 x 5		CAP PLATE SIZE FOR CHORD L's 6 x 6		ROUND PEDESTAL				SQUARE PEDESTAL				SPREAD FOOTING						
	NPS	THICKNESS			PEDESTAL SIZE Dia	VERTICAL J-BARS		SPIRAL		PEDESTAL SIZE SQUARE	VERTICAL J-BARS		HOOP		(SEE NOTE 2)	REINFORCEMENT				FOOTING STIRRUPS	
						EQUALLY SPACED TOTAL	BAR SIZE	BAR SIZE	PITCH		EQUALLY SPACED TOTAL	BAR SIZE	# OF BARS EA FACE	BAR SIZE		SPACING	WIDTH TOP	WIDTH BOTTOM	LONGITUDINAL TOP		LONGITUDINAL BOTTOM
II	14	1/2"	2'-0" x 2'-0" x 1"	2'-2" x 2'-2" x 1"	5'-3"	16	#10	#5	3 1/2"	5'-3"	16	#10	5	#5		3 1/2"	12'-0" x 14'-0" x 2'-6"	14-#6	14-#7		13-#9
III	16		2'-2" x 2'-2" x 1"	2'-4" x 2'-4" x 1"											12'-0" x 14'-0" x 2'-6"	15-#6	15-#7				
IV	18		2'-4" x 2'-4" x 1"	2'-6" x 2'-6" x 1"											12'-0" x 14'-0" x 2'-6"	15-#6	15-#7				
V	20		2'-6" x 2'-6" x 1"	2'-8" x 2'-8" x 1"											13'-0" x 14'-0" x 2'-6"	15-#6	15-#7	14-#9	14-#9		
VI	24		2'-10" x 2'-10" x 1"	3'-0" x 3'-0" x 1"	5'-9"		#11			5'-9"		#11			13'-0" x 16'-0" x 2'-6"	17-#7	17-#7		14-#11		
VII	24	3/4"													13'-0" x 17'-0" x 2'-6"	18-#7	18-#7				
VIII	24	3/32"													13'-0" x 18'-0" x 2'-6"	19-#7	19-#7				
IX	24	3/32"													13'-0" x 18'-0" x 2'-6"	19-#7	19-#7				

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	814	1012

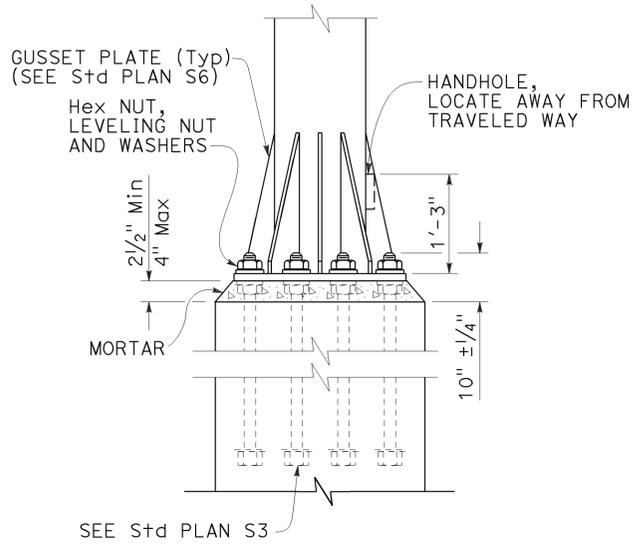
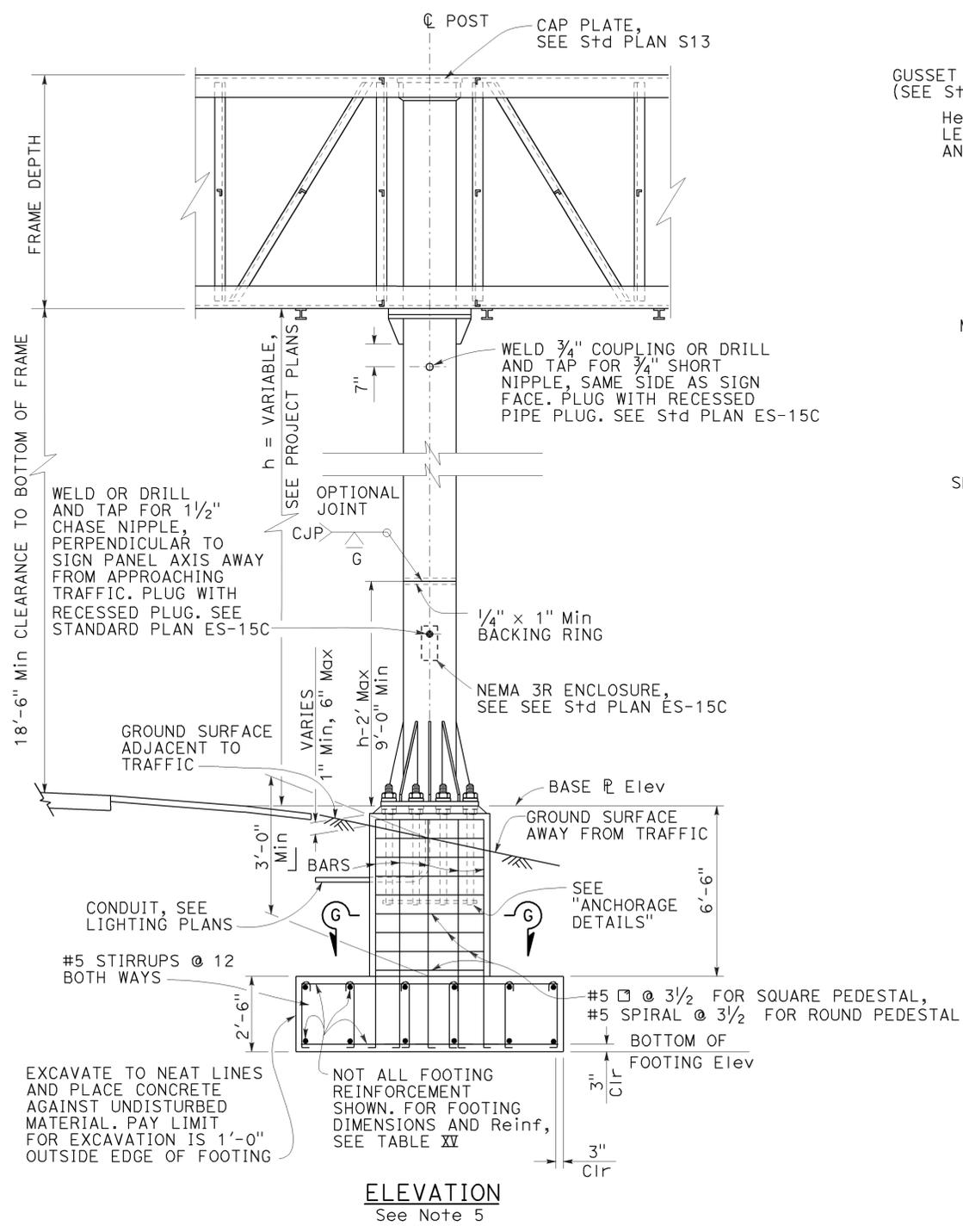
Stanley P. Johnson  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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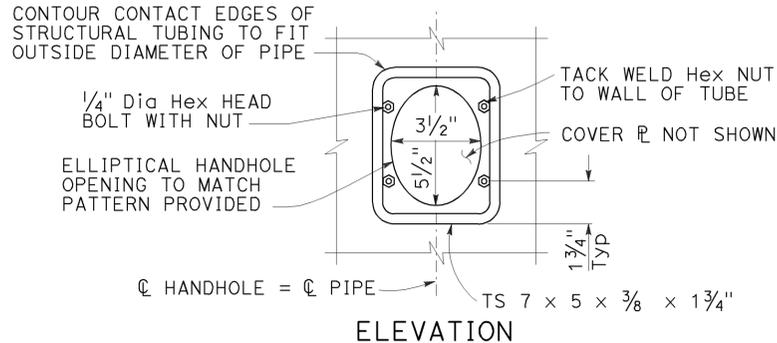
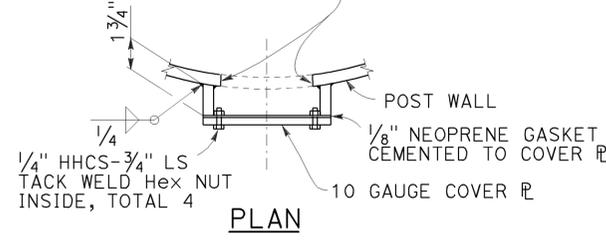
Stanley P. Johnson  
REGISTERED PROFESSIONAL ENGINEER  
No. C57793  
Exp. 3-31-14  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 07-21-14



**ELEVATION ANCHORAGE DETAILS**

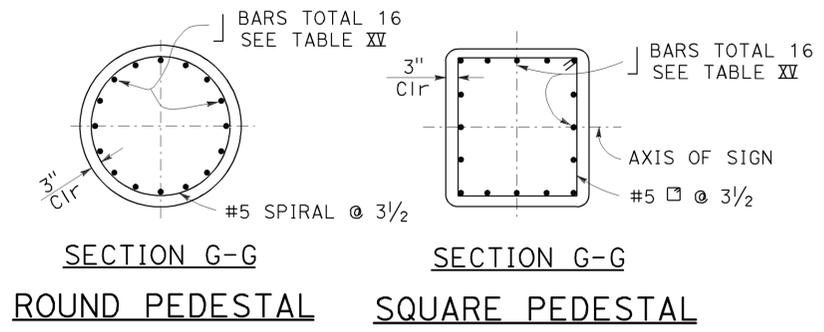
GRIND EDGES SMOOTH, ROUGHNESS OF EDGES NO GREATER THAN 1000 MICROINCHES



**TYPICAL DETAILS OF HANDHOLE AND COVER**

**NOTES:**

- For "General Notes", see Revised Standard Plan RSP S1.
- Longer side of footing (longitudinal) shall be normal to axis of sign.
- Backfill shall be in place prior to erection of post.
- Thread upper 10" of anchor bolts and galvanize upper 1'-0".
- Spread footing with square pedestal foundation shown, use Pile Foundation when shown on the Project Plans. For pile foundation details, see Standard Plan S8.
- Anchor plates may be retained with hexagon nut or formed head as alternatives to details shown.
- On single post sign structures, the post shall be raked out of plumb, with the use of the leveling nuts to make the bottom of the sign frame level.
- At final position of post all top and bottom nuts shall be tightened against base plate.
- When foundation is located on a steep slope with exposed face of concrete adjacent to traffic, see "Detail C" on Standard Plan S8, as applicable.
- Slope protection required when indicated on the Project Plans.



**SECTION G-G ROUND PEDESTAL SECTION G-G SQUARE PEDESTAL**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**OVERHEAD SIGNS-TRUSS  
SINGLE POST TYPE  
POST TYPES II THROUGH IX**  
NO SCALE

RSP S2 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN S2 DATED MAY 20, 2011 - PAGE 335 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP S2**

2010 REVISED STANDARD PLAN RSP S2

**LEGEND:**

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

**ABBREVIATIONS**

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	815	1012

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 07-21-14

**SOFFIT AND WALL MOUNTED LUMINAIRES**

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

**NOTE:**  
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

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

**MISCELLANEOUS ELECTROLIERS**

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

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

**STANDARD ELECTROLIER**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

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

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

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	816	1012

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 07-21-14

**CONDUIT**

**SIGNAL EQUIPMENT**

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

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)

**SIGNAL EQUIPMENT Cont**

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

**SERVICE EQUIPMENT**

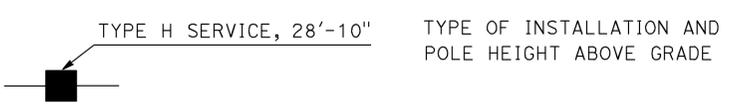
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

**NOTES:**

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

**POLE-MOUNTED SERVICE DESIGNATION**



**FLASHING BEACON**

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

**ILLUMINATED OVERHEAD SIGN**

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

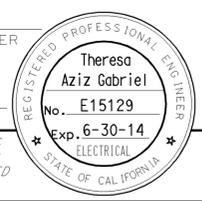
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

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

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

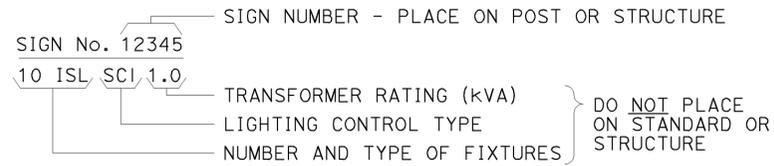
2010 REVISED STANDARD PLAN RSP ES-1B



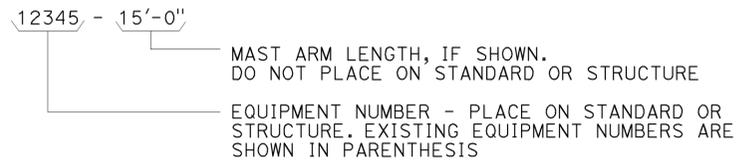
TO ACCOMPANY PLANS DATED 07-21-14

### EQUIPMENT IDENTIFICATION

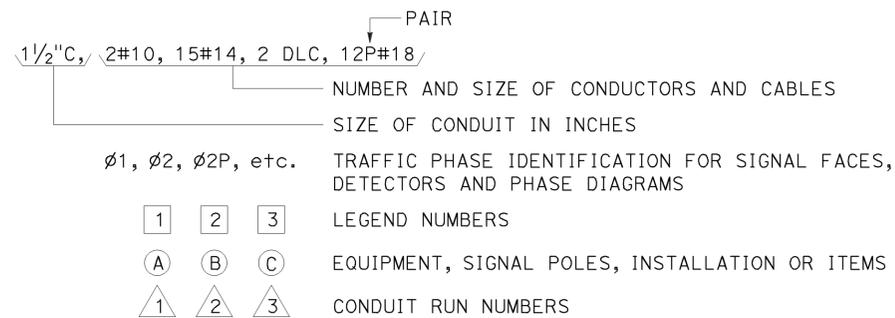
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



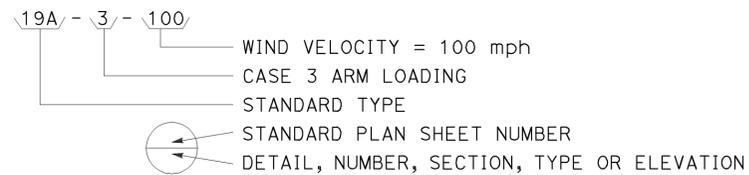
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



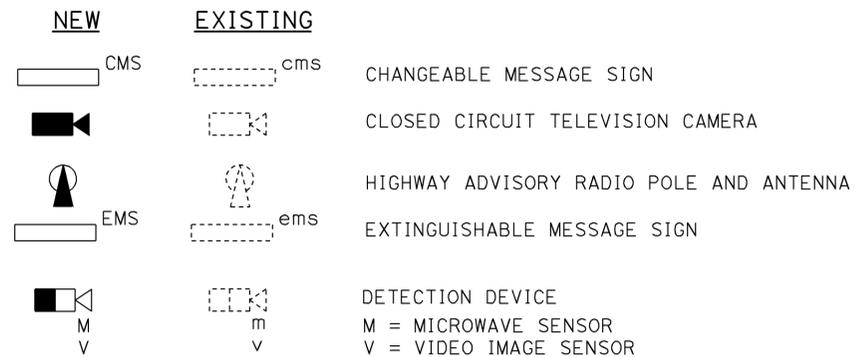
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



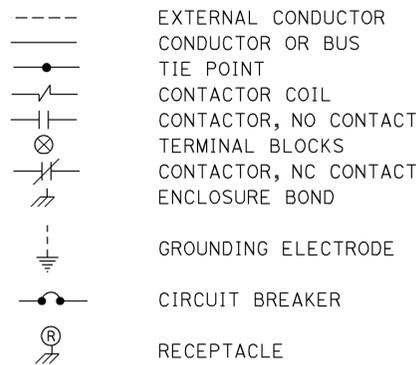
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



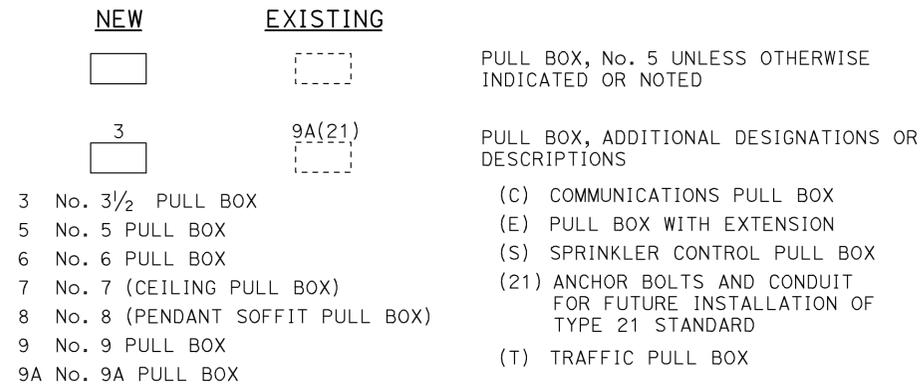
### MISCELLANEOUS EQUIPMENT



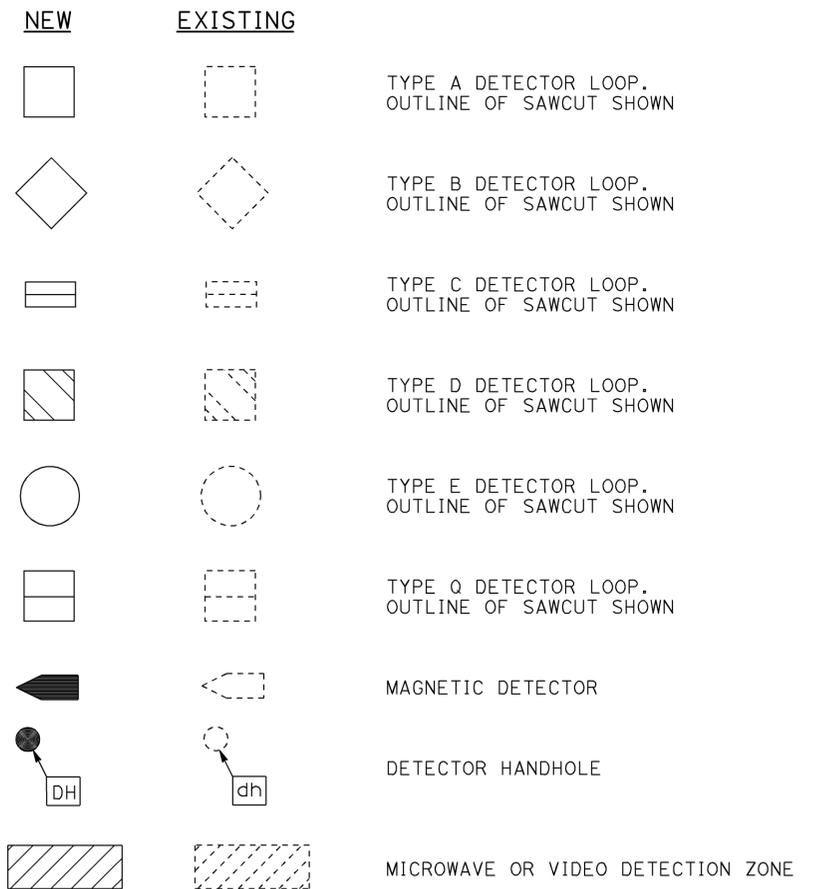
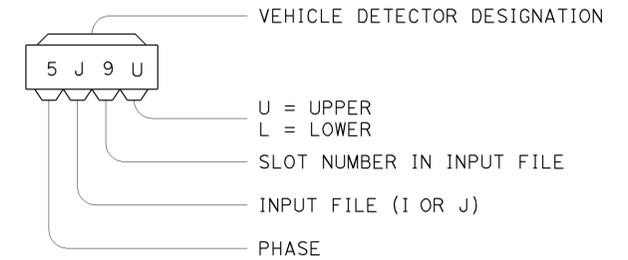
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

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

2010 REVISED STANDARD PLAN RSP ES-1C

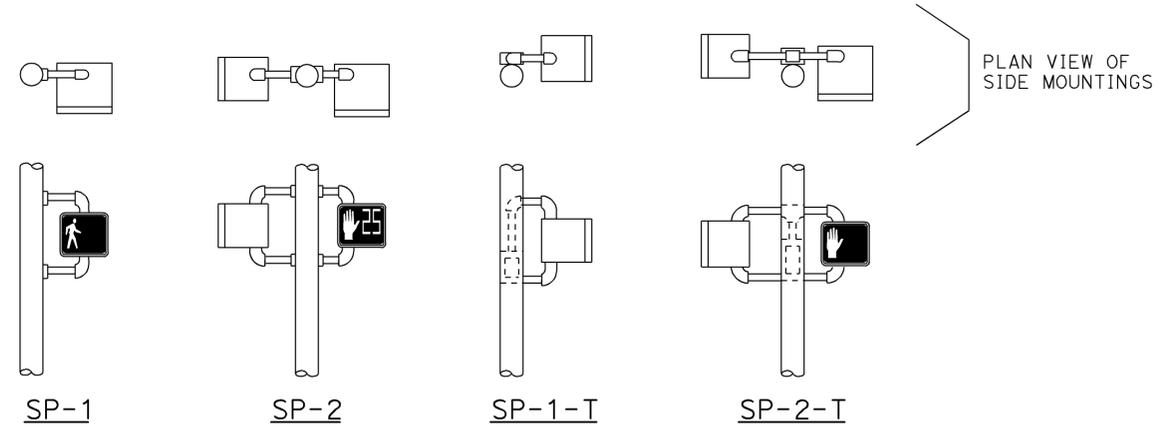


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	819	1012

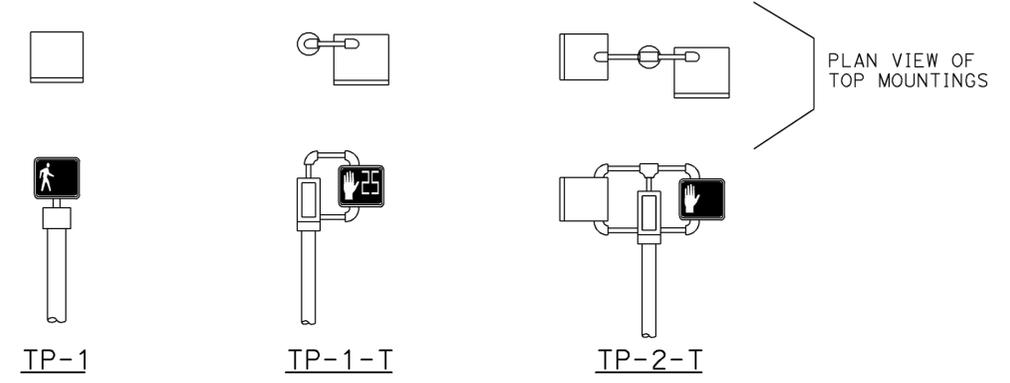
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 07-21-14



SIDE MOUNTINGS



TOP MOUNTINGS

PEDESTRIAN SIGNALS AND MOUNTINGS

DETAIL A

NOTES:

1. Mounting shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals.
3. See Standard Plan ES-4D for attachment fittings details.

ABBREVIATIONS:

- 1, 2 NUMBER OF SIGNAL FACES
- SP SIDE MOUNTED PEDESTRIAN SIGNAL
- T TERMINAL COMPARTMENT
- TP TOP MOUNTED PEDESTRIAN SIGNAL



PERSON WALKING INTERVAL      FLASHING UPRaised HAND INTERVAL      STEADY UPRaised HAND INTERVAL

PEDESTRIAN SIGNAL MODULE WITH COUNTDOWN

DETAIL B



RAMP METERING SIGN

DETAIL D



PERSON WALKING INTERVAL      STEADY UPRaised HAND INTERVAL

PEDESTRIAN SIGNAL MODULE WITHOUT COUNTDOWN

DETAIL C

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(PEDESTRIAN SIGNAL AND  
RAMP METERING SIGN)**

NO SCALE

RSP ES-4B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4B  
DATED MAY 20, 2011 - PAGE 444 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-4B**

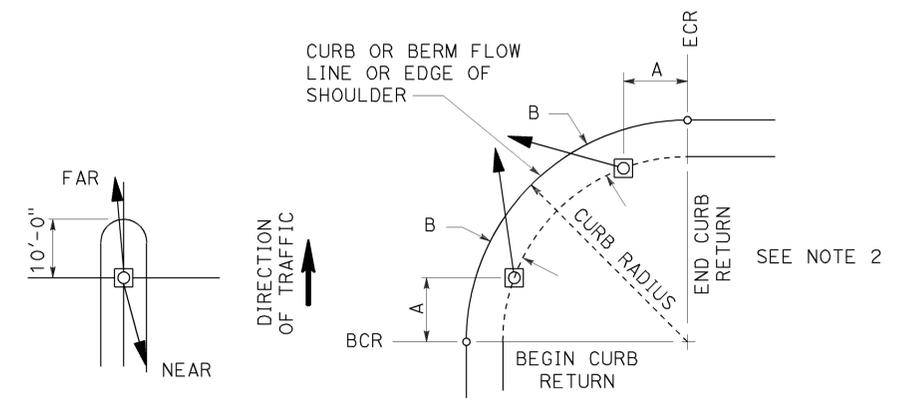
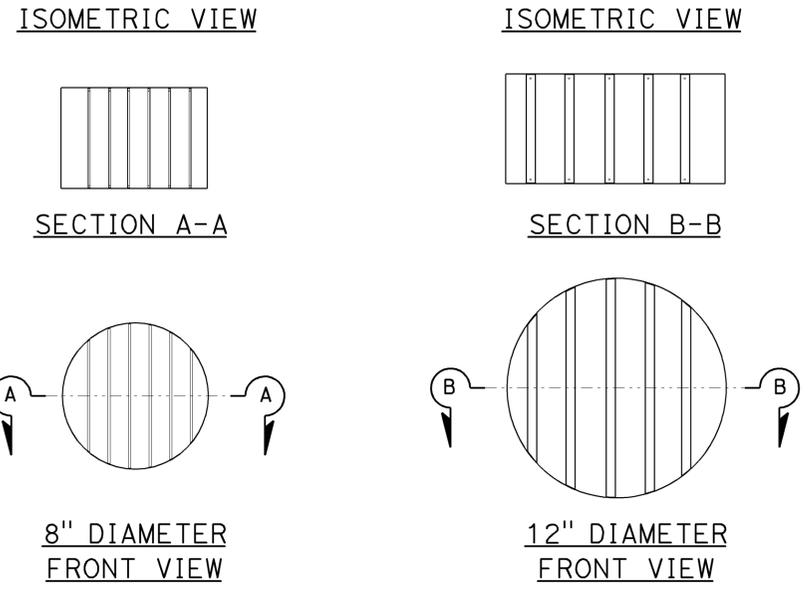
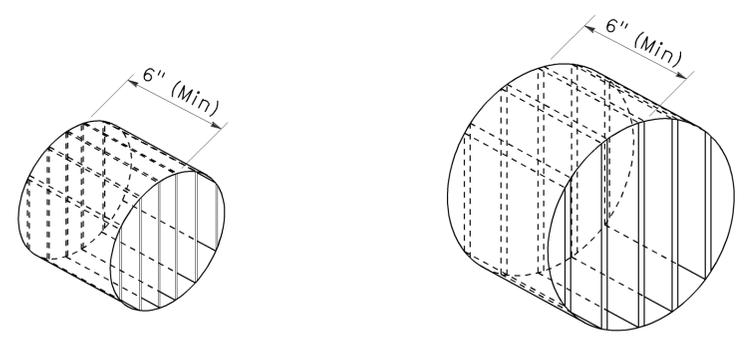
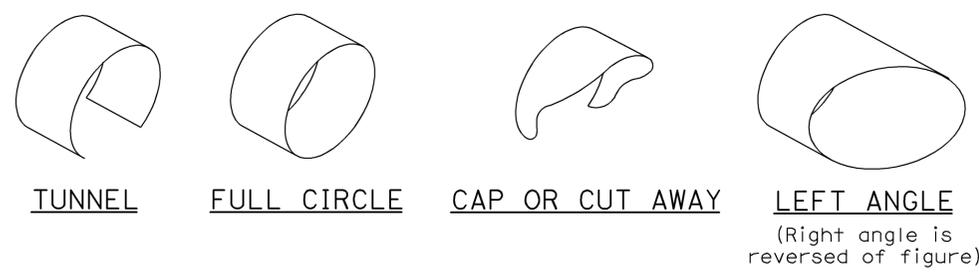
2010 REVISED STANDARD PLAN RSP ES-4B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	820	1012

Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
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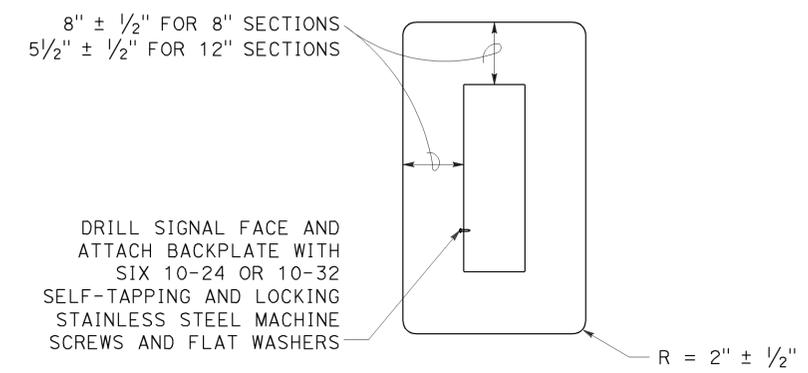
REGISTERED PROFESSIONAL ENGINEER  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-14  
 ELECTRICAL  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 07-21-14



- NOTES:**
1. Typical signal pole placement unless dimensioned on plans.
  2. For A and B dimensions, see Pole Schedule, or as directed by the Engineer.

**VISORS**



**8" AND 12" SECTIONS**

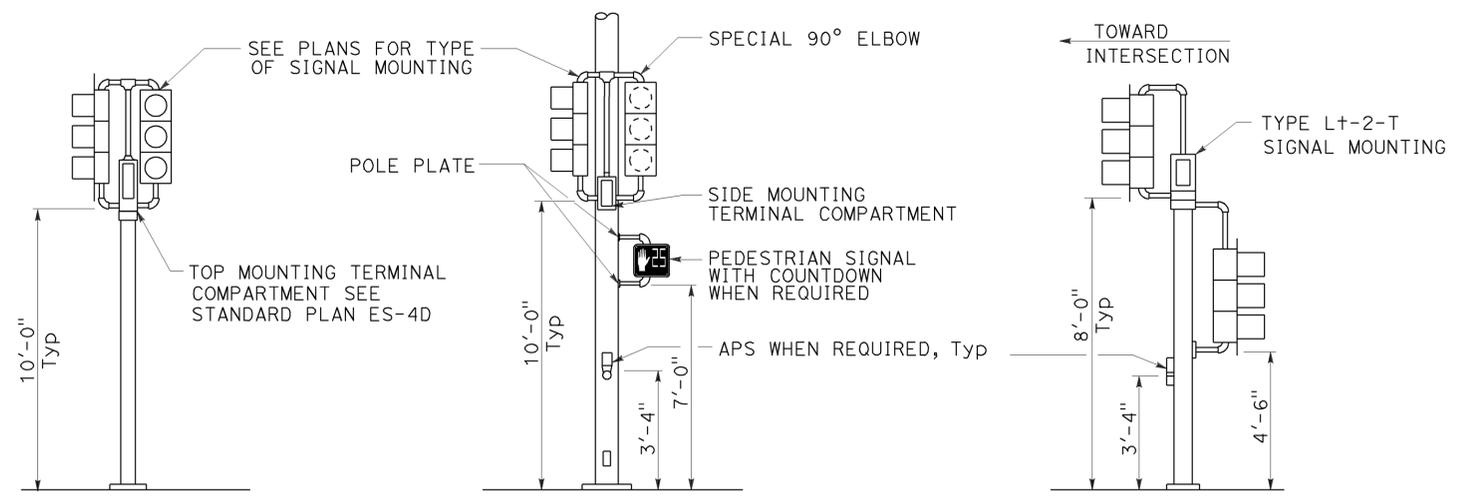
**BACKPLATE**

1/16" minimum thickness  
 3001-14 aluminum or plastic when specified

**DIRECTIONAL LOUVER**

Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.

**SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS**



**TOP MOUNTED SIGNALS (TV)**

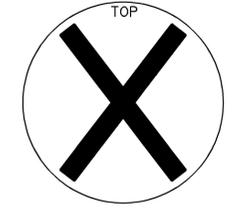
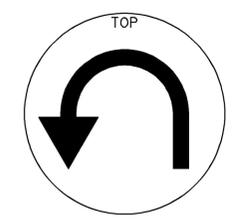
Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

**SIDE MOUNTED SIGNALS (SV AND SP)**

Normally used on standards with luminaire or signal mast arm

**LEFT TURN LANE SIGNAL**

Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans



**SIGNAL FACES**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (VEHICULAR SIGNAL HEADS AND MOUNTINGS)**

NO SCALE

RSP ES-4C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-04C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-4C**

2010 REVISED STANDARD PLAN RSP ES-4C

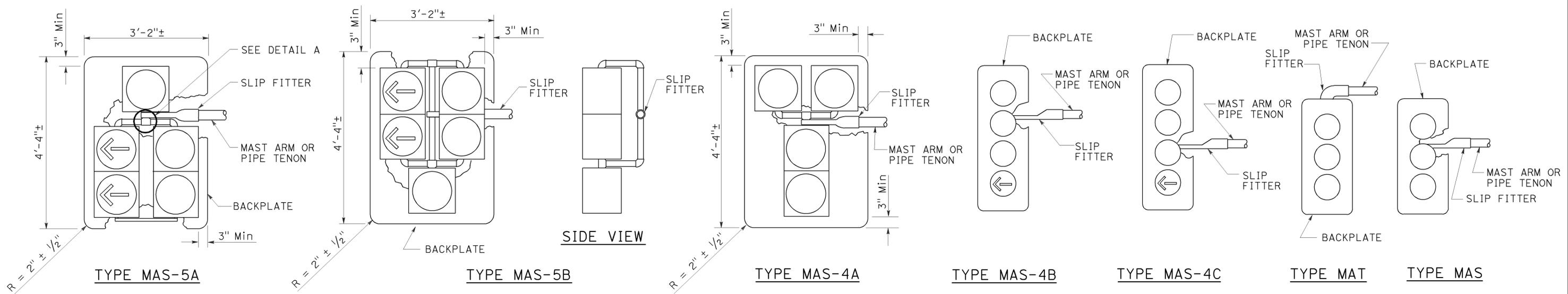
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	821	1012

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE

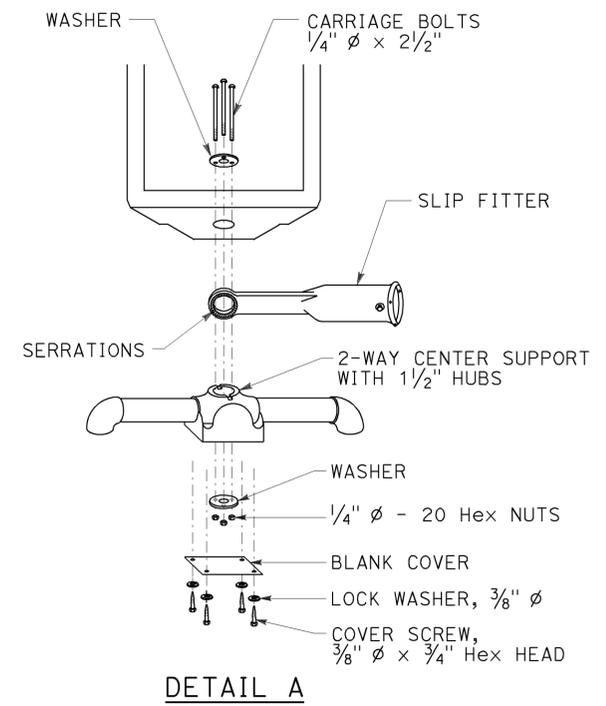
REGISTERED PROFESSIONAL ENGINEER  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-14  
 ELECTRICAL  
 STATE OF CALIFORNIA

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.

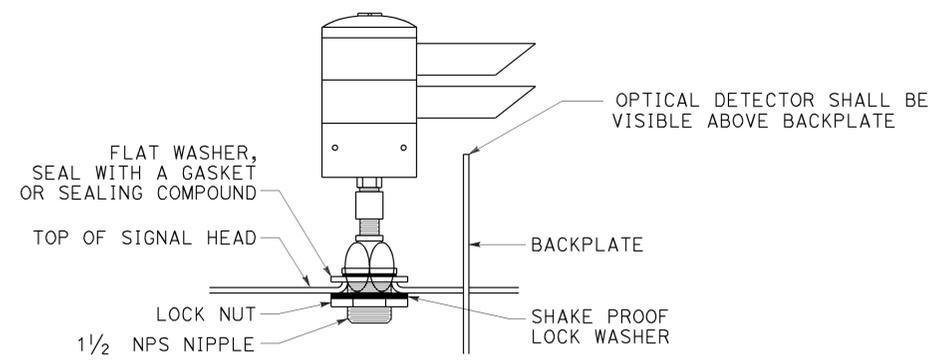
TO ACCOMPANY PLANS DATED 07-21-14



**MAST ARM MOUNTINGS**



**DETAIL A**



**DETAIL B**

**OPTICAL DETECTOR MOUNTING FOR EMERGENCY VEHICLE DETECTION SYSTEM**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (VEHICULAR SIGNAL HEADS AND  
 OPTICAL DETECTOR MOUNTING)**

NO SCALE

RSP ES-4E DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4E DATED MAY 20, 2011 - 447 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-4E**

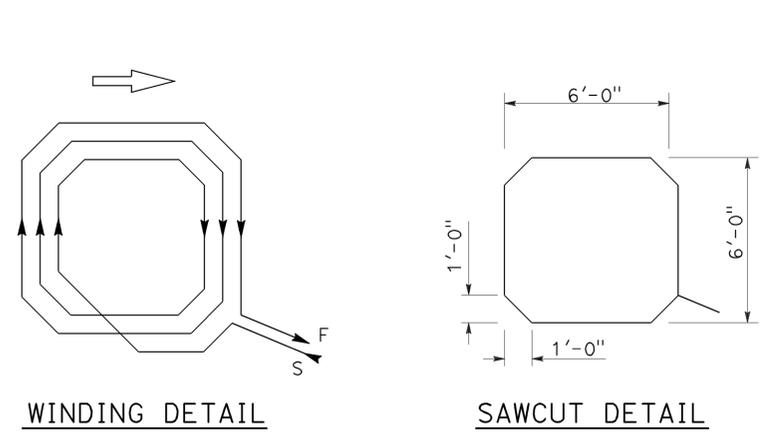
2010 REVISED STANDARD PLAN RSP ES-4E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	822	1012

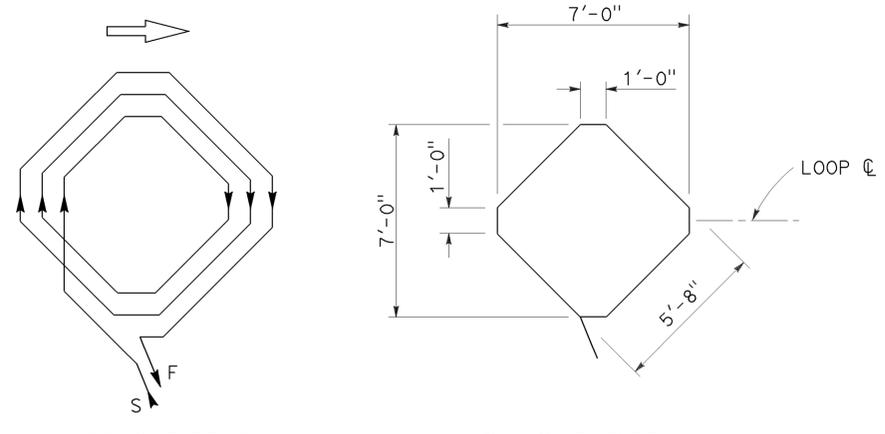
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-14  
 ELECTRICAL  
 STATE OF CALIFORNIA

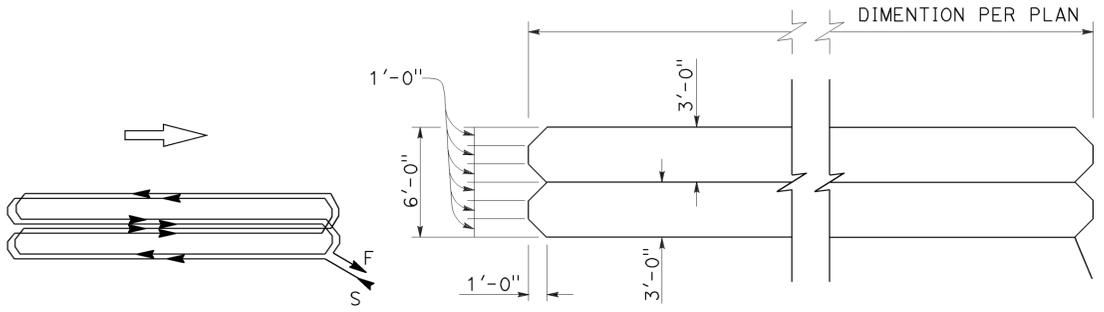
TO ACCOMPANY PLANS DATED 07-21-14



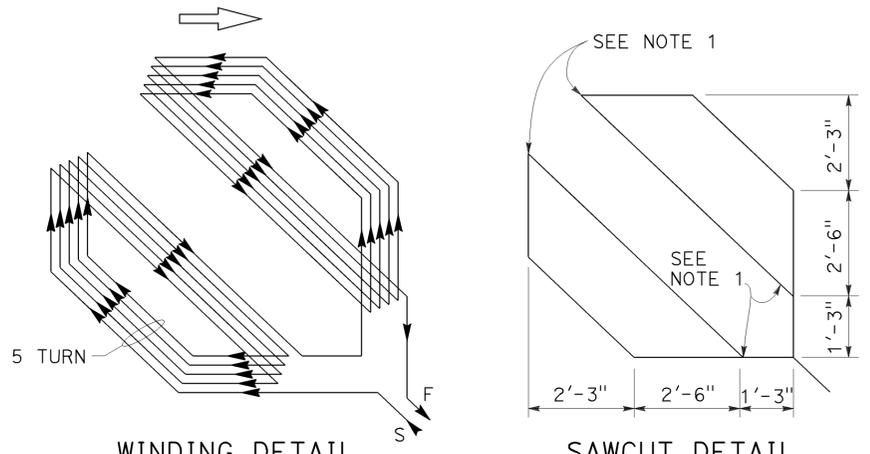
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE A LOOP DETECTOR CONFIGURATION**



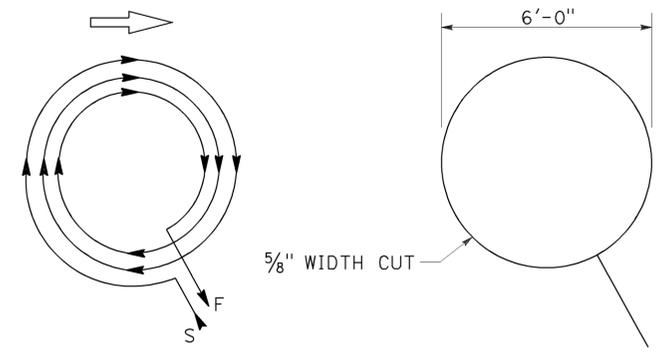
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE B LOOP DETECTOR CONFIGURATION**



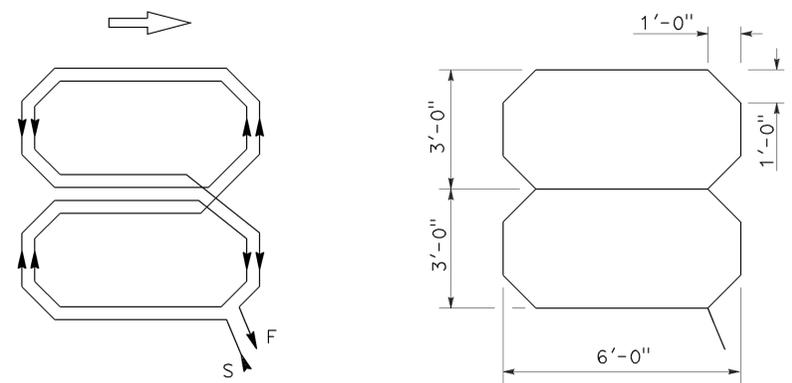
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE C LOOP DETECTOR CONFIGURATION**



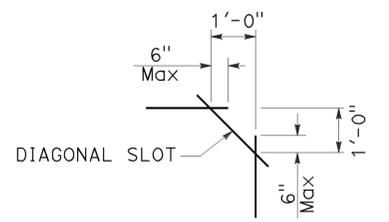
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE D LOOP DETECTOR CONFIGURATION**



WINDING DETAIL  
SAWCUT DETAIL  
**TYPE E LOOP DETECTOR CONFIGURATION**



WINDING DETAIL  
SAWCUT DETAIL  
**TYPE Q LOOP DETECTOR CONFIGURATION**



**PLAN VIEW OF DIAGONAL SLOT AT CORNERS**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (DETECTORS)**

NO SCALE

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

2010 REVISED STANDARD PLAN RSP ES-5B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	823	1012

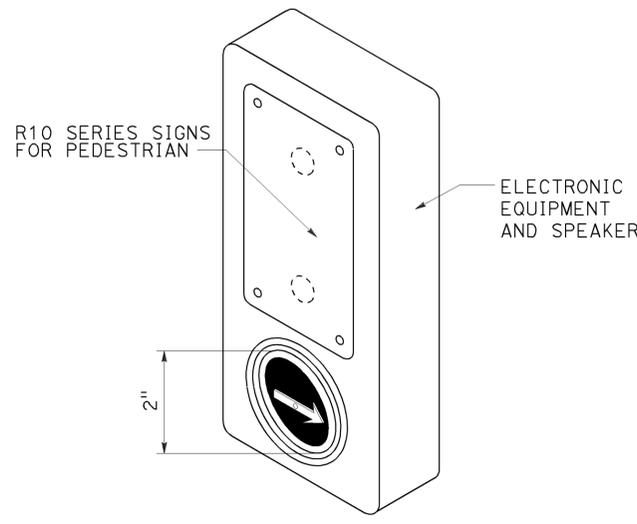
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

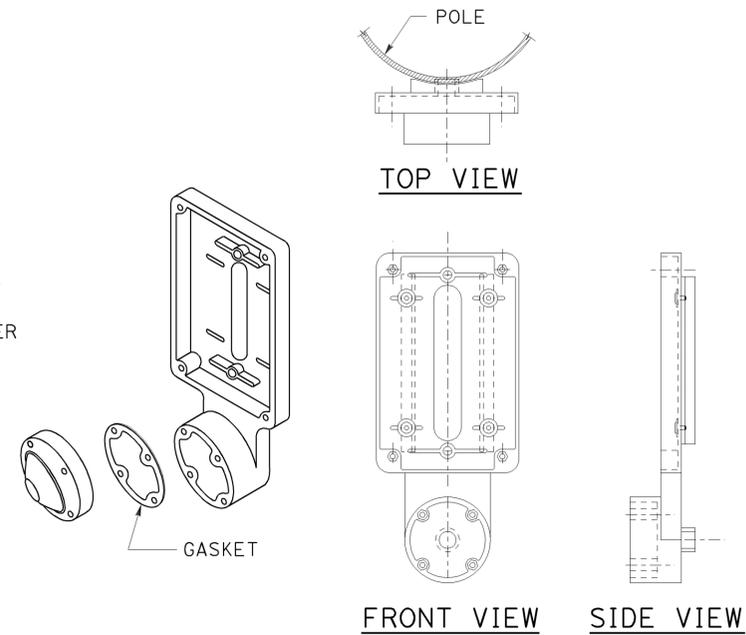
TO ACCOMPANY PLANS DATED 07-21-14

**NOTES:**

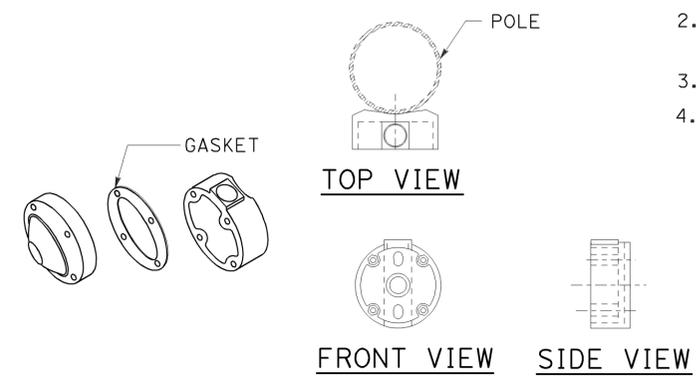
1. Back casting shape to fit curvature of pole.
2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
3. Install push button on crosswalk side of standard.
4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



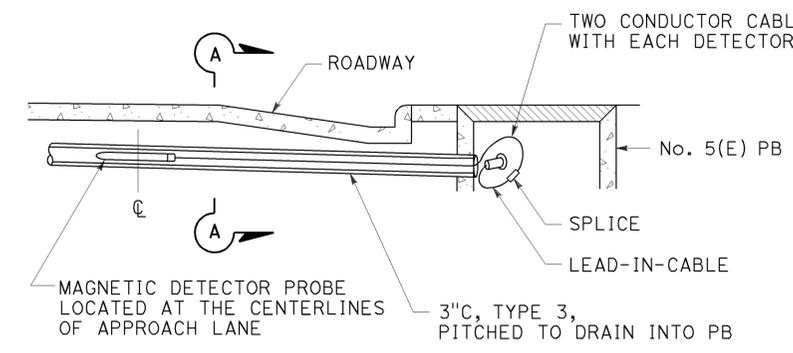
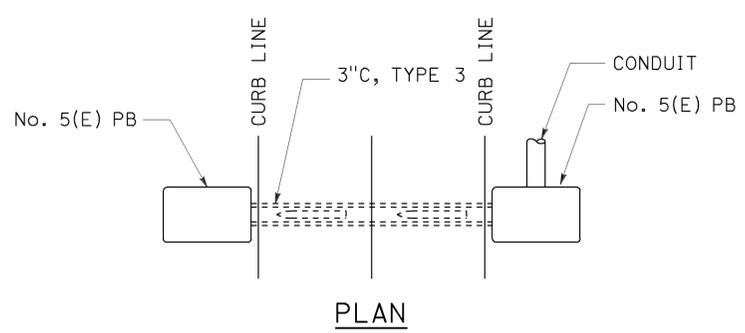
**ACCESSIBLE PEDESTRIAN SIGNAL**  
**DETAIL A**  
 (See note 1 to 4)



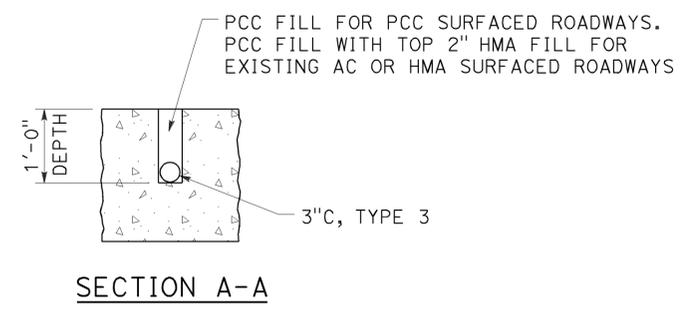
**TYPE B PUSH BUTTON ASSEMBLY**  
**DETAIL B**  
 (See note 1 to 4)



**TYPE C PUSH BUTTON ASSEMBLY**  
**DETAIL C**  
 (See note 1 to 4)



**MAGNETIC VEHICLE DETECTOR**  
**INSTALLATION DETAILS**  
**DETAIL D**



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(ACCESSIBLE PEDESTRIAN SIGNAL,**  
**PUSH BUTTON ASSEMBLIES AND**  
**MAGNETIC VEHICLE DETECTOR)**  
 NO SCALE

RSP ES-5C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5C  
 DATED MAY 20, 2011 - PAGE 450 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-5C**

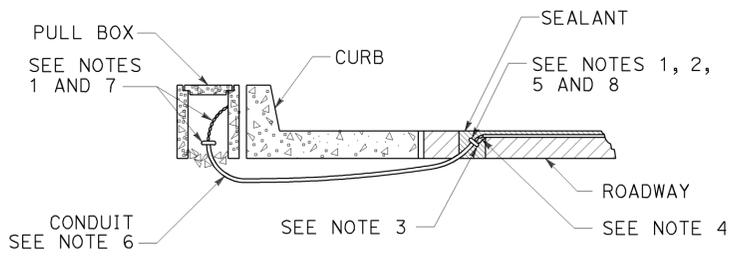
2010 REVISED STANDARD PLAN RSP ES-5C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	824	1012

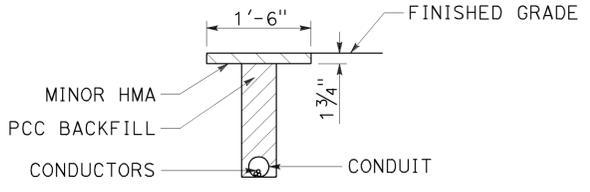
Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-14  
 ELECTRICAL  
 STATE OF CALIFORNIA

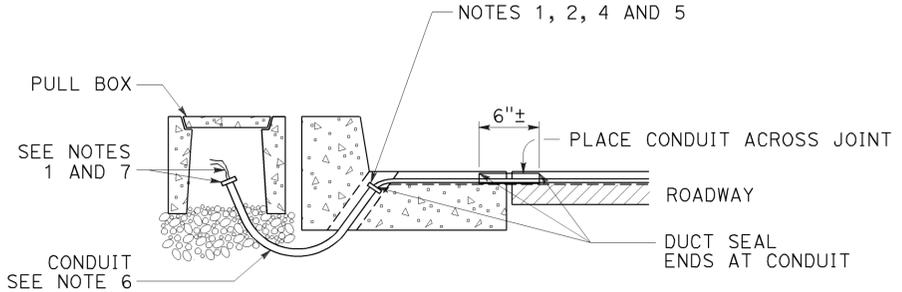
TO ACCOMPANY PLANS DATED 07-21-14



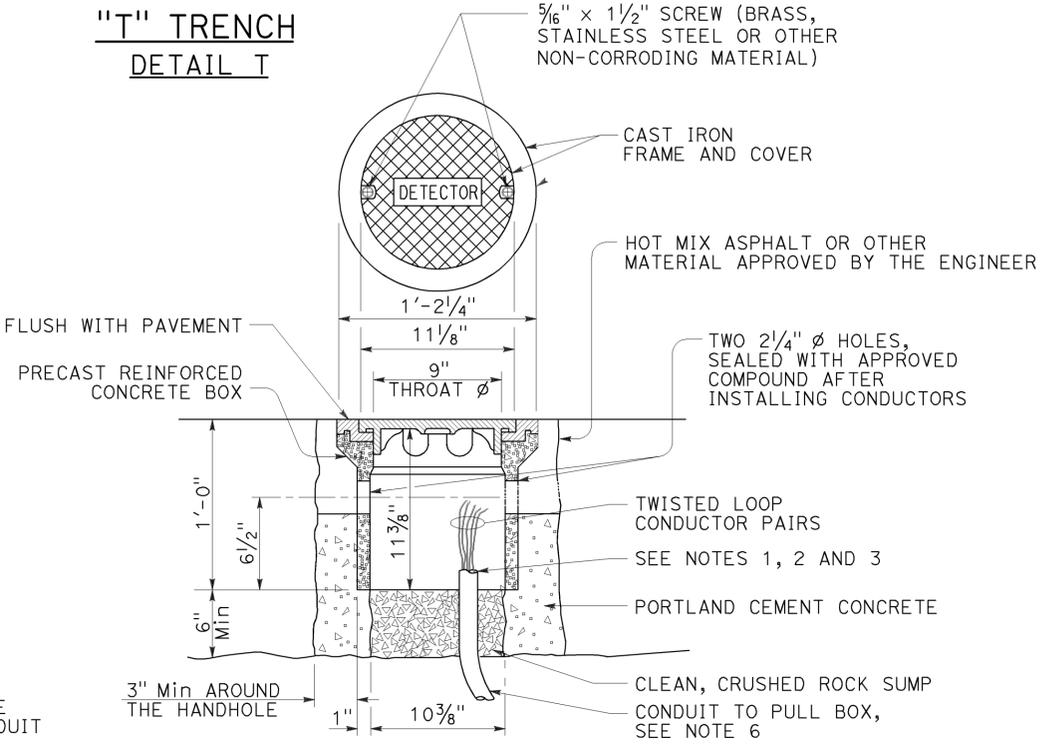
**TYPE A**  
**CURB TERMINATION DETAIL**



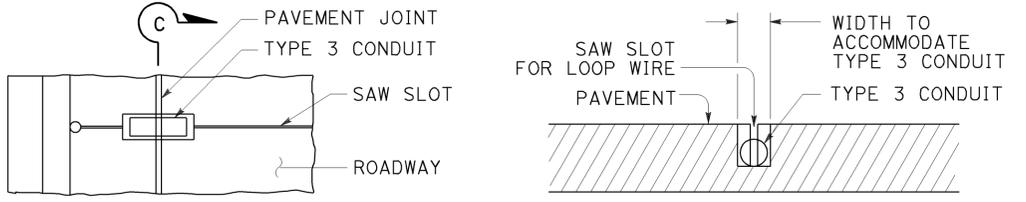
**"T" TRENCH**  
**DETAIL T**



**CROSS SECTION**



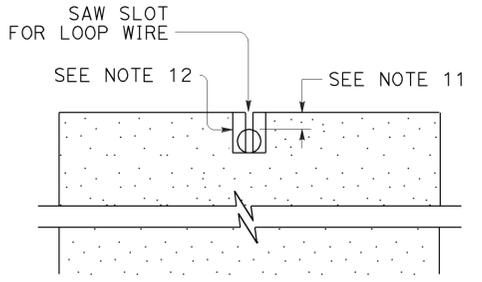
**DETECTOR HANDHOLE DETAIL**



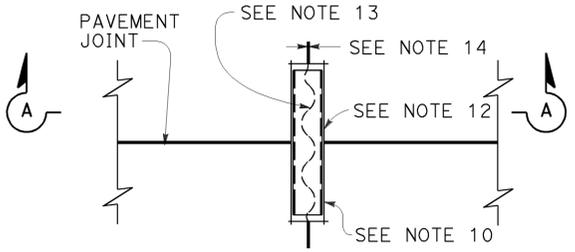
**PLAN VIEW**

**SECTION C-C**

**TYPE B**  
**CURB TERMINATION DETAIL**

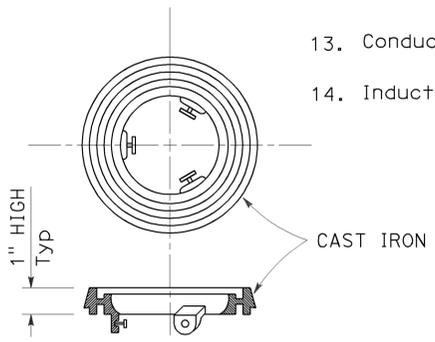


**SECTION A-A**

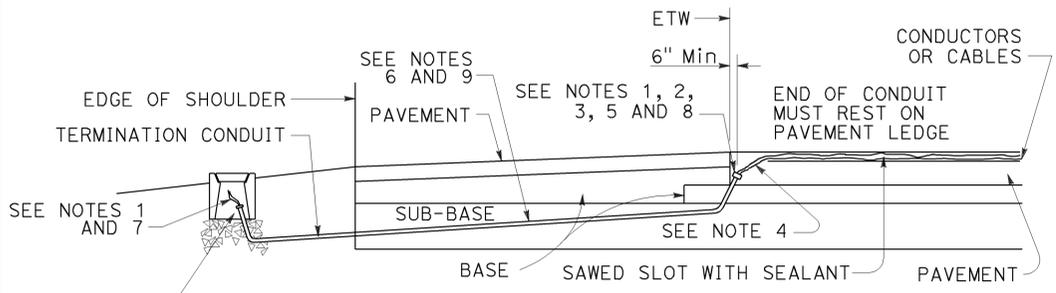


**PLAN VIEW**

**TYPICAL LOOP LEAD-IN DETAIL**  
**AT PAVEMENT JOINT**



**LOCKING GRADE RING**



**CROSS SECTION**

**PLAN VIEW**  
**SHOULDER TERMINATION DETAILS**

**NOTES:**

- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- Conduit size      Loop conductors  
 1"C minimum      1 to 2 pairs  
 1 1/2"C minimum      3 to 4 pairs  
 2"C minimum      5 or more pairs
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(CURB TERMINATION**  
**AND HANDHOLE)**  
NO SCALE

RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

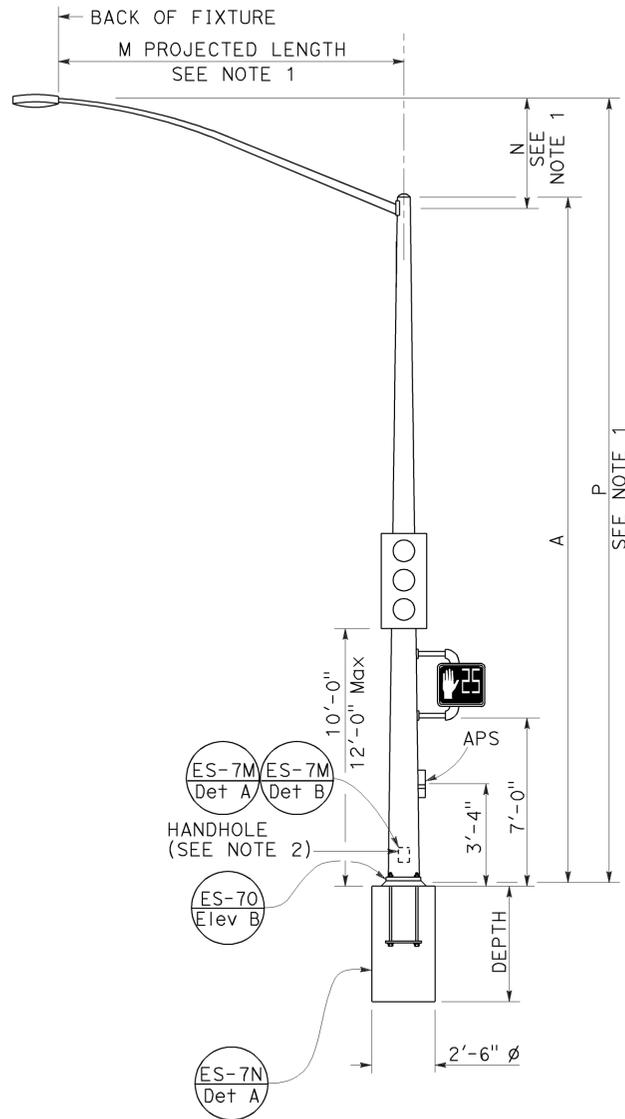
**REVISED STANDARD PLAN RSP ES-5D**

2010 REVISED STANDARD PLAN RSP ES-5D

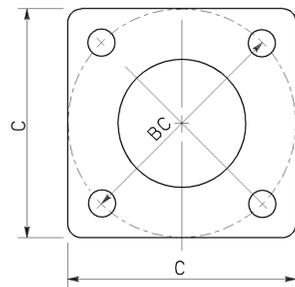
**NOTES:**

- For additional notes, details and data for Type 15TS and Type 21TS Standards, see Standard Plan ES-6A.
- Handhole shall be located on the downstream side of traffic.

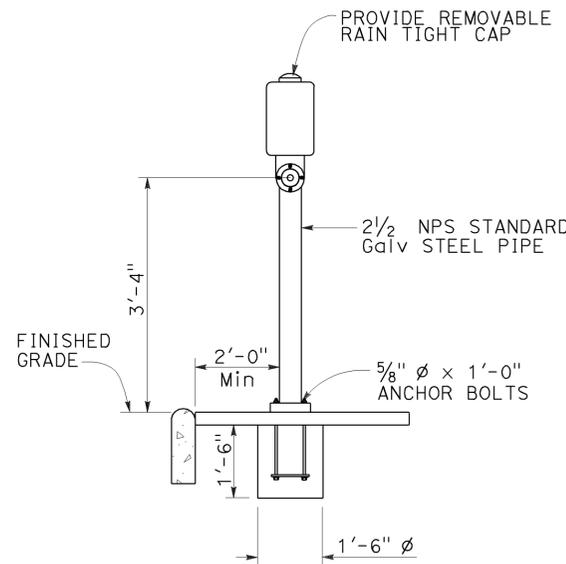
TO ACCOMPANY PLANS DATED 07-21-14



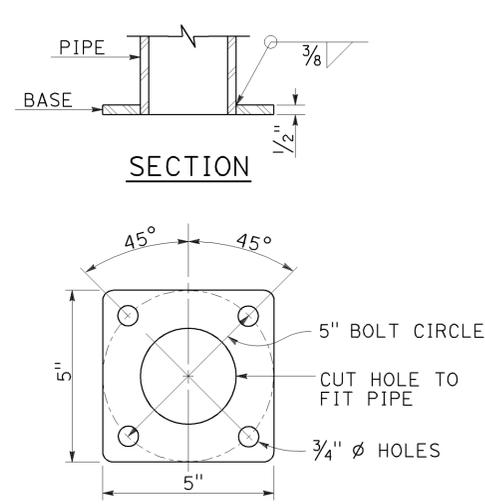
**TYPE 15TS AND 21TS STANDARD**  
**ELEVATION A**  
 (See Note 1)



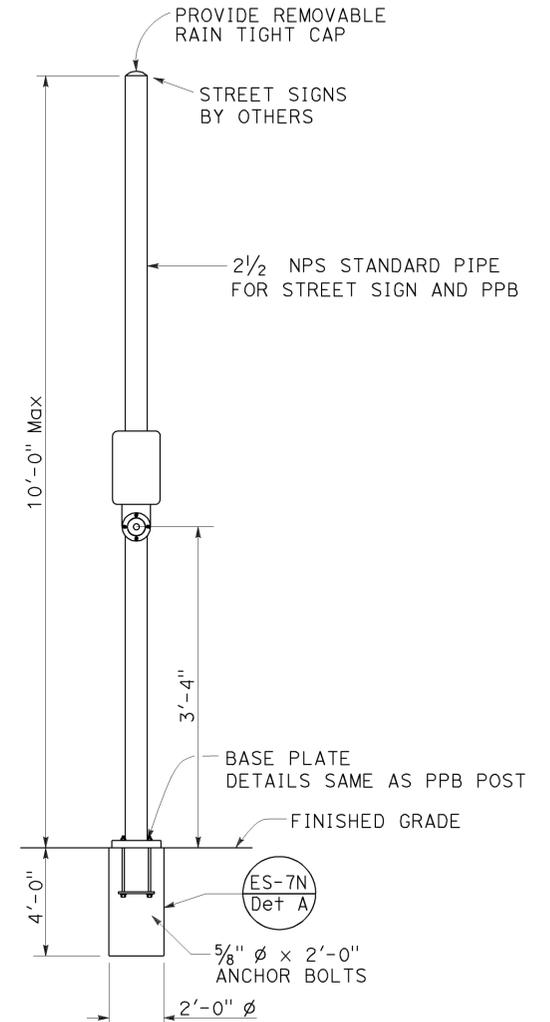
**BASE PLATE**  
**TYPE 15TS AND 21TS**  
**DETAIL A**



**PUSH BUTTON ASSEMBLY POST**  
**DETAIL B**



**BASE PLATE**  
**PBA POST**



**COMBINED STREET SIGN**  
**PUSH BUTTON ASSEMBLY POST**  
**DETAIL C**

POLE TYPE	POLE DATA			WALL THICKNESS	BASE PLATE DATA			CIDH DEPTH
	A HEIGHT	Min OD			C	BC = BOLT CIRCLE	ANCHOR BOLT SIZE	
		BASE	TOP					
15TS	30'-0"	8"	3 1/16"	0.1793"	1'-1 1/2"	1'-0"	1 1/2" ø x 42"	7'-6"
21TS	35'-0"	9 3/8"	3 3/16"		1'-3"	1'-2"		8'-6"

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

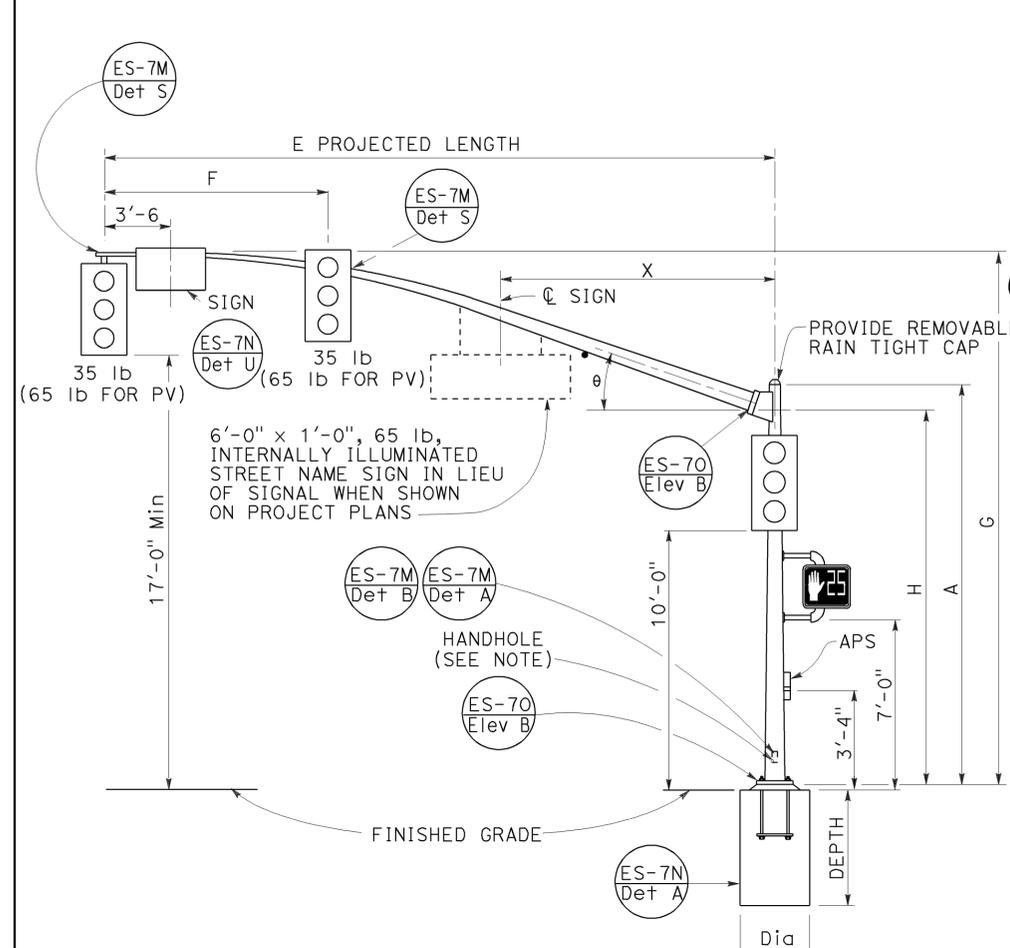
**ELECTRICAL SYSTEMS**  
**(SIGNAL AND LIGHTING STANDARD, TYPE TS,**  
**AND PUSH BUTTON ASSEMBLY POST)**

NO SCALE

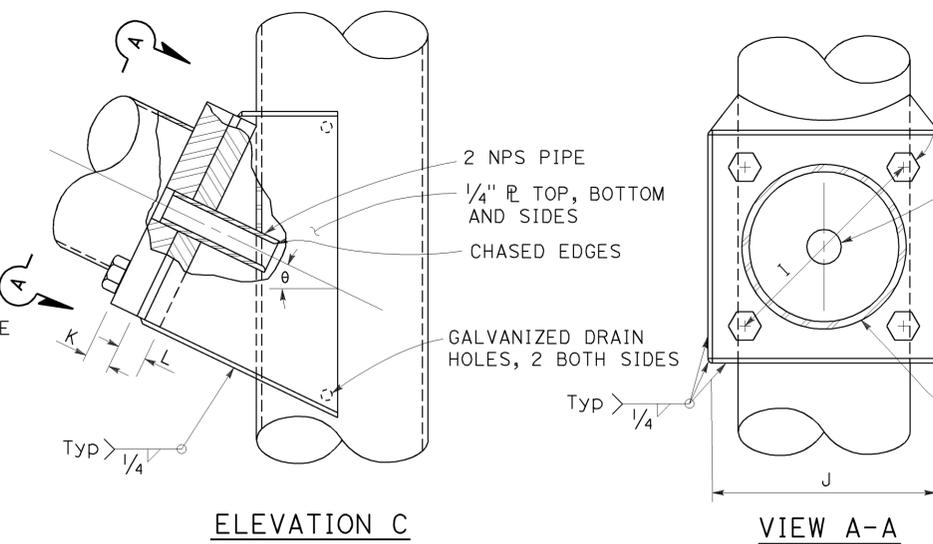
RSP ES-7A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7A DATED MAY 20, 2011 - PAGE 462 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-7A**

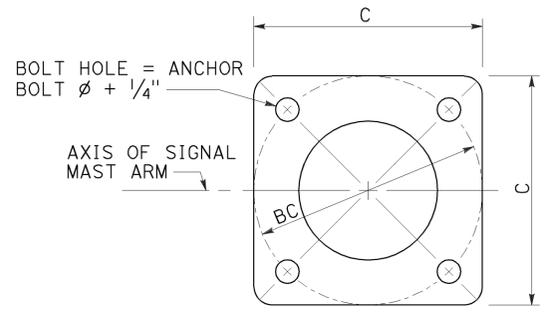
2010 REVISED STANDARD PLAN RSP ES-7A



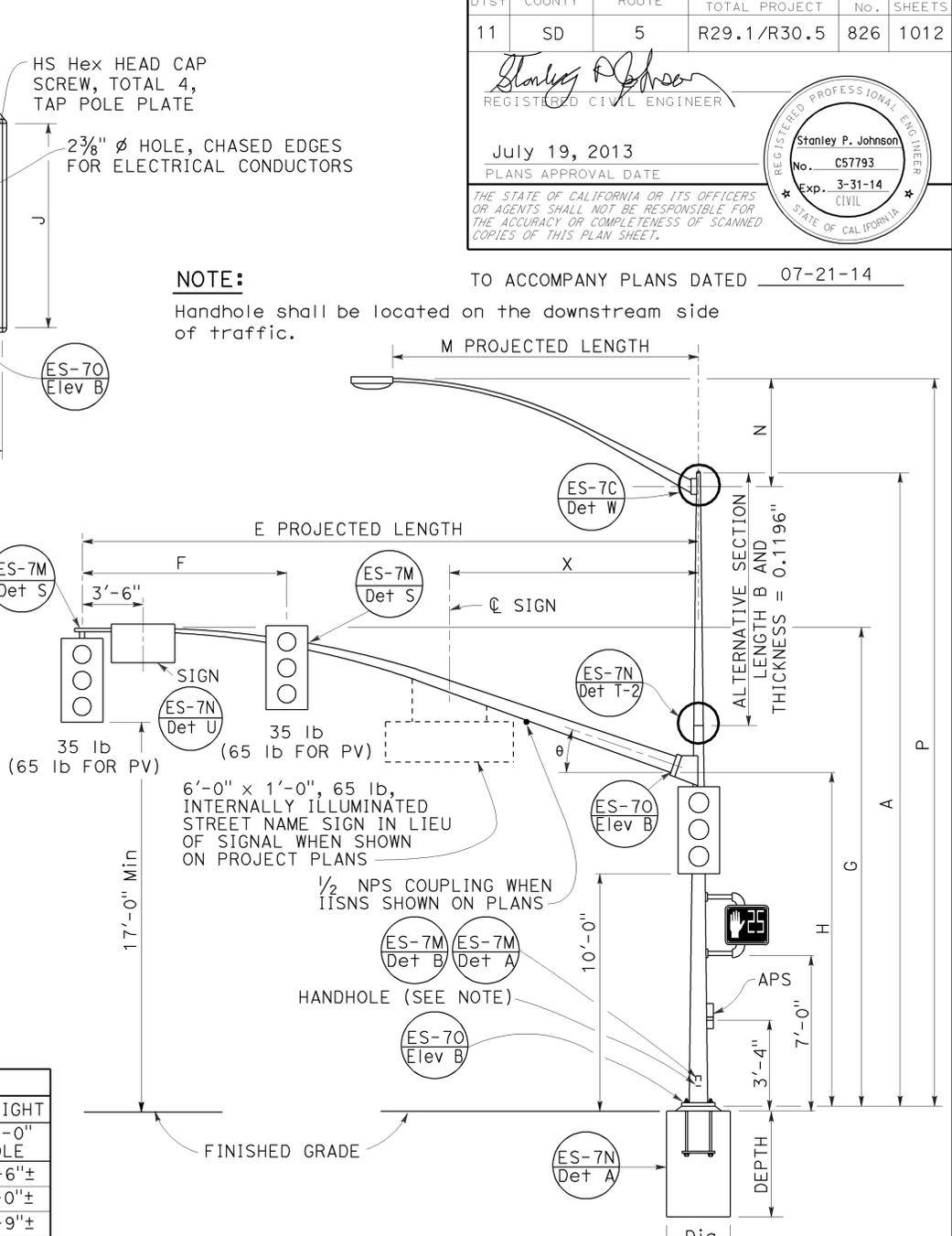
**TYPE 16-3-100, 18-3-100,  
 23-3-100, 27-3-100**  
**ELEVATION A**



**SIGNAL MAST ARM CONNECTION**  
**DETAIL A**



**BASE PLATE**  
**DETAIL B**



**TYPE 17-3-100, 24A-3-100,  
 19-3-100, 26-3-100,  
 19A-3-100, 26A-3-100, 24-3-100**  
**ELEVATION B**

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM THICKNESS	L POLE THICKNESS	theta	X Max
15'-0"	8'-0"	21'-8"±	17'-6"	7 3/8"	0.1793"							-
20'-0"		21'-8"±		7 3/8"		12"		1'-0"	1 1/4"	1 1/2"	23°	
25'-0"		22'-8"±		7 3/8"								
30'-0"	12'-0"	22'-8"±		8"				1 1/4"-7NC-3"				10'-6"
35'-0"	14'-0"	23'-0"±	16'-0"	8 3/4"	0.2391"						21°	
40'-0"				9 3/8"		13"			1 1/2"	1 3/4"	15°	13'-0"
45'-0"	15'-0"	23'-8"±		10 1/16"								

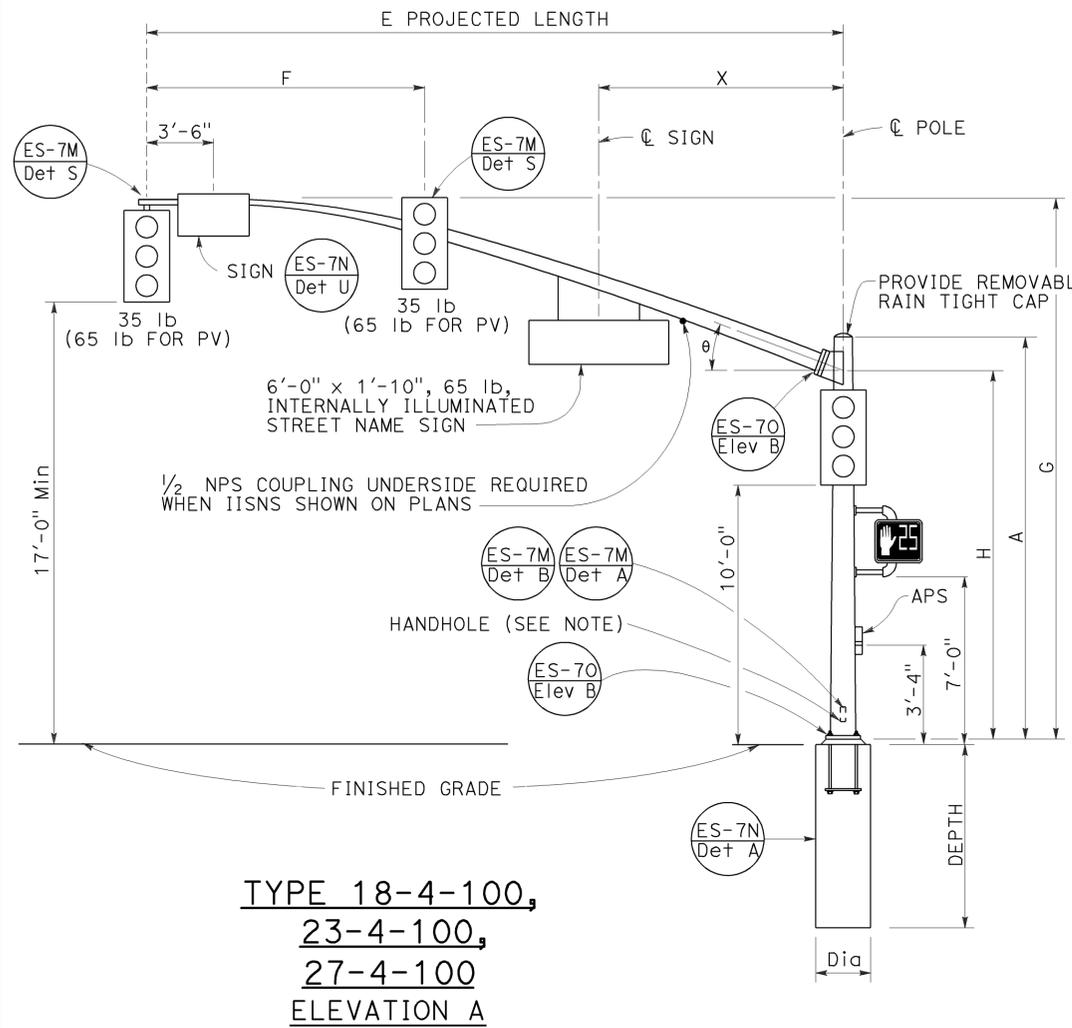
M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT
6'-0"	2'-0"±	3 1/4"		30'-0" POLE
8'-0"	2'-6"±	3 1/2"		35'-0" POLE
10'-0"	3'-3"±	3 7/8"	0.1196"	31'-6"±
12'-0"	4'-3"±	4 1/4"		32'-0"±
15'-0"	4'-9"±			36'-6"±
				37'-0"±
				32'-9"±
				37'-9"±
				33'-9"±
				38'-9"±
				34'-3"±
				39'-3"±

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA				BASE PLATE DATA				CIDH PILE FOUNDATION							
			A HEIGHT	Min OD		THICKNESS	ALTERNATIVE SECTION		C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	DIAMETER	DEPTH	REINFORCED	
				BASE	TOP		B LENGTH	BOTTOM										TOP
16-3-100			18'-6"		8 1/16"	0.1793"	NONE											
17-3-100			30'-0"	10 3/4"	6 7/16"		10'-0"	7 7/8"	6 7/16"	1'-5 1/2"			1 1/2" phi x 42"	NONE	15'-0"	8'-6"		
18-3-100			17'-0"		8 9/16"		NONE							NONE	20'-0"	9'-6"		
19-3-100			30'-0"		7 1/16"		10'-0"	9 1/8"	7 1/16"					NONE	25'-0"			
19A-3-100			35'-0"		6 15/16"		15'-0"		6 15/16"					6'-15' 12'-0"	30'-0"			
23-3-100	3	100	17'-0"	1'-0"	9 9/16"	0.2391"	NONE			1'-7"	1'-5 1/2"	3"	2" phi x 42"	NONE		3'-0"	11'-0"	YES
24-3-100			30'-0"		7 1/16"		10'-0"	9 1/8"	7 1/16"					6'-15' 12'-0"				
24A-3-100			35'-0"		6 15/16"		15'-0"	9 1/8"	6 15/16"					6'-15' 15'-0"				
26-3-100			30'-0"		7 13/16"		10'-0"	9 1/4"	7 13/16"					6'-15' 12'-0"				
26A-3-100			35'-0"	1'-2"	7 1/16"	0.3125"	15'-0"		7 1/16"	1'-11"	1'-9"		2 1/2" phi x 42"	6'-15' 12'-0"	40'-0"	3'-6"	12'-0"	
27-3-100			17'-0"		9 1/16"		NONE							6'-15' 15'-0"	45'-0"			

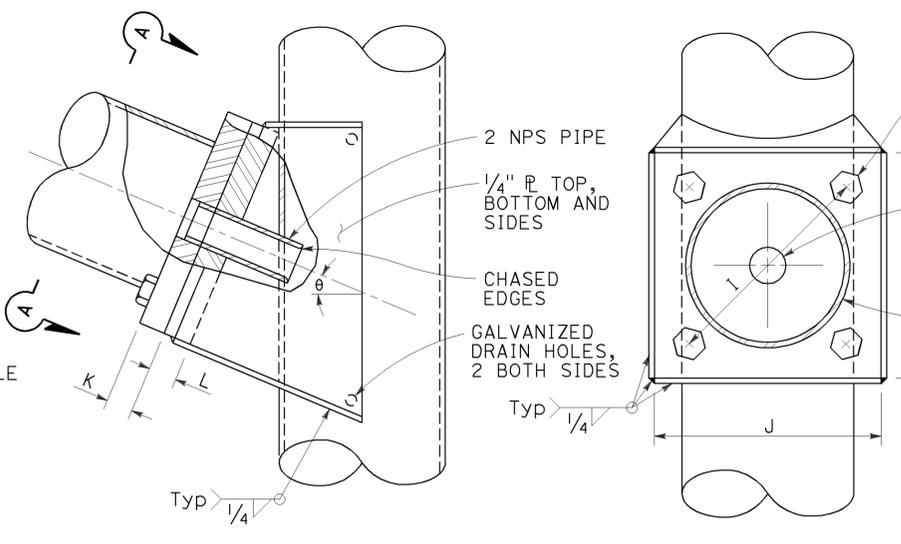
[ ] INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

2010 REVISED STANDARD PLAN RSP ES-7E

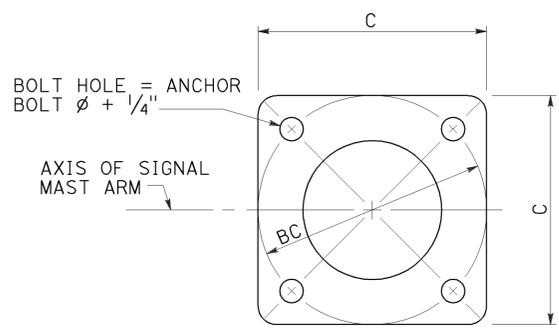
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(SIGNAL AND LIGHTING STANDARD,**  
**CASE 3 SIGNAL MAST ARM LOADING,**  
**WIND VELOCITY=100 MPH AND SIGNAL**  
**MAST ARM LENGTHS 15' TO 45')**  
 NO SCALE  
 RSP 7E DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN 7E  
 DATED MAY 20, 2011 - PAGE 466 OF THE STANDARD PLANS BOOK DATED 2010.



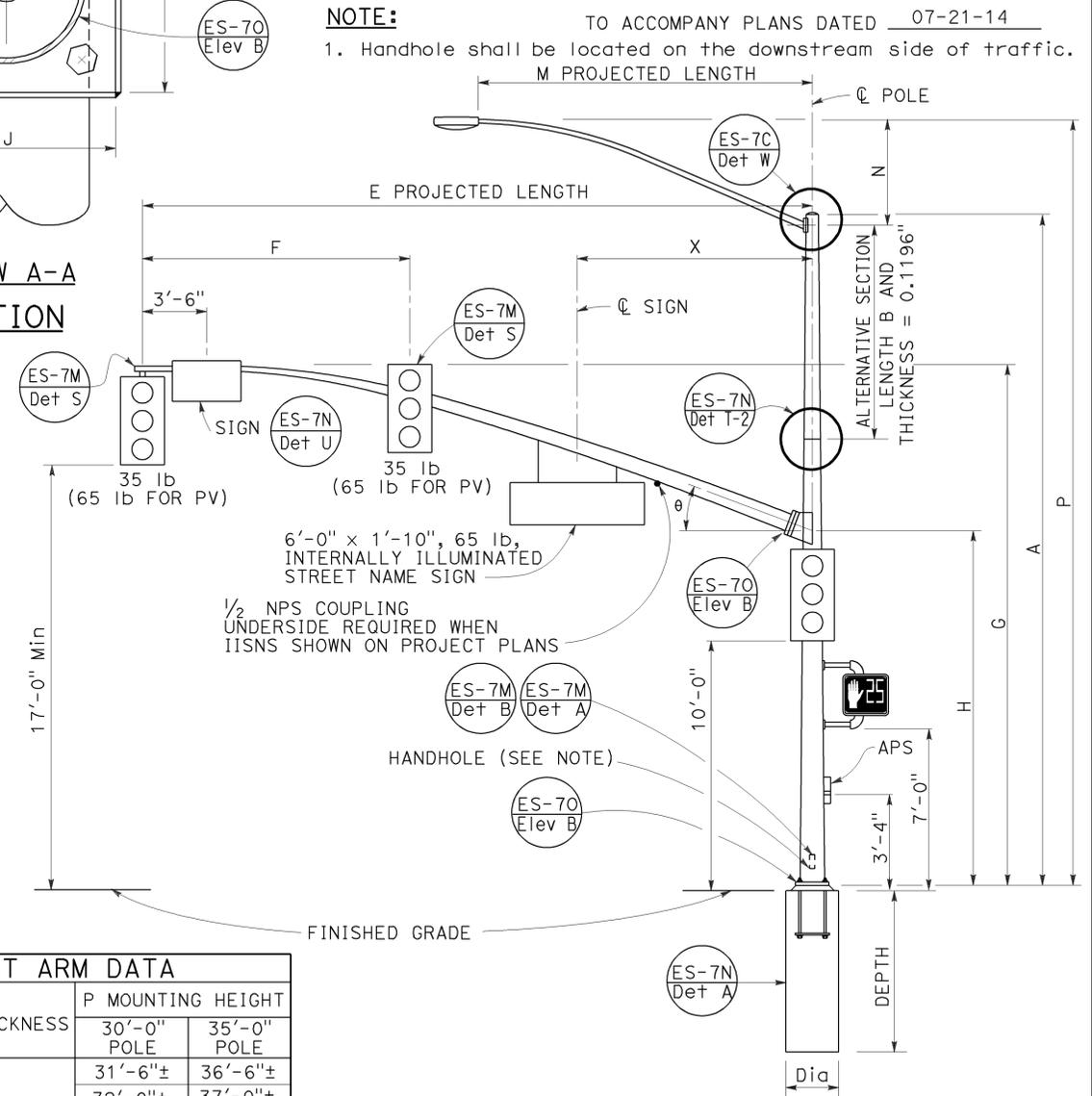
**TYPE 18-4-100,  
 23-4-100,  
 27-4-100  
 ELEVATION A**



**ELEVATION C  
 SIGNAL MAST ARM CONNECTION  
 DETAIL A**



**BASE PLATE  
 DETAIL B**



**TYPE 19-4-100, 19A-4-100,  
 24-4-100, 24A-4-100,  
 26-4-100, 26A-4-100  
 ELEVATION B**

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM THICKNESS	L POLE R THICKNESS	theta	X Max
25'-0"	10'-0"	22'-8"±	16'-0"	7 3/8"	0.2391"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°	10'-6"
30'-0"	12'-0"	8"										
35'-0"	14'-0"	8 1/8"										
40'-0"	15'-0"	9 3/8"										
45'-0"	17'-0"	10 1/4"										

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30'-0" POLE	35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA			BASE PLATE DATA				CIDH PILE FOUNDATION					
			A HEIGHT	Min OD		THICKNESS	ALTERNATIVE SECTION			LUMINAIRE MAST ARM	SIGNAL MAST ARM	Dia	DEPTH	REINFORCED	
				BASE	TOP		B LENGTH	BOTTOM	TOP						
18-4-100	4	100	17'-0"	12 1/8"	9 1/16"	NONE	1'-7"	1'-5 1/2"	3"	2" ø x 42"	3'-0"	11'-0"	YES		
19-4-100			30'-0"		7 11/16"	10'-0"								9 1/8"	7 11/16"
19A-4-100			35'-0"		6 15/16"	15'-0"								6 15/16"	
23-4-100			17'-0"		9 1/16"	NONE									
24-4-100			30'-0"	7 11/16"	0.3125"	3"	2" ø x 42"	35'-0"							
24A-4-100			35'-0"	6 15/16"					15'-0"	9 1/8"				6 15/16"	
26-4-100			30'-0"	8 3/16"					10'-0"	9 5/8"				8 3/16"	
26A-4-100			35'-0"	7 7/16"					15'-0"	7 7/16"					
27-4-100	17'-0"	10 1/16"	NONE			NONE				40'-0", 45'-0"	3'-6"	12'-0"			

[ ] INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (SIGNAL AND LIGHTING STANDARD,  
 CASE 4 SIGNAL MAST ARM LOADING,  
 WIND VELOCITY=100 MPH AND SIGNAL  
 MAST ARM LENGTHS 25' TO 45')**  
 NO SCALE  
 RSP ES-7F DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7F  
 DATED MAY 20, 2011 - PAGE 467 OF THE STANDARD PLANS BOOK DATED 2010.  
**REVISED STANDARD PLAN RSP ES-7F**

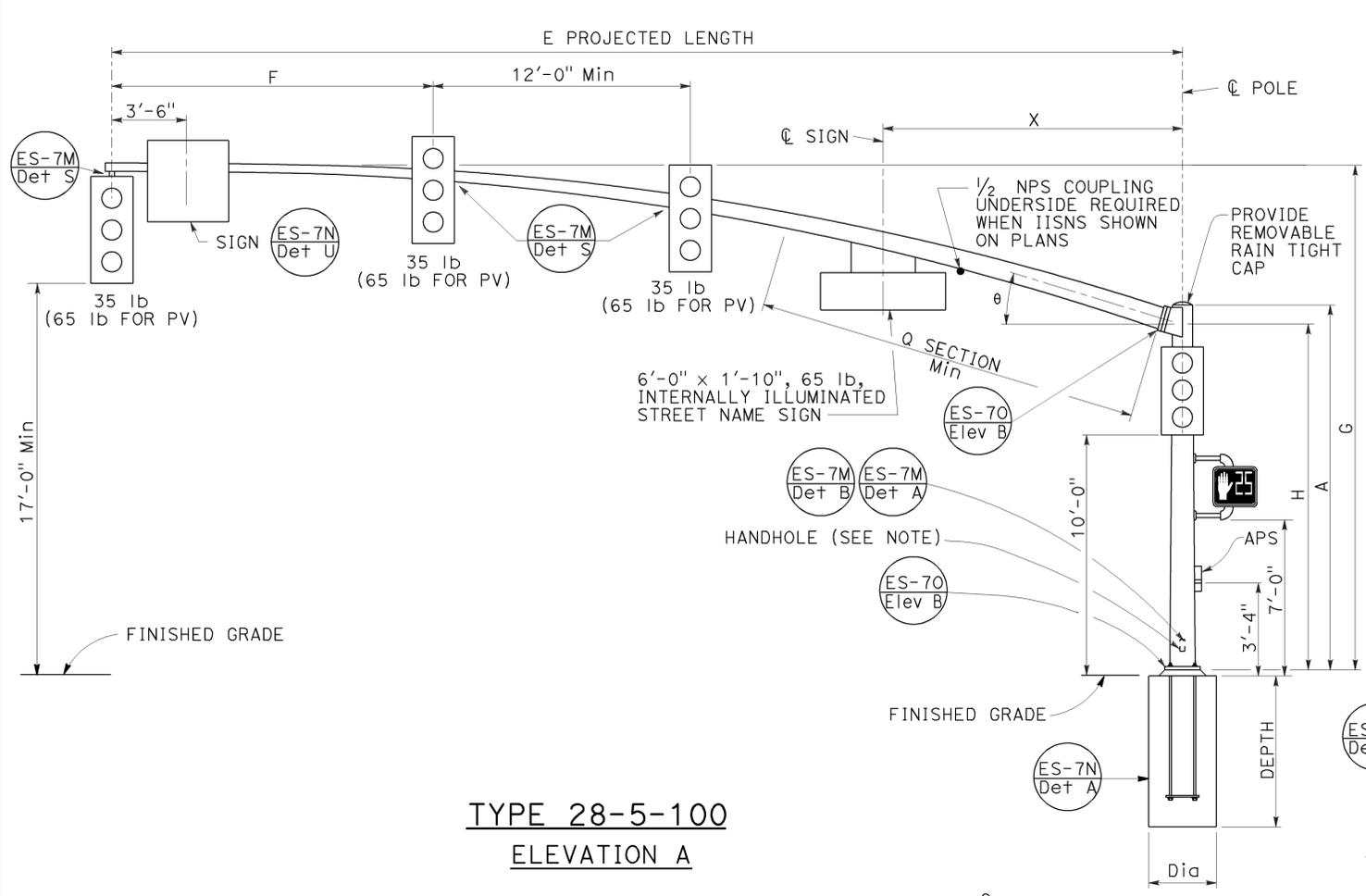
2010 REVISED STANDARD PLAN RSP ES-7F

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	828	1012

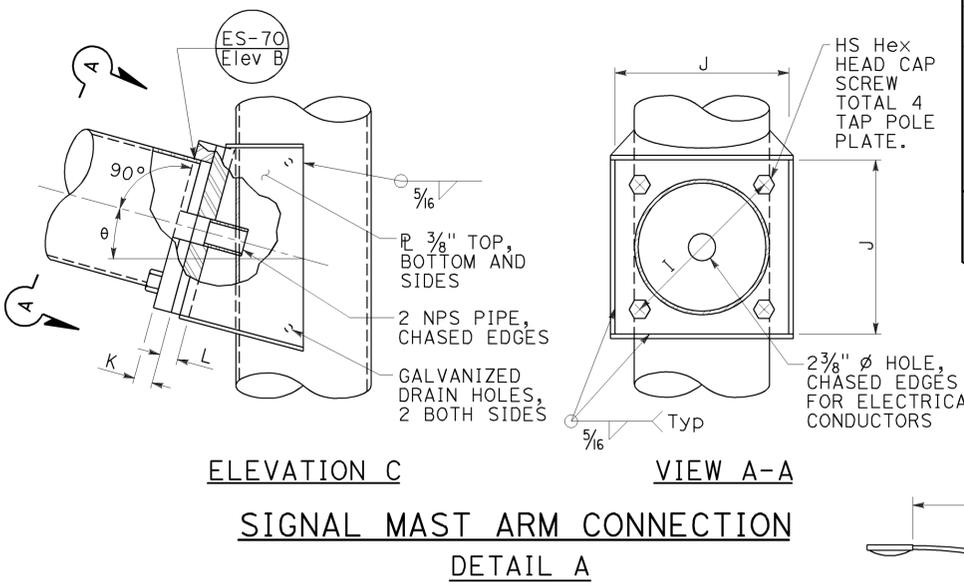
Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 No. C57793  
 Exp. 3-31-14  
 STATE OF CALIFORNIA

July 19, 2013  
 PLANS APPROVAL DATE

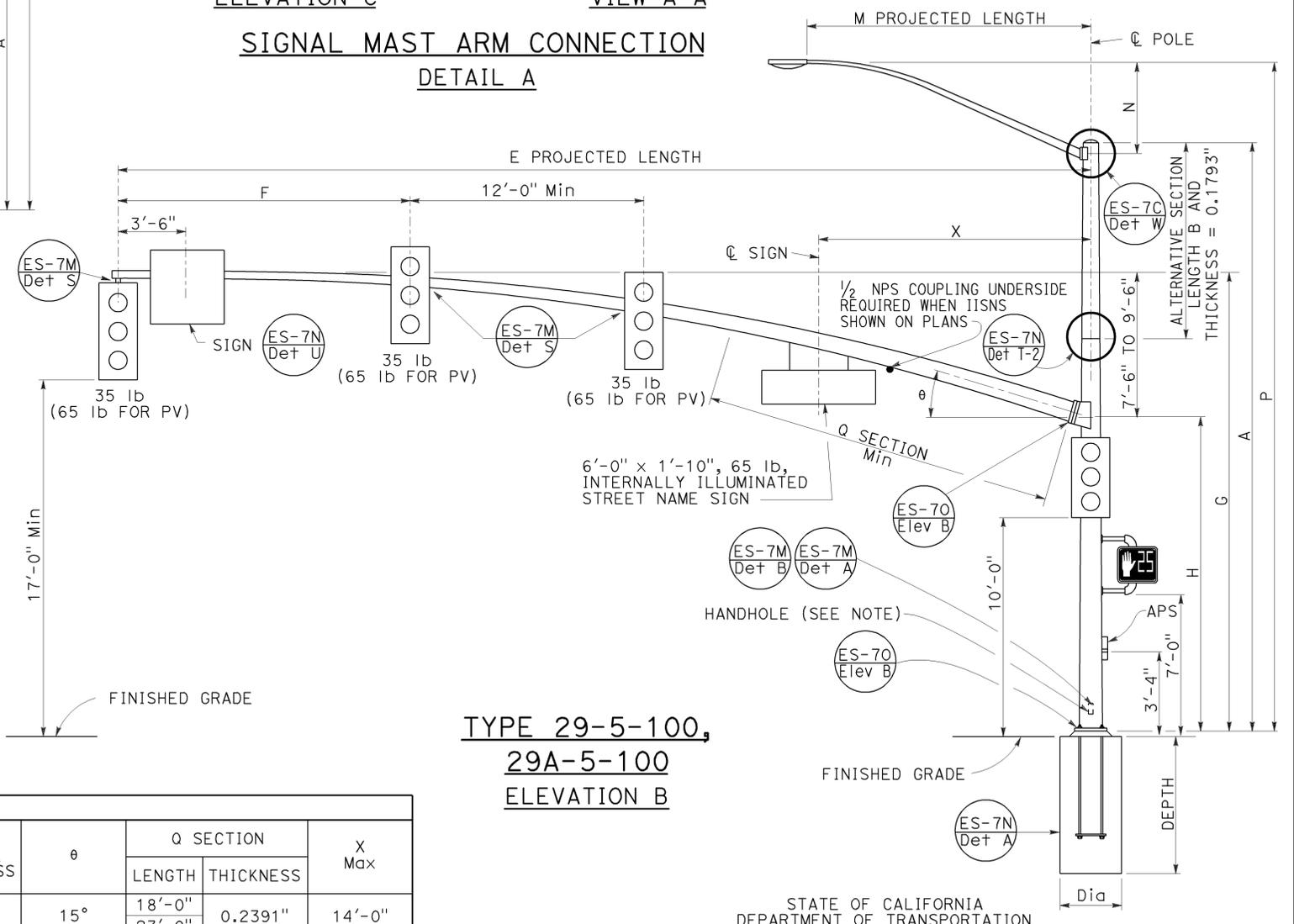
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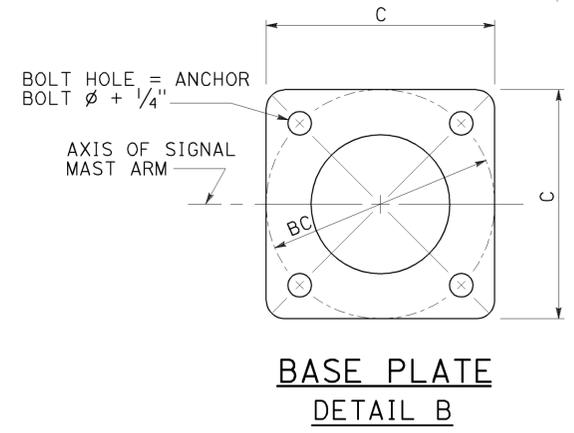
**TYPE 28-5-100**  
ELEVATION A



**ELEVATION C**  
**VIEW A-A**  
SIGNAL MAST ARM CONNECTION  
DETAIL A



**TYPE 29-5-100,**  
**29A-5-100**  
ELEVATION B



**BASE PLATE**  
DETAIL B

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30'-0" POLE	35'-0" POLE
6'-0"	2'-0"±	3 3/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM P THICKNESS	L POLE P THICKNESS	θ	Q SECTION		X Max
												LENGTH	THICKNESS	
50'-0" 55'-0"	15'-0"	23'-7"± TO 25'-7"±	16'-0"	1 11/16" 1'-1/4"	0.1793"	16"	1 1/2"-6NC-3 1/4"	1'-4"	1 3/4"	1 3/4"	15°	18'-0" 23'-0"	0.2391"	14'-0"

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA				BASE PLATE DATA				LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION				
			A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE			Di	DEPTH	REINFORCED		
28-5-100			17'-0"		1 11/16"	NONE						NONE					
29-5-100	5	100	30'-0"	14"	9 11/16"	10'-0"	11 1/8"	9 11/16"	23"	21"	3"	2 1/2" Ø x 42"	6'-15"	15'-0"	3'-6"	12'-0"	YES
29A-5-100			35'-0"		8 5/16"	15'-0"		8 5/16"									

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(SIGNAL AND LIGHTING STANDARD,**  
**CASE 5 SIGNAL MAST ARM LOADING,**  
**WIND VELOCITY=100 MPH AND SIGNAL**  
**MAST ARM LENGTHS 50' TO 55')**  
 NO SCALE

RSP ES-7G DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7G  
 DATED MAY 20, 2011 - PAGE 468 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-7G**

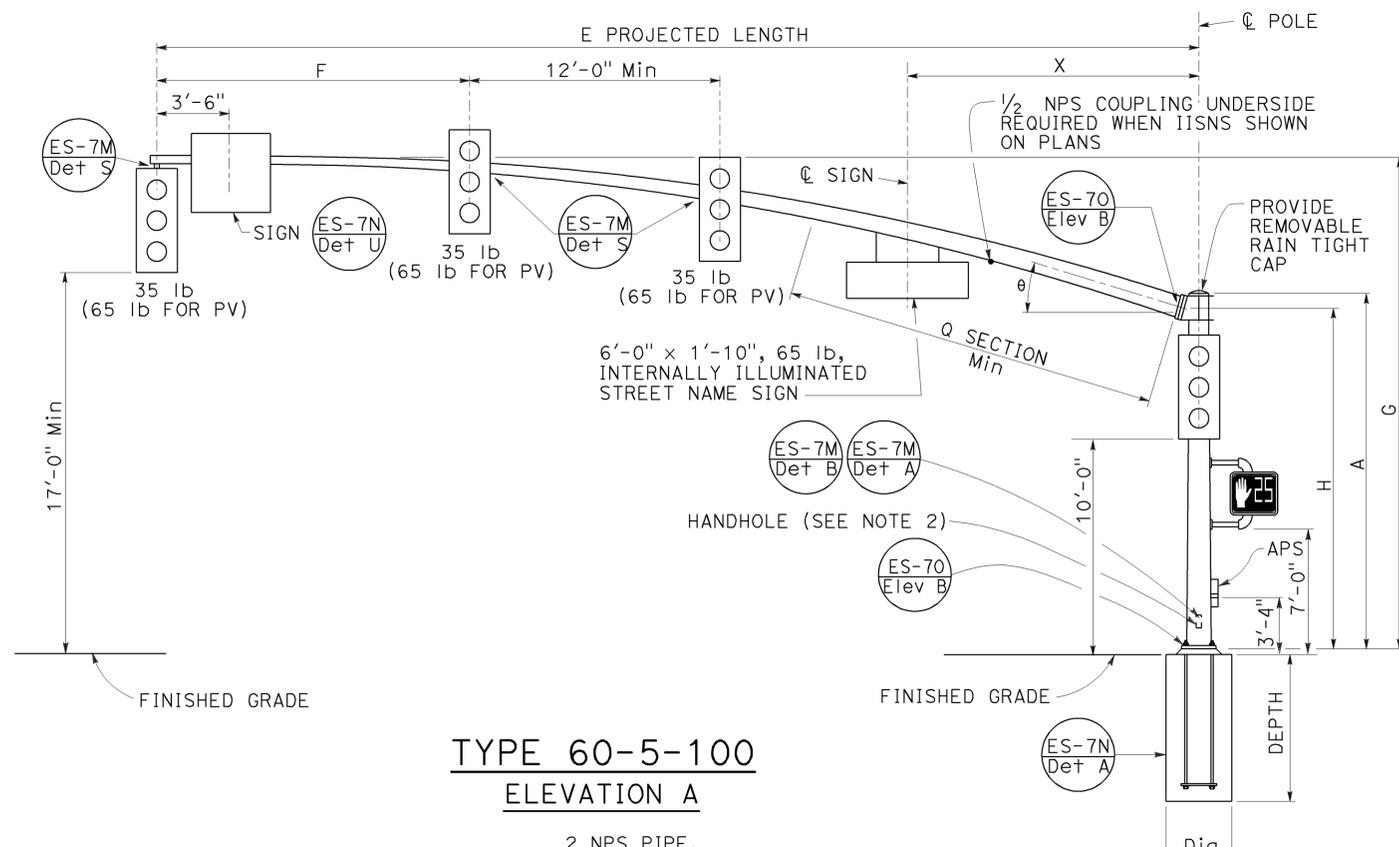
2010 REVISED STANDARD PLAN RSP ES-7G

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	829	1012

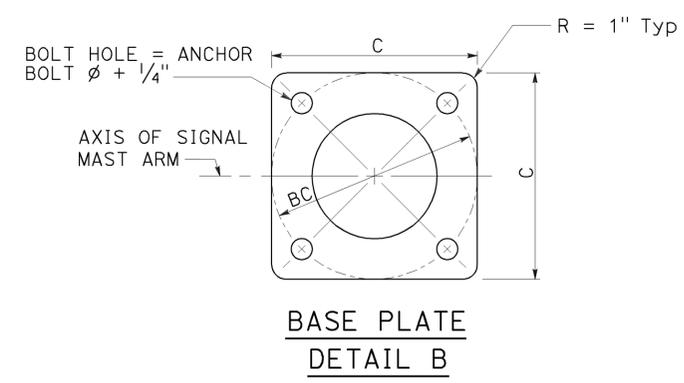
Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 No. C57793  
 Exp. 3-31-14  
 CIVIL  
 STATE OF CALIFORNIA

July 19, 2013  
 PLANS APPROVAL DATE

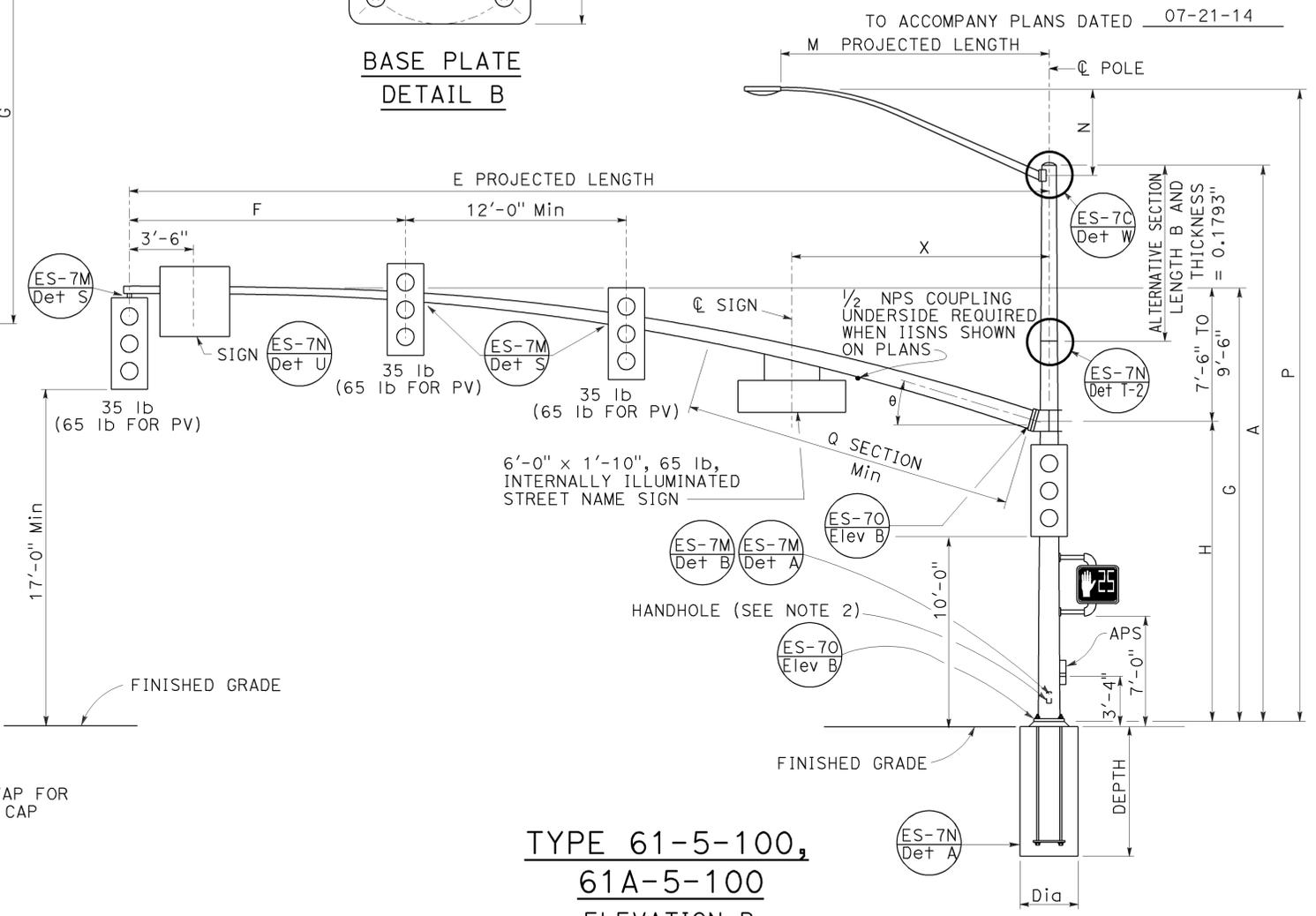
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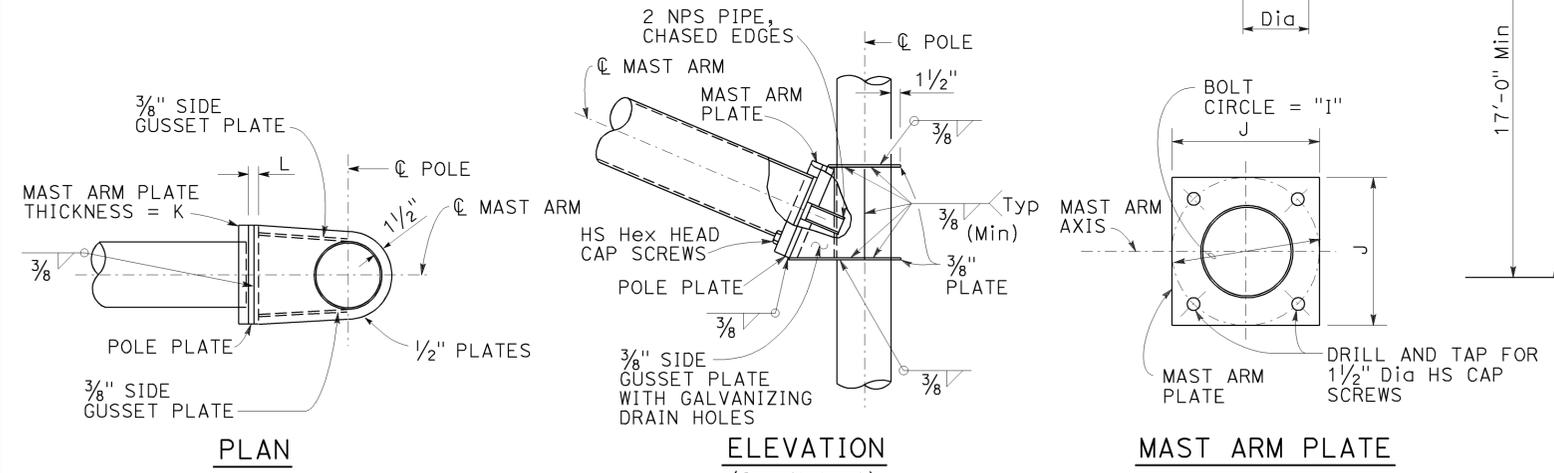
**TYPE 60-5-100**  
ELEVATION A



**BASE PLATE**  
DETAIL B



**TYPE 61-5-100,**  
**61A-5-100**  
ELEVATION B



**SIGNAL MAST ARM CONNECTION**  
DETAIL A

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM PLATE THICKNESS	L POLE PLATE THICKNESS	θ	Q SECTION		X Max
												LENGTH	THICKNESS	
60'-0"	15'-0"	23'-7" TO 25'-7"	16'-0"	1'-1 1/2"	0.1793"	20"	1 1/2"-6NC-4"	1'-8"	2"	2"	15°	24'-0"	0.2391"	14'-0"
65'-0"		0.2391"			29'-0"							0.3125"		

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT POLE	Q MOUNTING HEIGHT POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 3/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

- NOTES:**
- The radial separation between the face of the pole and the adjacent insides of the top and bottom gusset plates shall not exceed 3/16". Fillet weld size to be increased by amount of gap.
  - Handhole shall be located on the downstream side of traffic.

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA			BASE PLATE DATA				LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION			
			A HEIGHT	Min OD		THICKNESS	C	BC = BOLT CIRCLE	THICKNESS			ANCHOR BOLT SIZE	DIAMETER	DEPTH	REINFORCED
				BASE	TOP										
60-5-100	5	100	17'-0"	16"	1'-1 9/16"	0.3125"	2'-0"	1'-11"	3"	2 1/2" ø x 60"	NONE	60'-0", 65'-0"	3'-6"	13'-0"	YES
61-5-100			30'-0"		11 1/16"										
61A-5-100			35'-0"		10 5/16"										

□ INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

**REVISED STANDARD PLAN RSP ES-7H**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(SIGNAL AND LIGHTING STANDARD,**  
**CASE 5 SIGNAL MAST ARM LOADING,**  
**WIND VELOCITY=100 MPH AND SIGNAL**  
**MAST ARM LENGTHS 60' TO 65')**  
 NO SCALE  
 RSP ES-7H DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7H  
 DATED MAY 20, 2011 - PAGE 469 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-7H

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	830	1012

Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 No. C57793  
 Exp. 3-31-14  
 CIVIL  
 STATE OF CALIFORNIA

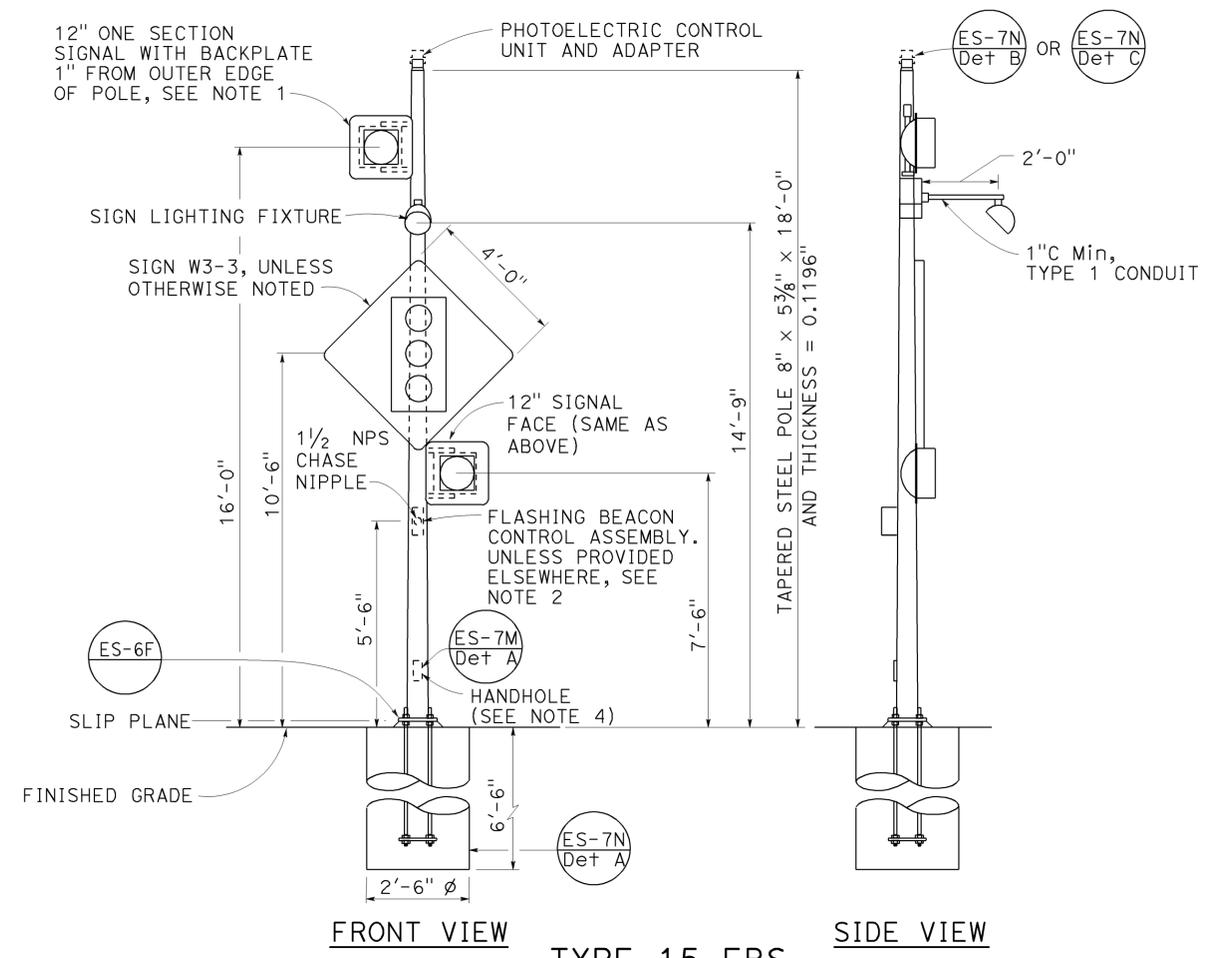
July 19, 2013  
 PLANS APPROVAL DATE

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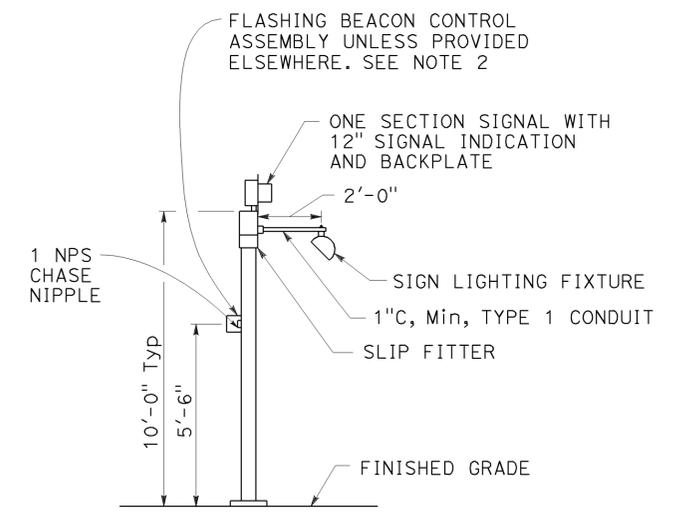
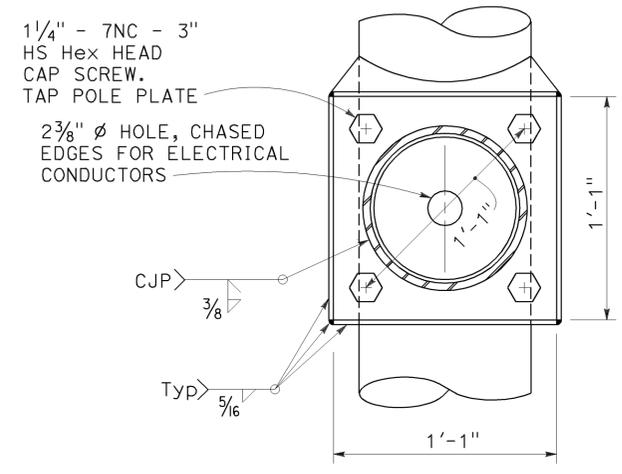
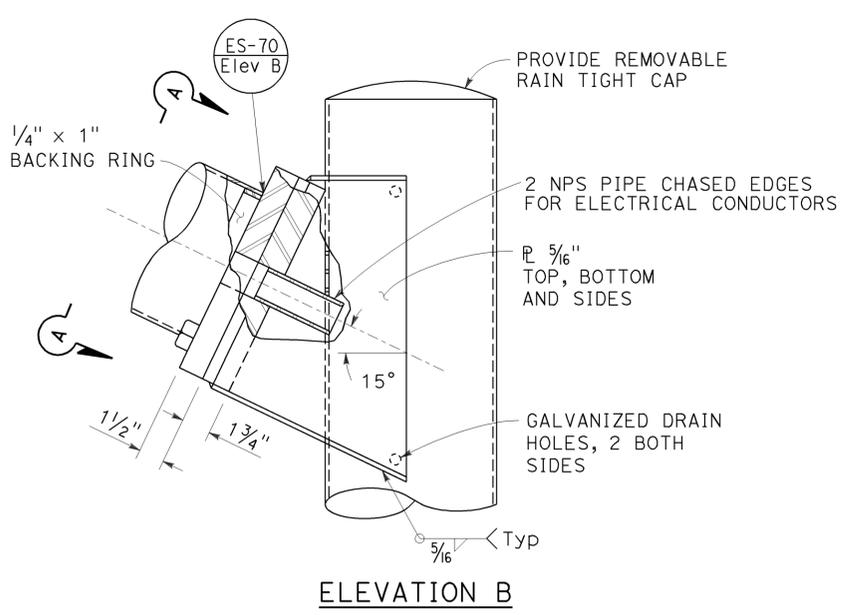
TO ACCOMPANY PLANS DATED 07-21-14

**NOTES:**

1. See Revised Standard Plan RSP ES-4A and Standard Plan ES-4D for attachment fitting details.
2. For wiring diagram, see Standard Plan ES-14B.
3. For additional notes and details, see Standard Plans ES-7M and ES-7N.
4. Handhole shall be located on the downstream side of traffic.
5. See project plans for type of standard to be installed.



**ADVANCE FLASHING BEACON WITH SLIP BASE INSTALLATION  
DETAIL A**



**TYPE 1-A, 1-B, 1-C AND 1-D  
ADVANCE FLASHING BEACON INSTALLATION**

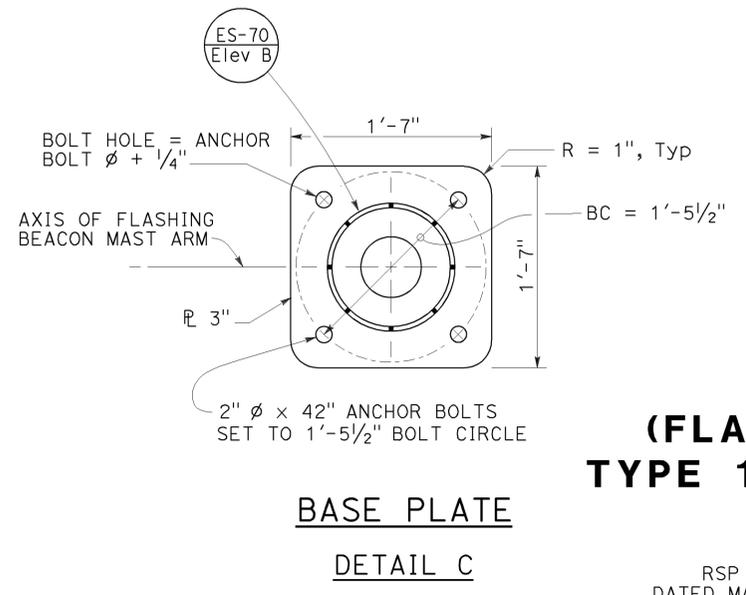
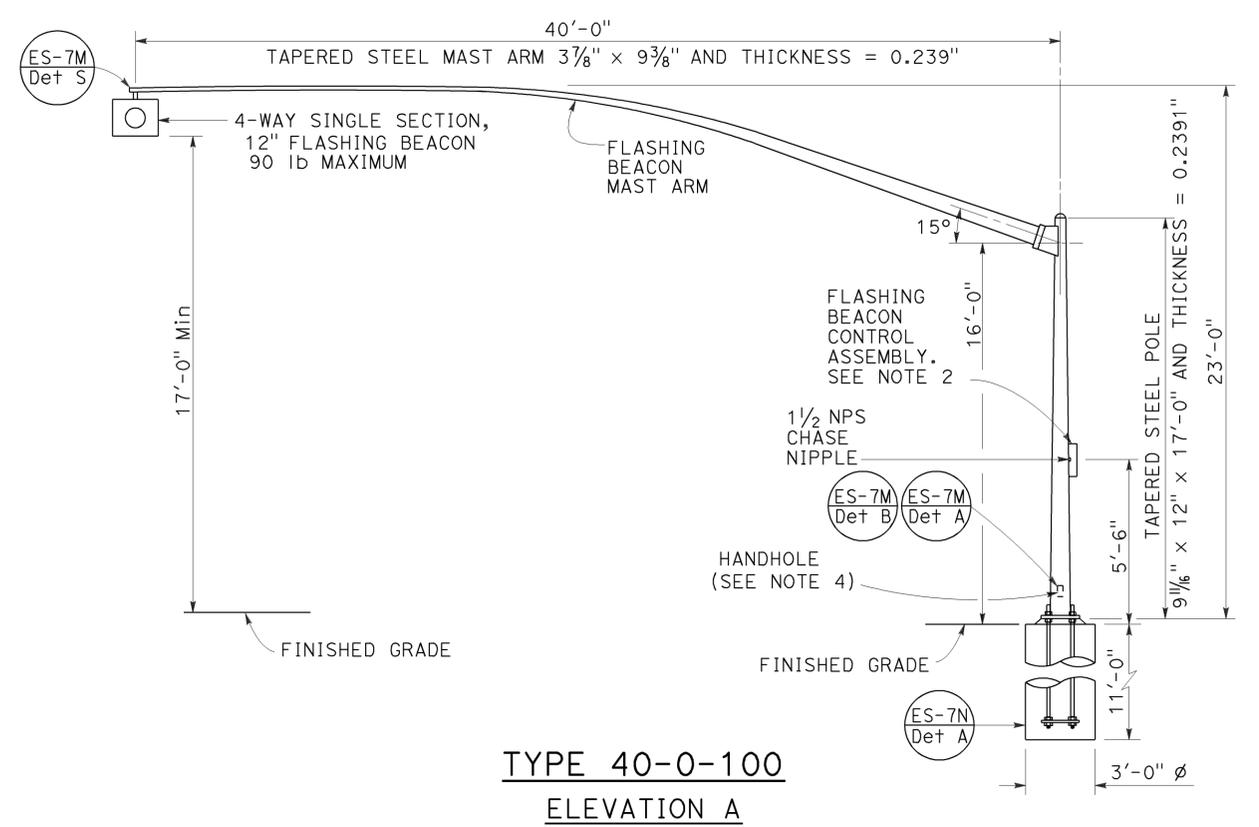
**DETAIL D  
See Note 5**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(FLASHING BEACON ON A TYPE 1, TYPE 15-FBS AND TYPE 40 STANDARD)  
NO SCALE**

RSP ES-7J DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7J DATED MAY 20, 2011 - PAGE 471 OF THE STANDARD PLANS BOOK DATED 2010.

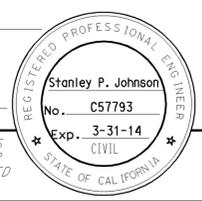
**REVISED STANDARD PLAN RSP ES-7J**



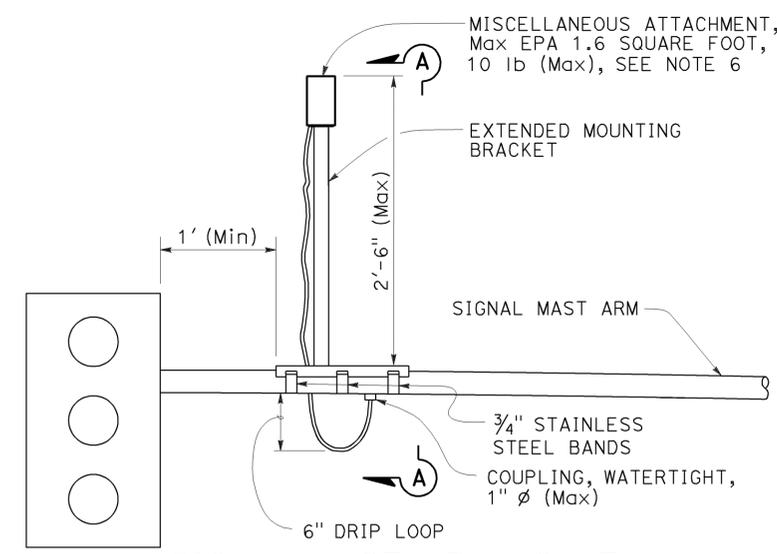
2010 REVISED STANDARD PLAN RSP ES-7J

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	831	1012

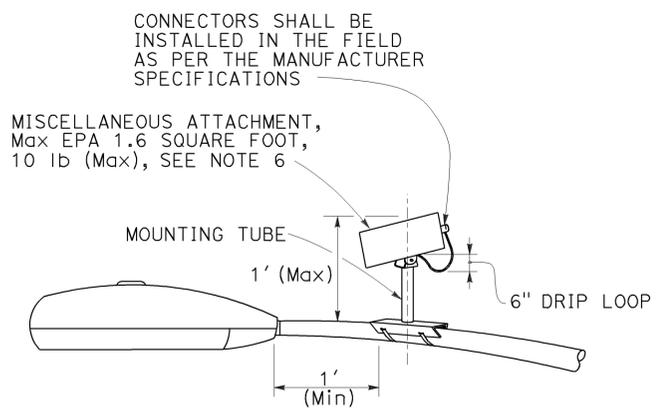
Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
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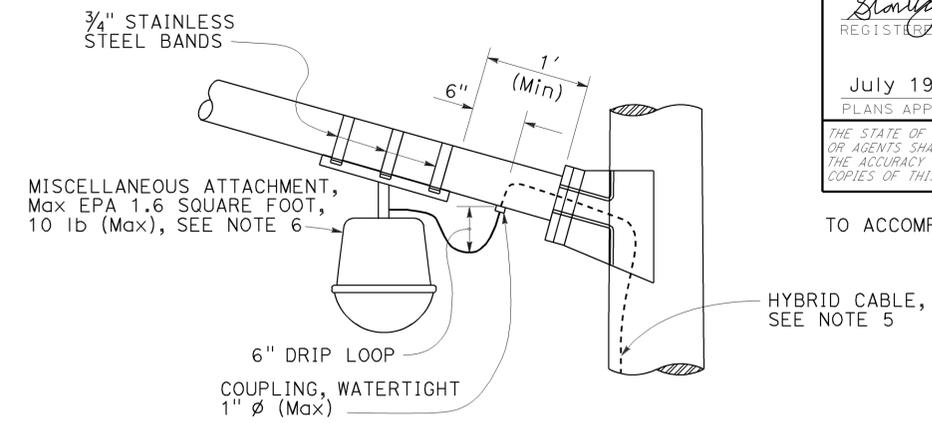
TO ACCOMPANY PLANS DATED 07-21-14



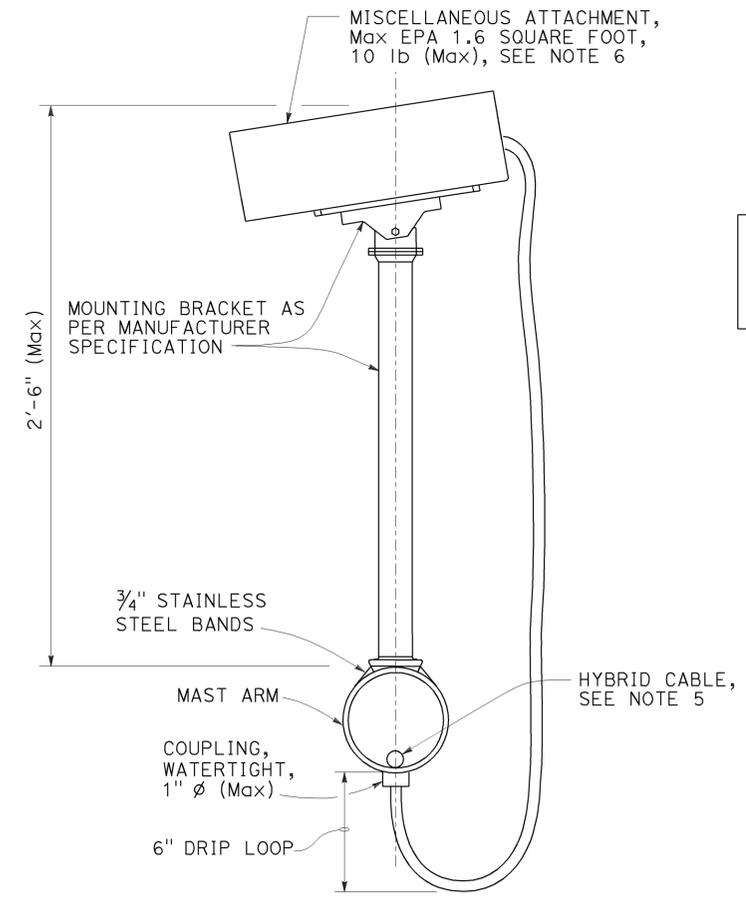
**SIGNAL MAST ARM MOUNT  
DETAIL A**



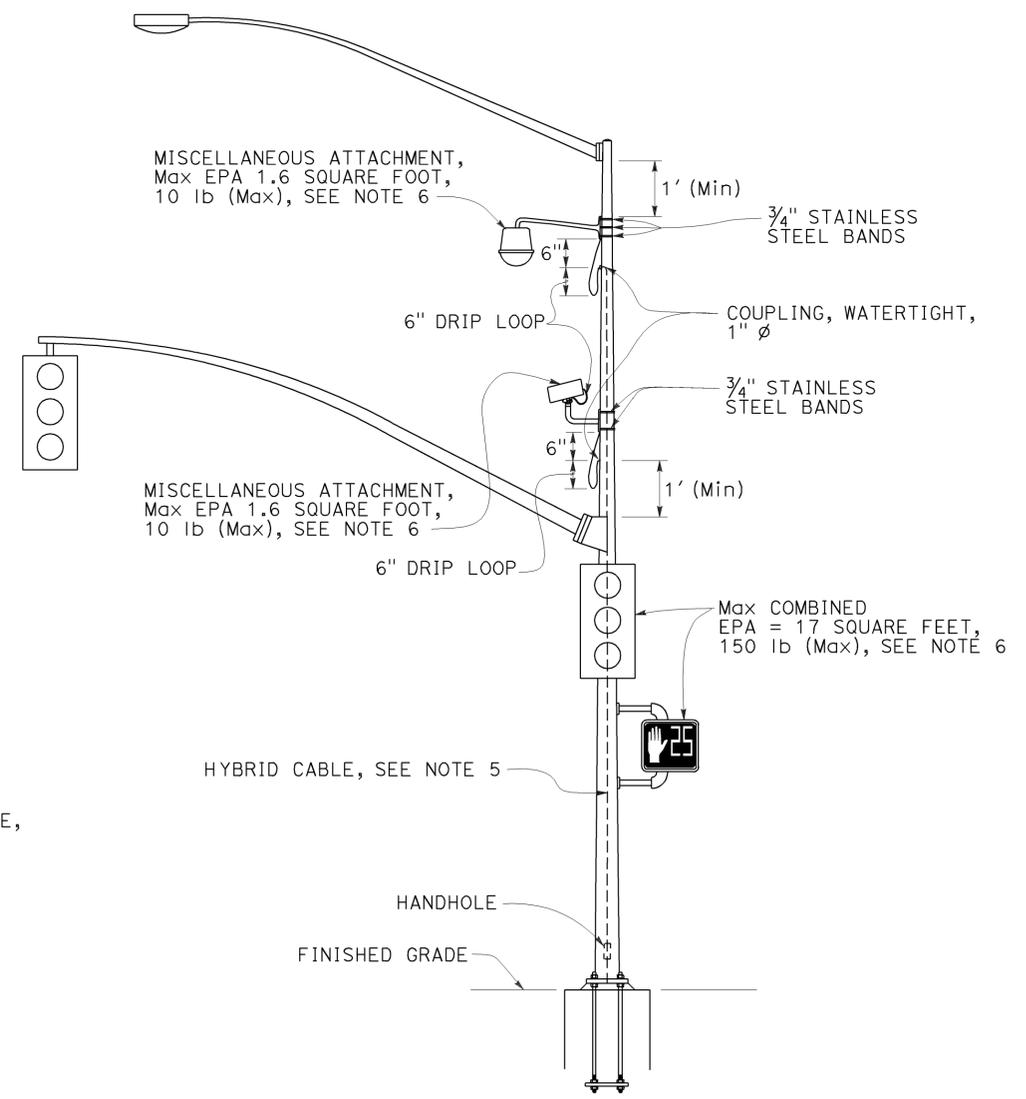
**LUMINAIRE MAST ARM MOUNT  
DETAIL B**



**LUMINAIRE MAST ARM MOUNT  
DETAIL C**



**SECTION A-A**



**SIGNAL POLE MOUNT  
DETAIL D**

**NOTES:**

- Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
- Location of cable entrances on signal pole shall be a minimum of 1' from any flange or base plate.
- Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
- Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
- A single hybrid cable shall run continuous and shall not be twisted from the miscellaneous attachment to the controller cabinet. No splices shall be allowed.
- Use the manufacturer's Effective Projected Area (EPA) for miscellaneous attachment. The maximum EPA for each miscellaneous attachment shall be 1.6 square feet.
- Maximum of two miscellaneous attachments per traffic signal structure.
- Maximum of one miscellaneous attachment per mast arm.
- Miscellaneous attachment shall be mounted using clamping devices.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(SIGNAL AND LIGHTING,  
MISCELLANEOUS ATTACHMENT)**

NO SCALE

RSP ES-7R DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7R DATED MAY 20, 2011 - PAGE 479 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-7R**

2010 REVISED STANDARD PLAN RSP ES-7R

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	832	1012

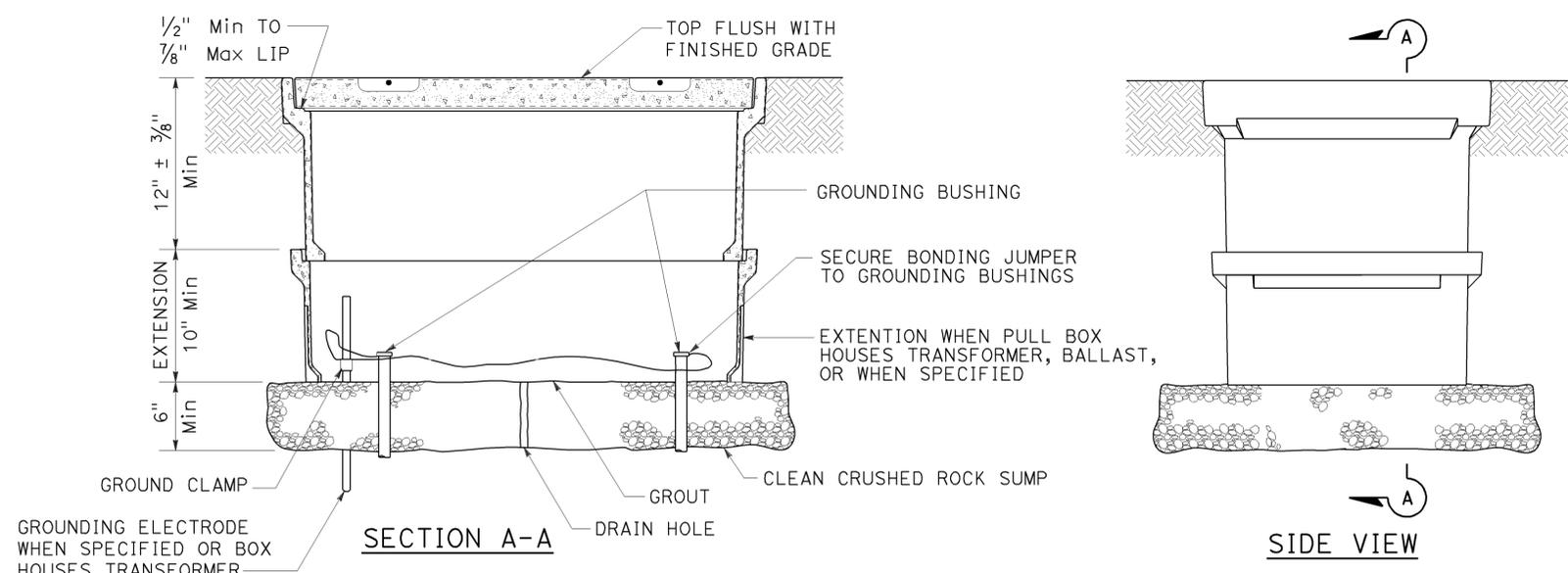
Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

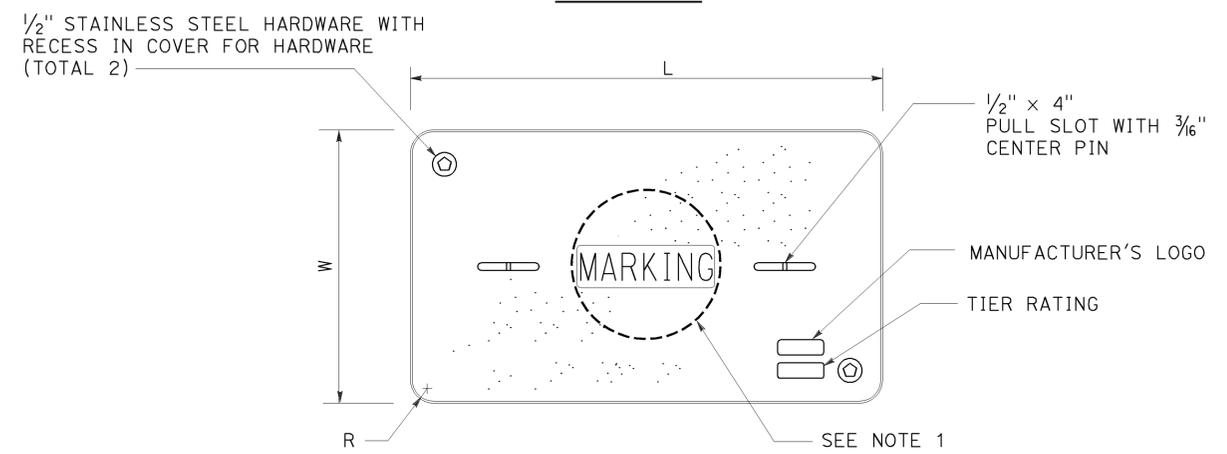
Theresa Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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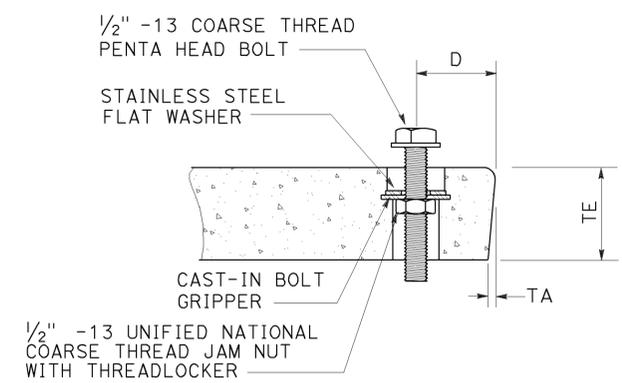
TO ACCOMPANY PLANS DATED 07-21-14



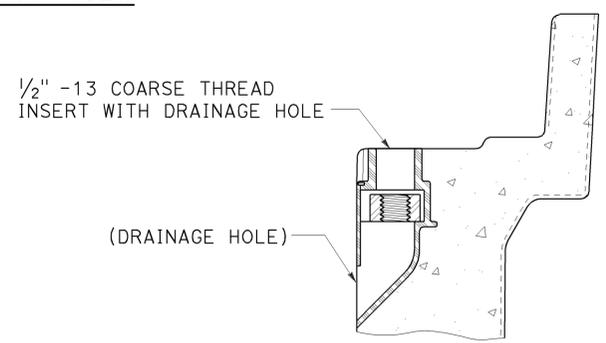
**INSTALLATION DETAILS**  
**DETAIL A**



**COVER TOP VIEW**



**TYPICAL COVER CAPTIVE BOLT**  
**OR SIMILAR**



**TYPICAL THREADED INSERT**  
**OR SIMILAR**

**NOTES:**

- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
  - No. 3 1/2 pull box.
    - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
  - No. 5, 6, 9 or 9A pull box.
    - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
    - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
    - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
    - "RAMP METER" - Ramp meter circuits.
    - "COUNT STATION" - Count or speed monitor circuits.
    - "COMMUNICATIONS" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communication line.
    - "TOS POWER" - TOS power.
    - "TDC POWER" - Telephone demarcation cabinet power.
    - "CCTV" - Closed circuit television circuits.
    - "TMS" - Traffic monitoring station circuits.
    - "CMS" - Changeable message sign circuits.
    - "HAR" - Highway advisory radio circuits.
    - "BOOSTER PUMP" - Booster pump circuit.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8". Top outside radius of covers and pull boxes shall have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
- All dimensions for the cover for non-traffic pull box are nominal values.

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(NON-TRAFFIC PULL BOX)**  
NO SCALE

RSP ES-8A DATED JULY 19, 2013 SUPERSEDES RSP ES-8A DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-8A**

2010 REVISED STANDARD PLAN RSP ES-8A

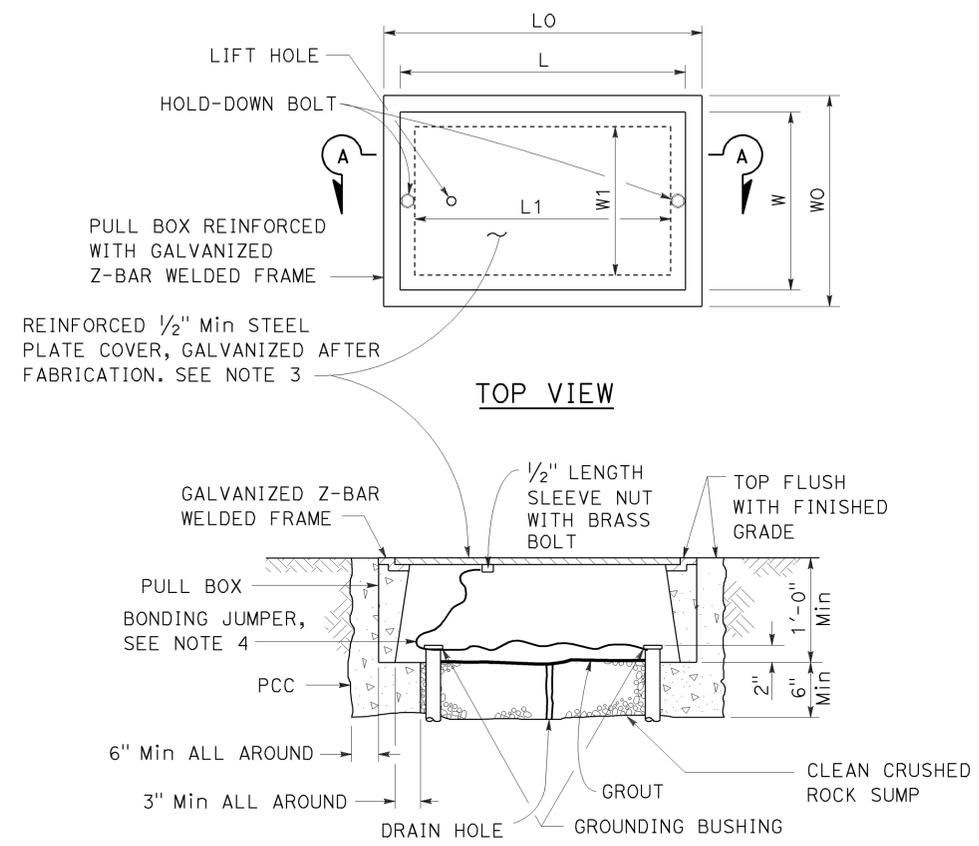
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	833	1012

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 07-21-14



SECTION A-A  
**No. 3 1/2(T), No. 5(T) AND  
 No. 6(T) TRAFFIC PULL BOX**

**NOTES:**

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
  - No. 3 1/2(T) pull box.
    - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
  - No. 5(T) or 6(T) pull box.
    - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
    - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
    - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
    - "RAMP METER" - Ramp meter circuits.
    - "COUNT STATION" - Count or speed monitor circuits.
    - "COMMUNICATION" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communications line.
    - "TOS POWER" - TOS power.
    - "TDC POWER" - Telephone demarcation cabinet power.
    - "CCTV" - Closed circuit television circuits.
    - "TMS" - Traffic monitoring station circuits.
    - "CMS" - Changeable message sign circuits.
    - "HAR" - Highway advisory radio circuits.
    - "BOOSTER PUMP" - Booster pump circuit.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8".

PULL BOX	PULL BOX						COVER				
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	W0	L0	L1	W1	L **	W **	R	EDGE THICKNESS	EDGE TAPER
No. 3 1/2(T)	1 1/2"	1'-0"	1'-5"± 1"	1'-8 3/8"±	1'-2 1/2"±	10 5/8"± 1"	1'-8"±	1'-1 3/4"±	0"	1/2"	NONE
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2"± 1"	2'-5 1/2"±	1'-7"±	1'-1"± 1"	2'-3"±	1'-4"±	0"	1/2"	NONE
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11 1/2"±	1'-11 1/2"±	1'-5"± 1"	2'-9"±	1'-8"±	0"	1/2"	NONE

\* EXCLUDING CONDUIT WEB \*\* TOP DIMENSION

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (TRAFFIC PULL BOX)**  
 NO SCALE

RSP ES-8B DATED JULY 19, 2013 SUPERSEDES RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-8B**

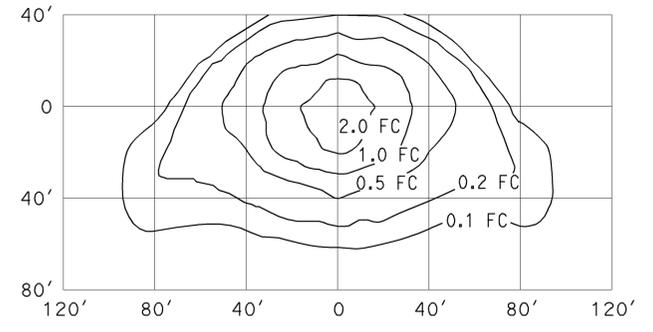
2010 REVISED STANDARD PLAN RSP ES-8B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	834	1012

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

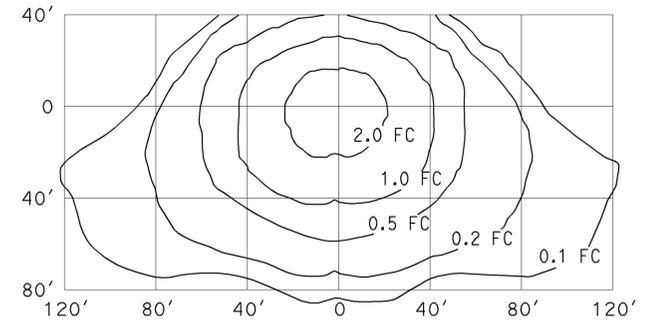
TO ACCOMPANY PLANS DATED 07-21-14

**ISOFOOTCANDLE CURVE - MINIMUM**



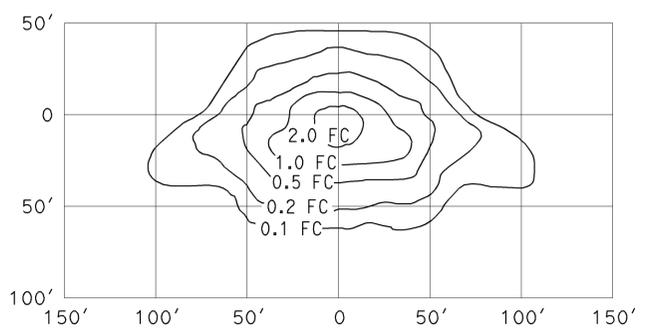
**TYPE III MEDIUM CUTOFF**  
 Cutoff Luminaire  
 34' Mounting Height  
 Lamp operated at 22,000 lm  
 200-W high pressure sodium lamp  
 ANSI Designation S66

**ISOFOOTCANDLE CURVE - MINIMUM**



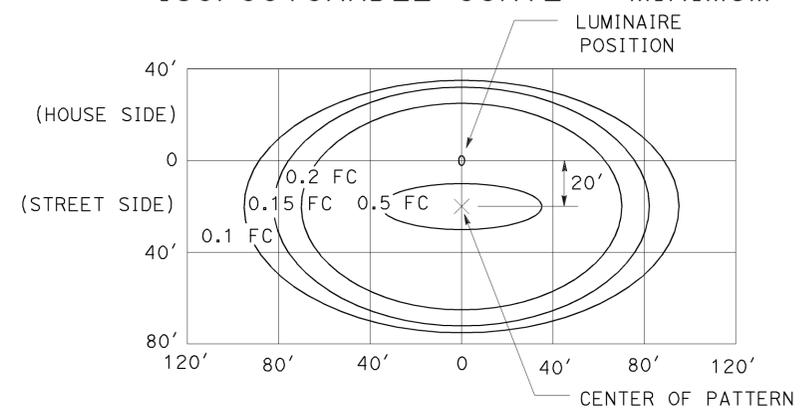
**TYPE III MEDIUM CUTOFF**  
 Cutoff Luminaire  
 40' Mounting Height  
 Lamp operated at 37,000 lm  
 310-W high pressure sodium lamp  
 ANSI Designation S67

**ISOFOOTCANDLE CURVE - MINIMUM**



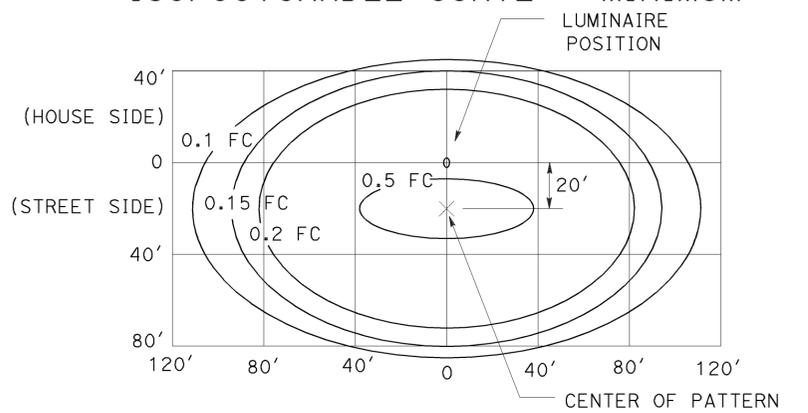
**TYPE III MEDIUM CUTOFF**  
 Cutoff Luminaire  
 30' Mounting Height  
 Lamp operated at 16,000 lm  
 150-W high pressure sodium lamp  
 ANSI Designation S55

**ISOFOOTCANDLE CURVE - MINIMUM**



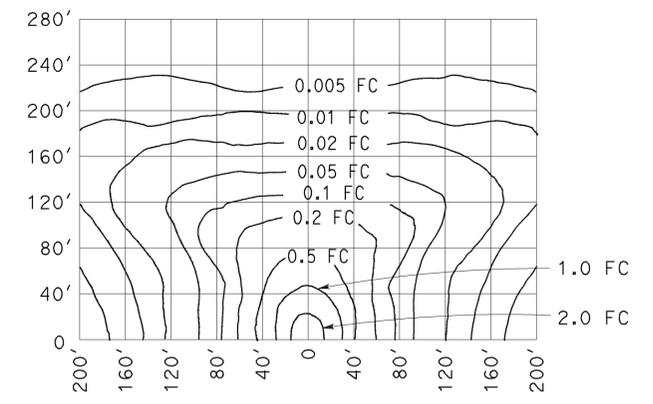
**LED LUMINAIRE ROADWAY 1**  
 165-W at 34' Mounting Height

**ISOFOOTCANDLE CURVE - MINIMUM**



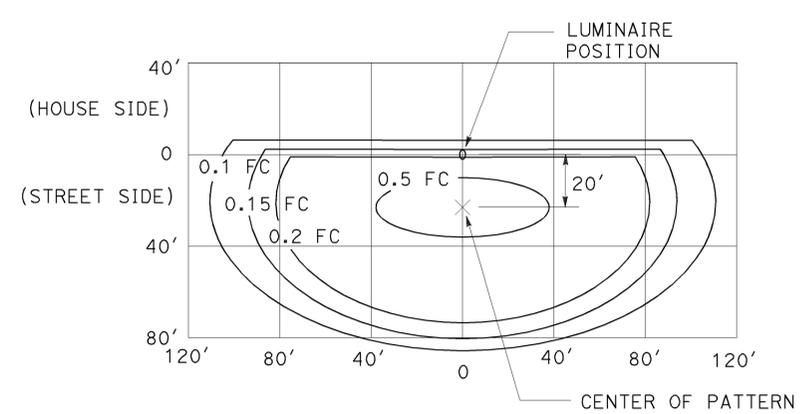
**LED LUMINAIRE ROADWAY 2**  
 235-W at 40' Mounting Height

**ISOFOOTCANDLE CURVE - MINIMUM**



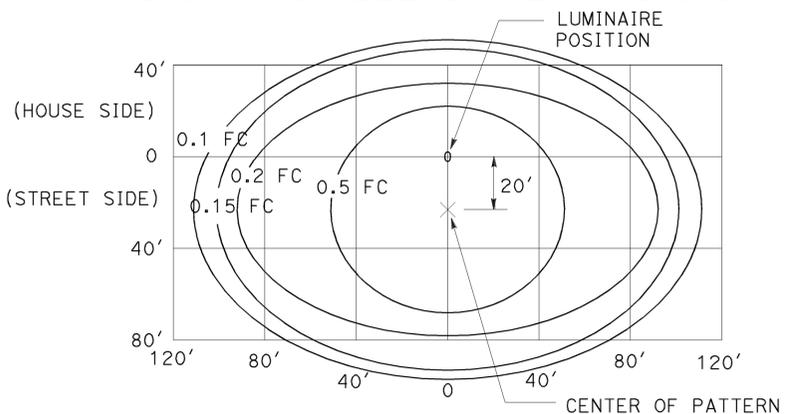
**LOW PRESSURE SODIUM LUMINAIRE**  
 40' Mounting Height  
 Lamp operated at 33,000 lm  
 180-W low pressure sodium lamp

**ISOFOOTCANDLE CURVE - MINIMUM**



**LED LUMINAIRE ROADWAY 3**  
 235-W at 40' Mounting Height  
 with back side control

**ISOFOOTCANDLE CURVE - MINIMUM**

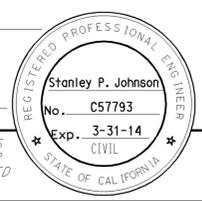


**LED LUMINAIRE ROADWAY 4**  
 300-W at 40' Mounting Height

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (ISOFOOTCANDLE DIAGRAMS)**

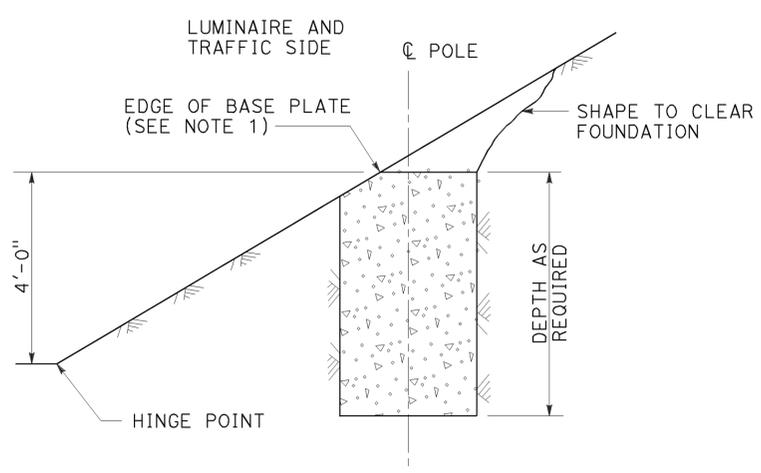
NO SCALE  
 RSP ES-10A DATED JULY 19, 2013 SUPERSEDES RSP ES-10A DATED JULY 20, 2012  
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-10A

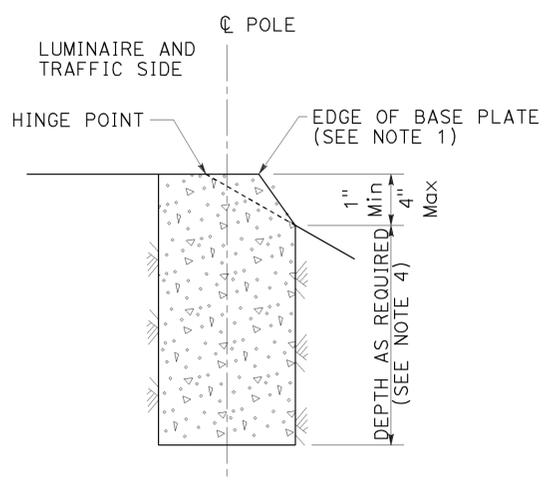


TO ACCOMPANY PLANS DATED 07-21-14

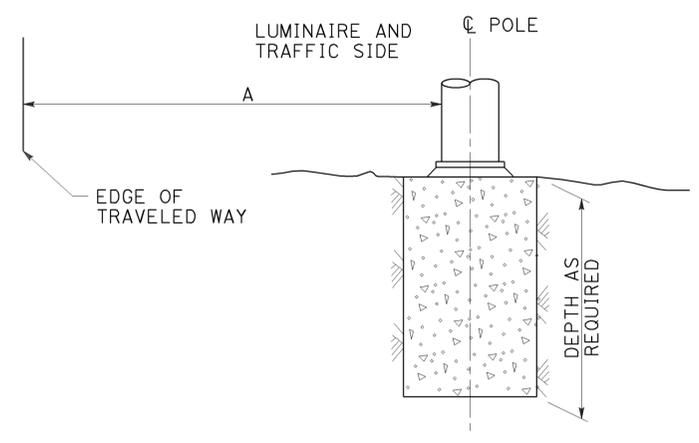
STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)



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



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

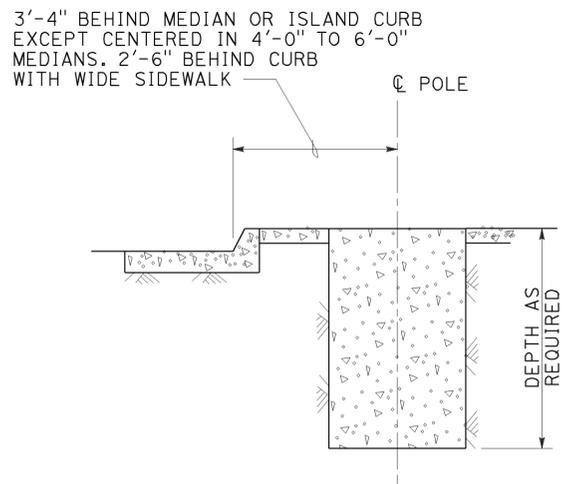


**FLAT SECTIONS, CUT OR FILL SLOPES  
4:1 OR FLATTER  
DETAIL A-3**  
See Note 2

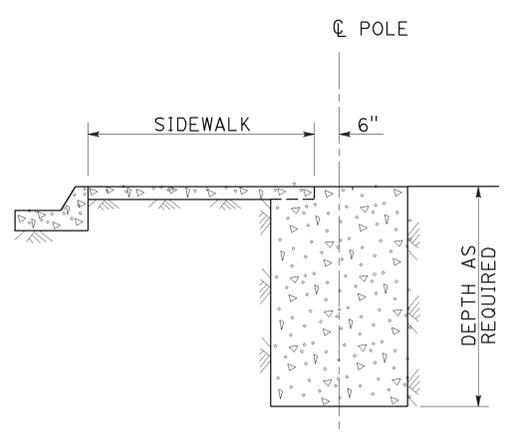
**FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT  
IN SIDEWALK, MEDIAN AND ISLAND AREAS  
DETAIL A**

**NOTES:**

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



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



**NARROW SIDEWALK  
DETAIL B-2**  
Less than 7' wide

**FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS  
DETAIL B**

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

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

**2010 REVISED STANDARD PLAN RSP ES-11**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	836	1012

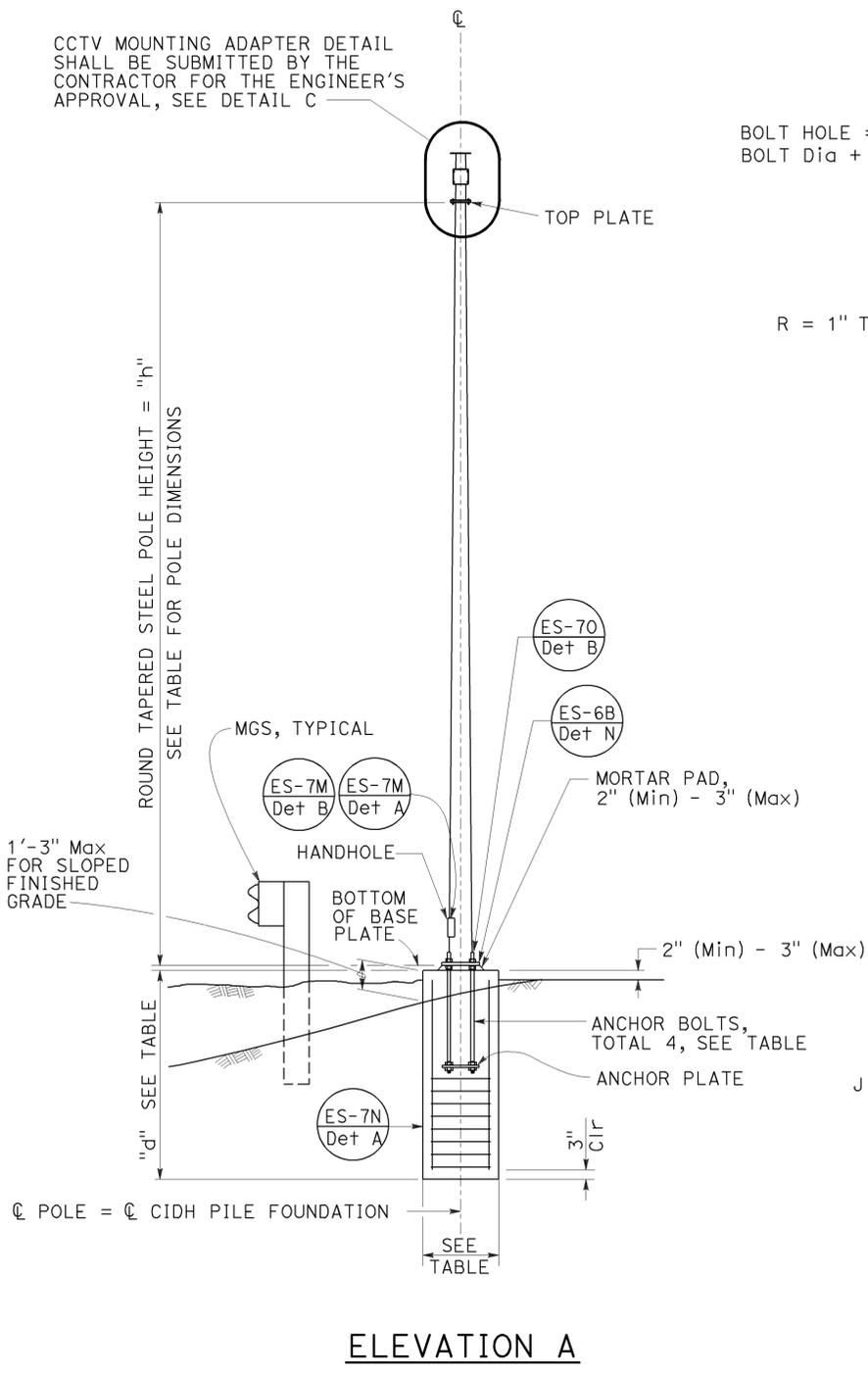
Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 November 15, 2013  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 Stanley P. Johnson  
 No. C57793  
 Exp. 3-31-14  
 CIVIL  
 STATE OF CALIFORNIA

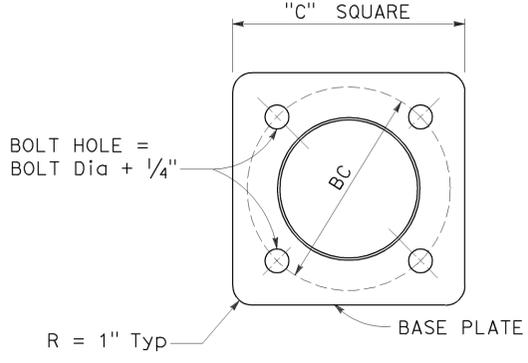
POLE TYPE	POLE DATA			BASE PLATE DATA				CIDH		
	HEIGHT "h"	Min OD		THICKNESS	"c"	THICKNESS	ANCHOR BOLT SIZE	BC = BOLT CIRCLE	Dia	"d"
		BASE	TOP							
CCTV 25	25'	7 <sup>3</sup> / <sub>8</sub> "	3 <sup>3</sup> / <sub>4</sub> "	0.1793"	1'-1"	1"	1/2" $\phi$ x 36"	11 <sup>1</sup> / <sub>2</sub> "	2'-6"	7'-0"
CCTV 30	30'	8"			1'-1 <sup>1</sup> / <sub>2</sub> "					7'-6"
CCTV 35	35'	8 <sup>5</sup> / <sub>8</sub> "			1'-2"					8'-0"
CCTV 40	40'	9 <sup>3</sup> / <sub>8</sub> "			1'-1 <sup>1</sup> / <sub>2</sub> "					8'-0"
CCTV 45	45'	10"			1'-3"					8'-6"

TO ACCOMPANY PLANS DATED 07-21-14

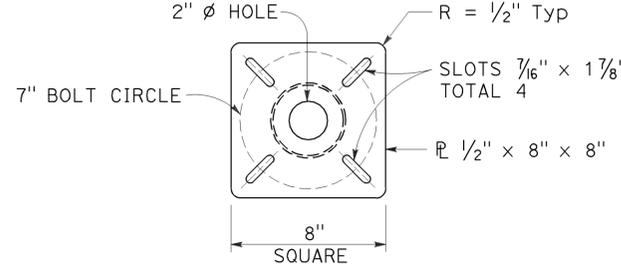
CCTV MOUNTING ADAPTER DETAIL SHALL BE SUBMITTED BY THE CONTRACTOR FOR THE ENGINEER'S APPROVAL, SEE DETAIL C



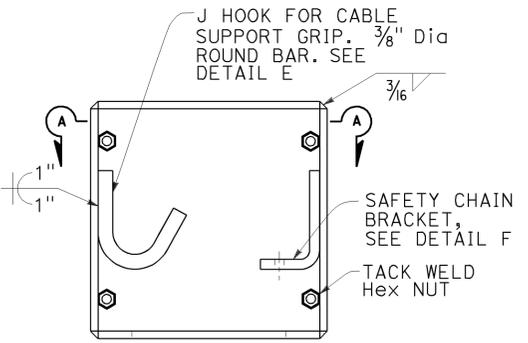
ELEVATION A



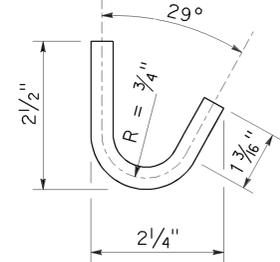
BASE PLATE  
DETAIL A



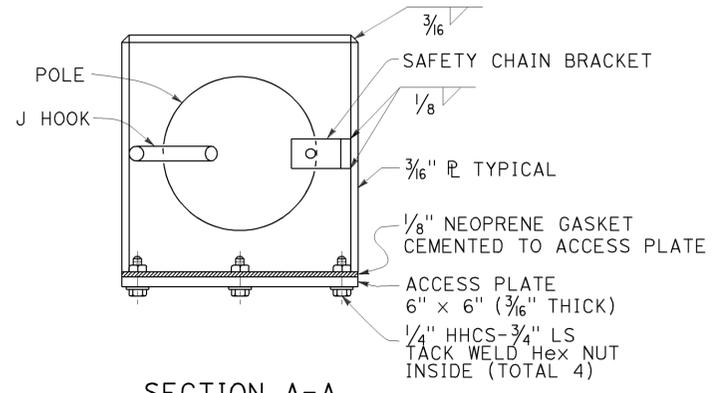
TOP PLATE  
DETAIL B



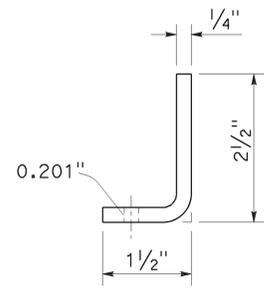
BOX ENCLOSURE  
DETAIL D



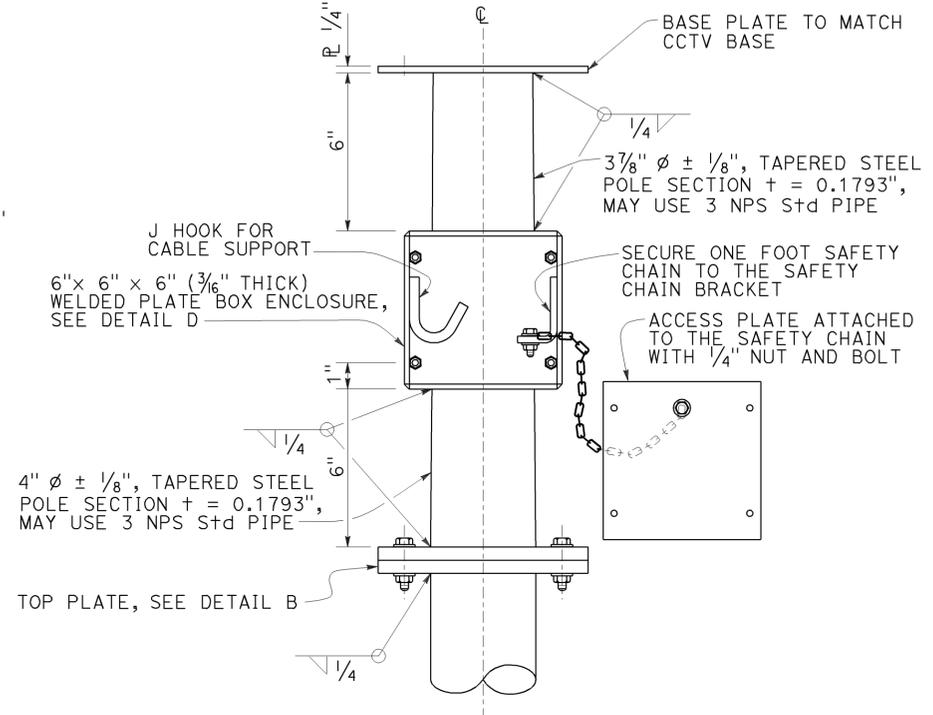
J HOOK  
DETAIL E



SECTION A-A



SAFETY CHAIN BRACKET  
DETAIL F



CLOSED CIRCUIT TELEVISION MOUNTING ADAPTER  
DETAIL C

NOTES:

- The Contractor shall verify controlling field dimensions before ordering or fabricating any material.
- During pole installation, the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
- Wind Loadings (3-second gust): 100 mph
- Unit Stresses (Structural Steel):
  - fy = 55,000 psi (tapered steel tube and anchor bolts)
  - fy = 50,000 psi (unless otherwise noted)
- Unit Stresses (Reinforced Concrete):
  - f'c = 3,625 psi
  - fy = 60,000 psi

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(CLOSED CIRCUIT TELEVISION,  
25' TO 45' POLE)**  
NO SCALE

RSP ES-16B DATED NOVEMBER 15, 2013 SUPERSEDES STANDARD PLAN ES-16B DATED MAY 20, 2011 - PAGE 501 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-16B**

2010 REVISED STANDARD PLAN RSP ES-16B

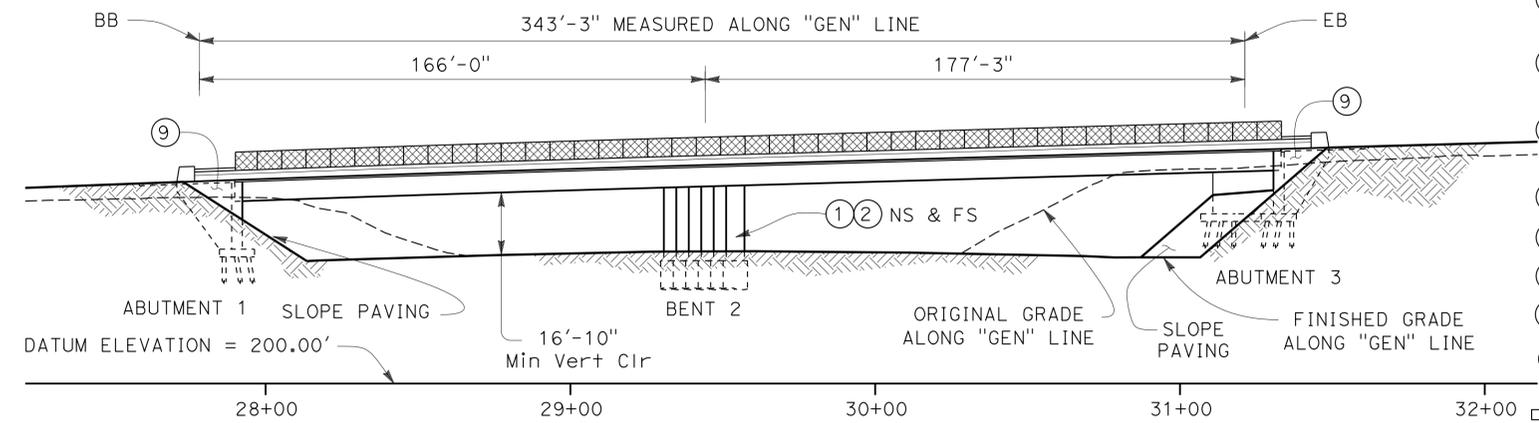
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	837	1012

**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

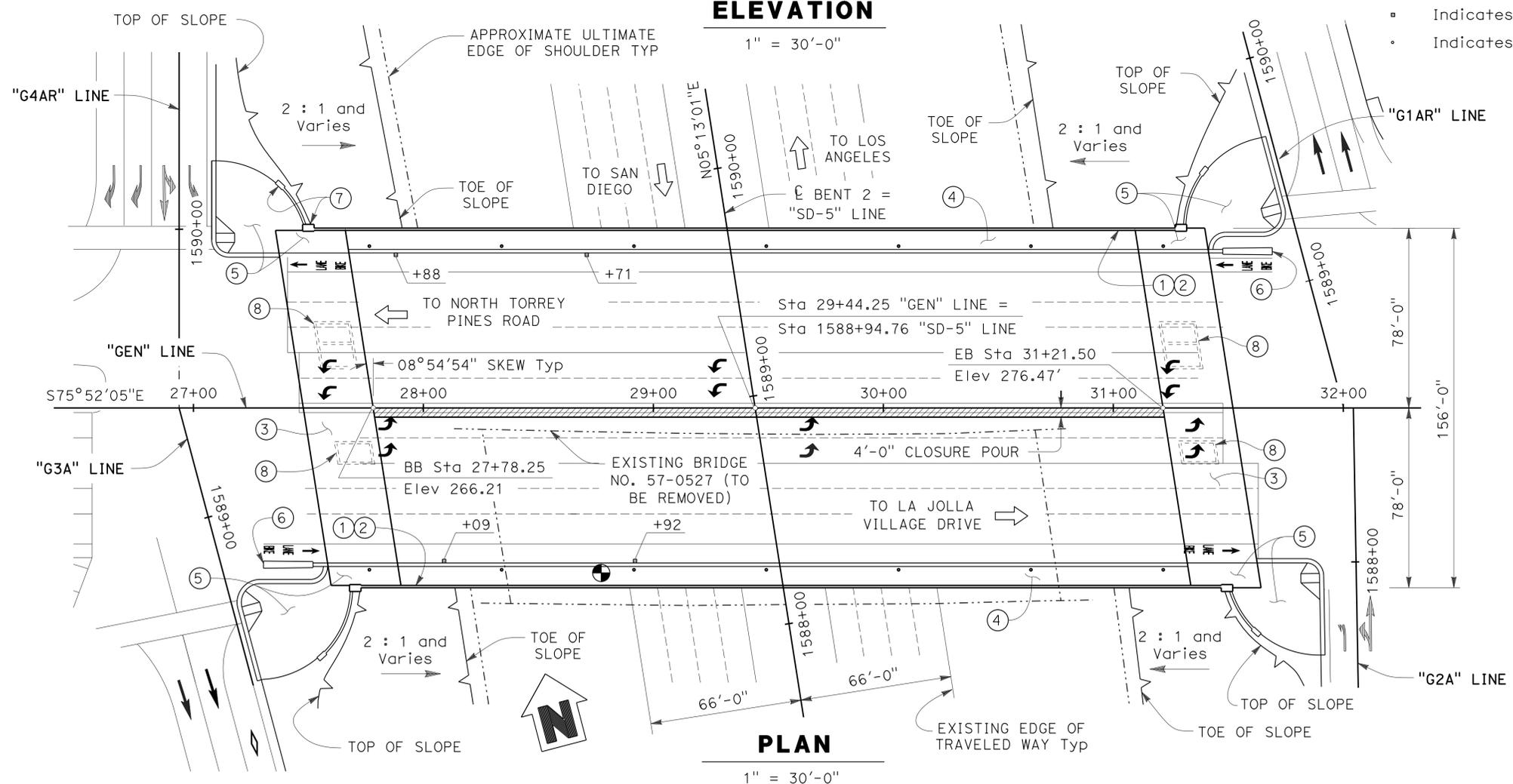
07-21-14  
 PLANS APPROVAL DATE

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<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---



- LEGEND:
- ① Paint "Bridge No. 57-1224"
  - ② Paint "Genesee Avenue OC"
  - ③ Structure Approach Slab (Type N Modified)
  - ④ Sidewalk Texture Treatment (Rectangular Scoring Pattern)
  - ⑤ Sidewalk Texture Treatment (Diamond Scoring Pattern)
  - ⑥ Crash Cushion - see "ROADWAY PLANS"
  - ⑦ Pilaster Typ
  - ⑧ Vault below
  - ⑨ Architectural Treatment (Random Flute)
  - Indicates Point of Minimum Vertical Clearance
  - ➔ Indicates Direction of Traffic
  - Indicates Deck Drain Type D-1
  - Indicates Light Pole



GENESEE AVENUE OC (REPLACE) BRIDGE NO 57-1224

QUANTITIES

BRIDGE REMOVAL	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	2,800	CY
STRUCTURE BACKFILL (BRIDGE)	1,950	CY
JACKING SUPERSTRUCTURE	LUMP	SUM
FURNISH STEEL PILING (HP 10 X 57)	9,114	LF
DRIVE STEEL PILE (HP 10 X 57)	188	EA
96" CAST-IN-DRILLED-HOLE CONCRETE PILING	449	LF
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	426	CY
STRUCTURAL CONCRETE, BRIDGE	4,985	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N MODIFIED)	350	CY
ARCHITECTURAL TREATMENT (RANDOM FLUTE)	1,200	SQFT
DRILL AND BOND DOWEL	589	LF
JOINT SEAL ASSEMBLY (MR 2 1/2")	272	LF
BAR REINFORCING STEEL (BRIDGE)	1,230,000	LB
WELDED STEEL PIPE CASING (BRIDGE)	30	LF
SLOPE PAVING (EXPOSED AGGREGATE)	102	CY
MISCELLANEOUS METAL (BRIDGE)	17,890	LB
BRIDGE DECK DRAINAGE SYSTEM	7,000	LB
WEATHERING STEEL PLATE	4	EA
CHAIN LINK RAILING (TYPE 7 MODIFIED)	687	LF
PIPE HANDRAILING (TYPE 3)	146	LF
CONCRETE BARRIER (TYPE 26 MODIFIED 1)	772	LF
CONCRETE BARRIER (TYPE 26 MODIFIED 2)	103	LF
CONCRETE BARRIER (TYPE 736 MODIFIED)	760	LF

- NOTES:
- For "INDEX TO PLANS", "GENERAL NOTES", and "STANDARD PLANS", see "INDEX TO PLANS" sheet
  - For limits of existing bridge removal, see "BRIDGE REMOVAL PLAN" sheet
  - For location of preformed inductive loops in bridge deck, see "ELECTRICAL PLANS"

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL - 93 W/ "LOWBOY"; PERMIT DESIGN VEHICLE
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols	LAYOUT	BY C. Cushing
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols	SPECIFICATIONS	BY C. Shannon

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.	57-1224	<b>GENESEE AVENUE OC (REPLACE)</b>
POST MILES	29.46	
<b>GENERAL PLAN (1 OF 2)</b>		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	838	1012

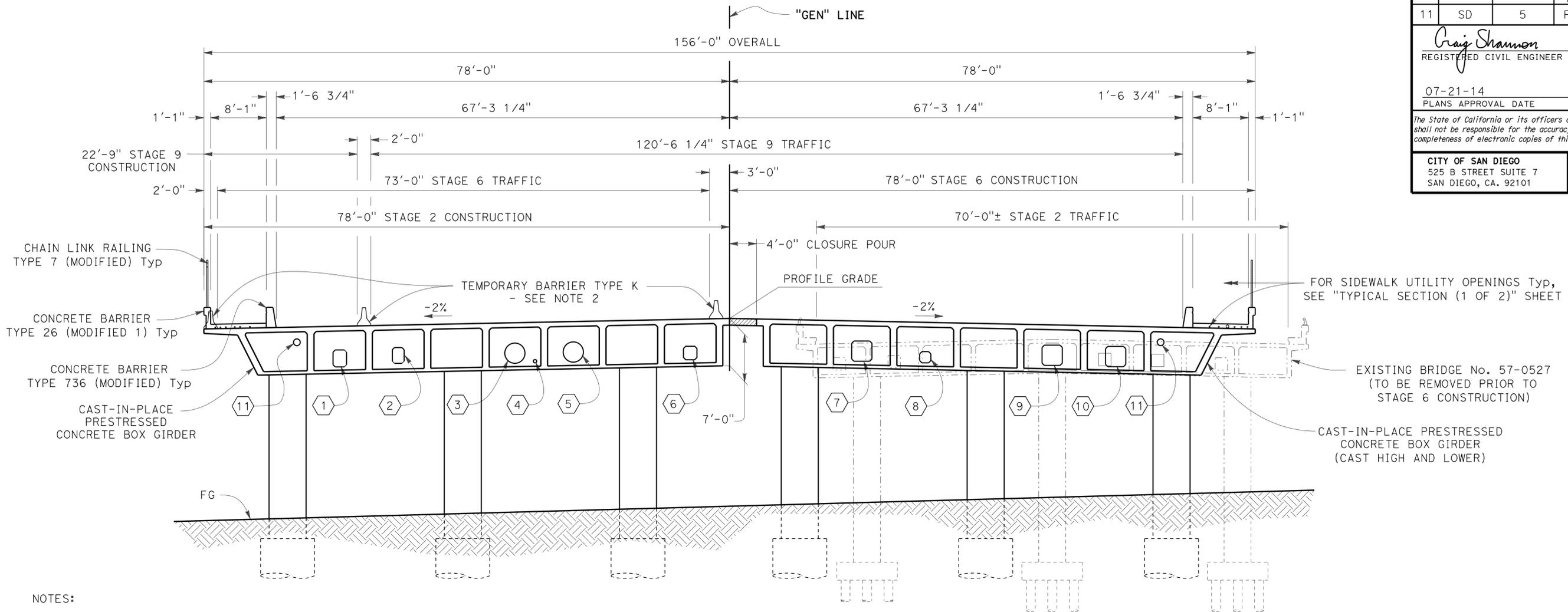
**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

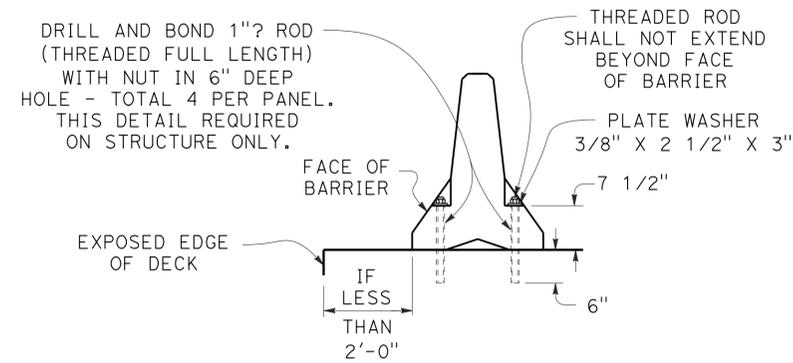
**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



**TYPICAL SECTION**

1/8" = 1'-0"

- NOTES:
1. For additional details of construction staging, see "ROADWAY PLANS"
  2. For rigid metal conduit attachment to Temporary Barrier Type K, see "ELECTRICAL PLANS"



**TYPE K BARRIER ATTACHMENT DETAILS**

No Scale

BRIDGE UTILITY OPENINGS						
Location	Utility	Owner	Utility Size	End Diaphragm (Width x Height)	Bent Cap (Width x Height)	Location of Details
①	Electrical (12 kV)	SDG&E	6 - 5" Dia PVC	36" x 30"	24" x 30"	By Others
②	Telecommunication	AT&T	18 - 4 1/2" Dia PVC	42" x 28"	21" x 28"	By Others
③	Recycled Water Line	City of San Diego	24" Dia	36" Dia	36" Dia	Bridge Plans
④	Fiber Optic	City of San Diego	1 - 4" Dia PVC	6" Dia	6" Dia	By Others
⑤	Water Line	City of San Diego	24" Dia	36" Dia	36" Dia	Bridge Plans
⑥	Telecommunication	Time Warner, Cenic, XO, Verizon, and Cox	Varies for each Utility	24" x 24"	24" x 24"	By Others
⑦	Water Line	City of San Diego	24" Dia	36" x 36"	36" x 36"	Bridge Plans
⑧	Gas Line	SDG&E	10 3/4" Dia (in 16" Dia Casing)	26" x 20"	20" x 20"	By Others
⑨	Electrical (69 kV)	SDG&E	6 - 6" Dia PVC, 1 - 4" Dia PVC	36" x 36"	36" x 36"	By Others
⑩	Electrical (69 kV)	SDG&E	6 - 6" Dia PVC, 1 - 4" Dia PVC	36" x 36"	36" x 36"	By Others
⑪	Deck Drain					See Bridge Plans and Standard Plan B7-8

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

LOAD & RESISTANCE FACTOR DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
LAYOUT	BY C. Cushing	CHECKED E. Schroth-Nichols
SPECIFICATIONS	BY C. Shannon	PLANS AND SPECS COMPARED C. Shannon

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

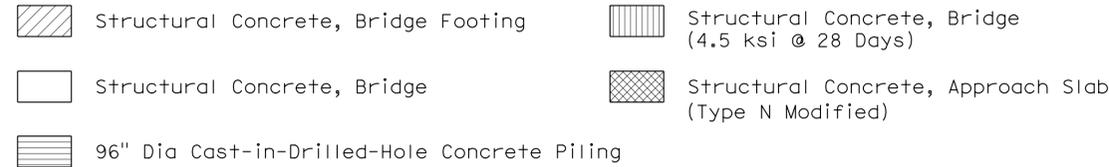
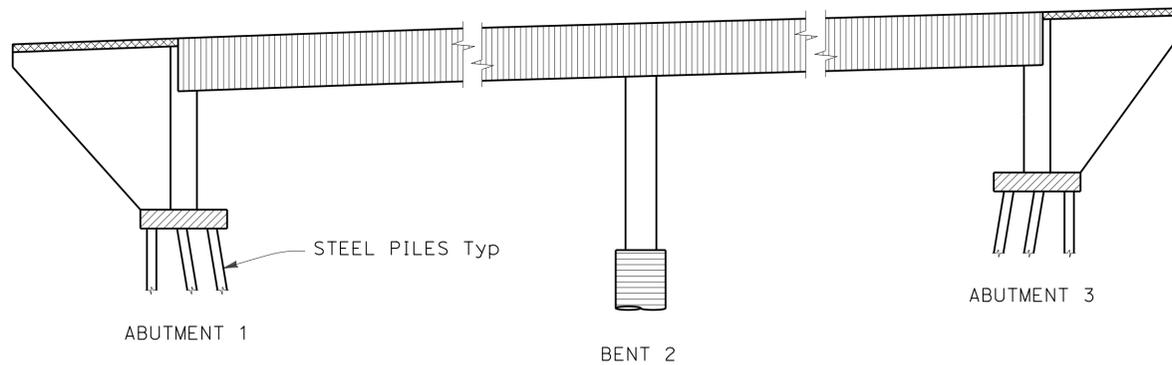
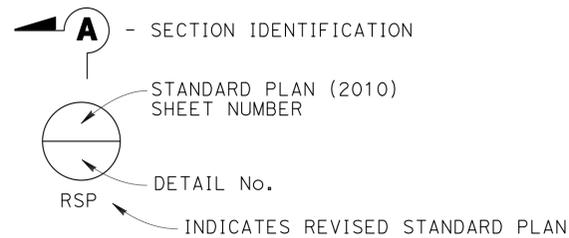
BRIDGE NO. 57-1224  
 POST MILES 29.46  
**GENESEE AVENUE OC (REPLACE)**  
**GENERAL PLAN (2 OF 2)**

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

# INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN (1 OF 2)
2	GENERAL PLAN (2 OF 2)
3	INDEX TO PLANS
4	DECK CONTOURS
5	FOUNDATION PLAN (1 OF 2)
6	FOUNDATION PLAN (2 OF 2)
7	BRIDGE REMOVAL PLAN
8	STAGE 6 CONSTRUCTION SEQUENCE
9	ABUTMENT 1 LAYOUT
10	ABUTMENT 3 LAYOUT
11	ABUTMENT DETAILS NO. 1
12	ABUTMENT DETAILS NO. 2
13	ABUTMENT DETAILS NO. 3
14	ABUTMENT DETAILS NO. 4
15	BENT DETAILS NO. 1
16	BENT DETAILS NO. 2
17	BENT DETAILS NO. 3
18	BENT DETAILS NO. 4
19	BENT DETAILS NO. 5
20	TYPICAL SECTION (1 OF 2)
21	TYPICAL SECTION (2 OF 2)
22	GIRDER LAYOUT
23	GIRDER DETAILS NO. 1
24	GIRDER DETAILS NO. 2
25	GIRDER DETAILS NO. 3
26	GIRDER DETAILS NO. 4
27	WATER LINE INSTALLATION LAYOUT (STAGE 2)
28	WATER LINE INSTALLATION LAYOUT (STAGE 6)
29	WATER LINE INSTALLATION DETAILS
30	BRIDGE LIGHTING SUPPORT DETAILS
31	BARRIER AND RAILING DETAILS NO. 1
32	BARRIER AND RAILING DETAILS NO. 2
33	BARRIER AND RAILING DETAILS NO. 3
34	ARCHITECTURAL DETAILS
35	JOINT SEAL ASSEMBLY (MAXIMUM MOVEMENT RATING = 4")
36	JOINT ARMOR - EXPANSION DETAILS (MAXIMUM MOVEMENT RATING = 4")
37	STRUCTURE APPROACH DETAILS NO. 1
38	STRUCTURE APPROACH DETAILS NO. 2
39	STRUCTURE APPROACH DRAINAGE DETAILS
40	SLOPE PAVING - FULL SLOPE
41	LOG OF TEST BORINGS (1 OF 8)
42	LOG OF TEST BORINGS (2 OF 8)
43	LOG OF TEST BORINGS (3 OF 8)
44	LOG OF TEST BORINGS (4 OF 8)
45	LOG OF TEST BORINGS (5 OF 8)
46	LOG OF TEST BORINGS (6 OF 8)
47	LOG OF TEST BORINGS (7 OF 8)
48	LOG OF TEST BORINGS (8 OF 8)

## PLAN SYMBOLS



## CONCRETE STRENGTH AND TYPE LIMITS

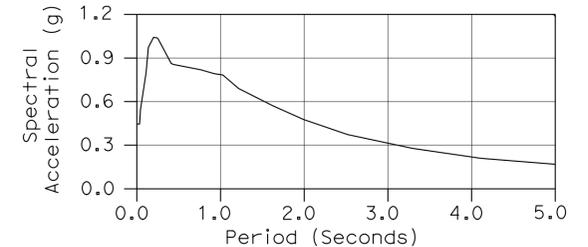
No Scale

## STANDARD PLANS DATED 2010

A10A	ABBREVIATIONS (SHEET 1 OF 2)
A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A62C	LIMITS OF PAYMENTS FOR EXCAVATION AND BACKFILL BRIDGE
B0-1	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B7-1	BOX GIRDER DETAILS
B7-6	DECK DRAINS TYPES D-1 AND D-2
B7-8	DECK DRAINAGE DETAILS
B7-10	UTILITY OPENING BOX GIRDER
B7-11	UTILITY DETAILS
RSP B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-52	CHAIN LINK RAILING TYPE 7
RSP B11-54	CONCRETE BARRIER TYPE 26
RSP B11-56	CONCRETE BARRIER TYPE 736
B14-5	WATER SUPPLY LINE (DETAILS) (PIPE SIZES LESS THAN 4")

## GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

- DESIGN:** AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4th EDITION, with 2008 Interim Revisions, and the CALTRANS Amendments, preface dated December 2008; except that abutments are designed using Bridge Design Specifications (1996 AASHTO w/ Revisions by Caltrans)
- SEISMIC DESIGN:** Caltrans Seismic Design Criteria (SDC), Version 1.6, dated November 2010
- DEAD LOAD:** Includes 0.035 ksf for future wearing surface, and 1.20 klf maximum (Stage 2), and 0.80 klf maximum (Stage 6) for existing and future utilities
- LIVE LOADING:** HL-93 with low boy and permit design load
- SEISMIC LOADING:** Soil Profile  $V_{s30} = 900$  ft/s to 1850 ft/s (envelope)  
 $M_{max} = 7.5$ , see curve below  
 Peak Ground Acceleration = 0.45g



- REINFORCED CONCRETE:**  $f_y = 60$  ksi  
 $f'_c = 3.6$  ksi (Unless Otherwise Noted)  
 $n = 8$
- PRESTRESSED CONCRETE:** See "PRESTRESSING NOTES" on "GIRDER DETAILS NO. 2" sheet
- STRUCTURAL STEEL:** Pipe Key Assembly  
 Pipes = ASTM A53, Grade B,  $F_u = 60$  ksi  
 Plates = ASTM A36,  $F_y = 36$  ksi  
 Tubular Handrailing (Type 3) and Pilasters  
 Pipes = ASTM A847  
 Plates = ASTM A588  
 Headed Studs = ASTM A449, Type 1,  $F_u = 120$  ksi  
 HP Piles = ASTM A572, Grade 50,  $F_y = 50$  ksi

DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER  
 BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESEE AVENUE OC (REPLACE)**  
**INDEX TO PLANS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021  
 CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-1-12	3	48
6-28-12		
1-31-13		
2-22-13		

FILE => 57-1224-b-i+p01.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	840	1012

*Craig Shannon*  
 REGISTERED CIVIL ENGINEER DATE 3-6-14

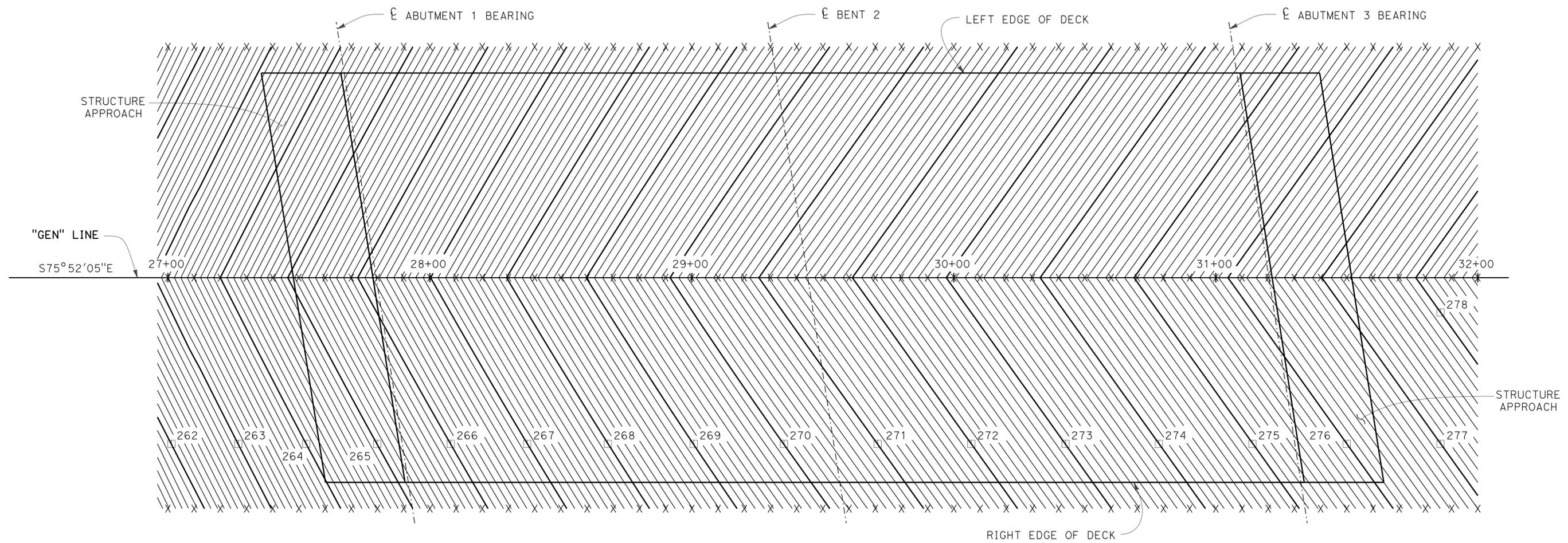
07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



- NOTES:
1. Contour Interval = 0.10 ft
  2. Contours do not include camber or falsework settlement
  3. □ - Indicates even foot contours
  4. X - Indicates 10 foot intervals



**PLAN**  
 1" = 20'-0"

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY C. Cushing  
 CHECKED E. Schroth-Nichols  
 DETAILS BY T. Brittain  
 CHECKED E. Schroth-Nichols  
 QUANTITIES BY C. Cushing  
 CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.  
 57-1224  
 POST MILES  
 29.46

**GENESSEE AVENUE OC (REPLACE)**  
**DECK CONTOURS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-30-13 2-22-13 2-3-14	4	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

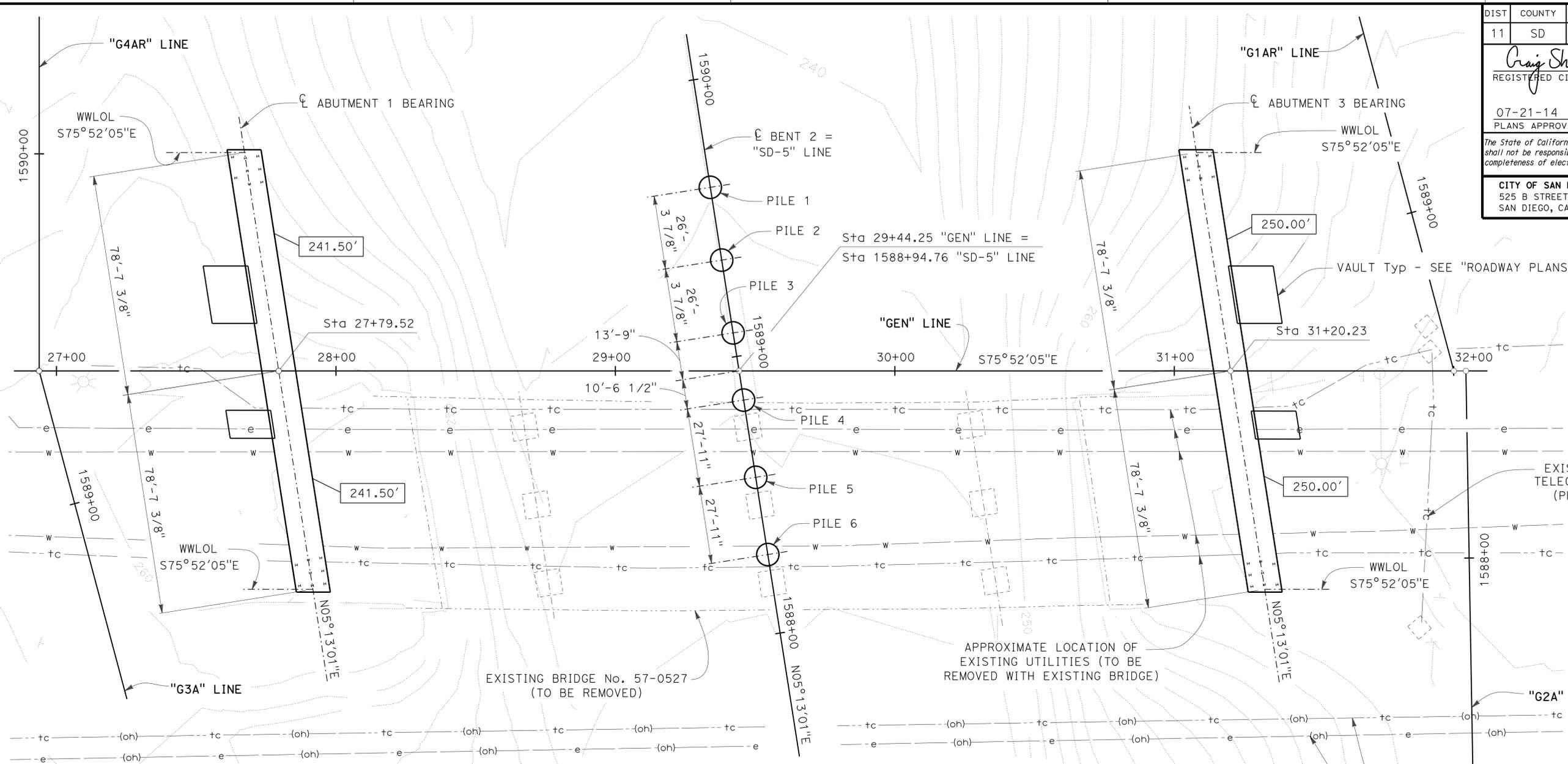
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	841	1012

**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

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<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---



**PLAN**

1" = 20'-0"



**LEGEND:**

- Indicates Bottom of Footing Elevation
- For limits of excavation and backfill, see
- Indicates 96" Dia Cast-in-Drilled-Hole Pile
- Indicates HP 10x57 Driven Pile

**BENCHMARK**

**SURVEY CONTROL:**

BM #1 5-29.46 2 1/4" CADT BRASS DISK LABELED "5-29.46 1993" N 1,903,968.24 E 6,261,597.31 Elev = 270.07'	BM #2 5-29.42 PK NAIL & WASHER N 1,903,808.35 E 6,262,278.85 Elev = 291.79'
---	---

NOTE: For "PILE DATA TABLE", see  
 "FOUNDATION PLAN (2 of 2)" sheet

6-5-12  
 PROFESSIONAL APPROVAL DATE  
 GEOTECHNICAL PROFESSIONAL APPROVAL DATE

DESIGN OVERSIGHT Norbert Gee 3-10-14 SIGN OFF DATE	SCALE: X PHOTOGRAMMETRY AS OF: X SURVEYED BY X FIELD CHECKED BY X	VERT. DATUM NAVD 88 ALIGNMENT TIES X DRAFTED BY X CHECKED BY X	HORZ. DATUM CSS 83 (1991.35) DESIGN BY C. Cushing CHECKED E. Schroth-Nichols DETAILS BY T. Brittain CHECKED E. Schroth-Nichols QUANTITIES BY C. Cushing CHECKED E. Schroth-Nichols	<b>PREPARED FOR THE          STATE OF CALIFORNIA          DEPARTMENT OF TRANSPORTATION</b>	BRIDGE NO. 57-1224 POST MILES 29.46	<b>GENESSEE AVENUE OC (REPLACE)          FOUNDATION PLAN (1 OF 2)</b>	REVISION DATES 6-28-12 1-18-13 2-22-13 2-3-14 SHEET 5 OF 48
FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 2771 PROJECT NUMBER & PHASE: 11120001021 CONTRACT NO.: 11-0223U4 FILE => 57-1224-d-fp01.dgn	DISREGARD PRINTS BEARING EARLIER REVISION DATES	USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	842	1012

*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

PILE DATA TABLE							
Location	Zone Designation	Pile Type	Cut-off Elevation (ft)	Required Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)
				Compression	Tension		
Abutment 1 (Stage 2)	Zone 1	HP 10x57	N/A	240	0	167.00 (a) 219.00 (d)	167.00
	Zone 2	HP 10x57	N/A	240	0	167.00 (a) 219.00 (d)	167.00
	Zone 3	HP 10x57	N/A	240	0	181.00 (a) 219.00 (d)	181.00
Abutment 1 (Stage 6)	Zone 4	HP 10x57	N/A	230	0	192.00 (a) 219.00 (d)	192.00
	Zone 5	HP 10x57	N/A	230	0	205.00 (a) 219.00 (d)	205.00
	Zone 6	HP 10x57	N/A	230	0	210.00 (a) 219.00 (d)	210.00
Bent 2, Pile 1 (Stage 2)	N/A	96" Dia CIDH	238.80	4940	0	155.00 (a) 180.80 (d)	155.00
Bent 2, Pile 2 (Stage 2)	N/A	96" Dia CIDH	238.80	4950	0	156.00 (a) 180.80 (d)	156.00
Bent 2, Pile 3 (Stage 2)	N/A	96" Dia CIDH	238.80	6620	0	152.00 (a) 180.80 (d)	152.00
Bent 2, Pile 4 (Stage 6)	N/A	96" Dia CIDH	238.80	4670	0	175.00 (a) 180.80 (d)	175.00
Bent 2, Pile 5 (Stage 6)	N/A	96" Dia CIDH	238.80	5780	0	170.00 (a) 180.80 (d)	170.00
Bent 2, Pile 6 (Stage 6)	N/A	96" Dia CIDH	238.80	5080	0	176.00 (a) 180.80 (d)	176.00
Abutment 3 (Stage 2)	Zone 1	HP 10x57	N/A	240	0	215.00 (a) 225.00 (d)	215.00
	Zone 2	HP 10x57	N/A	240	0	216.00 (a) 225.00 (d)	216.00
	Zone 3	HP 10x57	N/A	240	0	209.00 (a) 225.00 (d)	209.00
Abutment 3 (Stage 6)	Zone 4	HP 10x57	N/A	230	0	200.00 (a) 225.00 (d)	200.00
	Zone 5	HP 10x57	N/A	230	0	211.00 (a) 225.00 (d)	211.00
	Zone 6	HP 10x57	N/A	230	0	215.00 (a) 225.00 (d)	215.00

- NOTES:
- Design Tip elevation is controlled by: (a) Compression, (d) Lateral Load
  - For Limits of Abutment Zones 1 through 6, see "ABUTMENT DETAILS NO. 1" sheet
  - For locations of Bent 2, Piles 1 through 6, see "FOUNDATION PLAN (1 OF 2)" sheet

6-5-12  
 APPROVAL DATE  
 GEOTECHNICAL PROFESSIONAL

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

SCALE: X  
 VERT. DATUM NAVD 88  
 HORZ. DATUM CSS 83 (1991.35)  
 PHOTOGRAMMETRY AS OF: X  
 ALIGNMENT TIES X  
 SURVEYED BY X  
 DRAFTED BY X  
 FIELD CHECKED BY X  
 CHECKED BY X

DESIGN BY C. Cushing  
 CHECKED E. Schroth-Nichols  
 DETAILS BY T. Brittain  
 CHECKED E. Schroth-Nichols  
 QUANTITIES BY C. Cushing  
 CHECKED E. Schroth-Nichols

**PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER  
 BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESEE AVENUE OC (REPLACE)  
 FOUNDATION PLAN (2 OF 2)**

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	843	1012

*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

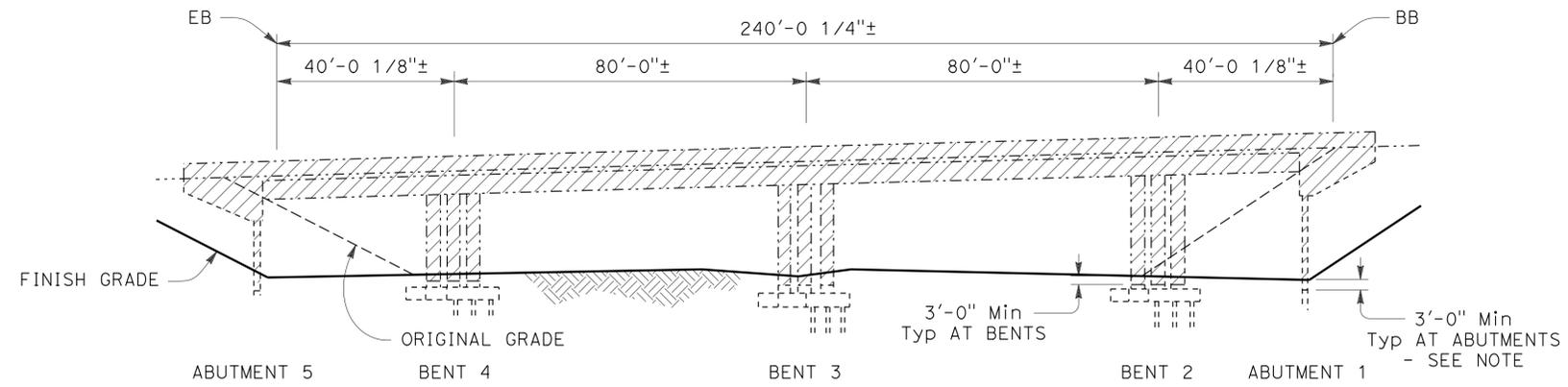
07-21-14  
 PLANS APPROVAL DATE

Craig Shannon  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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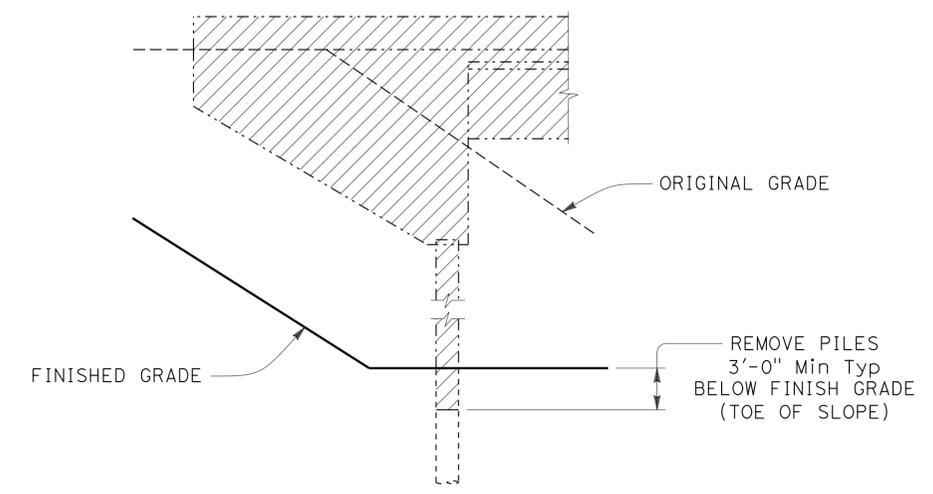
**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

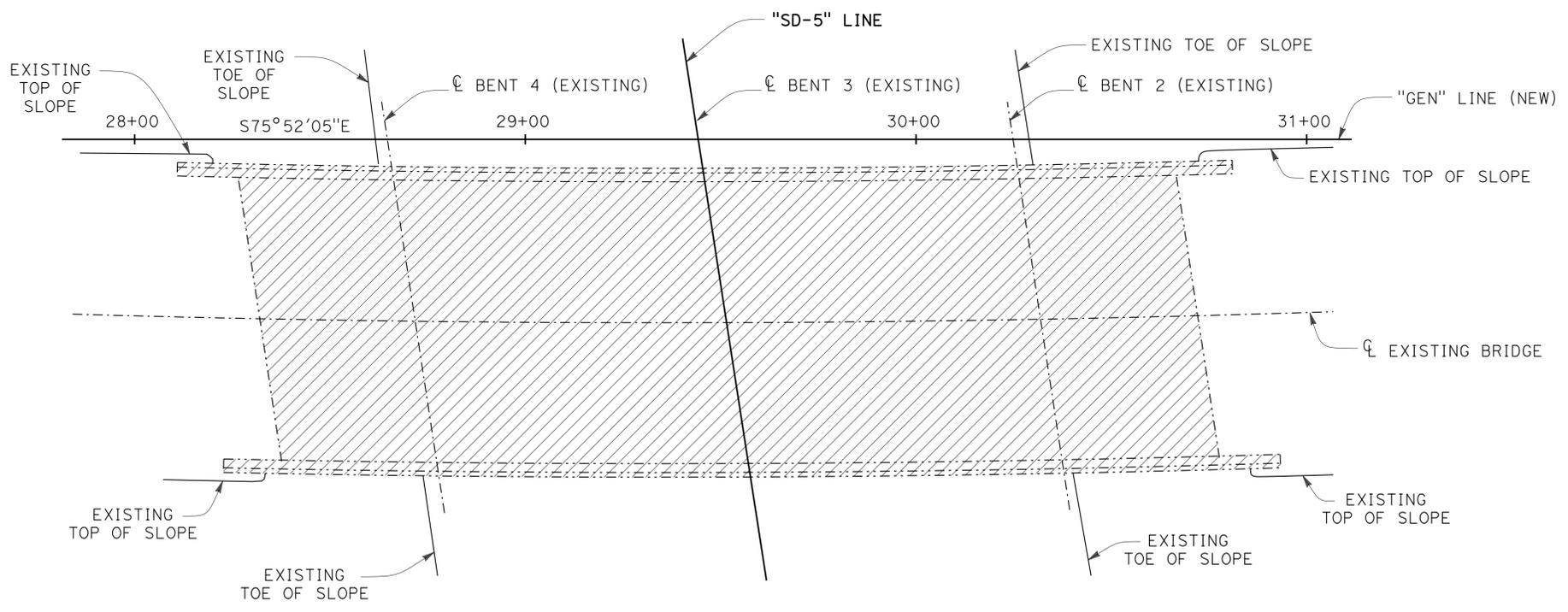


NOTE: If existing pile is on sloped portion of Finish Grade, remove existing pile 3'-0" min below toe of slope

**ELEVATION**  
 1" = 20'-0"



**ABUTMENT SECTION**  
 No Scale

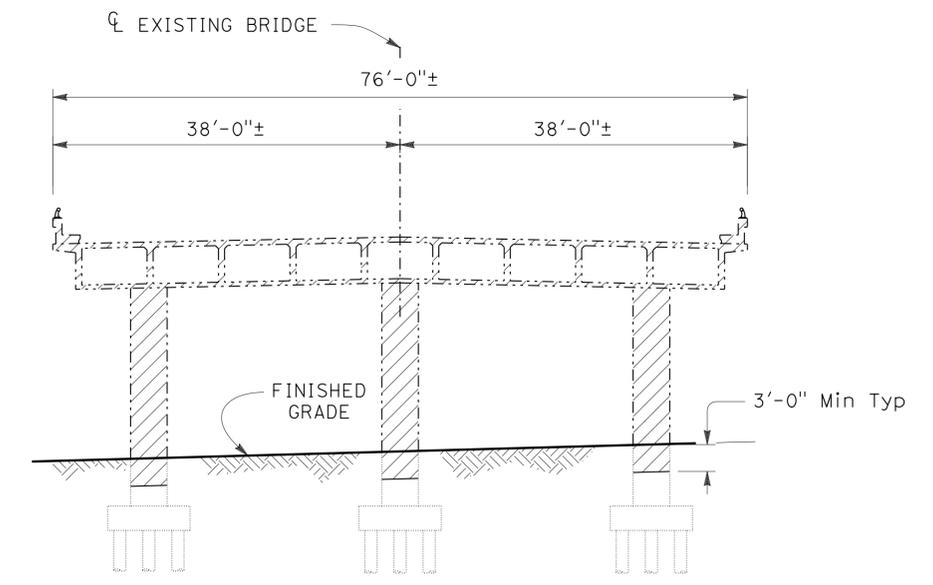


- INDICATES REMOVAL OF EXISTING BRIDGE 57-0527



**PLAN**  
 1" = 20'-0"

NOTE: All demolition of existing bridge shall be performed prior to beginning Stage 6 Construction



**TYPICAL SECTION**  
 1" = 10'-0"

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY: C. Cushing  
 CHECKED: E. Schroth-Nichols

DETAILS BY: T. Brittain  
 CHECKED: E. Schroth-Nichols

QUANTITIES BY: C. Cushing  
 CHECKED: E. Schroth-Nichols

DESIGN BY: C. Cushing  
 CHECKED: E. Schroth-Nichols

DETAILS BY: T. Brittain  
 CHECKED: E. Schroth-Nichols

QUANTITIES BY: C. Cushing  
 CHECKED: E. Schroth-Nichols

**PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.  
 57-1224

POST MILES  
 29.46

**GENESSEE AVENUE OC (REPLACE)  
 BRIDGE REMOVAL PLAN**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-28-13 2-3-14	7	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	844	1012

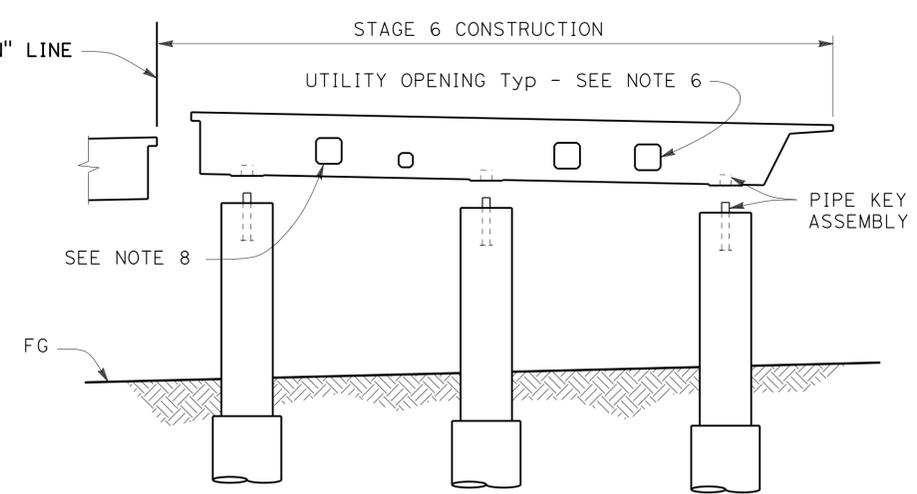
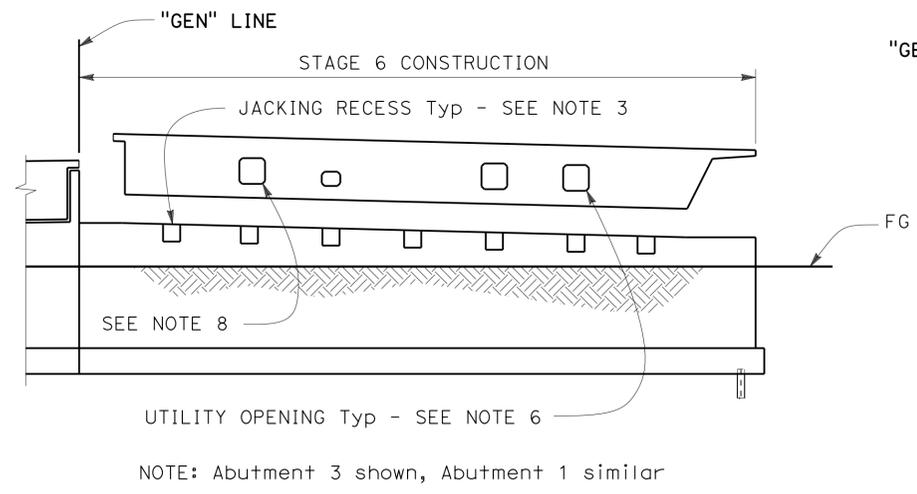
**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

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 No. 66998  
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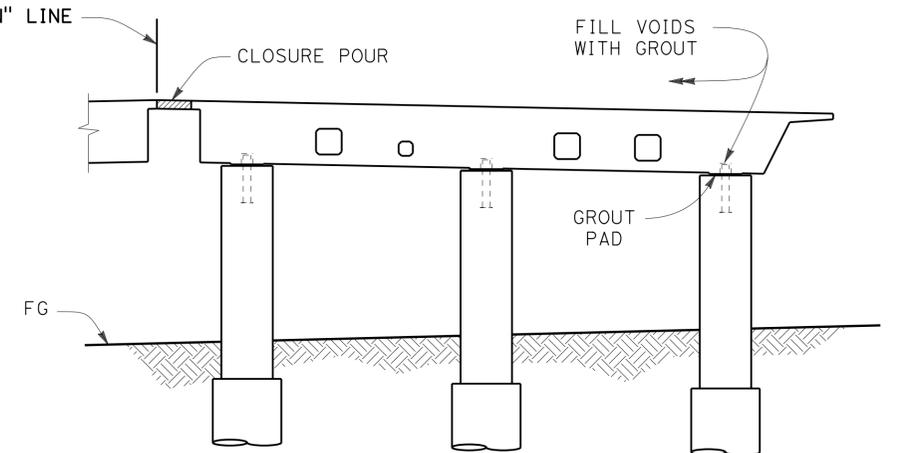
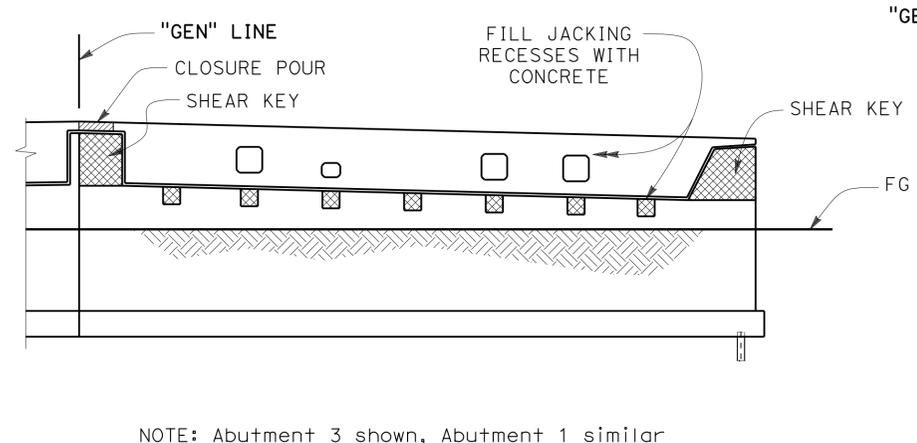
<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---



**ABUTMENT** **BENT**

**SUPERSTRUCTURE IN RAISED POSITION**

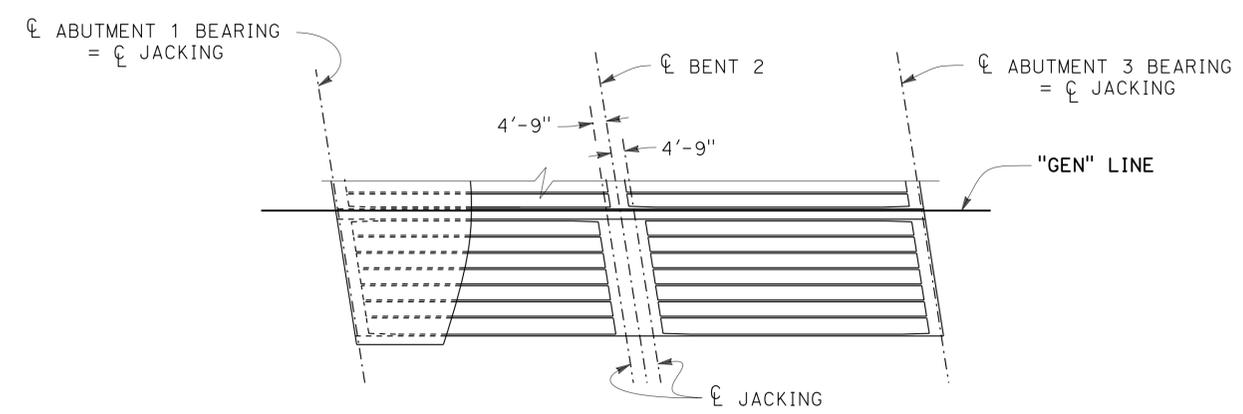
No Scale



**ABUTMENT** **BENT**

**SUPERSTRUCTURE IN FINAL POSITION**

No Scale



MINIMUM JACKING LOADS TABLE (STAGE 6 CONSTRUCTION ONLY)	
LOCATION	LOAD (Kips)
ABUTMENT 1	2170
BENT 2 (SPAN 1 SIDE)	4380
BENT 2 (SPAN 2 SIDE)	4380
ABUTMENT 3	2380

NOTES:

- The minimum loads given are for the purposes of jacking only, and include unfactored dead load only (adjusted for skew and other uncertainties). The contractor is responsible for verifying the actual total load, including construction loads, before lowering the superstructure.
- The jacking loads per jack at each specified centerline jacking shall be the total load divided by the number of jacks
- Jack locations at Abutments 1 and 3 shall be placed symmetrically. A minimum of 4 jacks each centerline jacking shall be used. Allowed jacking recess locations are shown on "ABUTMENT 1 LAYOUT" and "ABUTMENT 3 LAYOUT" sheets.
- Jack locations at Bent 2 shall be placed symmetrically. A minimum of 4 jacks each centerline jacking shall be used.
- Shim plates shall be used as required to provide a level jacking surface and to limit bearing stresses on concrete to 1.35 ksi. Plates shall be designed by the contractor.
- For any jacks located underneath utility openings, a rigid brace shall be placed within the the opening such that the jacking load is transferred to the top of the opening. Brace shall be designed by the contractor. See Note 5 for additional requirements that shall apply to top and bottom of utility opening.
- Contractor shall determine height for casting the superstructure based on falsework depth and clearance requirements
- The portion of 24" Water Line within the bridge deck shall be installed and pressure tested prior to pouring the concrete deck and lowering the superstructure (Stage 6 only). For location of flanged connection points and details, see "WATER LINE INSTALLATION LAYOUT (STAGE 6)" sheet.

CONSTRUCTION SEQUENCE (STAGE 6 ONLY):

- Cast superstructure in raised position
- Stress and grout prestressing tendons
- Provide temporary lateral support, install jacks and remove falsework
- Lower superstructure to final position
- Grout Pipe Key Assemblies and Grout Pad at Bent 2, and construct Shear Keys and Backwall at Abutments
- Remove jacks and cast the jacking recesses
- Construct Concrete Barrier and Sidewalk
- Construct Closure Pour

*Norbert Gee*  
 DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

**GENESSEE AVENUE OC (REPLACE)**  
**STAGE 6 CONSTRUCTION SEQUENCE**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-22-13 2-3-14	8	48

FILE => 57-1224-f-s6cs.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	845	1012

*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

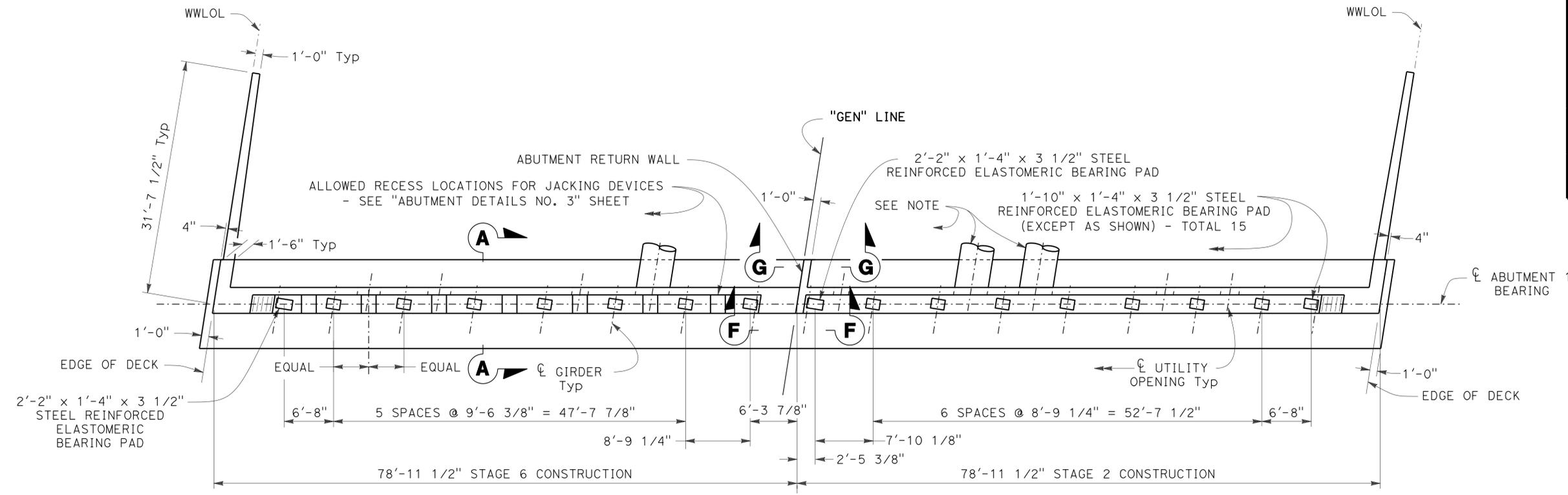
07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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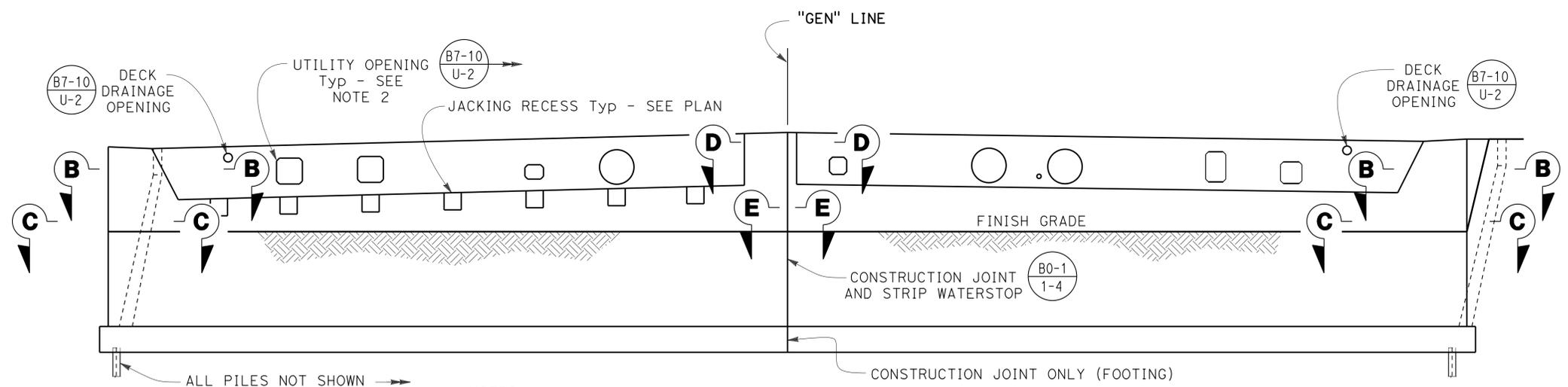
CITY OF SAN DIEGO  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

SIMON WONG ENGINEERING  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



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

NOTE: For water line casings, see water line details elsewhere



NOTES:

1. Approach Slab not shown
2. For Bridge Utility Opening information and sizes, see "GENERAL PLAN (2 OF 2)" sheet
3. For Sections "A-A", "B-B", "C-C", "D-D", and "E-E", see "ABUTMENT DETAILS NO. 2" sheet. For Section "F-F", see "ABUTMENT DETAILS NO. 3" sheet. For Section "G-G", see "ABUTMENT DETAILS NO. 4" sheet.

**ELEVATION**  
 1/8" = 1'-0"

*Norbert Gee*  
 DESIGN OVERSIGHT Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESEE AVENUE OC (REPLACE)**  
**ABUTMENT 1 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-22-13 2-3-14	9	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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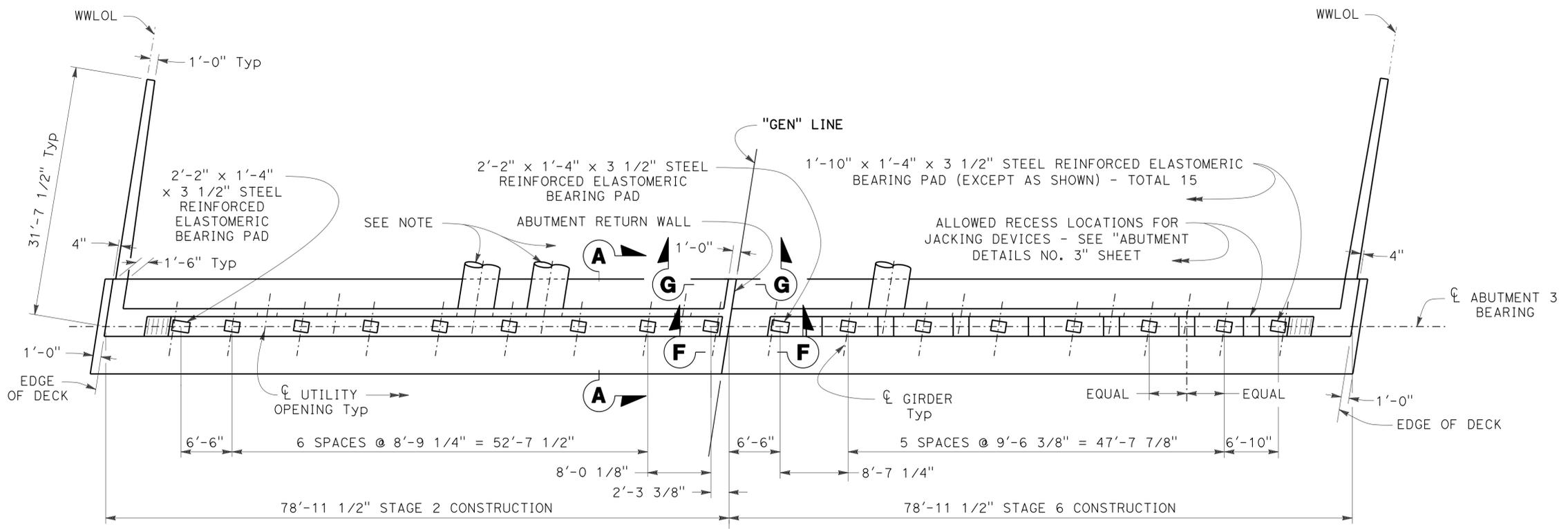
**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

Craig Shannon  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

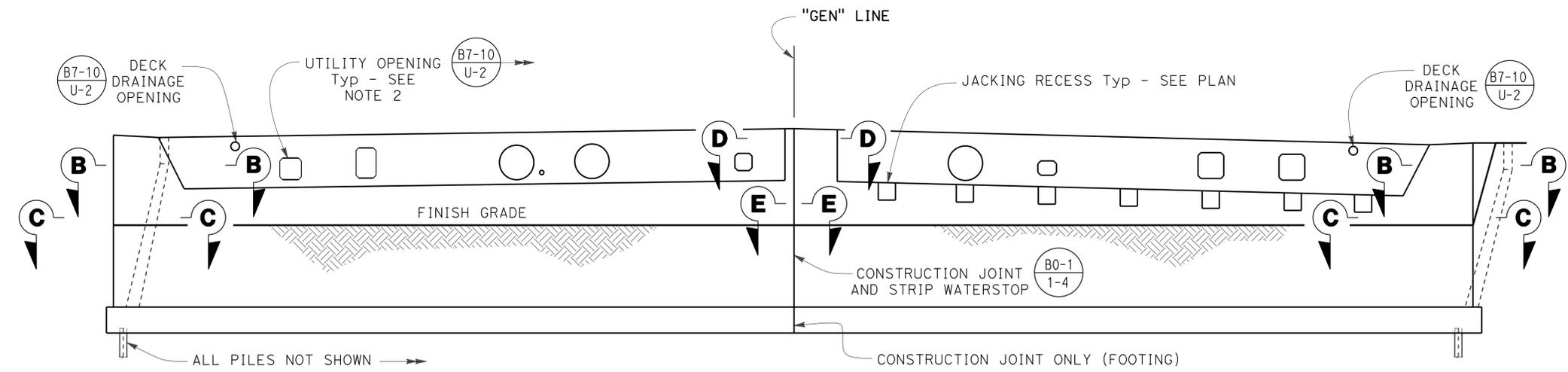
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--	---



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

NOTE: For water line casings, see water line details elsewhere



- NOTES:
1. Approach Slab not shown
  2. For Bridge Utility Opening information and sizes, see "GENERAL PLAN (2 OF 2)" sheet
  3. For Sections "A-A", "B-B", "C-C", "D-D", and "E-E", see "ABUTMENT DETAILS NO. 2" sheet. For Section "F-F", see "ABUTMENT DETAILS NO. 3" sheet. For Section "G-G", see "ABUTMENT DETAILS NO. 4" sheet.

**ELEVATION**  
1/8" = 1'-0"

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

DESIGNED BY		C. Cushing	CHECKED BY	E. Schroth-Nichols
DETAILS BY		T. Brittain	CHECKED BY	E. Schroth-Nichols
QUANTITIES BY		C. Cushing	CHECKED BY	E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

**GENESSEE AVENUE OC (REPLACE) ABUTMENT 3 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

BRIDGE NO. 57-1224  
 POST MILES 29.46  
 CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-22-13 2-3-14	10	48

FILE => 57-1224-g-a31ay01.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 1:31:42

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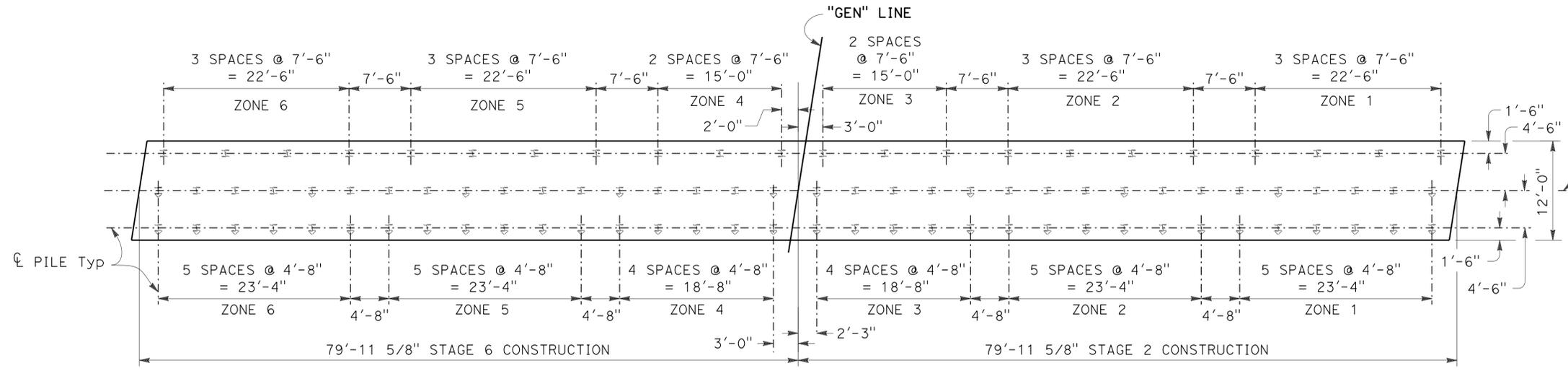
**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

**Craig Shannon**  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

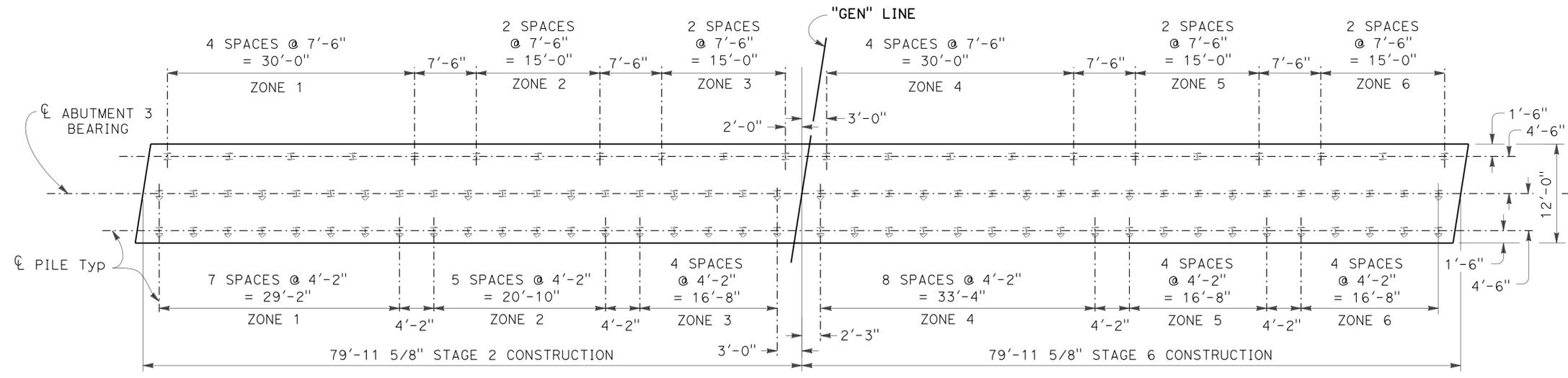
**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



NOTE: Specified Pile Tip elevations vary by zone. See "PILE DATA TABLE" on "FOUNDATION PLAN (2 OF 2)" sheet.

**ABUTMENT 1 PILE LAYOUT**

1/8" = 1'-0"

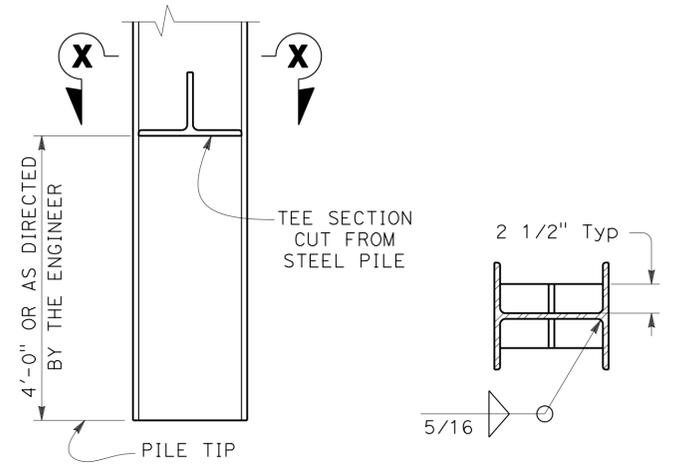


NOTE: Specified Pile Tip elevations vary by zone. See "PILE DATA TABLE" on "FOUNDATION PLAN (2 OF 2)" sheet.

**ABUTMENT 3 PILE LAYOUT**

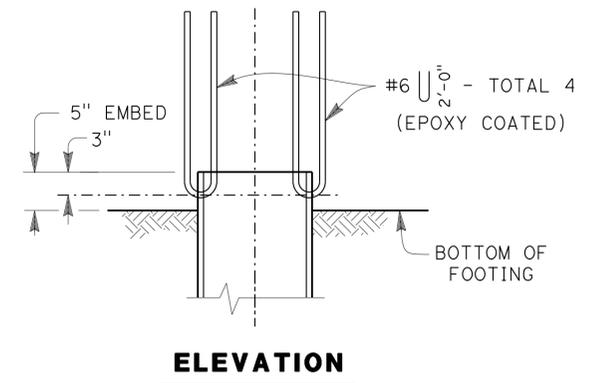
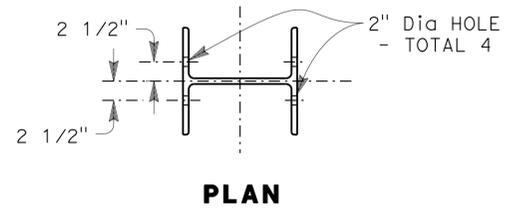
1/8" = 1'-0"

- LEGEND:
- ⊥ - Indicates Vertical Pile
  - ↘ - Indicates 1:3 Battered Pile



**PILE LUG DETAILS**

No Scale



**STEEL PILE ANCHOR DETAILS**

No Scale

**Norbert Gee**  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

DESIGNED BY		C. Cushing	CHECKED	E. Schroth-Nichols
DETAILS BY		T. Brittain	CHECKED	E. Schroth-Nichols
QUANTITIES BY		C. Cushing	CHECKED	E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESSEE AVENUE OC (REPLACE) ABUTMENT DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-22-13 2-3-14	11	48

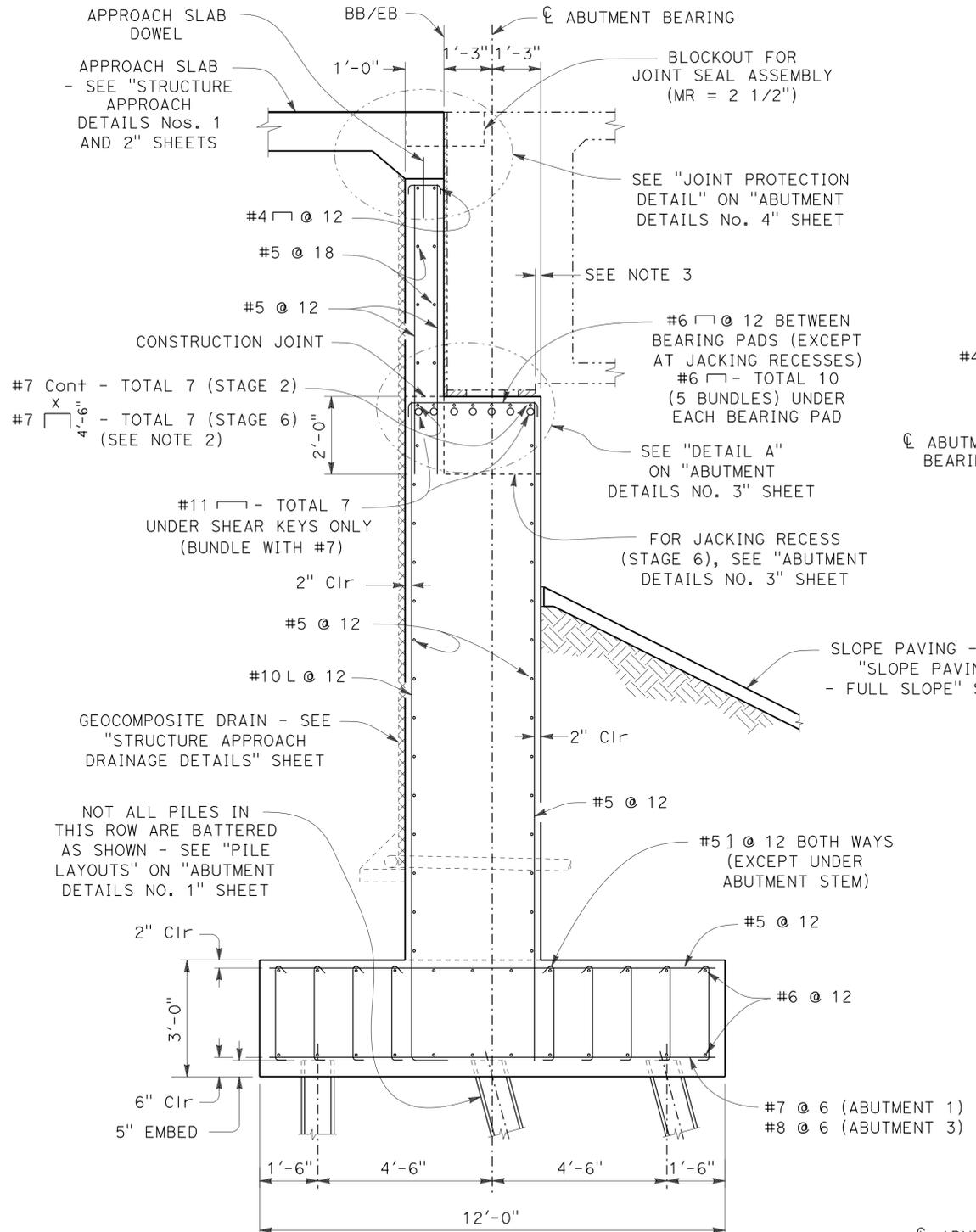
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	848	1012

**Craig Shannon**  
 REGISTERED CIVIL ENGINEER  
 DATE: 3-6-14  
 PLANS APPROVAL DATE: 07-21-14  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

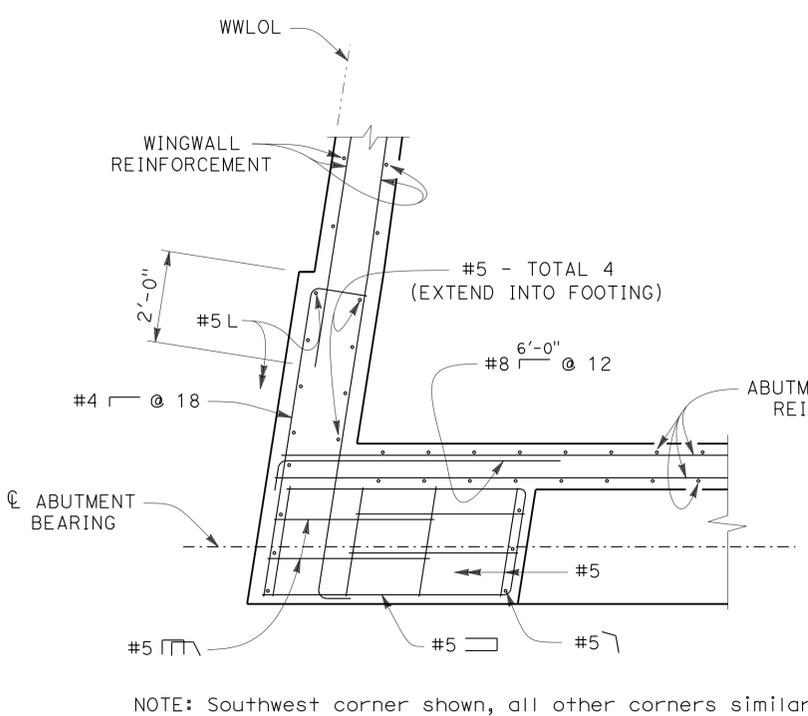
**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



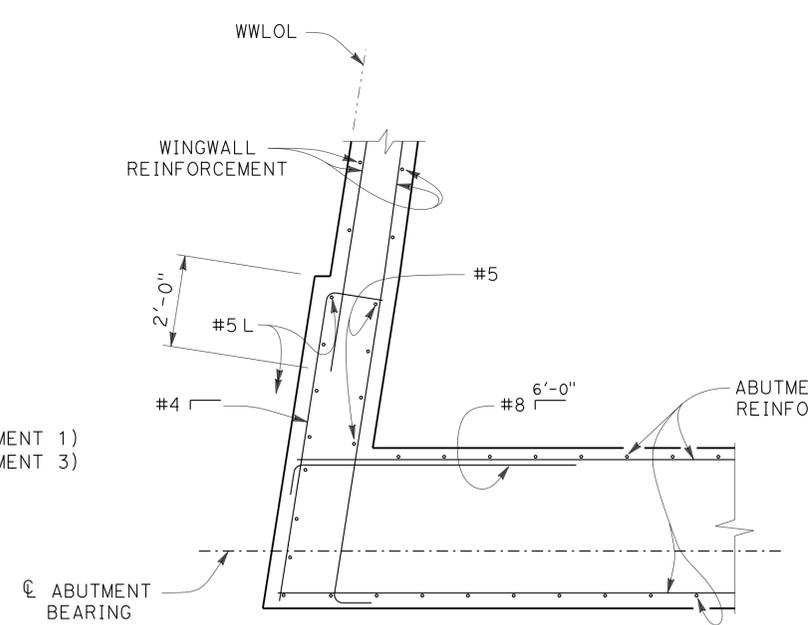
- NOTES:
1. Abutment 1 shown, Abutment 3 similar except as noted
  2. X - indicates Spans between jacking recesses
  3. Prior to stressing the superstructure, place the concrete such that the front face of level recess is offset 1 3/4" behind the front face of Abutment.

**SECTION A-A**  
 1/2" = 1'-0"



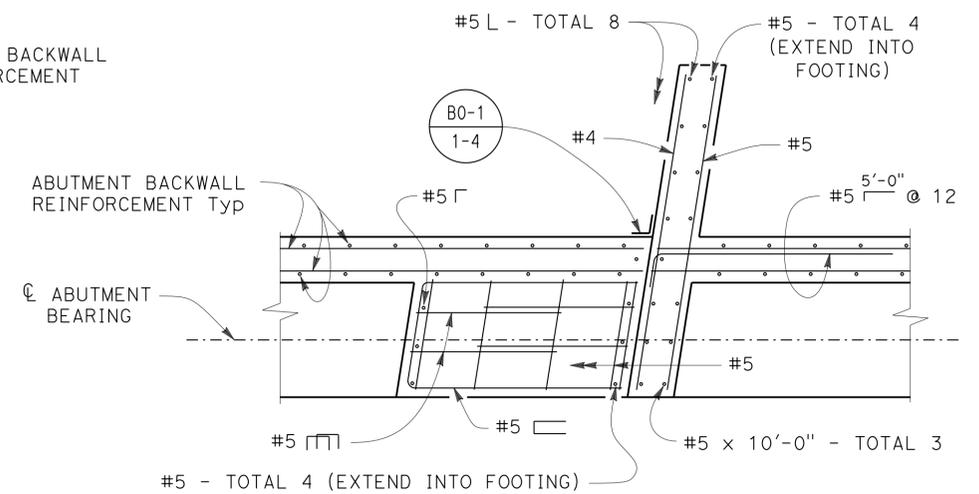
NOTE: Southwest corner shown, all other corners similar

**SECTION B-B**  
 1/2" = 1'-0"



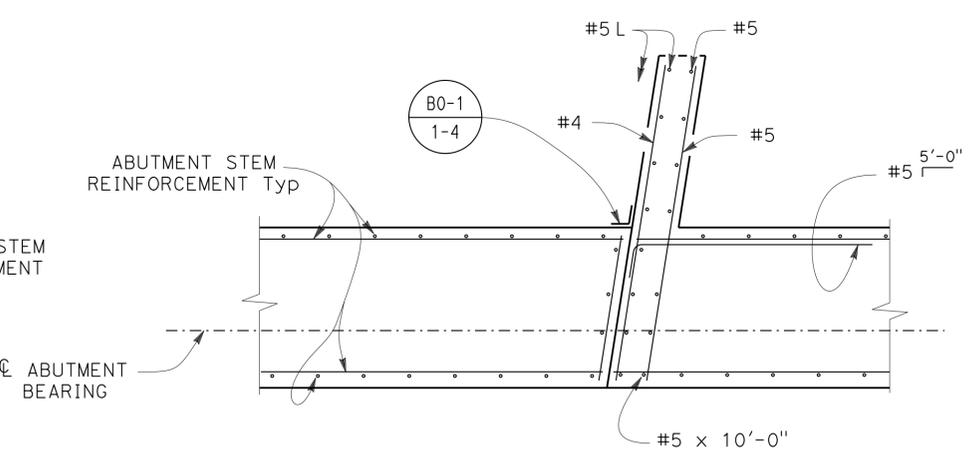
NOTE: Southwest corner shown, all other corners similar

**SECTION C-C**  
 1/2" = 1'-0"



NOTE: Abutment 1 shown, Abutment 3 similar

**SECTION D-D**  
 1/2" = 1'-0"



NOTE: Abutment 1 shown, Abutment 3 similar

**SECTION E-E**  
 1/2" = 1'-0"

DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

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 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER  
 BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESEE AVENUE OC (REPLACE)  
 ABUTMENT DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 11120001021

2771 CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
5-28-12 1-15-13 2-22-13 2-3-14	12	48

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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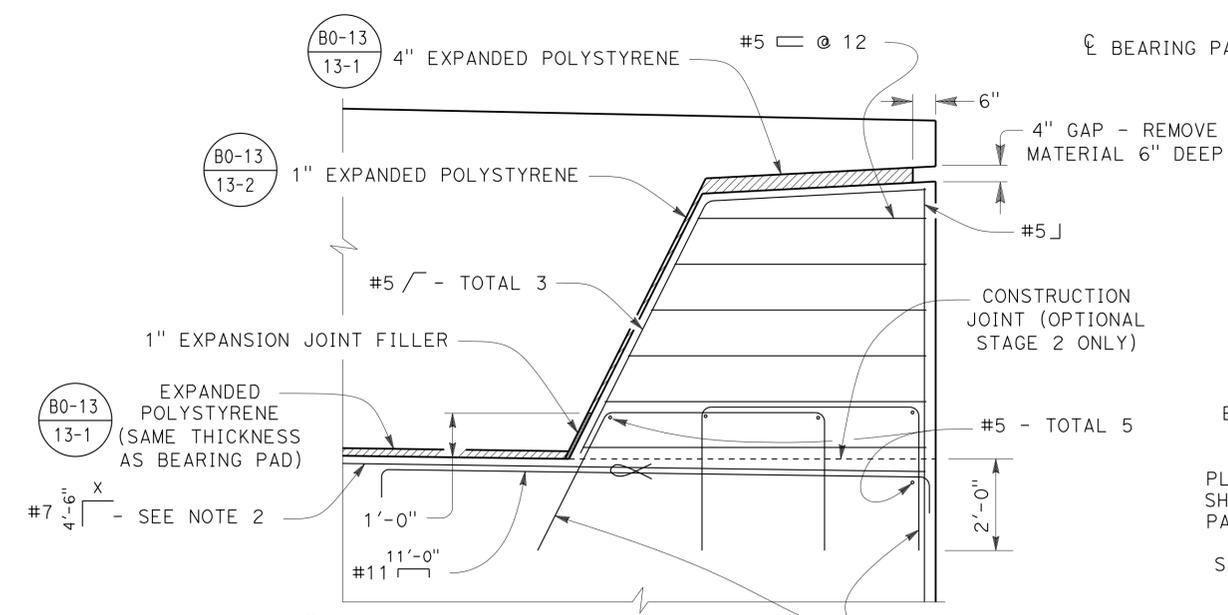
**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

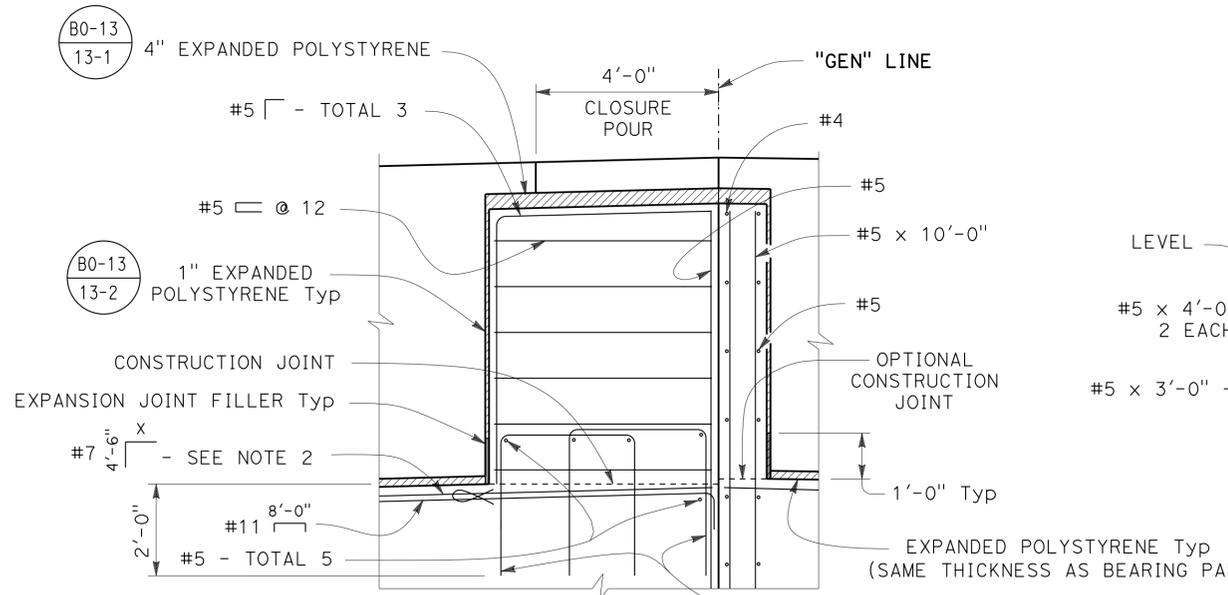
**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



- NOTES:
- ∞ - indicates vertically bundled bars
  - X - indicates span to jacking recess (Stage 6 only). Note no 4'-6" hook at edge of deck only. For Stage 2 construction, use #7 Cont for entire abutment seat.

**EXTERIOR SHEAR KEY**

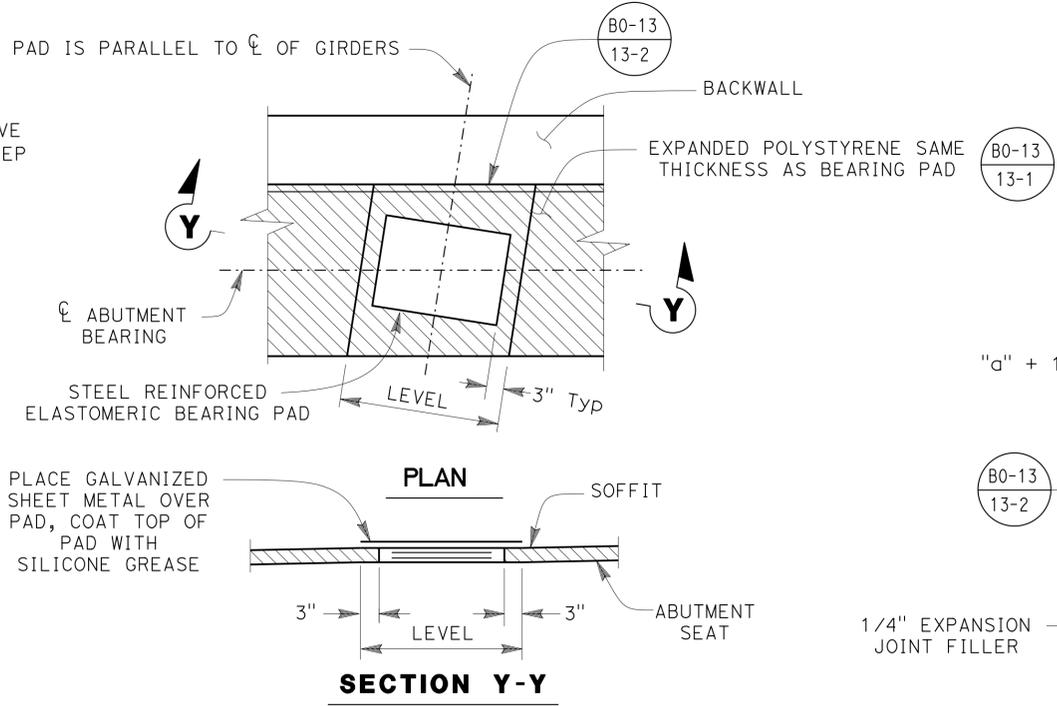
1/2" = 1'-0"



- NOTES:
- ∞ - indicates vertically bundled bars
  - X - indicates span to jacking recess (Stage 6 only). Note no 4'-6" hook at "GEN" Line only. For Stage 2 construction, use #7 Cont for entire abutment seat.

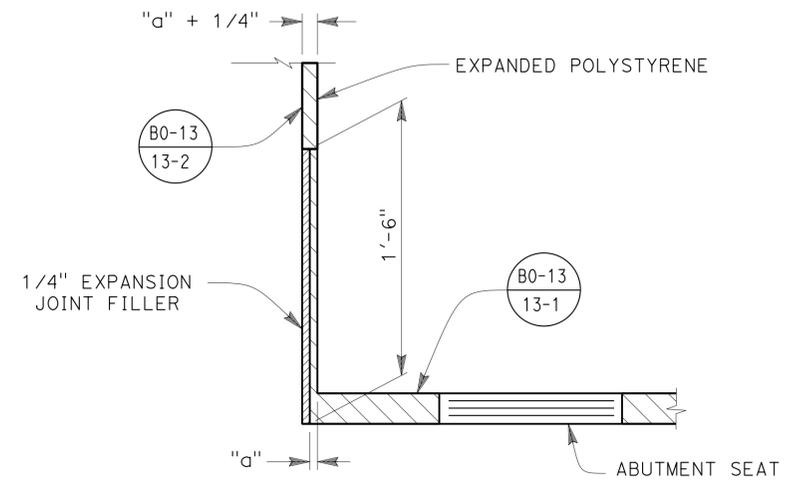
**SECTION F-F**

1/2" = 1'-0"



**BEARING SEAT DETAILS**

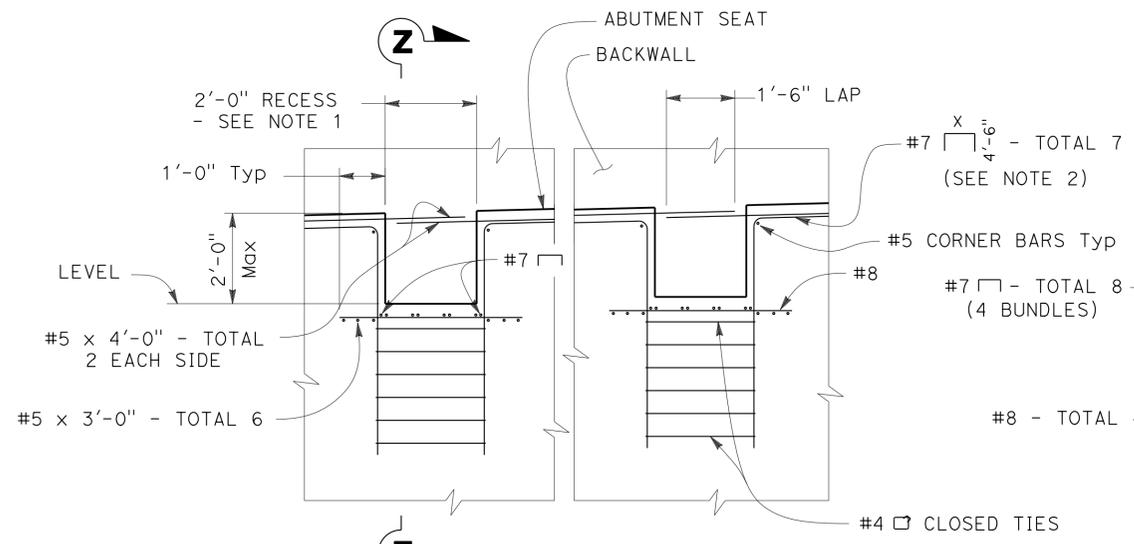
No Scale



NOTE: For "a" dimension, see "JOINT SEAL ASSEMBLY (MAXIMUM MOVEMENT RATING = 4")" sheet

**DETAIL A**

No Scale



**ELEVATION**

- NOTES:
- Fill jacking recesses with concrete flush with the top of abutment seat after completion of jacking. Note #5 x 4'-0" bars may be bent out of the way until jacking recess is filled.
  - X - indicates spans between jacking recesses

**JACKING RECESS DETAILS**

1/2" = 1'-0"

**SECTION Z-Z**

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

BRIDGE NO.	57-1224
POST MILES	29.46

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021  
 CONTRACT NO.: 11-0223U4

**GENESSEE AVENUE OC (REPLACE) ABUTMENT DETAILS NO. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



FILE => 57-1224-h-ade+03.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-22-13 2-3-14	13	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	850	1012

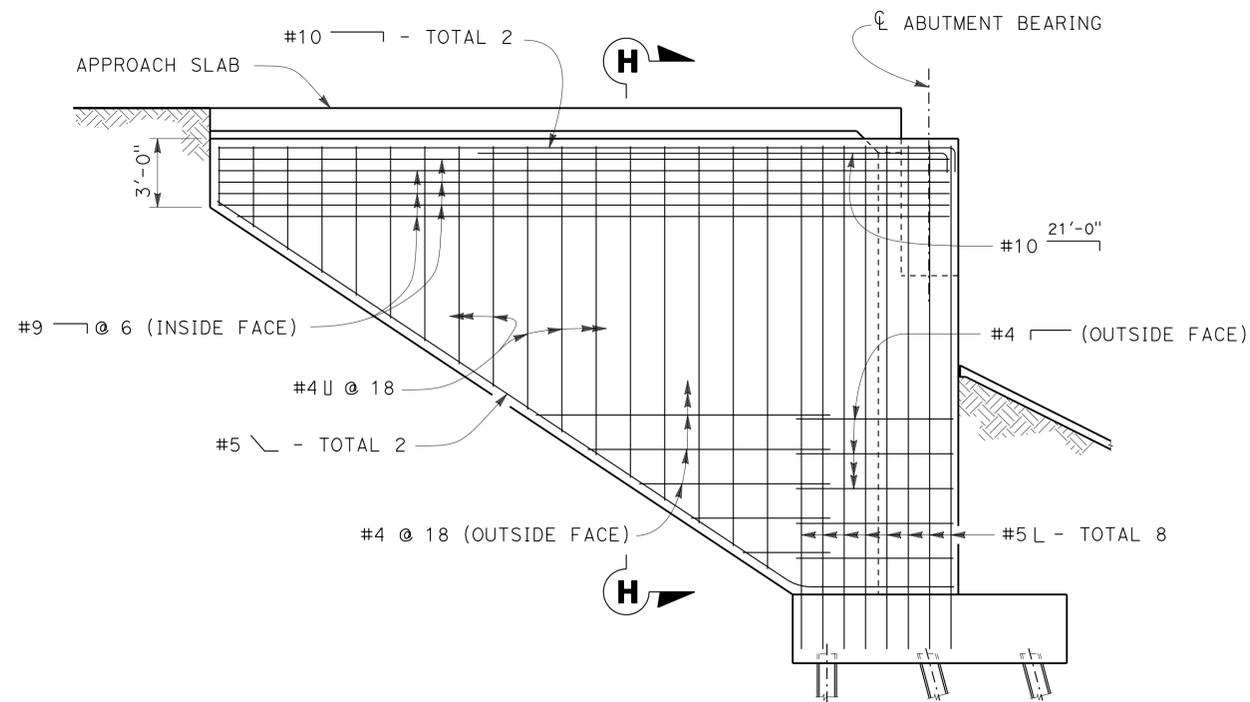
*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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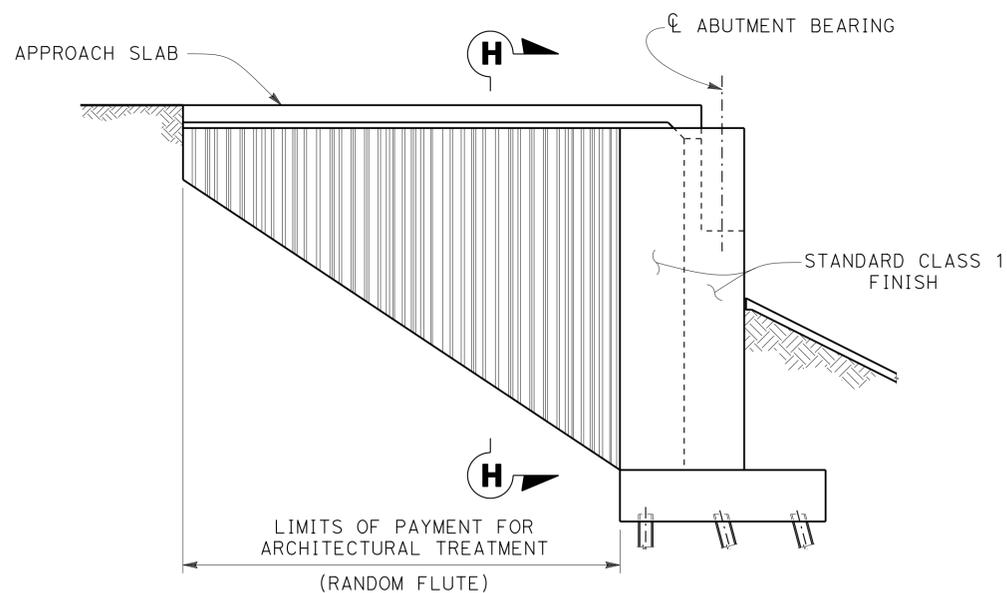
<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---



NOTE: For limits of architectural treatment, see detail below

**TYPICAL WINGWALL ELEVATION**

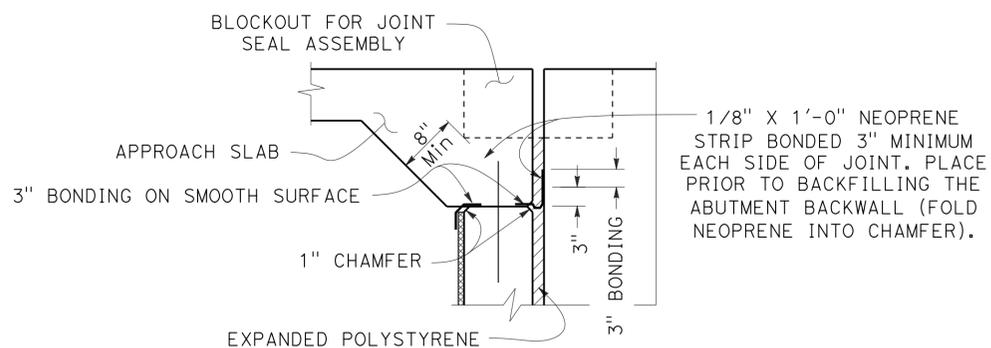
1/4" = 1'-0"



NOTE: For random flute texture, see "ARCHITECTURAL DETAILS" sheet

**LIMITS OF ARCHITECTURAL TREATMENT**

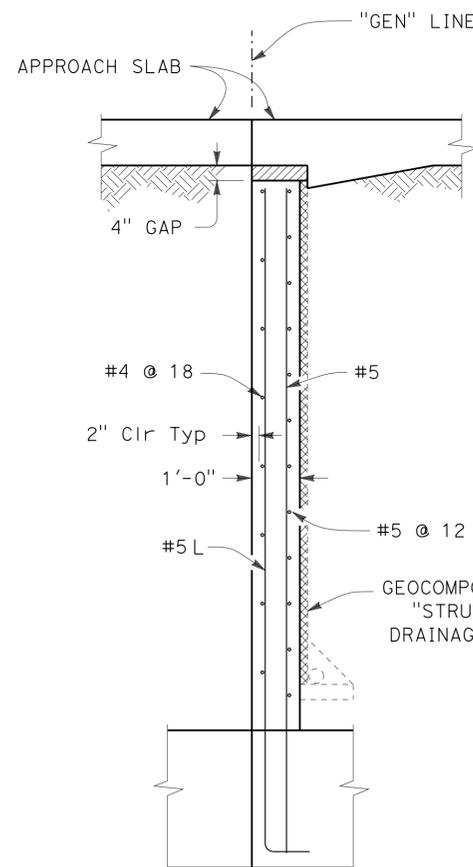
3/16" = 1'-0"



**JOINT PROTECTION DETAIL**

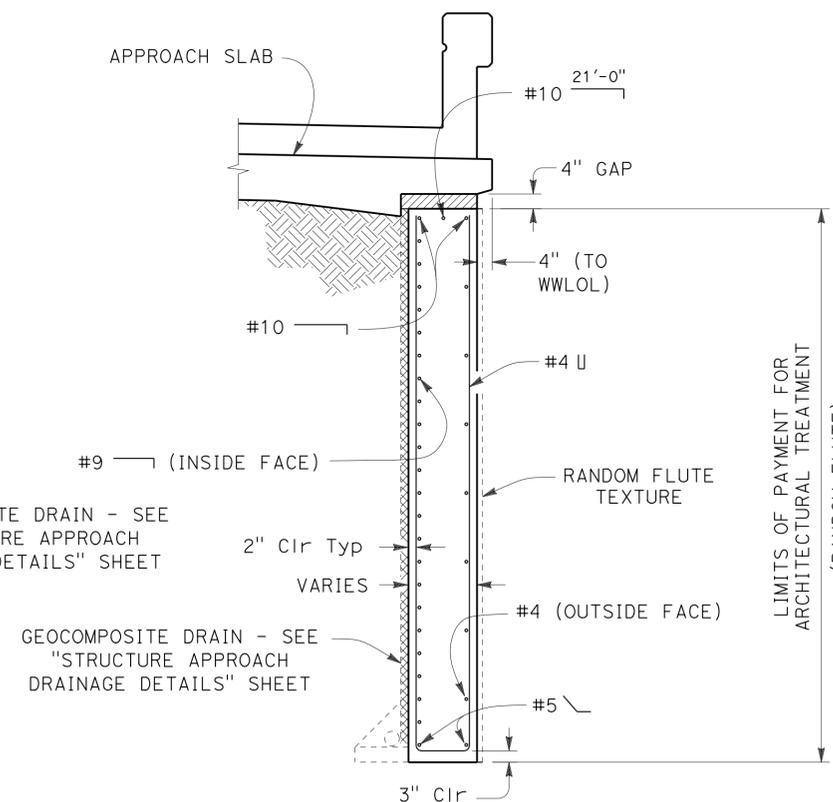
No Scale

BO-1  
1-2



**SECTION G-G**

1/2" = 1'-0"



**SECTION H-H**

1/2" = 1'-0"

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY: C. Cushing  
 CHECKED: E. Schroth-Nichols  
 DETAILS BY: T. Brittain  
 CHECKED: E. Schroth-Nichols  
 QUANTITIES BY: C. Cushing  
 CHECKED: E. Schroth-Nichols

DESIGNED BY: C. Cushing  
 CHECKED: E. Schroth-Nichols  
 PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.  
57-1224  
 POST MILES  
29.46

**GENESSEE AVENUE OC (REPLACE)**  
**ABUTMENT DETAILS NO. 4**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES  
 FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING  
 EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-15-13 2-22-13 2-3-14	14	48

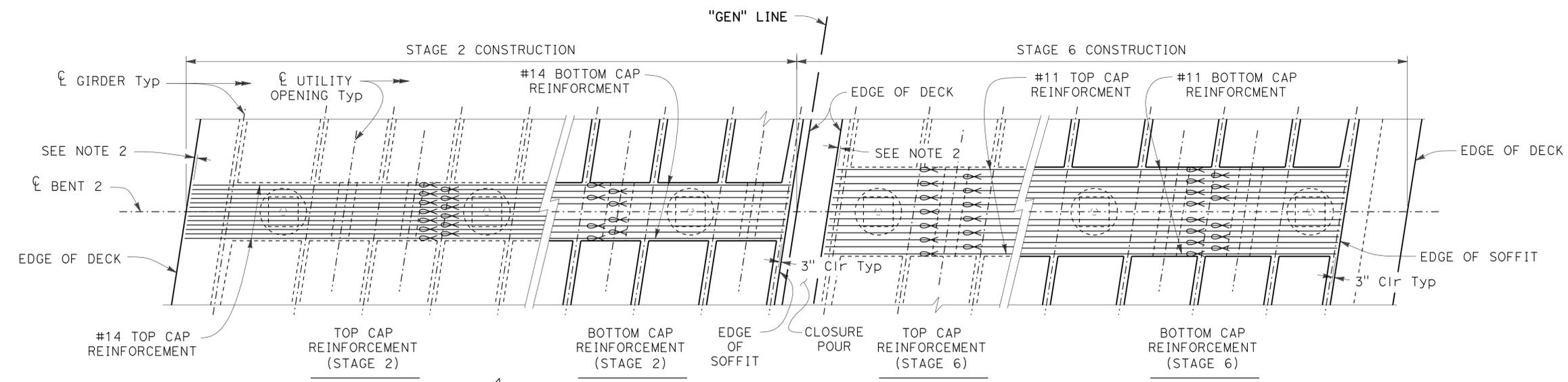
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	851	1012

*Craig Shannon*  
 REGISTERED CIVIL ENGINEER  
 DATE 3-6-14  
 PLANS APPROVAL DATE 07-21-14  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

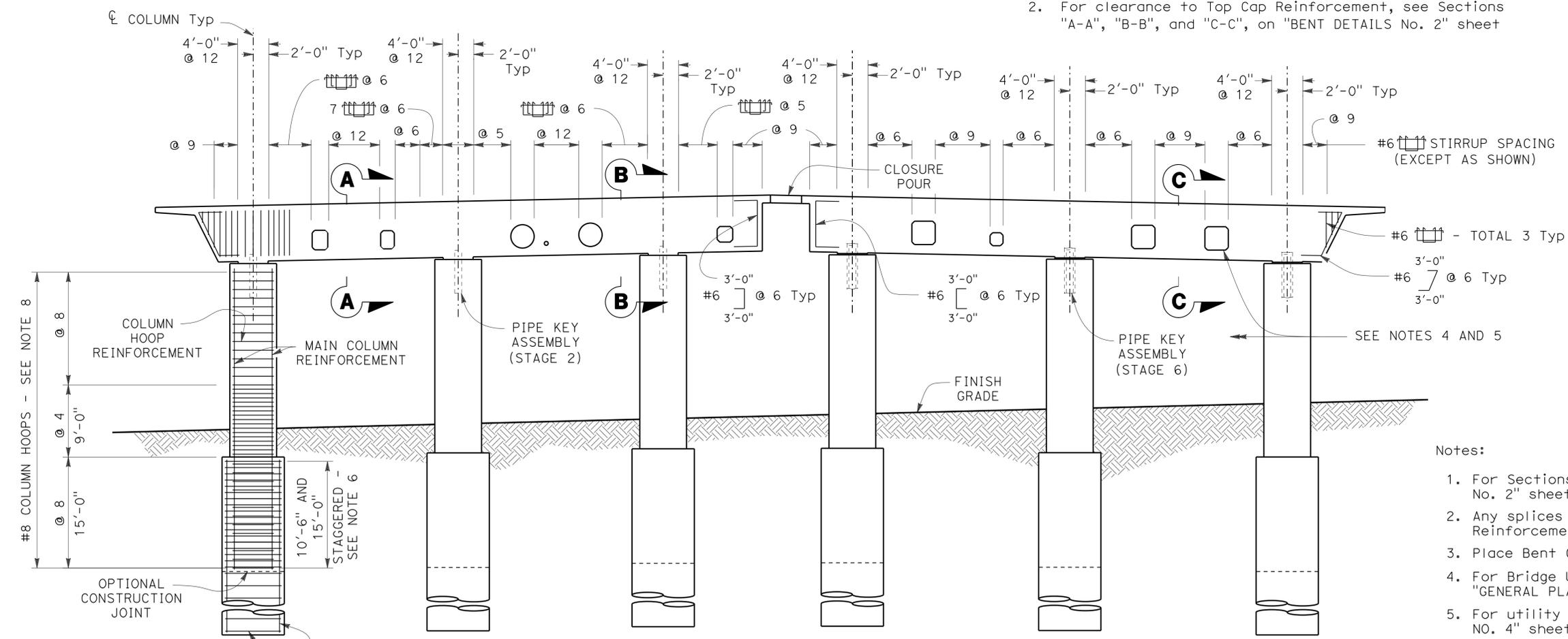
CITY OF SAN DIEGO  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

SIMON WONG ENGINEERING  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



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

- NOTES:
- ∞ - Indicates Bundled Bars, see Sections "A-A", "B-B", and "C-C" on "BENT DETAILS No. 2" sheet
  - For clearance to Top Cap Reinforcement, see Sections "A-A", "B-B", and "C-C", on "BENT DETAILS No. 2" sheet



**ELEVATION**  
 1/8" = 1'-0"

- Notes:
- For Sections "A-A", "B-B", and "C-C", see "BENT DETAILS No. 2" sheet
  - Any splices in #11 and #14 Top and Bottom Cap Reinforcement shall be Service Splice
  - Place Bent Cap Stirrups normal to centerline Bent 2
  - For Bridge Utility information and opening sizes, see "GENERAL PLAN (2 OF 2)" sheet
  - For utility opening reinforcement, see "GIRDER DETAILS NO. 4" sheet
  - Main Column Reinforcement extension shall alternate 10'-6" and 15'-0" below top of CIDH
  - No splices allowed in Main Column Reinforcement
  - All Column Hoops shall utilize Ultimate Butt Splice

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESSEE AVENUE OC (REPLACE)**  
**BENT DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 11-18-13 2-22-13 2-3-14	15	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 1:31:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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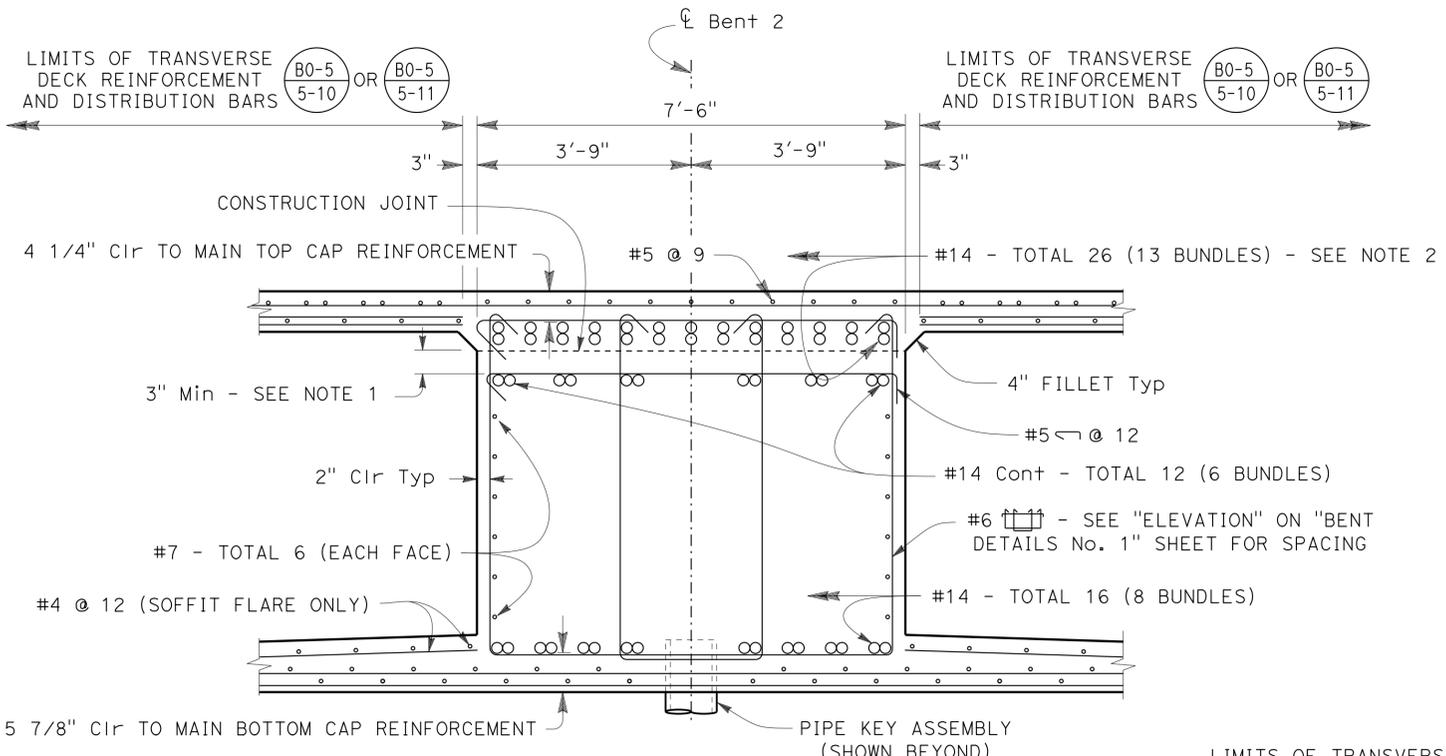
*Craig Shannon*  
 REGISTERED CIVIL ENGINEER DATE 3-6-14

07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---

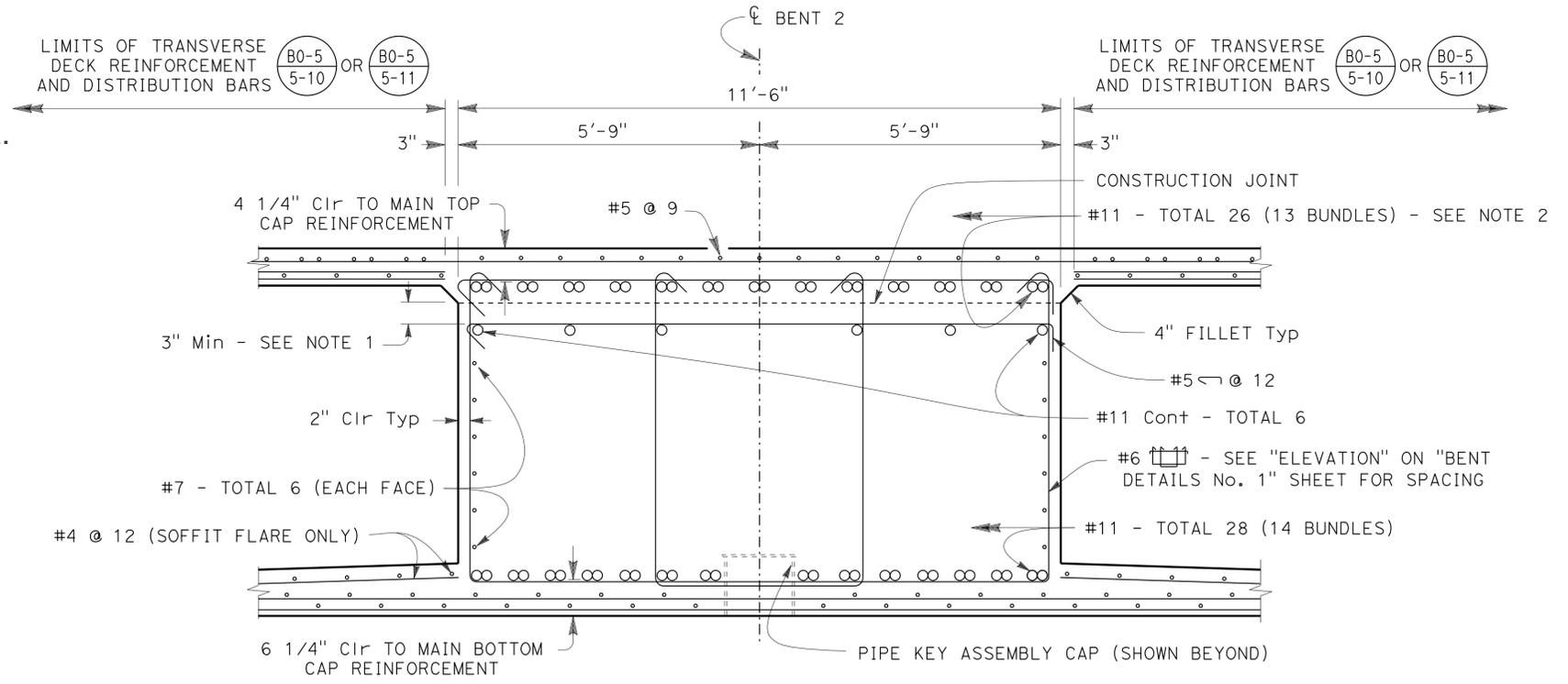


NOTES:

1. Adjust to clear prestress ducts as required
2. Extend all uppermost #14 Top Cap Reinforcement to 3" Cir from edge of deck. Extend all lowermost #14 Top Cap Reinforcement to 3" Cir from overhang.

**SECTION A-A**

No Scale

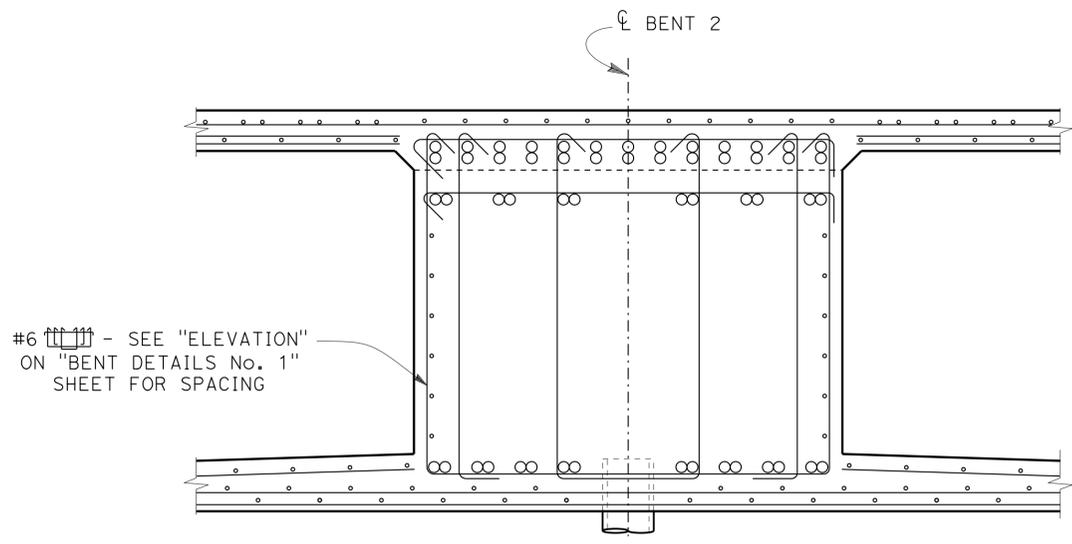


NOTES:

1. Adjust to clear prestress ducts as required
2. Extend all #11 Top Cap Reinforcement to 3" Cir from edge of deck

**SECTION C-C**

No Scale



NOTE: For additional details, see "SECTION A-A" this sheet

**SECTION B-B**

No Scale

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION		
Craig Shannon	BRIDGE NO.	57-1224
PROJECT ENGINEER	POST MILES	29.46

UNIT: 2771		BRIDGE NO.	57-1224
PROJECT NUMBER & PHASE: 11120001021		POST MILES	29.46
CONTRACT NO.: 11-0223U4		GENESEE AVENUE OC (REPLACE)	
FILE => 57-1224-j-bdet02.dgn		BENT DETAILS NO. 2	

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 16 OF 48
				6-28-12 1-18-13 2-28-13 2-3-14	

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	853	1012

**Craig Shannon**  
REGISTERED CIVIL ENGINEER  
DATE: 3-6-14

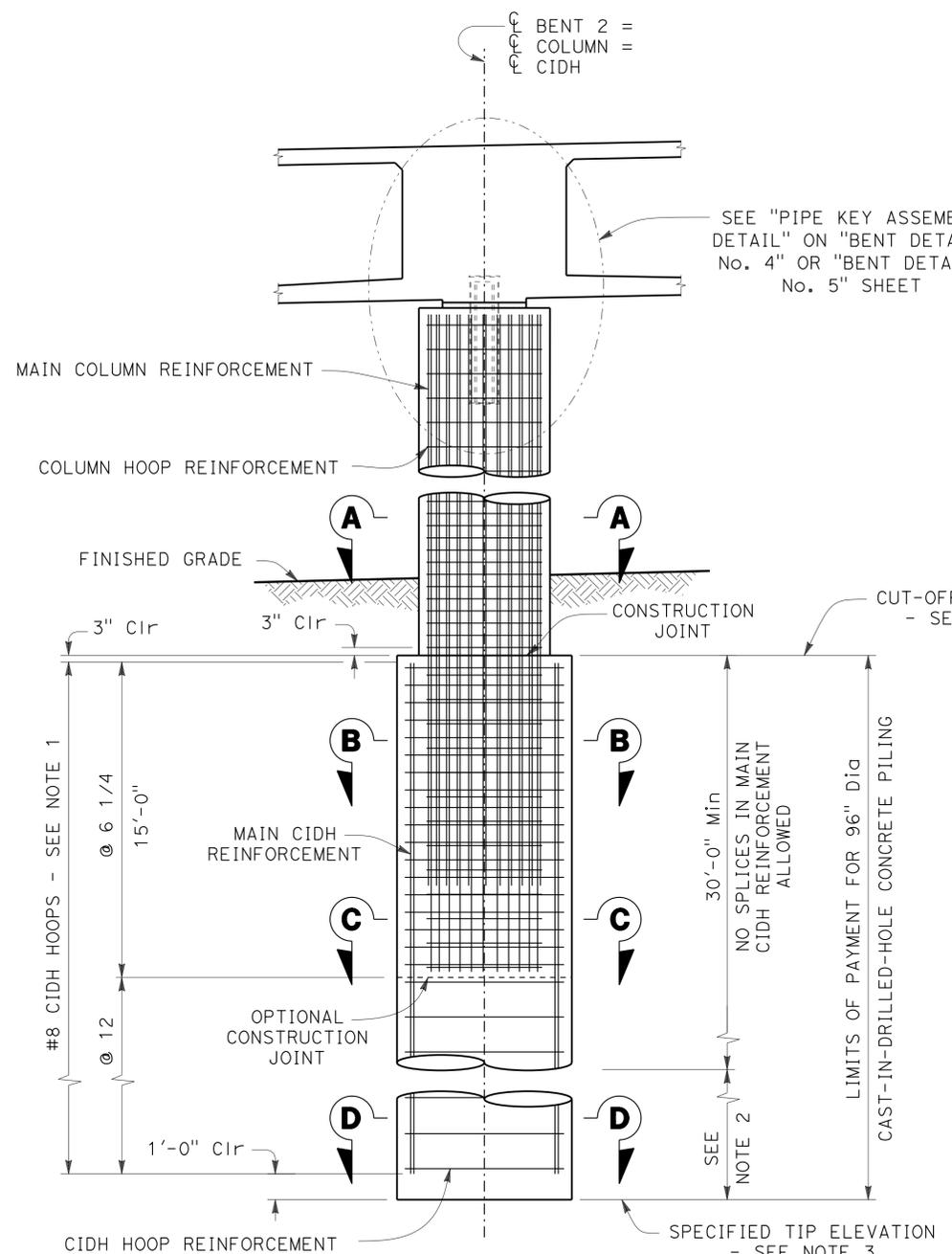
07-21-14  
PLANS APPROVAL DATE

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**CITY OF SAN DIEGO**  
525 B STREET SUITE 7  
SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
9968 HIBERT STREET  
SAN DIEGO, CA. 92131

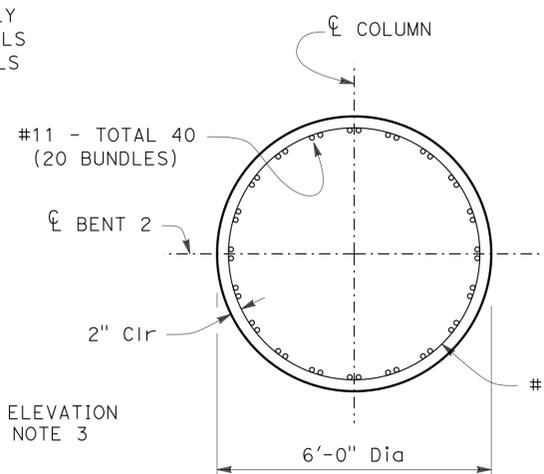
**REGISTERED PROFESSIONAL ENGINEER**  
Craig Shannon  
No. 66998  
Exp. 09-30-14  
CIVIL  
STATE OF CALIFORNIA



**96" DIA CIDH PILE ELEVATION**

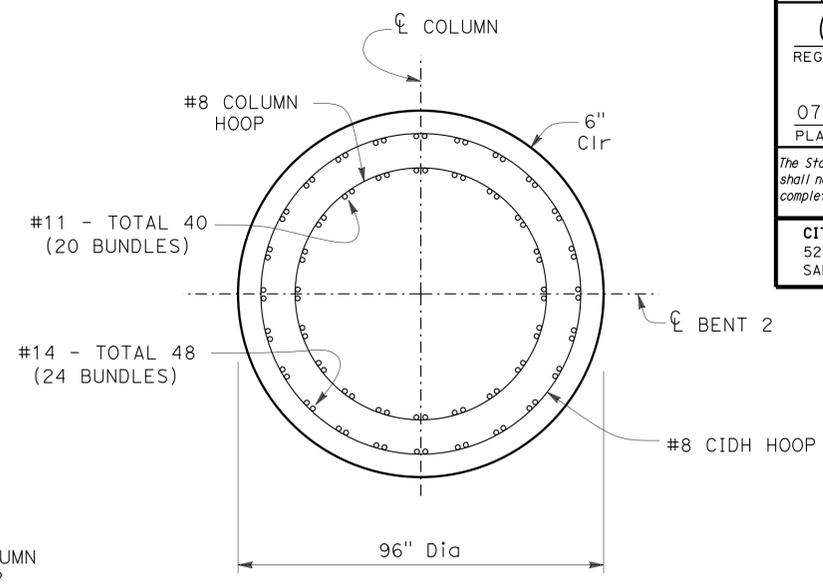
1/4" = 1'-0"

- NOTES:
- All CIDH Hoops shall utilize Ultimate Butt Splice
  - Only staggered mechanical Ultimate Butt Splices are allowed in Main CIDH Reinforcement in this zone
  - For Cut-Off and Specified Tip elevations, see "PILE DATA TABLE" on "FOUNDATION PLAN (2 OF 2)" sheet



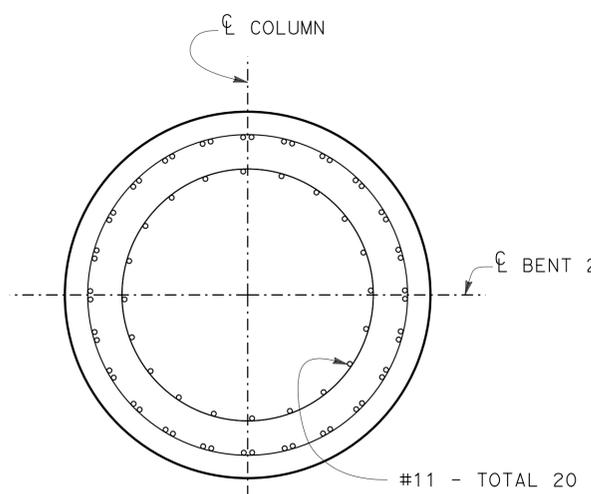
**SECTION A-A**

1/2" = 1'-0"



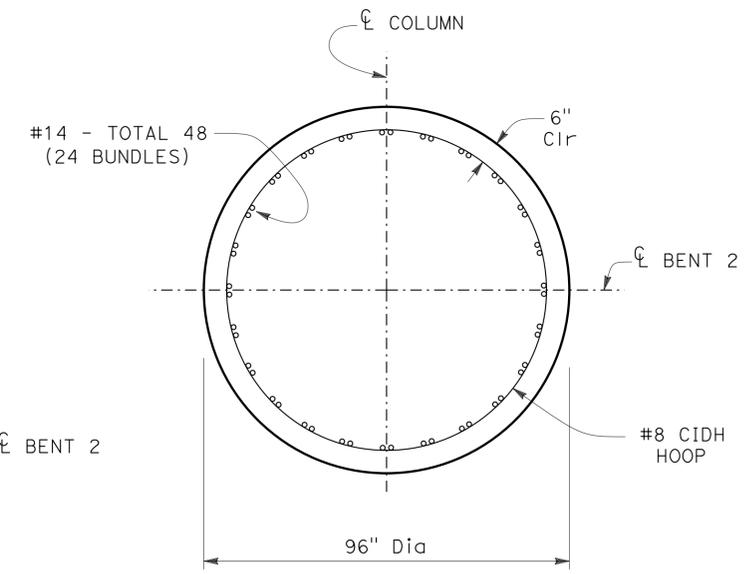
**SECTION B-B**

1/2" = 1'-0"



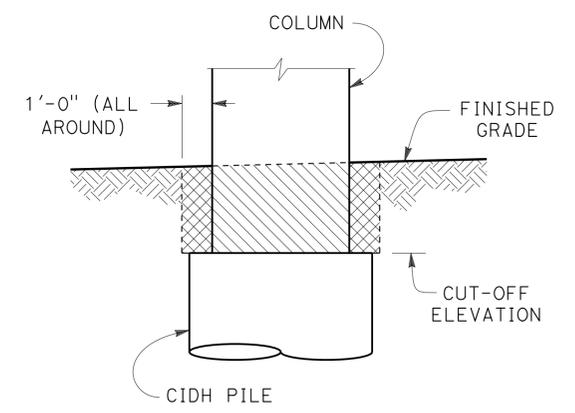
**SECTION C-C**

1/2" = 1'-0"



**SECTION D-D**

1/2" = 1'-0"



- Indicates Structure Excavation (Bridge)
- Indicates Structure Backfill (Bridge)

**LIMITS OF STRUCTURE EXCAVATION AND BACKFILL - BENT**

No Scale

NOTE: Similar to "SECTION B-B" except as noted

DESIGN OVERSIGHT  
**Norbert Gee**  
3-10-14  
SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESEE AVENUE OC (REPLACE) BENT DETAILS NO. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
---	---	---	---

UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-28-13 2-3-14	17	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	854	1012

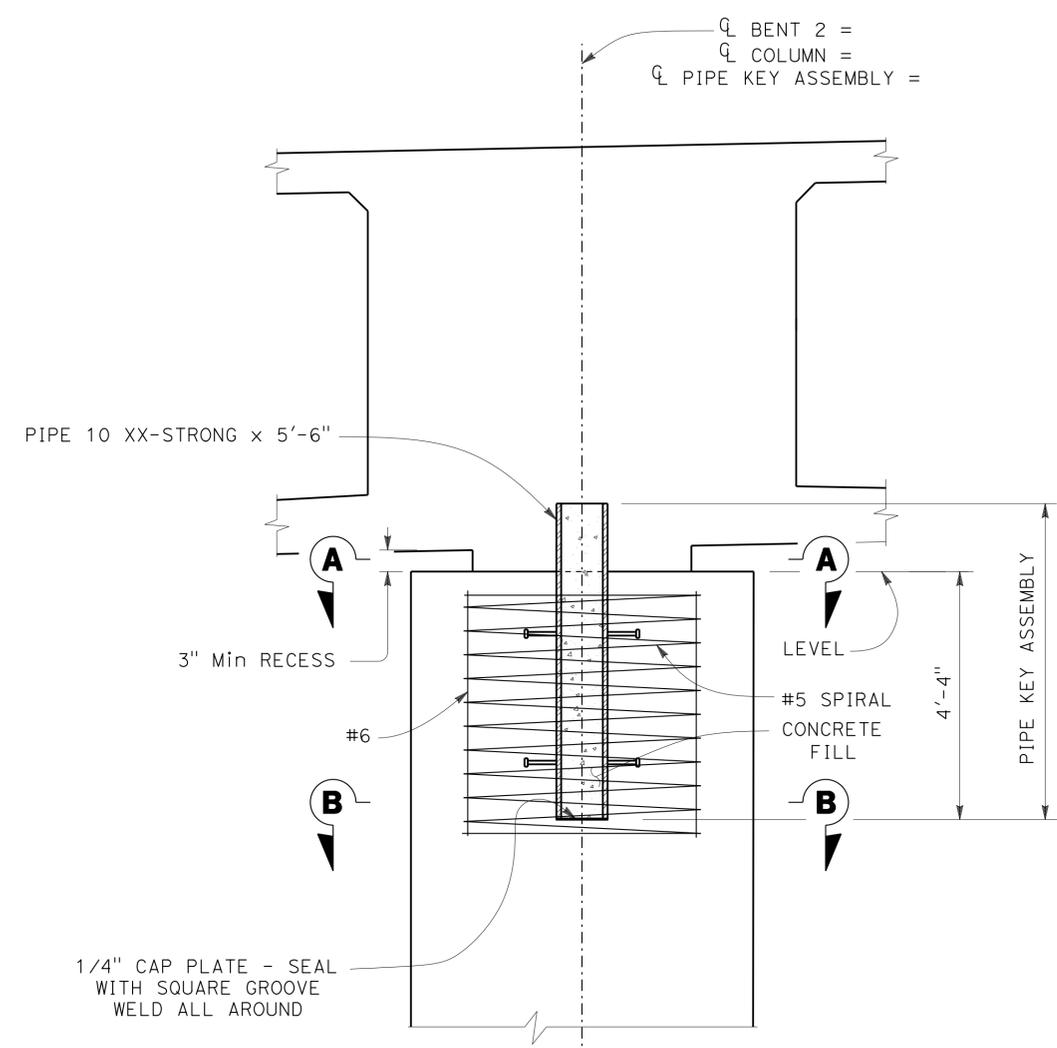
*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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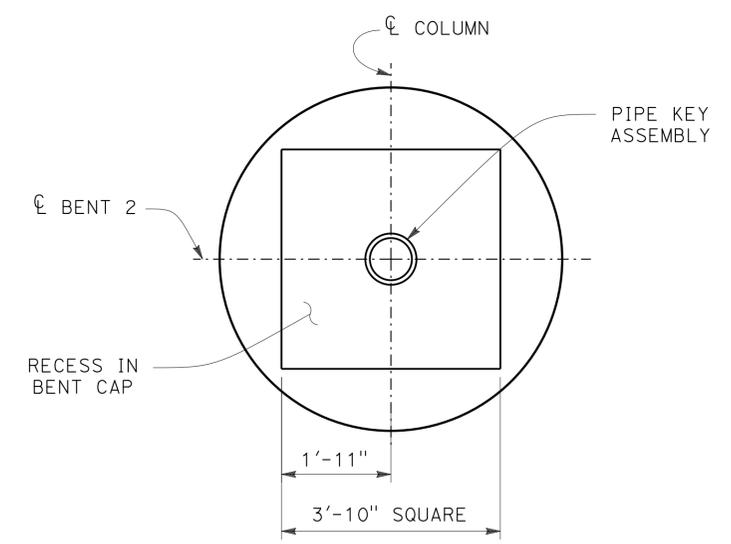
<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---



- NOTES:
1. Typical column and bent cap reinforcement not shown
  2. All details this sheet apply only to Stage 2 construction. For Stage 6 construction details, see "BENT DETAILS No. 5" sheet

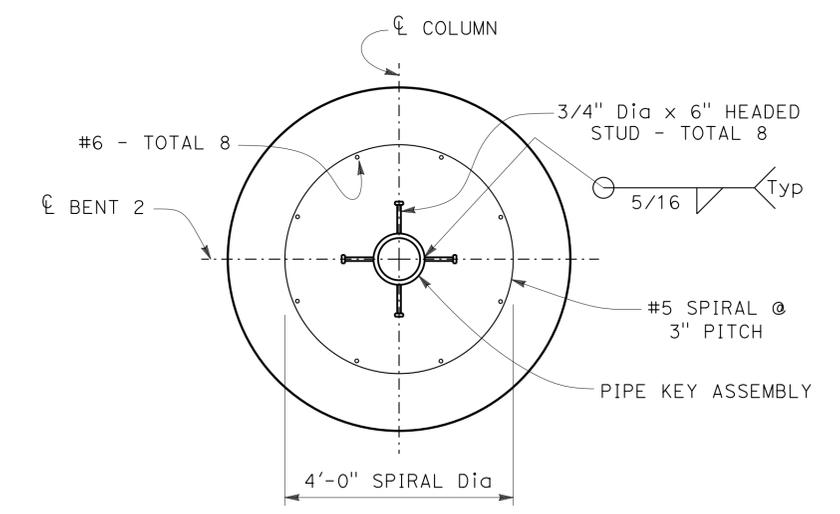
**PIPE KEY ASSEMBLY DETAIL  
(STAGE 2 CONSTRUCTION)**

No Scale



**SECTION A-A**

No Scale



**SECTION B-B**

No Scale

- NOTES:
1. #6 Bars and #5 Spiral shall extend to the bottom of the Pipe Key Assembly
  2. Typical column reinforcement not shown

*Norbert Gee*  
 DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

**PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESEE AVENUE OC (REPLACE)  
BENT DETAILS NO. 4**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 18	OF 48
	6-28-12 1-15-13 2-22-13 2-3-14		

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	855	1012

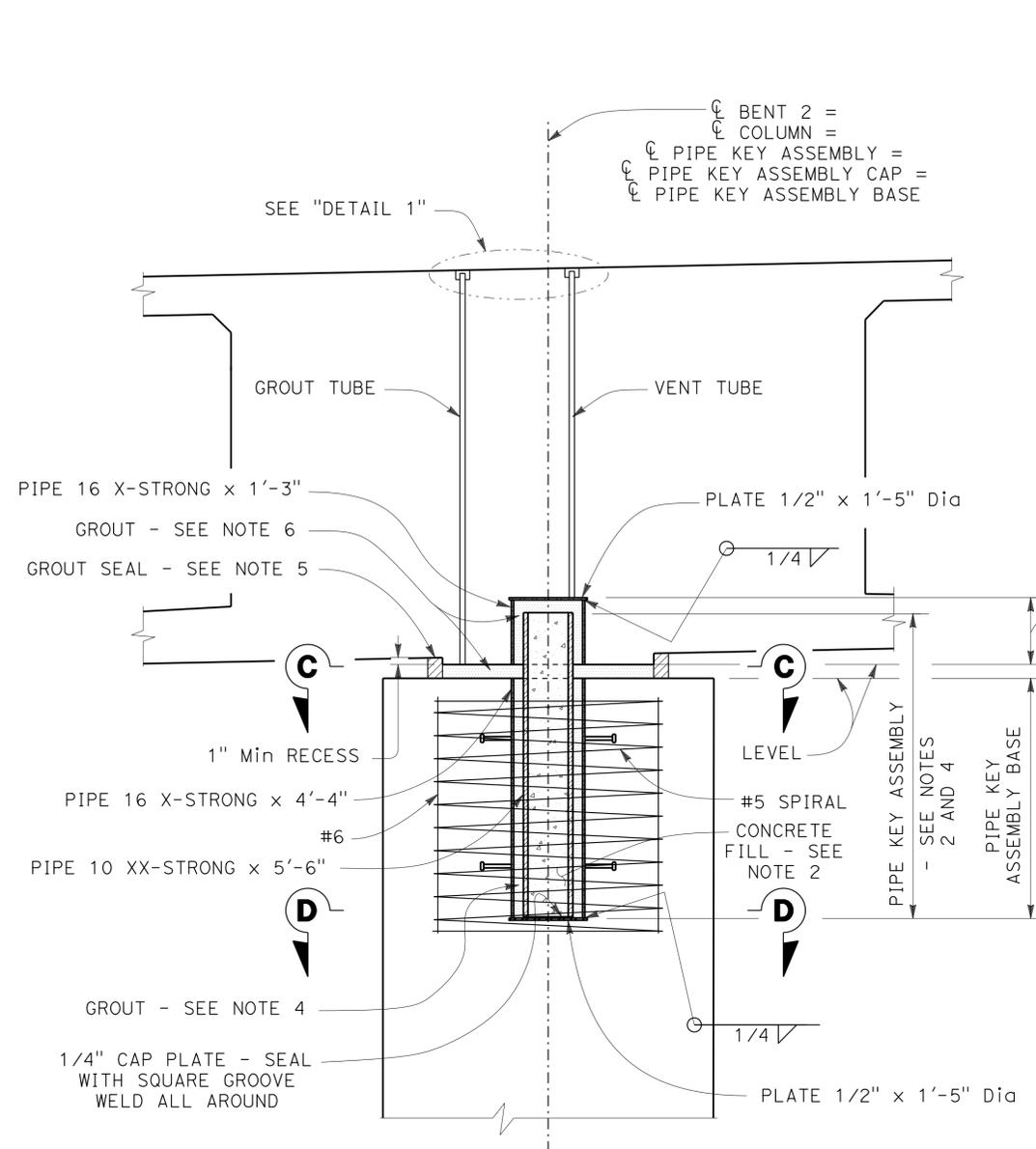
**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

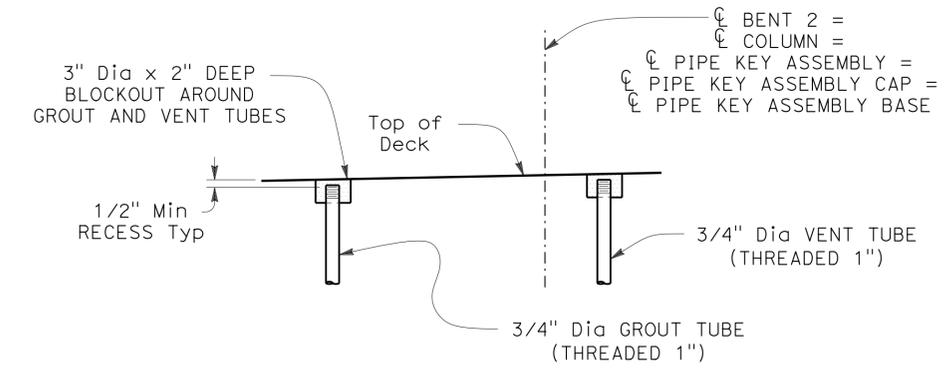
**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



- NOTES:
1. Typical column and bent cap reinforcement not shown
  2. All details this sheet apply only to Stage 6 construction. For Stage 2 construction details, see "BENT DETAILS No. 4" sheet.

**PIPE KEY ASSEMBLY DETAIL (STAGE 6 CONSTRUCTION)**

No Scale

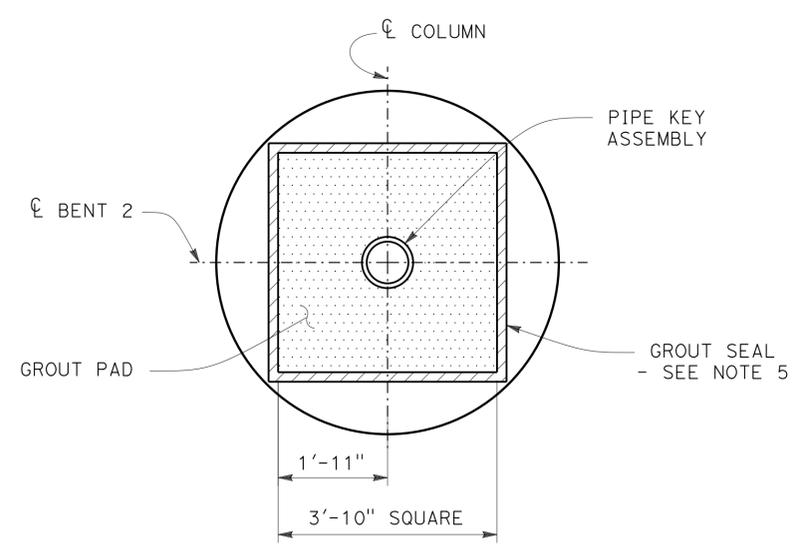


**DETAIL 1**

No Scale

**PIPE KEY NOTES (STAGE 5):**

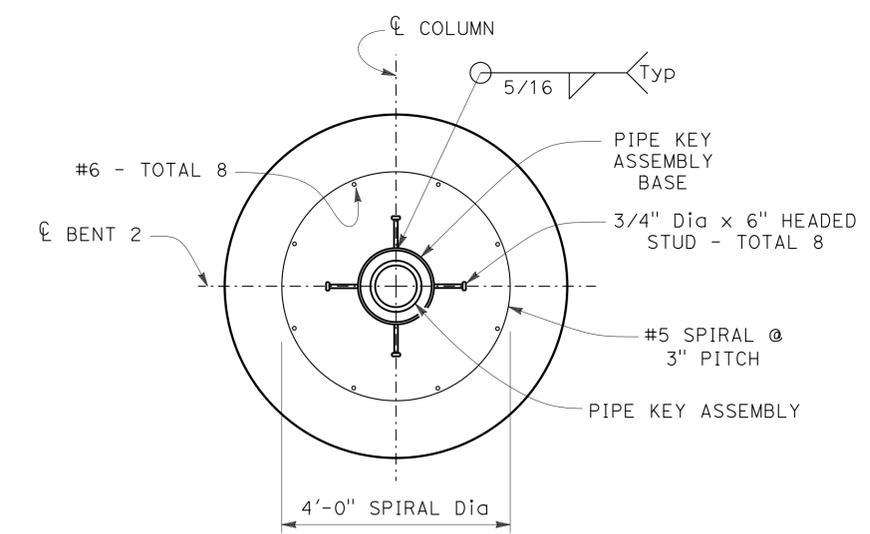
1. Construct pipe key assembly base in top of concrete column. Pipe key assembly base shall be installed plumb and flush with top of column.
2. Set pipe key assembly within pipe key assembly base. Fill pipe key assembly with concrete fill.
3. Construct pipe key assembly cap in base of concrete bent cap. Pipe key assembly cap shall be installed plumb and flush with base of bent cap recess.
4. After construction and prestressing of superstructure, adjust the pipe key assembly such that the centerline of the pipe key assembly aligns with the centerline of the pipe key assembly cap. The pipe key assembly shall be plumb. Grout the annular void between the pipe key assembly base and the pipe key assembly.
5. Form the 3'-10" square grout pad with a compressible grout seal
6. After the superstructure is lowered into its final position, grout the 3'-10" square grout pad and the annular void between the pipe key assembly cap and the pipe key assembly. Grout shall be non-shrink and have a minimum compressive strength of 4.0 ksi (prior to jacking falsework being removed) and 5.0 ksi (at 28 days). Remove grout seal after grout has cured.



**SECTION C-C**

No Scale

NOTE: Recess in Bent Cap shall also be 3'-10" square



**SECTION D-D**

No Scale

- NOTES:
1. #6 Bars and #5 Spiral shall extend to the bottom of the Pipe Key Assembly Base
  2. Typical column reinforcement not shown

*Norbert Gee*  
 DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESEE AVENUE OC (REPLACE) BENT DETAILS NO. 5**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-27-13 2-3-14	19	48

FILE => 57-1224-j-bdet05.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	856	1012

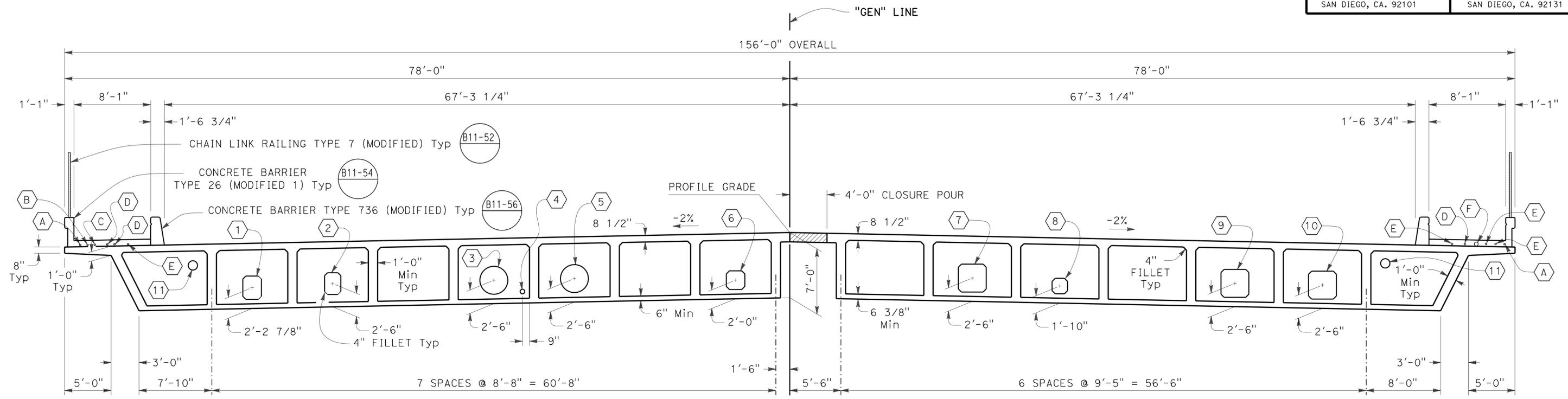
Craig Shannon 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

Craig Shannon  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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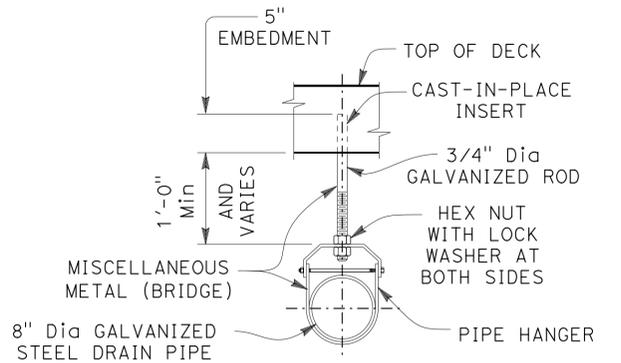
CITY OF SAN DIEGO 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	SIMON WONG ENGINEERING 9968 HIBERT STREET SAN DIEGO, CA. 92131
---	--



- NOTES:
1. All Bridge Utility Openings are centered in cell, unless shown otherwise
  2. For Bridge Utility information and opening sizes, see "GENERAL PLAN (2 OF 2)" sheet

**TYPICAL SECTION**

3/16" = 1'-0"



**DRAIN PIPE HANGER DETAIL**

No Scale

SIDEWALK UTILITY OPENINGS				
Location	Utility	Owner	Conduit Size	Location of Details
(A)	Lighting and Signal	Caltrans	2" Dia	Electrical Plans
(B)	Irrigation	Caltrans	2" Dia	Electrical Plans
(C)	Fiber Optic	Caltrans	2" Dia	Electrical Plans
(D)	Signal	Caltrans	2" Dia	Electrical Plans
(E)	Lighting	City of San Diego	2" Dia	Electrical Plans
(F)	Future	-	4" Dia	Standard Plan B11-54

**FALSEWORK RELEASE:**

Alternative 1:  
 Falsework shall be released as soon as permitted by the specifications. Closure pour shall not be placed sooner than 60 days after the falsework has been released.

Alternative 2:  
 Falsework shall not be released less than 28 days after the last concrete has been placed. Closure pour shall not be placed sooner than 14 days after the falsework has been released. When falsework release alternative 2 is used, camber values are 0.75 times those shown.

DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESSEE AVENUE OC (REPLACE)**  
**TYPICAL SECTION (1 OF 2)**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-22-13 2-3-14	20	48

FILE => 57-1224-k-ts01.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	857	1012

**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

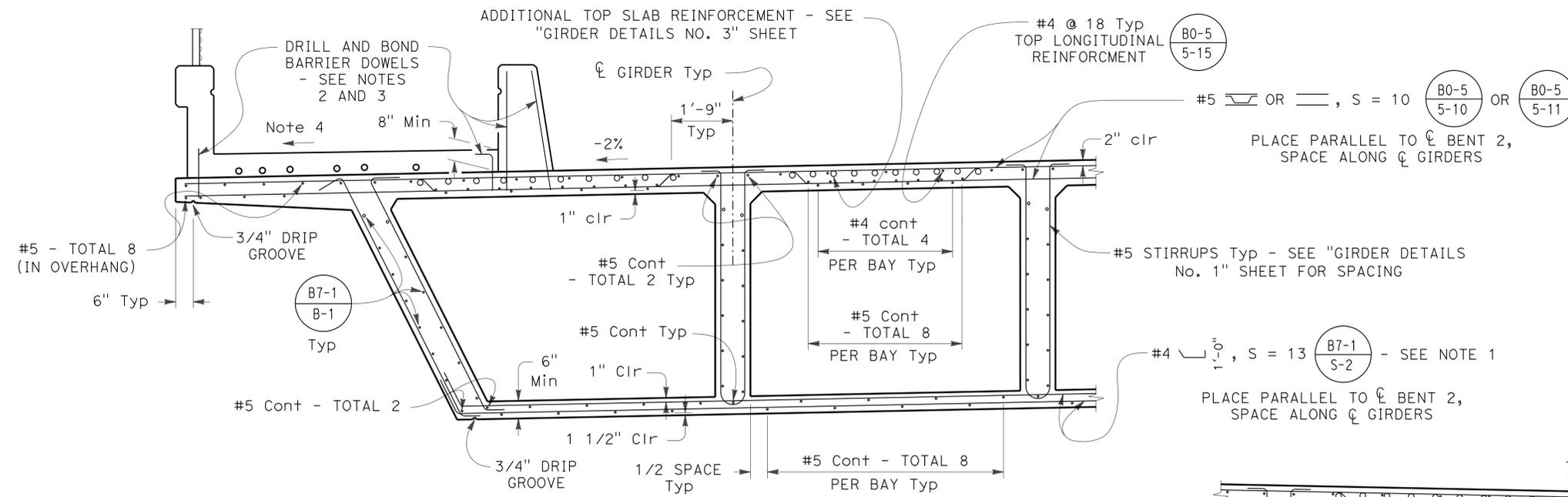
07-21-14  
 PLANS APPROVAL DATE

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

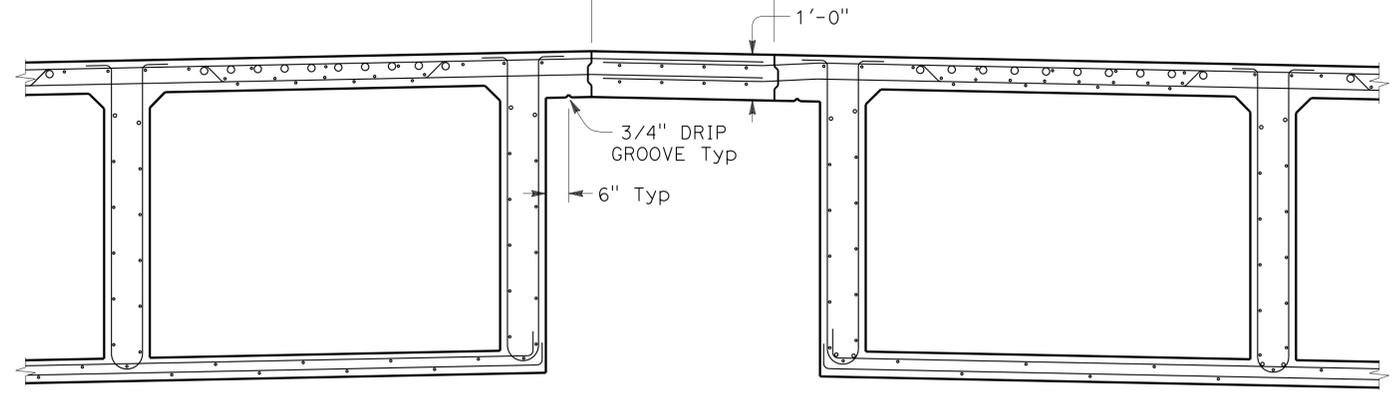
**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

REGISTERED PROFESSIONAL ENGINEER  
 Craig Shannon  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

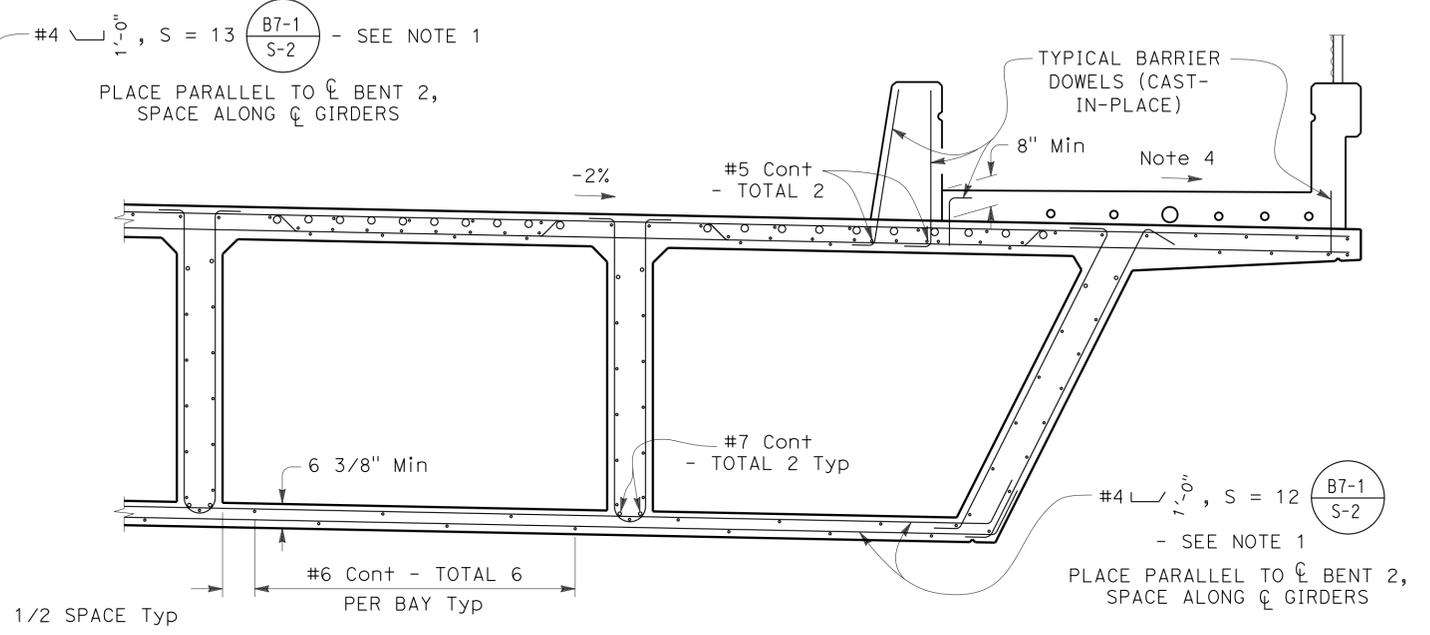


- NOTES:
1. For additional soffit reinforcement at cells containing water lines, see "GIRDER DETAILS No. 3" sheet
  2. These dowels to be Drill and Bond installed during Stage 9 Construction, see "GENERAL PLAN (2 OF 2)" sheet for staging
  3. For Drill and Bond dowel details, see "GIRDER DETAILS NO. 3" sheet
  4. Sidewalk finished surface to slope -1.5%

**PART TYPICAL SECTION 1** (B0-5 B7-1 B8-5)  
 1/2" = 1'-0"

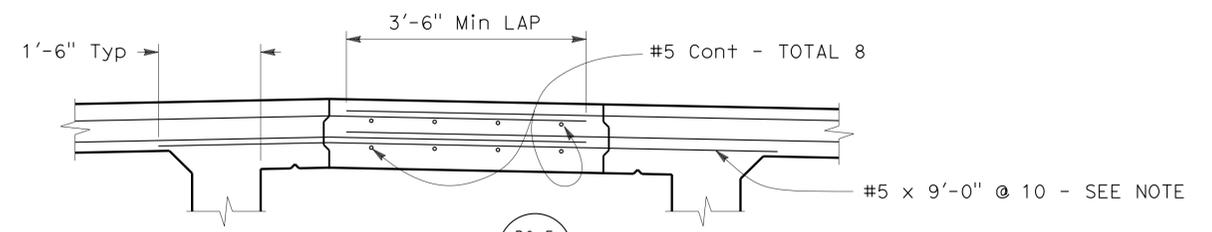


**PART TYPICAL SECTION 3** (B0-5 B7-1 B8-5)  
 1/2" = 1'-0"



NOTE: Similar to "PART TYPICAL SECTION No. 1" except as noted

**PART TYPICAL SECTION 2** (B0-5 B7-1 B8-5)  
 1/2" = 1'-0"



NOTE: Place with (B0-5 5-10) only, and space at 5" within width of Stage 6 bent cap

**DETAIL A**  
 3/4" = 1'-0"

DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESSEE AVENUE OC (REPLACE)**  
**TYPICAL SECTION (2 OF 2)**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-27-13 2-3-14	21	48

FILE => 57-1224-k-ts02.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	858	1012

**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

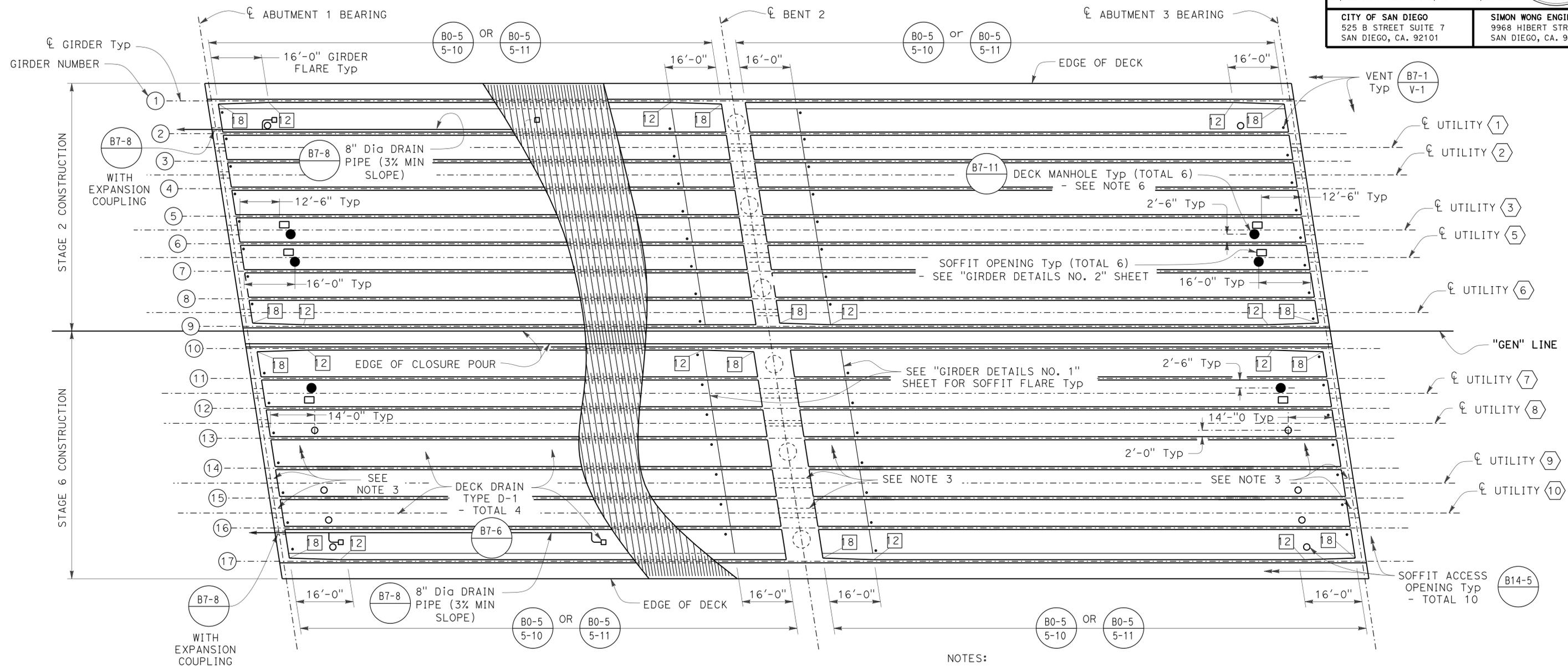
07-21-14  
 PLANS APPROVAL DATE

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

**Craig Shannon**  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA



**PLAN**  
 1/16" = 1'-0"

- NOTES:
- - Indicates Girder stem thickness in inches (12" where not shown otherwise)
  - For Bridge Utility information and opening sizes, see "GENERAL PLAN (2 OF 2)" sheet
  - For utility opening reinforcement, see "GIRDER DETAILS NO. 4" sheet
  - For Drain Pipe Hanger Detail, see "TYPICAL SECTION (1 OF 2)" sheet
  - See "ROADWAY PLANS" for continuation of deck drainage system
  - Deck manhole shall be frame and two concentric covers (36" and 24") heavy duty, marked "RECYCLED" for recycled main, and "POTABLE" for potable main. Manhole shall be H-20 rated with locking type cover.

**Norbert Gee**  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

**Craig Shannon**  
 PROJECT ENGINEER

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESSEE AVENUE OC (REPLACE) GIRDER LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021  
 CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-28-13 2-3-14	22	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	859	1012

*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

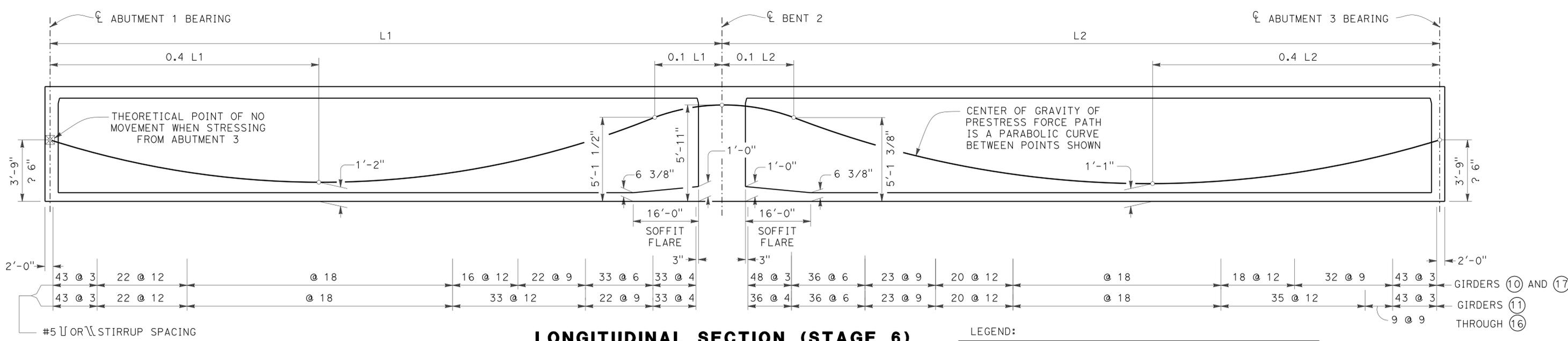
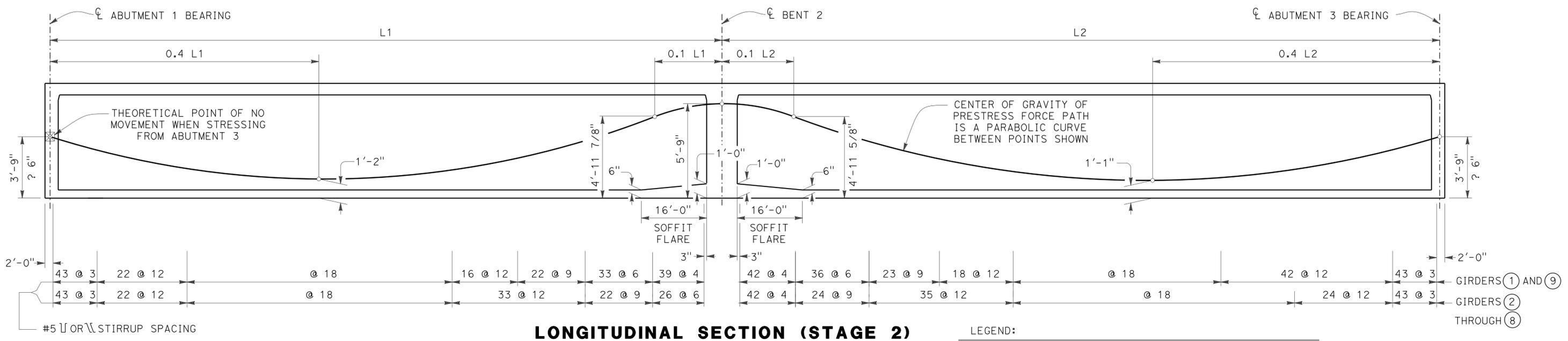
07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY C. Cushing  
 CHECKED E. Schroth-Nichols  
 DETAILS BY T. Brittain  
 CHECKED E. Schroth-Nichols  
 QUANTITIES BY C. Cushing  
 CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESSEE AVENUE OC (REPLACE)**  
**GIRDER DETAILS NO. 1**

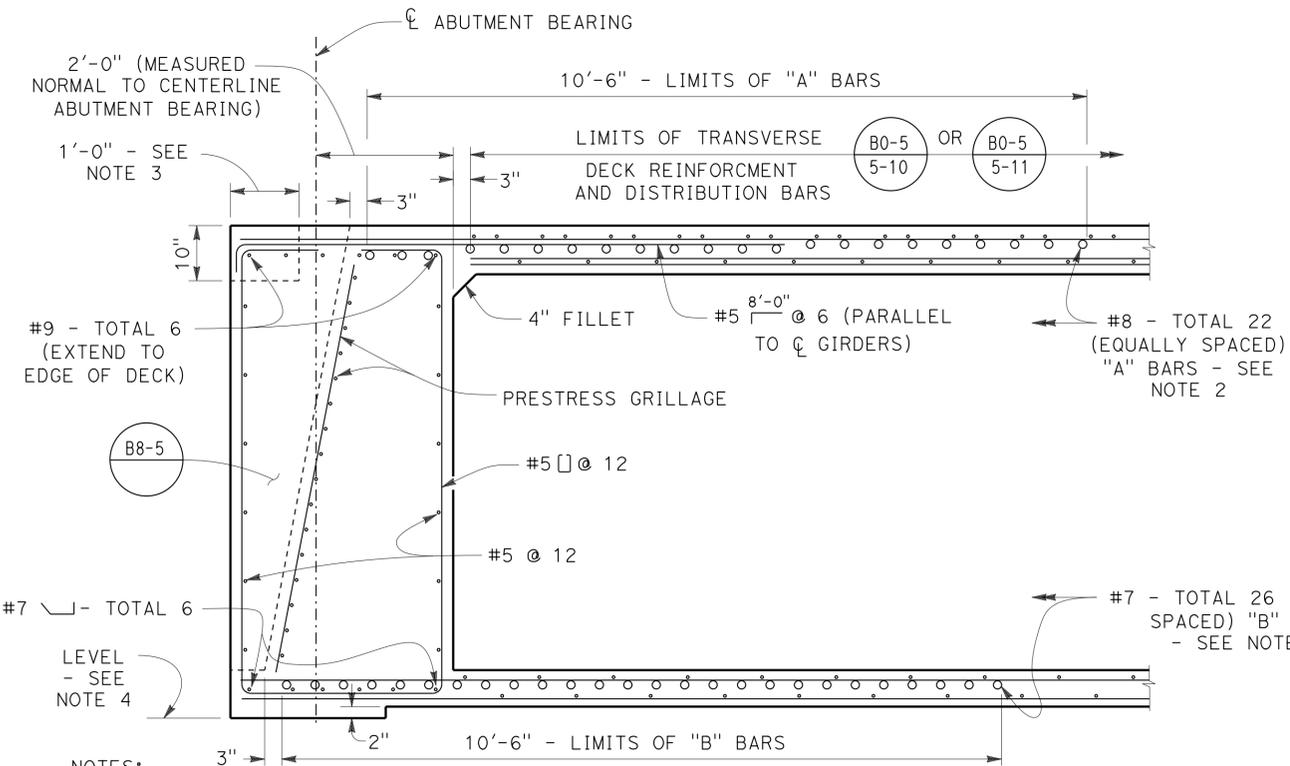
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	860	1012

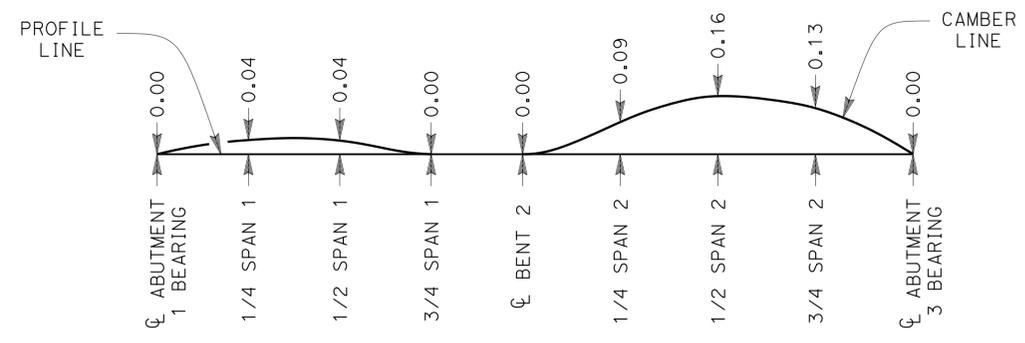
**Craig Shannon**  
 REGISTERED CIVIL ENGINEER  
 DATE: 3-6-14  
 PLANS APPROVAL DATE: 07-21-14  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

**CITY OF SAN DIEGO**  
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 SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



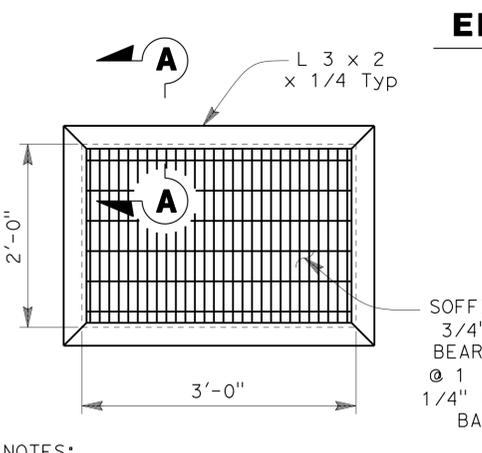
- NOTES:
1. This detail applies to both Stages 2 and 6
  2. Place "A" bars and "B" bars parallel to centerline Abutment Bearing and space normal to centerline Abutment Bearing
  3. Reinforcing bars may be adjusted as necessary to accommodate installation of the Joint Seal Assembly upon approval of the Joint Seal shop drawings and as directed by the Engineer
  4. Provide level recess in End Diaphragm (2" exposed at front face of Abutment). Bottom profile of recess shall follow that of Abutment Seat. Prior to stressing, the exposed front face shall be offset 1 3/4" behind the front face of Abutment.



- NOTES:
1. Camber values are in feet
  2. Camber values do not include allowance for falsework settlement
  3. Camber diagram is similar for Stages 2 and 6

**CAMBER DIAGRAM**

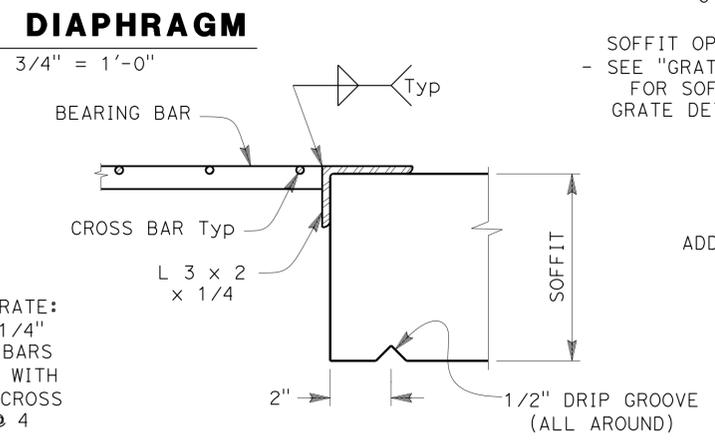
No Scale



- NOTES:
1. Soffit Grate shall be removable
  2. Soffit grate to be ASTM A36 (galvanized)

**GRATE PLAN**

1" = 1'-0"

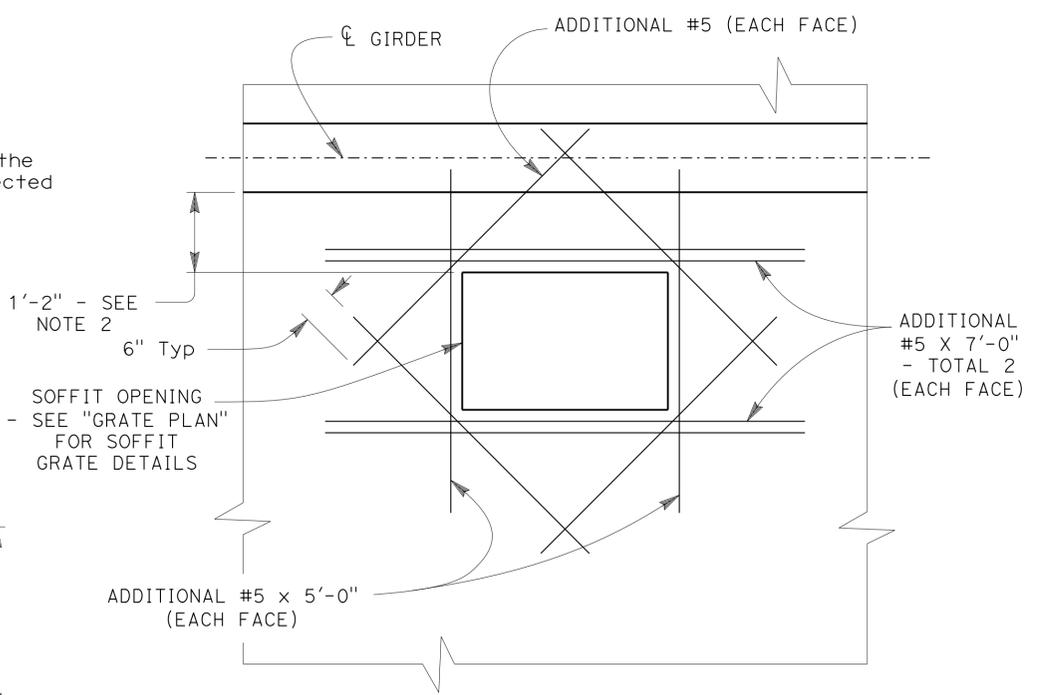


**SECTION A-A**

4" = 1'-0"

**SOFFIT OPENING DETAILS**

As Noted



- NOTES:
1. Bend reinforcing into girder as needed
  2. Dimension shown is to the lower side of the cell

**PLAN**

3/4" = 1'-0"

**PRESTRESSING NOTES (STAGE 2)**

270 ksi Low Relaxation Strands:  
 Pjack = 22,540 kips  
 Anchor Set = 3/8"  
 Total Number of Girders = 9  
 Distribution of prestress force (Pjack) between Girders shall not exceed the ratio of 3:2. Maximum final force variation between Girders shall not exceed 725 kips.  
 Concrete:  
 f'c = 4.5 ksi at 28 Days  
 f'ci = 3.5 ksi at time of stressing

Contractor shall submit elongation calculation based on initial stress at  
 ⌘ = 0.865 times jacking stress  
 One end stressing shall be performed from Abutment 3  
 k = 0.0002  
 μ = 0.15

**PRESTRESSING NOTES (STAGE 6)**

270 ksi Low Relaxation Strands:  
 Pjack = 20,030 kips  
 Anchor Set = 3/8"  
 Total Number of Girders = 8  
 Distribution of prestress force (Pjack) between Girders shall not exceed the ratio of 3:2. Maximum final force variation between Girders shall not exceed 725 kips.  
 Concrete:  
 f'c = 4.5 ksi at 28 Days  
 f'ci = 3.5 ksi at time of stressing

Contractor shall submit elongation calculation based on initial stress at  
 ⌘ = 0.863 times jacking stress  
 One end stressing shall be performed from Abutment 3  
 k = 0.0002  
 μ = 0.15

DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

**GENESSEE AVENUE OC (REPLACE) GIRDER DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

BRIDGE NO. 57-1224  
 POST MILES 29.46

CONTRACT NO.: 11-0223U4

REVISION DATES	SHEET	OF
6-28-12 1-15-13 2-22-13 2-3-14	24	48

FILE => 57-1224-m-gdet02.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	861	1012

**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

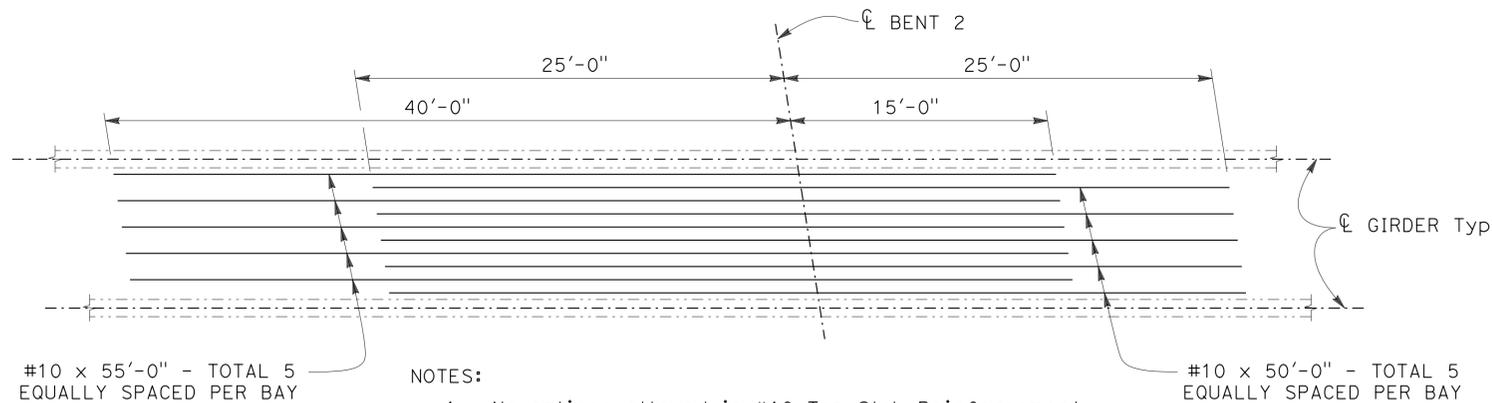
07-21-14  
 PLANS APPROVAL DATE

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**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

**Craig Shannon**  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA



- NOTES:
1. No splices allowed in #10 Top Slab Reinforcement
  2. Additional Bottom Slab Reinforcement not required

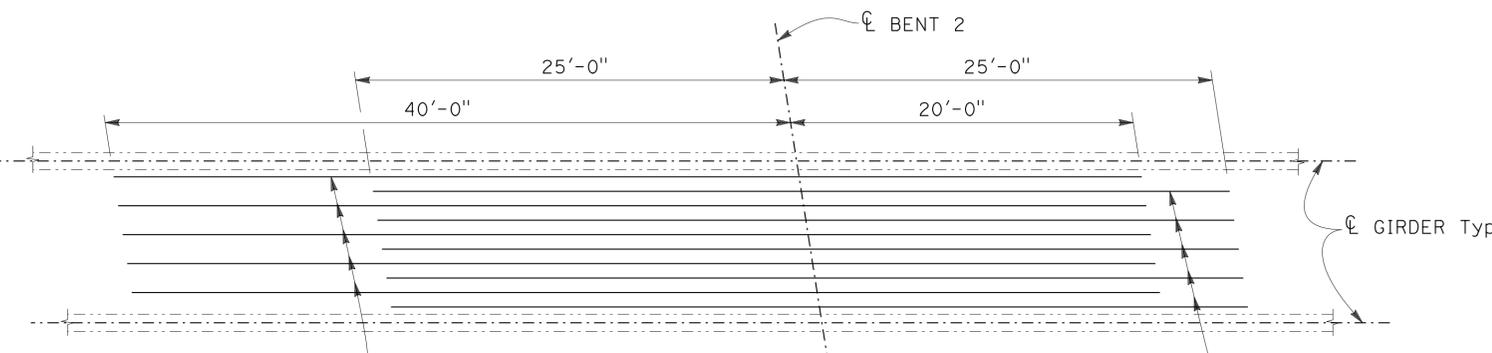
**ADDITIONAL TOP SLAB REINFORCEMENT (STAGE 2)**

3/16" = 1'-0"



#10 x 55'-0" - TOTAL 5 EQUALLY SPACED PER BAY

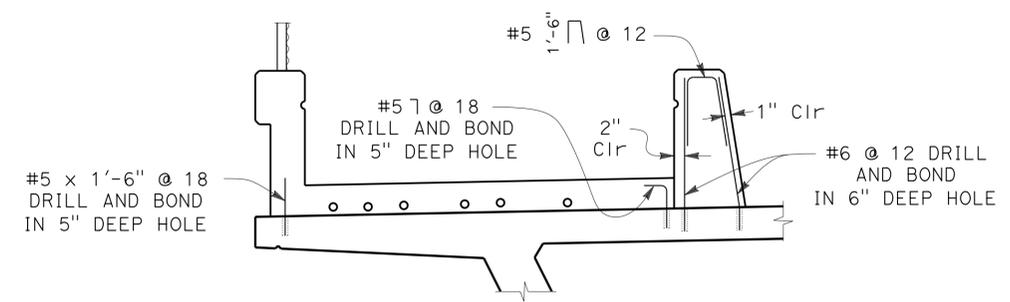
#10 x 50'-0" - TOTAL 5 EQUALLY SPACED PER BAY



- NOTES:
1. No splices allowed in #10 Top Slab Reinforcement.
  2. Additional Bottom Slab Reinforcement not required.

**ADDITIONAL TOP SLAB REINFORCEMENT (STAGE 6)**

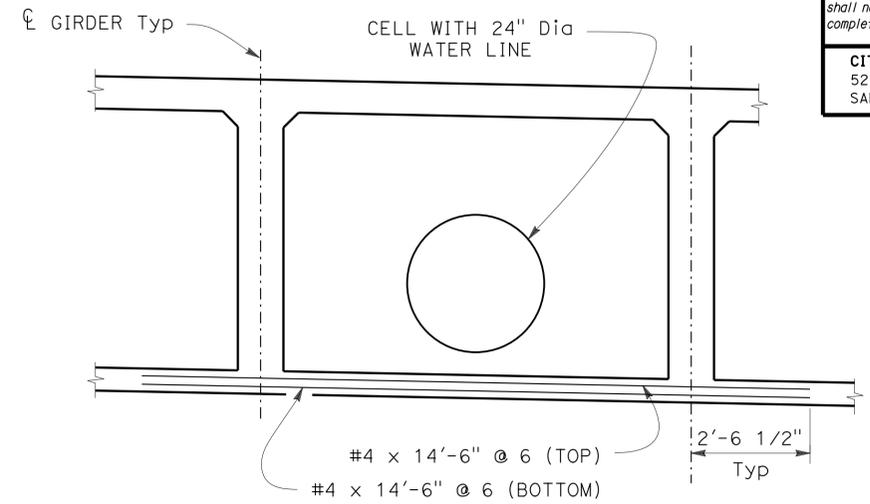
3/16" = 1'-0"



NOTE: For details not shown, see Standard Plans B11-54 and B11-56

**DRILL AND BOND BARRIER DOWELS**

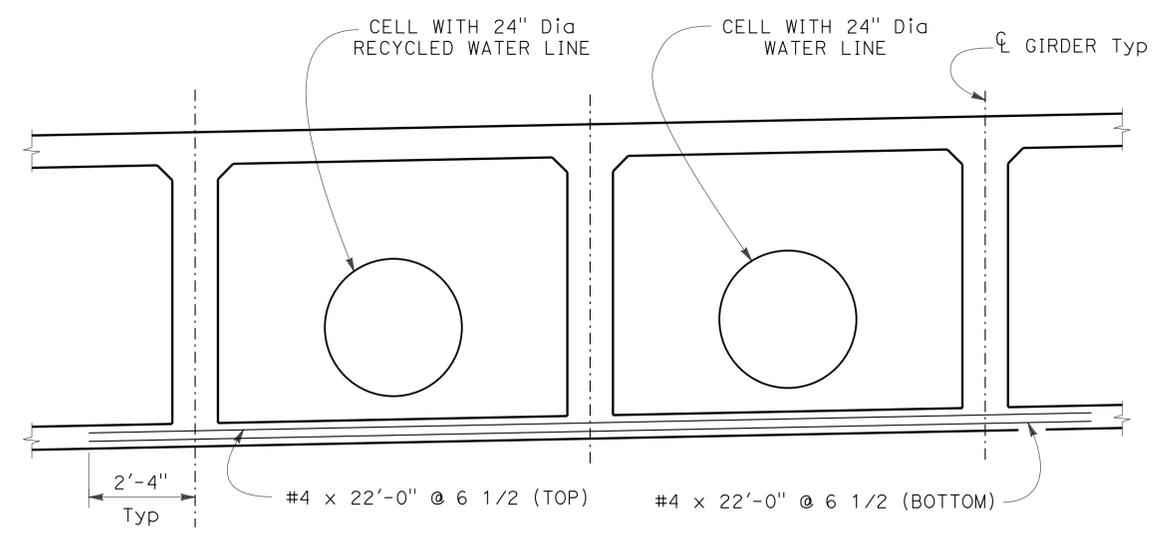
No Scale



NOTE: These bars are in addition to and placed parallel to typical #4 soffit bars (Standard Plan B7-1/S-2) shown on "TYPICAL SECTION (2 OF 2)" sheet

**ADDITIONAL SOFFIT REINFORCEMENT (STAGE 6)**

No Scale



NOTE: These bars are in addition to and placed parallel to typical #4 soffit bars (Standard Plan B7-1/S-2) shown on "TYPICAL SECTION (2 OF 2)" sheet

**ADDITIONAL SOFFIT REINFORCEMENT (STAGE 2)**

No Scale

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY: C. Cushing  
 DETAILS BY: T. Brittain  
 QUANTITIES BY: C. Cushing

CHECKED BY: E. Schroth-Nichols  
 CHECKED BY: E. Schroth-Nichols  
 CHECKED BY: E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESSEE AVENUE OC (REPLACE)**  
**GIRDER DETAILS NO. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-28-13 2-3-14	25	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

FILE => 57-1224-m-gdet03.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	862	1012

*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

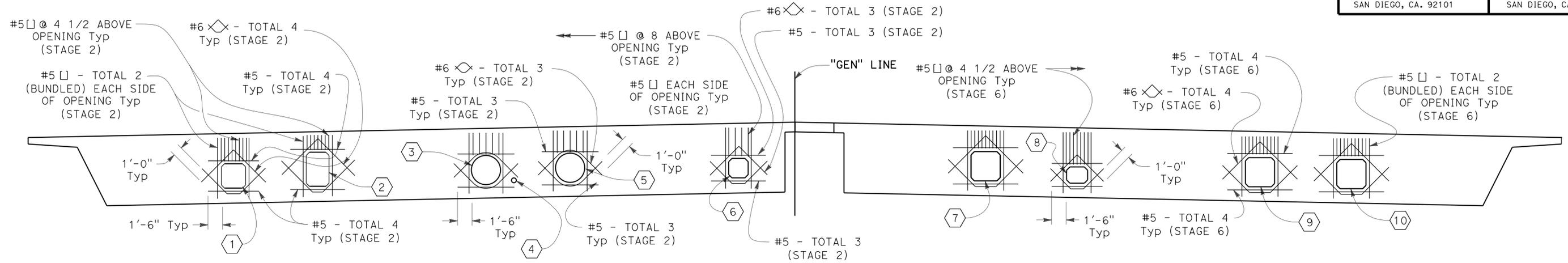
07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
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**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



**STAGE 2**

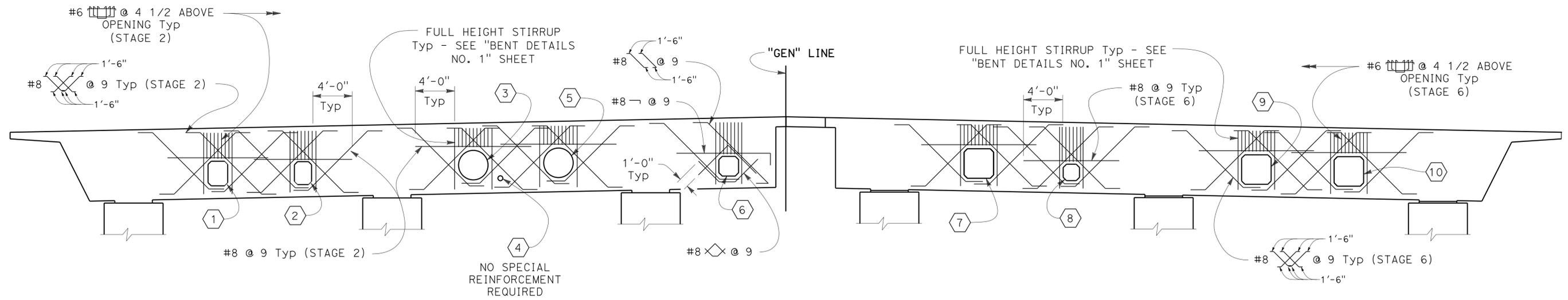
**STAGE 6**

NOTES:

1. Abutment 3 shown, Abutment 1 similar
2. For Bridge utility information and opening sizes, see "GENERAL PLAN (2 OF 2)" sheet

**END DIAPHRAGM UTILITY OPENING DETAILS**

3/16" = 1'-0"



**STAGE 2**

**STAGE 6**

NOTE: For Bridge utility information and opening sizes, see "GENERAL PLAN (2 OF 2)" sheet

**BENT CAP UTILITY OPENING DETAILS**

3/16" = 1'-0"

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY: C. Cushing  
 DETAILS BY: T. Brittain  
 QUANTITIES BY: C. Cushing

CHECKED: E. Schroth-Nichols  
 CHECKED: E. Schroth-Nichols  
 CHECKED: E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.  
 57-1224  
 POST MILES  
 29.46

**GENESSEE AVENUE OC (REPLACE)**  
**GIRDER DETAILS NO. 4**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-28-13 2-3-14	26	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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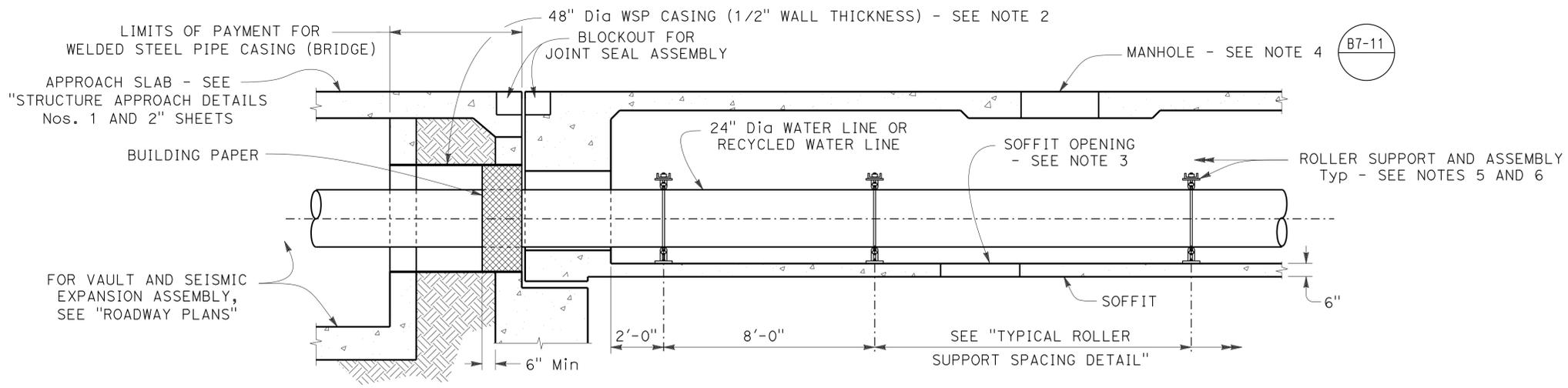
*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
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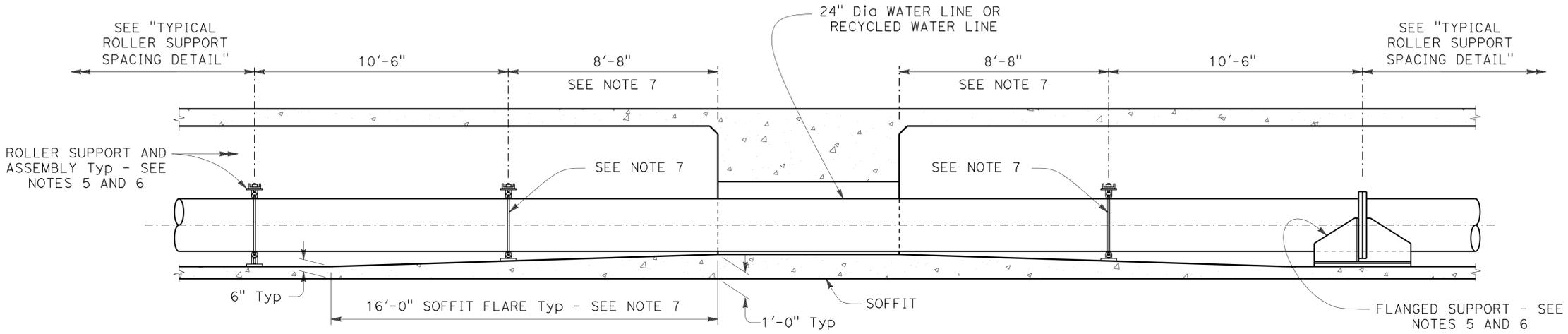
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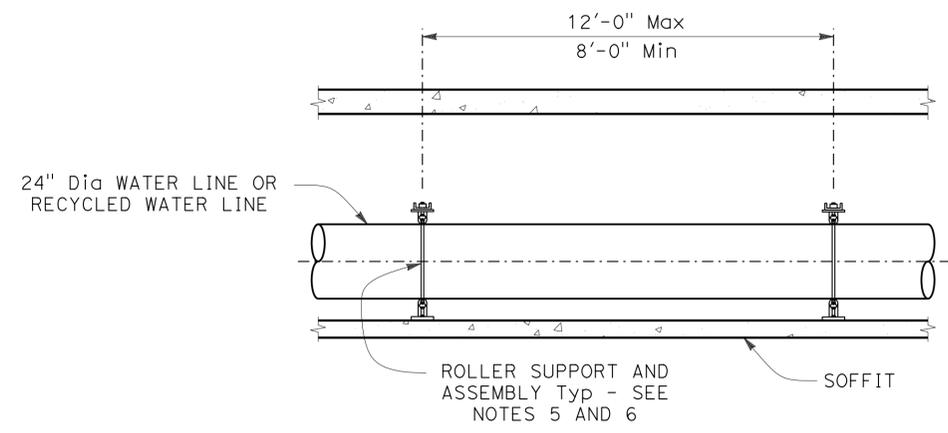
**PIPE INSTALLATION AT ABUTMENTS**

3/8" = 1'-0"



**PIPE INSTALLATION AT BENT CAP**

3/8" = 1'-0"



**TYPICAL ROLLER SUPPORT SPACING DETAIL**

3/8" = 1'-0"

**NOTES:**

1. For size and location of openings at End Diaphragms and Bent Cap, see "GENERAL PLAN (2 OF 2)" sheet
2. Casing may be cast-in-place after tightly wrapping 2 layers of 15 lb Building Paper or sealed per Caltrans Standard Plan B7-10 to prevent corrosion
3. For locations of Soffit Openings, see "GIRDER LAYOUT" and "GIRDER DETAILS NO. 2" sheets
4. For locations of Manholes, see "GIRDER LAYOUT" sheet
5. For roller support and flanged support anchorage details, see "WATER LINE INSTALLATION DETAILS" sheet
6. For additional roller support and flanged support details, see "ROADWAY PLANS"
7. Due to the soffit flare at these locations, the two roller supports nearest the bent cap do not have leveling nuts and are non-adjustable, see "ROADWAY PLANS" for additional details. Contractor shall therefore adjust the position of these two supports longitudinally such that the water line is supported by these supports. However, this location shall not vary by more than 1'-0" in either direction from the 8'-8" shown.

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

DESIGNED BY		C. Cushing	CHECKED	E. Schroth-Nichols
DETAILS BY		T. Brittain	CHECKED	E. Schroth-Nichols
QUANTITIES BY		C. Cushing	CHECKED	E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESEE AVENUE OC (REPLACE)**  
**WATER LINE INSTALLATION LAYOUT (STAGE 2)**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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UNIT: PROJECT NUMBER & PHASE: 2771 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-27-13 2-3-14	27	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	864	1012

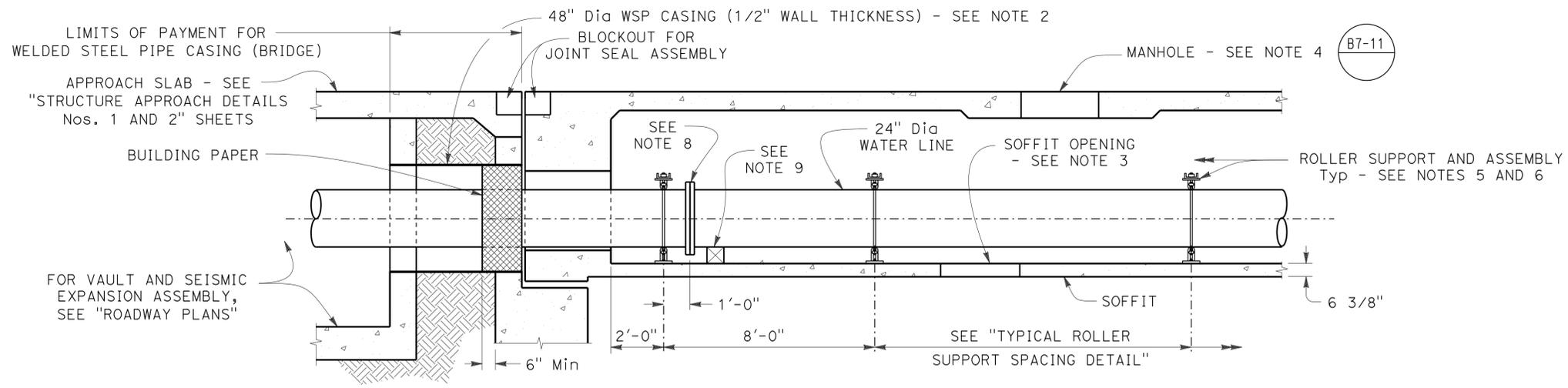
**Craig Shannon** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

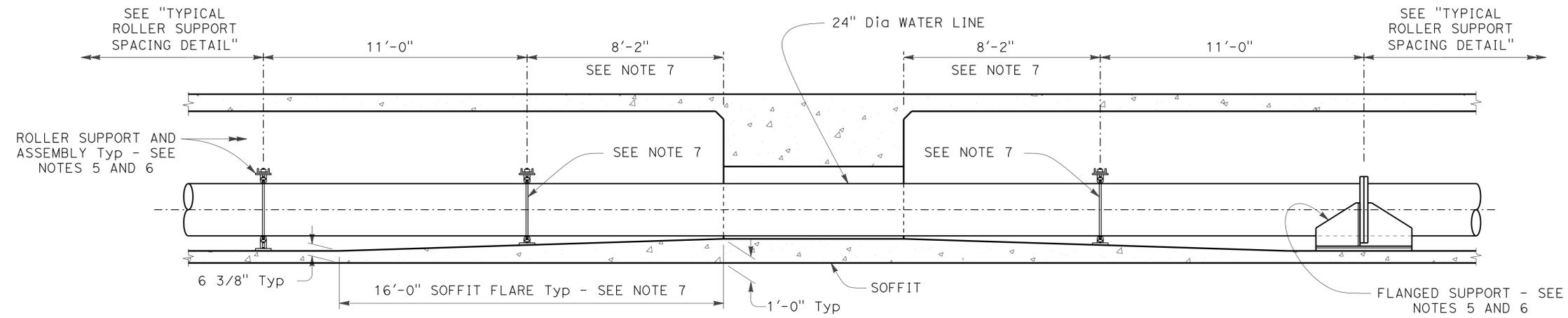
**Craig Shannon**  
 No. 66998  
 Exp. 09-30-14  
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 STATE OF CALIFORNIA

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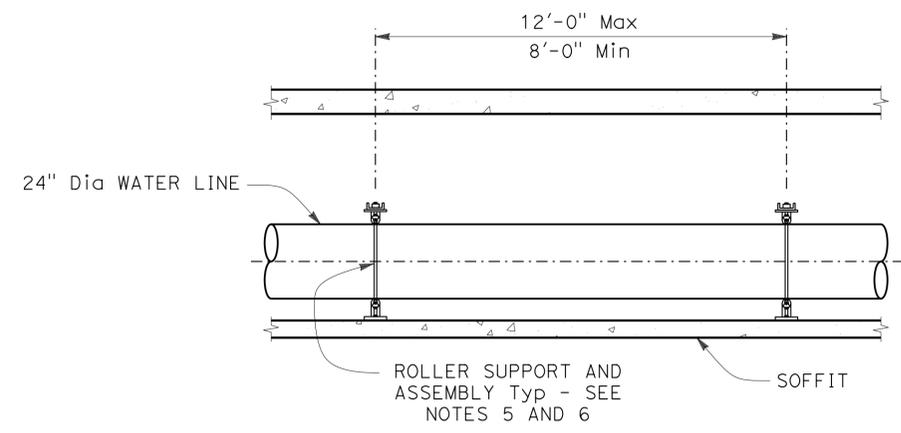
<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---



**PIPE INSTALLATION AT ABUTMENTS**  
 3/8" = 1'-0"



**PIPE INSTALLATION AT BENT CAP**  
 3/8" = 1'-0"



**TYPICAL ROLLER SUPPORT SPACING DETAIL**  
 3/8" = 1'-0"

**NOTES:**

- For size and location of openings at End Diaphragms and Bent Cap, see "GENERAL PLAN (2 OF 2)" sheet
- Casing may be cast-in-place after tightly wrapping 2 layers of 15 lb Building Paper or sealed per Caltrans Standard Plan B7-10 to prevent corrosion
- For locations of Soffit Openings, see "GIRDER LAYOUT" and "GIRDER DETAILS NO. 2" sheets
- For locations of Manholes, see "GIRDER LAYOUT" sheet
- For roller support and flanged support anchorage details, see "WATER LINE INSTALLATION DETAILS" sheet
- For additional roller support and flanged support details, see "ROADWAY PLANS"
- Due to the soffit flare at these locations, the two roller supports nearest the bent cap do not have leveling nuts and are non-adjustable, see "ROADWAY PLANS" for additional details. Contractor shall therefore adjust the position of these two supports longitudinally such that the water line is supported by these supports. However, this location shall not vary by more than 1'-0" in either direction from the 8'-2" shown.
- Flanged pipe connection shall join the portions of 24" Water Line within and outside of the lowered bridge, see Note 8 on "STAGE 6 CONSTRUCTION SEQUENCE" sheet for additional information. For flanged pipe connection details, see "ROADWAY PLANS".
- Provide temporary support as needed for construction of flanged pipe connection. Temporary support shall be removed prior to the completion of 24" Water Line.

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY: C. Cushing  
 DETAILS BY: T. Brittain  
 QUANTITIES BY: C. Cushing

CHECKED BY: E. Schroth-Nichols  
 CHECKED BY: E. Schroth-Nichols  
 CHECKED BY: E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**  
 Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESEE AVENUE OC (REPLACE)**  
**WATER LINE INSTALLATION LAYOUT (STAGE 6)**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: PROJECT NUMBER & PHASE: 2771 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-22-13 2-3-14	28	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	865	1012

*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

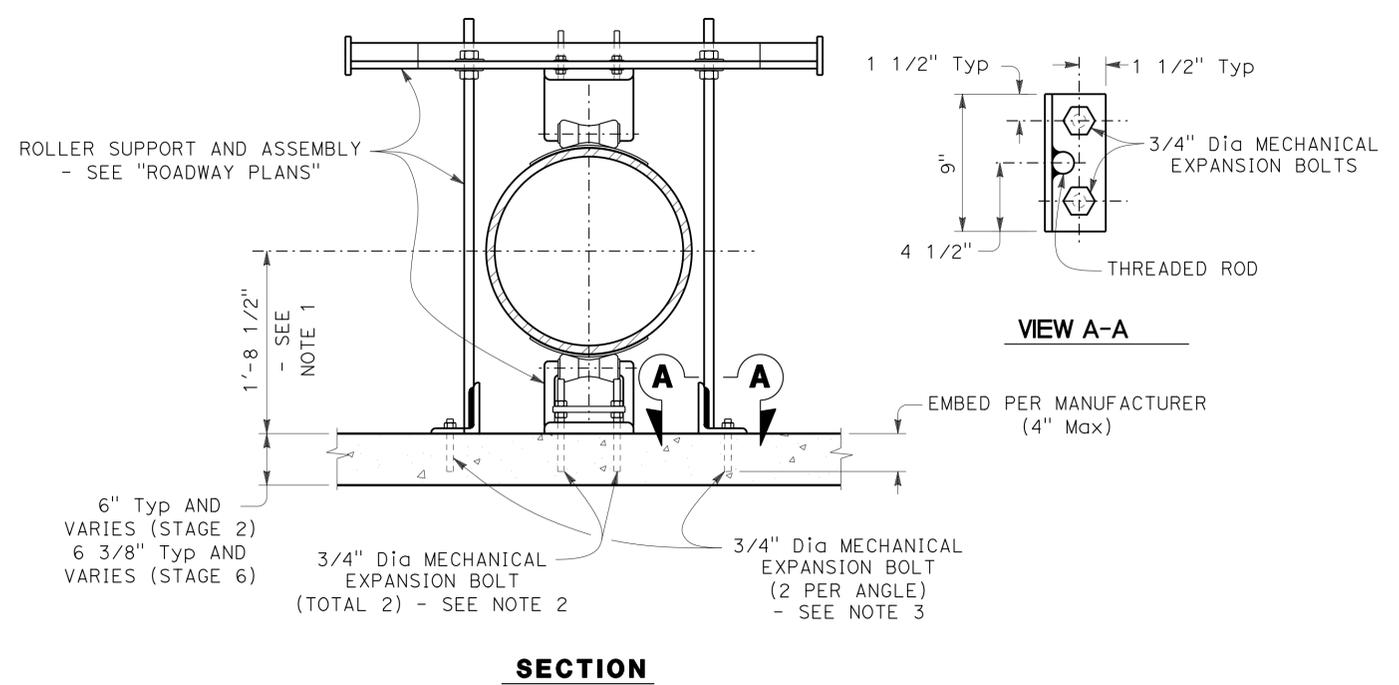
07-21-14  
 PLANS APPROVAL DATE

Craig Shannon  
 No. 66998  
 Exp. 09-30-14  
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 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

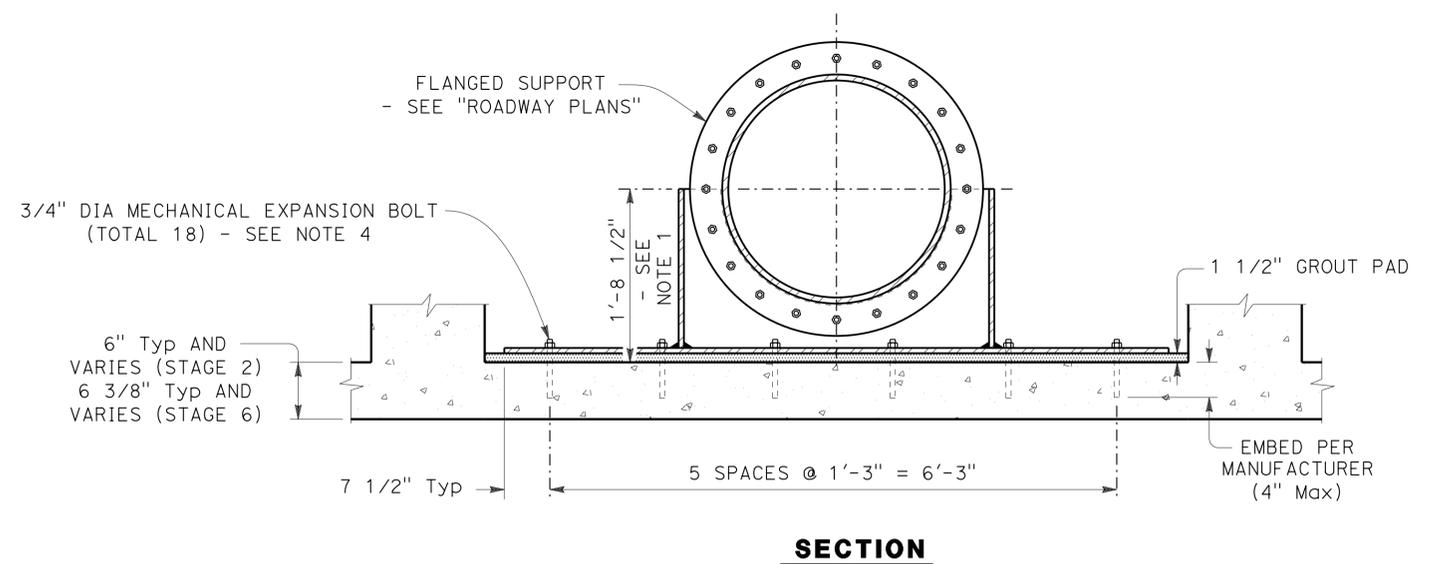


**ROLLER SUPPORT ANCHORAGE DETAILS**

No Scale

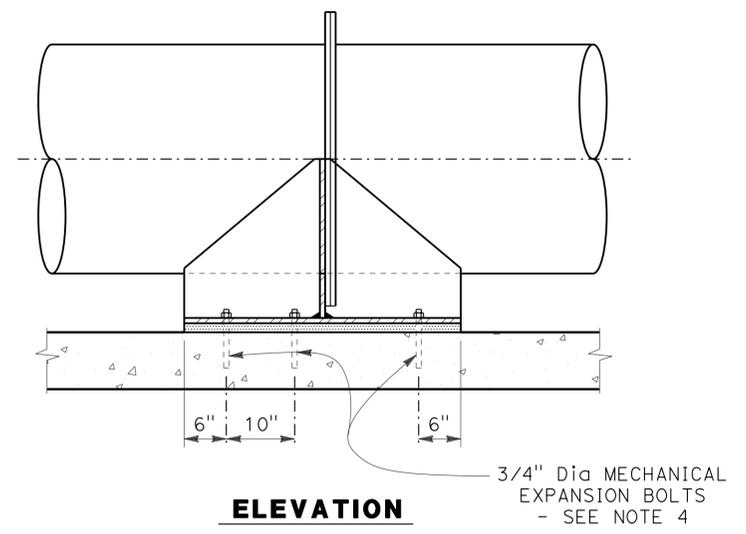
Notes:

1. This dimension only applies at typical 6" (Stage 2) or 6 3/8" (Stage 6) soffit thickness. Where soffit is flared near bent cap, this dimension will vary such that a constant profile height from the bottom of bridge soffit is maintained. See "ROADWAY PLANS" for water line profiles.
2. Mechanical expansion bolts shall have a minimum ultimate shear capacity of 3 kips per bolt
3. Mechanical expansion bolts shall have a minimum ultimate tension capacity of 2 kips per bolt
4. Mechanical expansion bolts shall have a minimum ultimate shear capacity of 9 kips per bolt
5. All mechanical expansion bolts shall be galvanized



**FLANGED SUPPORT ANCHORAGE DETAILS**

No Scale



**ELEVATION**

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY C. Cushing  
 CHECKED E. Schroth-Nichols  
 DETAILS BY T. Brittain  
 CHECKED E. Schroth-Nichols  
 QUANTITIES BY C. Cushing  
 CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESEE AVENUE OC (REPLACE)**  
**WATER LINE INSTALLATION DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-15-13 2-27-13 2-3-14	29	48

FILE => 57-1224-p-widet01.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	866	1012

*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

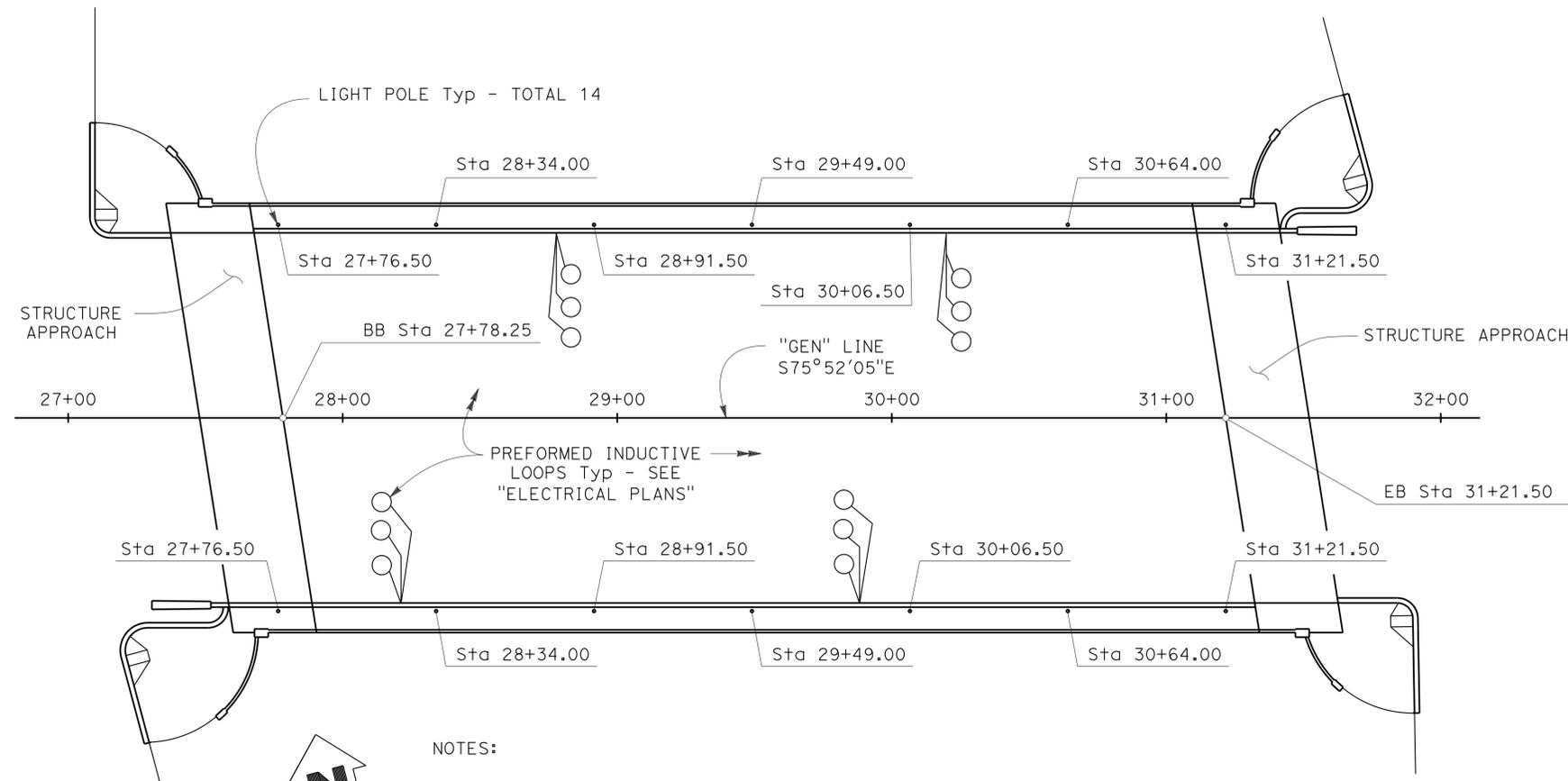
07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

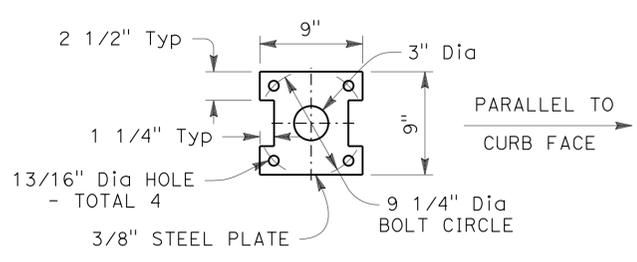
**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



- NOTES:
1. All anchor bolts shall be held in true vertical position by the means of anchor plates or suitable templates
  2. Only fixtures on the bridge or structure approach shown. For other fixtures, see "ROADWAY PLANS"
  3. For additional details, see "ELECTRICAL PLANS"

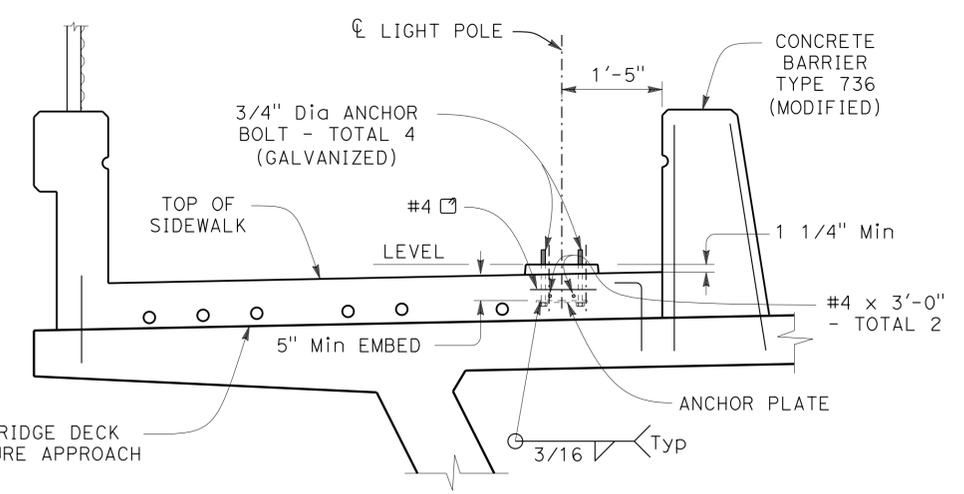
**PLAN**

1" = 30'-0"



NOTE: Galvanizing of Plate not required

**ANCHOR PLATE**



**SECTION**

**LIGHT ANCHORAGE DETAILS**

No Scale

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY: C. Cushing  
 DETAILS BY: T. Brittain  
 QUANTITIES BY: C. Cushing

CHECKED BY: E. Schroth-Nichols  
 CHECKED BY: E. Schroth-Nichols  
 CHECKED BY: E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**  
 PROJECT ENGINEER: Craig Shannon

BRIDGE NO.: 57-1224  
 POST MILES: 29.46

**GENESSEE AVENUE OC (REPLACE) BRIDGE LIGHTING SUPPORT DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-28-13 2-28-13 2-3-14	30	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	867	1012

**Craig Shannon**  
REGISTERED CIVIL ENGINEER  
DATE: 3-6-14

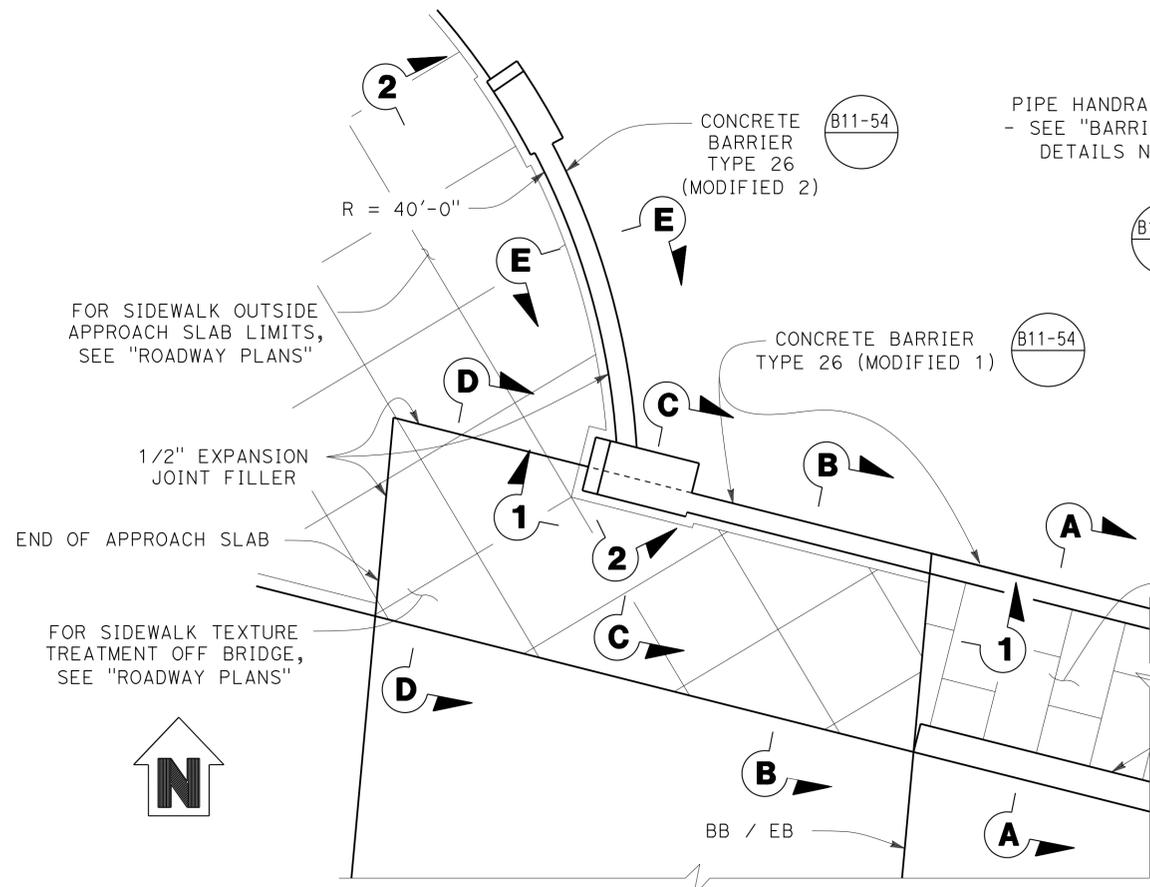
07-21-14  
PLANS APPROVAL DATE

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**CITY OF SAN DIEGO**  
525 B STREET SUITE 7  
SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
9968 HIBERT STREET  
SAN DIEGO, CA. 92131

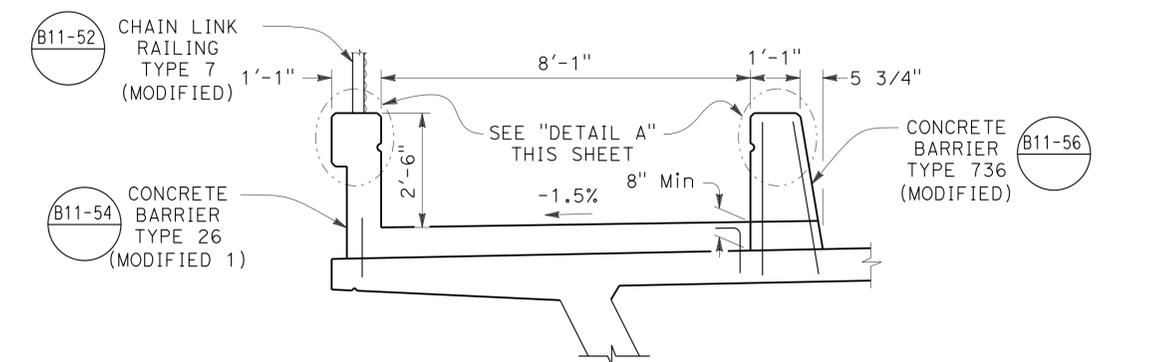
**REGISTERED PROFESSIONAL ENGINEER**  
Craig Shannon  
No. 66998  
Exp. 09-30-14  
CIVIL  
STATE OF CALIFORNIA



- NOTES:
1. Northwest corner shown, all other corners similar
  2. For Developed Elevations "1-1" and "2-2", and Section "C-C", see "BARRIER AND RAILING DETAILS No. 2" sheet
  3. For additional details including limits of Concrete Barrier Type 26 (Modified 2), see "ROADWAY PLANS"

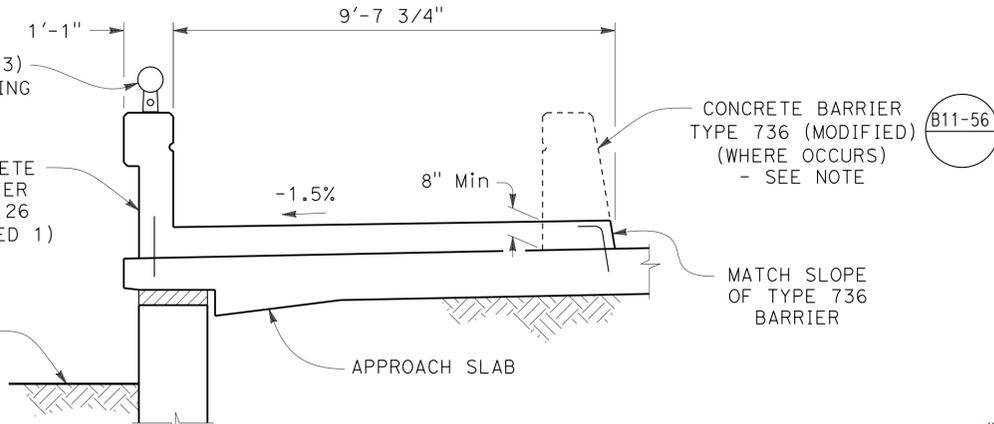
**PLAN**

1" = 5'-0"



**SECTION A-A**

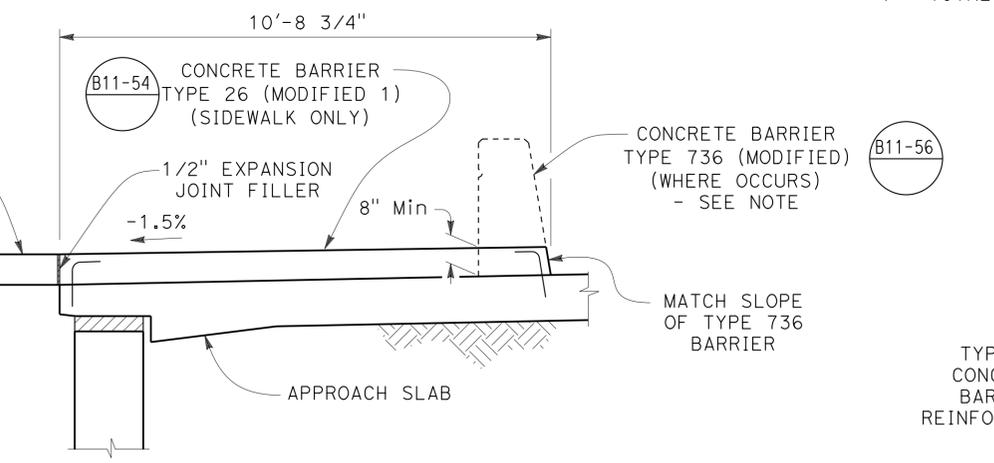
1/2" = 1'-0"



**SECTION B-B**

1/2" = 1'-0"

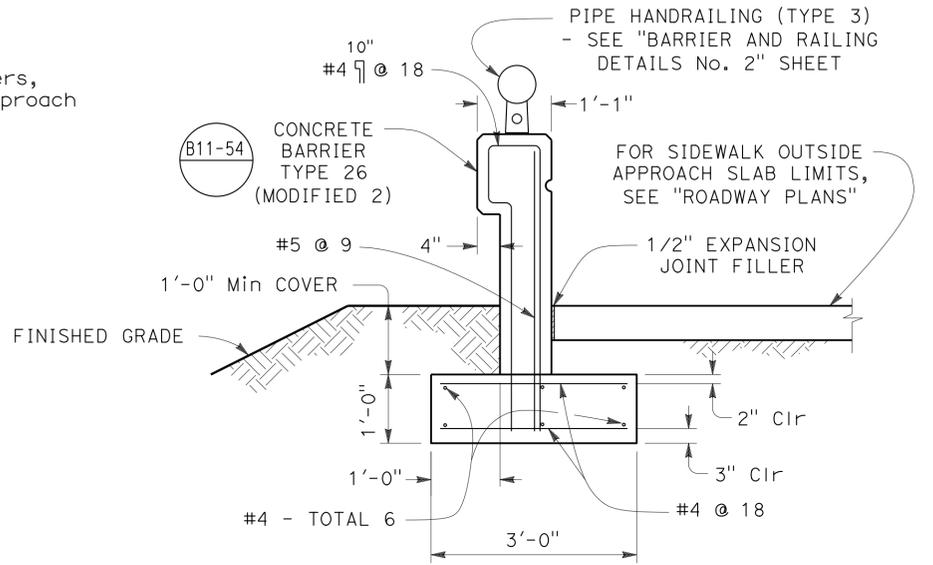
NOTE: At southwest and northeast corners, Type 736 Barrier extends onto Approach Slab, see "ROADWAY PLANS"



**SECTION D-D**

1/2" = 1'-0"

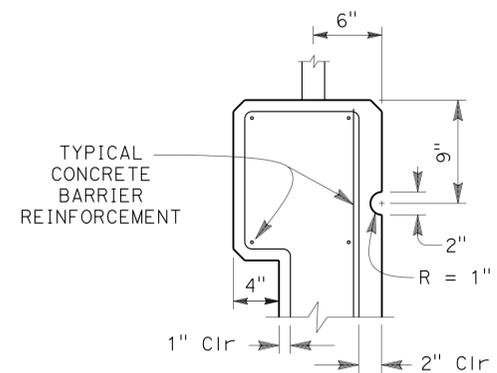
NOTE: At southwest and northeast corners, Type 736 Barrier extends onto Approach Slab, see "ROADWAY PLANS"



**SECTION E-E**

3/4" = 1'-0"

NOTE: Concrete Barrier Type 26 (Modified 1 and 2) shown, Concrete Barrier Type 736 (Modified) similar



**DETAIL A**

1 1/2" = 1'-0"

**Norbert Gee**  
DESIGN OVERSIGHT  
3-10-14  
SIGN OFF DATE

DESIGN	BY: C. Cushing	CHECKED: E. Schroth-Nichols
DETAILS	BY: T. Brittain	CHECKED: E. Schroth-Nichols
QUANTITIES	BY: C. Cushing	CHECKED: E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

**Craig Shannon**  
PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESEE AVENUE OC (REPLACE)**  
**BARRIER AND RAILING DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: PROJECT NUMBER & PHASE: 2771 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 11-18-13 2-22-13 2-13-14	31	48

FILE => 57-1224-r-brdet01.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	868	1012

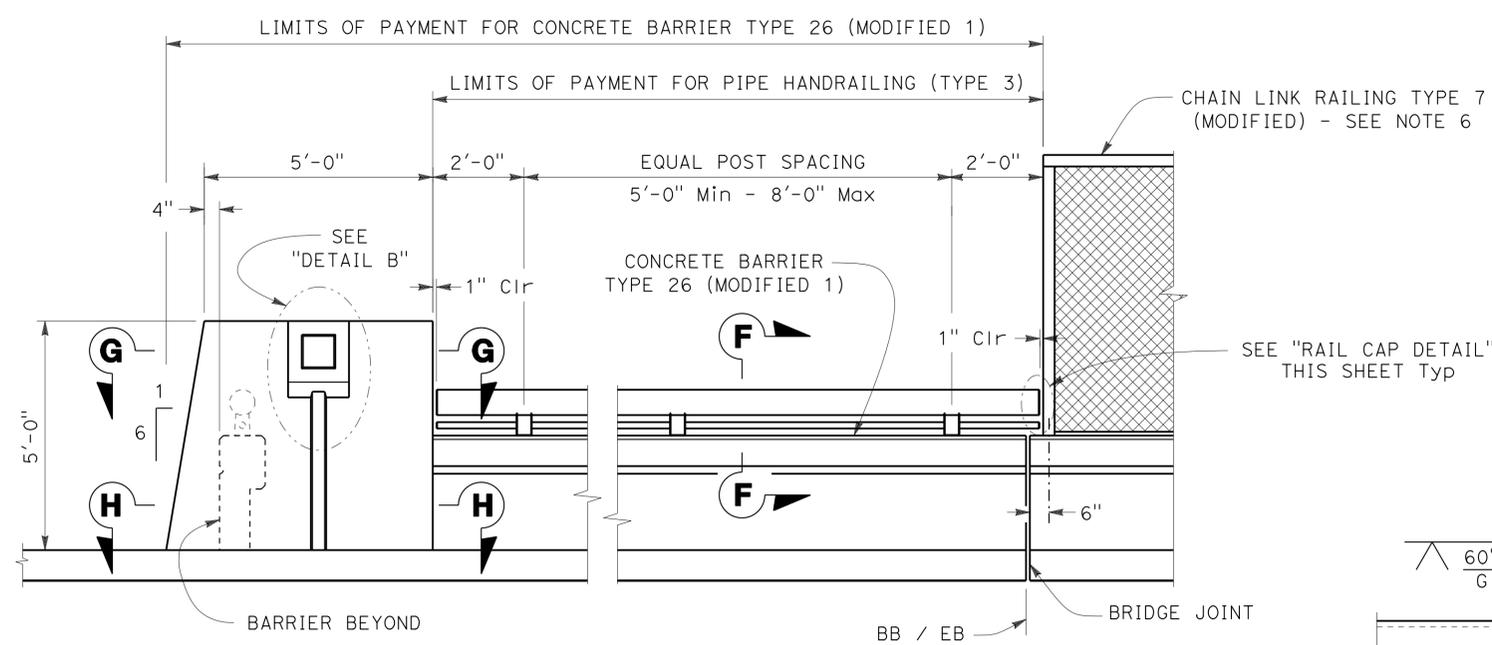
*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

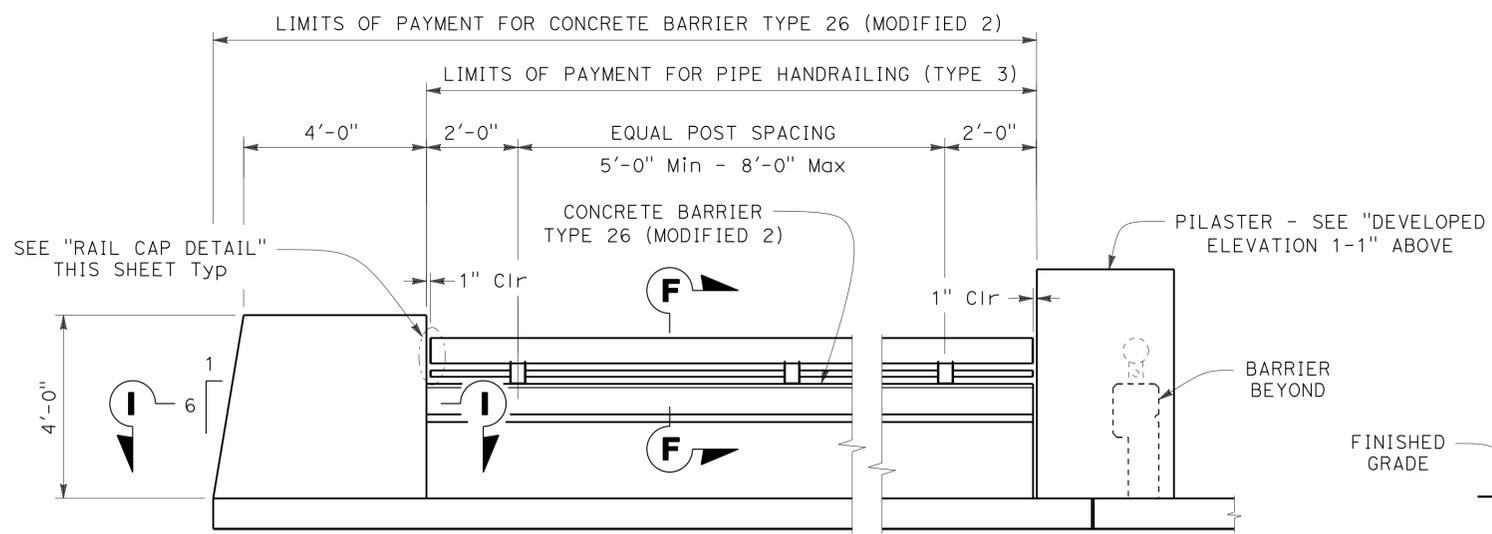
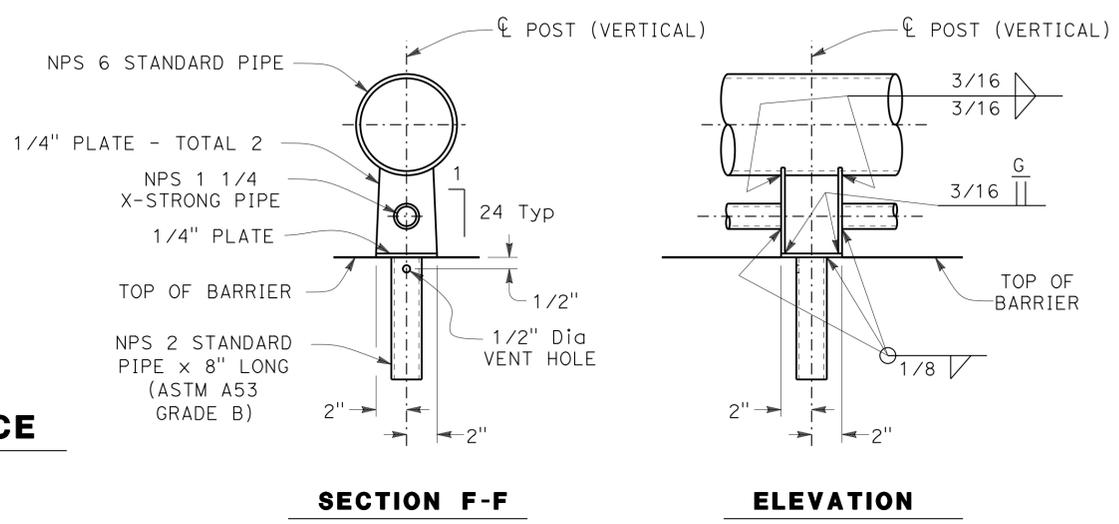
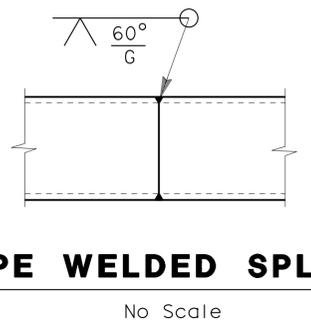
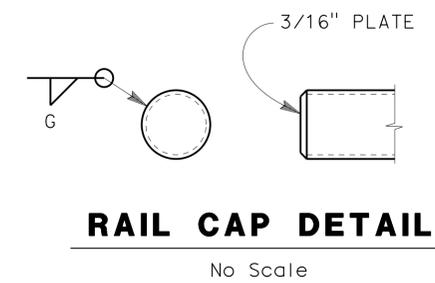
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CITY OF SAN DIEGO 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	SIMON WONG ENGINEERING 9968 HIBERT STREET SAN DIEGO, CA. 92131
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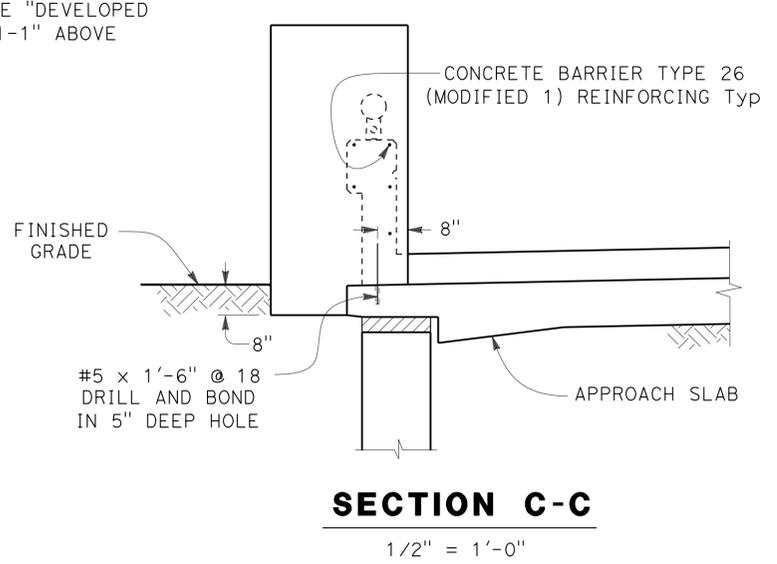
NOTE: For Sections "G-G" and "H-H", and "Detail B", see "BARRIER AND RAILING DETAILS No. 3" sheet

**DEVELOPED ELEVATION 1-1**  
 1/2" = 1'-0"



NOTE: For Section "I-I", see "BARRIER AND RAILING DETAILS No. 3" sheet

**DEVELOPED ELEVATION 2-2**  
 1/2" = 1'-0"



- Notes (Pipe Handrailing (Type 3) only):
1. All handrailing to be weathering steel unless otherwise noted
  2. Posts shall be vertical
  3. Rail pipe shall be shop bent or fabricated to fit horizontal and vertical curves when radius is less than 1000 feet
  4. Top rail pipe shall be continuous over not less than two posts
  5. Welding material for weathering steel shall have welding consumable matching the base material
  6. For Chain Link Railing Type 7 (Modified), see Standard Plan B11-52 and project specifications

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESEE AVENUE OC (REPLACE)**  
**BARRIER AND RAILING DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-28-13 2-3-14	32	48

FILE => 57-1224-r-brdet02.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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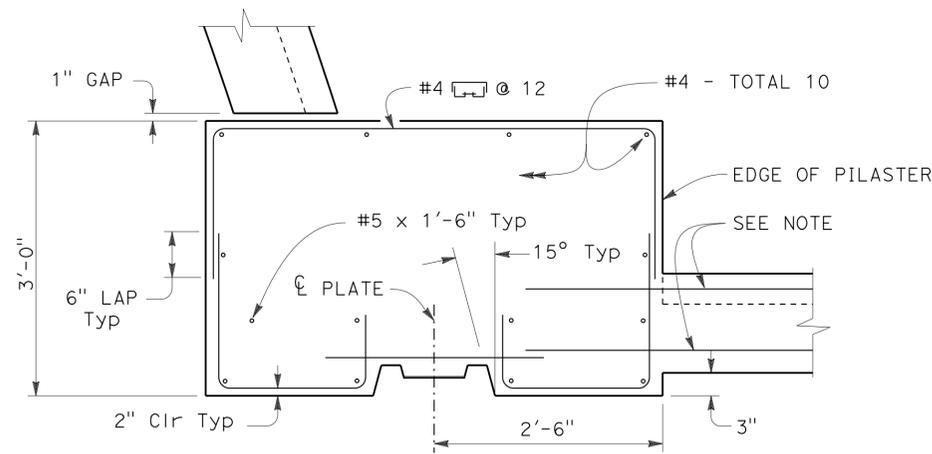
*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

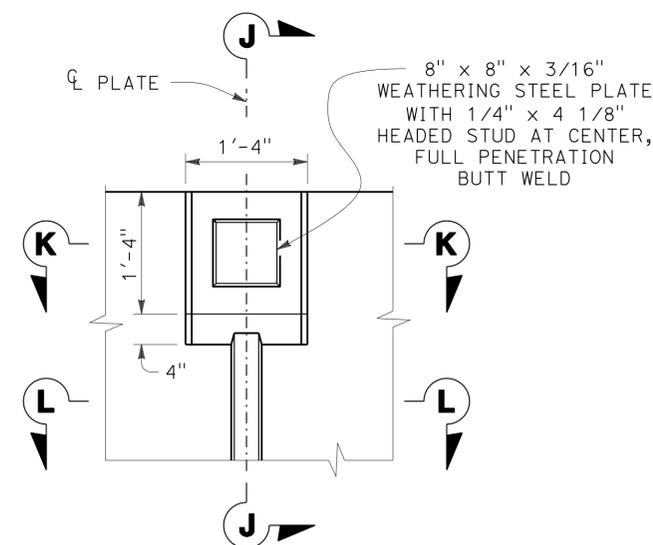
**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



NOTE: Extend Concrete Barrier Type 26 (Modified 1) reinforcing 1'-6" beyond edge of pilaster.

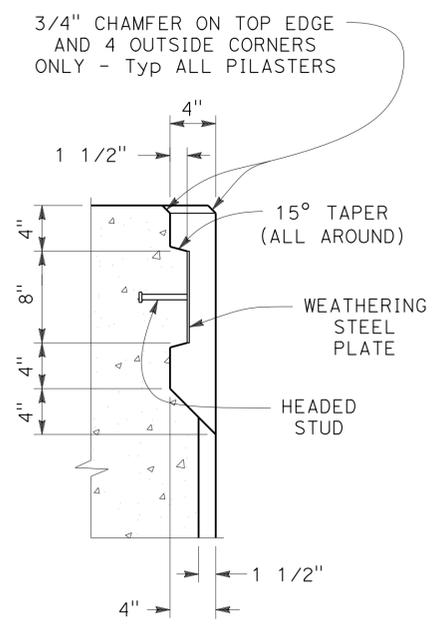
**SECTION G-G**

1" = 1'-0"



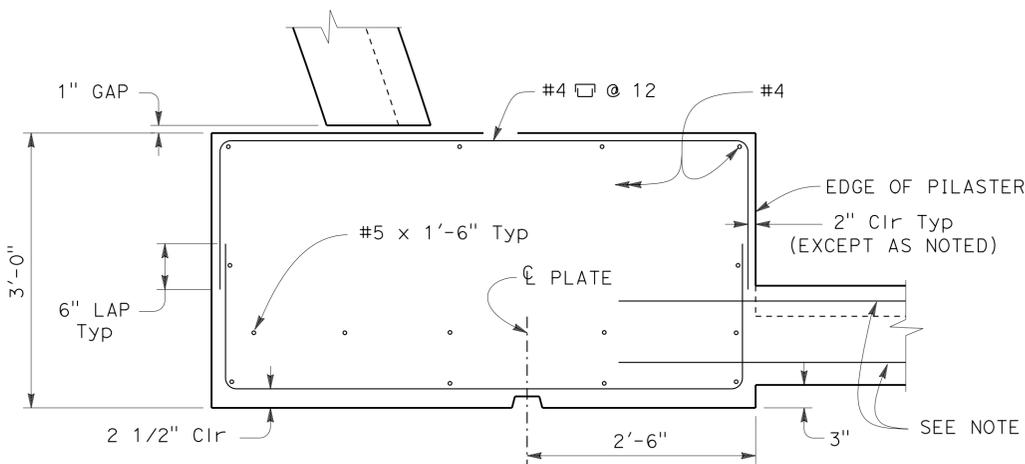
**DETAIL B**

1" = 1'-0"



**SECTION J-J**

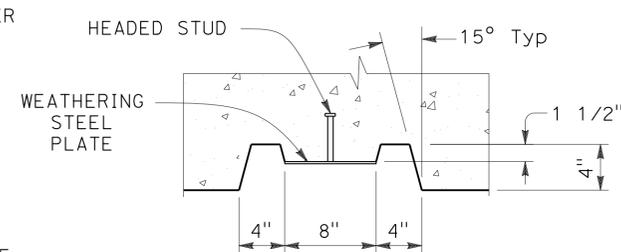
1 1/2" = 1'-0"



NOTE: Extend Concrete Barrier Type 26 (Modified 1) reinforcing 1'-6" beyond edge of pilaster.

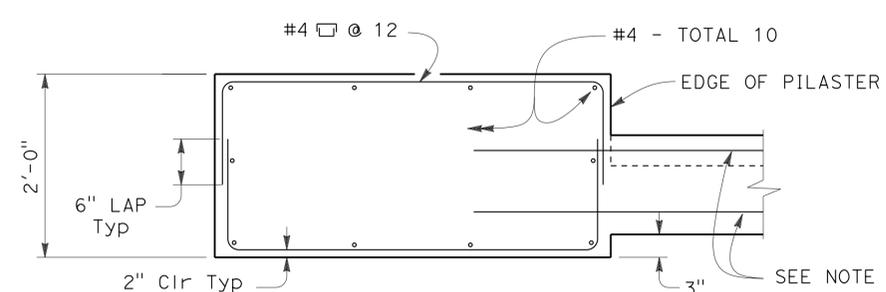
**SECTION H-H**

1" = 1'-0"



**SECTION K-K**

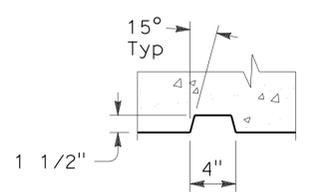
1 1/2" = 1'-0"



NOTE: Extend Concrete Barrier Type 26 (Modified 2) reinforcing 1'-6" beyond edge of pilaster.

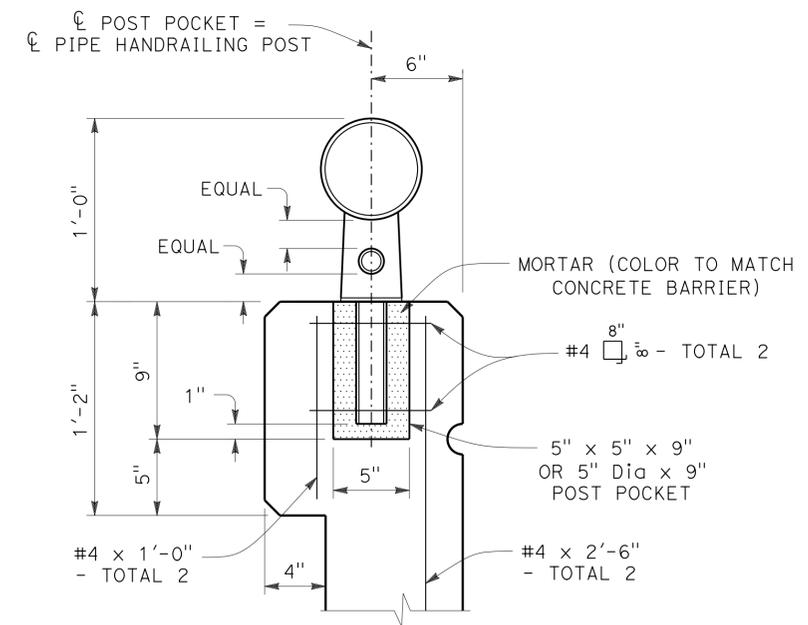
**SECTION I-I**

1" = 1'-0"



**SECTION L-L**

1 1/2" = 1'-0"



**POST ANCHORAGE DETAILS**

2" = 1'-0"

*Norbert Gee*  
 DESIGN OVERSIGHT  
 Norbert Gee  
 5-7-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

Craig Shannon  
 PROJECT ENGINEER

**GENESEE AVENUE OC (REPLACE) BARRIER AND RAILING DETAILS NO. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

BRIDGE NO. 57-1224  
 POST MILES 29.46

CONTRACT NO.: 11-0223U4  
 DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-22-13 2-3-14	33	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	870	1012

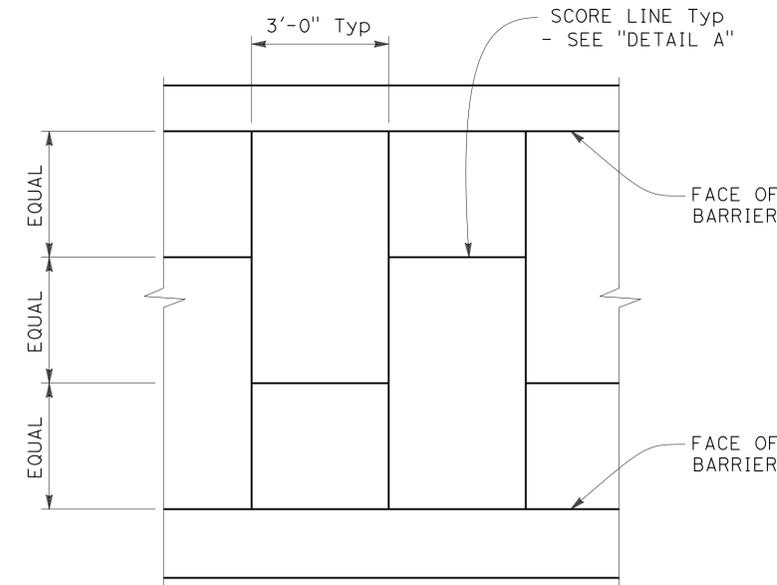
*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

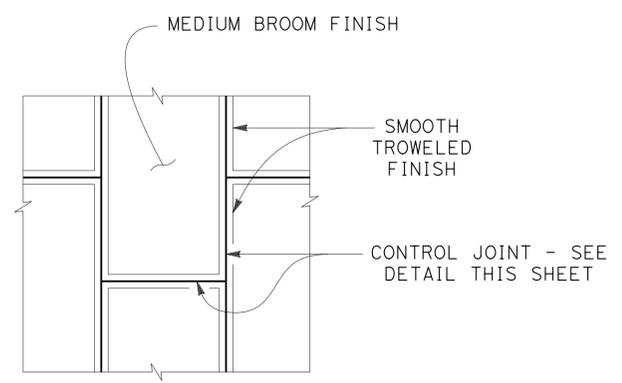
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<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
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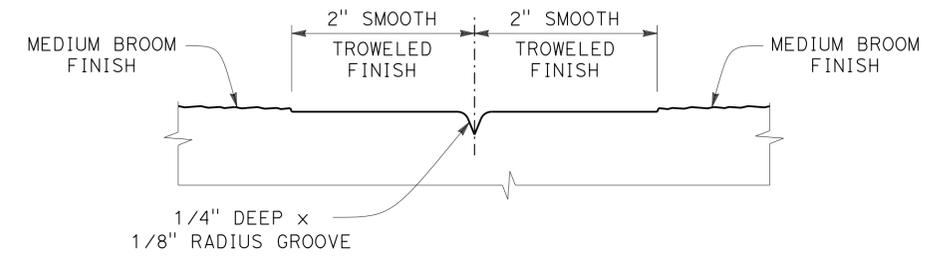
**PLAN - RECTANGULAR SCORING PATTERN**

No Scale



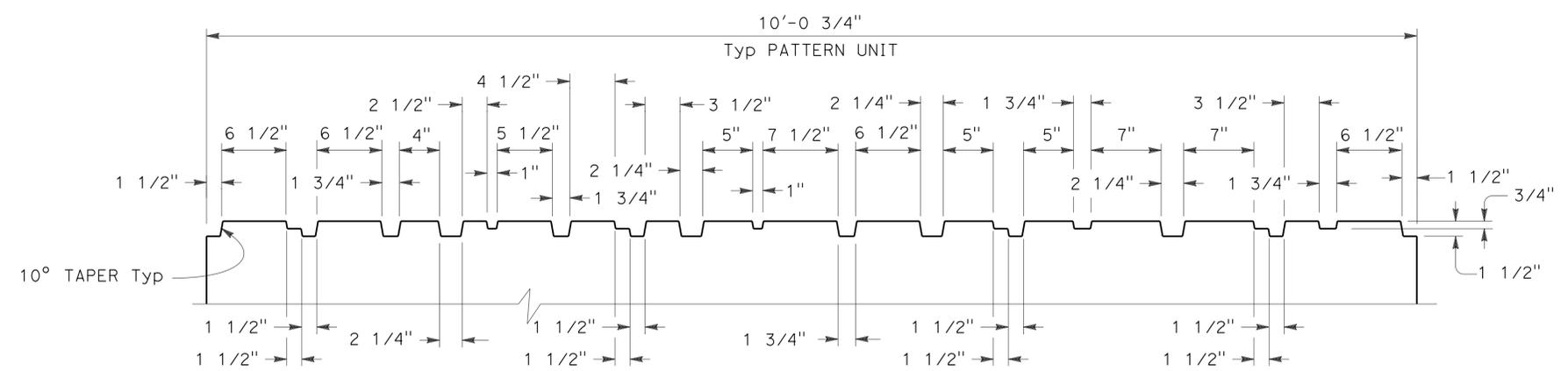
**DETAIL A**

No Scale



**CONTROL JOINT DETAIL**

No Scale



**RANDOM FLUTE TEXTURE DETAIL**

No Scale

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY C. Cushing  
 CHECKED E. Schroth-Nichols  
 DETAILS BY T. Brittain  
 CHECKED E. Schroth-Nichols  
 QUANTITIES BY C. Cushing  
 CHECKED E. Schroth-Nichols

DESIGNED BY C. Cushing  
 CHECKED E. Schroth-Nichols  
 PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESSEE AVENUE OC (REPLACE)**  
**ARCHITECTURAL DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021  
 CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-28-13 2-3-14	34	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	871	1012

*Craig Shannon* 3-6-14  
REGISTERED CIVIL ENGINEER DATE

07-21-14  
PLANS APPROVAL DATE

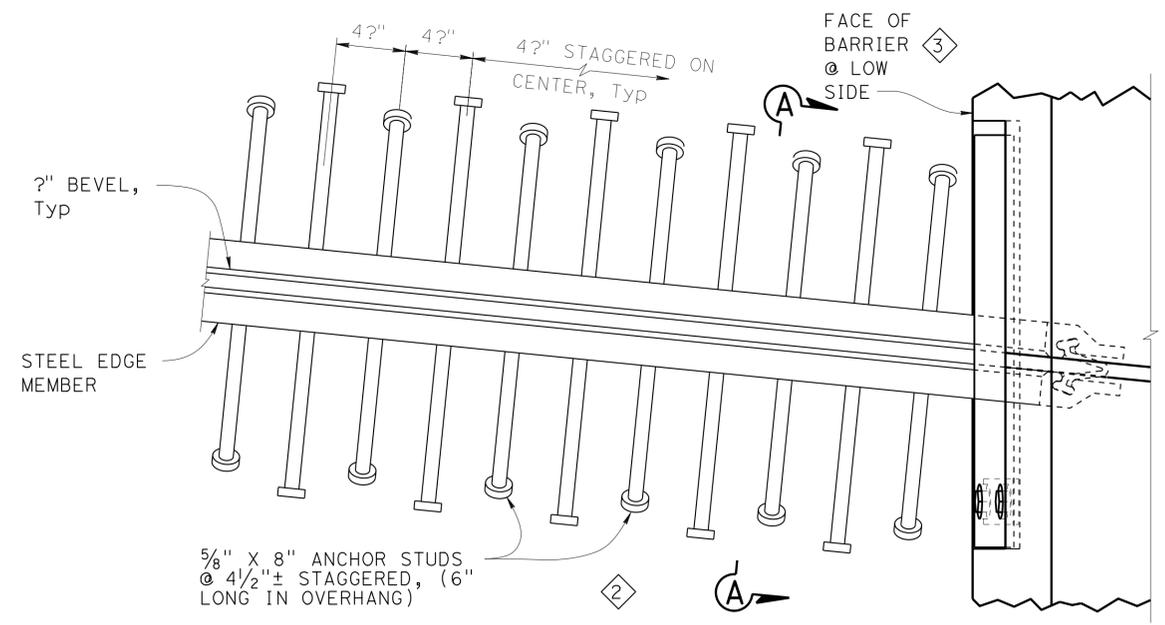
*CRAIG SHANNON*  
No. 66998  
Exp. 09-30-14  
CIVIL  
STATE OF CALIFORNIA

**CITY OF SAN DIEGO**  
525 B STREET SUITE 7  
SAN DIEGO, CA. 92101

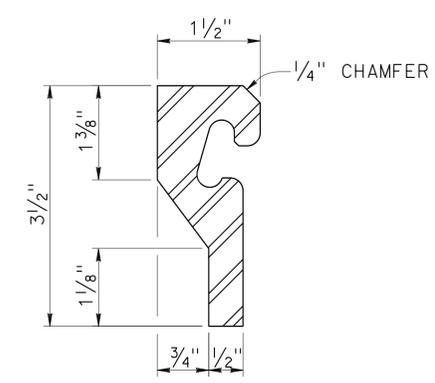
**SIMON WONG ENGINEERING**  
9968 HIBERT STREET  
SAN DIEGO, CA. 92131

CONSTRUCTION SEQUENCE: ④

1. For Stage 2 Construction, install joint seal assembly beginning at left EOD and terminating 2'-0" from edge of closure pour
2. For Stage 6 Construction, install joint seal assembly beginning at Type 736 (Modified) barrier and connect to existing joint seal assembly previously installed in Stage 2 Construction
3. For Stage 9 Construction, remove previously installed joint seal assembly extending from left EOD to a minimum distance of 2'-0" beyond the front face of Type 736 (Modified) barrier. Install new joint seal assembly extending from point of removal to Type 736 (Modified) barrier.



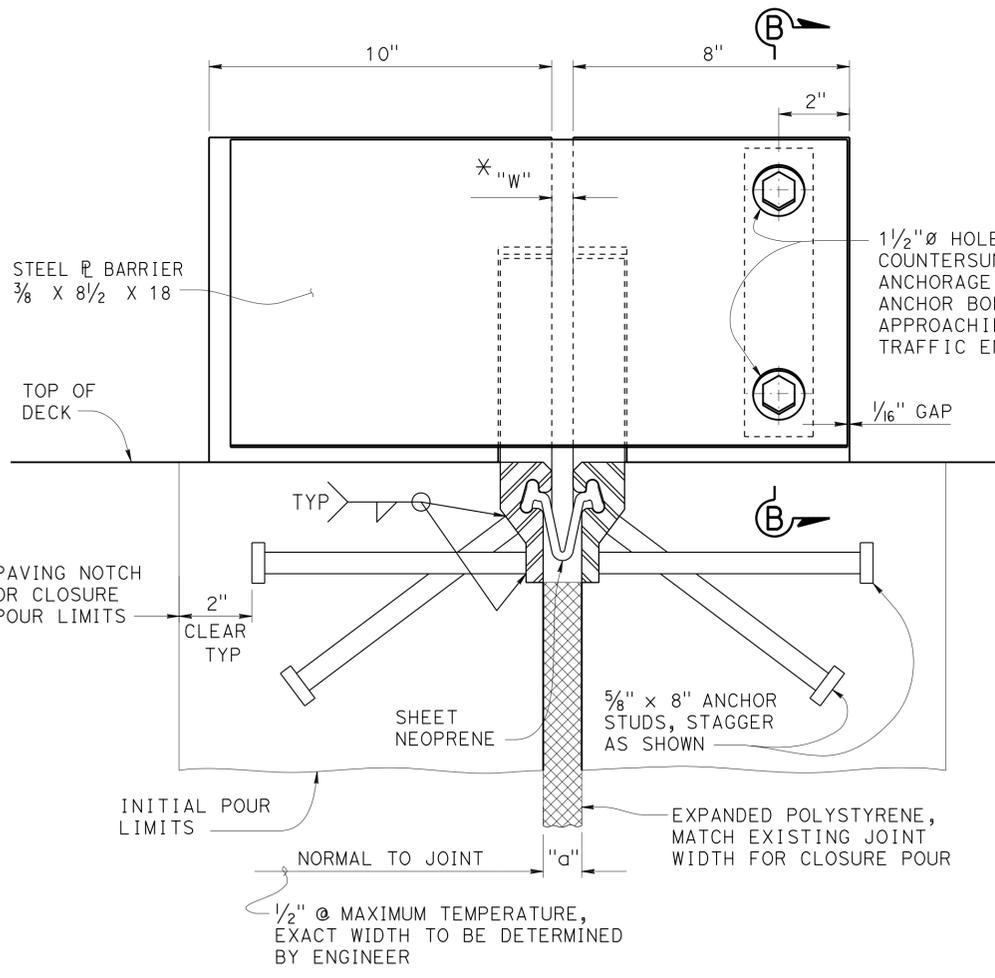
PLAN  
SKEW ≤ 20°



STEEL EDGE MEMBER

NOTES:

1. Full penetration butt welds may be substituted for fillet welds on all anchor studs
2. Alternate types of anchor studs may be permitted subject to the approval by the Engineer
3. Joint seal assembly to be used in conjunction with closure pour. (See other sheets for limits). Closure pour shall not be placed until final deck surface is within the tolerances specified.
4. Use joint at crown of roadway, at any change in traverse slope in deck and at changes in horizontal direction. Place other joints at or near lanes. All metal parts to be painted or galvanized after fabrication.
5. Sheet Neoprene shall be fabricated in one continuous piece and shall be fabricated to bend around corners
6. Insert assembly or expansion anchorage for 5/8" x 1 3/4" bolts. Use installation bolts extended 1/2" minimum past nut and coat with bond breaker, after concrete has cured, remove installation bolts, install A325 bolts and sheet neoprene.
7. Sidewalk Detail similar to Barrier Detail on low side at both sides if the roadway is crowned or if the difference in elevation between the ends of the seal is 0.5' or less
8.  $a_c$ ,  $a_s$ , are the thermal expansion coefficients for concrete and steel respectfully

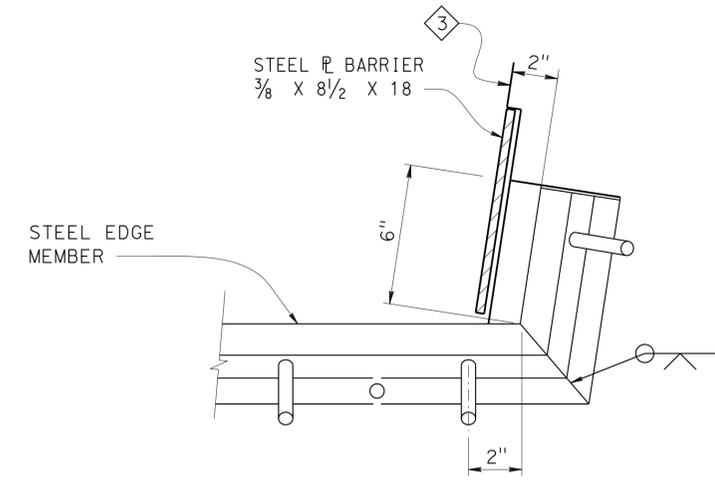


SECTION A-A

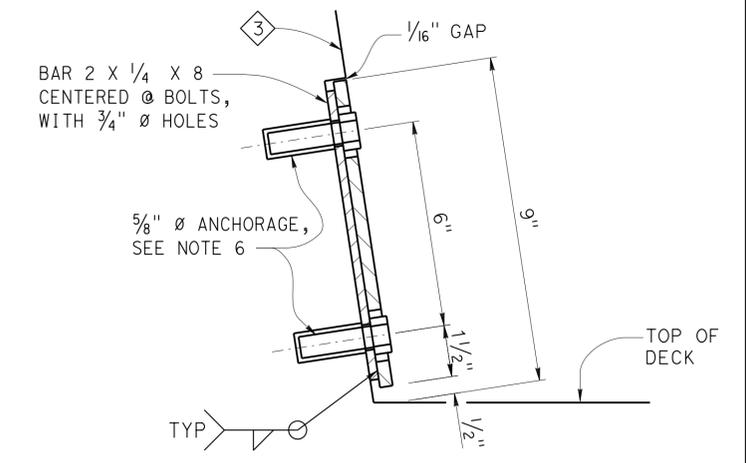
JOINT INFORMATION			"a" DIMENSIONS		
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
Abut 1	2 1/2"	08°54'54"	1 1/2"	1 1/4"	3/4"
Abut 3	2 1/2"	08°54'54"	1 1/2"	1 1/4"	3/4"

\* TO SET MINIMUM JOINT OPENING "W"

$$"W" = \begin{cases} \frac{1}{2} + [(Max \text{ Str temperature in } F^\circ) - (actual \text{ Str temperature in } F^\circ)] * (a_c \text{ or } a_s) (12) (\text{contributory L in feet}) \\ \frac{1}{2} \text{ Minimum} \\ a_c = 0.0000060 \\ a_s = 0.0000065 \end{cases}$$



BARRIER DETAIL  
LOW SIDE



SECTION B-B  
NO SCALE

REVISED STANDARD DRAWING		① DELETED DETAILS	③ THIS IS ROADWAY SIDE OF INBOARD TYPE 736 (MODIFIED) BARRIER	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 57-1224	GENESEE AVENUE OC (REPLACE)
FILE NO. <b>xs8-010</b>	APPROVAL DATE <u>October 2011</u>	② REVISED DETAIL	④ ADDED CONSTRUCTION SEQUENCE			POST MILE 29.46	
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 2771	PROJECT NUMBER & PHASE: 11120001021	CONTRACT NO.: 11-0223U4	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				0	1	2	3
				FILE => 57-1224+-jsde+01.dgn		REVISION DATES	
						6-28-12	1-18-13
						2-27-13	2-3-14
						SHEET	OF
						35	48

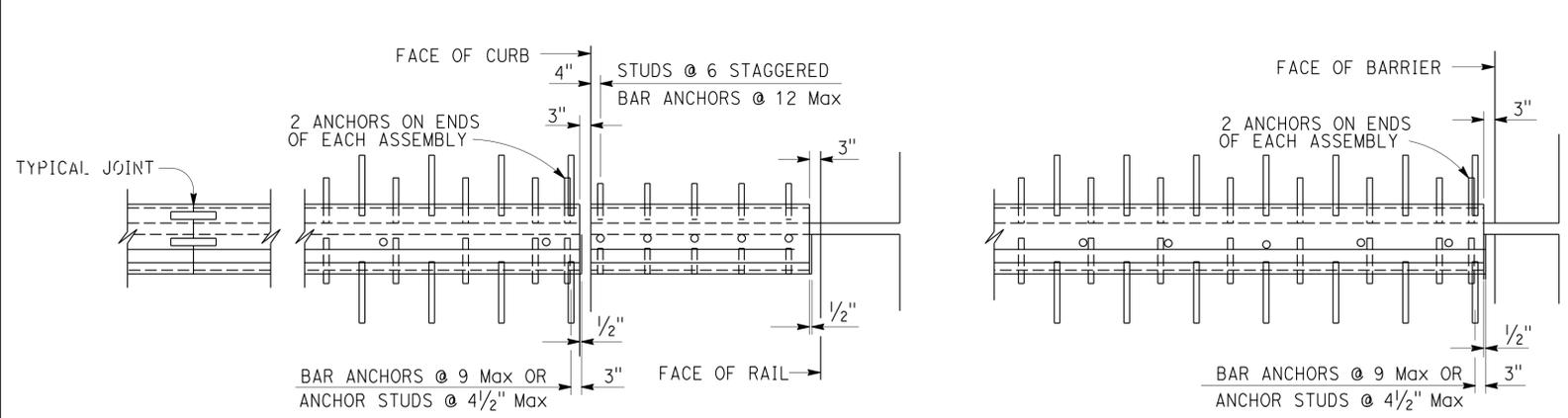
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	872	1012

Craig Shannon	3-6-14
REGISTERED CIVIL ENGINEER	DATE
07-21-14	
PLANS APPROVAL DATE	

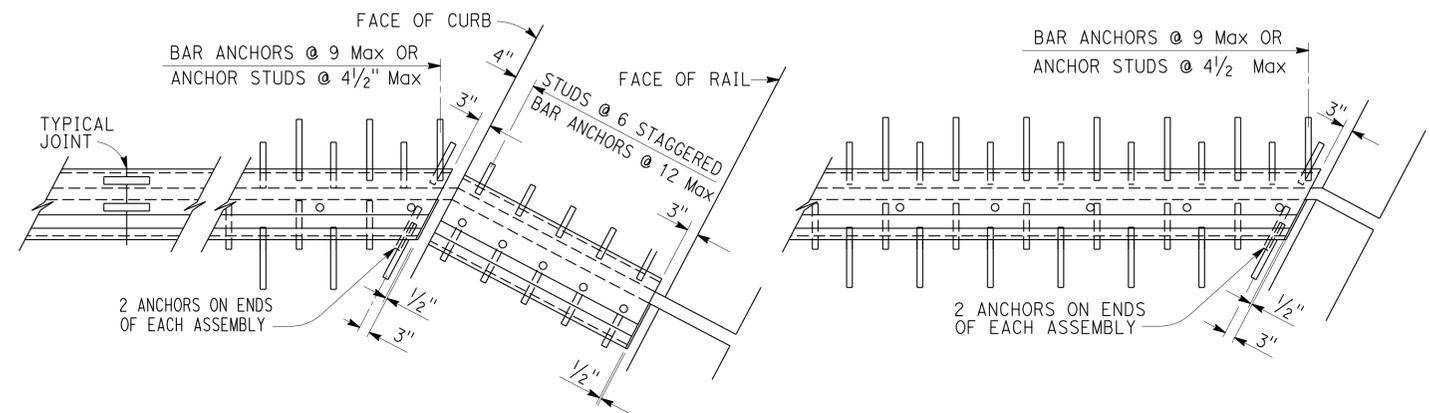
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CITY OF SAN DIEGO 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	SIMON WONG ENGINEERING 9968 HIBERT STREET SAN DIEGO, CA. 92131
---	--



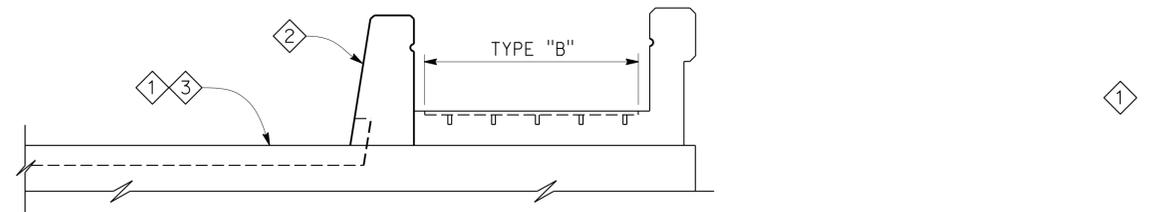
**PART PLAN EXPANSION ARMOR NORMAL TO GIRDER**

1/2" = 1'-0"



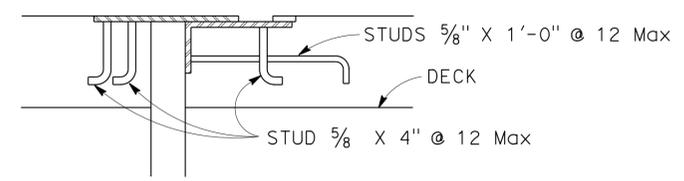
**PART PLAN EXPANSION ARMOR SKEWED TO GIRDER**

1/2" = 1'-0"



**TYPICAL SECTION**

1/2" = 1'-0"

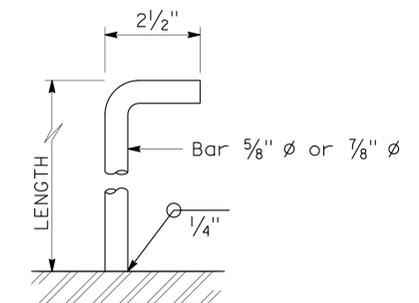


**TYPE B**

NOTE:  
For details not shown, see "DETAIL WITH BAR ANCHORS"

**DETAIL WITH ANCHOR STUDS**

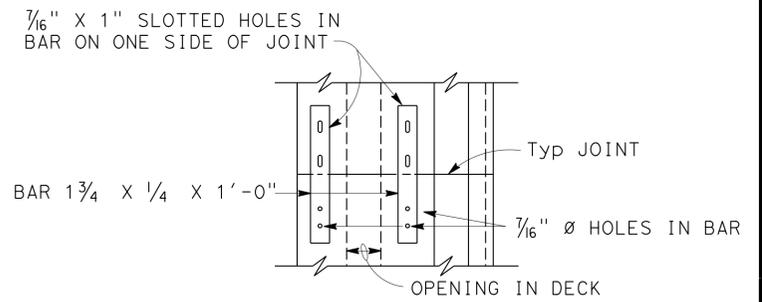
1/2" = 1'-0"



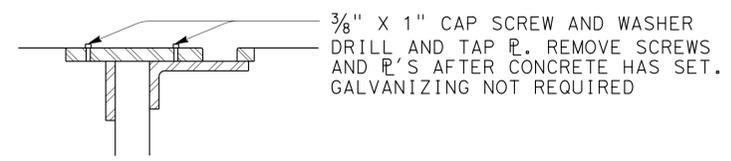
**ANCHOR STUD**

5" = 1'-0"

NOTE:  
Alternate types of anchor studs may be permitted subject to the approval of the Engineer



**PLAN**

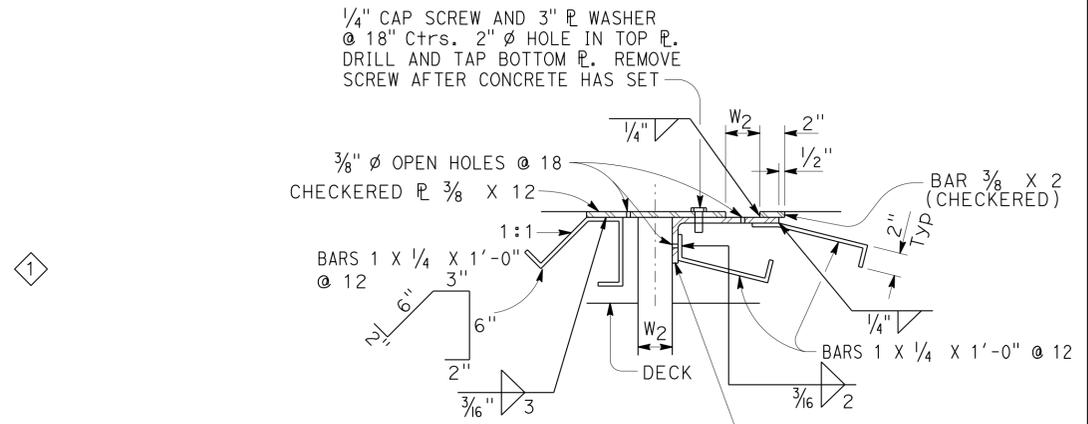


**SECTION**

**TYPICAL JOINT DETAILS**

1/2" = 1'-0"

4 PLACE TYPE B ARMOR OVER SIDEWALK JOINT ONLY.



W<sub>2</sub> = 1" AT MAXIMUM TEMPERATURE NORMAL TO JOINT. EXACT WIDTH TO BE DETERMINED BY THE ENGINEER

**TYPE B**

**DETAIL WITH BAR ANCHORS**

1/2" = 1'-0"

**NOTES:**

1. Full penetration butt welds may be substituted for the fillet welds on all anchor studs
2. Expansion armor assembly to be galvanized after fabrication except as noted
3. Expansion armor assembly to be fabricated in 14' Max lengths
4. Use joint at crown of roadway, at any change in transverse slope of deck and at edge of lane
5. Quantities shown are for design purpose only

UNIT TYPE	ASSEMBLY	WT LBS/LF
A	Bar Anchor	91
B	Stud Anchor	102
		45

REVISED STANDARD DRAWING	
FILE NO. <b>xs8-040</b>	APPROVAL DATE <u>July 2011</u>

1 DELETED DETAILS (TYPE A ARMOR NOT USED)	3 JOINT SEAL ASSEMBLY
2 TYPE 736 (MODIFIED) BARRIER	4 ADDED NOTE

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES
---	----------------------------------

BRIDGE NO. 57-1224	GENESEE AVENUE OC (REPLACE)
POST MILE 29.46	
UNIT: 2771	JOINT ARMOR - EXPANSION DETAILS
PROJECT NUMBER & PHASE: 11120001021	
CONTRACT NO.: 11-0223U4	MAXIMUM MOVEMENT RATING = 4"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	873	1012

*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

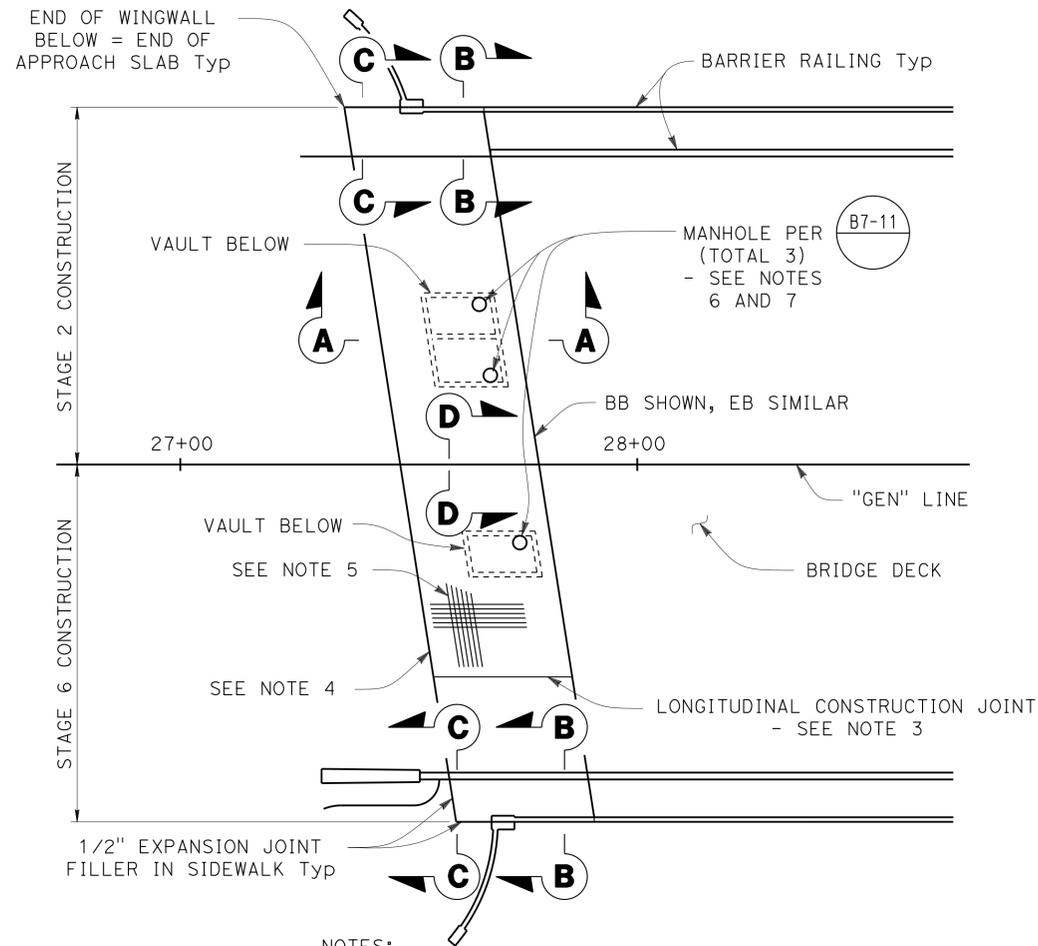
07-21-14  
 PLANS APPROVAL DATE

*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

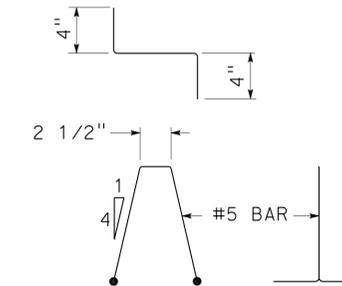


- NOTES:
1. Wingwalls below not shown
  2. Abutment 1 shown, Abutment 3 similar

**PLAN**

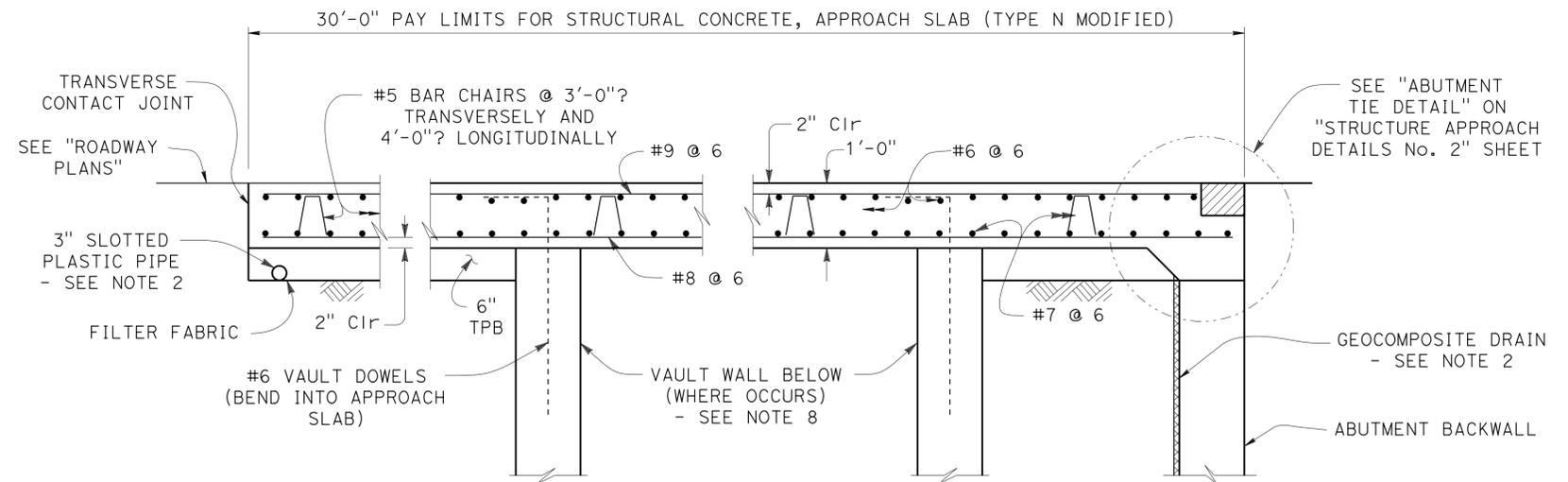
1' = 20'-0"

- NOTES:
1. For details not shown, see "BRIDGE PLANS"
  2. For drainage details, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet
  3. Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
  4. Approach slab traverse contact joint parallel to face of paving notch
  5. Longitudinal reinforcement to be placed parallel to "GEN" Line. Transverse reinforcement to be placed parallel to BB or EB and spaced along "GEN" Line.
  6. Deck manhole shall be frame and two concentric covers (36" and 24") heavy duty, marked "RECYCLED" for recycled main, and "POTABLE" for potable main. Manhole shall be H-20 rated with locking type cover.
  7. Manholes shall be located above access steps in the vault, see "ROADWAY PLANS" for location of access steps. The edge of opening in the approach slab shall be flush with the inside face of vault wall below.
  8. For additional vault details, see "ROADWAY PLANS"
  9. For Sections "B-B", "C-C", and "D-D", see "STRUCTURE APPROACH DETAILS NO. 2" sheet



**BAR CHAIR DETAIL**

No Scale



**SECTION A-A**

3/4" = 1'-0"

*Norbert Gee*  
 DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

Craig Shannon  
 PROJECT ENGINEER

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESSEE AVENUE OC (REPLACE)  
 STRUCTURE APPROACH DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-28-13 2-3-14	37	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	874	1012

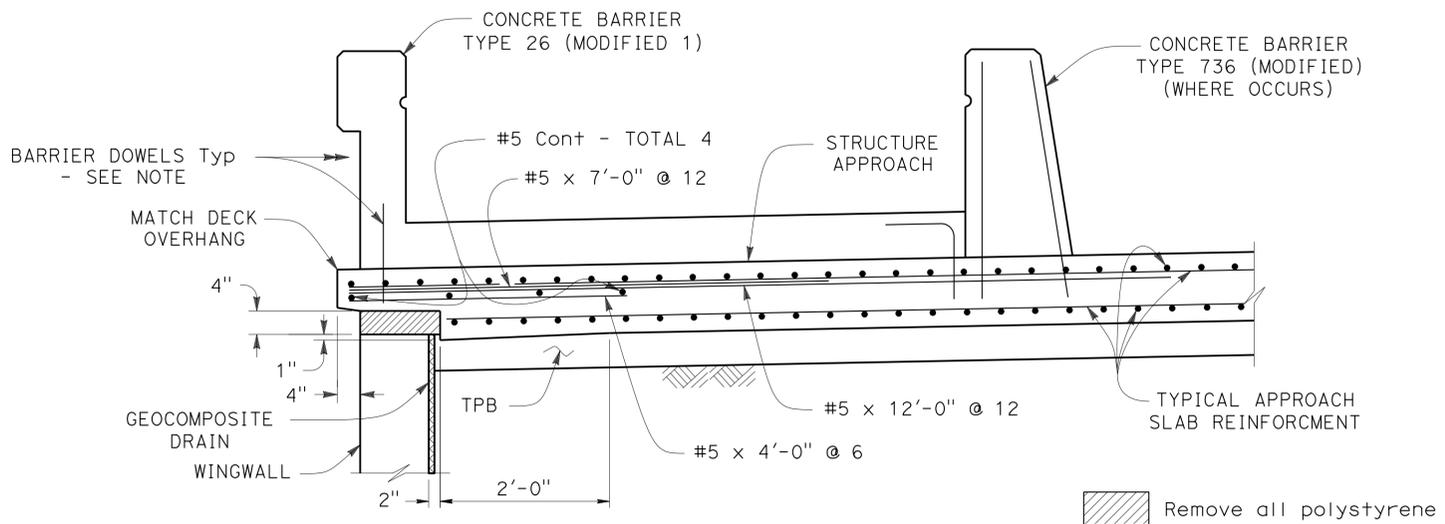
*Craig Shannon* 3-6-14  
REGISTERED CIVIL ENGINEER DATE

07-21-14  
PLANS APPROVAL DATE

*Craig Shannon*  
No. 66998  
Exp. 09-30-14  
CIVIL  
STATE OF CALIFORNIA

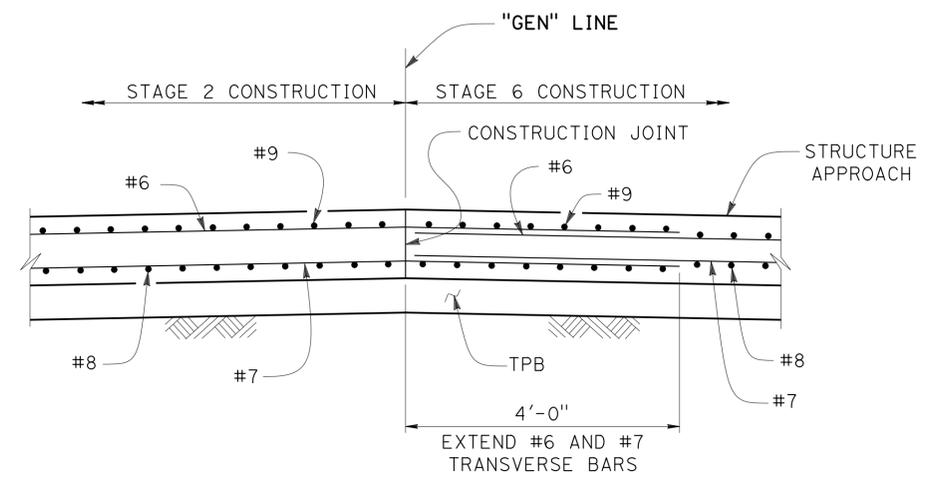
CITY OF SAN DIEGO  
525 B STREET SUITE 7  
SAN DIEGO, CA. 92101

SIMON WONG ENGINEERING  
9968 HIBERT STREET  
SAN DIEGO, CA. 92131

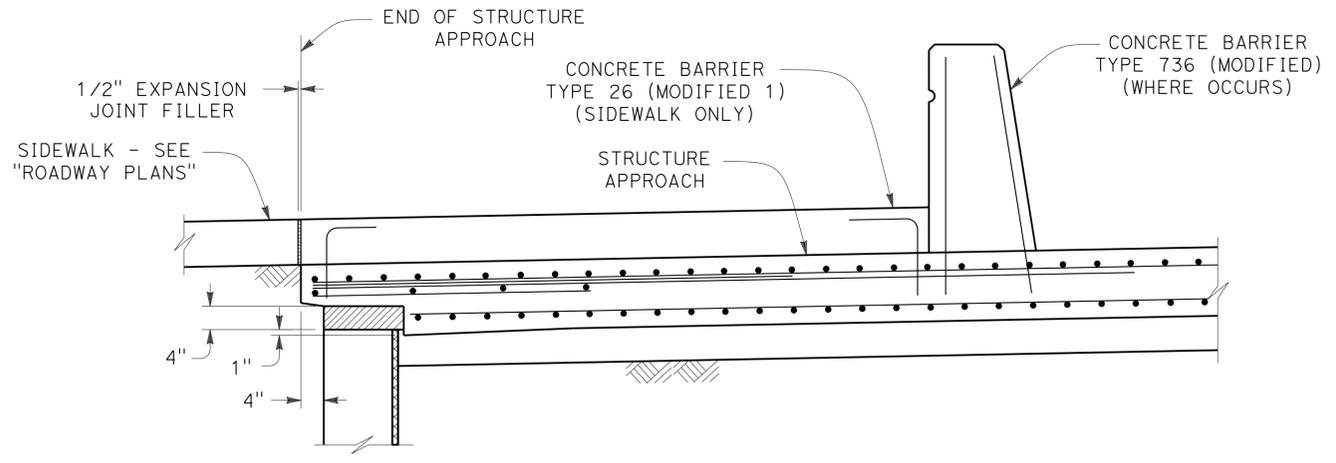


NOTE: Barrier dowels are Drill and Bond for left EOD and cast-in-place for right EOD, see "TYPICAL SECTION (2 OF 2)" sheet

**SECTION B-B**  
3/4" = 1'-0"

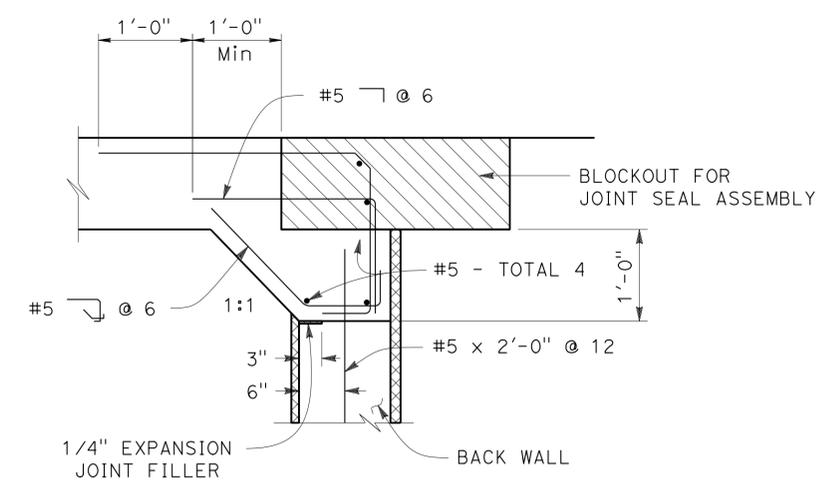


**SECTION D-D**  
3/4" = 1'-0"



NOTE: Similar to "Section B-B" except as noted

**SECTION C-C**  
3/4" = 1'-0"



**ABUTMENT TIE DETAIL**  
1" = 1'-0"

*Norbert Gee*  
DESIGN OVERSIGHT  
3-10-14  
SIGN OFF DATE

DESIGN BY: C. Cushing  
DETAILS BY: T. Brittain  
QUANTITIES BY: C. Cushing

CHECKED E. Schroth-Nichols  
CHECKED E. Schroth-Nichols  
CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

Craig Shannon  
PROJECT ENGINEER

BRIDGE NO.  
57-1224  
POST MILES  
29.46

**GENESSEE AVENUE OC (REPLACE)**  
**STRUCTURE APPROACH DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-15-13 2-22-13 2-3-14	38	48

FILE => 57-1224-v-sadet02.dgn

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	875	1012

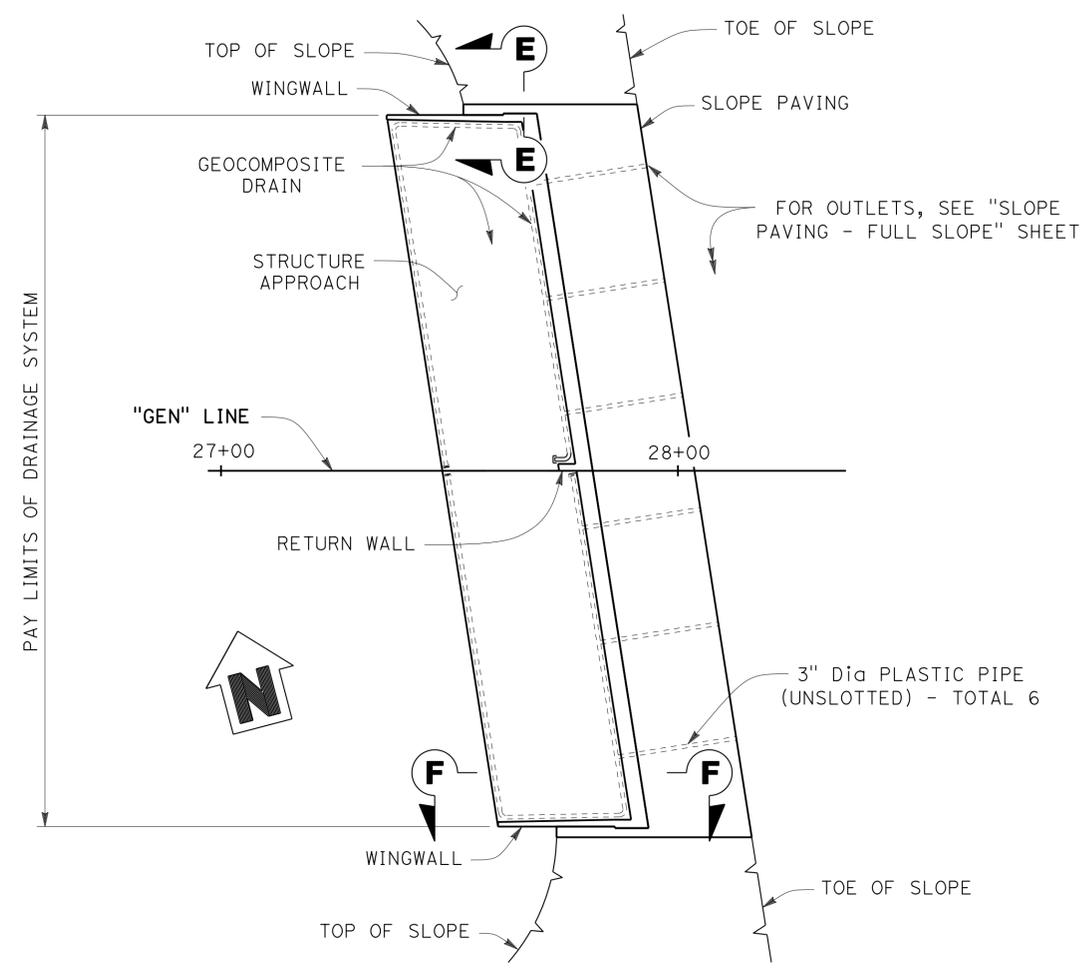
*Craig Shannon* 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

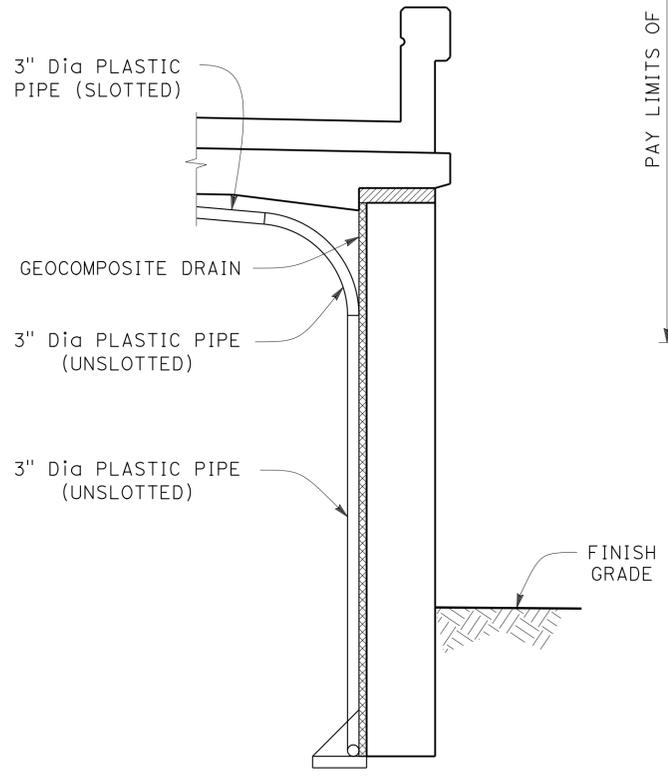
*Craig Shannon*  
 No. 66998  
 Exp. 09-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---

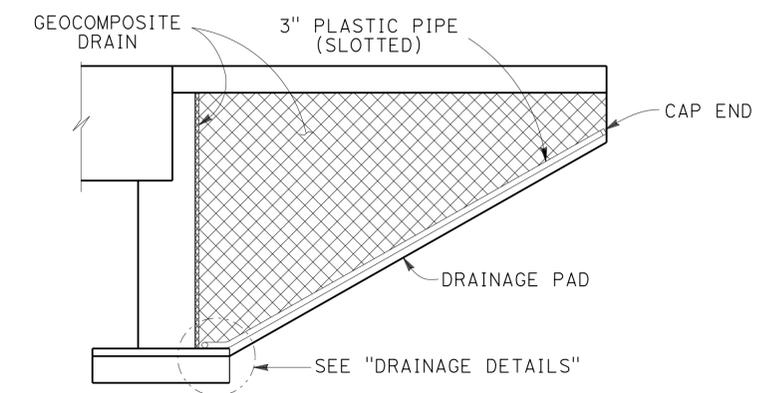


**TYPICAL PLAN**  
No Scale



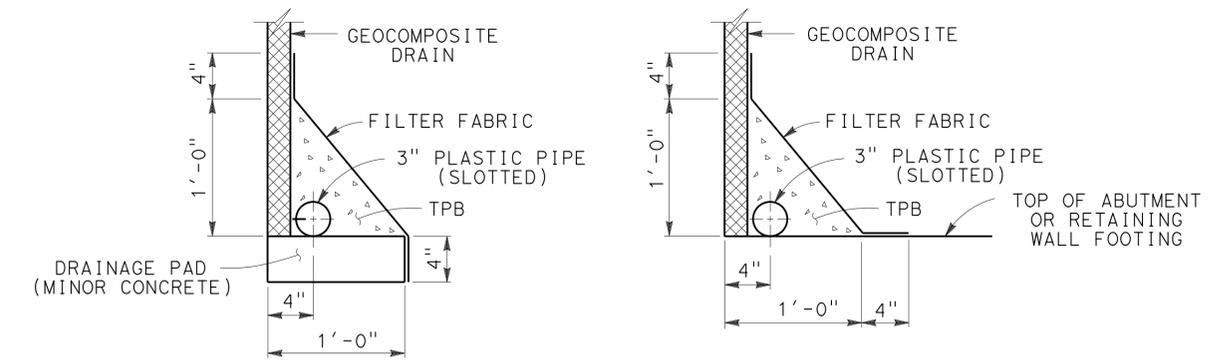
NOTE: Bends and junctions in 3" Dia plastic pipe are 30" radius Min

**SECTION E-E**  
No Scale



NOTE: Wingwall shown, return wall similar

**SECTION F-F**  
No Scale



**WITHOUT FOOTING**      **WITH FOOTING**

**DRAINAGE DETAILS**  
1 1/2" = 1'-0"

*Norbert Gee*  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN BY: C. Cushing  
 DETAILS BY: T. Brittain  
 QUANTITIES BY: C. Cushing

CHECKED BY: E. Schroth-Nichols  
 CHECKED BY: E. Schroth-Nichols  
 CHECKED BY: E. Schroth-Nichols

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**  
 PROJECT ENGINEER: Craig Shannon

BRIDGE NO. 57-1224  
 POST MILES 29.46

**GENESSEE AVENUE OC (REPLACE) STRUCTURE APPROACH DRAINAGE DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-15-13 2-22-13 2-3-14	39	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	876	1012

**Craig Shannon**  
REGISTERED CIVIL ENGINEER  
DATE: 3-6-14

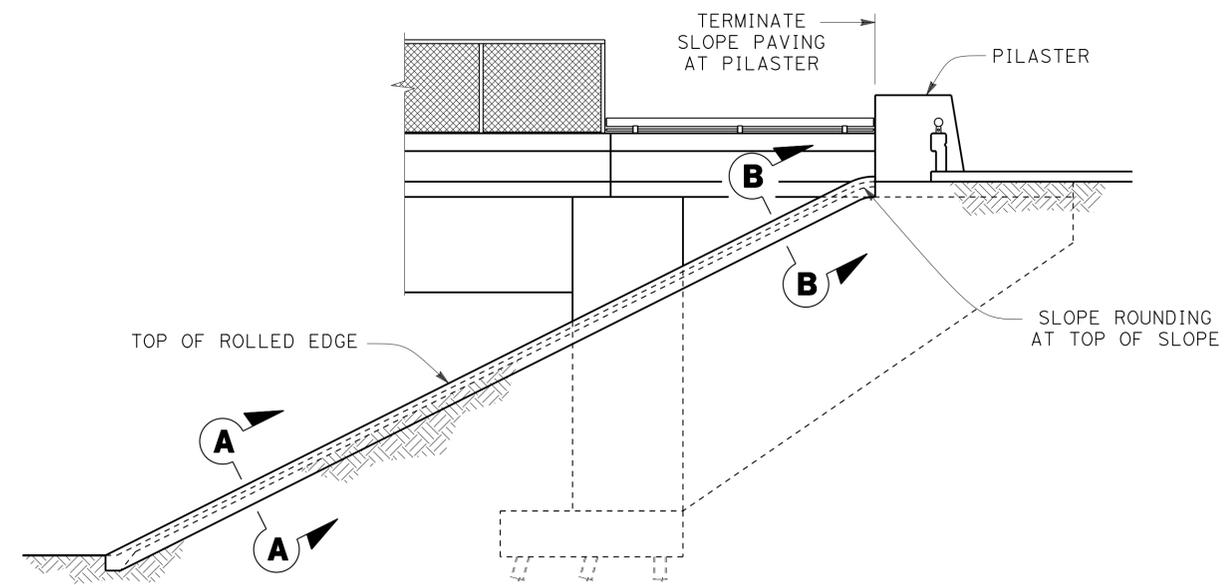
07-21-14  
PLANS APPROVAL DATE

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**CITY OF SAN DIEGO**  
525 B STREET SUITE 7  
SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
9968 HIBERT STREET  
SAN DIEGO, CA. 92131

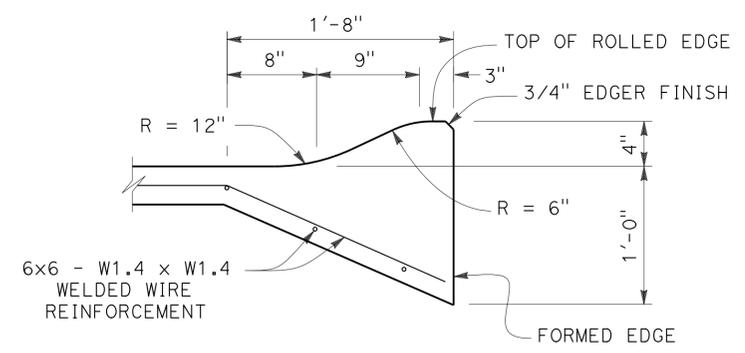
REGISTERED PROFESSIONAL ENGINEER  
No. 66998  
Exp. 09-30-14  
CIVIL  
STATE OF CALIFORNIA



NOTE: Backfill abutment to grading plane prior to placing slope paving

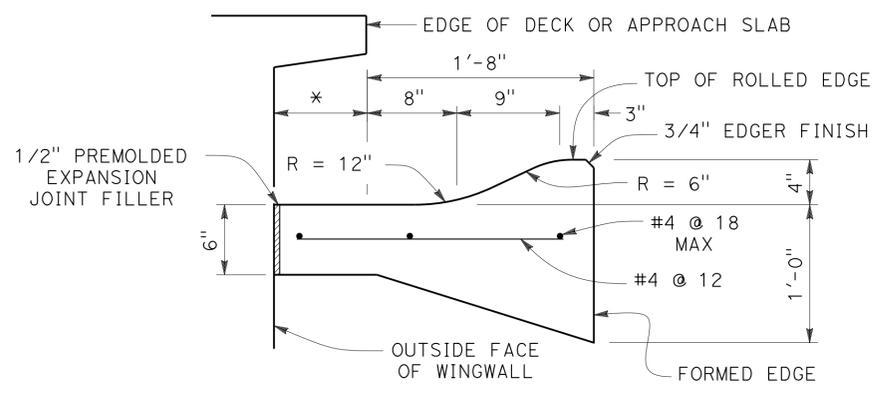
**WINGWALL ELEVATION**

No Scale



**SECTION A-A**

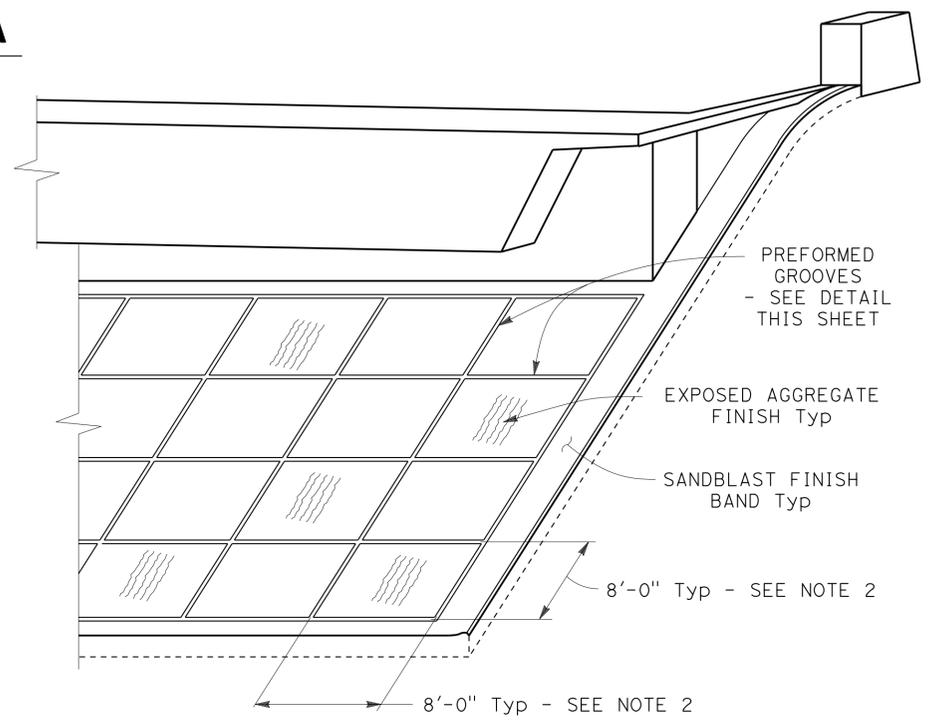
No Scale



**SECTION B-B**

No Scale

\* = 4" where face of wingwall is inset, zero inches everywhere else

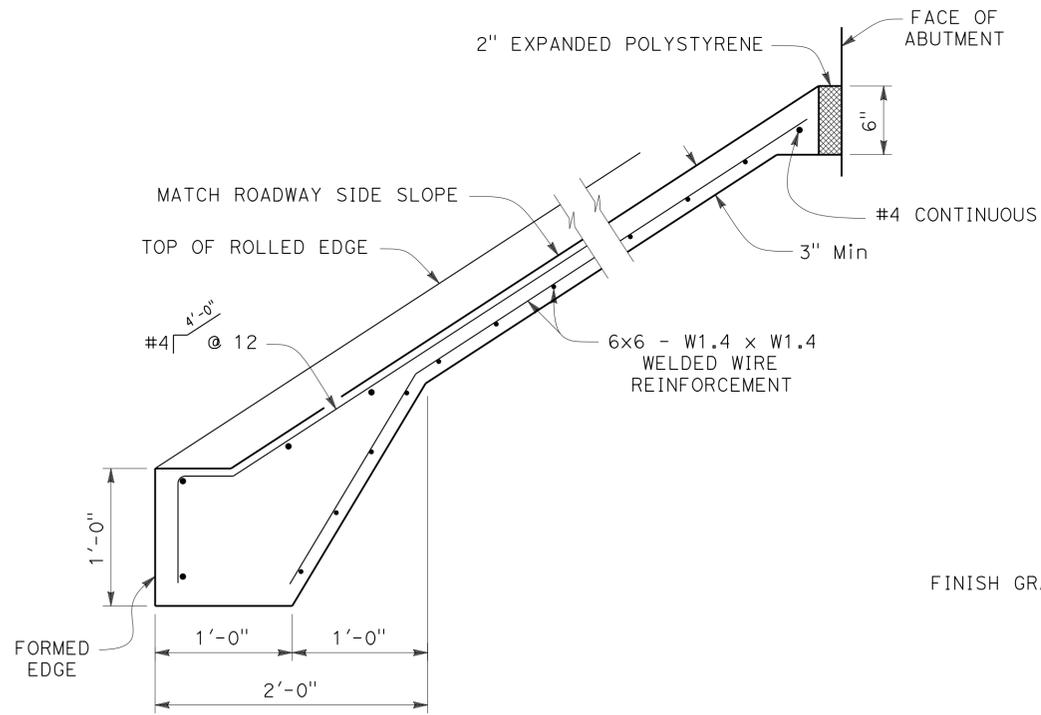


NOTES:

1. For limits of slope paving and drainage layout, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet
2. Or as directed by the Engineer to provide uniform spacing

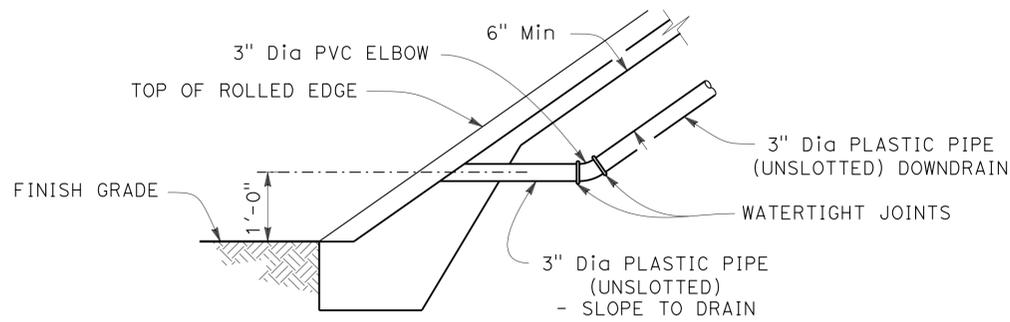
**PICTORIAL VIEW OF TYPICAL INSTALLATION**

No Scale



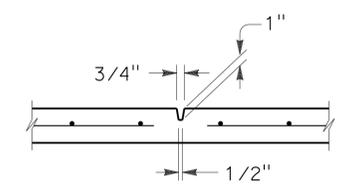
**TYPICAL SECTION - CONCRETE PAVING**

No Scale



**DRAINAGE DETAILS**

No Scale



**PREFORMED GROOVE**

No Scale

*Norbert Gee*  
DESIGN OVERSIGHT  
3-10-14  
SIGN OFF DATE

DESIGN	BY C. Cushing	CHECKED E. Schroth-Nichols
DETAILS	BY T. Brittain	CHECKED E. Schroth-Nichols
QUANTITIES	BY C. Cushing	CHECKED E. Schroth-Nichols

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

Craig Shannon  
PROJECT ENGINEER

BRIDGE NO.	57-1224
POST MILES	29.46

**GENESSEE AVENUE OC (REPLACE)  
SLOPE PAVING - FULL SLOPE**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-18-13 2-22-13 2-3-14	40	48

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43

**BENCH MARK**

BM: 5- 29.46 1993  
 Found 2 1/4" CADT  
 Brass disk cemented into Bridge Sidewalk  
 N 1903968.24  
 E 6261597.31  
 Elev 270.07 (NAVD 88)

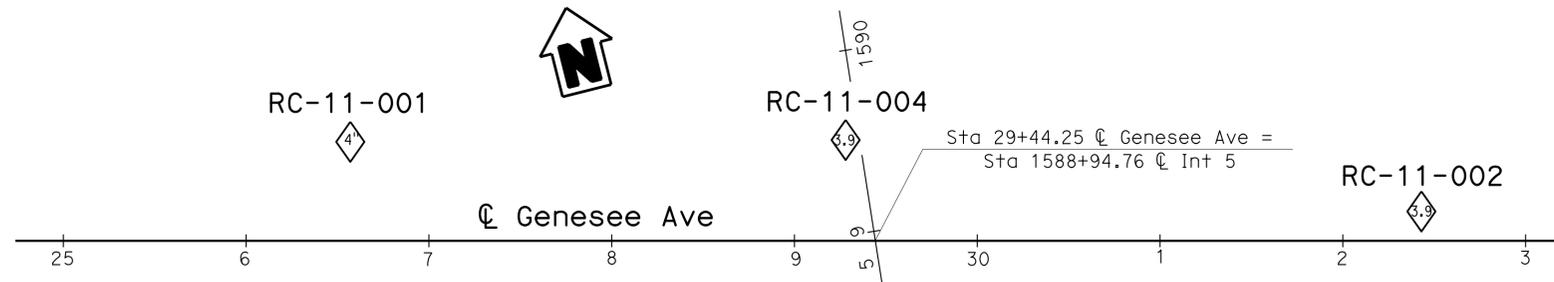
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	877	1012

REGISTERED CIVIL ENGINEER DATE 5-01-12

07-21-14 PLANS APPROVAL DATE

Fernando De Haro  
 No. C65281  
 Exp. 9-30-15  
 CIVIL

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<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>GENESEE AVE OC (REPLACE)</b>	
FUNCTIONAL SUPERVISOR	DRAWN BY: F. Nguyen 11/11	FIELD INVESTIGATION BY:		DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 57-1224		<b>LOG OF TEST BORINGS 1 OF 8</b>	
NAME: M. DeSalvatore	CHECKED BY: H. Valencia	J. Klamecki		DESIGN BRANCH X		POST MILE 29.46			
OGS CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643 PROJECT NUMBER & PHASE: 11120001021		CONTRACT NO.: 11-0223U4	
				DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET 41 OF 48	



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	879	1012

REGISTERED CIVIL ENGINEER	5-01-12
DATE	
07-21-14	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER Fernando De Haro No. C65281 Exp. 9-30-15 CIVIL STATE OF CALIFORNIA
--

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FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS 1 OF 8"

**PROFILE**  
 Horiz: 1" = 10'  
 Vert: 1" = 10'

<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>GENESEE AVE OC (REPLACE)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 11/11		DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 57-1224		<b>LOG OF TEST BORINGS 3 OF 8</b>	
NAME: M. DeSalvatore		CHECKED BY: H. Valencia		FIELD INVESTIGATION BY: J. Klamecki		POST MILE 29.46			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 11120001021		CONTRACT NO.: 11-0223U4	
				0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES: 4-18-12, 6-1-12	
								SHEET 43 OF 48	

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	881	1012

REGISTERED CIVIL ENGINEER DATE 5-01-12

07-21-14 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Fernando De Haro  
 No. C65281  
 Exp. 9-30-15  
 CIVIL  
 STATE OF CALIFORNIA

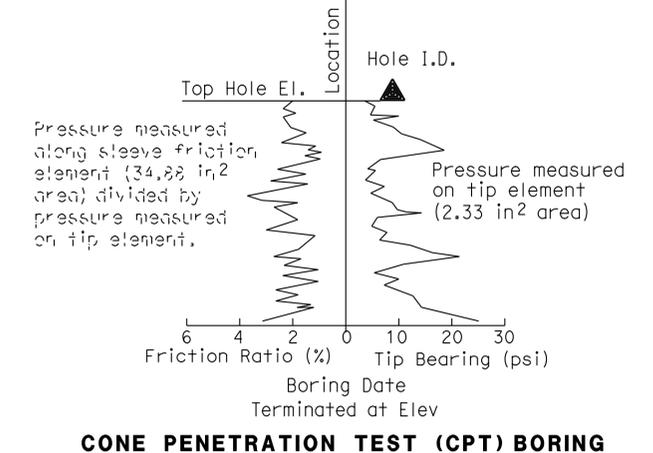
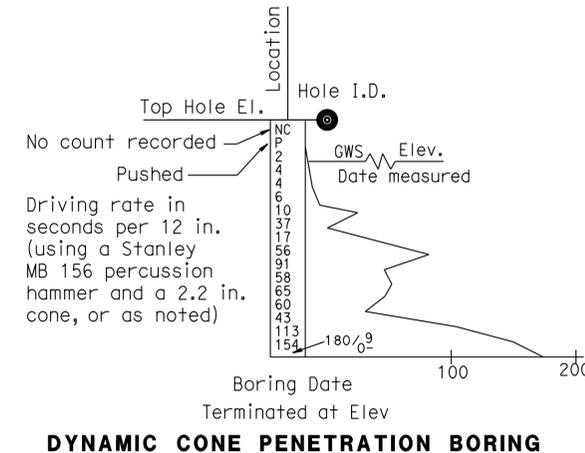
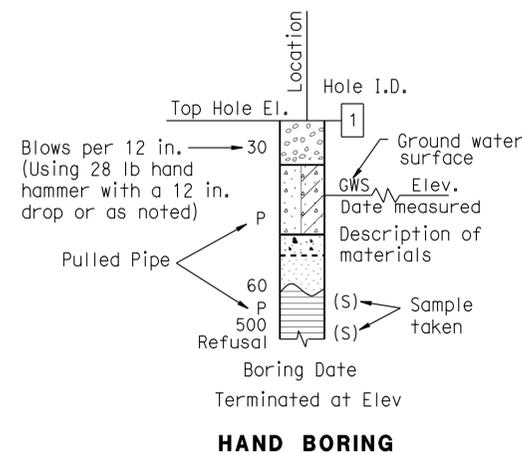
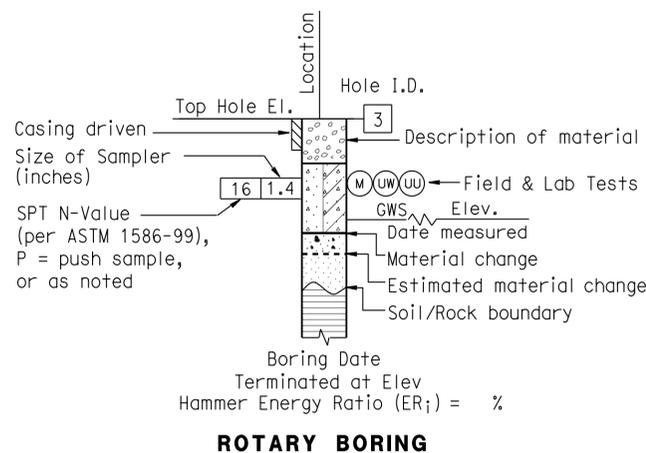
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
	RC	Rotary core with continuously-sampled, self-casing wire-line
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	RC	Rotary drilled rock core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778)
	O	Other (note on LOTB)

Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS				
Description	Shear Strength (psi)	Pocket Penetrometer Measurement, PP, (psi)	Torvane Measurement, TV, (psi)	Vane Shear Measurement, VS, (psi)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	882	1012
			5-01-12	REGISTERED CIVIL ENGINEER DATE	
			07-21-14	PLANS APPROVAL DATE	
					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	GW		CL		Lean CLAY
	GW				Well-graded GRAVEL with SAND
	GP		CL		Lean CLAY with GRAVEL
	GP				Poorly-graded GRAVEL with SAND
	GW-GM		CL-ML		SILTY CLAY
	GW-GM				Well-graded GRAVEL with SILT
	GW-GC		CL-ML		SILTY CLAY with GRAVEL
	GW-GC				Well-graded GRAVEL with CLAY (or SILTY CLAY)
	GW-GC		CL-ML		SANDY SILTY CLAY with GRAVEL
	GW-GC				Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
	GP-GM		ML		SILT
	GP-GM				Poorly-graded GRAVEL with SILT
	GP-GC		ML		SILT with GRAVEL
	GP-GC				Poorly-graded GRAVEL with SILT and SAND
	GP-GC		ML		SANDY SILT with GRAVEL
	GP-GC				Poorly-graded GRAVEL with CLAY (or SILTY CLAY)
	GP-GC		ML		GRAVELLY SILT with SAND
	GP-GC				Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
	GM		OL		ORGANIC lean CLAY
	GM				SILTY GRAVEL
	GC		OL		ORGANIC lean CLAY with GRAVEL
	GC				CLAYEY GRAVEL
	GC		OL		SANDY ORGANIC lean CLAY with GRAVEL
	GC				CLAYEY GRAVEL with SAND
	GC-GM		OL		ORGANIC SILT
	GC-GM				SILTY, CLAYEY GRAVEL
	GC-GM		OL		ORGANIC SILT with GRAVEL
	GC-GM				SILTY, CLAYEY GRAVEL with SAND
	SW		CH		Fat CLAY
	SW				Well-graded SAND
	SW		CH		Fat CLAY with GRAVEL
	SW				Well-graded SAND with GRAVEL
	SW-SM		CH		SANDY fat CLAY with GRAVEL
	SW-SM				Well-graded SAND with SILT
	SW-SM		CH		GRAVELLY fat CLAY with SAND
	SW-SM				Well-graded SAND with SILT and GRAVEL
	SW-SC		MH		Elastic SILT
	SW-SC				Well-graded SAND with CLAY (or SILTY CLAY)
	SW-SC		MH		Elastic SILT with GRAVEL
	SW-SC				Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
	SP-SM		MH		SANDY elastic SILT with GRAVEL
	SP-SM				Poorly-graded SAND with SILT
	SP-SM		MH		GRAVELLY elastic SILT with SAND
	SP-SM				Poorly-graded SAND with SILT and GRAVEL
	SP-SC		OH		ORGANIC fat CLAY
	SP-SC				Poorly-graded SAND with CLAY (or SILTY CLAY)
	SP-SC		OH		ORGANIC fat CLAY with GRAVEL
	SP-SC				Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
	SM		OH		SANDY ORGANIC fat CLAY with GRAVEL
	SM				SILTY SAND
	SM		OH		GRAVELLY ORGANIC fat CLAY with SAND
	SM				SILTY SAND with GRAVEL
	SC		OH		ORGANIC elastic SILT
	SC				CLAYEY SAND
	SC		OH		ORGANIC elastic SILT with GRAVEL
	SC				CLAYEY SAND with GRAVEL
	SC-SM		OH		SANDY ORGANIC elastic SILT with GRAVEL
	SC-SM				SILTY, CLAYEY SAND
	SC-SM		OH		GRAVELLY ORGANIC elastic SILT with SAND
	SC-SM				SILTY, CLAYEY SAND with GRAVEL
	PT		OL/OH		ORGANIC SOIL
	PT				PEAT
	PT		OL/OH		ORGANIC SOIL with GRAVEL
	PT				COBBLES
	PT		OL/OH		SANDY ORGANIC SOIL with GRAVEL
	PT				COBBLES and BOULDERS
	PT		OL/OH		GRAVELLY ORGANIC SOIL with SAND
	PT				BOULDERS

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(UC)	Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N <sub>60</sub> (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE	
Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5% - 10%
Little	15% - 25%
Some	30% - 45%
Mostly	50% - 100%

PARTICLE SIZE		
Description	Size (in.)	
Boulder	Greater than 12	
Cobble	3 - 12	
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay	Less than 1/300	

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	5	R29.1/R30.5	883	1012

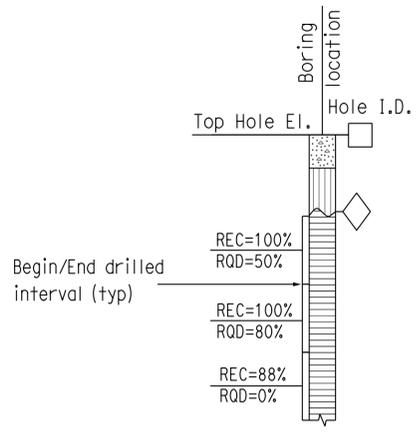
  
 REGISTERED CIVIL ENGINEER DATE 5-01-12  
 07-21-14  
 PLANS APPROVAL DATE  
 Fernando De Haro  
 No. C65281  
 Exp. 9-30-15  
 CIVIL  
 STATE OF CALIFORNIA  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

**PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)**

$$REC = \frac{\sum \text{Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100\%$$

$$RQD = \frac{\sum \text{Length of intact core pieces} \geq 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100\%$$

RQD\* Indicates soundness criteria not met.



**BEDDING SPACING**

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very Thickly Bedded	3 ft - 10 ft
Thickly Bedded	1 ft - 3 ft
Moderately Bedded	4 in. - 1 ft
Thinly Bedded	1 in. - 4 in.
Very Thinly Bedded	1/4 in. - 1 in.
Laminated	Less than 1/4 in.

**LEGEND OF ROCK MATERIALS**

-  IGNEOUS ROCK
-  SEDIMENTARY ROCK
-  METAMORPHIC ROCK

**ROCK HARDNESS**

Description	Criteria
Extremely Hard	Cannot be scratched with a pocketknife or sharp pick. Can only be chipped with repeated heavy hammer blows.
Very Hard	Cannot be scratched with a pocketknife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Can be scratched with a pocketknife or sharp pick with difficulty (heavy pressure). Breaks with heavy hammer blows.
Moderately Hard	Can be scratched with pocketknife or sharp pick with light or moderate pressure. Breaks with moderate hammer blows.
Moderately Soft	Can be grooved 1/16 in. deep with a pocketknife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Can be grooved or gouged easily by a pocketknife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Can be readily indented, grooved or gouged with fingernail, or carved with a pocketknife. Breaks with light manual pressure.

**WEATHERING DESCRIPTORS FOR INTACT ROCK**

Description	Diagnostic Features				General Characteristics	
	Chemical Weathering-Discoloration and/or Oxidation		Mechanical Weathering-Grain Boundary Conditions (Disaggregation) Primarily for Granitics and Some Coarse-Grained Sediments	Texture and Leaching		
	Body of Rock	Fracture Surfaces		Texture		Leaching
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change	No leaching	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull.	Minor to complete discoloration or oxidation of most surfaces.	No visible separation, intact (tight).	Preserved	Minor leaching of some soluble minerals.	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty," feldspar crystals are "cloudy."	All fracture surfaces are discolored or oxidized.	Partial separation of boundaries visible.	Generally preserved	Soluble minerals may be mostly leached.	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in-situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable.	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated.	Texture altered by chemical disintegration (hydration, argillation).	Leaching of soluble minerals may be complete.	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated).	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete.		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes."

**FRACTURE DENSITY**

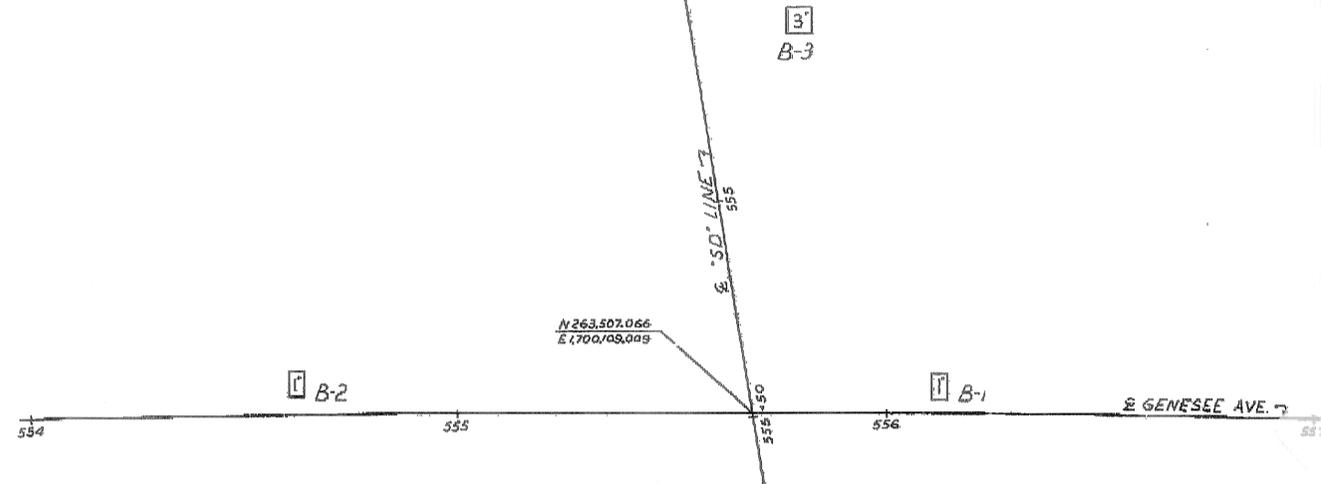
Description	Observed Fracture Density
Unfractured	No fractures.
Very Slightly Fractured	Core lengths greater than 3 ft.
Slightly Fractured	Core lengths mostly from 1 to 3 ft.
Moderately Fractured	Core lengths mostly from 4 in. to 1 ft.
Intensely Fractured	Core lengths mostly from 1 to 4 in.
Very Intensely Fractured	Mostly chips and fragments.

<b>ENGINEERING SERVICES</b>	<b>MATERIALS AND GEOTECHNICAL SERVICES</b>	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	<b>DIVISION OF ENGINEERING SERVICES</b> STRUCTURE DESIGN <b>DESIGN BRANCH X</b>	BRIDGE NO. 57-1224 POST MILE 29.46	<b>GENESSEE AVE OC (REPLACE)</b> <b>LOG OF TEST BORINGS 7 OF 8</b>
	PREPARED BY: F. Nguyen				
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: X PROJECT NUMBER & PHASE: 11120001021	CONTRACT NO.: 11-0223U4	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 4-18-12 6-1-12
					SHEET 47 OF 48

FILE => 57-1224-Z-1+B07.dgn

DATE APPROVED: July 20, 1964

**BENCH MARK**  
 TBM #1 - E Stake, sta. 554+86  
 "SD" top of stake; set by Dist. Survey Dept. ELEV. 284.73  
 TBM #2 - Top of stake, sta. 555+00 "SD" line. ELEV. 278.66



PLAN  
Scale 1/200

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
11	SD	5	R29.1/R30.5	884	1012

REGISTERED CIVIL ENGINEER: Fernando De Haro, No. C65281, Exp. 9-30-15, CIVIL, STATE OF CALIFORNIA

DATE: 5-1-2012

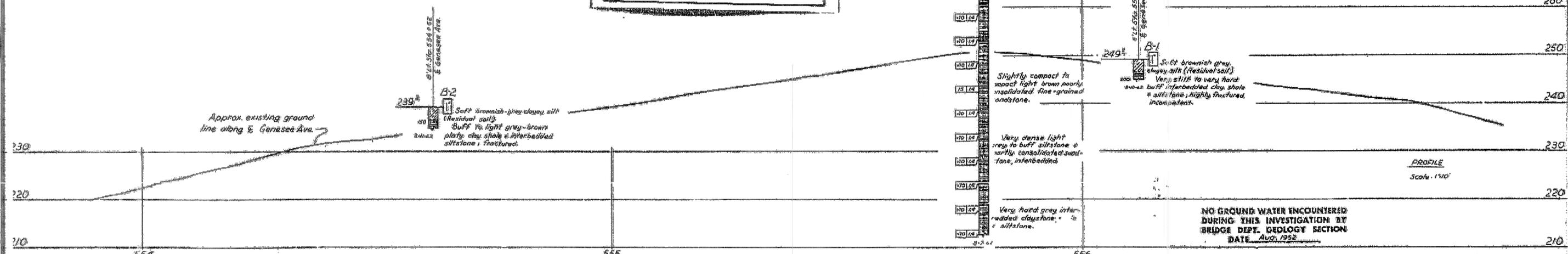
**GENESEE AVE OC (REPLACE)**  
**LOG OF TEST BORINGS 8 OF 8**

UNIT: 3643	CONTRACT No. 11-0223U4	BRIDGE No. 57-1224
PROJ. No. & PHASE: 11120001021	11-0223U4	Sheet of 48
VERT DATUM: SD City CONVERSION: NAVD88 = SD City + 8.1		48

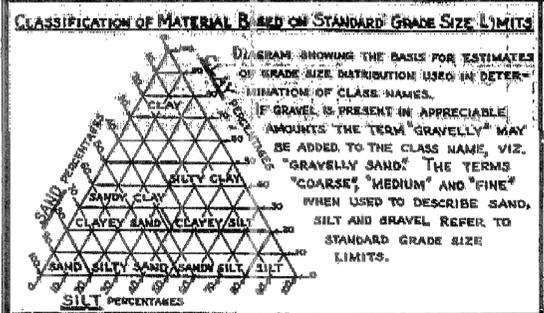
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

**AS BUILT PLANS**  
 Contract No. 11-022454  
 Date Completed 07-64  
 Document No. A0000128

INFORMATION ON ACTUAL FOUNDATION CONDITIONS ENCOUNTERED IS ON FILE IN BRIDGE GEOLOGY SECTION

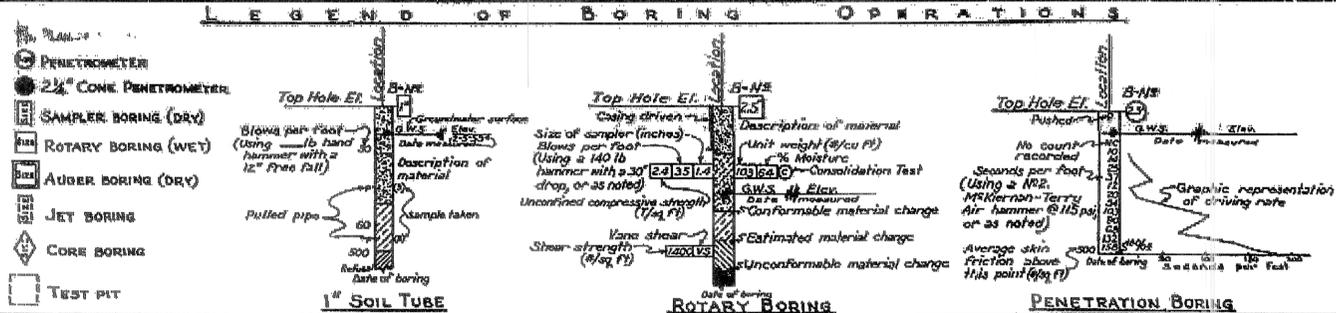


NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION  
 DATE: Aug. 1958



**LEGEND OF EARTH MATERIALS**

GRAVEL	SILTY CLAY OR CLAYEY SILT
SAND	PEAT AND/OR ORGANIC MATTER
SILT	FILL MATERIAL
CLAY	IGNEOUS ROCK
SANDY CLAY OR CLAYEY SAND	SEDIMENTARY ROCK
SANDY SILT OR SILTY SAND	METAMORPHIC ROCK



**NOTE**

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS

**GENESEE AVENUE OVERCROSSING**  
**LOG OF TEST BORINGS**

SCALE As Noted | BRIDGE 57-527 | FILE | DRAWING 573-27-9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	885	1012

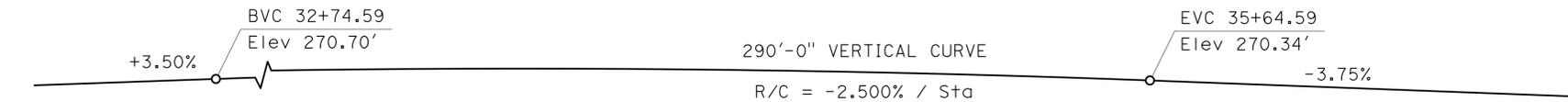
**PAUL MOREL**  
 REGISTERED CIVIL ENGINEER  
 No. C68491  
 Exp. 09/30/15  
 CIVIL  
 STATE OF CALIFORNIA

3-6-14  
 DATE

07-21-14  
 PLANS APPROVAL DATE

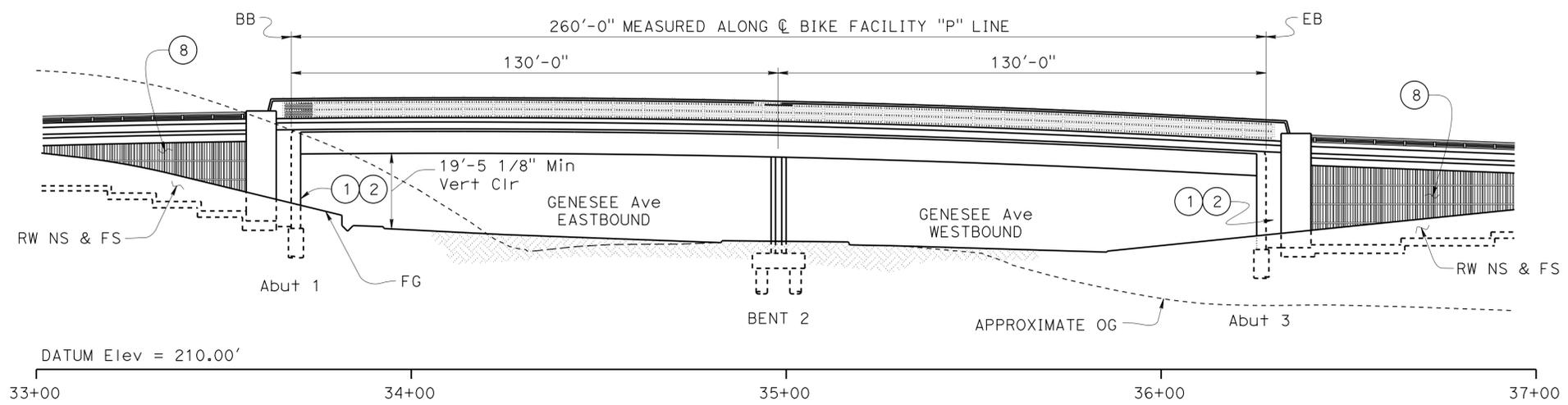
**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



**PROFILE GRADE**

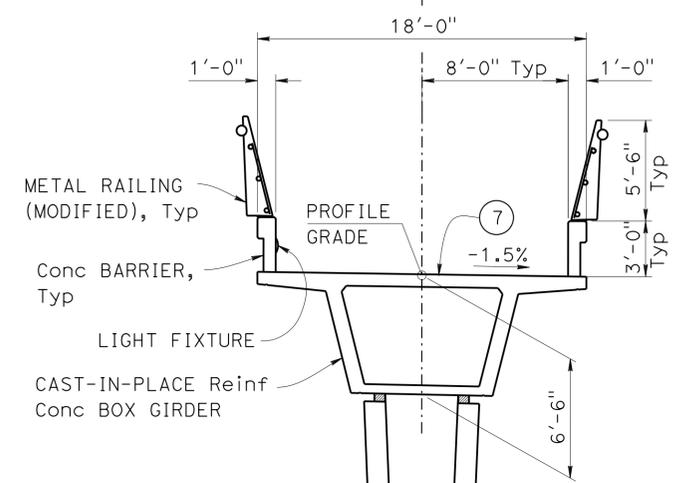
No Scale



**DEVELOPED ELEVATION**

1" = 20'-0"

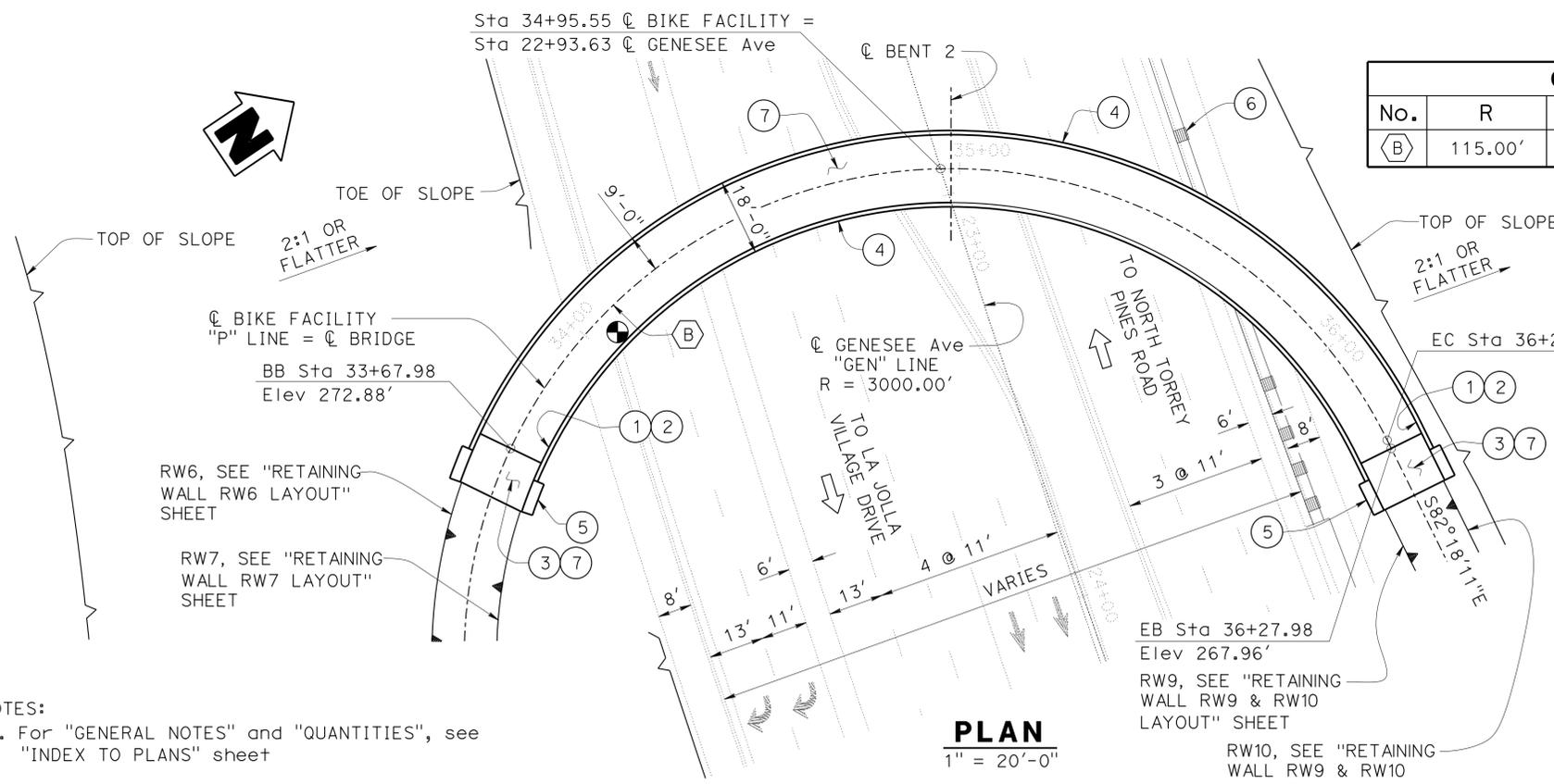
CL BRIDGE = CL BIKE FACILITY "P" LINE



**TYPICAL SECTION**

1" = 5'-0"

CURVE DATA				
No.	R	Δ	T	L
(B)	115.00'	169°26'42"	1244.97'	340.10'



**PLAN**

1" = 20'-0"

**LEGEND:**

- (1) Paint "Bridge No. 57-1231"
- (2) Paint "Genesee Avenue POC"
- (3) Structure Approach Slab
- (4) Concrete Barrier with Metal Railing (Modified)
- (5) Concrete Pilaster
- (6) Metal Beam Guard Rail, see "CIVIL PLANS"
- (7) Methacrylate Bridge Deck Treatment
- (8) Architectural Treatment (Random Flute)
- Indicates Point of Minimum Vertical Clearance
- ➔ Indicates Direction of Traffic

- NOTES:**
- For "GENERAL NOTES" and "QUANTITIES", see "INDEX TO PLANS" sheet
  - For "PILE DATA TABLE", see "FOUNDATION PLAN" sheet

DESIGN OVERSIGHT Norbert Gee 3-10-14 SIGN OFF DATE	DESIGN	BY P. Morel	CHECKED C. Cushing	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: 90 PSF PEDESTRIAN LOADING AND H10 TRUCK	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	<b>GENESEE AVENUE POC</b> <b>GENERAL PLAN</b>
	DETAILS	BY G. Espanto	CHECKED C. Cushing	LAYOUT	BY P. Morel		CHECKED C. Cushing	
	QUANTITIES	BY P. Morel	CHECKED K. Gazaway	SPECIFICATIONS	BY C. Shannon	PLANS AND SPECS COMPARED C. Shannon	PROJECT MILES	29.46

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021  
 CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

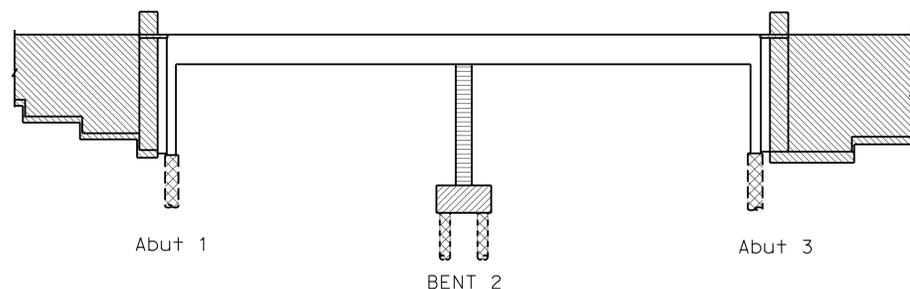
REVISION DATES	SHEET	OF
6-28-12 1-31-13 2-22-13 2-3-14	1	34

FILE => 57-1231-a-gp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	886	1012
<b>PAUL MOREL</b>			3-6-14		
REGISTERED CIVIL ENGINEER			DATE		
07-21-14			PLANS APPROVAL DATE		
No. C68491			REGISTERED PROFESSIONAL ENGINEER		
Exp. 09/30/15			CIVIL		
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CITY OF SAN DIEGO 525 B STREET SUITE 7 SAN DIEGO, CA. 92101			SIMON WONG ENGINEERING 9968 HIBERT STREET SAN DIEGO, CA. 92131		

### INDEX TO PLANS

SHEET No.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	DECK CONTOURS
4	FOUNDATION PLAN
5	ABUTMENT 1 LAYOUT
6	ABUTMENT 3 LAYOUT
7	ABUTMENT DETAILS
8	RETAINING WALL RW6 LAYOUT
9	RETAINING WALL RW7 LAYOUT
10	RETAINING WALL RW9 AND RW10 LAYOUT
11	RETAINING WALL DETAILS NO. 1
12	RETAINING WALL DETAILS NO. 2
13	RETAINING WALL DETAILS NO. 3
14	RETAINING WALL BARRIER DETAILS NO. 1
15	RETAINING WALL BARRIER DETAILS NO. 2
16	RETAINING WALL ARCHITECTURAL DETAILS
17	BENT 2 LAYOUT
18	BENT 2 DETAILS NO. 1
19	BENT 2 DETAILS NO. 2
20	TYPICAL SECTION
21	GIRDER LAYOUT NO. 1
22	GIRDER LAYOUT NO. 2
23	GIRDER DETAILS
24	GIRDER REINFORCEMENT
25	STRUCTURE APPROACH DETAILS
26	STRUCTURE APPROACH DRAINAGE DETAILS
27	BRIDGE RAILING DETAILS NO. 1
28	BRIDGE RAILING DETAILS NO. 2
29	LOG OF TEST BORINGS 1 OF 6
30	LOG OF TEST BORINGS 2 OF 6
31	LOG OF TEST BORINGS 3 OF 6
32	LOG OF TEST BORINGS 4 OF 6
33	LOG OF TEST BORINGS 5 OF 6
34	LOG OF TEST BORINGS 6 OF 6



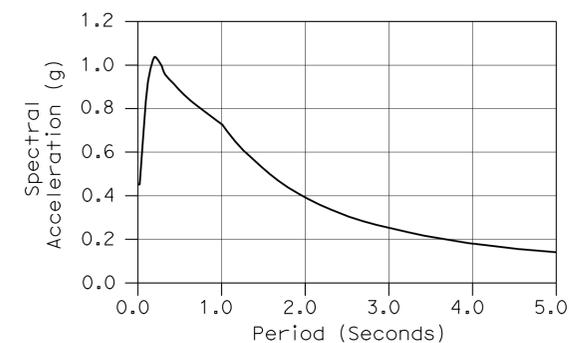
- Structural Concrete, Bridge Footing
- Structural Concrete, Bridge (f'c = 4.0 ksi)
- Structural Concrete, Bridge (f'c = 4.5 ksi)
- Structural Concrete, Approach Slab
- CIDH Concrete Pile
- Structural Concrete, Retaining Wall

### CONCRETE STRENGTH & TYPE LIMITS

No Scale

### GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

- DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4th EDITION, with 2008 Interim Revisions, and the CALTRANS Amendments, preface dated November 2011
- SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), Version 1.6, dated November 2010
- LIVE LOADING: 90 psf Pedestrian Loading and H10 Truck
- SEISMIC LOADING: Soil Profile  $V_{s30} = 1,150$  ft/s to 1,850 ft/s  
 $M_{max} = 7.5$ , see curve below  
Peak Ground Acceleration = 0.45g



- REINFORCED CONCRETE:  $f_y = 60$  ksi  
 $f'_c = 3.6$  ksi (Unless Otherwise Noted)  
 $n = 8$
- STRUCTURAL STEEL: PLATES: ASTM A588  
PIPES: ASTM A847

### PLAN SYMBOLS

- Section Identification
- Standard Plan Sheet No.
- Detail No.
- RSP Indicates Revised Standard Plan
- TOF Top of Footing
- TOW Top of Retaining Wall

### STANDARD PLANS DATED 2010

A10A	ABBREVIATIONS (SHEET 1 OF 2)
A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE - BRIDGE SURCHARGE AND WALL
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
RSP B3-1A	RETAINING WALL TYPE 1 (CASE 1)
RSP B3-5	RETAINING WALL DETAILS NO. 1
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B7-1	BOX GIRDER DETAILS

GENESEE PEDESTRIAN OC BRIDGE NO 57-1231

#### QUANTITIES

TREAT BRIDGE DECK	4,555	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	51	GAL
STRUCTURE EXCAVATION (BRIDGE)	192	CY
STRUCTURE EXCAVATION (RETAINING WALL)	1,430	CY
STRUCTURE BACKFILL (BRIDGE)	149	CY
STRUCTURE BACKFILL (RETAINING WALL)	1,805	CY
36" CAST-IN-DRILLED-HOLE CONCRETE PILING	178	LF
48" CAST-IN-DRILLED-HOLE CONCRETE PILING	194	LF
STRUCTURAL CONCRETE, BRIDGE FOOTING	29	CY
STRUCTURAL CONCRETE, BRIDGE	386	CY
STRUCTURAL CONCRETE, RETAINING WALL	815	CY
STRUCTURAL CONCRETE, APPROACH SLAB	11	CY
ARCHITECTURAL TREATMENT (RANDOM FLUTE)	3,170	SQFT
JOINT SEAL (MR 1/2")	32	LF
BAR REINFORCING STEEL (BRIDGE)	249,700	LB
BAR REINFORCING STEEL (RETAINING WALL)	68,500	LB
WEATHERING STEEL PLATE	16	EA
METAL RAILING (MODIFIED)	538	LF
PIPE HANDRAILING (TYPE 4)	496	LF
CONCRETE BARRIER	1,034	LF

*Norbert Gee*  
DESIGN OVERSIGHT  
3-10-14  
SIGN OFF DATE

DESIGN	BY P. Morel	CHECKED C. Cushing
DETAILS	BY G. Espanto	CHECKED C. Cushing
QUANTITIES	BY P. Morel	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

CRAIG SHANNON  
PROJECT ENGINEER

BRIDGE NO.	57-1231
POST MILES	29.46

**GENESEE AVENUE POC**  
**INDEX TO PLANS**

REVISION DATES	SHEET	OF
6-28-12 1-31-13 2-27-13 7-3-14	2	34

DATE PLOTTED => 23-JUL-2014 USERNAME => s127400 TIME PLOTTED => 13:43

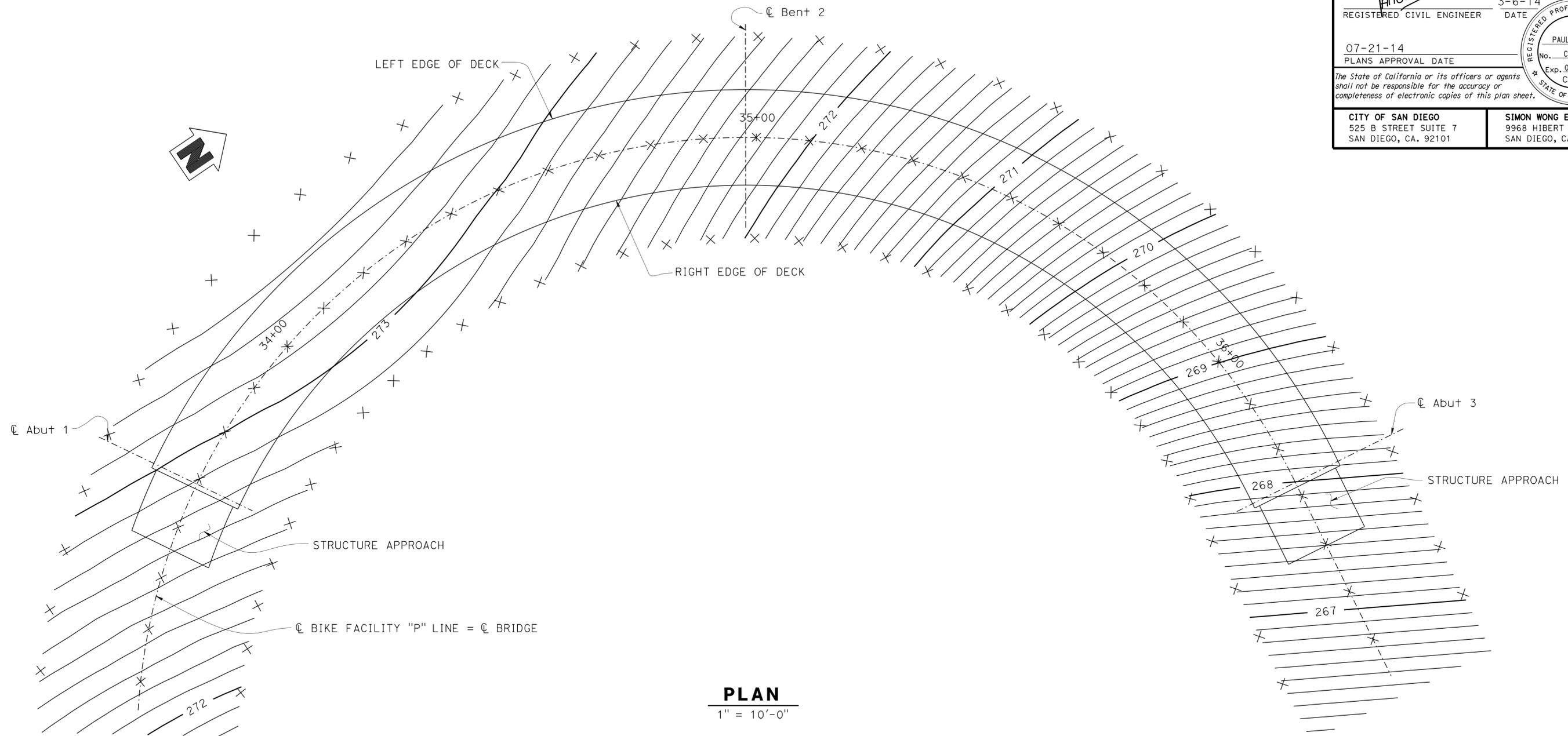
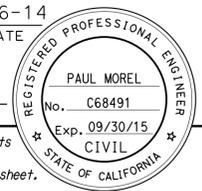
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11	SD	5	R29.1/R30.5	887	1012

**PAUL MOREL**  
3-6-14  
REGISTERED CIVIL ENGINEER DATE

07-21-14  
PLANS APPROVAL DATE

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<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---



**PLAN**  
1" = 10'-0"

- NOTES:
1. Contour Interval = 0.10 ft
  2. Contours do not include camber or falsework settlement
  3. X - Indicates 10 foot intervals along  $\phi$  Bridge

*Norbert Gee*  
DESIGN OVERSIGHT  
3-10-14  
SIGN OFF DATE

DESIGN	BY P. Morel	CHECKED C. Cushing
DETAILS	BY G. Espanto	CHECKED C. Cushing
QUANTITIES	BY P. Morel	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

CRAIG SHANNON  
PROJECT ENGINEER

BRIDGE NO.	57-1231
POST MILES	29.46

**GENESSEE AVENUE POC  
DECK CONTOURS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3
--	---	---	---	---

UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021  
FILE => 57-1231-d-dc01.dgn

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	6-28-12 11-3-13 2-28-13 2-3-14	3	34

DATE PLOTTED => 23-JUL-2014 USERNAME => s127400 TIME PLOTTED => 13:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	888	1012

**AMOREL** 3-6-14  
 REGISTERED CIVIL ENGINEER DATE

07-21-14  
 PLANS APPROVAL DATE

PAUL MOREL  
 No. C68491  
 Exp. 09/30/15  
 CIVIL  
 STATE OF CALIFORNIA

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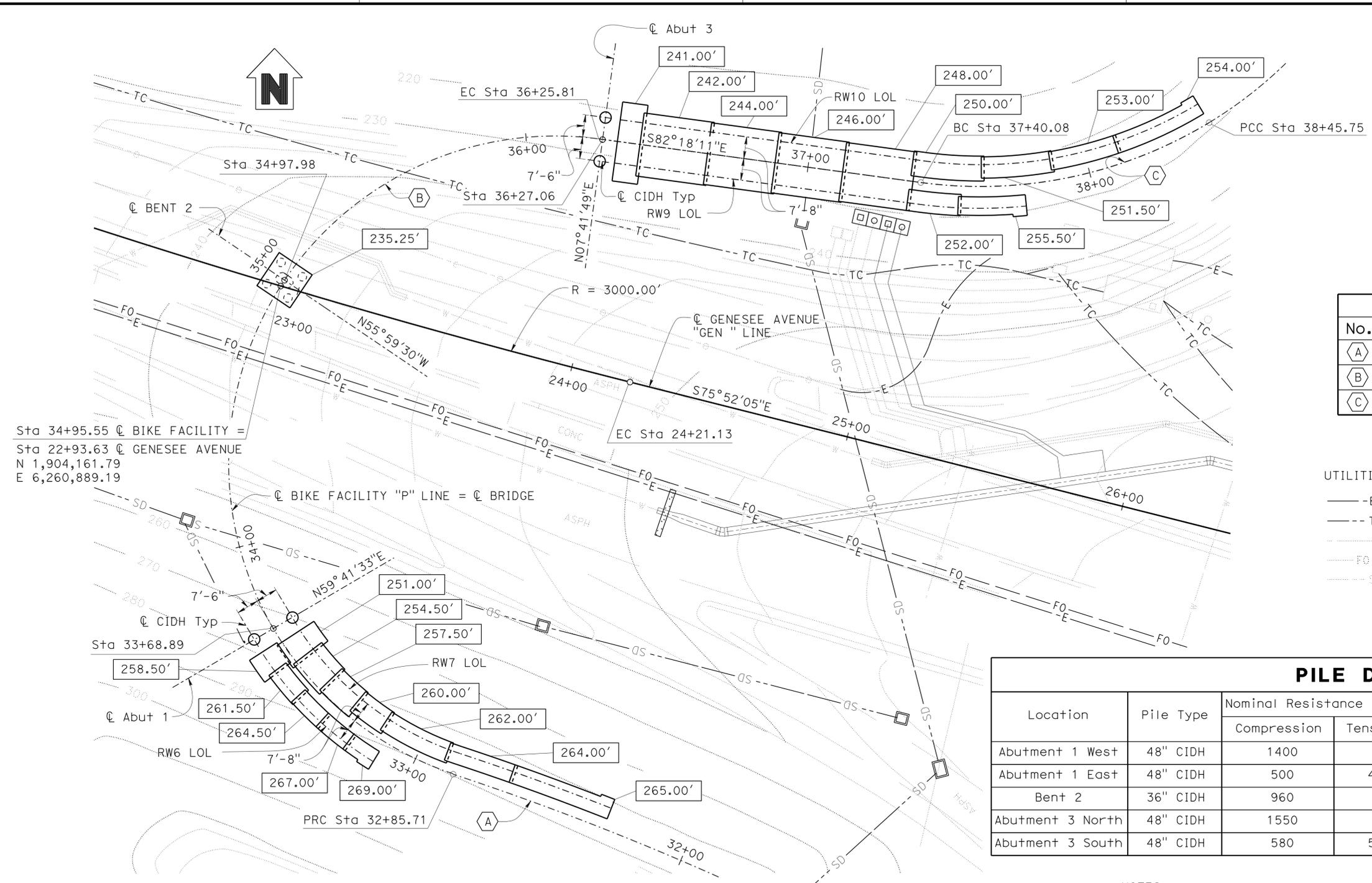
<b>CITY OF SAN DIEGO</b> 525 B STREET SUITE 7 SAN DIEGO, CA. 92101	<b>SIMON WONG ENGINEERING</b> 9968 HIBERT STREET SAN DIEGO, CA. 92131
--	---

No.	R	Δ	T	L
(A)	1000.00'	09°16'26"	81.11'	161.86'
(B)	115.00'	169°26'42"	1244.97'	340.10'
(C)	156.00'	38°48'43"	54.95'	105.67'

- UTILITIES (PROTECT-IN-PLACE)
- E— Existing Underground Electrical Line
  - TC--- Existing Underground Telecommunications Line
  - W--- Existing Underground Water Line
  - FO--- Existing Underground Fiber Optic Line
  - SD--- Existing Underground Storm Drain

Location	Pile Type	Nominal Resistance (kips)		Cut-off Elevation (ft)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)
		Compression	Tension			
Abutment 1 West	48" CIDH	1400	0	250.50	203.00(a) 208.00(c)	203.00
Abutment 1 East	48" CIDH	500	450	250.50	225.00(a) 218.00(b) 208.00(c)	208.00
Bent 2	36" CIDH	960	60	235.50	191.00(a) 224.0(b) 191.00(c)	191.00
Abutment 3 North	48" CIDH	1550	0	242.50	188.00(a) 193.00(c)	188.00
Abutment 3 South	48" CIDH	580	540	242.50	206.00(a) 202.00(b) 193.00(c)	193.00

- NOTES:
- Design Tip Elevations are controlled by:  
 (a) Compression, (b) Tension, (c) Lateral Load
  - The Specified Tip Elevation shall not be raised
  - For retaining wall spread footing data, see "RETAINING WALL DETAILS NO. 1" and "RETAINING WALL DETAILS NO. 2" sheets
  - For limits of excavation and backfill, see (A62B) (A62C)



**PLAN**  
 1" = 20'-0"

**BENCHMARK**

SURVEY CONTROL:

BM #1 5-29.46 2 1/4" CADT BRASS DISK LABELED "5-29.46 1993" N 1,903,968.24 E 6,261,597.31 Elev = 270.07'	BM #2 5-29.42 PK NAIL & WASHER N 1,903,808.35 E 6,262,278.85 Elev = 291.79'
---	---

- LEGEND:
- Indicates Bottom of Footing Elevation
  - Indicates 48" dia Cast-in-Drilled-Hole Pile
  - Indicates 36" dia Cast-in-Drilled-Hole Pile

06-12-12  
 GEOTECHNICAL PROFESSIONAL APPROVAL DATE

TIME PLOTTED => 13:43  
 DATE PLOTTED => 23-JUL-2014  
 USERNAME => s127400

DESIGN OVERSIGHT Norbert Gee 3-10-14 SIGN OFF DATE	SCALE: X PHOTOGRAMMETRY AS OF: X SURVEYED BY X FIELD CHECKED BY X	VERT. DATUM NAVD 88 ALIGNMENT TIES X DRAFTED BY X CHECKED BY X	HORZ. DATUM CCS 83 (1991.35) DESIGN BY P. Morel DETAILS BY G. Espanto QUANTITIES BY P. Morel	CHECKED C. Cushing CHECKED C. Cushing CHECKED K. Gazaway	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	CRAIG SHANNON PROJECT ENGINEER	BRIDGE NO. 57-1231 POST MILES 29.46	<b>GENESSEE AVENUE POC FOUNDATION PLAN</b>	REVISION DATES 6-28-12 1-31-13 2-27-13 2-3-14	SHEET 4 OF 34
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FOUNDATION PLAN SHEET (ENGLISH) (REV.7/16/10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 UNIT: 2771 PROJECT NUMBER & PHASE: 11120001021 CONTRACT NO.: 11-0223U4 DISREGARD PRINTS BEARING EARLIER REVISION DATES

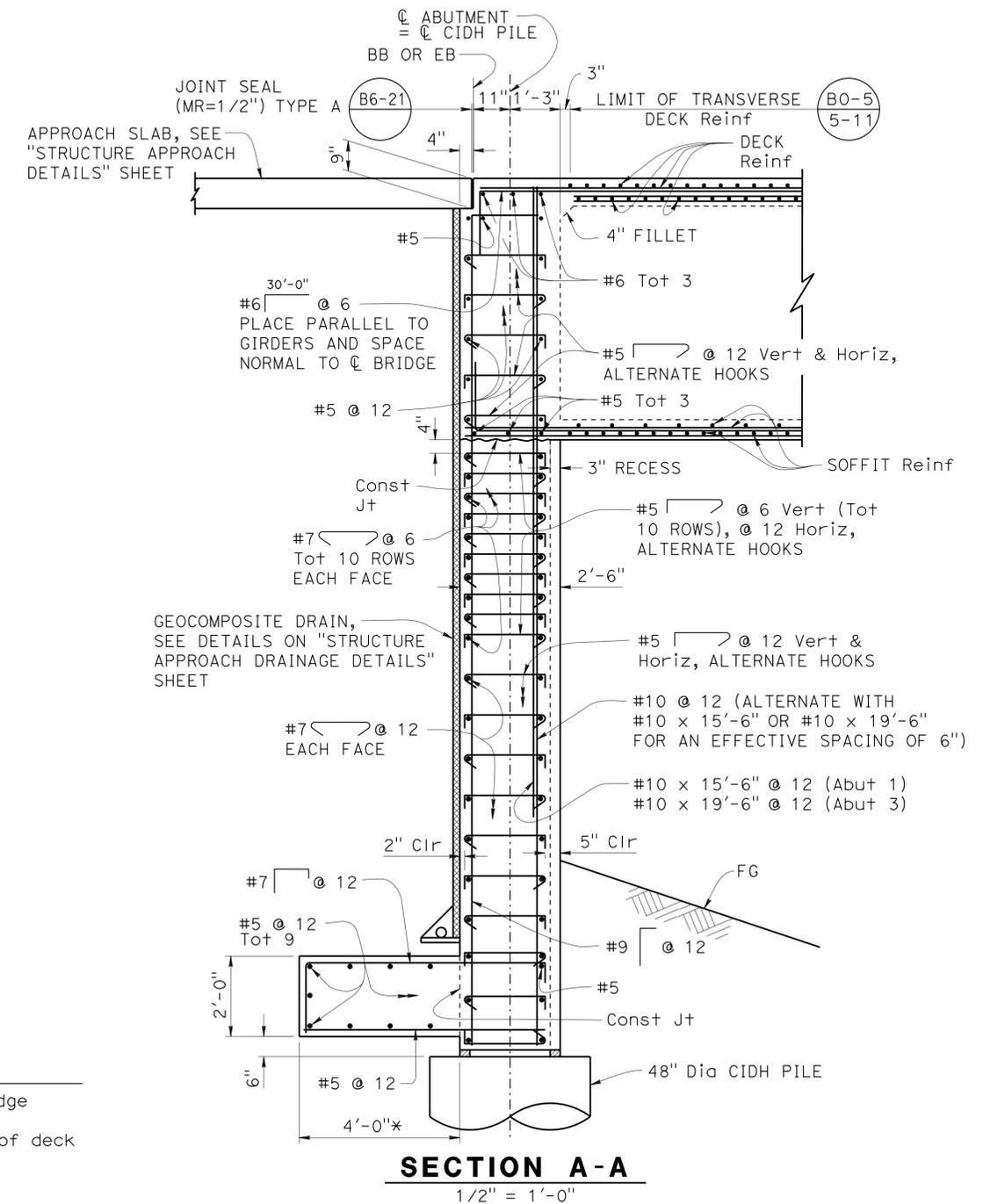
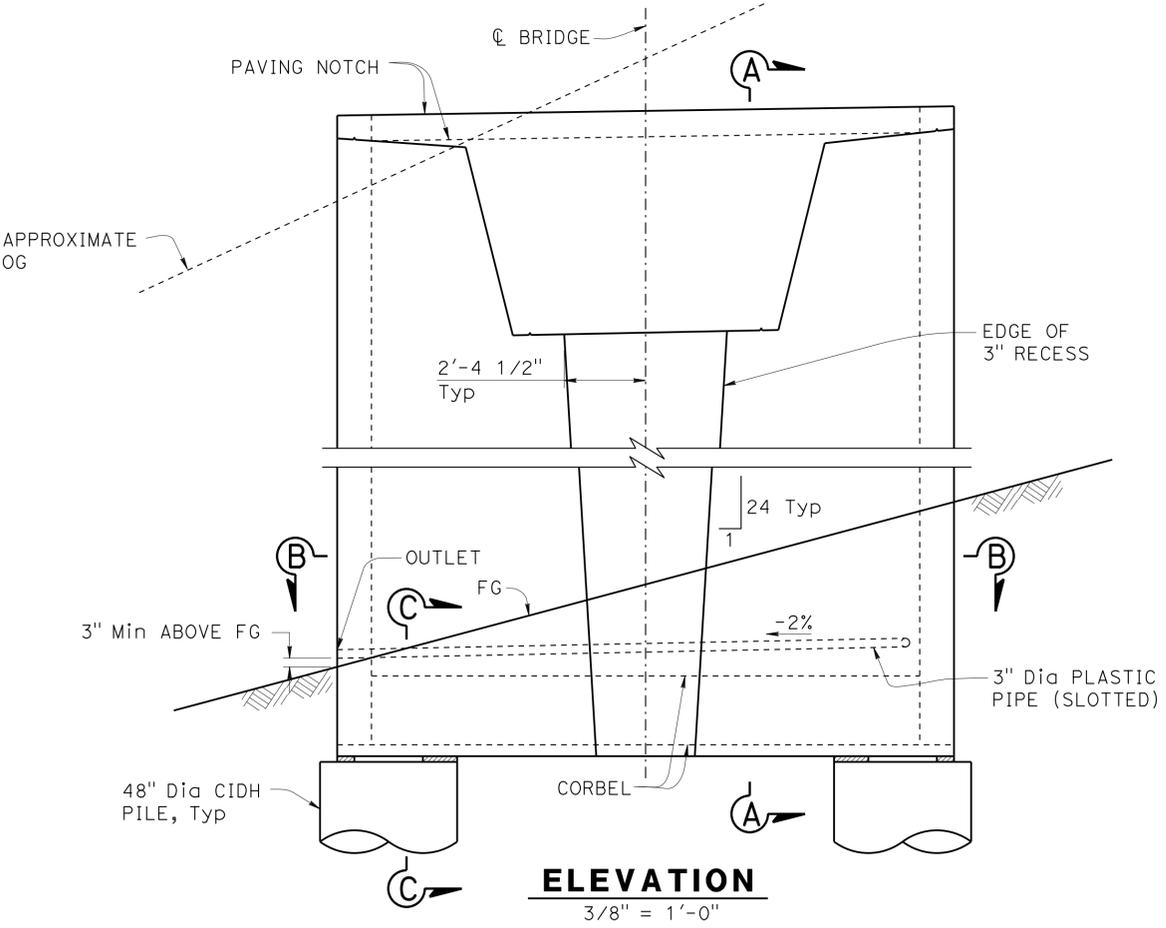
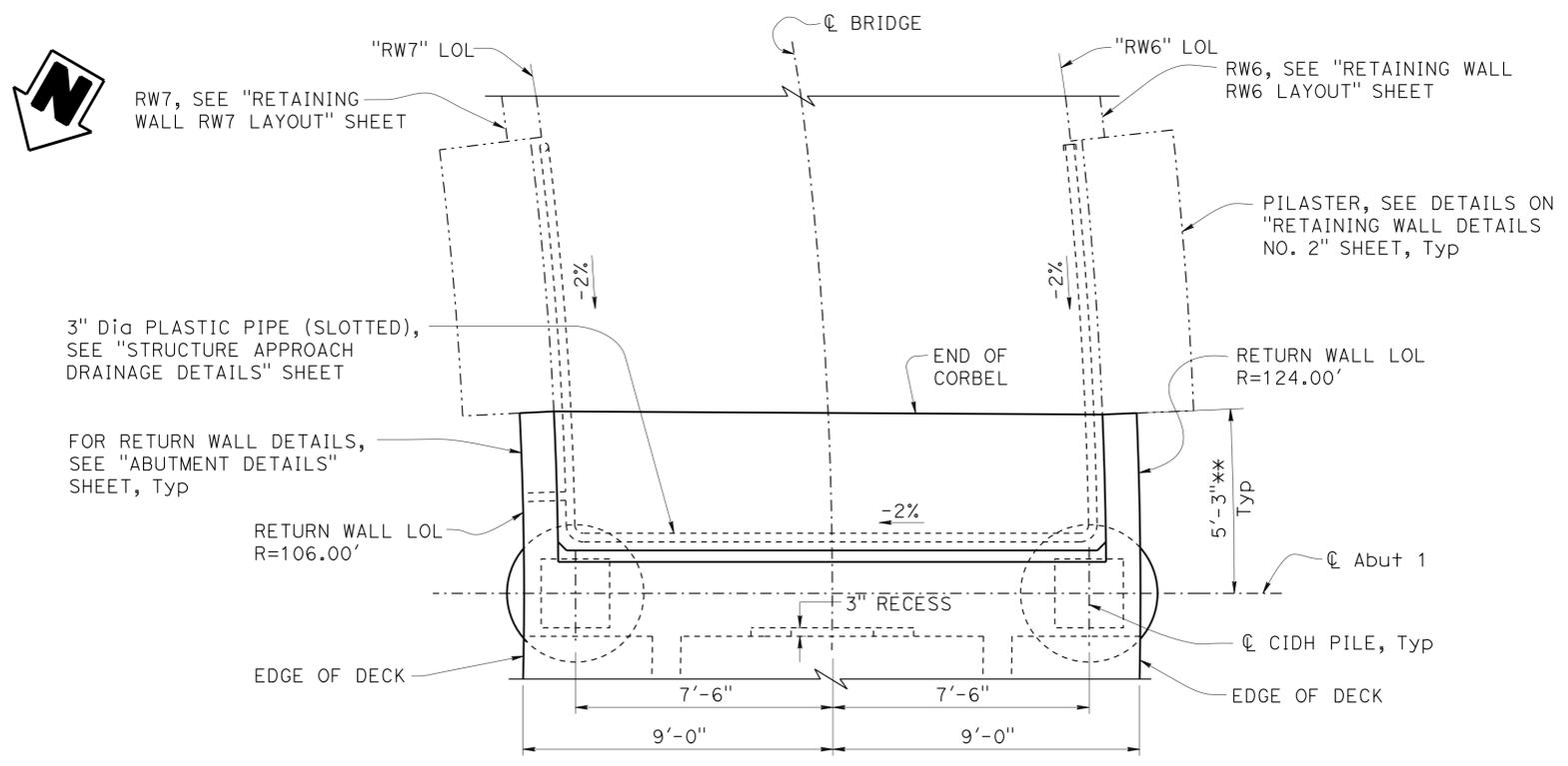
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11	SD	5	R29.1/R30.5	889	1012

**PAUL MOREL**  
REGISTERED CIVIL ENGINEER  
DATE: 3-6-14  
PLANS APPROVAL DATE: 07-21-14  
No. C68491  
Exp. 09/30/15  
CIVIL  
STATE OF CALIFORNIA

**CITY OF SAN DIEGO**  
525 B STREET SUITE 7  
SAN DIEGO, CA. 92101

**SIMON WONG ENGINEERING**  
9968 HIBERT STREET  
SAN DIEGO, CA. 92131

- NOTES:
- For "SECTION B-B", see "ABUTMENT 3 LAYOUT" sheet
  - For "SECTION C-C", see "ABUTMENT DETAILS" sheet
  - The Contractor shall provide temporary bracing of the abutment stems during construction. Temporary bracing shall remain in place until deck concrete is poured. Remove bracing prior to superstructure falsework release.
  - Abutments shall not be backfilled until superstructure falsework is released. Backfill shall be placed symmetrically on each abutment.



- LEGEND:
- \* Measured along  $\phi$  Bridge
  - \*\* Measured along edge of deck

*Norbert Gee*  
DESIGN OVERSIGHT  
3-10-14  
SIGN OFF DATE

DESIGN	BY P. Morel	CHECKED C. Cushing
DETAILS	BY G. Espanto	CHECKED C. Cushing
QUANTITIES	BY P. Morel	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

CRAIG SHANNON PROJECT ENGINEER	BRIDGE NO. 57-1231
	POST MILES 29.46

**GENESSEE AVENUE POC  
ABUTMENT 1 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 11-3-13 2-22-13 2-3-14	5	34

DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43 USERNAME => s127400

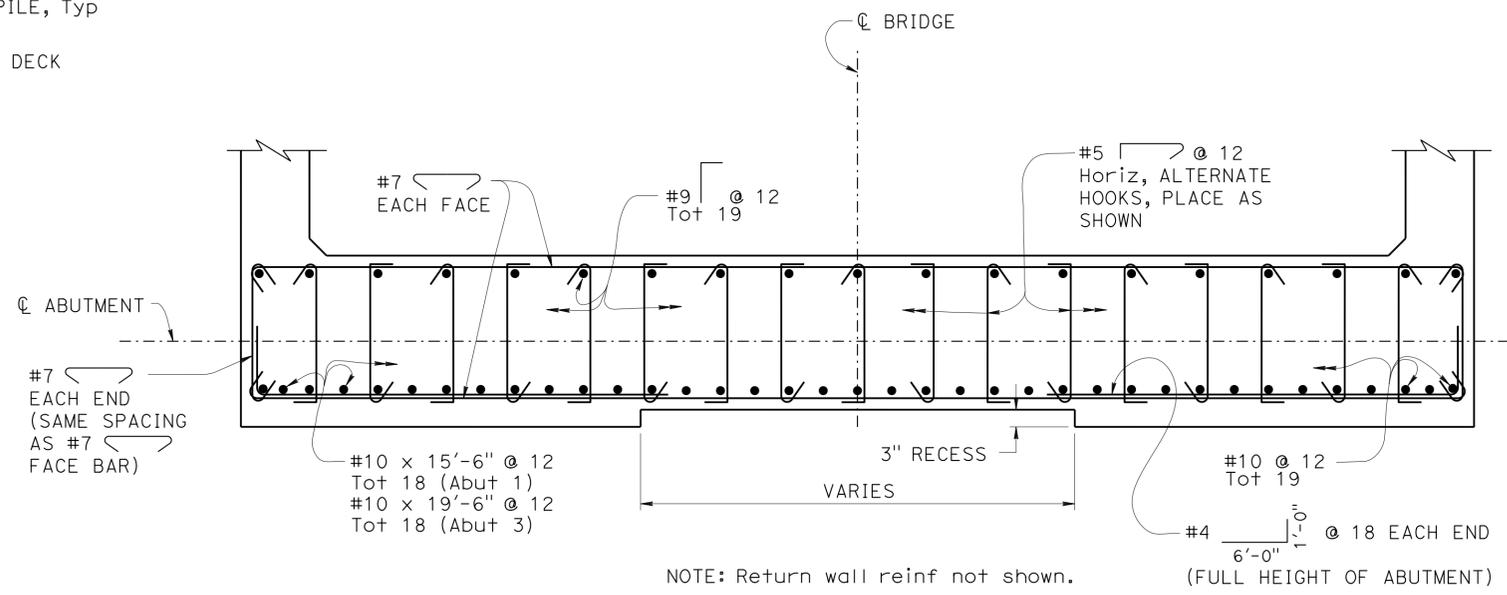
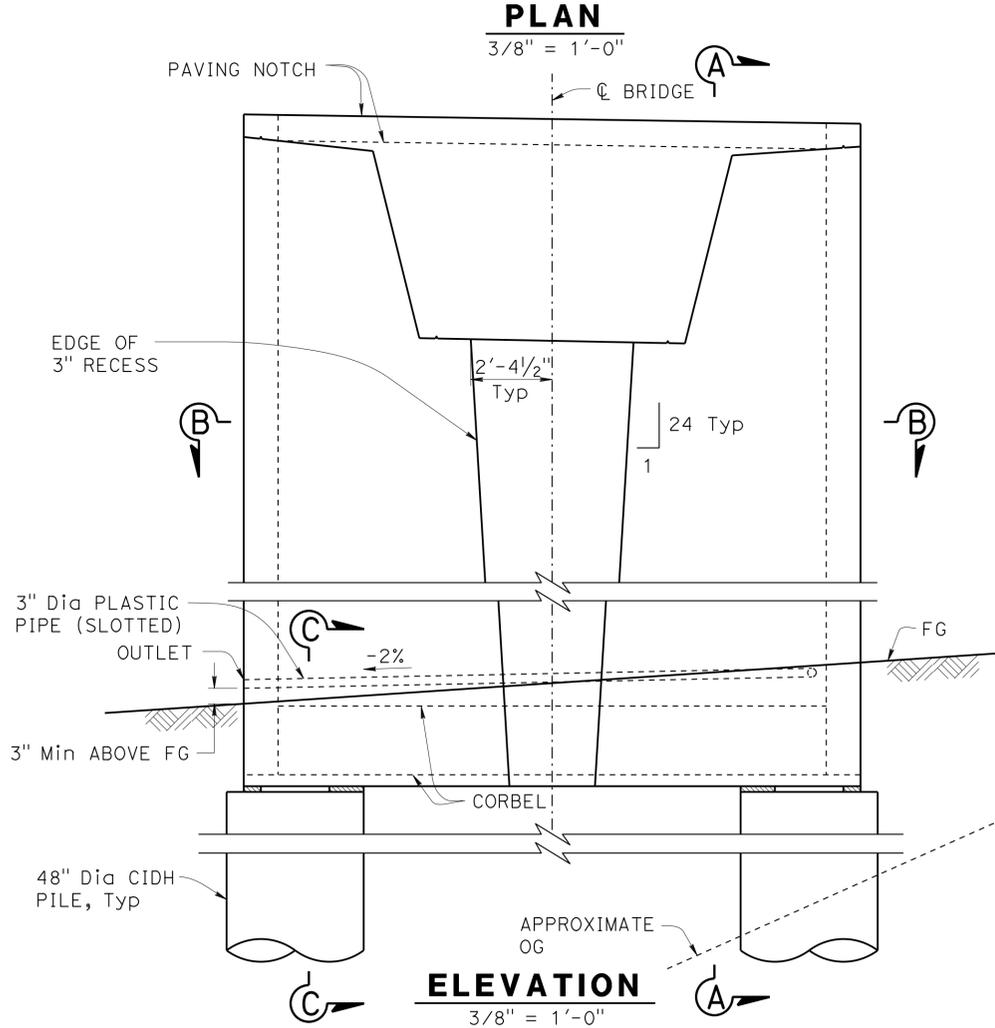
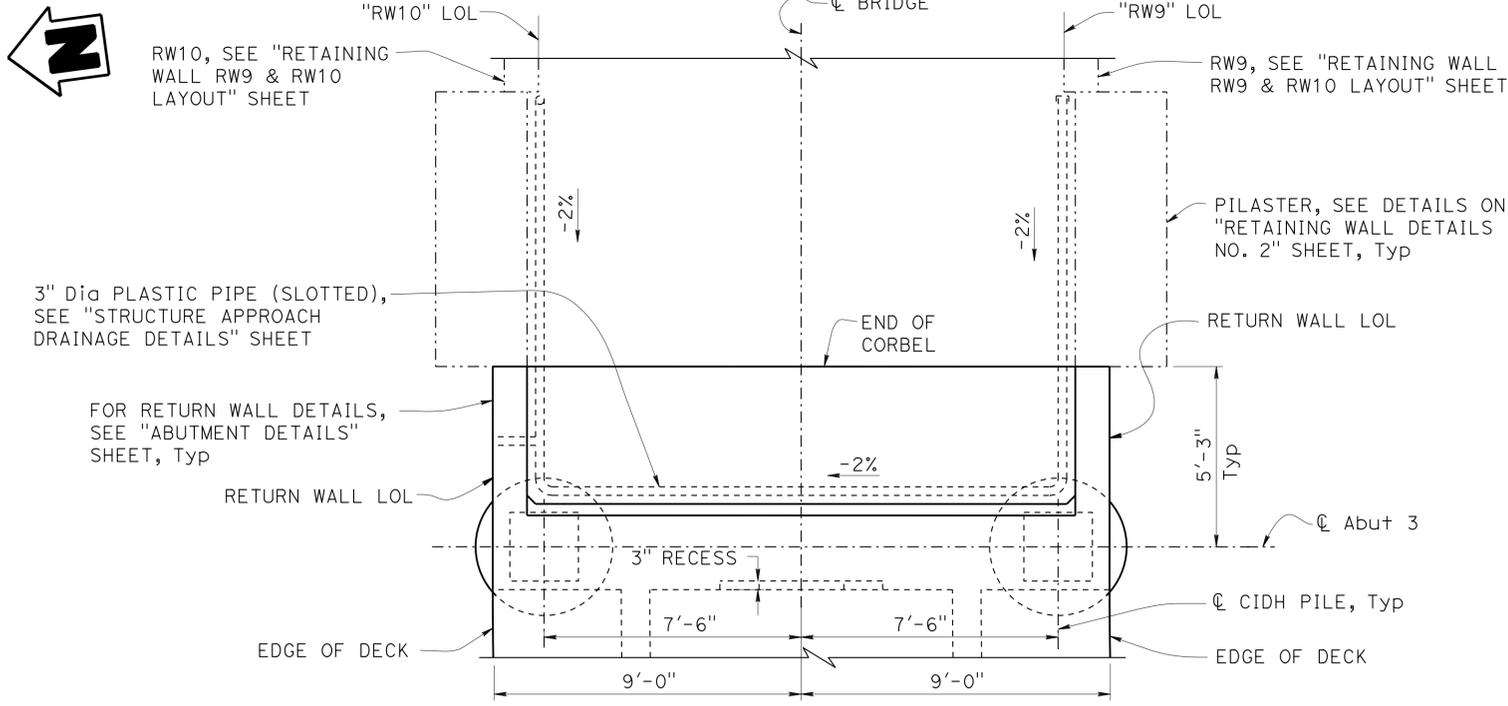
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	890	1012

**PAUL MOREL**  
REGISTERED CIVIL ENGINEER  
DATE: 3-6-14  
PLANS APPROVAL DATE: 07-21-14

REGISTERED PROFESSIONAL ENGINEER  
No. C68491  
Exp. 09/30/15  
CIVIL  
STATE OF CALIFORNIA

CITY OF SAN DIEGO  
525 B STREET SUITE 7  
SAN DIEGO, CA. 92101

SIMON WONG ENGINEERING  
9968 HIBERT STREET  
SAN DIEGO, CA. 92131



- NOTES:
1. For "SECTION A-A", see "ABUTMENT 1 LAYOUT" sheet
  2. For "SECTION C-C", see "ABUTMENT DETAILS" sheet

*Norbert Gee*  
DESIGN OVERSIGHT  
3-10-14  
SIGN OFF DATE

DESIGN	BY P. Morel	CHECKED C. Cushing
DETAILS	BY G. Espanto	CHECKED C. Cushing
QUANTITIES	BY P. Morel	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

CRAIG SHANNON  
PROJECT ENGINEER

BRIDGE NO.	57-1231
POST MILES	29.46

**GENESSEE AVENUE POC  
ABUTMENT 3 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3
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UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021  
CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	6-28-12 1-31-13 2-27-13 2-3-14	6	34

DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43 USERNAME => s127400

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	891	1012

3-6-14  
DATE

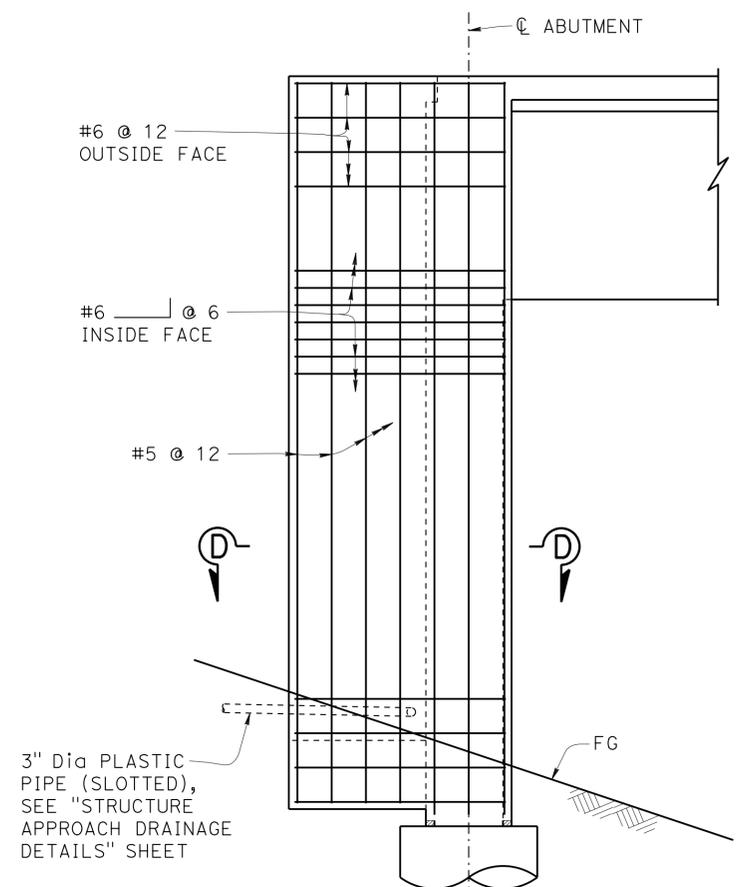
REGISTERED CIVIL ENGINEER

07-21-14  
PLANS APPROVAL DATE

PAUL MOREL  
No. C68491  
Exp. 09/30/15  
CIVIL  
STATE OF CALIFORNIA

CITY OF SAN DIEGO  
525 B STREET SUITE 7  
SAN DIEGO, CA. 92101

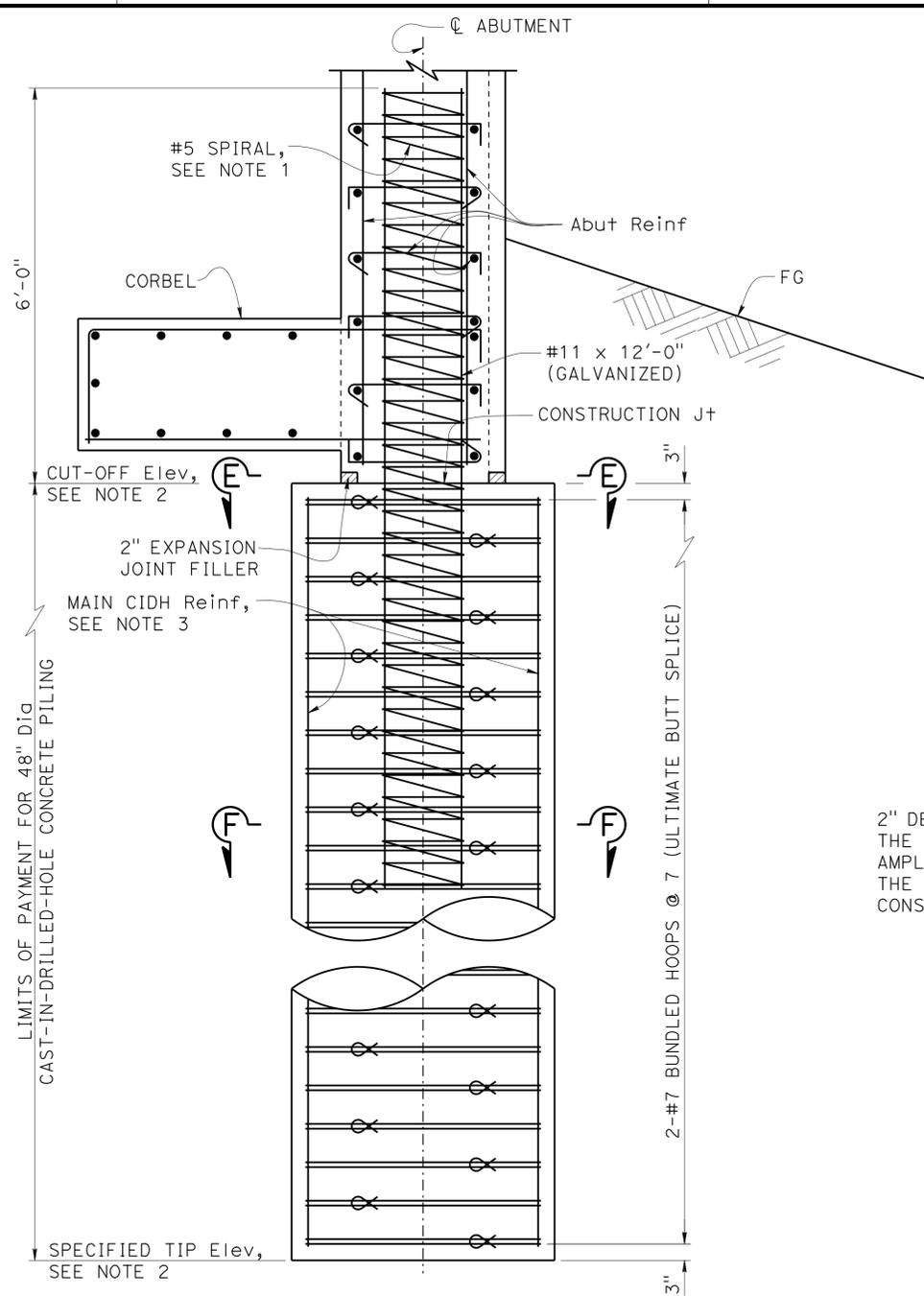
SIMON WONG ENGINEERING  
9968 HIBERT STREET  
SAN DIEGO, CA. 92131



NOTE: Other return walls similar

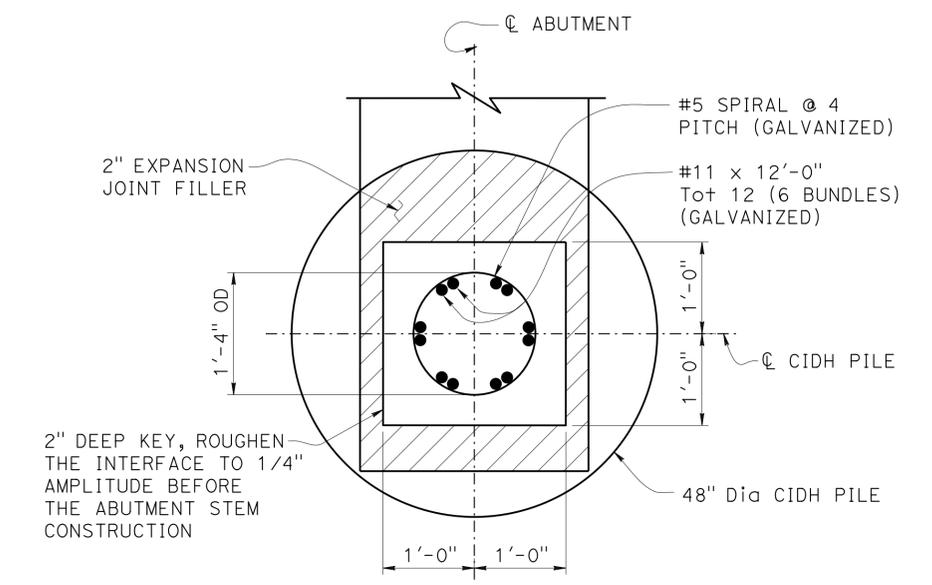
**ABUTMENT 1 EAST  
RETURN WALL ELEVATION**

3/8" = 1'-0"



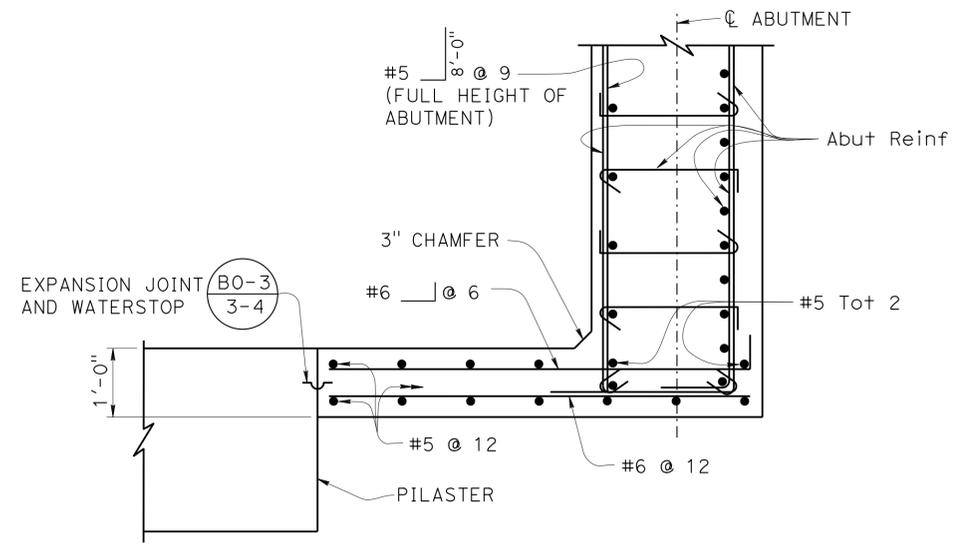
**SECTION C-C**

3/4" = 1'-0"



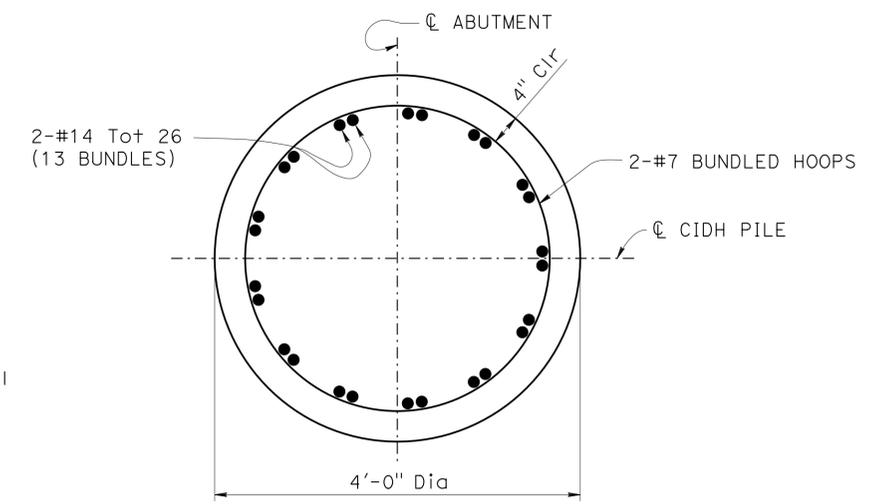
**SECTION E-E**

1" = 1'-0"



**SECTION D-D**

3/4" = 1'-0"



**SECTION F-F**

1" = 1'-0"

- NOTES:
- Spiral reinforcement at ends shall be terminated with a full horizontal turn around the rebar cage and a 1'-4" tail hooked around a longitudinal bar passing through the core of the rebar cage
  - For cut-off and specified tip elevations, see "FOUNDATION PLAN" sheet
  - No splices allowed in main CIDH reinforcement

LEGEND:

⊗ Denotes bundled bars

DESIGN OVERSIGHT  
Norbert Gee  
3-10-14  
SIGN OFF DATE

DESIGN	BY P. Morel	CHECKED C. Cushing
DETAILS	BY G. Espanto	CHECKED C. Cushing
QUANTITIES	BY P. Morel	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

CRAIG SHANNON  
PROJECT ENGINEER

BRIDGE NO.	57-1231
POST MILES	29.46

**GENESSEE AVENUE POC  
ABUTMENT DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES  
FOR REDUCED PLANS



UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

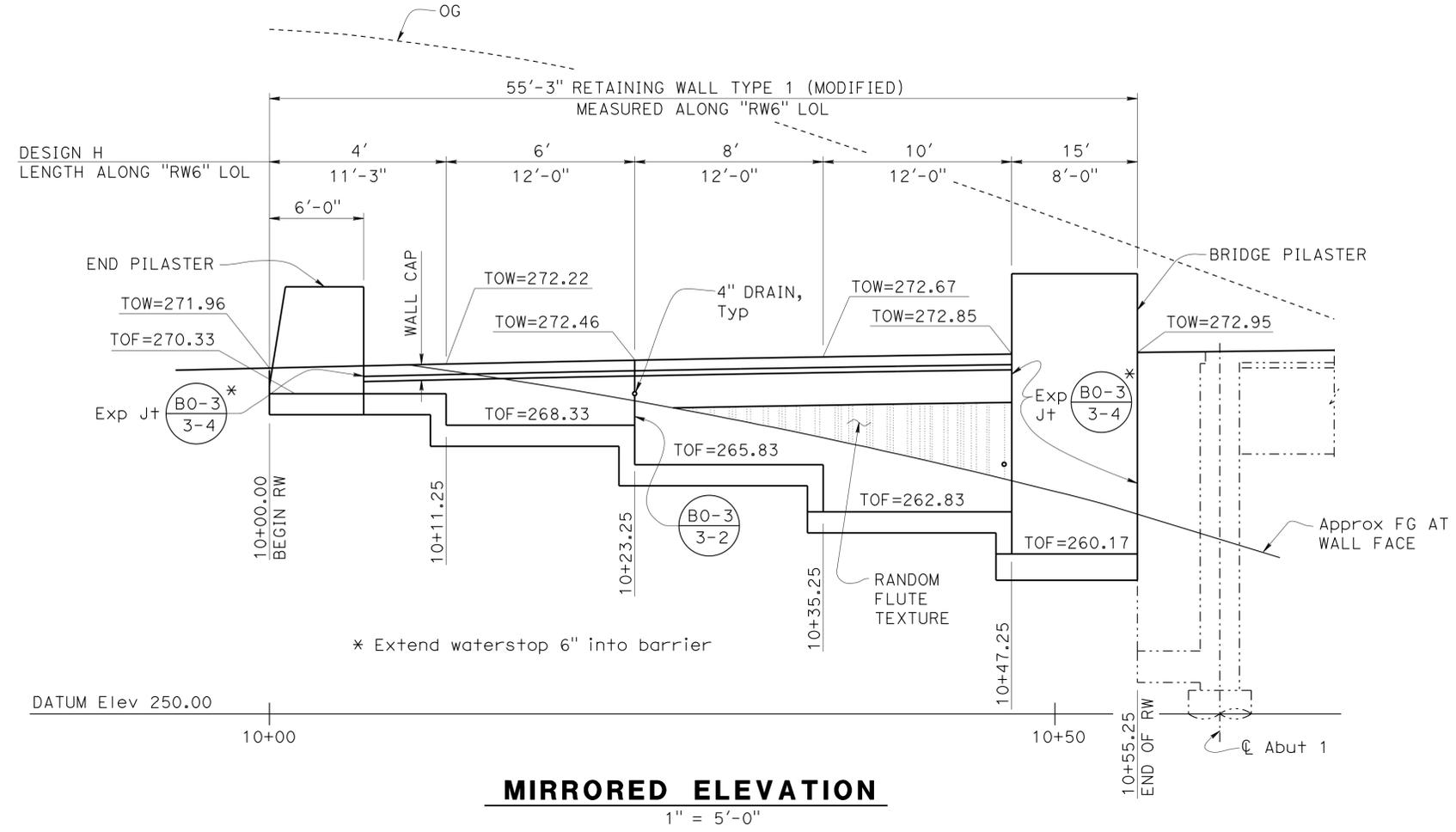
DISREGARD PRINTS BEARING  
EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-31-13 2-22-13 2-3-14	7	34

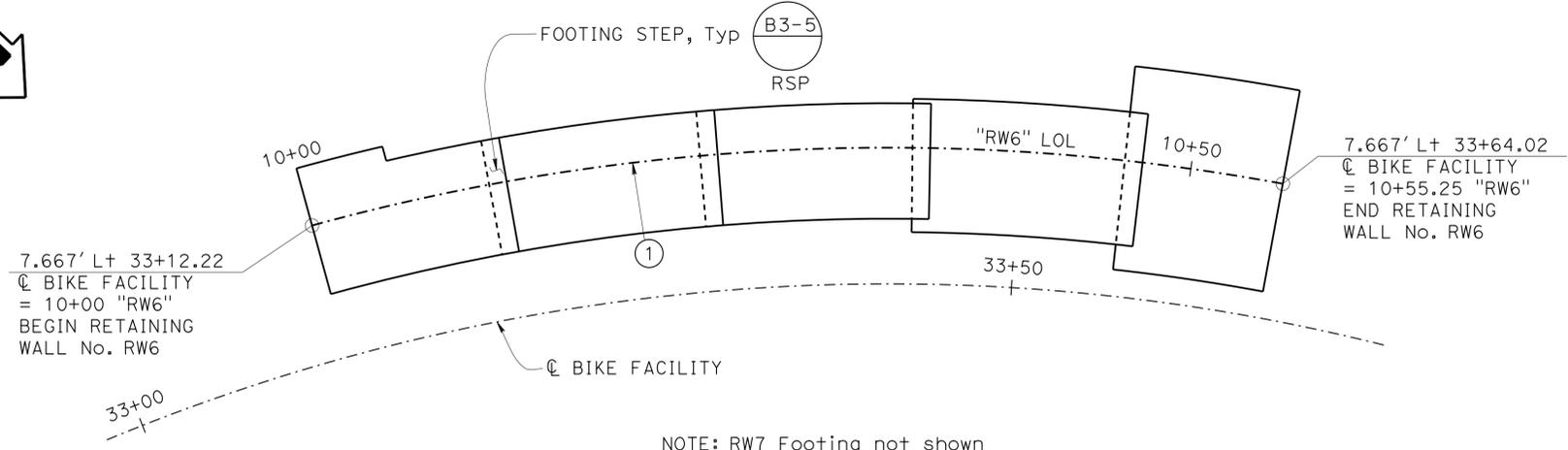
DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43 USERNAME => s127400

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	892	1012

3-6-14  
 REGISTERED CIVIL ENGINEER DATE  
 07-21-14  
 PLANS APPROVAL DATE  
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 CITY OF SAN DIEGO  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101  
 SIMON WONG ENGINEERING  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



- NOTES:
- Concrete barrier & railing not shown
  - For Typical Sections, see "RETAINING WALL DETAILS NO. 1" and "RETAINING WALL DETAILS NO. 2" sheets
  - For Pilaster details, see "RETAINING WALL BARRIER DETAILS NO. 1" sheet
  - For RANDOM FLUTE TEXTURE, see "RETAINING WALL ARCHITECTURAL DETAILS" sheet
  - All exposed Retaining Wall Type 1 (Mod) concrete surfaces to receive variable sandblast texture
  - For End Pilaster details, see "RETAINING WALL BARRIER DETAILS NO. 1" and "RETAINING WALL BARRIER DETAILS NO. 2" sheets



CURVE DATA				
No.	R	Δ	T	L
1	122.67'	25° 48' 23"	28.10'	55.25'

Norbert Gee  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY K. Gazaway	CHECKED M.A. Nekuda
DETAILS	BY G. Espanto	CHECKED M.A. Nekuda
QUANTITIES	BY A. Sanford	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION  
 CRAIG SHANNON  
 PROJECT ENGINEER

BRIDGE NO.	57-1231
POST MILES	29.46

**GENESSEE AVENUE POC**  
**RETAINING WALL RW6 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 11-30-13 2-28-14 2-3-14	8	34

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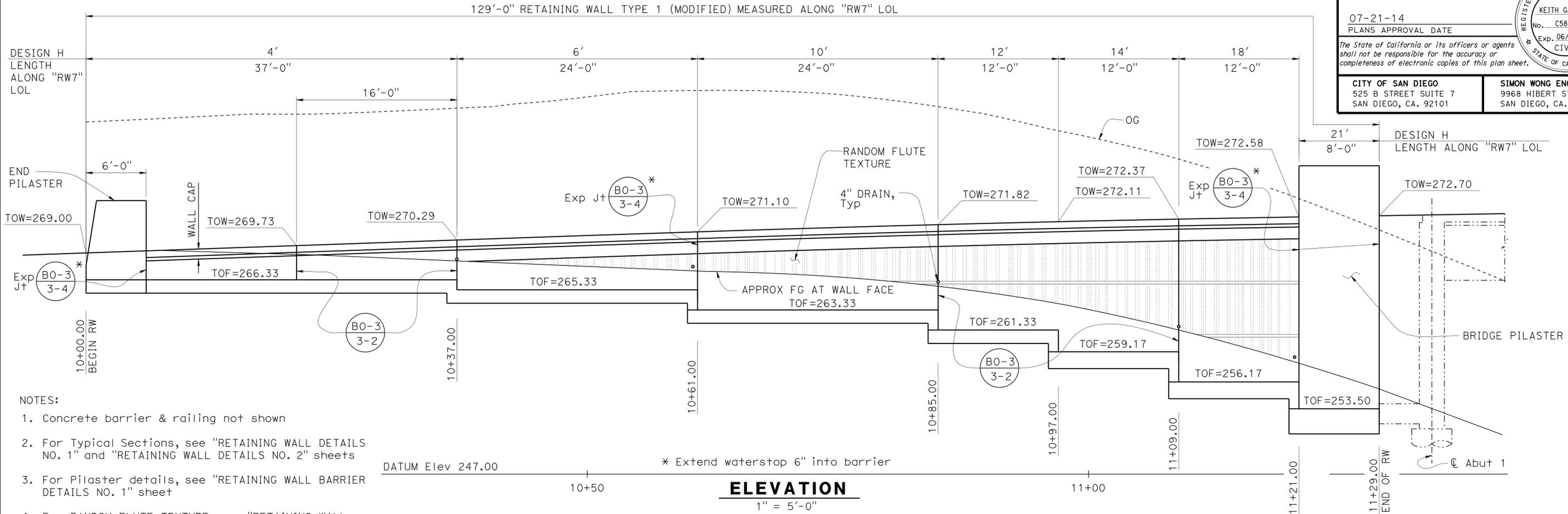
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11	SD	5	R29.1/R30.5	893	1012

3-6-14  
 REGISTERED CIVIL ENGINEER DATE  
 07-21-14  
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CITY OF SAN DIEGO  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

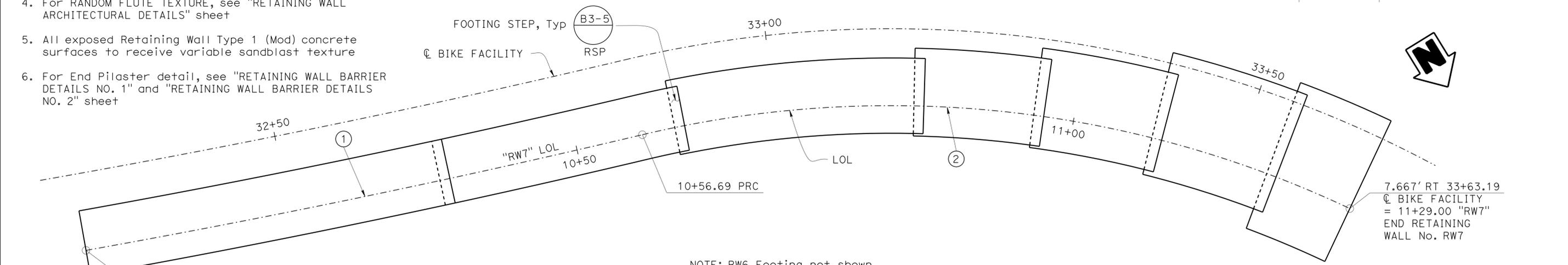
SIMON WONG ENGINEERING  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

KEITH GAZAWAY  
 No. C58592  
 Exp. 06/30/15  
 CIVIL  
 STATE OF CALIFORNIA



- NOTES:
- Concrete barrier & railing not shown
  - For Typical Sections, see "RETAINING WALL DETAILS NO. 1" and "RETAINING WALL DETAILS NO. 2" sheets
  - For Pilaster details, see "RETAINING WALL BARRIER DETAILS NO. 1" sheet
  - For RANDOM FLUTE TEXTURE, see "RETAINING WALL ARCHITECTURAL DETAILS" sheet
  - All exposed Retaining Wall Type 1 (Mod) concrete surfaces to receive variable sandblast texture
  - For End Pilaster detail, see "RETAINING WALL BARRIER DETAILS NO. 1" and "RETAINING WALL BARRIER DETAILS NO. 2" sheet

**ELEVATION**  
1" = 5'-0"



**FOOTING LAYOUT PLAN**  
1" = 5'-0"

CURVE DATA				
No.	R	Δ	T	L
1	1007.67'	3°13'24"	28.35'	56.69'
2	107.33'	38°36'02"	37.59'	72.31'

Norbert Gee  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY K. Gazaway	CHECKED M.A. Nekuda
DETAILS	BY G. Espanto	CHECKED M.A. Nekuda
QUANTITIES	BY A. Sanford	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

CRAIG SHANNON  
 PROJECT ENGINEER  
 BRIDGE NO. 57-1231  
 POST MILES 29.46

**GENESSEE AVENUE POC**  
**RETAINING WALL RW7 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

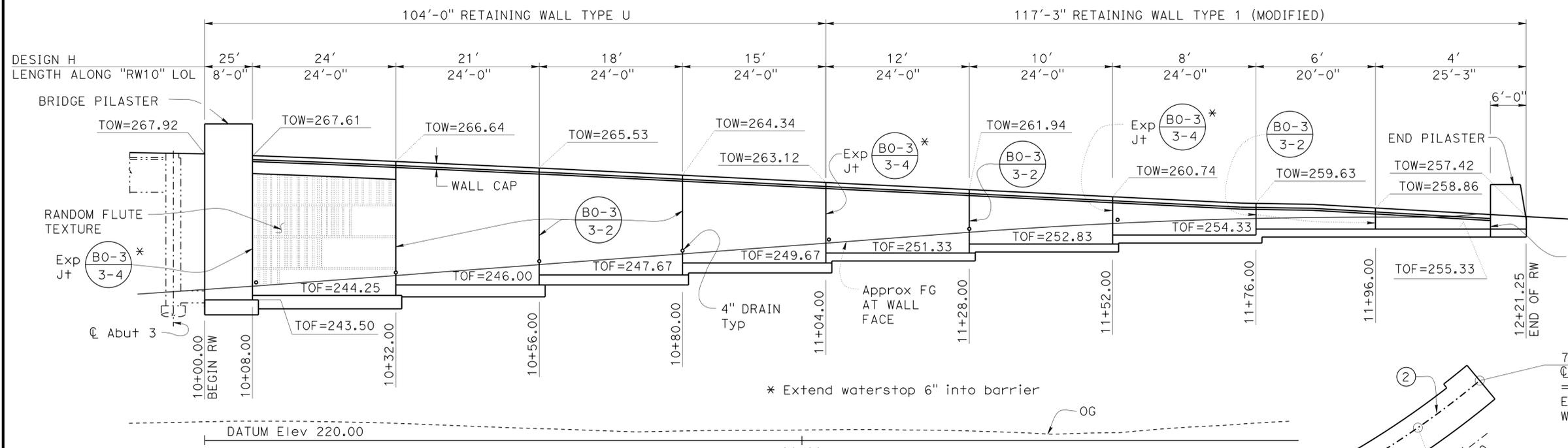
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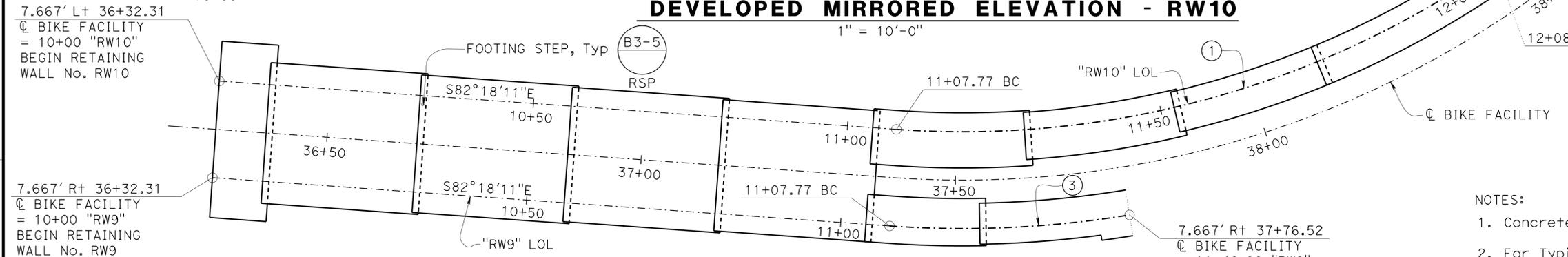
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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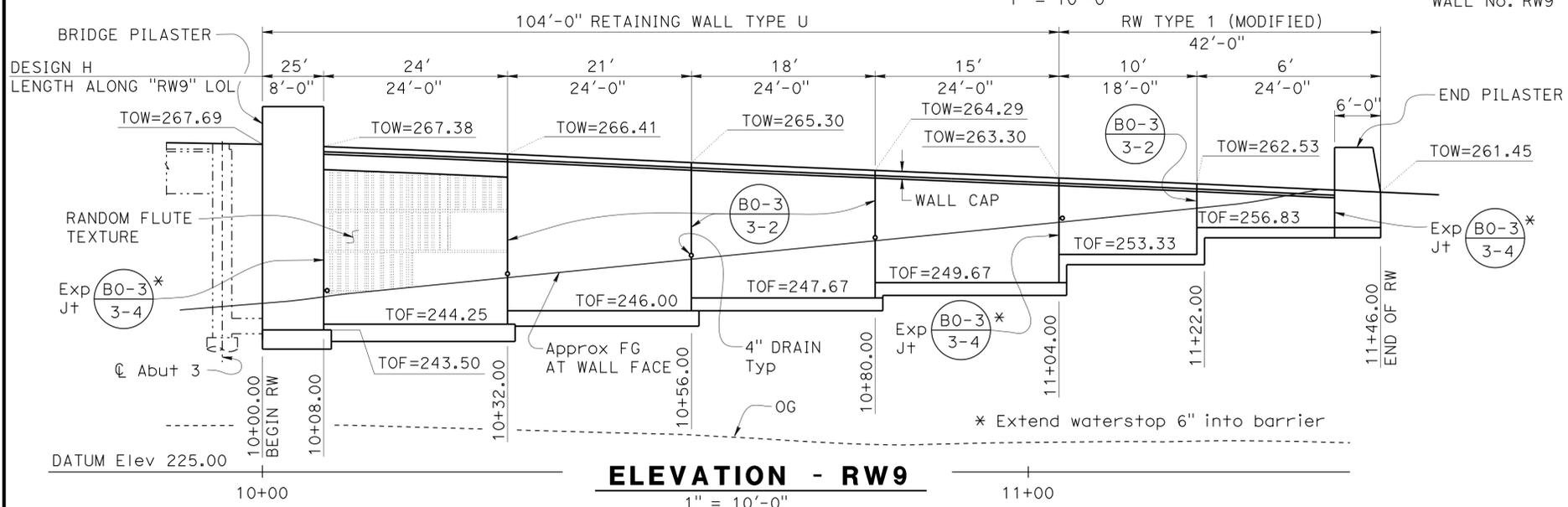
3-6-14  
 REGISTERED CIVIL ENGINEER DATE  
 07-21-14  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.  
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 SAN DIEGO, CA. 92101  
 SIMON WONG ENGINEERING  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



**DEVELOPED MIRRORED ELEVATION - RW10**



**FOOTING LAYOUT PLAN**



**ELEVATION - RW9**

- NOTES:
- Concrete barrier & railing not shown
  - For Typical Sections, see "RETAINING WALL DETAILS NO. 1" and "RETAINING WALL DETAILS NO. 2" sheets
  - For Pilaster details, see "RETAINING WALL BARRIER DETAILS NO. 1" sheet
  - For RANDOM FLUTE TEXTURE, see "RETAINING WALL ARCHITECTURAL DETAILS" sheet
  - All exposed Retaining Wall Type 1 (Mod) concrete surfaces to receive variable sandblast texture
  - Retaining wall lengths are measured along RW LOL
  - For End Pilaster details, see "RETAINING WALL BARRIER DETAILS NO. 1" and "RETAINING WALL BARRIER DETAILS NO. 2" sheets

No.	R	Δ	T	L
1	148.33'	38°48'45"	52.25'	100.48'
2	141.43'	05°16'08"	6.51'	13.00'
3	163.67'	13°23'00"	19.20'	38.23'

DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY K. Gazaway	CHECKED M.A. Nekuda
DETAILS	BY G. Espanto	CHECKED M.A. Nekuda
QUANTITIES	BY A. Sanford	CHECKED K. Gazaway

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 57-1231  
 PROJECT ENGINEER CRAIG SHANNON  
 POST MILES 29.46

**GENESSEE AVENUE POC**  
**RETAINING WALL RW9 & RW10 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771 PROJECT NUMBER & PHASE: 11120001021

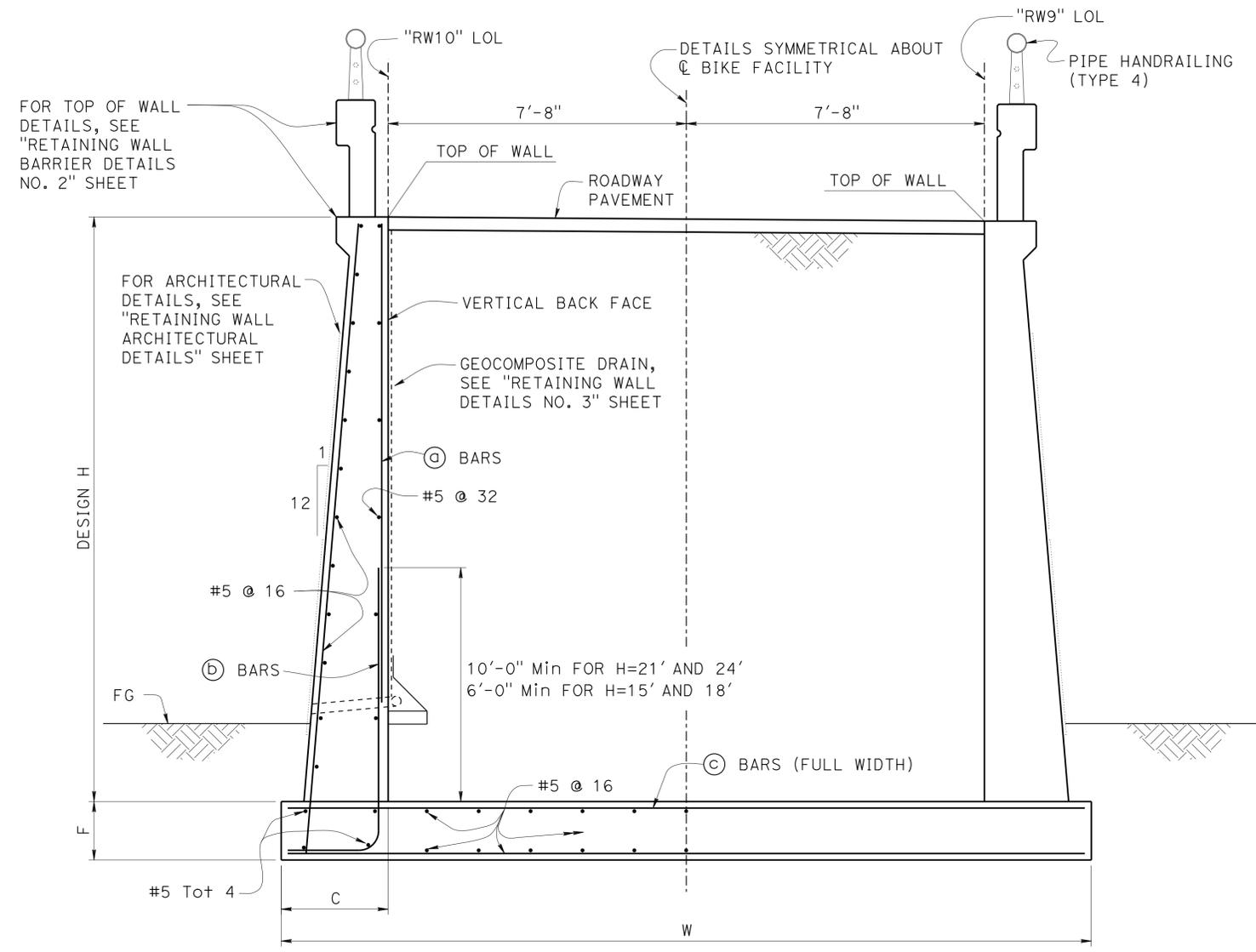
CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 11-30-13 2-28-13 2-3-14	10	34

USERNAME => s127400 DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43

3-6-14  
 REGISTERED CIVIL ENGINEER DATE  
 07-21-14  
 PLANS APPROVAL DATE  
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 CITY OF SAN DIEGO  
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 SAN DIEGO, CA. 92131



**TYPICAL SECTION RETAINING WALL TYPE U** (B0-3) (B3-1A) (B3-5)  
 1/2" = 1'-0"  
 RSP RSP

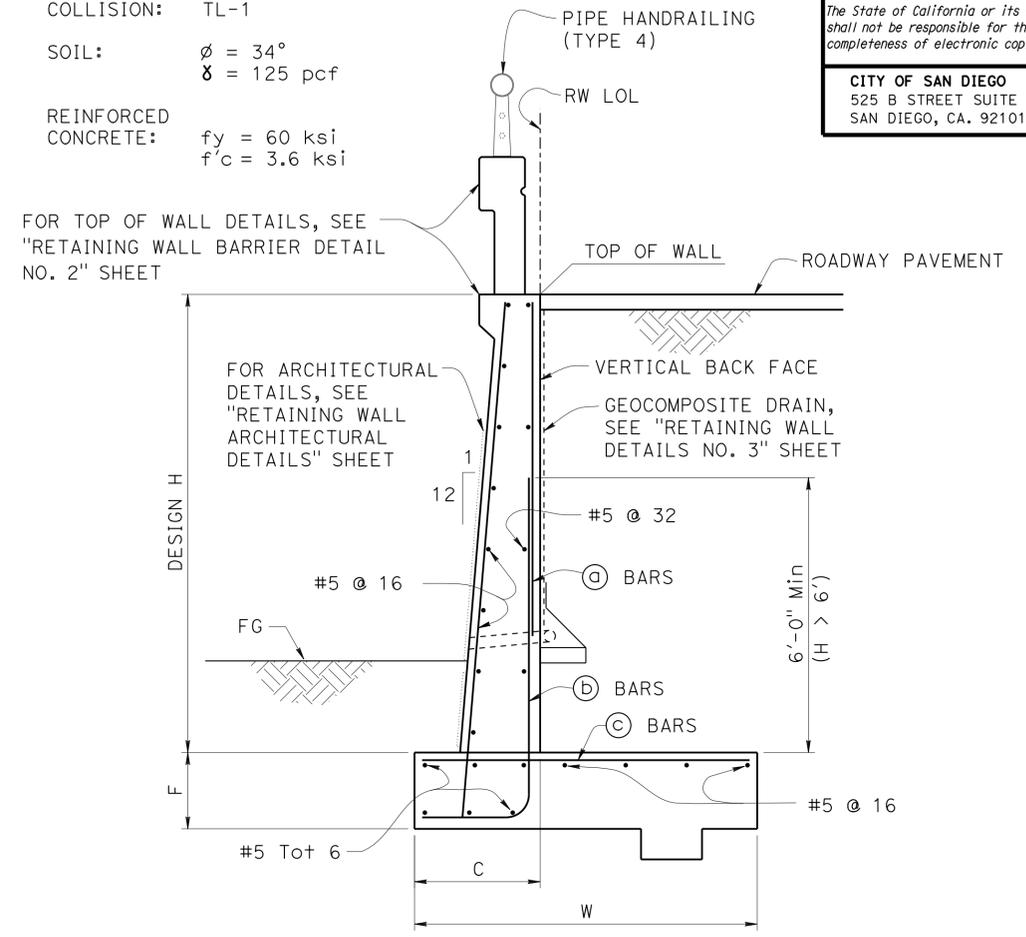
Design H	15'	18'	21'	24'
W	20'-10"	21'-4"	21'-10"	22'-4"
C	2'-9"	3'-0"	3'-3"	3'-6"
F	1'-8"	1'-8"	2'-0"	2'-3"
Ⓐ Bars	#5 @ 12	#5 @ 9	#5 @ 8	#5 @ 6*
Ⓑ Bars	#8 @ 12	#8 @ 9	#8 @ 8	#8 @ 6
Ⓒ Bars	#9 @ 12	#9 @ 9	#9 @ 6	#9 @ 6
Ser: B', q'o	20.8, 2.3	21.3, 2.6	21.8, 2.9	22.3, 3.3
Str: B', qo	20.8, 3.0	21.3, 3.5	21.8, 3.9	22.3, 4.4
Ext I: B', qo	16.9, 2.8	16.5, 3.3	16.0, 4.0	15.5, 4.7
Ext II: B', qo	20.6, 2.3	21.1, 2.7	21.5, 3.1	22.0, 3.5

\* Alternating bars may be cut off @ 8'-0" from top of wall (i.e. # 5 @ 12)

- NOTES:
- For section at Bridge Pilaster see "RETAINING WALL DETAILS NO. 2" sheet
  - For reinforcement at End Pilaster see "RETAINING WALL BARRIER DETAILS NO. 2" sheet
  - For details not shown see (B3-1A) RSP
  - Footing key not required for Type U wall

SYMBOLS:  
 Ser - service limit state I  
 Str - strength limit state I  
 Ext I - extreme event limit state I  
 Ext II - extreme event limit state II  
 B' - effective footing width (ft)  
 q'o - net bearing stress (ksf)  
 qo - gross uniform bearing stress (ksf)

DESIGN NOTES:  
 DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments  
 LIVE LOAD: 2' Surcharge on level ground surface  
 SEISMIC:  $K_h = 0.225$   
 $K_v = 0$   
 COLLISION: TL-1  
 SOIL:  $\phi = 34^\circ$   
 $\delta = 125$  pcf  
 REINFORCED CONCRETE:  $f_y = 60$  ksi  
 $f'_c = 3.6$  ksi



**TYPICAL SECTION RETAINING WALL TYPE 1 (MODIFIED)** (B0-3) (B3-1A) (B3-5)  
 1/2" = 1'-0"  
 RSP RSP

Design H	4'	6'	8'	10'	12'	14'	16'	18'
W	6'-6"	6'-6"	6'-6"	7'-6"	8'-9"	10'-0"	11'-3"	12'-6"
C	2'-6"*	2'-6"*	2'-6"	2'-9"	3'-0"	3'-3"	3'-6"	3'-9"
F	1'-4"	1'-4"	1'-4"	1'-4"	1'-4"	1'-8"	1'-8"	1'-8"
Ⓐ Bars	-	-	#5 @ 12	#5 @ 9	#5 @ 9	#6 @ 16	#5 @ 12	#5 @ 9
Ⓑ Bars	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 9	#5 @ 9	#6 @ 8	#8 @ 12	#8 @ 9
Ⓒ Bars	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 9	#6 @ 9	#6 @ 8	#8 @ 12	#9 @ 9
Ser: B', q'o	6.3, 0.9	5.8, 1.2	5.2, 1.7	5.9, 1.9	7.1, 2.2	8.0, 2.6	9.0, 2.8	10.1, 3.1
Str: B', qo	6.3, 1.3	5.8, 1.7	5.0, 2.3	5.7, 2.7	6.8, 3.1	7.7, 3.6	8.7, 3.9	9.6, 4.3
Ext I: B', qo	5.2, 1.1	4.2, 1.7	2.9, 2.9	3.0, 3.8	3.6, 4.3	3.8, 5.3	4.3, 5.9	4.7, 6.5
Ext II: B', qo	2.3, 2.3	2.6, 2.5	2.6, 3.0	4.1, 2.7	5.8, 2.6	7.1, 2.8	8.3, 2.9	9.6, 3.1

\* At end pilasters, extend footing toe and reinforcement to back face of pilaster (C=3'-4")

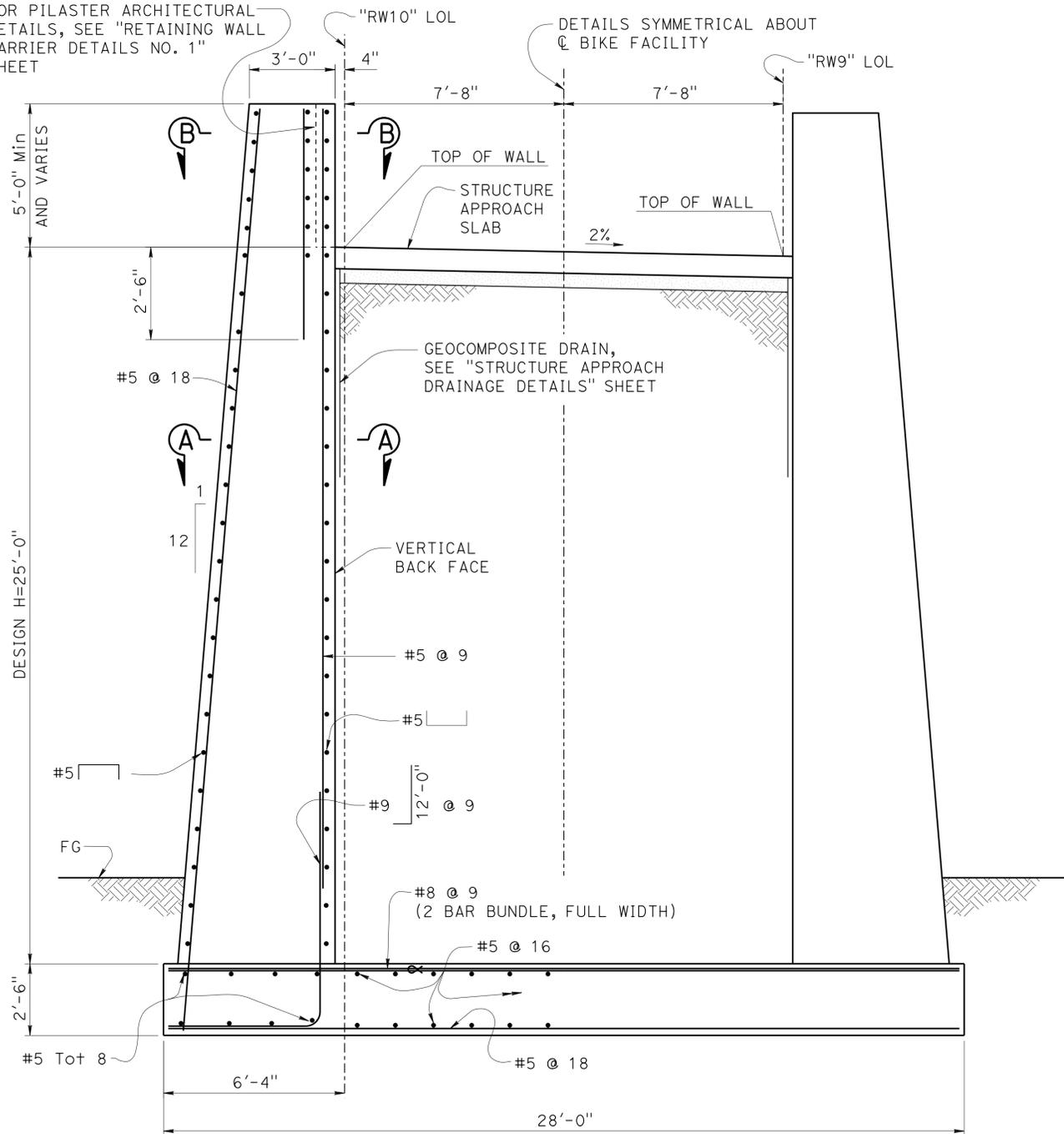
DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY K. Gazaway	CHECKED M.A. Nekuda
DETAILS	BY G. Espanto	CHECKED M.A. Nekuda
QUANTITIES	BY A. Sanford	CHECKED K. Gazaway

PREPARED FOR THE STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 CRAIG SHANNON  
 PROJECT ENGINEER  
 BRIDGE NO. 57-1231  
 POST MILES 29.46

**GENESEE AVENUE POC**  
**RETAINING WALL DETAILS NO. 1**

FOR PILASTER ARCHITECTURAL DETAILS, SEE "RETAINING WALL BARRIER DETAILS NO. 1" SHEET



NOTES:

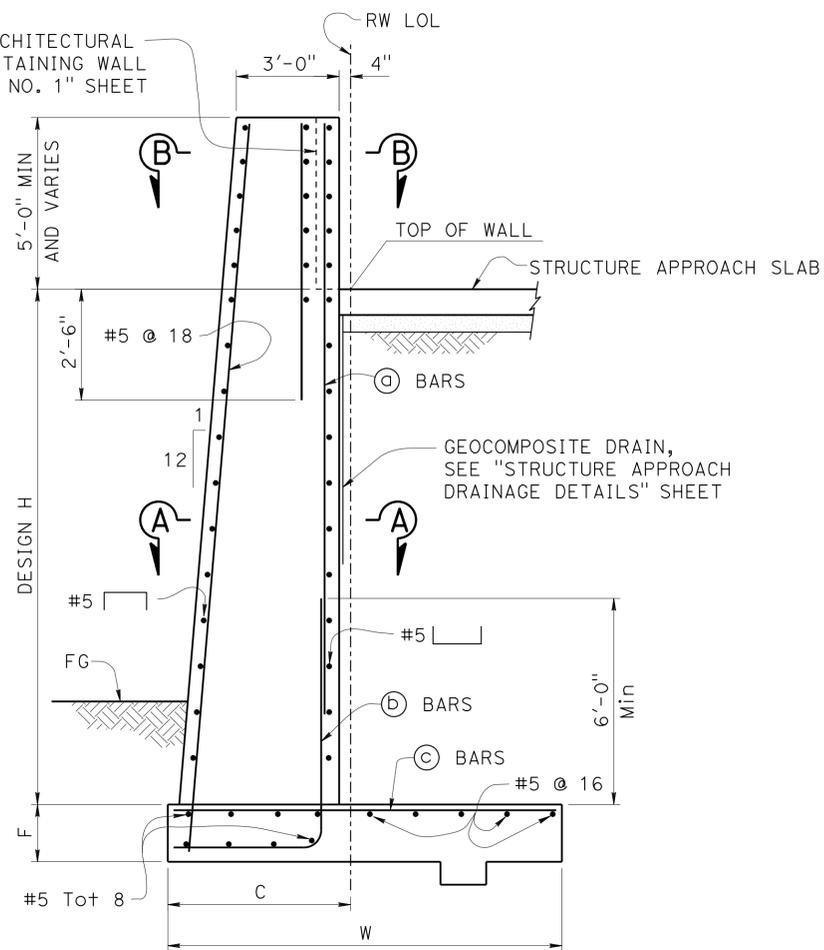
1. For design notes, see "RETAINING WALL DETAILS NO. 1" sheet
2. For details not shown, see B3-1A
3. For Section "A-A" and "B-B", see "RETAINING WALL DETAILS NO. 3" sheet
4. Footing key not required for Type U Wall

**BRIDGE PILASTER SECTION  
RETAINING WALL TYPE U**

3/8" = 1'-0"



FOR PILASTER ARCHITECTURAL DETAILS, SEE "RETAINING WALL BARRIER DETAILS NO. 1" SHEET



NOTES:

1. For design notes, see "RETAINING WALL DETAILS NO. 1" sheet
2. For details not shown, see B3-1A
3. For Section "A-A" and "B-B" see "RETAINING WALL DETAILS NO. 3" sheet

**BRIDGE PILASTER SECTION  
RETAINING WALL TYPE 1 (MODIFIED)**

3/8" = 1'-0"



BEARING STRESS:

Ser: B'=28.0', q'o=3.7 ksf  
 Str: B'=28.0', qo=5.0 ksf  
 Ext I: B'=20.7', qo=5.0 ksf  
 Ext II: B'=27.7', qo=3.6 ksf

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	896	1012

Keith Gazaway  
 REGISTERED CIVIL ENGINEER  
 3-6-14  
 DATE  
 07-21-14  
 PLANS APPROVAL DATE  
 KEITH GAZAWAY  
 No. C58592  
 Exp. 06/30/15  
 CIVIL  
 STATE OF CALIFORNIA  
 CITY OF SAN DIEGO  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101  
 SIMON WONG ENGINEERING  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

Design H	15'	21'
W	11'-6"	15'-6"
C	5'-4"	5'-10"
F	1'-8"	2'-6"
Ⓐ Bars	#5 @ 9	#5 @ 9
Ⓑ Bars	#6 @ 9	#8 @ 9
Ⓒ Bars	#8 @ 9	#9 @ 9
Ser: B', q'o	9.1, 3.2	12.1, 4.2
Str: B', qo	8.9, 4.3	11.8, 5.7
Ext I: B', qo	4.2, 6.4	5.5, 9.0
Ext II: B', qo	8.4, 3.3	11.8, 4.2

SYMBOLS:

- Ser - service limit state I
- Str - strength limit state I
- Ext I - extreme event limit state I
- Ext II - extreme event limit state II
- B' - effective footing width (ft)
- q'o - net bearing stress (ksf)
- qo - gross uniform bearing stress (ksf)

Norbert Gee  
 DESIGN OVERSIGHT  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY K. Gazaway	CHECKED M.A. Nekuda
DETAILS	BY G. Espanto	CHECKED M.A. Nekuda
QUANTITIES	BY A. Sanford	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION  
 CRAIG SHANNON  
 PROJECT ENGINEER

BRIDGE NO.	57-1231
POST MILES	29.46

**GENESEE AVENUE POC  
RETAINING WALL DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021  
 CONTRACT NO.: 11-0223U4

REVISION DATES	SHEET	OF
6-28-12 1-31-13 2-27-13 2-3-14	12	34

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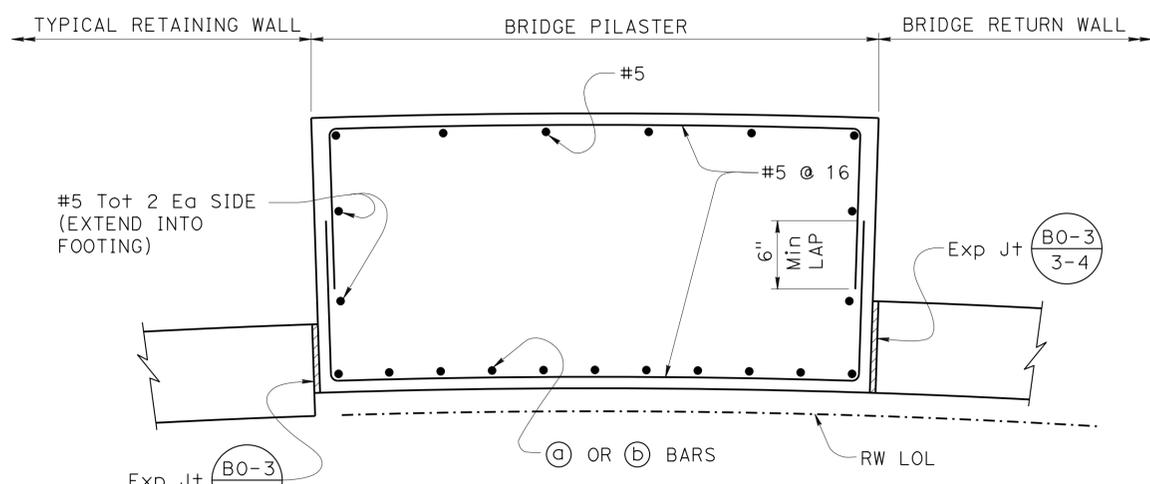
DATE PLOTTED => 23-JUL-2014 USERNAME => s127400 TIME PLOTTED => 13:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	5	R29.1/R30.5	897	1012

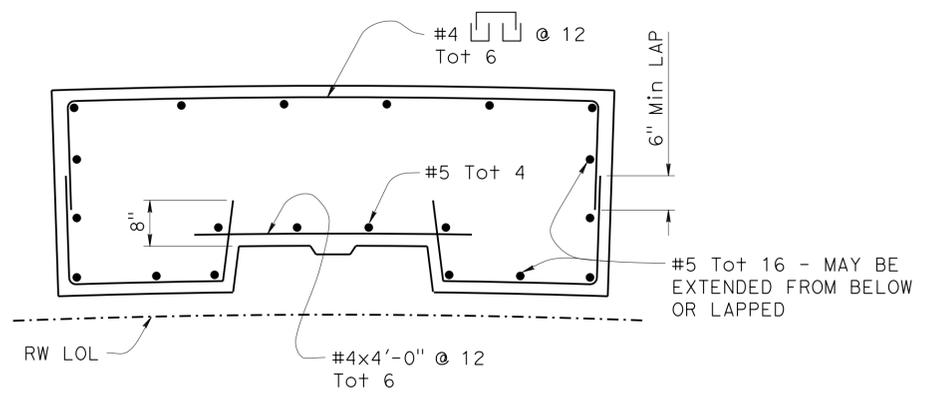
3-6-14  
 REGISTERED CIVIL ENGINEER DATE  
 07-21-14  
 PLANS APPROVAL DATE  
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**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101  
**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131

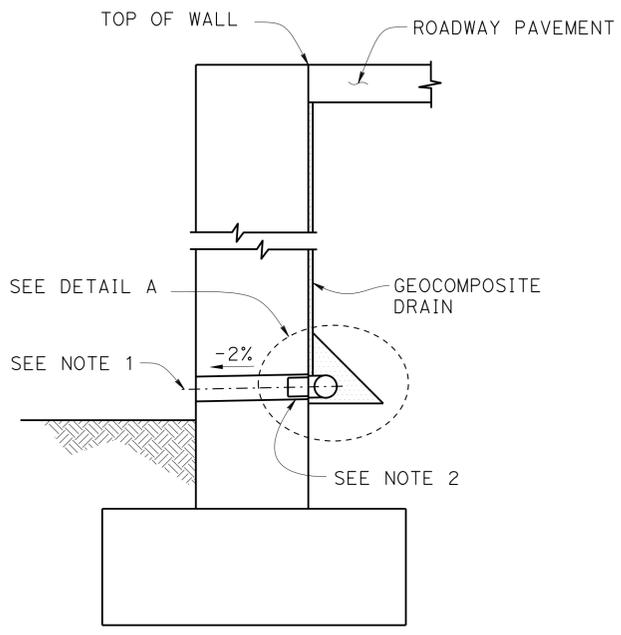


**SECTION A-A**  
3/4" = 1'-0"

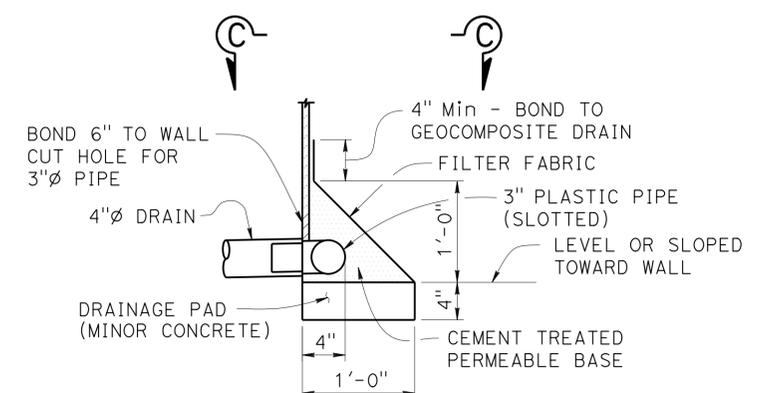


**SECTION B-B**  
3/4" = 1'-0"

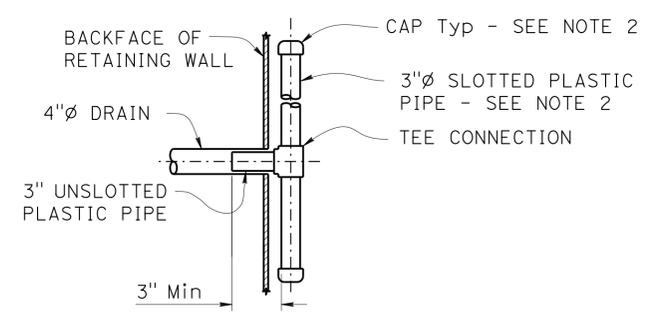
- NOTES:
- For locations of Section "A-A" and "B-B", see "RETAINING WALL DETAILS NO. 2" sheet
  - Sections apply to Type 1 (Modified) and Type U walls



**WALL SECTION**



**DETAIL A**



**SECTION C-C**

**WEEP HOLE AND GEOCOMPOSITE DRAIN**  
No Scale

- NOTES:
- Exposed wall drains shall be located 3"± above finished grade
  - Geocomposite drain, cement treated permeable base, and 3"Ø slotted plastic pipe continuous behind wall. Cap ends of pipe. Provide "tee" connection at each 4"Ø drain.

DESIGN OVERSIGHT  
 Norbert Gee  
 3-10-14  
 SIGN OFF DATE

DESIGN	BY K. Gazaway	CHECKED M.A. Nekuda
DETAILS	BY G. Espanto	CHECKED M.A. Nekuda
QUANTITIES	BY A. Sanford	CHECKED K. Gazaway

**PREPARED FOR THE STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

CRAIG SHANNON  
 PROJECT ENGINEER  
 BRIDGE NO. 57-1231  
 POST MILES 29.46

**GENESSEE AVENUE POC**  
**RETAINING WALL DETAILS NO. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

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UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

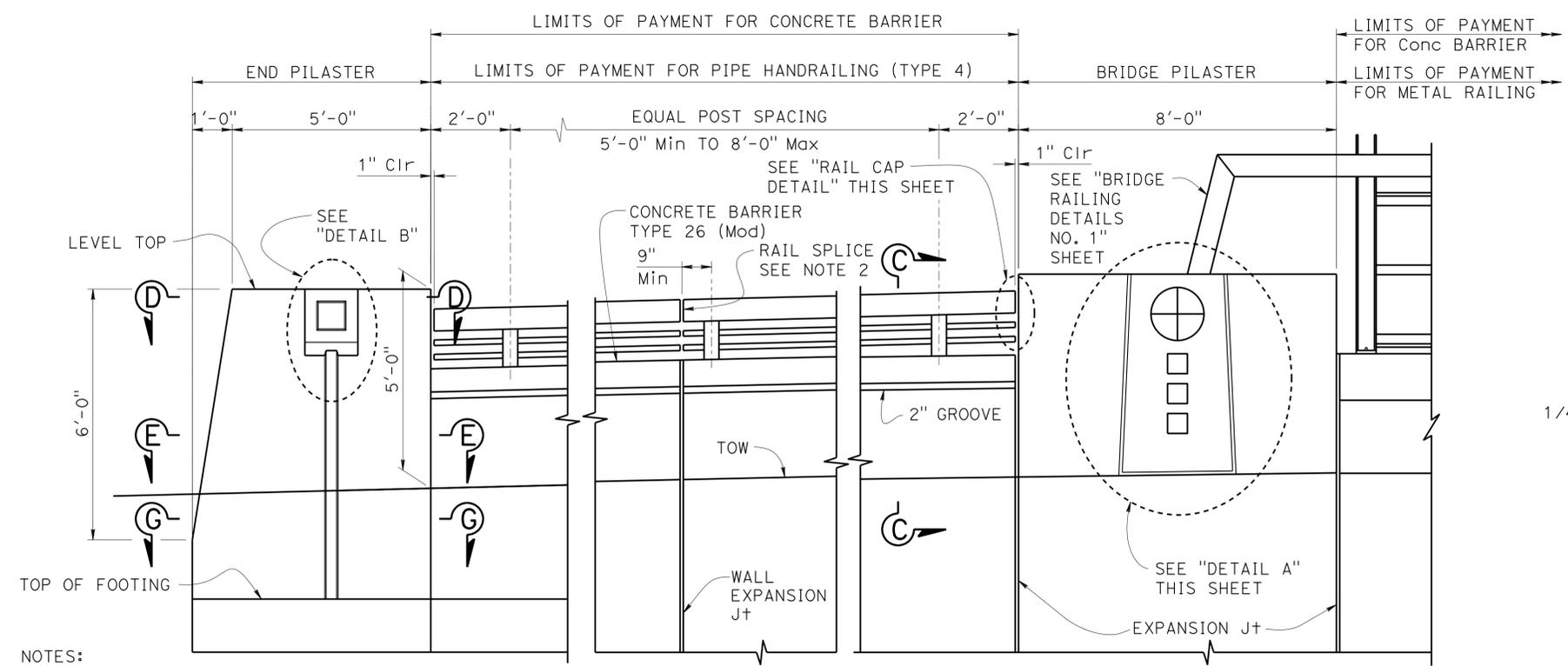
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
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1-31-13		
2-28-13		
2-3-14		

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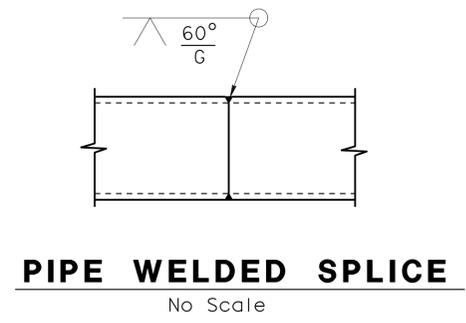
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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 REGISTERED CIVIL ENGINEER			3-6-14	DATE	
07-21-14 PLANS APPROVAL DATE					
CITY OF SAN DIEGO 525 B STREET SUITE 7 SAN DIEGO, CA. 92101			SIMON WONG ENGINEERING 9968 HIBERT STREET SAN DIEGO, CA. 92131		

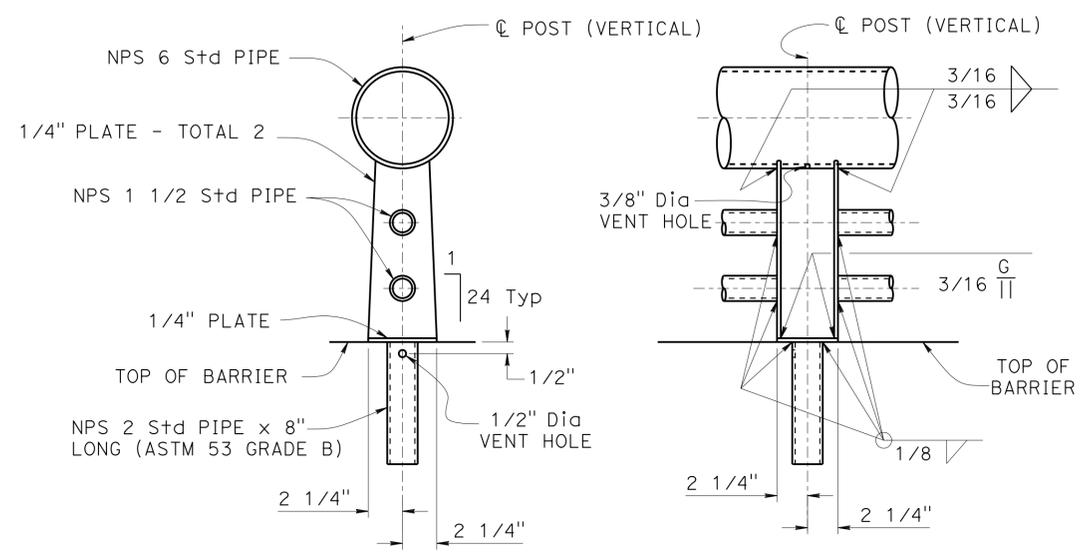


- NOTES:
- For Sections "C-C", "D-D", and "E-E", and "Detail B", see "RETAINING WALL BARRIER DETAILS NO. 2" sheet
  - For top rail, see "TOP RAIL SPLICE DETAILS" on "BARRIER DETAILS NO. 2" sheet. For middle rails, see "MIDDLE RAIL SPLICE DETAIL" on "RETAINING WALL BARRIER DETAILS NO. 2" sheet.

**BARRIER ELEVATION**  
1/2" = 1'-0"

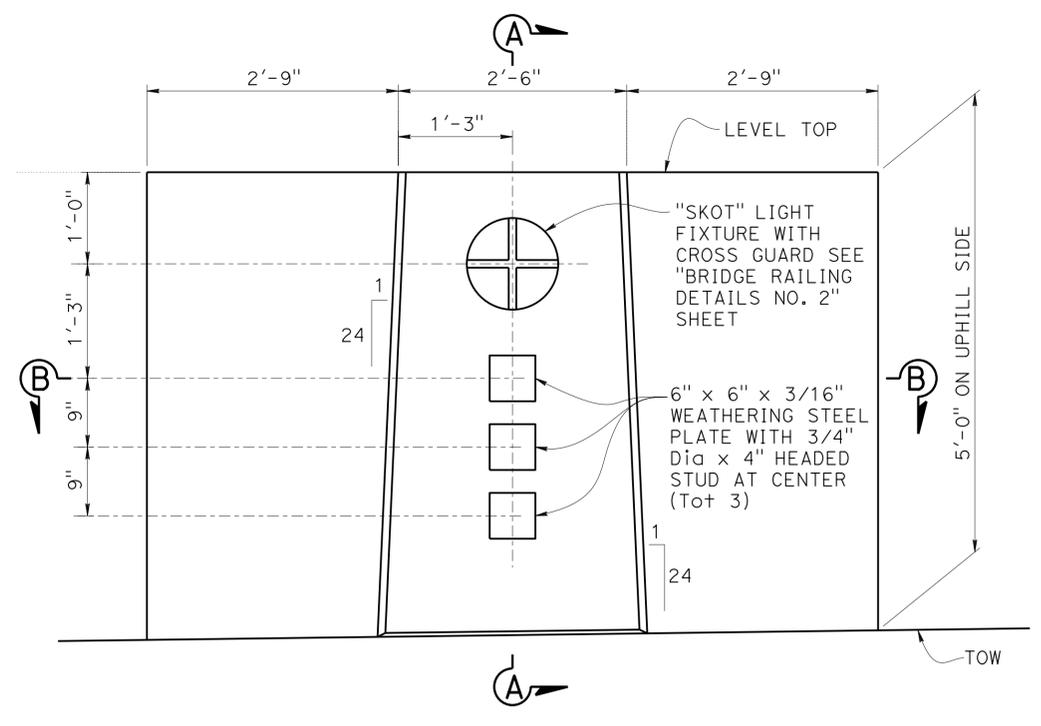


**PIPE WELDED SPLICE**  
No Scale

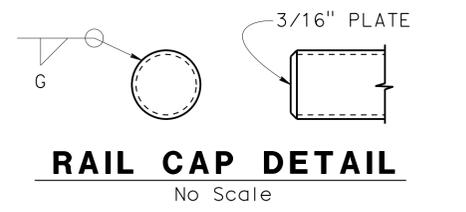


**SECTION ELEVATION**  
**RAIL CONNECTION DETAILS**  
2" = 1'-0"

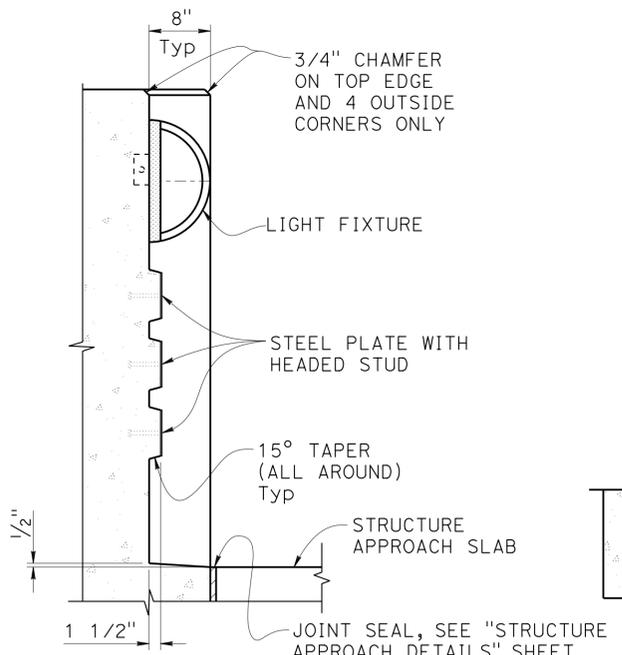
- NOTES:
- All rail to be weathering steel (except as noted otherwise)
  - Post shall be normal to railing
  - Rail pipe shall be shop bent or fabricated to fit horizontal curve when radius is less than 950 feet
  - Top rail pipe shall be continuous over not less than two posts
  - Welding material for weathering steel shall have a welding consumable matching the base material



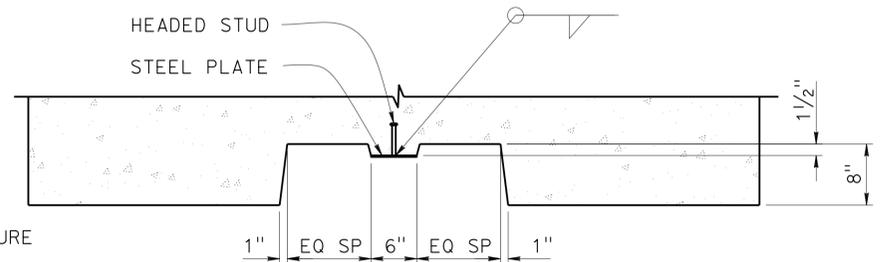
**DETAIL A**  
1" = 1'-0"



**RAIL CAP DETAIL**  
No Scale



**SECTION A-A**  
1" = 1'-0"



**SECTION B-B**  
1" = 1'-0"

*Norbert Gee*  
DESIGN OVERSIGHT  
3-10-14  
SIGN OFF DATE

DESIGN	BY K. Gazaway	CHECKED M.A. Nekuda
DETAILS	BY G. Espanto	CHECKED M.A. Nekuda
QUANTITIES	BY A. Sanford	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

CRAIG SHANNON  
PROJECT ENGINEER

BRIDGE NO.	57-1231
POST MILES	29.46

**GENESSEE AVENUE POC**  
**RETAINING WALL BARRIER DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-31-13 2-27-13 2-3-14	14	34

DATE PLOTTED => 23-JUL-2014 USERNAME => s127400 TIME PLOTTED => 13:43

FILE => 57-1231-g-rwdt04.dgn

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11	SD	5	R29.1/R30.5	899	1012

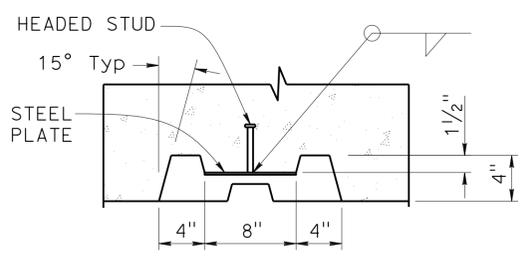
*Paul J. Dry*  
 REGISTERED CIVIL ENGINEER  
 DATE 3-6-14

07-21-14  
 PLANS APPROVAL DATE

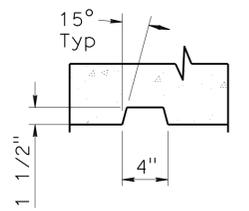
*Keith Gazaway*  
 REGISTERED PROFESSIONAL ENGINEER  
 No. C58592  
 Exp. 06/30/15  
 CIVIL  
 STATE OF CALIFORNIA

**CITY OF SAN DIEGO**  
 525 B STREET SUITE 7  
 SAN DIEGO, CA. 92101

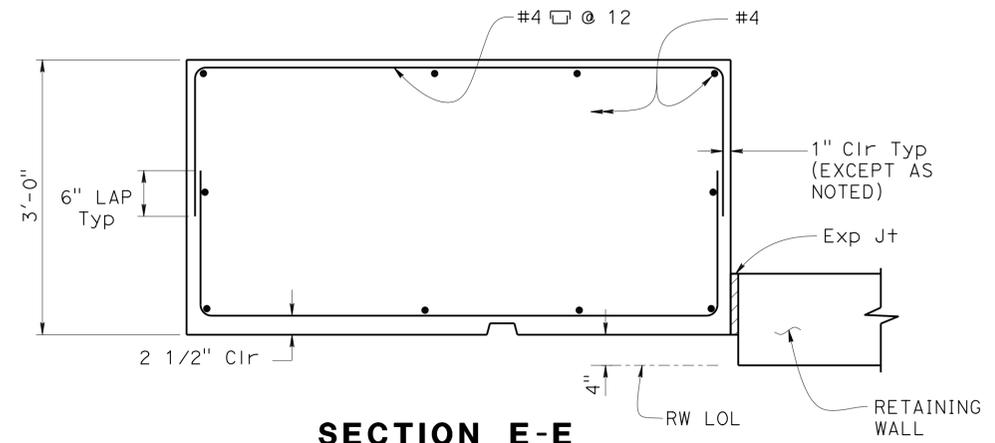
**SIMON WONG ENGINEERING**  
 9968 HIBERT STREET  
 SAN DIEGO, CA. 92131



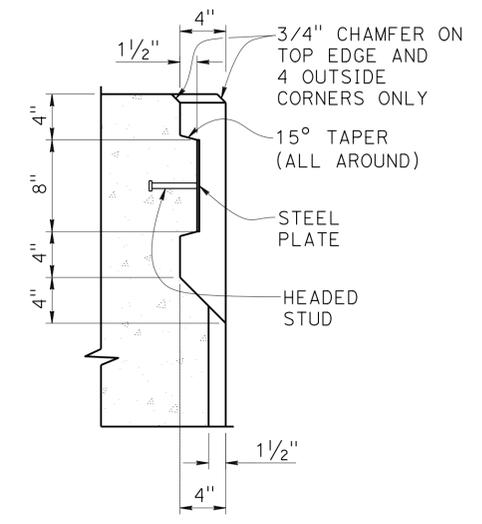
**SECTION G-G**  
 1 1/2" = 1'-0"



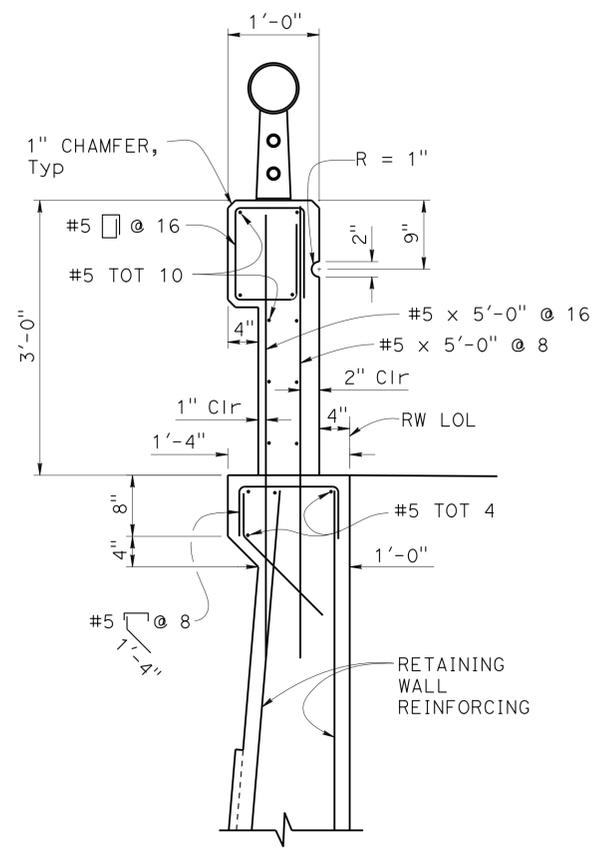
**SECTION H-H**  
 1 1/2" = 1'-0"



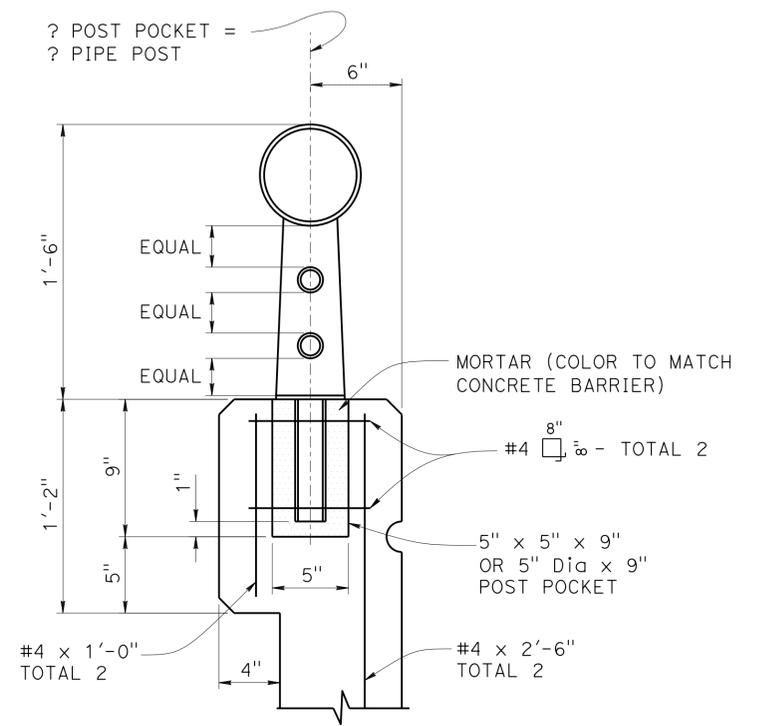
**SECTION E-E**  
 1" = 1'-0"



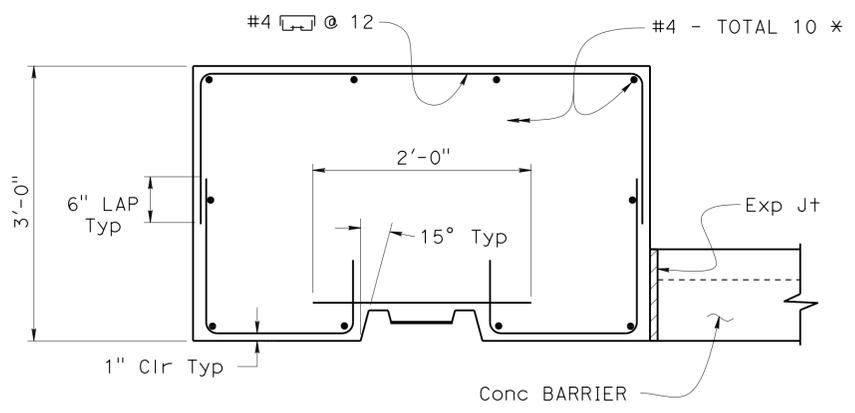
**SECTION F-F**  
 1 1/2" = 1'-0"



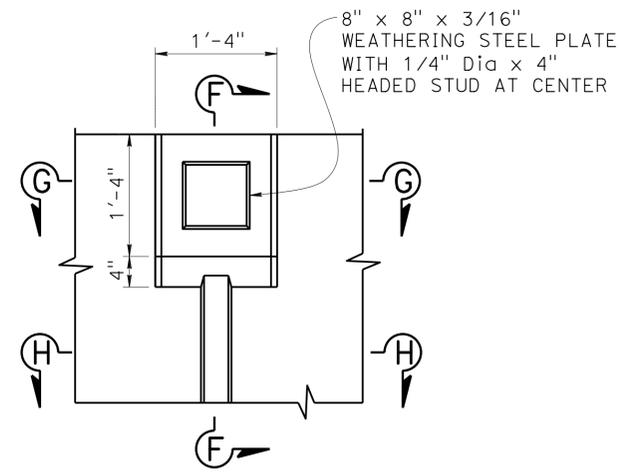
**SECTION C-C**  
 1" = 1'-0"



**POST ANCHORAGE DETAILS**  
 2" = 1'-0"



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

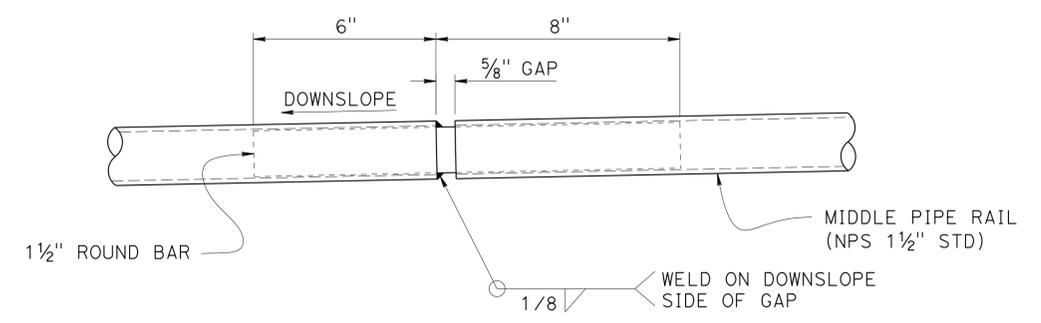


**DETAIL B**  
 1" = 1'-0"

\* Bend as required to follow face of pilaster and extend into footing in lieu of typical vertical wall stem reinforcement

**END PILASTER DETAILS**

NOTE: For locations of SECTIONS "C-C", "D-D", "E-E" and "DETAIL B", see "RETAINING WALL BARRIER DETAILS NO. 1" sheet



**MIDDLE RAIL SPLICE DETAIL**  
 No Scale

*Norbert Gee*  
 DESIGN OVERSIGHT  
 5-7-14  
 SIGN OFF DATE

DESIGN	BY K. Gazaway	CHECKED M.A. Nekuda
DETAILS	BY G. Espanto	CHECKED M.A. Nekuda
QUANTITIES	BY A. Sanford	CHECKED K. Gazaway

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

CRAIG SHANNON  
 PROJECT ENGINEER

BRIDGE NO.	57-1231
POST MILES	29.46

**GENESSEE AVENUE POC**  
**RETAINING WALL BARRIER DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2771  
 PROJECT NUMBER & PHASE: 11120001021

CONTRACT NO.: 11-0223U4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
6-28-12 1-31-13 2-22-13 2-3-14	15	34

FILE => 57-1231-g-rwdt05.dgn

DATE PLOTTED => 23-JUL-2014 TIME PLOTTED => 13:43 USERNAME => s127400

