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STRUCTURE PLANS

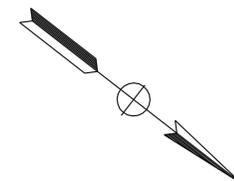
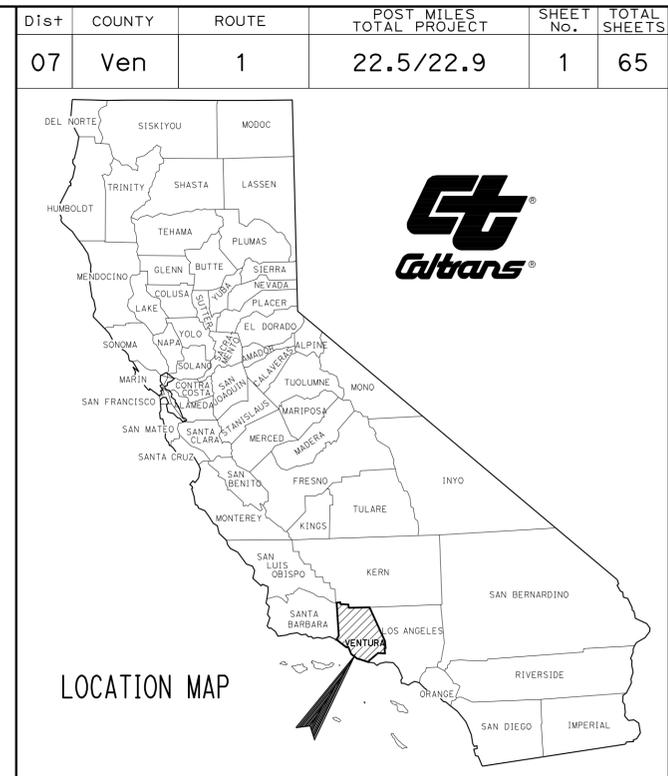
27-65 SEAWALL No. 1, Br No. 52-0139

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

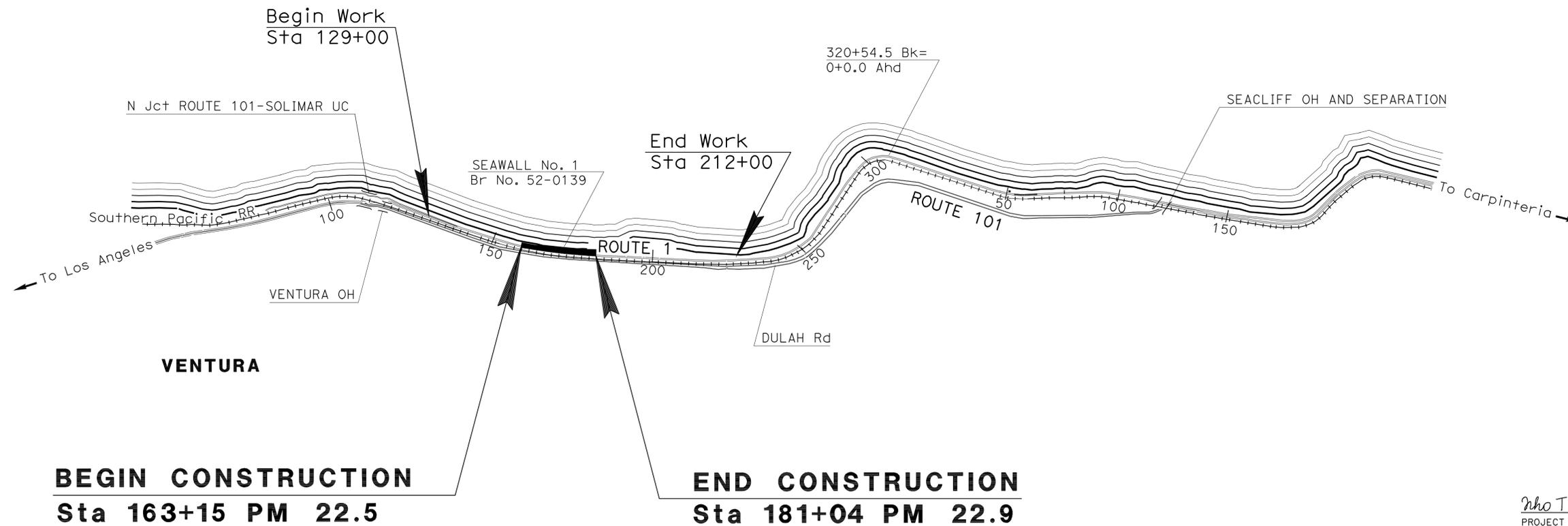
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PROJECT PLANS FOR CONSTRUCTION ON
 STATE HIGHWAY**

**IN VENTURA COUNTY NEAR VENTURA
 FROM 1.0 MILE NORTH OF VENTURA OVERHEAD
 TO 4.8 MILE SOUTH OF SEACLIFF OVERHEAD AND SEPARATION**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



PACIFIC
 OCEAN



**BEGIN CONSTRUCTION
 Sta 163+15 PM 22.5**

**END CONSTRUCTION
 Sta 181+04 PM 22.9**

NO SCALE

PROJECT MANAGER	RAVI GHATE
DESIGN ENGINEER	NHO NGUYEN

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

Nho T. Nguyen 5-1-12
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER

June 25, 2012
 PLANS APPROVAL DATE

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CONTRACT No.	07-228204
PROJECT ID	0700000378

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	2	65

Nho T. Nguyen		5-9-12
REGISTERED CIVIL ENGINEER	DATE	
6-25-12		
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER	NHO T. NGUYEN
No. C050361	
Exp. 6/30/13	
CIVIL	

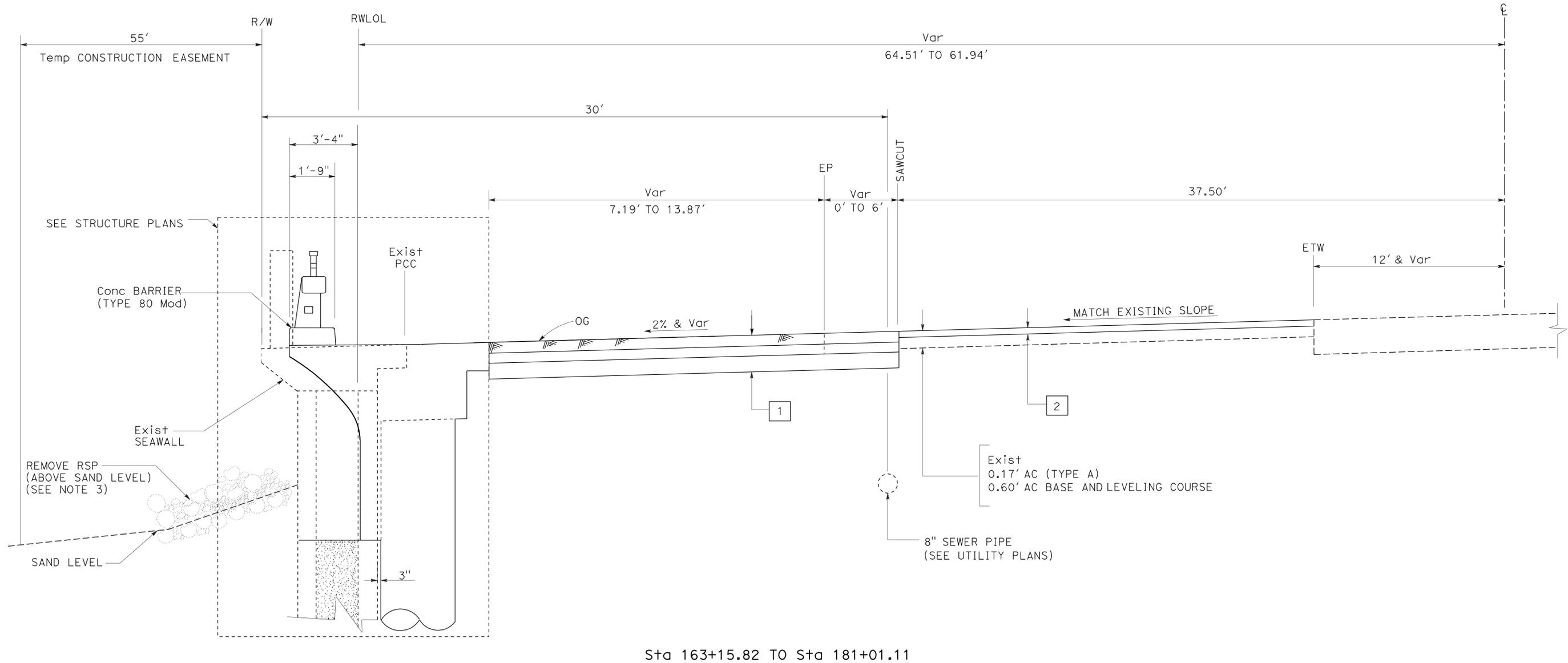
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NOTES:

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- REMOVE AND DISPOSE RSP OUTSIDE OF COASTAL ZONE AND THE STATE RIGHT OF WAY.

TYPICAL STRUCTURAL SECTIONS

- | | |
|---|--|
| 1 | 0.40' HOT MIX ASPHALT (TYPE A)
0.45' LEAN CONCRETE BASE
0.75' CLASS 3 AB |
| 2 | 0.20' HOT MIX ASPHALT (TYPE A)
0.20' COLD PLANE AC PAVEMENT |



TYPICAL CROSS SECTION

NO SCALE

X-1



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: O.C. LEE
 CALCULATED/DESIGNED BY: NHO NGUYEN
 CHECKED BY: STEVE CHUNG
 REVISIONS: REVISED BY: NHO NGUYEN
 DATE: N/A

NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- SEE STRUCTURE PLANS FOR SEAWALL No. 1, ACCESS STAIRS AND ACCESS RAMP.
- IMPROVE BEACH ACCESS PATH TO A MINIMUM OF 3' WIDTH.

LEGEND:

REMOVE RSP

CURVE DATA

No. (#)	R	Δ	T	L
1	11304.05'	11°48'00.4"	1168.171'	2328.078'
2	11300.12'	3°08'21.7"	309.741'	619.326'

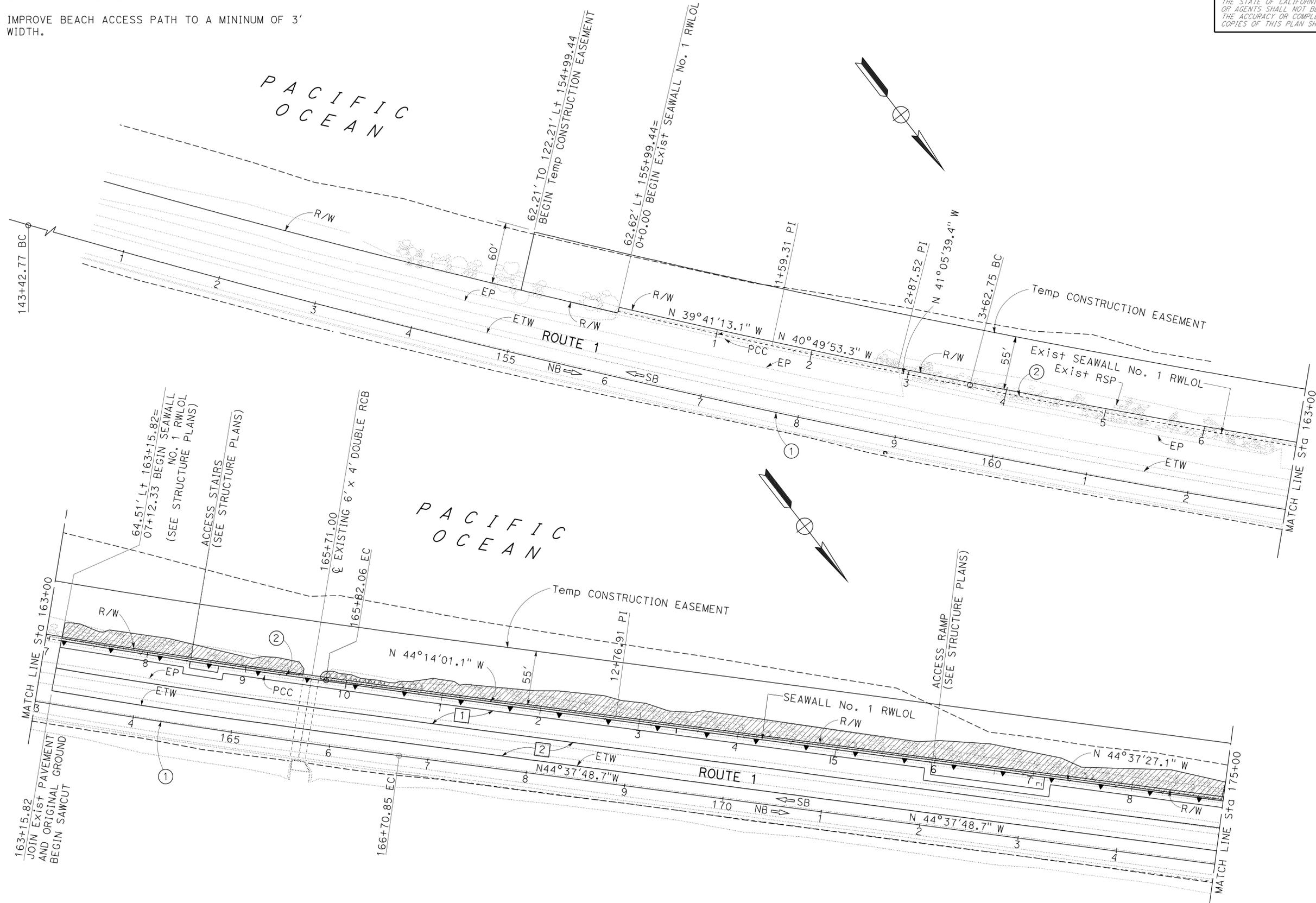
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	3	65

Nho T. Nguyen 5-9-12
 REGISTERED CIVIL ENGINEER DATE

6-25-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 NHO T. NGUYEN
 No. C050361
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

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LAYOUT
 SCALE: 1" = 50'

L-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	4	65

Nho T Nguyen 6-9-12
 REGISTERED CIVIL ENGINEER DATE

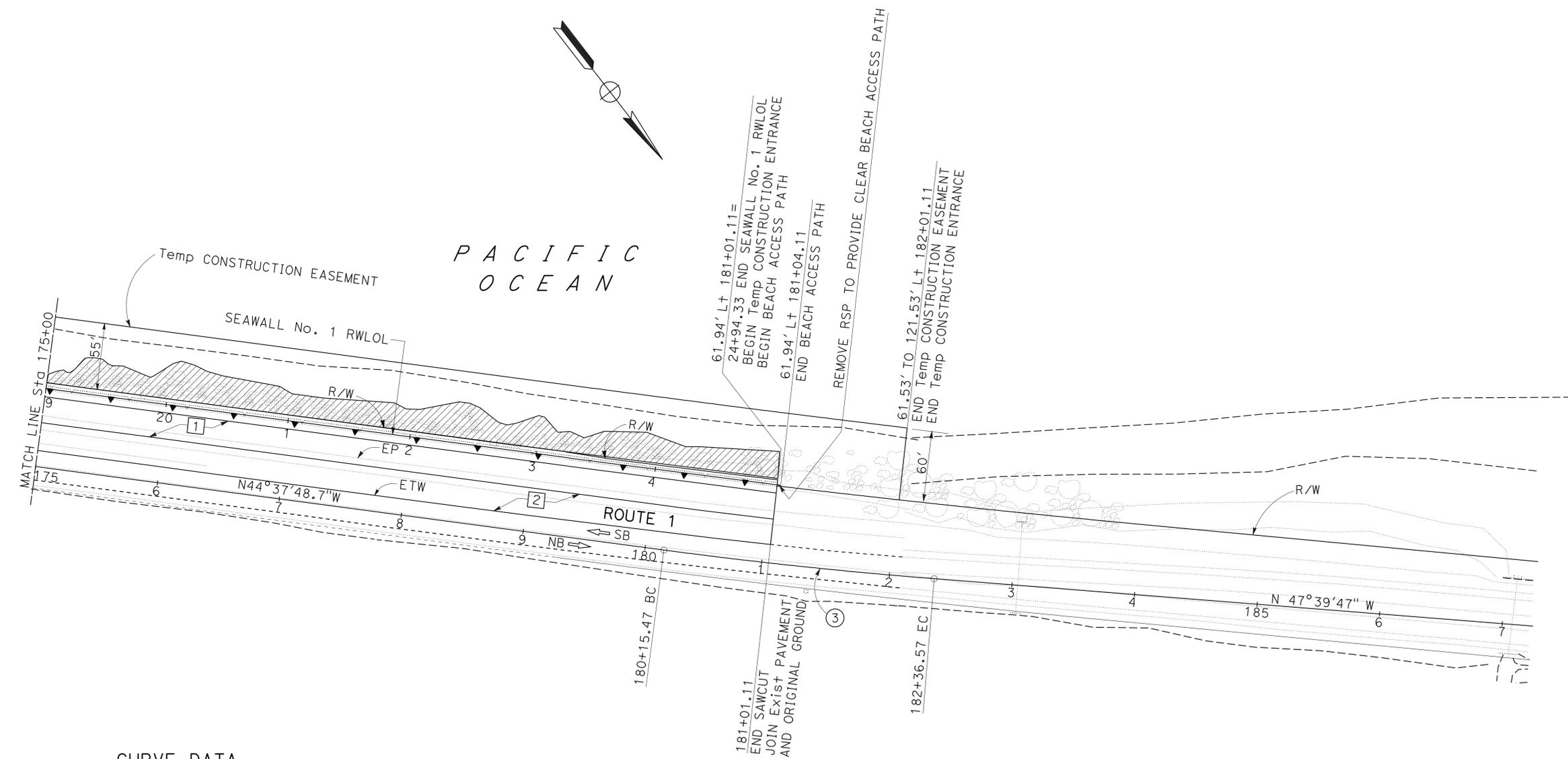
6-25-12
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 NHO T. NGUYEN
 No. C050361
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

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 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

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Caltrans
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 FUNCTIONAL SUPERVISOR: O.C. LEE
 CALCULATED/DESIGNED BY: NHO NGUYEN
 CHECKED BY: STEVE CHUNG
 REVISIONS: REVISED BY: DATE REVISION:



CURVE DATA

No. ⊕	R	Δ	T	L
3	4177.0'	3°01'58.3"	110.578'	221.103'

LAYOUT
 SCALE: 1" = 50'

L-2

LAST REVISION: 05-2-12
 DATE PLOTTED => 29-JUN-2012
 TIME PLOTTED => 12:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	5	65

<i>Parviz Yeganeh</i>	4-9-12
REGISTERED CIVIL ENGINEER	DATE
6-25-12	
PLANS APPROVAL DATE	

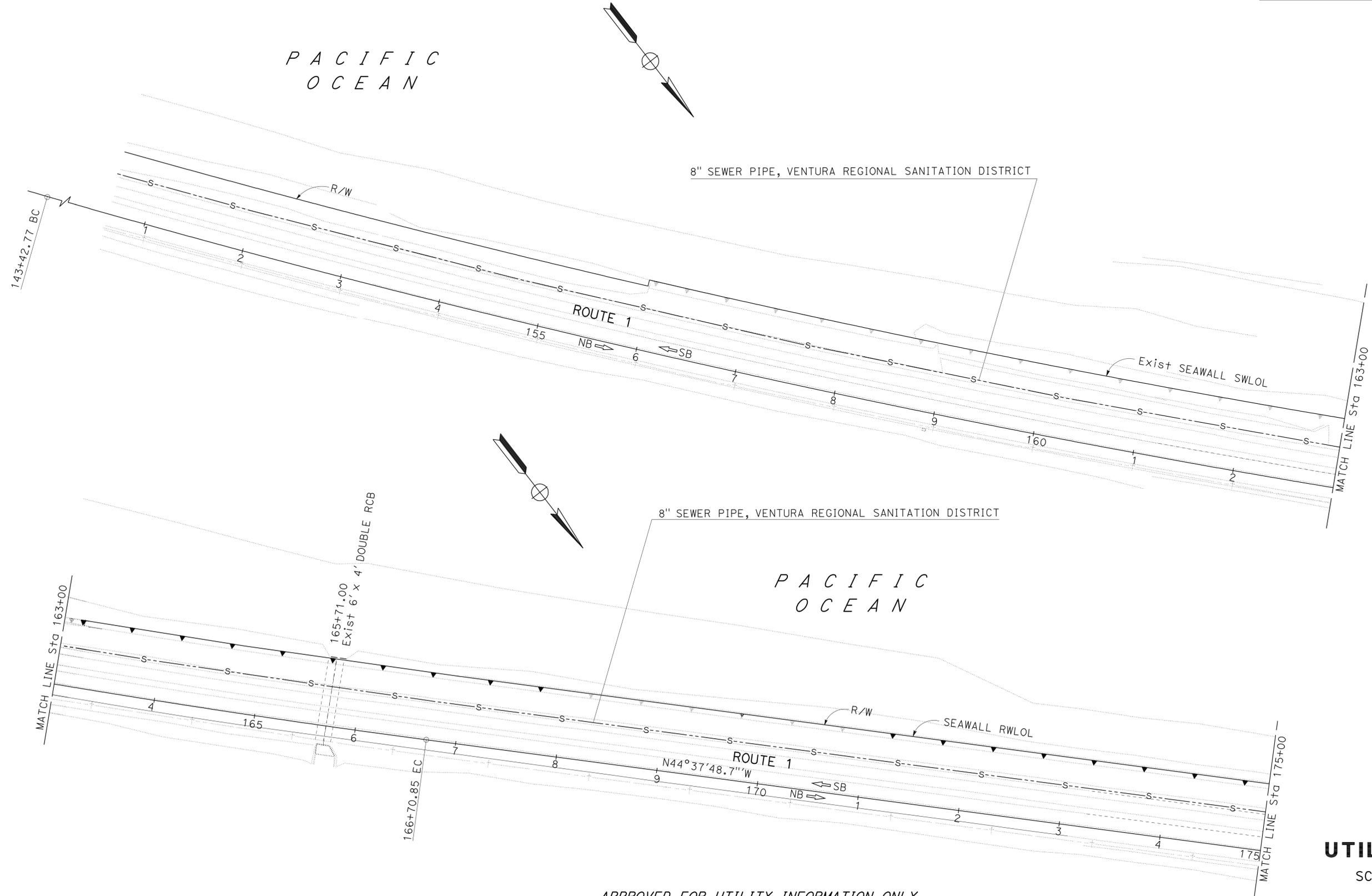
REGISTERED PROFESSIONAL ENGINEER
PARVIZ YEGANEH
 No. C53797
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA

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Caltrans OFFICE OF DESIGN A
FUNCTIONAL SUPERVISOR
CALCULATED/DESIGNED BY
REVISOR BY
DATE REVISED

MEHRDAD MOLAEI
PARVIZ YEGANEH
CELINA AVILES
CHECKED BY



APPROVED FOR UTILITY INFORMATION ONLY

UTILITY PLAN
 SCALE: 1" = 50'
U-1

LAST REVISION | DATE PLOTTED => 29-JUN-2012
05-11-12 TIME PLOTTED => 12:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	6	65

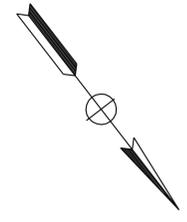
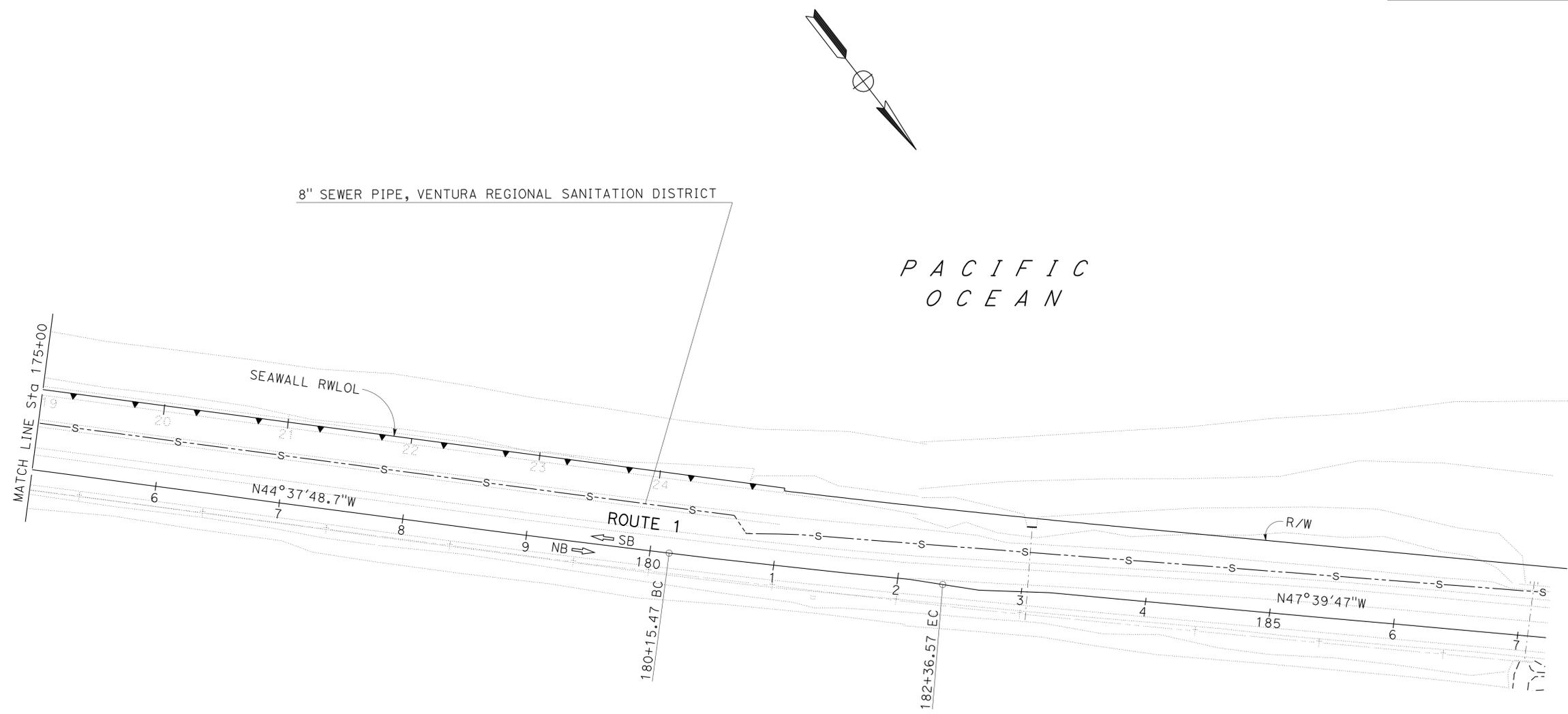
<i>Parviz Yeganeh</i> REGISTERED CIVIL ENGINEER No. C53797 Exp. 6/30/13 CIVIL	4-9-12 DATE 6-25-12 PLANS APPROVAL DATE
---	--

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Caltrans OFFICE OF DESIGN A	CELINA AVILES	CHECKED BY	MEHRDAD MOLAEI
			PARVIZ YEGANEH
			DATE
			REVISED



UTILITY PLAN

SCALE: 1" = 50'

U-2

APPROVED FOR UTILITY INFORMATION ONLY

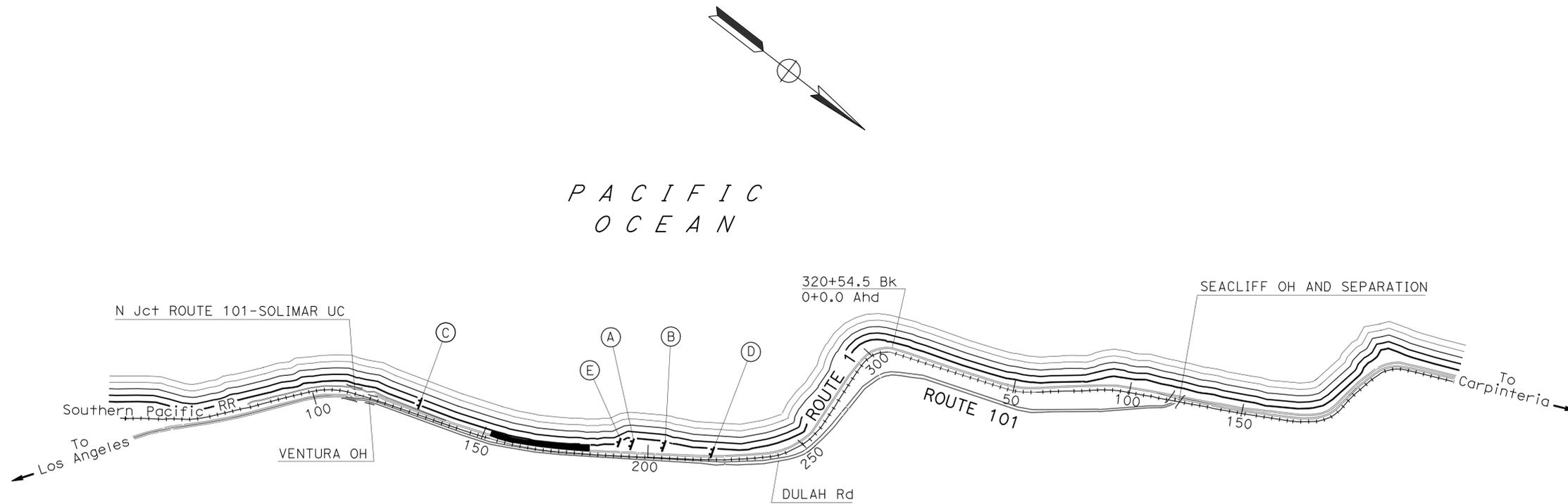
STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No. (X)	SIGN CODE		PANEL SIZE	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
A	W20-1		60" x 60"	ROAD WORK AHEAD	2-6" x 6"	1
B		C40(CA)	138" x 60"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2-6" x 6"	1
C	G20-2		48" x 24"	END ROAD WORK	2-4" x 4"	1
D	TYPE 2			CONSTRUCTION PROJECT FUNDING IDENTIFICATION	2-6" x 6"	1
E	W20-2(Mod)		36" x 36"	PARKING AHEAD	1-6" x 6"	1

NOTES:

1. SIGN LOCATIONS SHOWN ARE APPROXIMATE.
2. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
3. SIGNS SHALL BE COVERED WHEN NOT IN USE.
4. SEE STAGE CONSTRUCTION AND TRAFFIC HANDLING PLANS FOR ADDITIONAL CONSTRUCTION AREA SIGNS.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
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 O.C. LEE
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 NHO NGUYEN
 NHO NGUYEN
 REVISOR
 DATE
 REVISION



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

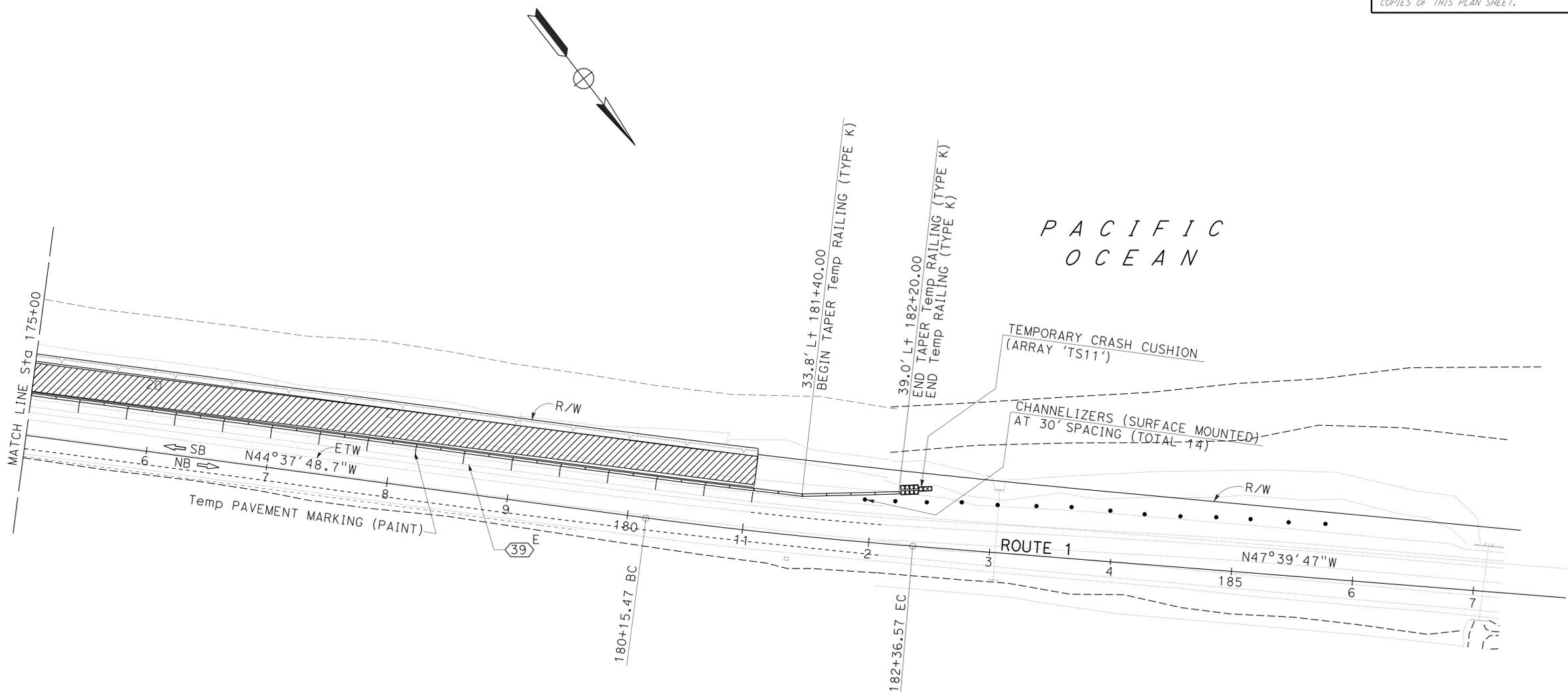
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	9	65

<i>Nho T Nguyen</i>		5-9-12
REGISTERED CIVIL ENGINEER	DATE	
6-25-12		
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER NHO T. NGUYEN No. C050361 Exp. 6/30/13 CIVIL STATE OF CALIFORNIA	
---	--

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CALCULATED/DESIGNED BY	CHECKED BY
NHO NGUYEN	STEVE CHUNG
REVISOR	DATE

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

(STAGE 1)

SCALE: 1" = 50'

SC-2

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	10	65

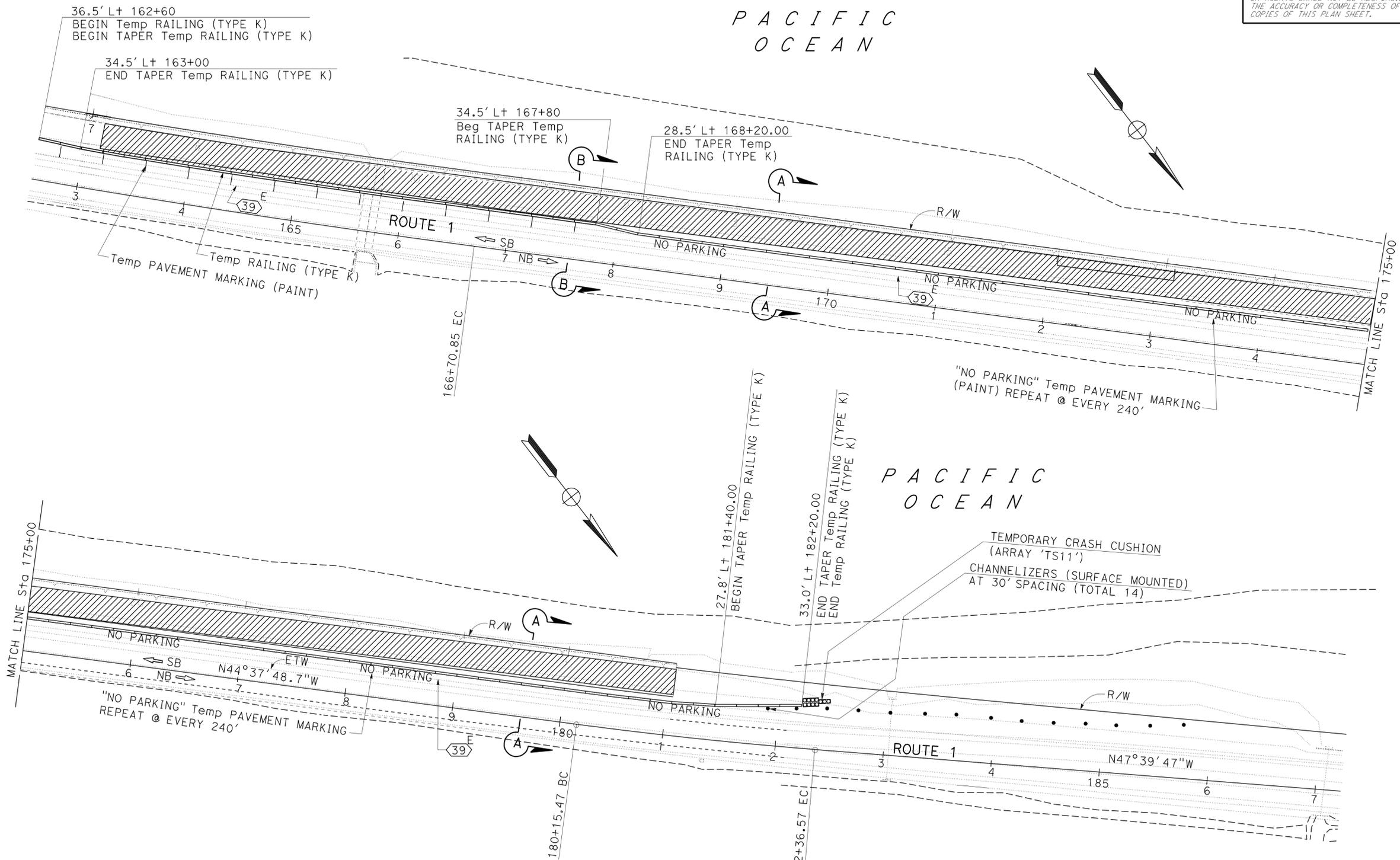
Nho T Nguyen		5-9-12
REGISTERED CIVIL ENGINEER	DATE	
6-25-12		
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER	
NHO T. NGUYEN	
No. C050361	
Exp. 6/30/13	
CIVIL	

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STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

(STAGE 2)

SCALE: 1" = 50'

SC-3

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

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Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 O.C. LEE

CALCULATED/DESIGNED BY
 CHECKED BY

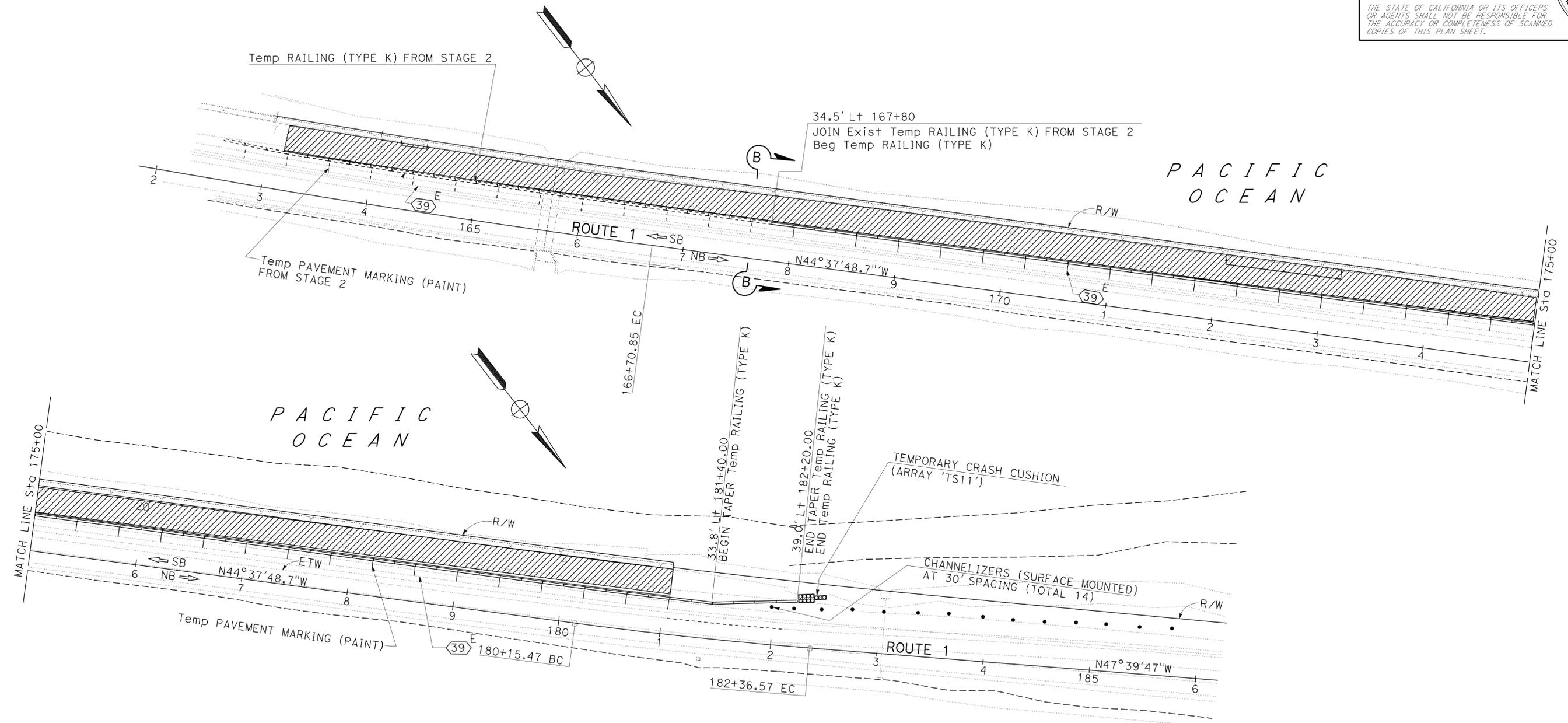
NHO NGUYEN
 STEVE CHUNG

REVISED BY
 DATE REVISED

REVISIONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	11	65
<i>Nho T Nguyen</i> REGISTERED CIVIL ENGINEER			5-9-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

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



STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN

(STAGE 3)

SCALE: 1" = 50'

SC-4

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

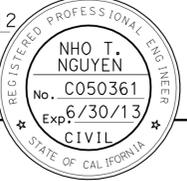
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
<i>Caltrans</i>	
FUNCTIONAL SUPERVISOR	O.C. LEE
CALCULATED/DESIGNED BY	CHECKED BY
NHO NGUYEN	STEVE CHUNG
REVISED BY	DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	12	65

Nho T Nguyen 5-9-12
REGISTERED CIVIL ENGINEER DATE

6-25-12
PLANS APPROVAL DATE

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STAGE CONSTRUCTION AND TRAFFIC HANDLING QUANTITIES

SHEET No.	STATION LIMITS	Temp PAVEMENT MARKING (PAINT)		TEMPORARY CRASH CUSHION MODULE	CHANNELIZER (SURFACE MOUNTED)	TEMPORARY RAILING (TYPE K)
		WORD	6" WHITE LINE			
		SQFT	SQFT			
STAGE 1						
SC-1	162+60 to 175+00	6	89.3			1240
SC-2	175+00 to 182+20		78.8	11	14	720
STAGE 2						
SC-3	162+60 to 175+00	6	68.3			1240
	175+00 to 182+20	6		11	14	720
STAGE 3						
SC-4	167+80 to 182+20		173.3	11	14	1440
TOTAL			427.7	33	42	5360

STAGE CONSTRUCTION AND TRAFFIC HANDLING QUANTITIES

SCQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN
 FUNCTIONAL SUPERVISOR O.C. LEE
 CALCULATED-DESIGNED BY CHECKED BY
 NHO NGUYEN STEVE CHUNG
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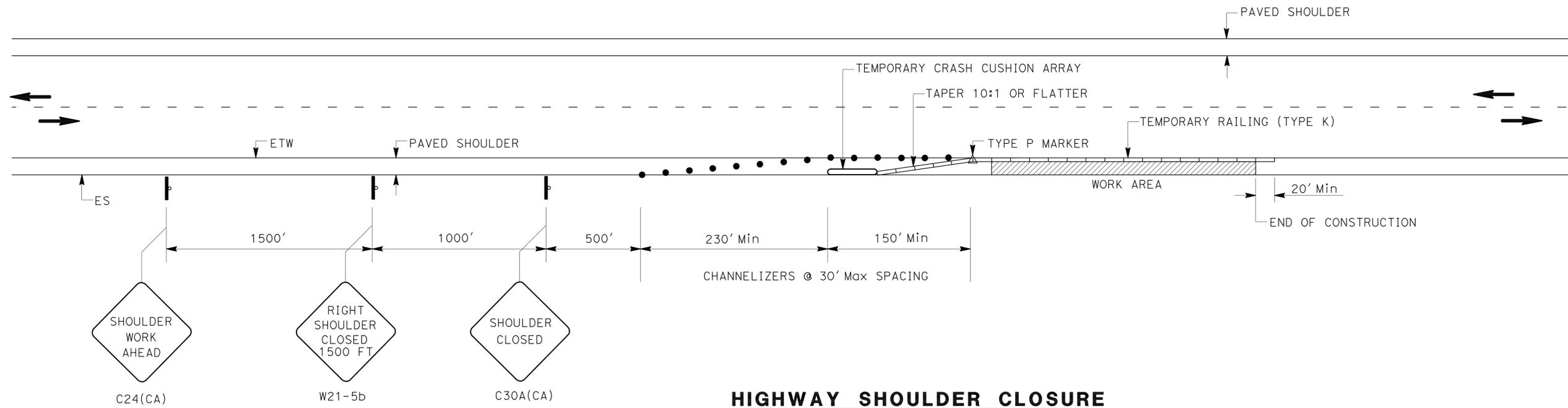
NOTES:

1. CHANNELIZERS (SURFACE MOUNTED) SHALL BE MAINTAINED THROUGHOUT THE ENTIRE CLOSURE PERIOD.
2. SEE STANDARD PLANS FOR APPROPRIATE CRASH CUSHION ARRAY.
3. FOR RIGHT SHOULDER WITH SIDE SLOPE, SIGNS SHALL BE AS FOLLOWS:

SIGN CODE	PANEL SIZE (inch x inch)	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
C24(CA)	48" x 48"	SHOULDER WORK AHEAD	2-4" X 4" (S)	1
W21-5b	48" x 48"	RIGHT SHOULDER CLOSED 1500 FT	2-4" X 4" (S)	1
C30A(CA)	48" x 48"	SHOULDER CLOSED	2-4" X 4" (S)	1

(S) DENOTES STATIONARY- MOUNTED SIGN

4. LOCATION OF SIGNS WILL BE DETERMINED BY ENGINEER.



HIGHWAY SHOULDER CLOSURE

LEGEND:

- ← DIRECTION OF TRAVEL
- CHANNELIZER (SURFACE MOUNTED)
- ▭ TEMPORARY CRASH CUSHION ARRAY
- ⊥ CONSTRUCTION AREA SIGN
- ▨ WORK AREA
- ▭ TEMPORARY RAILING (TYPE K)

**TRAFFIC HANDLING DETAILS
TYPICAL SHOULDER CLOSURES
WITH TEMPORARY RAILING (TYPE K)**

NO SCALE

THD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 O.C. LEE
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 NHO NGUYEN
 REVISOR
 DATE REVISOR
 DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	14	65

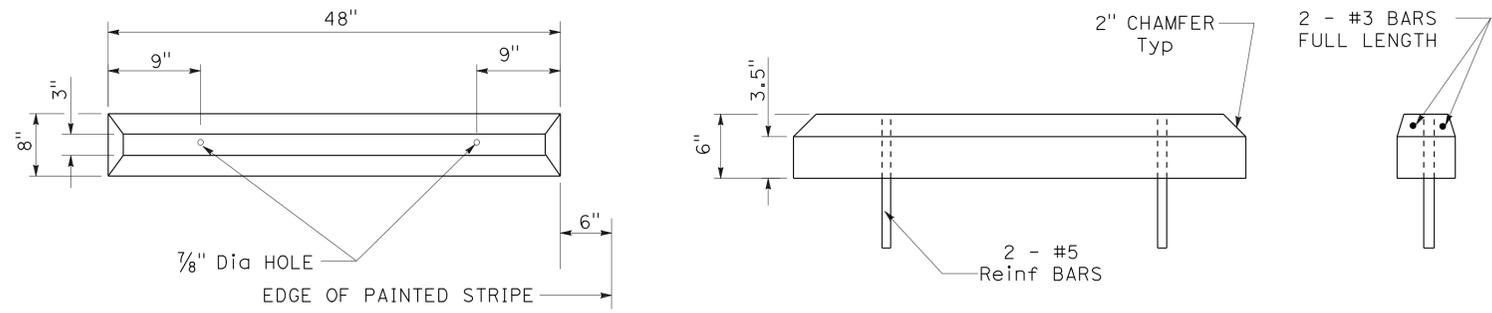
Nho T. Nguyen		5-9-12
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6-25-12		
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REGISTERED PROFESSIONAL ENGINEER
NHO T. NGUYEN
No. C050361
Exp. 6/30/13
CIVIL

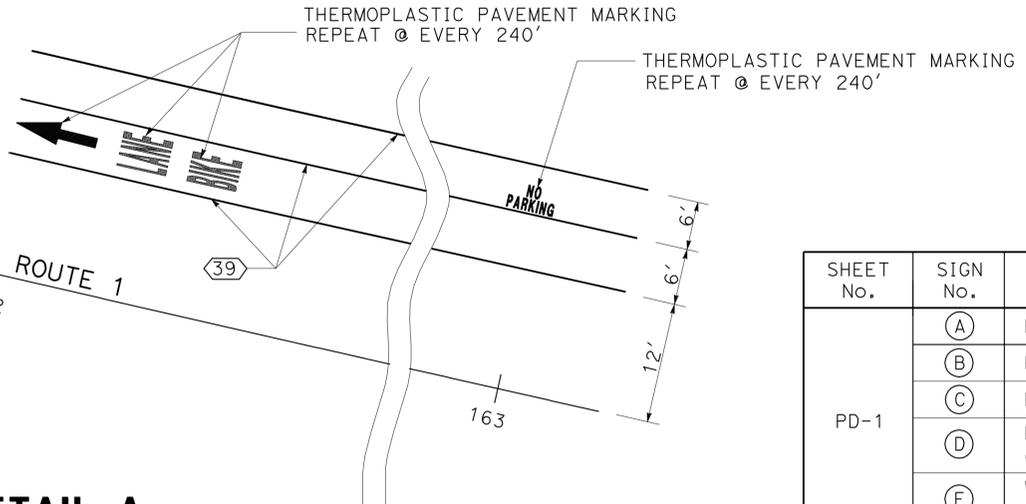
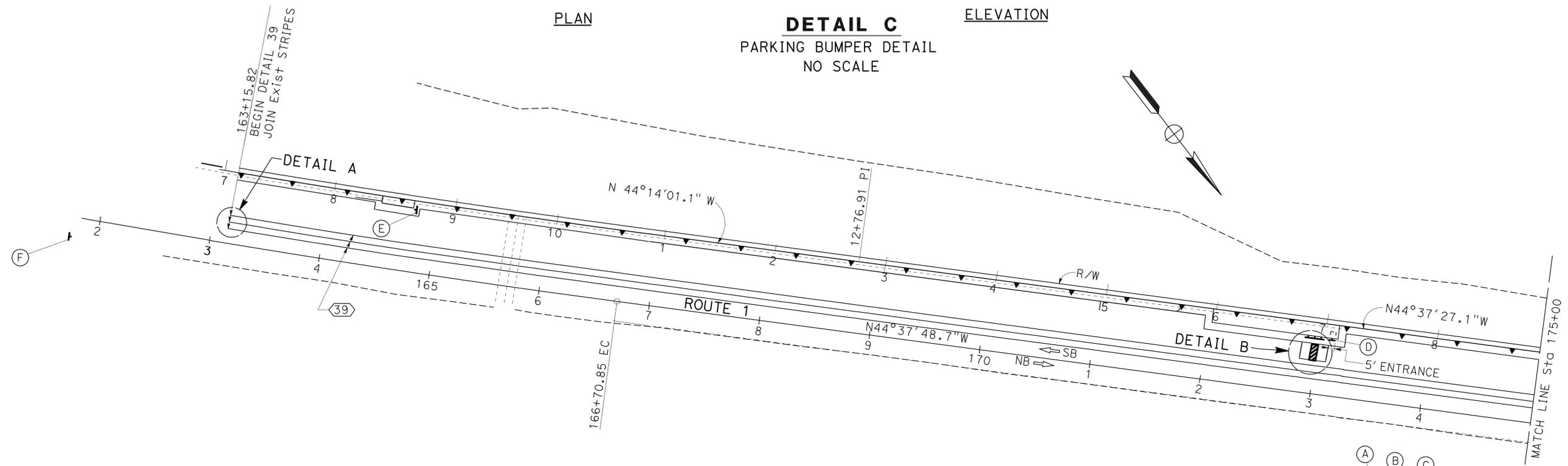
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LEGEND:
 DIRECTION OF TRAFFIC
 STRIPING DETAIL

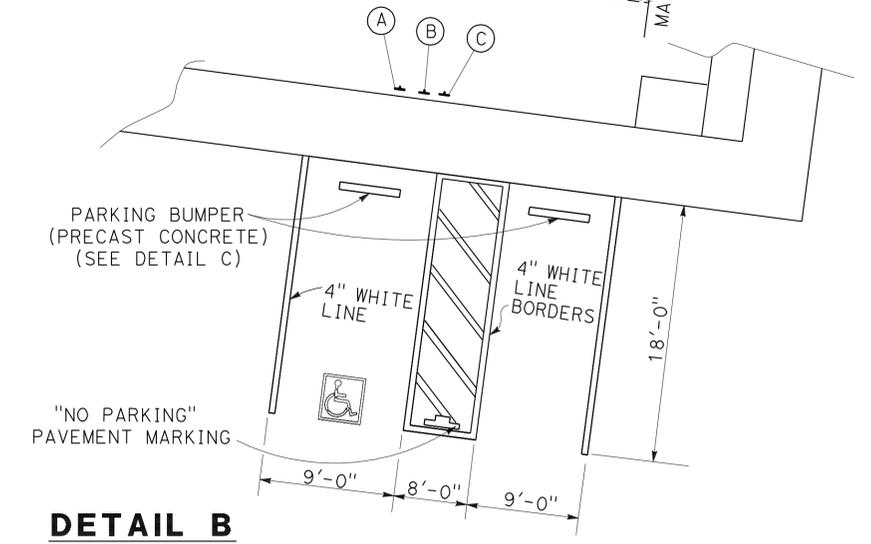


DETAIL C
PARKING BUMPER DETAIL
NO SCALE



DETAIL A
SCALE: 1" = 10'

ROADSIDE SIGNS					
SHEET No.	SIGN No.	SIGN CODE	PANEL SIZE	No. OF POSTS AND SIZE	EA
PD-1	(A)	R99(CA)	12" x 18"	1 - 6" x 6"	1
	(B)	R7-8b	12" x 8"	1 - 6" x 6"	1
	(C)	R100B(CA)	24" x 24"	1 - 6" x 6"	1
	(D)	D9-6 G33-1(CA)	18" x 18" 18" x 5"	1 - 6" x 6"	1
	(E)	W11-2 W16-7pl	18" x 18" 24" x 12"	1 - 6" x 6"	1
	(F)	SG28 (Lt) (CA)	30" x 30"	1 - 6" x 6"	1
PD-2	(G)	SG28-(Rt) (CA)	30" x 30"	1 - 6" x 6"	1
TOTAL					7



DETAIL B
SINGLE PARKING STALL
(SEE Std PLAN A90B)
NO SCALE

PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

PD-1

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

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Caltrans
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 O.C. LEE
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 NHO NGUYEN
 NHO NGUYEN
 REVISOR BY
 STEVE CHUNG
 DATE REVISOR BY
 DATE REVISOR BY

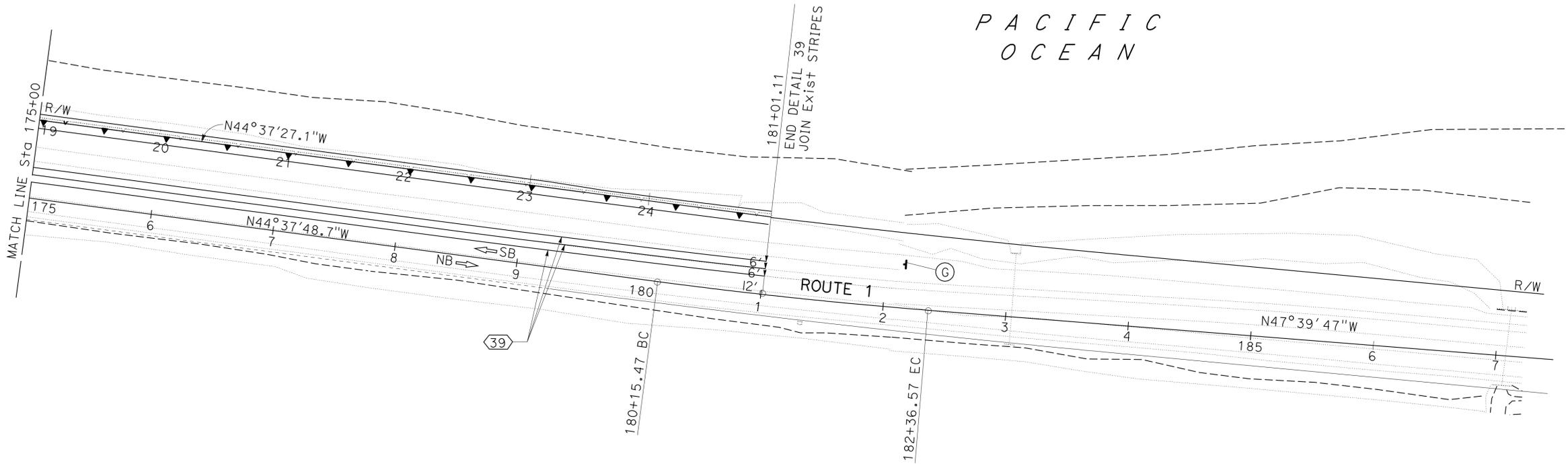
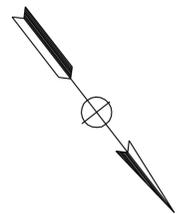
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	15	65

<i>Nho T Nguyen</i>		5-9-12
REGISTERED CIVIL ENGINEER	DATE	
6-25-12		
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER
NHO T. NGUYEN
No. C050361
Exp. 6/30/13
CIVIL

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FUNCTIONAL SUPERVISOR	O.C. LEE
CALCULATED/DESIGNED BY	CHECKED BY
NHO NGUYEN	STEVE CHUNG
REVISOR BY	DATE

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

**PAVEMENT DELINEATION
 AND SIGN PLAN**

SCALE: 1" = 50'

PD-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	16	65

Nho T Nguyen 5-9-12
REGISTERED CIVIL ENGINEER DATE

6-25-12
PLANS APPROVAL DATE

NHO T. NGUYEN
No. C050361
Exp. 6/30/13
CIVIL

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PAVEMENT DELINEATION QUANTITIES

SHEET No.	STATION	THERMOPLASTIC TRAFFIC STRIPE	THERMOPLASTIC PAVEMENT MARKING	PAINT PAVEMENT MARKING (2-COAT)			PARKING BUMPER (PRECAST CONCRETE)
		6" WHITE LINE	WORD	4" WHITE LINE	6" WHITE LINE	WORD	
		DETAIL 39		LIMIT LINE OR ISA MARKING			
		LF	SQFT	SQFT		EA	
PD-1	163+15.82 TO 175+00	3553	104	51		2	2
PD-2	175+00 TO 181+01.11	1803	39				
TOTAL		5356	143	53			2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: O.C. LEE

CALCULATED/DESIGNED BY: NHO NGUYEN
CHECKED BY: STEVE CHUNG

REVISOR BY: NHO NGUYEN
DATE REVISED: STEVE CHUNG

PAVEMENT DELINEATION QUANTITIES
PDQ-1

LAST REVISION | DATE PLOTTED => 29-JUN-2012
05-17-12 | TIME PLOTTED => 13:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	17	65

Nho T Nguyen 5-9-12
REGISTERED CIVIL ENGINEER DATE

6-25-12
PLANS APPROVAL DATE

NHO T. NGUYEN
No. C050361
Exp. 6/30/13
CIVIL

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ROADWAY QUANTITIES

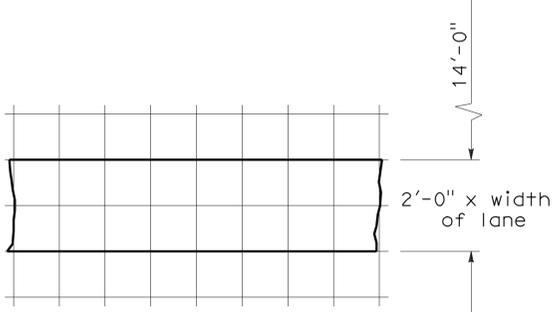
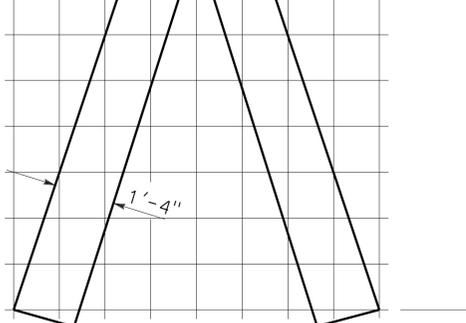
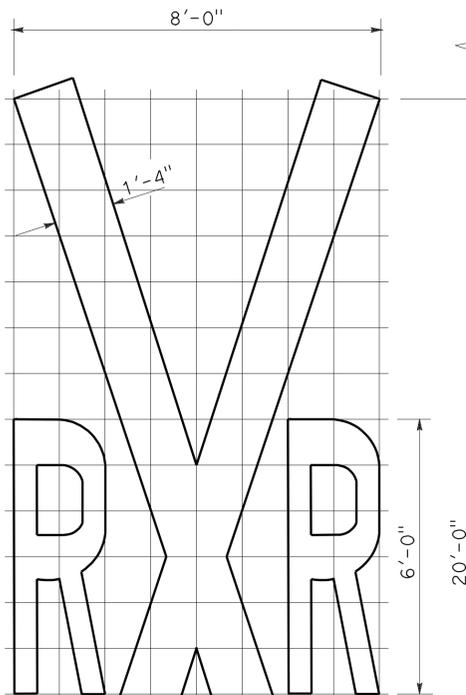
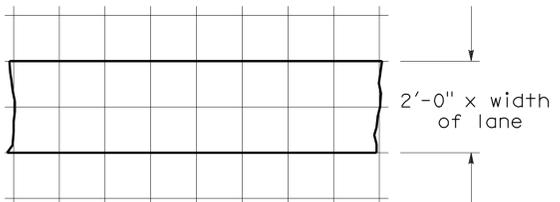
SHEET No.	STATION	ROADWAY EXCAVATION (PETROLEUM HYDROCARBON CONTAMINATION)	ROADWAY EXCAVATION	LEAN CONCRETE BASE	CLASS 3 AGGREGATE BASE	HOT MIX ASPHALT (TYPE A)	COLD PLANE ASPHALT CONCRETE PAVEMENT	TACK COAT	Temp GRAVEL BAG BERM	Temp CONSTRUCTION ENTRANCE	Temp COVER	REMOVE ROCK SLOPE PROTECTION
		CY	CY	CY	CY	TON	SQYD	TON	LF	EA	SQYD	CY
L-1	Sta 163+15.82 TO Sta 175+00		2267	640	1060	930	3332	3.4	130		45	4050
L-2	Sta 175+00 TO Sta 181+01.11	90	1059	350	538	582	1666	1.6		1	20	3850
TOTAL		90	3326	990	1598	1512	4998	5.0	130	1	65	7900

SUMMARY OF QUANTITIES

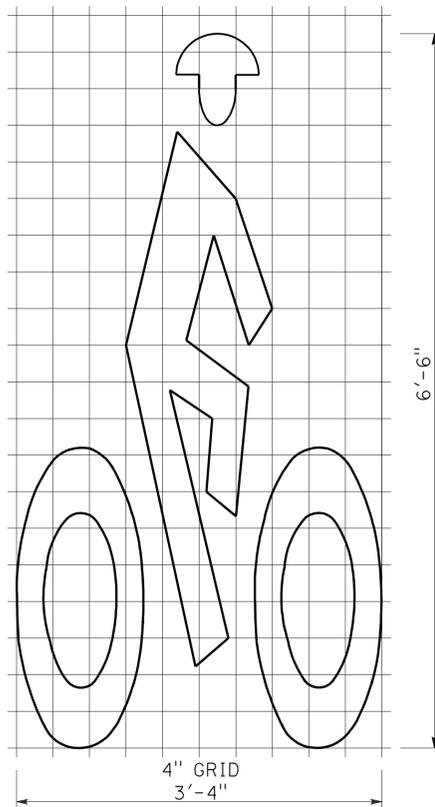
Q-1



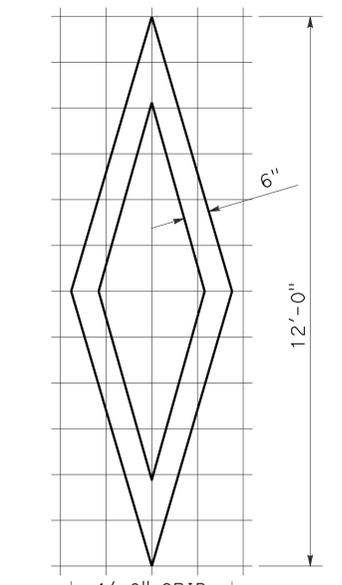
To accompany plans dated 6-25-12



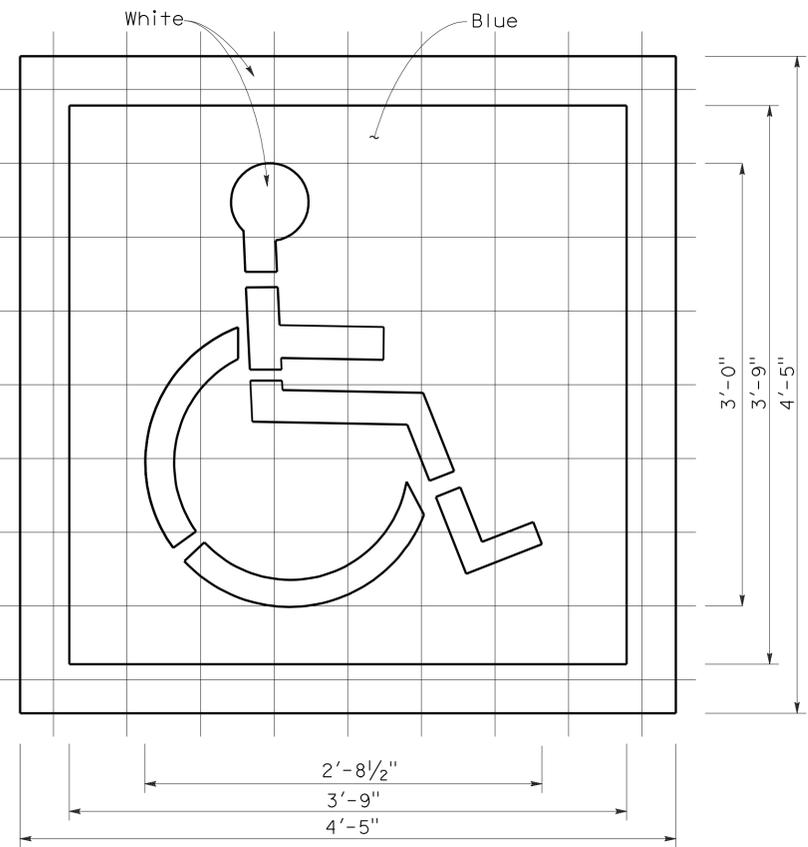
RAILROAD CROSSING SYMBOL
*70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



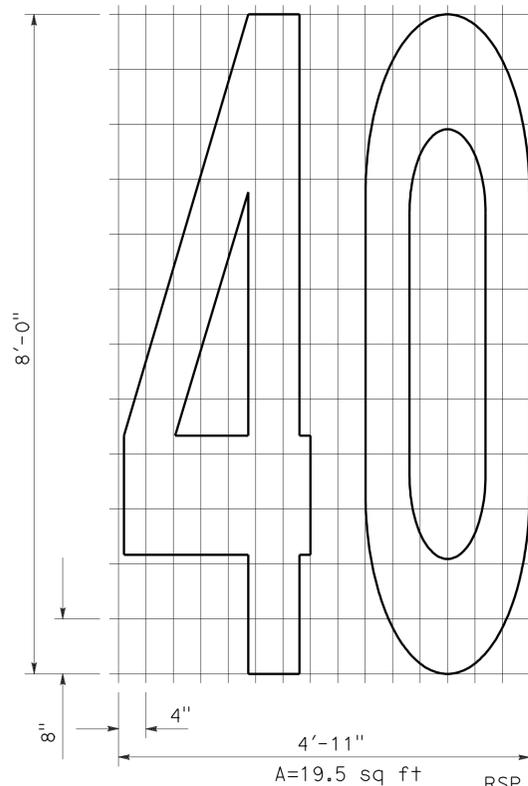
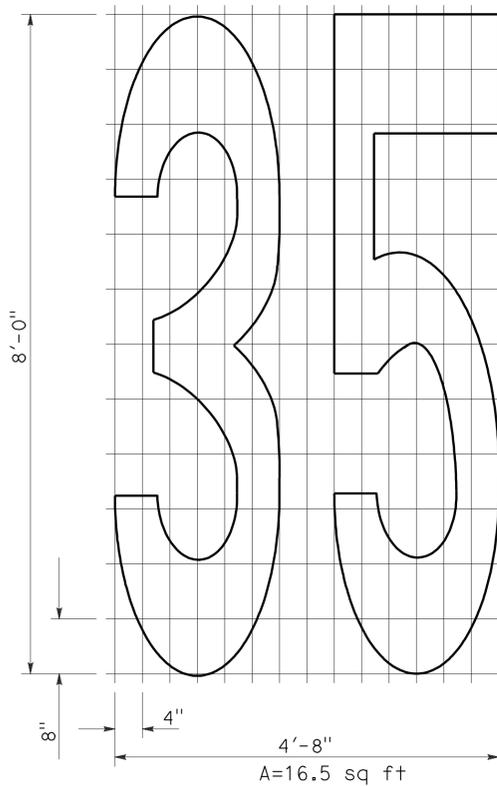
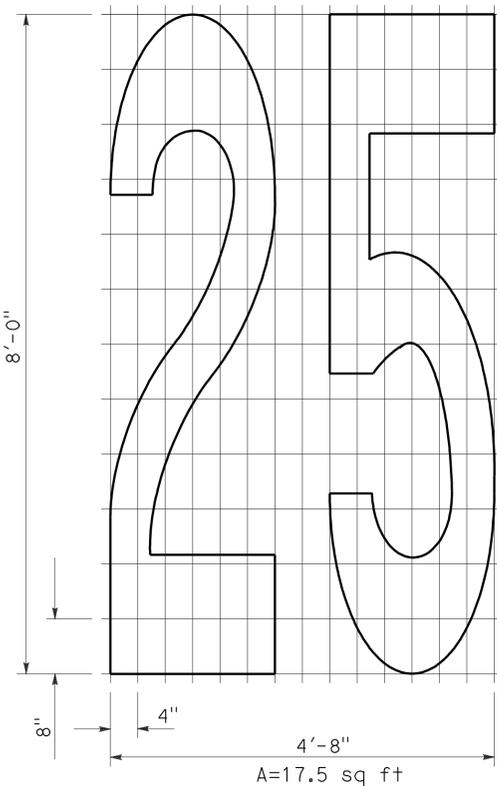
BIKE LANE SYMBOL



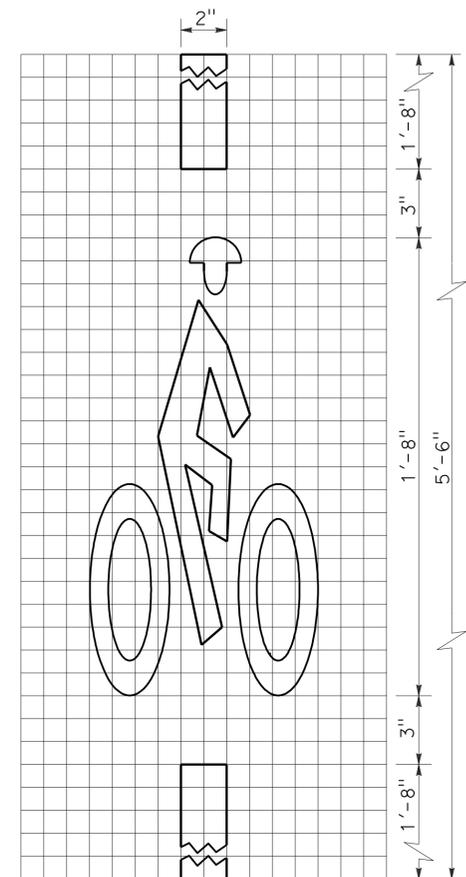
DIAMOND SYMBOL



INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING



NUMERALS



BICYCLE LOOP DETECTOR SYMBOL

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS SYMBOLS AND NUMERALS

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	19	65

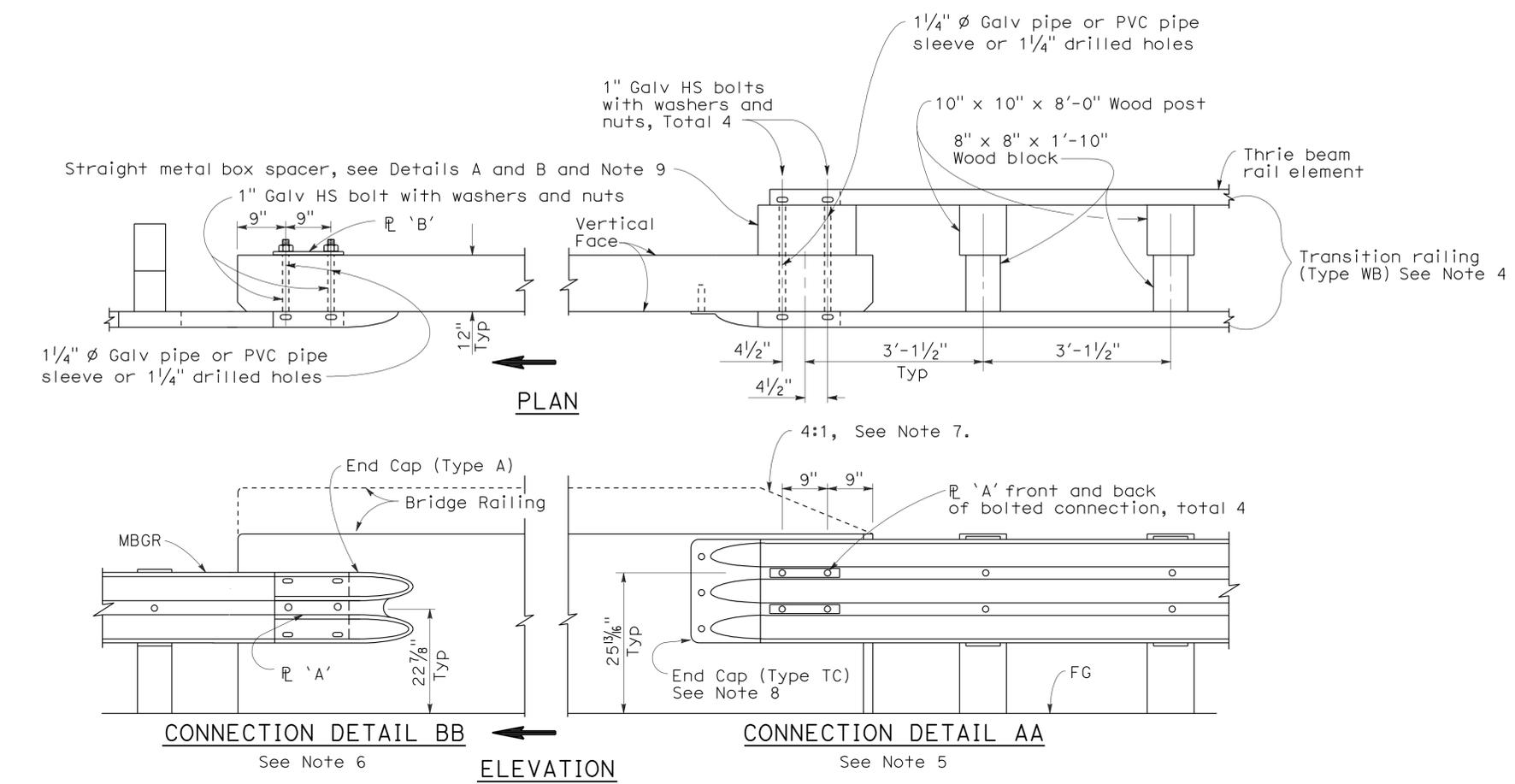
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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

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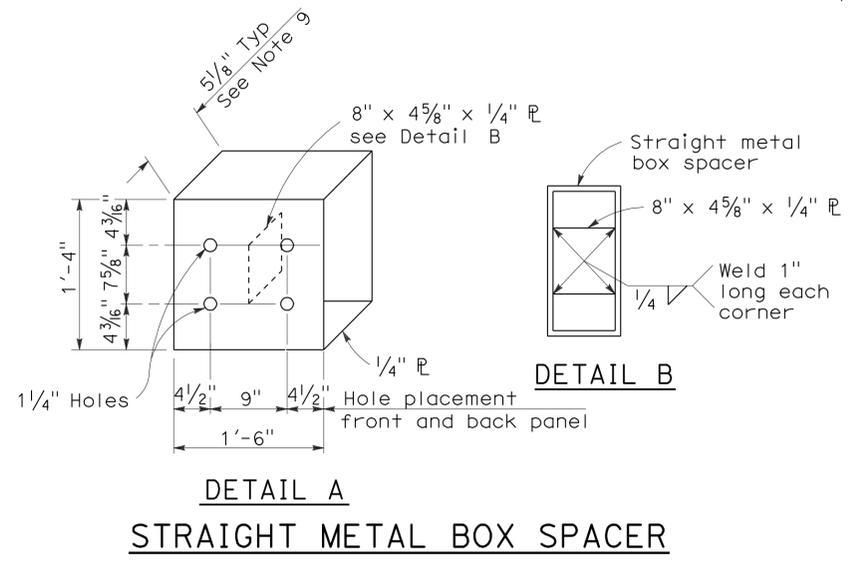
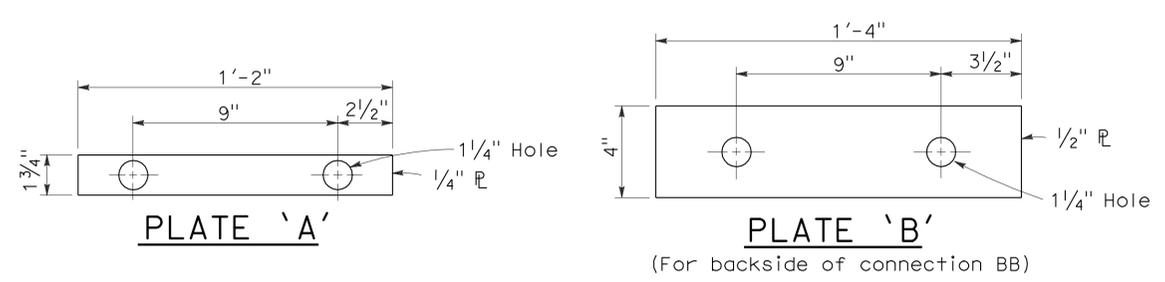
To accompany plans dated 6-25-12



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by \rightarrow .
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail.
8. For details of End Cap (Type TC), see Standard Plan A77J4.
9. See Standard Plan A77J4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.1

NO SCALE

RSP A77J1 DATED MAY 20, 2011 SUPERSEDES RSP A77J1 DATED JUNE 6, 2008 AND STANDARD PLAN A77J1 DATED MAY 1, 2006 - PAGE 72 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77J1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	1	22.5/22.9	20	65

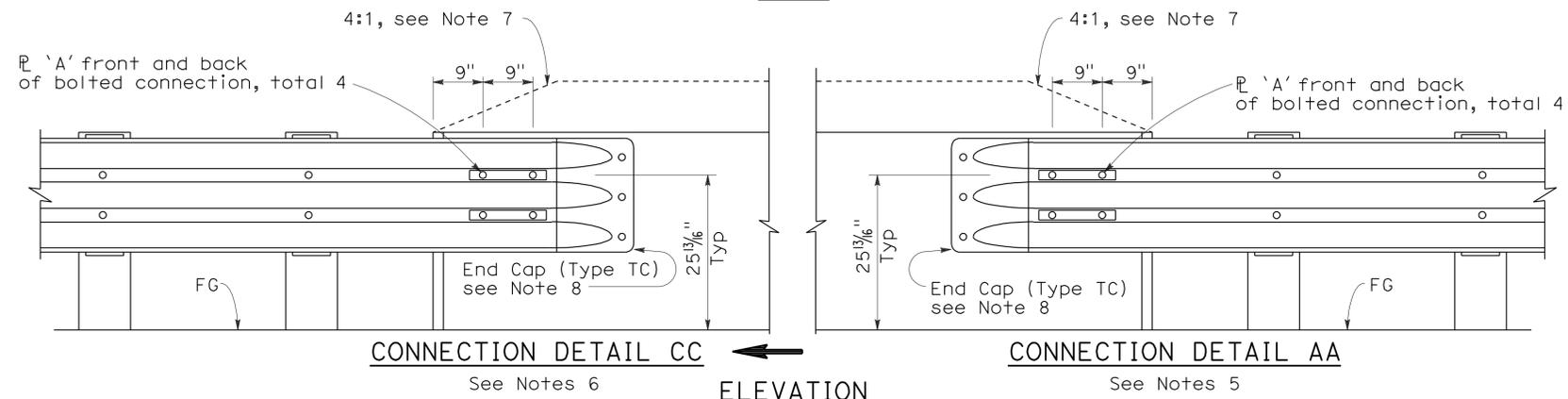
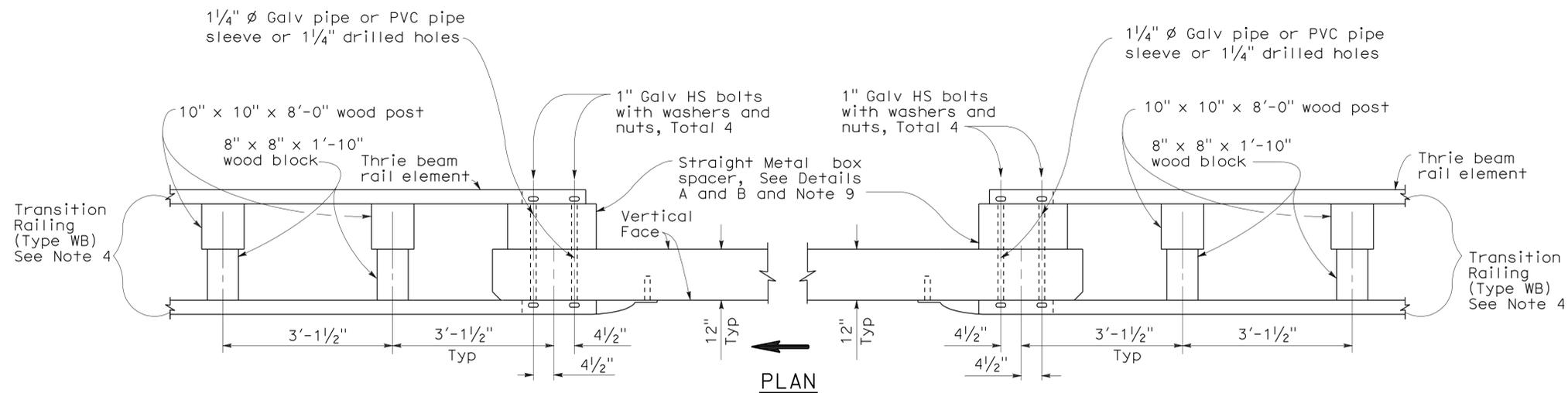
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

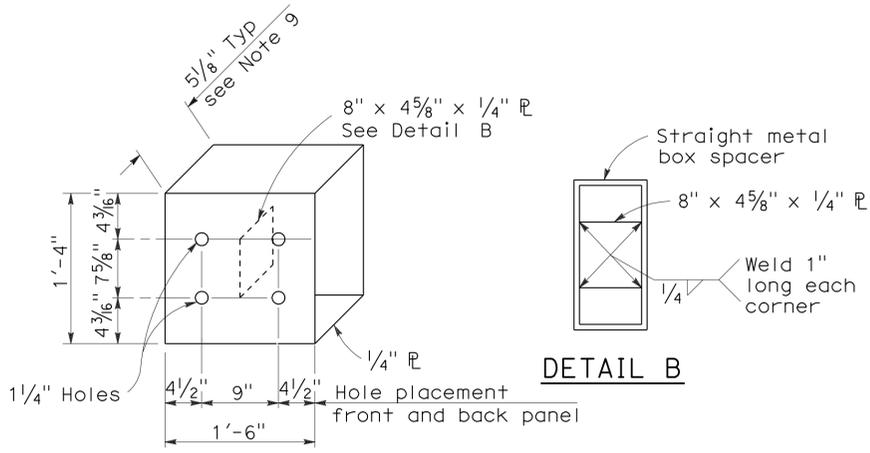
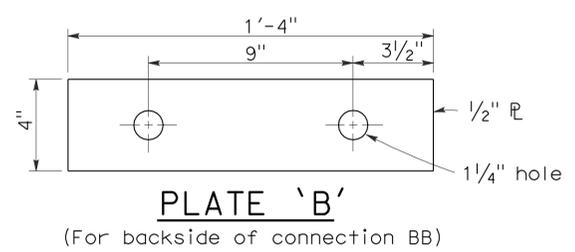
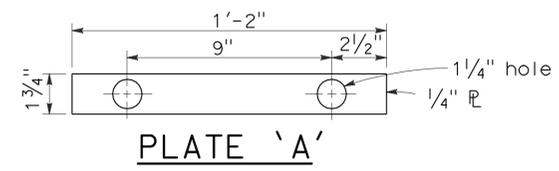
To accompany plans dated 6-25-12



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by →.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Standard Plan A77F4 and Layout Type 12CC on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
8. For details of End Cap (Type TC), see Standard Plans A77J4.
9. See Standard Plans A77J4 for additional details regarding depth dimension for straight metal box spacer.



**DETAIL A
STRAIGHT METAL BOX SPACER**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

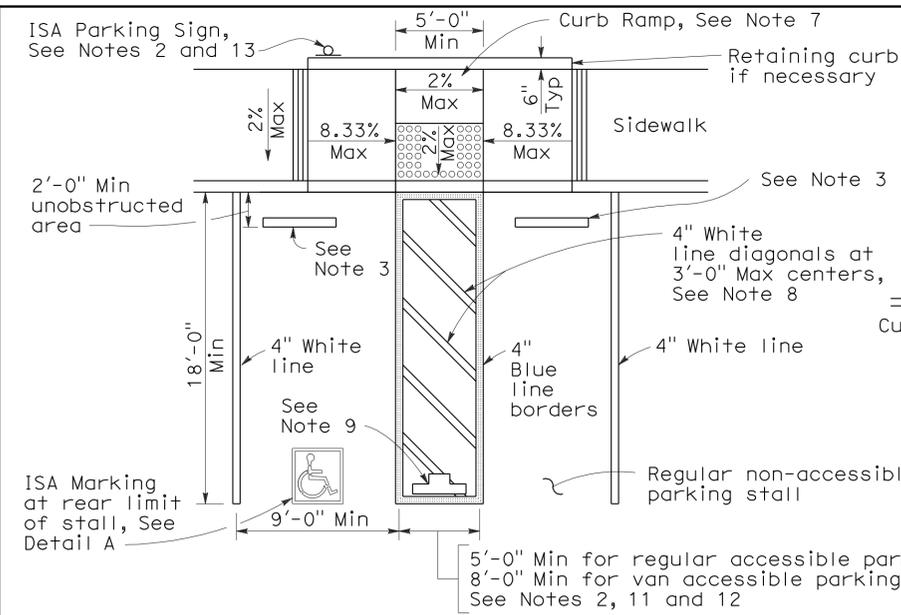
**METAL BEAM GUARD RAILING
CONNECTIONS TO BRIDGE RAILINGS
WITHOUT SIDEWALKS DETAILS No.2**

NO SCALE
RSP A77J2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J2
DATED MAY 1, 2006 - PAGE 73 OF THE STANDARD PLANS BOOK DATED MAY 2006.

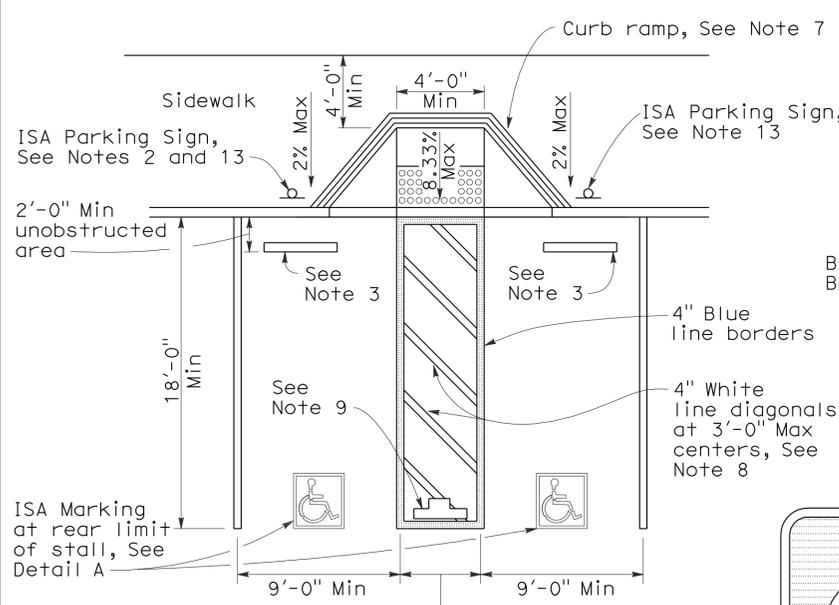
REVISED STANDARD PLAN RSP A77J2

2006 REVISED STANDARD PLAN RSP A77J2

To accompany plans dated 6-25-12



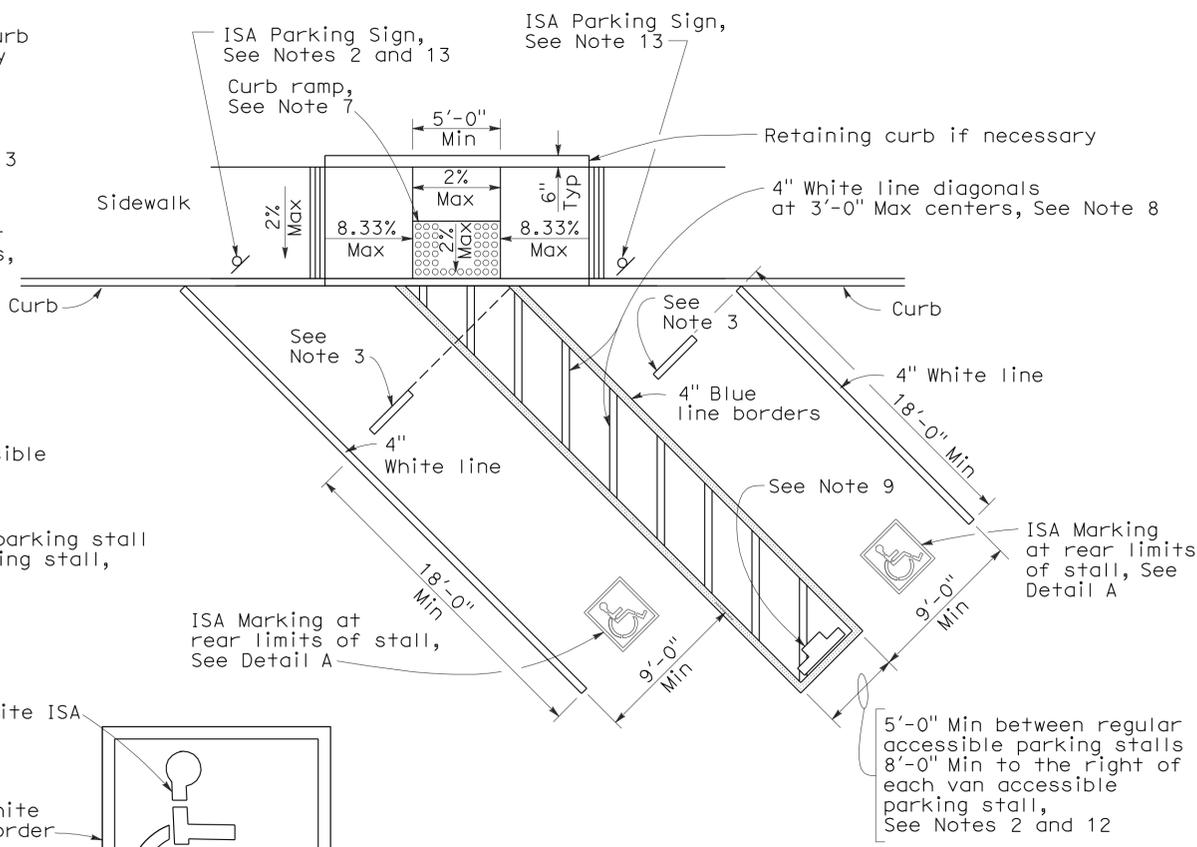
SINGLE PARKING STALL



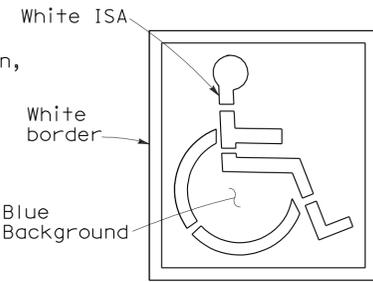
DOUBLE PARKING STALL

TABLE A

Total Number of Parking Spaces or Stalls	Minimum Number of Disabled Accessible Parking Spaces or Stalls
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2 percent of total
Greater than 1001	20 plus 1 for each 100 or fraction thereof over 1001



DIAGONAL DOUBLE PARKING STALLS



ISA MARKING
See Revised Std Plan RSP A24C

DETAIL A



SIGN R99 (CA)



PLAQUE R99B (CA)

SIGN R99 (CA) with PLAQUE R99B (CA)
See Note 6



SIGN R99C (CA)
See Note 6



SIGN R100B (CA)
See Note 10



SIGN R7-8b
See Notes 2 and 6

OFF-STREET PARKING SIGNS

(Parking lot or garage)
See Note 6

NOTES:

1. Accessible parking spaces serving a particular building shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. In parking facilities that do not serve a particular building, accessible parking shall be located on the shortest accessible route of travel to an accessible pedestrian entrance of the parking facility.
2. One in every eight accessible off-street parking stalls, but not less than one, shall be served by an accessible aisle of 8'-0" minimum width and shall be signed van accessible. The R7-8b sign shall be mounted below the R99B (CA) plaque or the R99C (CA) sign.
3. In each parking stall, a curb or bumper shall be provided and located to prevent encroachment of vehicles over the required width of walkways. Parking stalls shall be so located that persons with disabilities are not compelled to wheel or walk behind parked cars other than their own.
4. Surface slopes of accessible off-street parking stalls shall be the minimum possible and shall not exceed 2 percent in any direction.
5. Table A shall be used to determine the required number of accessible parking stalls in each parking lot or garage.
6. Where Plaque R99B (CA), Sign R99C (CA) or Sign R7-8b are installed, the bottom of the sign or plaque panel shall be a minimum of 7'-0" above the surrounding surface.
7. Curb ramps shall conform to the details shown on Revised Standard Plan RSP A88A.
8. Blue paint, instead of white may be used for marking accessibility aisles in areas where snow may cause white markings to not be visible.
9. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high and located so that it is visible to traffic enforcement officials. See Revised Standard Plan RSP A90B for details of the "NO PARKING" pavement marking.
10. A R100B (CA) sign shall be posted in a conspicuous place at each entrance to off-street parking facilities or immediately adjacent to and visible from each stall. The sign shall include the address where the towed vehicle may be reclaimed and the telephone number of the local traffic law enforcement agency.
11. Where a single (non-van) accessible parking space is provided, the loading and unloading access aisle shall be on the passenger side of the vehicle as the vehicle is going forward into the parking space.
12. Where a van accessible parking space is provided, the loading and unloading access aisle shall be 8'-0" wide minimum, and shall be on the passenger side of the vehicle as the vehicle is going forward into the parking space.
13. Accessible Parking Only Sign shall be Sign R99C (CA) or Sign R99 (CA) with Plaque R99B (CA).

ACCESSIBLE PARKING OFF-STREET

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

RSP A90A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A90A
DATED MAY 1, 2006 - PAGE 117 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A90A

2006 REVISED STANDARD PLAN RSP A90A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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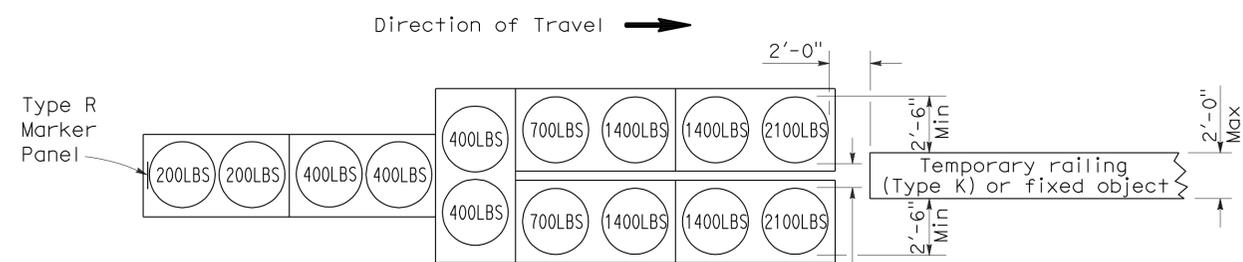
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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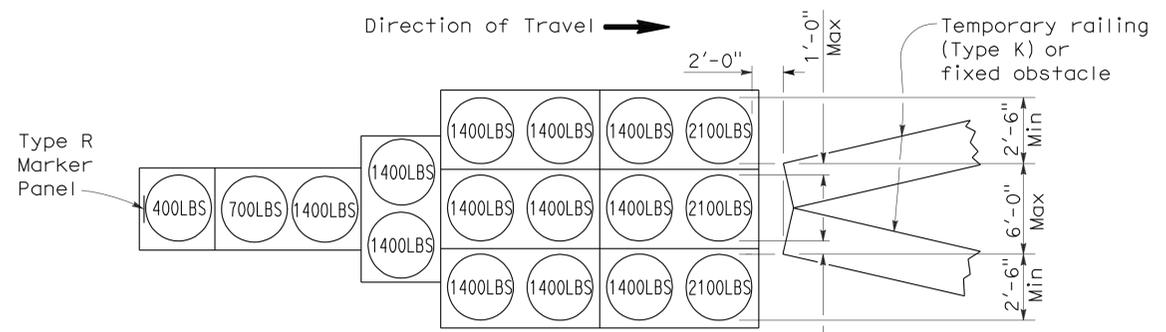
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 6-25-12



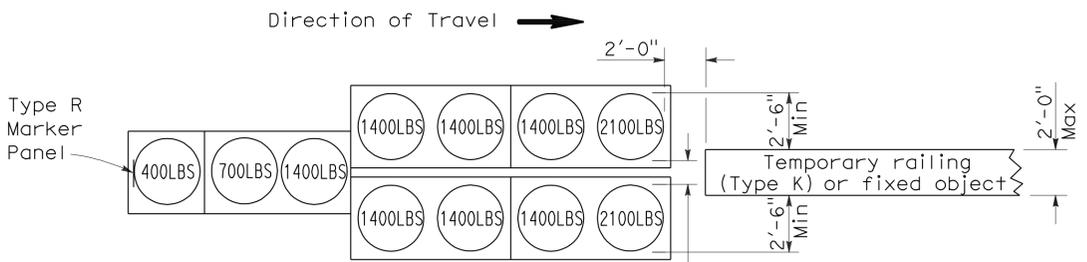
ARRAY 'TU14'

Approach speed 45 mph or more



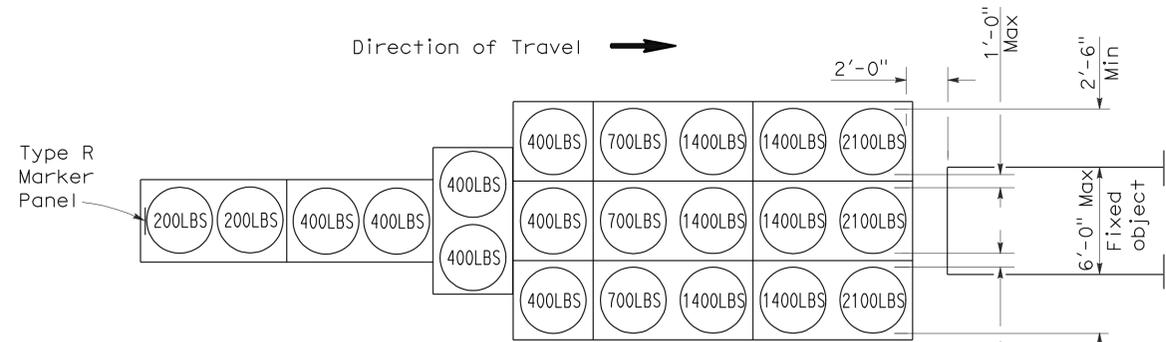
ARRAY 'TU17'

Approach speed less than 45 mph



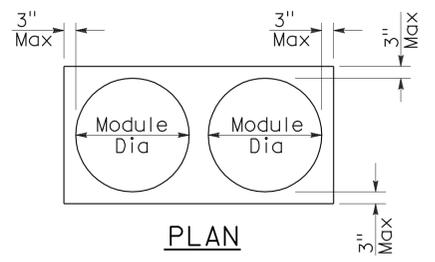
ARRAY 'TU11'

Approach speed less than 45 mph

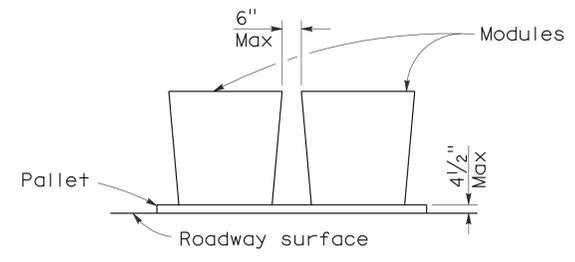


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

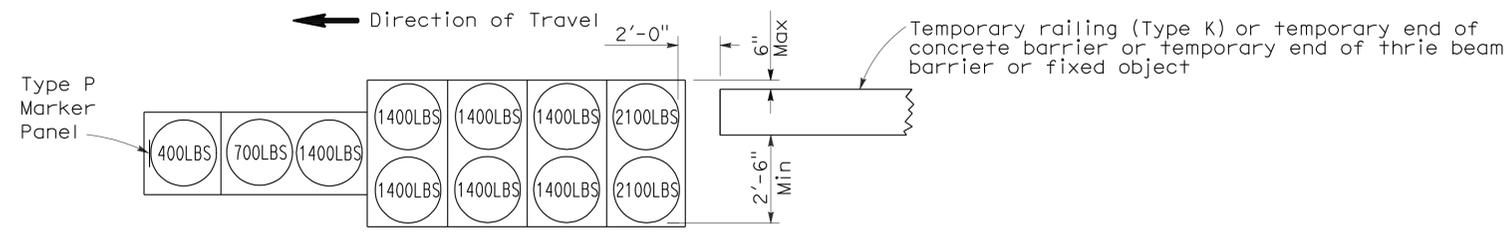
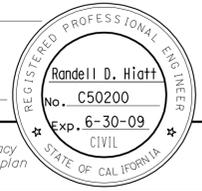
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	1	22.5/22.9	23	65

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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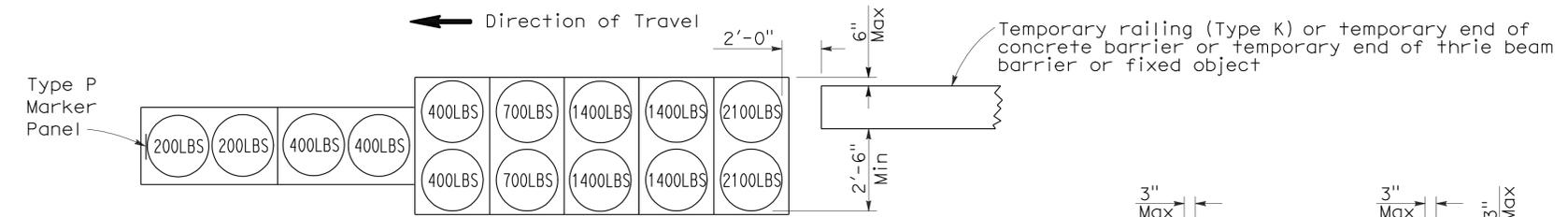
To accompany plans dated 6-25-12



Direction of Travel →

ARRAY 'TB11'

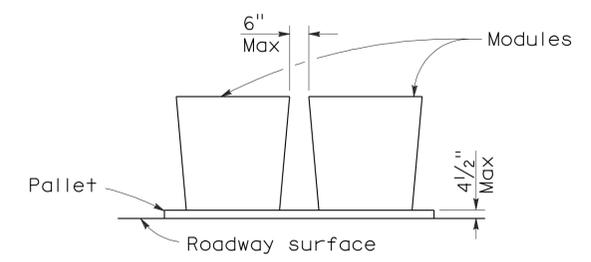
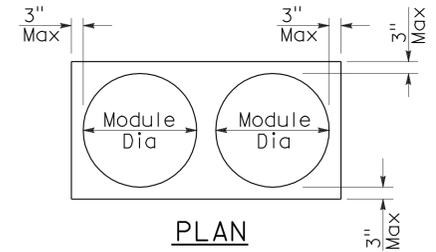
Approach speed less than 45 mph



Direction of Travel →

ARRAY 'TB14'

Approach speed 45 mph or more



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

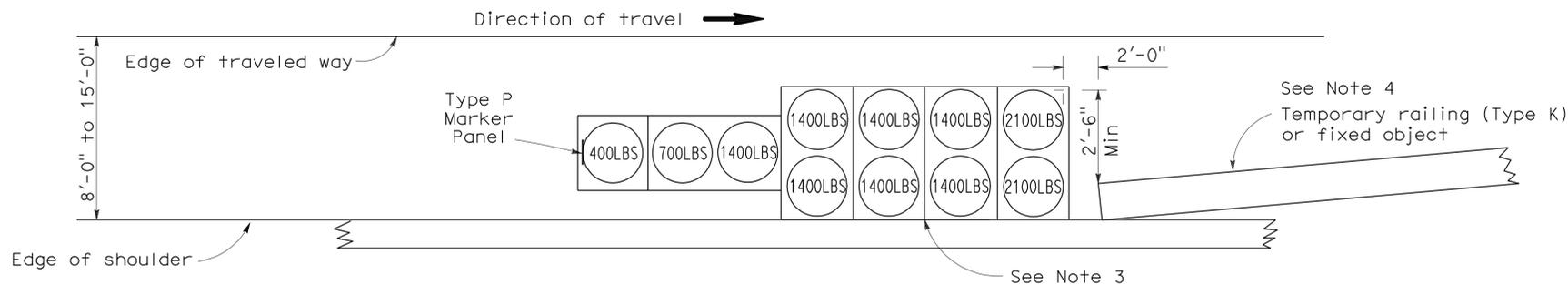
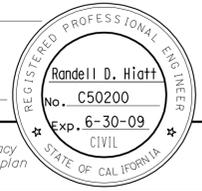
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ven	1	22.5/22.9	24	65

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

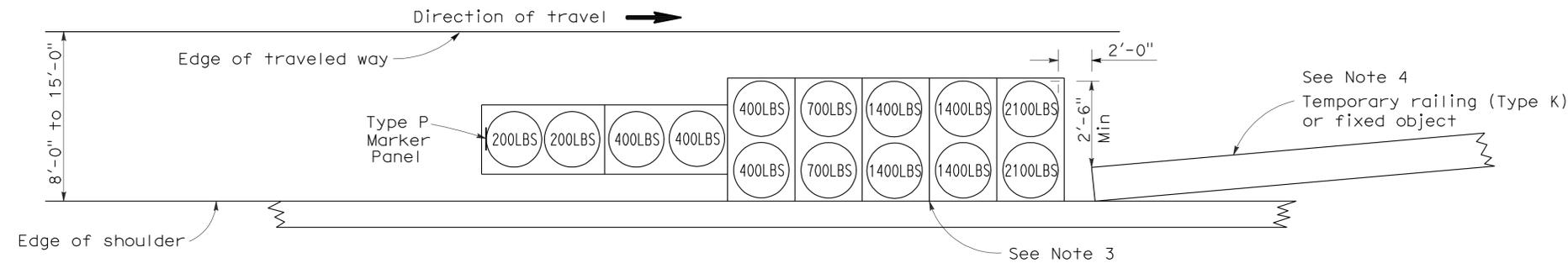
June 6, 2008
PLANS APPROVAL DATE

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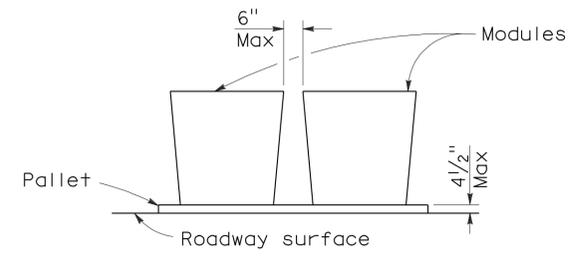
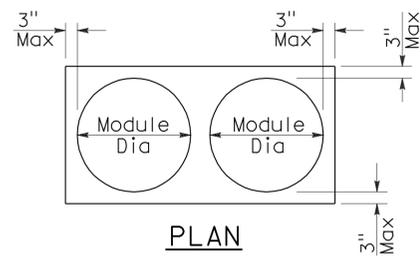
To accompany plans dated 6-25-12



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



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



CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**

NO SCALE
RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

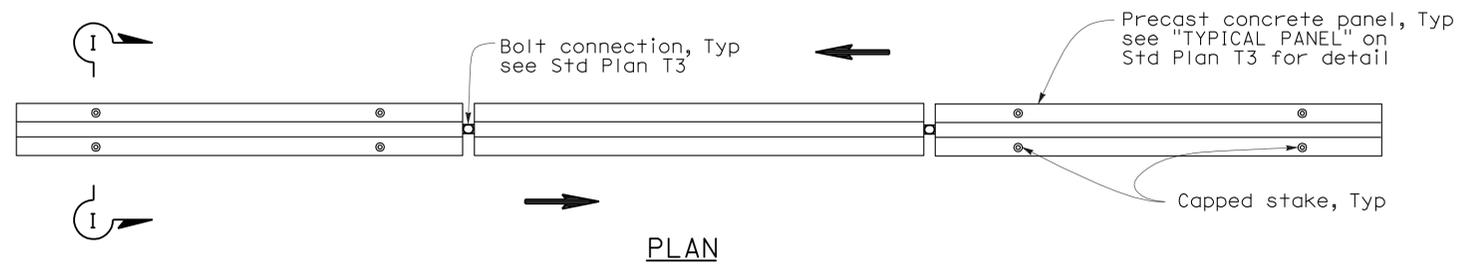
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	Ven	1	22.5/22.9	25	65

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

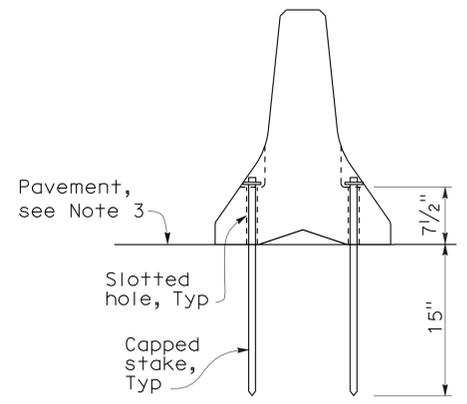
May 20, 2011
PLANS APPROVAL DATE

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To accompany plans dated 6-25-12



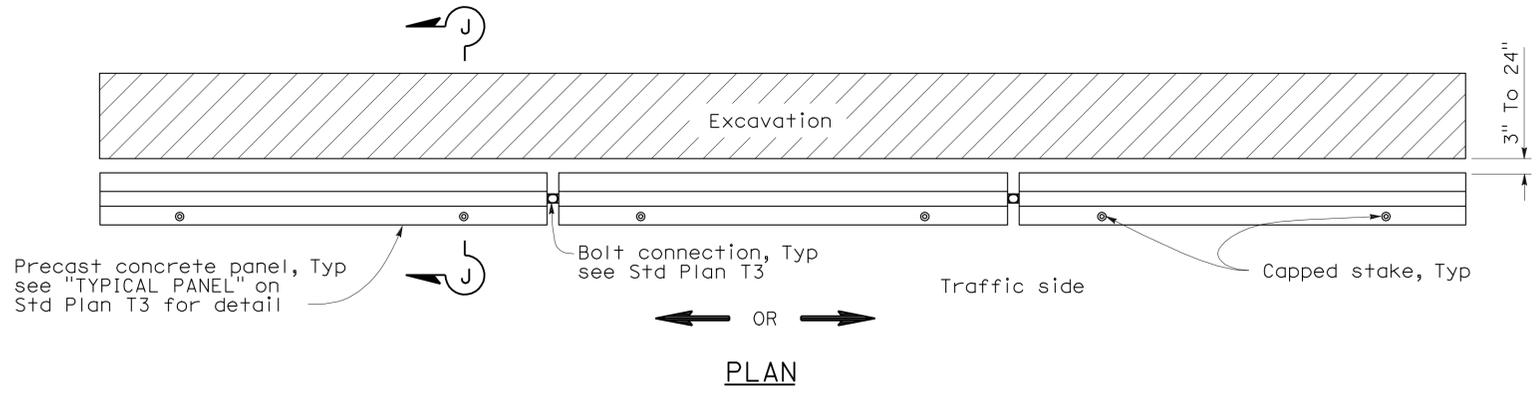
RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1



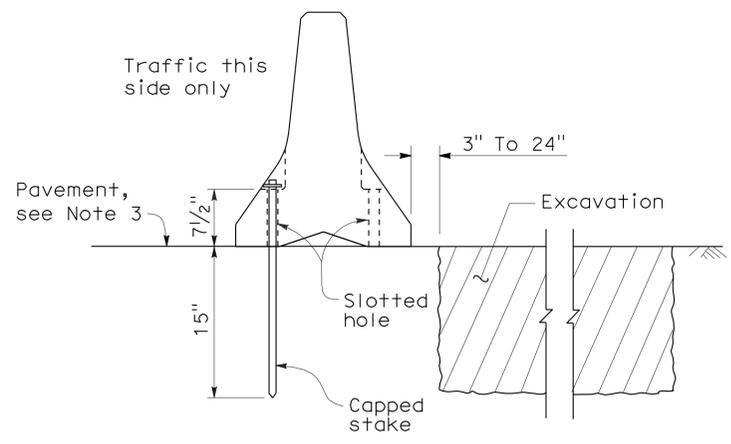
SECTION I-I

NOTES:

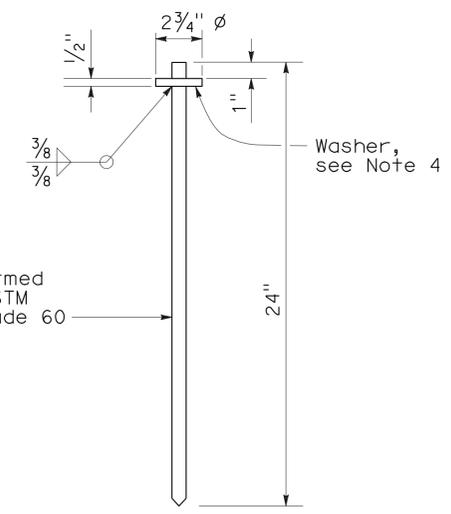
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of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



RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION
See Note 2



SECTION J-J



CAPPED STAKE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY RAILING
(TYPE K)**
NO SCALE

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

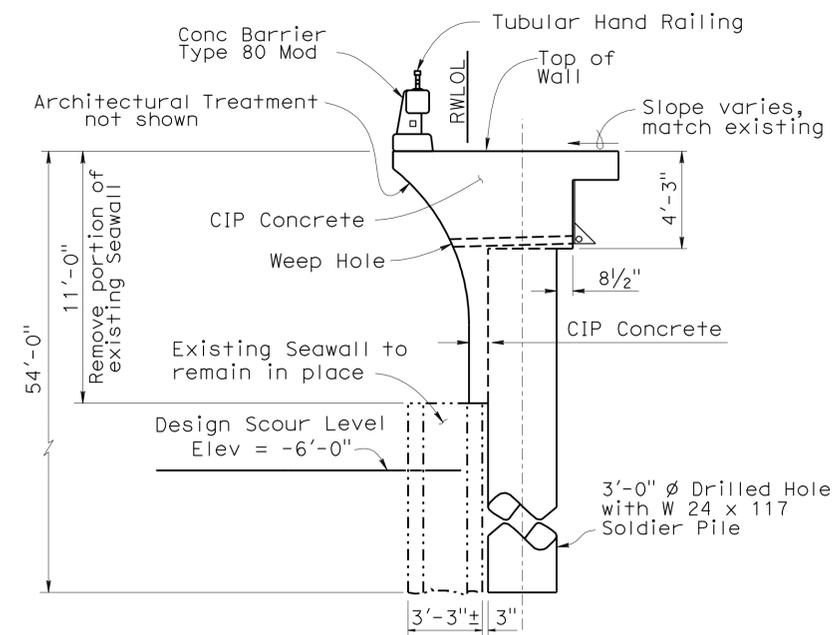
2006 NEW STANDARD PLAN NSP T3A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	27	65

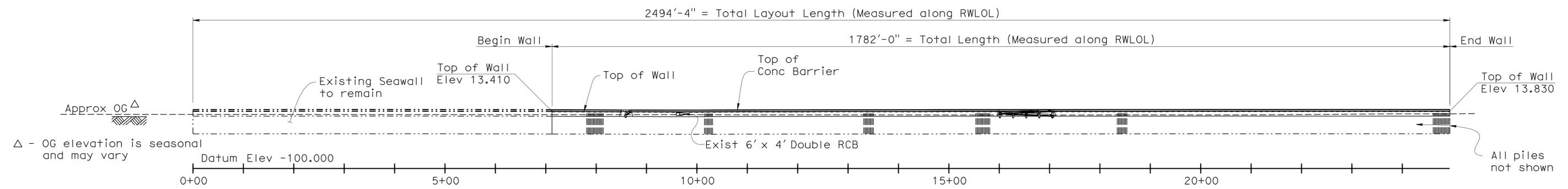
REGISTERED CIVIL ENGINEER DATE 6-15-12
 Daryoush Tavati
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 6-25-12
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QUANTITIES

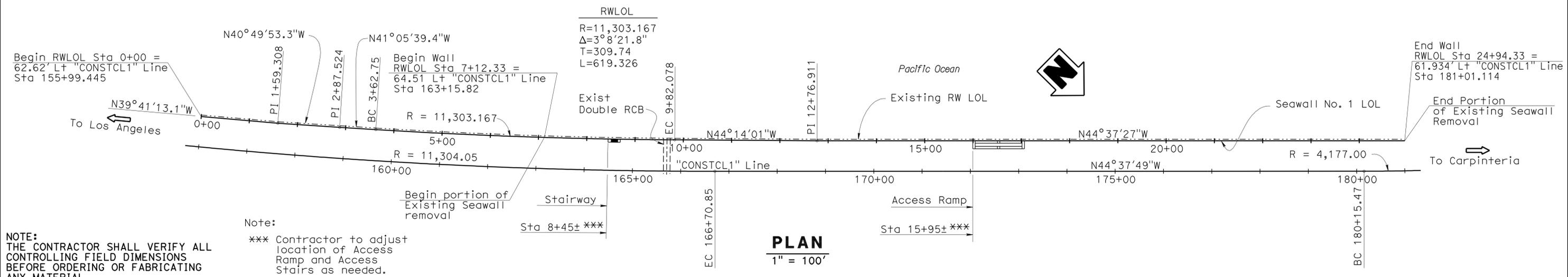
	LUMP	SUM
BRIDGE REMOVAL (PORTION)	1,118	CY
STRUCTURE EXCAVATION (TYPE D)	1,034	CY
STRUCTURE EXCAVATION (RETAINING WALL)	20	CY
STRUCTURE EXCAVATION (PETROLEUM HYDROCARBON)		
STRUCTURE BACKFILL (RETAINING WALL)	286	CY
BEACH SAND BACKFILL	604	CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	7,881	CY
STEEL SOLDIER PILE (W24 X 117)	31,660	LF
30" CAST-IN-DRILLED-HOLE CONCRETE PILING	440	LF
36" DRILLED HOLE	30,039	LF
STRUCTURAL CONCRETE, RETAINING WALL	2,808	CY
FRACTURED RIB TEXTURE	11,851	SOFT
DRILL AND BOND DOWEL (CHEMICAL ADHESIVE)	72	LF
BAR REINFORCING STEEL (EPOXY COATED)	334,000	LB
CLEAN AND PAINT SOLDIER PILE		SUM
PIPE GUARDRAILING	373	LF
HANDRAILING	62	LF
CONCRETE BARRIER (TYPE 80 MODIFIED)	1,795	LF



TYPICAL SECTION
1/4" = 1'-0"



MIRRORED DEVELOPED ELEVATION
1" = 100'



PLAN
1" = 100'

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

Note:
*** Contractor to adjust location of Access Ramp and Access Stairs as needed.

Ramin Rashedi DESIGN ENGINEER 6-15-12	DESIGN	BY Daryoush Tavati	CHECKED M. Okimura	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	52-0139	SEAWALL NO. 1 GENERAL PLAN	
	DETAILS	BY P. Tong/G. Dickerson	CHECKED M. Okimura	LAYOUT	BY Daryoush Tavati			CHECKED M. Okimura	POST MILE		22.5/22.9
	QUANTITIES	BY Daryoush Tavati	CHECKED A. Picazo	SPECIFICATIONS	BY Dave Klein			PLANS AND SPECS COMPARED Dave Klein	REVISION DATES		3-26-09, 3-16-12, 4-18-12, 5-7-12, 6-5-12, 4-18-10, 4-28-10, 2-28-11, 2-20-12
STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 10/25/05)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 1 OF 39	FILE => 52-0139-a-gp.dgn	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	28	65

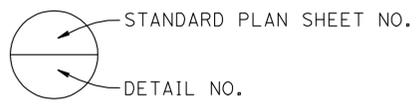
REGISTERED CIVIL ENGINEER DATE 6-15-12
 REGISTERED PROFESSIONAL ENGINEER
 Daryoush Tavafli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 6-25-12
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INDEX TO PLANS

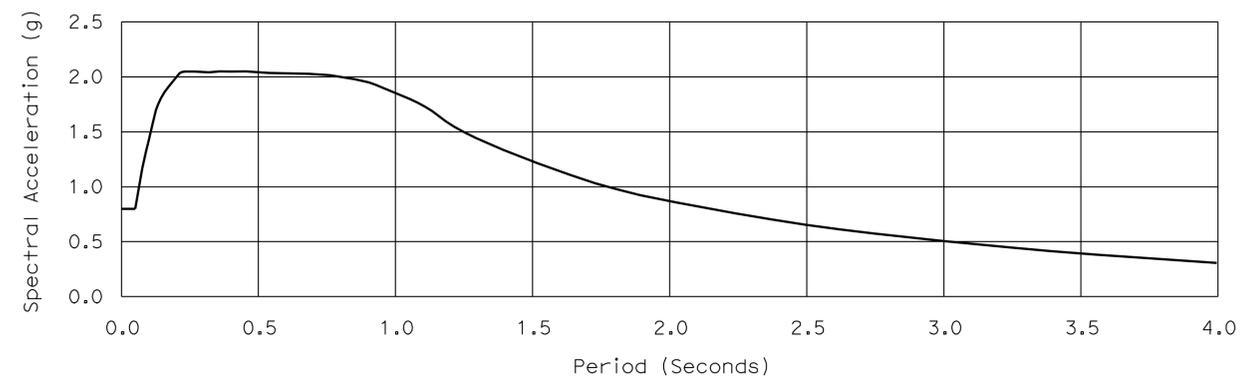
Sheet No.	Title
1	GENERAL PLAN
2	INDEX TO PLANS
3	PAY LIMITS
4	STRUCTURE PLAN NO. 1
5	STRUCTURE PLAN NO. 2
6	STRUCTURE PLAN NO. 3
7	STRUCTURE PLAN NO. 4
8	STRUCTURE PLAN DATA
9	FOUNDATION PLAN NO. 1 OF 5
10	FOUNDATION PLAN NO. 2 OF 5
11	FOUNDATION PLAN NO. 3 OF 5
12	FOUNDATION PLAN NO. 4 OF 5
13	FOUNDATION PLAN NO. 5 OF 5
14	TYPICAL SECTION DETAILS NO. 1
15	TYPICAL SECTION DETAILS NO. 2
16	CONCRETE REMOVAL
17	CULVERT DETAIL
18	ACCESS RAMP DETAILS NO. 1
19	ACCESS RAMP DETAILS NO. 2
20	ACCESS RAMP DETAILS NO. 3
21	ACCESS RAMP DETAILS NO. 4
22	ACCESS RAMP DETAILS NO. 5
23	ACCESS RAMP DETAILS NO. 6
24	ACCESS STAIRS DETAILS NO. 1
25	ACCESS STAIRS DETAILS NO. 2
26	ACCESS STAIRS DETAILS NO. 3
27	BARRIER DETAILS NO. 1
28	BARRIER DETAILS NO. 2
29	BARRIER DETAILS NO. 3
30	BARRIER DETAILS NO. 4
31	ARCHITECTURAL TREATMENT DETAILS NO. 1
32	ARCHITECTURAL TREATMENT DETAILS NO. 2
33	ARCHITECTURAL TREATMENT DETAILS NO. 3
34	LOG OF TEST BORINGS 1 OF 6
35	LOG OF TEST BORINGS 2 OF 6
36	LOG OF TEST BORINGS 3 OF 6
37	LOG OF TEST BORINGS 4 OF 6
38	LOG OF TEST BORINGS 5 OF 6
39	LOG OF TEST BORINGS 6 OF 6

STANDARD PLANS
Dated May 2006

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE SURCHARGE AND WALL
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B7-8	DECK DRAINAGE DETAILS
RSP A77J1	METAL BEAM GUARD RAIL CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK DETAIL No. 1
RSP A77J2	METAL BEAM GUARD RAIL CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK DETAIL No. 2



Recommended Acceleration Response Spectra (with 5% Damping)



SITE SPECIFIC ARS CURVE

GENERAL NOTES
LOAD FACTOR DESIGN

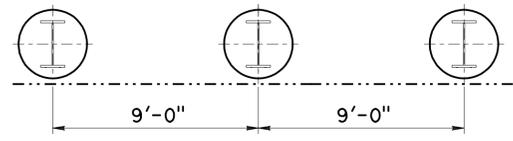
DESIGN:
CALTRANS Bridge Design Specification,
LFD Version April 2000 (1996 AASHTO with Interims
and Revision by Caltrans)

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.4 dated June 2006

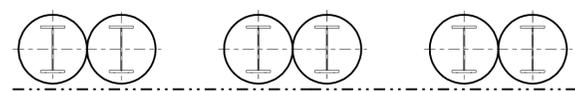
LIVE LOADING:
HS20-44 and Alternative and Permit Design Load

SEISMIC LOADING:
See Site Specific ARC Curve as shown

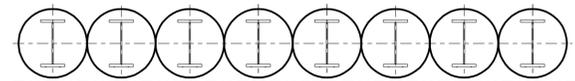
CONCRETE:
f_y = 60000 psi (Yield Strength of reinforcement)
f'_c = 3600 psi (Concrete Compression Strength at 28 days)
n = 9



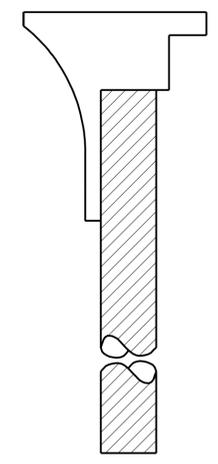
Step 1 - Install Tangent Piles Spaced @ 3d



Step 2 - Install Tangent Piles Adjacent to Piles Installed in Step 1



Step 3 - Complete Wall by Installing Remaining Piles



Structural Concrete, Retaining Wall
 Concrete Backfill

TYPICAL SEQUENCE IN CONSTRUCTION OF TANGENT PILES

No Scale

CONCRETE STRENGTH AND TYPE LIMITS

No Scale

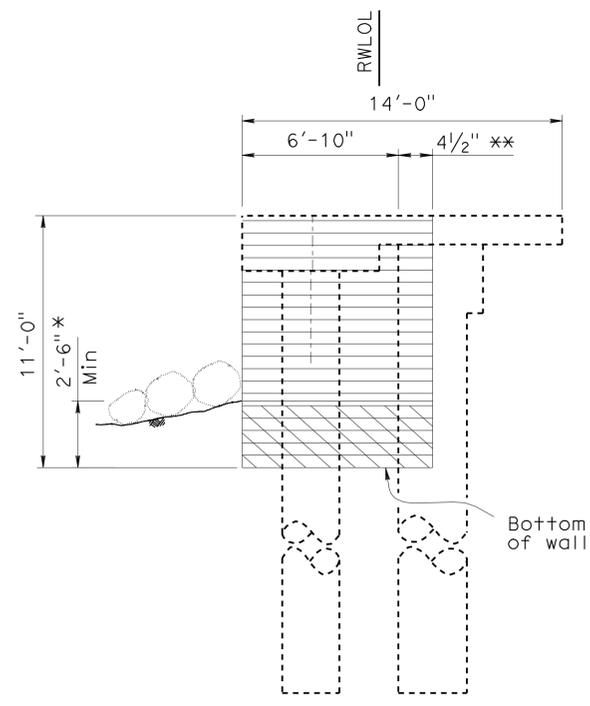
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Daryoush Tavafli	CHECKED Mark Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1				
	DETAILS	BY L. Goldthwait/G. Dickerson	CHECKED Mark Okimura			52-0139	INDEX TO PLANS				
	QUANTITIES	BY Daryoush Tavafli	CHECKED A. Picazo			22.5/22.9					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES					SHEET 2 OF 39

USERNAME => s124496 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	29	65

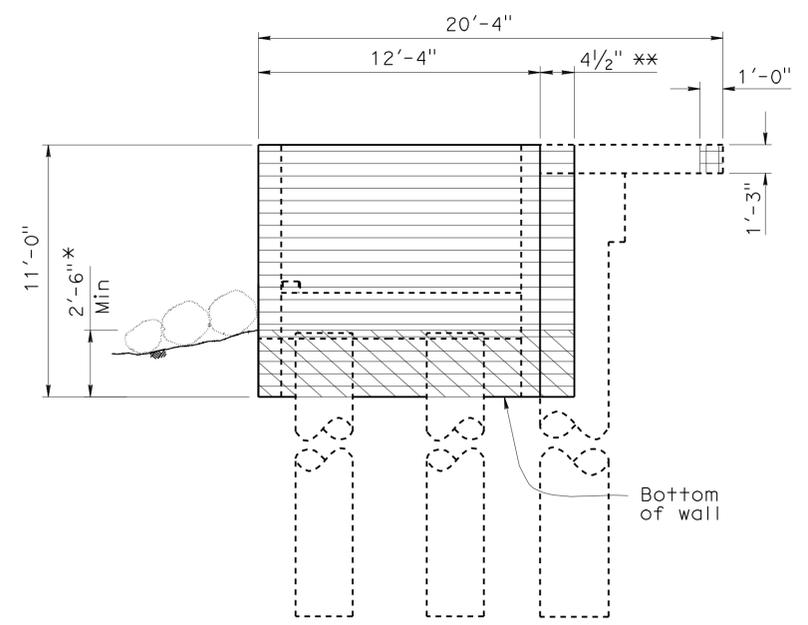
REGISTERED CIVIL ENGINEER DATE 6-15-12
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE 6-25-12
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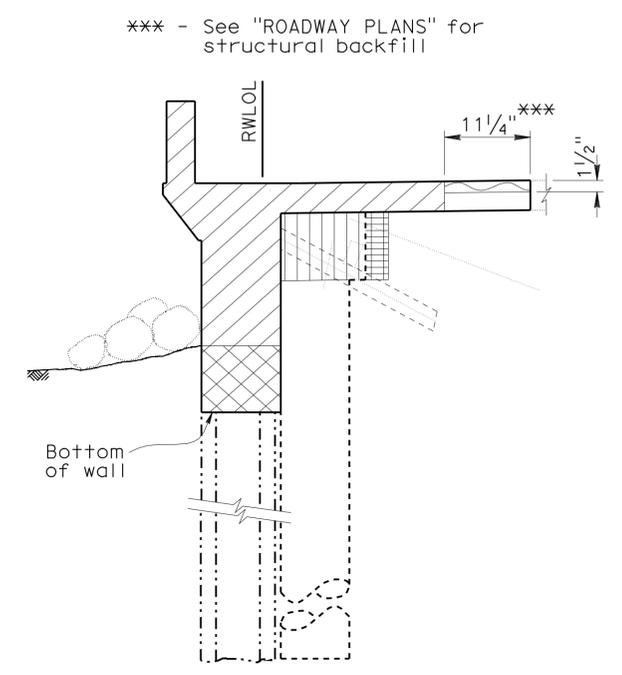


SECTION B-B
1/4"=1'-0"

** Additional excavation between piles

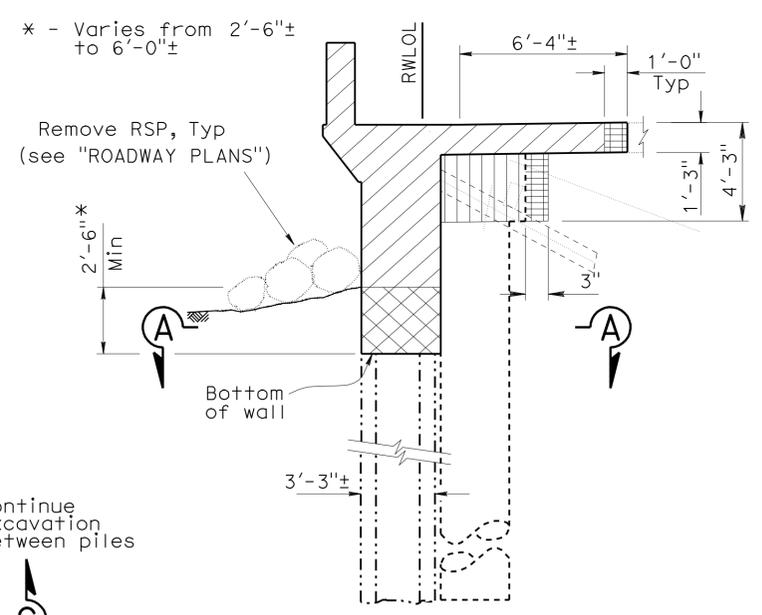


SECTION C-C
1/4"=1'-0"

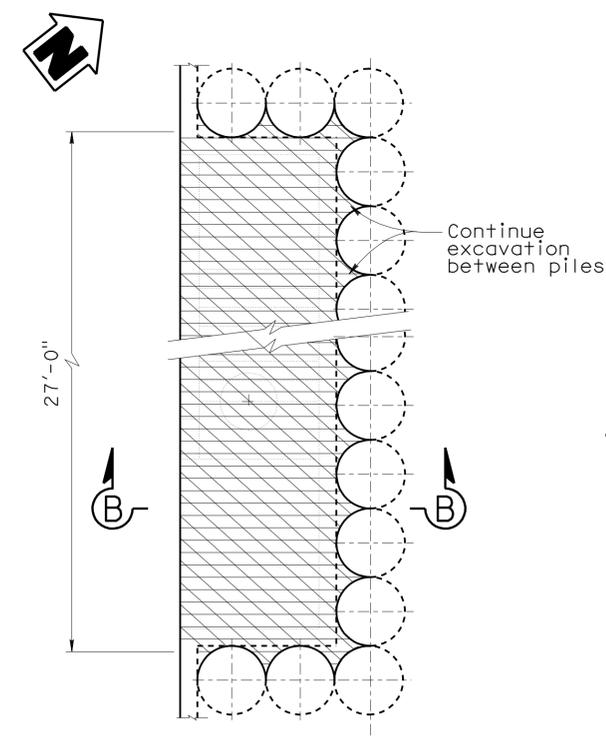


*** - See "ROADWAY PLANS" for structural backfill

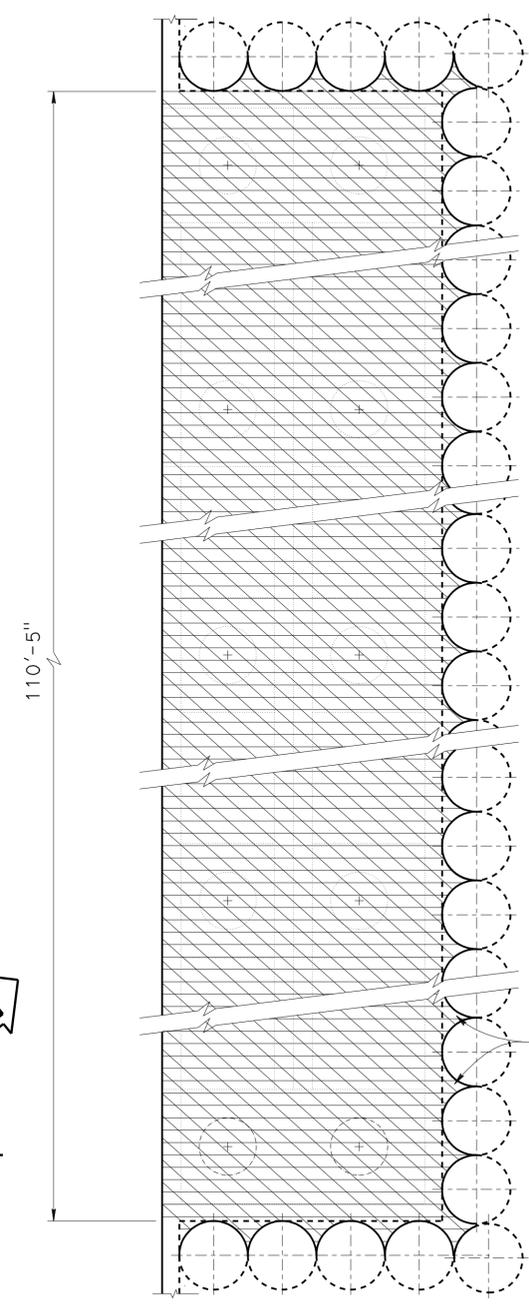
SECTION A-A
1/4"=1'-0"



TYPICAL PAY LIMIT @ WALL
1/4"=1'-0"



PAY LIMITS @ STAIRS
1/4"=1'-0"



PAY LIMITS @ RAMP
1/4"=1'-0"

**PETROLEUM HYDROCARBON
PAY LIMIT FOR
STA 175+50 TO 178+50**
1/4"=1'-0"

- Structure Excavation (Petroleum Hydrocarbon)
- Structure Excavation (Retaining Wall)
- Structure Excavation (Type D)
- Structure Excavation and Structural Backfill (Retaining Wall)
- Existing Seawall removal (portion)
- Beach Sand Backfill

DESIGN BY Daryoush Tavatli CHECKED J. Posey DETAILS BY L. Goldthwait/D. Tavatli CHECKED J. Posey QUANTITIES BY Daryoush Tavatli CHECKED Antonio Picazo	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO. 52-0139	SEAWALL NO. 1 PAY LIMITS
			POST MILE 22.5/22.9	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		REVISION DATES: 1-12-10, 4-27-10, 5-08-10, 2-28-11, 3-16-12, 4-24-12, 4-30-12

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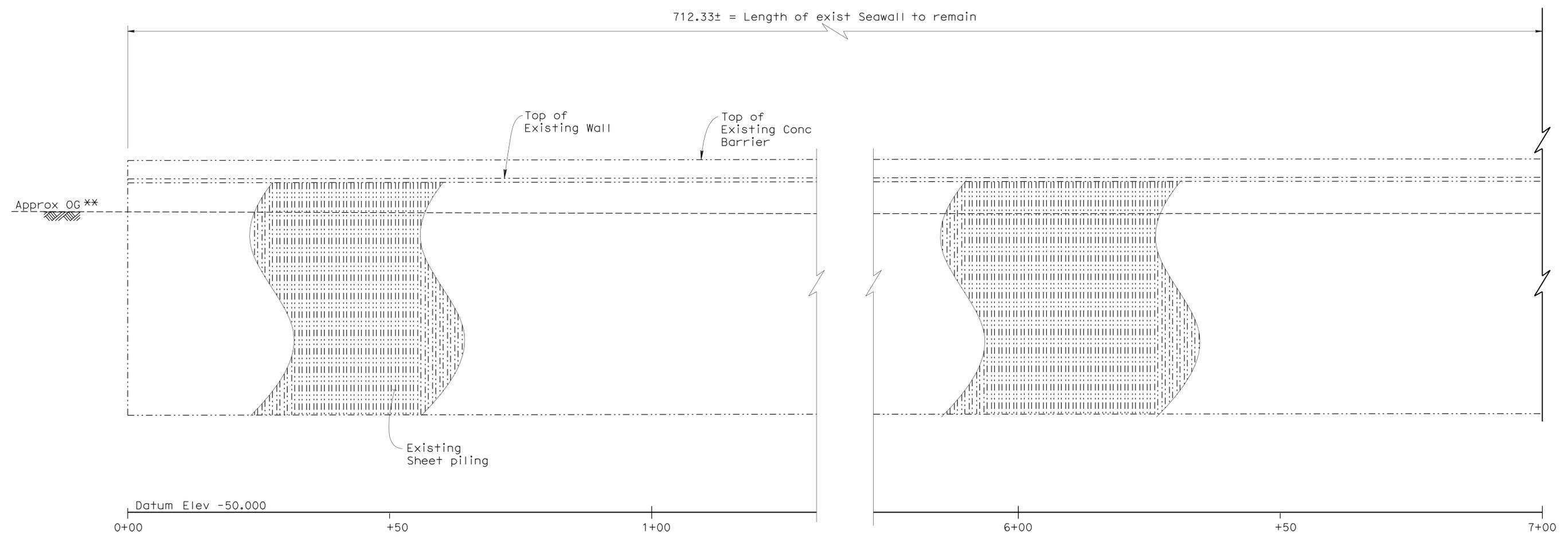
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	30	65

Daryoush Tavatli 6-15-12
REGISTERED CIVIL ENGINEER DATE

6-25-12
PLANS APPROVAL DATE

Daryoush Tavatli
No. 56183
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

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MIRRORED ELEVATION
1" = 10'

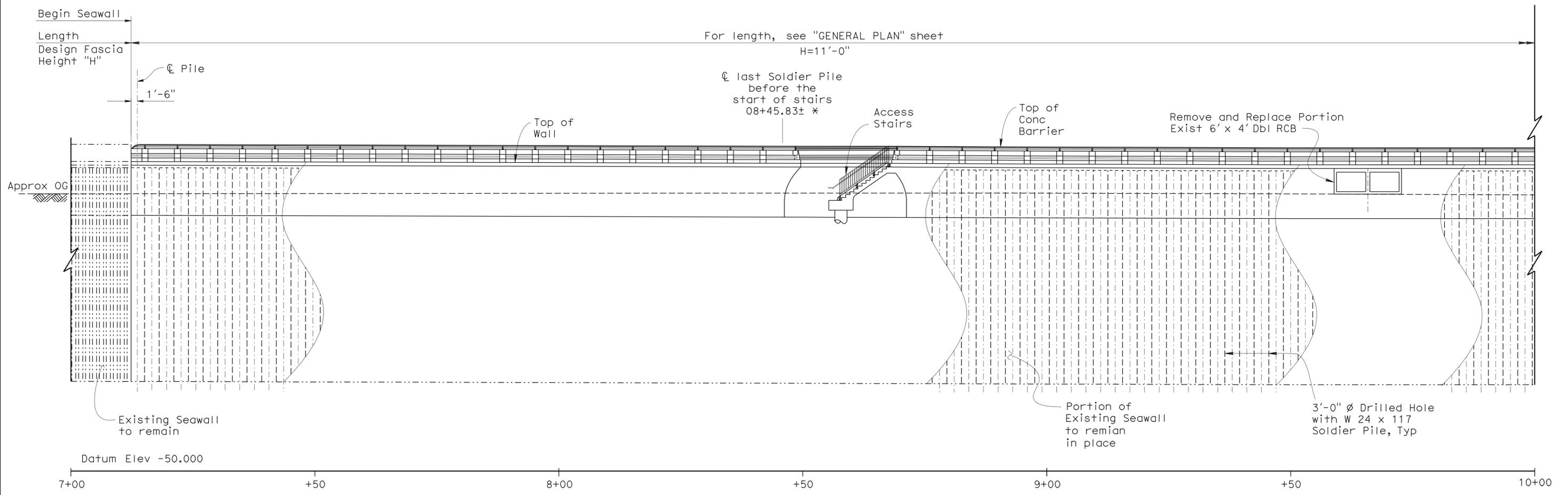
** OG elevation is seasonal & may vary

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1								
	DETAILS	BY Gerald Dickerson	CHECKED M. Okimura			POST MILE	STRUCTURE PLAN NO. 1								
	QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo			22.5/22.9									
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					0	1	2	3	DISREGARD PRINTS BEARING EARLIER REVISION DATES						
					CU 07265 EA 228201					REVISION DATES					
					FILE => 52-0139-c-sp01.dgn					1-19-10	2-1-10	2-22-11	3-16-12	4-20-12	SHEET 4 OF 39

USERNAME => s124496 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	31	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 REGISTERED PROFESSIONAL ENGINEER
 Daryoush Tavatli
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 STATE OF CALIFORNIA
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* - Engineer may adjust location as needed

MIRRORED ELEVATION
1" = 10'

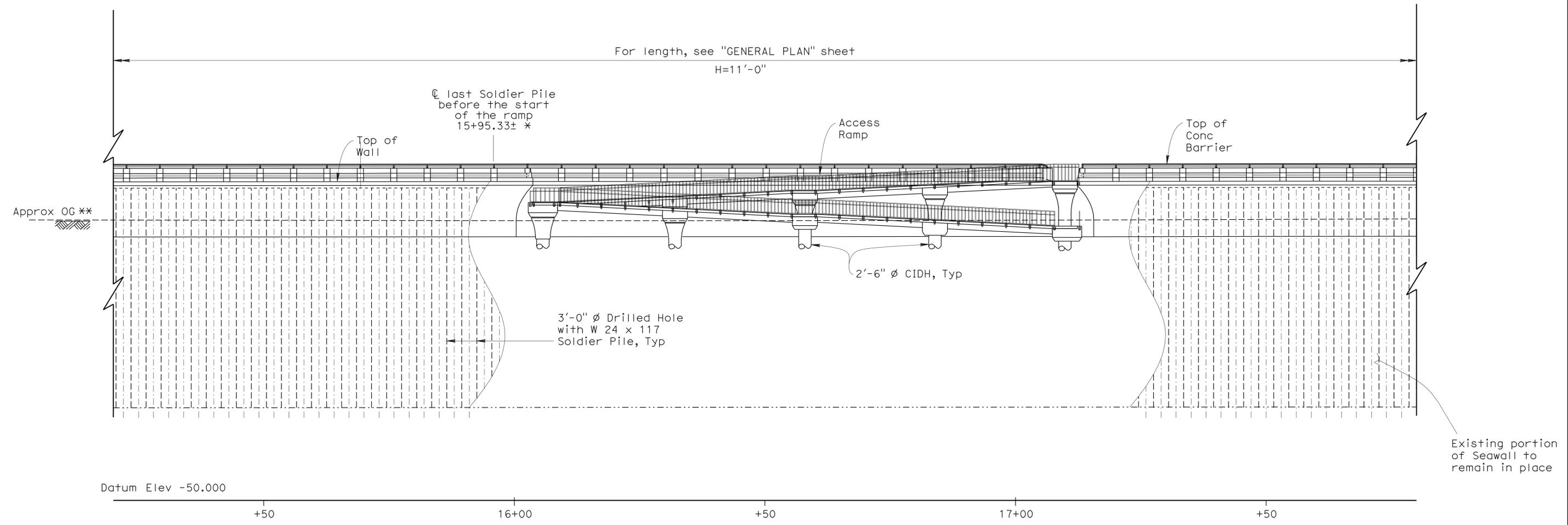
Note:
For elevations at Top of Wall see "STRUCTURE PLAN DATA" sheet

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1					
	DETAILS	BY Gerald Dickerson	CHECKED M. Okimura			52-0139	STRUCTURE PLAN NO. 2					
	QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo			22.5/22.9						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 07265 EA 228201		DISREGARD PRINTS BEARING EARLIER REVISION DATES						SHEET 5 OF 39

USERNAME => s124496 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	32	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 REGISTERED CIVIL ENGINEER No. 56183
 PLANS APPROVAL DATE 6-25-12
 Exp. 12-31-12
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 STATE OF CALIFORNIA
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MIRRORED ELEVATION
1" = 10'

* Engineer may adjust location as needed
 ** OG elevation is seasonal & may vary

Note:
 For Elevations at Top of Wall see "STRUCTURE PLAN DATA" sheet

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1										
	DETAILS	BY Gerald Dickerson	CHECKED M. Okimura			POST MILE	STRUCTURE PLAN NO. 3										
	QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo			22.5/22.9											
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									1-19-10	2-1-10	2-23-11	2-28-12	3-16-12	5-3-12	6-7-12	6	39

FILE => 52-0139-c-sp03.dgn

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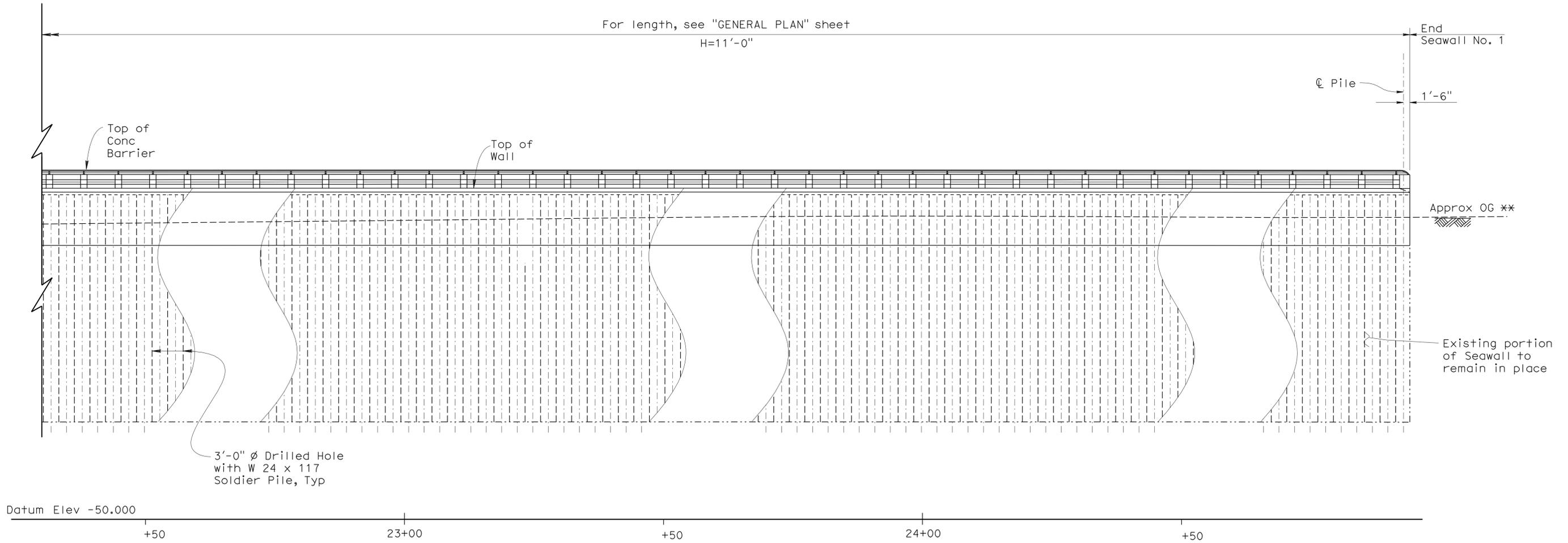
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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Daryoush Tavatli 6-15-12
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STATE OF CALIFORNIA

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MIRRORED ELEVATION
1" = 10'

Note:
For Elevations at Top of Wall
see "STRUCTURE PLAN DATA" sheet

DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura
DETAILS	BY Gerald Dickerson	CHECKED M. Okimura
QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	52-0139
POST MILE	22.5/22.9

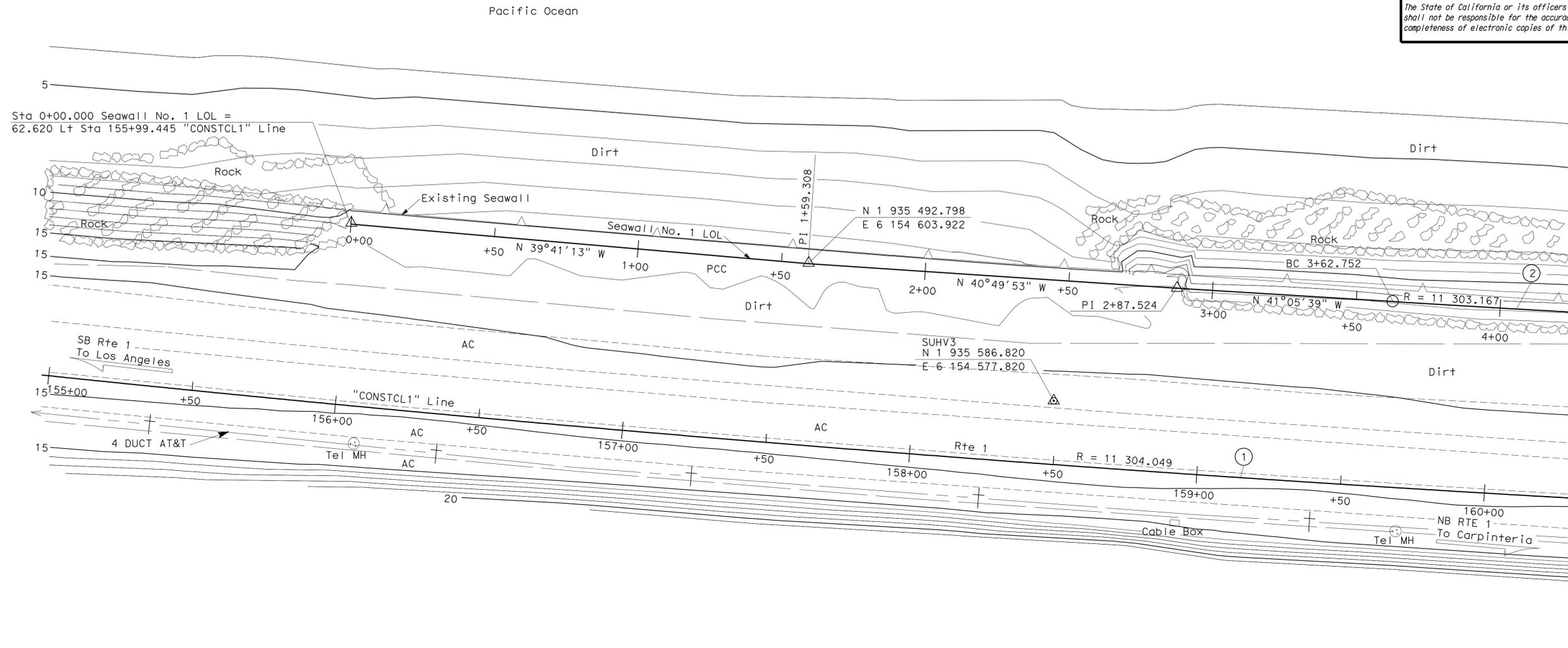
SEAWALL NO. 1
STRUCTURE PLAN NO. 4

No.	R	Δ	T	L
①	11 304.049	11°48'00"	1168.171	2328.078
②	11 303.167	03°08'22"	309.741	619.326

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	35	65

6-15-12
 REGISTERED CIVIL ENGINEER DATE
 6-25-12
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REGISTERED PROFESSIONAL ENGINEER
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA



SURVEY CONTROL
 SUHV3
 Fd: PK/CT Washer / AC
 22.038 Lt. "CONSTCL1" Line
 Sta 158+48.61
 N 1 935 586.820
 E 6 154 577.820
 Elev 15.121
 SUHV2 (See "FOUNDATION PLAN NO. 3 OF 5")
 Fd: PK/CT Washer / AC
 21.638 Lt. "CONSTCL1" Line
 Sta 166+40.00
 N 1 936 169.610
 E 6 154 044.928
 Elev 15.312

NOTES:
 Underground utilities as shown are approximate
 ○ Indicates 3'-0" Ø Drilled Hole with W 24 x 117 Soldier Piles
 All Piles not shown

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Daryoush Tavatli CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO. 52-0139	SEAWALL NO. 1 FOUNDATION PLAN NO. 1 OF 5
SCALE 1:20 VERT. DATUM NAVD88 PHOTOGRAMMETRY AS OF: X	SURVEYED BY T. Phung/C. Stewart CHECKED BY E. Viagar	DETAILS BY Gerald Dickerson CHECKED M. Okimura	POST MILE 22.5/22.9					
ALIGNMENT TIES Dist Traverse Sheets DRAFTED BY C. Pham CHECKED BY E. Viagar	QUANTITIES BY Daryoush Tavatli CHECKED A. Picazo	FILE => 52-0139-e-fp01.dgn	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 07/24/08, 07/08/10, 05/24/10, 3-16-12					
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 07-265 EA 228201	SHEET 9 OF 39	

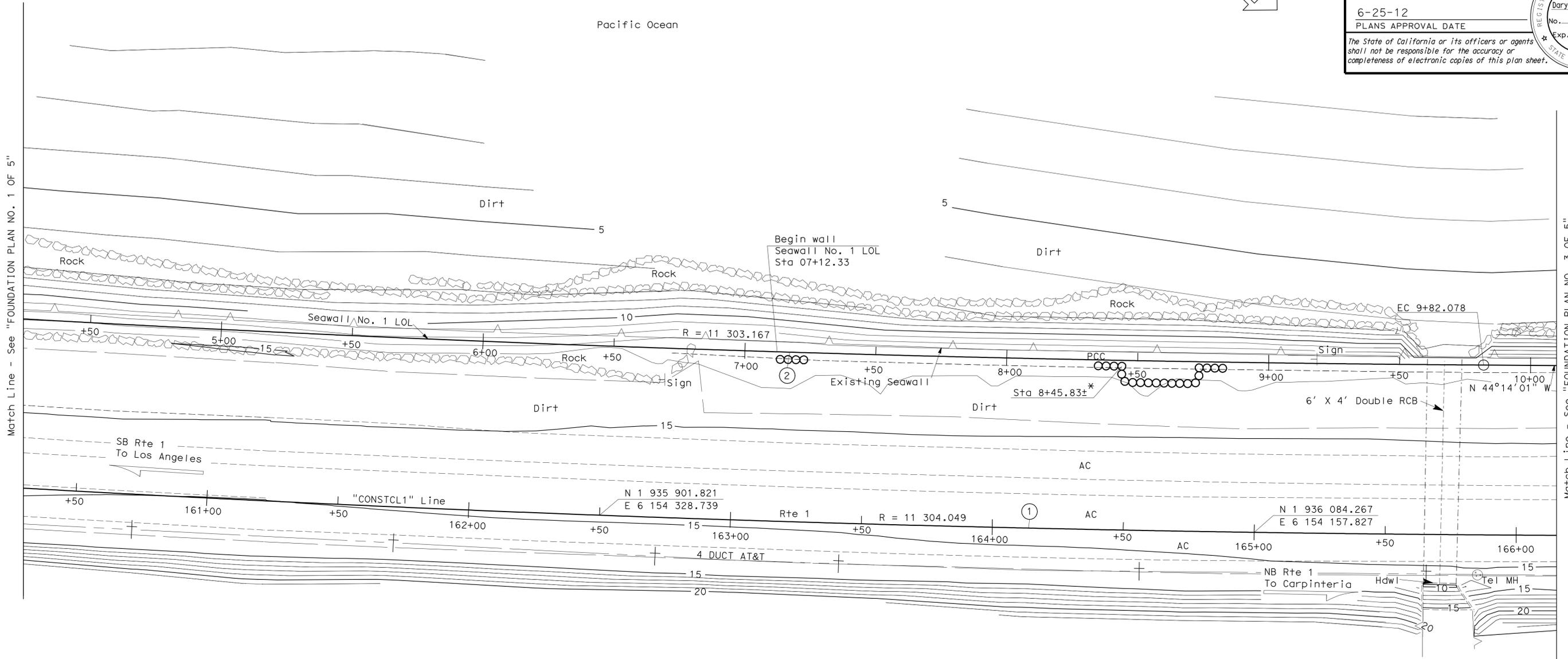
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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6-15-12
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 STATE OF CALIFORNIA

No.	R	Δ	T	L
①	11 304.049	11°48'00"	1168.171	2328.078
②	11 303.167	03°08'22"	309.741	619.326



NOTES:
 Underground utilities as shown are approximate
 ○ Indicates 3'-0" Ø Drilled Hole with W 24 x 117 Soldier Piles
 All Piles not shown
 * Piles may be adjusted as necessary

SURVEY CONTROL
 See "FOUNDATION PLAN NO. 1 OF 5"

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Daryoush Tavatli CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO. 52-0139	SEAWALL NO. 1 FOUNDATION PLAN NO. 2 OF 5
SCALE 1:20 VERT. DATUM NAVD88 PHOTOGAMMETRY AS OF: X	SURVEYED BY T. Phung/C. Stewart CHECKED BY E. Viagar	DETAILS BY Gerald Dickerson CHECKED M. Okimura	POST MILE 22.5/22.9					
ALIGNMENT TIES Dist Traverse Sheets DRAFTED BY C. Pham CHECKED BY E. Viagar	QUANTITIES BY Daryoush Tavatli CHECKED A. Picazo	FILE => 52-0139-e-fp02.dgn	REVISION DATES 07/24/08 07/31/08 09/29/10 2-25-12 3-16-12 4-20-12					
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3						CU 07-265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 10 OF 39

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	37	65

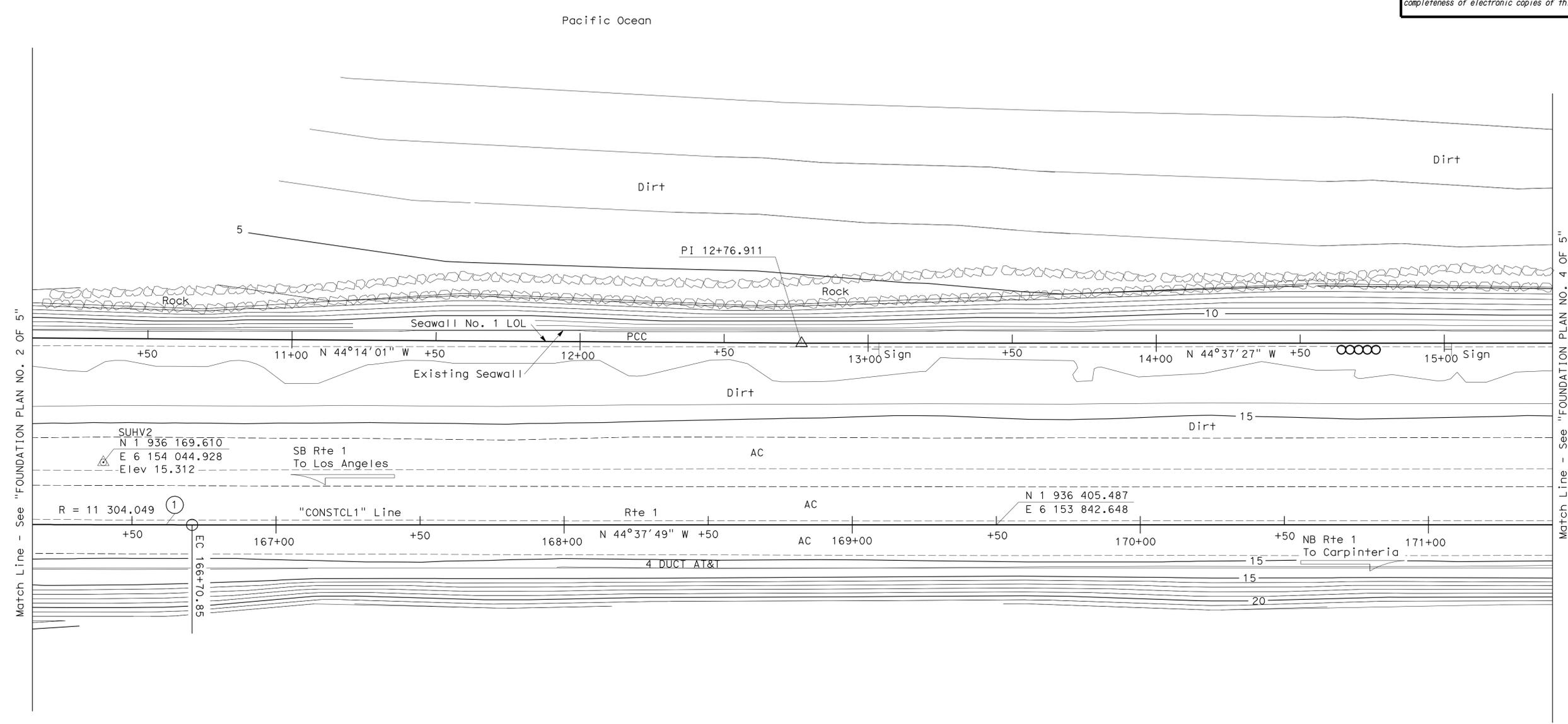
No.	R	Δ	T	L
①	11 304.049	11°48'00"	1168.171	2328.078

Registered Professional Engineer
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

6-15-12
 REGISTERED CIVIL ENGINEER DATE

6-25-12
 PLANS APPROVAL DATE

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NOTES:
 Underground utilities as shown are approximate
 ○ Indicates 3'-0" Ø Drilled Hole with W 24 x 117 Soldier Piles
 All Piles not shown

SURVEY CONTROL
 See "FOUNDATION PLAN NO. 1 OF 5"

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Daryoush Tavatli CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO. 52-0139	SEAWALL NO. 1 FOUNDATION PLAN NO. 3 OF 5
SCALE 1:20 VERT. DATUM NAVD88 HORZ. DATUM NAD83	PHOTOGRAMMETRY AS OF: X SURVEYED BY T. Phung/C. Stewart CHECKED BY E. Viagar	DETAILS BY Gerald Dickerson CHECKED M. Okimura	POST MILE 22.5/22.9					
ALIGNMENT TIES Dist Traverse Sheets DRAFTED BY C. Pham CHECKED BY E. Viagar	QUANTITIES BY Daryoush Tavatli CHECKED A. Picazo	FILE => 52-0139-e-fp03.dgn	REVISION DATES 07/24/08 07/19/10 07/22/10 3-19-12 4-20-12					
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 07-265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 11 OF 39

USERNAME => s121614 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:31

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	38	65

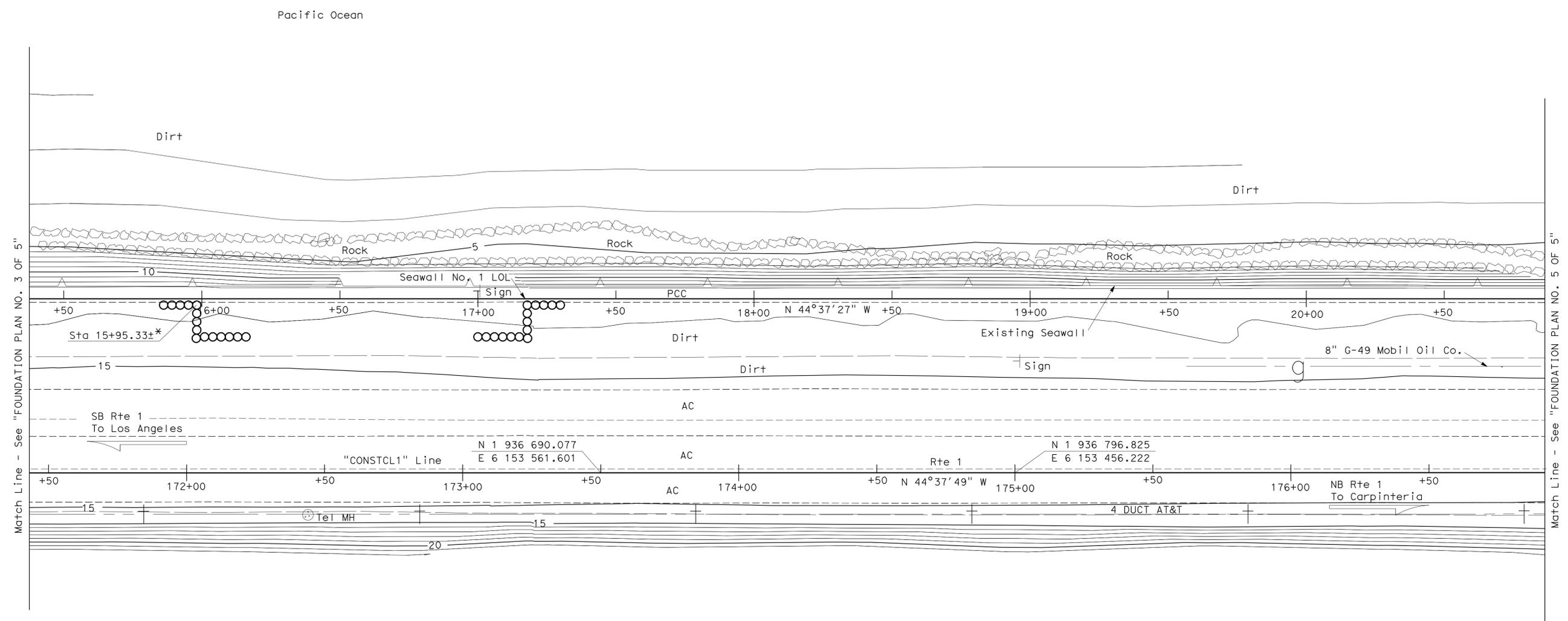


Registered Civil Engineer
 Daryoush Tavatli
 No. 56183
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 CIVIL
 STATE OF CALIFORNIA

6-15-12
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6-25-12
 PLANS APPROVAL DATE

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Match Line - See "FOUNDATION PLAN NO. 3 OF 5"

Match Line - See "FOUNDATION PLAN NO. 5 OF 5"

NOTES:

Underground utilities as shown are approximate

○ Indicates 3'-0" Ø Drilled Hole with W 24 x 117 Soldier Piles
All Piles not shown

* Piles may be adjusted as necessary

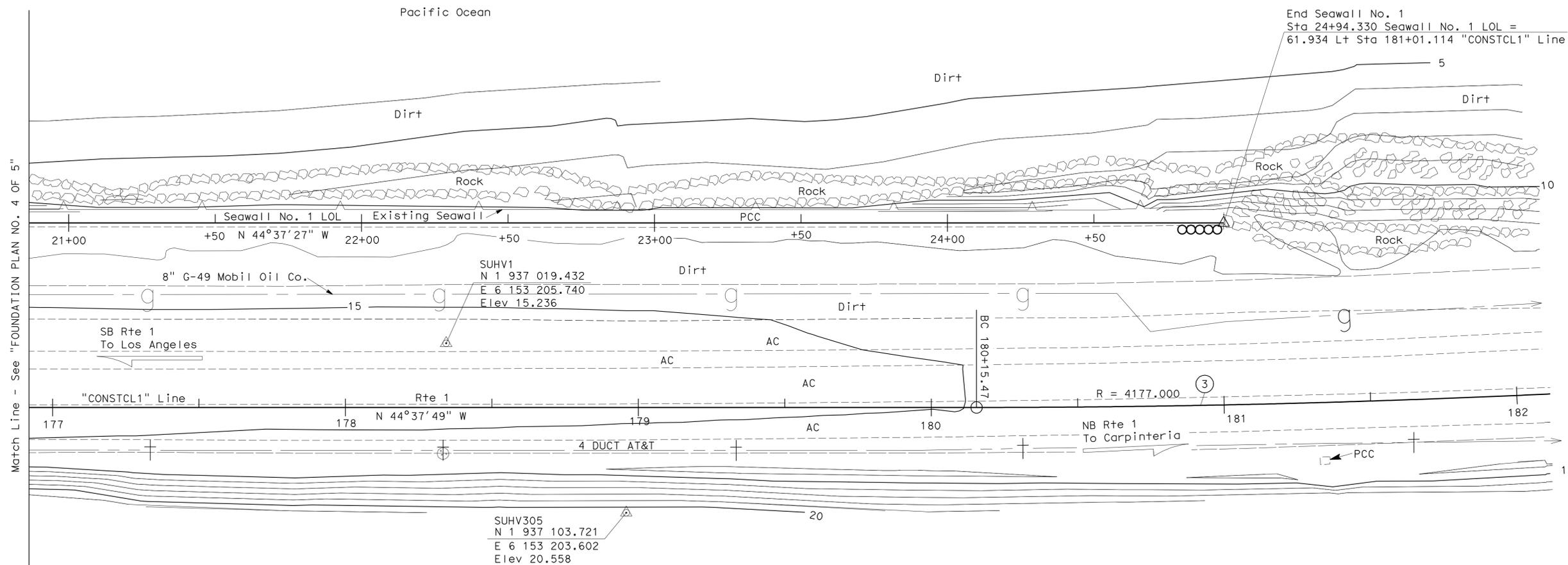
SURVEY CONTROL
See "FOUNDATION PLAN NO. 1"

PRELIMINARY INVESTIGATION SECTION				DESIGN	By Daryoush Tavatli	CHECKED	M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	52-0139	SEAWALL NO. 1							
SCALE	VERT. DATUM	NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS	By Gerald Dickerson	CHECKED	M. Okimura			POST MILE	22.5/22.9	FOUNDATION PLAN NO. 4 OF 5							
1:20	HORZ. DATUM	NAD83	SURVEYED	BY T. Phung/C. Stewart	CHECKED	BY E. Viagar	QUANTITIES			By Daryoush Tavatli	CHECKED	A. Picazo							
ALIGNMENT TIES Dist Traverse Sheets				DRAFTED	BY C. Pham	CHECKED	BY E. Viagar	CU 07-265 EA 228201		DISREGARD PRINTS BEARING EARLIER REVISION DATES									
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)										ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3		REVISION DATES		SHEET 12 OF 39	

No.	R	Δ	T	L
③	4177.000	03°01'58"	110.578	221.103

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	39	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 6-25-12
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End Seawall No. 1
 Sta 24+94.330 Seawall No. 1 LOL =
 61.934 Lt Sta 181+01.114 "CONSTCL1" Line

Match Line - See "FOUNDATION PLAN NO. 4 OF 5"

SURVEY CONTROL
 SUHV1
 Fd: PK/CT Washer on AC
 21.869 Lt. "CONSTCL1" Line
 Sta 178+34.39
 N 1 937 019.432
 E 6 153 205.740
 Elev 15.236
 SUHV305
 Fd: 2" IP/SPK
 35.825 Rt. "CONSTCL1" Line
 Sta 178+95.88
 N 1 937 103.721
 E 6 153 203.602
 Elev 20.558

NOTES:
 Underground utilities as shown are approximate
 ○ Indicates 3'-0" Ø Drilled Hole with W 24 x 117 Soldier Piles
 All Piles not shown

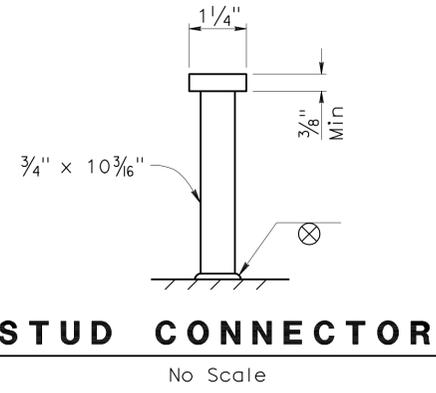
PRELIMINARY INVESTIGATION SECTION				DESIGN BY Daryoush Tavatli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO. 52-0139	SEAWALL NO. 1			
SCALE 1:20	VERT. DATUM NAVD83	PHOTOGRAMMETRY AS OF: X	DETAILS BY T. Phung/C. Stewart	CHECKED M. Okimura	POST MILE 22.5/22.9			FOUNDATION PLAN NO. 5 OF 5				
ALIGNMENT TIES Dist Traverse Sheets	DRAFTED BY C. Pham	CHECKED BY E. Viagar	QUANTITIES BY Daryoush Tavatli	CHECKED A. Picazo	REVISION DATES: 07/24/08, 08/19/10, 02/24/10, 3-19-12, 4-20-12							
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07-265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 13	OF 39	USERNAME => s124496 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:07 FILE => 52-0139-e-fp05.dgn	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	40	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

6-25-12
 PLANS APPROVAL DATE
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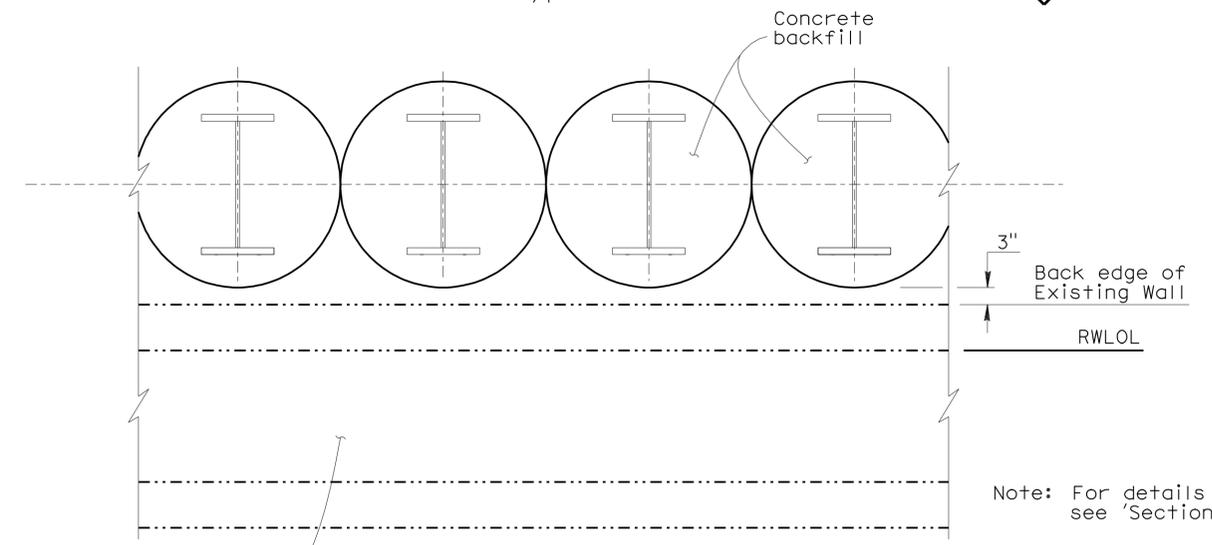
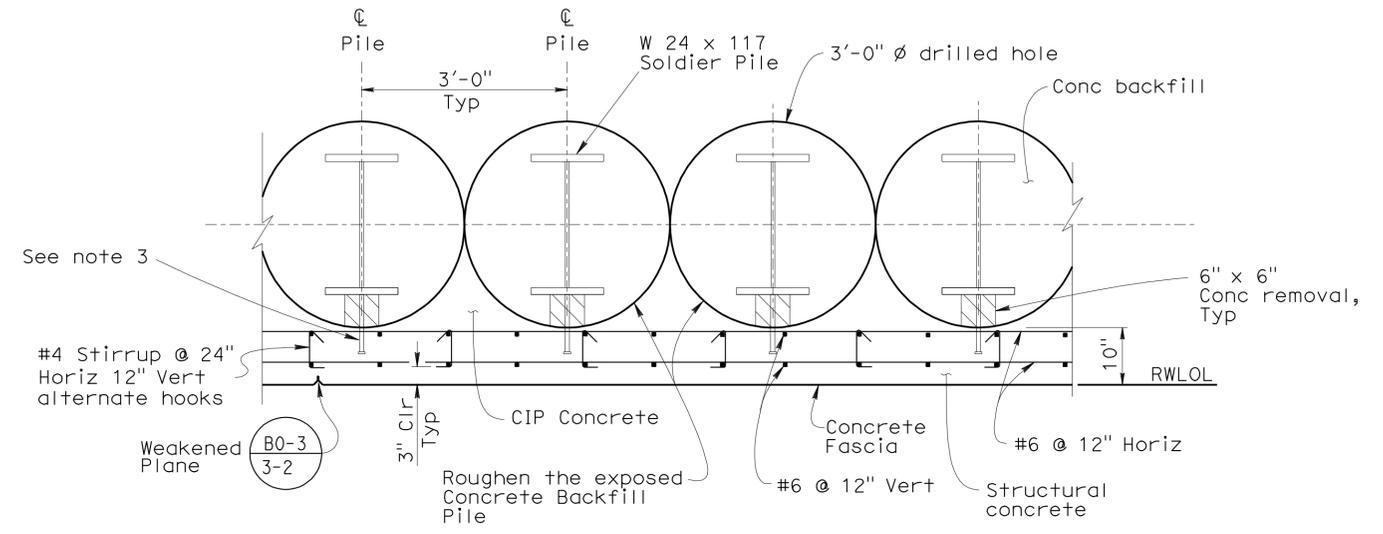
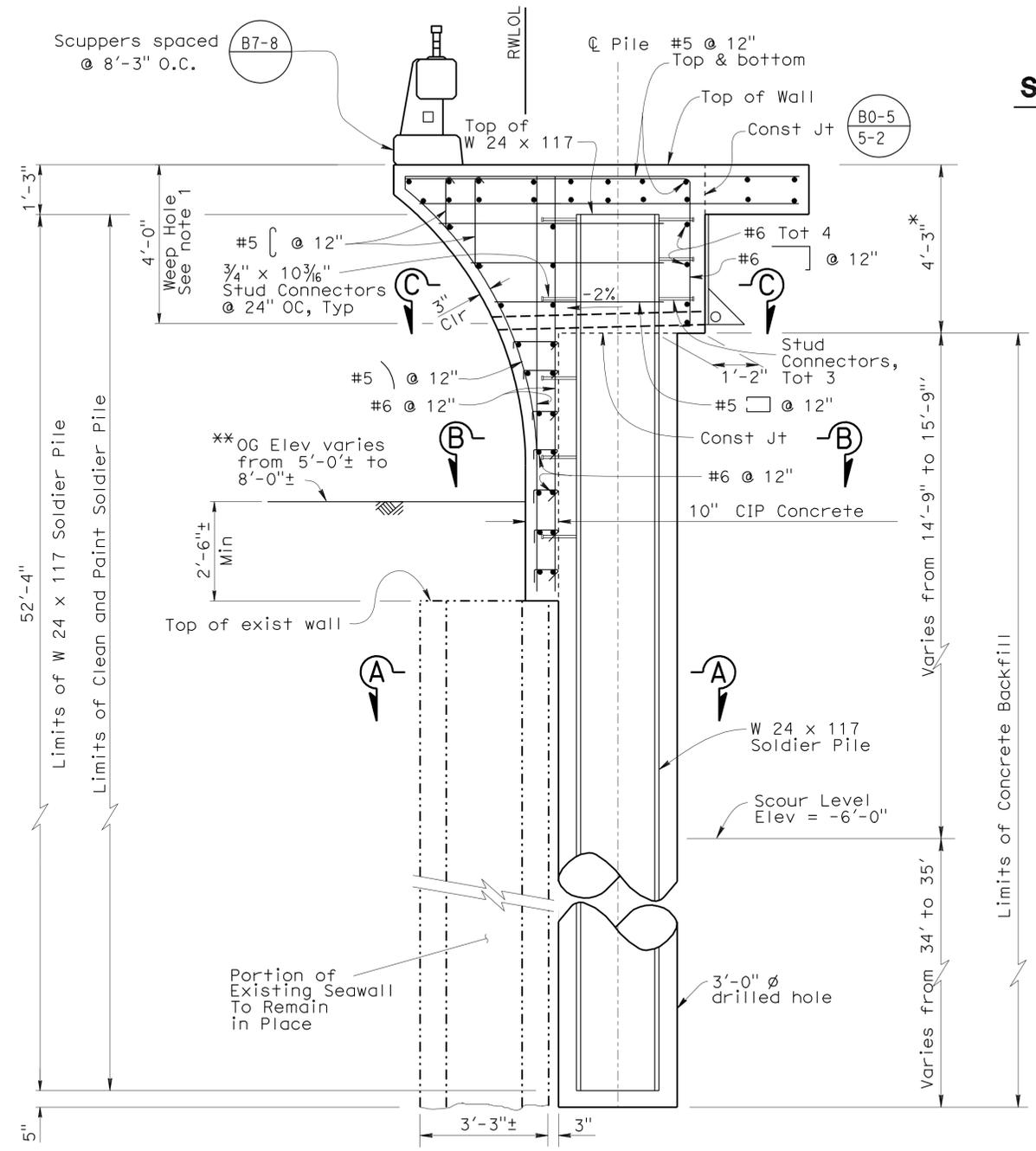
- * - Construct top 4'-3" of piling and Concrete Fascia
- ** - OG elevation is seasonal and subjected to change based on wave elevation



- Notes:
- For Section 'C-C', 'D-D' and Weep Hole Detail, see "TYPICAL SECTION DETAILS NO. 2" sheet
 - All Reinf shall be Prefabricated Epoxy Coated
 - 1 column of stud connectors required Typ. For locations where 2 columns are required, see "ACCESS RAMP DETAILS NO. 1" sheet

Legend:

- Concrete Backfill Removal. Remove as required for stud installation



Note: For details not shown, see 'Section B-B'

DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura
DETAILS	BY L. Goldthwait	CHECKED M. Okimura
QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 11

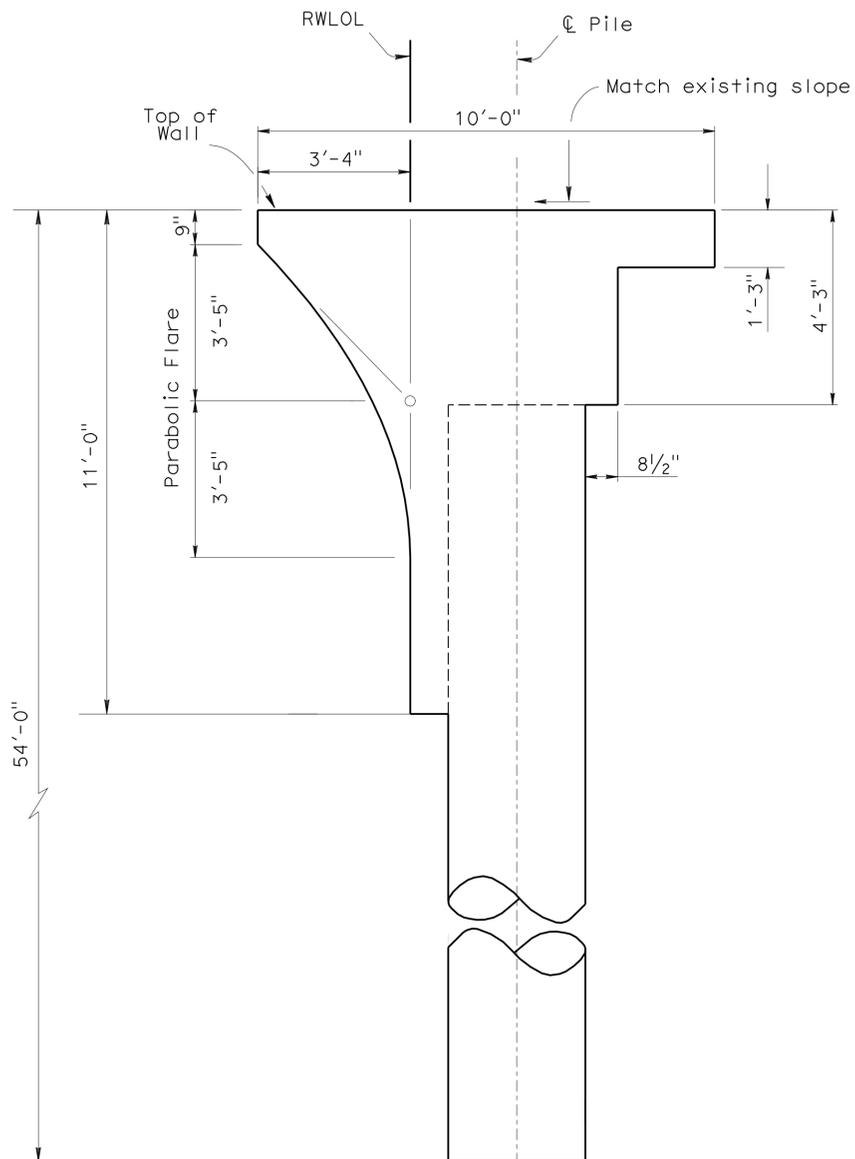
BRIDGE NO. 52-0139
POST MILE 22.5/22.9
SEAWALL NO. 1
TYPICAL SECTION DETAILS NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	41	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

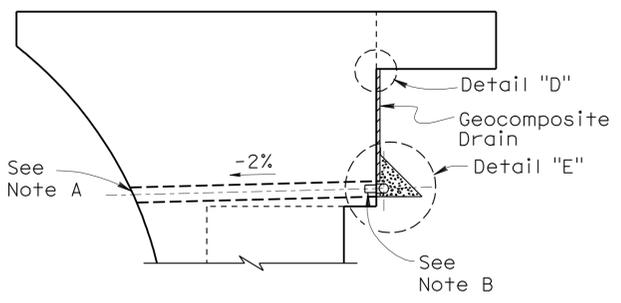
6-25-12
 PLANS APPROVAL DATE

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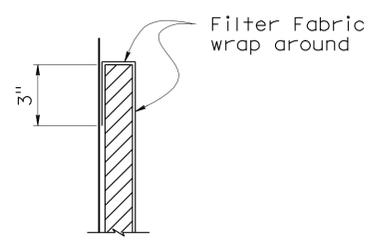


WALL GEOMETRICS

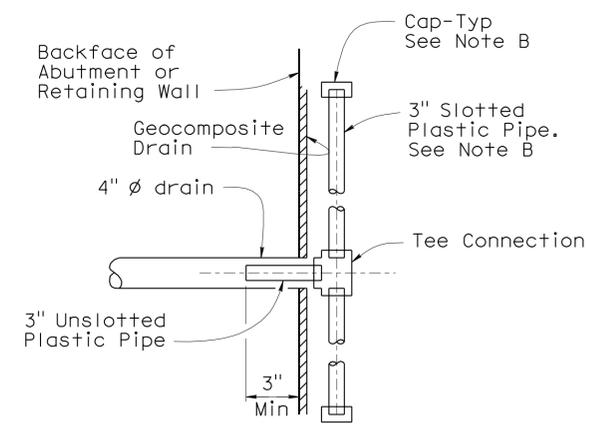
Scale: 1/2"=1'-0"



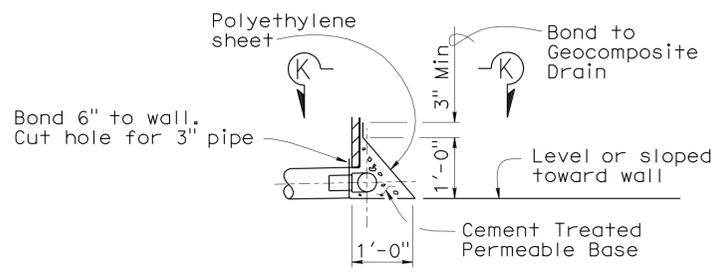
WALL SECTION



DETAIL "D"



SECTION K-K



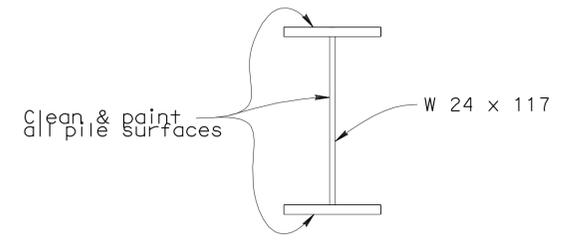
DETAIL "E"

WEEP HOLE AND GEOCOMPOSITE DRAIN

NO SCALE

Notes:

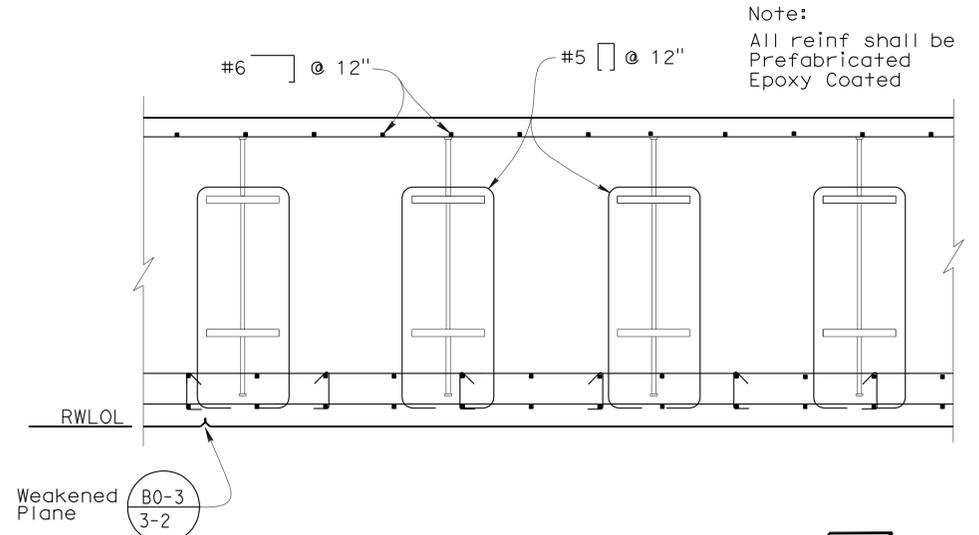
- A. 4" ϕ drains at intermediate sag points and at 24'-0" center to center. For walls adjacent to sidewalks or curbs, provide 4" ϕ cast iron or asbestos cement pipe under the sidewalk to discharge through curb face. Exposed wall drains shall be located 3" \pm above finished grade.
- B. Geocomposite drain, cement treated permeable base, and 3" ϕ slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4" ϕ drain.
- C. Connect the low end of plastic pipe to the main outlet pipe as applicable.



LIMITS OF CLEAN & PAINT SOLDIER PILE *

No Scale

* For more detail, see "TYPICAL SECTION NO. 1" sheet



SECTION C-C

Scale: 3/4"=1'-0"



DESIGN	BY Dary Tavatli	CHECKED M. Okimura
DETAILS	BY L. Goldthwait	CHECKED M. Okimura
QUANTITIES	BY Dary Tavatli	CHECKED A. Picazo

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

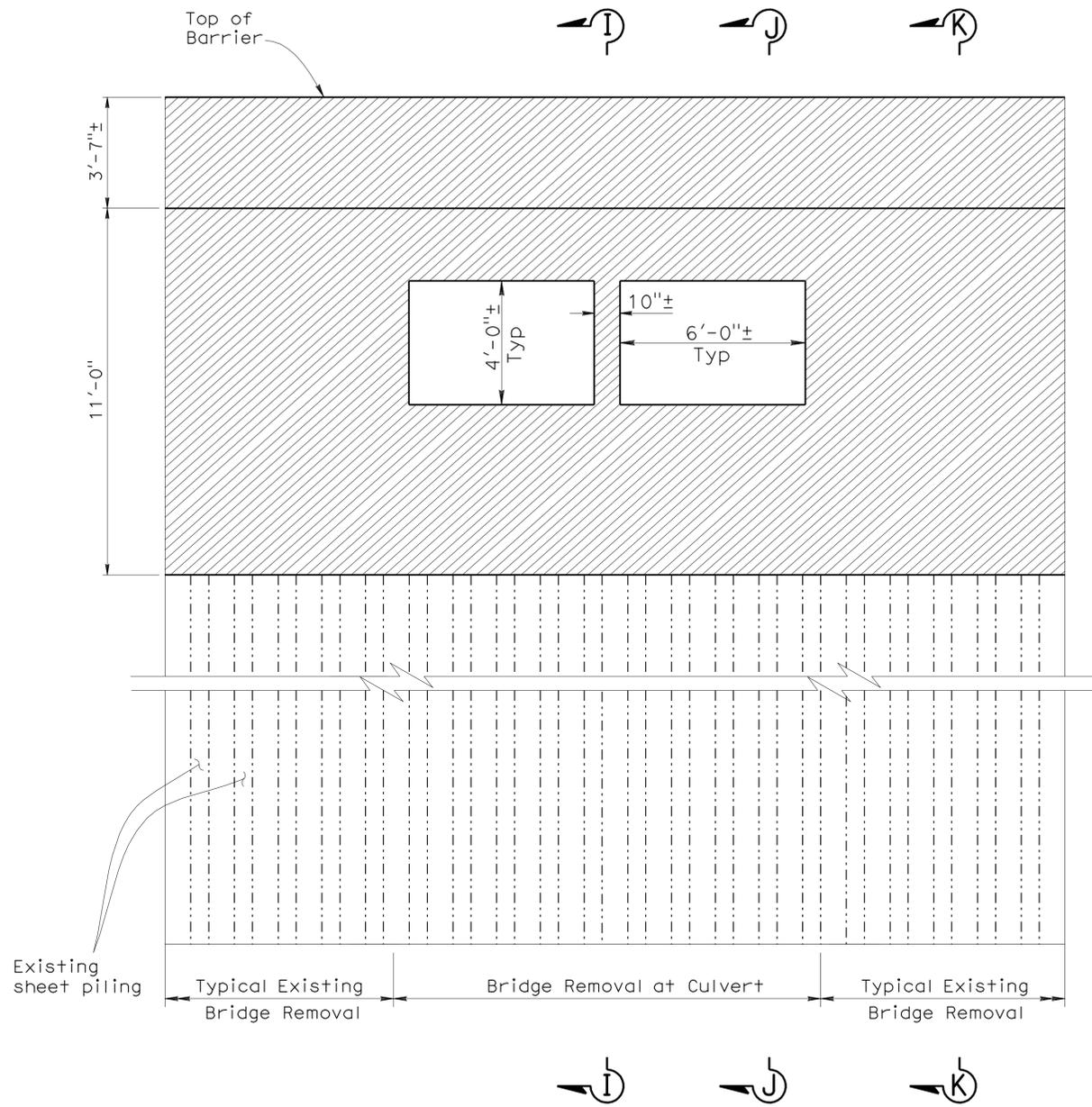
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	52-0139
POST MILE	22.5/22.9

SEAWALL NO. 1
TYPICAL SECTION DETAILS NO. 2

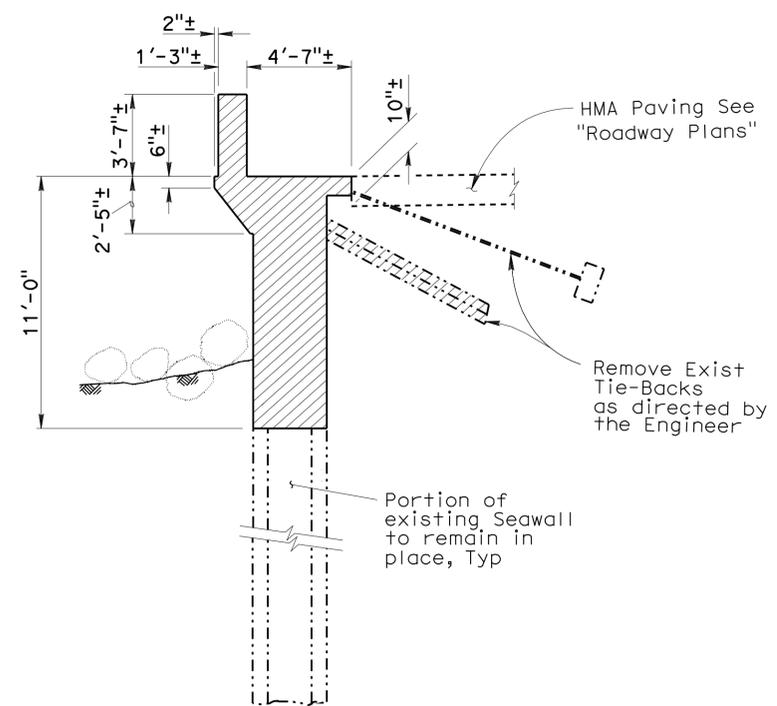
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	42	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 REGISTERED PROFESSIONAL ENGINEER
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 6-25-12
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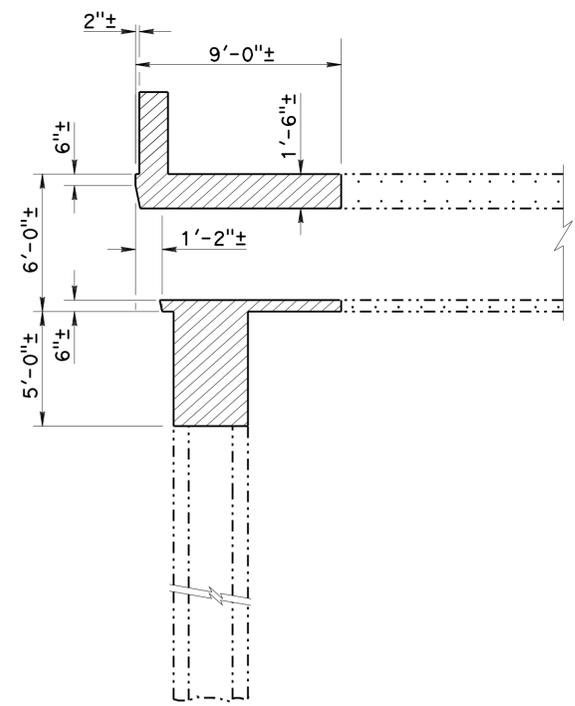
ELEVATION
EXISTING SEAWALL REMOVAL

Scale: 3/8"=1'-0"



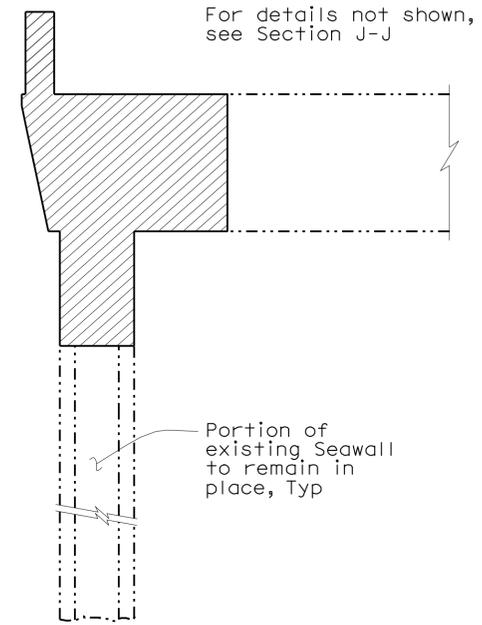
SECTION K-K

Scale: 1/4"=1'-0"



SECTION J-J

Scale: 1/4"=1'-0"



SECTION I-I

Scale: 1/4"=1'-0"

- Limits of Bridge Removal (Portion)

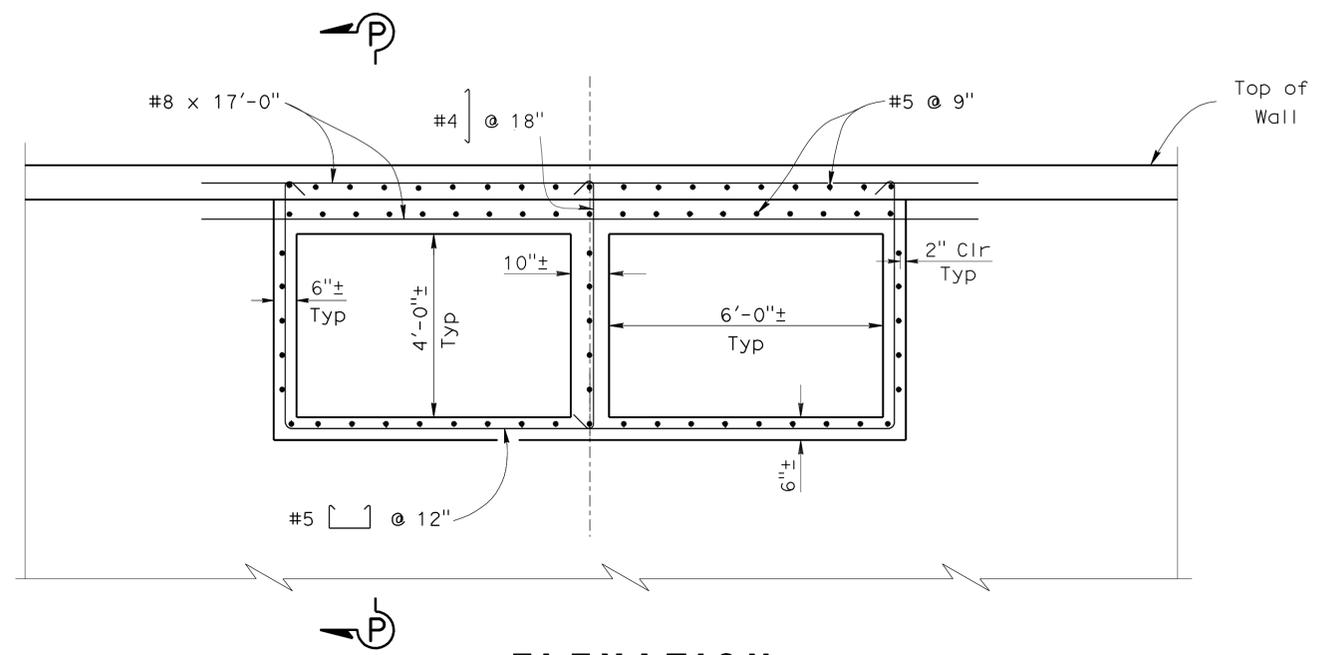
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Dary Tavatli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1									
	DETAILS	BY L. Goldthwait	CHECKED M. Okimura			52-0139	CONCRETE REMOVAL									
	QUANTITIES	BY Dary Tavatli	CHECKED A. Picazo			22.5/22.9										
	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	8-11-09	8-20-09	10/28/09	12/08/09	04/08/10	2/22/11	3-18-12	4-30-12	SHEET 16 OF 39

FILE => 52-0139-h-cr.dgn
 USERNAME => s124496 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:07

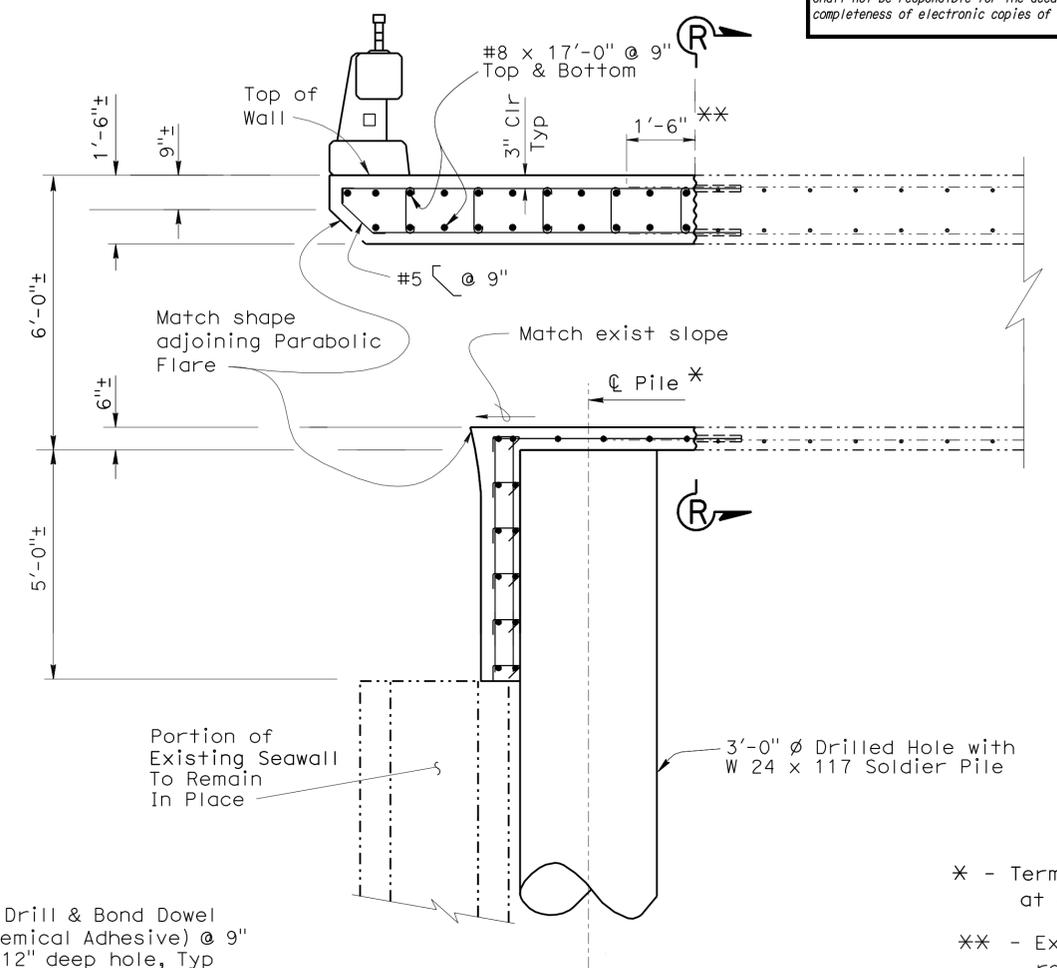
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	43	65

REGISTERED CIVIL ENGINEER DATE: 6-15-12
 REGISTERED CIVIL ENGINEER: Daryoush Tavafli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

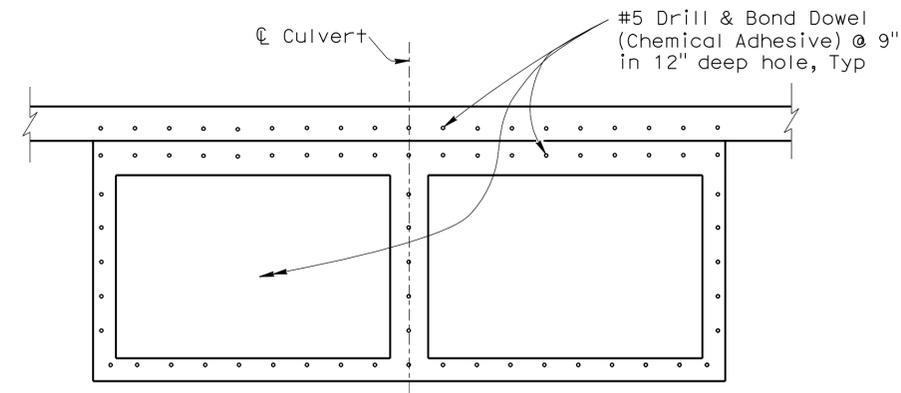
PLANS APPROVAL DATE: 6-25-12
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ELEVATION
Scale: 1/2"=1'-0"



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



SECTION R-R
Scale: 1/2"=1'-0"

- Notes:
1. Match exist culvert opening dimensions and its concrete wall thicknesses
 2. All Reinf shall be prefabricated epoxy coating

- * - Terminate the pile at culvert soffit
- ** - Existing rebar to remain in place

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Dary Tavafli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1					
	DETAILS	BY L. Goldthwait	CHECKED M. Okimura			52-0139	CULVERT DETAILS					
	QUANTITIES	BY Dary Tavafli	CHECKED A. Picazo			22.5/22.9						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					CU 07265 EA 228201	REVISION DATES						SHEET 17 OF 39
					DISREGARD PRINTS BEARING EARLIER REVISION DATES						8-11-09 8-20-09 10/28/09 12/08/09 2/23/11 3-18-12 4-20-12 4-30-12 6-8-12	

Notes:

1. For post pocket, Wall Handrail and Guardrail details see "ACCESS STAIRS DETAILS NO. 2" sheet
2. For Section N-N, View "J" & 'Detail S', see "ACCESS RAMP DETAILS NO. 2" sheet
3. For Section X-X, see "ACCESS RAMP DETAILS NO. 5" sheet
4. For View "D", see "ACCESS RAMP DETAILS NO. 3" sheet

5. For View "E", see "ACCESS RAMP DETAILS NO. 4" sheet
6. For View "F", see "ACCESS RAMP DETAILS NO. 5" sheet
7. All reinf shall be prefabricated epoxy coated
8. For View "G", see "ACCESS RAMP DETAILS NO. 6" sheet

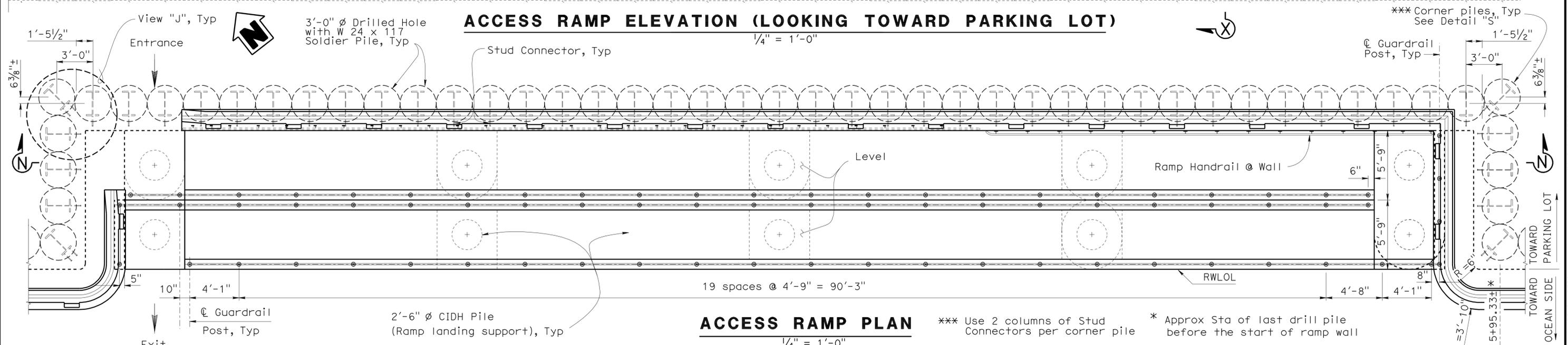
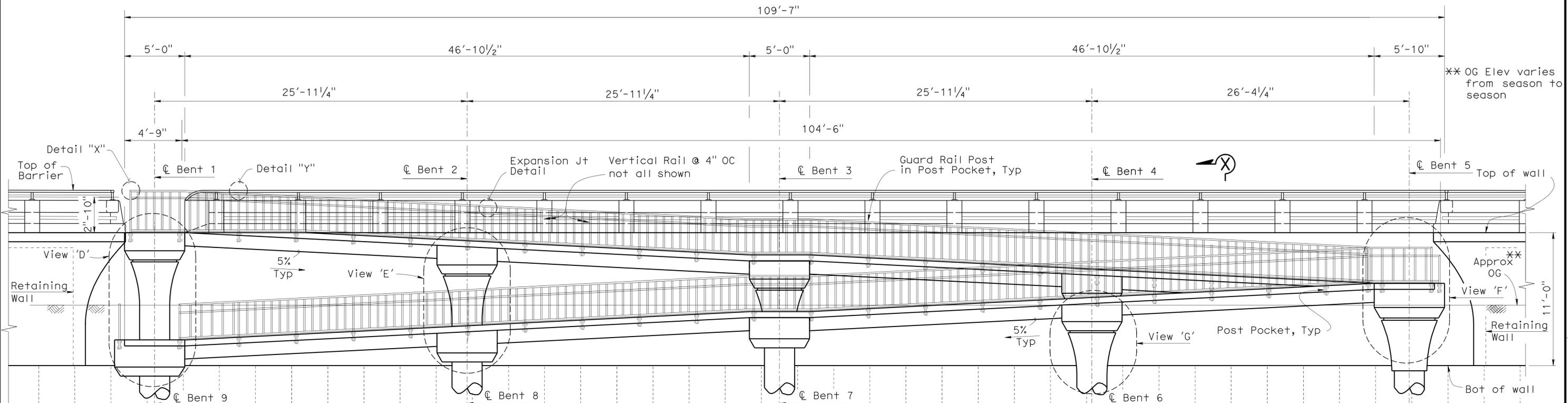
9. For 'Expansion Jt Detail', 'Detail X' and 'Detail Y', see "ACCESS STAIRS DETAILS NO. 2" sheet

Design Notes:

- 2007 CBC
1. Ramp/Landing: LL: 100 psf
 - Railing:
 2. LL: 20 psf @ Top Rail
 3. All Guardrails & Posts are 1 1/2" Ø std pipe

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	44	65

Daryoush Tavatli 6-15-12
 REGISTERED CIVIL ENGINEER DATE
 6-25-12
 PLANS APPROVAL DATE
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DESIGN BY Daryoush Tavatli CHECKED M. Okimura DETAILS BY L. Goldthwait CHECKED M. Okimura QUANTITIES BY Daryoush Tavatli CHECKED A. Picazo	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO. 52-0139	SEAWALL NO. 1 ACCESS RAMP DETAILS NO. 1
			POST MILE 22.5/22.9	
			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)		CU 07265 EA 228201		DISREGARD PRINTS BEARING EARLIER REVISION DATES

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	45	65

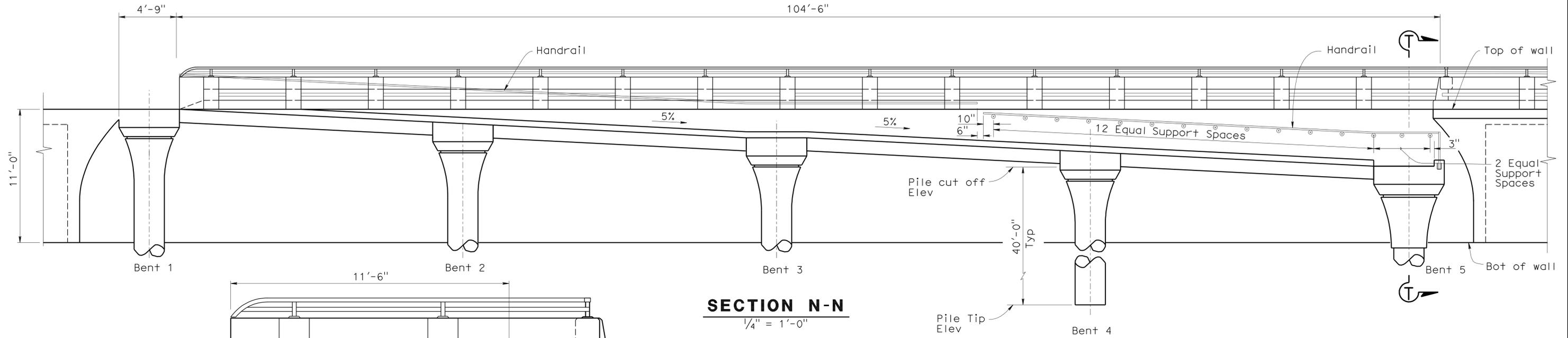
Daryoush Tavatli 6-15-12
 REGISTERED CIVIL ENGINEER DATE
 6-25-12
 PLANS APPROVAL DATE
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
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Metal Work Notes:

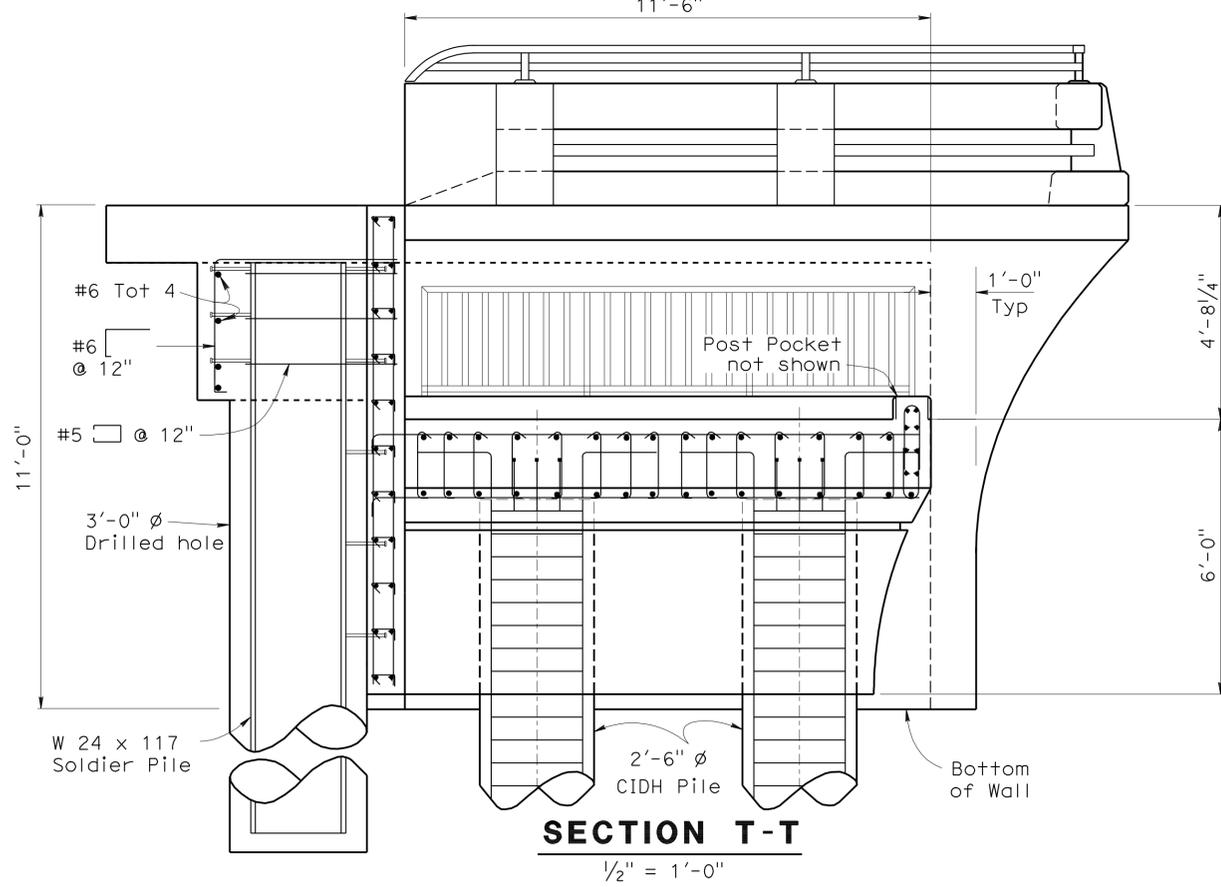
- All metal work shall be hot dip galvanized after fabrication
- Secure metal to metal connections shown as + with a 1/2" ϕ x 1 1/2" hex head machine bolt, lock washer & hex nut unless otherwise noted
- Mechanical Expansion Anchors shall be 5/8" ϕ & have a 4" minimum embedment, 3'-0" maximum spacing & placed 6" from ends, two minimum, unless otherwise shown
- All lock washers shall be helical spring lock washers
- All Railing shall have smooth edges

Notes:

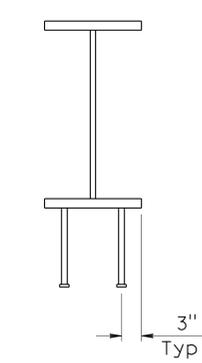
- For Stair Handrail Support, see "ACCESS STAIRS DETAILS NO. 2" sheet
- All Reinf shall be prefabricated epoxy coated



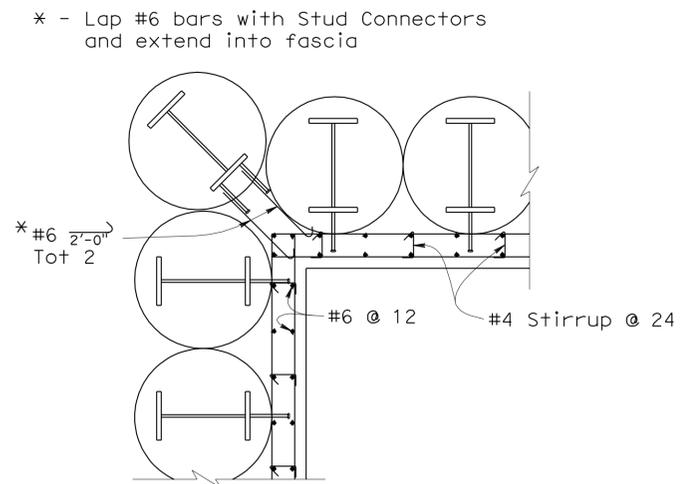
SECTION N-N
1/4" = 1'-0"



SECTION T-T
1/2" = 1'-0"



DETAIL S
No Scale

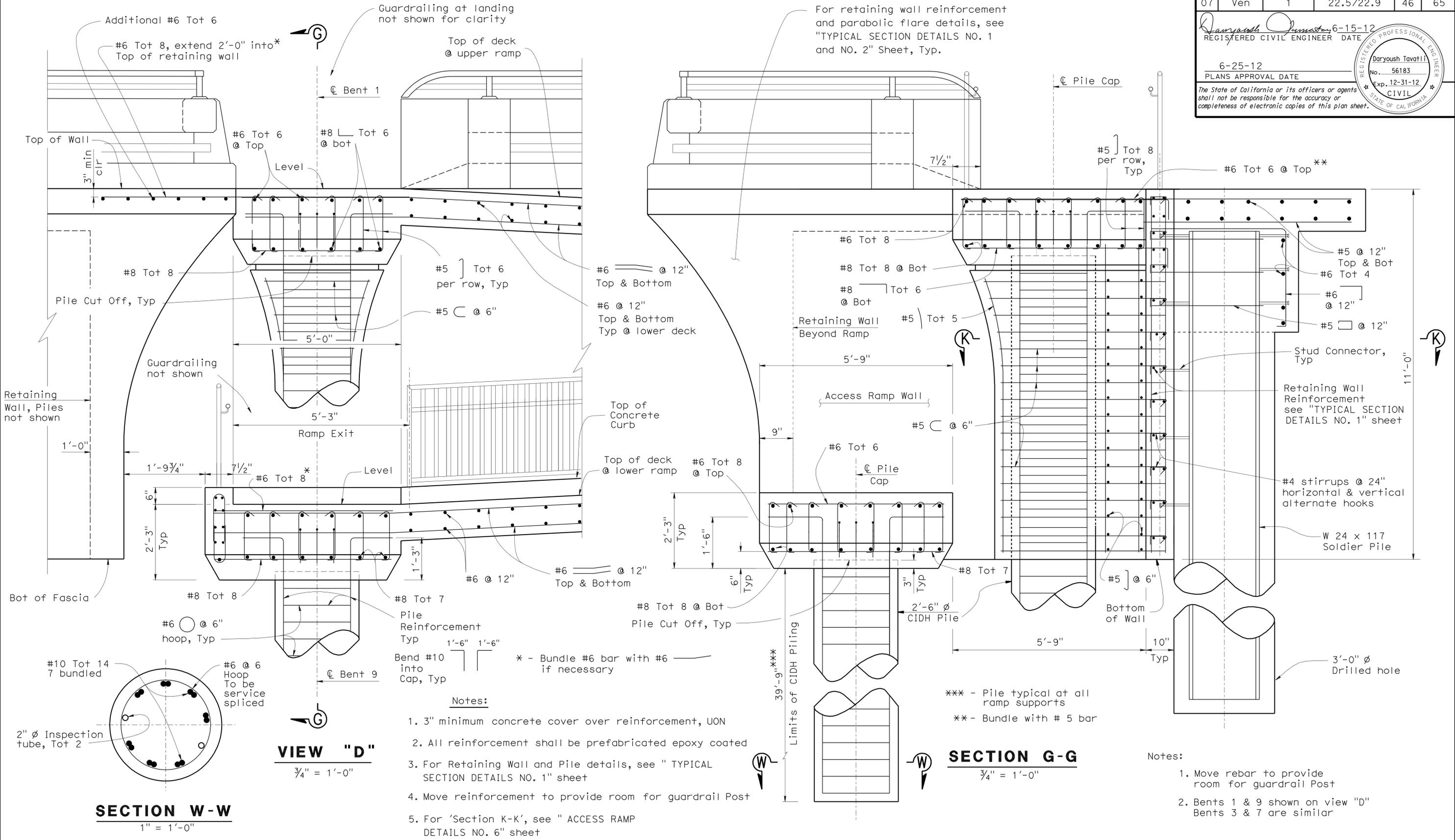


VIEW J
1/2" = 1'-0"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	52-0139	SEAWALL NO. 1 ACCESS RAMP DETAILS NO. 2
	DETAILS	BY L. Goldthwait	CHECKED M. Okimura			POST MILE	22.5/22.9	
	QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo			REVISION DATES	8-11-09 3-18-12 4-20-12 6-11-12 04/28/10 06/22/10 07/07/10 02/23/11 2/24/12	
CU 07265 EA 228201	FILE => 52-0139-n-ard02.dgn		DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 19	OF 39			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	46	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 Daryoush Tavatlil
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 6-25-12
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DESIGN	BY Daryoush Tavatlil	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1										
DETAILS	BY L. Goldthwait	CHECKED M. Okimura			52-0139	ACCESS RAMP DETAILS NO. 3										
QUANTITIES	BY Daryoush Tavatlil	CHECKED A. Picazo			POST MILE	22.5/22.9										
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES		<table border="1"> <tr> <td>9-01-09</td> <td>06/26/10</td> <td>6/28/10</td> <td>07/07/10</td> <td>2-23-11</td> <td>2-24-12</td> <td>3-3-12</td> <td>4-28-12</td> <td>6-11-12</td> </tr> </table>	9-01-09	06/26/10	6/28/10	07/07/10	2-23-11	2-24-12	3-3-12	4-28-12	6-11-12
9-01-09	06/26/10	6/28/10	07/07/10	2-23-11	2-24-12	3-3-12	4-28-12	6-11-12								
FILE => 52-0139-n-ard03.dgn				SHEET 20 OF 39		DATE PLOTTED => 29-JUN-2012										

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	47	65

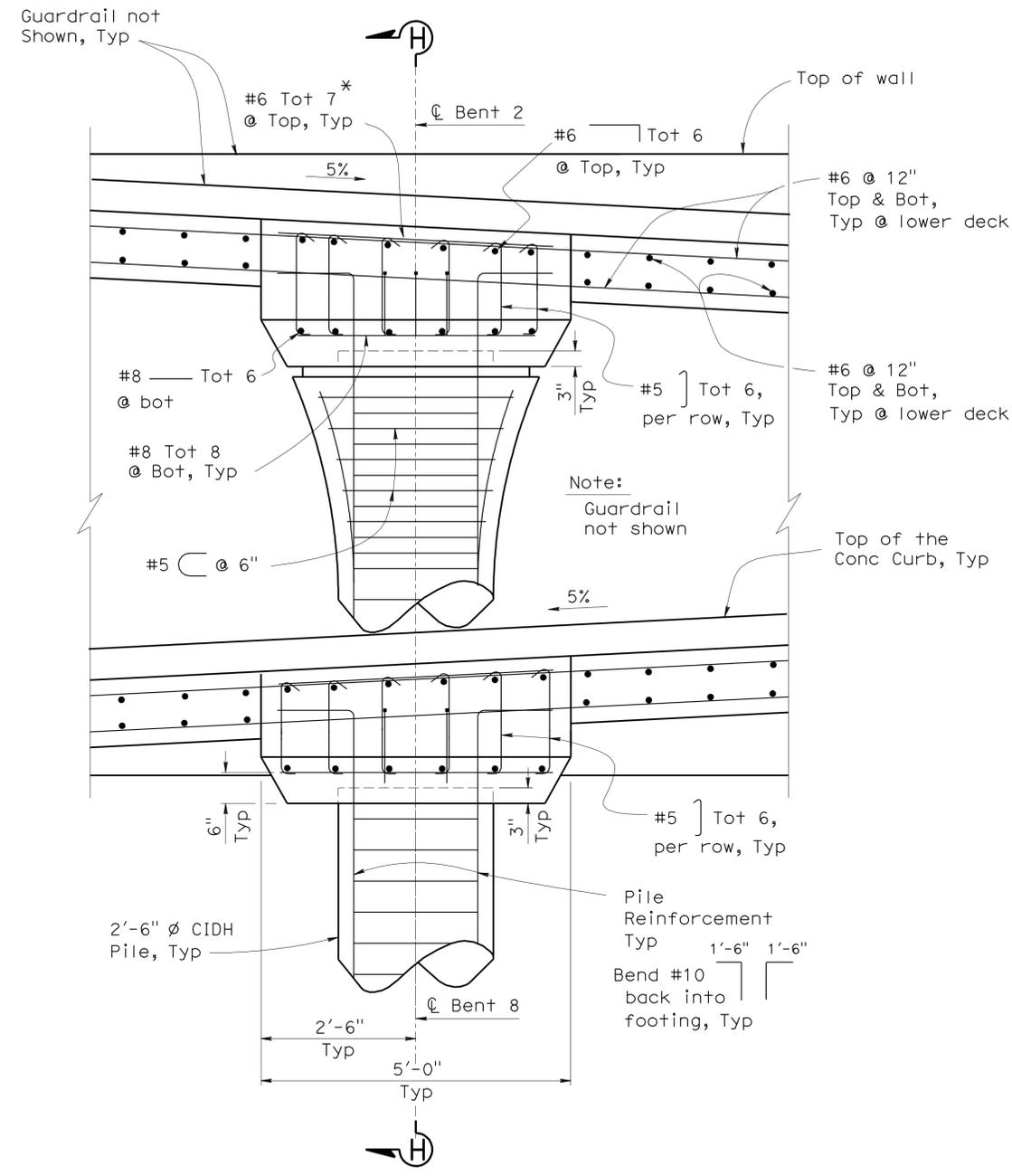
Daryoush Tavatlil 6-15-12
 REGISTERED CIVIL ENGINEER DATE

6-25-12
 PLANS APPROVAL DATE

Daryoush Tavatlil
 No. 56183
 Exp. 12-31-12
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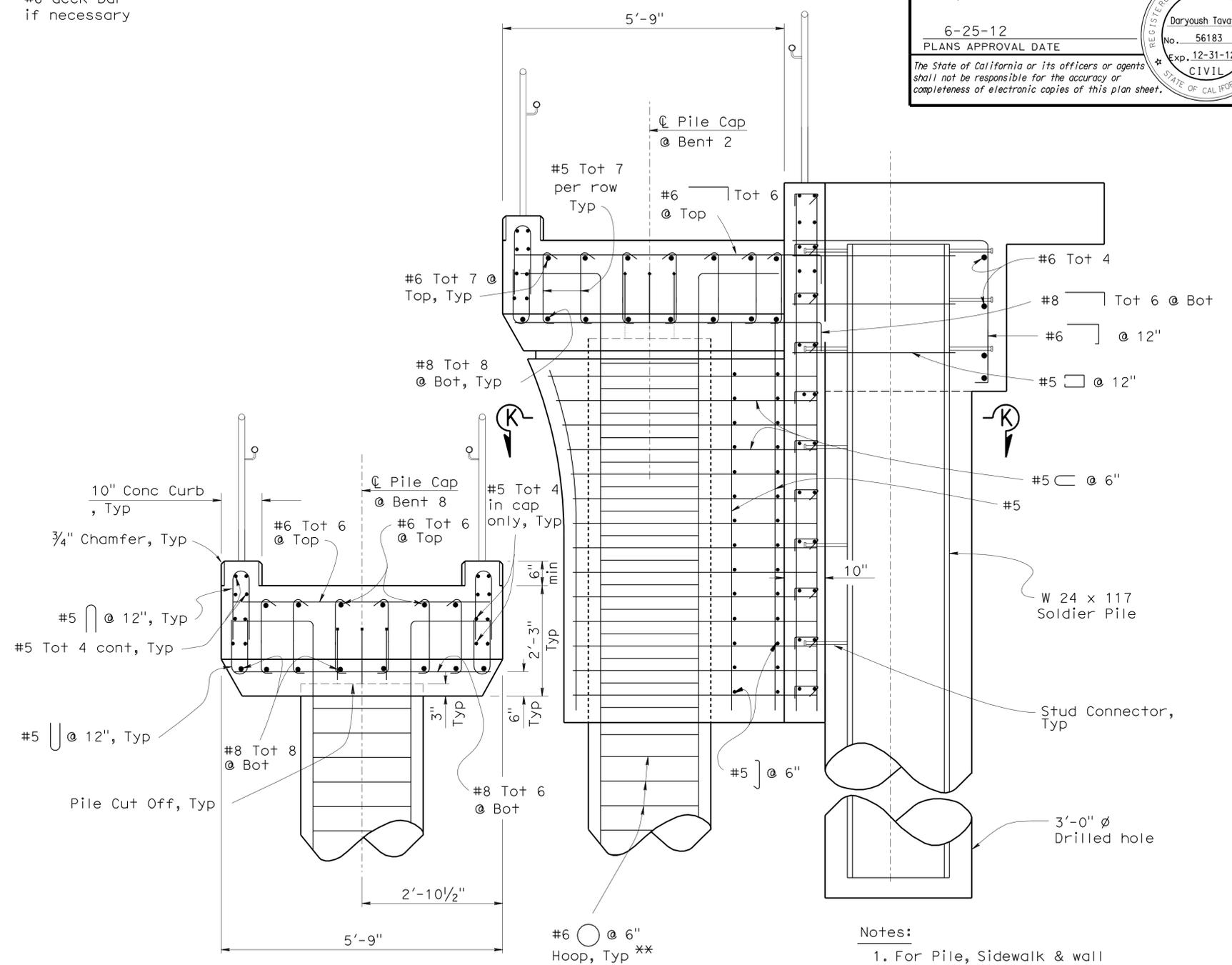
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* - Bundle #6 bar with #6 deck bar if necessary



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

- Notes:
- 3" minimum concrete cover over reinforcement, UON
 - All reinforcement shall be prefabricated epoxy coated
 - For Retaining Wall and Pile details, see " TYPICAL SECTION DETAILS NO. 1" sheet
 - Move reinforcement to provide room for Guardrail Post



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

** - Hoops to be service spliced

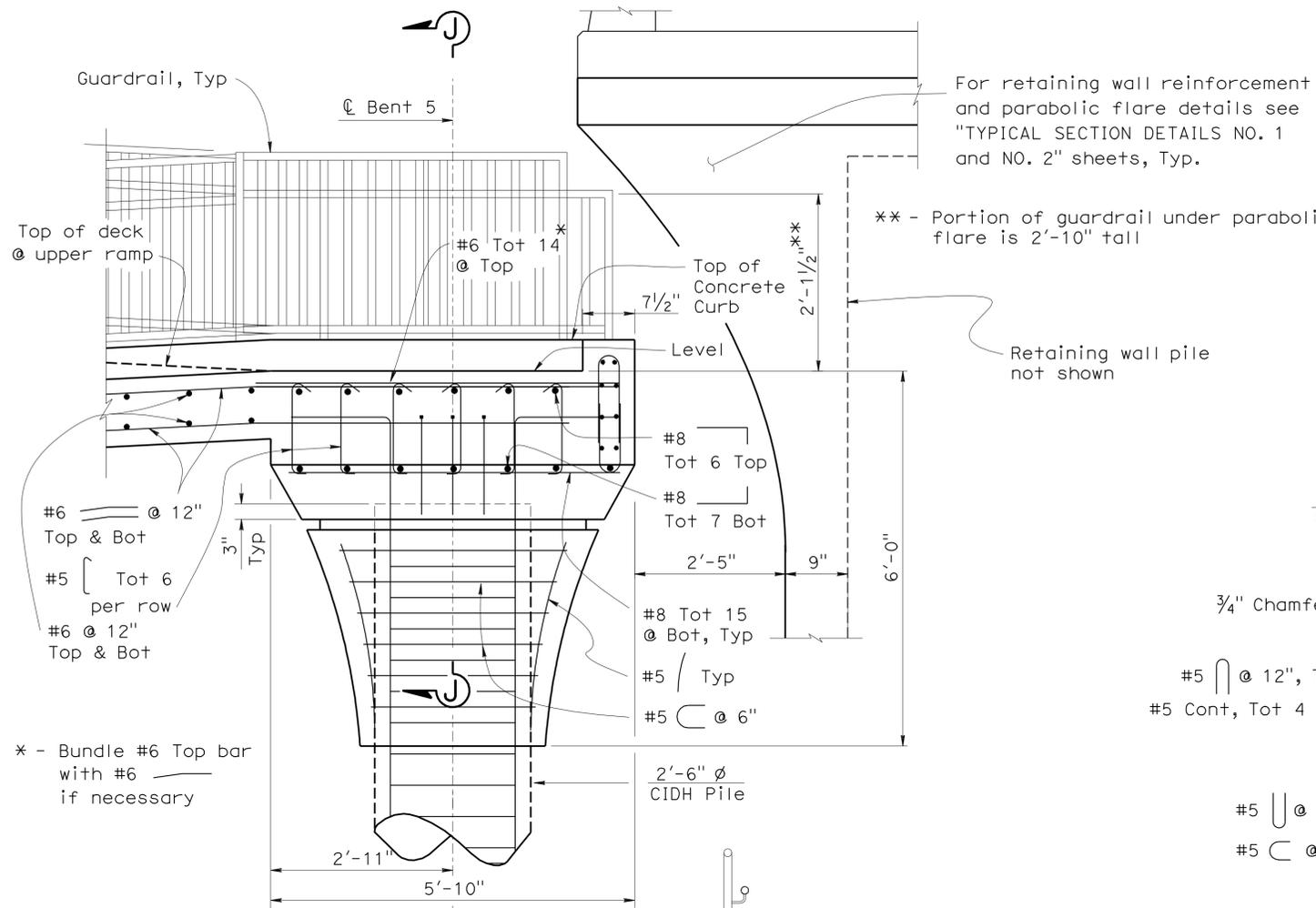
- Notes:
- For Pile, Sidewalk & wall reinforcement, see "TYPICAL SECTION DETAILS NO.1" sheet
 - Move reinforcement to provide room for Guardrail Post
 - Bents 2 & 8 are shown on 'View E' Bent 4 similar, see Bent 6 on 'View G'
 - For 'Section K-K' and 'View G', see "ACCESS RAMP DETAILS NO.6" sheet

DESIGN	BY	Daryoush Tavatlil	CHECKED	M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	52-0139	SEAWALL NO. 1 ACCESS RAMP DETAILS NO. 4	
	DETAILS	BY	L. Goldthwait	CHECKED			M. Okimura	POST MILE		22.5/22.9
	QUANTITIES	BY	Daryoush Tavatlil	CHECKED			A. Picazo	REVISION DATES		9-10-09 06/22/10 2-23-11 2-24-12 3-19-13 4-20-12 05/14/10 04/29/10 06/18/10
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 21 OF 39	

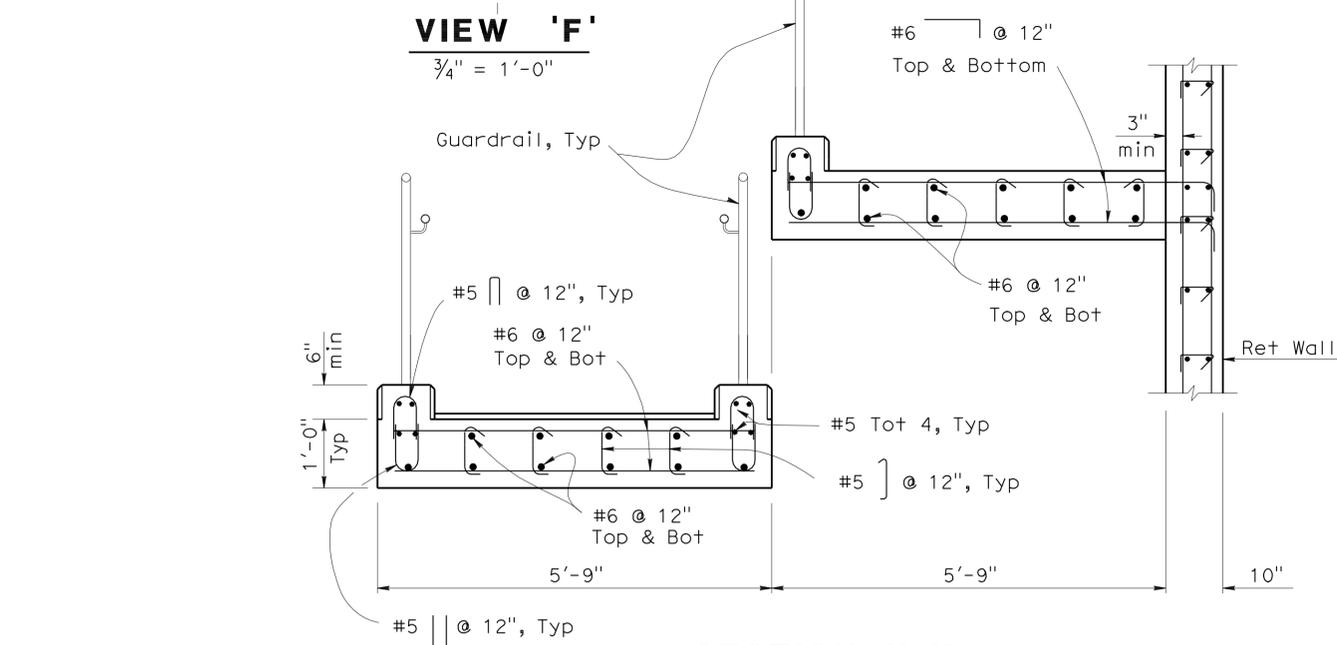
USERNAME => s123631 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:08
 FILE => 52-0139-n-ard04.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	48	65

6-15-12
 REGISTERED CIVIL ENGINEER DATE
 6-25-12
 PLANS APPROVAL DATE
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
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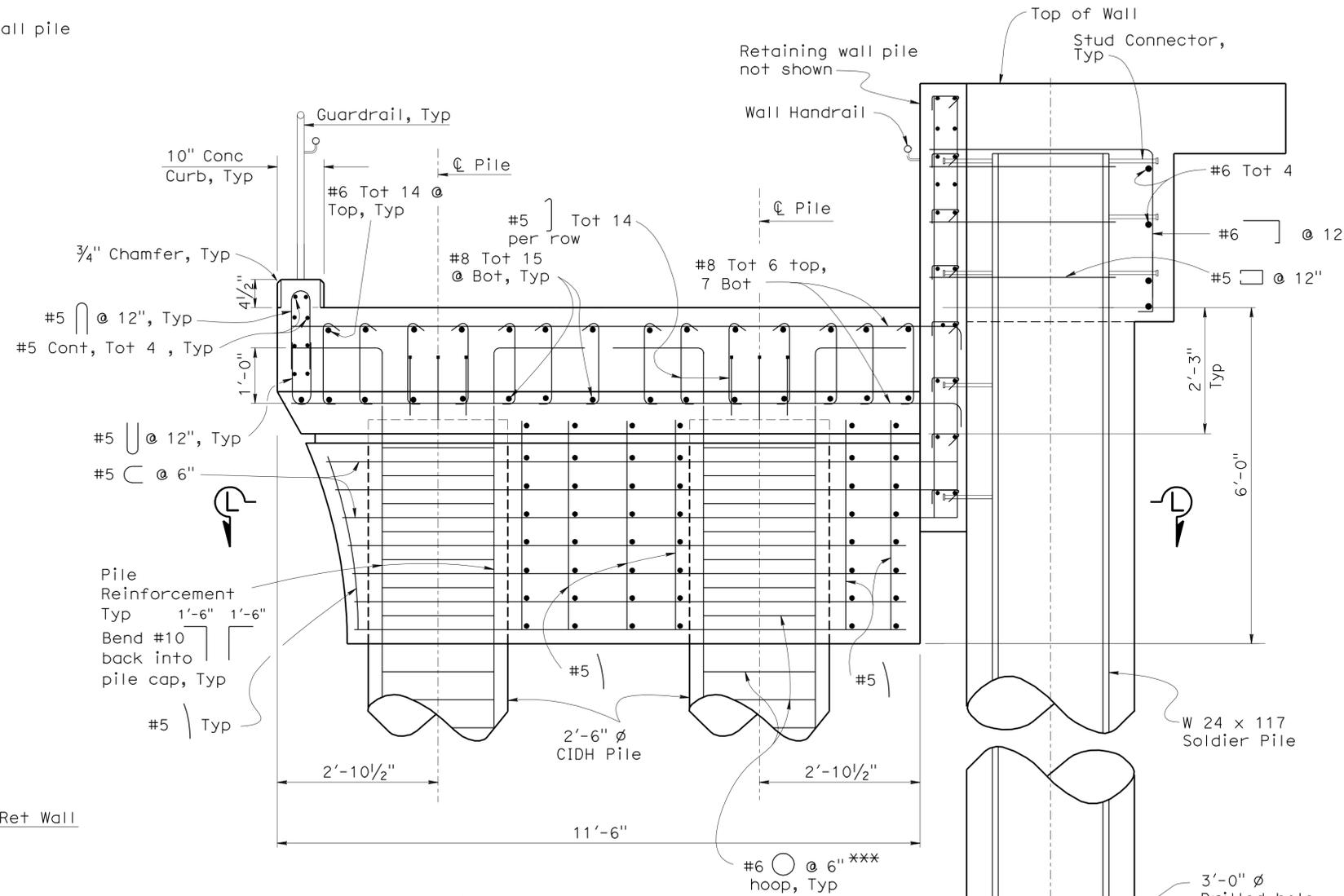


VIEW 'F'
 3/4" = 1'-0"



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

- Notes:
- 3" minimum concrete cover over reinforcement, UON
 - All reinforcement shall be prefabricated epoxy coating
 - For Retaining Wall and Pile details, see "TYPICAL SECTION DETAILS NO. 1" sheet
 - Move reinforcement to provide room for guardrail Post
 - For 'Section L-L', see "ACCESS RAMP DETAILS NO. 6" sheet



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

*** - Hoops to be services spliced

DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura
DETAILS	BY L. Goldthwait	CHECKED M. Okimura
QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 11

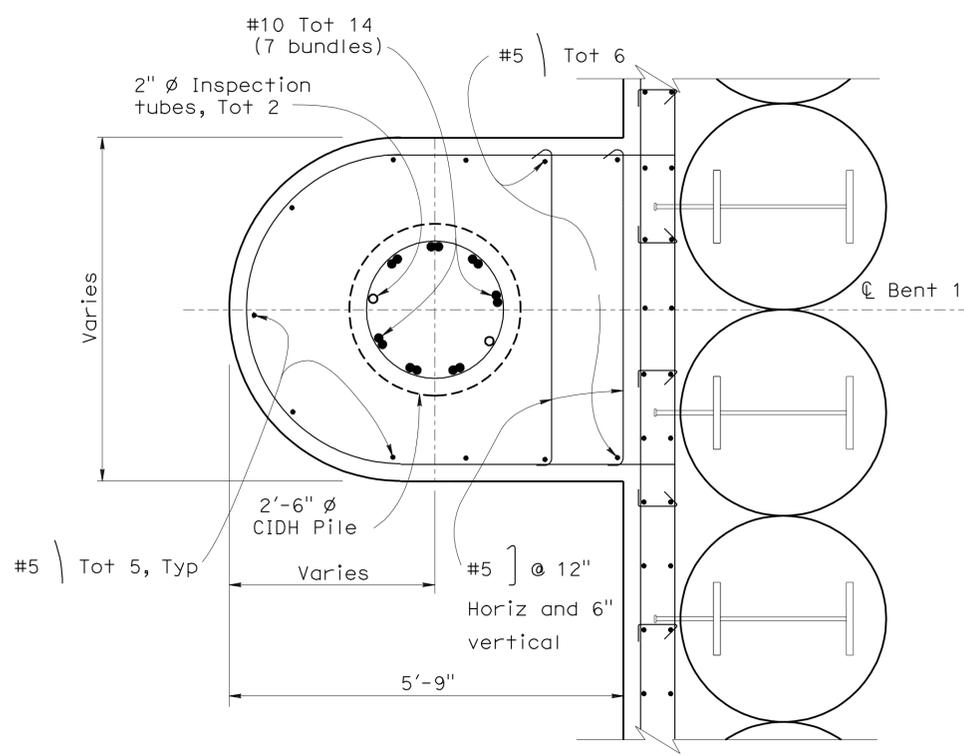
BRIDGE NO.	52-0139
POST MILE	22.5/22.9

SEAWALL NO. 1
 ACCESS RAMP DETAILS NO. 5

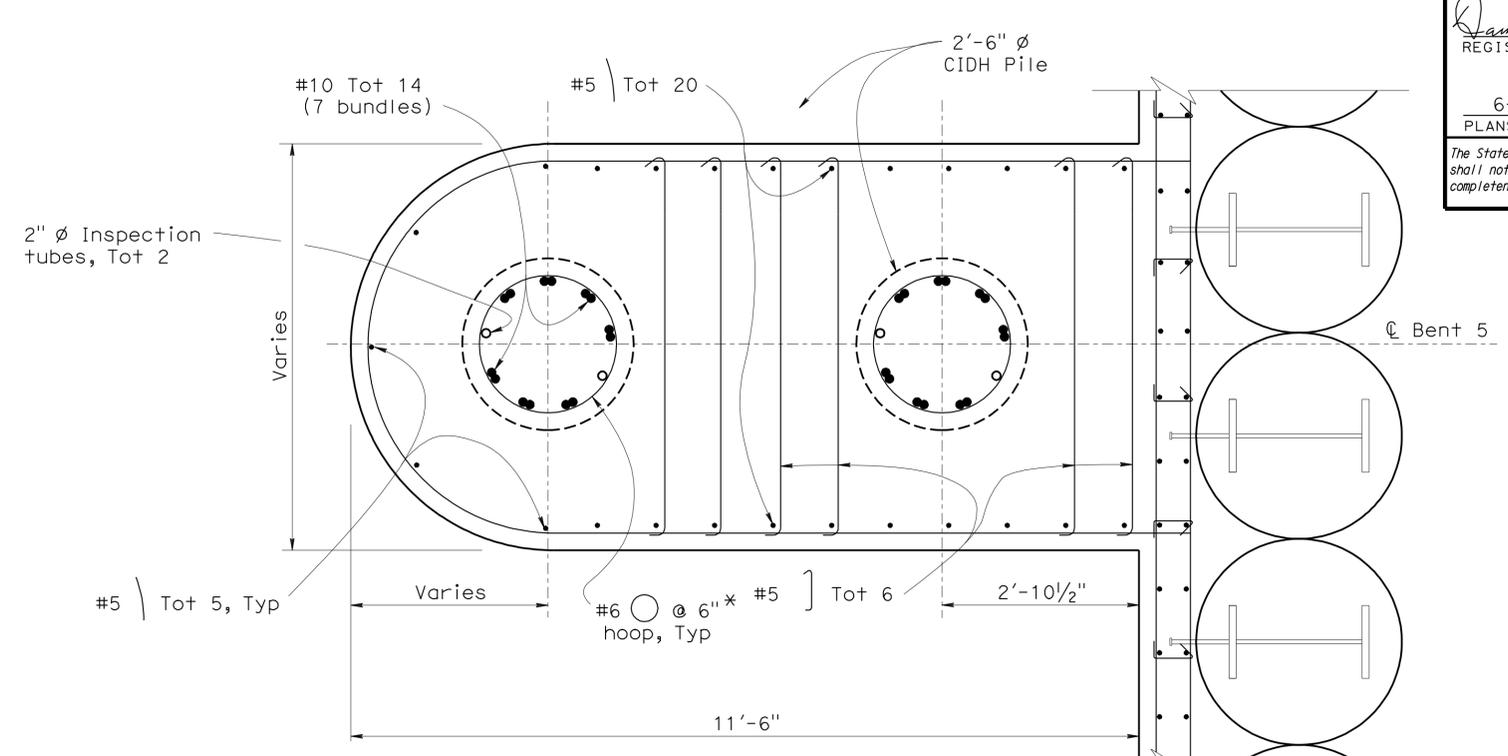
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	49	65

6-15-12
 REGISTERED CIVIL ENGINEER DATE
 6-25-12
 PLANS APPROVAL DATE
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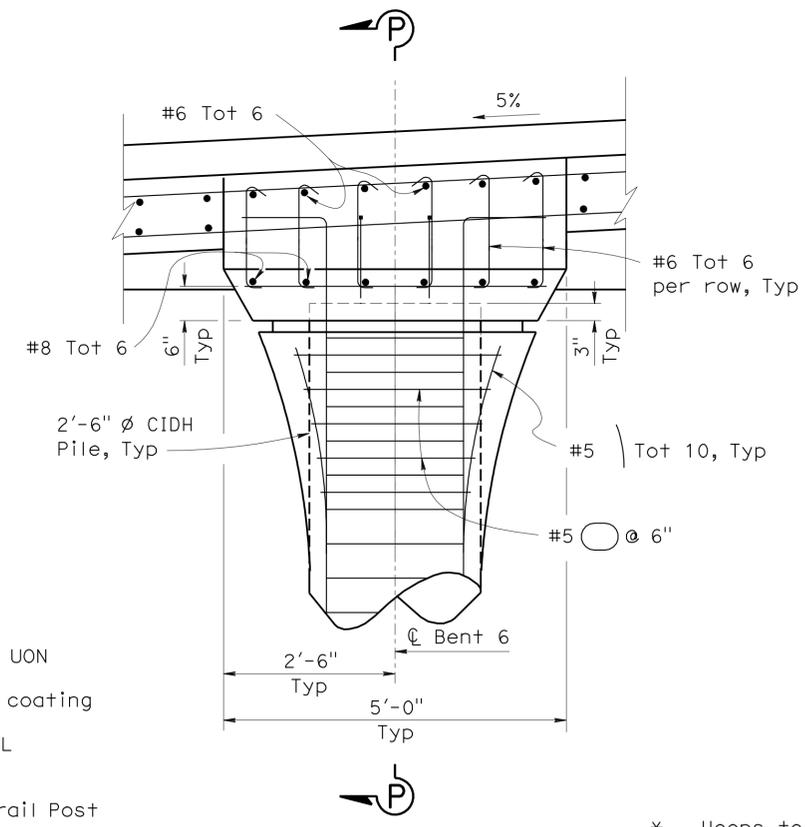
REGISTERED PROFESSIONAL ENGINEER
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA



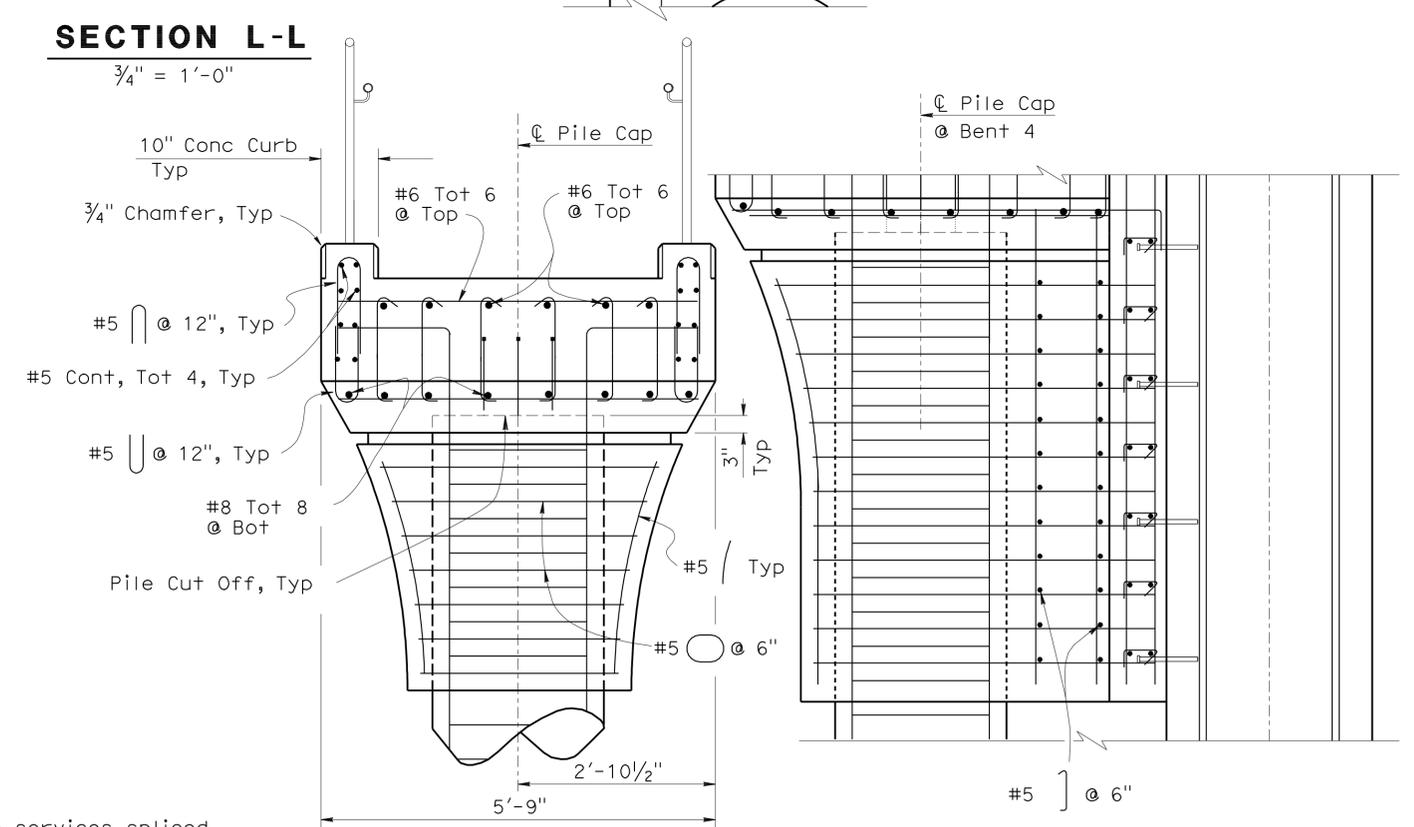
SECTION K-K
 $\frac{3}{4}'' = 1'-0''$



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



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



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

- Notes:
- 3" minimum concrete cover over reinforcement, UON
 - All reinforcement shall be prefabricated epoxy coating
 - For Retaining Wall and Pile details, see "TYPICAL SECTION DETAILS NO. 1" sheet
 - Move reinforcement to provide room for Guardrail Post

* - Hoops to be services spliced

DESIGN	BY	Daryoush Tavatli	CHECKED	M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	52-0139	SEAWALL NO. 1 ACCESS RAMP DETAILS NO. 6				
	DETAILS	BY	L. Goldthwait	CHECKED			M. Okimura	POST MILE		22.5/22.9			
	QUANTITIES	BY	Daryoush Tavatli	CHECKED			A. Picazo	REVISION DATES		<table border="1"> <tr> <td>6-17-10</td> <td>6-23-10</td> <td>07-07-10</td> <td>2-28-11</td> <td>2-24-12</td> <td>3-3-12</td> <td>4-20-12</td> </tr> </table>	6-17-10	6-23-10	07-07-10
6-17-10	6-23-10	07-07-10	2-28-11	2-24-12	3-3-12	4-20-12							
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 23 OF 39				

USERNAME => s123631 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:09

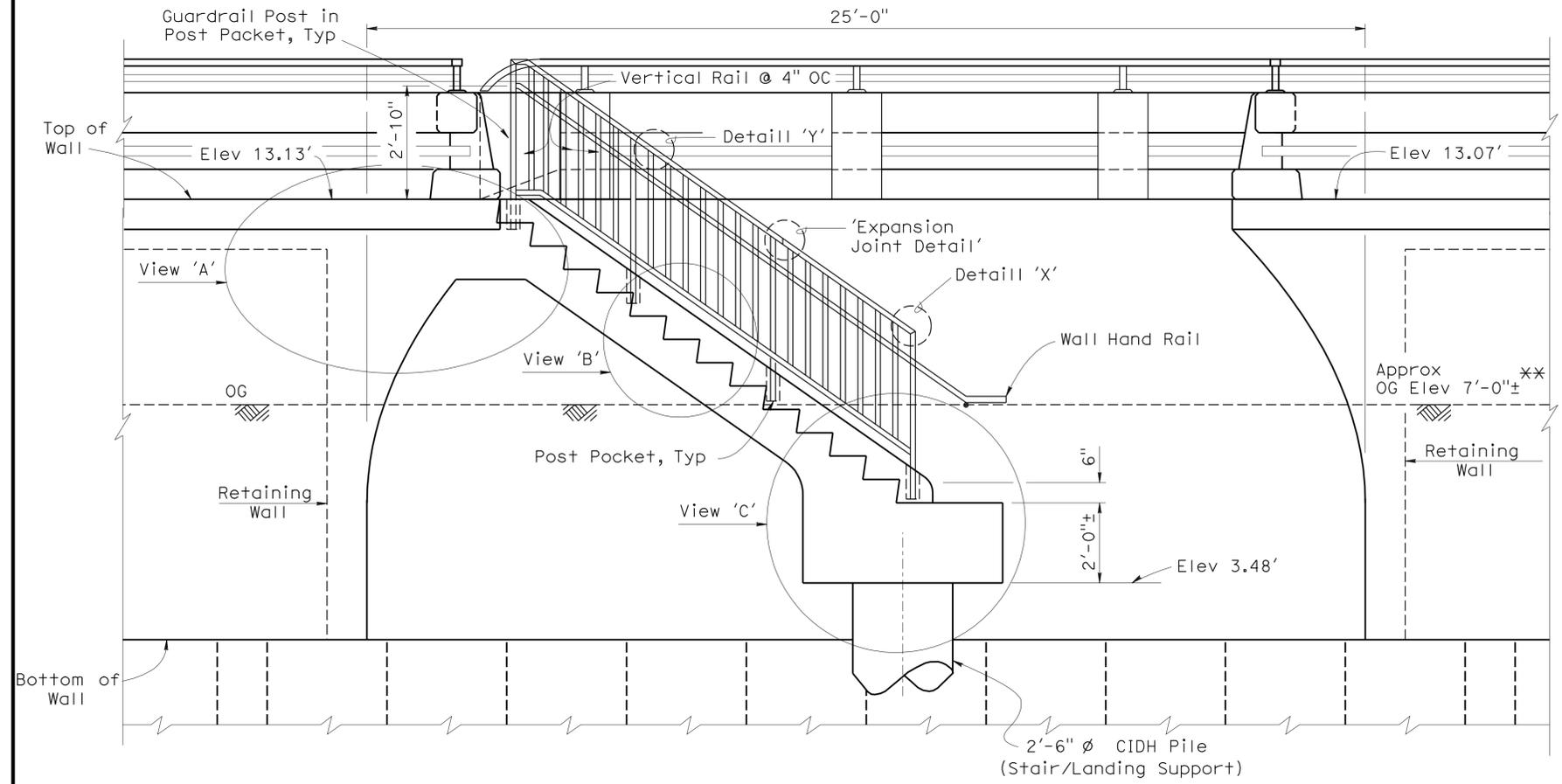
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	50	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 Daryoush Tavafii
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE 6-25-12
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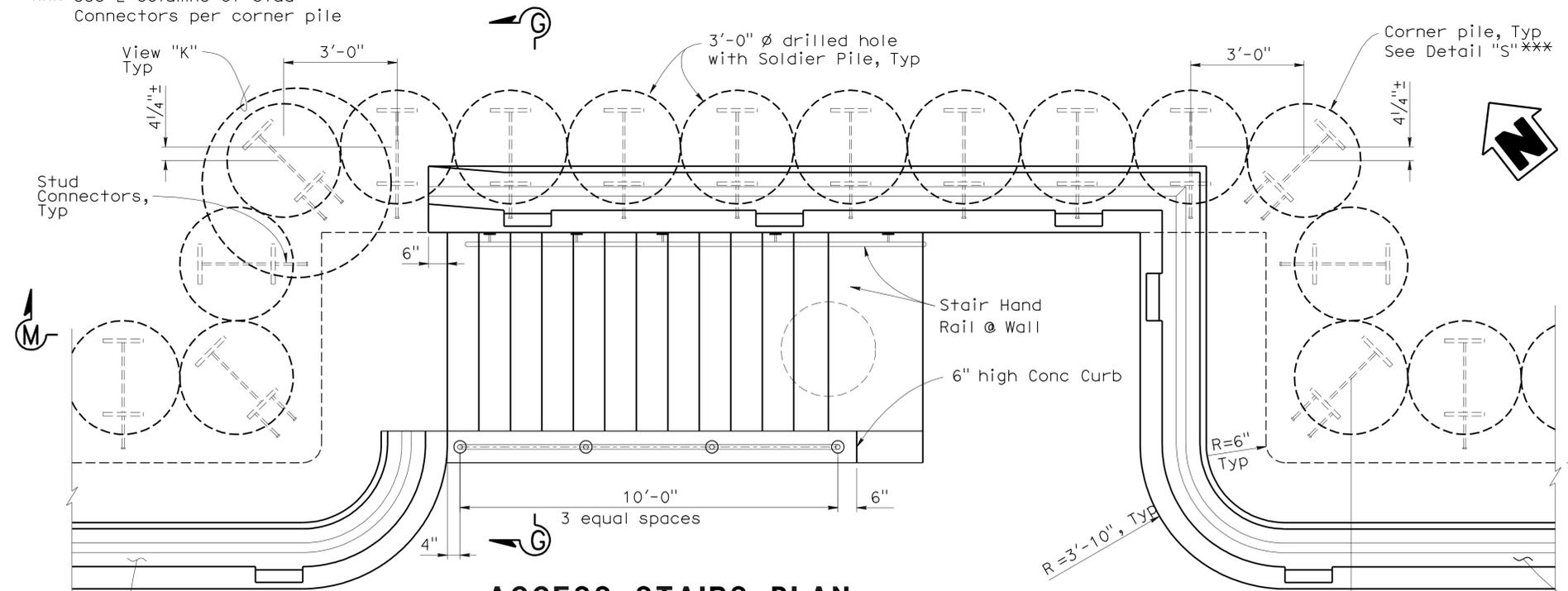
Design Notes:

- 2007 CBC
- 1. Stair/Landing: LL: 100 psf
- Railing:
- 2. LL: 20 psf @ Top Rail
- 3. All Guardrails & Posts are 1 1/2" ø std pipe



ACCESS STAIRS ELEVATION (LOOKING TOWARD PARKING LOT)
1/2" = 1'-0"

*** Use 2 columns of Stud Connectors per corner pile



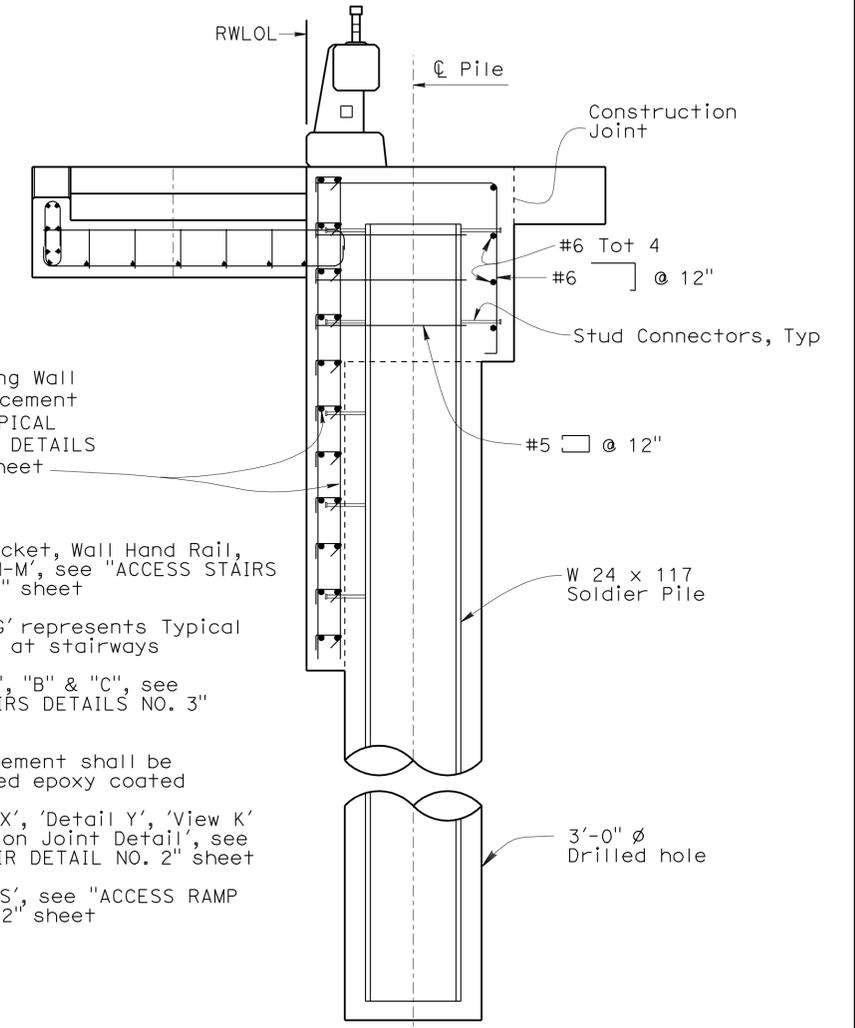
ACCESS STAIRS PLAN
1/2" = 1'-0"

* Approximate Stationing of Last Drilled Pile before the start of the stair wall

** OG Elev varies from season to season

Notes:

1. For post pocket, Wall Hand Rail, & 'Section M-M', see "ACCESS STAIRS DETAIL NO. 2" sheet
2. 'Section G-G' represents Typical Wall Section at stairways
3. For View "A", "B" & "C", see "ACCESS STAIRS DETAILS NO. 3" sheet
4. All reinforcement shall be prefabricated epoxy coated
5. For 'Detail X', 'Detail Y', 'View K' and 'Expansion Joint Detail', see "ACCESS STAIR DETAIL NO. 2" sheet
6. For 'Detail S', see "ACCESS RAMP DETAILS NO. 2" sheet



SECTION G-G
Scale: 1/2" = 1'-0"

DESIGN	BY Daryoush Tavafii	CHECKED M. Okimura
DETAILS	BY L. Goldthwait	CHECKED M. Okimura
QUANTITIES	BY Daryoush Tavafii	CHECKED A. Picazo

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

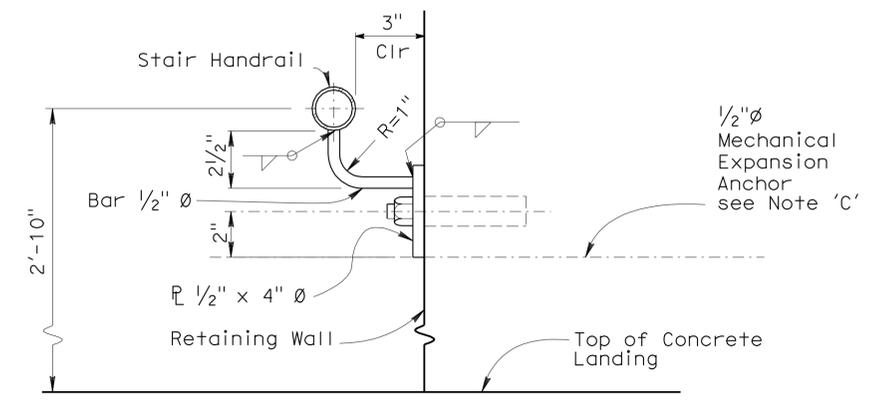
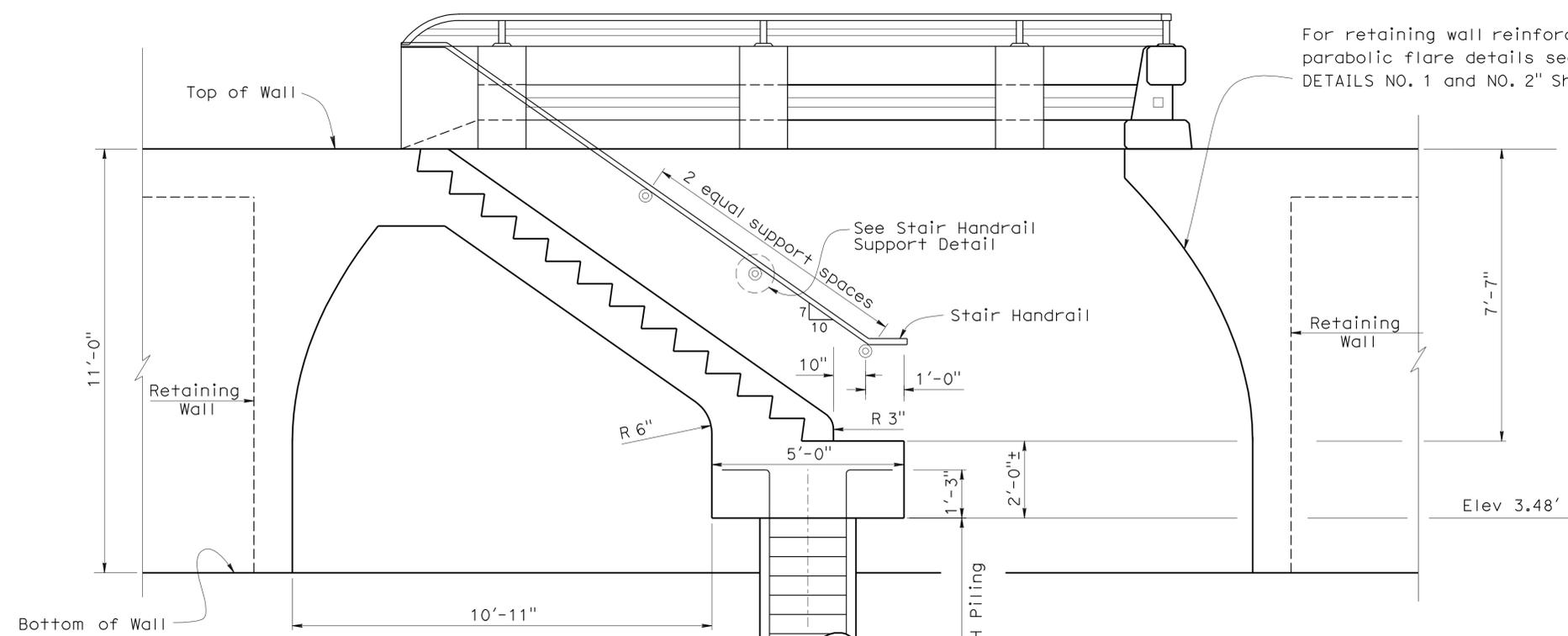
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	52-0139
POST MILE	22.5/22.9

SEAWALL NO. 1
ACCESS STAIRS DETAILS NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	51	65

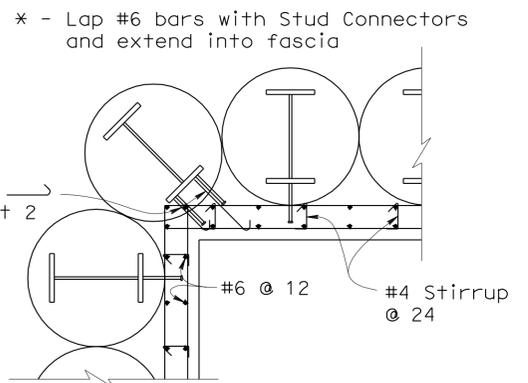
REGISTERED CIVIL ENGINEER DATE 6-15-12
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
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 PLANS APPROVAL DATE 6-25-12
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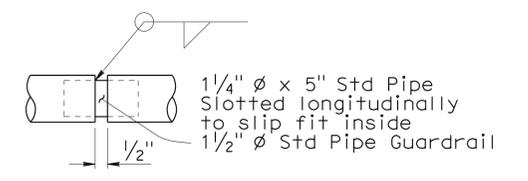
STAIR HANDRAIL SUPPORT DETAIL
Scale: 3" = 1'-0"

Metal Work Notes:

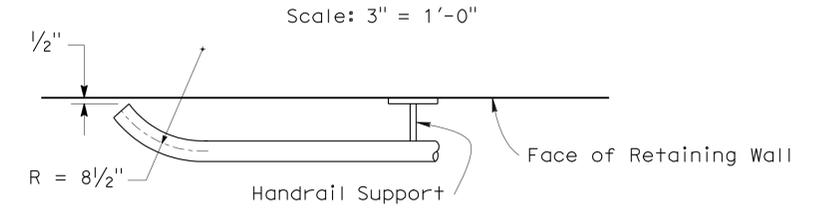
- All metal work shall be hot dip galvanized after fabrication
- Secure metal to metal connections shown as + with a 1/2" Ø x 1/2" hex head machine bolt, lock washer & hex nut unless otherwise noted
- Mechanical Expansion Anchors shall be 5/8" Ø & have a 4" minimum embedment, 3'-0" maximum spacing & placed 6" from ends, two minimum, unless otherwise shown
- All lock washers shall be helical spring lock washers
- All Railing shall have smooth edges



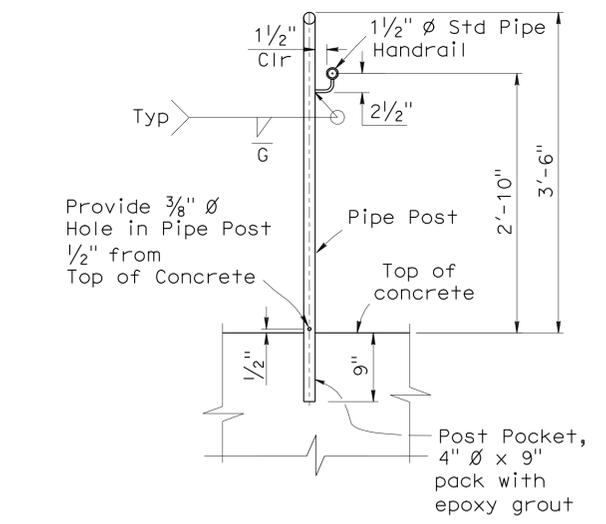
VIEW K
1/2" = 1'-0"



EXPANSION JOINT DETAIL
Scale: 3" = 1'-0"



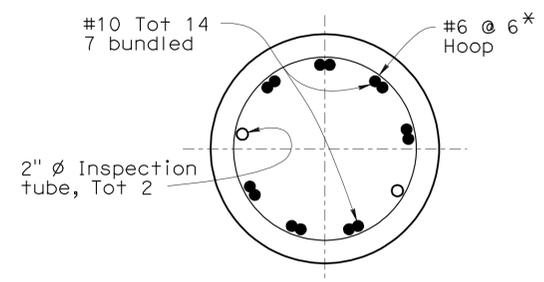
STAIR HANDRAIL RETURN AT WALL
Scale: 1 1/2" = 1'-0"



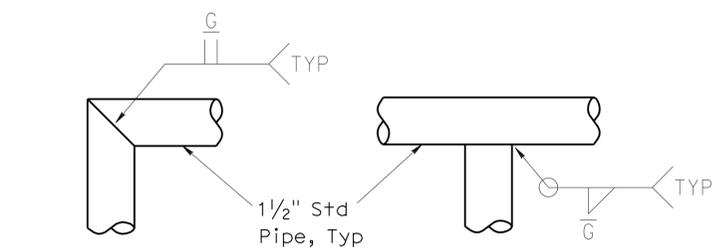
PIPE POST POCKET DETAIL
Scale: 1" = 1'-0"

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

* - Hoops to be service spliced



SECTION Z-Z
1" = 1'-0"



DETAIL "X"
Scale: 3" = 1'-0"

DETAIL "Y"
Scale: 3" = 1'-0"

DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura
DETAILS	BY L. Goldthwait	CHECKED M. Okimura
QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

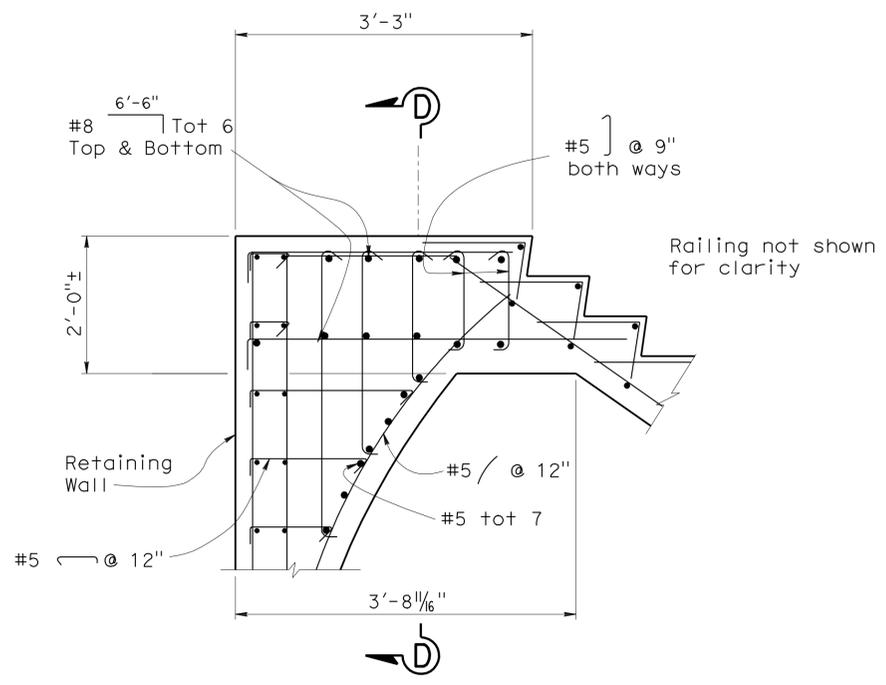
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 11

BRIDGE NO.	52-0139
POST MILE	22.5/22.9

SEAWALL NO. 1
ACCESS STAIRS DETAILS NO. 2

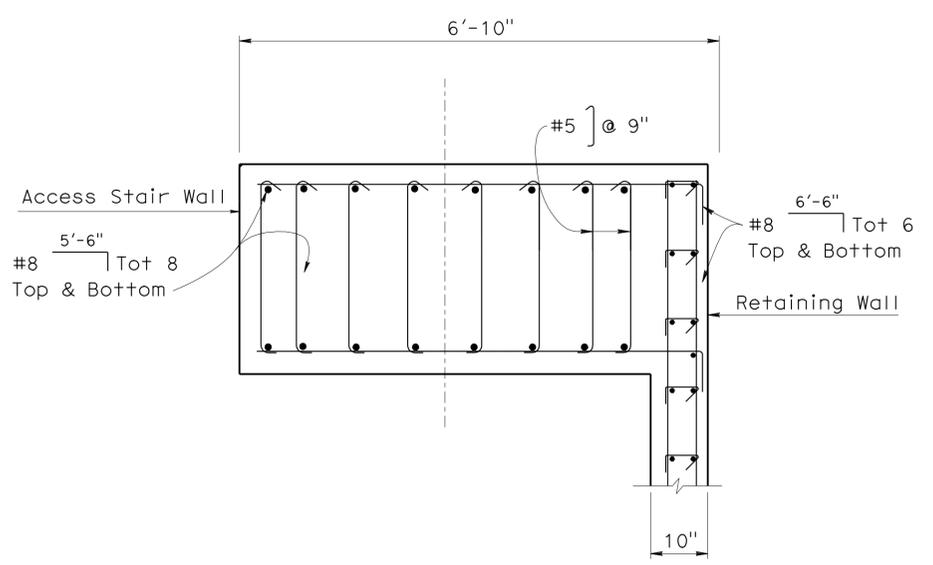
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	52	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 REGISTERED PROFESSIONAL ENGINEER
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 6-25-12
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VIEW "A"
UPPER LANDING SECTION

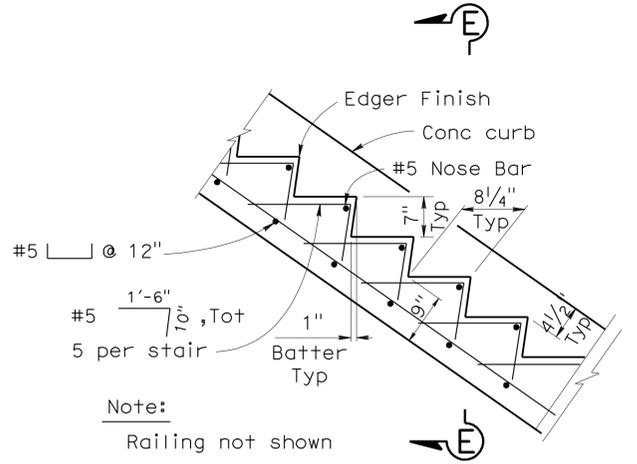
3/4" = 1'-0"



SECTION D-D

3/4" = 1'-0"

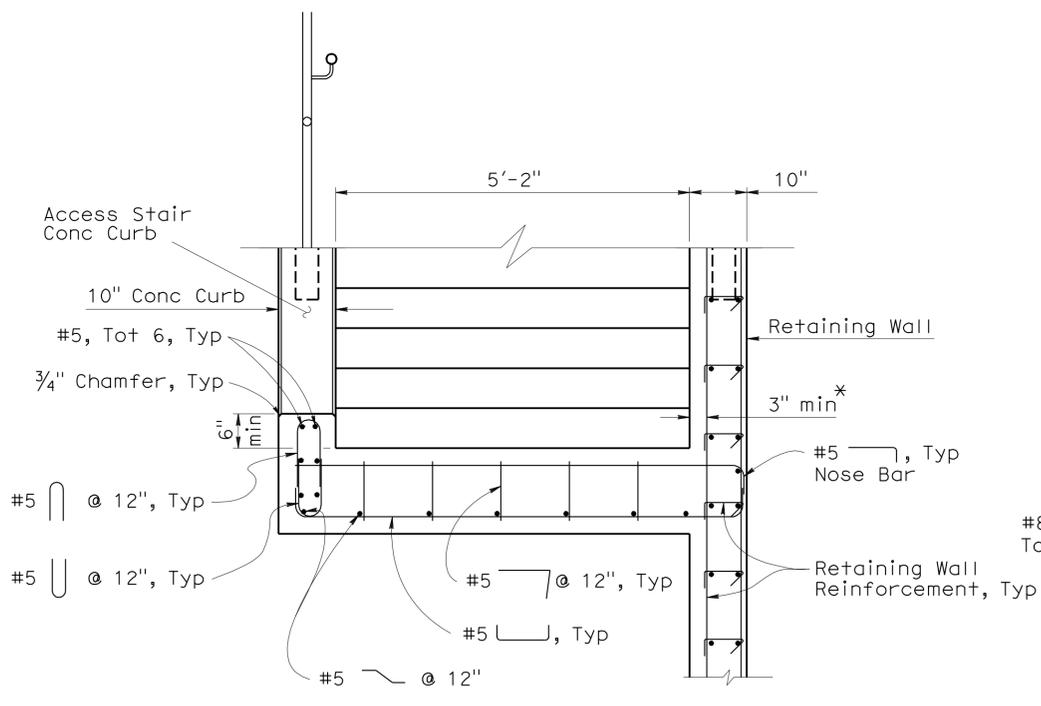
* 3" minimum Conc cover @ all locations



VIEW "B"
STAIR SECTION

3/4" = 1'-0"

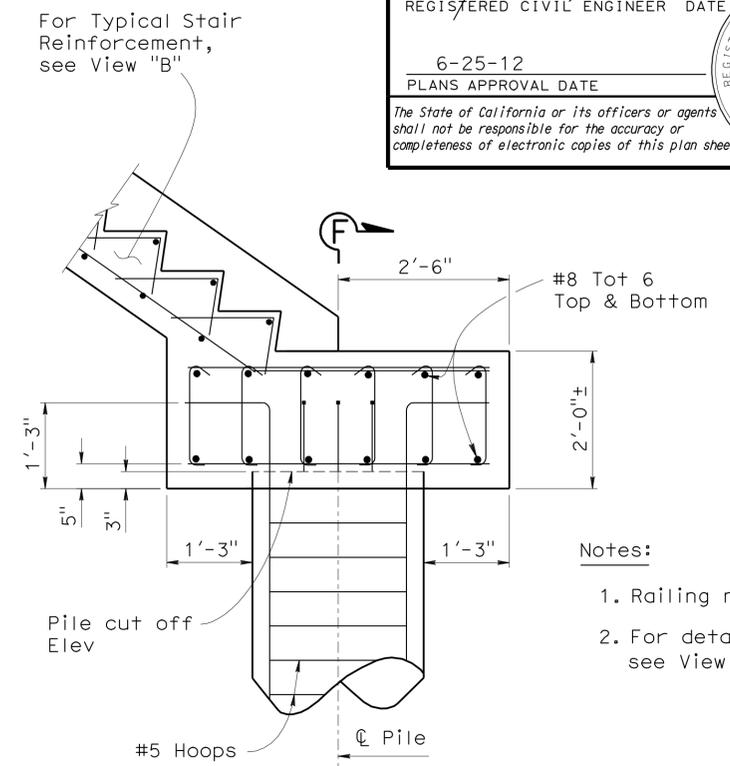
Note:
Railing not shown



SECTION E-E

3/4" = 1'-0"

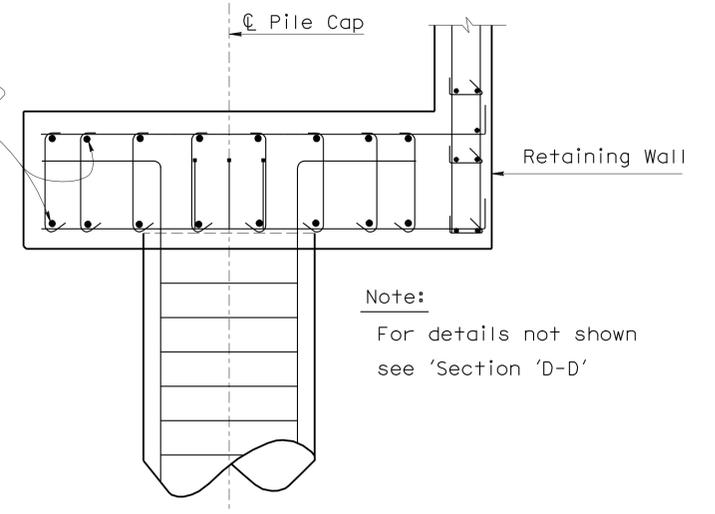
- Notes:
1. Minimum concrete cover over reinforcement = 3" UON
 2. All reinforcement to be prefabricated epoxy coating
 3. For Retaining Wall and Pile details, see " TYPICAL SECTION DETAILS NO. 1" sheet
 4. Move rebar to provide room for guardrail Post
 5. For pile reinforcement, see "ACCESS RAMP DETAILS NO. 6' sheet



VIEW "C"
LOWER LANDING SECTION

3/4" = 1'-0"

- Notes:
1. Railing not shown
 2. For details not shown see View "A"



SECTION F-F

3/4" = 1'-0"

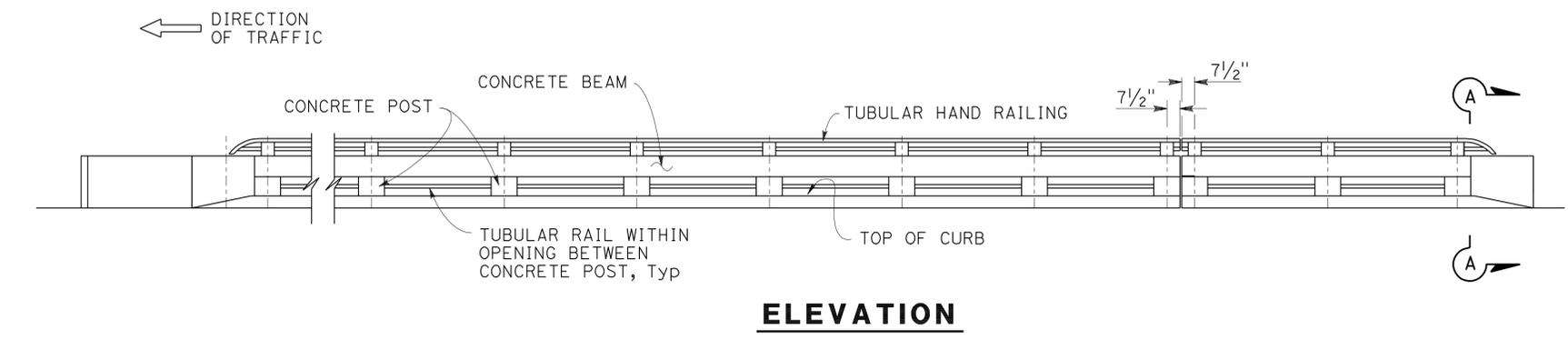
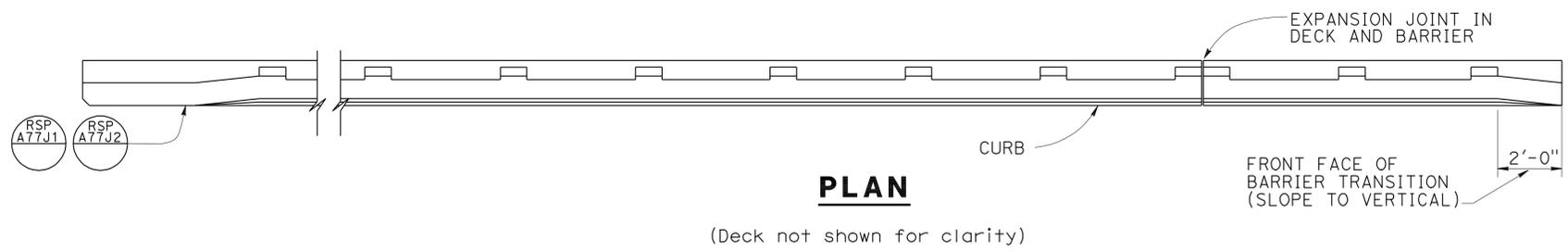
- Note:
- For details not shown see 'Section 'D-D'

DESIGN	BY	Daryoush Tavatli	CHECKED	M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	52-0139	SEAWALL NO. 1 ACCESS STAIRS DETAILS NO. 3	
	DETAILS	BY	L. Goldthwait	CHECKED			M. Okimura	POST MILE		22.5/22.9
	QUANTITIES	BY	Daryoush Tavatli	CHECKED			A. Picazo	REVISION DATES		9-01-09 2-25-11 3-20-12 4-20-12 11-24-09 12-09-09 1-13-10 4-10-10 5-14-10
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 26 OF 39	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	53	65

REGISTERED CIVIL ENGINEER DATE 6-15-12
 REGISTERED PROFESSIONAL ENGINEER
 Daryoush Tavatlil
 No. 56183
 Exp. 12-31-12
 CIVIL
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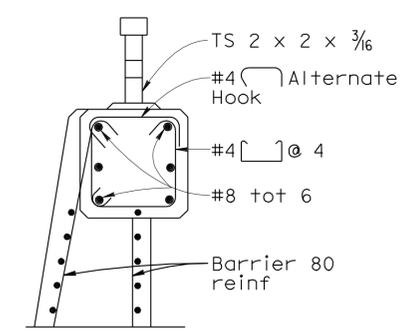
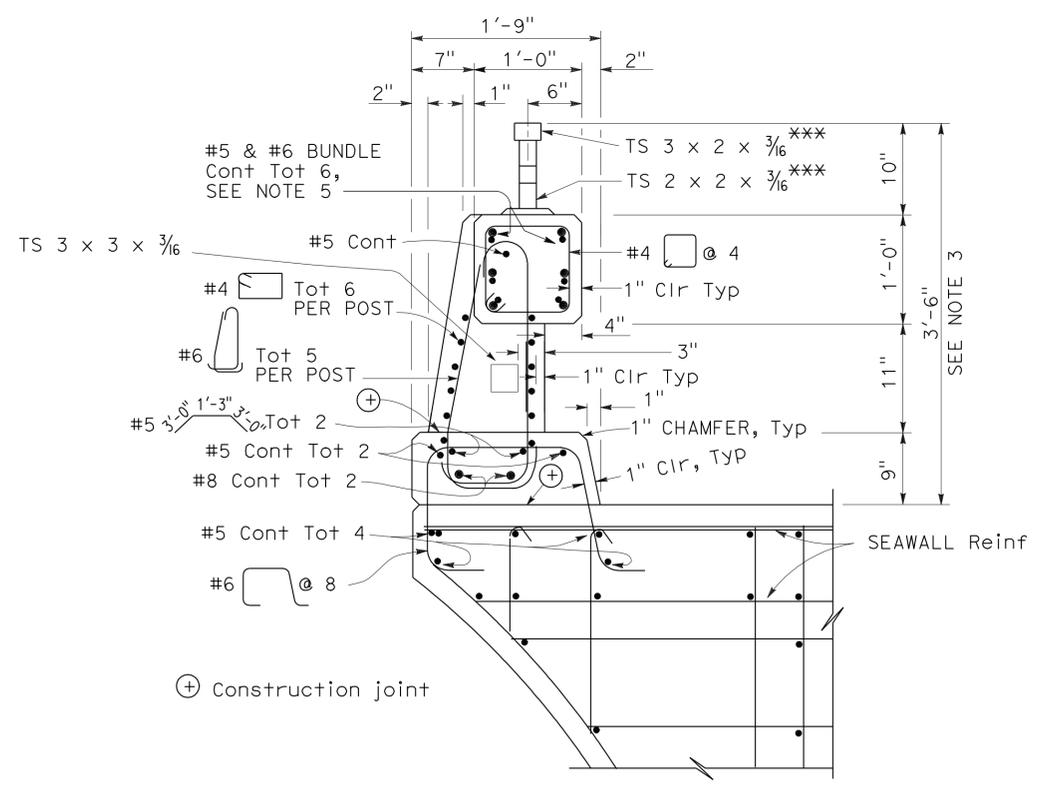
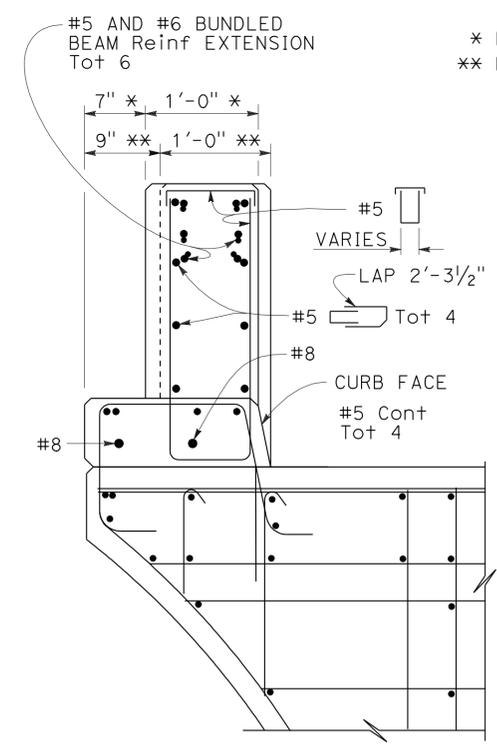
6-25-12
 PLANS APPROVAL DATE
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NOTES:

1. Walls are to be backfilled before the barrier is placed.
2. Longitudinal reinforcing steel to stop at all expansion joints.
3. The front face dimensions are to be constant above the finish roadway profile, but the overall height will vary with certain thicknesses of surfacing and roadway slopes.
4. Expansion joint to match wall joint.
5. No lap splicing allowed on the longitudinal rail reinforcing. Splicing shall be staggered.
6. Post to be spaced equally, typically 6'-6" spacing. Post spacing may be reduced where location of hinges or expansion joints or the length of wingwalls will not accommodate the 6'-6" spacing. Maximum see-through availability is to be strived for, where 6'-6" post spacing can not be achieved.

*** - TUBE STEEL TO BE GALVANIZED



PARTIAL BARRIER 80 ALTERNATE REINF

NO SCALE

DESIGN	BY	Daryoush Tavatlil	CHECKED	M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	52-0139	SEAWALL NO. 1 BARRIER DETAILS NO. 1	
	DETAILS	BY	Gerald Dickerson	CHECKED			M. Okimura	POST MILE		22.5/22.9
	QUANTITIES	BY	Daryoush Tavatlil	CHECKED			A. Picazo	REVISION DATES		5-25-12

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 0 1 2 3
 CU 07265
 EA 228201
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 SHEET 27 OF 39

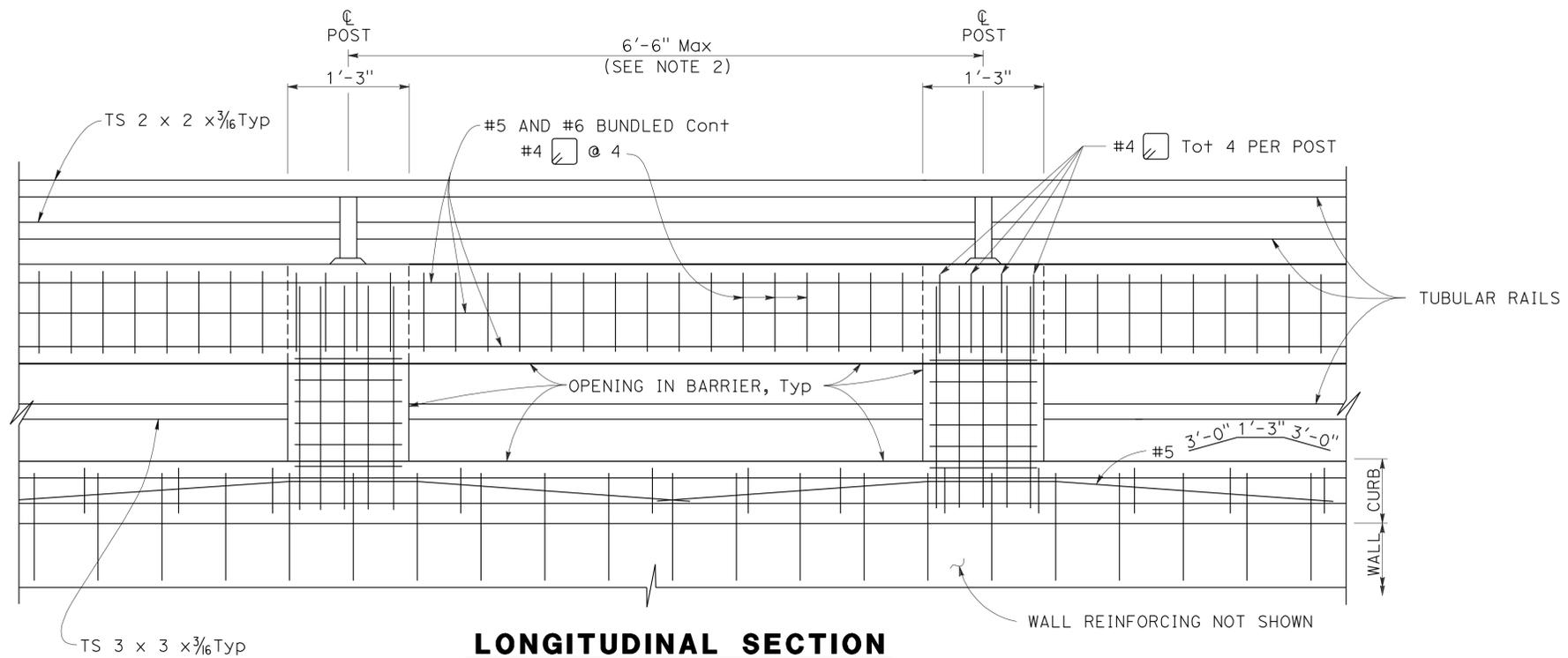
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	54	65

Daryoush Tavatli 6-15-12
 REGISTERED CIVIL ENGINEER DATE

6-25-12
 PLANS APPROVAL DATE

Daryoush Tavatli
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 CIVIL
 STATE OF CALIFORNIA

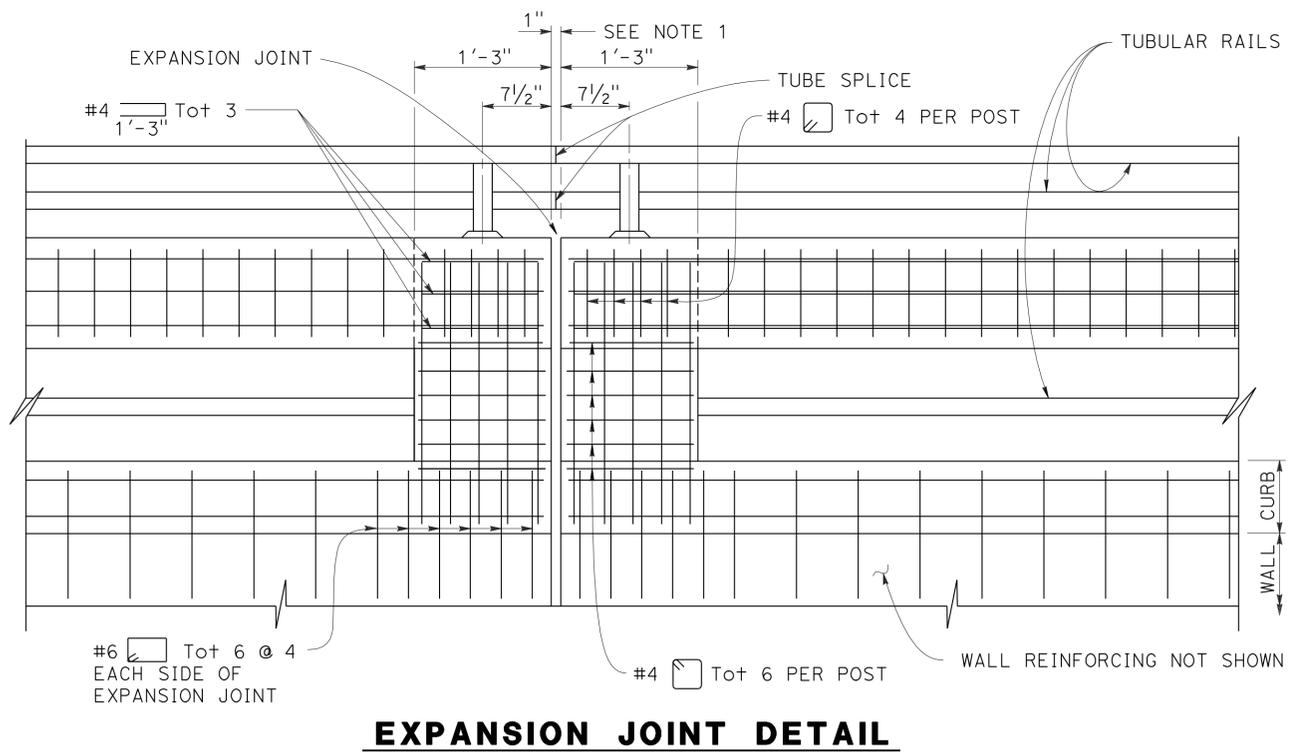
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



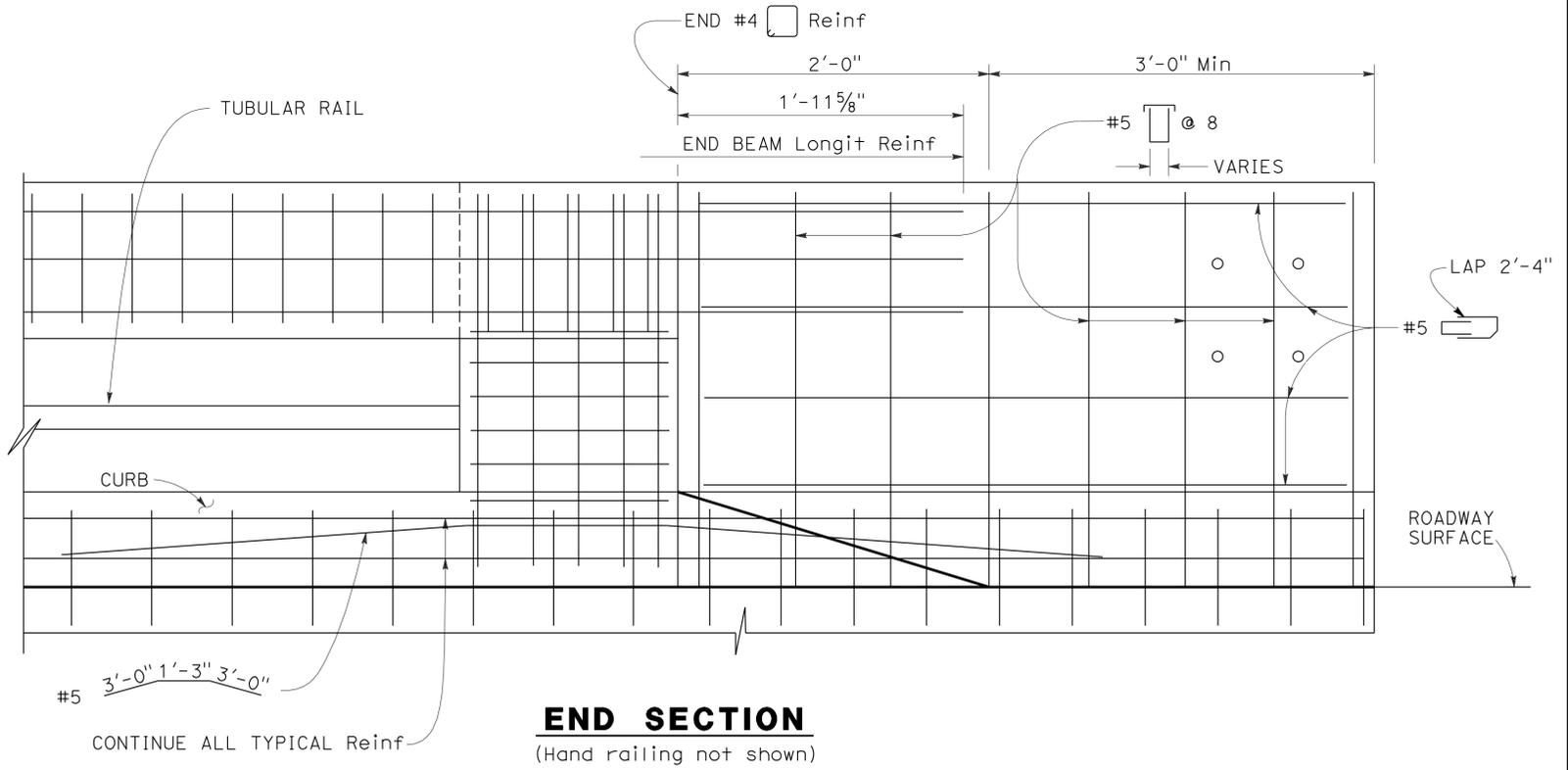
LONGITUDINAL SECTION

NOTES:

- Expansion joint to match wall joint.
- Post to be spaced equally, typically 6'-6" spacing. Post spacing may be reduced where location of hinges or expansion joints or the length of wingwalls will not accommodate the 6'-8" spacing. Maximum see-through availability is to be strived for, where 6'-8" post spacing can not be achieved.
- For tubular rail details, see "BARRIER DETAILS NO. 3" sheet.



EXPANSION JOINT DETAIL



END SECTION
 (Hand railing not shown)

NO SCALE

DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura
DETAILS	BY Gerald Dickerson	CHECKED M. Okimura
QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 11

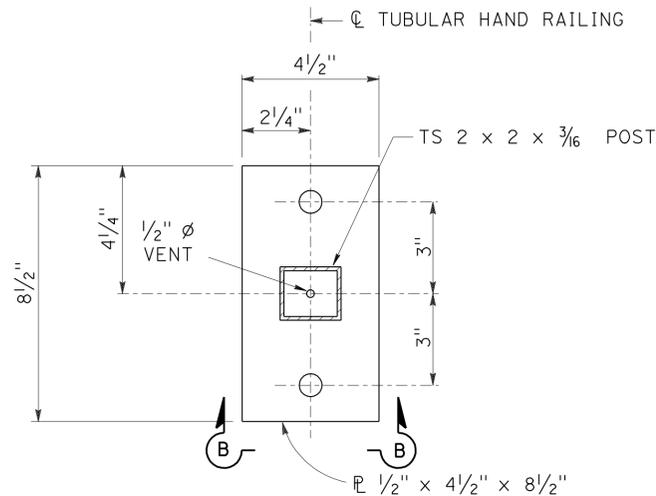
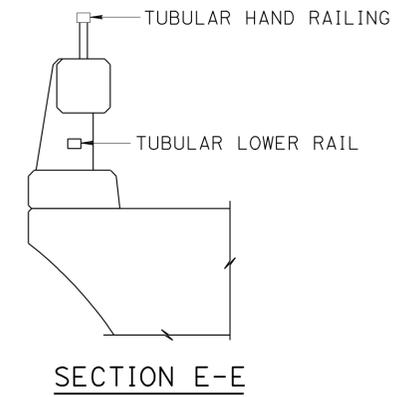
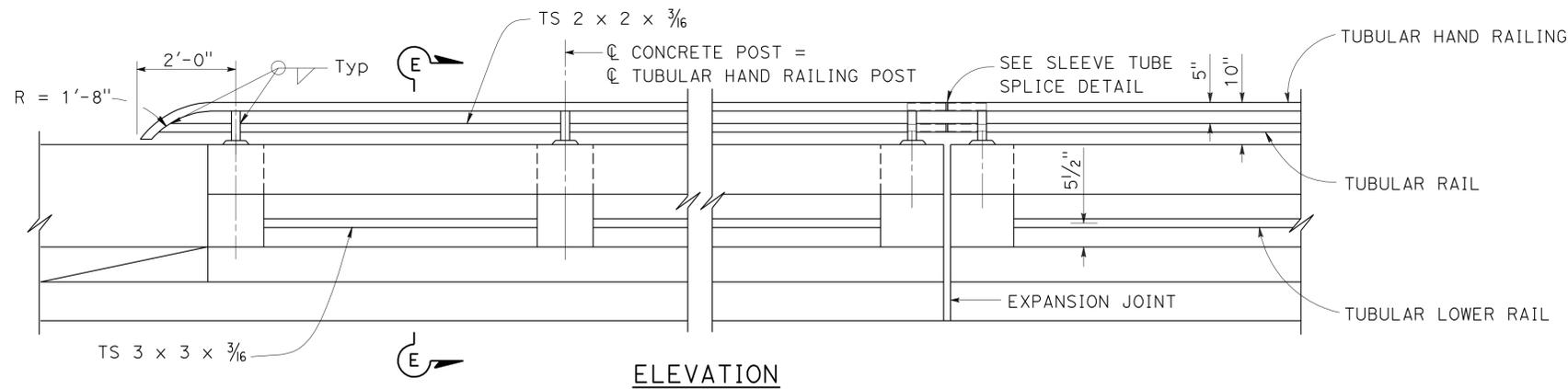
BRIDGE NO.	52-0139
POST MILE	22.5/22.9

SEAWALL NO. 1
 BARRIER DETAILS NO. 2

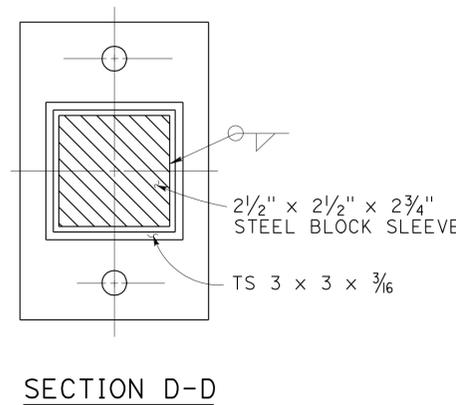
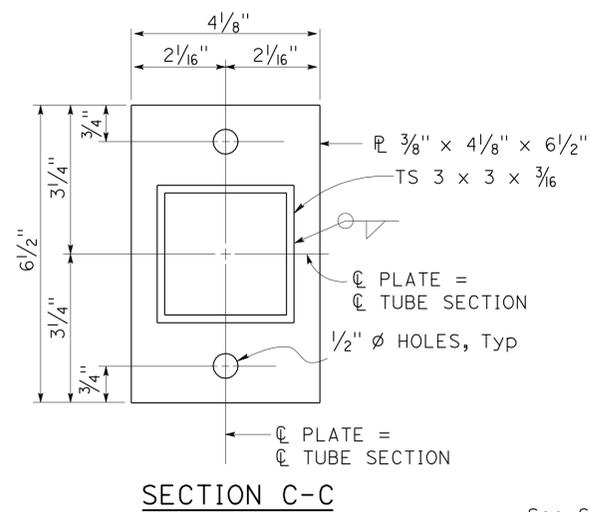
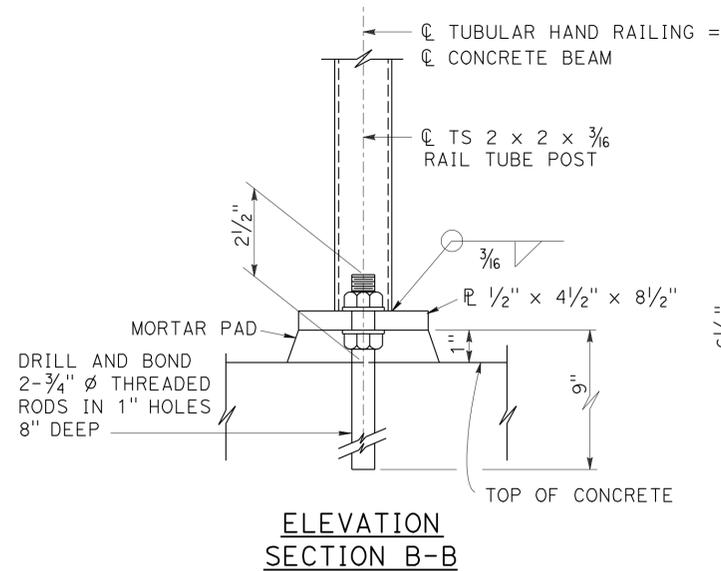
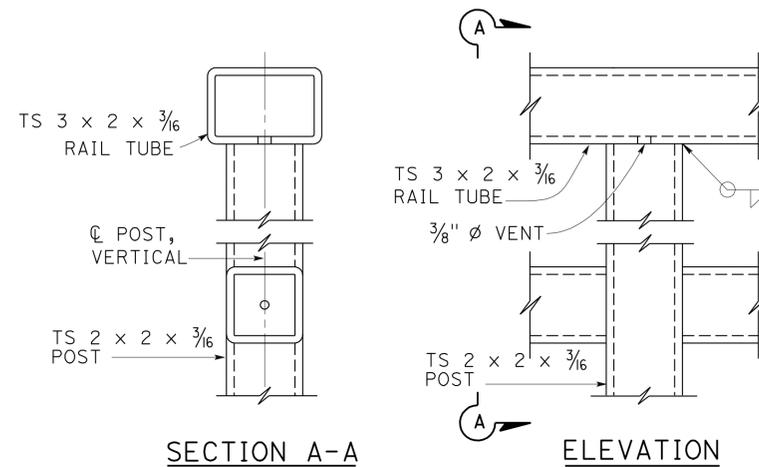
USERNAME => s123631 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	55	65

Daryoush Tavatli 6-15-12
 REGISTERED CIVIL ENGINEER DATE
 6-25-12
 PLANS APPROVAL DATE
 Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
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This plate detail is restricted to Tubular hand railing (TS 2 x 2 x 3/16 post)



See Section C-C for details not shown

TUBULAR RAILING CONNECTION DETAILS

NOTES:

- Galvanize Rail Assembly after fabrication.
- Posts shall be normal to railing.
- Tube splices shall be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length accordingly.
- Top rail tube shall be continuous over not less than two posts except a short length is permitted near deck or wall joints, electroliers, or other rail discontinuities.
- See Project Plans for limits of Tubular Handrailing.

NO SCALE

DESIGN	BY	Daryoush Tavatli	CHECKED	M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1		
	DETAILS	BY	Gerald Dickerson	CHECKED			M. Okimura	52-0139	BARRIER DETAILS NO. 3	
	QUANTITIES	BY	Daryoush Tavatli	CHECKED			A. Picazo	22.5/22.9		

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 CU 07265 EA 228201
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 REVISION DATES
 SHEET 29 OF 39
 USERNAME => s123631 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:10
 FILE => 52-0139-q-bardt03.dgn

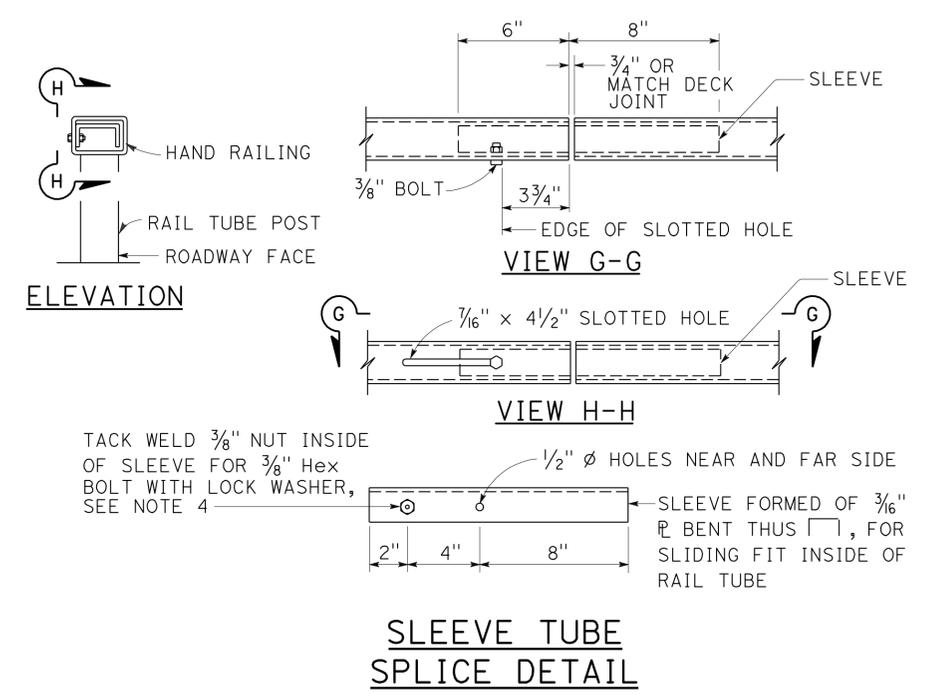
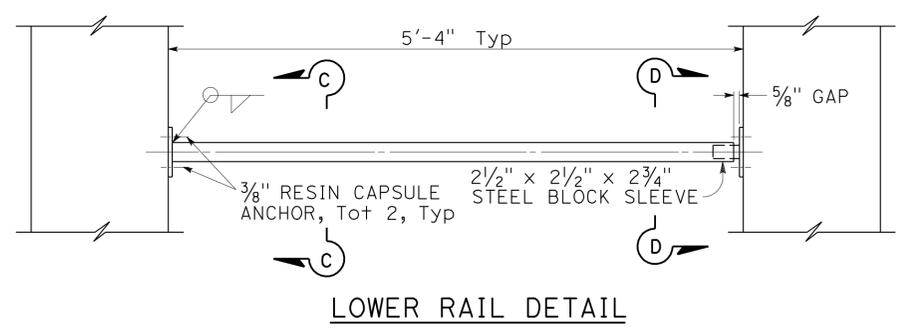
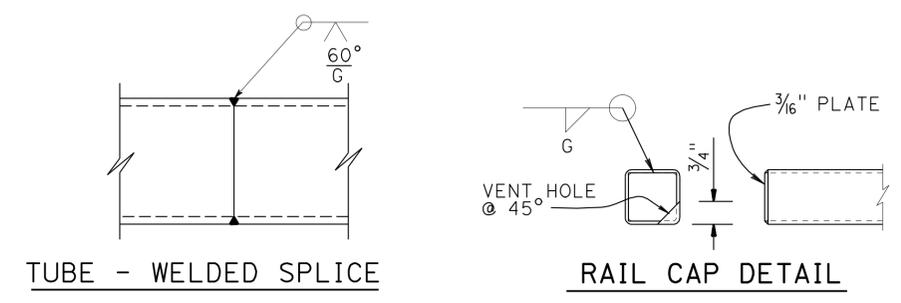
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	56	65

Daryoush Tavatli 6-15-12
REGISTERED CIVIL ENGINEER DATE

6-25-12
PLANS APPROVAL DATE

Daryoush Tavatli
No. 56183
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

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NOTES:

- 3/8" nut tack welded to sleeve may be replaced by drilled and tapped hole in sleeve.
For additional Notes see "BARRIER DETAIL NO. 3" sheet

NO SCALE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Daryoush Tavatli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1				
	DETAILS	BY Gerald Dickerson	CHECKED M. Okimura			52-0139	BARRIER DETAILS NO. 4				
	QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo			22.5/22.9					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	5-27-12	REVISION DATES			SHEET 30 OF 39

USERNAME => s123631 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	57	65

Note: Design scour elevation = 6'-0"

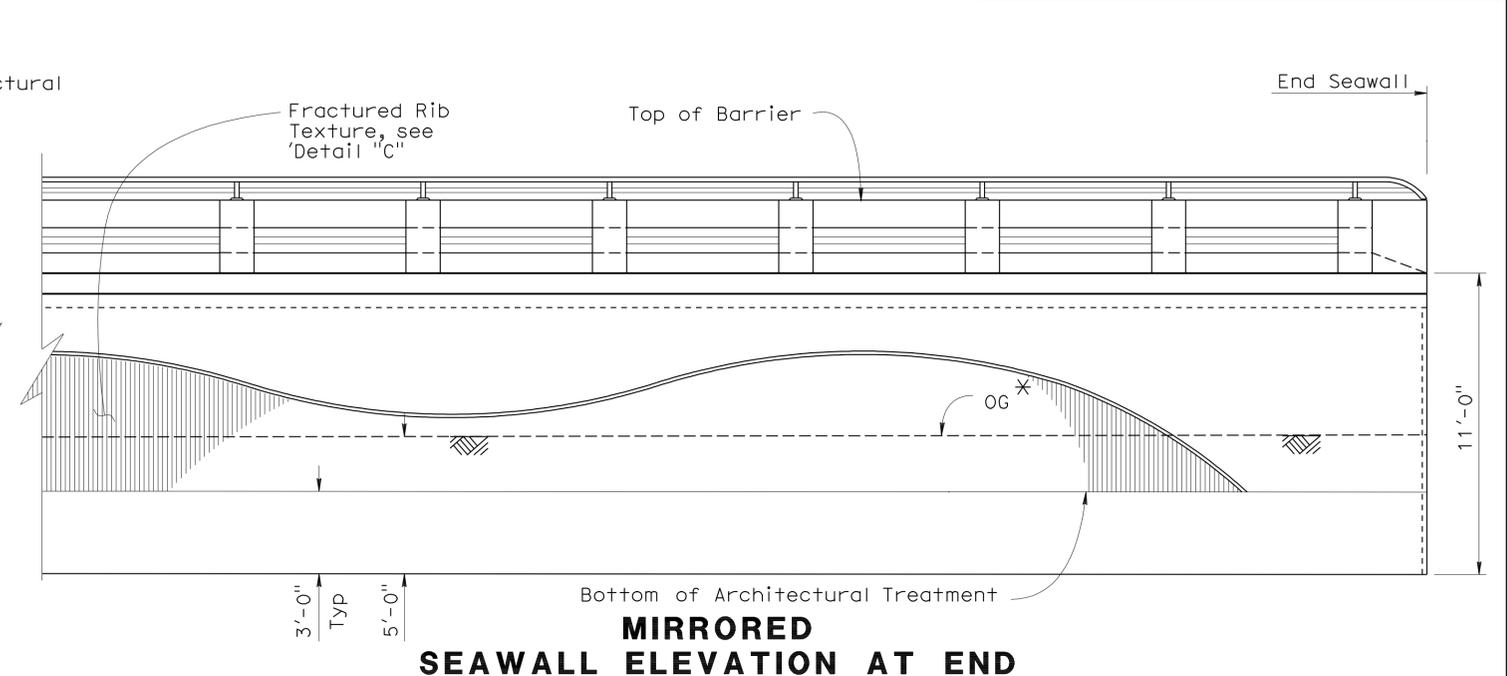
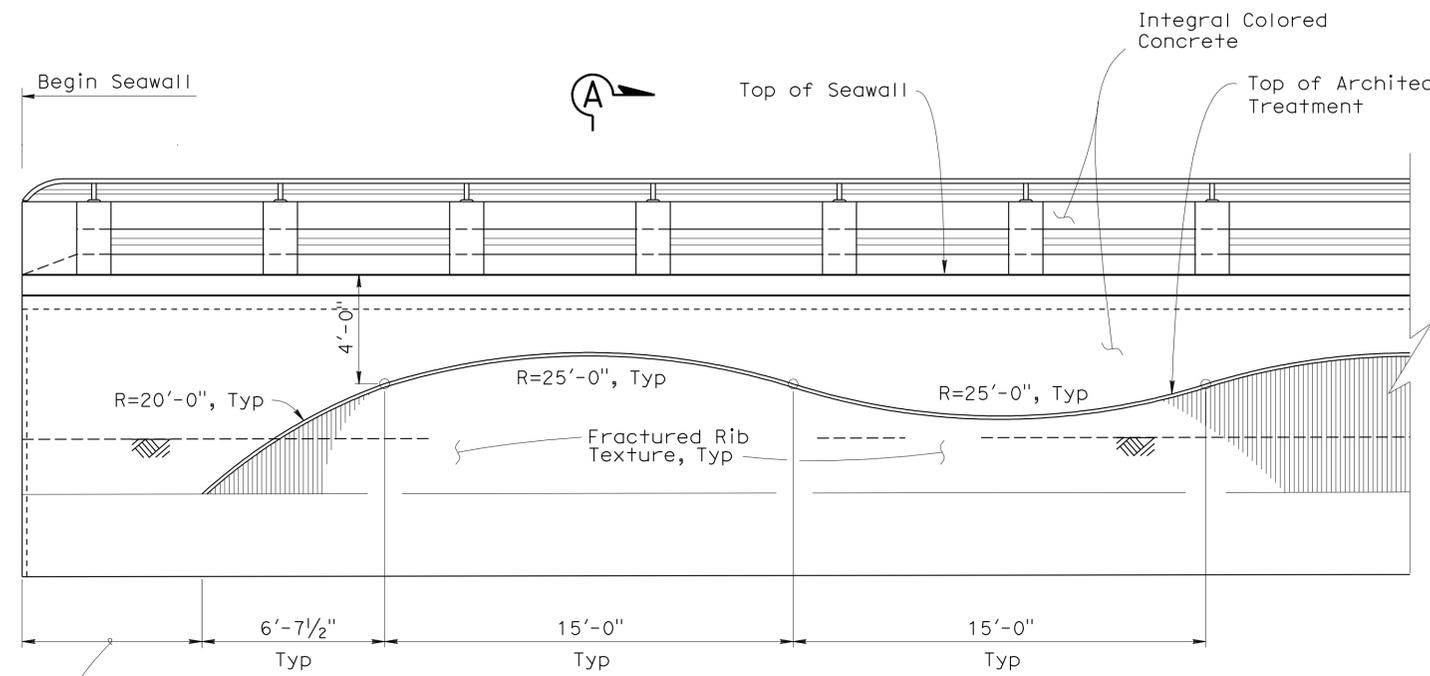
* - OG elevation is seasonal and may vary

Daryoush Tavatli 6-15-12
 REGISTERED CIVIL ENGINEER DATE

6-25-12
 PLANS APPROVAL DATE

Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

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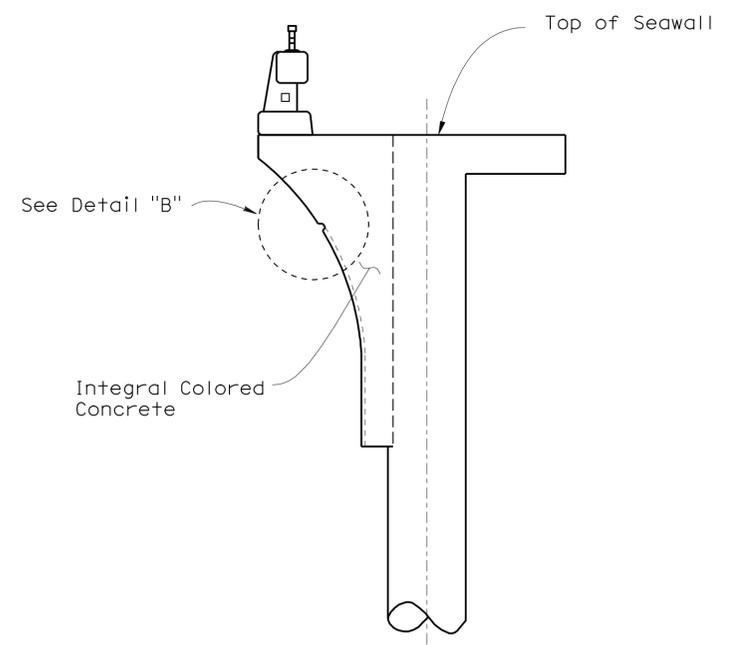


MIRRORED SEAWALL ELEVATION AT BEGINNING
No Scale

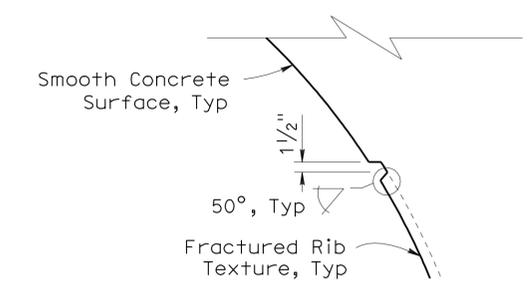
MIRRORED SEAWALL ELEVATION AT END
No Scale



DETAIL "C"
No Scale



SECTION A-A
No Scale



DETAIL "B"
No Scale

DESIGN	BY Daryoush Tavatli	CHECKED Mark Okimura
DETAILS	BY L. Goldthwait	CHECKED Mark Okimura
QUANTITIES	BY Daryoush Tavatli	CHECKED A. Picazo

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 11

BRIDGE NO.	52-0139
POST MILE	22.5/22.9

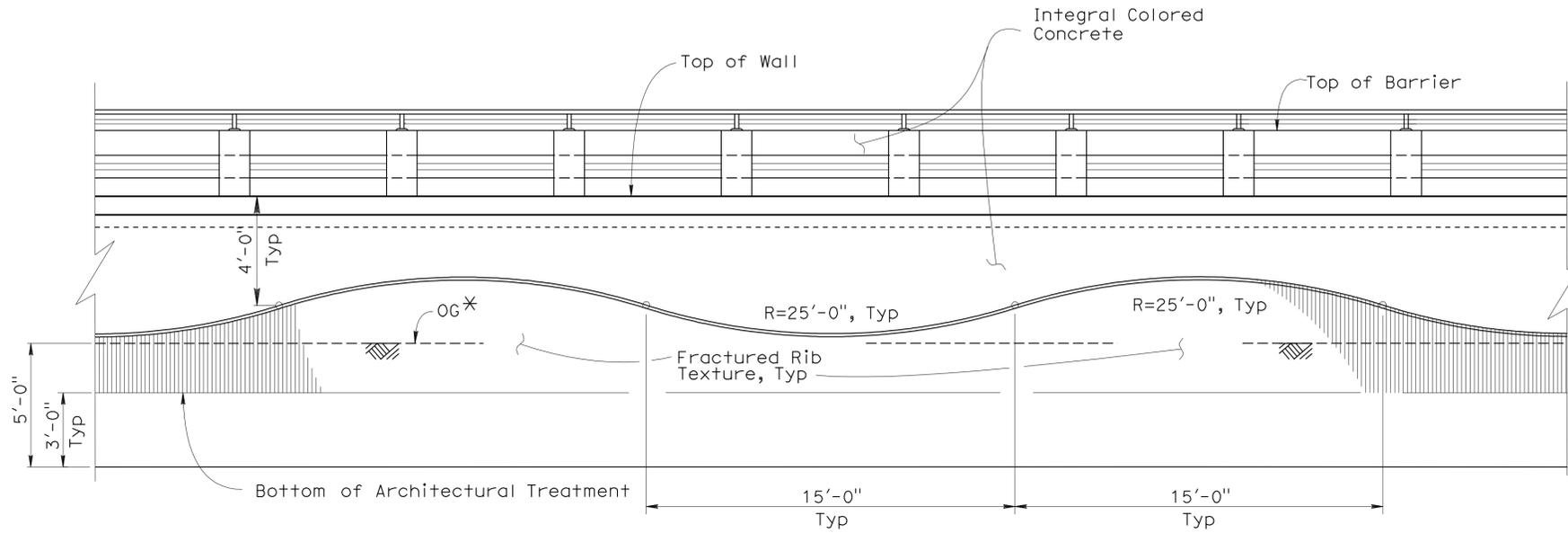
SEAWALL NO. 1
 ARCHITECTURAL TREATMENT DETAILS NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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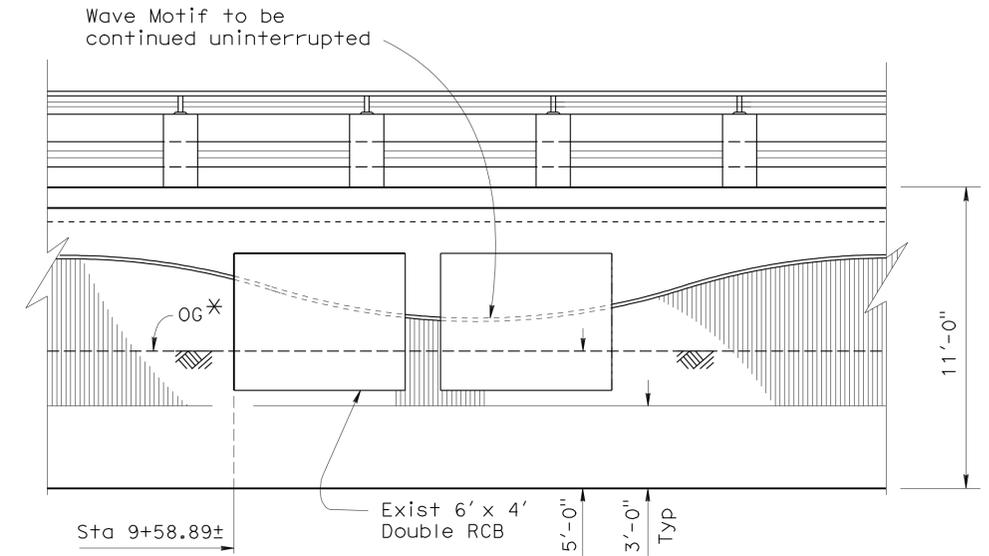
REGISTERED CIVIL ENGINEER DATE 6-15-12
 REGISTERED CIVIL ENGINEER No. 56183
 PLANS APPROVAL DATE 6-25-12
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
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Note: Design scour elevation = 6'-0"

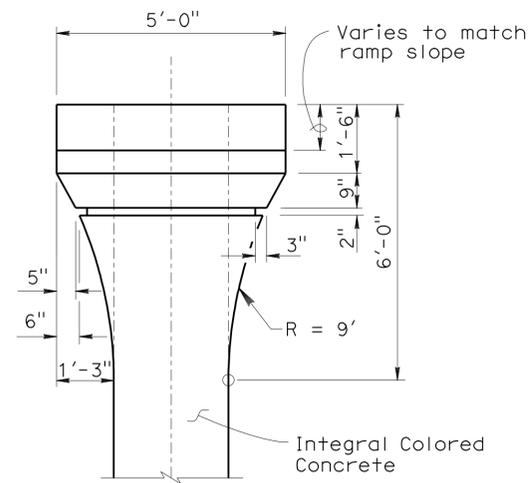
* - OG elevation is seasonal and may vary



TYPICAL SEAWALL MIRRORED ELEVATION
No Scale



SEAWALL MIRRORED ELEVATION AT CULVERT
No Scale



TYPICAL COLUMN GEOMETRICS AT RAMP
No Scale

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Dary Tavatli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO.	SEAWALL NO. 1							
	DETAILS	BY L. Goldthwait	CHECKED M. Okimura			52-0139	ARCHITECTURAL TREATMENT DETAILS NO. 2							
	QUANTITIES	BY Dary Tavatli	CHECKED A. Picazo			22.5/22.9								
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					0	1	2	3	DISREGARD PRINTS BEARING EARLIER REVISION DATES				SHEET 32	OF 39

USERNAME => s123631 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	59	65

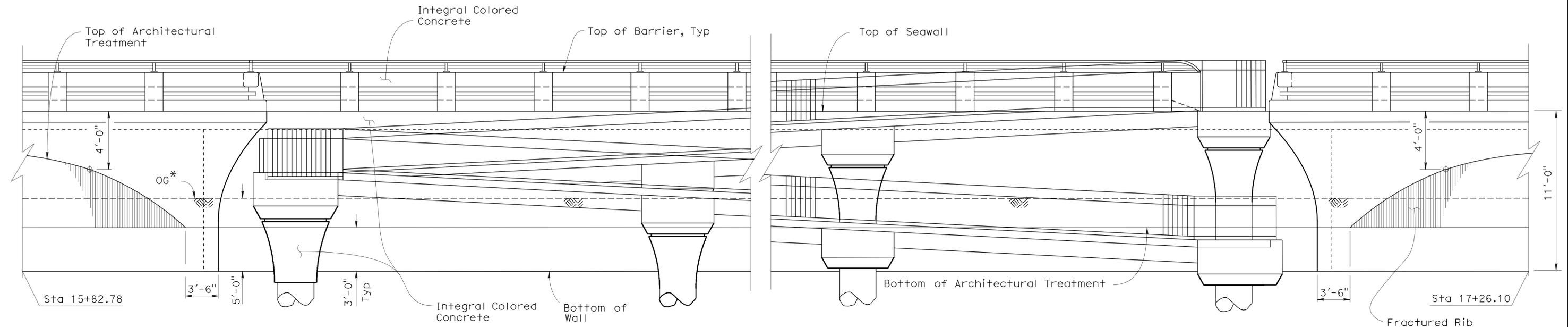
Daryoush Tavatli, 6-15-12
 REGISTERED CIVIL ENGINEER DATE

6-25-12
 PLANS APPROVAL DATE

Daryoush Tavatli
 No. 56183
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

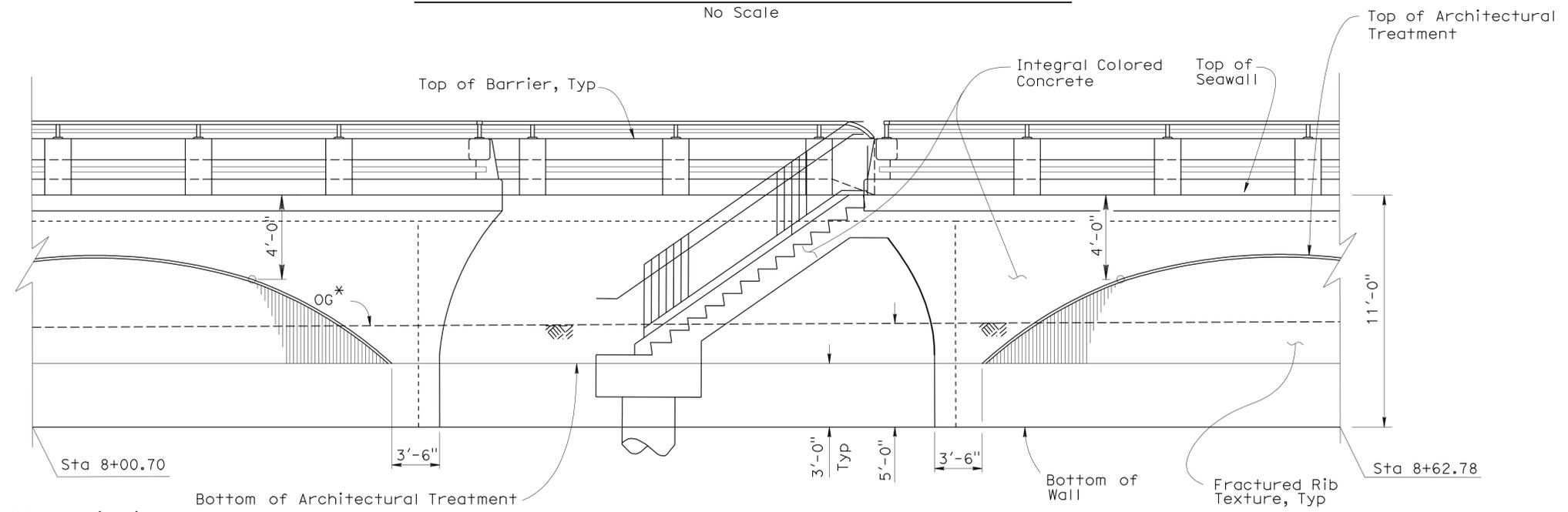
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Note: Design scour elevation = 6'-0"



SEAWALL MIRRORED ELEVATION AT RAMP

No Scale



SEAWALL MIRRORED ELEVATION AT STAIRS

No Scale

* - OG elevation is seasonal and may vary

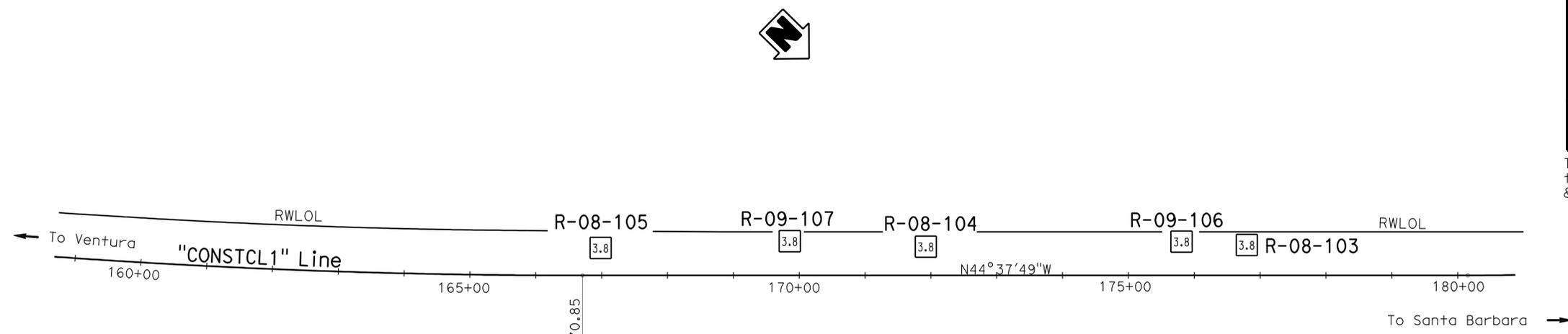
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN BY Dary Tavatli	CHECKED M. Okimura	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 11	BRIDGE NO. 52-0139	SEAWALL NO. 1 ARCHITECTURAL TREATMENT DETAILS NO. 3								
	DETAILS BY L. Goldthwait	CHECKED M. Okimura			POST MILE 22.5/22.9									
	QUANTITIES BY Dary Tavatli	CHECKED A. Picazo												
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 07265 EA 228201	REVISION DATES									
0 1 2 3				FILE => 52-0139-r-archdt03.dgn	5-18-10	5-28-10	6-01-10	6-28-10	7-23-11	7-24-12	4-28-12	5-1-12	6-12-12	SHEET 33 OF 39

USERNAME => s123631 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 1:31:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	60	65

REGISTERED CIVIL ENGINEER 3-9-10
 6-25-12
 PLANS APPROVAL DATE
 Seung-Woon Han
 No. 73527
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
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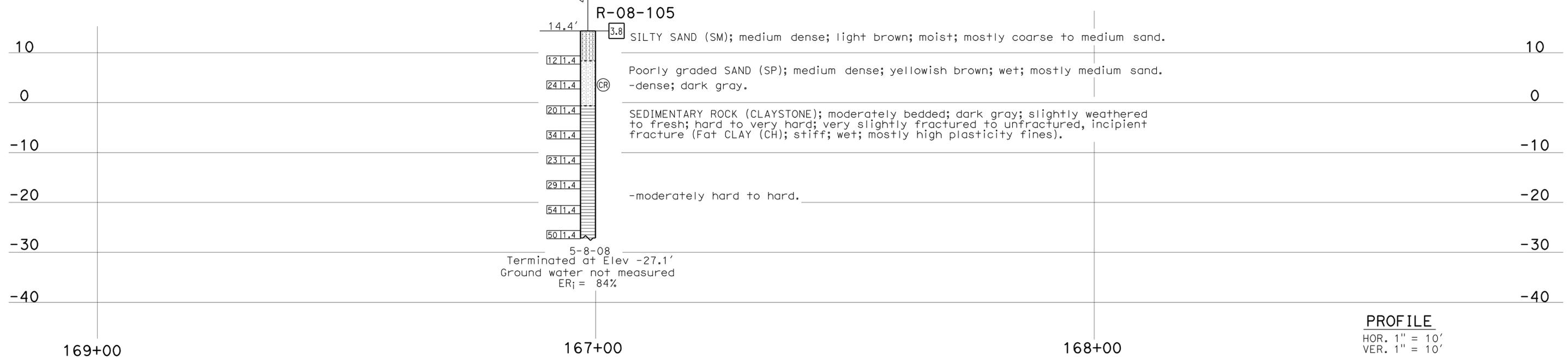


BENCH MARK

SUHV2
 Fd: PK/CT Washer / AC
 21.638 Lt. "CONSTCL1" Line
 Sta 166+40.00
 N 1 936 169.610
 E 6 154 044.928
 Elev 15.312
 Datum: NAVD88

SUHV3
 Fd: PK/CT Washer / AC
 22.038 Lt. "CONSTCL1" Line
 Sta 158+48.61
 N 1 935 586.820
 E 6 154 577.820
 Elev 15.121
 Datum: NAVD88

PLAN
 1" = 100'



PROFILE
 HOR. 1" = 10'
 VER. 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 52-0139	SEAWALL NO. 1
FUNCTIONAL SUPERVISOR NAME: D. JANG	DRAWN BY: C. CHRISTIAN CHECKED BY: M. Salisbury	FIELD INVESTIGATION BY: S. HAN				POST MILES 22.5/22.9	
065 CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 03-02-10 03-09-10 2-24-12 4-20-12
						SHEET 34	OF 39

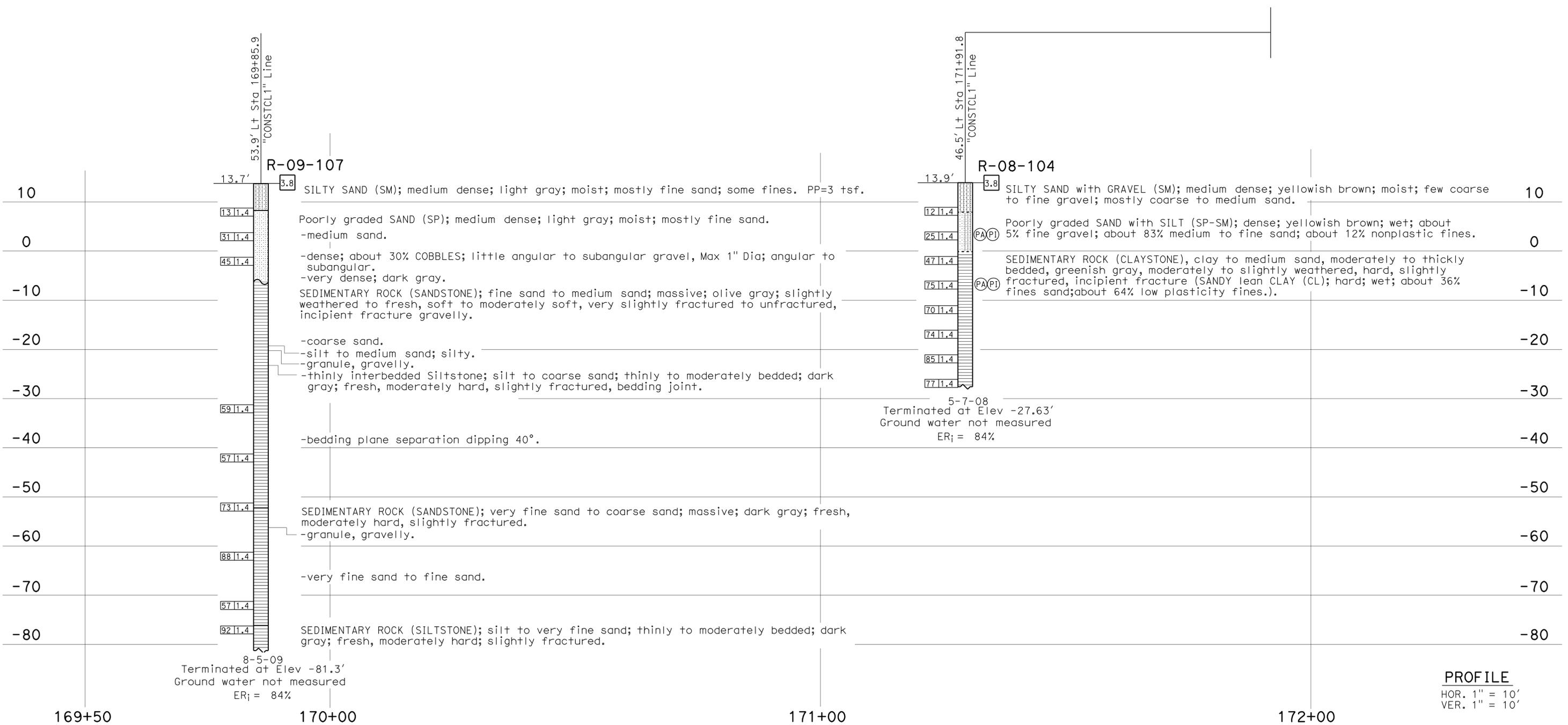
USERNAME => s123631 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 1:31:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	1	22.5/22.9	61	65

3-9-10
REGISTERED CIVIL ENGINEER
6-25-12
PLANS APPROVAL DATE
Seung-Woon Han
No. 73527
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 6"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).



PROFILE
HOR. 1" = 10'
VER. 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		SEAWALL NO. 1	
FUNCTIONAL SUPERVISOR		DRAWN BY: C. CHRISTIAN		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		52-0139		LOG OF TEST BORINGS 2 OF 6	
NAME: D. JANG		CHECKED BY: M. Salisbury		FIELD INVESTIGATION BY: S. HAN		DESIGN BRANCH		22.5/22.9			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU EA		07265 228201		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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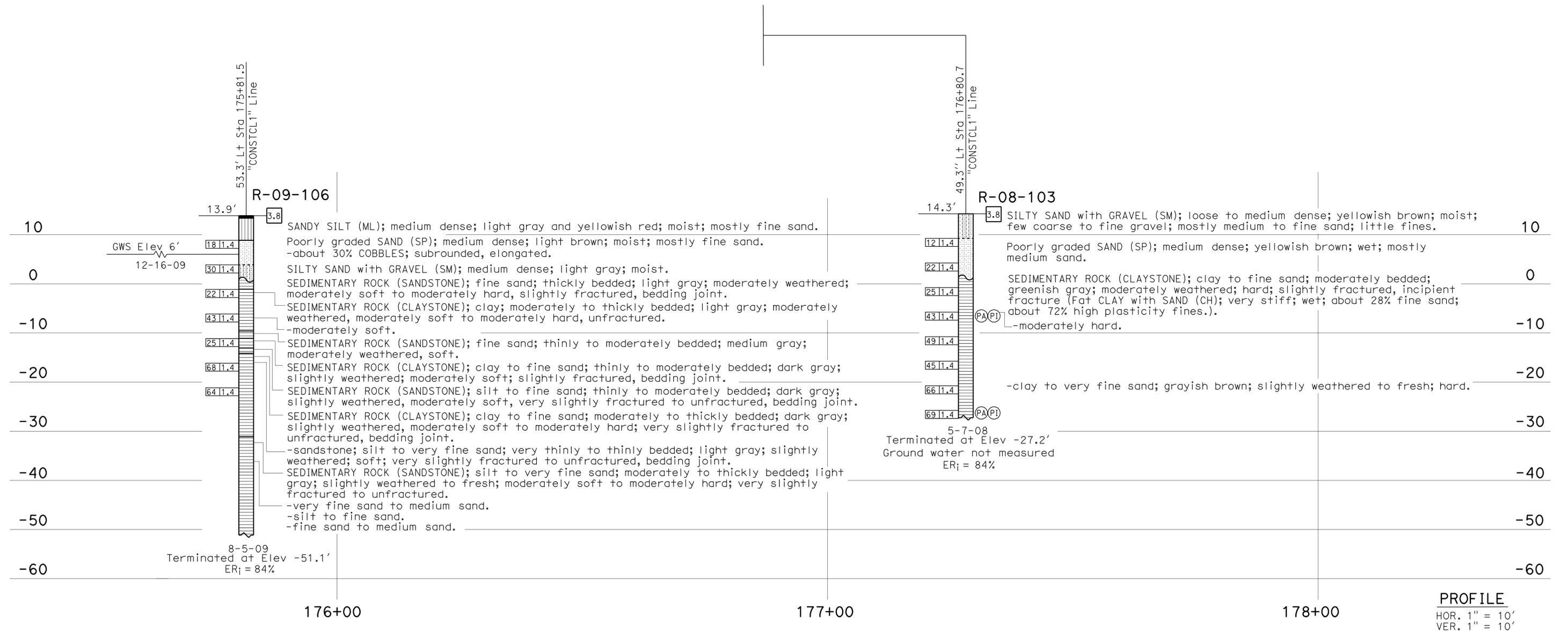
REGISTERED CIVIL ENGINEER **Seung-Woon Han**
 No. 73527
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

3-9-10
 6-25-12
 PLANS APPROVAL DATE

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FOR PLAN VIEW, SEE
 "LOG OF TEST BORINGS 1 OF 6"

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ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		SEAWALL NO. 1	
FUNCTIONAL SUPERVISOR		DRAWN BY: C. CHRISTIAN		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		52-0139		LOG OF TEST BORINGS 3 OF 6	
NAME: D. JANG		CHECKED BY: M. Salisbury		S. HAN		DESIGN BRANCH		POST MILES		REVISION DATES	
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU 07265 EA 228201		22.5/22.9		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
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USERNAME => s123631 DATE PLOTTED => 29-JUN-2012 TIME PLOTTED => 13:10

3-9-10
REGISTERED CIVIL ENGINEER

6-25-12
PLANS APPROVAL DATE

Seung-Woon Han
No. 73527
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

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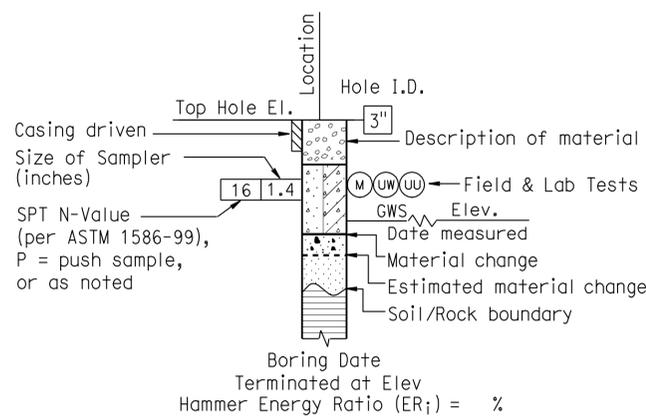
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

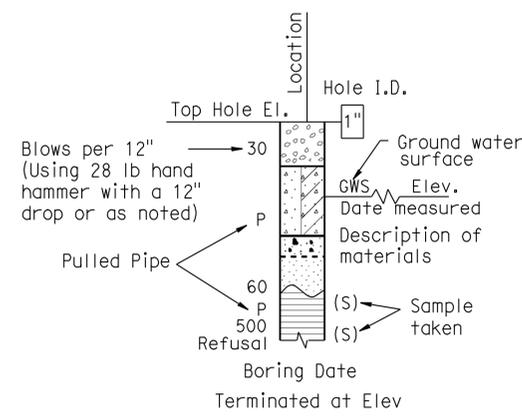
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

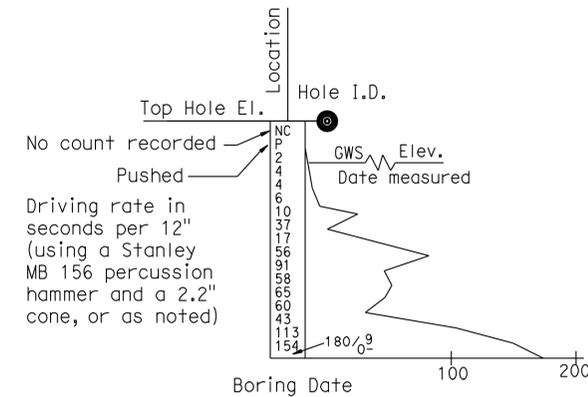
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



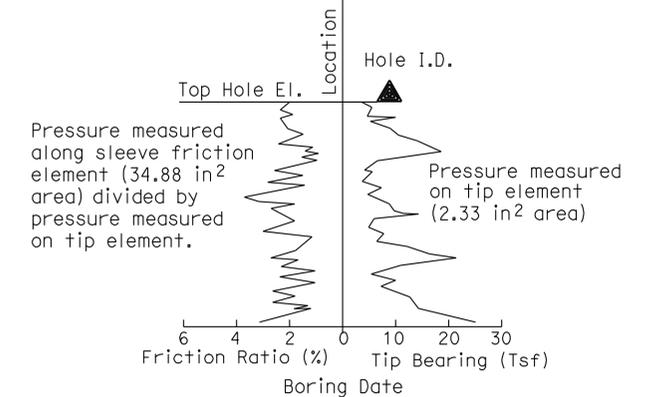
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 52-0139	SEAWALL NO. 1 LOG OF TEST BORINGS 4 OF 6
	PREPARED BY: I.G.-Remmen			POST MILE 22.5/22.9	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 37 OF 39

FILE => 52-0139-s-1otb04.dgn

3-9-10

REGISTERED CIVIL ENGINEER

6-25-12
PLANS APPROVAL DATE

Seung-Woon Han
No. 73527
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

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GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	GW	Well-graded GRAVEL		CL	Lean CLAY
		Well-graded GRAVEL with SAND			Lean CLAY with SAND
	GP	Poorly graded GRAVEL		CL	Lean CLAY with GRAVEL
		Poorly graded GRAVEL with SAND			SANDY lean CLAY
	GW-GM	Well-graded GRAVEL with SILT		CL-ML	SILTY CLAY
		Well-graded GRAVEL with SILT and SAND			SILTY CLAY with SAND
	GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY)		CL-ML	SANDY SILTY CLAY
		Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)			SANDY SILTY CLAY with GRAVEL
	GP-GM	Poorly graded GRAVEL with SILT		ML	SILT
		Poorly graded GRAVEL with SILT and SAND			SILT with SAND
	GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY)		ML	SANDY SILT
		Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)			SANDY SILT with GRAVEL
	GM	SILTY GRAVEL		OL	ORGANIC lean CLAY
		SILTY GRAVEL with SAND			ORGANIC lean CLAY with SAND
	GC	CLAYEY GRAVEL		OL	SANDY ORGANIC lean CLAY
		CLAYEY GRAVEL with SAND			SANDY ORGANIC lean CLAY with GRAVEL
	GC-GM	SILTY, CLAYEY GRAVEL		OL	GRAVELLY ORGANIC lean CLAY
		SILTY, CLAYEY GRAVEL with SAND			GRAVELLY ORGANIC lean CLAY with SAND
	SW	Well-graded SAND		CH	Fat CLAY
		Well-graded SAND with GRAVEL			Fat CLAY with SAND
	SP	Poorly graded SAND		CH	SANDY fat CLAY
		Poorly graded SAND with GRAVEL			SANDY fat CLAY with GRAVEL
	SW-SM	Well-graded SAND with SILT		CH	GRAVELLY fat CLAY
		Well-graded SAND with SILT and GRAVEL			GRAVELLY fat CLAY with SAND
	SW-SC	Well-graded SAND with CLAY (or SILTY CLAY)		MH	Elastic SILT
		Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)			Elastic SILT with SAND
	SP-SM	Poorly graded SAND with SILT		MH	SANDY elastic SILT
		Poorly graded SAND with SILT and GRAVEL			SANDY elastic SILT with GRAVEL
	SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY)		MH	GRAVELLY elastic SILT
		Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)			GRAVELLY elastic SILT with SAND
	SM	SILTY SAND		OH	ORGANIC fat CLAY
		SILTY SAND with GRAVEL			ORGANIC fat CLAY with SAND
	SC	CLAYEY SAND		OH	SANDY ORGANIC fat CLAY
		CLAYEY SAND with GRAVEL			SANDY ORGANIC fat CLAY with GRAVEL
	SC-SM	SILTY, CLAYEY SAND		OH	GRAVELLY ORGANIC fat CLAY
		SILTY, CLAYEY SAND with GRAVEL			GRAVELLY ORGANIC fat CLAY with SAND
	PT	PEAT		OL/OH	ORGANIC SOIL
					ORGANIC SOIL with SAND
		COBBLES		OL/OH	ORGANIC SOIL with GRAVEL
		COBBLES and BOULDERS			SANDY ORGANIC SOIL
		BOULDERS		OL/OH	SANDY ORGANIC SOIL with GRAVEL
					GRAVELLY ORGANIC SOIL
				OL/OH	GRAVELLY ORGANIC SOIL with SAND

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
(PP)	Pocket Penetrometer
(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)
(TV)	Pocket Torvane
(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)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 52-0139	SEAWALL NO. 1
				POST MILE 22.5/22.9	
PREPARED BY: I. G.-Remmen	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07265 EA 228201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 38 OF 39

FILE => 52-0139-s-1otb05.dgn

3-9-10
 REGISTERED CIVIL ENGINEER
 Seung-Woon Han
 No. 73527
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE
 6-25-12
 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)

$$REC = \frac{\sum \text{Length of the recovered core pieces (inches)}}{\text{Total length of core run (inches)}} \times 100\%$$

$$RQD = \frac{\sum \text{Length of intact core pieces} \geq 4''}{\text{Total length of core run (inches)}} \times 100\%$$

RELATIVE STRENGTH OF INTACT ROCK

Term	Uniaxial Compressive Strength (PSI)
Extremely Strong	> 30,000
Very Strong	14,500 - 30,000
Strong	7,000 - 14,500
Medium Strong	3,500 - 7,000
Weak	700 - 3,500
Very Weak	150 - 700
Extremely Weak	< 150

BEDDING SPACING

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very thickly bedded	3 to 10 ft
Thickly bedded	1 to 3 ft
Moderately bedded	3-5/8" to 1 ft
Thinly bedded	1-1/4" to 3-5/8"
Very thinly bedded	3/8" to 1-1/4"
Laminated	Less than 3/8"

LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

Description	Criteria
Extremely Hard	Specimen cannot be scratched with a pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows.
Very Hard	Specimen cannot be scratched with a pocket knife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Specimen can be scratched with a pocket knife or sharp pick with difficulty (heavy pressure). Heavy hammer blows required to break specimen.
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure. Core breaks with moderate hammer pressure.
Moderately Soft	Specimen can be grooved 1/6" deep with a pocket knife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Specimen can be grooved or gouged easily by a pocket knife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Specimen can be readily indented, grooved or gouged with fingernail, or carved with a pocket knife. 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 Solutioning		
	Body of Rock	Fracture Surfaces		Texture	Solutioning	
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change.	No solutioning.	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 may be noted.	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."

Combination descriptors (such as "slightly weathered to fresh") are permissible where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant, identifiable zones can be delineated. Only two adjacent descriptors may be combined. "Very intensely weathered" is the combination descriptor for "intensely weathered to decomposed."

FRACTURE DENSITY

Description	Observed Fracture Density
Unfractured	No fractures.
Very slightly fractured	Lengths greater than 3 feet.
Slightly fractured	Lengths from 1 to 3 feet with few lengths less than 1 foot or greater than 3 feet.
Moderately fractured	Lengths mostly in 4" to 1 foot range with most lengths about 8"
Intensely fractured	Lengths average from 1 to 4" with scattered fragmented intervals with lengths less than 4"
Very intensely fractured	Mostly chips and fragments with a few scattered short core lengths.

Combination descriptors (such as "Very intensely to intensely fractured") are used where equal distribution of both fracture density characteristics is present over a significant interval or exposure, or where characteristics are "in between" the descriptor definitions. Only two adjacent descriptors may be combined.