

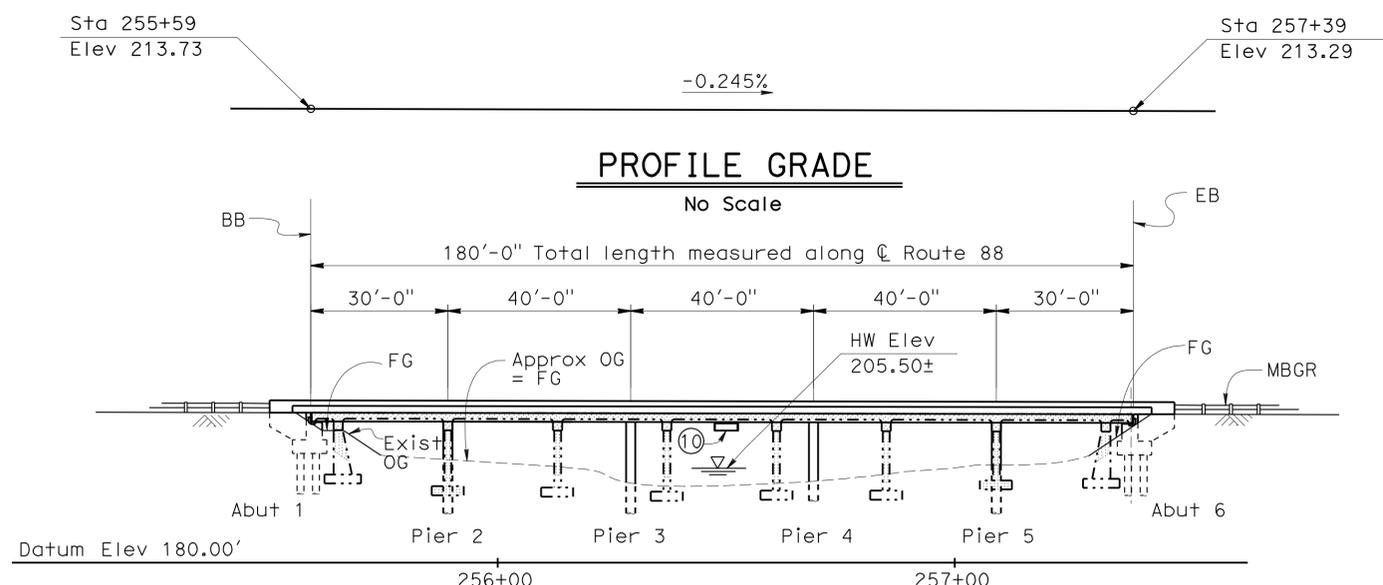
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	201	216

REGISTERED CIVIL ENGINEER DATE 3-21-11

10-17-11 PLANS APPROVAL DATE

M. Guadamuz  
No. 57992  
Exp. 6-30-12  
CIVIL  
STATE OF CALIFORNIA

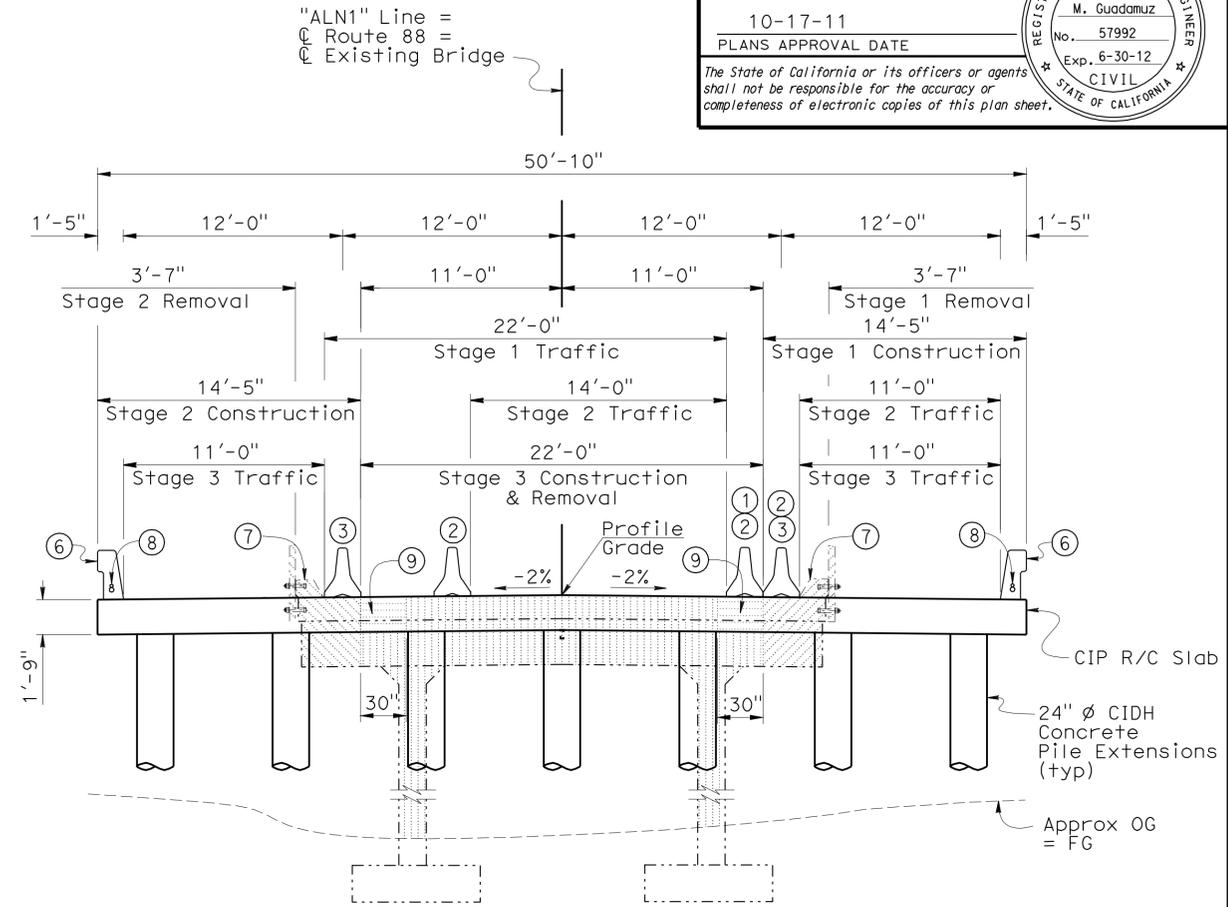
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



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

**QUANTITIES**

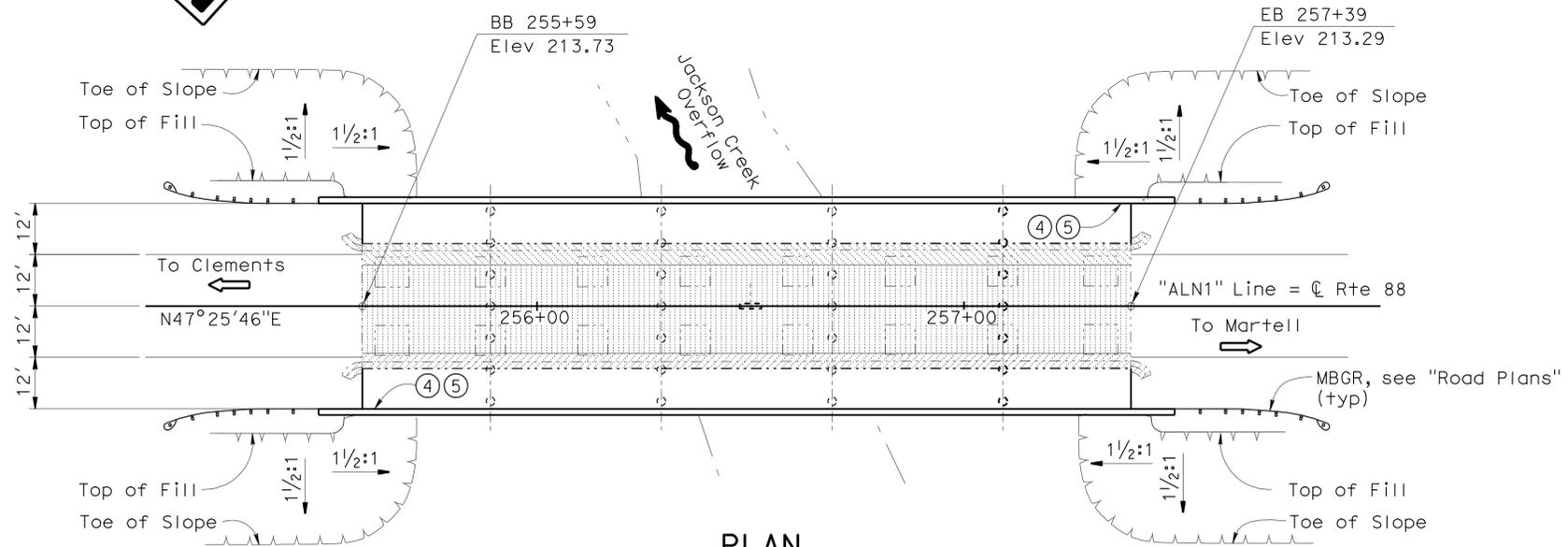
	LUMP	SUM
BRIDGE REMOVAL		
STRUCTURE EXCAVATION (BRIDGE)	296	CY
STRUCTURE BACKFILL (BRIDGE)	155	CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,430	LF
BAT HABITAT	1	EA
STRUCTURAL CONCRETE, BRIDGE FOOTING	69	CY
STRUCTURAL CONCRETE, BRIDGE	725	CY
DRILL AND BOND DOWEL	54	LF
JOINT SEAL (MR 1")	102	LF
BAR REINFORCING STEEL (BRIDGE)	209,300	LB
CONCRETE BARRIER (TYPE 732)	407	LF



**TYPICAL SECTION**  
1" = 5'-0"

- Indicate Existing Structure
- ▨ Stage 1 Removal
- ▨ Stage 2 Removal
- ▨ Stage 3 Removal
- ▨ Closure Pour

- Notes:
- ① For stage 1, see "Construction Sequence" sheet
  - ② For stage 2, see "Construction Sequence" sheet
  - ③ For stage 3, see "Construction Sequence" sheet
  - ④ Paint Bridge name: Jackson Creek Overflow Bridge.
  - ⑤ Paint Bridge Number: 26-0051.
  - ⑥ Concrete Barrier Type 732.
  - ⑦ Remove Existing Curb and Railing.
  - ⑧ 1 - 3"  $\phi$  and 1 - 2"  $\phi$  Conduits.
  - ⑨ 30" Closure pour.
  - ⑩ Place a Bat Habitat.



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

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

X DESIGN ENGINEER	DESIGN	BY C. Siegenthaler	CHECKED M. Guadamuz	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 5	BRIDGE NO.	26-0051	JACKSON CREEK OVERFLOW BRIDGE (REPLACE) GENERAL PLAN	
	DETAILS	BY A. Chen/S. Jiang	CHECKED M. Guadamuz	LAYOUT	BY M. Guadamuz			CHECKED M. Cullen	POST MILE		2.94
	QUANTITIES	BY M. Quach	CHECKED T. Pinell	SPECIFICATIONS	BY M. Kopsa			PLANS AND SPECS COMPARED	M. Kopsa		

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

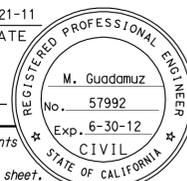
CU 10  
EA 264441

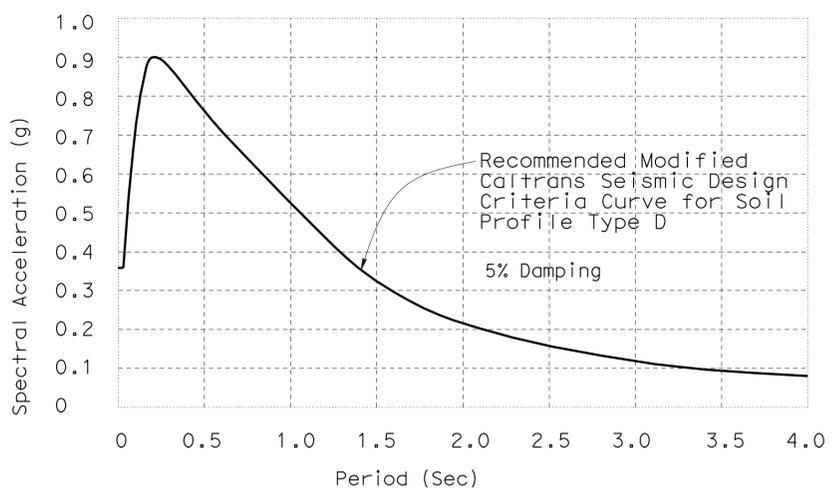
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
7-28-09 4-21-11 3-29-09 4-07-09 4-15-09 12-11-09 9-29-10 12-21-10	1	16

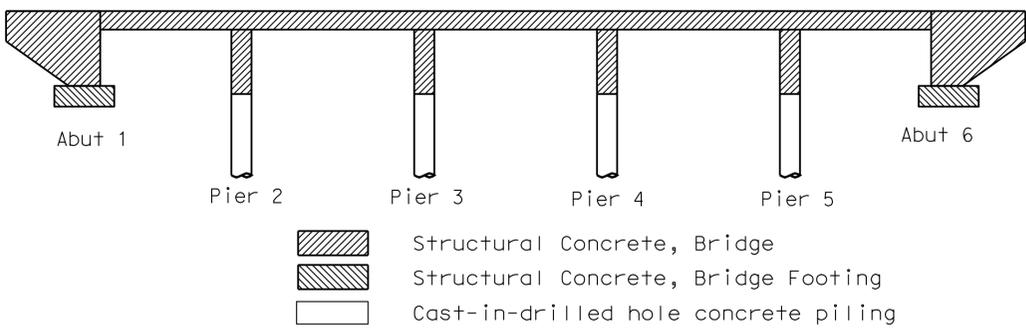
STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-06)

FILE => 26-0051-a-gp.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	202	216
REGISTERED CIVIL ENGINEER			DATE	3-21-11	
PLANS APPROVAL DATE			10-17-11		
					
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**SOIL PROFILE TYPE D: Mw = 6.5, PBA = 0.3g**  
No Scale



**CONCRETE STRENGTH AND TYPE LIMITS**  
No Scale

**GENERAL NOTES**  
**LOAD AND RESISTANCE FACTOR DESIGN**

- DESIGN:**  
AASHTO LRFD Bridge Design Specifications, Third Edition with 2005 & 2006 Interim Revisions and Caltrans Amendments 03.06.01
- SEISMIC DESIGN:**  
Caltrans Seismic Design Criteria (SDC) Version 1.4, July, 2006
- DEAD LOAD:**  
Includes 35 Psf for future wearing surface
- LIVE LOADING:**  
HL93 Alternative loading and "Low-Boy" permit design vehicle
- SEISMIC LOADING:**  
Site specific see ARS curve
- REINFORCED CONCRETE:**  
 $f_y = 60$  ksi  
 $f'_c = 3.6$  ksi  
 $n = 8$

**QUANTITIES**

**PILE DATA TABLE**

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevations (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut 1	24" CIDH	140	0	185.5 (a)	185.5	N/A
Pier 2	24" CIDH	560	200	153.4 (a) 172.7 (b)	153.4	N/A
Pier 3	24" CIDH	560	200	156.9 (a) 176.1 (b)	156.9	N/A
Pier 4	24" CIDH	560	200	152.9 (a) 172.1 (b)	152.9	N/A
Pier 5	24" CIDH	560	200	160.0 (a) 179.1 (b)	160.0	N/A
Abut 6	24" CIDH	140	0	185.5 (a)	185.5	N/A

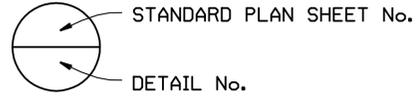
Note:  
Design tip elevations for abutments and bents are controlled by:  
(a) Compression, (b) Tension.

**INDEX TO PLANS**

- GENERAL PLAN
- INDEX TO PLANS
- CONSTRUCTION SEQUENCE
- DECK CONTOURS
- FOUNDATION PLAN
- ABUTMENT LAYOUT
- ABUTMENT DETAILS No. 1
- ABUTMENT DETAILS No. 2
- PIER DETAILS
- TYPICAL SECTION
- SLAB REINFORCEMENT DETAILS
- BAT HABITAT DETAILS
- LOG OF TEST BORINGS 1 OF 4
- LOG OF TEST BORINGS 2 OF 4
- LOG OF TEST BORINGS 3 OF 4
- LOG OF TEST BORINGS 4 OF 4

**STANDARD PLANS DATED MAY 2006**

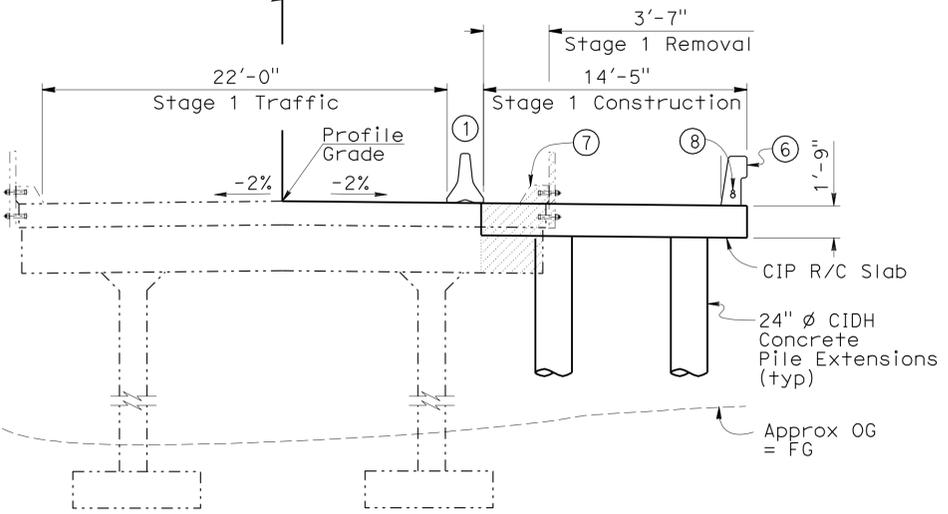
- A10A ACRONYMS AND ABBREVIATIONS (A-L)
- A10B ACRONYMS AND ABBREVIATIONS (M-Z)
- A10C SYMBOLS (SHEET 1 OF 2)
- A10D SYMBOLS (SHEET 2 OF 2)
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
- B0-1 BRIDGE DETAILS
- B0-3 BRIDGE DETAILS
- B0-05 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- RSP B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- B11-55 CONCRETE BARRIER TYPE 732
- B14-3 COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN 4")



DESIGN BY C. Siegenthaler CHECKED M. Guadamuz DETAILS BY A. Chen/S. Jiang CHECKED M. Guadamuz QUANTITIES BY M. Quach CHECKED T. Pinell	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 5</b>	BRIDGE NO. 26-0051 POST MILE 2.94	<b>JACKSON CREEK OVERFLOW BRIDGE (REPLACE)</b> <b>INDEX TO PLANS</b>
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 10 EA 264441	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
		0 1 2 3	REVISION DATES 1-30-09 3-03-09 3-10-09 3-23-09 3-26-09 4-02-09 4-07-09 4-14-09 12-14-09 4-21-11	SHEET 2 OF 16

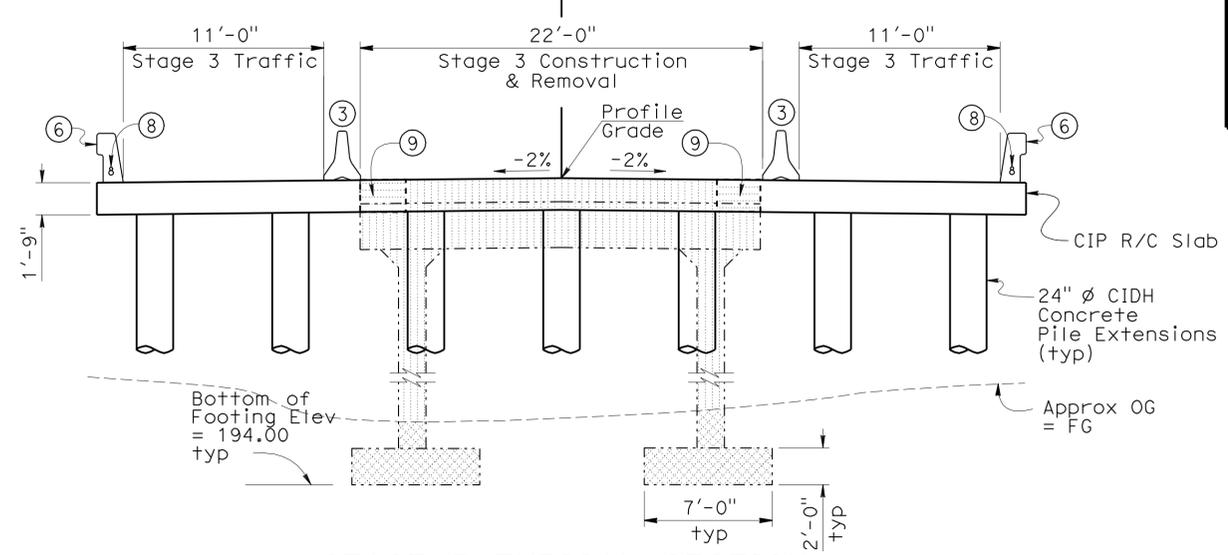
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	203	216
REGISTERED CIVIL ENGINEER			DATE	3-21-11	
PLANS APPROVAL DATE			10-17-11		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					

"ALN1" Line =  
 C Route 88 =  
 C Existing Bridge



**STAGE 1 TYPICAL SECTION**  
 1" = 5'-0"

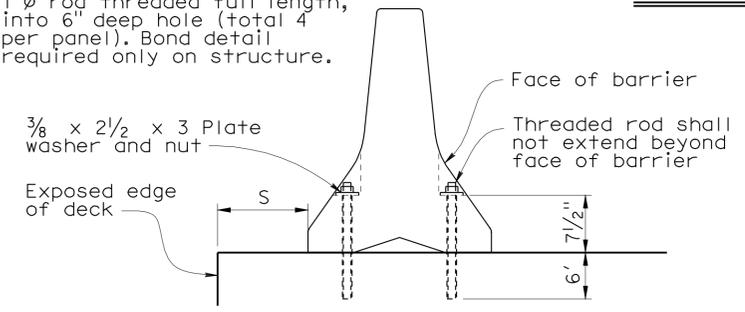
"ALN1" Line =  
 C Route 88 =  
 C Existing Bridge



**STAGE 3 TYPICAL SECTION**  
 1" = 5'-0"

- Indicate Existing Structure
- ▨ Stage 1 Removal
- ▨ Stage 2 Removal
- ▨ Stage 3 Demolition
- ▨ Indicate Existing Footing
- ▨ Removal for Pier 2 and Pier 7.
- ▨ Other Existing Footing to remain.
- ▨ Closure Pour

If  $S < 2'-0"$ , drill and bond 1"  $\phi$  rod threaded full length, into 6" deep hole (total 4 per panel). Bond detail required only on structure.

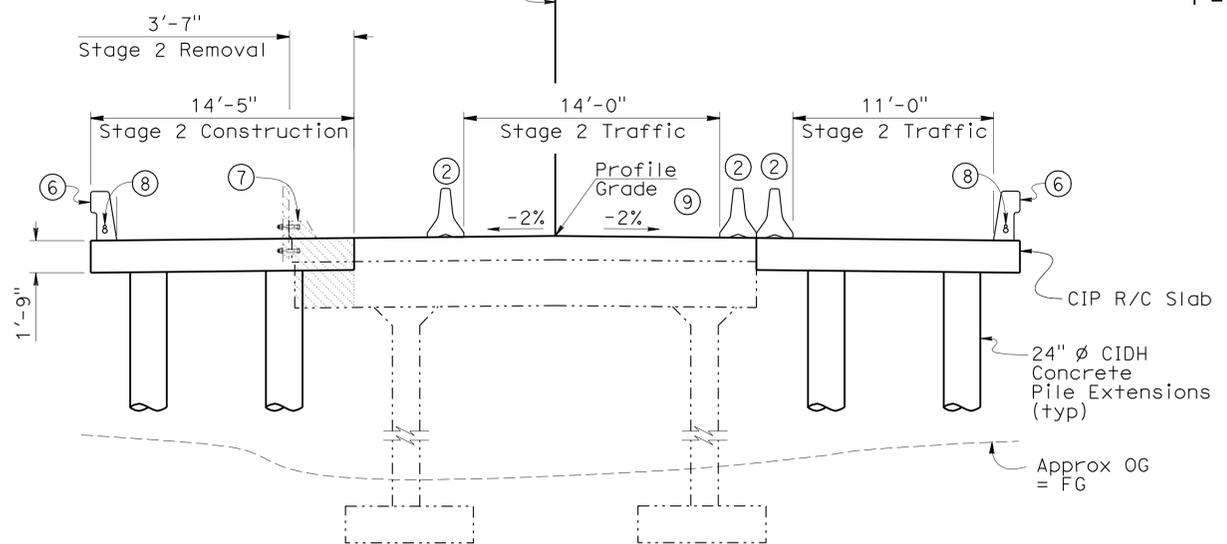


**TYPE K RAILING ATTACHMENT DETAILS**  
 1" = 1'

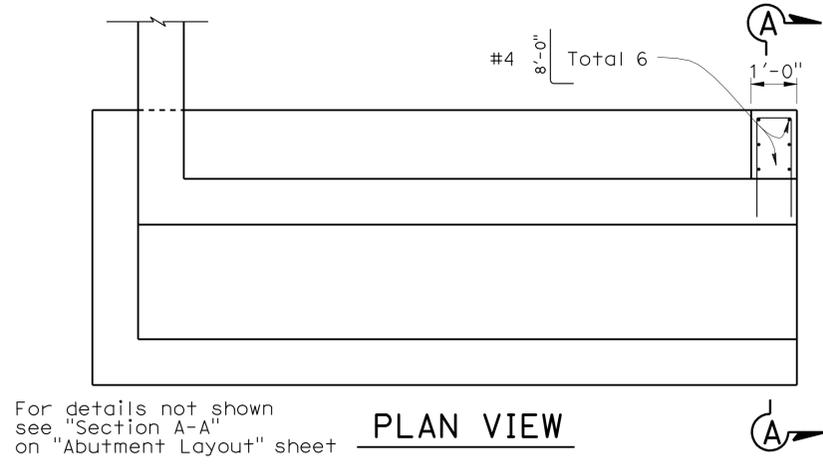
Notes:

- ① Stage 1 Temporary Railing (Type K) See "Road Plans"
- ② Stage 2 Temporary Railing (Type K) See "Road Plans"
- ③ Stage 3 Temporary Railing (Type K) See "Road Plans"
- ⑥ Concrete Barrier Type 732.
- ⑦ Remove Exist Curb and Railing.
- ⑧ 1 - 3"  $\phi$  and 1 - 2"  $\phi$  Conduits.
- ⑨ 30" Closure pour.

"ALN1" Line =  
 C Route 88 =  
 C Existing Bridge

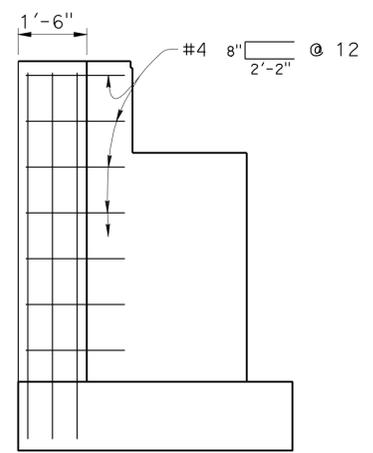


**STAGE 2 TYPICAL SECTION**  
 1" = 5'-0"



For details not shown see "Section A-A" on "Abutment Layout" sheet

**PLAN VIEW**



**SECTION A-A**

**STUB WALL DETAIL**  
 1/2" = 1'-0"

Note:  
 Abutment 1, Stage 1 shown.  
 Abutment 6, other Stage similar.

DESIGN	BY C. Siegenthaler	CHECKED M. Guadamuz
DETAILS	BY A. Chen/S. Jiang	CHECKED M. Guadamuz
QUANTITIES	BY M. Quach	CHECKED T. Pinell

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH 5

BRIDGE NO. 26-0051  
 POST MILE 2.94  
**JACKSON CREEK OVERFLOW BRIDGE (REPLACE)**  
**CONSTRUCTION SEQUENCE**

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

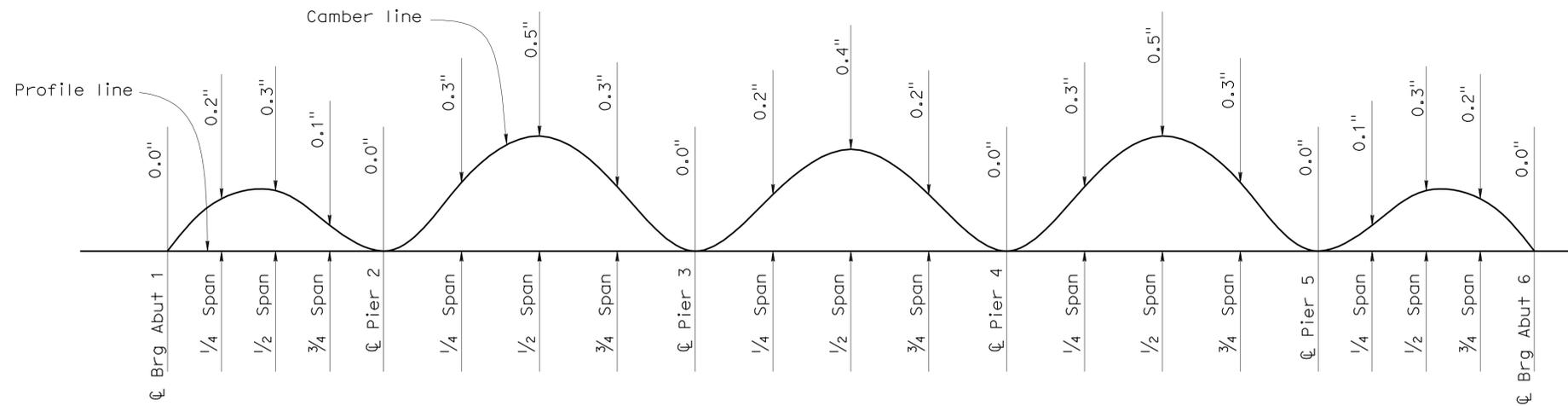


CU 10  
 EA 264441

DISREGARD PRINTS BEARING EARLIER REVISION DATES										REVISION DATES		SHEET	OF
2-9-09	3-04-09	3-10-09	3-26-09	4-07-09	10-08-09	12-17-09	1-11-10	12-28-10	4-21-11	3	16		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	204	216

  
 REGISTERED CIVIL ENGINEER DATE 3-21-11  
 10-17-11  
 PLANS APPROVAL DATE  
 M. Guadamuz  
 No. 57992  
 Exp. 6-30-12  
 CIVIL  
 STATE OF CALIFORNIA  
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**CAMBER DIAGRAM**

no scale

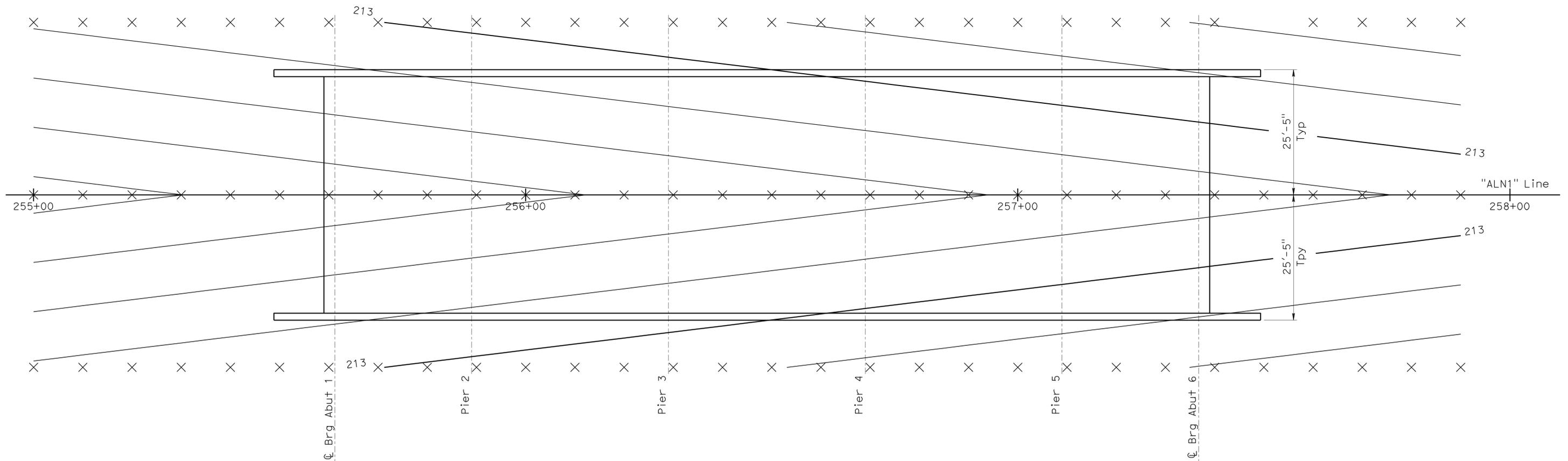
Note: Does not include allowance for false work settlement.

Notes:

X = 10' interval along station line.

Contours do not include camber.

Contour interval = 0.2'



**DECK CONTOURS**

1" = 10'-0"

DESIGN	BY C. Siegenthaler	CHECKED M. Guadamuz
DETAILS	BY A. Chen/S. Jiang	CHECKED M. Guadamuz
QUANTITIES	BY M. Quach	CHECKED T. Pinell

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH **5**

BRIDGE NO.	26-0051
POST MILE	2.94

**JACKSON CREEK OVERFLOW BRIDGE (REPLACE)**  
**DECK CONTOURS**

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 10  
EA 264441

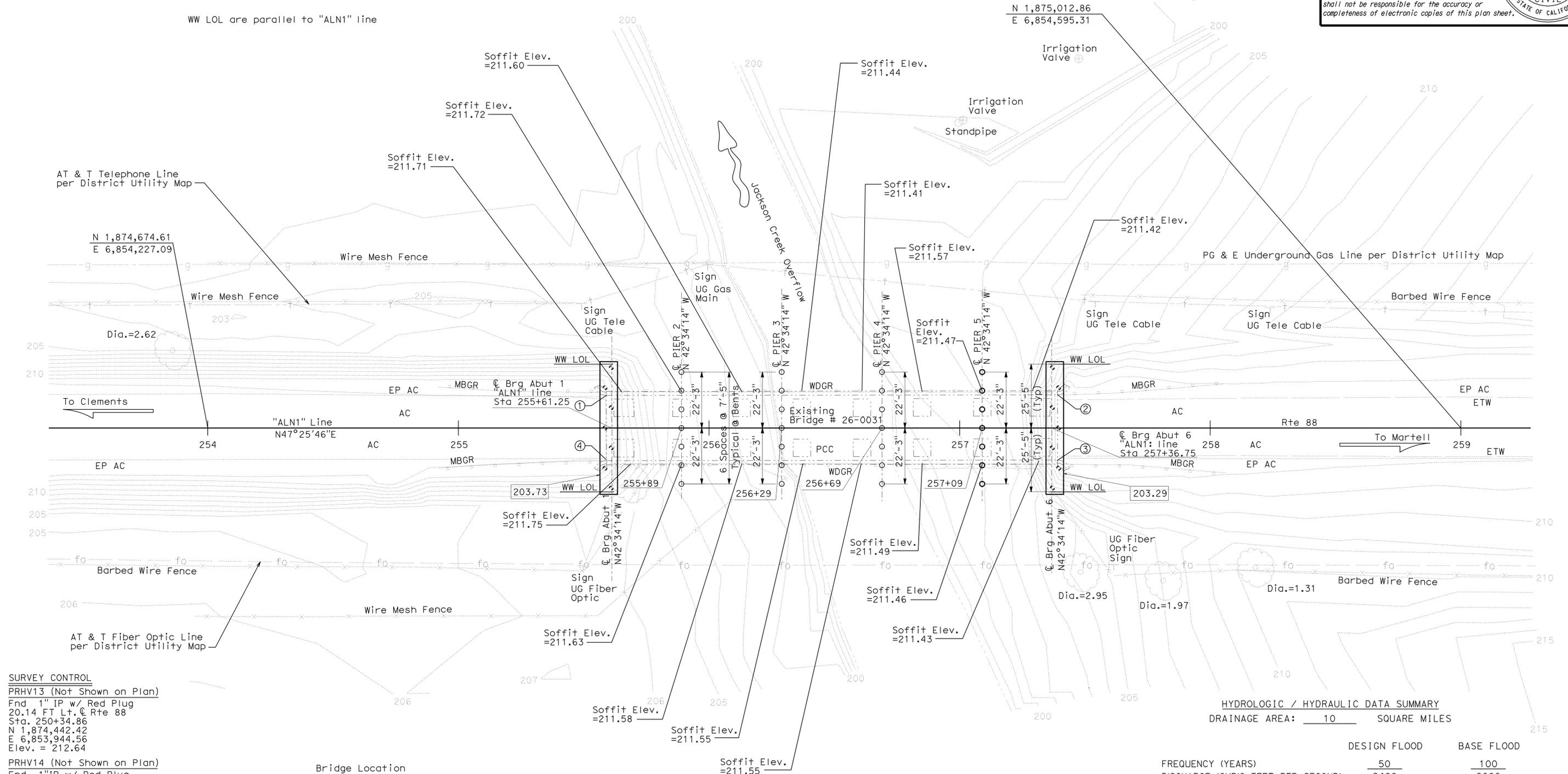
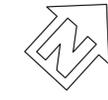
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
1-30-09 3-04-09 4-07-09	4	16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	205	216

REGISTERED CIVIL ENGINEER DATE 3-21-11  
 M. Guadamuz  
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 STATE OF CALIFORNIA  
 PLANS APPROVAL DATE 10-17-11  
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- Indicates bottom of footing elevation
- Indicates 24"Ø CIDH pile on piers
- ◁ Indicates 24"Ø CIDH pile on abutments
- WW LOL are parallel to "ALN1" line



**SURVEY CONTROL**  
 PRHV13 (Not Shown on Plan)  
 Fnd. 1" IP w/ Red Plug  
 20.14 FT Lt. C Rte 88  
 Sta. 250+34.86  
 N 1,874,442.42  
 E 6,853,944.56  
 Elev. = 212.64  
 PRHV14 (Not Shown on Plan)  
 Fnd. 1" IP w/ Red Plug  
 31.50 FT Lt. C Rte 88  
 Sta. 263+32.04  
 N 1,875,307.85  
 E 6,854,916.01  
 Elev. = 212.38

Bridge Location

①	- 12.91 Lt. C	, Sta. 255+58.96	, Elev. = 212.96 ±
②	- 13.24 Lt. C	, Sta. 257+39.06	, Elev. = 212.63 ±
③	- 12.94 Rt. C	, Sta. 257+38.90	, Elev. = 212.59 ±
④	- 12.73 Rt. C	, Sta. 255+59.10	, Elev. = 212.96 ±

HYDROLOGIC / HYDRAULIC DATA SUMMARY

DRAINAGE AREA: 10 SQUARE MILES

	DESIGN FLOOD	BASE FLOOD
FREQUENCY (YEARS)	50	100
DISCHARGE (CUBIC FEET PER SECOND)	6400	8000
WATER SURFACE ELEV. (FEET)	204.7	205.5

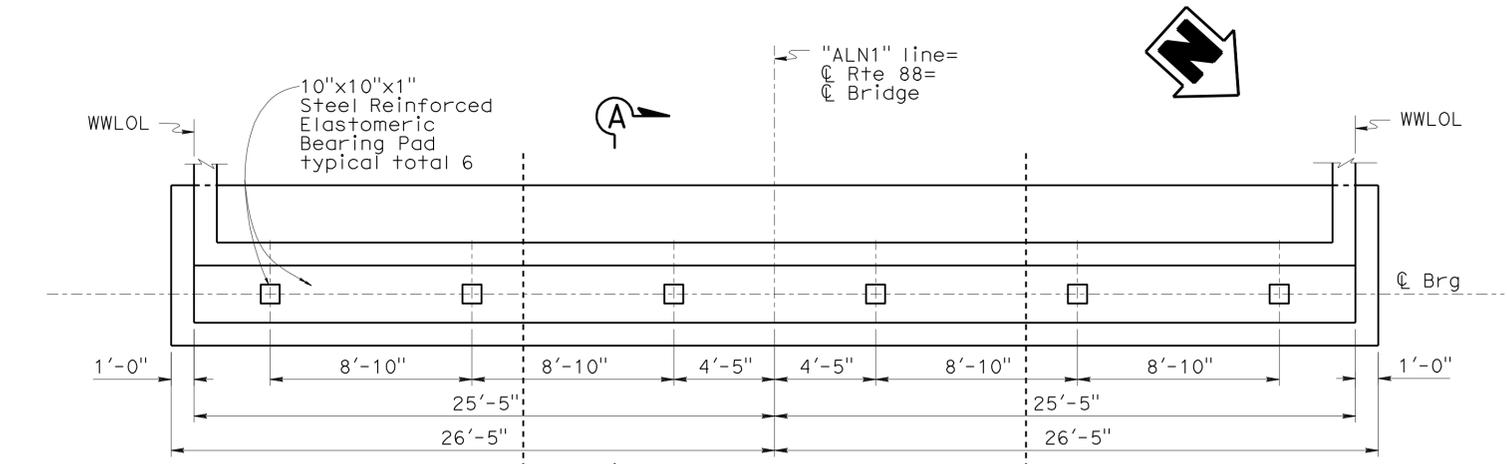
FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY THE STATE AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATIONS.

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY C. Siegenthaler	CHECKED M. Guadamuz	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	<b>DIVISION OF ENGINEERING SERVICES</b> STRUCTURE DESIGN <b>DESIGN BRANCH 5</b>	BRIDGE NO. 26-0051	<b>JACKSON CREEK OVERFLOW BRIDGE (REPLACE FOUNDATION PLAN)</b>	
SCALE 1"=20'	VERT. DATUM NGVD29	PHOTOGRAMMETRY AS OF: X	DETAILS BY A. Chen/S. Jiang	CHECKED M. Guadamuz	POST MILE 2.94					
ALIGNMENT TIES Dist. Traverse Sheet	SURVEYED BY District	CHECKED BY J. Borden 08/2008	QUANTITIES BY M. Quach	CHECKED T. Pinell						
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)				DRAFTED BY T. Zolnikova 08/2008	CHECKED BY L. Lew 08/2008	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 10 EA 264441	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 5 OF 16

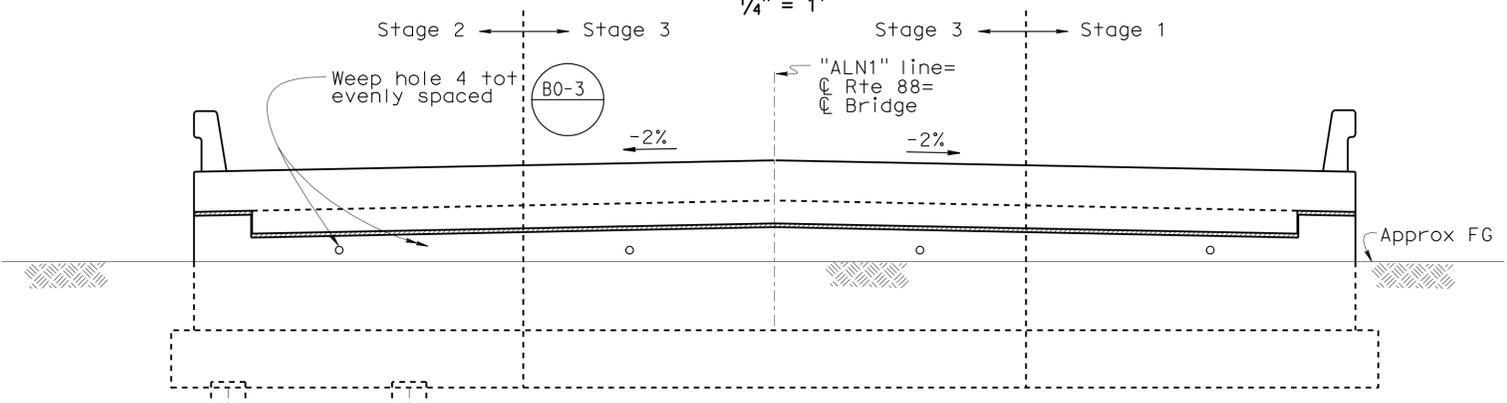
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	206	216
REGISTERED CIVIL ENGINEER			DATE	3-21-11	
10-17-11			PLANS APPROVAL DATE		
M. Guadamuz			No. 57992		
Exp. 6-30-12			CIVIL		
STATE OF CALIFORNIA					

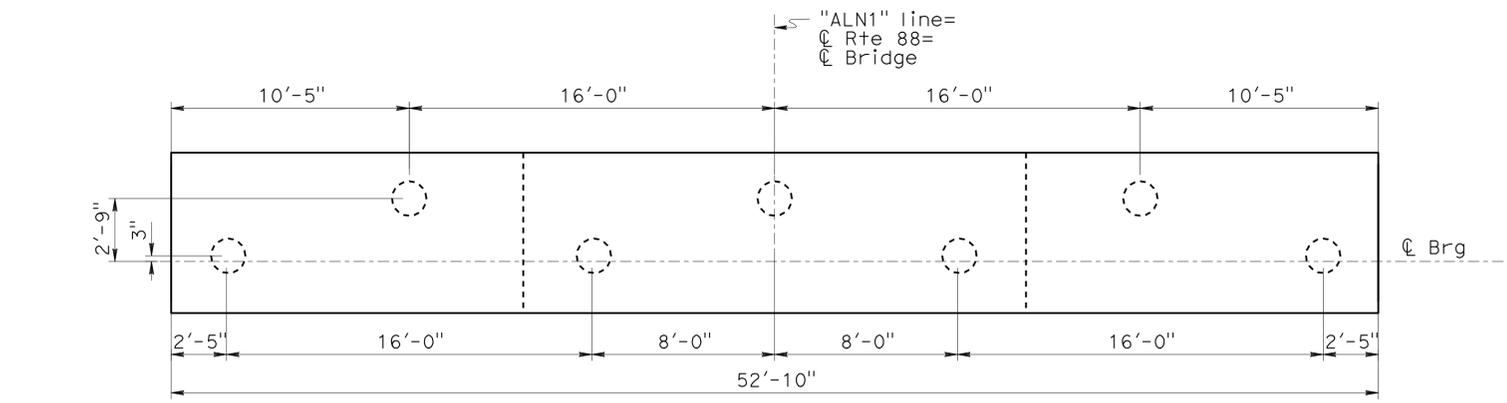
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**PLAN**  
1/4" = 1'

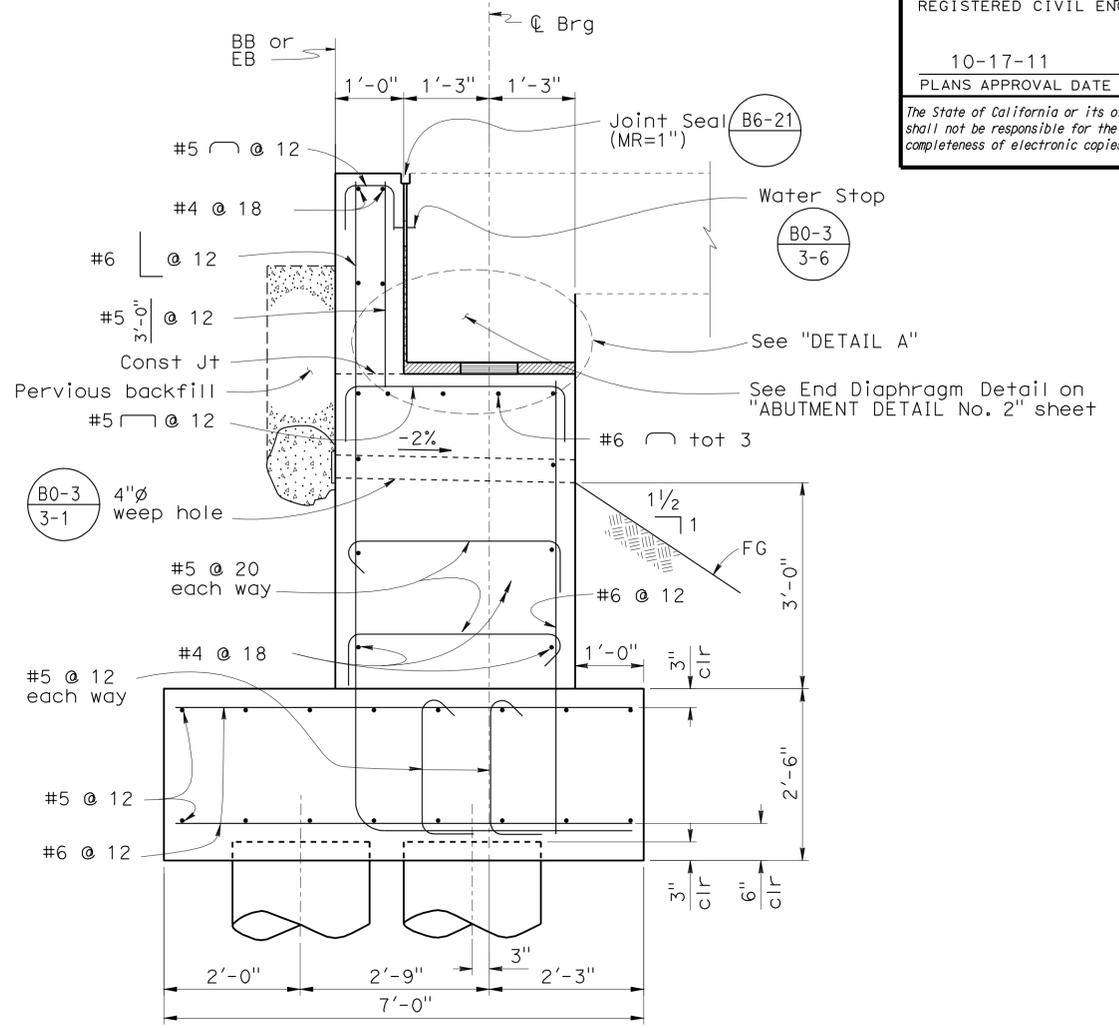


**ELEVATION**  
1/4" = 1'

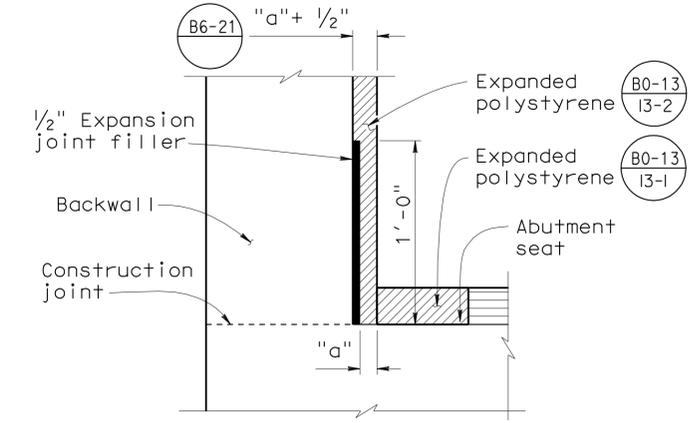


**PILE LAYOUT**  
1/4" = 1'

Notes:  
Abutment 1 shown, Abutment 6 similar  
⊙ Indicates 24"Ø vertical concrete pile



**SECTION A-A**  
3/4" = 1'



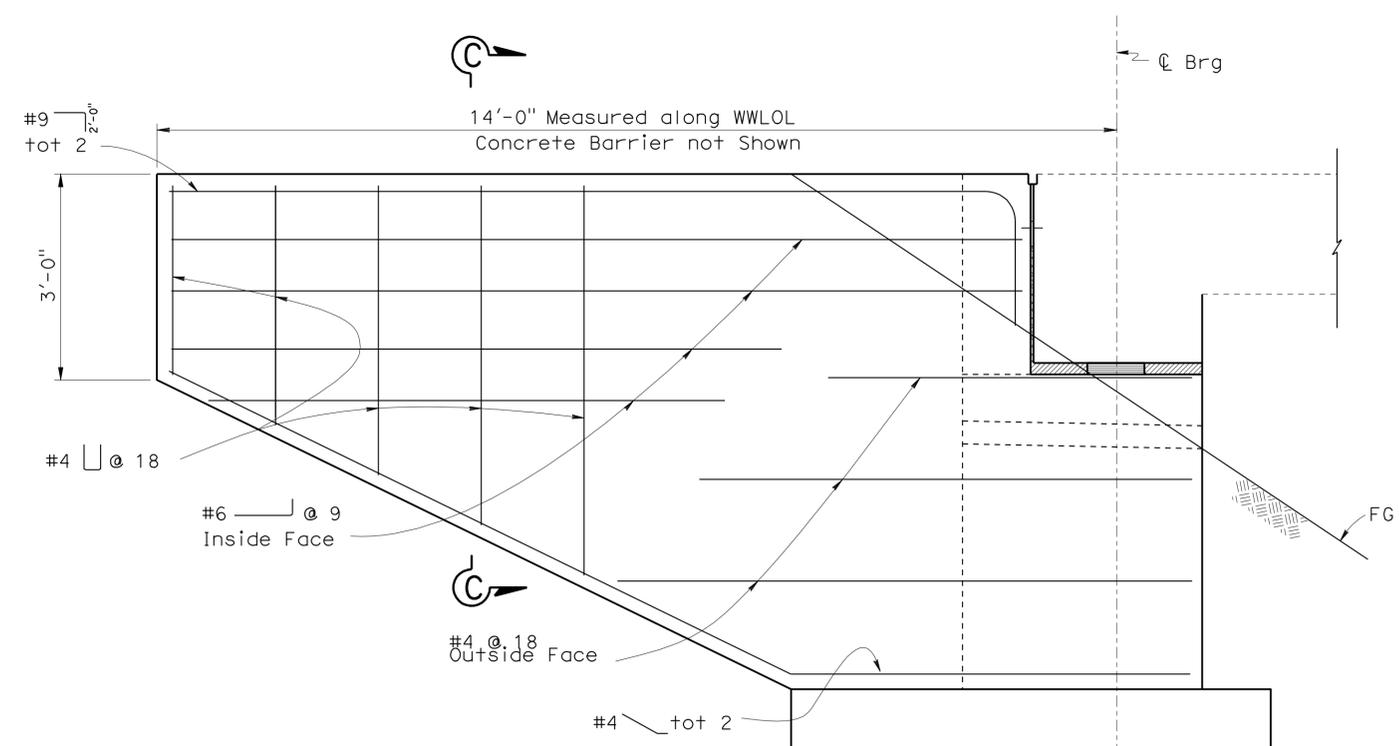
**DETAIL "A"**  
No Scale

DESIGN	BY	C. Siegenthaler	CHECKED	M. Guadamuz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH <b>5</b>	BRIDGE NO.	26-0051	<b>JACKSON CREEK OVERFLOW BRIDGE (REPLACE)</b>								
	DETAILS	BY	A. Chen/S. Jiang	CHECKED			M. Guadamuz	POST MILE		2.94	<b>ABUTMENT LAYOUT</b>						
	QUANTITIES	BY	M. Quach	CHECKED			T. Pinell	REVISION DATES		SHEET		OF					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU 10 EA 264441	DISREGARD PRINTS BEARING EARLIER REVISION DATES	7-11-09	3-05-09	3-10-09	3-23-09	3-26-09		4-02-09	4-13-09	10-06-09	12-11-09	12-20-10	6

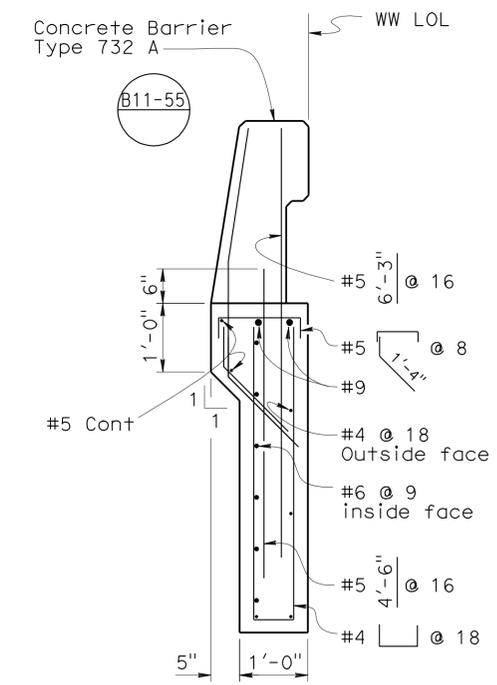
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) FILE => 26-0051-f-a01\_lo1.dgn

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10	Amg	88	0.0/5.5	207	216

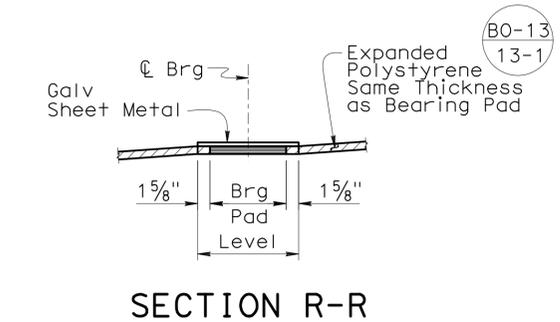
REGISTERED CIVIL ENGINEER DATE 3-21-11  
 M. Guadamuz  
 No. 57992  
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 PLANS APPROVAL DATE 10-17-11  
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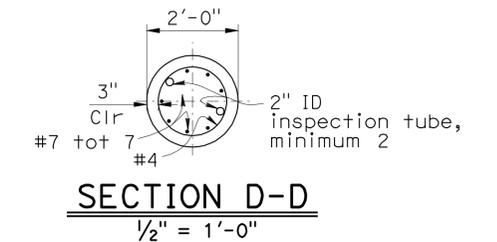
**WINGWALL ELEVATION**  
3/4" = 1'



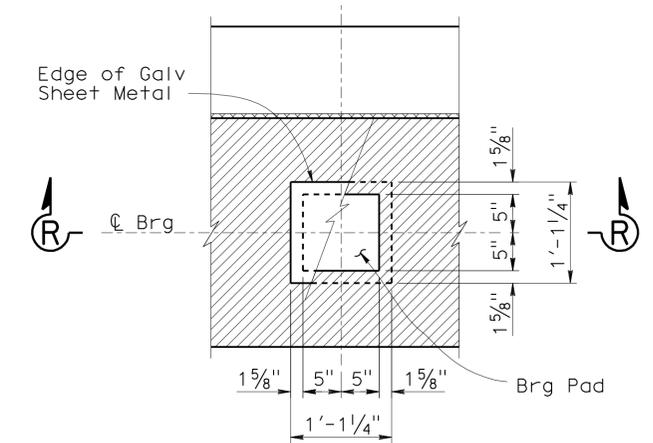
**SECTION C-C**  
3/4" = 1'-0"



**SECTION R-R**



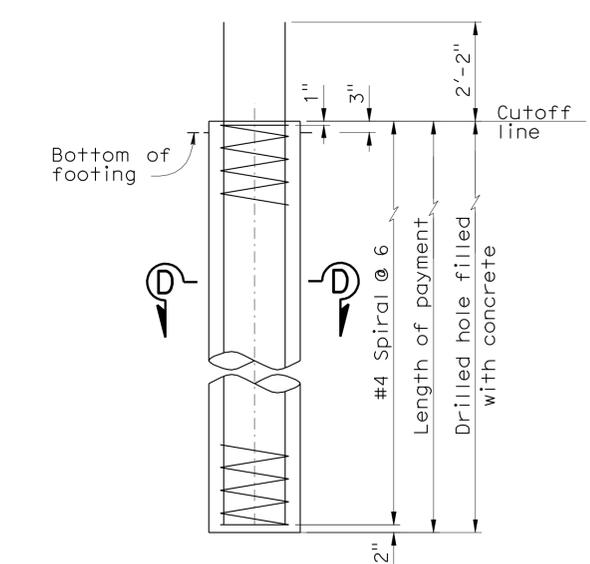
**SECTION D-D**  
1/2" = 1'-0"



**PLAN BEARING PAD DETAIL**  
1" = 1'-0"

Note: Coat Top of Bearing Pad with Grease Prior to Placing Sheet Metal.

⊗ Typical details at all bearing pads



**ABUTMENT PILE DETAIL**  
1/2" = 1'-0"

DESIGN	BY C. Siegenthaler	CHECKED M. Guadamuz
DETAILS	BY A. Chen/S. Jiang	CHECKED M. Guadamuz
QUANTITIES	BY M. Quach	CHECKED T. Pinell

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 5

BRIDGE NO.	26-0051	<b>JACKSON CREEK OVERFLOW BRIDGE (REPLACE)</b>
POST MILE	2.94	
<b>ABUTMENT DETAILS No. 1</b>		

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 10  
EA 264441

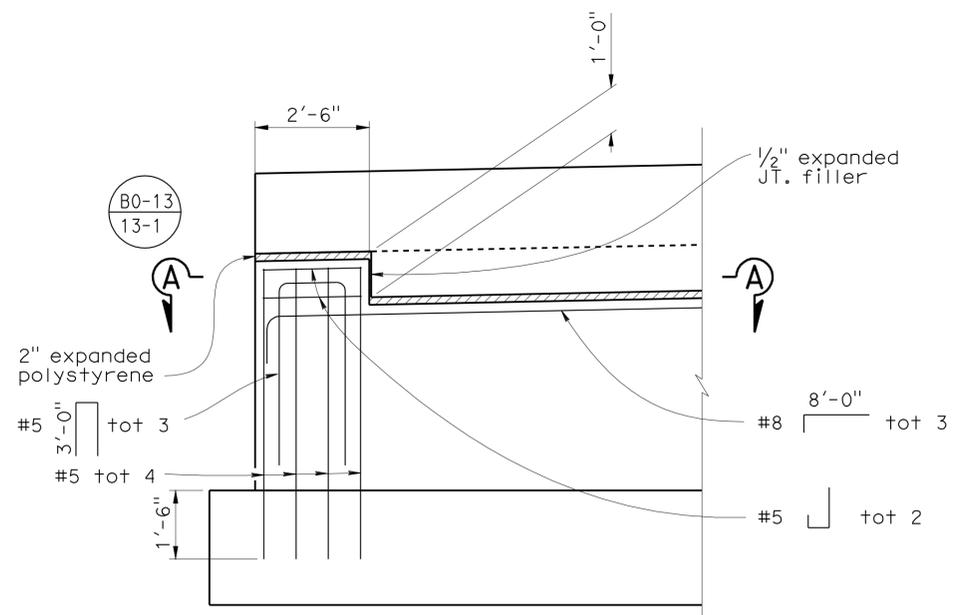
REVISION DATES										SHEET	OF
2-13-09	3-05-09	3-11-09	3-24-09	3-26-09	4-08-09	12-17-09	1-28-10	4-21-11		7	16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	208	216

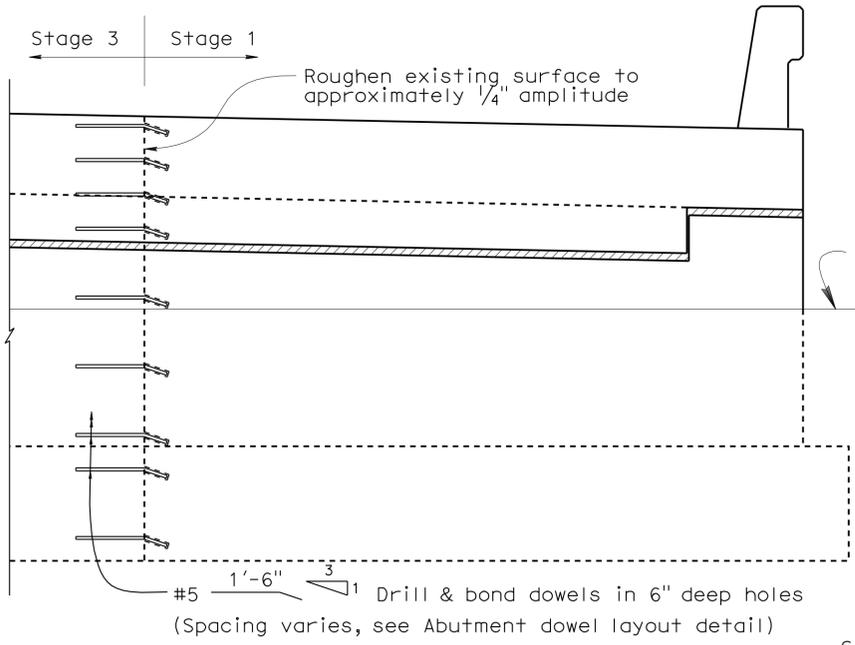
  

REGISTERED CIVIL ENGINEER	DATE
M. Guadamuz	3-21-11
PLANS APPROVAL DATE	
10-17-11	

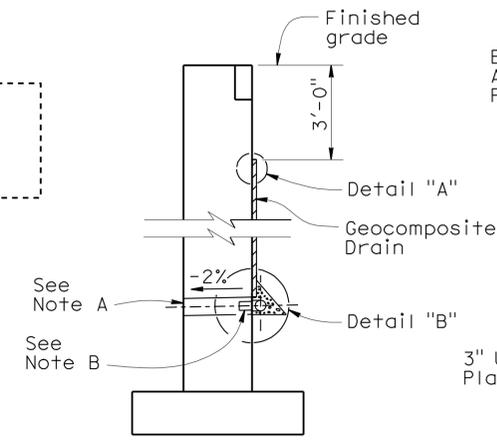
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*



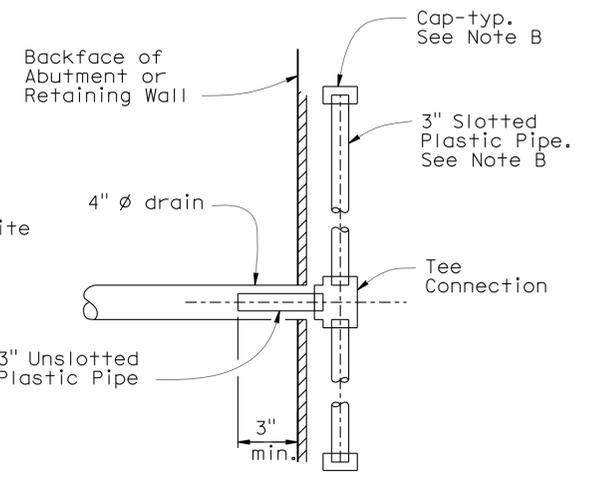
**SHEAR KEY DETAIL**  
1/2" = 1'-0"



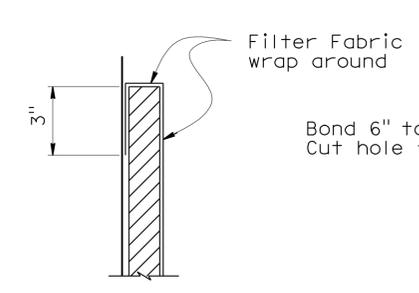
**ELEVATION-DOWEL LAYOUT**  
1/2" = 1'-0"  
Right side shown, left side similar.



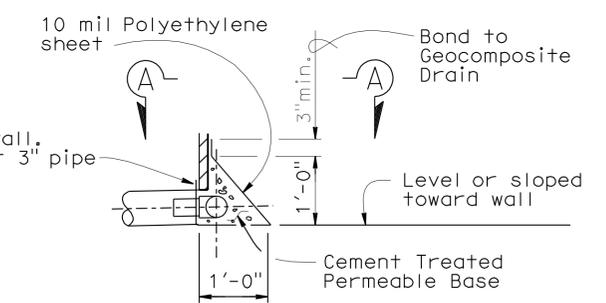
**SECTION**



**SECTION A-A**



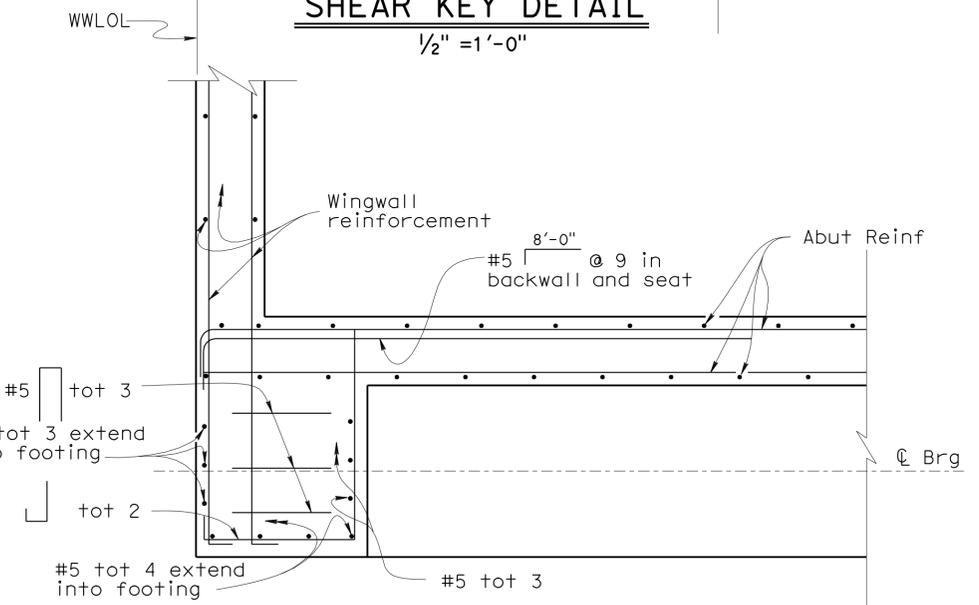
**DETAIL "A"**



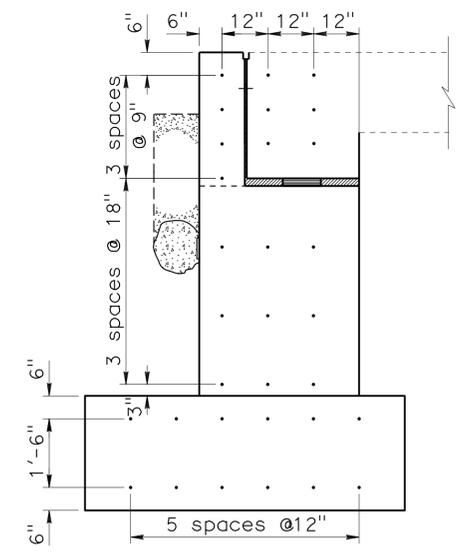
**DETAIL "B"**

**WEEP HOLE AND GEOCOMPOSITE DRAIN**

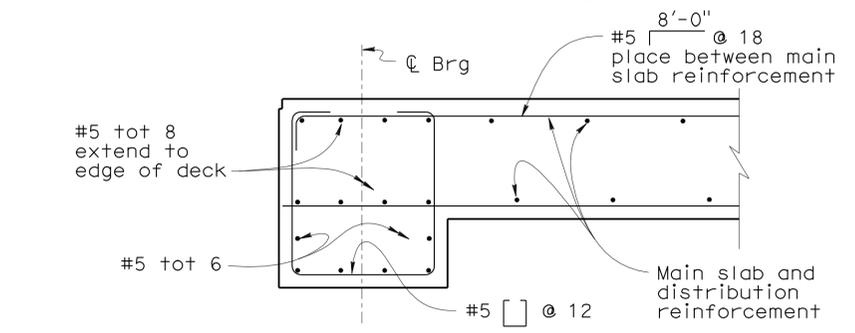
ALTERNATIVE TO BRIDGE DETAIL (B0-3) 3-1



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



**ABUTMENT DOWEL LAYOUT DETAIL**  
1/2" = 1'-0"  
Abutment 6 similar



**END DIAPHRAGM**  
3/4" = 1'-0"

- Notes:
- A. 4"  $\phi$  drains at intermediate sag points and at 25' max center to center (9' c-c for Type 3 and 9'-3" c-c for Type 4 retaining walls). For walls adjacent to sidewalks or curbs, provide 4" 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"  $\phi$  slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4"  $\phi$  drain.
  - C. Connect the low end of plastic pipe to the main outlet pipe as applicable.

DESIGN	BY C. Siegenthaler	CHECKED M. Guadamuz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO.	JACKSON CREEK OVERFLOW BRIDGE (REPLACE)	
DETAILS	BY S. Jiang	CHECKED M. Guadamuz			26-0051		
QUANTITIES	BY M. Quach	CHECKED T. Pinell			POST MILE 2.94		
				CU 10 EA 264441	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 8 OF 16

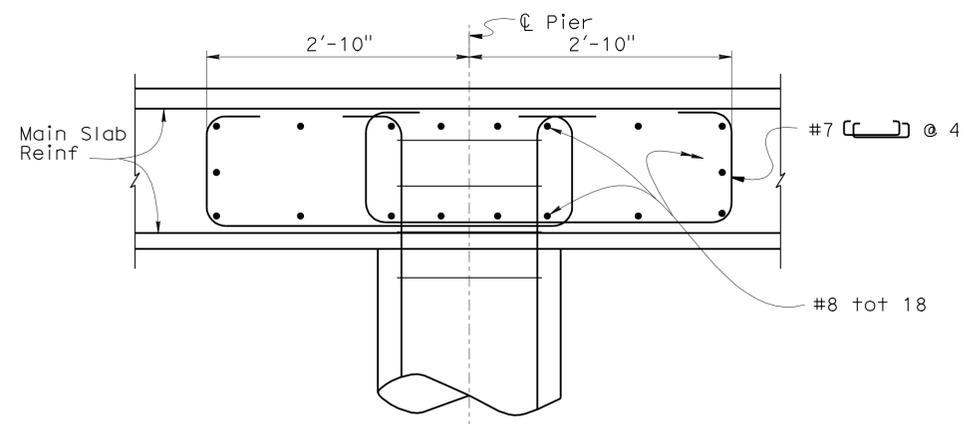
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	209	216

REGISTERED CIVIL ENGINEER  
 M. Guadamuz  
 No. 57992  
 Exp. 6-30-12  
 CIVIL  
 STATE OF CALIFORNIA

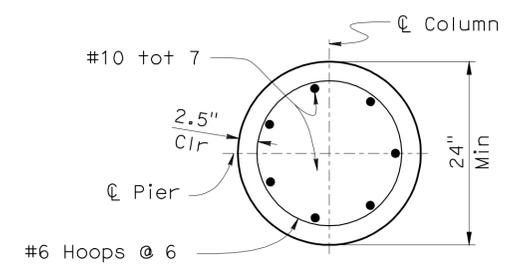
3-21-11  
 DATE

10-17-11  
 PLANS APPROVAL DATE

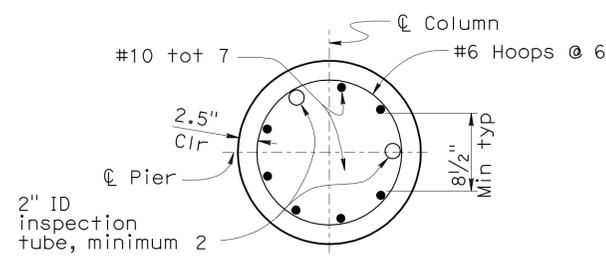
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**DETAIL "A"**  
1" = 1'-0"



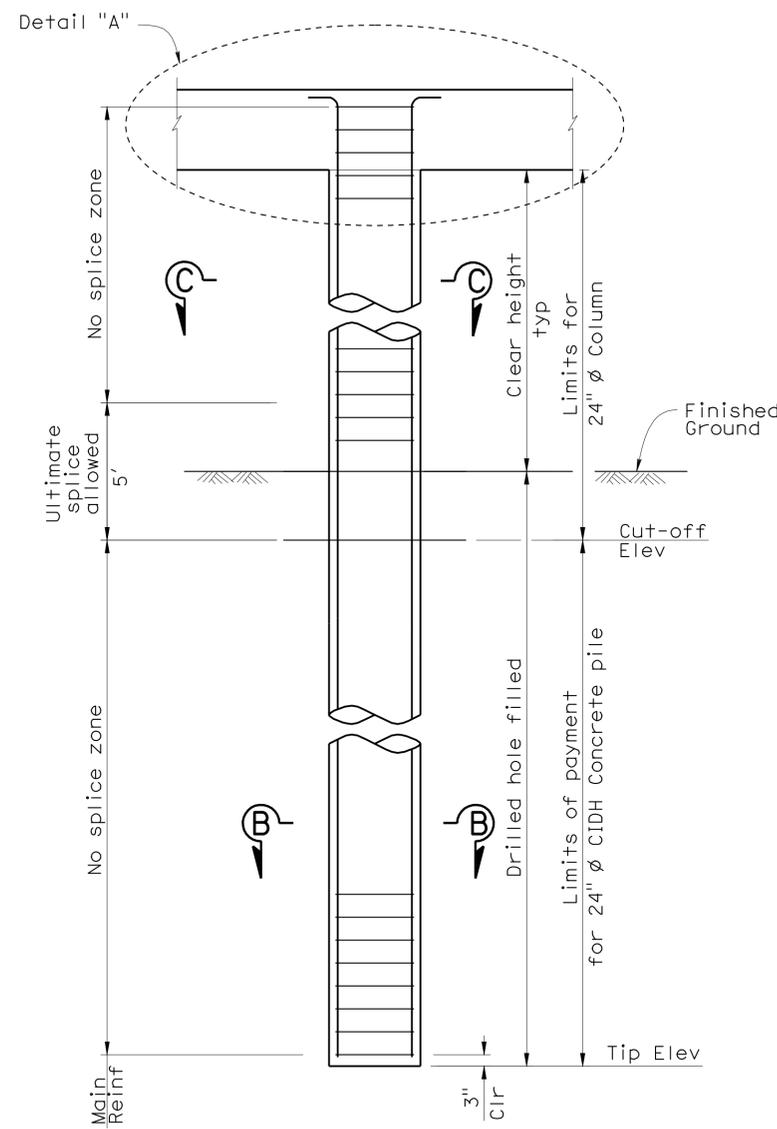
**SECTION C-C**  
1" = 1'-0"



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

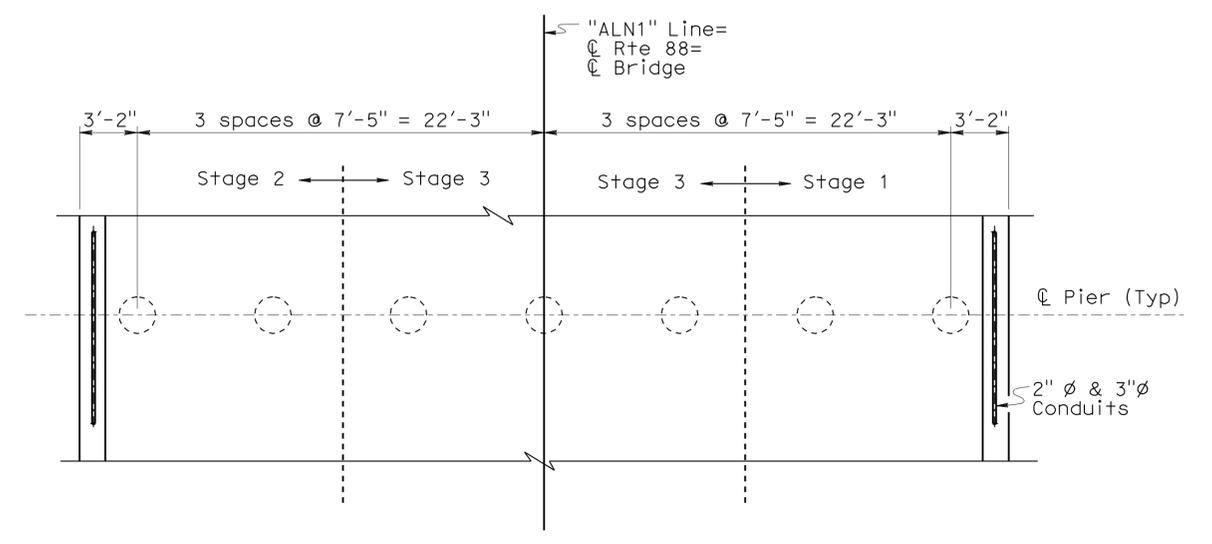
**PILE CUT-OFF ELEVATION TABLE**

Pile	Cut-off Elevation (ft)			
	Pier 2	Pier 3	Pier 4	Pier 5
1	200.17	195.54	195.92	199.12
2	200.34	195.53	195.90	198.76
3	200.42	195.55	195.82	198.66
4	200.50	195.57	195.72	198.55
5	200.58	195.82	195.62	198.39
6	200.76	196.88	195.51	198.23
7	200.86	198.45	195.43	197.98

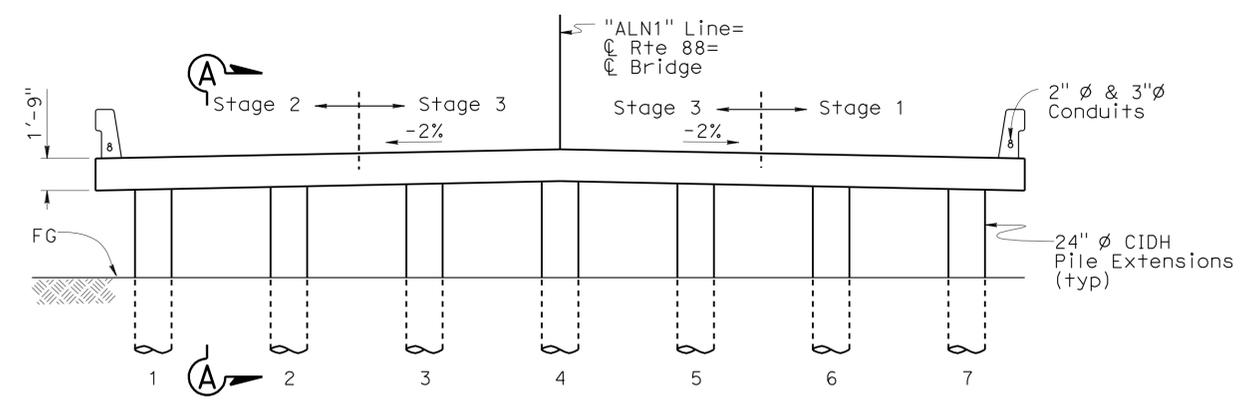


**SECTION A-A**  
1/2" = 1'-0"

All hoops shall be ultimate butt spliced



**PLAN**  
1" = 5'



**ELEVATION**  
1" = 5'

DESIGN	BY C. Siegenthaler	CHECKED M. Guadamuz
DETAILS	BY A. Chen/S. Jiang	CHECKED M. Guadamuz
QUANTITIES	BY M. Quach	CHECKED T. Pinelli

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH **5**

BRIDGE NO. 26-0051  
 POST MILE 2.94  
**JACKSON CREEK OVERFLOW BRIDGE (REPLACE PIER DETAILS)**

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 10 EA 264441

DISREGARD PRINTS BEARING EARLIER REVISION DATES

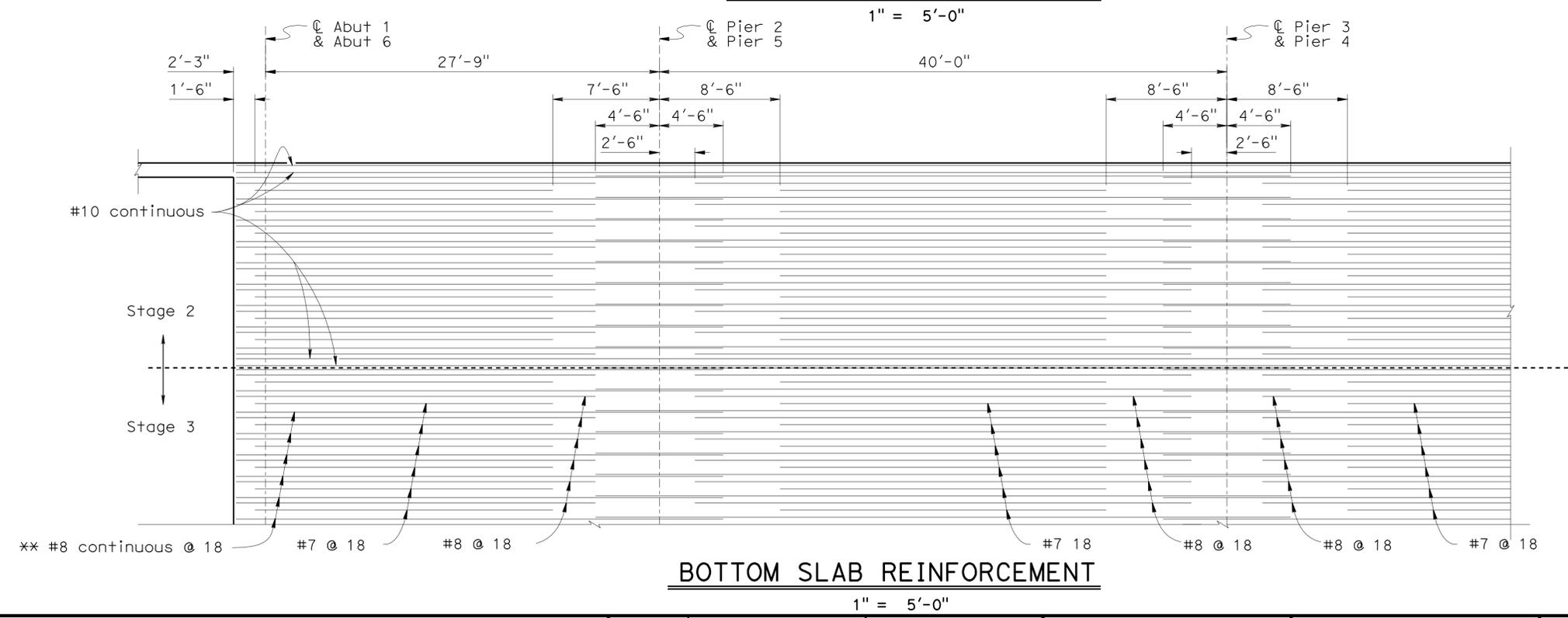
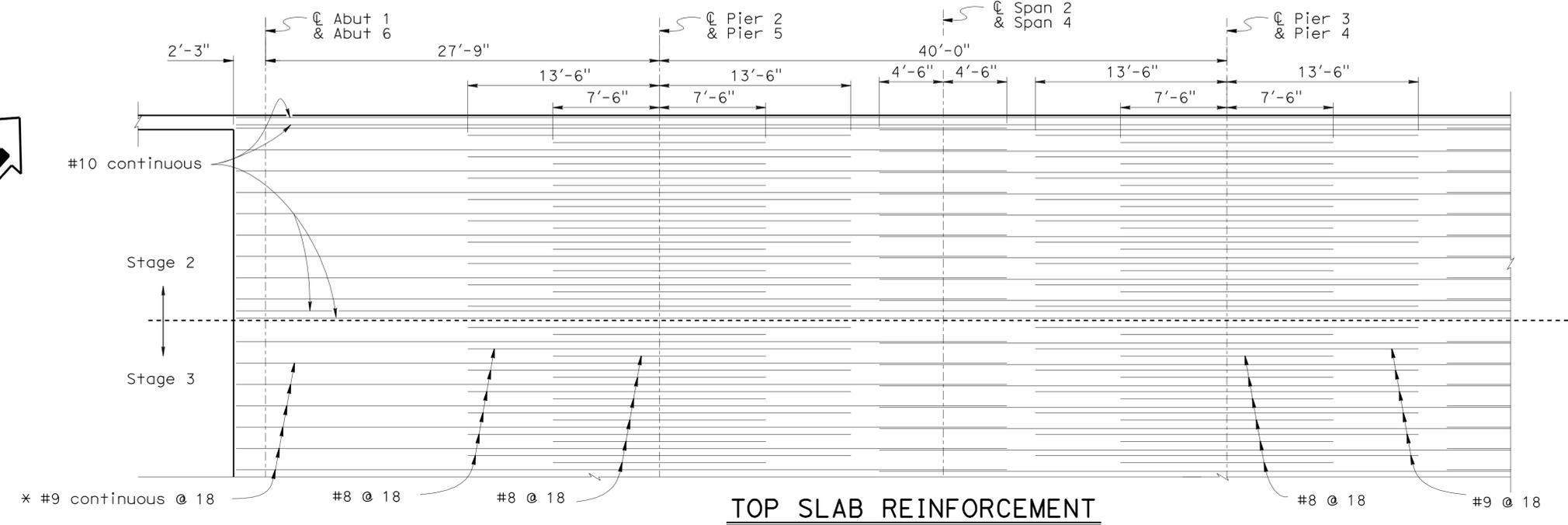
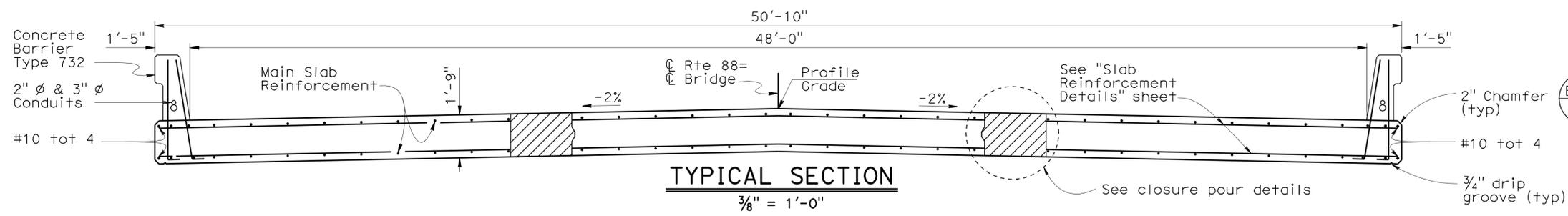
REVISION DATES								SHEET	OF
2-7-09	1-11-10	1-28-10	4-21-11	4-08-09	4-08-09	4-21-09	10-08-09	9	16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amo	88	0.0/5.5	210	216

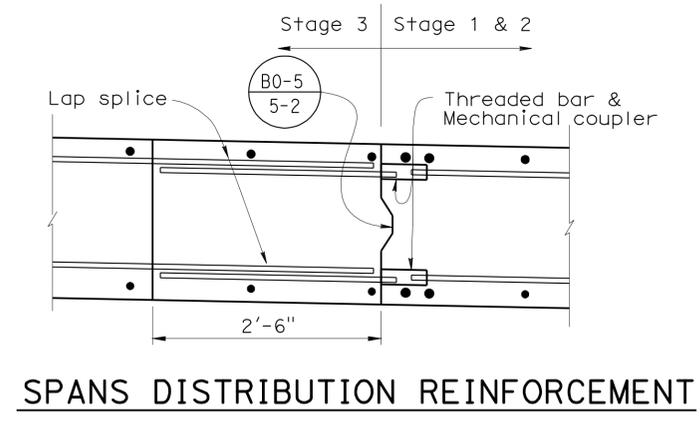
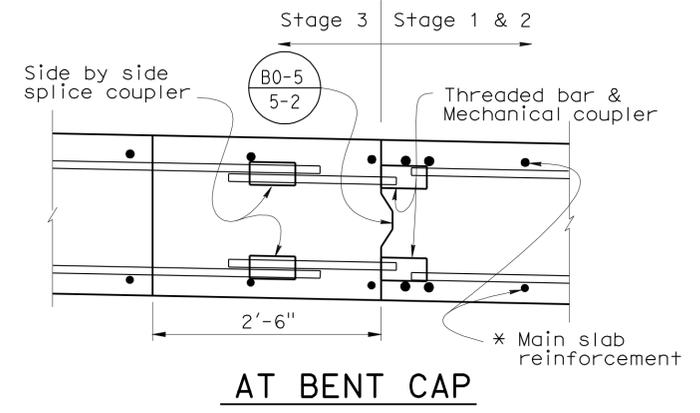
REGISTERED CIVIL ENGINEER		DATE
M. Guadamuz		3-21-11
PLANS APPROVAL DATE		
10-17-11		

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.



\* Top slab continuous reinforcement may be service spliced at midspan.  
 \*\* Bottom slab continuous reinforcement may be service spliced 7 ft from center pier

Closure Pour



CLOSURE POUR DETAILS  
 1" = 1'-0"

\* Main slab reinforcement spacing varies with location. See top and bottom slab reinforcement details.  
 \* Cap stirrups not shown

DESIGN	BY	C. Siegenthaler	CHECKED	M. Guadamuz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO.	26-0051	JACKSON CREEK OVERFLOW BRIDGE (REPLACE)				
	DETAILS	BY	A. Chen/S. Jiang	CHECKED			M. Guadamuz	POST MILE		2.94	TYPICAL SECTION		
	QUANTITIES	BY	M. Quach	CHECKED			T. Pinell	REVISION DATES		<table border="1"> <tr> <td>2-9-09</td> <td>3-09-09</td> <td>3-11-09</td> <td>3-24-09</td> <td>4-02-09</td> <td>4-09-09</td> <td>12-17-09</td> </tr> </table>		2-9-09	3-09-09
2-9-09	3-09-09	3-11-09	3-24-09	4-02-09	4-09-09	12-17-09							

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

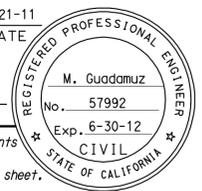
CU 10 EA 264441

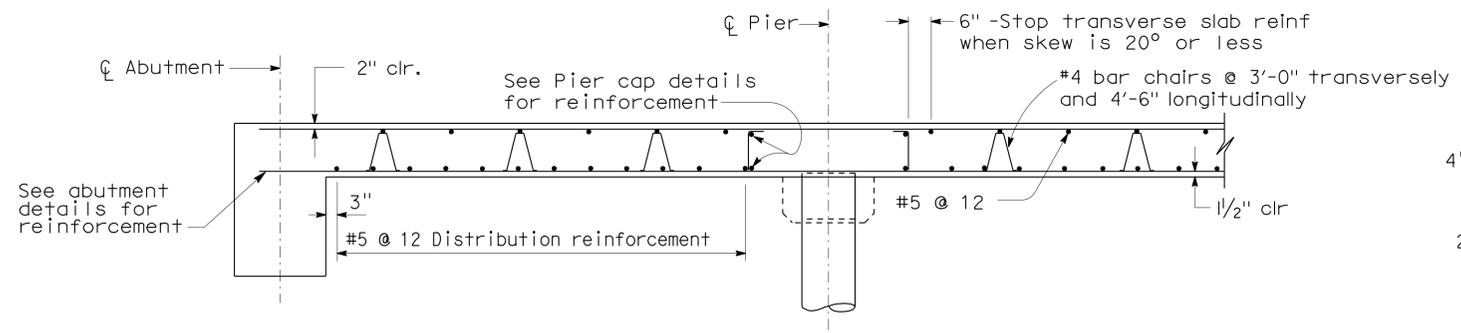
DISREGARD PRINTS BEARING EARLIER REVISION DATES

FILE => 26-0051-k-ts01.dgn

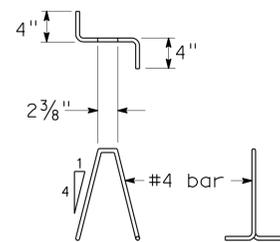
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)

USERNAME => S14640 DATE PLOTTED => 19-OCT-2011 TIME PLOTTED => 10:23

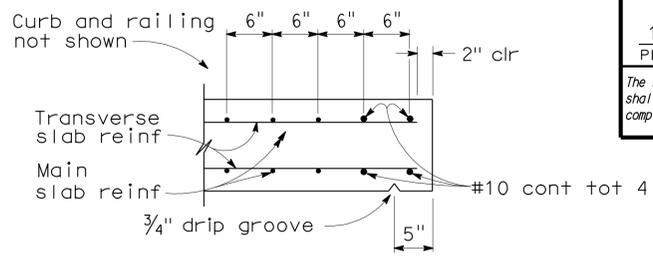
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	211	216
 REGISTERED CIVIL ENGINEER DATE 3-21-11					
10-17-11 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



**LONGITUDINAL SECTION**



**BAR CHAIR DETAIL**

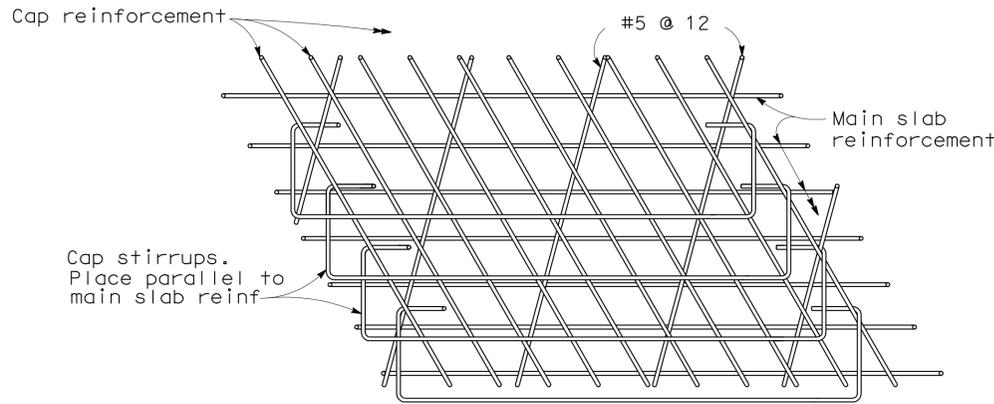


**EDGE OF SLAB DETAILS**

BAR SPLICE LENGTH								
Bar size	#4	#5	#6	#7	#8	#9	#10	#11
All bars, except top bars in spans over 23'	23	28	34	39	45	68	76	85
Top bars in spans over 23'	23	28	34	53	60	77	97	120

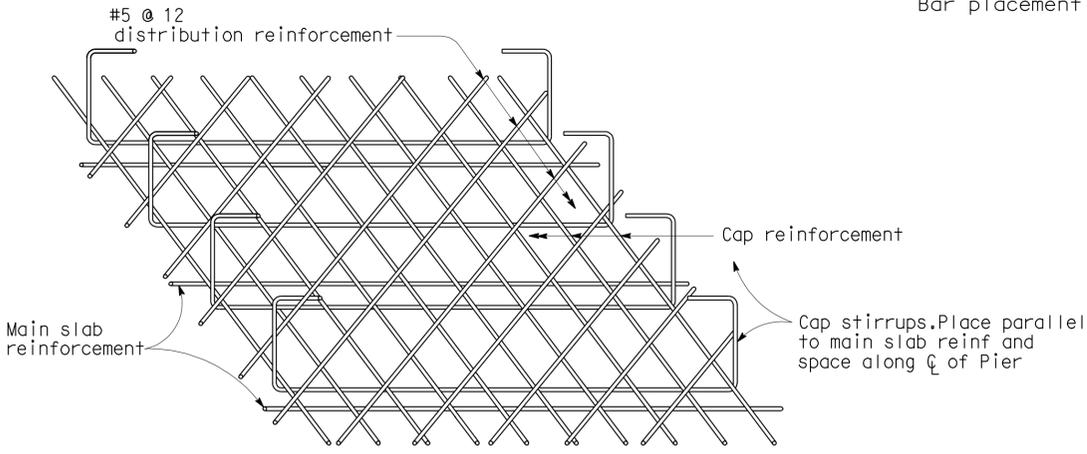
**REINFORCEMENT NOTES:**

Splices in top main bars to be located near center of span.  
 Splices in bottom main bars to be located near Pier.  
 Spacing of all transverse bars is measured along  $\phi$  roadway.  
 Skew 0° to 20°: Place all transverse bars parallel to Pier.  
 Skew over 20°: Place transverse slab bars perpendicular to  $\phi$  bridge. See details at right and below.



**TOP SLAB REINFORCEMENT AT PIER**

Note: View for main span over 23'.  
 Bar placement similar for spans under 23'.



**FLUSH CAP**

**BOTTOM SLAB REINFORCEMENT AT PIER**

**SPECIAL DETAILS**  
 NO SCALE

DESIGN	BY C. Siegenthaler	CHECKED M. Guadamuz
DETAILS	BY A. Chen/S. Jiang	CHECKED M. Guadamuz
QUANTITIES	BY M. Quach	CHECKED T. Pinell

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH **5**

BRIDGE NO.	26-0051	<b>JACKSON CREEK OVERFLOW BRIDGE (REPLACE)</b>
POST MILE	2.94	
<b>SLAB REINFORCEMENT DETAILS</b>		

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 10  
 EA 264441

DISREGARD PRINTS BEARING EARLIER REVISION DATES

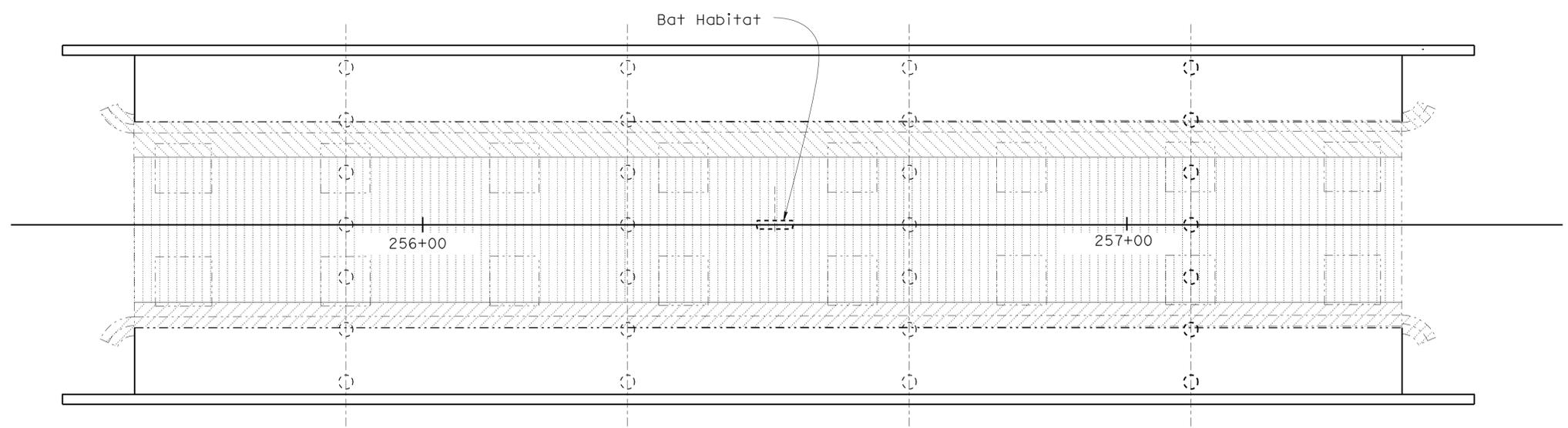
REVISION DATES									
	2-9-09	3-09-09	12-11-09						
SHEET	11	OF 16							

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	212	216

REGISTERED CIVIL ENGINEER	DATE
M. Guadamuz	3-21-11
PLANS APPROVAL DATE	
10-17-11	

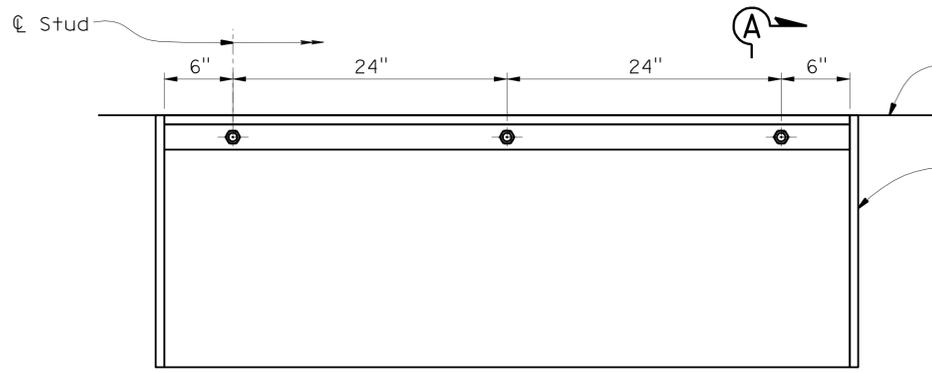
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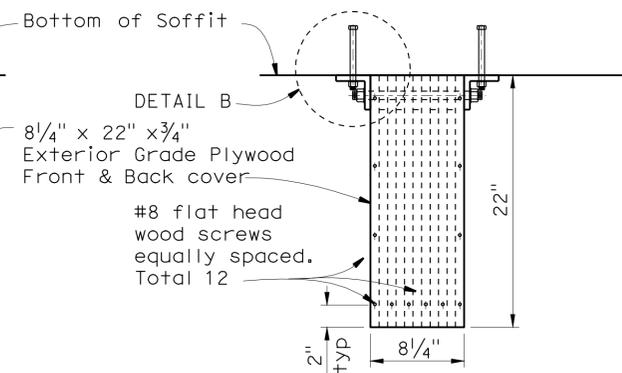
**BAT HABITAT LAYOUT PLAN**  
1" = 10'-0"

**NOTE:**

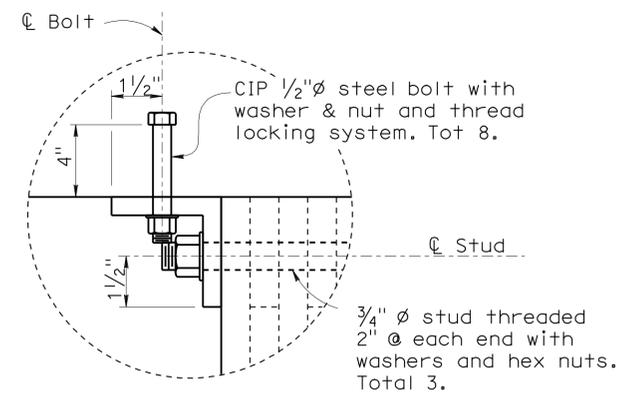
- ① Apply three coats of a water-based stain to exterior surfaces.
- ② All interior surfaces shall receive two coats of dark water-based stain.
- ③ Caulk all exterior joints to make water-tight.
- ④ Internal roost partitions shall be covered with one layer of a durable 1/8" by 1/4" plastic mesh.
- ⑤ All metallic fasteners shall be stainless steel or hot-dip galv.
- ⑥ Adjust bat habitat location, as necessary to avoid slab deck main reinforcement.



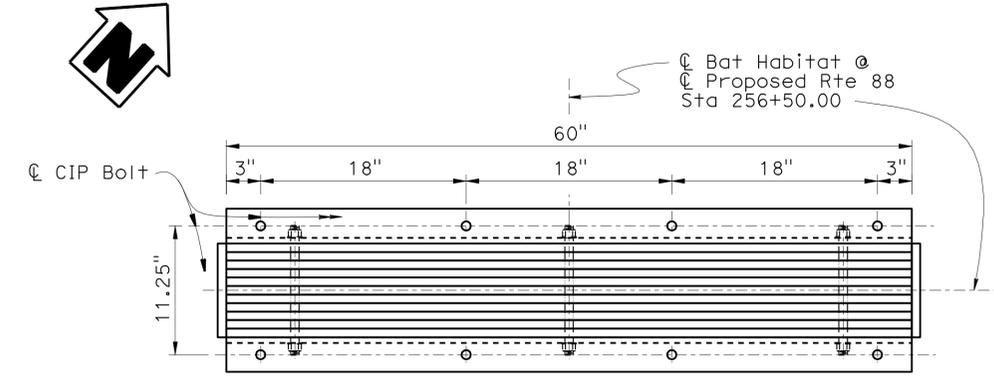
**ELEVATION VIEW**  
1/2" = 1'-0"



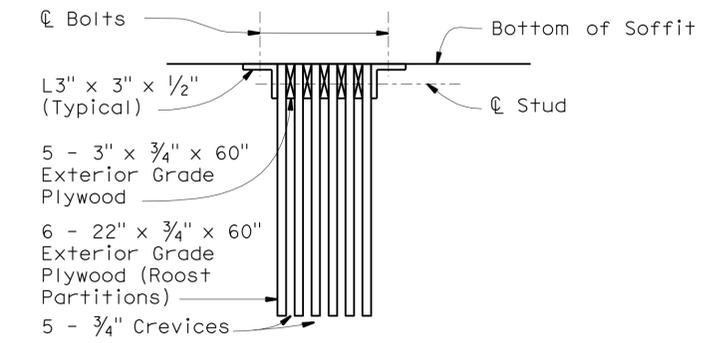
**END VIEW**  
1/2" = 1'-0"  
Front & Back similar



**DETAIL B**  
No Scale



**PLAN VIEW**  
1/2" = 1'-0"



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

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

DESIGN	BY C. Siegenthaler	CHECKED M. Guadamuz
DETAILS	BY A. Chen/S. Jiang	CHECKED M. Guadamuz
QUANTITIES	BY M. Quach	CHECKED T. Pinell

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 5**

BRIDGE NO.	26-0051	<b>JACKSON CREEK OVERFLOW BRIDGE (REPLACE)</b>
POST MILE	2.94	
<b>BAT HABITAT DETAILS</b>		

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3	CU 10 EA 264441	DISREGARD PRINTS BEARING EARLIER REVISION DATES	4-7-11	4-11-11							SHEET 12 OF 16
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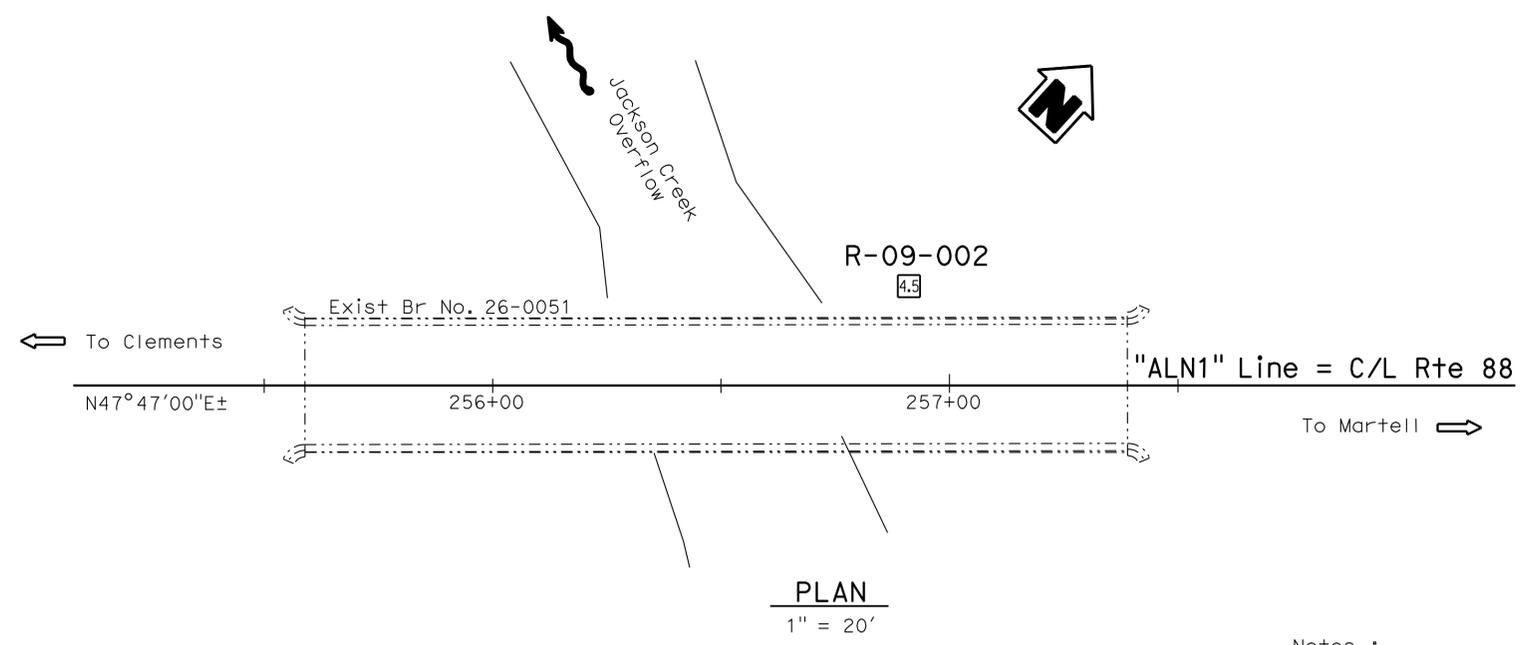
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	. 88	0.0/5.5	213	216

5-25-10  
REGISTERED CIVIL ENGINEER

10-17-11  
PLANS APPROVAL DATE

Qiang Huang  
No. C055671  
Exp. 12-31-10  
CIVIL  
STATE OF CALIFORNIA

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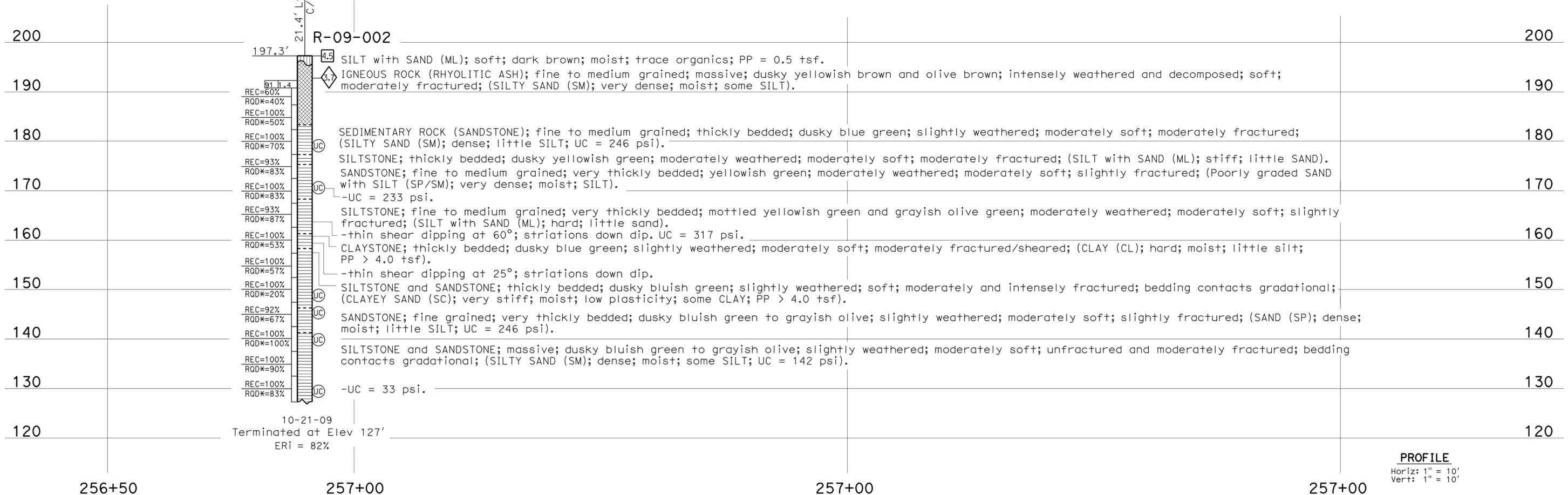


**BENCH MARK**

Northwest of southwest corner of bridge abutment (ABI).  
Fnd 1" IP w/Red Plug  
31.50' Lt C/L Rte 88  
Sta 263+32.04  
Elev 212.38'  
Vert Datum NGVD29  
Horiz Datum NAD83 (1991.85)

**Notes :**

Groundwater was not encountered in the borings. However there was water flowing in Jackson Creek and standing water under the Overflow Bridge (BR. No. 26-0051) observed during the field investigation.



<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>JACKSON CREEK OVERFLOW BRIDGE (REPLACE)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 02/10		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		26-0051		<b>LOG OF TEST BORINGS 1 OF 4</b>	
NAME: Q. Huang		CHECKED BY: C. Koepke		W. Bertucci, J. Klamecki		DESIGN BRANCH		2.94			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 10 EA 264441		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET 13 OF 16	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Amg	88	0.0/5.5	214	216

5-25-10  
REGISTERED CIVIL ENGINEER

10-17-11  
PLANS APPROVAL DATE

Qiang Huang  
No. C055671  
Exp. 12-31-10  
CIVIL  
STATE OF CALIFORNIA

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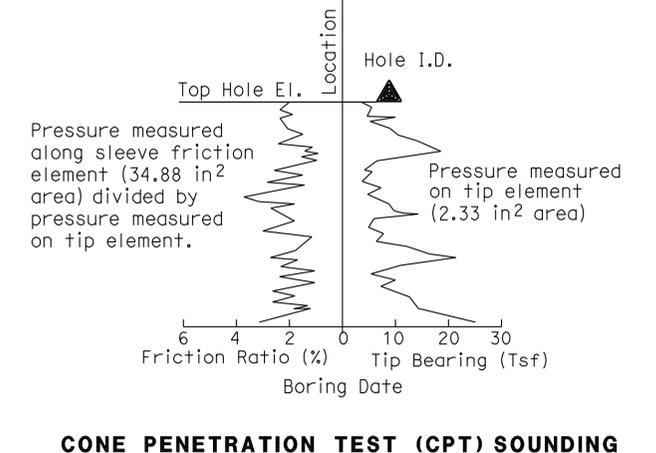
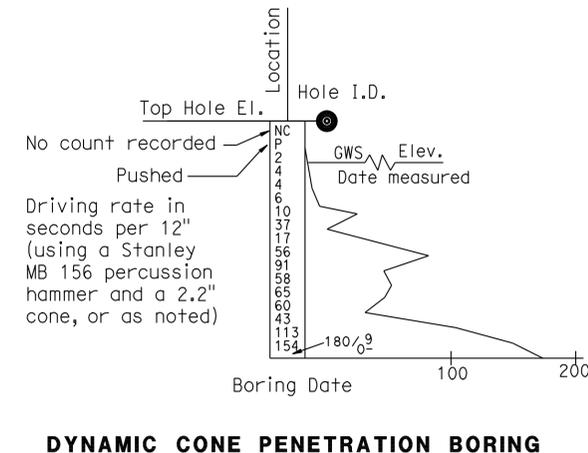
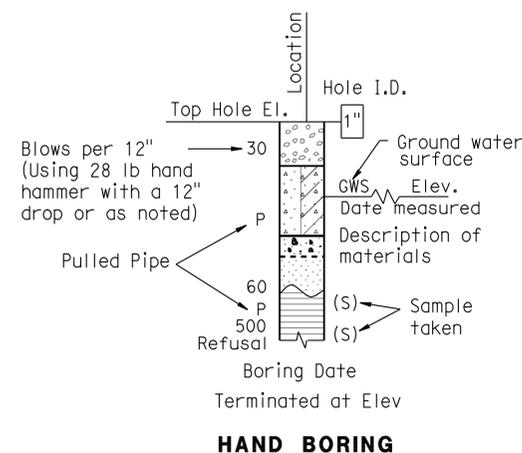
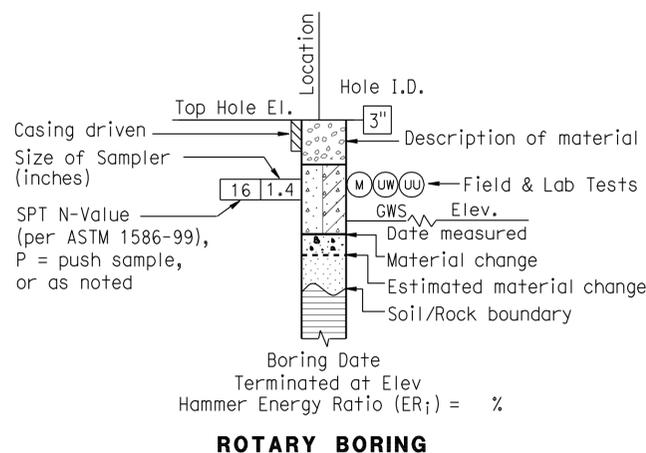
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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.



<b>ENGINEERING SERVICES</b>	<b>GEOTECHNICAL SERVICES</b>	<b>STATE OF CALIFORNIA</b>	<b>DIVISION OF ENGINEERING SERVICES</b>	<b>BRIDGE NO.</b>	<b>JACKSON CREEK OVERFLOW BRIDGE (REPLACE)</b>
	PREPARED BY: W. Tang 02/10	<b>DEPARTMENT OF TRANSPORTATION</b>	<b>STRUCTURE DESIGN</b>	26-0051	<b>LOG OF TEST BORINGS 2 OF 4</b>
			<b>DESIGN BRANCH</b>	POST MILE 2.94	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 10 EA 264441	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 14 OF 16

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Am	88	0.0/5.5	215	216

REGISTERED CIVIL ENGINEER 5-25-10  
 10-17-11  
 PLANS APPROVAL DATE  
 Qiang Huang  
 No. C055671  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA  
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GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		CL		Lean CLAY
	Well-graded GRAVEL with SAND				Lean CLAY with SAND
	Poorly graded GRAVEL		CL-ML		SANDY lean CLAY
	Poorly graded GRAVEL with SAND				GRAVELLY lean CLAY
	Well-graded GRAVEL with SILT		ML		SILT
	Well-graded GRAVEL with SILT and SAND				SILT with SAND
	Well-graded GRAVEL with CLAY (or SILTY CLAY)		OL		SANDY SILT
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)				GRAVELLY SILT
	SILTY GRAVEL		OL		ORGANIC lean CLAY
	SILTY GRAVEL with SAND				ORGANIC lean CLAY with SAND
	CLAYEY GRAVEL		OL		SANDY ORGANIC lean CLAY
	CLAYEY GRAVEL with SAND				GRAVELLY ORGANIC lean CLAY
	Well-graded SAND		CH		Fat CLAY
	Well-graded SAND with GRAVEL				Fat CLAY with SAND
	Well-graded SAND with SILT		MH		Elastic SILT
	Well-graded SAND with SILT and GRAVEL				Elastic SILT with SAND
	SILTY SAND		OH		SANDY elastic SILT
	SILTY SAND with GRAVEL				GRAVELLY elastic SILT
	CLAYEY SAND		OH		ORGANIC fat CLAY
	CLAYEY SAND with GRAVEL				ORGANIC fat CLAY with SAND
	PEAT		OL/OH		ORGANIC SOIL
	COBBLES				ORGANIC SOIL with SAND
	COBBLES and BOULDERS		OL/OH		ORGANIC SOIL with GRAVEL
	BOULDERS				SANDY ORGANIC SOIL
			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)
(UC)	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 <sub>60</sub> (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. 26-0051	JACKSON CREEK OVERFLOW BRIDGE (REPLACE)
	PREPARED BY: W. Tang 02/10			POST MILE 2.94	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 10 EA 264441	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 15 OF 16

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**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"

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**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 blows.
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.