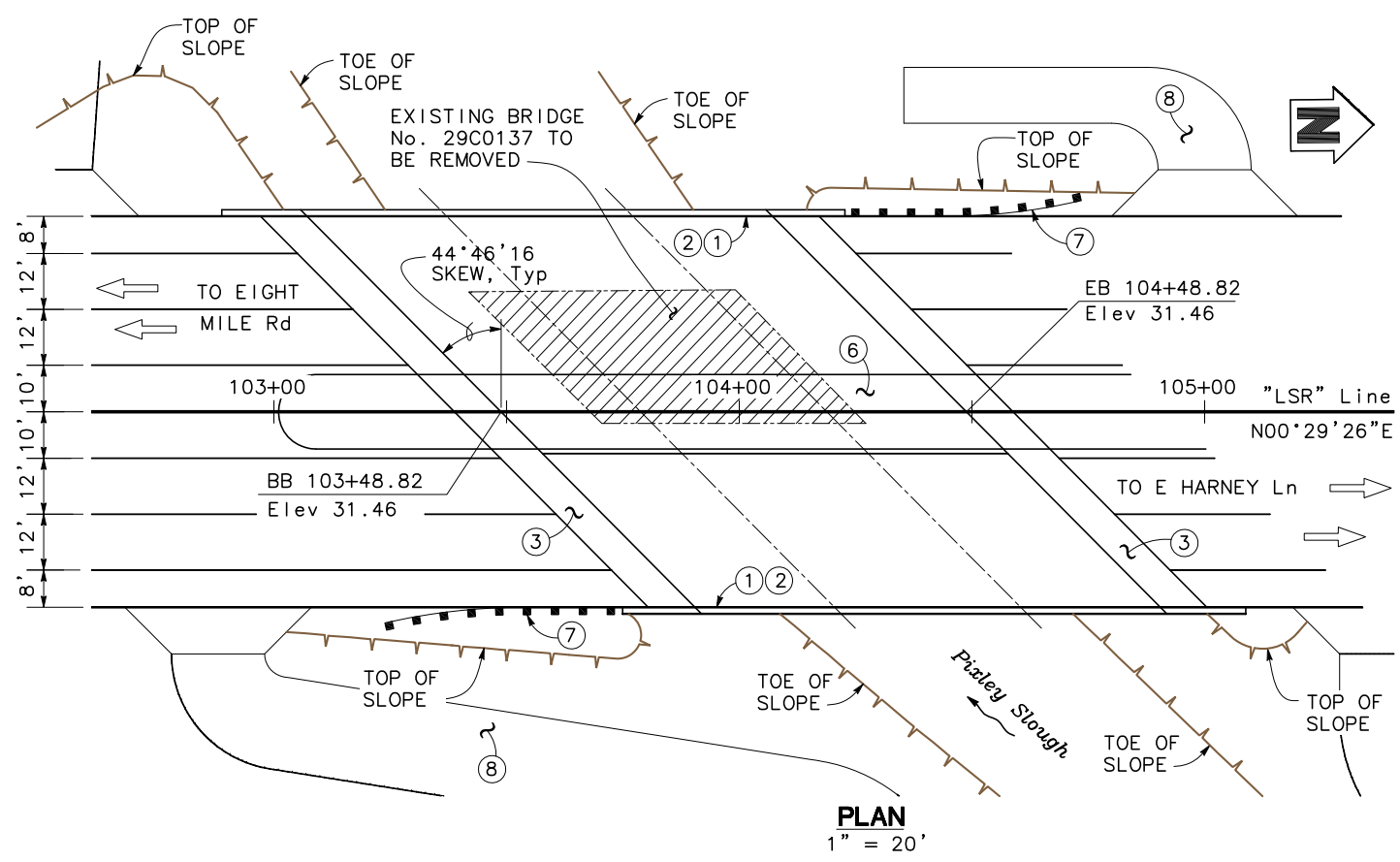
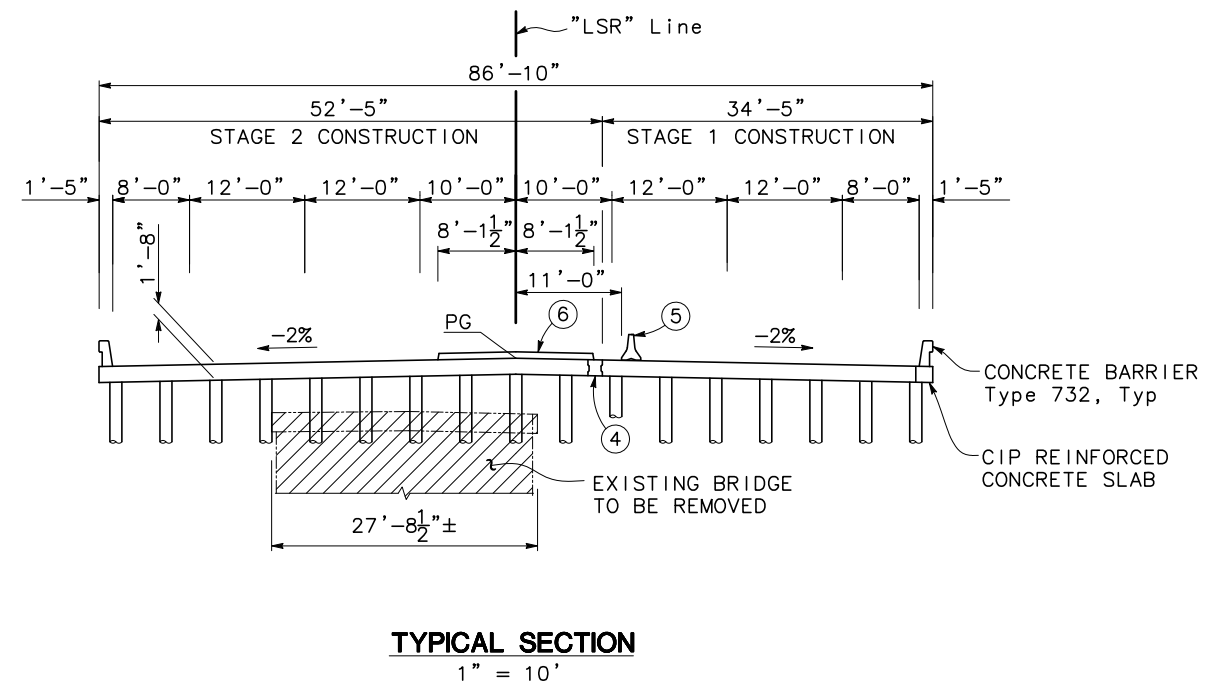
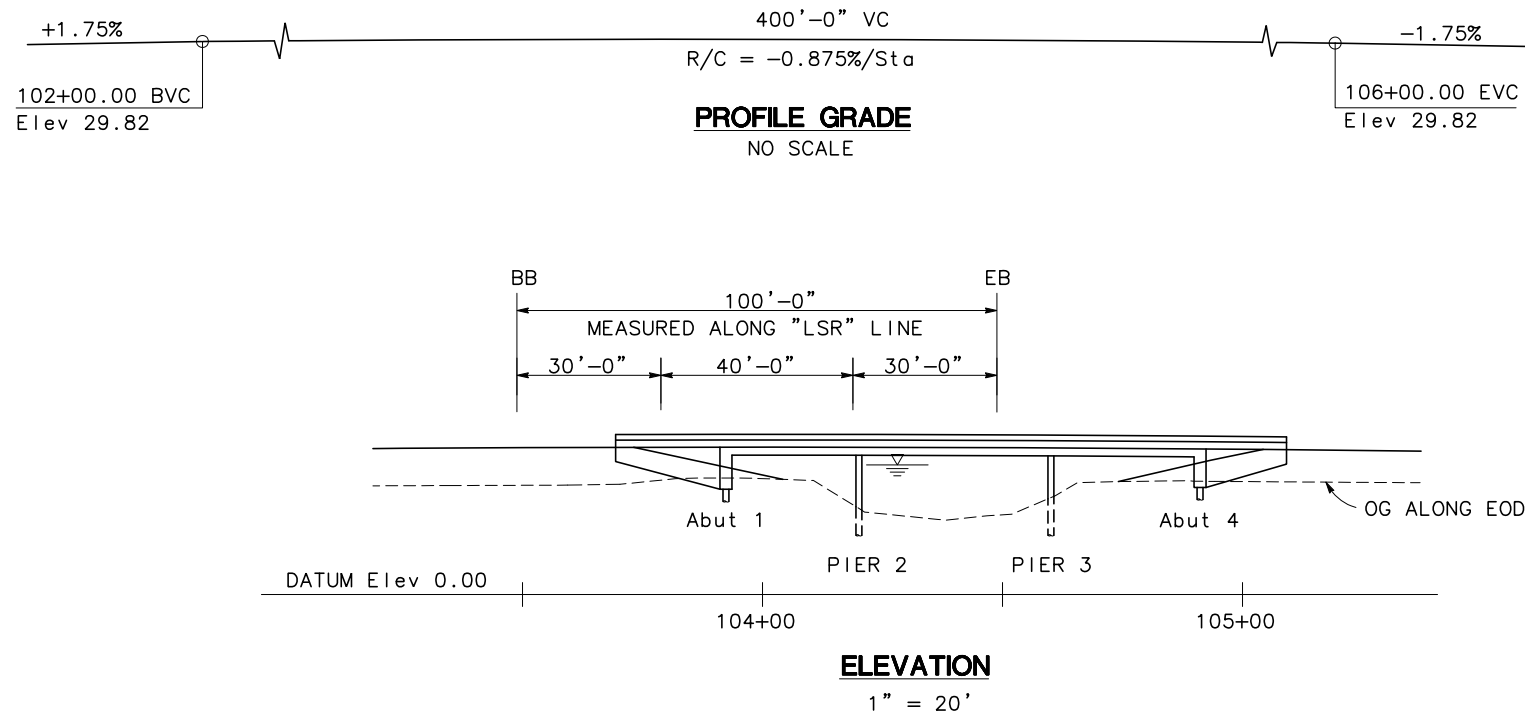


CAD USER: gboyko
 PLOT DATE: Nov 07, 2013-04:20:59pm
 FILE NAME: 01.GP
 PATH: V:\Stockton-SA-13113-Lower Sacramento Road Pixley Slough Bridge Replacement\CADD\Structure\



NOTES:

- ① Paint "PIXLEY SLOUGH BRIDGE"
- ② Paint "BR. NO. 29C0442"
- ③ Structure Approach Slab Type EQ(10)
- ④ 1'-6" Closure Pour
- ⑤ Temporary Railing (Type K)
- ⑥ Raised Median
- ⑦ MBGR, see "ROAD PLANS"
- ⑧ Access Road, see "ROAD PLANS"

For GENERAL NOTES, see "DECK CONTOURS" sheet.
 For HYDROLOGIC SUMMARY & PILE DATA TABLE, see "FOUNDATION PLAN" SHEET.

LEGEND:

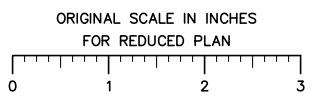
- Indicates Existing Structure
- ▨ Indicates Bridge Removal

INDEX TO PLANS

SHEET NO.	TITLE
S1	GENERAL PLAN
S2	DECK CONTOURS
S3	FOUNDATION PLAN
S4	ABUTMENT LAYOUT
S5	ABUTMENT DETAILS
S6	PIER LAYOUT
S7	PIER DETAILS
S8	TYPICAL SECTION
S9	SLAB REINFORCEMENT
S10	SLAB REINFORCEMENT DETAILS
S11	STRUCTURE APPROACH TYPE EQ(10)
S12	LOG OF TEST BORINGS 1 OF 2
S13	LOG OF TEST BORINGS 2 OF 2

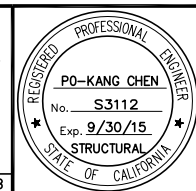
75% SUBMITTAL NOT FOR CONSTRUCTION

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



MARK THOMAS & COMPANY, INC.
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 SACRAMENTO, CALIFORNIA 95826
 (916) 381-9100 FAX: (916) 381-9180

01/13/09 | 05/20/09 | 09/26/13 | 10/14/13 | MTCO JOB NUMBER: 57-0221B



Revision No.	Description	Date	By	Appr. By

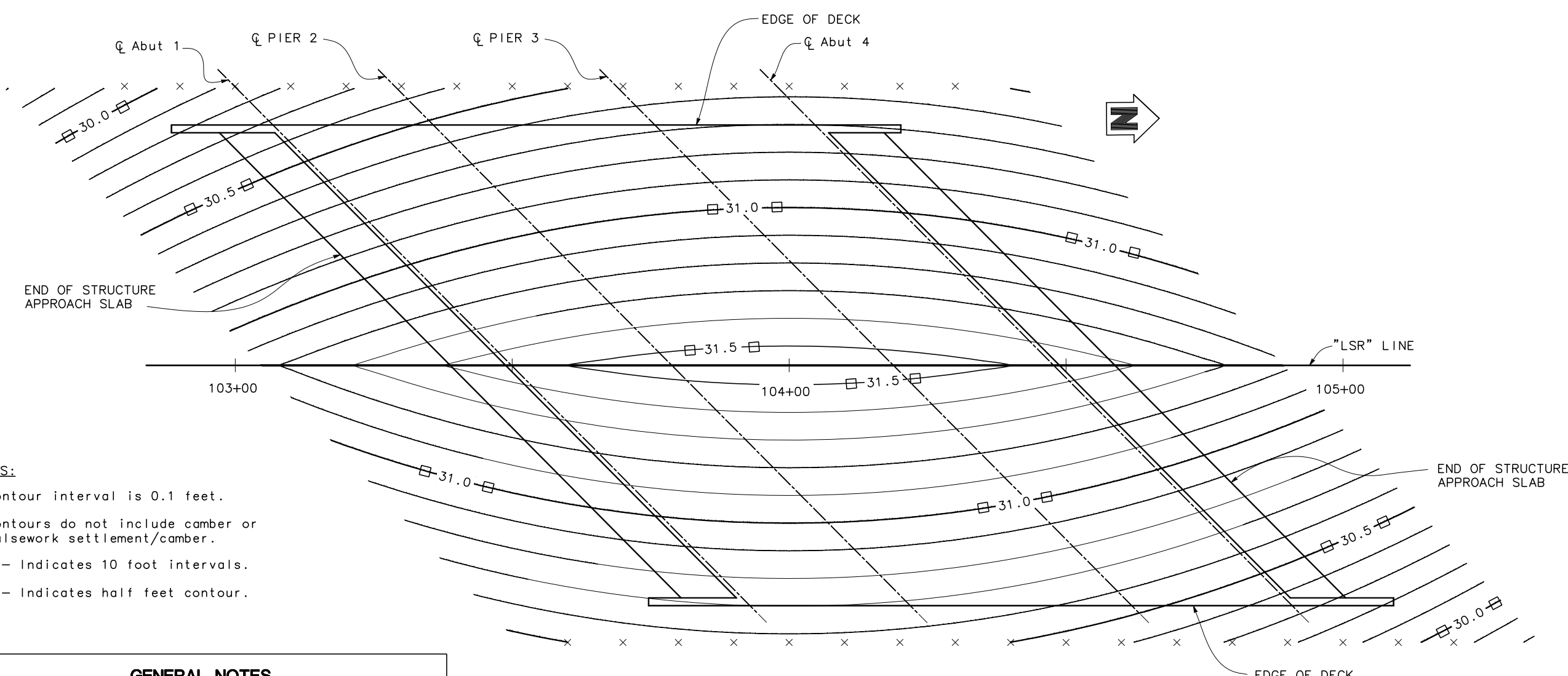
PIXLEY SLOUGH BRIDGE
GENERAL PLAN

CITY OF STOCKTON
 PUBLIC WORKS DEPARTMENT

BRIDGE NO.: 29C0442
 DESIGNED BY: JP
 DRAWN BY: GB
 CHECKED BY:
 RECORD DWG:

APPROVED BY: _____ DATE _____
 CITY ENGINEER
 STOCKTON, CALIFORNIA

SHEET NO. 31
 S1 of S13
 31 OF 43 SHEETS
 PROJECT NO. 05-17



NOTES:

- 1. Contour interval is 0.1 feet.
- 2. Contours do not include camber or falsework settlement/camber.
- 3. X - Indicates 10 foot intervals.
- 4. □ - Indicates half feet contour.

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
 AASHTO LRFD Bridge Design Specifications, 3rd edition with Interims through 2006 and the California Amendments v3.06.01

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

DEAD LOAD:
 Includes 35 psf for Future Wearing Surface

LIVE LOADING:
 HL93 and Permit Design Load

SEISMIC LOADING:
 Soil Profile Type D
 Magnitude group 7.25 ± 0.25
 Peak Rock Acceleration 0.2g

CONCRETE:
 $f_y = 60$ ksi
 $f'_c = 3.6$ ksi unless otherwise noted
 $n = 8$

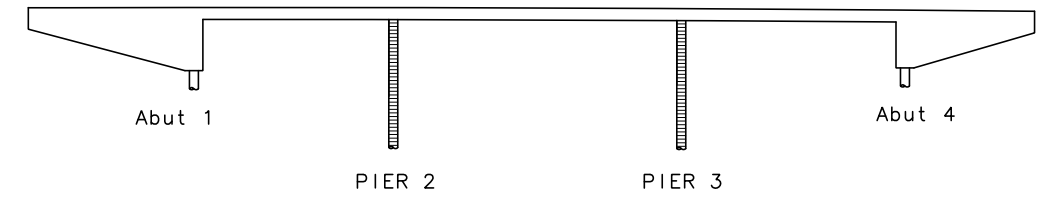
PILES:
 See Pile Data Table on "Foundation Plan" sheet

STANDARD PLANS DATED MAY, 2006

- A10A & A10B ACRONYMS AND ABBREVIATIONS
- A10C & A10D SYMBOLS
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
- T3 TEMPORARY RAILING (TYPE K)
- B0-1 BRIDGE DETAILS
- B0-3 BRIDGE DETAILS
- B0-5 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- B2-5 PILE DETAILS CLASS 90 AND CLASS 140
- RSP B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- B11-55 CONCRETE BARRIER TYPE 732



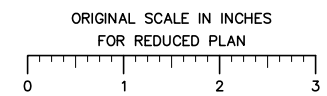
DECK CONTOURS
 3/32" = 10'



- Structural Concrete, Bridge
- ▨ Precast Prestressed Pile, see "PIER LAYOUT" sheet

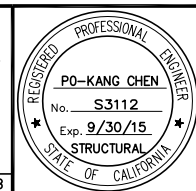
CONCRETE STRENGTH AND TYPE LIMITS
 NO SCALE

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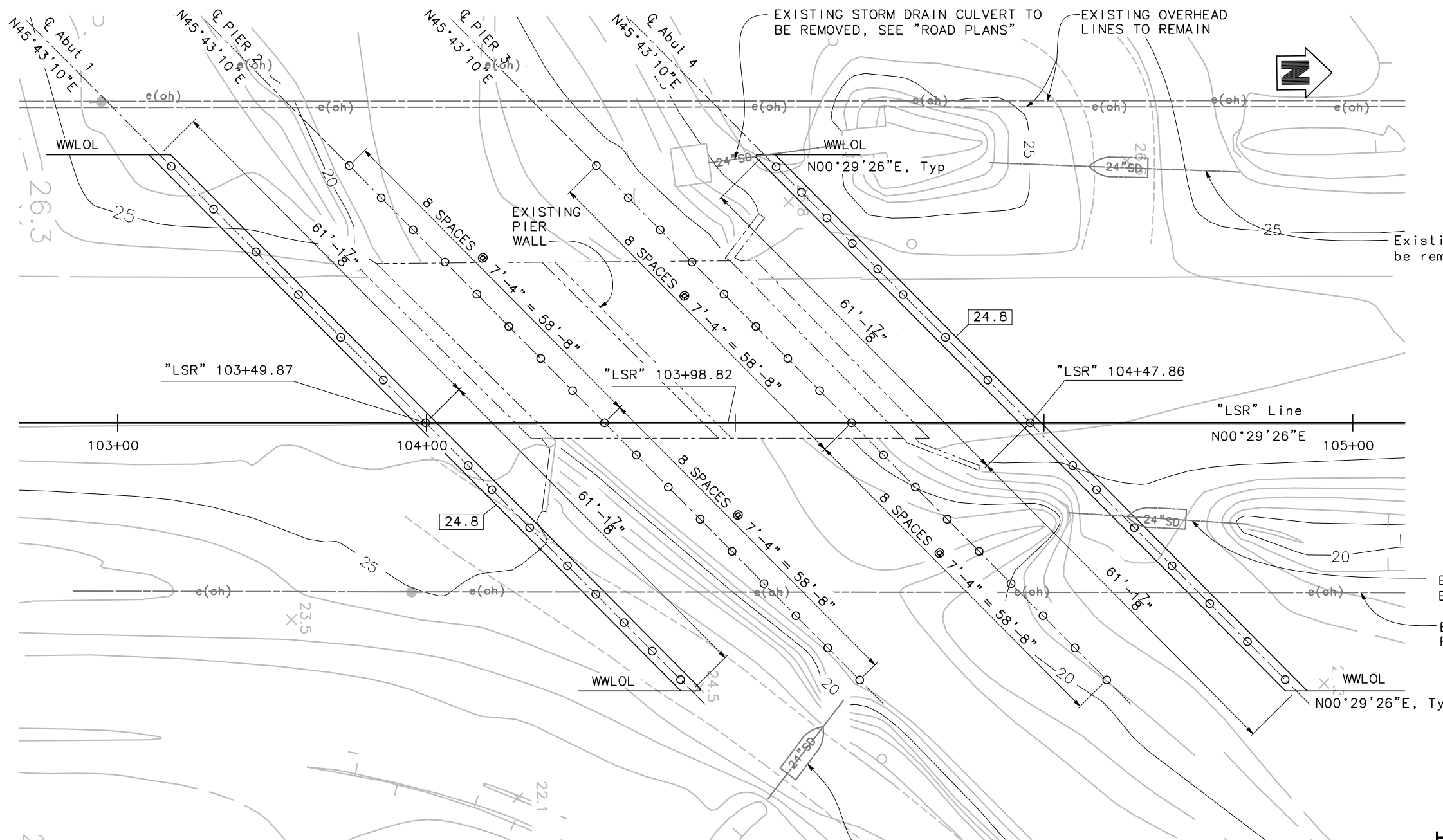
Revision No.	Description	Date	By	Appr. By

PIXLEY SLOUGH BRIDGE
DECK CONTOURS

CITY OF STOCKTON
 PUBLIC WORKS DEPARTMENT

BRIDGE NO.: 29C0442	APPROVED BY: _____	SHEET NO. 32
DESIGNED BY: JP	DATE _____	S2 of S13
DRAWN BY: GB		32 OF 43 SHEETS
CHECKED BY: _____	CITY ENGINEER STOCKTON, CALIFORNIA	PROJECT NO. 05-17
RECORD DWG: _____		

CAD USER: gboyko
 PLOT DATE: Nov 07, 2013-04:48:35pm
 FILE NAME: 03.FP
 PATH: V:\Stockton-SA-13113-Lower Sacramento Road Pixley Slough Bridge Replacement\CADD\Structure\



LEGEND

- Indicates Precast Prestressed Concrete Pile
- Indicates Existing Structure
- Indicates Bottom of Abutment

BENCHMARK

City of Stockton BM #4 Monument #1N-10, a Brass Disk in monument well located at the intersection of Davis Road and Eight Mile Road. Elevation 17.53 feet (NGVD 29 Datum)

EXISTING STORM DRAIN CULVERT TO BE REMOVED, SEE "ROAD PLANS"

EXISTING OVERHEAD LINE TO BE RELOCATED BY OTHERS

HYDROLOGIC SUMMARY

	Design Flood	Base Flood	Overtopping Flood
Frequency (Years)	N/A	100	200
Discharge (Cubic Foot per Sec)	N/A	527	624
Water Surface (Elevation at Bridge)	N/A	23.63	24.08

PLAN
 1" = 10'

PILE DATA TABLE

Location	Pile Type	Nominal Resistance (kip)		Design Tip Elevations (ft)	Specified Tip Elevations (ft)
		Compression	Tension		
Abut 1	Class 90 (Alt Y)	180	0	-5.0(a)	-5.0
Pier 2	Class 140 (Alt Y)	280	0	-28.0(a)	-28.0
Abut 3	Class 90 (Alt Y)	180	0	-5.0(a)	-5.0

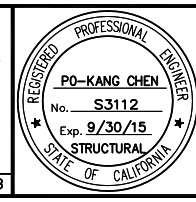
NOTE: Design tip elevations for Abutments and Pier are controlled by (a) Compression.

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PIXLEY SLOUGH BRIDGE		
FOUNDATION PLAN		
CITY OF STOCKTON PUBLIC WORKS DEPARTMENT		
BRIDGE NO.: 29C0442	APPROVED BY: _____	SHEET NO. 33
DESIGNED BY: JP	DATE _____	S3 of S13
DRAWN BY: GB		33 OF 43 SHEETS
CHECKED BY: _____	CITY ENGINEER STOCKTON, CALIFORNIA	PROJECT NO. 05-17
RECORD DWG: _____		

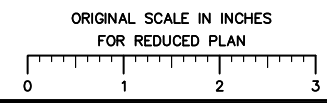
MARK THOMAS & COMPANY, INC.
 7300 FOLSOM BOULEVARD, SUITE 203
 SACRAMENTO, CALIFORNIA 95826
 (916) 381-9100 FAX: (916) 381-9180

01/13/09 09/20/13 10/16/13 MTCO JOB NUMBER: 57-0221B

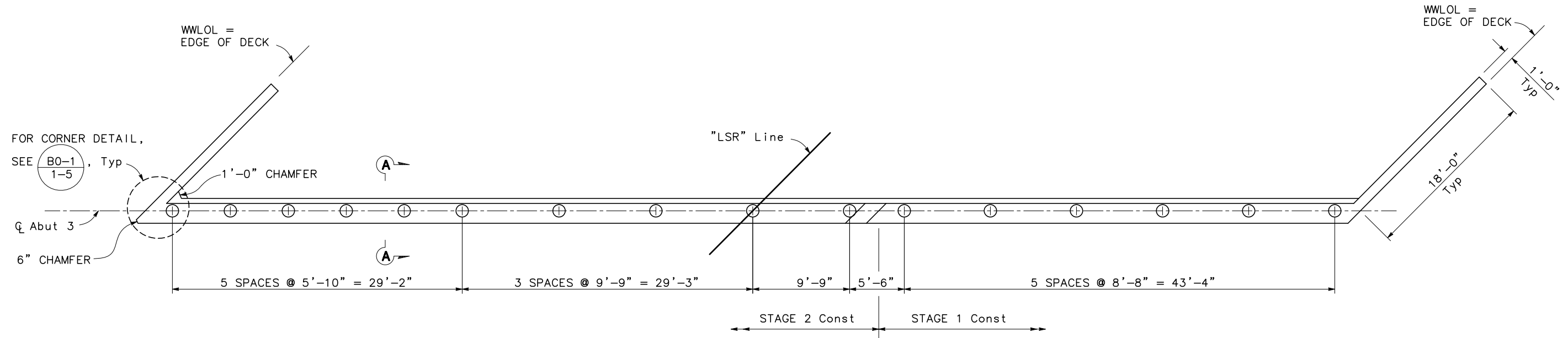


Revision No.	Description	Date	By	Appr. By

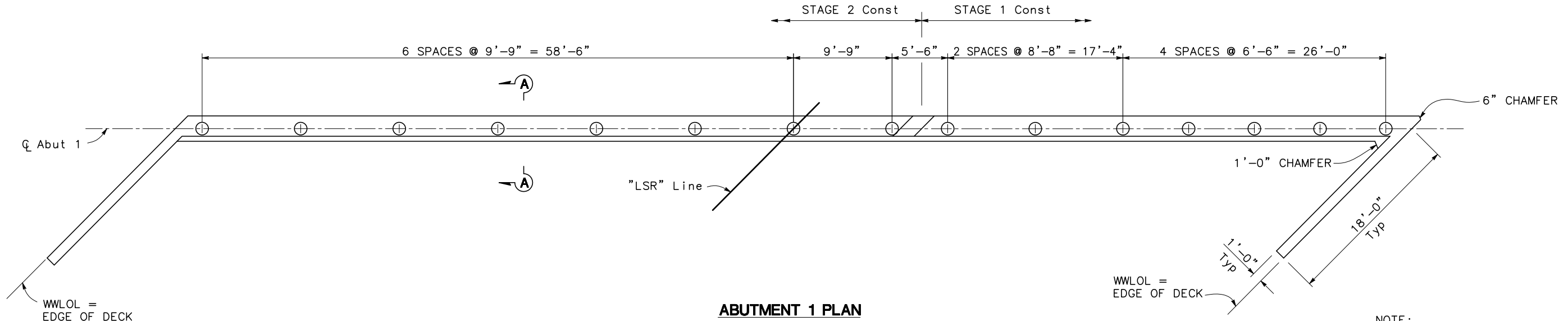
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



FILE NAME: 04-05 AL
 PLOT DATE: Nov 07, 2013-04:25:22pm
 CAD USER: gboyko



ABUTMENT 3 PLAN
 3/16" = 1'-0"



ABUTMENT 1 PLAN
 3/16" = 1'-0"

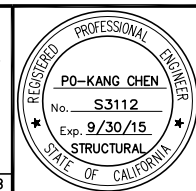
NOTE:
 For "SECTION A-A", see "ABUTMENT DETAILS" sheet.

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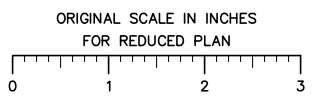
PIXLEY SLOUGH BRIDGE			
ABUTMENT LAYOUT			
CITY OF STOCKTON PUBLIC WORKS DEPARTMENT			
BRIDGE NO.: 29C0442	APPROVED BY:	SHEET NO. 34	
DESIGNED BY: JP	DATE	S4 of S13	
DRAWN BY: GB		34 OF 43 SHEETS	
CHECKED BY:	CITY ENGINEER STOCKTON, CALIFORNIA	PROJECT NO. 05-17	
RECORD DWG:			

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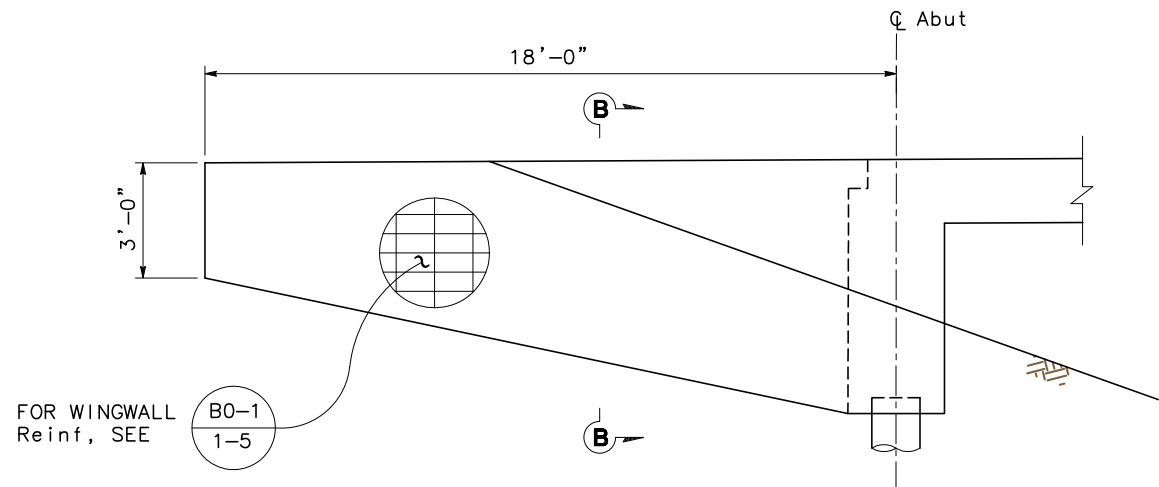
01/13/09 | 09/26/13 | 10/16/13 | MTCO JOB NUMBER: 57-0221B



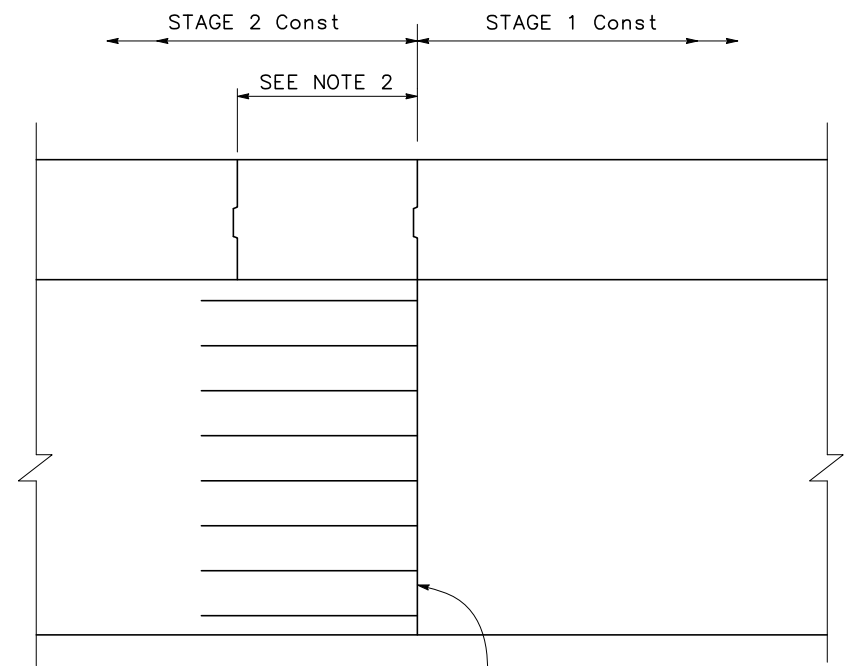
Revision No.	Description	Date	By	Appr. By



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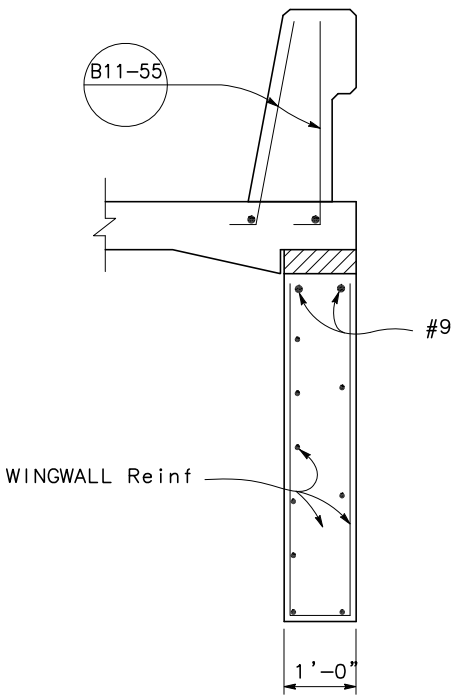


WINGWALL ELEVATION
NO SCALE



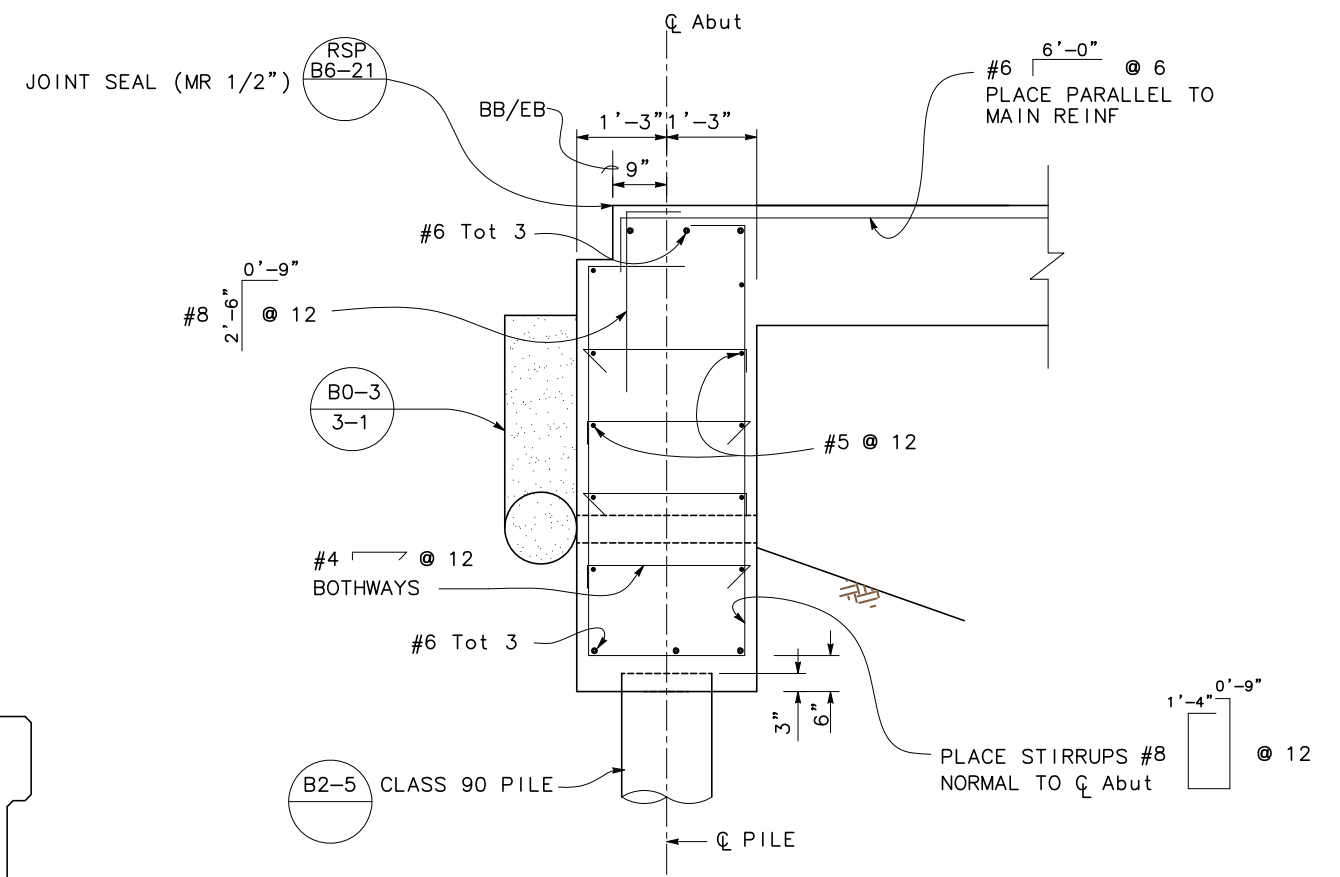
- NOTES:
1. Piles not shown
 2. Abut 3 shown, Abut 1 similar

PARTIAL ELEVATION
3/4" = 1'-0"



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

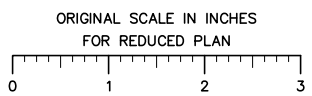
Note: For wingwall details not shown, see **B0-1**



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

NOTES:

1. Backfill behind abutment not to be placed higher than fill at front of abutment until superstructure is in place. Backfill to be placed uniformly at both abutments to equalize wall pressures.
2. Extend abutment reinforcement 3'-0" beyond construction joint to lap with Stage 2 Construction. Alternatively, Contractor may use mechanical butt (service) splices.



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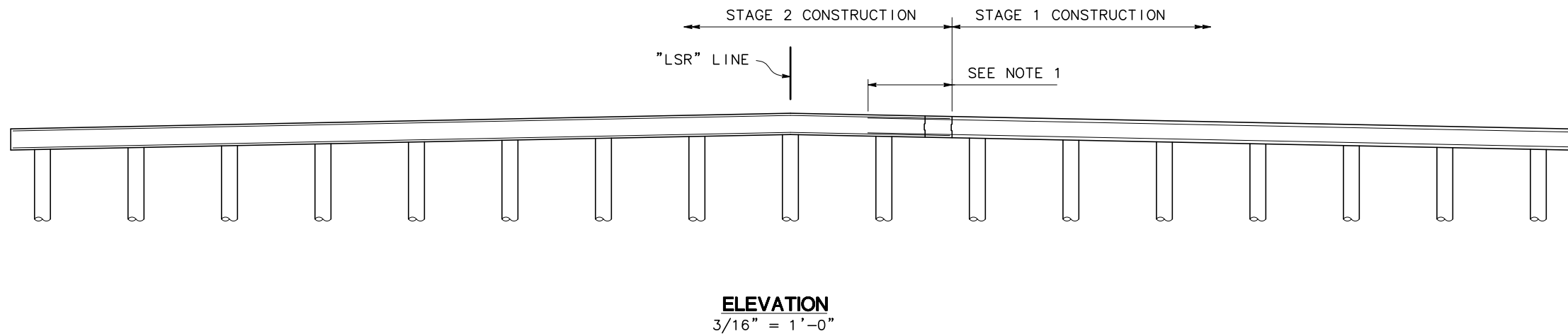
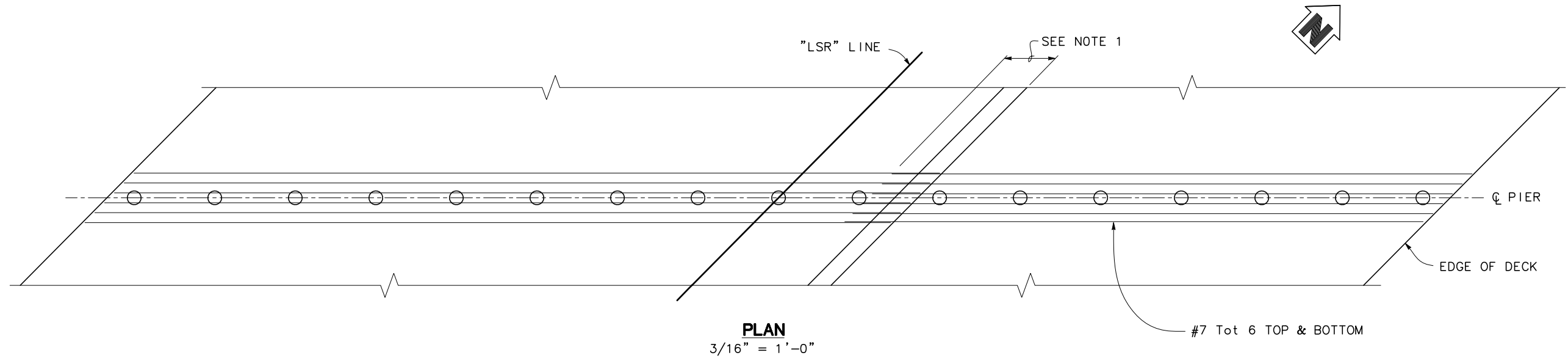
01/13/09 09/20/13 10/16/13 MTCO JOB NUMBER: 57-0221B

REGISTERED PROFESSIONAL ENGINEER
 PO-KANG CHEN
 No. S3112
 Exp. 9/30/15
 STRUCTURAL
 STATE OF CALIFORNIA

Revision No.	Description	Date	By	Appr. By

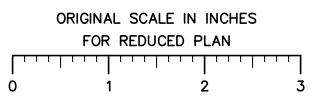
PIXLEY SLOUGH BRIDGE
ABUTMENT DETAILS
 CITY OF STOCKTON
 PUBLIC WORKS DEPARTMENT

BRIDGE NO.: 29C0442	APPROVED BY: _____	SHEET NO. 35
DESIGNED BY: JP	DATE _____	S5 of S13
DRAWN BY: GB	CITY ENGINEER STOCKTON, CALIFORNIA	35 OF 43 SHEETS
CHECKED BY: _____		PROJECT NO. 05-17
RECORD DWG: _____		



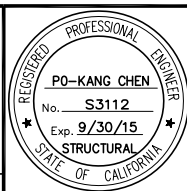
NOTES:
1. Extend main cap reinforcement 4'-6" beyond construction joint to lap with Stage 2 construction joint.

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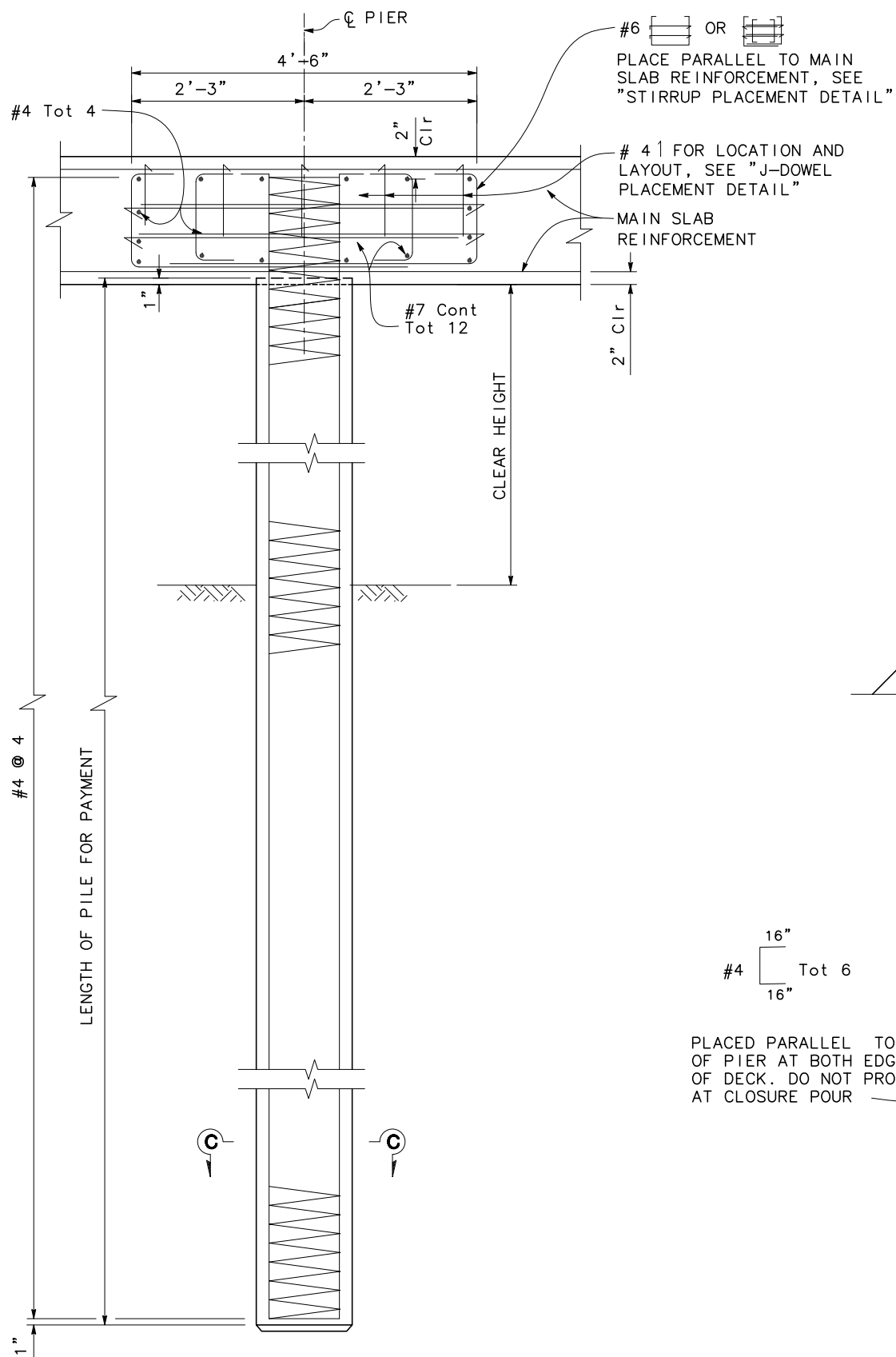
MARK THOMAS & COMPANY, INC.
7300 FOLSOM BOULEVARD, SUITE 203
SACRAMENTO, CALIFORNIA 95826
(916) 381-9100 FAX: (916) 381-9180

01/13/09 | 09/26/13 | 10/16/13 | MTCO JOB NUMBER: 57-0221B

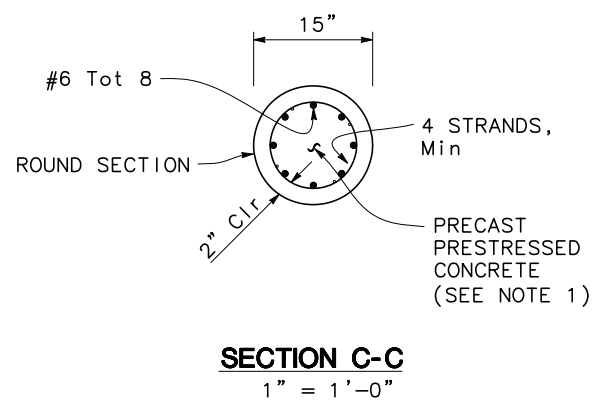


Revision No.	Description	Date	By	Appr. By

PIXLEY SLOUGH BRIDGE		
PIER LAYOUT		
CITY OF STOCKTON PUBLIC WORKS DEPARTMENT		
BRIDGE NO.: 29CO442	APPROVED BY: _____ DATE	SHEET NO. 36
DESIGNED BY: JP		S6 of S13
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CHECKED BY:	CITY ENGINEER STOCKTON, CALIFORNIA	PROJECT NO. 05-17
RECORD DWG:		



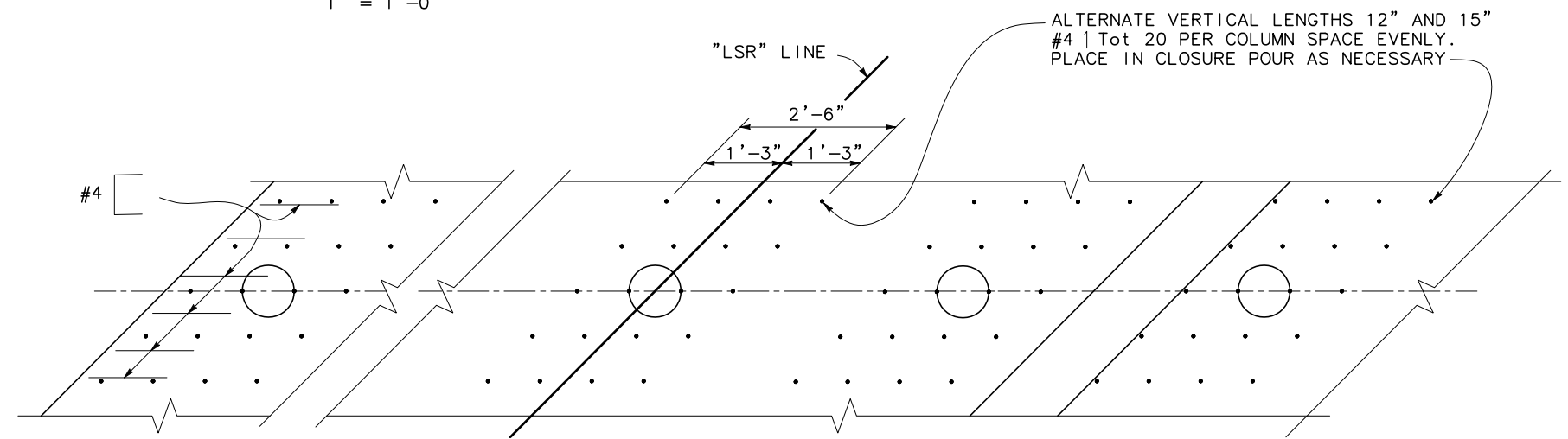
PIER DETAIL
 1" = 1'-0"



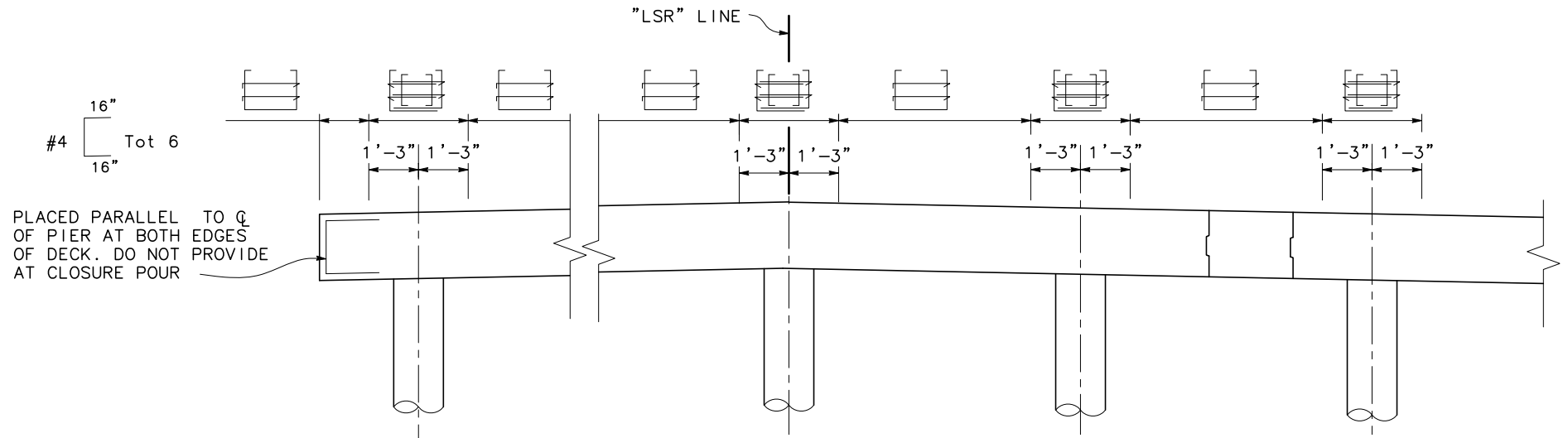
SECTION C-C
 1" = 1'-0"

NOTES:

1. For the prestressed concrete pile:
 - A. The prestress force after all losses shall provide 725 psi minimum stress and shall not be less than 130,000 lbs.
 - B. The concrete strength shall not be less than 4000 psi at transfer and 5,000 psi at 28 days.
2. No splices allowed in longitudinal pile reinforcement within the "clear height" or within 10'-0" below the ground line.
3. Lapped splices in spiral pile reinforcement shall be lapped 80 bar diameters minimum. Spiral pile reinforcement at splices and at ends shall be terminated by a 135° hook with 6" tail hooked around a longitudinal bar or strand.



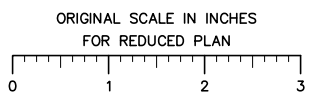
J-DOWEL PLACEMENT DETAIL
 1/2" = 1'-0"



STIRRUP PLACEMENT DETAIL
 1/2" = 1'-0"

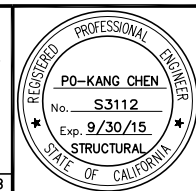
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01/13/09 | 09/26/13 | 10/25/13 | MTCO JOB NUMBER: 57-0221B



Revision No.	Description	Date	By	Appr. By

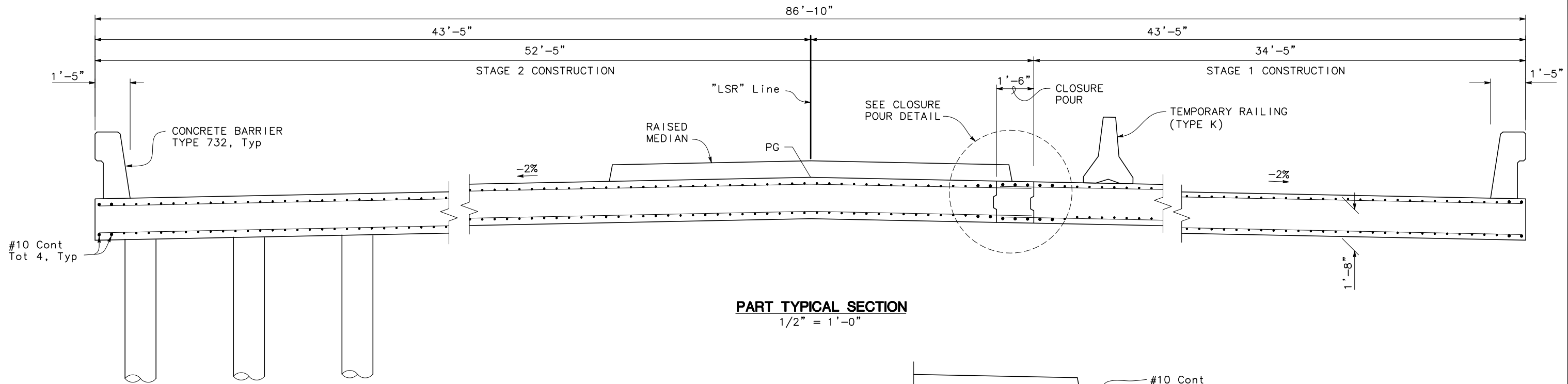
PIXLEY SLOUGH BRIDGE

PIER DETAILS

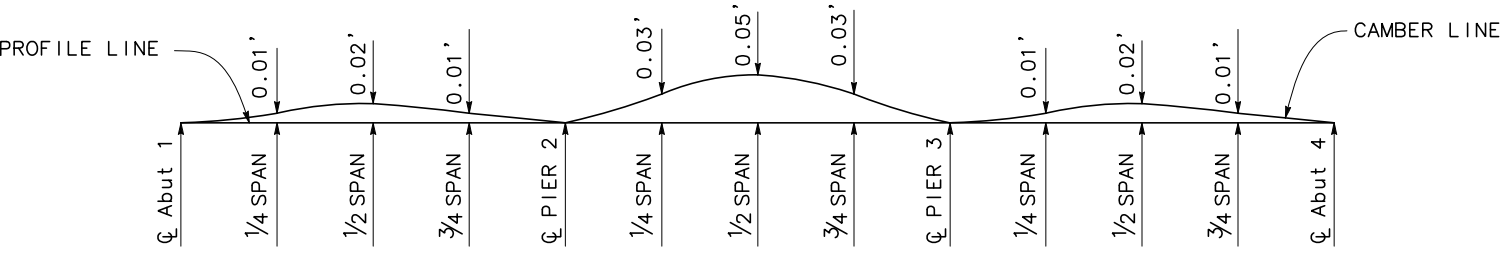
CITY OF STOCKTON
 PUBLIC WORKS DEPARTMENT

BRIDGE NO.: 29C0442	APPROVED BY: _____	SHEET NO. 37
DESIGNED BY: JP	DATE _____	S7 of S13
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CHECKED BY: _____		PROJECT NO. 05-17
RECORD DWG: _____		

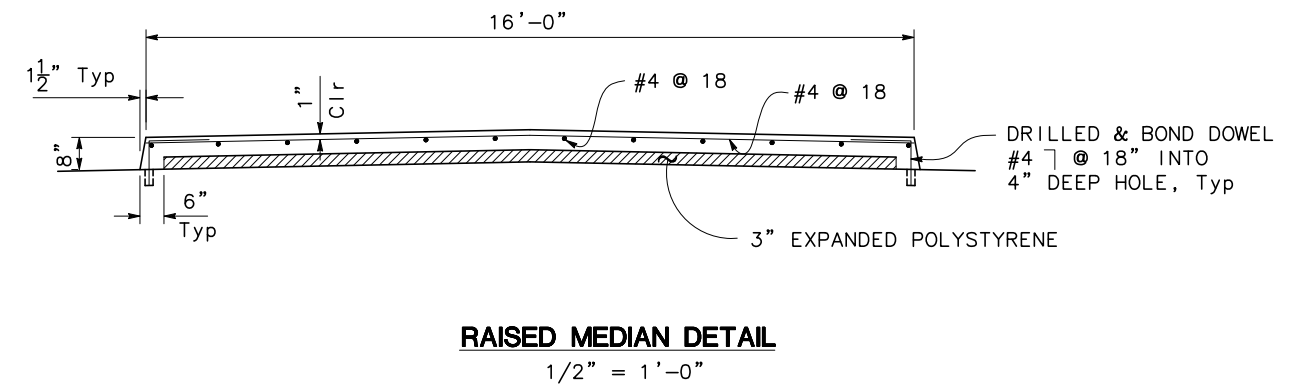
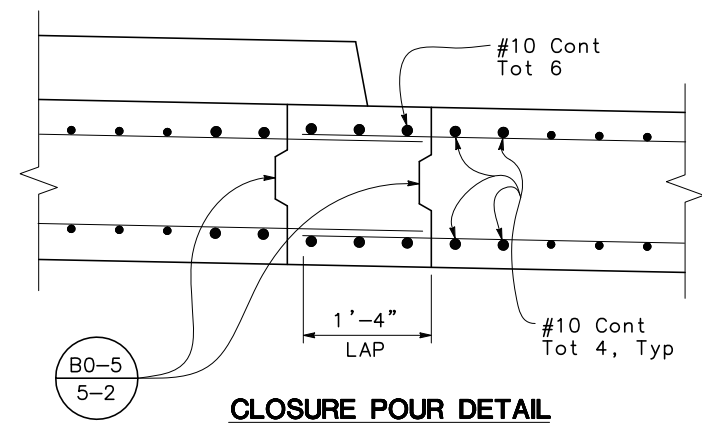
CAD USER: gboyko
 PLOT DATE: Nov 07, 2013-04:34:30pm
 FILE NAME: 08 TS
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NOTE: All plies not shown.



NOTE: Does not include allowance for falsework settlement or deflection.



FALSEWORK RELEASE NOTES

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

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

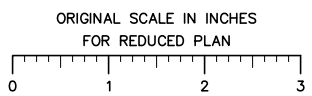
75% SUBMITTAL NOT FOR CONSTRUCTION

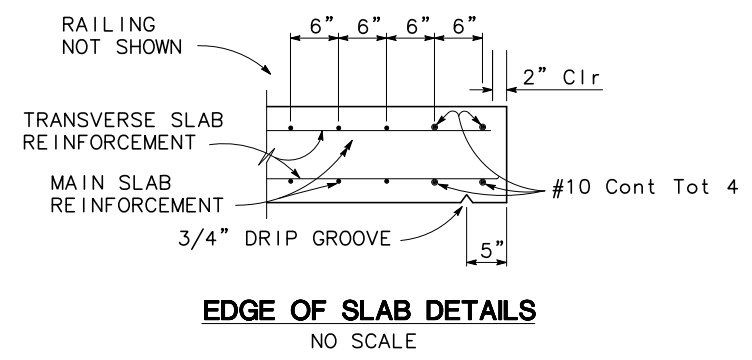
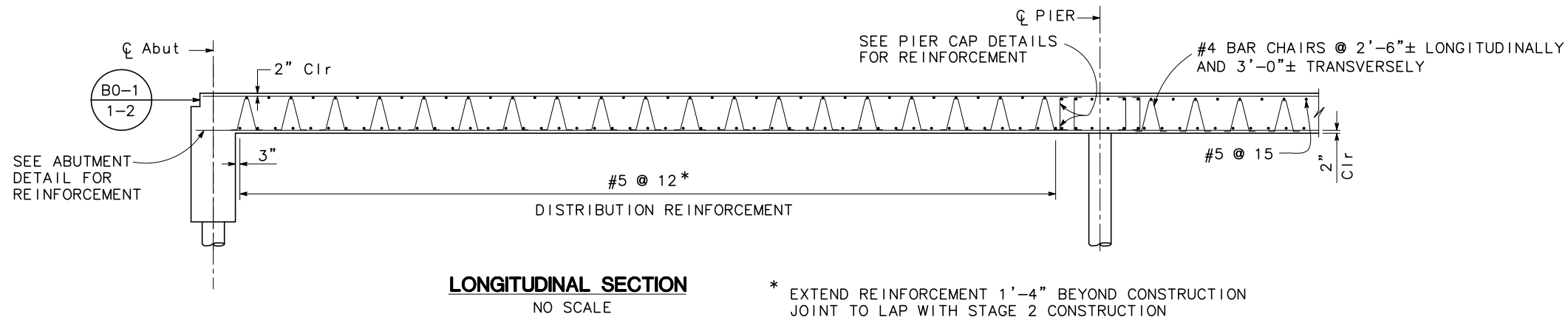
PIXLEY SLOUGH BRIDGE			
TYPICAL SECTION			
CITY OF STOCKTON PUBLIC WORKS DEPARTMENT			
BRIDGE NO.: 29C0442	APPROVED BY: _____	SHEET NO. 38	
DESIGNED BY: JP	DATE: _____	S8 of S13	
DRAWN BY: GB		38 OF 43 SHEETS	
CHECKED BY: _____	CITY ENGINEER STOCKTON, CALIFORNIA	PROJECT NO. 05-17	
RECORD DWG: _____			

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 SACRAMENTO, CALIFORNIA 95826
 (916) 381-9100 FAX: (916) 381-9180

REGISTERED PROFESSIONAL ENGINEER
 PO-KANG CHEN
 No. S3112
 Exp. 9/30/15
 STRUCTURAL
 STATE OF CALIFORNIA

01/13/09 09/26/13 10/16/13
 MTCO JOB NUMBER: 57-0221B

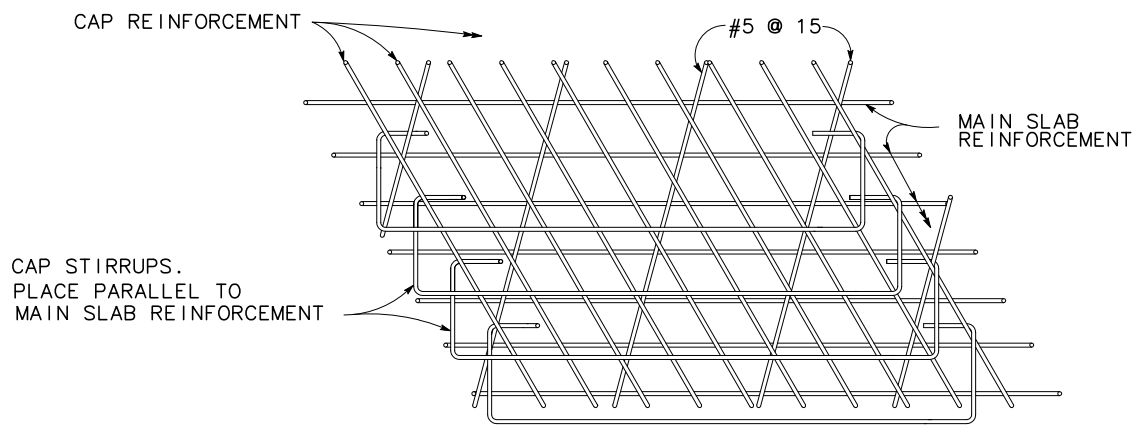




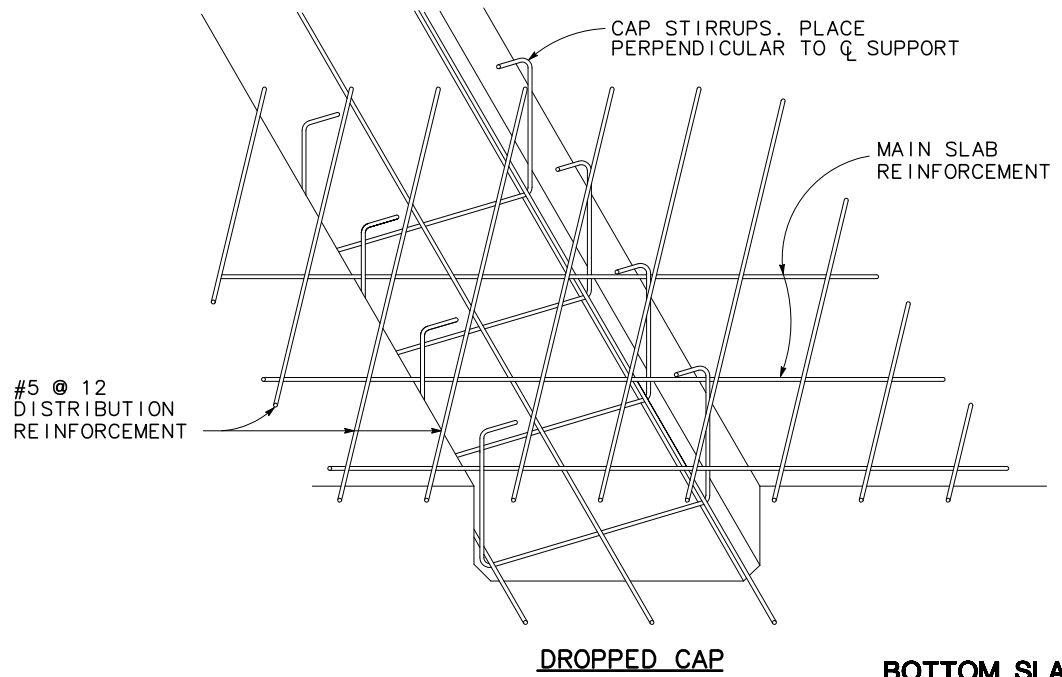
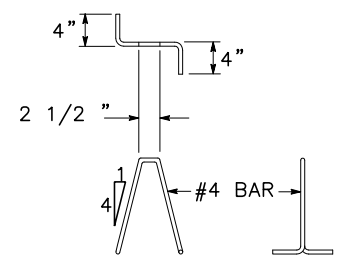
* EXTEND REINFORCEMENT 1'-4" BEYOND CONSTRUCTION JOINT TO LAP WITH STAGE 2 CONSTRUCTION

BAR SPLICE LENGTH								
Bar size	#4	#5	#6	#7	#8	#9	#10	#11
All bars, except top bars in spans over 24'	23"	28"	34"	39"	45"	68"	76"	85"
Top bars in spans over 24'	23"	28"	34"	53"	60"	77"	97"	120"

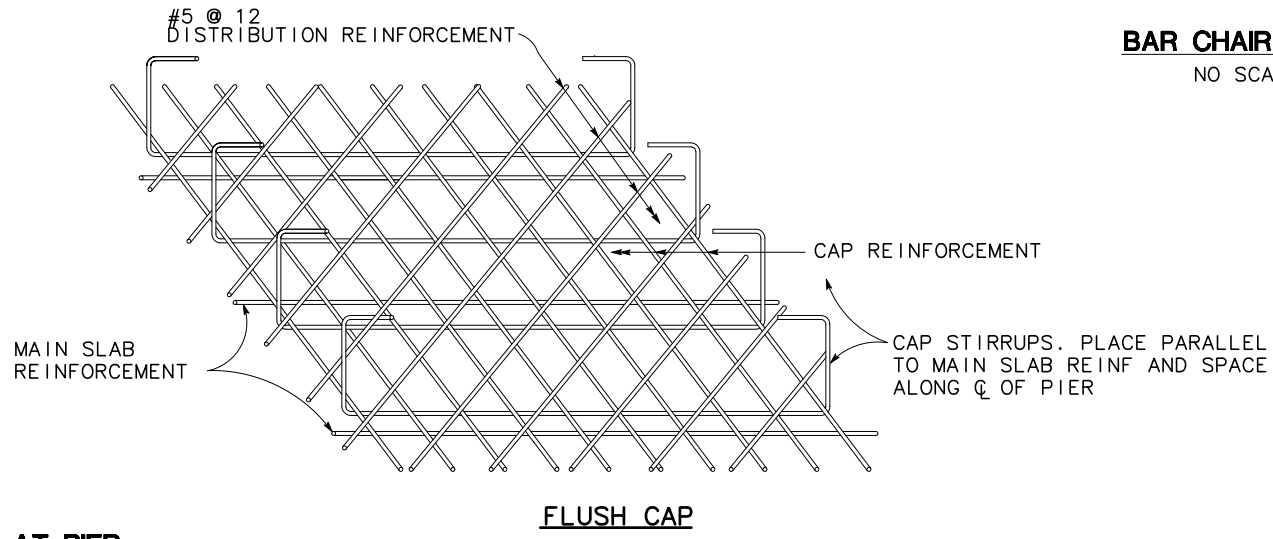
Splices in top main bars to be located near center of span.
 Splices in bottom main bars to be located near pier.
 Spacing of all transverse bars is measured along ϕ roadway.
 Skew 0° to 20° : Place all transverse bars parallel to bent.
 Skew over 20° : Place transverse slab bars perpendicular to ϕ bridge.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



NOTE: View for main span over 24'.
 Bar placement similar for spans under 24'



BOTTOM SLAB REINFORCEMENT AT PIER
 NO SCALE



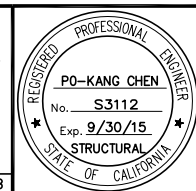
FLUSH CAP

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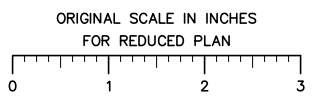
PIXLEY SLOUGH BRIDGE			
SLAB REINFORCEMENT DETAILS			
CITY OF STOCKTON PUBLIC WORKS DEPARTMENT			
BRIDGE NO.: 29C0442	APPROVED BY:	DATE	SHEET NO. 40
DESIGNED BY: JP			S10 of S13
DRAWN BY: GB			40 OF 43 SHEETS
CHECKED BY:	CITY ENGINEER		PROJECT NO.
RECORD DWG:	STOCKTON, CALIFORNIA		05-17

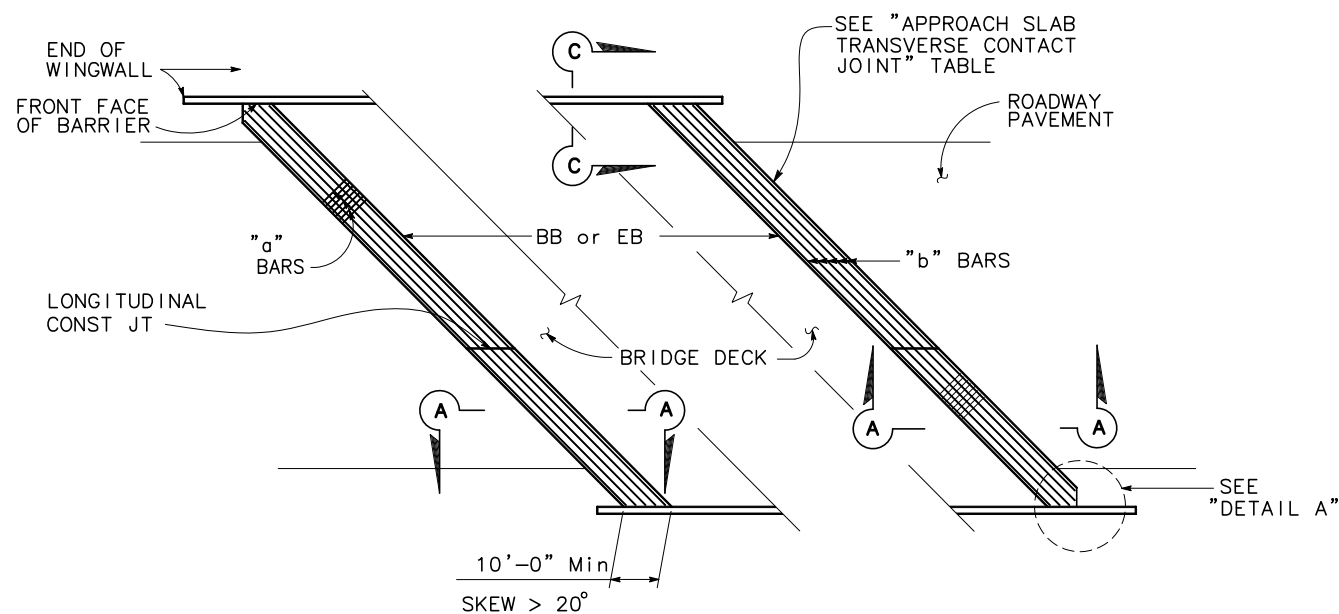
MARK THOMAS & COMPANY, INC.
 7300 FOLSOM BOULEVARD, SUITE 203
 SACRAMENTO, CALIFORNIA 95826
 (916) 381-9100 FAX: (916) 381-9180

01/13/09 10/17/13 MTCO JOB NUMBER: 57-0221B

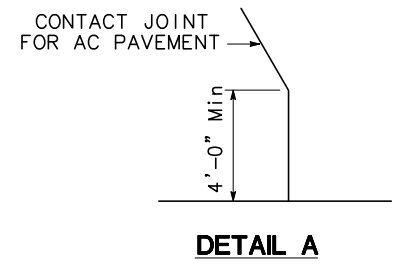


Revision No.	Description	Date	By	Appr. By

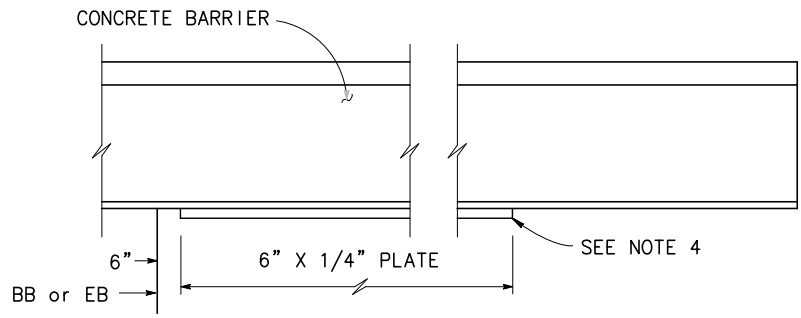




PLAN
1" = 20'

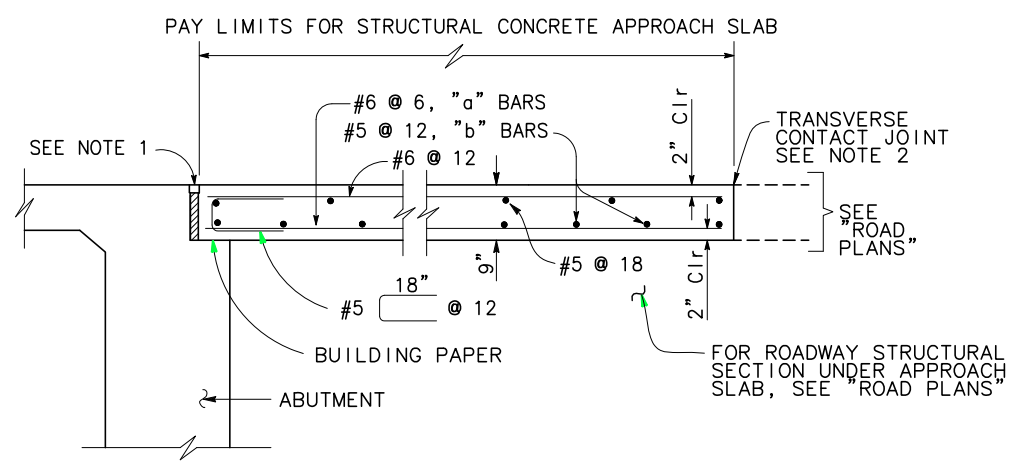


DETAIL A

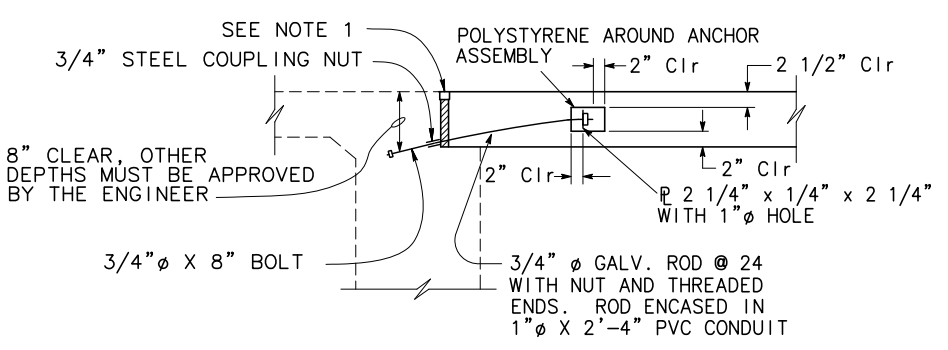


EDGE ANGLE DETAIL

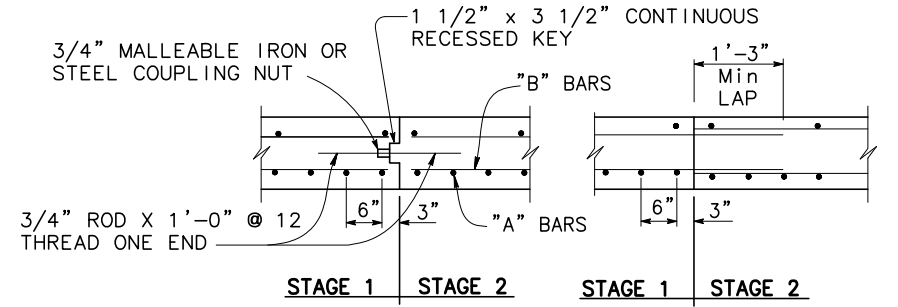
APPROACH SLAB TRANSVERSE CONTACT JOINT		
STRUCTURE SKEW	AC APPROACH PAVEMENT	PCC APPROACH PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 23'-6" to 35'-6" apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



REINFORCEMENT DETAILS

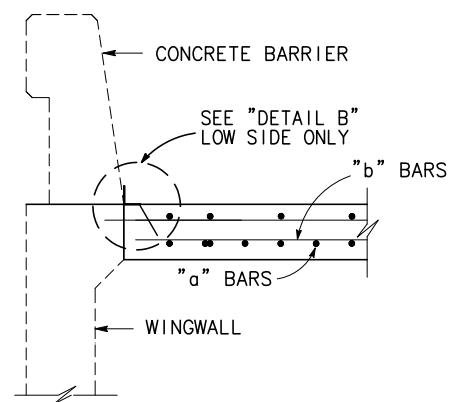


ABUTMENT TIE DETAILS

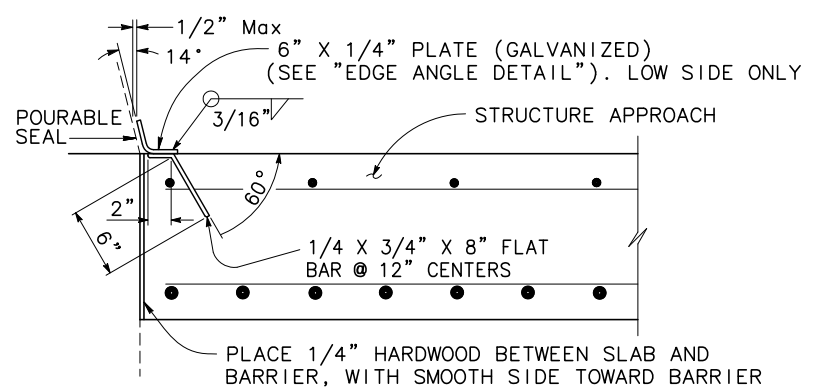


LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES
3/4" = 1'-0"

SECTION A-A



SECTION C-C

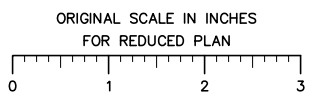


DETAIL B

NOTES:

- For details not noted or shown, see other sheets. Adjust bar reinforcement to clear a sawcut for sealed joint, when required.
- For transverse contact joint with new PCC pavings, refer to Standard Plan P10.
- End edge angle or plate at end of wingwall or end of structure approach as applicable.
- At the Contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along Q_c roadway.
- For drainage details, see "ABUTMENT DETAILS" sheet.
- Details shown are not to scale.

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REGISTERED PROFESSIONAL ENGINEER
 PO-KANG CHEN
 No. S3112
 Exp. 9/30/15
 STRUCTURAL
 STATE OF CALIFORNIA

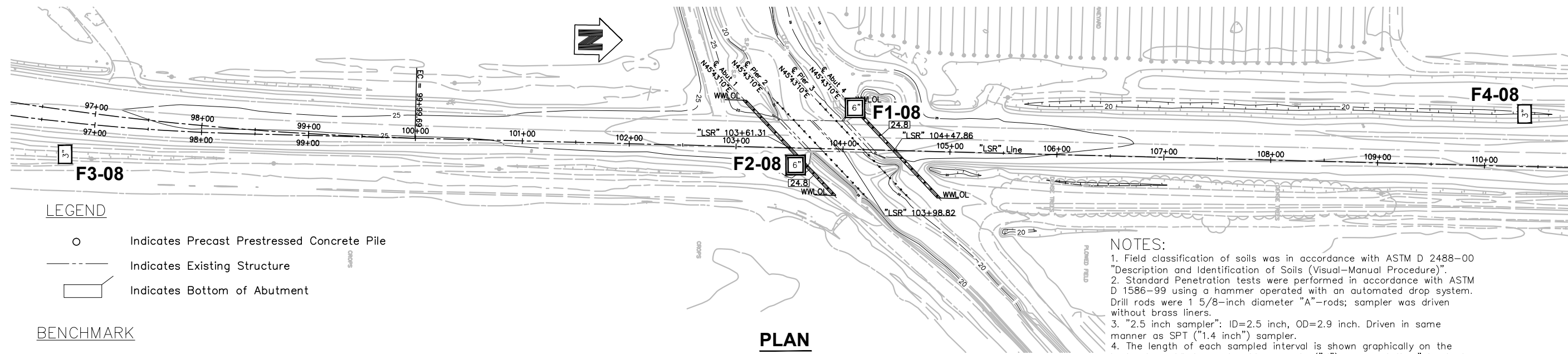
Revision No.	Description	Date	By	Appr. By

PIXLEY SLOUGH BRIDGE
STRUCTURE APPROACH TYPE EQ(10)
 CITY OF STOCKTON
 PUBLIC WORKS DEPARTMENT

BRIDGE NO.: 29C0442
 DESIGNED BY: JP
 DRAWN BY: GB
 CHECKED BY:
 RECORD DWG:

APPROVED BY: _____ DATE _____
 CITY ENGINEER
 STOCKTON, CALIFORNIA

SHEET NO. 41
 S11 of S13
 41 OF 43 SHEETS
 PROJECT NO.
 05-17



LEGEND

- Indicates Precast Prestressed Concrete Pile
- Indicates Existing Structure
- Indicates Bottom of Abutment

BENCHMARK

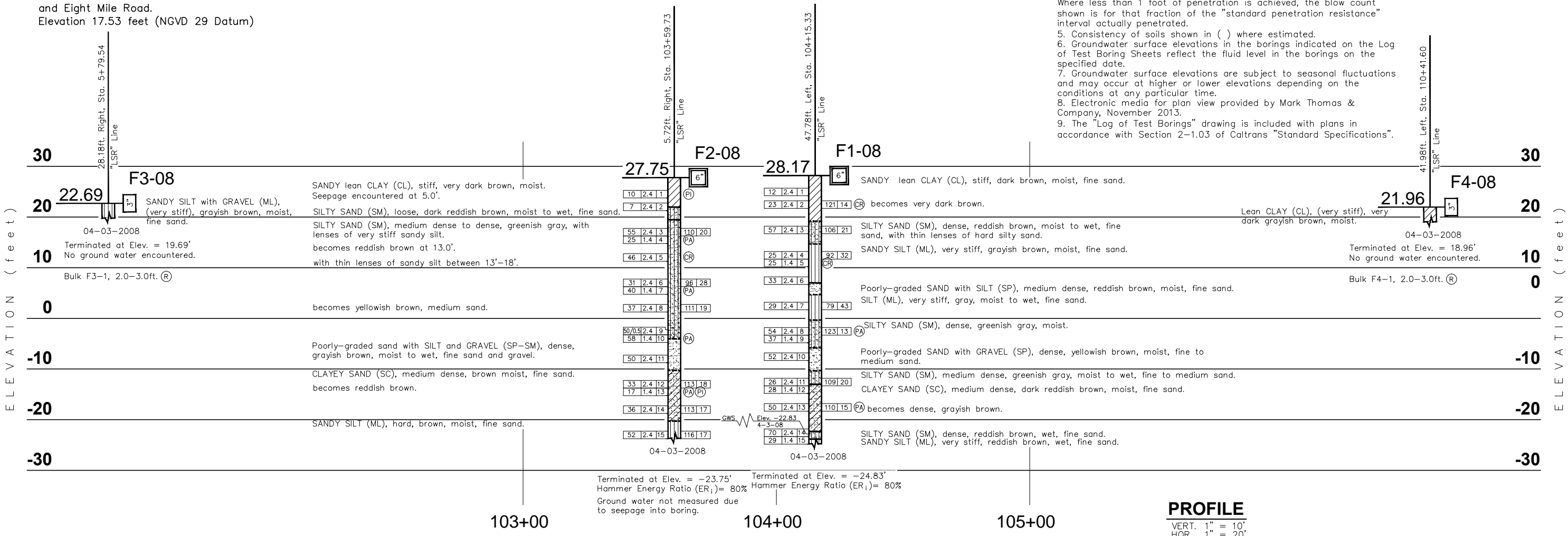
City of Stockton BM #4 Monument #N-10, a Brass Disk in monument well located at the intersection of Davis Road and Eight Mile Road.
Elevation 17.53 feet (NGVD 29 Datum)

PLAN

1" = 50'

NOTES:

1. Field classification of soils was in accordance with ASTM D 2488-00 "Description and Identification of Soils (Visual-Manual Procedure)".
2. Standard Penetration tests were performed in accordance with ASTM D 1586-99 using a hammer operated with an automated drop system. Drill rods were 1 5/8-inch diameter "A"-rods; sampler was driven without brass liners.
3. "2.5 inch sampler": ID=2.5 inch, OD=2.9 inch. Driven in same manner as SPT ("1.4 inch") sampler.
4. The length of each sampled interval is shown graphically on the boring log. Whole number blow counts ("N") represent the "standard penetration resistance" interval in accordance with ASTM D1586-99. Where less than 1 foot of penetration is achieved, the blow count shown is for that fraction of the "standard penetration resistance" interval actually penetrated.
5. Consistency of soils shown in () where estimated.
6. Groundwater surface elevations in the borings indicated on the Log of Test Boring Sheets reflect the fluid level in the borings on the specified date.
7. Groundwater surface elevations are subject to seasonal fluctuations and may occur at higher or lower elevations depending on the conditions at any particular time.
8. Electronic media for plan view provided by Mark Thomas & Company, November 2013.
9. The "Log of Test Borings" drawing is included with plans in accordance with Section 2-1.03 of Caltrans "Standard Specifications".



PROFILE

VERT. 1" = 10'
HOR. 1" = 20'

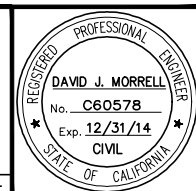
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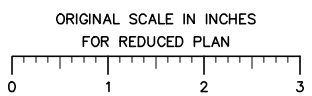
PIXLEY SLOUGH BRIDGE			
LOG OF TEST BORINGS 1 OF 2			
CITY OF STOCKTON PUBLIC WORKS DEPARTMENT			
BRIDGE NO.: 29C0442	APPROVED BY: _____	SHEET NO. 42	
DESIGNED BY: DJM	DATE _____	S12 of S13	
DRAWN BY: MDR		42 OF 43 SHEETS	
CHECKED BY: DJM		PROJECT NO. 05-17	
RECORD DWG:		CITY ENGINEER STOCKTON, CALIFORNIA	

BLACKBURN CONSULTING
2491 BOATMAN AVENUE
WEST SACRAMENTO, CALIFORNIA 95691
(916) 375-8706 FAX: (916) 375-8709

01/14/09 11/08/13 BCI JOB NUMBER: 879.4



Revision No.	Description	Date	By	Appr. By



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

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435-04)
(CL)	Collapse Potential (ASTM D 5333-03)
(CP)	Compaction Curve (CTM 216-06)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767-04)
(DS)	Direct Shear (ASTM D 3080-04)
(EI)	Expansion Index (ASTM D 4829-03)
(M)	Moisture Content (ASTM D 2216-05)
(OC)	Organic Content-% (ASTM D 2974-07)
(P)	Permeability (CTM 220-05)
(PA)	Particle Size Analysis (ASTM D 422-63) (2002)
(PI)	Plasticity Index (AASHTO T 90-00) Liquid Limit (AASHTO T 89-02)
(PL)	Point Load Index (ASTM D 5731-05)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301-00)
(SE)	Sand Equivalent (CTM 217-99)
(SG)	Specific Gravity (AASHTO T 100-06)
(SL)	Shrinkage Limit (ASTM D 427-04)
(SW)	Swell Potential (ASTM D 4546-03)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166-06)
(UR)	Unconfined Compression-Rock (ASTM D 2938-95) (2002)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850-03)
(UW)	Unit Weight (ASTM D 2937-04)
(VS)	Vane Shear (AASHTO T 223-96) (2004)
(LT)	Unconfined Compressive Strength of Lime Treated Soil/Aggregates (CTM 373-00)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ - Value (Blows / 12 in.)
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%

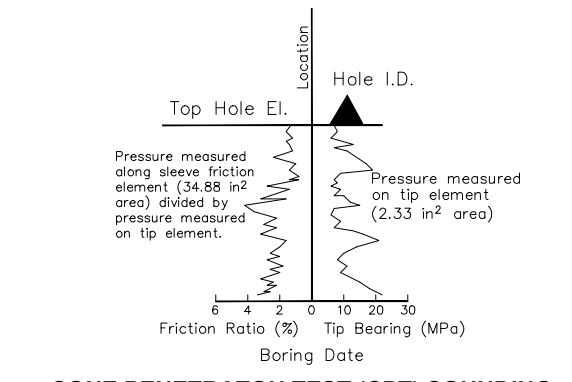
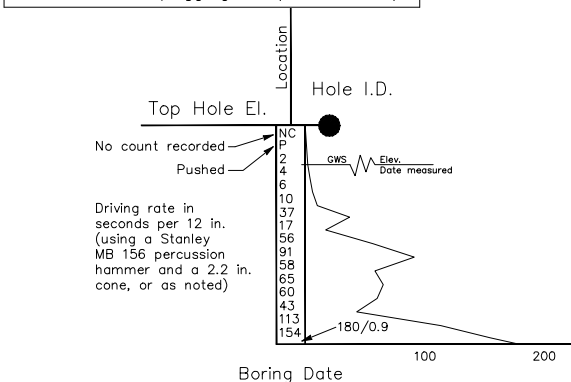
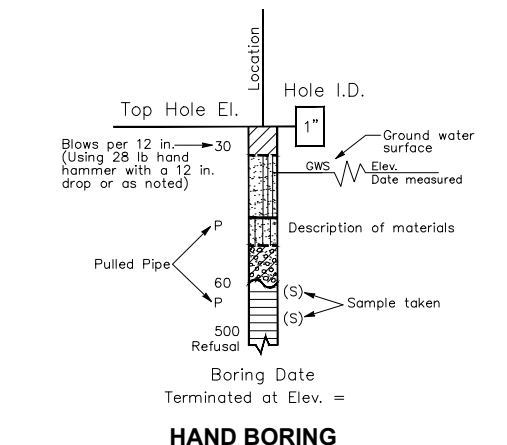
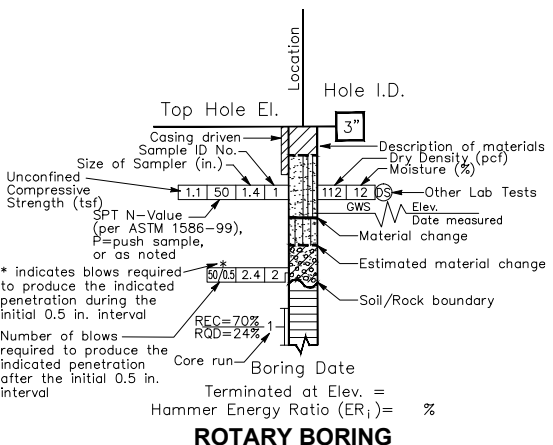
PARTICLE SIZE		
Description	Size	
Boulder	>12 in.	
Cobble	3 to 12 in.	
Gravel	Coarse	3/4 to 3 in.
	Fine	No. 4 to 3/4 in.
Sand	Coarse	No. 10 to No. 4
	Fine	No. 40 to No. 10
		No. 200 to No. 40

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

PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-in. 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.

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)
	T	Backhoe Test Pit



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SOIL LEGEND			
PIXLEY SLOUGH BRIDGE			
LOG OF TEST BORINGS 2 OF 2			
CITY OF STOCKTON PUBLIC WORKS DEPARTMENT			
BRIDGE NO.: 29C0442	APPROVED BY: _____	SHEET NO. 43	
DESIGNED BY: DJM	DATE _____	S13 of S13	
DRAWN BY: MDR		43 OF 43 SHEETS	
CHECKED BY: DJM		PROJECT NO. 05-17	
RECORD DWG:		CITY ENGINEER STOCKTON, CALIFORNIA	

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01/14/09 | 11/08/13 | BCI JOB NUMBER: 879.4

PROFESSIONAL ENGINEER
 DAVID J. MORRELL
 No. C60578
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA

Revision No.	Description	Date	By	Appr. By