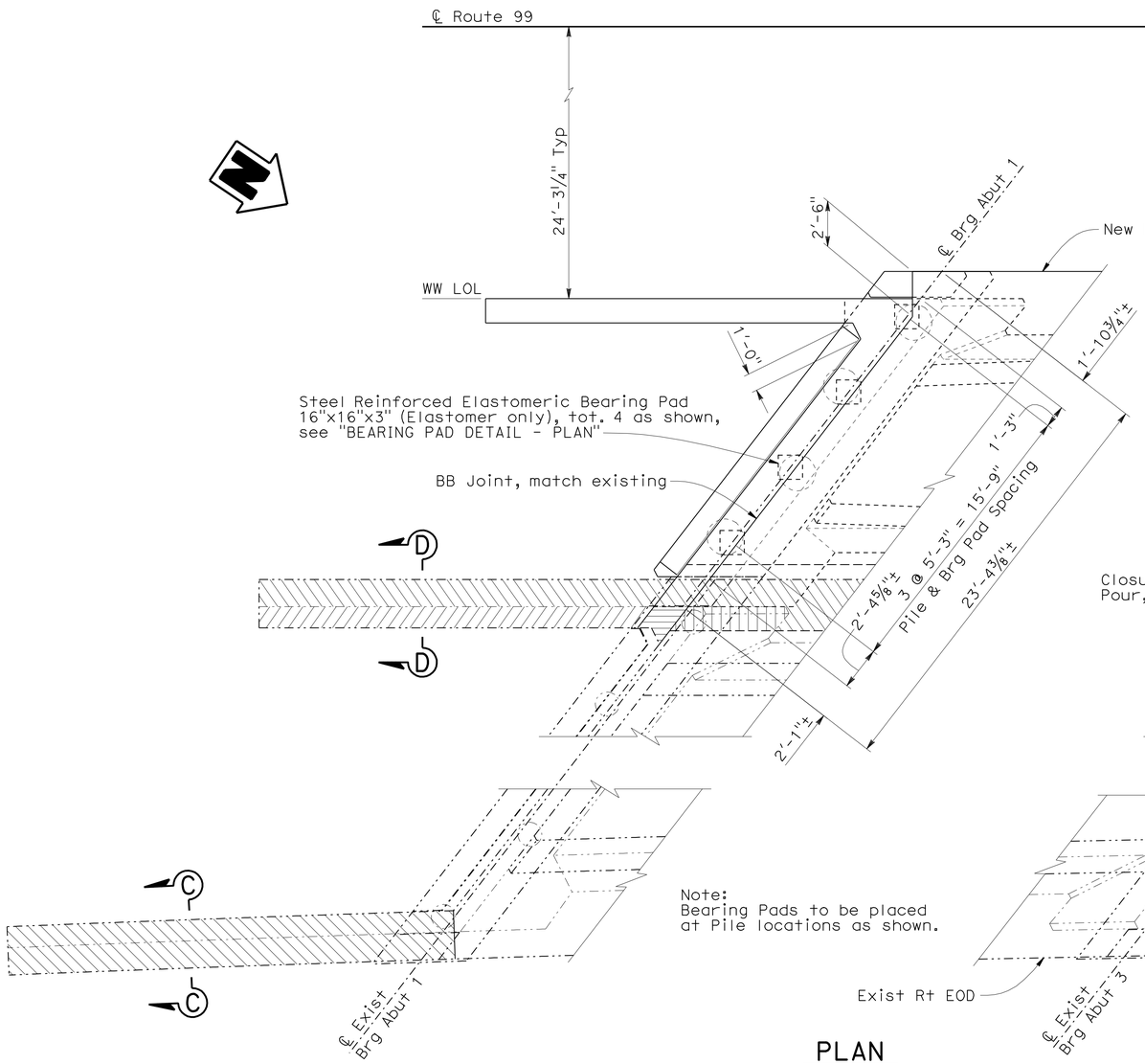
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	301	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

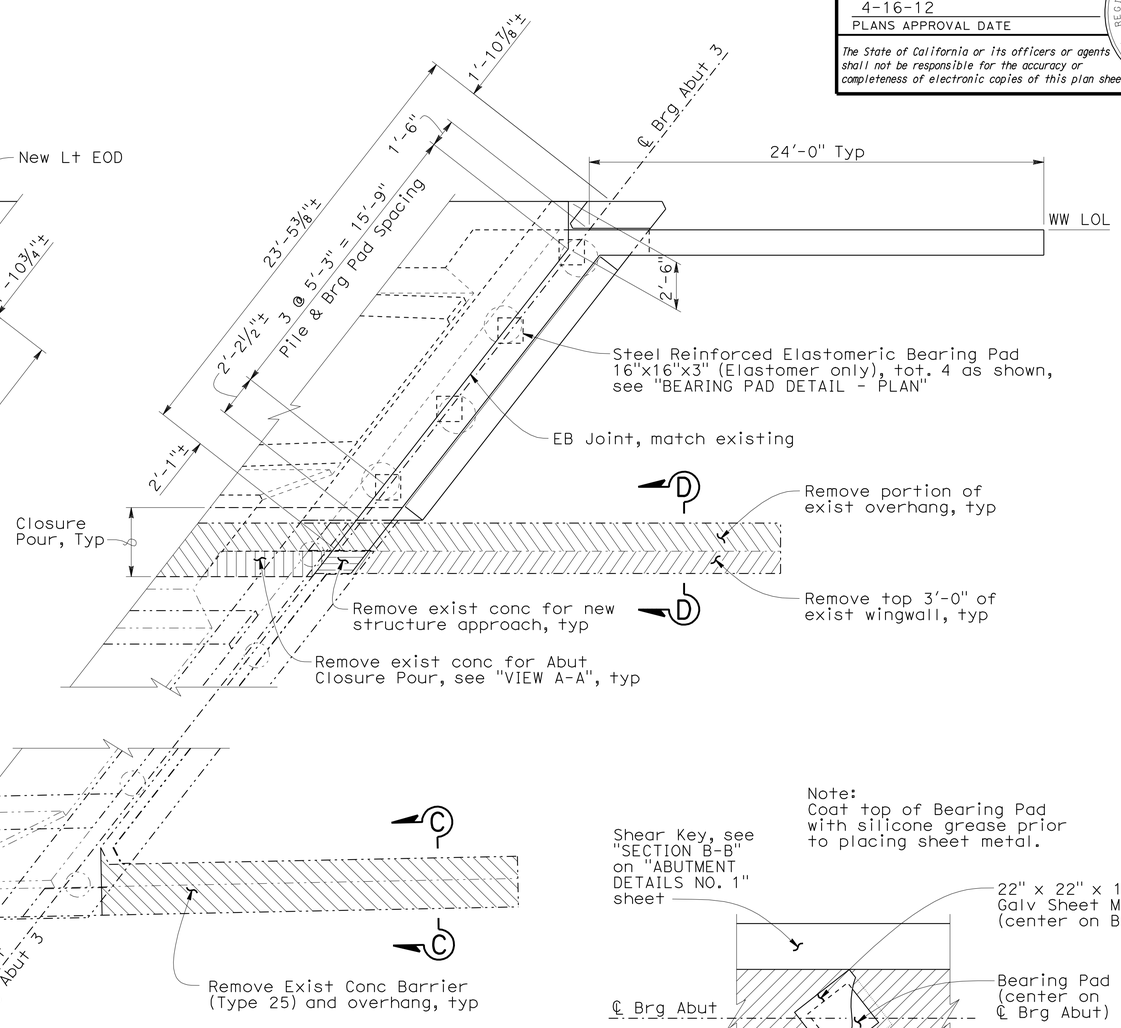
RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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



PLAN
¼" = 1'-0"



NOTES:

1. For SECTIONS "C-C" and "D-D", see "ABUTMENT DETAILS NO. 1" sheet.
2. For "VIEW A-A", see "ABUTMENT ELEVATIONS" sheet.

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

LEGEND

Exist 16"± ø CIDH Pile

24" ø CIDH Pile (B2-3)

BEARING PAD DETAIL - PLAN
½" = 1'-0"

DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0227 R/L	ROUTE 99/198 EAST SEPARATION (WIDEN)	
DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN			POST MILE 38.7	ABUTMENT LAYOUT - RIGHT BRIDGE	
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY					

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05/26/11	06/27/11	07/27/11	11/04/11	5	27

FILE => 46-0227rl-f-a01_lo02.dgn

DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:52
USERNAME => 6124496

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	302	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

4-16-12
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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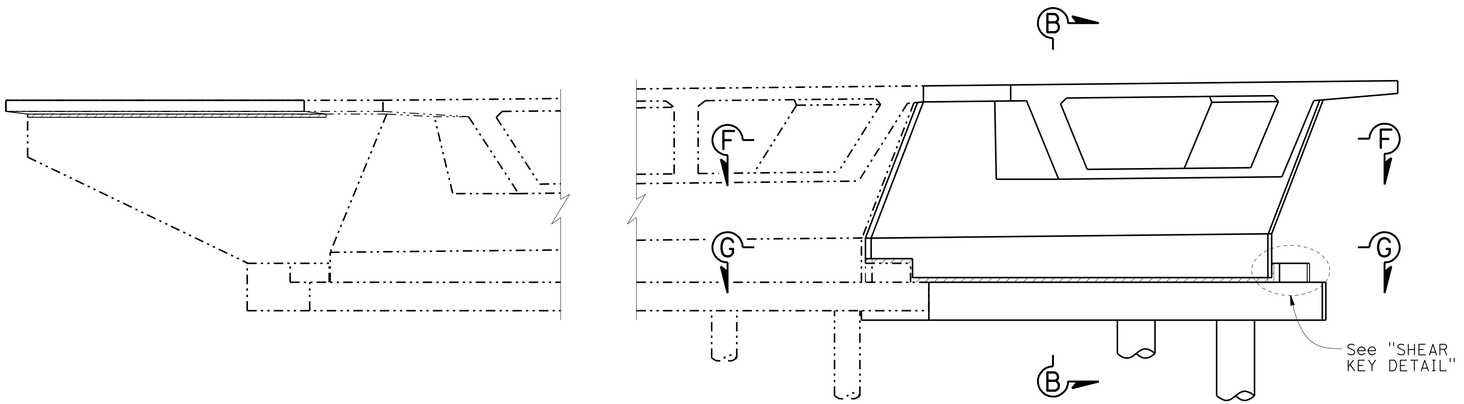


ELEVATION - ABUTMENT 1 RIGHT BRIDGE

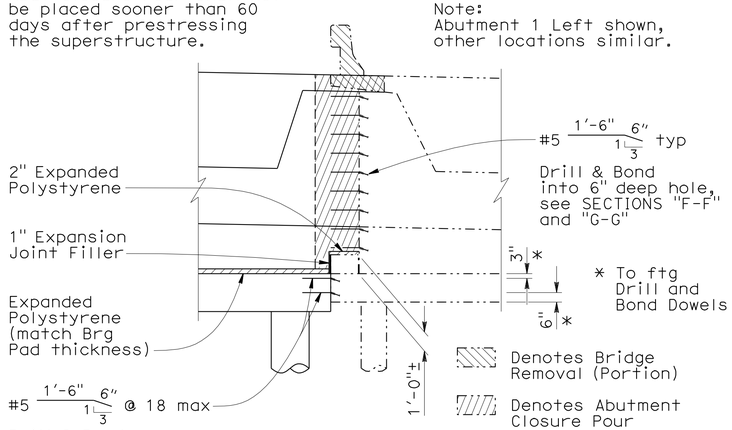
1/4" = 1'-0"

NOTES:

1. Abut 1 shown, Abut 3 similar.
2. Bridge Removal (Portion) not shown.
3. All piles not shown.
4. Barriers not shown.
5. Roughen existing surface at interface of new and existing concrete.
6. For "SECTION B-B" see "ABUTMENT DETAILS NO. 1" sheet.
7. For SECTIONS "F-F" and "G-G", see "ABUTMENT DETAILS NO. 2" sheet.

Note:
Abut Closure Pour shall not be placed sooner than 60 days after prestressing the superstructure.

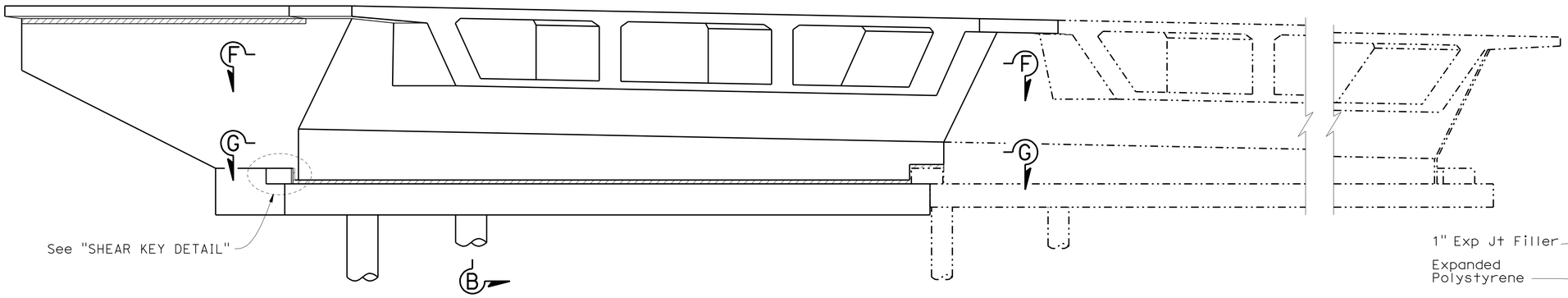
Note:
Abutment 1 Left shown, other locations similar.



VIEW A-A

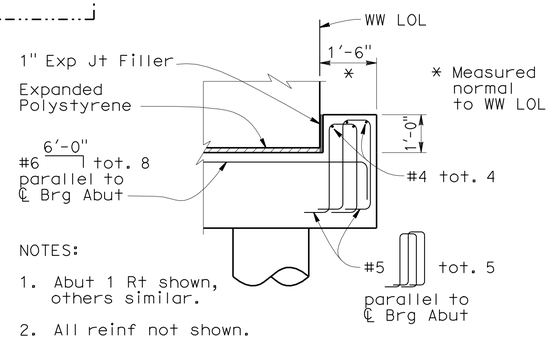
1/4" = 1'-0"

BO-13
13-1



ELEVATION - ABUTMENT 1 LEFT BRIDGE

1/4" = 1'-0"



NOTES:

1. Abut 1 Rt shown, others similar.
2. All reinf not shown.

SHEAR KEY DETAIL

1/2" = 1'-0"

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

DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0227 R/L
POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)

ABUTMENT ELEVATIONS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 05/05/11 | 06/27/11 | 07/29/11 | 08/29/11

SHEET 6 OF 27

FILE => 46-0227r1-f-a01_lo03.dgn

USERNAME => s124396 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:52

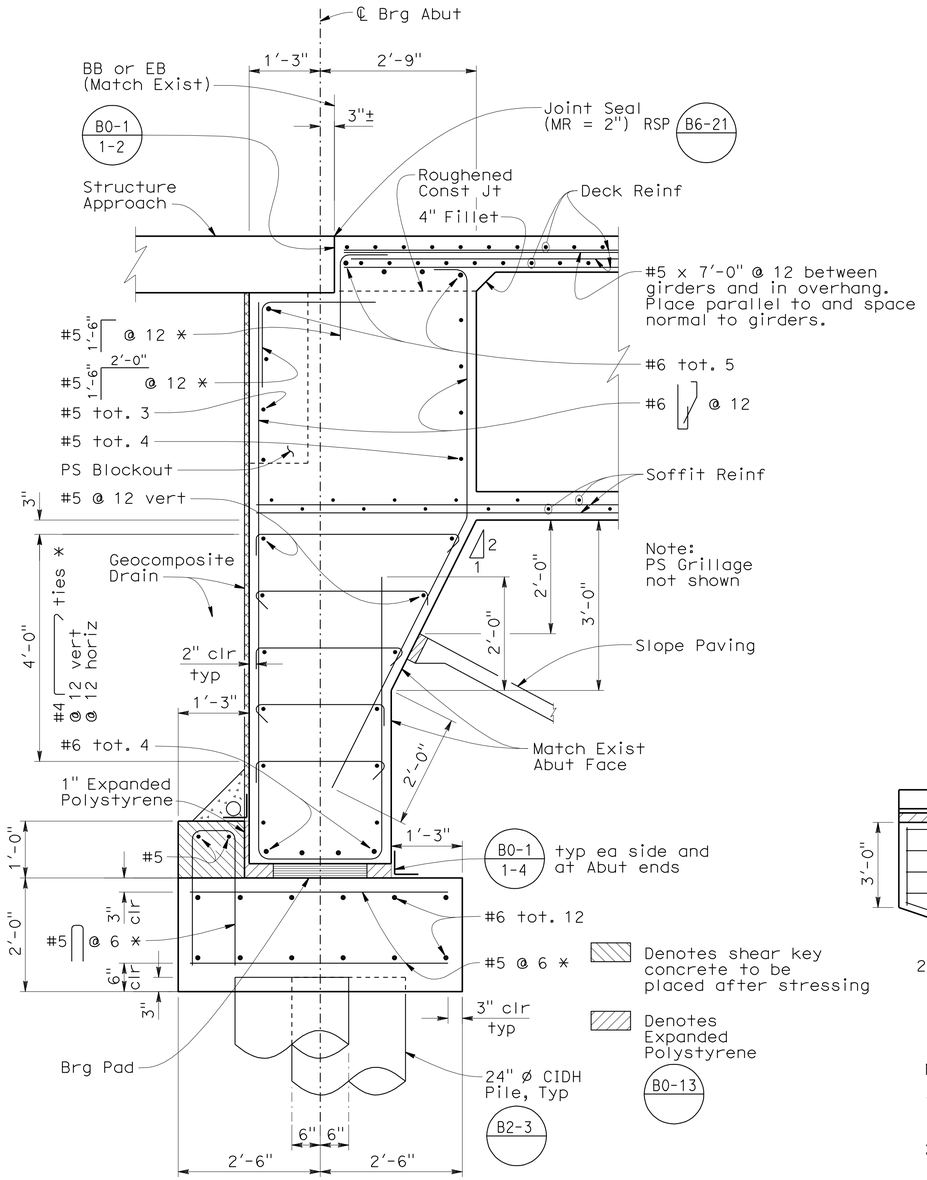
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	303	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

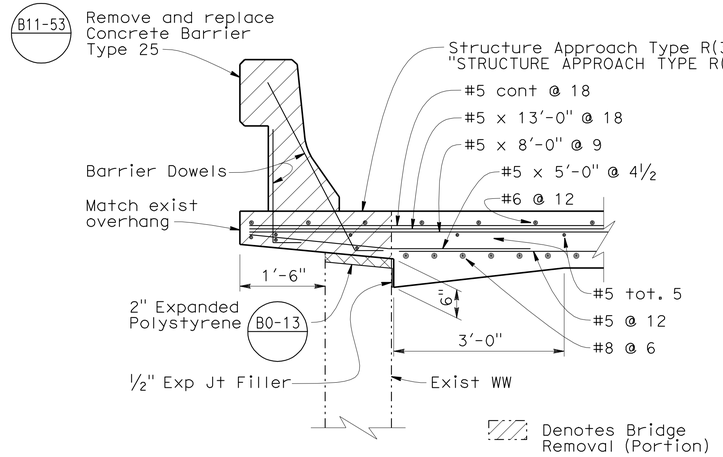
4-16-12
PLANS APPROVAL DATE

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

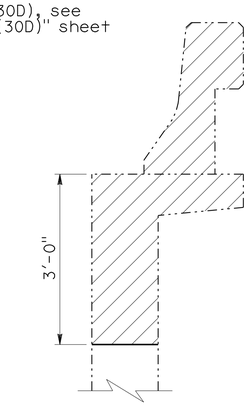


* Place normal to and space along ℄ Brg Abut

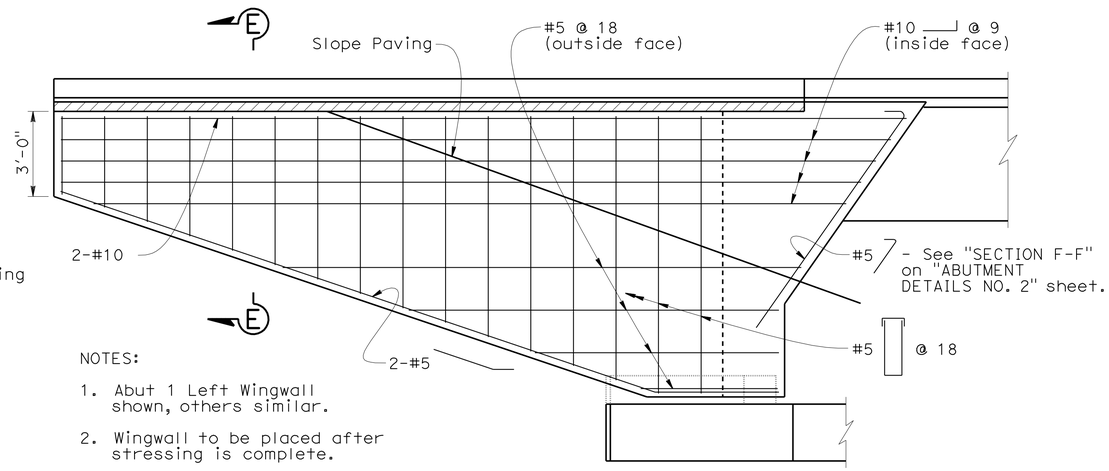
SECTION B-B
B8-5
¾" = 1'-0"



SECTION C-C
¾" = 1'-0"



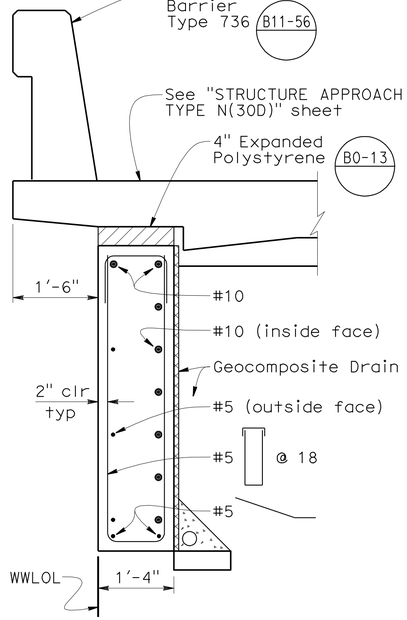
SECTION D-D
¾" = 1'-0"



NOTES:

1. Abut 1 Left Wingwall shown, others similar.
2. Wingwall to be placed after stressing is complete.
2. Piles not shown.
3. Barrier not shown.
4. All reinf not shown.

WINGWALL ELEVATION
⅜" = 1'-0"



SECTION E-E
¾" = 1'-0"

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

DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	
DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0227 R/L
POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)
ABUTMENT DETAILS NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05/03/11	06/27/11	07/28/11	11/04/11	7	27

FILE => 46-0227r1-f-adt01.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	304	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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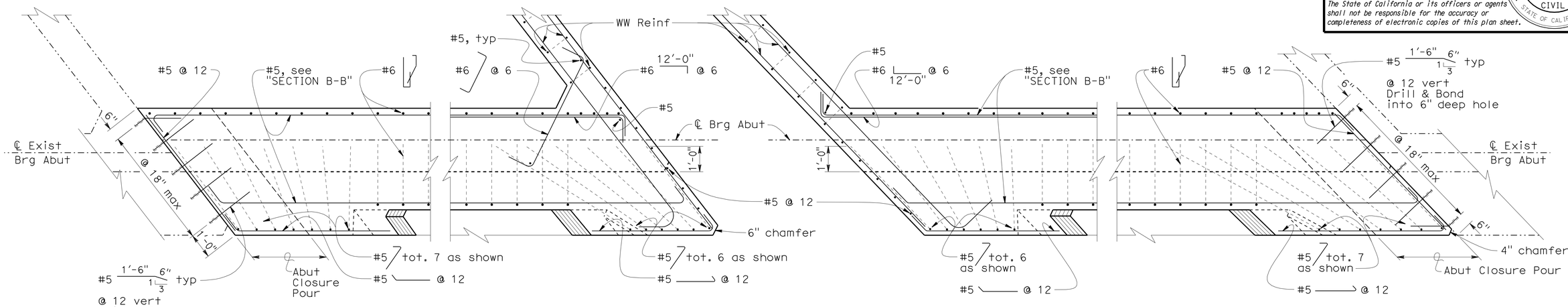
Note:
Girder reinf not shown.



RIGHT

LEFT

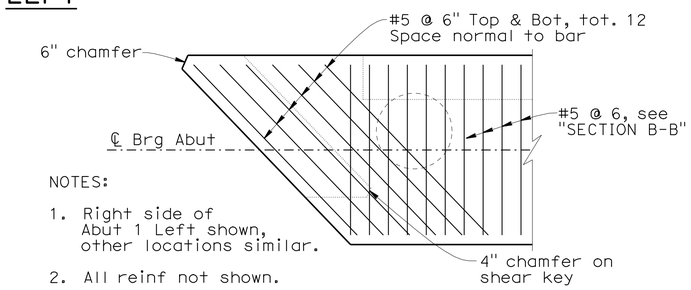
Note: Abut 1 shown, Abut 3 similar.

SECTION F-F

½" = 1'-0"

NOTES:

1. Roughen existing surface at interface of new and existing concrete.
2. For "SECTION B-B", see "ABUTMENT DETAILS NO. 1" sheet.

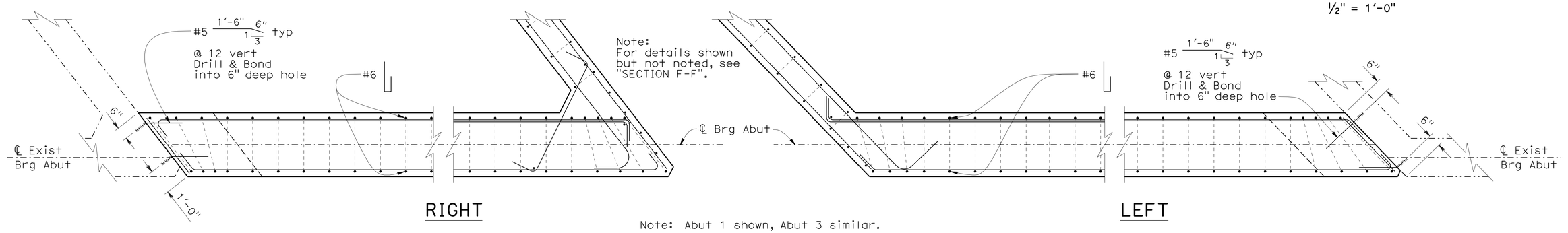


NOTES:

1. Right side of Abut 1 Left shown, other locations similar.
2. All reinf not shown.

FOOTING CORNER DETAIL

½" = 1'-0"



RIGHT

LEFT

Note: Abut 1 shown, Abut 3 similar.

SECTION G-G

½" = 1'-0"

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

DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	
DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0227 R/L
POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)
ABUTMENT DETAILS NO. 2

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

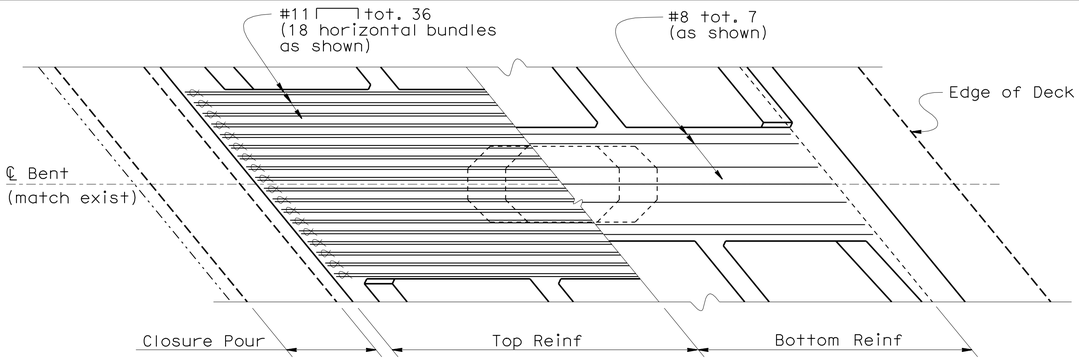
UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05/03/11	06/27/11	07/27/11	08/29/11	8	27

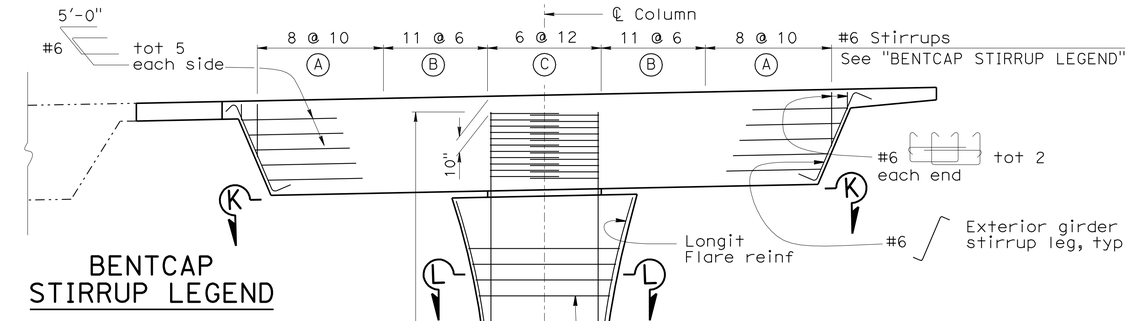
FILE => 46-0227r1-f-adt02.dgn

USERNAME => s124096 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:53

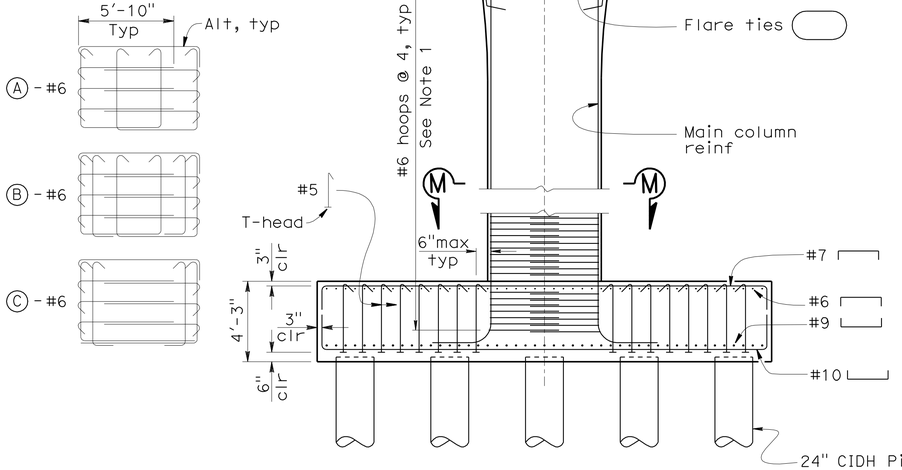


PLAN
1/4" = 1'-0"

Denotes bundled bars



BENTCAP STIRRUP LEGEND



ELEVATION
1/4" = 1'-0"

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

Notes

1. All hoops shall be "Ultimate butt-spliced."
2. For SECTIONS "K-K", "L-L", and "M-M", see "BENT DETAILS - LEFT BRIDGE" sheet.
3. Place stirrups parallel to ℄ Girder and space along ℄ Bent.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	305	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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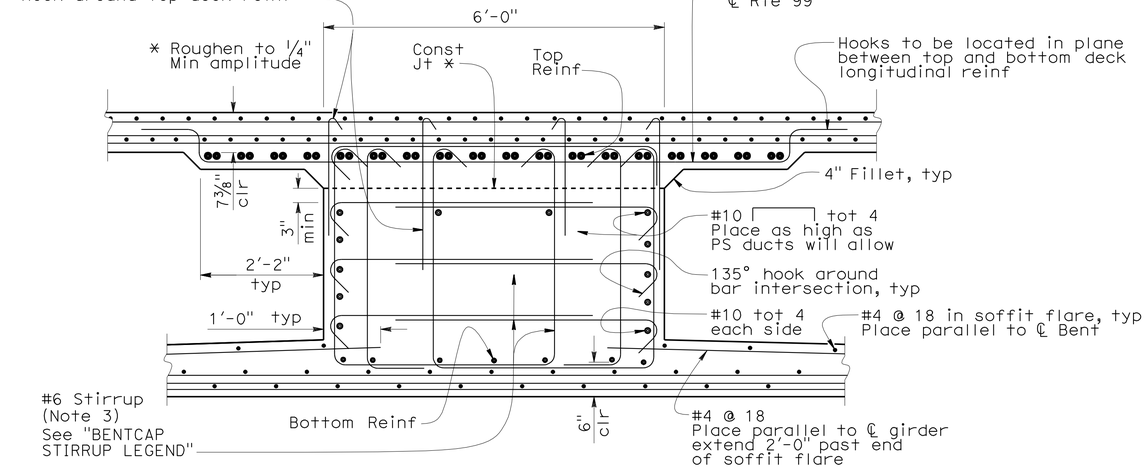
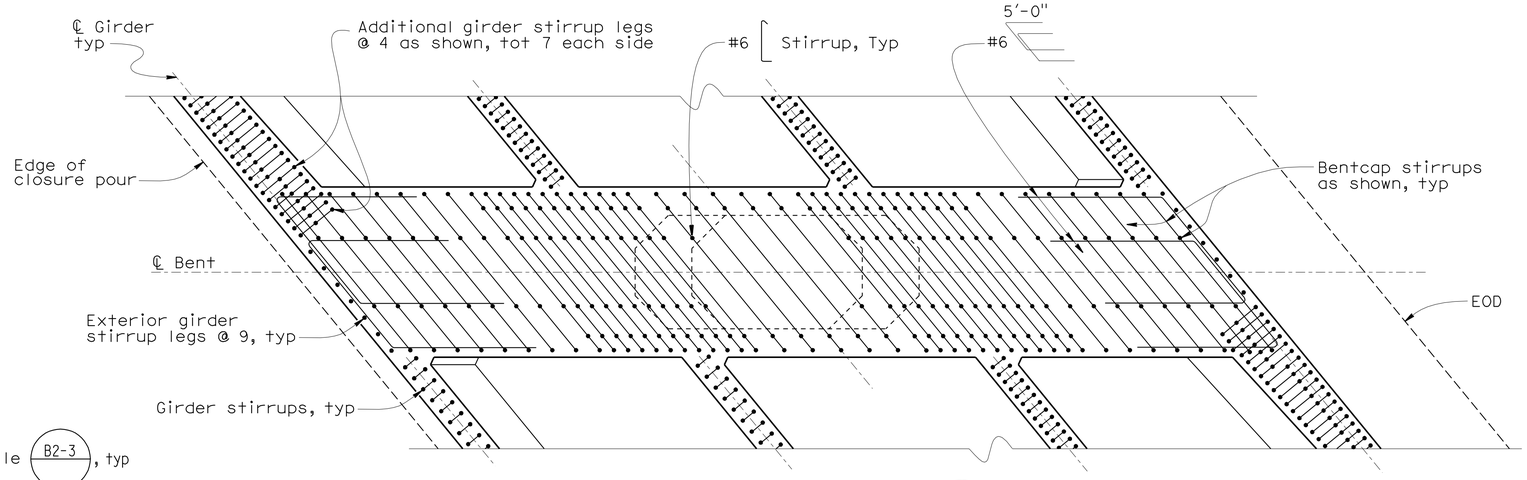
#5 2'-0" or 2'-6" (alt both ways, sets of 4 parallel to ℄ Girder)

Space sets @ 12 along ℄ Bent, tot. 10 spaces centered on column, tot. 44 bars
Hook around top deck reinf



BENTCAP SECTION
3/4" = 1'-0"
Section shown normal to ℄ Bent



PLAN - STIRRUPS
3/8" = 1'-0"

B7-1
S-3

DESIGN	BY MATT SCHOTT	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0227 R/L; POST MILE 38.7
DETAILS	BY MATT SCHOTT	CHECKED ZIHAN YAN			
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY			

ROUTE 99/198 EAST SEPARATION (WIDEN)

BENT LAYOUT - LEFT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

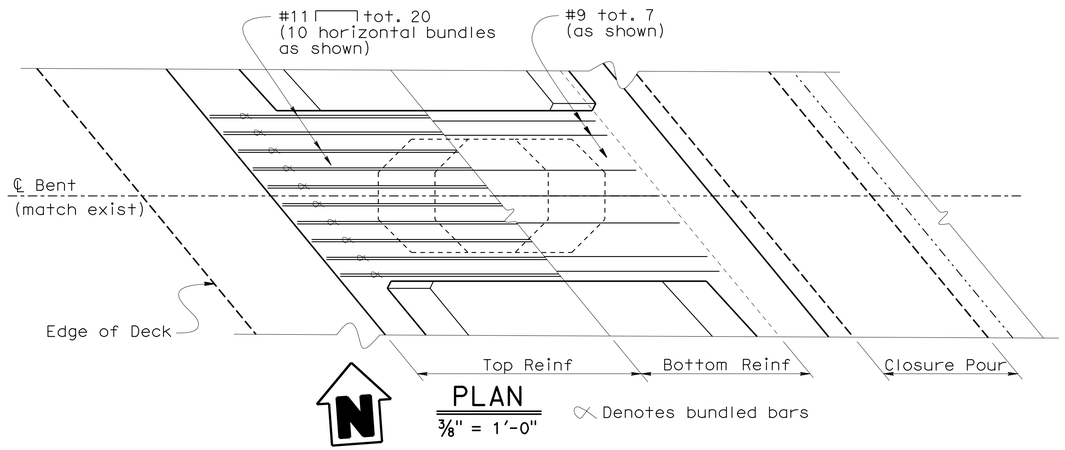
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 06-28-11 | 07-28-11 | 10-20-11

SHEET 9 OF 27

FILE => 46-0227rl-h-bent_lay01.dgn

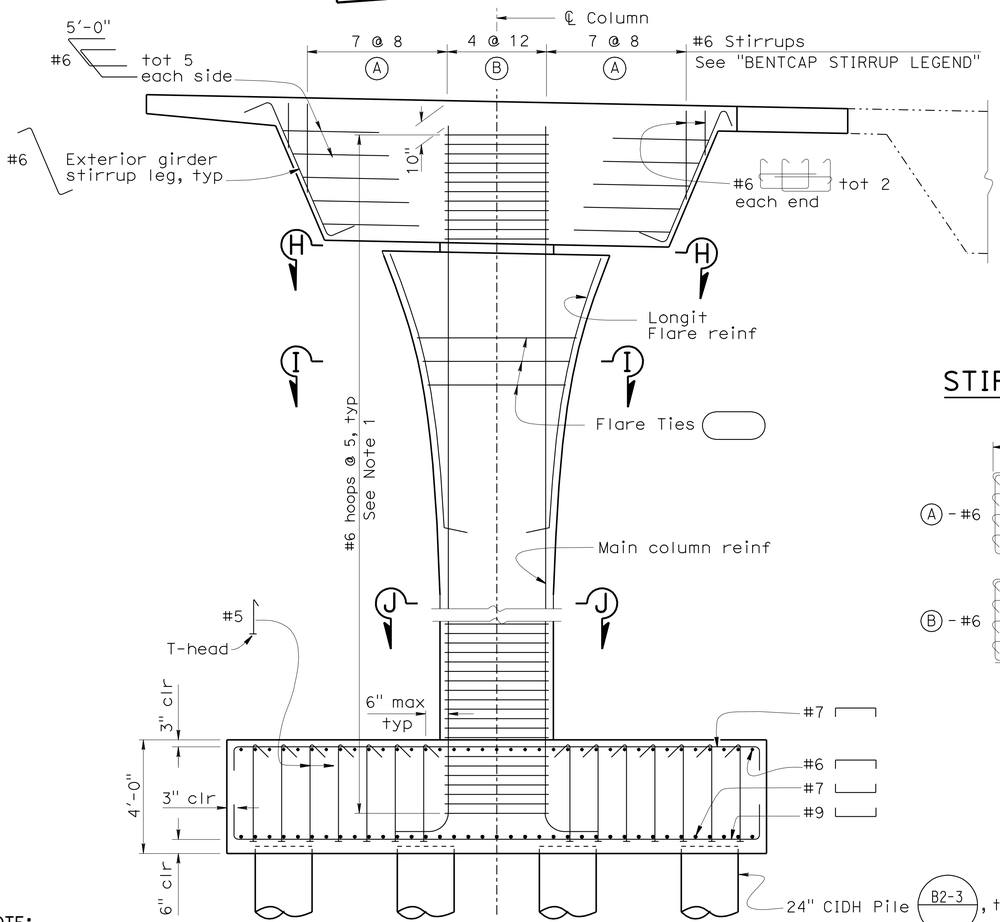
DATE PLOTTED => 19-APR-2012
USERNAME => s124496



PLAN

3/8" = 1'-0"

Denotes bundled bars

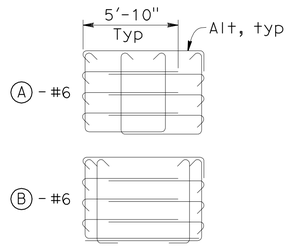


ELEVATION

3/8" = 1'-0"

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

BENTCAP STIRRUP LEGEND



Notes

1. All hoops shall be "Ultimate butt-spliced."
2. For SECTIONS "H-H", "I-I", and "J-J", see "BENT DETAILS - RIGHT BRIDGE" sheet.
3. Place stirrups parallel to ℄ Girder and space along ℄ Bent.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	306	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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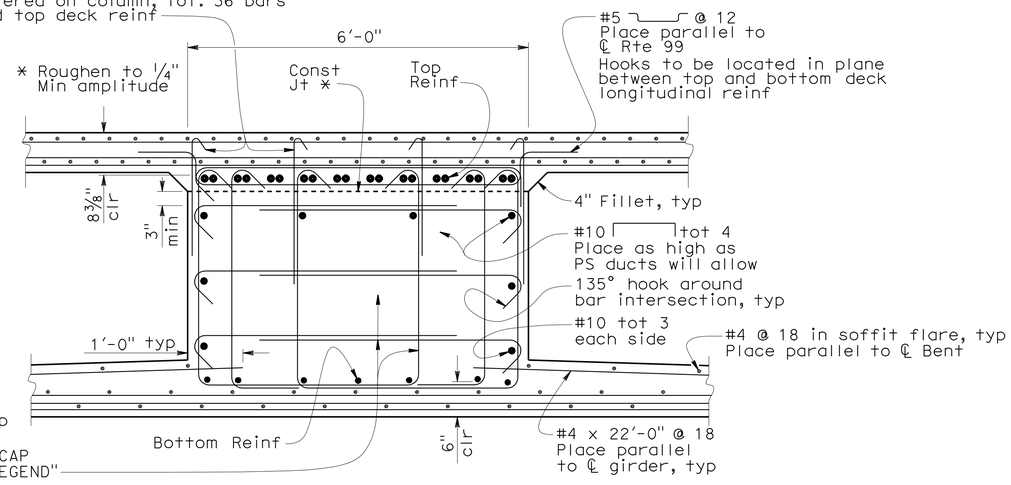
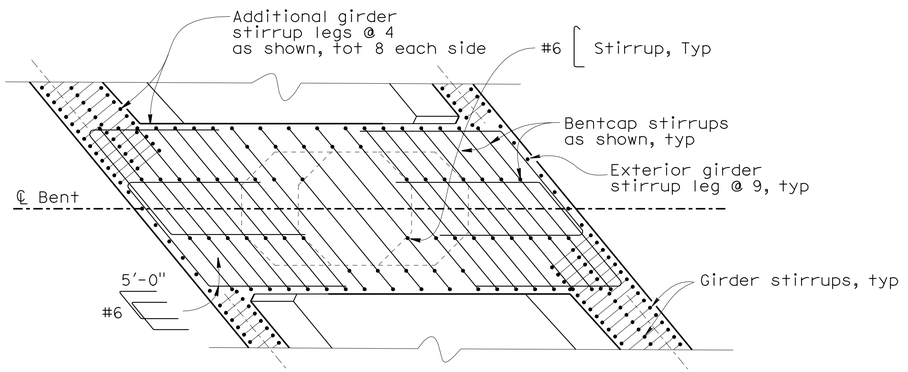
#5 2'-0" or 2'-6" (alt both ways, sets of 4 parallel to ℄ Girder)
Space sets @ 12 along ℄ Bent, tot. 8 spaces centered on column, tot. 36 bars
Hook around top deck reinf



BENTCAP SECTION

3/4" = 1'-0"

Section shown normal to ℄ Bent



PLAN - STIRRUPS

3/8" = 1'-0"

B7-1 / S-3

DESIGN	BY MATT SCHOTT	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0227 R/L	ROUTE 99/198 EAST SEPARATION (WIDEN)	
DETAILS	BY MATT SCHOTT	CHECKED ZIHAN YAN			POST MILE 38.7	BENT LAYOUT - RIGHT BRIDGE	
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY					

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/27/11	10/10/11			10	27

FILE => 46-0227ri-h-bent_lay02.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	307	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

4-16-12
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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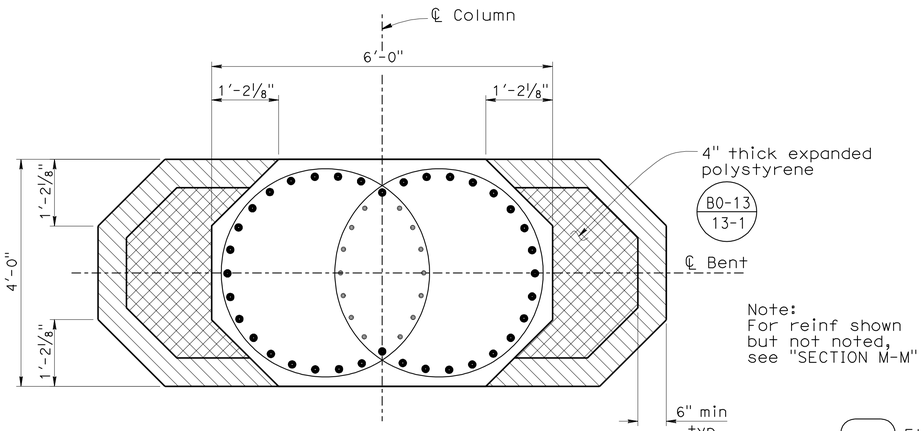
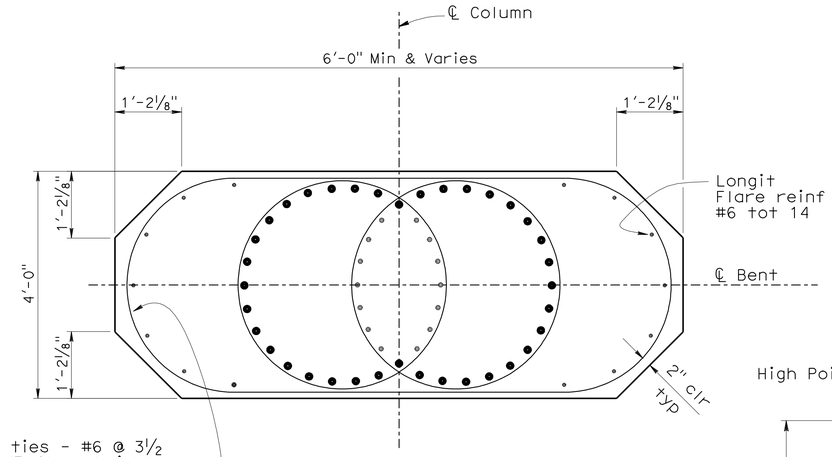


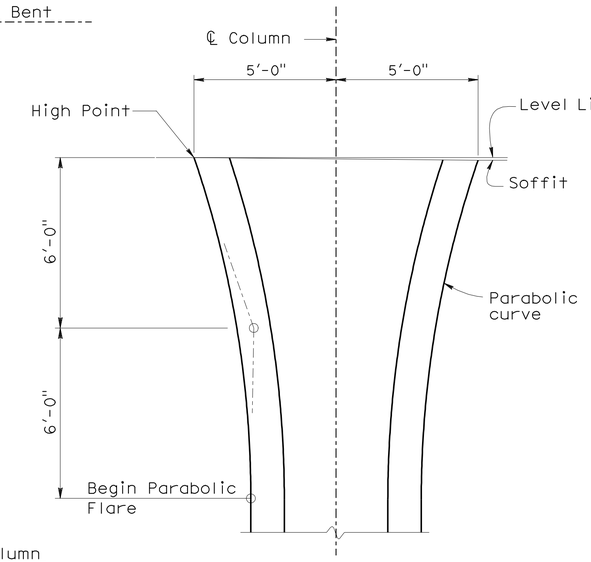
SECTION K-K
¾" = 1'-0"

4" polystyrene to be removed

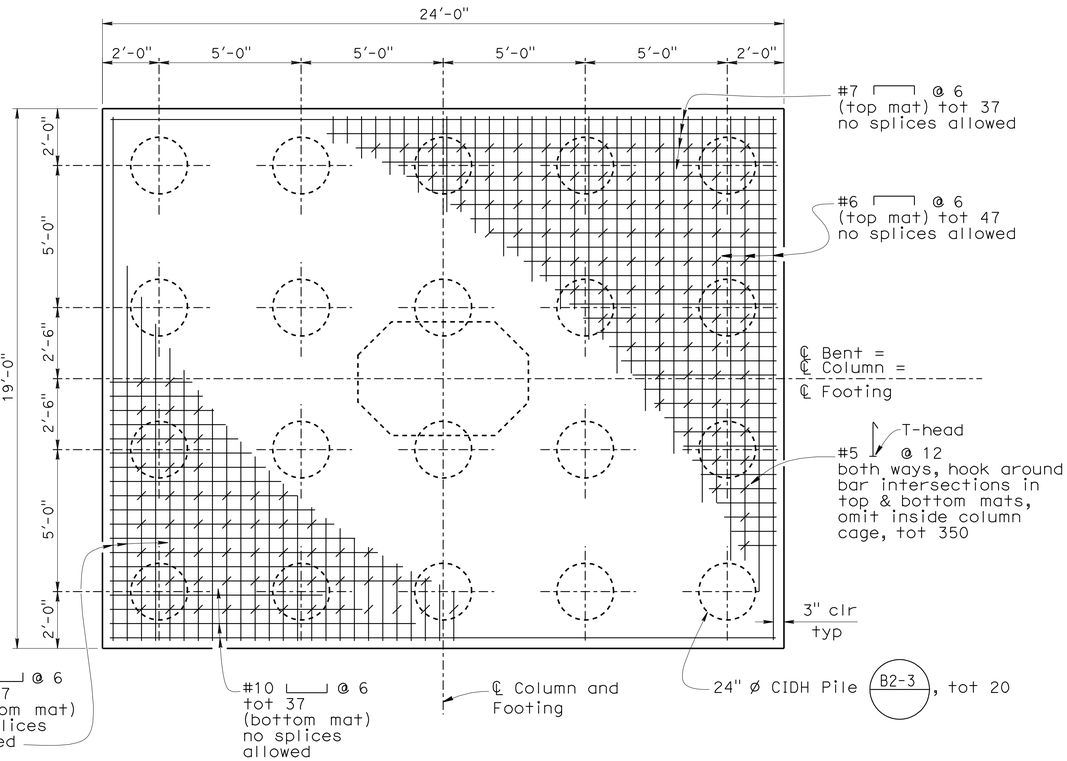
4" polystyrene to remain



SECTION L-L
¾" = 1'-0"

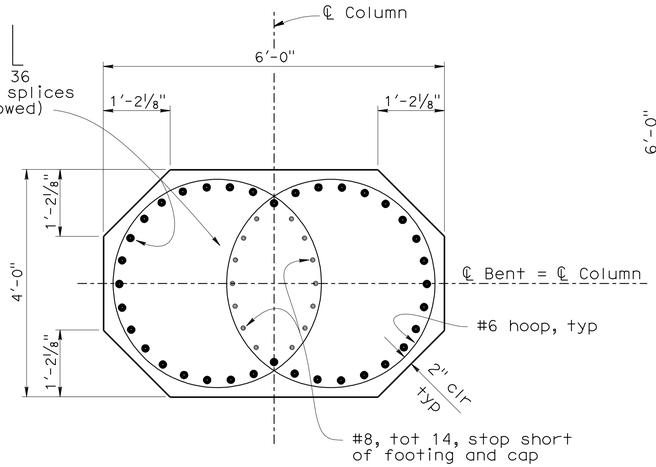


COLUMN FLARE
⅜" = 1'-0"

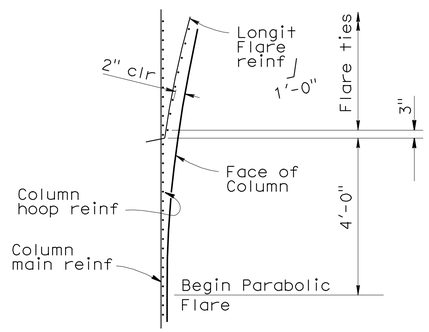


FOOTING PLAN
⅜" = 1'-0"

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



SECTION M-M
¾" = 1'-0"



COLUMN FLARE REINFORCEMENT
NO SCALE

DESIGN	BY MATT SCHOTT	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY MINH TRAN	CHECKED ZIHAN YAN	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY	BRIDGE NO. 46-0227 R/L; POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)

BENT DETAILS - LEFT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
07/27/11	10/12/11			11	27

FILE => 46-0227rl-h-bentdet01.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	308	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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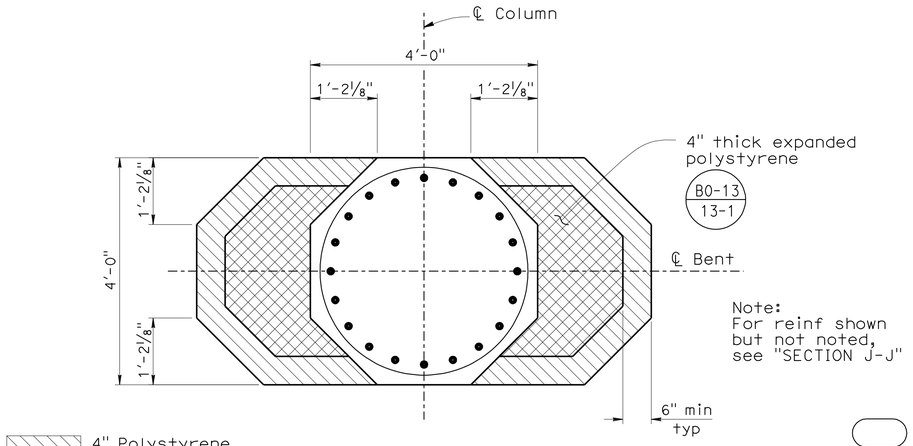
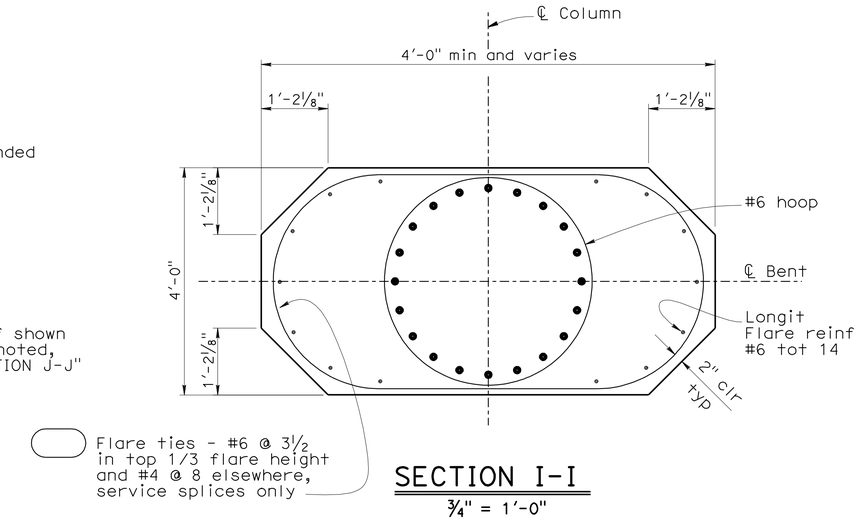
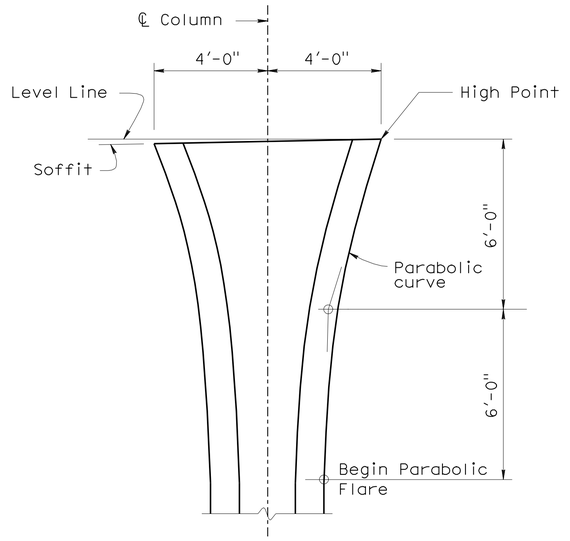


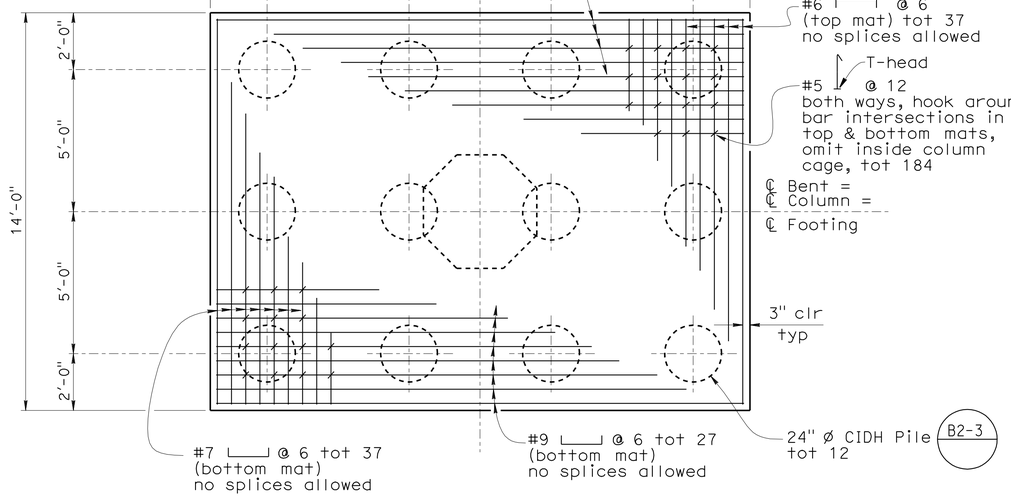
SECTION H-H
¾" = 1'-0"



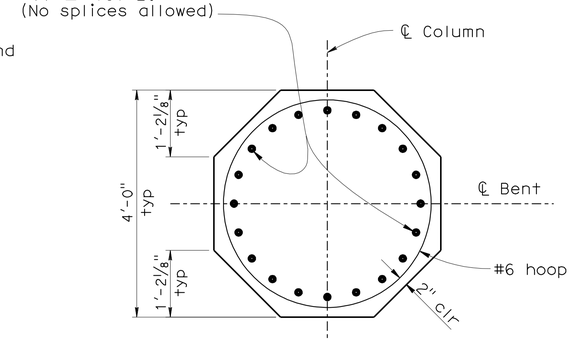
SECTION I-I
¾" = 1'-0"



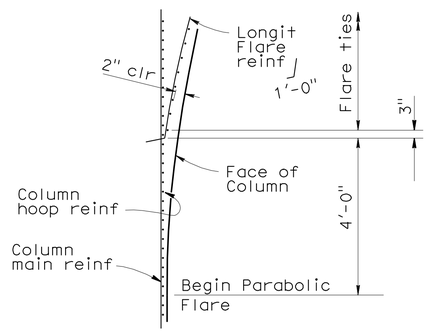
COLUMN FLARE
⅜" = 1'-0"



FOOTING PLAN
⅜" = 1'-0"



SECTION J-J
¾" = 1'-0"



COLUMN FLARE REINFORCEMENT
NO SCALE

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

DESIGN	BY MATT SCHOTT	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0227 R/L; POST MILE 38.7
DETAILS	BY SURAJ DUTTA	CHECKED ZIHAN YAN			
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY			

ROUTE 99/198 EAST SEPARATION (WIDEN)

BENT DETAILS - RIGHT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
06/14/11	07/28/11	10/13/11		12	27

FILE => 46-0227rl-h-bentdet02.dgn

USERNAME => 8124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	309	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

4-16-12
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SCHENDEL — No. C 64259 — Exp. 06/30/13 — CIVIL — STATE OF CALIFORNIA

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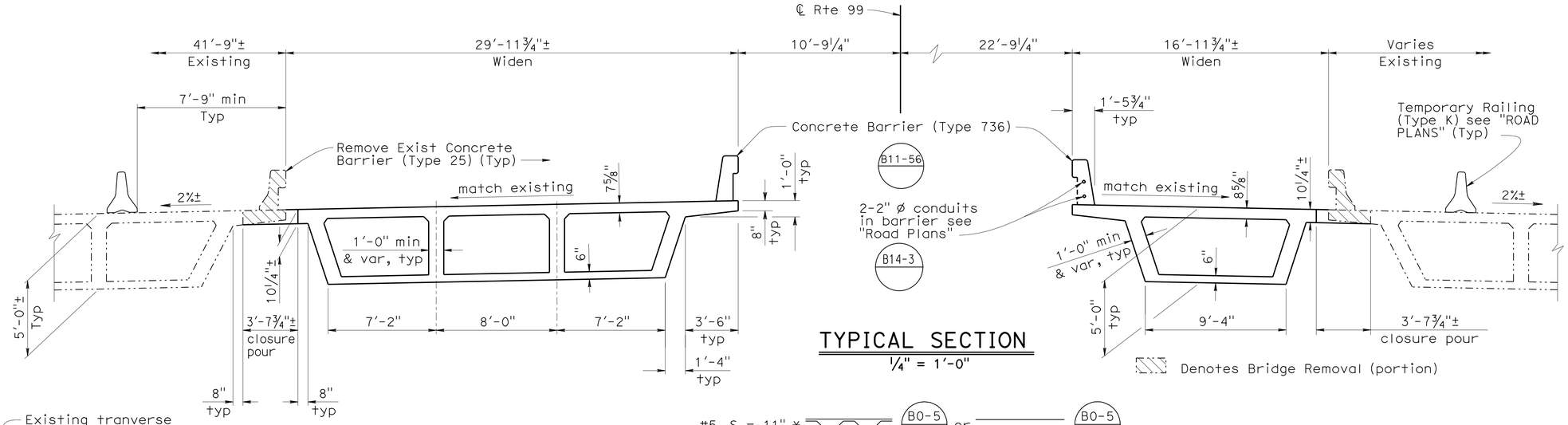
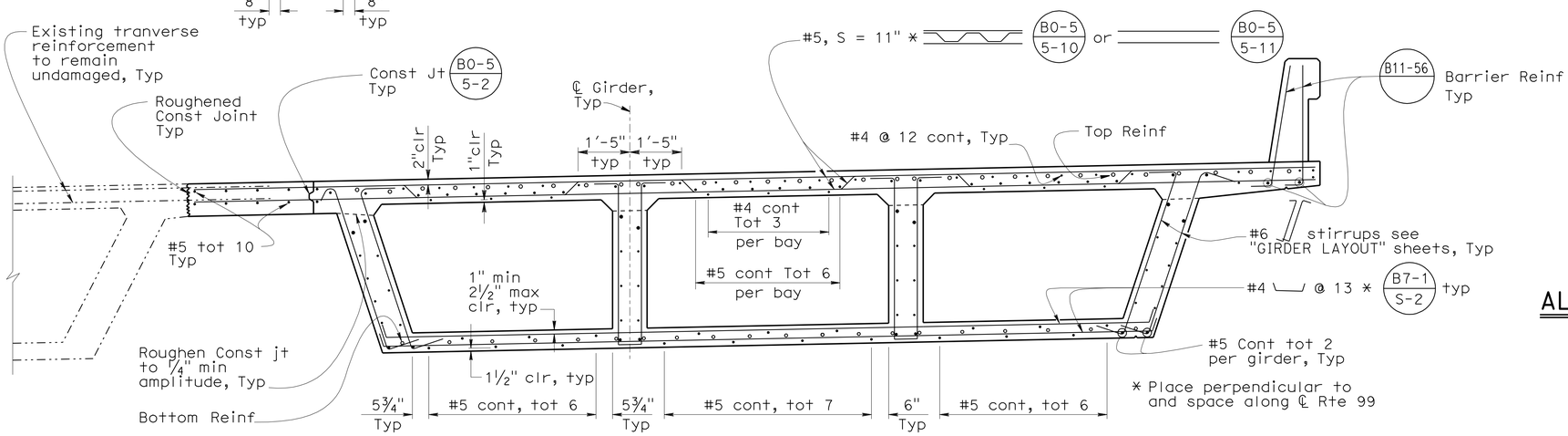
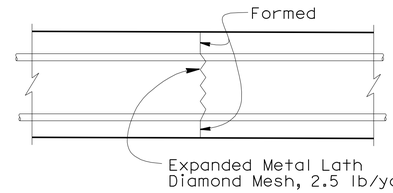


TYPICAL SECTION

1/4" = 1'-0"

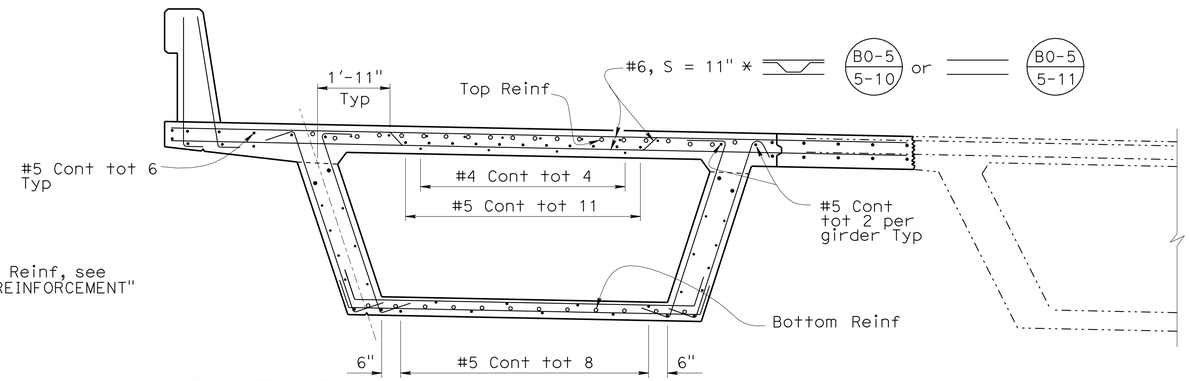
Denotes Bridge Removal (portion)





ALTERNATIVE DECK CONSTRUCTION JOINT

No Scale



Note:
For Top and Bottom Reinf, see "ADDITIONAL GIRDER REINFORCEMENT" sheets.

PART TYPICAL SECTION

B0-5 B7-1 B8-5

½" = 1'-0"

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

DESIGN	BY MATT SCHOTT	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY SURAJ DUTTA	CHECKED ZIHAN YAN	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN — DESIGN BRANCH 18
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY	BRIDGE NO. 46-0227 R/L; POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)

TYPICAL SECTION

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/11/11	07/29/11	10/11/11		13	27

FILE => 46-0227rl-k-ts.dgn

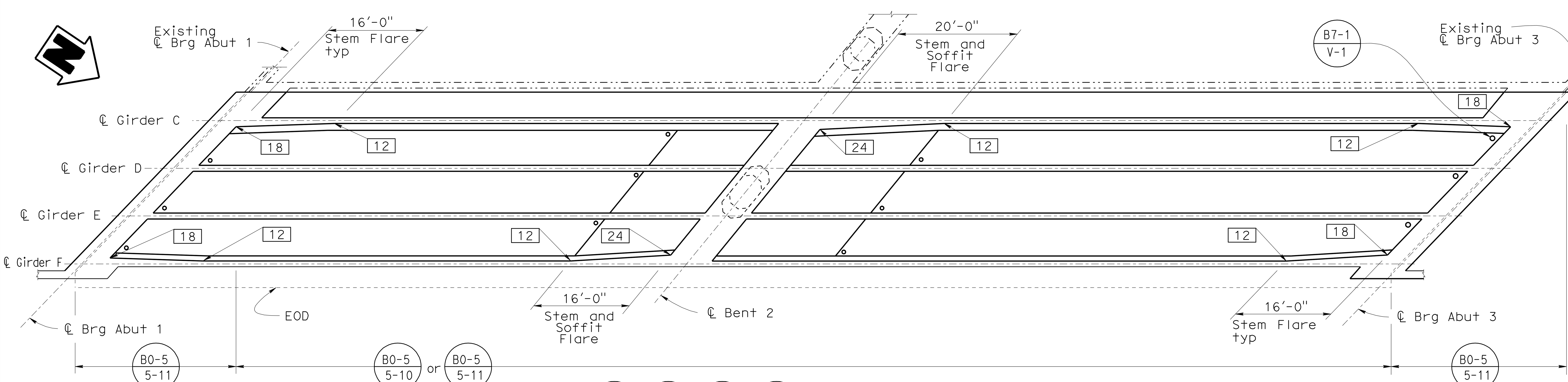
USERNAME => s124096 DATE PLOTTED => 19-APR-2012

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	310	346

Rick Schendel
REGISTERED CIVIL ENGINEER — DATE 12/01/11

4-16-12
PLANS APPROVAL DATE

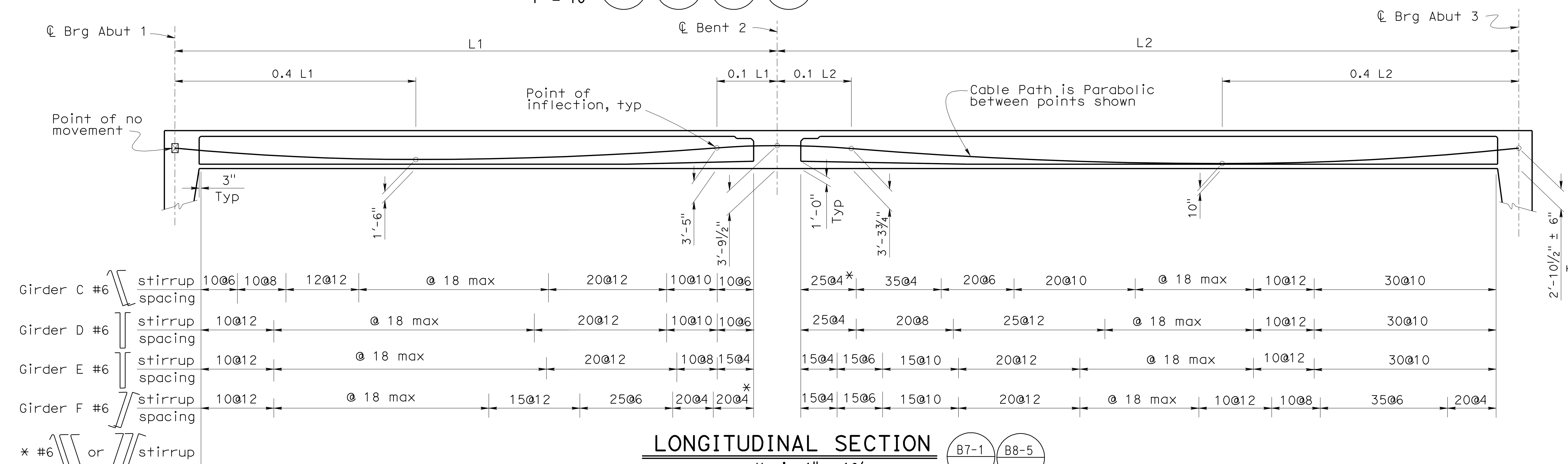
REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SCHENDEL — No. C 64259 — Exp. 06/30/13 — CIVIL — STATE OF CALIFORNIA



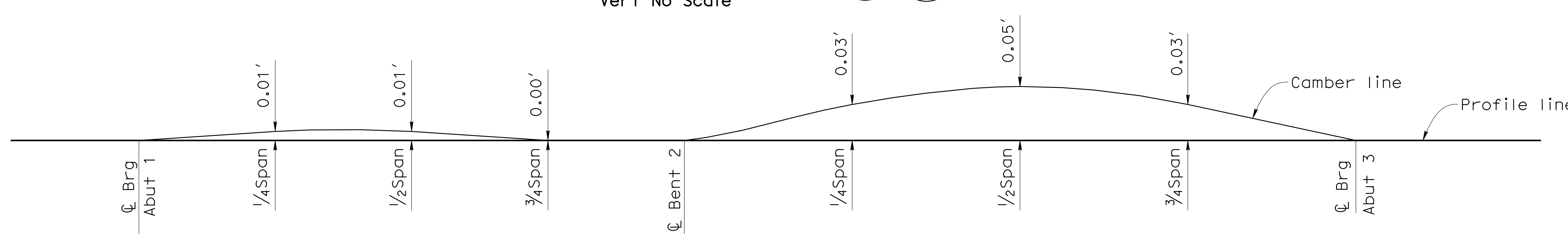
PLAN
1" = 10'
B0-5 / 5-10, B0-5 / 5-11, B7-1, B8-5

[18] Denotes girder stem width in inches

TIME DEPENDENT CAMBER VALUE	
Elapsed time measured from prestressing box girder to placement of closure pour	% of the values as shown in camber diagram
30 days	140
45 days	160
60 days	180
75 days	200
90 days	220
120 days	240
150 days	245
180 days	250



LONGITUDINAL SECTION
Horiz 1" = 10'
Vert No Scale
B7-1, B8-5



CAMBER DIAGRAM
No Scale
Note: Does not include allowance for falsework settlement

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

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

P_{jack} = 5,600 kips

Anchor Set = ⅜ in

Total Number of Girders = 4

Maximum final force variation between girders shall not exceed 50 kips

Concrete: f'_c = 5,500 psi @ 28 days

f'_{ci} = 3,500 psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at ☒ = 0.895 times jacking stress.

Stressing shall be performed from Abut 3

DESIGN	BY MATT SCHOTT	CHECKED ZIHAN YAN
DETAILS	BY SURAJ DUTTA	CHECKED ZIHAN YAN
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0227 R/L
POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)
GIRDER LAYOUT - LEFT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES 04/17/11 10/13/11

SHEET 14 OF 27

FILE => 46-0227rl-l-girlay_1.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	311	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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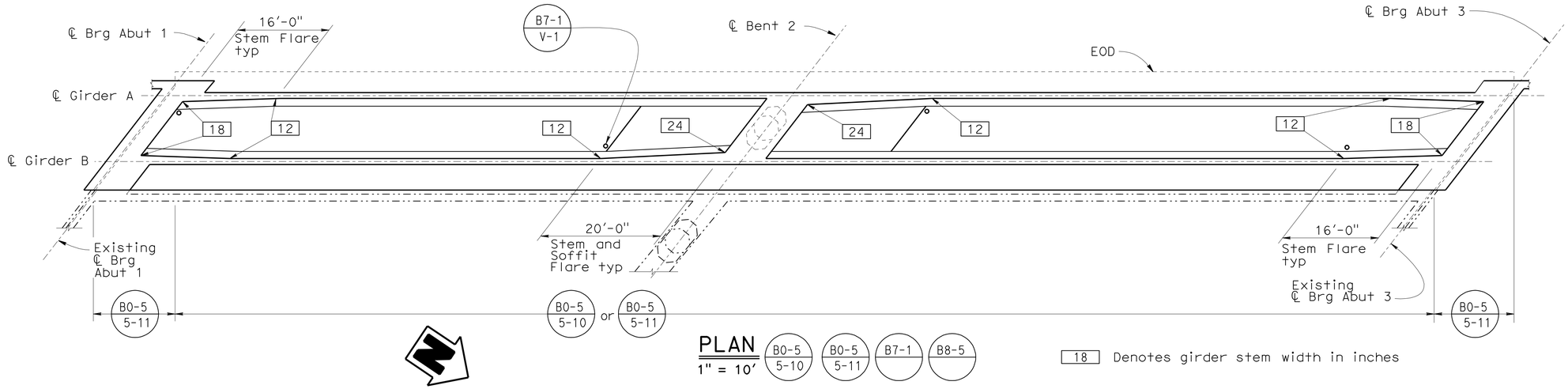
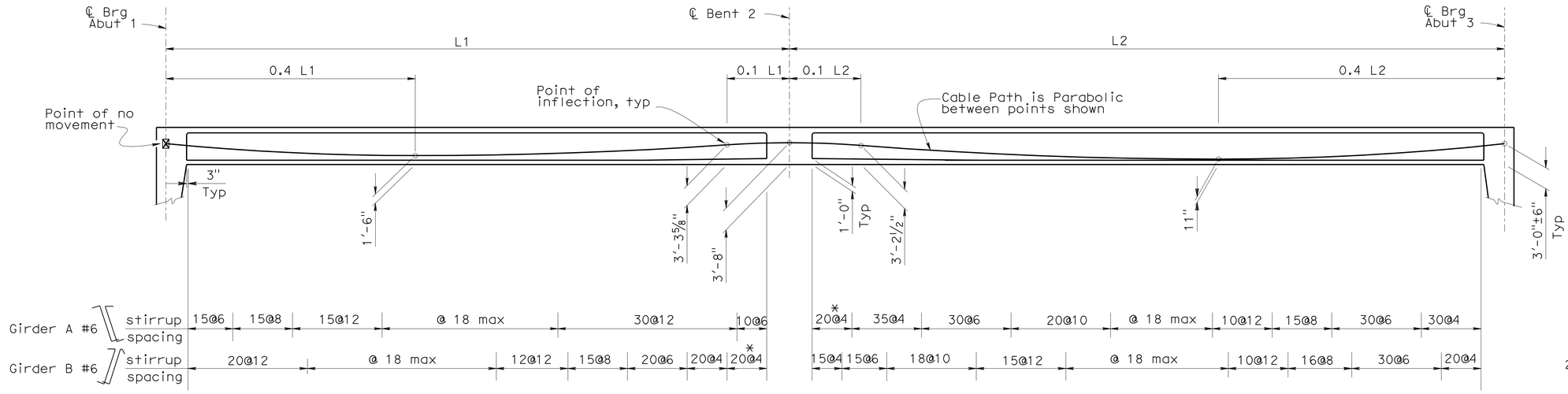


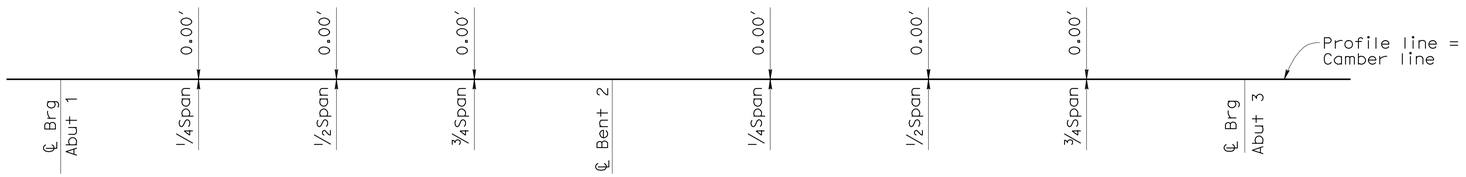
PLAN 1" = 10' — B0-5/5-10, B0-5/5-11, B7-1, B8-5

18 Denotes girder stem width in inches

TIME DEPENDENT CAMBER VALUE	
Elapsed time measured from prestressing box girder to placement of closure pour	% of the values as shown in camber diagram
30 days	140
45 days	160
60 days	180
75 days	200
90 days	220
120 days	240
150 days	245
180 days	250



LONGITUDINAL SECTION — NO SCALE — B7-1, B8-5



CAMBER DIAGRAM

No Scale

Note: Does not include allowance for falsework settlement

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

P_{jack} = 3,900 kips

Anchor Set = ⅜ in

Total Number of Girders = 2

Prestress force (Pjack) shall be distributed evenly between girders.

Concrete: f'_c = 5,500 psi @ 28 days

f'_{ci} = 3,500 psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at

☒ = 0.849 times jacking stress.

Stressing shall be performed from Abut 3

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

DESIGN	BY MATT SCHOTT	CHECKED ZIHAN YAN	
DETAILS	BY SURAJ DUTTA	CHECKED ZIHAN YAN	
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0227 R/L
POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)
GIRDER LAYOUT - RIGHT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/27/11	10/20/11			15	27

FILE => 46-0227r1-1-girlay_2.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	312	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL, No. C 64259, Exp. 06/30/13, CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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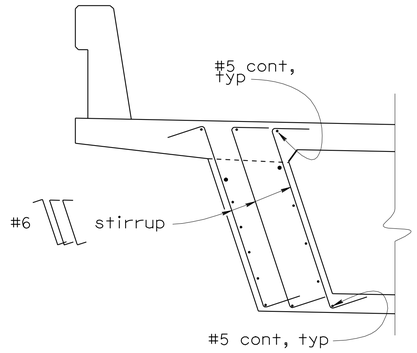


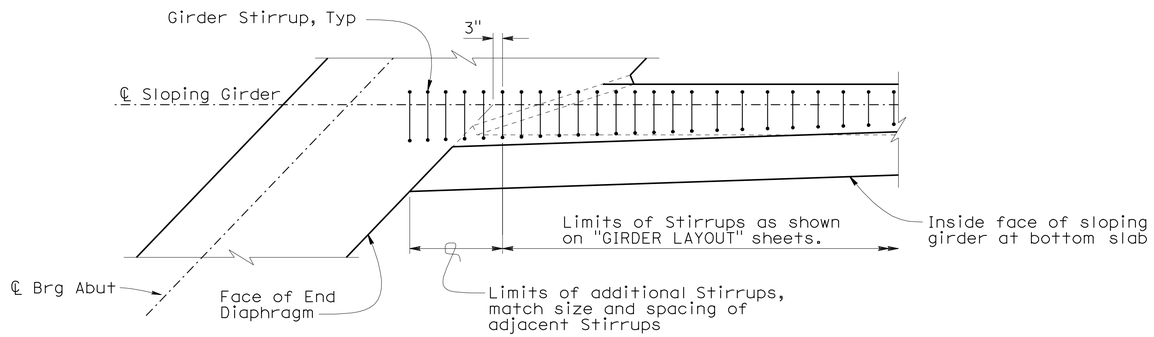
3-LEG STIRRUP DETAIL

B0-5 / B7-1

½" = 1'-0"

NOTES

1. Lt Girder Rt Bridge shown, other locations similar.
2. See "PART TYPICAL SECTION" on "TYPICAL SECTION" sheet for reinf not shown.



GIRDER STIRRUPS AT OBTUSE ABUTMENT CORNER - PLAN

B7-1 / S-3

No Scale

DESIGN	BY MATT SCHOTT	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0227 R/L	ROUTE 99/198 EAST SEPARATION (WIDEN)
DETAILS	BY MINH TRAN	CHECKED ZIHAN YAN			POST MILE 38.7	MISCELLANEOUS GIRDER DETAILS
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY				

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
10/13/11				16	27

FILE => 46-0227r1-1-girlay_3.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	313	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

4-16-12
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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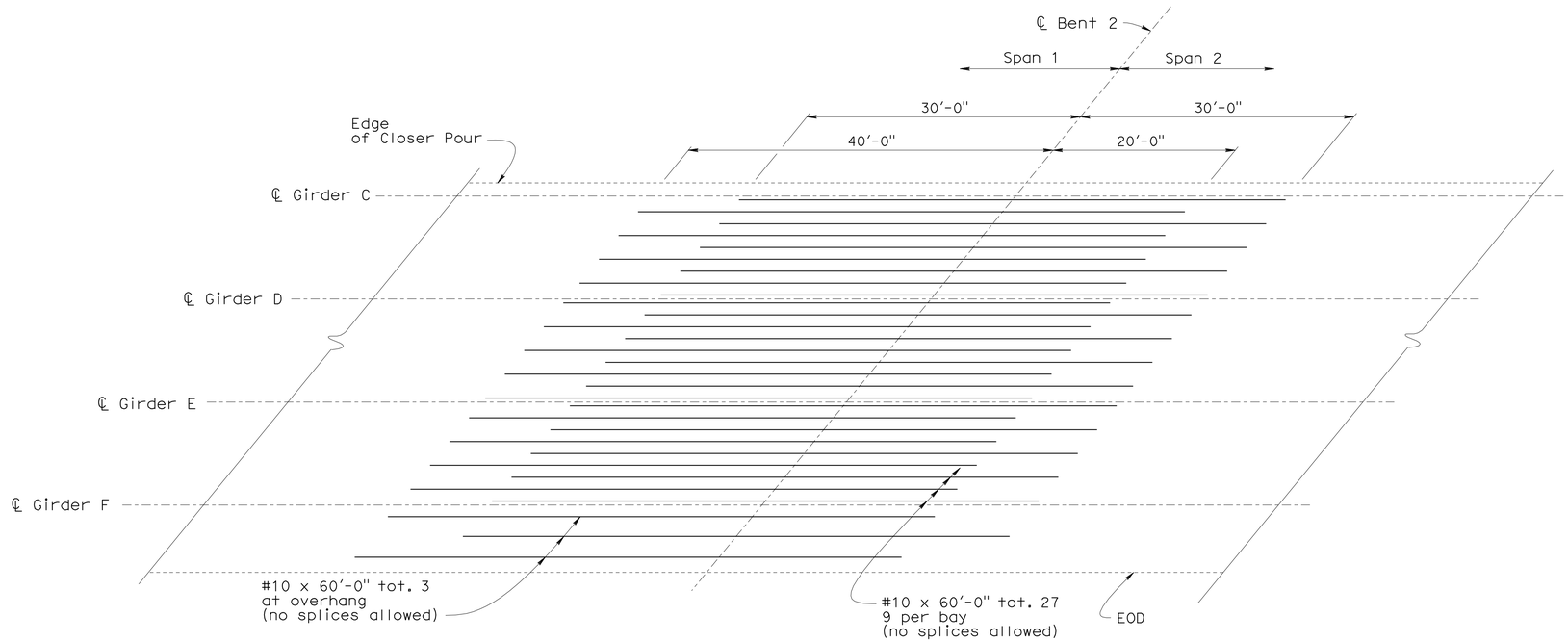
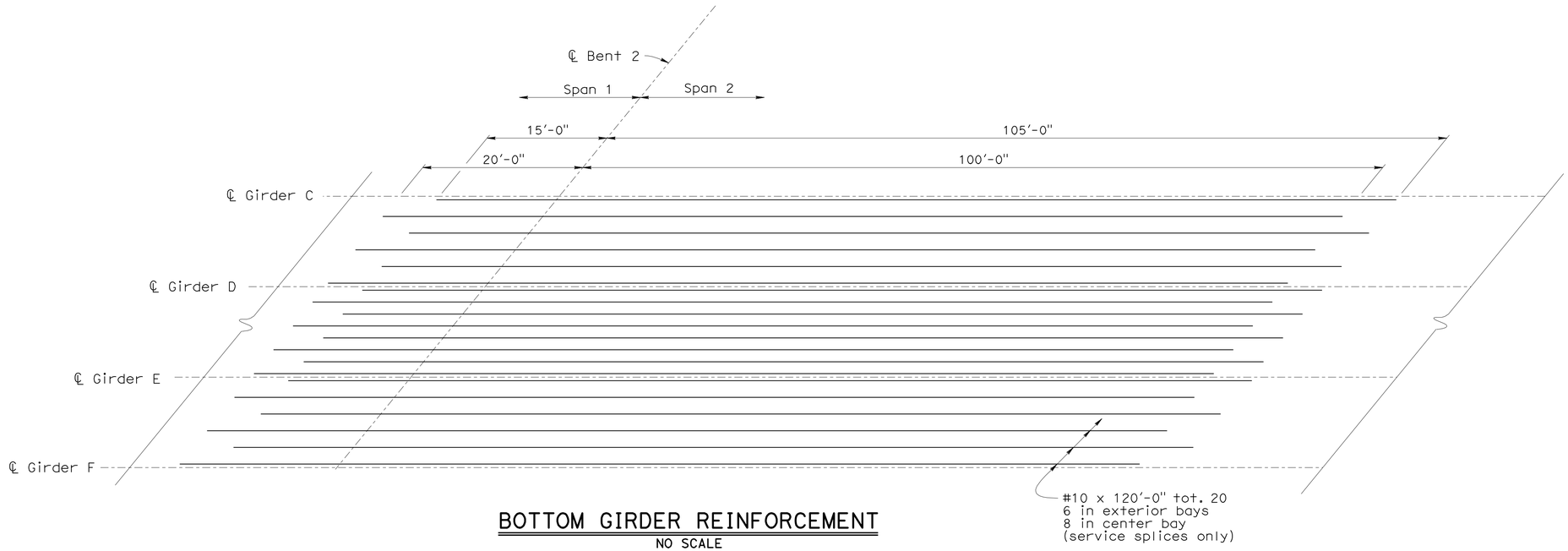


TOP GIRDER REINFORCEMENT

NO SCALE



BOTTOM GIRDER REINFORCEMENT

NO SCALE

	BY	CHECKED
DESIGN	MATT SCHOTT	ZIHAN YAN
DETAILS	SURAJ DUTTA	ZIHAN YAN
QUANTITIES	MATT SCHOTT	DAVID MURRAY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0227 R/L
POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)
ADDITIONAL GIRDER REINFORCEMENT - LEFT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/11/11	10/13/11			17	27

FILE => 46-0227r1-o-agr_01.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:54

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	314	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

4-16-12
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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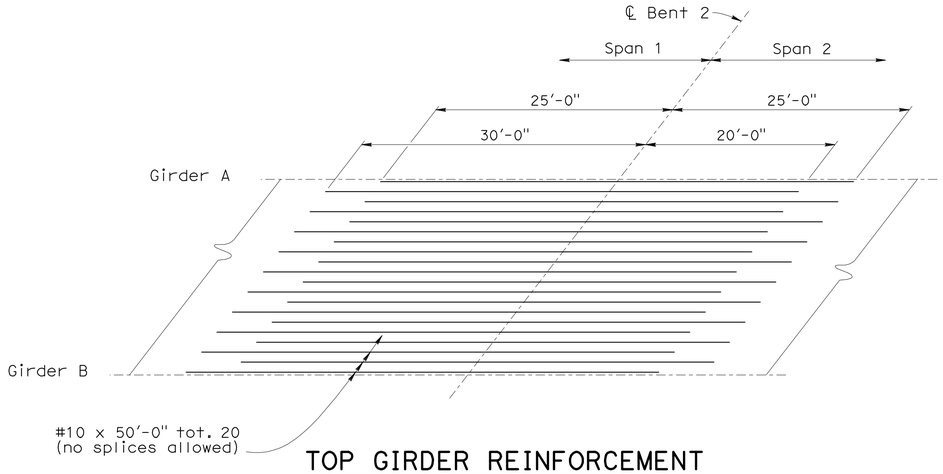
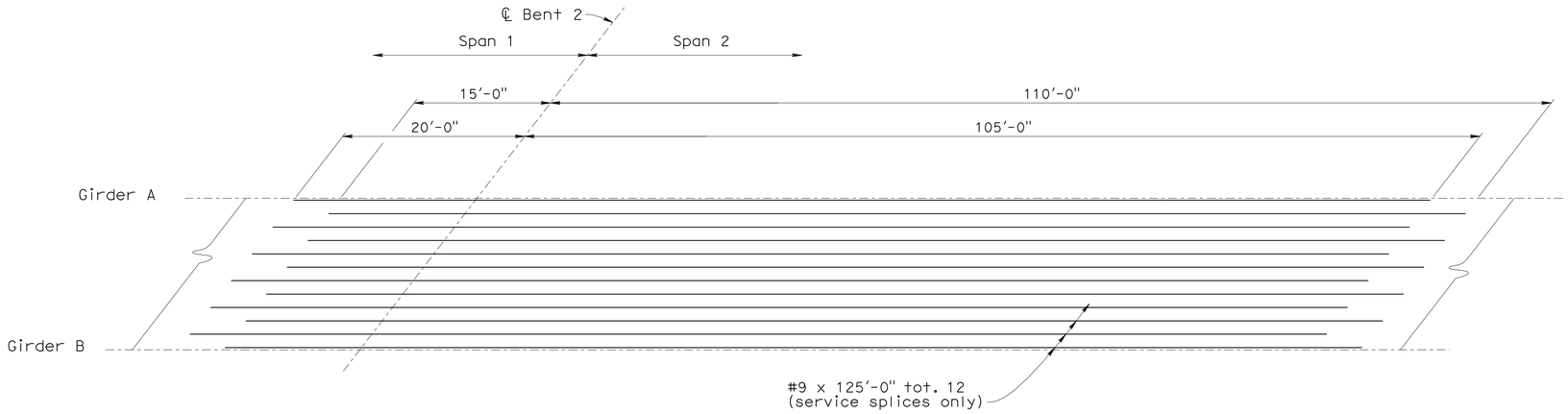


TOP GIRDER REINFORCEMENT

NO SCALE



BOTTOM GIRDER REINFORCEMENT

NO SCALE

DESIGN	BY MATT SCHOTT	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0227 R/L
DETAILS	BY SURAJ DUTTA	CHECKED ZIHAN YAN			POST MILE 38.7
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY			

ROUTE 99/198 EAST SEPARATION (WIDEN)

ADDITIONAL GIRDER REINFORCEMENT - RIGHT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
04/27/11	10/13/11			18	27

FILE => 46-0227rl-o-agr_02.dgn

USERNAME => s124096 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:54

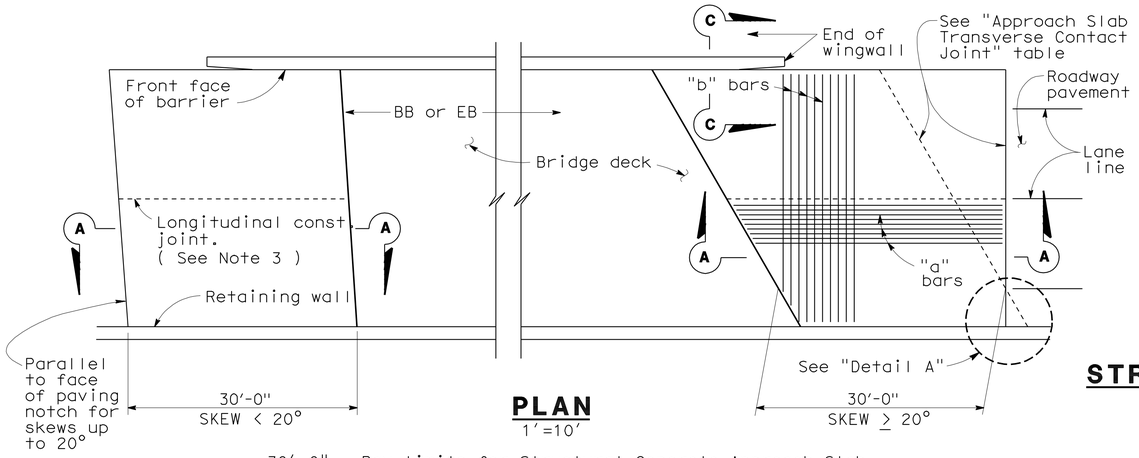
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	315	346

12/01/11
REGISTERED ENGINEER - CIVIL

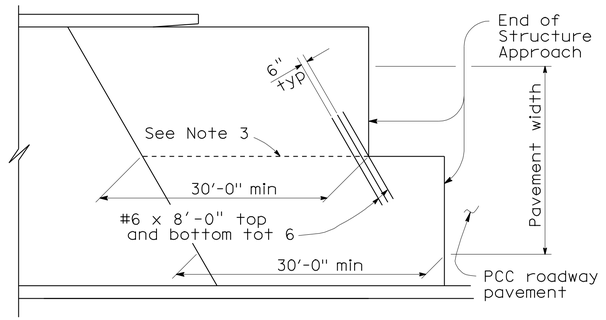
4-16-12
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SCHENDEL — No. C 64259 — Exp. 06/30/13 — CIVIL — STATE OF CALIFORNIA

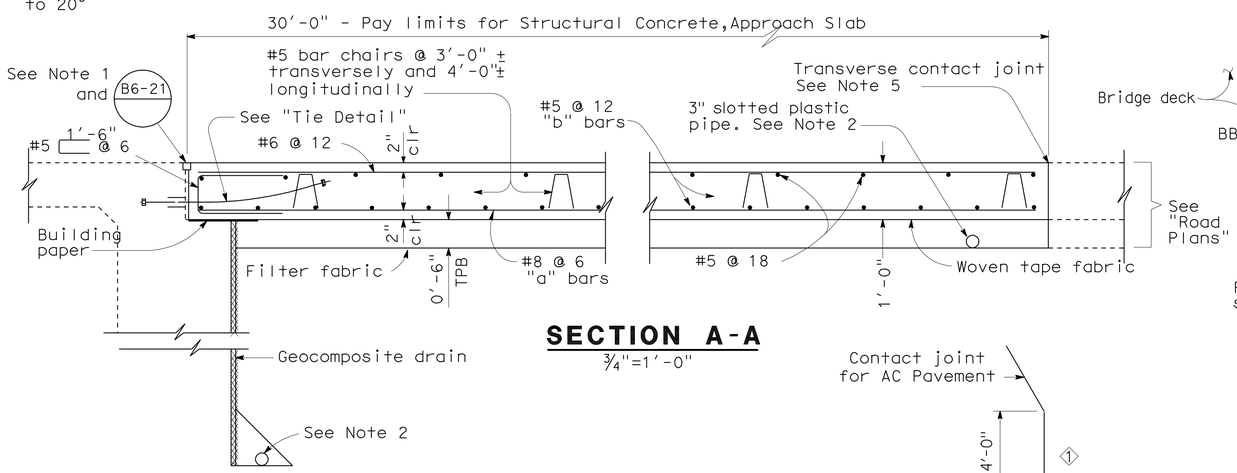


PLAN
1"=10'

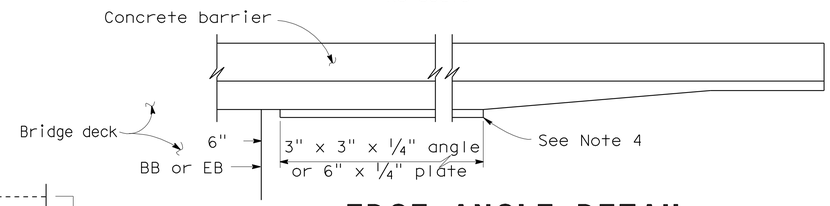


STRUCTURE APPROACH - END STAGGER DETAIL
No Scale

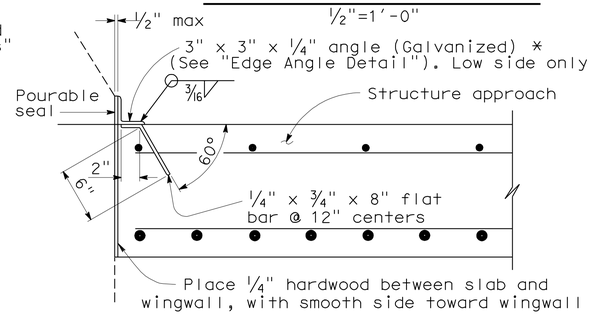
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20°- 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



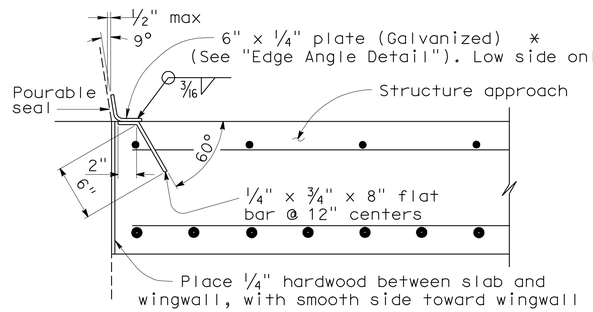
SECTION A-A
¾"=1'-0"



EDGE ANGLE DETAIL
½"=1'-0"

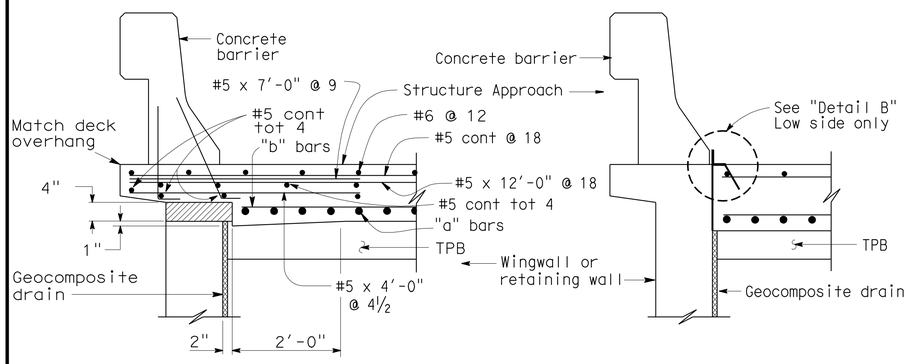


*(TO BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER)

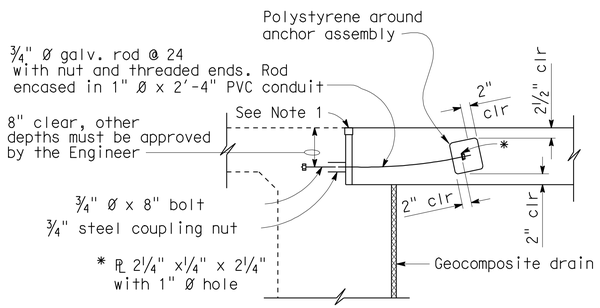


*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)

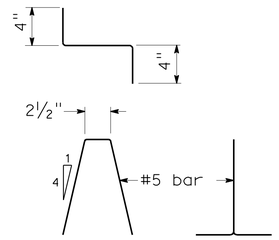
DETAIL A
No Scale



SECTION C-C
¾"=1'-0"
(Type E-1 to be used, unless otherwise shown on plans)



TIE DETAIL
¾"=1'-0"



BAR CHAIR DETAIL
1½"=1'-0"

NOTES:

1. For details not noted or shown, see Structure Plans.
2. For drainage details, see "Structure Approach Drainage Details" sheet.
3. Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
4. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach, as applicable.
5. For transverse contact joint with new PCC paving, refer to Standard Plan P10.
6. At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along ℄ roadway.

▨ Polystyrene to be removed.

SPECIAL DETAILS

REVISED STANDARD DRAWING

FILE NO. xs3-180e

APPROVED BY M. Ha — RESPONSIBLE TECHNICAL SPECIALIST
APPROVAL DATE 8-12-08

RELEASED BY O. Alcantara — RESPONSIBLE OFFICE CHIEF
RELEASE DATE 8-12-08

① Modified detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 46-0227 R/L
POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)
STRUCTURE APPROACH TYPE N(30D)

CU 06
EA 360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 05/04/11 09/28/11

SHEET 19 OF 27

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. 01/11/08)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

USERNAME => s124496

46-0227rl-s-sa01_n30d.dgn

DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:54

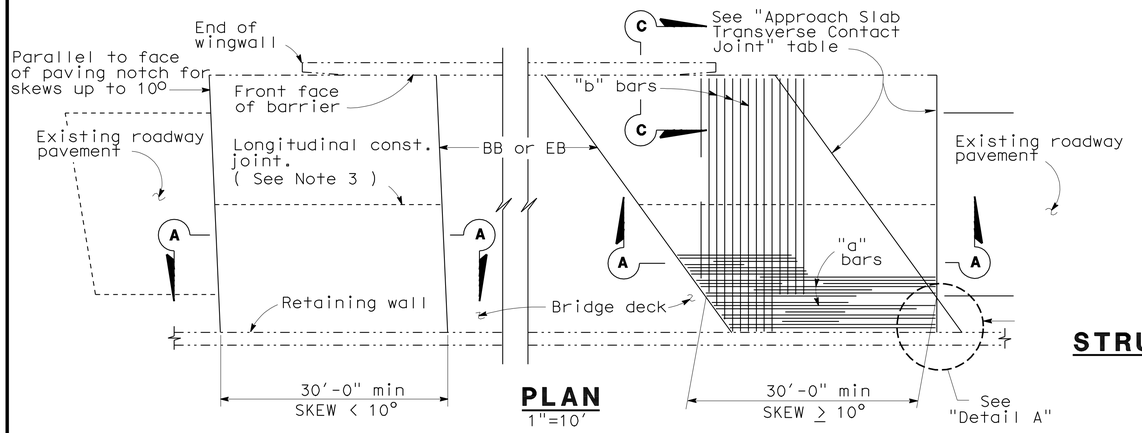
DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	316	346

Richard Schendel 12/01/11
REGISTERED ENGINEER - CIVIL

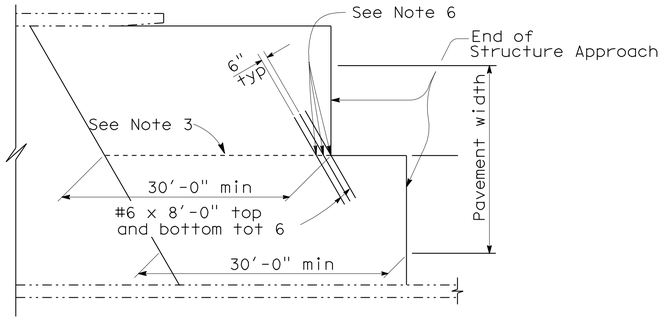
4-16-12
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SCHENDEL — No. C 64259 — Exp. 06/30/13 — CIVIL — STATE OF CALIFORNIA

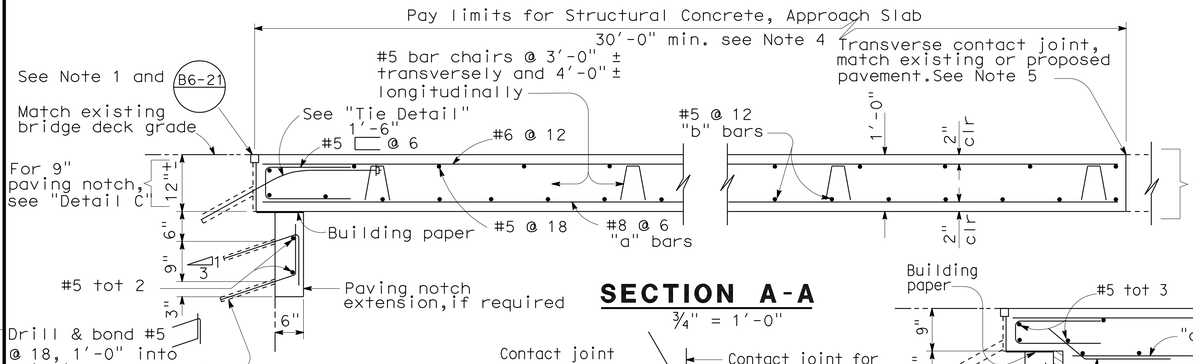


PLAN
1"=10'

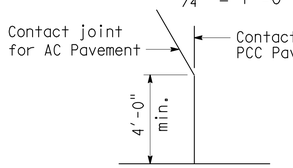


STRUCTURE APPROACH - END STAGGER DETAIL
No Scale

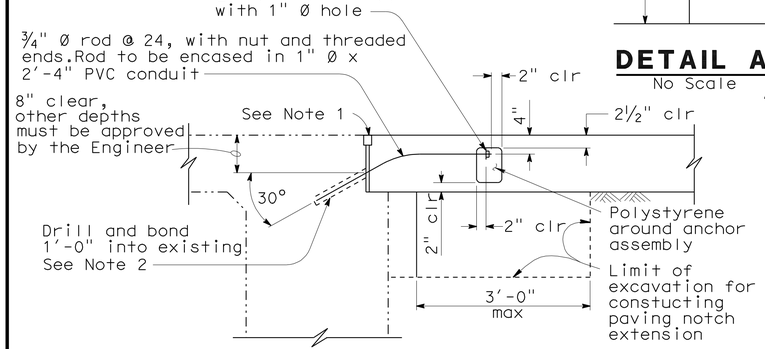
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



SECTION A-A
¾" = 1'-0"

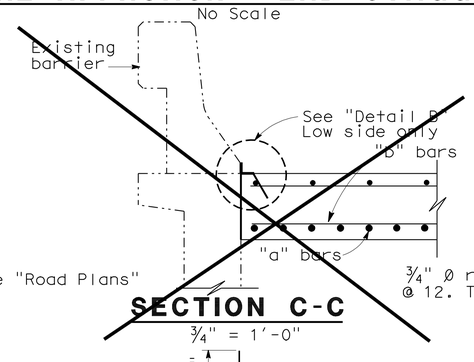


DETAIL A
No Scale

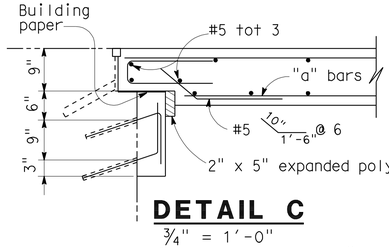


TIE DETAIL
¾" = 1'-0"

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

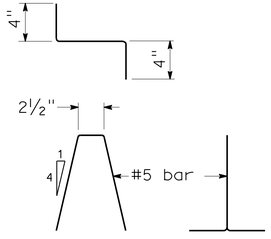


SECTION C-C
¾" = 1'-0"

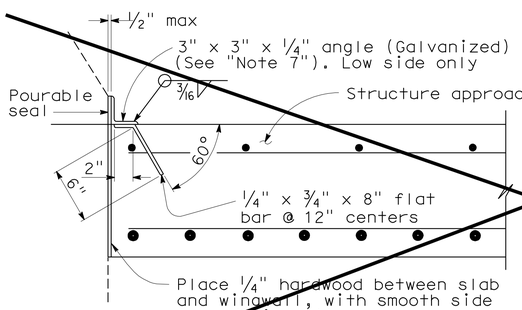


DETAIL C
¾" = 1'-0"

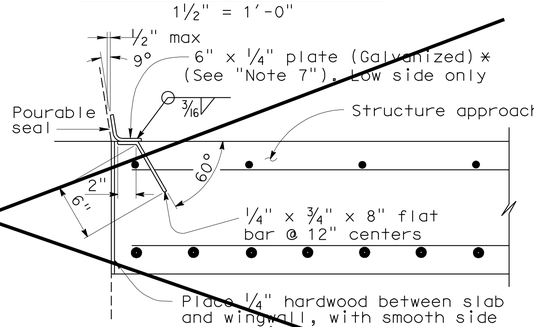
NOTE: For details not shown,see "Section A-A".



BAR CHAIR DETAIL
1½" = 1'-0"

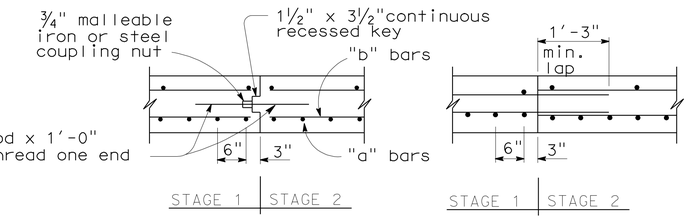


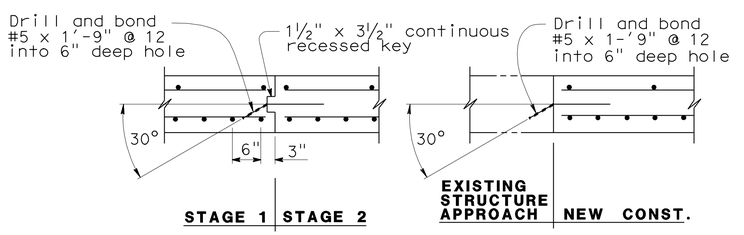
*(TO BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER)



*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)

DETAIL B
1½" = 1'-0"





LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES
¾" = 1'-0"

NOTES:

1. For details not shown or noted,see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint,when required.
2. Space to avoid existing prestress anchorages and main reinforcement.
3. Longitudinal construction joints,when permitted by the Engineer,shall be located on lane lines.
4. Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint.
5. For transverse contact joint with new PCC paving. refer to Standard Plan P10.
6. Couplers are required for stage construction.
7. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.
1. 8. No Paving Notch Extension is required.

1 Note: For "SECTION C-C" see "ABUTMENT DETAILS NO. 1" sheet.

SPECIAL DETAILS

REVISED STANDARD DRAWING

RELEASE DATE	REVISED 3/14/05	DESIGN	BY M.TRAFFALIS	CHECKED E.THORKILDSEN	RELEASED BY
		DETAILS	BY R.YEE	CHECKED E.THORKILDSEN	
FILE NO.	xs3-140e	SUBMITTED	BY M.HA	DRAWING DATE 8/92	OFFICE CHIEF

1 Added notes

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	46-0227 R/L
MILE POST	38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)

STRUCTURE APPROACH TYPE R(30D)

DS OSD 2147A (ENGLISH) (REV. X/XX/XX)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06
EA 360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 05/07/11 01/22/11

SHEET 20 OF 27

USERNAME => s124496

DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:54

46-0227rl-s-sa02_r

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	317	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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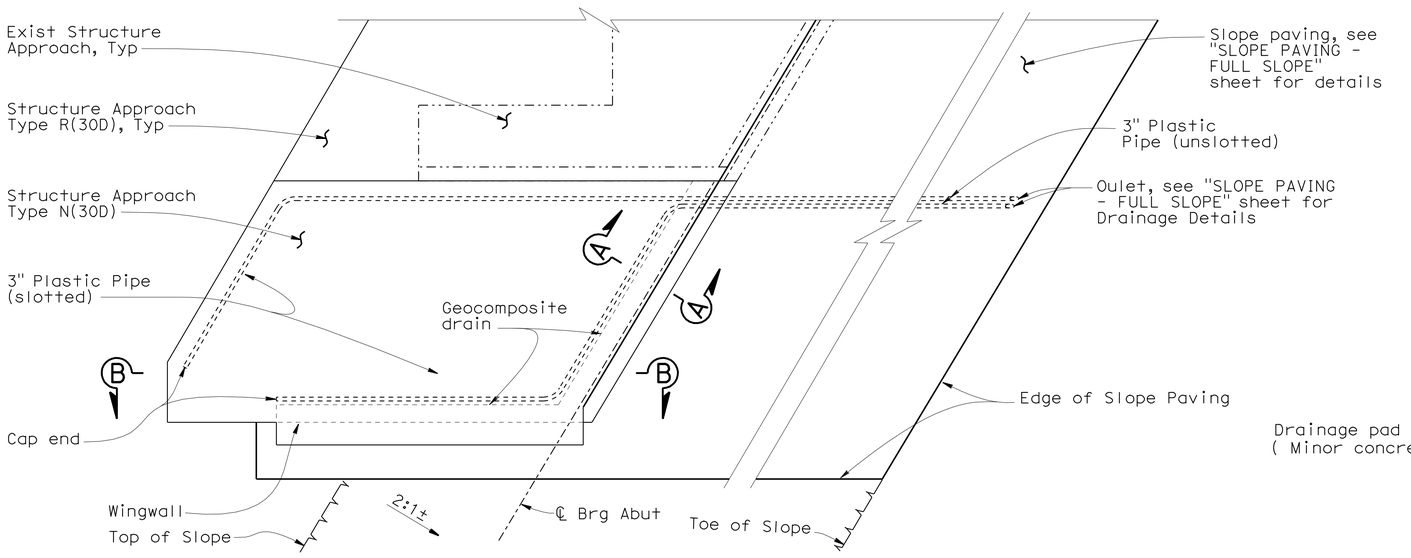
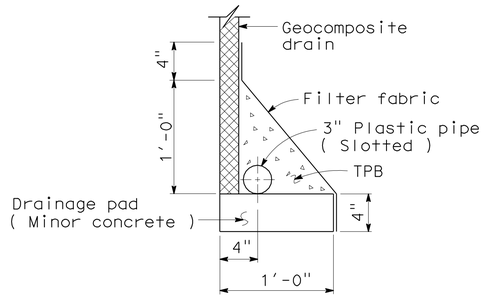
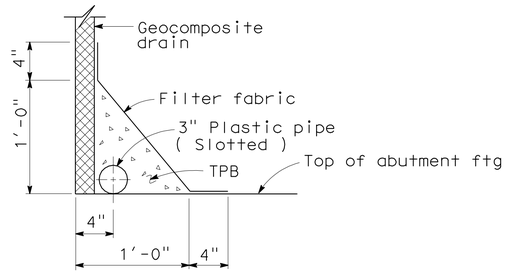


Note: Left Bridge Abut 1 shown, others similar.

PLAN
No Scale

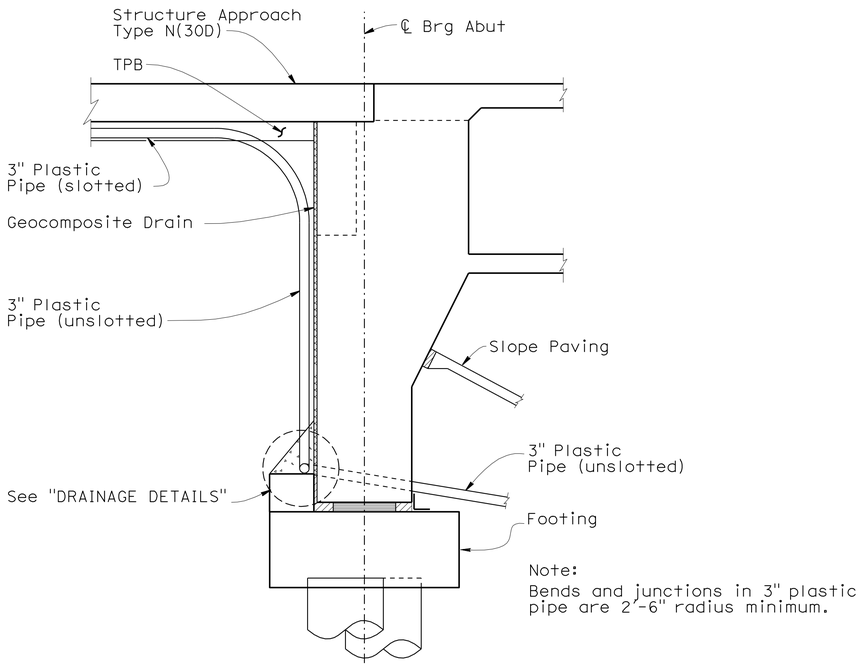


WITHOUT FOOTING

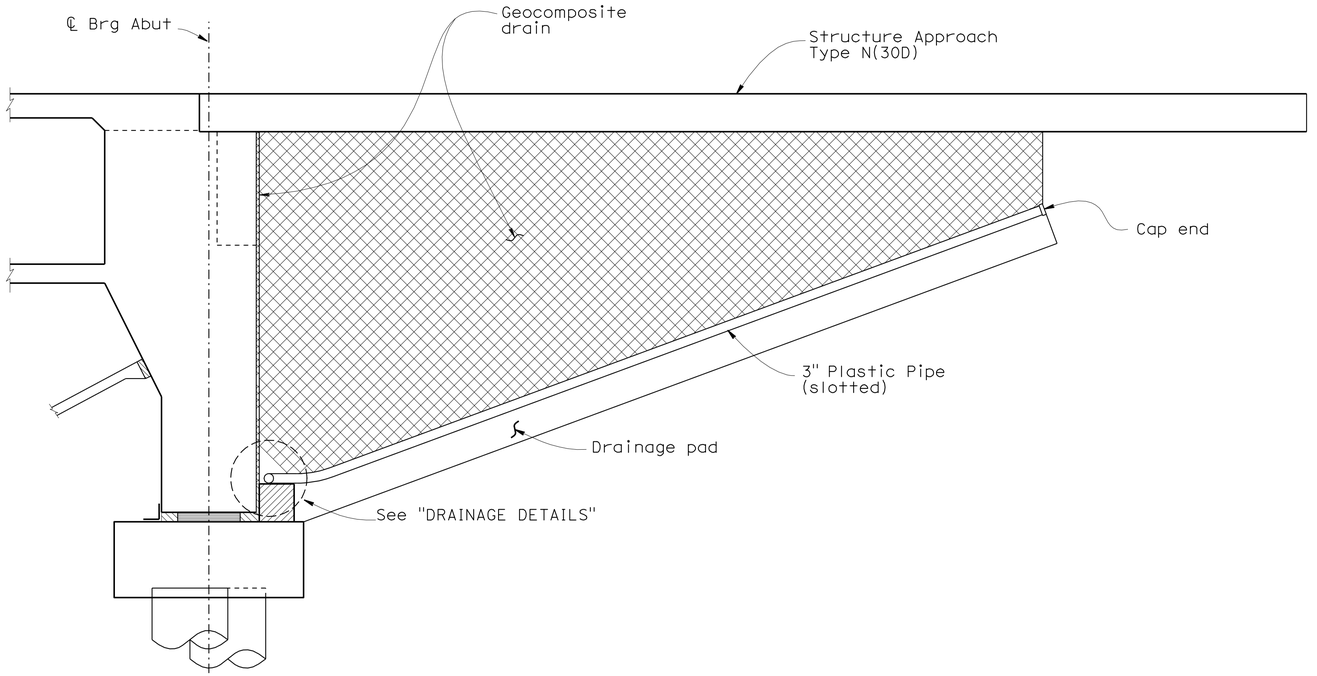


WITH FOOTING

DRAINAGE DETAILS
1½" = 1'-0"



SECTION A-A
No Scale



SECTION B-B
No Scale

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

DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT	
DETAILS	BY MINH TRAN	CHECKED MATT SCHOTT	
QUANTITIES	BY MATT SCHOTT	CHECKED DAVID MURRAY	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0227 R/L
POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)
STRUCTURE APPROACH DRAINAGE DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/27/11	09/28/11			21	27

FILE => 46-0227ri-s-sadd.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:54

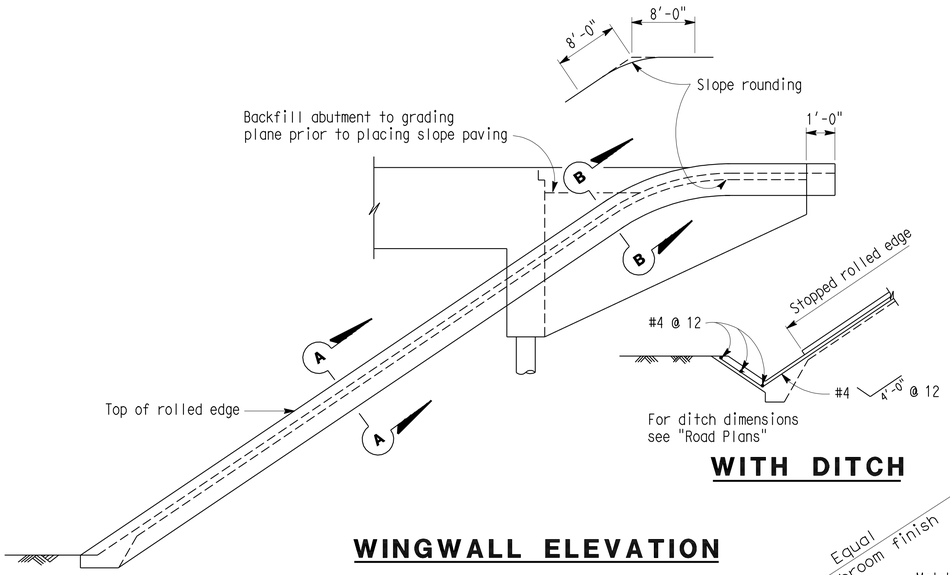
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	R37.3/41.3	318	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL, No. C 64259, Exp. 06/30/13, CIVIL, REGISTERED PROFESSIONAL ENGINEER, STATE OF CALIFORNIA

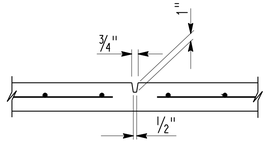
4-16-12
PLANS APPROVAL DATE

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

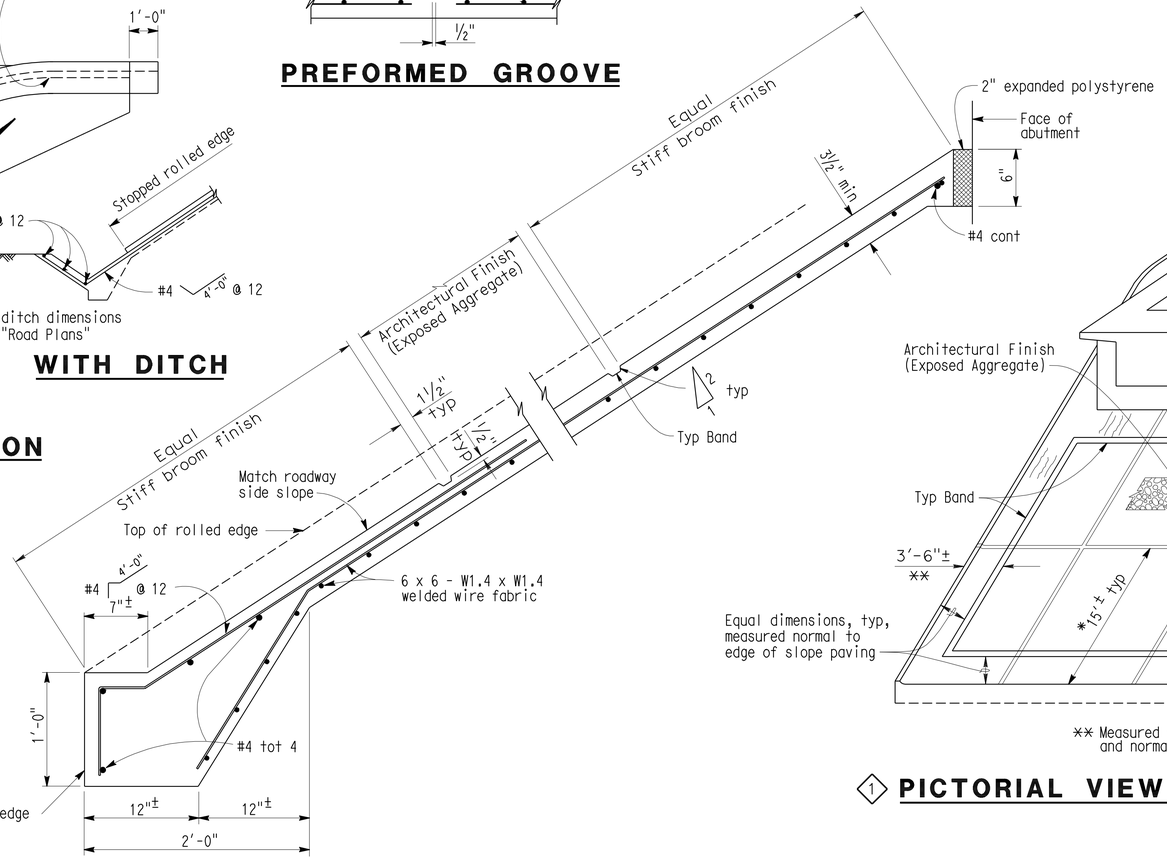


WITH DITCH

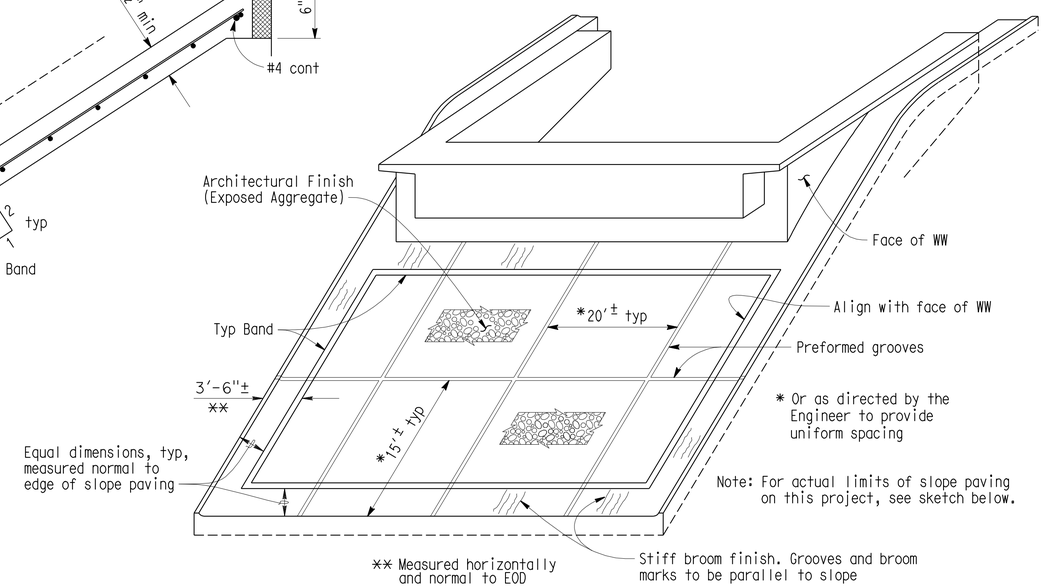
WINGWALL ELEVATION



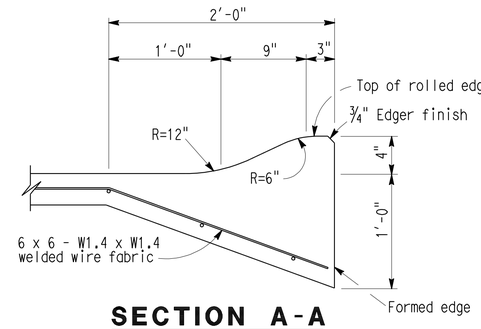
PREFORMED GROOVE



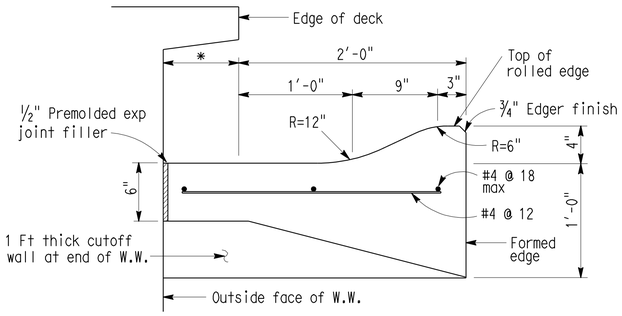
① TYPICAL SECTION - CONCRETE PAVING



① PICTORIAL VIEW OF TYPICAL INSTALLATION

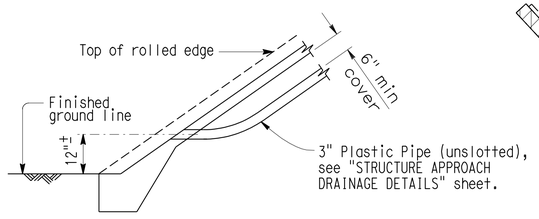


SECTION A-A

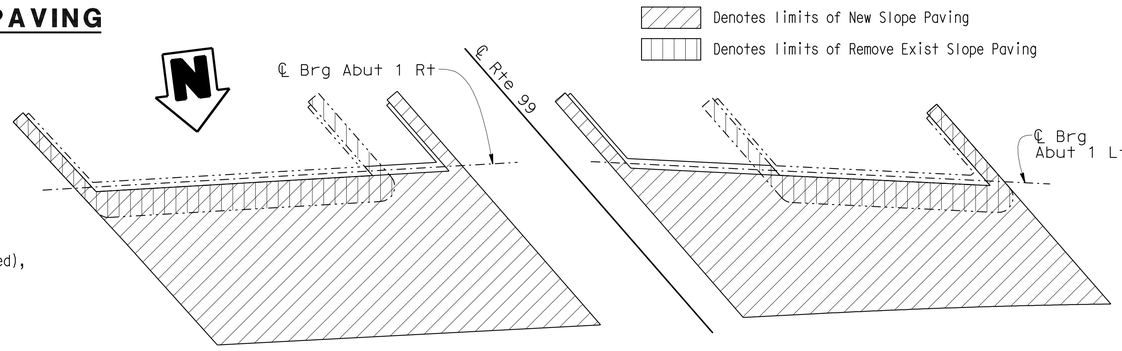


SECTION B-B

* This dimension becomes zero when edge of deck is at outside face of W.W.



① DRAINAGE DETAILS



Note: Abut 1 shown, Abut 3 similar.

② LIMITS OF SLOPE PAVING - PLAN

NO SCALE

SPECIAL DETAILS

DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:54

REVISED STANDARD DRAWING

RELEASE DATE					
	DESIGN	BY		CHECKED	RELEASED BY
	DETAILS	BY	D. Wooten	CHECKED	Susan Hida
FILE NO. xs4-210	SUBMITTED	BY	Dan Adams	DRAWING DATE 6/07	OFFICE CHIEF

① Modifed detail
② Added detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	ROUTE 99/198 EAST SEPARATION (WIDEN)
46-0227 R/L	
POST MILE 38.7	SLOPE PAVING - FULL SLOPE

DS OSD 2147A (CADD) (REV. 4/07)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06
EA 360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES										SHEET	OF
06/25/11	07/22/11									22	27

USERNAME => s124496

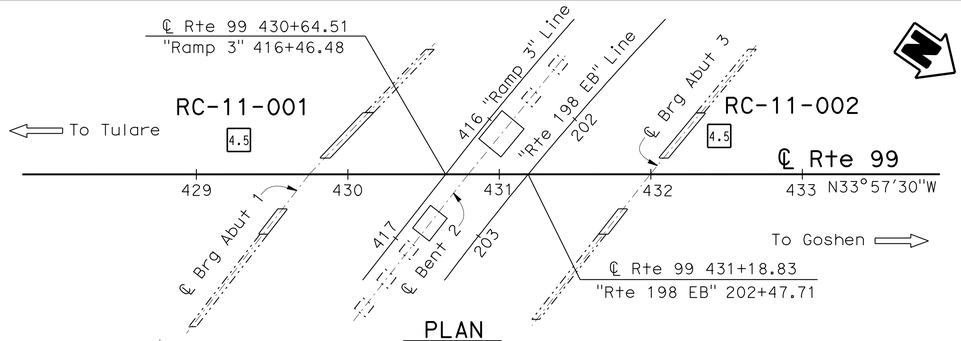
46-0227rl-u-slppvg.

BENCH MARK

BM: BHB 0002
Fnd 1" IP w/RCTP
north end of bridge
Elev 291.64′
N 2,002,302.58
E 6,441,697.27

BM: 271
Fnd 2" CADOT brass disk in
iron pipe with concrete.
Elev 294.99′
N 2,001,950.70
E 6,442,071.52

Vertical Datum: NAVD 88



PLAN
1" = 50′

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	R37.3/41.3	319	346

CERTIFIED ENGINEERING GEOLOGIST 9-12-11

4-16-12
PLANS APPROVAL DATE

Reid Buell
No. 1481
Exp. 4-30-13
CERTIFIED ENGINEERING GEOLOGIST
PROFESSIONAL GEOLOGIST 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.

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

22.0′ Lt Sta 429+29
℄ Rte 99

RC-11-001

295.8′

4.5 SILT with SAND (ML); very stiff; olive brown; moist; fine SAND; PP=3.75 tsf; (Fill).

50 ft.4 SILTY SAND (SM); olive brown; moist; fine SAND; little fines; (Fill).
Lean CLAY with SAND (CL); very stiff; moist; fine SAND; PP=3.75 tsf; (Fill).

14 ft.4 SILTY SAND (SM); medium dense; black; moist; fine SAND; little fines.
SANDY SILT (ML); very stiff; light yellowish brown; moist; fine SAND; PP=2.5 tsf.

14 ft.4 SILT with SAND (ML); very stiff; light yellowish brown; moist; fine SAND; PP=2.25 tsf.
Poorly-graded SAND (SP); medium dense; light olive gray; moist; fine SAND.

15 ft.4 Lean CLAY with SAND (CL); very stiff; light yellowish brown; moist; fine SAND; micaceous; mottled with iron oxide; PP=2.0 tsf.
SILT with SAND (ML); stiff; olive brown; moist; fine SAND; micaceous; mottled with iron oxide; PP=1.5 tsf.

38 ft.4 Poorly-graded SAND (SP); dense; olive brown; moist; fine SAND; mottled with iron oxide.

23 ft.4 Lean CLAY with SAND (CL); hard; olive brown; moist; fine SAND; trace calcium carbonate veining and iron oxide mottling; PP=4.0 tsf.
Poorly-graded SAND (SP); dense; olive brown; moist; fine SAND.
SILT with SAND (ML); very stiff; yellowish brown; moist; fine SAND; micaceous; trace iron oxide mottling; PP=3.0 tsf.

25 ft.4

32 ft.4 SILTY SAND (SM); medium dense; yellowish brown; moist; fine SAND; little fines; mottled with iron oxide.

20 ft.4 SILT with SAND (ML); very stiff; yellowish brown; moist; fine SAND; micaceous; PP=2.0 tsf.
-mottled with carbon veins; PP=3.0 tsf.

44 ft.4 SILTY SAND (SM); dense; yellowish brown; moist; fine SAND; little fines; micaceous; trace iron oxide mottling.
Lean CLAY with SAND (CL); very stiff; yellowish brown; moist; fine SAND; micaceous; iron oxide mottling; PP=3.0 tsf.

36 ft.4 SILTY SAND (SM); dense; yellowish brown; moist; fine SAND; little fines; micaceous.
Lean CLAY with SAND (CL); very stiff; yellowish brown; moist; heavy iron oxide mottling; PP=3.5 tsf.

90 ft.4 SILT with SAND (ML); very stiff; yellowish brown; moist; fine SAND; micaceous; mottled with iron oxide; PP=2.5 tsf.
Poorly-graded SAND with SILT (SP-SM); very dense; olive brown; moist; fine SAND; micaceous.

37 ft.4 Poorly-graded SAND (SP); dense; olive brown; moist; fine and medium SAND; trace fine subrounded GRAVEL; micaceous.

59 ft.4 Elastic SILT with SAND (MH); hard; olive brown; moist; fine SAND; mottled with iron oxide staining; PP=4.5 tsf.

56 ft.4 Poorly-graded SAND (SP); very dense; olive brown; moist; fine and medium SAND; micaceous.
-fine SAND.

53 ft.4 -dense; strong brown; trace fine subrounded GRAVEL.

18 ft.4 Elastic SILT (MH); very stiff; olive brown; moist; mottled with iron oxide and carbon veins; PP=2.25 tsf.
SANDY SILT (ML); hard; olive brown; moist; fine SAND; trace carbon veins; trace rootlets; PP=4.0 tsf.

40 ft.4 Elastic SILT with SAND (MH); stiff; olive brown; moist; fine SAND; trace calcium carbonate concretions; micaceous; PP=1.25 tsf.

59 ft.4 SILTY SAND (SM); very dense; olive brown; moist; fine and medium SAND; little fines; mottled with iron oxide staining and carbon flecks; micaceous.

22 ft.4 SILT with SAND (ML); hard; olive brown; moist; fine SAND; micaceous; PP=4.0 tsf.
Elastic SILT (MH); very stiff; olive brown; moist; trace fine SAND; micaceous; PP=2.75-3.5 tsf.

50/4 ft.4 SILTY SAND (SM); very dense; olive brown; moist; fine SAND; little fines; mottled with iron oxide staining.
Poorly-graded SAND (SP); very dense; olive brown; moist; fine SAND; micaceous; iron oxide mottling.

GWS Elev 183.9′
5-18-11

48 ft.4 SILTY SAND (SM); dense; olive brown; moist; fine SAND; little fines; micaceous.
Elastic SILT (MH) interbeds from Elev 184.8′ to 180.8′.

50 ft.4 Poorly-graded SAND (SP); dense; olive brown; wet; fine SAND; micaceous.
Elastic SILT (MH); hard; olive brown; moist; few fine SAND; micaceous; mottled with iron oxide and calcium carbonate; PP=4.0 tsf.

25 ft.4 Elastic SILT with SAND (MH); hard; olive brown; moist; fine SAND; PP=4.0 tsf.
-strongly cemented.

52 ft.4 SILTY SAND (SM); dense; olive brown; wet; little fine SAND; micaceous; mottled with iron oxide stains; carbon flecks and calcium carbonate; trace gypsum crystals.

1-19-11
Terminated at Elev 169.3′
ERi = 55%

290 280 270 260 250 240 230 220 210 200 190 180 170

429+00 430+00 431+00

PROFILE
Horiz: 1" = 10′
Vert: 1" = 10′

Note: Groundwater was not measured in Boring RC-11-002, for approximate groundwater elevation, see Boring RC-11-001.

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0227R/L POST MILE 38.7	ROUTE 99/198 EAST SEPARATION (WIDEN) LOG OF TEST BORINGS 1 OF 5
FUNCTIONAL SUPERVISOR NAME: R. Buell	DRAWN BY: W. Tang 08/11 CHECKED BY: A. Barrie	FIELD INVESTIGATION BY: J. Thorne			
OGS CIVIL LOG OF TEST BORINGS SHEET	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3643 PROJECT NUMBER & PHASE: 06000204081	CONTRACT NO.: 06-360211	DISREGARD PRINTS BEARING EARLIER REVISION DATES →	REVISION DATES 09-06-11 SHEET 23 OF 27

FILE => 46-0227rl-z-ltb01.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:54

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	R37.3/41.3	320	346

CERTIFIED ENGINEERING GEOLOGIST 9-12-11

4-16-12
PLANS APPROVAL DATE

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PROFESSIONAL GEOLOGIST
Reid Buell
No. 1481
Exp. 4-30-13
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 5"

Note: Groundwater was not measured in Boring RC-11-002, for approximate groundwater elevation, see Boring RC-11-001.

24.0' Lt Sta 432+46
℄ Rte 99

RC-11-002

289.2'

290 / 280 / 270 / 260 / 250 / 240 / 230 / 220 / 210 / 200 / 190 / 180 / 170 / 160

4.5 Lean CLAY with SAND (CL); stiff; very dark brown; moist; fine SAND; micaceous; trace calcium carbonate; PP=1.5 tsf; (Fill).

10 ft.4 PP=2.0 tsf.
Lean CLAY with SAND (CL); hard; black; moist; micaceous; PP=4.5 tsf.

10 ft.4 Poorly-graded SAND with SILT (SP-SM); medium dense; dark olive brown; moist; fine SAND; micaceous.

8 ft.4 Lean CLAY with SAND (CL); stiff; dark olive brown; fine SAND; micaceous; iron oxide mottled; PP=1.75 tsf.

15 ft.4 Poorly-graded SAND (SP); medium dense; dark olive brown and olive brown; moist; fine SAND; micaceous.

23 ft.4

17 ft.4

36 ft.4 Poorly-graded SAND with SILT (SP-SM); dense; dark grayish brown; moist; fine SAND; micaceous.

15 ft.4 SILT with SAND (ML); hard; dark grayish brown; moist; fine SAND; micaceous; iron oxide mottled; PP=4.25 tsf.
-stiff; heavy iron oxide mottling; trace carbon fleck; PP=1.75 tsf.

31 ft.4 Poorly-graded SAND (SP); dense; dark grayish brown; moist; fine SAND.

24 ft.4 SILT with SAND (ML); very stiff; dark grayish brown; moist; fine SAND; micaceous; some iron oxide staining; PP=2.0 tsf.

27 ft.4 SILTY SAND (SM); dense; dark yellowish brown; moist; fine SAND; little fines; micaceous.

31 ft.4 -from fine to coarse SAND.

30 ft.4

40 ft.4 Poorly-graded SAND (SP); very dense; dark yellowish brown; moist; fine SAND; micaceous.

45 ft.4

82 ft.4 Lean CLAY with SAND (CL); very stiff; dark yellowish brown; moist; fine SAND; micaceous; trace carbon flecks and iron oxide staining; PP=3.5 tsf.

20 ft.4 Fat CLAY (CH); very stiff; dark yellowish brown; moist; some carbon flecks and iron oxide staining; PP=2.0 tsf.

45 ft.4 SANDY lean CLAY (CL); very stiff; dark yellowish brown; moist; fine SAND; micaceous; PP=2.25 tsf.
Poorly-graded SAND (SP); very dense; dark yellowish brown; moist; fine SAND; micaceous.

32 ft.4 CLAYEY SAND (SC); dense; dark yellowish brown; moist; fine SAND; micaceous; trace iron oxide staining; PP=3.5 tsf.
SILT (ML); hard; dark yellowish brown; moist; trace fine SAND; highly micaceous; PP=4.5 tsf.

29 ft.4 Lean CLAY with SAND (CL); very stiff; dark yellowish brown; moist; fine SAND; micaceous; trace carbon flecks and iron oxide staining; PP=2.75 tsf.

52 ft.4 SANDY SILT (ML); very stiff; dark yellowish brown; moist; fine SAND; micaceous; some carbon flecks and iron oxide stainings; PP=3.0 tsf.
SILTY SAND (SM); very dense and dense; dark yellowish brown; moist; fine SAND; some fines; micaceous; some carbon flecks and iron oxide staining.

32 ft.4 Lean CLAY with SAND (ML); hard; dark olive brown; moist; fine SAND; micaceous; trace carbon flecks and iron oxide staining; PP=4.5 tsf.

33 ft.4 SANDY lean CLAY (CL); very stiff; dark yellowish brown; moist; fine SAND; micaceous; heavy iron oxide mottling; PP=3.0 tsf.

20 ft.4 CLAYEY SAND (SC); medium dense; dark yellowish brown; moist; fine SAND; some fines; micaceous; iron oxide staining.

35 ft.4 SANDY SILT (ML); very stiff; dark yellowish brown; moist; fine SAND; weakly and moderately cemented; micaceous; iron oxide mottling; trace gypsum crystals; PP=2.0 tsf.

2-9-11
Terminated at Elev 162.7'
ERi = 83%

432+00 433+00 434+00

PROFILE
Horiz: 1" = 10'
Vert: 1" = 10'

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0227R/L	ROUTE 99/198 EAST SEPARATION (WIDEN)
FUNCTIONAL SUPERVISOR NAME: R. Buell	DRAWN BY: W. Tang 08/11	FIELD INVESTIGATION BY: J. Thorne		POST MILE 38.7	LOG OF TEST BORINGS 2 OF 5
	CHECKED BY: A. Barrie				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 06000204081 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
09-06-11				24	27

FILE => 46-0227rl-z-ltb02.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:54

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	R37.3/41.3	321	346

9-12-11
CERTIFIED ENGINEERING GEOLOGIST

Reid Buell
No. 1481
Exp. 4-30-13
CERTIFIED ENGINEERING GEOLOGIST
PROFESSIONAL GEOLOGIST
STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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CEMENTATION

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

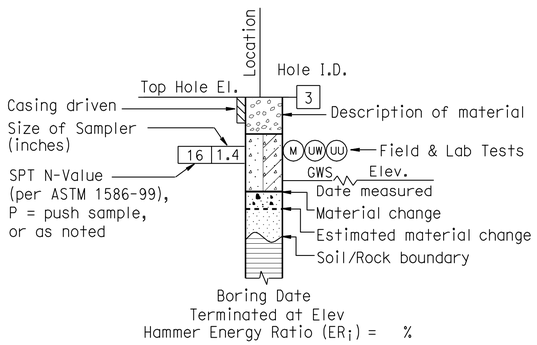
BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
Size	A	Auger Boring (hollow or solid stem bucket)
Size	R RW RC P	Rotary drilled boring (conventional) Rotary drilled with self-casing wire-line Rotary core with continuously-sampled, self-casing wire-line Rotary percussion boring (air)
Size	R	Rotary drilled diamond core
Size	HD HA	Hand driven (1-inch soil tube) Hand Auger
●	D	Dynamic Cone Penetration Boring
▲	CPT	Cone Penetration Test (ASTM D 5778)
⬚	O	Other (note on LOTB)

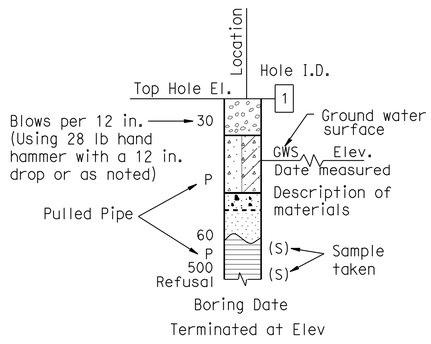
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

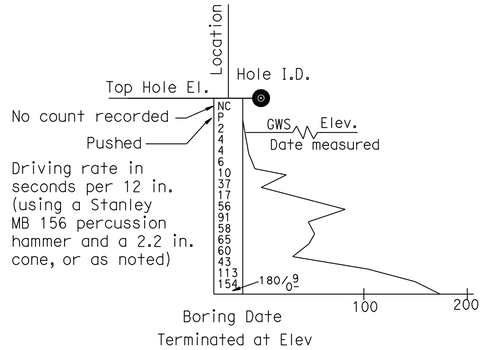
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2



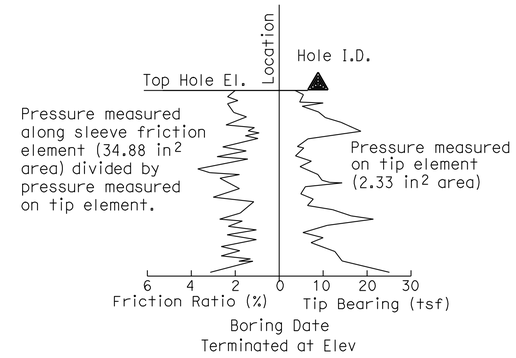
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0227R/L POST MILE 38.7	ROUTE 99/198 EAST SEPARATION (WIDEN) LOG OF TEST BORINGS 3 OF 5
	PREPARED BY: W. Tang 08/11				

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 06000204081 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
				25	27

FILE => 46-0227rl-z-ltb03.dgn

USERNAME => s124496 DATE PLOTTED => 13-APR-2012 TIME PLOTTED => 10:54

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

GROUP SYMBOLS AND NAMES

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

FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 216)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (UC) Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	R37.3/41.3	322	346

CERTIFIED ENGINEERING GEOLOGIST 9-12-11

4-16-12
PLANS APPROVAL DATE

Reid Buell No. 1481 Exp. 4-30-13 CERTIFIED ENGINEERING GEOLOGIST — PROFESSIONAL GEOLOGIST — STATE OF CALIFORNIA

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APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE

Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS

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

PARTICLE SIZE

Description		Size (in.)
Boulder		Greater than 12
Cobble		3 - 12
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay		Less than 1/300

ENGINEERING SERVICES

MATERIALS AND GEOTECHNICAL SERVICES
PREPARED BY: W. Tang 08/11

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0227R/L
POST MILE 38.7

ROUTE 99/198 EAST SEPARATION (WIDEN)
LOG OF TEST BORINGS 4 OF 5

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 06000204081 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET 26 | OF 27

FILE => 46-0227rl-z-ltb04.dgn

USERNAME => s124096 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:55

"℄ Rte 99" 435+32.79 P.O.T.
"℄ R-3" 102+67.11 P.O.C.
To Tulare
B-4
B-6
B-7
B-8
B-1
B-5
B-2
B-3
"℄ Rte 99"
To Fresno
"℄ Rte 99" 435+63.23 P.O.T.
"℄ Rte 198 EBL" 202+46.27 P.O.C.
"℄ R-3"
"℄ Rte 198 EBL"
BM 439.68-99
Chiseled "X" in Pav't at 439+67.67 P.O.T. "℄ Rte 99" Elev. 285.55
PLAN
1" = 30'
NO AS BUILT CHANGES
AS BUILT
CORRECTIONS BY R.E. Kutovich
CONTRACT NO. 06-067314
82' Rt. ℄ Rte 99" Sta. 433+97
B-2
slightly compact dark brown SILT.
Loose brown fine SANDY SILT.
slightly compact gray RUST stained SILTY fine SAND.
compact gray clean medium-coarse SAND.
Loose brown SILT.
slightly compact brown fine-medium SANDY SILT.
compact brown SILT & fine SANDY SILT.
compact brown SILTY fine-medium SAND.
compact brown SILT.
Dense brown SILTY fine SAND.
Compact gray brown MICACEOUS coarse SAND with thin SILTY SAND layers.
Dense gray clean fine-medium SAND.
Dense gray clean MICACEOUS medium-coarse SAND.
Dense red brown fine-coarse SAND.
Dense gray brown MICACEOUS coarse SAND.
Compact gray brown MICACEOUS coarse SAND some PEBBLE GRAVEL.
Very dense brown SILTY medium-coarse SAND.
GWS EL. 215±
1-28-72
1-26-72
30' Lt. "℄ Rte 99" Sta. 434+57
B-4
1-19-72
86' Lt. "℄ Rte 99" Sta. 434+83
B-6
Slightly compact dark brown SILT.
Slightly compact brown MICACEOUS fine SANDY SILT.
compact gray clean fine-medium SAND.
Very loose brown MICACEOUS SILT.
Slightly compact brown fine-medium SANDY SILT.
Compact brown fine medium SANDY SILT.
Compact gray clean medium-coarse SAND.
Compact brown partly cemented SILT.
Dense brown partly cemented SILT with thin SAND layers.
Dense gray medium-coarse SAND.
Very dense gray medium-coarse SAND.
Dense gray medium-coarse SAND.
Slightly compact brown MICACEOUS medium SANDY SILT.
Dense brown SILTY fine SAND.
Dense brown SILTY coarse SAND.
1-25-74 dense brown CLAYEY SILT.
66' Rt. "℄ Rte 99" Sta. 434+89
B-5
12-12-74
71' Rt. "℄ Rte 99" Sta. 435+75
B-3
Slightly compact brown SILTY MICACEOUS fine SAND to fine SANDY MICACEOUS SILT.
Slightly compact brown slightly SILTY MICACEOUS medium SAND.
Compact brown MICACEOUS medium SAND.
Dense brown MICACEOUS medium to coarse SAND.
Dense brown slightly fine SANDY MICACEOUS SILT.
Dense brown interbedded SILTY MICACEOUS fine SAND & MICACEOUS SILT.
Dense brown SILTY MICACEOUS very fine SAND.
Very dense brown fine SANDY MICACEOUS SILT.
Dense brown slightly SILTY MICACEOUS medium SAND to MICACEOUS medium & coarse SAND.
Very dense brown slightly SILTY MICACEOUS medium-coarse SAND.
12-12-74
61' Lt. "℄ Rte 99" Sta. 435+91
B-7
12-12-74
48' Lt. ℄ Rte. 99 Sta. 435+77
B-8
Brown SANDY MICACEOUS SILT
Brown medium MICACEOUS SAND
Brown slightly SANDY CLAYEY MICACEOUS SILT
Brown SILTY MICACEOUS SAND
Brown SANDY MICACEOUS SILT interbedded with brown SILTY MICACEOUS SAND
2-26-75
59' Lt. "℄ Rte 99" Sta. 436+89
B-1
compact brown slightly SANDY SILT.
compact brown SILTY to slightly SILTY MICACEOUS fine SAND.
compact brown MICACEOUS medium & coarse SAND.
compact to dense brown slightly SILTY MICACEOUS fine-medium SAND.
Very dense brown slightly SILTY MICACEOUS fine grading to medium SAND.
12-17-74
PROFILE
1" = 10'
LEGEND OF BORING OPERATIONS
PENETRATION BORING
ROTARY BORING
2½" CONE PENETROMETER
SAMPLER BORING (DRY)
1" SOIL TUBE
ROTARY BORING (WET)
AUGER BORING (DRY)
JET BORING
CORE BORING
TEST PIT
LEGEND OF EARTH MATERIALS
GRAVEL
SAND
SILT
CLAY
SANDY CLAY or CLAYEY SAND
SANDY SILT or SILTY SAND
SILTY CLAY or CLAYEY SILT
PEAT and/or ORGANIC MATTER
FILL MATERIAL
IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK
CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test
UNIFIED SOIL CLASSIFICATION SYSTEM

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99/198	37.2/39.5, 3.0/4.9	188	240

Robert W. Reynolds #165
BRIDGE ENGINEERING GEOLOGIST — CERT. ENGINEERING GEOLOGIST NO.
DATE APPROVED May 19, 1975

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
06	Tul	99	R37.3/41.3	323	346

CERTIFIED ENGINEERING GEOLOGIST — DATE 9/12/2011

PROFESSIONAL GEOLOGIST — Reid Buell — No. 1481 — Exp. 4-30-13 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

ROUTE 99/198 EAST SEPARATION (WIDEN)

LOG OF TEST BORINGS 5 OF 5

UNIT: 3643
PROJ. No. & PHASE: 06000204081
CONTRACT No. 06-360211
BRIDGE No. 46-0227R/L

AS-BUILT VERT DATUM: NGVD29 CONVERSION: NAVD88=NGVD29-2.7'

Sheet 27 of 27

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

TO ACCOMPANY PLANS DATED 4-16-12

ENGINEERING GEOLOGY SECTION
FIELD STUDY By R. Fox 12-74
DRAWN By K. Endow 1-75
CHECKED By [illegible] 1-30-75
Approval Recommended By — ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER 78

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OFFICE OF STRUCTURES DESIGN GROUP 1
PROJECT ENGINEER [signature] 4/15
BRIDGE NO. 46-227 R/L
POST MILE 38.6

ROUTE 99/198 EAST SEPARATION (WIDEN)

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06200
WO 067311

Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY) 3/3/75

SHEET 27 OF 27

FILENAME => 46-0227rl-z-ltb05.tif

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	324	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

4-16-12
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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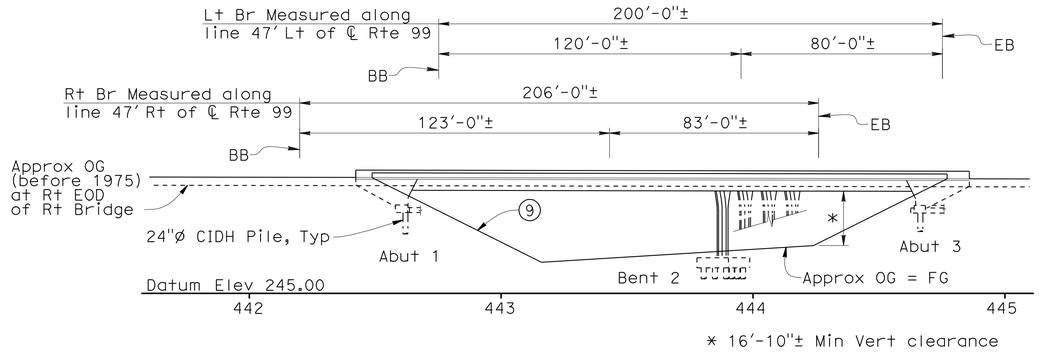


ELEVATION A-A
1" = 30'

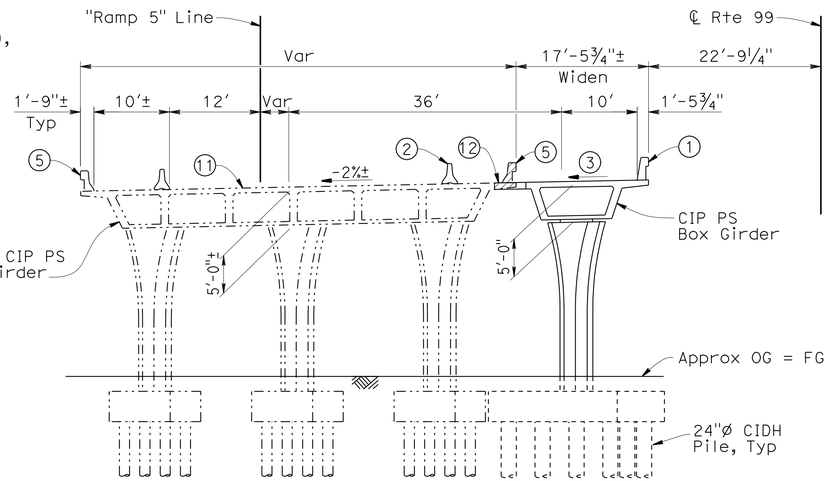
For "GENERAL NOTES", "STANDARD PLANS", "INDEX TO PLANS", "QUANTITIES", and "PILE DATA", see "INDEX TO PLANS" sheet.

NOTES

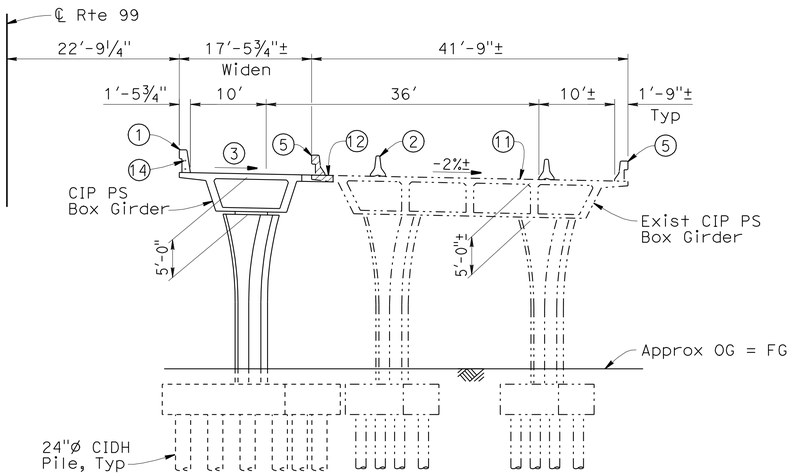
1. Concrete Barrier Type 736
2. Temporary Railing Type K, Typ, see "ROAD PLANS"
3. Match Existing
4. MBGR, Typ, see "ROAD PLANS"
5. Existing Concrete Barrier Type 25
6. Existing Structure Approach, Typ
7. Structure Approach Type N(30D), Typ
8. Structure Approach Type R(30D), Typ
9. Full Slope Paving (Exposed Aggregate), Exist and New, Typ
10. Exist deck drain
11. Grind epoxy grit surfacing on exist deck, prepare and treat exist deck with methacrylate
12. Closure Pour
13. Remove & replace portion of Exist Concrete Barrier (Type 25)
14. 2-2" ø Conduits in Barrier, see "ROAD PLANS"
15. Paint bridge name and number
16. Concrete Barrier, see "ROAD PLANS"

LEGEND

- New Structure
- Existing Structure
- Bridge Removal (Portion)
- Point of Minimum Vertical Clearance

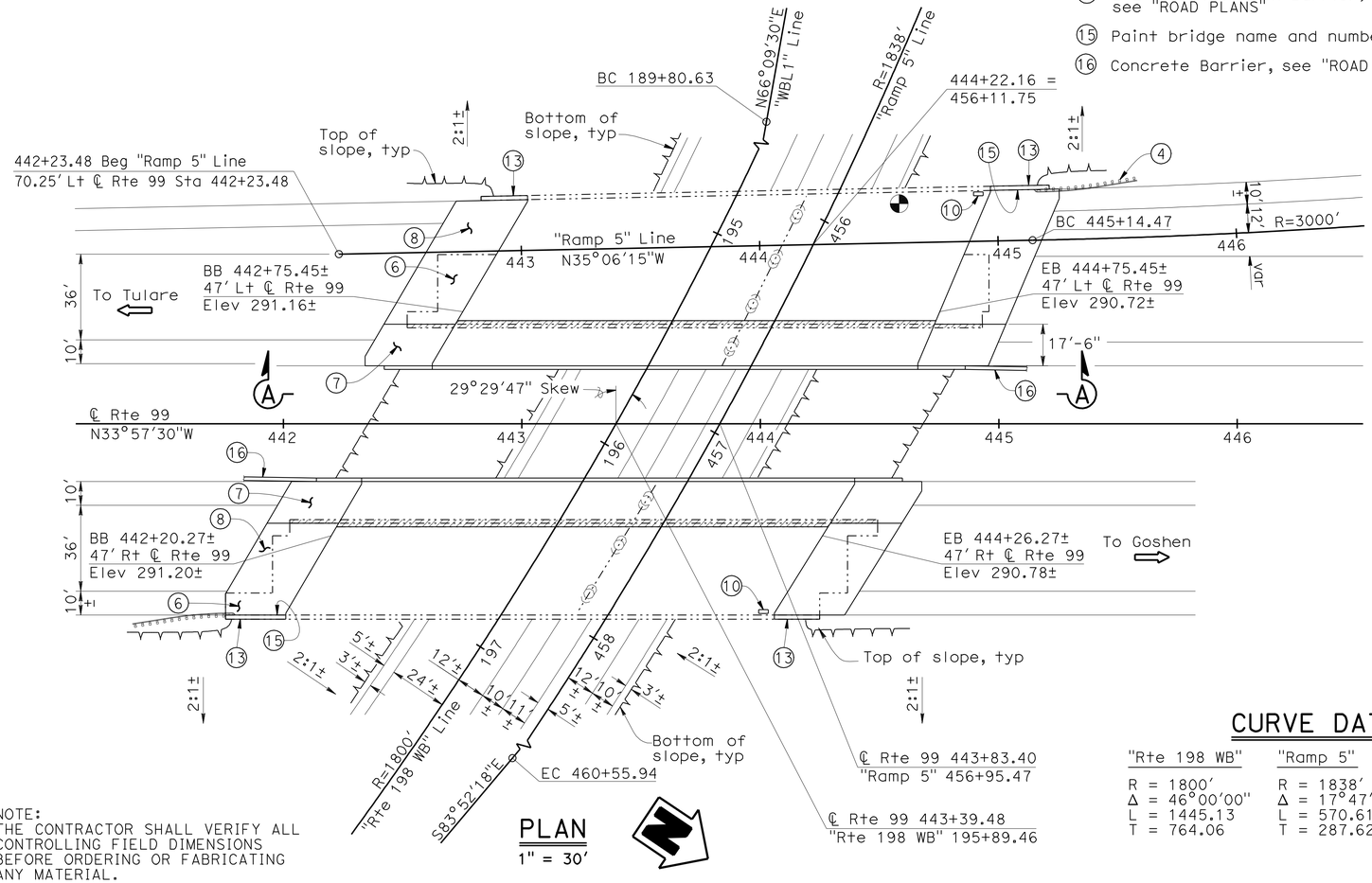


LEFT STRUCTURE



RIGHT STRUCTURE

TYPICAL SECTION
1" = 10'



PLAN
1" = 30'

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

CURVE DATA

"Rte 198 WB"	"Ramp 5"	"Ramp 5"
R = 1800'	R = 1838'	R = 3000'
Δ = 46°00'00"	Δ = 17°47'15"	Δ = 03°11'29"
L = 1445.13	L = 570.61	L = 167.10
T = 764.06	T = 287.62	T = 83.57

MICHAEL POPE DESIGN ENGINEER	DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT	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 18	BRIDGE NO. 46-0229 R/L POST MILE 39.0	ROUTE 99/198 WEST SEPARATION (WIDEN) GENERAL PLAN
	DETAILS	BY MINH TRAN	CHECKED MATT SCHOTT	LAYOUT	BY ZIHAN YAN	CHECKED RICHARD SCHENDEL					
	QUANTITIES	BY ZIHAN YAN	CHECKED M. SCHOTT / SANNOW MAM	SPECIFICATIONS	BY REBECCA FRANTI	PLANS AND SPECS COMPARED REBECCA FRANTI					

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
05/31/11	10/20/11	11/21/11		1	23

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10)

FILE => 46-0229rl-a-gp.dgn

USERNAME => s6124096 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	325	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 4th edition and the Caltrans Amendments, preface dated September 2010

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.6, November 2010

DEAD LOAD:
Includes 35 psf for future wearing surface

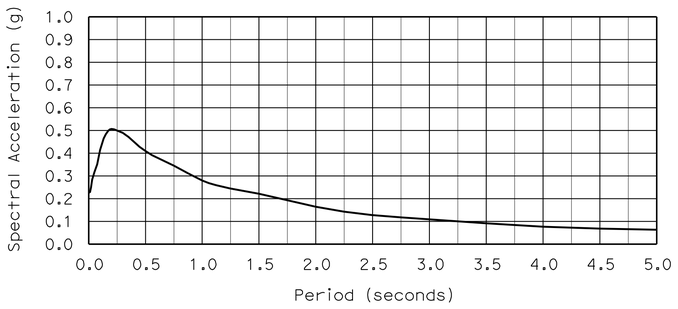
LIVE LOADING:
HL93 and permit design load

SEISMIC LOADING:
See "ACCELERATION RESPONSE SPECTRA CURVE"
Soil Profile: Vs30 = 890 ft/sec for the top 100 ft of soil
Moment Magnitude: Mmax = 7.9
Peak Ground Acceleration = 0.23 g

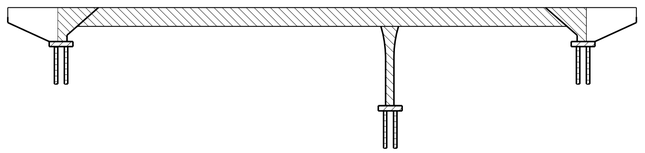
CONCRETE:
f_y = 60 ksi
$f'c$ = See "CONCRETE STRENGTH AND TYPE LIMITS".

FALSEWORK RELEASE

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.



ACCELERATION RESPONSE SPECTRA CURVE



Structural Concrete, Bridge (3.60 ksi at 28 days)

Structural Concrete, Bridge Footing (3.60 ksi at 28 days)

Structural Concrete, Bridge (5.50 ksi at 28 days)

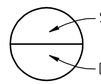
Cast-In-Drilled-Hole Concrete Pile (3.60 ksi at 28 days)

CONCRETE STRENGTH AND TYPE LIMITS

No Scale

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
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
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B2-3	16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B7-1	BOX GIRDER DETAILS
B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-53	CONCRETE BARRIER TYPE 25
B11-56	CONCRETE BARRIER TYPE 736
B14-3	COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN 4")
P10	CONCRETE PAVEMENT - DOWEL BAR DETAILS



PILE DATA

Location	Pile Type	Nominal Resistance (kips) Compression	Nominal Resistance (kips) Tension	Design Tip Elevation (ft)	Specified Tip Elevation (ft)
Abut 1	24" CIDH	360	0	228.0 (a), 228.0 (c)	228.0
Bent 2	24" CIDH	380	160	219.0 (a), 233.0 (b), 219.0 (c)	219.0
Abut 3	24" CIDH	360	0	228.0 (a), 228.0 (c)	228.0

Note:
Design tip elevations are controlled by: (a) Compression, (b) Tension and (c) Lateral Loads.

QUANTITIES

GRIND EPOXY GRIT SURFACING	17,990 SQFT
PREPARE CONCRETE BRIDGE DECK SURFACE	17,990 SQFT
BRIDGE REMOVAL (PORTION), LOCATION C	LUMP SUM
STRUCTURE EXCAVATION (BRIDGE)	365 CY
STRUCTURE BACKFILL (BRIDGE)	217 CY
AGGREGATE BASE (APPROACH SLAB)	21 CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,673 LF
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	113 CY
STRUCTURAL CONCRETE, BRIDGE	618 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	71 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	212 CY
DRILL AND BOND DOWEL	85 LF
JOINT SEAL (MR 2")	295 LF
BAR REINFORCING STEEL (BRIDGE)	241,100 LB
HEADED BAR REINFORCEMENT	472 EA
TREAT BRIDGE DECK	17,990 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	241 GAL
SLOPE PAVING (EXPOSED AGGREGATE)	15,400 SQFT
CONCRETE BARRIER (TYPE 25)	85 LF
CONCRETE BARRIER (TYPE 736)	492 LF

INDEX TO PLANS

	BY	CHECKED
DESIGN	ZIHAN YAN	MATT SCHOTT
DETAILS	MINH TRAN	MATT SCHOTT
QUANTITIES	ZIHAN YAN	M. SCHOTT / SANNOW MAM

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0229 R/L
POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)
INDEX TO PLANS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
10/20/11	11/23/11			2	23

FILE => 46-0229rl-b-itp.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	326	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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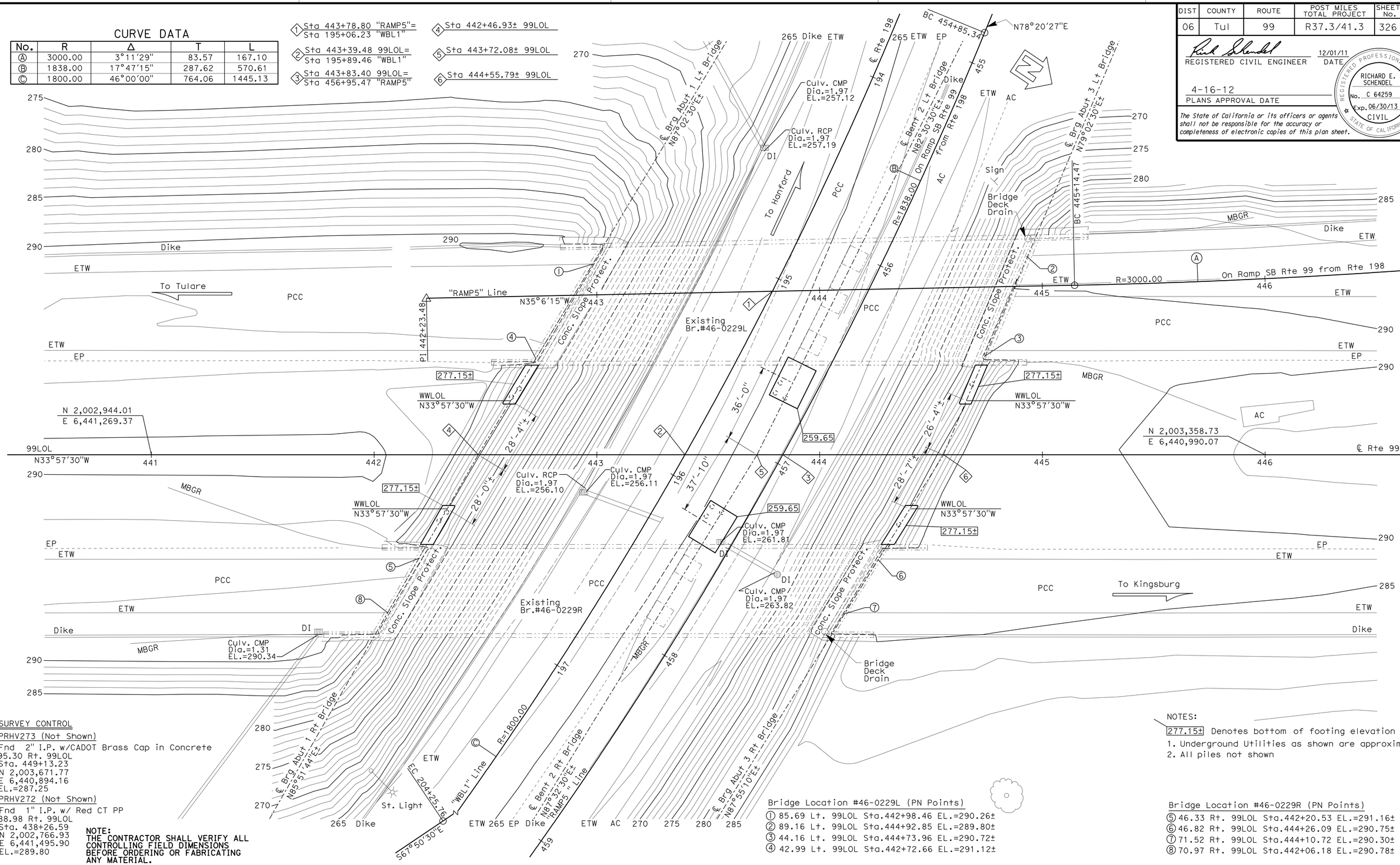
CURVE DATA

No.	R	Δ	T	L
Ⓐ	3000.00	3°11'29"	83.57	167.10
Ⓑ	1838.00	17°47'15"	287.62	570.61
Ⓒ	1800.00	46°00'00"	764.06	1445.13

① Sta 443+78.80 "RAMP5"= Sta 195+06.23 "WBL1"
② Sta 443+39.48 99LOL= Sta 195+89.46 "WBL1"
③ Sta 443+83.40 99LOL= Sta 456+95.47 "RAMP5"
④ Sta 442+46.93± 99LOL
⑤ Sta 443+72.08± 99LOL
⑥ Sta 444+55.79± 99LOL



SURVEY CONTROL

PRHV273 (Not Shown)
Fnd 2" I.P. w/CADOT Brass Cap in Concrete
95.30 Rt. 99LOL
Sta. 449+13.23
N 2,003,671.77
E 6,440,894.16
EL.=287.25

PRHV272 (Not Shown)
Fnd 1" I.P. w/ Red CT PP
88.98 Rt. 99LOL
Sta. 438+26.59
N 2,002,766.93
E 6,441,495.90
EL.=289.80

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

NOTES:
277.15± Denotes bottom of footing elevation
1. Underground Utilities as shown are approximate
2. All piles not shown

Bridge Location #46-0229L (PN Points)
① 85.69 Lt. 99LOL Sta.442+98.46 EL.=290.26±
② 89.16 Lt. 99LOL Sta.444+92.85 EL.=289.80±
③ 44.16 Lt. 99LOL Sta.444+73.96 EL.=290.72±
④ 42.99 Lt. 99LOL Sta.442+72.66 EL.=291.12±

Bridge Location #46-0229R (PN Points)
⑤ 46.33 Rt. 99LOL Sta.442+20.53 EL.=291.16±
⑥ 46.82 Rt. 99LOL Sta.444+26.09 EL.=290.75±
⑦ 71.52 Rt. 99LOL Sta.444+10.72 EL.=290.30±
⑧ 70.97 Rt. 99LOL Sta.442+06.18 EL.=290.78±

PRELIMINARY INVESTIGATION SECTION

SCALE 1"=20'	VERT.DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X			
	HORZ.DATUM NAD83 (1991.35)	SURVEYED	BY District	CHECKED	BY Lawrence Lew 04/2011
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED	BY Sharon Zheng 04/2011	CHECKED	BY John Borden 04/2011

DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT
DETAILS	BY MINH TRAN	CHECKED MATT SCHOTT
QUANTITIES	BY ZIHAN YAN	CHECKED M. SCHOTT / SANNOW MAM

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0229 R/L
POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)
FOUNDATION PLAN

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
3/31/11	5/27/11	6/30/11	10/20/11	3	23

FILE => 46-0229rl-e-fpl01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	327	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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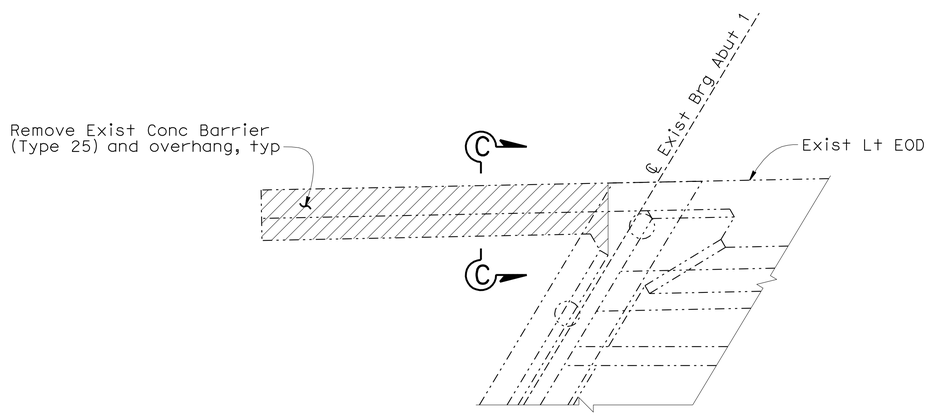
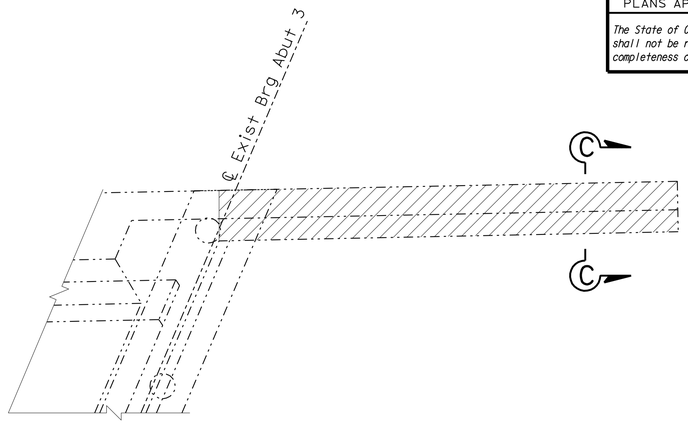
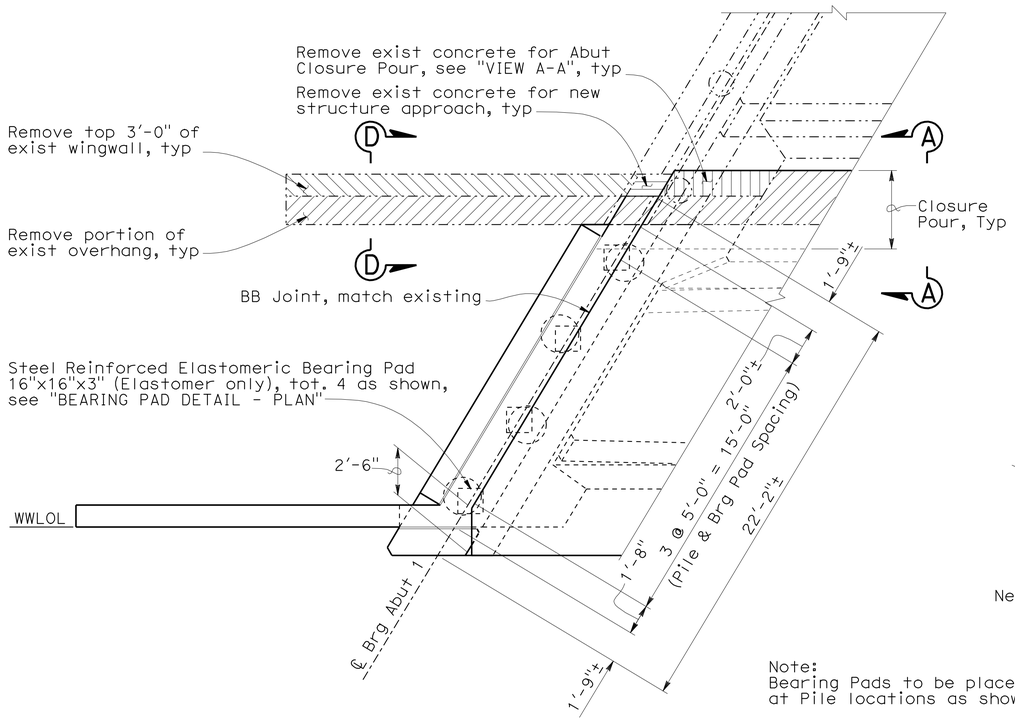
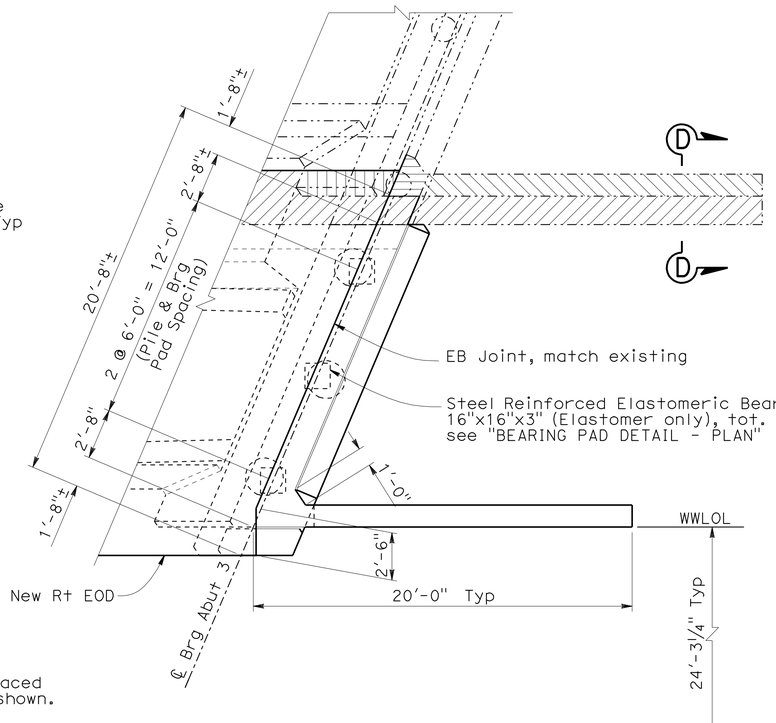






Note:
Bearing Pads to be placed at Pile locations as shown.



LEGEND

Exist 16"± ø CIDH Pile

24" ø CIDH Pile (B2-3)

NOTES:

1. For "BEARING PAD DETAIL - PLAN", see "ABUTMENT LAYOUT - RIGHT BRIDGE" sheet.
2. For "VIEW A-A", see "ABUTMENT ELEVATIONS" sheet.
3. For SECTIONS "C-C" and "D-D", see "ABUTMENT DETAILS NO. 1" sheet.

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

PLAN
1/4" = 1'-0"

	BY	CHECKED
DESIGN	ZIHAN YAN	MATT SCHOTT
DETAILS	MINH TRAN	MATT SCHOTT
QUANTITIES	ZIHAN YAN	M. SCHOTT / SANNOW MAM

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0229 R/L
POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)
ABUTMENT LAYOUT - LEFT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
11/04/11	4	23

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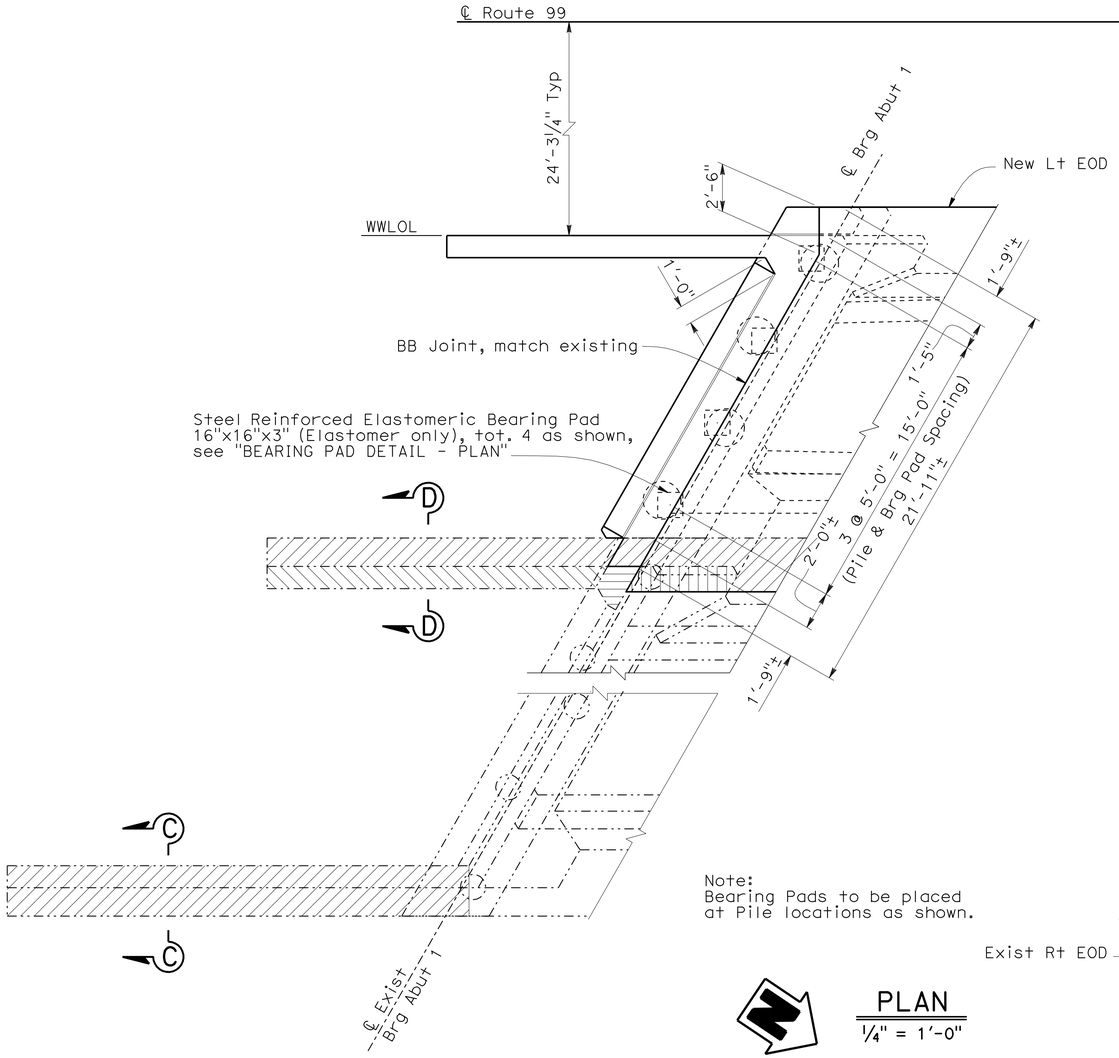
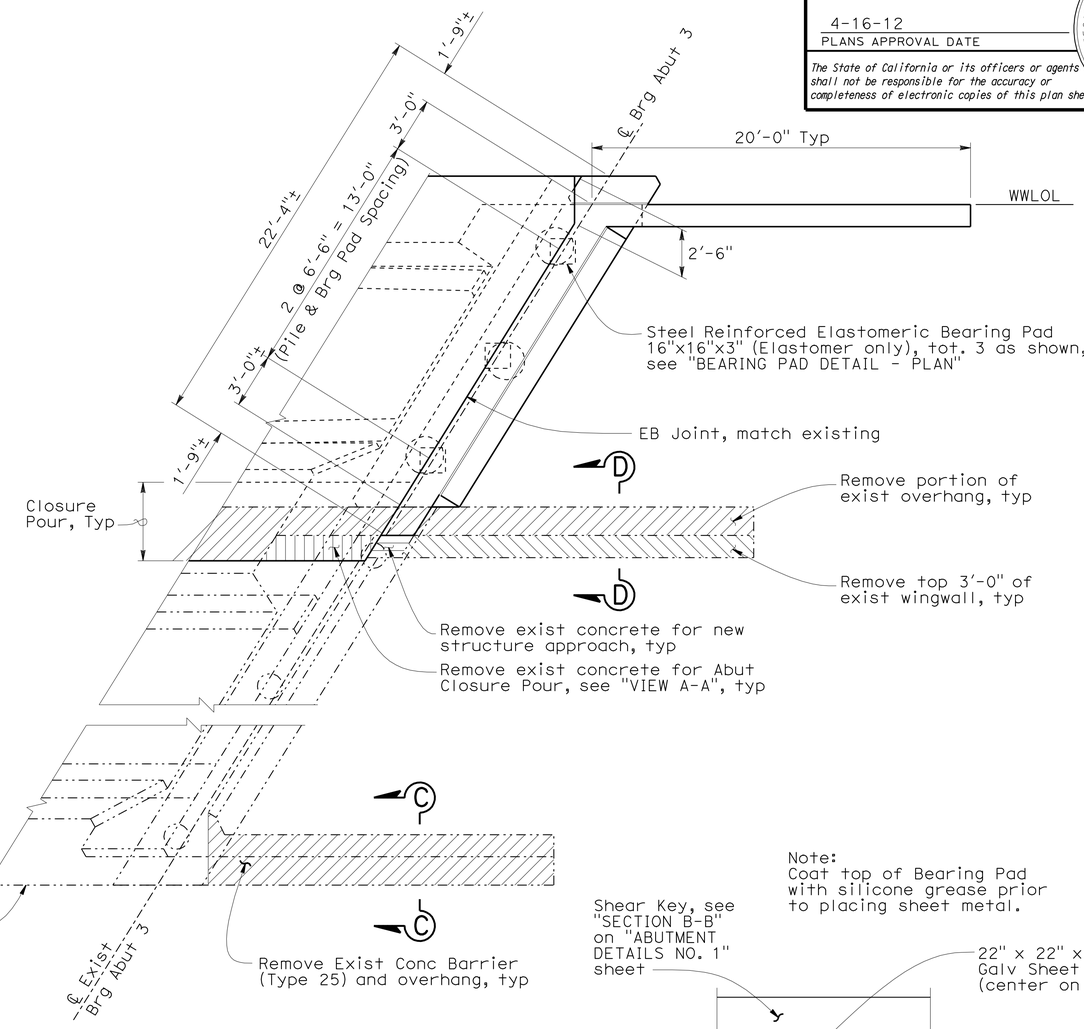


Note:
Bearing Pads to be placed at Pile locations as shown.

PLAN
1/4" = 1'-0"



NOTE:

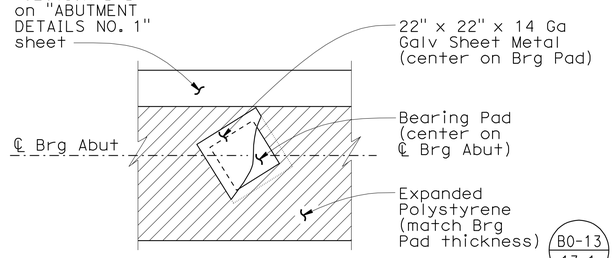
1. For SECTIONS "C-C" and "D-D", see "ABUTMENT DETAILS NO. 1" sheet.

LEGEND

Exist 16"± ø CIDH Pile

24" ø CIDH Pile (B2-3)

Note:
Coat top of Bearing Pad with silicone grease prior to placing sheet metal.



BEARING PAD DETAIL - PLAN

No Scale

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	328	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL, No. C 64259, Exp. 06/30/13, CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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

	BY	CHECKED
DESIGN	ZIHAN YAN	MATT SCHOTT
DETAILS	MINH TRAN	MATT SCHOTT
QUANTITIES	ZIHAN YAN	M. SCHOTT / SANNOW MAM

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0229 R/L
POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)
ABUTMENT LAYOUT - RIGHT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 11/04/11

SHEET 5 OF 23

FILE => 46-0229rl-f-a01_lo2.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	329	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

4-16-12
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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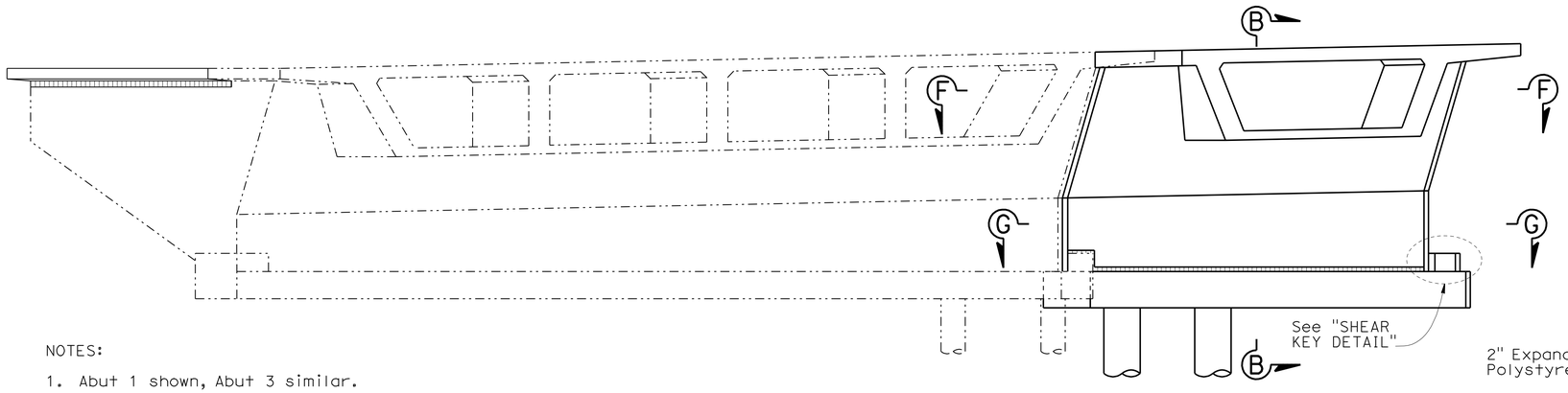
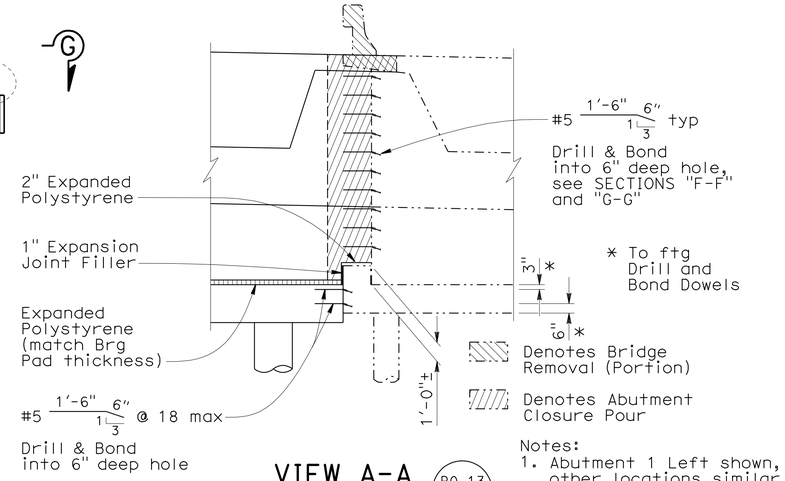


NOTES:

1. Abut 1 shown, Abut 3 similar.
2. Bridge Removal (Portion) not shown.
3. All piles not shown.
4. Barriers not shown.
5. Roughen existing surface at interface of new and existing concrete.
6. For "SECTION B-B" see "ABUTMENT DETAILS NO. 1" sheet.
7. For SECTIONS "F-F" and "G-G", see "ABUTMENT DETAILS NO. 2" sheet.

ELEVATION - ABUTMENT 1 RIGHT BRIDGE

1/4" = 1'-0"

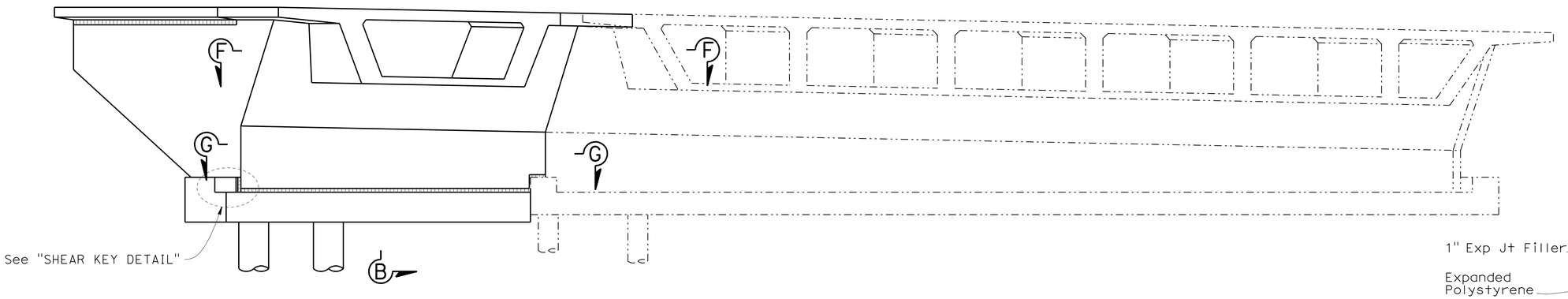


VIEW A-A

1/4" = 1'-0"

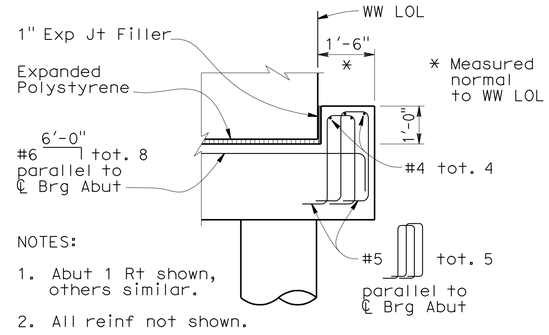
B0-13
13-1

Notes:
1. Abutment 1 Left shown, other locations similar.
2. Abut Closure Pour shall not be placed sooner than 60 days after prestressing the superstructure.



ELEVATION - ABUTMENT 1 LEFT BRIDGE

1/4" = 1'-0"



NOTES:

1. Abut 1 Rt shown, others similar.
2. All reinf not shown.

SHEAR KEY DETAIL

1/2" = 1'-0"

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

	BY	CHECKED
DESIGN	ZIHAN YAN	MATT SCHOTT
DETAILS	MINH TRAN	MATT SCHOTT
QUANTITIES	ZIHAN YAN	M. SCHOTT / SANNOW MAM

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0229 R/L
POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)
ABUTMENT ELEVATIONS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 10/20/11

SHEET 6 OF 23

FILE => 46-0229r1-f-a01_lo3.dgn

USERNAME => s124396 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	330	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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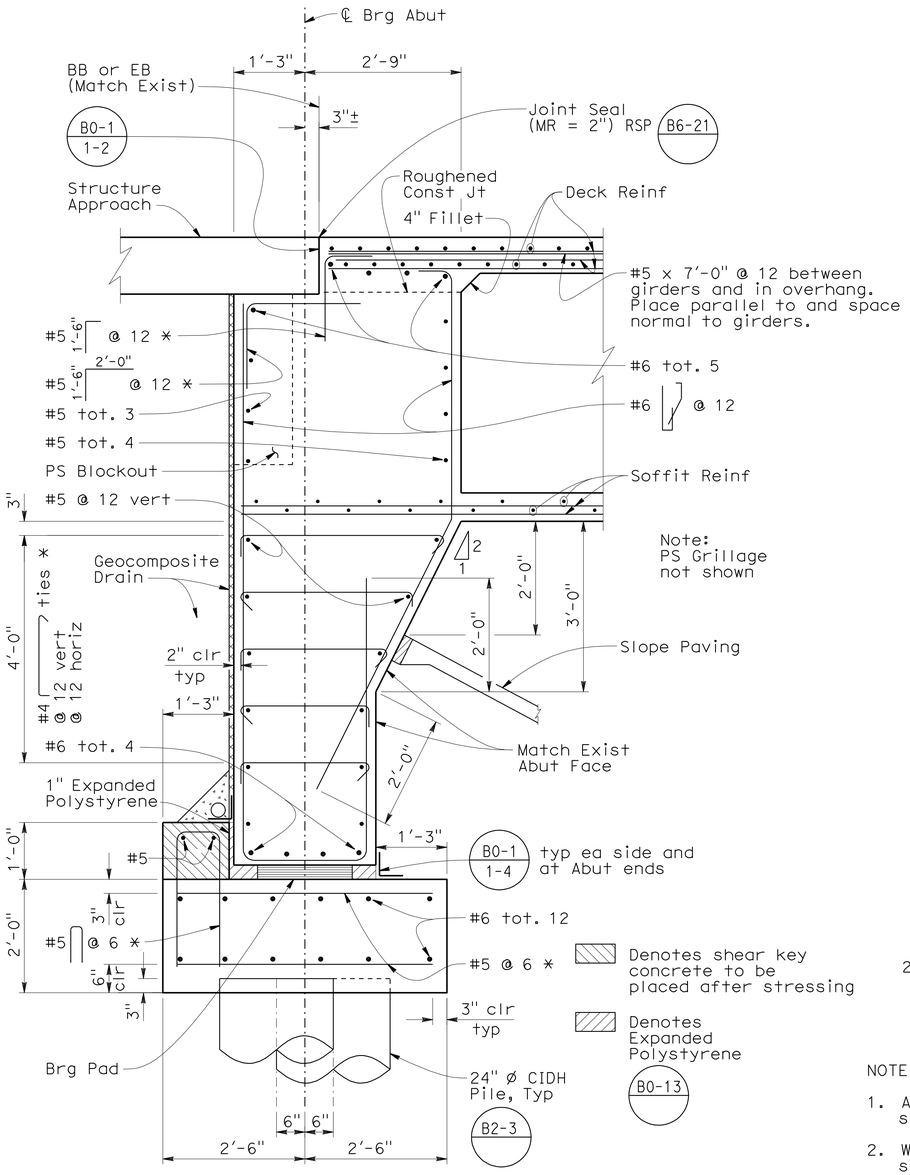
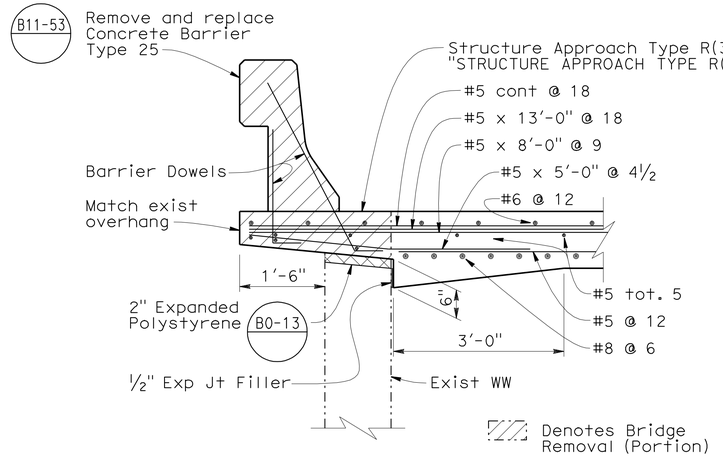
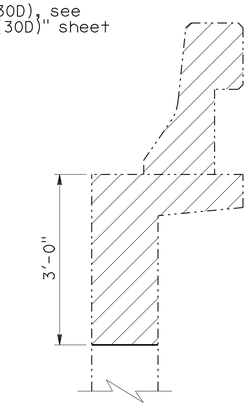


* Place normal to and space along ℄ Brg Abut

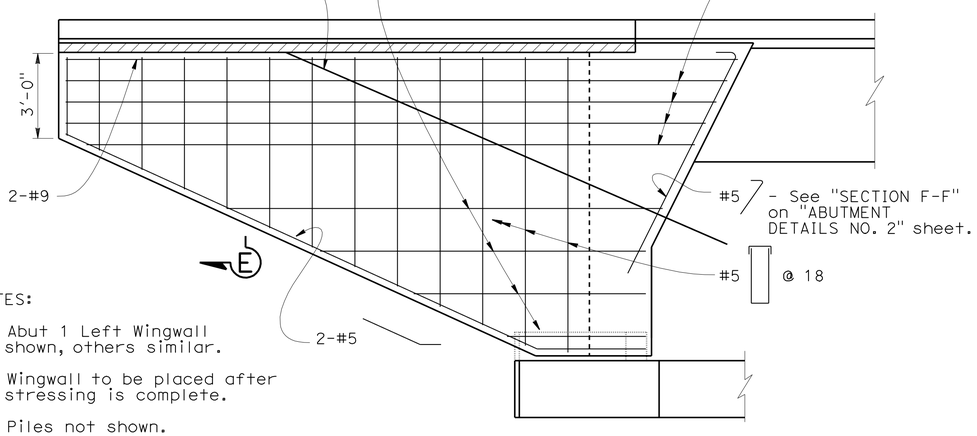
SECTION B-B
¾" = 1'-0"
B8-5



SECTION C-C
¾" = 1'-0"



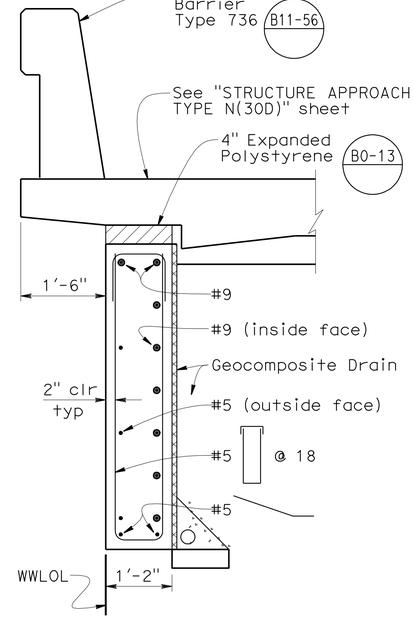
SECTION D-D
¾" = 1'-0"



NOTES:

1. Abut 1 Left Wingwall shown, others similar.
2. Wingwall to be placed after stressing is complete.
2. Piles not shown.
3. Barrier not shown.
4. All reinf not shown.

WINGWALL ELEVATION
⅜" = 1'-0"



SECTION E-E
¾" = 1'-0"

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

	BY	CHECKED
DESIGN	ZIHAN YAN	MATT SCHOTT
DETAILS	MINH TRAN	MATT SCHOTT
QUANTITIES	ZIHAN YAN	M. SCHOTT / SANNOW MAM

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0229 R/L
POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)
ABUTMENT DETAILS NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 11/04/11

SHEET 7 OF 23

FILE => 46-0229rl-f-a01dt1.dgn

DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:55
USERNAME => s124396

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	331	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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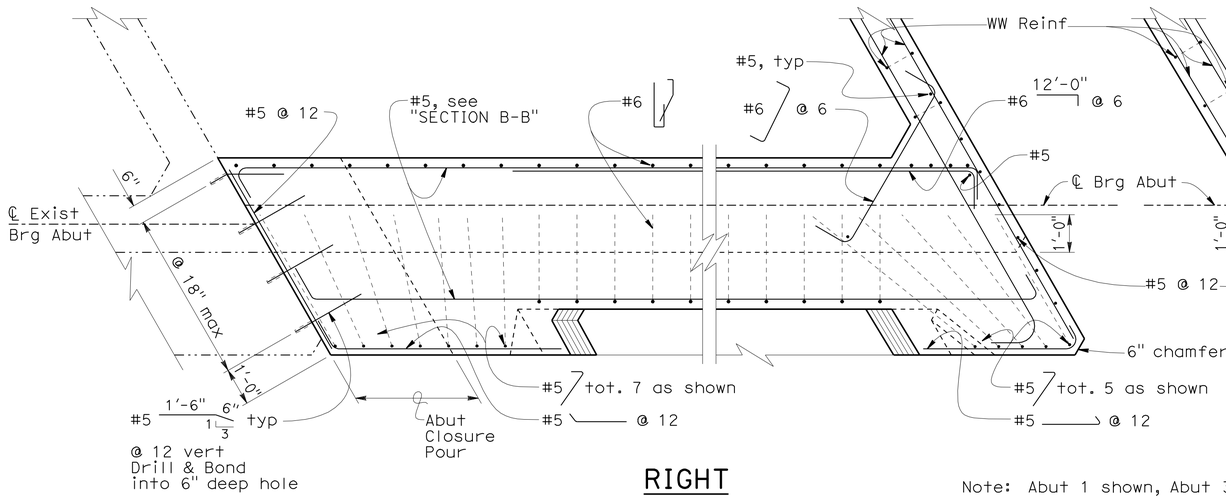
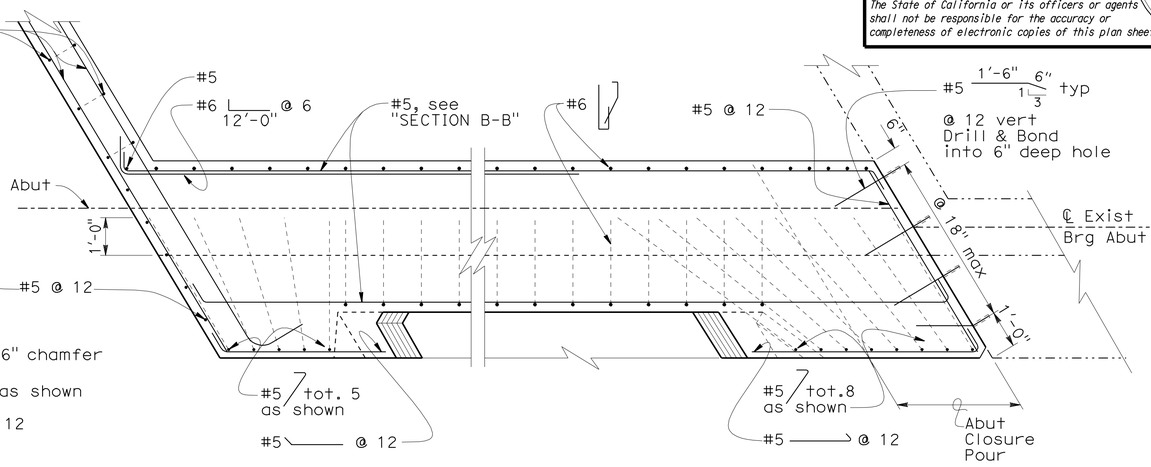
Note:
Girder reinf not shown.



RIGHT



LEFT

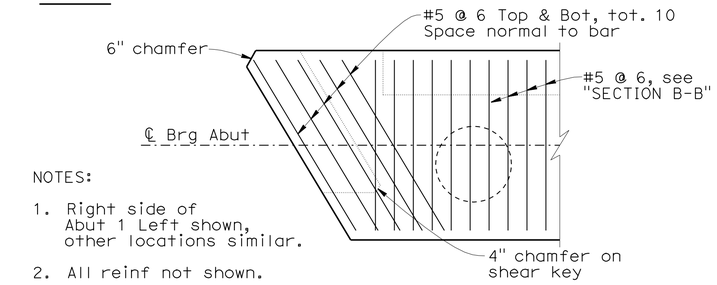
Note: Abut 1 shown, Abut 3 similar.

SECTION F-F

½" = 1'-0"

NOTES:

1. Roughen existing surface at interface of new and existing concrete.
2. For "SECTION B-B", see "ABUTMENT DETAILS NO. 1" sheet.



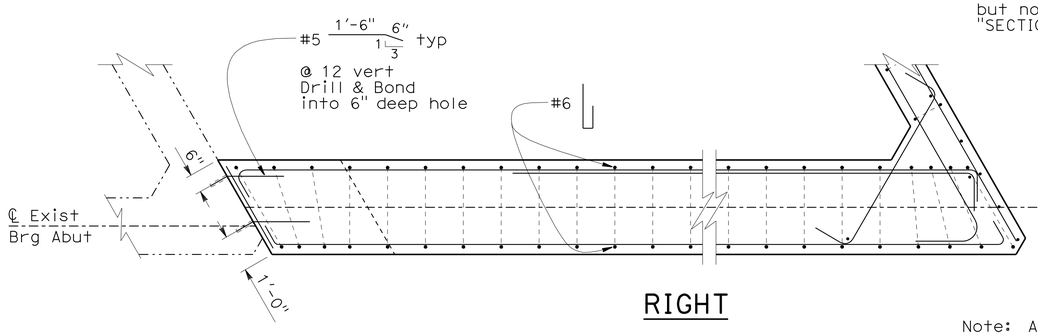
NOTES:

1. Right side of Abut 1 Left shown, other locations similar.
2. All reinf not shown.

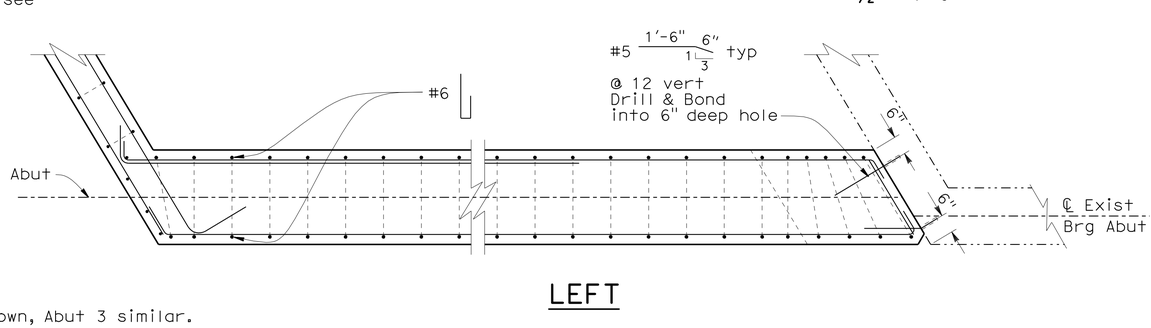
FOOTING CORNER DETAIL

½" = 1'-0"

Note:
For details shown but not noted, see "SECTION F-F".



RIGHT



LEFT

Note: Abut 1 shown, Abut 3 similar.

SECTION G-G

½" = 1'-0"

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

DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0229 R/L	ROUTE 99/198 WEST SEPARATION (WIDEN)
DETAILS	BY MINH TRAN	CHECKED MATT SCHOTT			POST MILE 39.0	ABUTMENT DETAILS NO. 2
QUANTITIES	BY ZIHAN YAN	CHECKED M. SCHOTT / SANNOW MAM				

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
10/21/11				8	23

FILE => 46-0229r1-f-a01dt2.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:55

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	332	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL, No. C 64259, Exp. 06/30/13, CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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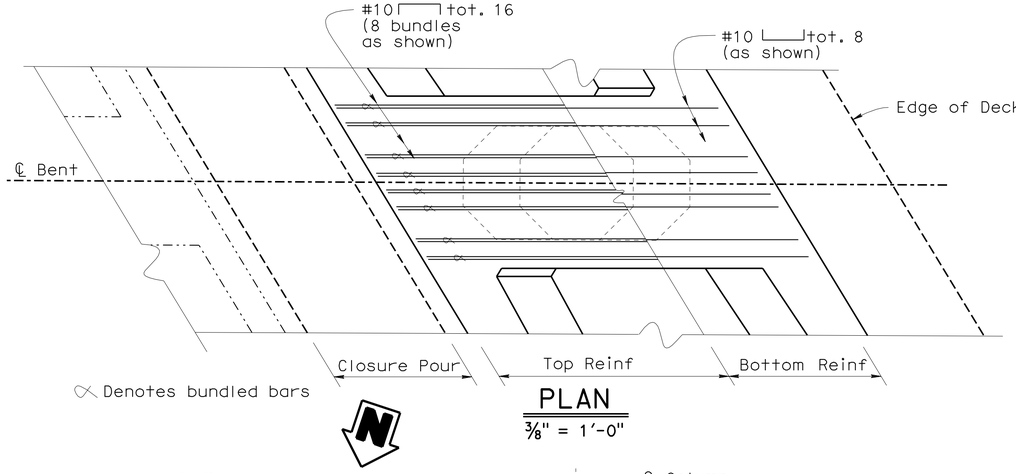
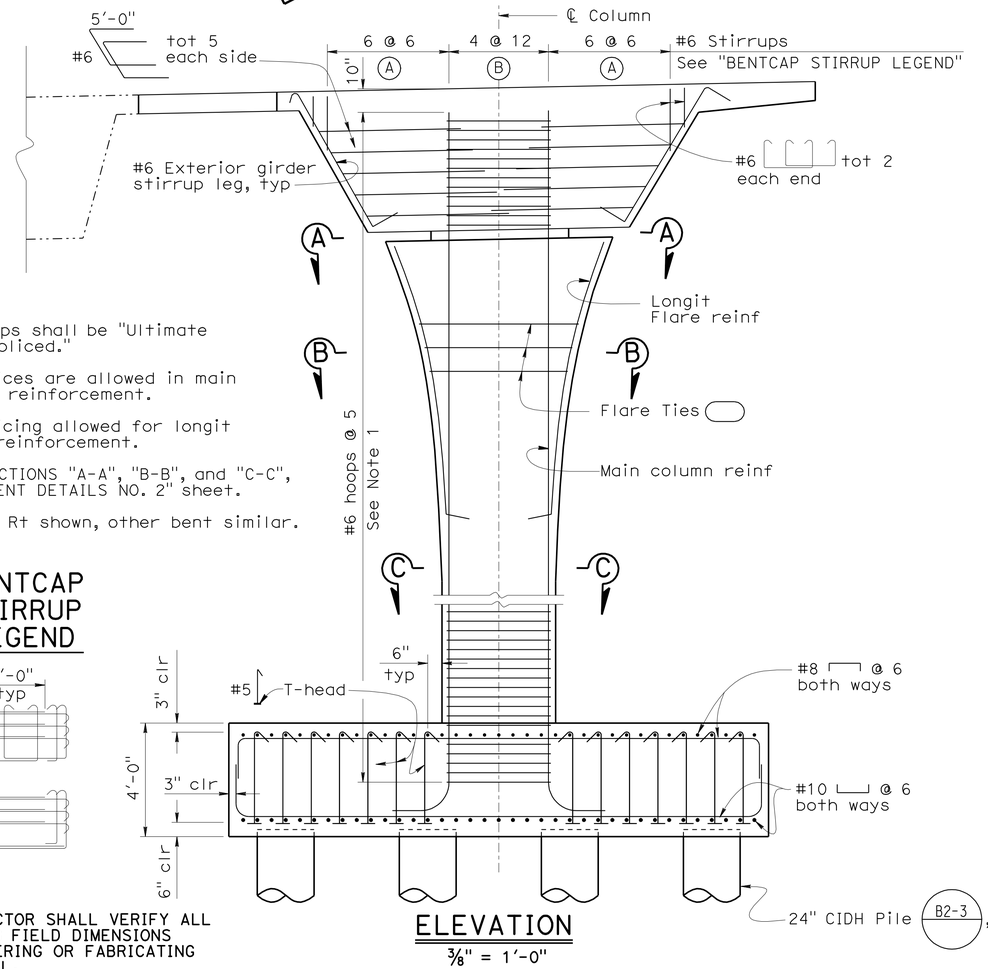


PLAN
3/8" = 1'-0"

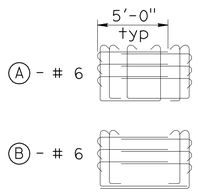


ELEVATION
3/8" = 1'-0"

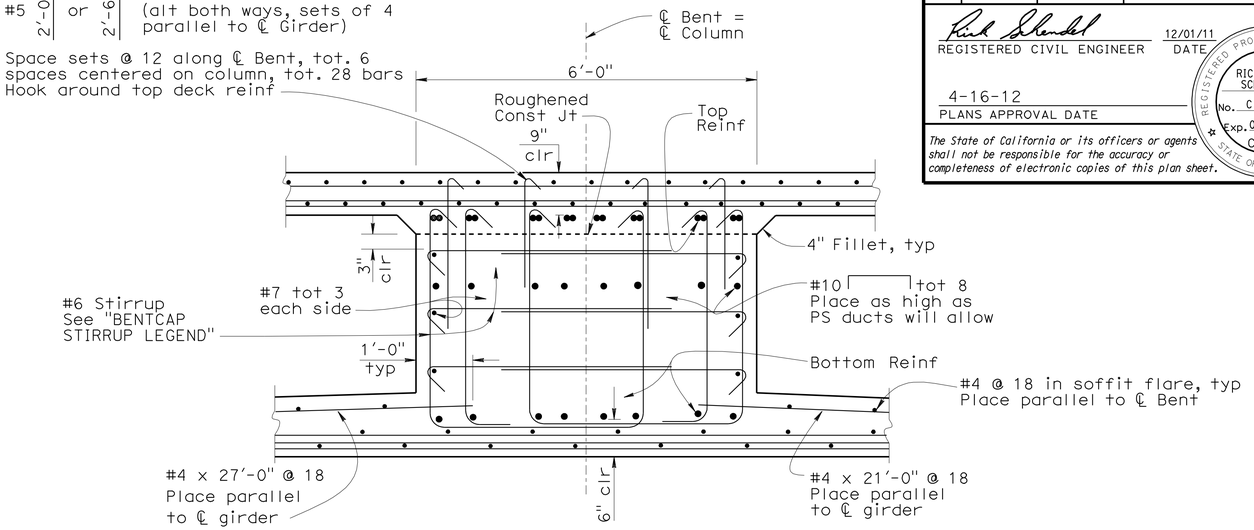
NOTES:

1. All hoops shall be "Ultimate butt-spliced."
2. No splices are allowed in main column reinforcement.
3. No splicing allowed for longit flare reinforcement.
4. For SECTIONS "A-A", "B-B", and "C-C", see "BENT DETAILS NO. 2" sheet.
5. Bent 2 Rt shown, other bent similar.

BENTCAP STIRRUP LEGEND



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

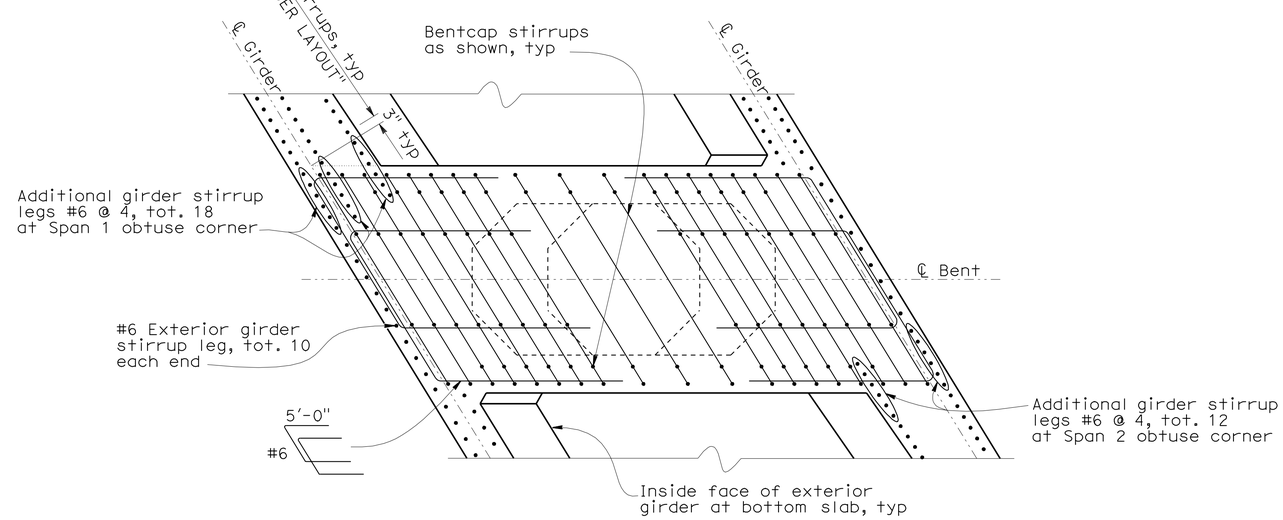


BENTCAP SECTION
3/4" = 1'-0"

Section shown normal to ℄ Bent

NOTES:

1. Place stirrups parallel to ℄ Girder and space along ℄ Bent.
2. For reinf shown but not noted see "TYPICAL SECTION" sheet.



PLAN - STIRRUPS
1/2" = 1'-0"

B7-1 / S-3

DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0229 R/L; POST MILE 39.0
DETAILS	BY SURAJ DUTTA	CHECKED MATT SCHOTT			
QUANTITIES	BY ZIHAN YAN	CHECKED M. SCHOTT / SANNOW MAM			

ROUTE 99/198 WEST SEPARATION (WIDEN)
BENT DETAILS NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
04/27/11	10/21/11			9	23

FILE => 46-0229ri-h-bentdet01.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	333	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

4-16-12 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SCHENDEL — No. C 64259 — Exp. 06/30/13 — CIVIL — STATE OF CALIFORNIA

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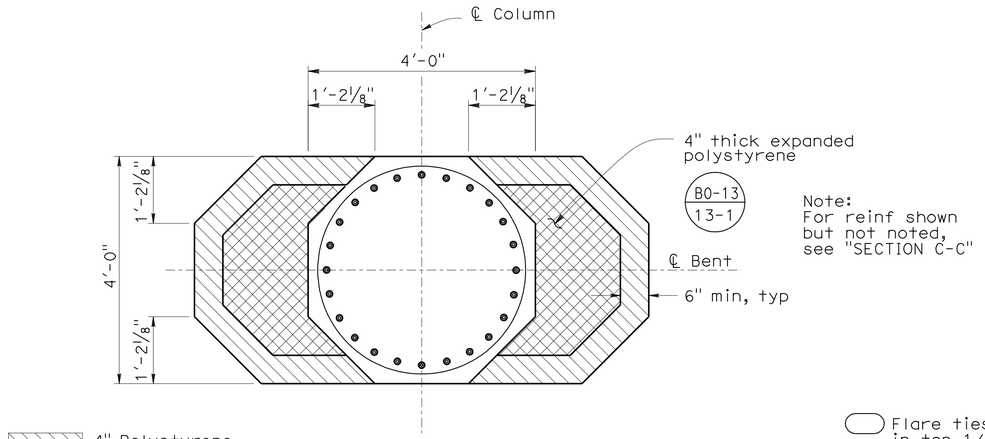
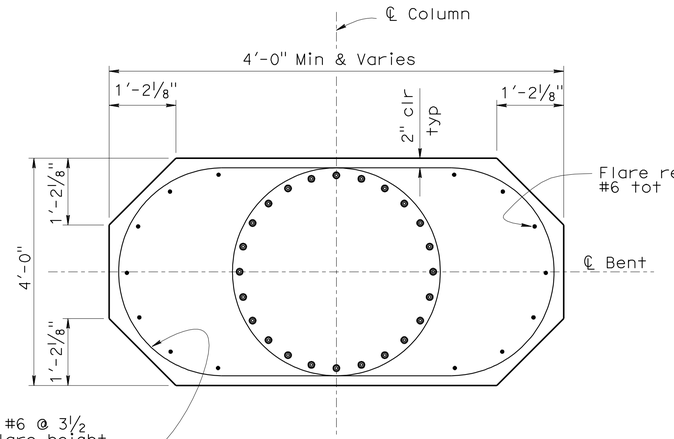


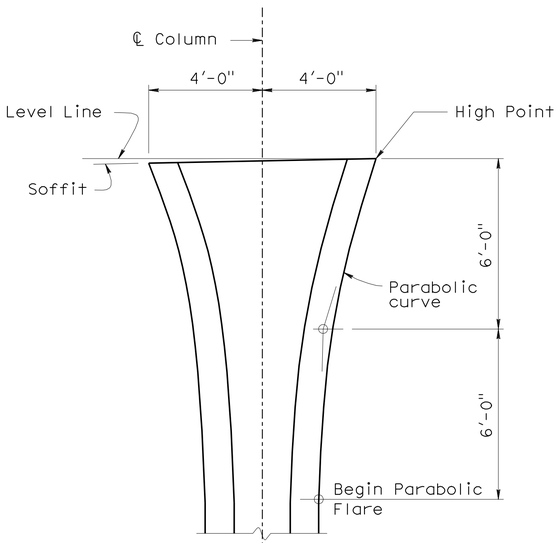
SECTION A-A

¾" = 1'-0"



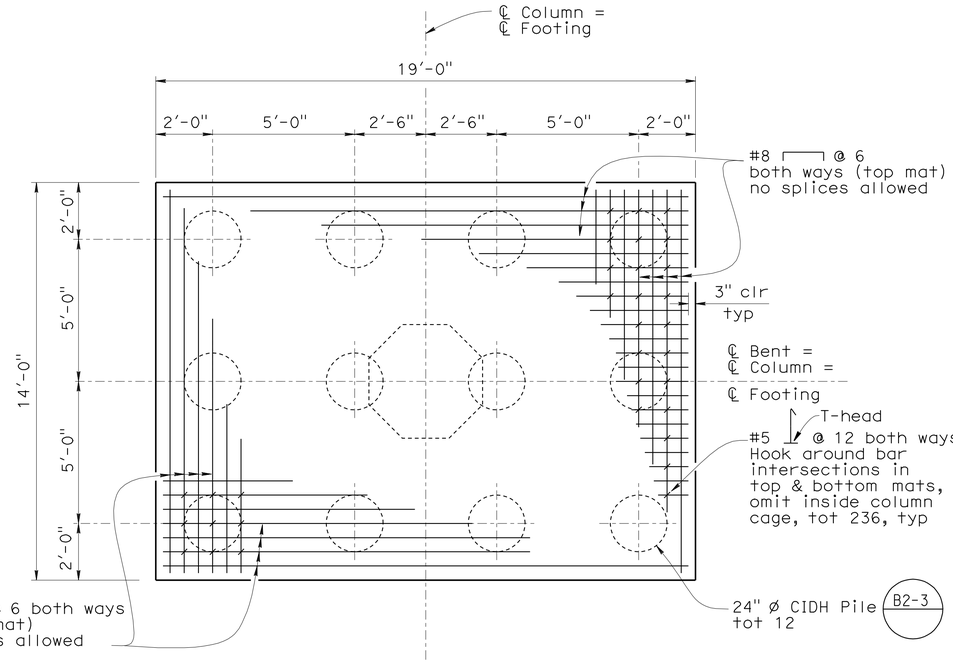
SECTION B-B

¾" = 1'-0"



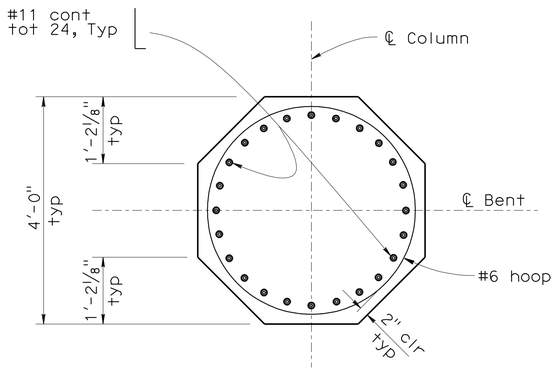
COLUMN FLARE

⅜" = 1'-0"



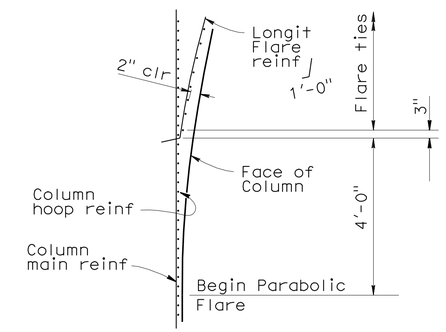
FOOTING PLAN

⅜" = 1'-0"



SECTION C-C

¾" = 1'-0"



COLUMN FLARE REINFORCEMENT

NO SCALE

NOTE:
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DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0229 R/L
DETAILS	BY MINH TRAN	CHECKED MATT SCHOTT			POST MILE 39.0
QUANTITIES	BY ZIHAN YAN	CHECKED M. SCHOTT / SANNOW MAM			

ROUTE 99/198 WEST SEPARATION (WIDEN)

BENT DETAILS NO. 2

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES 04/27/11 10/20/11

SHEET 10 OF 23

FILE => 46-0229rl-h-bentdet02.dgn

USERNAME => s124096 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	334	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL, No. C 64259, Exp. 06/30/13, CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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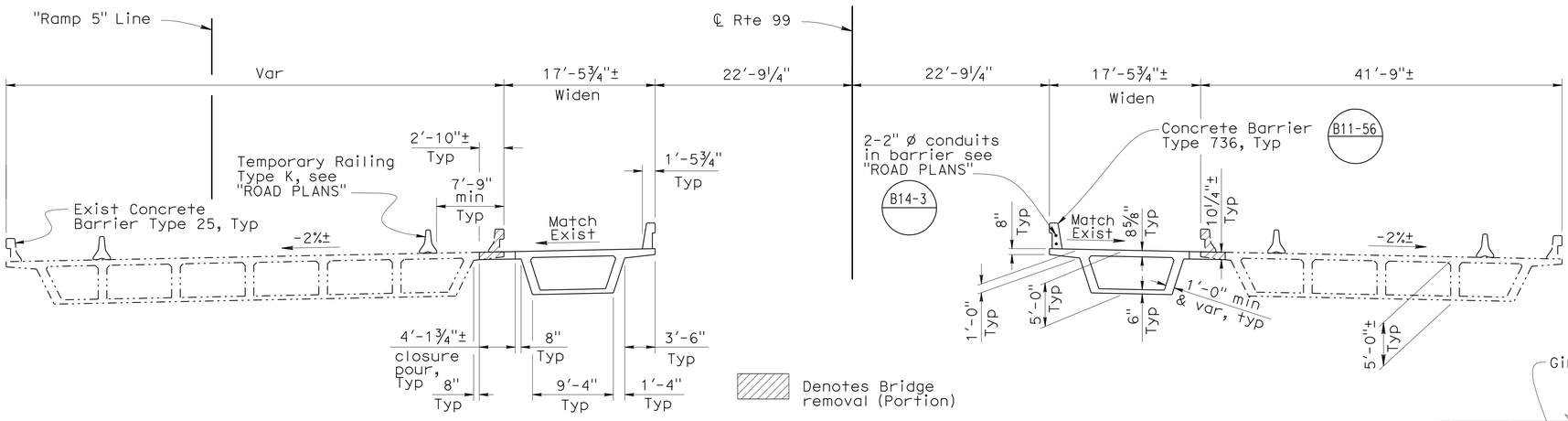
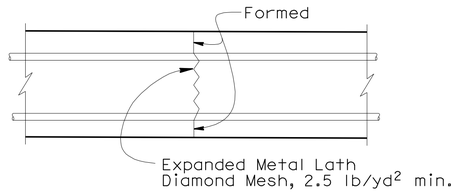


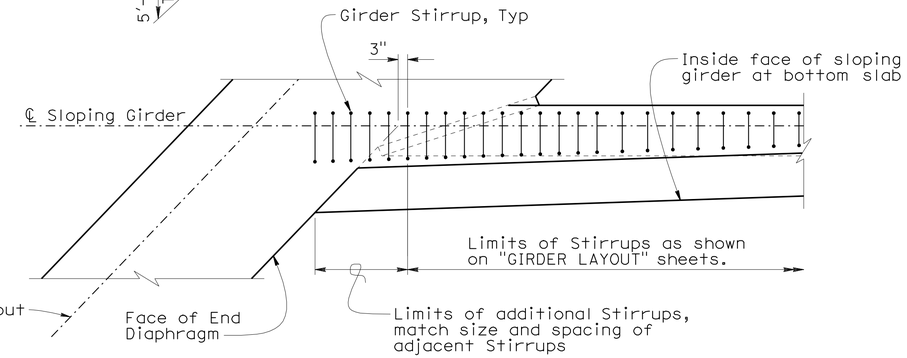
TYPICAL SECTION

⅛" = 1'-0"



ALTERNATIVE DECK CONSTRUCTION JOINT

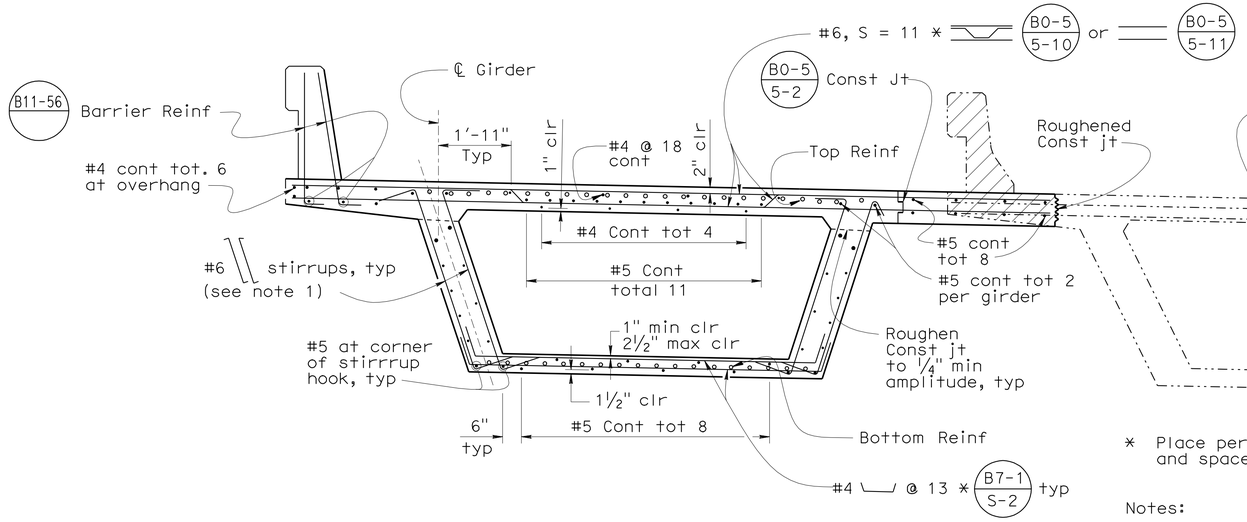
No Scale



GIRDER STIRRUPS AT OBTUSE ABUTMENT CORNER - PLAN

B7-1 / S-3

No Scale



PART TYPICAL SECTION

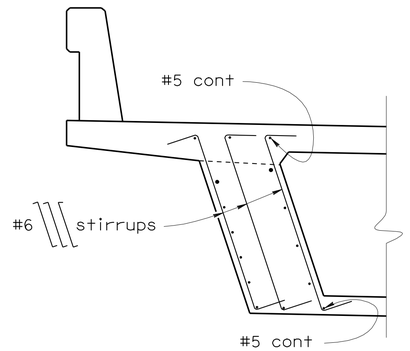
½" = 1'-0"

B0-5 / B7-1 / B8-5

* Place perpendicular to and space along ℄ Rte 99

Notes:

1. For stirrup layout, see "GIRDER LAYOUT" sheets.
2. For Top and Bottom Reinf, see "ADDITIONAL GIRDER REINFORCEMENT" sheet.



3-LEG STIRRUP DETAIL

B0-5 / B7-1

½" = 1'-0"

Notes:

1. See "GIRDER LAYOUT" sheets for locations.
2. See "PART TYPICAL SECTION" for reinf not shown.

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

DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0229 R/L; POST MILE 39.0
DETAILS	BY SURAJ DUTTA	CHECKED MATT SCHOTT			
QUANTITIES	BY ZIHAN YAN	CHECKED M. SCHOTT / SANNOW MAM			

ROUTE 99/198 WEST SEPARATION (WIDEN)

TYPICAL SECTION

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES			SHEET	OF
04/17/11	10/20/11		11	23

FILE => 46-0229rl-k-typsec.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:56

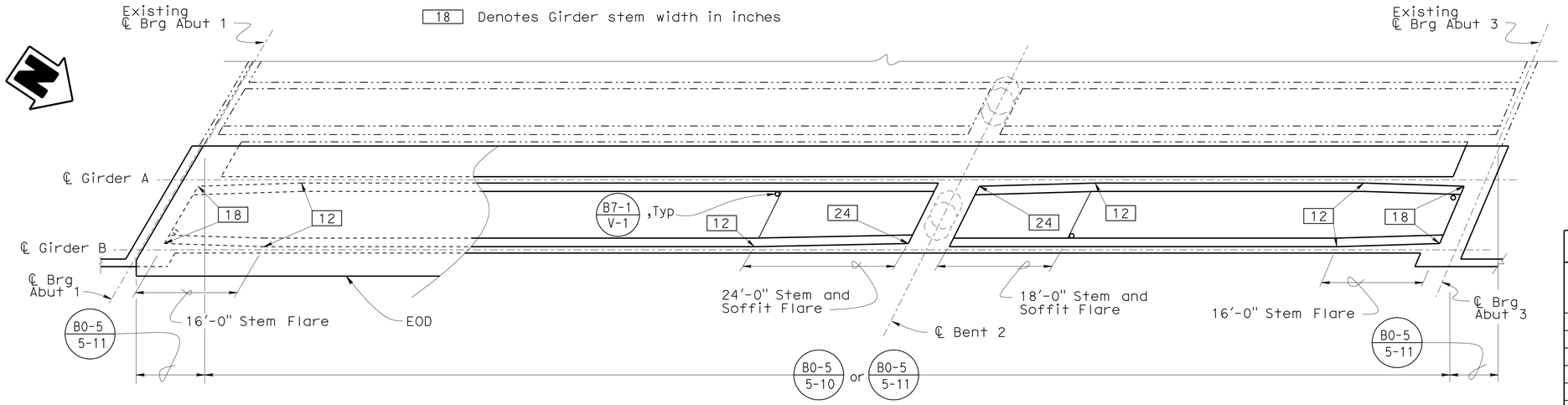
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	335	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

4-16-12
PLANS APPROVAL DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — 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.

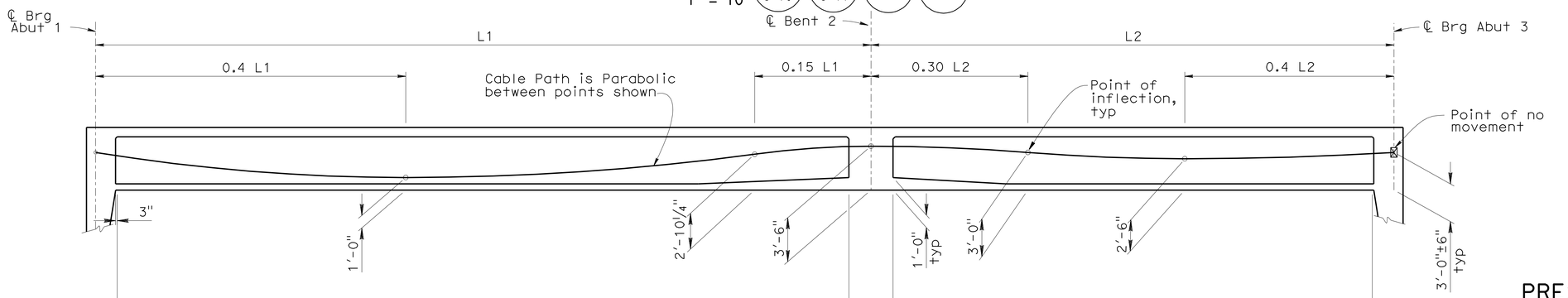


TIME DEPENDENT CAMBER VALUE	
Elapsed time measured from prestressing box girder to placement of closure pour	% of the values as shown in camber diagram
30 days	140
45 days	160
60 days	180
75 days	200
90 days	220
120 days	240
150 days	245
180 days	250

PLAN

1" = 10'

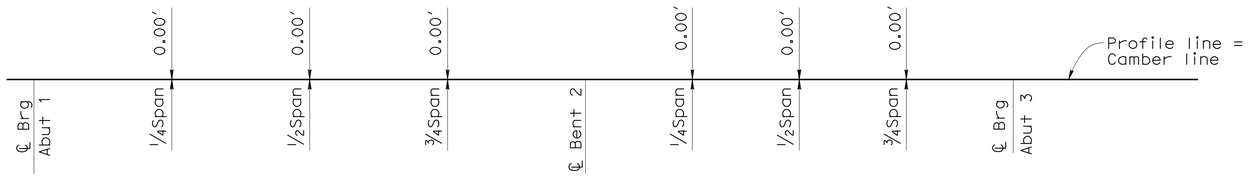
B0-5 5-10 | B0-5 5-11 | B7-1 | B8-5



LONGITUDINAL SECTION

B7-1 | B8-5

NO SCALE



CAMBER DIAGRAM

No Scale

Note: Does not include allowance for falsework settlement

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

P_{jack} = 4,000 kips

Anchor Set = 3/8 in

Total Number of Girders = 2

Prestress force (Pjack) shall be distributed evenly between girders.

Concrete: f'_c = 5,500 psi @ 28 days

f'_{ci} = 3,500 psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at

⊠ = 0.914 times jacking stress.

Stressing shall be performed from Abut 1.

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

	BY	CHECKED
DESIGN	ZIHAN YAN	MATT SCHOTT
DETAILS	SURAJ DUTTA	MATT SCHOTT
QUANTITIES	ZIHAN YAN	M. SCHOTT / SANNOW MAM

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0229 R/L
POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)
GIRDER LAYOUT - LEFT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
04/27/11	10/20/11			12	23

FILE => 46-0229r1-1-gir_lo1.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	336	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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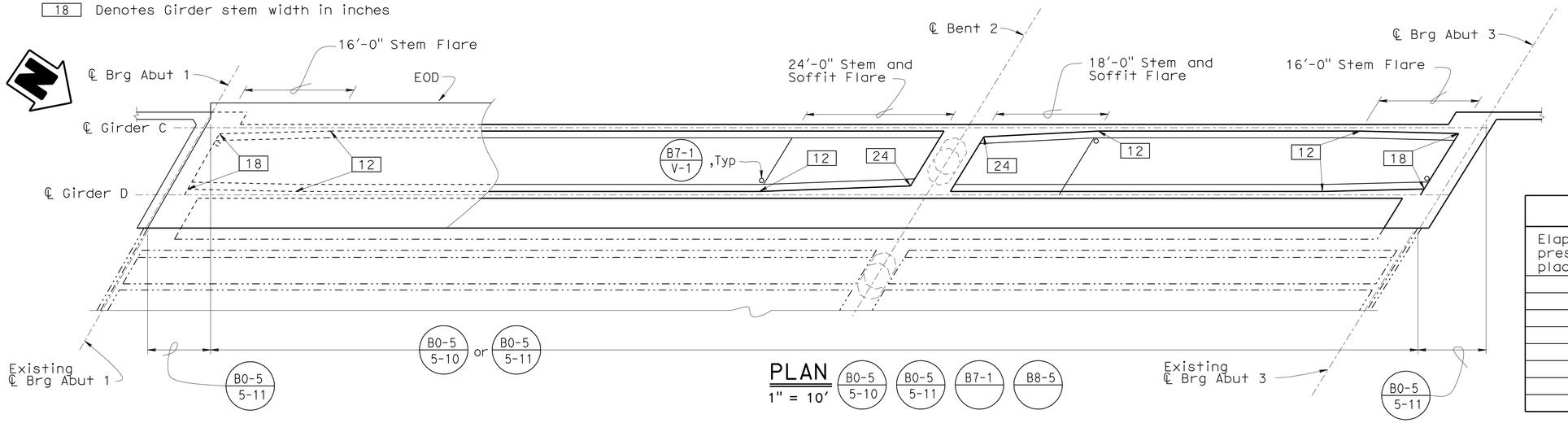
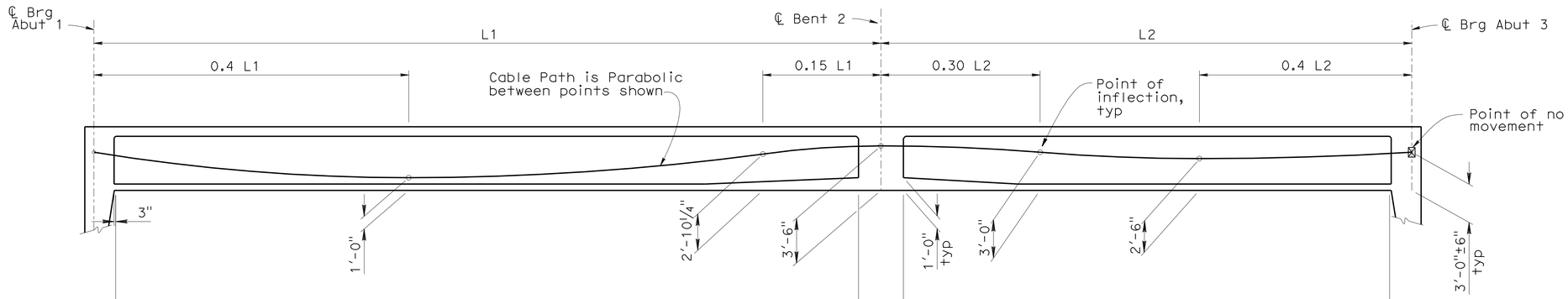
18 Denotes Girder stem width in inches



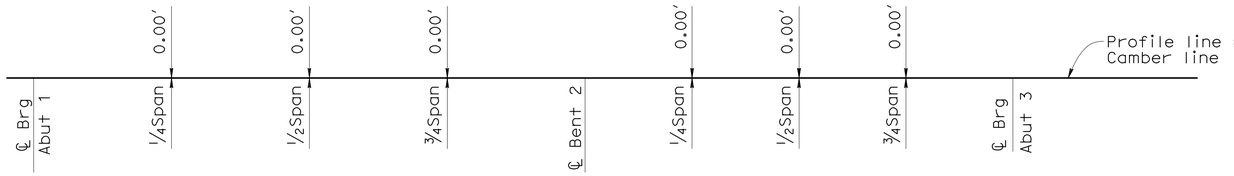
PLAN 1" = 10' — B0-5 5-10 | B0-5 5-11 | B7-1 | B8-5

TIME DEPENDENT CAMBER VALUE	
Elapsed time measured from prestressing box girder to placement of closure pour	% of the values as shown in camber diagram
30 days	140
45 days	160
60 days	180
75 days	200
90 days	220
120 days	240
150 days	245
180 days	250



LONGITUDINAL SECTION

NO SCALE — B7-1 | B8-5



CAMBER DIAGRAM

No Scale

Note: Does not include allowance for falsework settlement

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

P_{jack} = 4,000 kips

Anchor Set = 3/8 in

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DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT	
DETAILS	BY SURAJ DUTTA	CHECKED MATT SCHOTT	
QUANTITIES	BY ZIHAN YAN	CHECKED M. SCHOTT / SANNOW MAM	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0229 R/L
POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)
GIRDER LAYOUT - RIGHT BRIDGE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
10/20/11				13	23

FILE => 46-0229ri-l-gir_lo2.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	337	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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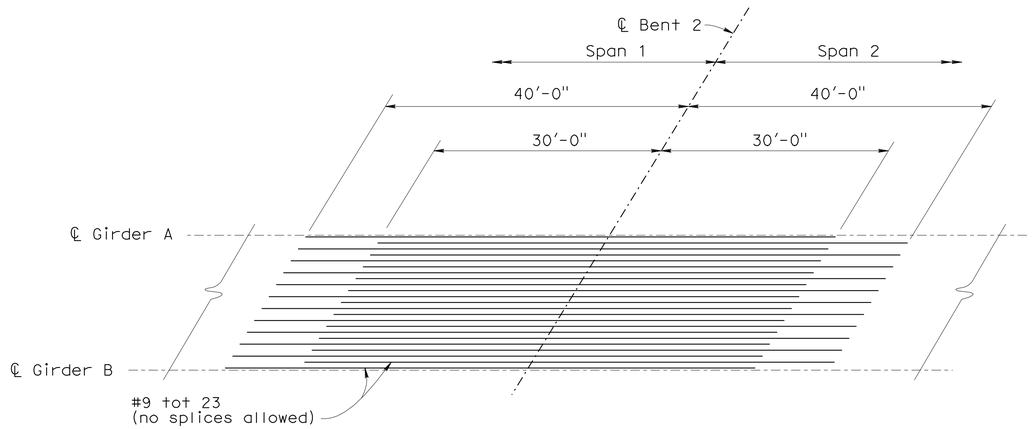
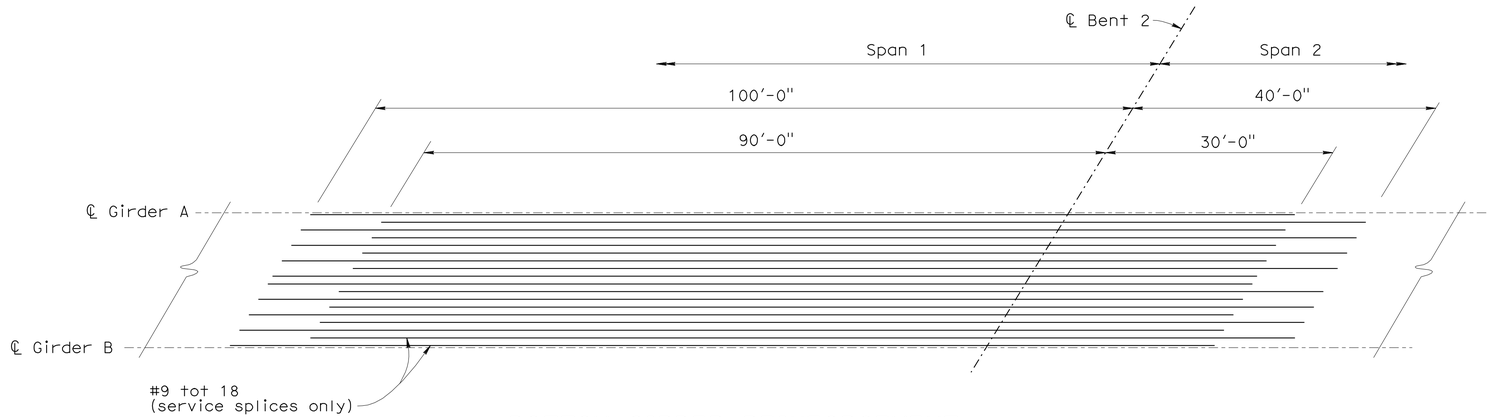


TOP GIRDER REINFORCEMENT

NO SCALE



BOTTOM GIRDER REINFORCEMENT

NO SCALE

Note:
Left Bridge shown,
Right Bridge similar.

DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0229 R/L
DETAILS	BY MINH TRAN	CHECKED MATT SCHOTT			POST MILE 39.0
QUANTITIES	BY ZIHAN YAN	CHECKED MATT SCHOTT			

ROUTE 99/198 WEST SEPARATION (WIDEN)

ADDITIONAL GIRDER REINFORCEMENT

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
10/18/11				14	23

FILE => 46-0229rl-o-agir_rf.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:56

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	338	346

12/01/11
REGISTERED ENGINEER - CIVIL

4-16-12
PLANS APPROVAL DATE

RICHARD E. SCHENDEL
No. C 64259
Exp. 06/30/13
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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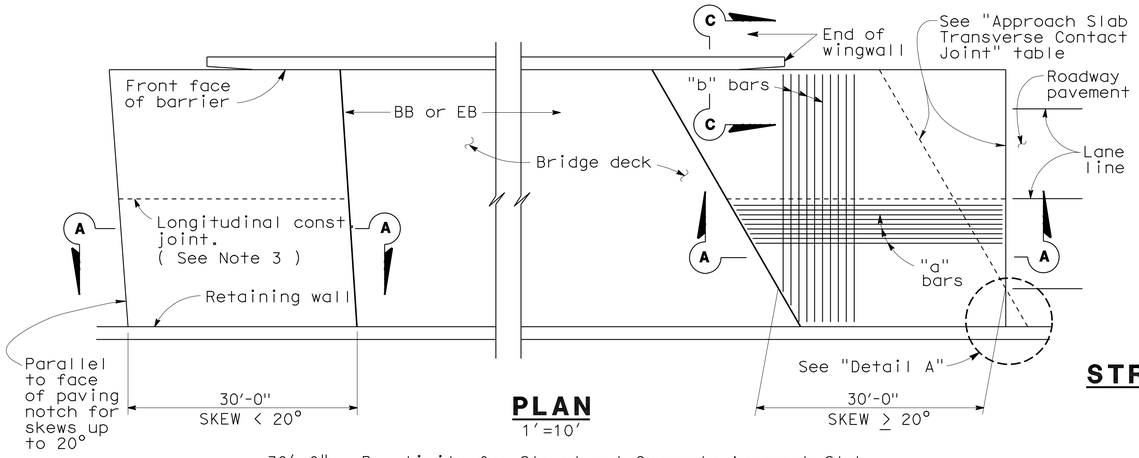
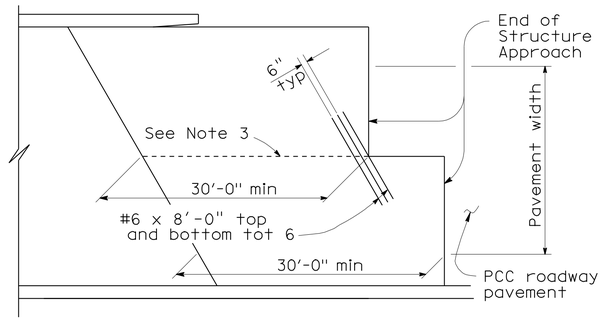
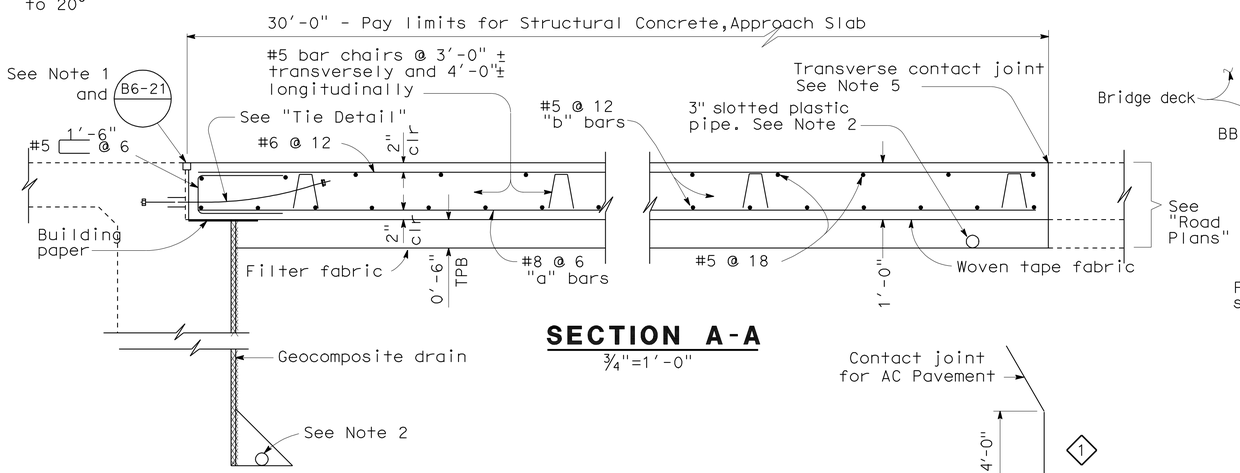


PLAN
1"=10'



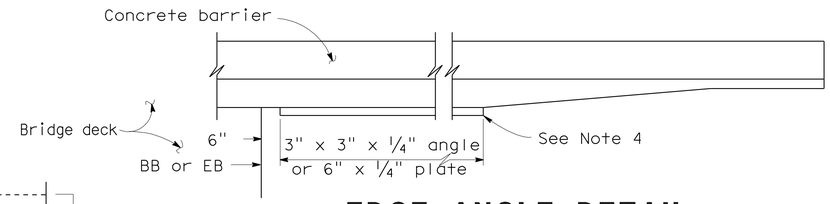
STRUCTURE APPROACH - END STAGGER DETAIL
No Scale

APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY 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 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line

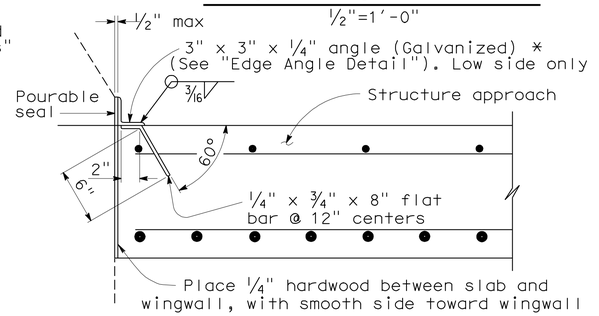


SECTION A-A
¾"=1'-0"

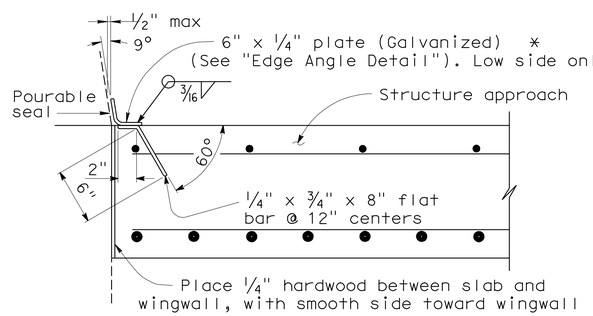
DETAIL A
No Scale



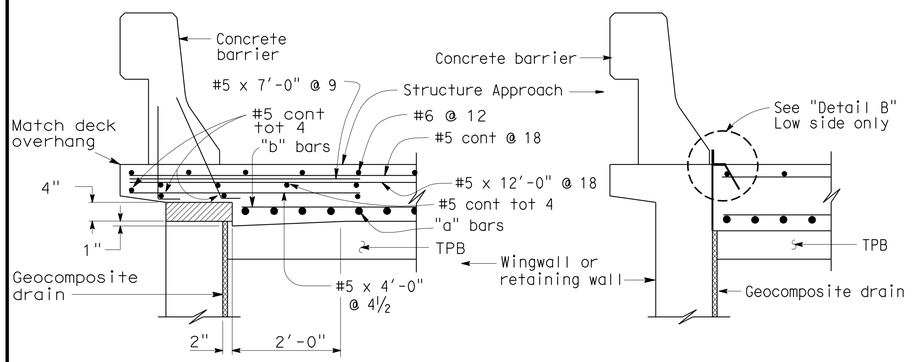
EDGE ANGLE DETAIL
½"=1'-0"



*(TO BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER)



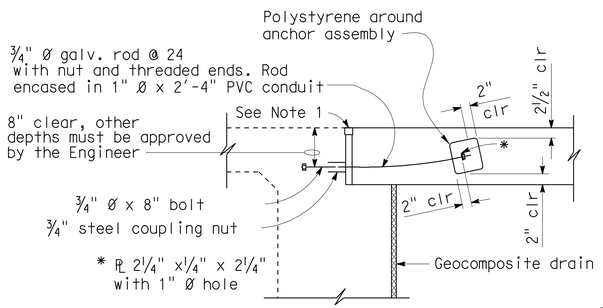
*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)



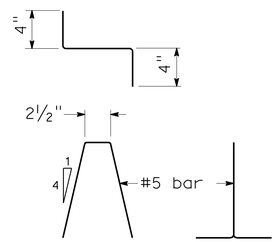
TYPE E-1

TYPE E-2

SECTION C-C
¾"=1'-0"
(Type E-1 to be used, unless otherwise shown on plans)



TIE DETAIL
¾"=1'-0"



BAR CHAIR DETAIL
1½"=1'-0"

NOTES:

1. For details not noted or shown, see Structure Plans.
2. For drainage details, see "Structure Approach Drainage Details" sheet.
3. Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
4. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach, as applicable.
5. For transverse contact joint with new PCC paving, refer to Standard Plan P10.
6. At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along ℄ roadway.

▨ Polystyrene to be removed.

SPECIAL DETAILS

REVISED STANDARD DRAWING			
FILE NO. xs3-180e	APPROVED BY M. Ha (RESPONSIBLE TECHNICAL SPECIALIST)	RELEASED BY O. Alcantara (RESPONSIBLE OFFICE CHIEF)	
	APPROVAL DATE ~~8-12-08~~ REVISED	RELEASE DATE ~~8-12-08~~ REVISED	

1 Modified detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

CU 06
EA 360211

BRIDGE NO.	ROUTE 99/198 WEST SEPARATION (WIDEN)
46-0229 R/L	STRUCTURE APPROACH TYPE N(30D)
POST MILE 39.0	

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)										SHEET	OF
04/01/11										15	23

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

OS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. 01/11/08)

USERNAME => s124496

46-0229rl-s-sa01_n30d.dgn

DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:56

DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	339	346

Richard Schendel 12/01/11
REGISTERED ENGINEER - CIVIL

4-16-12
PLANS APPROVAL DATE

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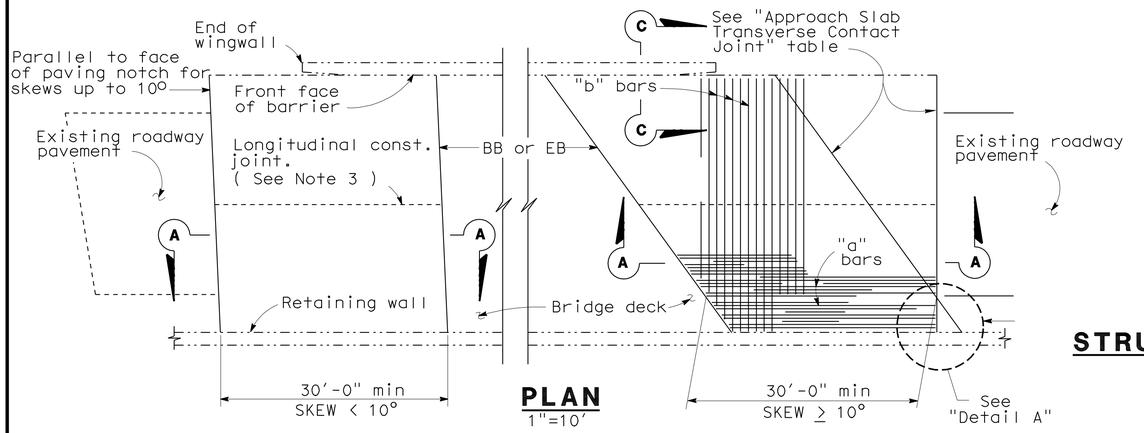
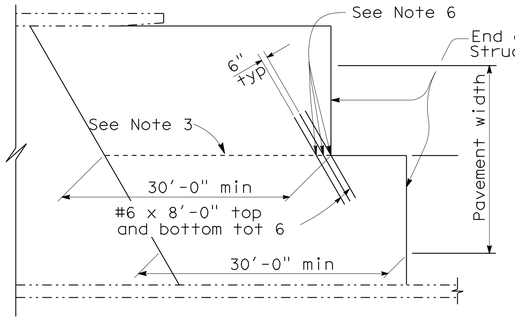
REGISTERED PROFESSIONAL ENGINEER — RICHARD E. SCHENDEL — No. C 64259 — Exp. 06/30/13 — CIVIL — STATE OF CALIFORNIA

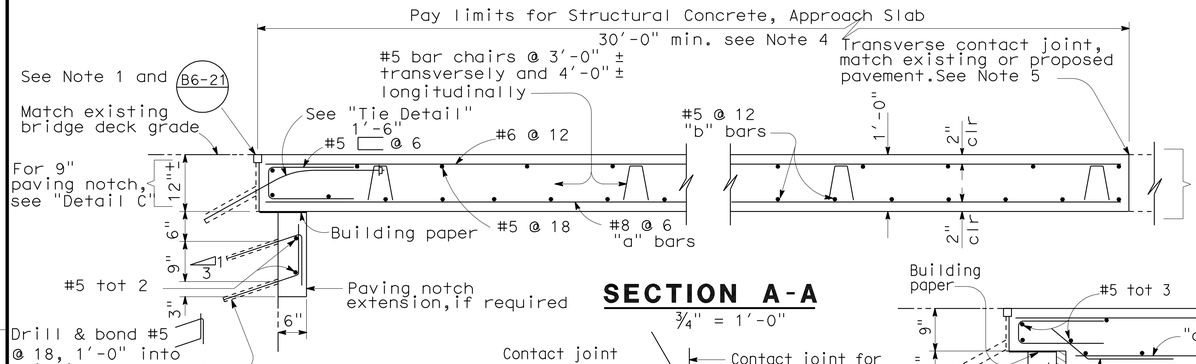


PLAN
1"=10'



STRUCTURE APPROACH - END STAGGER DETAIL
No Scale

APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line

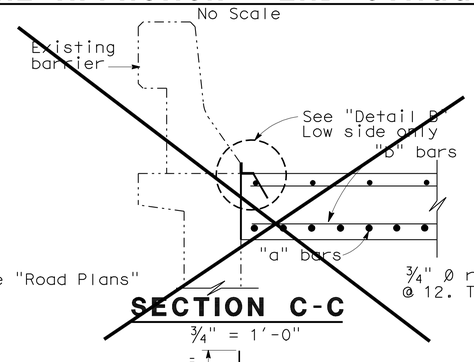


SECTION A-A
¾" = 1'-0"

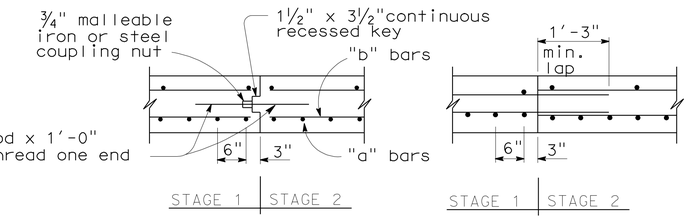
DETAIL A
No Scale

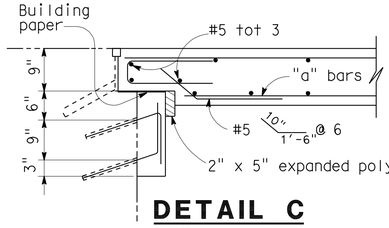
TIE DETAIL
¾" = 1'-0"

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



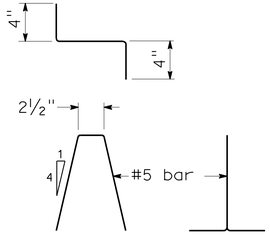
SECTION C-C
¾" = 1'-0"



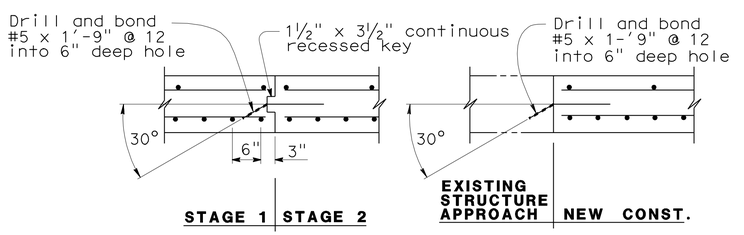


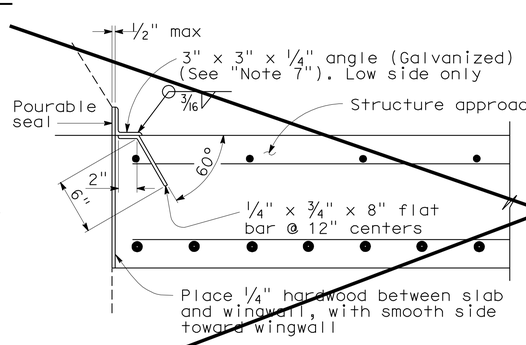
DETAIL C
¾" = 1'-0"

NOTE: For details not shown,see "Section A-A".

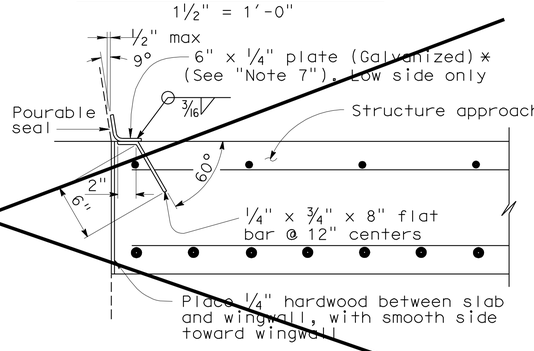


BAR CHAIR DETAIL
1½" = 1'-0"





*(TO BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER)



*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)

DETAIL B
1½" = 1'-0"

LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES
¾" = 1'-0"

NOTES:

1. For details not shown or noted,see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint,when required.
2. Space to avoid existing prestress anchorages and main reinforcement.
3. Longitudinal construction joints,when permitted by the Engineer,shall be located on lane lines.
4. Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint.
5. For transverse contact joint with new PCC paving. refer to Standard Plan P10.
6. Couplers are required for stage construction.
7. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.
8. No Paving Notch Extension is required.

(2) Note: For "SECTION C-C" see "ABUTMENT DETAILS NO. 1" sheet.

SPECIAL DETAILS

REVISED STANDARD DRAWING

RELEASE DATE	REVISED 3/14/05	DESIGN	BY M.TRAFFALIS	CHECKED E.THORKILDSEN	RELEASED BY
		DETAILS	BY R.YEE	CHECKED E.THORKILDSEN	
FILE NO.	xs3-140e	SUBMITTED	BY M.HA	DRAWING DATE 8/92	OFFICE CHIEF

(1) Modified detail
(2) Added notes

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	ROUTE 99/198 WEST SEPARATION (WIDEN)
46-0229 R/L	
MILE POST 39.0	STRUCTURE APPROACH TYPE R(30D)

DS OSD 2147A (ENGLISH) (REV. X/XX/XX)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06
EA 360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 04/07/11 10/18/11

SHEET 16 OF 23

USERNAME => s124496

DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:56

46-0229rl-s-sa02_r

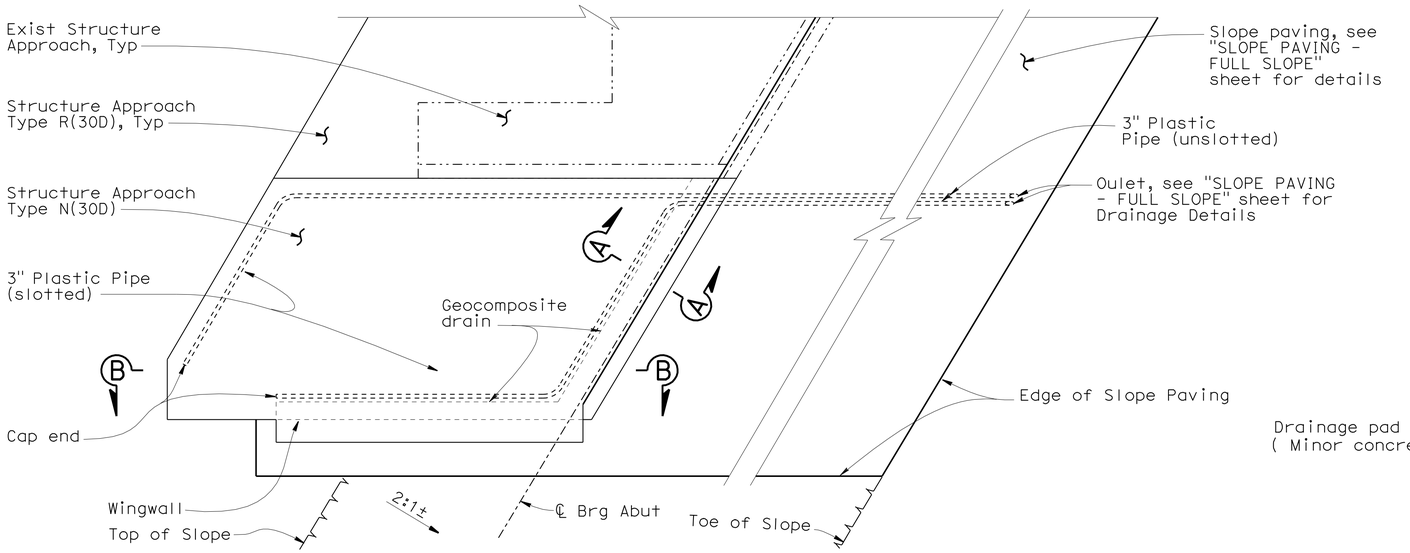
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	340	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

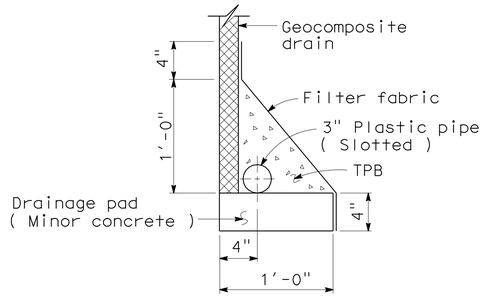
4-16-12
PLANS APPROVAL DATE

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

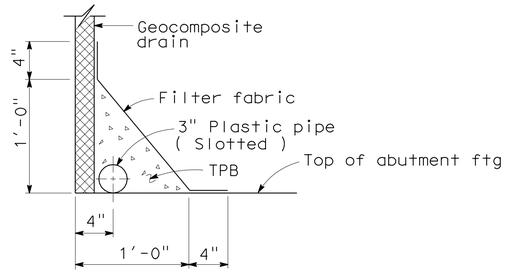


Note: Left Bridge Abut 1 shown, others similar.

PLAN
No Scale

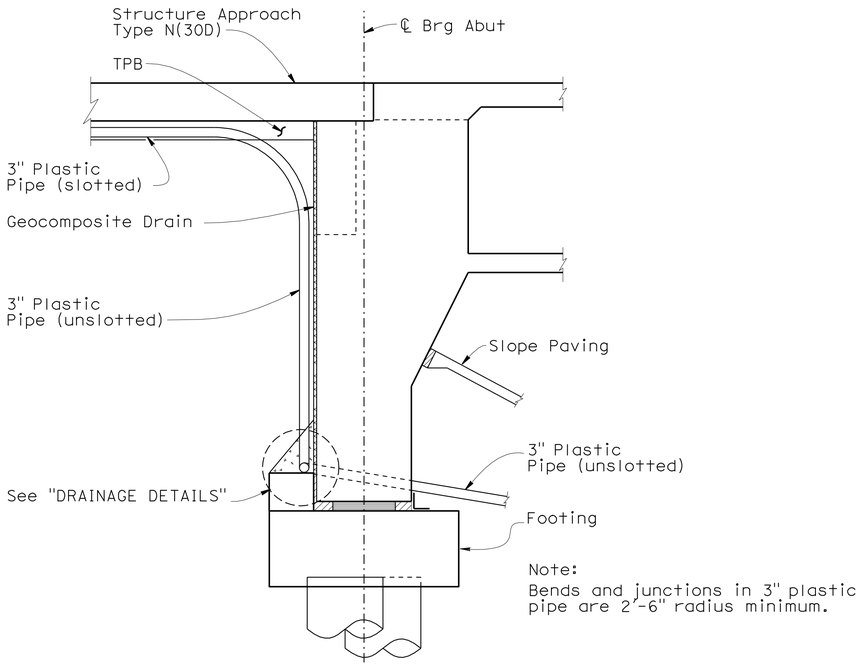


WITHOUT FOOTING

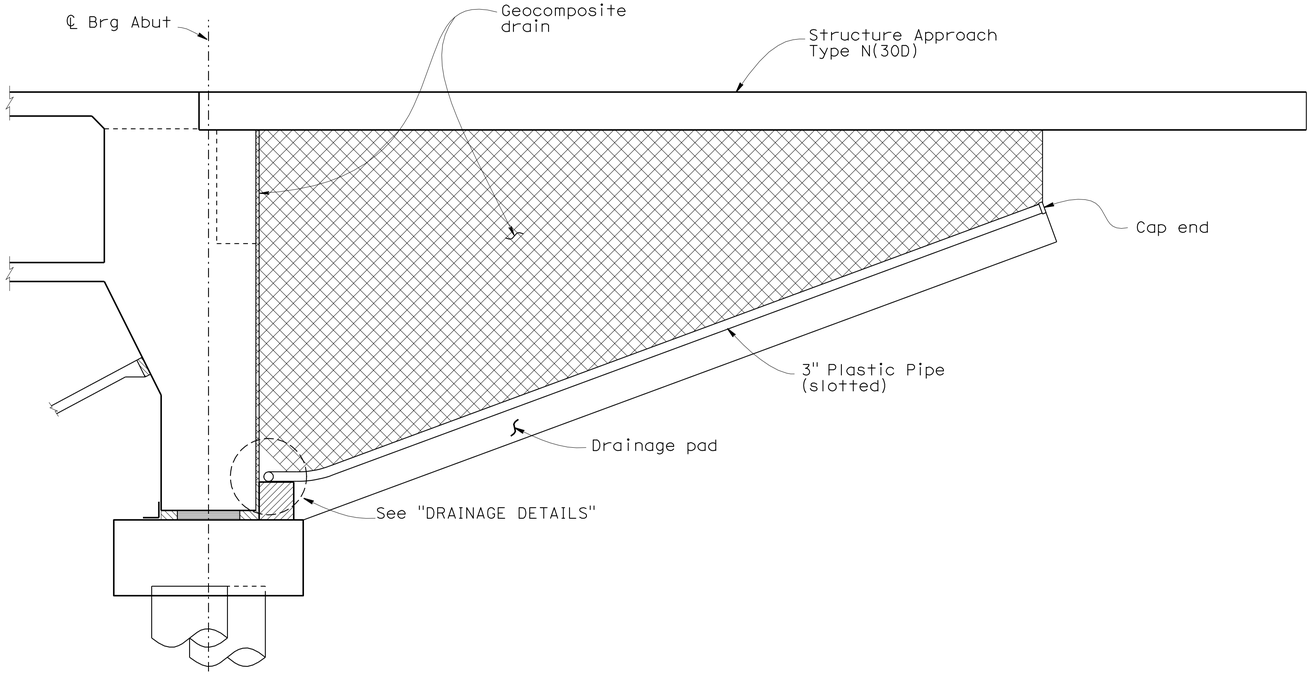


WITH FOOTING

DRAINAGE DETAILS
1½" = 1'-0"



SECTION A-A
No Scale



SECTION B-B
No Scale

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

DESIGN	BY ZIHAN YAN	CHECKED MATT SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
DETAILS	BY MINH TRAN	CHECKED MATT SCHOTT	
QUANTITIES	BY ZIHAN YAN	CHECKED M. SCHOTT / SANNOW MAM	

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO. 46-0229 R/L
POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)
STRUCTURE APPROACH DRAINAGE DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3603
PROJECT NUMBER & PHASE: 0600020408 1
CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 10/20/11

SHEET 17 OF 23

FILE => 46-0229rl-s-sadd.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:56

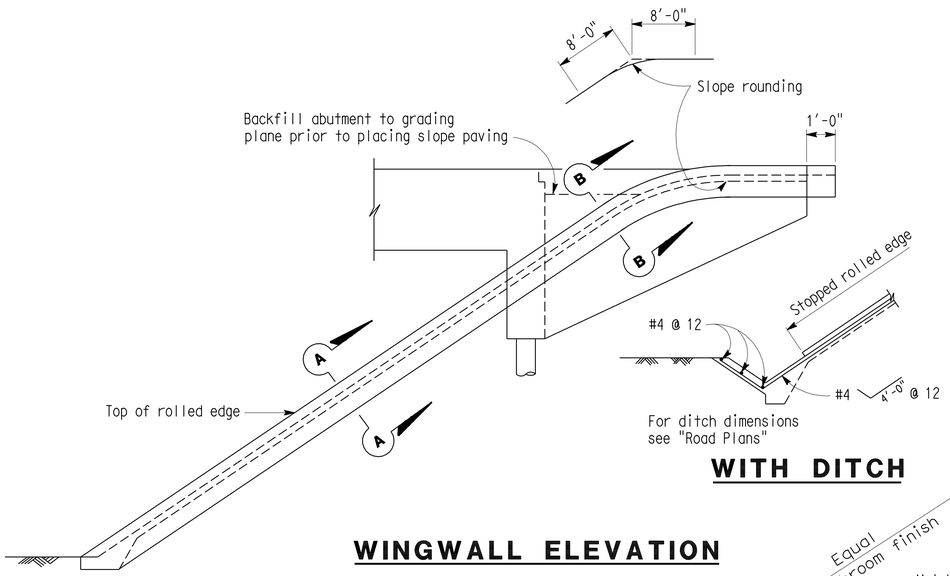
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Tul	99	R37.3/41.3	341	346

REGISTERED CIVIL ENGINEER — 12/01/11 DATE

RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

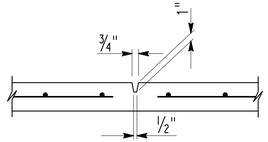
4-16-12
PLANS APPROVAL DATE

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

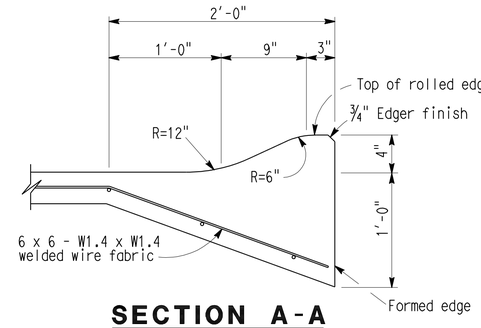


WITH DITCH

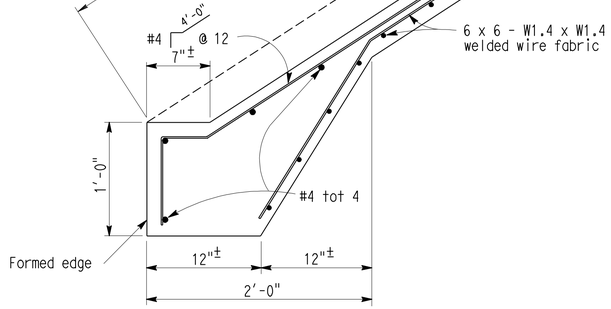
WINGWALL ELEVATION



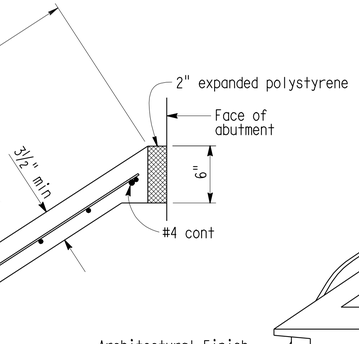
PREFORMED GROOVE



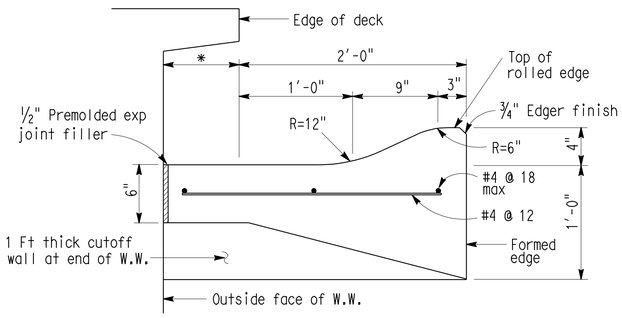
SECTION A-A



① **TYPICAL SECTION - CONCRETE PAVING**

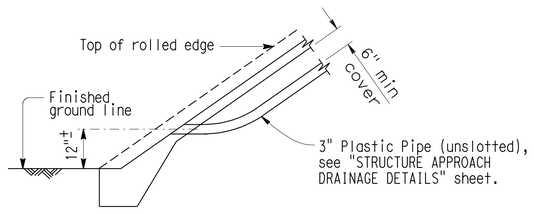


① **PICTORIAL VIEW OF TYPICAL INSTALLATION**

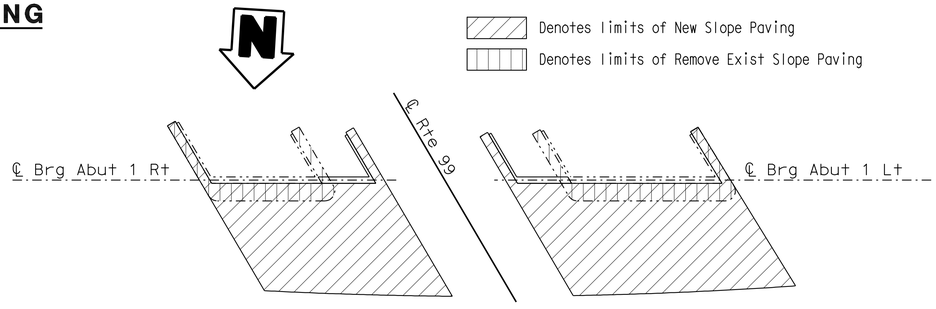


SECTION B-B

* This dimension becomes zero when edge of deck is at outside face of W.W.



① **DRAINAGE DETAILS**



Note: Abut 1 shown, Abut 3 similar.

② **LIMITS OF SLOPE PAVING - PLAN**

NO SCALE

SPECIAL DETAILS

REVISED STANDARD DRAWING

RELEASE DATE					
	DESIGN	BY		CHECKED	RELEASED BY
	DETAILS	BY	D. Wooten	CHECKED	Susan Hida
FILE NO. xs4-210	SUBMITTED	BY	Dan Adams	DRAWING DATE 6/07	OFFICE CHIEF

① Modifed detail
② Added detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	ROUTE 99/198 WEST SEPARATION (WIDEN)
46-0229 R/L	SLOPE PAVING - FULL SLOPE
POST MILE 39.0	

DS OSD 2147A (CADD) (REV. 4/07)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06
EA 360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 06/23/11

SHEET 18 OF 23

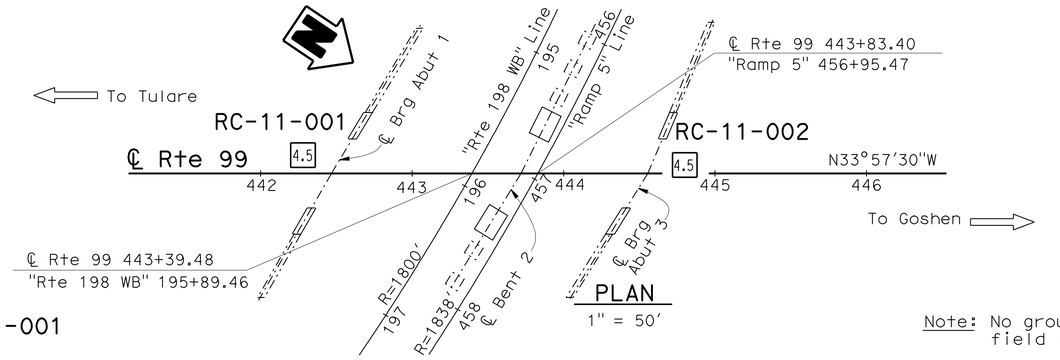
DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:57

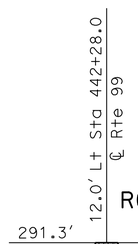
USERNAME => s124496

46-0229r1-u-slppvg.

BENCH MARK

PRHV 285
Fnd brass disk w/ Calif. Dept. of Transportation in median on south end of bridge.
N 2,003,009.60
E 6,441,202.63
Elev = 29.34′
NAVD88





Note: No groundwater encountered during field investigation.

SILTY SAND (SM); dark brown; moist; fine SAND; little fines; (FILL).
SILT (ML); hard; dark yellowish brown; moist; PP= 4.5 tsf; (FILL).
SILT with SAND (ML); stiff; dark yellowish brown; moist; fine SAND; micaceous; PP= 1.25 tsf; (FILL).
SILT (ML); very stiff; dark yellowish brown; moist; PP= 3.0 tsf; (FILL).

Lean CLAY (CL); medium stiff; dark yellowish brown; moist; heavy iron oxide staining; trace carbon; micaceous; PP= 0.75 tsf; (FILL).

Poorly-graded SAND (SP); medium dense; olive gray; moist; fine SAND; micaceous.

Lean CLAY (CL); stiff; dark olive brown; moist; PP= 1.75 tsf.

CLAYEY SAND (SC); medium dense; dark yellowish brown; moist; fine and medium SAND.

Lean CLAY with SAND (CL); very stiff; dark yellowish brown; moist; fine SAND; trace fine subrounded GRAVEL; micaceous; trace carbon; PP= 3.5 tsf.

SILT (ML); hard; dark yellowish brown; moist; micaceous; some iron oxide staining, trace carbon; PP= 4.5 tsf.

SILTY SAND (SM); dense; dark yellowish brown; moist; fine SAND; little fines; micaceous; PP=3.75 tsf.
CLAYEY SAND (SC); dense; dark yellowish brown; moist; fine SAND; little fines; micaceous.
Poorly-graded SAND (SP); dense; dark yellowish brown; moist; fine SAND; micaceous.
Elastic SILT with SAND (MH); very stiff; dark yellowish brown; moist; fine SAND; micaceous; PP= 3.0 tsf.
Poorly-graded SAND (SP); dense; dark yellowish brown; moist; fine SAND; micaceous.

Lean CLAY (CL); very stiff; dark yellowish brown; moist; micaceous; trace iron oxide mottling; PP= 2.0 tsf.
SILT (ML); hard; dark yellowish brown; moist; few fine SAND; micaceous; PP= 4.0 tsf.

Lean CLAY with SAND (CL); very stiff; dark yellowish brown; moist; fine SAND; micaceous; PP= 3.0 tsf.
SILTY SAND (SM); very dense; dark yellowish brown; moist; fine SAND; little fines; from weakly to moderately cemented; micaceous; trace iron oxide staining.
Poorly-graded SAND with SILT (SP-SM); dense; dark yellowish brown; moist; fine SAND; micaceous.

Lean CLAY with SAND (CL); very stiff; dark yellowish brown; moist; fine SAND; micaceous; trace iron oxide staining; trace carbon; PP= 3.0 tsf.
SILT (ML); stiff; dark yellowish brown; moist; micaceous; trace carbon; PP= 1.5 tsf.
SILTY SAND (SM); dense; dark yellowish brown; moist; fine SAND; little fines; micaceous.
SILT with SAND (ML); stiff; dark yellowish brown; moist; fine SAND; micaceous; trace iron oxide staining; trace carbon; PP= 1.5 tsf.

-grading to very stiff; PP= 3.5 tsf.
Poorly-graded SAND (SP); from dense to very dense; dark yellowish brown; moist; fine SAND; micaceous.
SILT with SAND (ML); medium stiff; dark yellowish brown; moist; fine SAND; micaceous; PP= 0.5 tsf.
-grading to very stiff; PP= 2.5 tsf.
CLAYEY SAND (SC); very dense; dark yellowish brown; moist; fine SAND; little fines; micaceous; trace carbon; trace gypsum crystals; PP= 4.5 tsf.

Elastic SILT with SAND (MH); stiff; dark yellowish brown; moist; fine SAND; micaceous; some iron oxide staining; PP= 1.75 tsf.
-grading to very stiff; heavy iron oxide staining; PP= 3.0 tsf.
-PP= 3.75 tsf.

02-22-11
Terminated at Elev 164.8′
ERi = 93%

PROFILE
Horiz: 1" = 10′
Vert: 1" = 10′

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	342	346

CERTIFIED ENGINEERING GEOLOGIST — 9-1-11 DATE

Reid Buell
No. 1481
Exp. 4-30-13
CERTIFIED ENGINEERING GEOLOGIST
PROFESSIONAL GEOLOGIST
STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

442+00 443+00 444+00

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0229R/L	ROUTE 99/198 WEST SEPARATION (WIDEN)
FUNCTIONAL SUPERVISOR NAME: R. Bibben	DRAWN BY: F. Nguyen 08/11	FIELD INVESTIGATION BY: J. Thorne		POST MILE 39.0	LOG OF TEST BORINGS 1 OF 5
	CHECKED BY: A. Barrie				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 06000204081 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
08-16-11	08-31-11			19	23

FILE => 46-0229rl-z-ltb01.dgn

USERNAME => s124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:57

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	343	346

CERTIFIED ENGINEERING GEOLOGIST — 9-1-11 DATE

Reid Buell No. 1481 Exp. 4-30-13 CERTIFIED ENGINEERING GEOLOGIST — PROFESSIONAL GEOLOGIST — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 5"

PROFILE
Horiz: 1" = 20'
Vert: 1" = 10'

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0229R/L	ROUTE 99/198 WEST SEPARATION (WIDEN)
FUNCTIONAL SUPERVISOR NAME: R. Bibben	DRAWN BY: F. Nguyen 08/11 CHECKED BY: A. Barrie	FIELD INVESTIGATION BY: J. Thorne		POST MILE 39.0	LOG OF TEST BORINGS 2 OF 5

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 06000204081 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
08-16-11	08-31-11			20	23

FILE => 46-0229rl-z-ltb02.dgn

USERNAME => s1124496 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:57

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	344	346

CERTIFIED ENGINEERING GEOLOGIST — 9-1-11 DATE

Reid Buell No. 1481 Exp. 4-30-13 CERTIFIED ENGINEERING GEOLOGIST — PROFESSIONAL GEOLOGIST — STATE OF CALIFORNIA

4-16-12
PLANS APPROVAL DATE

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CEMENTATION

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

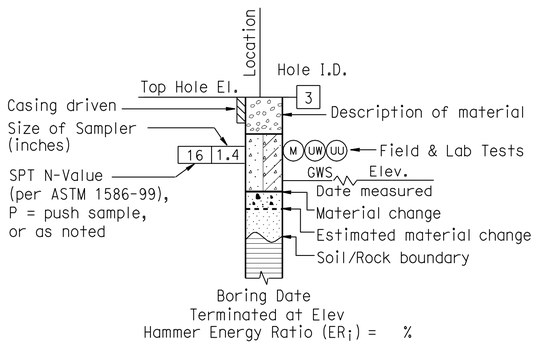
BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
Size	A	Auger Boring (hollow or solid stem bucket)
Size	R RW RC P	Rotary drilled boring (conventional) Rotary drilled with self-casing wire-line Rotary core with continuously-sampled, self-casing wire-line Rotary percussion boring (air)
Size	R	Rotary drilled diamond core
Size	HD HA	Hand driven (1-inch soil tube) Hand Auger
●	D	Dynamic Cone Penetration Boring
▲	CPT	Cone Penetration Test (ASTM D 5778)
⬚	O	Other (note on LOTB)

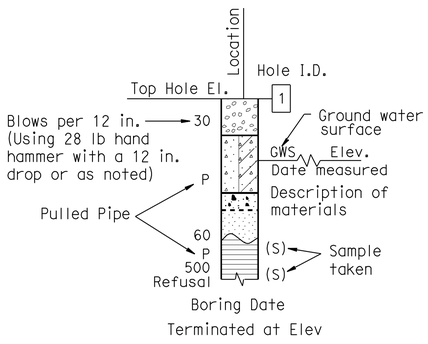
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

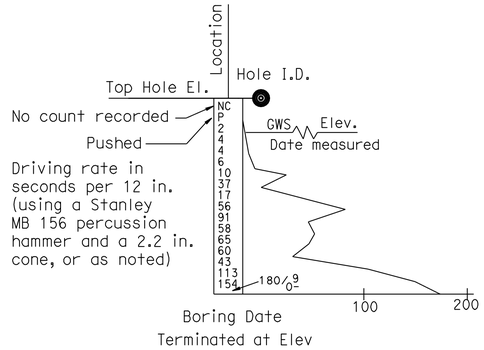
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2



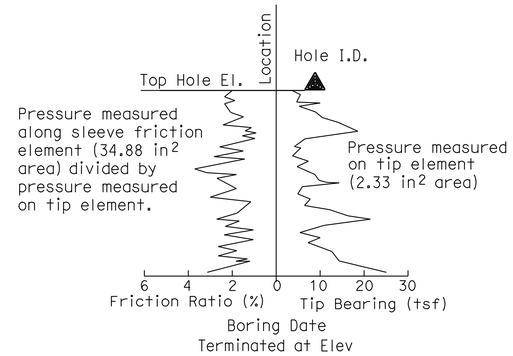
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 46-0229R/L	ROUTE 99/198 WEST SEPARATION (WIDEN)
	PREPARED BY: F. Nguyen 08/11			POST MILE 39.0	LOG OF TEST BORINGS 3 OF 5

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 06000204081 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
				21	23

FILE => 46-0229rl-z-ltb03.dgn

USERNAME => s124496 DATE PLOTTED => 13-APR-2012 TIME PLOTTED => 10:57

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

GROUP SYMBOLS AND NAMES

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

FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 216)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (UC) Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	R37.3/41.3	345	346

CERTIFIED ENGINEERING GEOLOGIST — 9-1-11 DATE

4-16-12 PLANS APPROVAL DATE

PROFESSIONAL GEOLOGIST — Reid Buell — No. 1481 — Exp. 4-30-13 — CERTIFIED ENGINEERING GEOLOGIST — 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.

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE

Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS

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

PARTICLE SIZE

Description		Size (in.)
Boulder		Greater than 12
Cobble		3 - 12
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay		Less than 1/300

ENGINEERING SERVICES

MATERIALS AND GEOTECHNICAL SERVICES

PREPARED BY: F. Nguyen 08/11

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18

BRIDGE NO. 46-0229R/L

POST MILE 39.0

ROUTE 99/198 WEST SEPARATION (WIDEN)

LOG OF TEST BORINGS 4 OF 5

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 06000204081 CONTRACT NO.: 06-360211

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 22 OF 23

FILE => 46-0229rl-z-ltb04.dgn

USERNAME => s124096 DATE PLOTTED => 19-APR-2012 TIME PLOTTED => 10:57

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99, 198	37.2/39.5, 20/4.9	200	240

Robert W. Reynolds #165
BRIDGE ENGINEERING GEOLOGIST — CERT. ENGINEERING GEOLOGIST NO.
DATE APPROVED May 19, 1975

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
06	Tul	99	R37.3/41.3	346	346

PROFESSIONAL GEOLOGIST — Reid Buell — No. 1481 — Exp. 4-30-13 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST — DATE 9/1/2011

ROUTE 99/198 WEST SEPARATION (WIDEN)
LOG OF TEST BORINGS 5 OF 5

UNIT:	3643	CONTRACT No.	BRIDGE No.
PROJ. No. & PHASE:	06000204081	06-360211	46-0229R/L

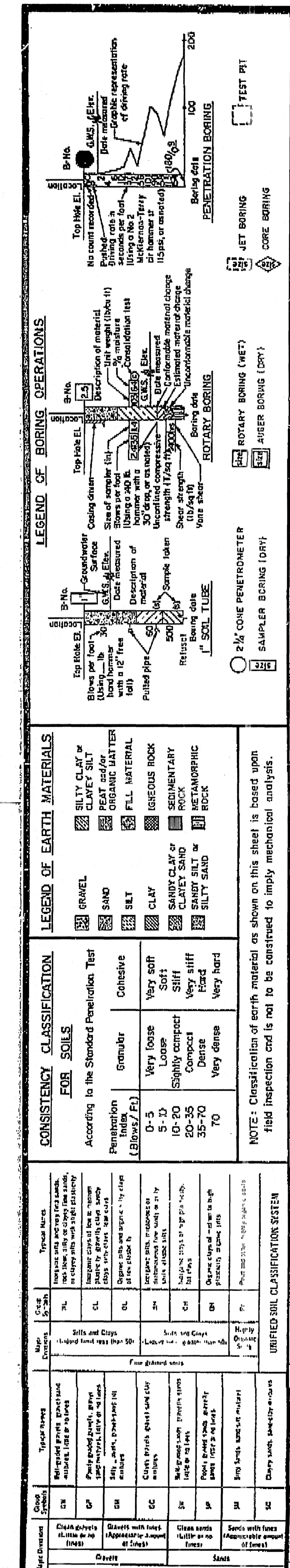
AS-BUILT VERT DATUM: NGVD29 CONVERSION: NAVD88=NGVD29-2.6' — Sheet 23 of 23

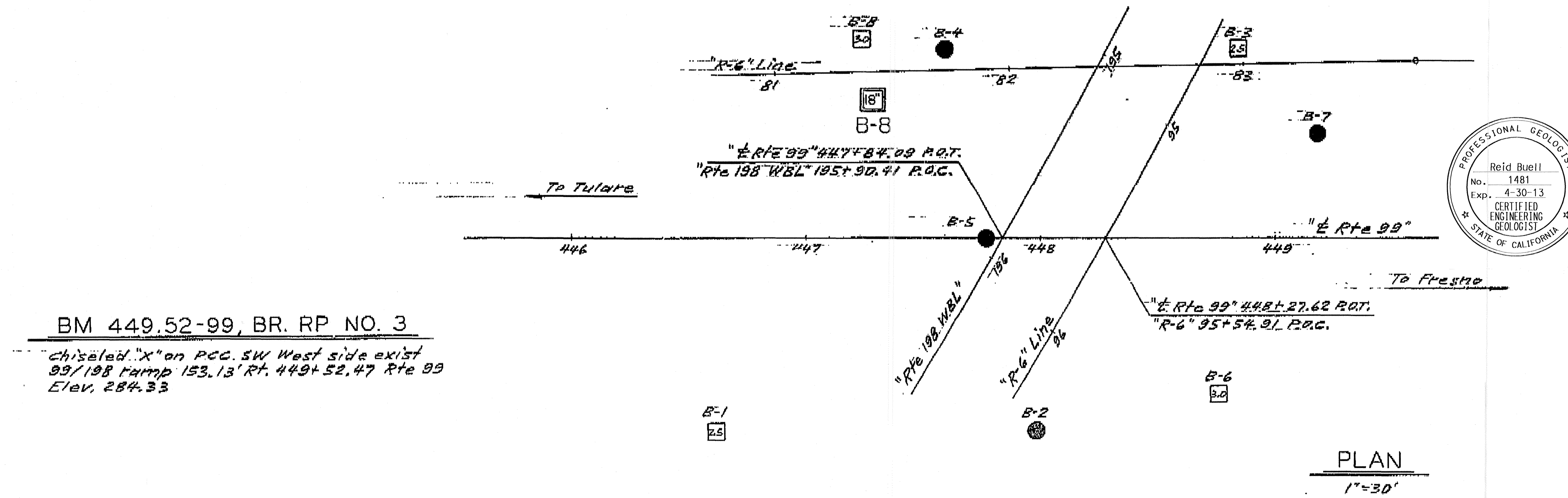
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

TO ACCOMPANY PLANS DATED 4-16-12

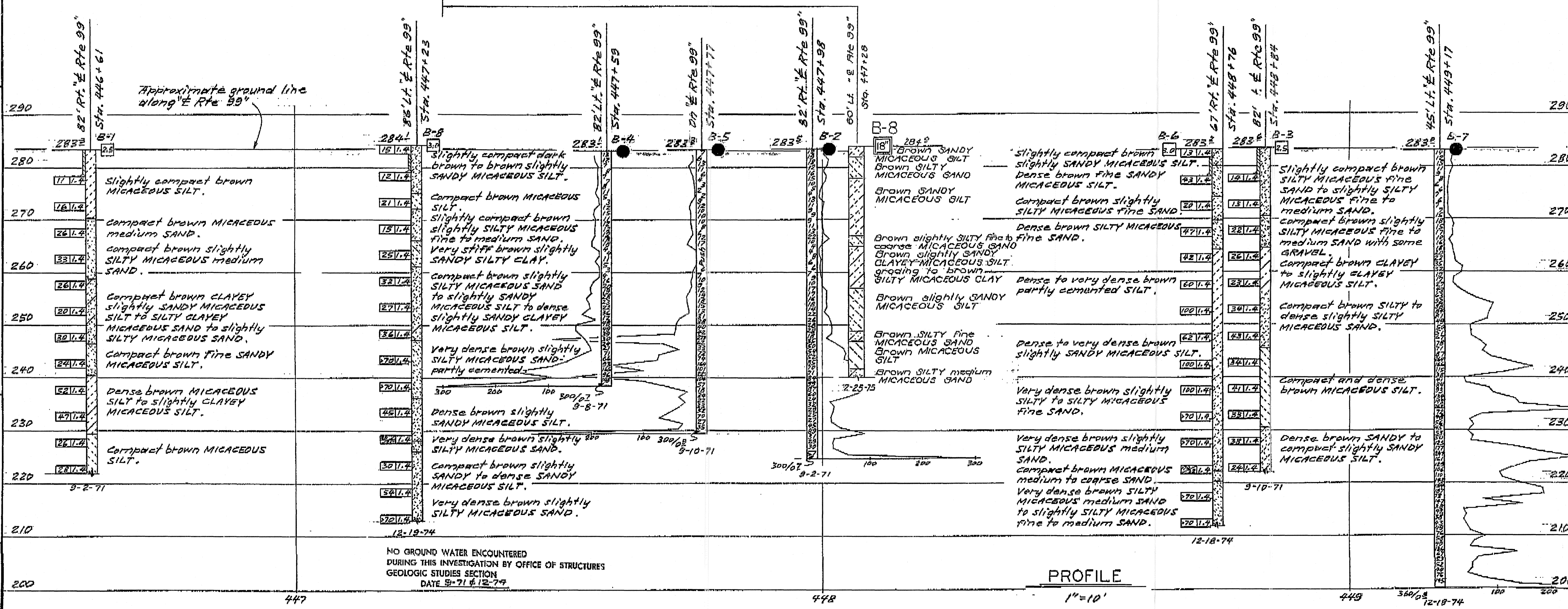
NO AS BUILT CHANGES

AS BUILT M.K.M. 11-12-80
CORRECTED BY R.E. Vukovich
CONTRACT NO. 06-067314
DATE 1-30-78





PLAN
1"=30'



NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY OFFICE OF STRUCTURES GEOLOGIC STUDIES SECTION DATE 9-71 & 12-74

PROFILE
1"=10'

ENGINEERING GEOLOGY SECTION		
FIELD STUDY	By R. Fox 12-74	Approval Recommended By
DRAWN	By K. Endow 1-75	
CHECKED	By 1-30-75	ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER 78

State of **CALIFORNIA**
DEPARTMENT OF TRANSPORTATION

OFFICE OF STRUCTURES DESIGN GROUP 1
PROJECT ENGINEER

BRIDGE NO. 46-229 R/L
POST MILE 38.9

ROUTE 99/198 WEST SEPARATION (WIDEN)
LOG OF TEST BORINGS

CU 06200
WO 067311

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

Disregard prints bearing earlier revision dates →

REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET 23 OF 23

DH-05 0146

FILENAME => 46-0229rl-z-ltb05.tif