

PLANS FOR CONSTRUCTION

FEDERAL BRIDGE REPLACEMENT PROJECT JAMES BYPASS BRIDGE REPLACEMENTS ON MANNING AVENUE

FEDERAL PROJECT No. : BRLS-5942 (233)

BRIDGE No.: 42C0691, 42C0692

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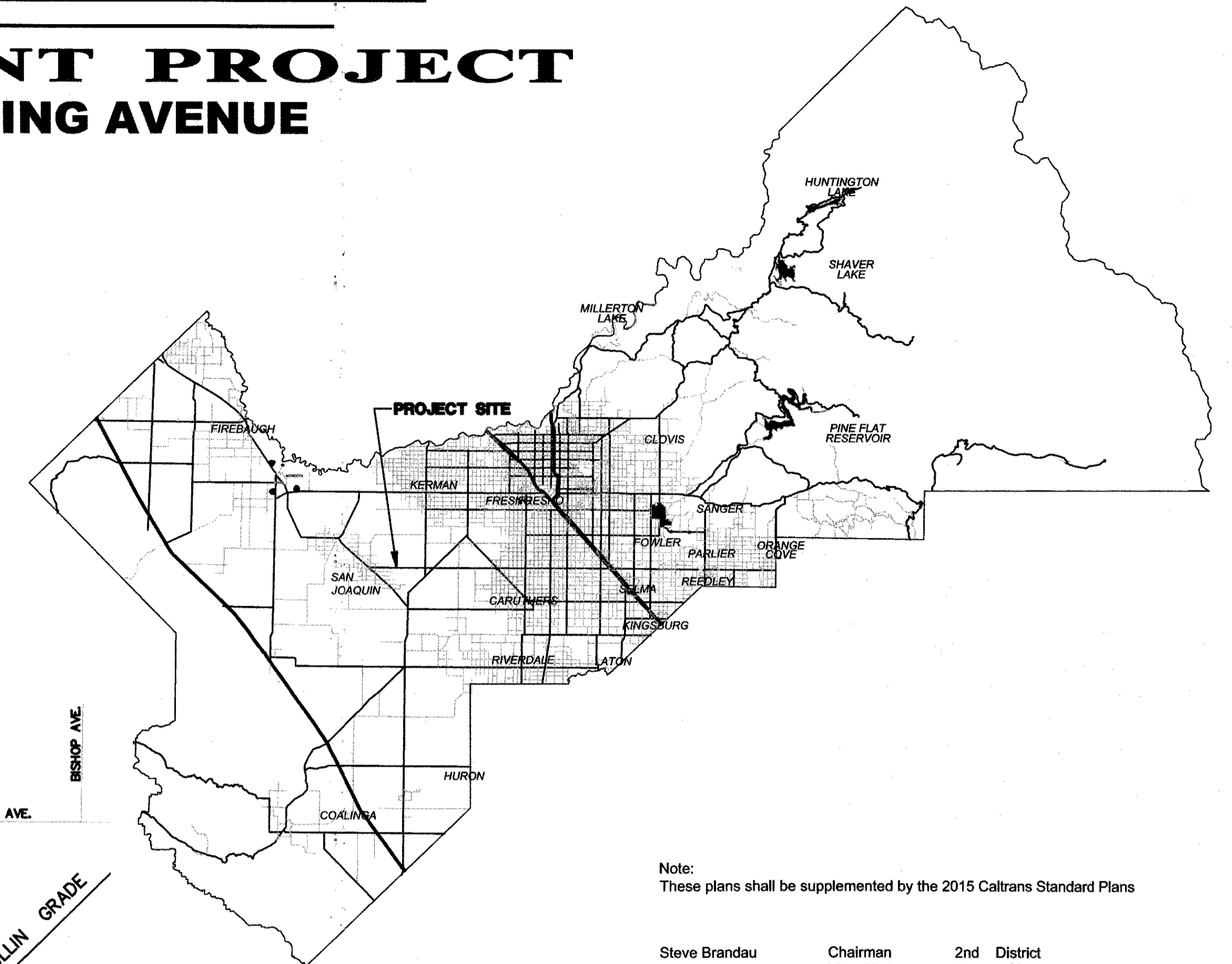
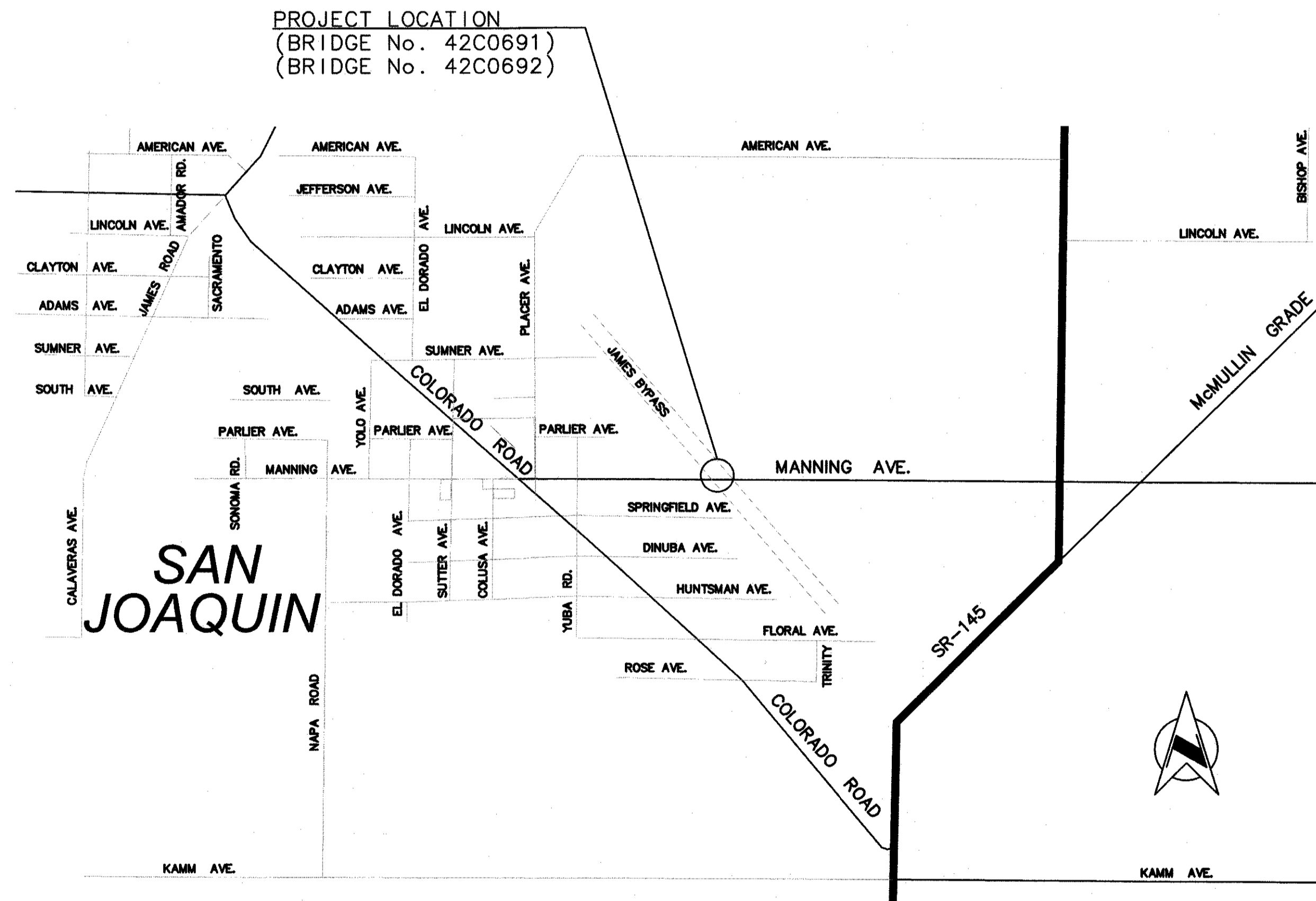
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S-24	GIRDER DETAILS
S-25	LOG OF TEST BORINGS



Note:
These plans shall be supplemented by the 2015 Caltrans Standard Plans

Steve Brandau	Chairman	2nd District
Brian Pacheco	Vice Chairman	1st District
Sal Quintero		3rd District
Nathan Magsig		5th District
Ernest Buddy Mendes		4th District

Jean M. Rousseau
County Administrative Officer

APPROVED _____

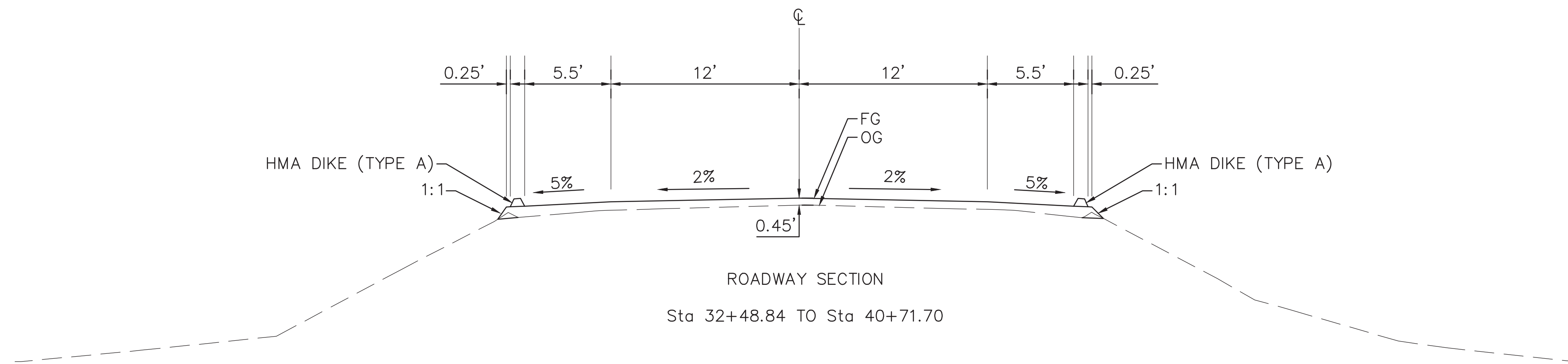
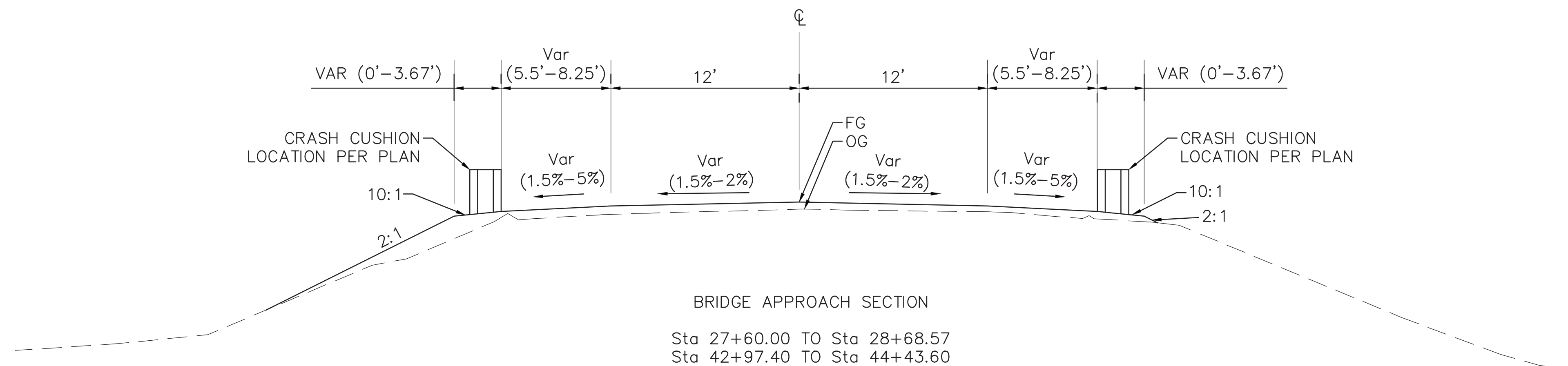
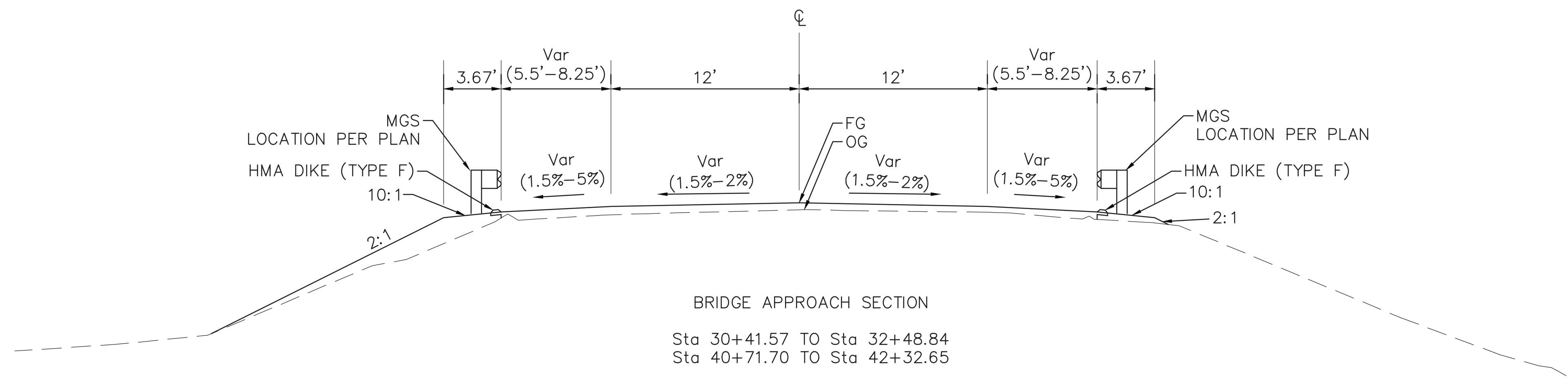
Steven E. White, Director
Department of Public Works and Planning

CALIFORNIA CONTRACTOR'S LICENSES REQUIRED FOR THIS PROJECT					
CLASS A, GENERAL ENGINEERING					
DRAWING NO.	ROAD NO.	BRIDGE NO.	FISCAL YR.	SHEET NO.	TOTAL
11308	S0900	42C0691 42C0692	2020 / 2021	1	35
CONTRACT NO. 20-15-C					

RECORD DRAWING	
DATE ADOPTED	CONTRACTOR
NAME	
ADDRESS	
CITY	STATE ZIP
PHONE	
DATE AWARDED	
DATE STARTED	
DATE COMPLETED	RESIDENT ENGINEER
NAME	SIGNATURE
NAME	SIGNATURE



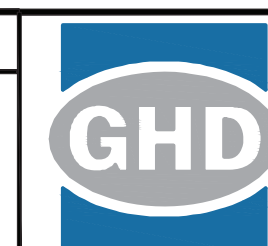
DEPARTMENT OF PUBLIC WORKS AND PLANNING



ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN
LAST REVISION 12-22-20

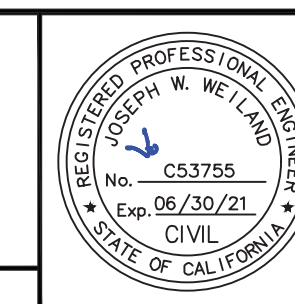
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DRAWN N. CARCHA 12/22/20
CHECKED J. WEILAND 12/22/20

Scale
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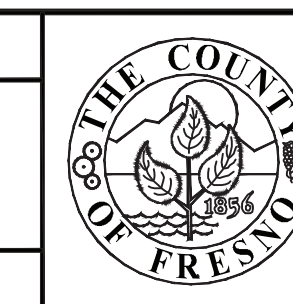


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FOR R/W DATA AND ACCURATE ACCESS DETERMINATION SEE R/W RECORDS AT PUBLIC WORKS





PROJECT
JAMES BYPASS AT MANNING AVENUE
Road No. S0900 Bridge No. 42C0691 & 42C0692



DEPARTMENT OF PUBLIC WORKS & PLANNING
MANNING AVENUE
TYPICAL CROSS SECTION
Drawing No. 11308 Sheet No. X-1 (3) of 35

LEGEND

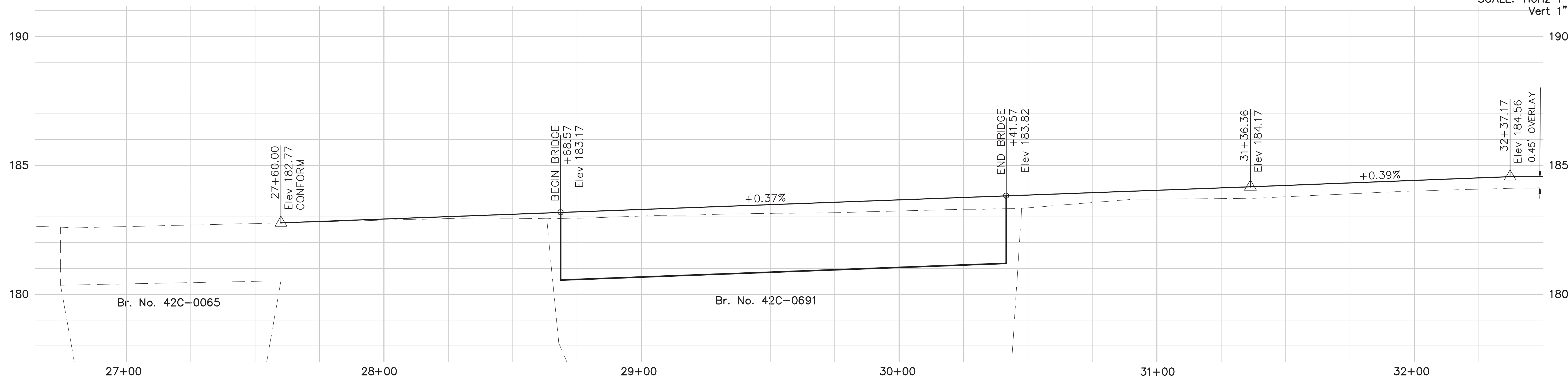
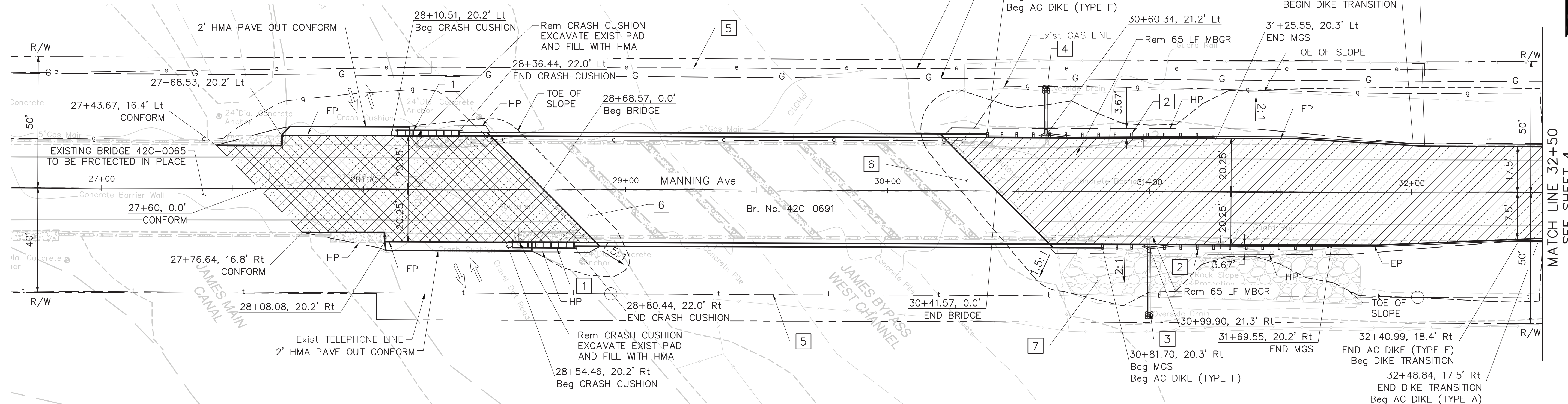
-  0.45' HMA OVERLAY
-  COLD PLANE (0.22'-0.45') WITH 0.45' HMA OVERLAY

ABBREVIATIONS

- HP HINGE POINT
- EP EDGE OF PAVEMENT

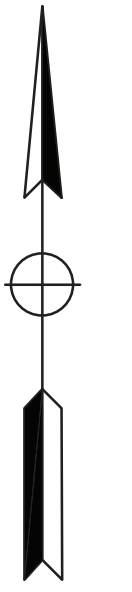
KEYED NOTES:

- 1** CRASH CUSHION, TAU II, NON-GATING PER CALTRANS LIST OF APPROVED HIGHWAY SAFETY FEATURES. MOUNT PER MANUFACTURER'S SPECIFICATIONS ON 48"x23'-10"x8" CONCRETE PAD
- 2** 8" BLOCK MIDWEST GUARDRAIL SYSTEM (PER RSP A77Q1, LAYOUT 12A), 25'-0" TRANSITION RAILING (TYPE WB-31), CALTRANS APPROVED 31" MSKT TERMINAL SYSTEM AS MANUFACTURED BY ROAD SYSTEMS, INC.
- 3** REMOVE FLUME DOWNDRAIN. INSTALL 25 LF FLUME DOWNDRAIN WITH RSP AT OUTLET
- 4** REMOVE FLUME DOWNDRAIN. INSTALL 17 LF FLUME DOWNDRAIN WITH RSP AT OUTLET
- 5** OVERHEAD UTILITY LINE (ELECTRIC/TELEPHONE) TO BE PROTECTED IN PLACE
- 6** HYDROSEED DIRT GRADING AREAS (TYP.) APPROXIMATELY 2600 SF THIS SHEET.
- 7** RESTORE EXISTING COBBLE SLOPE.




SCALE: Horiz 1"=20'
Vert 1"=2'

MATCH LINE 32+50
SEE SHEET 4

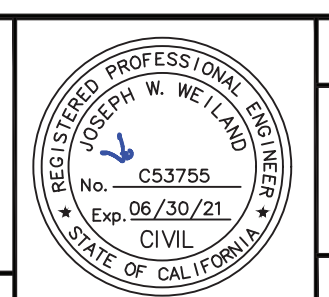


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DRAWN	N. CARCHA	DATE	12/22/20
CHECKED	J. WEILAND	DATE	12/22/20

Scale	AS SHOWN
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PROJECT	
JAMES BYPASS AT MANNING AVENUE	
Road No. S0900	Bridge No. 42C0691



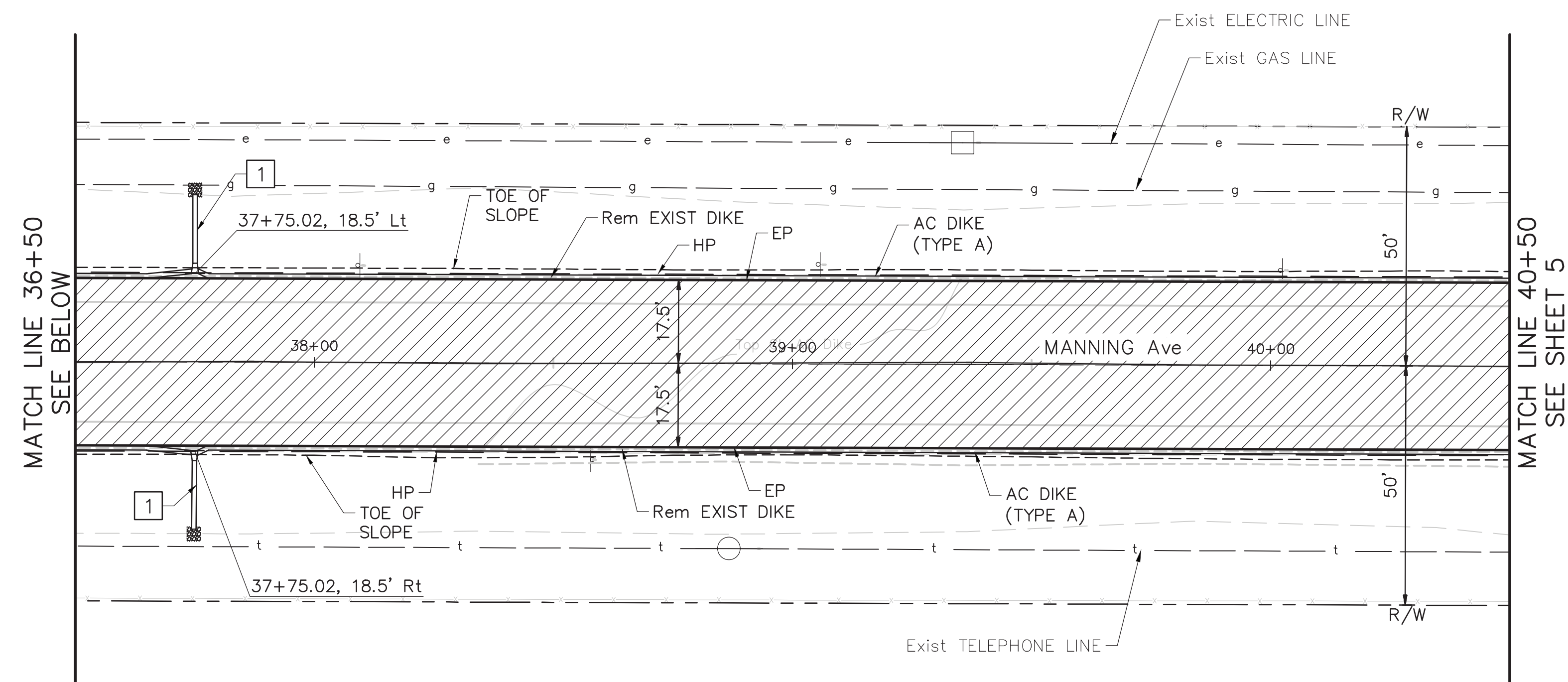
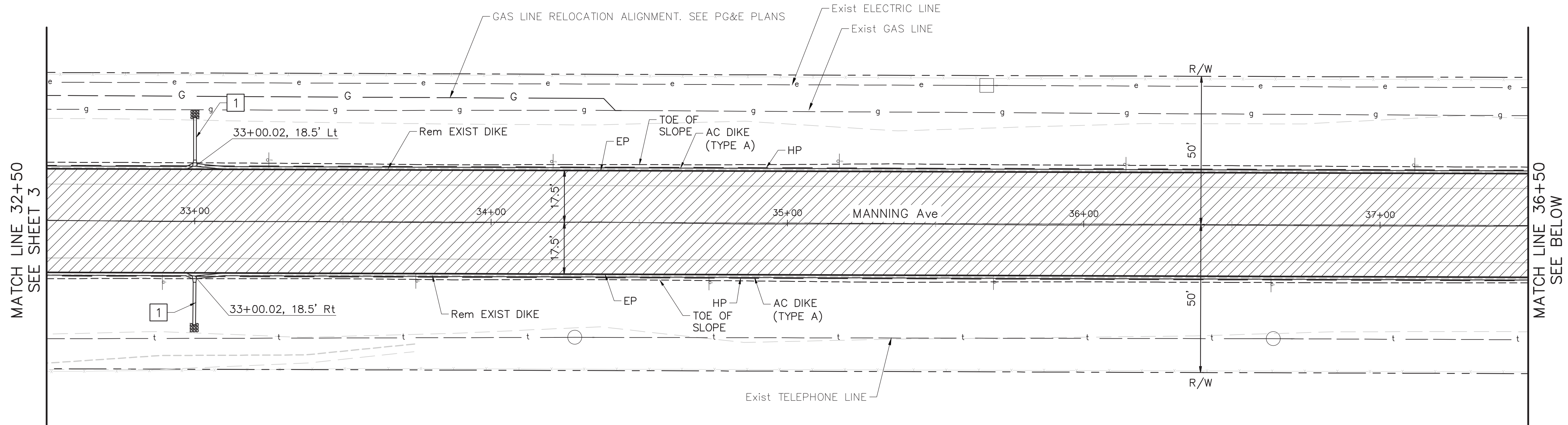
DEPARTMENT OF PUBLIC WORKS & PLANNING		
MANNING AVENUE PLAN AND PROFILE		
Drawing No. 11308	Sheet No. L-1 (4)	of 35

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN
LAST REVISION 12-22-20

FOR R/W DATA AND ACCURATE ACCESS DETERMINATION SEE R/W RECORDS AT PUBLIC WORKS

KEYED NOTES:

1 INSTALL 15 LF FLUME DOWNDRAIN WITH RSP AT OUTLET



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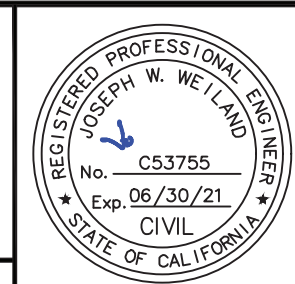
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Scale	1" = 20'
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PROJECT	
JAMES BYPASS AT MANNING AVENUE	
Road No. S0900	Bridge No. 42C0691 & 42C0692



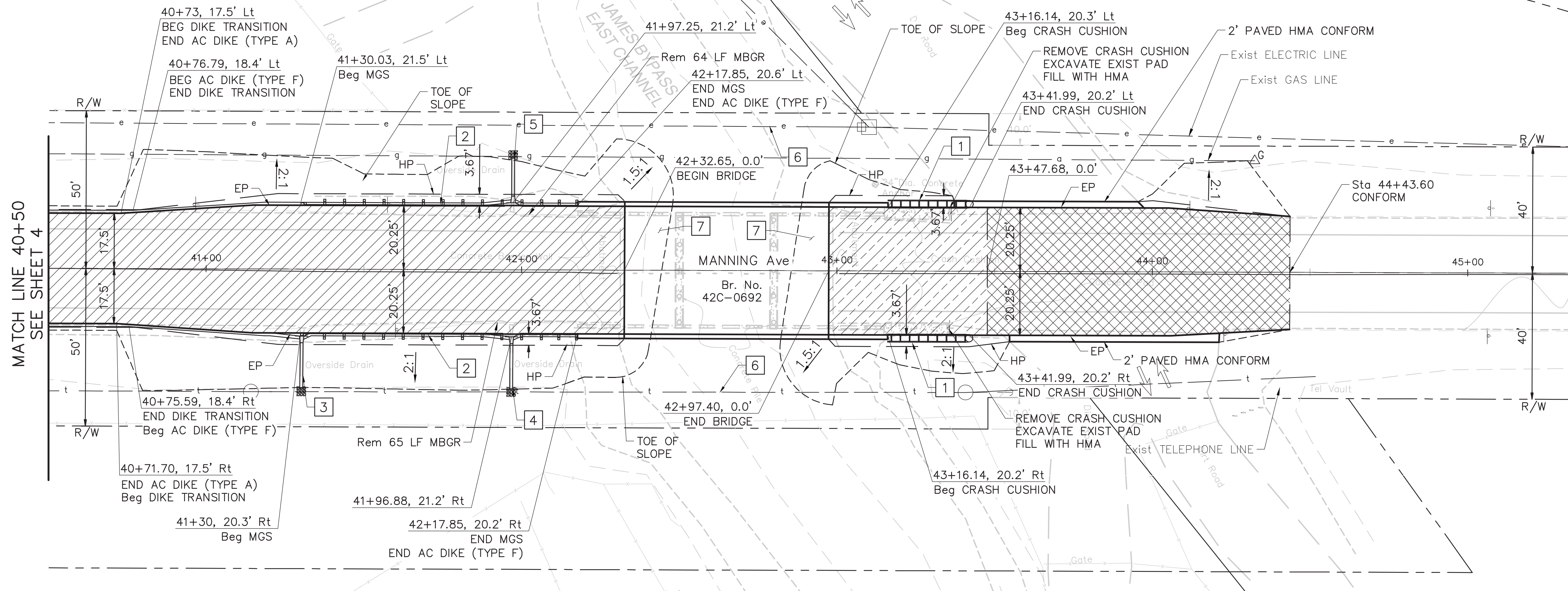
DEPARTMENT OF PUBLIC WORKS & PLANNING	
MANNING AVENUE PLAN VIEW	
Drawing No. 11308	Sheet No. L-2 (5) of 35

LEGEND

	COLD PLANE (0-0.45') WITH 0.45' HMA OVERLAY
	HMA OVERLAY (0.45'-0.62')
	0.45' HMA OVERLAY

KEYED NOTES:

- 1 CRASH CUSHION, TAU II NON-GATING PER CALTRANS LIST OF APPROVED HIGHWAY SAFETY FEATURES. MOUNT PER MANUFACTURER'S SPECIFICATIONS ON 48"x23"-10"x8" CONCRETE PAD
- 2 8" BLOCK MIDWEST GUADRIL SYSTEM (PER RSP A77Q1, LAYOUT 12A), 25'-0" TRANSITION RAILING (TYPE WB-31), CALTRANS APPROVED 31" TYPE MSKT TERMINAL SYSTEM AS MANUFACTURED BY ROAD SYSTEMS, INC.
- 3 REMOVE FLUME DOWNDRAIN. INSTALL 14 LF FLUME DOWNDRAIN WITH RSP AT OUTLET
- 4 REMOVE FLUME DOWNDRAIN. INSTALL 16 LF FLUME DOWNDRAIN WITH RSP AT OUTLET
- 5 REMOVE FLUME DOWNDRAIN. INSTALL 14 LF FLUME DOWNDRAIN WITH RSP AT OUTLET
- 6 OVERHEAD UTILITY LINE (ELECTRIC/TELEPHONE) TO BE PROTECTED IN PLACE
- 7 HYDROSEED DIRT GRADING AREAS (TYP.) APPROXIMATELY 6200 SF THIS SHEET.

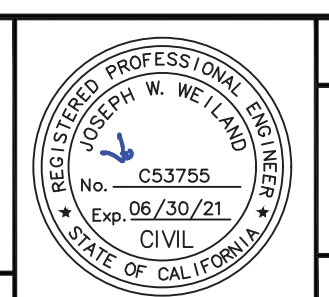


SCALE: Horiz 1"=20'
Vert 1"=2'

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DRAWN	N. CARCHA	DATE	12/22/20
CHECKED	J. WEILAND	DATE	12/22/20

Scale	AS SHOWN
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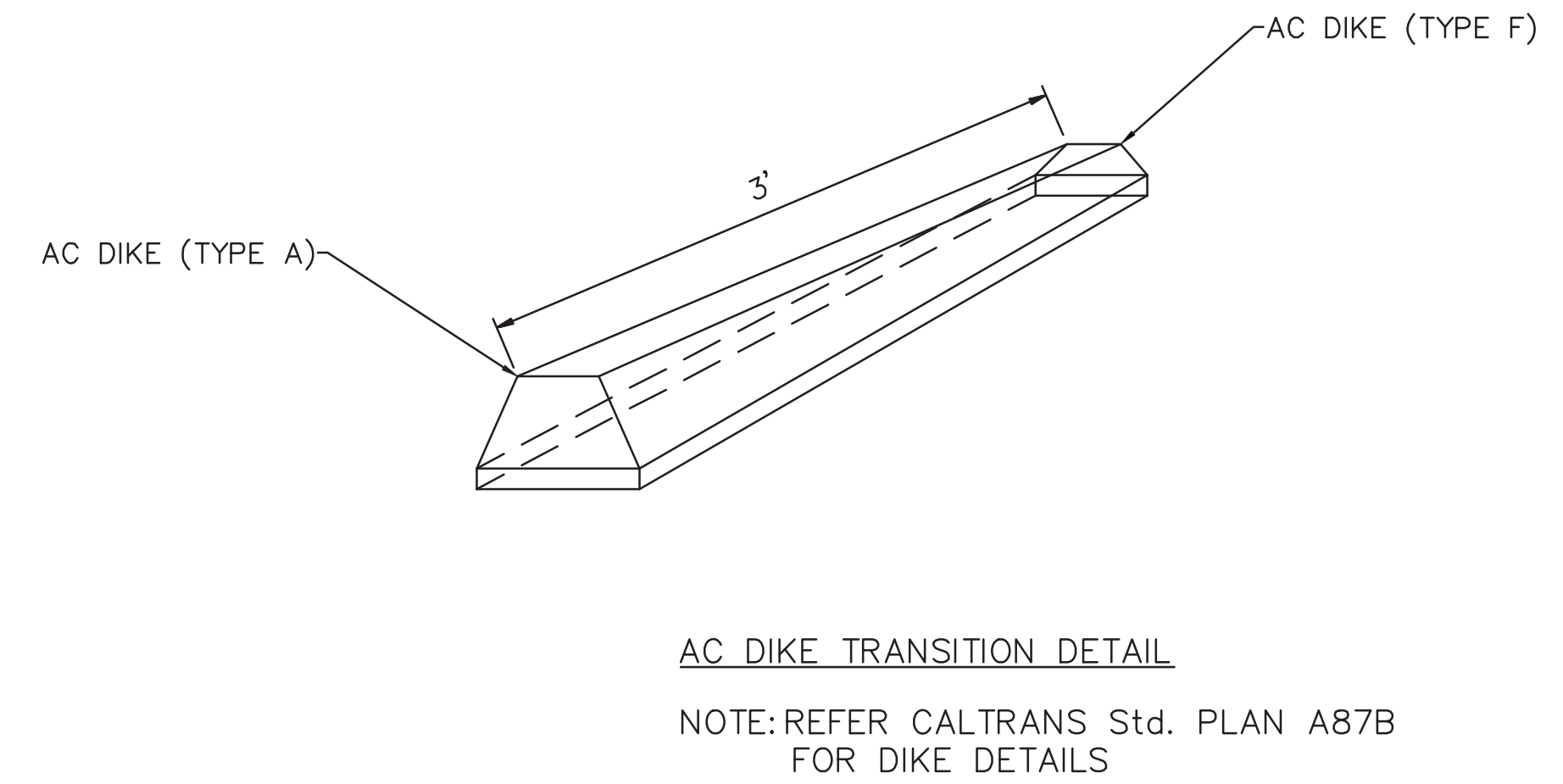
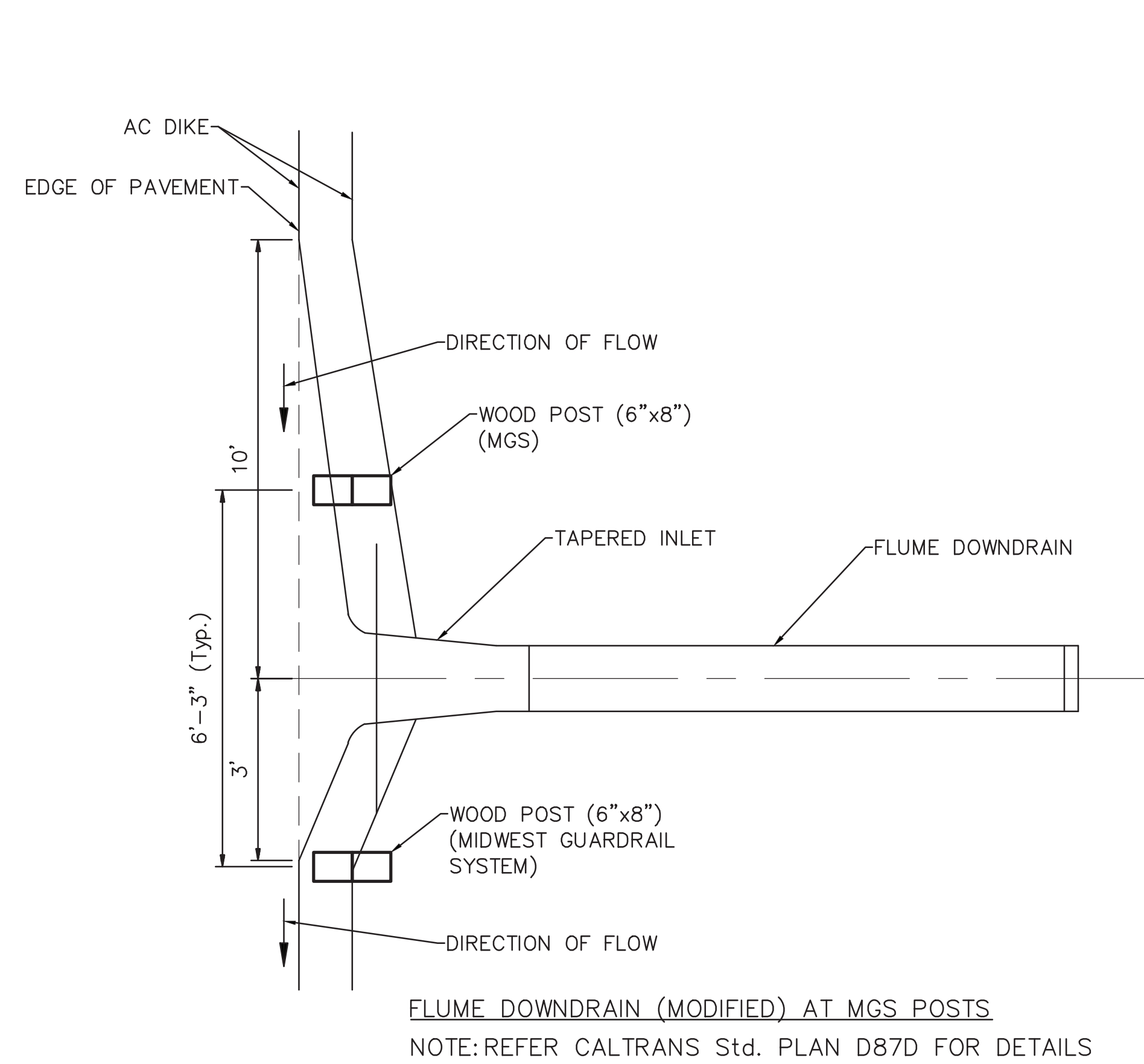
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PROJECT	
JAMES BYPASS AT MANNING AVENUE	
Road No. S0900	Bridge No. 42C0692



DEPARTMENT OF PUBLIC WORKS & PLANNING	
MANNING AVENUE PLAN AND PROFILE	
Drawing No. 11308	Sheet No. L-3 (6) of 35



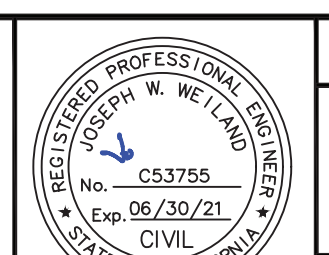
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LAST REVISION 12-22-20

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CHECKED	J. WEILAND	DATE	12/22/20

Scale	NOT TO SCALE
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PROJECT		
JAMES BYPASS AT MANNING AVENUE		
Road No. S0900	Bridge No.	42C0691 & 42C0692



DEPARTMENT OF PUBLIC WORKS & PLANNING		
MANNING AVENUE CONSTRUCTION DETAILS		
Drawing No. 11308	Sheet No. C-1 (7)	of 35

REVISION									
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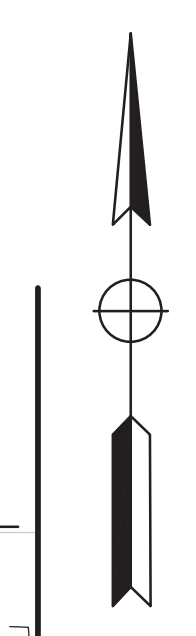
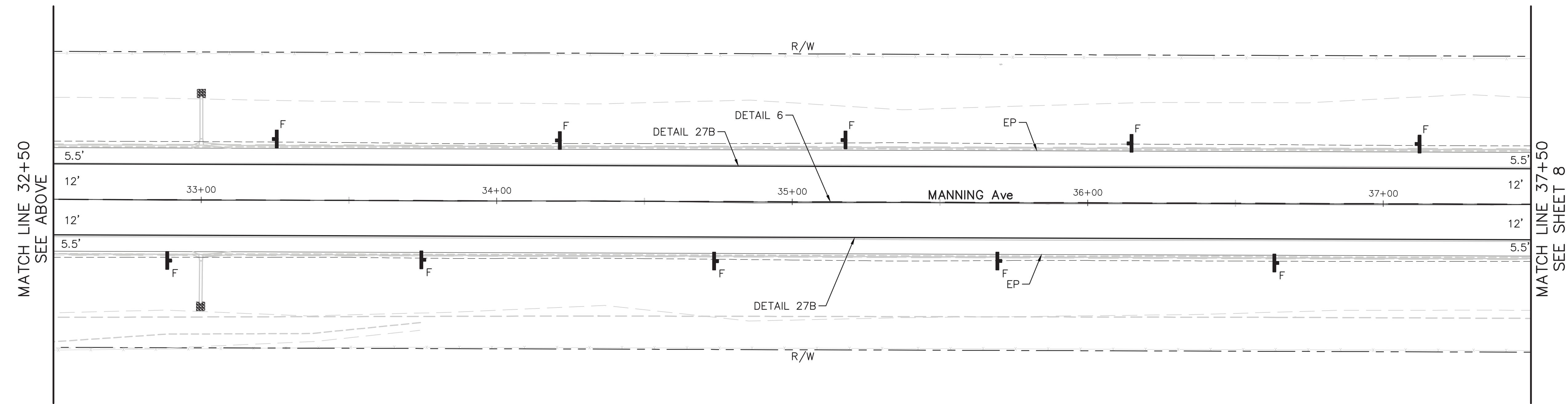
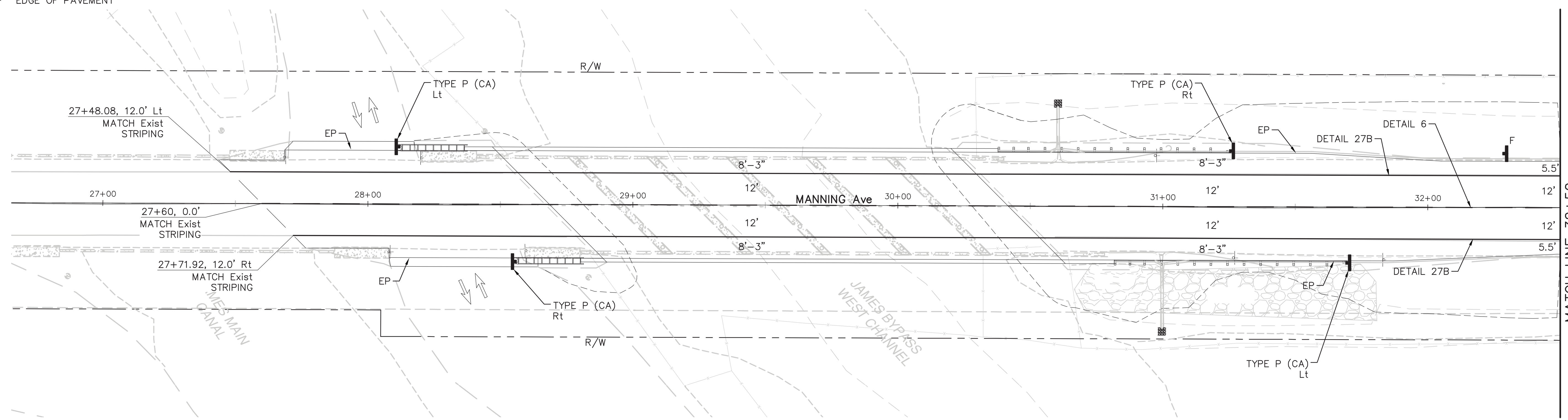
FOR R/W DATA AND ACCURATE ACCESS DETERMINATION SEE R/W RECORDS AT PUBLIC WORKS

LEGEND

 TYPE F DELINEATOR (CLASS 2)

ABBREVIATIONS

HP HINGE POINT
EP EDGE OF PAVEMENT



MATCH LINE 32+50
SEE BELOW

MATCH LINE 32+50
SEE ABOVE

MATCH LINE 37+50
SEE SHEET 8

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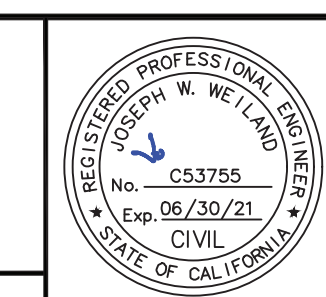
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CHECKED	J. WEILAND	DATE	12/22/20

Scale	1" = 20'
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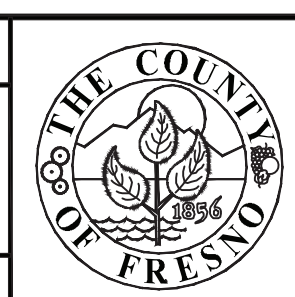


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PROJECT	
JAMES BYPASS AT MANNING AVENUE	
Road No. S0900	Bridge No. 42C0691 & 42C0692



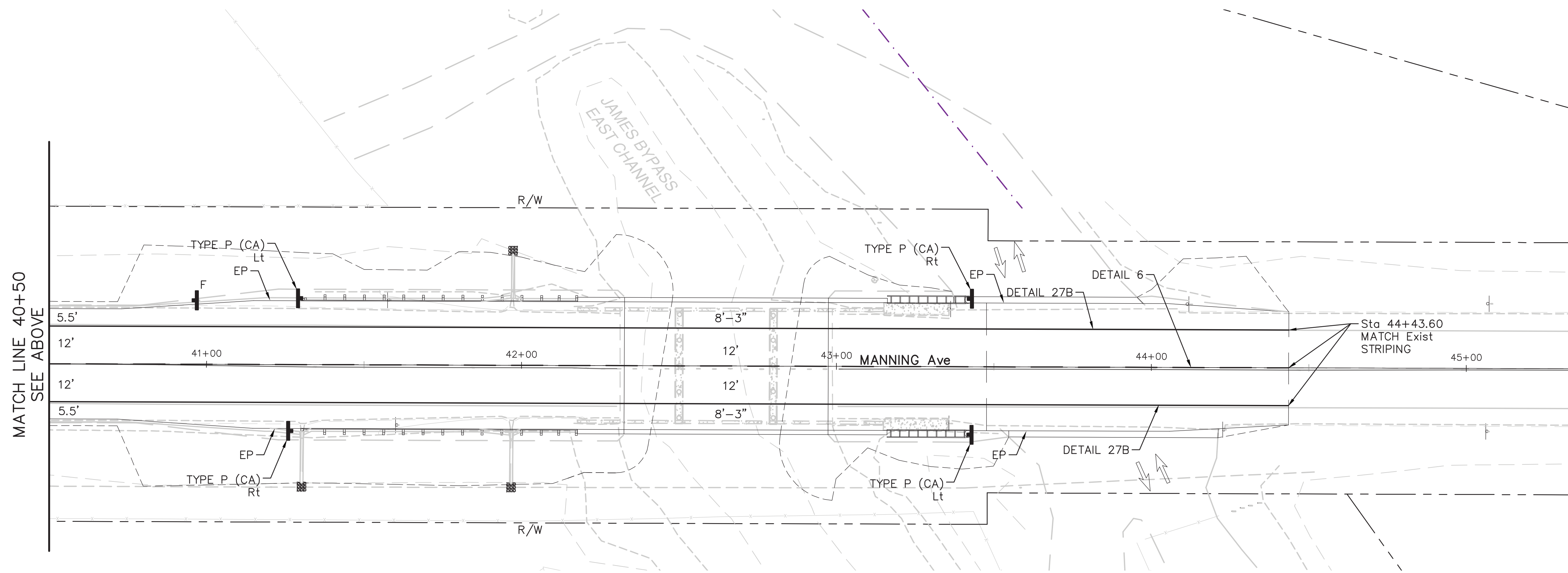
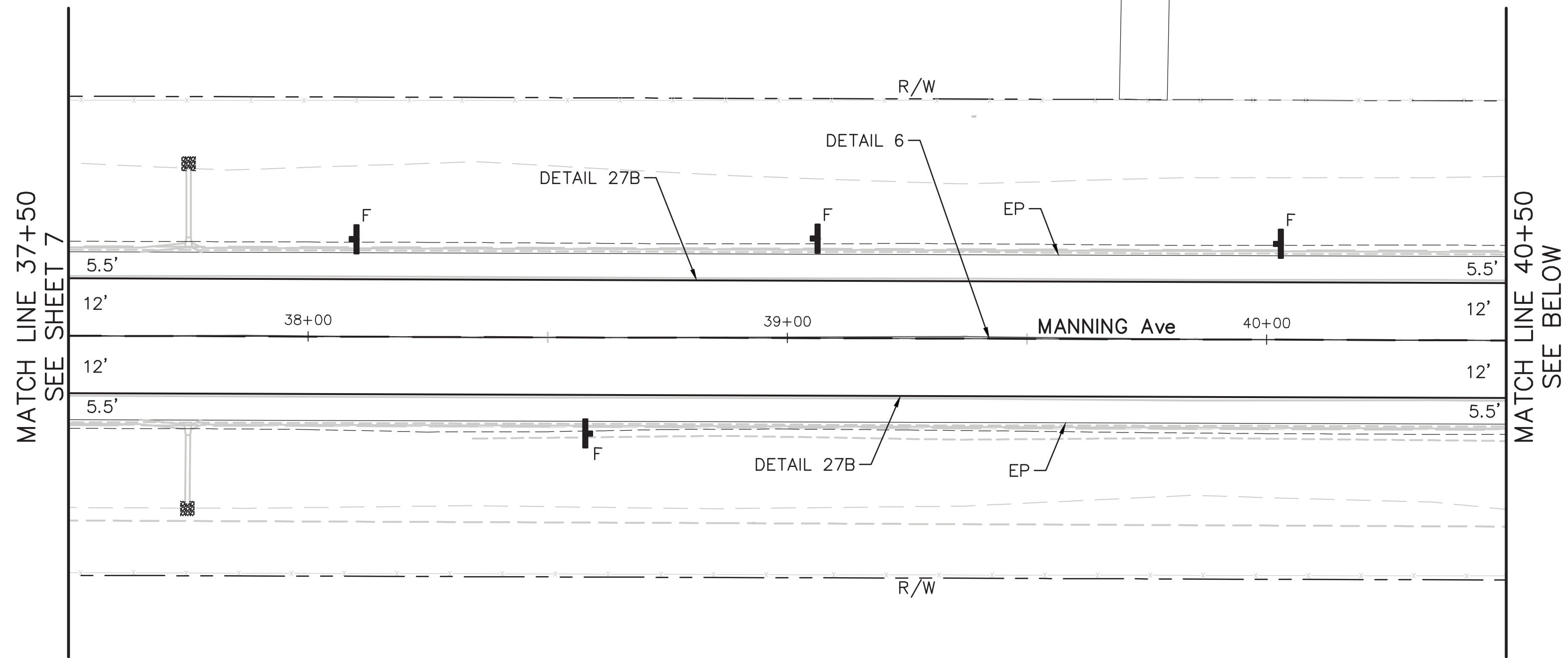
DEPARTMENT OF PUBLIC WORKS & PLANNING	
MANNING AVENUE PAVEMENT DELINEATION & SIGNS	
Drawing No. 11308	Sheet No. PD-1 (8) of 35

LEGEND

 TYPE F DELINEATOR (CLASS 2)

ABBREVIATIONS

HP HINGE POINT
EP EDGE OF PAVEMENT



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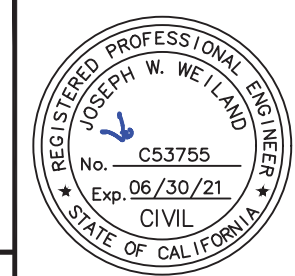
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Scale	1" = 20'
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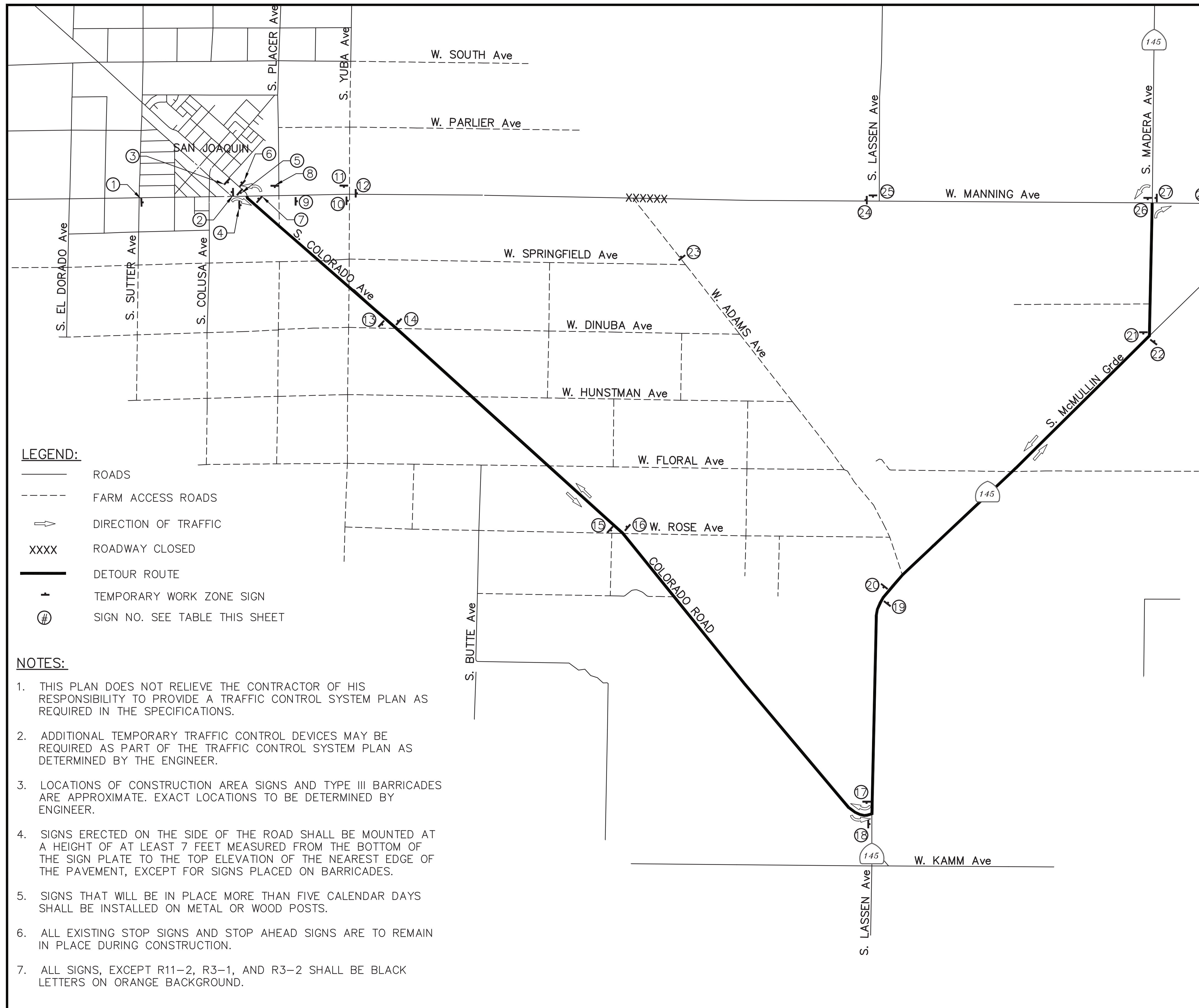
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PROJECT	
JAMES BYPASS AT MANNING AVENUE	
Road No. S0900	Bridge No. 42C0691 & 42C0692



DEPARTMENT OF PUBLIC WORKS & PLANNING	
MANNING AVENUE PAVEMENT DELINEATION & SIGNS	
Drawing No. 11308	Sheet No. PD-2 (g) of 35



- LEGEND:**
- ROADS
 - - - FARM ACCESS ROADS
 - ⇨ DIRECTION OF TRAFFIC
 - XXXX ROADWAY CLOSED
 - DETOUR ROUTE
 - ⊕ TEMPORARY WORK ZONE SIGN
 - # SIGN NO. SEE TABLE THIS SHEET

- NOTES:**
- THIS PLAN DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PROVIDE A TRAFFIC CONTROL SYSTEM PLAN AS REQUIRED IN THE SPECIFICATIONS.
 - ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE REQUIRED AS PART OF THE TRAFFIC CONTROL SYSTEM PLAN AS DETERMINED BY THE ENGINEER.
 - LOCATIONS OF CONSTRUCTION AREA SIGNS AND TYPE III BARRICADES ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY ENGINEER.
 - SIGNS ERECTED ON THE SIDE OF THE ROAD SHALL BE MOUNTED AT A HEIGHT OF AT LEAST 7 FEET MEASURED FROM THE BOTTOM OF THE SIGN PLATE TO THE TOP ELEVATION OF THE NEAREST EDGE OF THE PAVEMENT, EXCEPT FOR SIGNS PLACED ON BARRICADES.
 - SIGNS THAT WILL BE IN PLACE MORE THAN FIVE CALENDAR DAYS SHALL BE INSTALLED ON METAL OR WOOD POSTS.
 - ALL EXISTING STOP SIGNS AND STOP AHEAD SIGNS ARE TO REMAIN IN PLACE DURING CONSTRUCTION.
 - ALL SIGNS, EXCEPT R11-2, R3-1, AND R3-2 SHALL BE BLACK LETTERS ON ORANGE BACKGROUND.

SIGN No.	SIGN CODE	SIGN MESSAGE	PANEL SIZE (L" x D")	POST LENGTH (FEET)
1	W20-1	"ROAD WORK AHEAD"	36 x 36	12
2	G20-2	"END ROAD WORK"	36 x 18	12
3	W20-1	"ROAD WORK AHEAD"	36 x 36	12
4	W20-3 C29(CA) M4-10R	"ROAD CLOSED AHEAD" "4,000 FT" "DETOUR RIGHT"	36 x 36 36 x 9 48 x 18	12
5	R3-2 SC3(CA)	"NO LEFT TURN" "DETOUR STRAIGHT"	36 x 36 36 x 12	12
6	G20-2	"END ROAD WORK"	36 x 18	12
7	M4-8a	"END DETOUR"	24 x 18	12
8	W20-1 R3-2 SC3(CA)	"ROAD WORK AHEAD" "NO LEFT TURN" "DETOUR STRAIGHT"	36 x 36 36 x 36 36 x 12	12
9	W20-3 W20-2	"ROAD CLOSED AHEAD" "DETOUR AHEAD"	36 x 36 36 x 36	12
10	M4-10R	"DETOUR RIGHT"	48 x 18	12
11	W20-1 R3-2 SC3(CA)	"ROAD WORK AHEAD" "NO LEFT TURN" "DETOUR STRAIGHT"	36 x 36 36 x 36 36 x 12	12
12	4X BARRICADES 4X R11-2	"ROAD CLOSED"	48 x 30	4X TYPE III BARRICADES
13	SC3(CA)	"DETOUR STRAIGHT"	36 x 12	12
14	SC3(CA)	"DETOUR STRAIGHT"	36 x 12	12
15	SC3(CA)	"DETOUR STRAIGHT"	36 x 12	12
16	SC3(CA)	"DETOUR STRAIGHT"	36 x 12	12
17	M4-10R	"DETOUR RIGHT"	48 x 18	12
18	M4-10L	"DETOUR LEFT"	48 x 18	12
19	SC3(CA)	"DETOUR STRAIGHT"	36 x 12	12
20	SC3(CA)	"DETOUR STRAIGHT"	36 x 12	12
21	M4-10R	"DETOUR RIGHT"	48 x 18	12
22	SC3(CA)	"DETOUR STRAIGHT"	36 x 12	12
23	2X BARRICADES 2X R11-2	"ROAD CLOSED"	48 x 30	2X TYPE III BARRICADES
24	4X BARRICADES 4X R11-2	"ROAD CLOSED"	48 x 30	4X TYPE III BARRICADES
25	W20-1 R3-1 SC3(CA)	"ROAD WORK AHEAD" "NO RIGHT TURN" "DETOUR STRAIGHT"	36 x 36 36 x 36 36 x 12	12
26	W20-1 R3-1 SC3(CA)	"ROAD WORK AHEAD" "NO RIGHT TURN" "DETOUR STRAIGHT"	36 x 36 36 x 36 36 x 12	12
27	W20-3 M4-10L	"ROAD CLOSED AHEAD" "DETOUR LEFT"	36 x 36 48 x 18	12
28	W20-2 W16-2a	"DETOUR AHEAD" "1000 FT"	36 x 36 30 x 24	12
29	M4-8a	"END DETOUR"	24 x 18	12
30	G20-2	"END ROAD WORK"	36 x 18	12
31	W20-1	"ROAD WORK AHEAD"	36 x 36	12

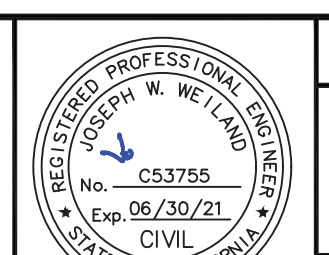
ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

DESIGNED N. CARCHA DATE 12/22/20
 DRAWN N. CARCHA 12/22/20
 CHECKED J. WEILAND 12/22/20

Scale
 NOT TO SCALE



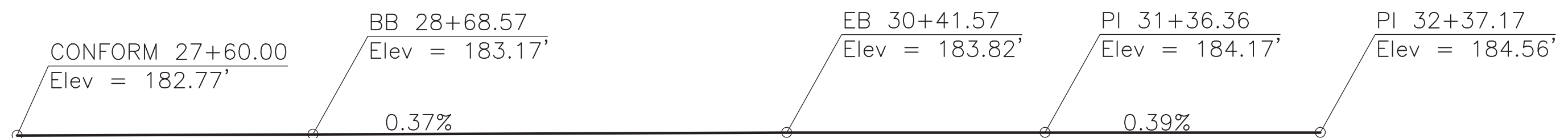
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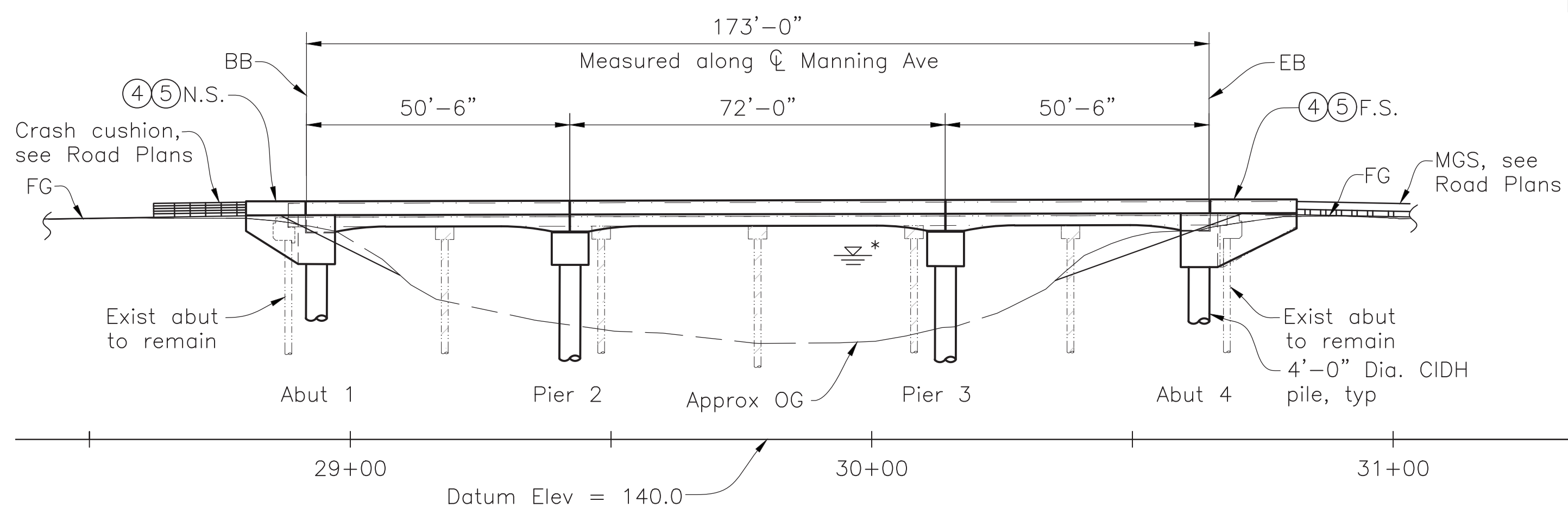
PROJECT
JAMES BYPASS AT MANNING AVENUE
 Road No. S0900 Bridge No. 42C0691 & 42C0692



DEPARTMENT OF PUBLIC WORKS & PLANNING
TEMPORARY WORK ZONE AND MOTORIST INFORMATION SIGNING
 Drawing No. 11308 Sheet No. DE-1 (10) of 35

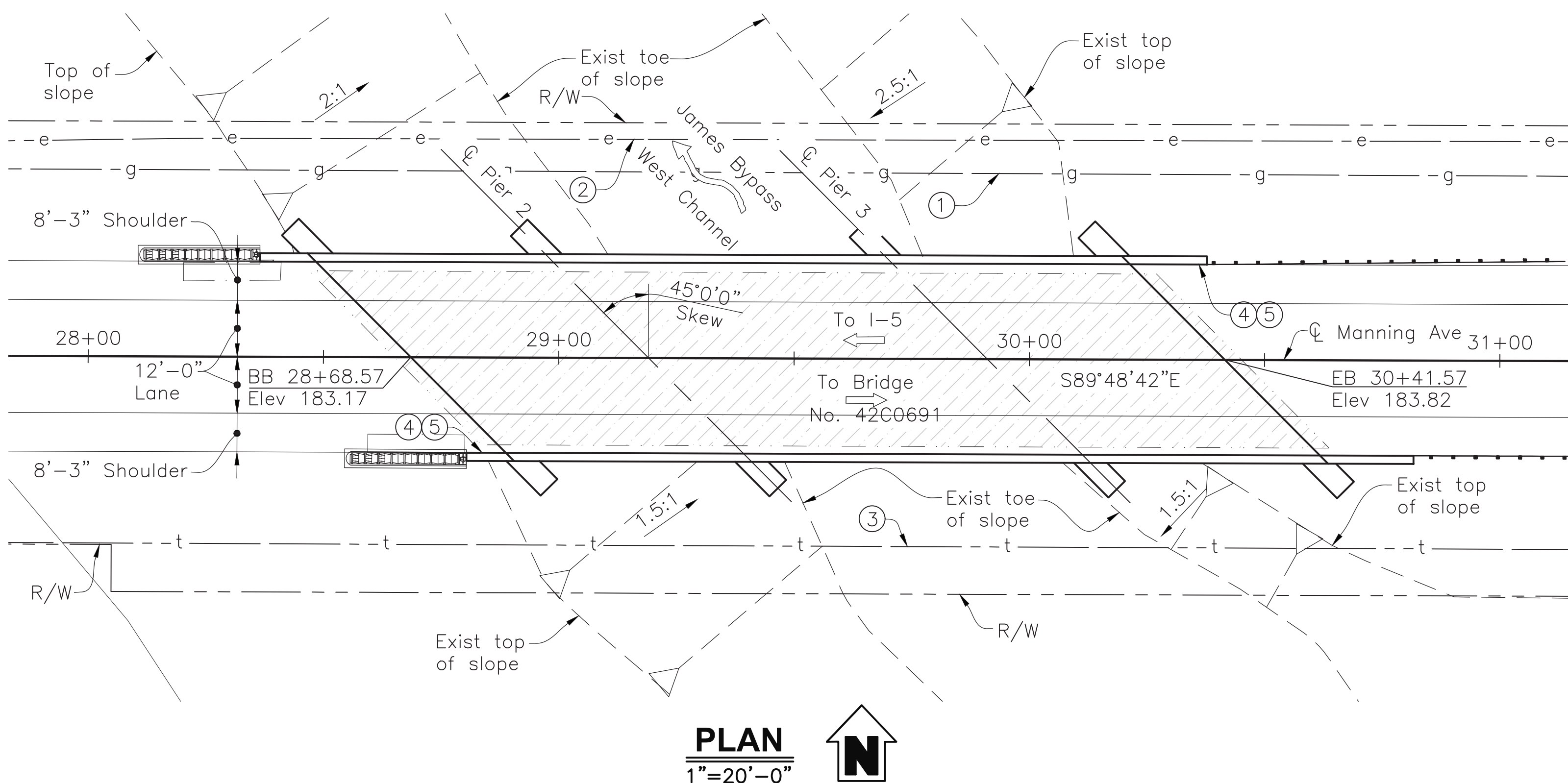


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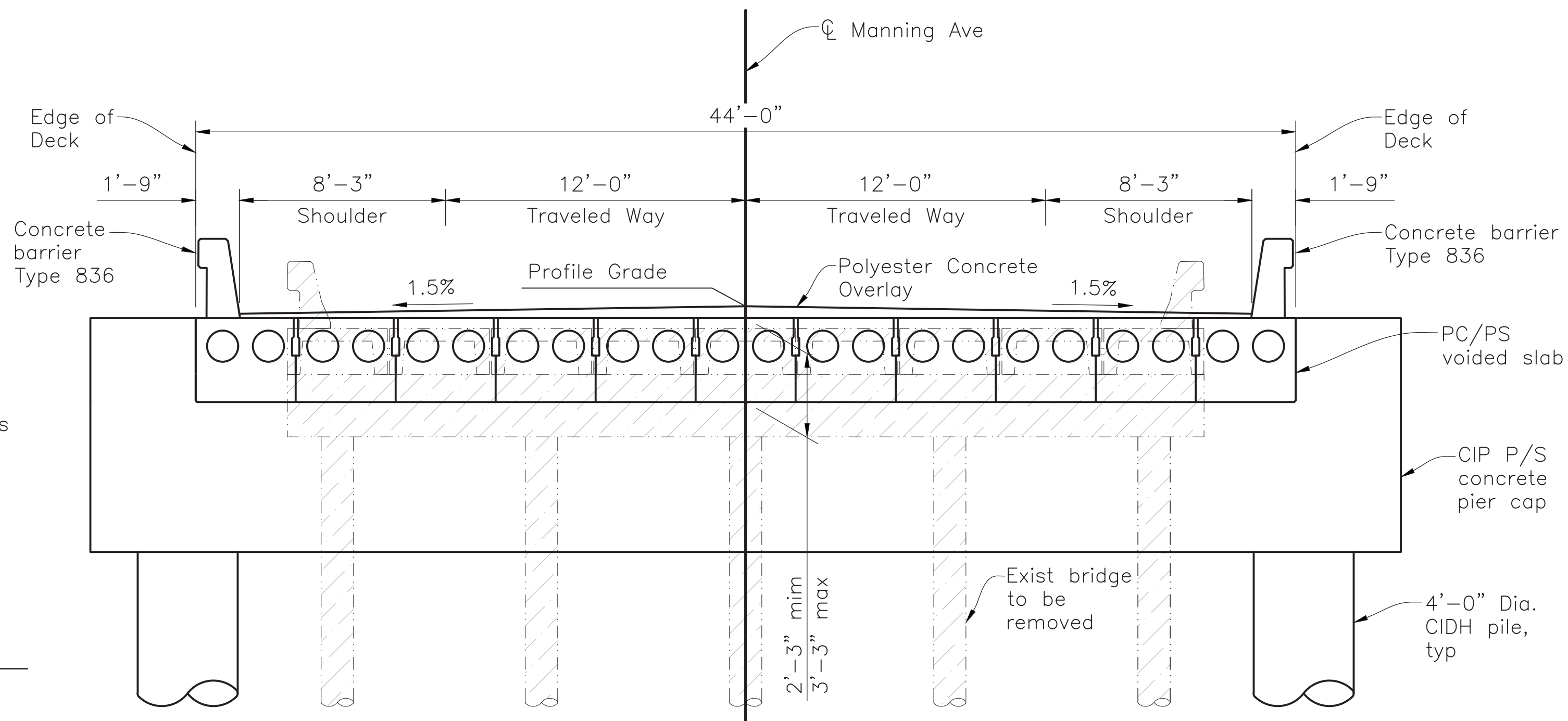


NOTE:
* For Hydrologic Summary, see FOUNDATION PLAN sheet

ELEVATION
1"=20'-0"



PLAN
1"=20'-0"



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

Legend:

- ① Existing 5" gas main to remain (PG&E)
- ② Existing overhead electric line to be remain (PG&E)
- ③ Existing overhead telephone line to remain (Frontier)
- ④ Paint "James Bypass West Channel"
- ⑤ Paint "Br. No. 42C0691"

→ Indicates direction of traffic

▨ Indicates existing structure to be removed

- BO-3 Indicates Caltrans standard plan sheet no.
- 3-1 Indicates detail no.

NOTES:

- 1. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

CALTRANS STANDARD PLANS DATED OCTOBER 2015

- A3A ABBREVIATIONS (SHEET 1 OF 3)
- A3B ABBREVIATIONS (SHEET 2 OF 3)
- A3C ABBREVIATIONS (SHEET 3 OF 3)
- A10A LINES AND SYMBOLS (SHEET 1 OF 5)
- A10B LINES AND SYMBOLS (SHEET 2 OF 5)
- A10C LINES AND SYMBOLS (SHEET 3 OF 5)
- A10D LINES AND SYMBOLS (SHEET 4 OF 5)
- A10E LINES AND SYMBOLS (SHEET 5 OF 5)
- RSP B0-3 BRIDGE DETAILS
- RSP B8-5 CAST-IN-PLACE POST-TENSIONED GIRDER DETAILS

CALTRANS STANDARD PLANS DATED OCTOBER 2018

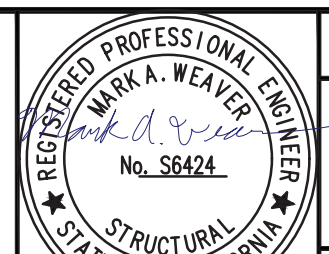
- RSP B11-79 CONCRETE BARRIER TYPE 836 DETAILS NO. 1
- RSP B11-80 CONCRETE BARRIER TYPE 836 DETAILS NO. 2

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

DESIGNED	MAW	DATE	11/22/17
DRAWN	MAW	DATE	11/22/17
CHECKED	NRZ	DATE	11/28/17

Scale	AS SHOWN
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CORNERSTONE
structural engineering group
986 W Alluvial Ave - Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201



PROJECT
JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE
Road No. S0900 Bridge No. 42C0691



DEPARTMENT OF PUBLIC WORKS & PLANNING
GENERAL PLAN
BR. No. 42C0691
Drawing No. 11308 Sheet No. S-1 (11) of 35

GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

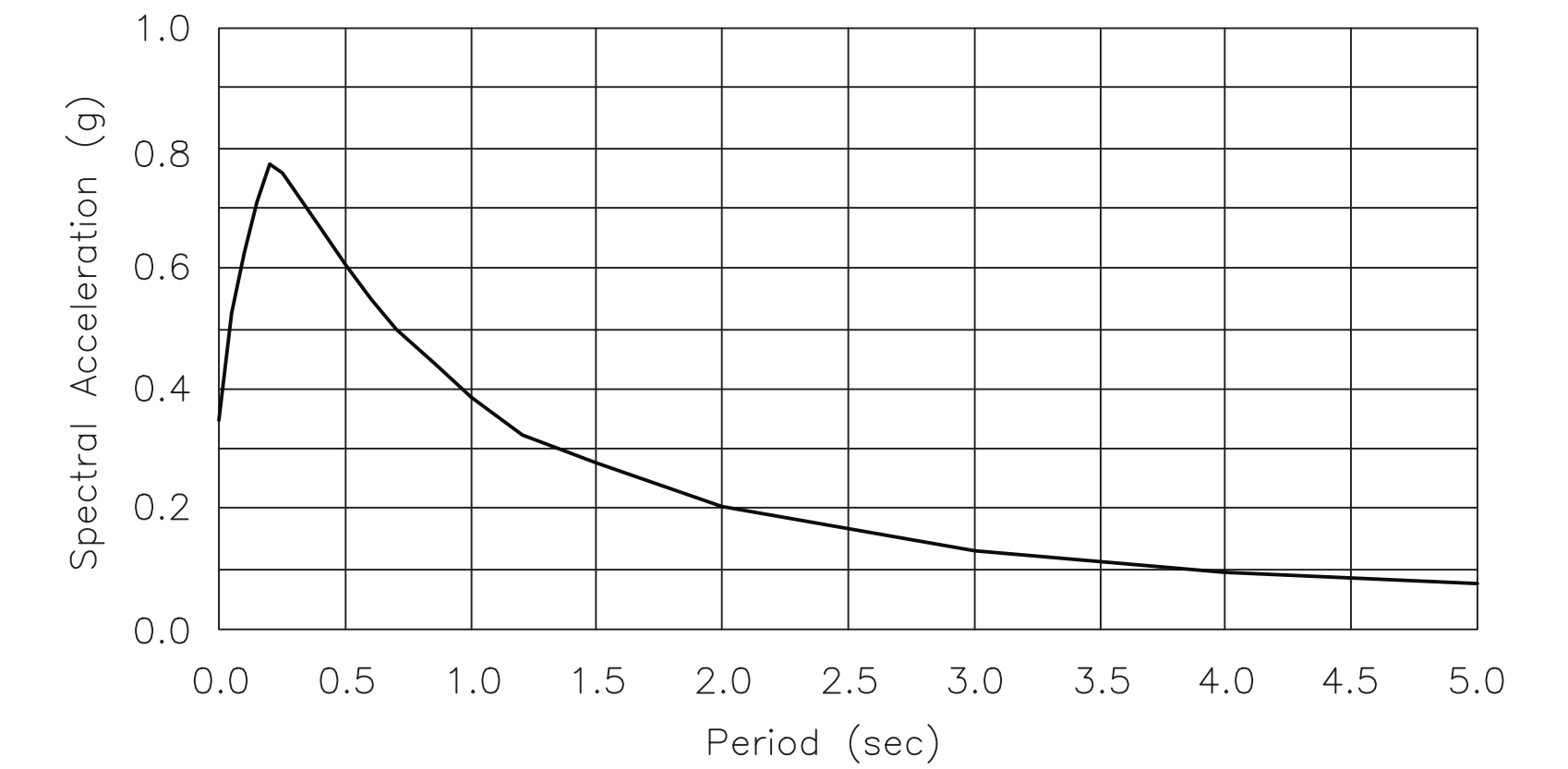
DESIGN: AASHTO LRFD Bridge Design Specifications, 6th Edition with the Caltrans Amendments.

SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), Version 1.7 dated April 2013

DEAD LOAD: Includes 35 psf for future wearing surface.

LIVE LOADING: HL93 & Permit Design Vehicle.

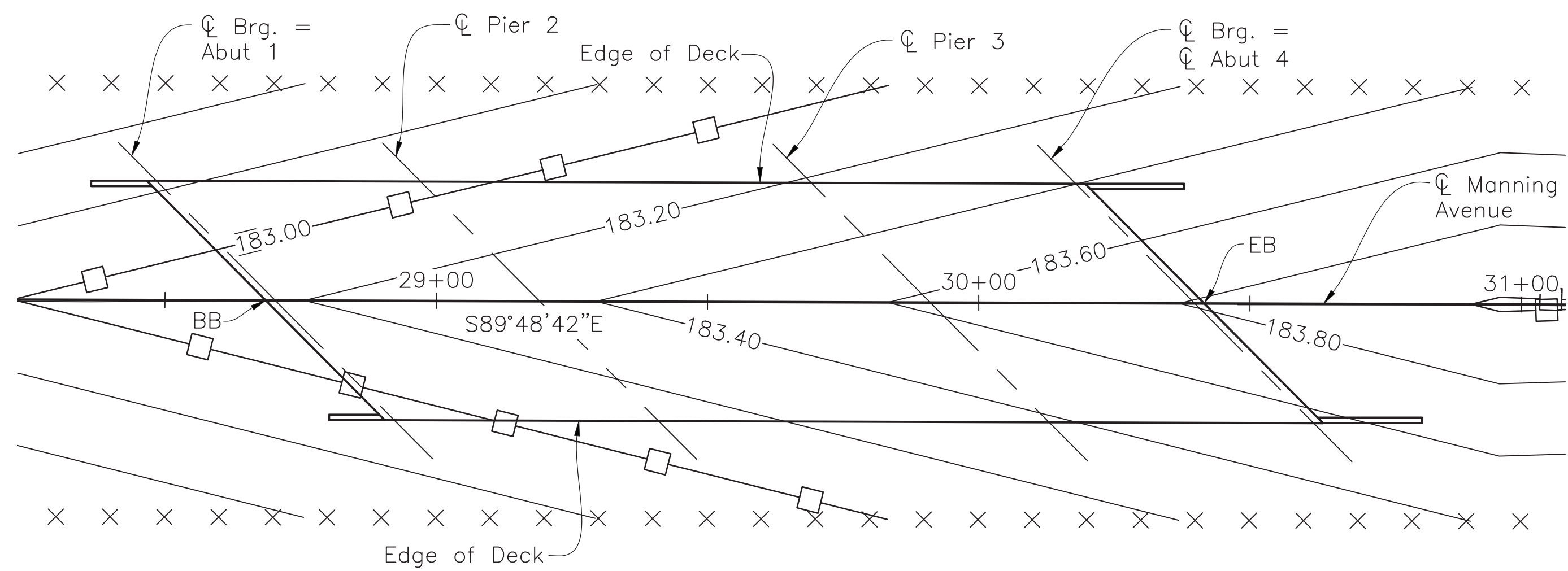
SEISMIC LOADING: $V_{s30} = 266\text{m/s}$
Moment Magnitude: 6.5
Peak Ground Acceleration 0.34g
5% Damping



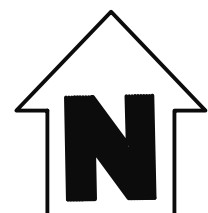
ACCELERATION RESPONSE SPECTRUM

REINFORCED CONCRETE: $f_y = 60\text{ ksi}$
 $f'_c = \text{See "Concrete Strength \& Type Limits" on this sheet}$

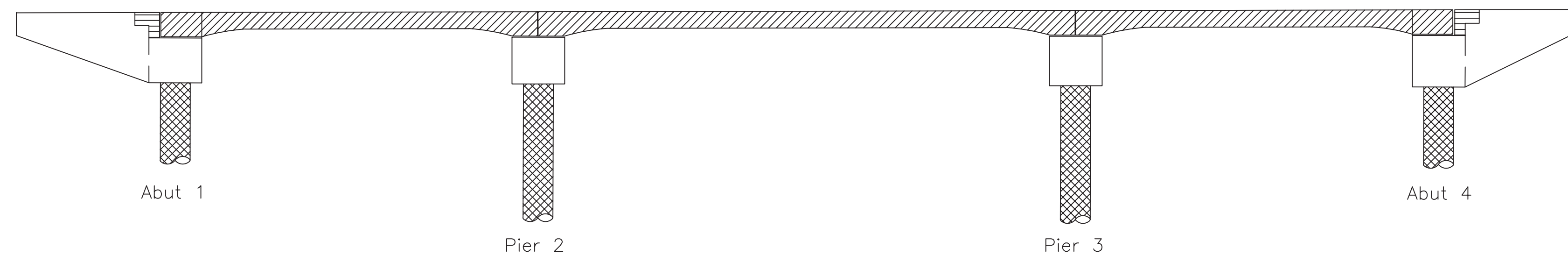
PRESTRESSED CONCRETE: See "Prestressing Notes" on ABUTMENT LAYOUT No. 2, PIER LAYOUT, & GIRDER LAYOUT sheets



DECK CONTOURS 1"=20'-0"



- Notes:
- Contours indicate top of deck elevation.
 - Indicates even foot contours.
 - X Indicates 10 ft intervals measured along \bar{C} Manning Ave
 - Contour interval = 0.2 ft
 - Contours do not include camber or falsework deflection and settlement.



- | | | |
|--|---|---|
| Precast Prestressed Concrete Slab, see "Prestressing Notes" on GIRDER LAYOUT sheet | Indicates Structural Concrete, Bridge ($f'_c = 5.0\text{ ksi}$ at 28 days) | Indicates CIDH Piling ($f'_c = 3.6\text{ ksi}$ at 28 days) |
| Indicates Rapid Setting Concrete ($f'_c = 5.0\text{ ksi}$ at 28 days) | | |

CONCRETE STRENGTH & TYPE LIMITS NO SCALE

ALL DIMENSIONS ARE IN
FEET UNLESS OTHERWISE SHOWN

DESIGNED <u>MAW</u>	DATE <u>11/22/17</u>	Scale	<p>986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201</p>	PROJECT		DEPARTMENT OF PUBLIC WORKS & PLANNING
DRAWN <u>TZE</u>	DATE <u>11/22/17</u>	AS SHOWN		JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE		DECK CONTOURS BR. No. 42C0691
CHECKED <u>NRZ</u>	DATE <u>11/28/17</u>			Road No. S0900 Bridge No. 42C0691		Drawing No. 11308 Sheet No. S-2 (12) of 35

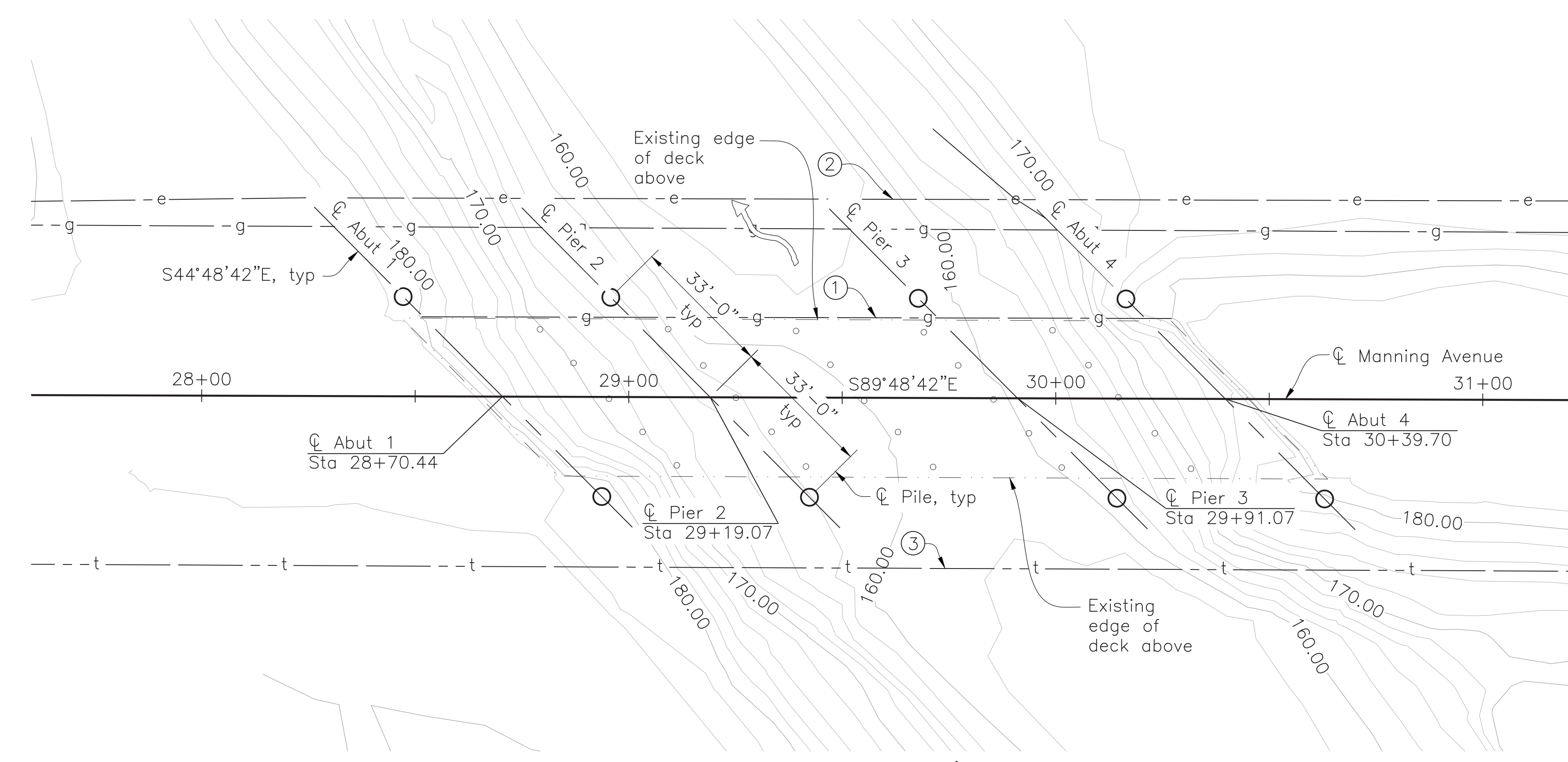
HYDROLOGIC DATA

	Design Flood	Base Flood
Frequency (years)	100	>100
Discharge (cubic feet per second)	4,750	8,500
Water surface (elevation at bridge in feet)	173.1	175.3

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the County of Fresno or Cornerstone Structural Engineering Group and interested or affected parties should make their own investigation. Flood plain data are based on the Design Hydraulic Study Report by Avila & Associates dated May 31, 2016.

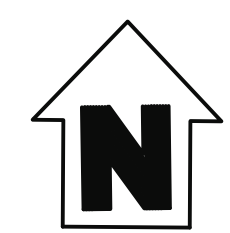
SCOUR DATA TABLE

Support	Long Term (Degradation and Contraction) Scour Elevation (ft)	Short Term (Local) Scour Depth (ft)
Abut 1	N/A	6
Pier 2	149	8
Pier 3	149	8
Abut 4	N/A	6



FOUNDATION PLAN

1"=20'-0"



LEGEND:

- Indicates existing pile to be removed
- 4'-0" CIDH Pile
- ① Existing 5" gas main to remain
- ② Existing overhead electric line to be relocated
- ③ Existing overhead telephone line to remain

BASIS OF VERTICAL CONTROL:

LG 97 1/2, A USC&GS BRASS CAP STAMPED S1039 1959, LOCATED ON THE SOUTHEAST CORNER OF MANNING AVENUE AND YUBA AVENUE, 35.5 FEET SOUTH OF THE CENTERLINE OF MANNING AVENUE, 63.3 FEET SOUTHEAST OF THE SECTION CORNER, AND 5.4 FEET EAST OF THE CORNER OF A WOODEN FENCE POST, HAS AN NGVD29 ELEVATION OF 169.573 FEET PER COUNTY OF FRESNO BENCHMARK RECORDS.

BASIS OF BEARINGS:

THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 25, TOWNSHIP 15 SOUTH, RANGE 16 EAST, M.D.B.&M., BEARS N88°33'07"E PER 2014 COUNTY OF FRESNO PRELIMINARY SURVEY OF MANNING AVENUE FROM PLACER AVENUE TO 1.38 MILES WEST OF LASSEN AVENUE (FEDERAL OVERLAY PROJECT).

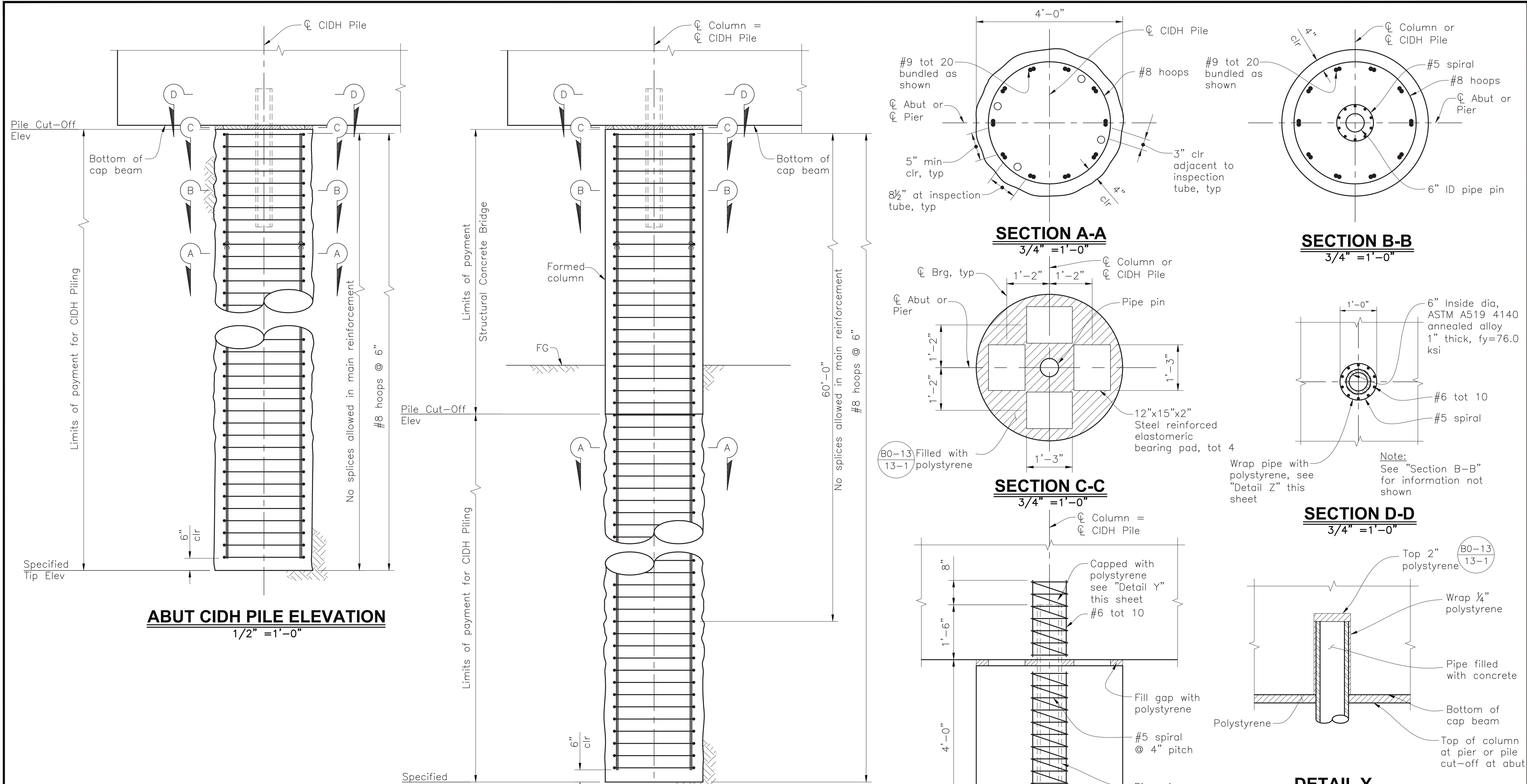
PILE DATA TABLE

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elev (ft)	Specified Tip Elev (ft)	Cutoff Elev (ft)
		Compression	Tension			
Abut 1	48" CIDH	800	0	136.0(a), 163.0(c), 148.0(d)	136.0	173.1
Pier 2	48" CIDH	1200	0	92.0(a), 125.0(c), 107.0(d)	92.0	159.0
Pier 3	48" CIDH	1200	0	92.0(a), 125.0(c), 107.0(d)	92.0	161.0
Abut 4	48" CIDH	800	0	127.0(a), 160.0(c), 136.0(d)	127.0	174.7

- Design tip elevation is controlled by the following demands: (a) Compression (b) Tension (c) Settlement (d)Lateral Load.
- The CIDH specified tip elevation shall not be raised.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

DESIGNED <u>MAW</u> DRAWN <u>EJM</u> CHECKED <u>NRZ</u>	DATE 11/22/17 11/22/17 11/28/17	Scale AS SHOWN	<p>CORNERSTONE structural engineering group</p>	986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE Road No. S0900 Bridge No. 42C0691		DEPARTMENT OF PUBLIC WORKS & PLANNING FOUNDATION PLAN BR. No. 42C0691 Drawing No. 11308 Sheet No. S-3 (13) of 35
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ABUT CIDH PILE ELEVATION
1/2" = 1'-0"

PIER CIDH PILE ELEVATION
1/2" = 1'-0"

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

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

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

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

DETAIL Z
3/4" = 1'-0"

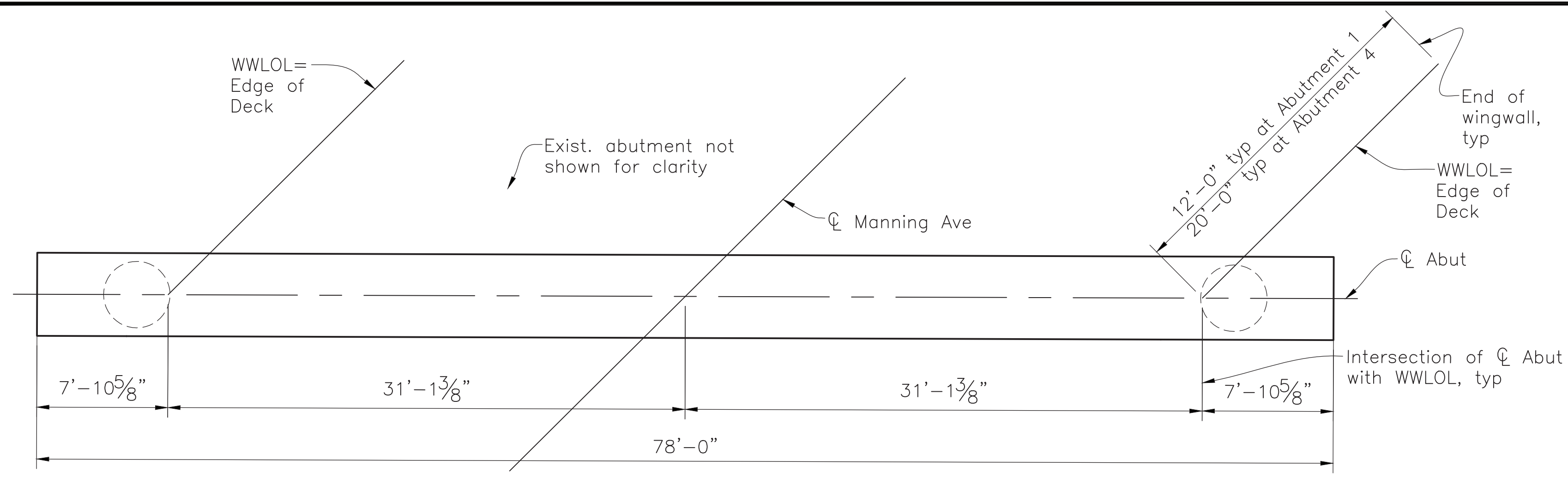
DETAIL Y
NO SCALE

- NOTES:**
- Contractor shall verify all controlling field dimensions before ordering or fabricating any material.
 - All hoops shall be spliced with ultimate butt welded splices.
 - Splices in main reinforcing shall be "ultimate" level.

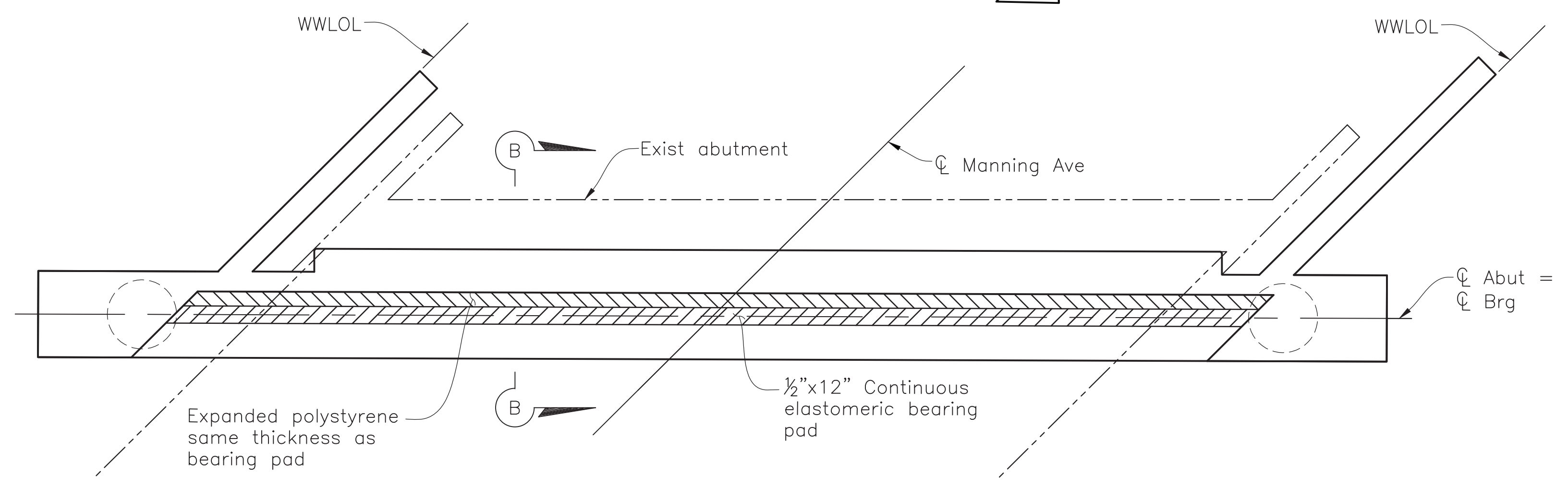
⊕ Indicates bundled bars

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

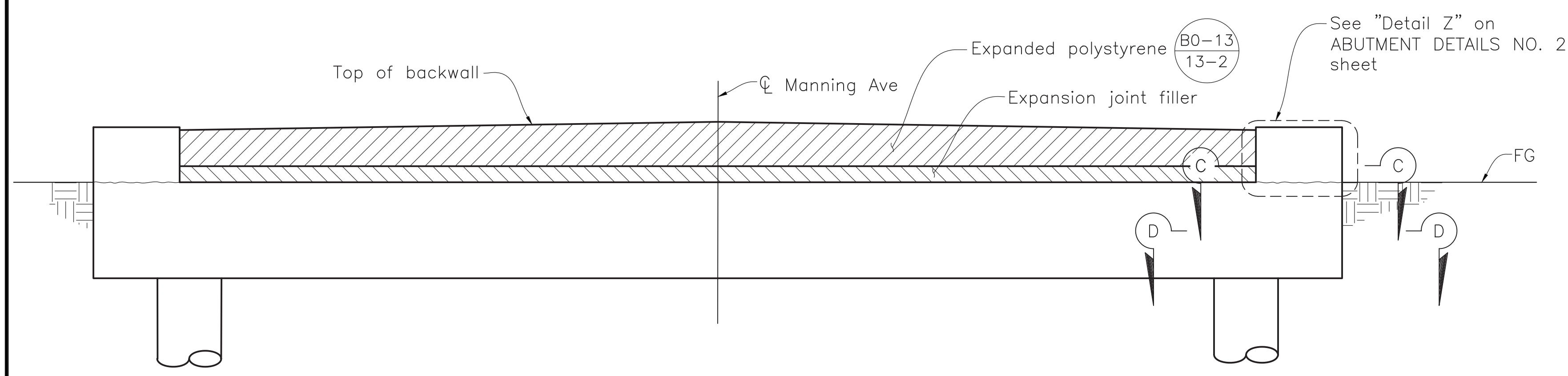
DESIGNED <u>MAW</u>	DATE <u>11/22/17</u>	<p>986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201</p>		PROJECT		DEPARTMENT OF PUBLIC WORKS & PLANNING
DRAWN <u>TZE</u>	DATE <u>11/22/17</u>			JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE		PILE DETAILS BR. No. 42C0691
CHECKED <u>NRZ</u>	DATE <u>11/28/17</u>			Road No. S0900 Bridge No. 42C0691		Drawing No. 11308 Sheet No. S-4 (14) of 35



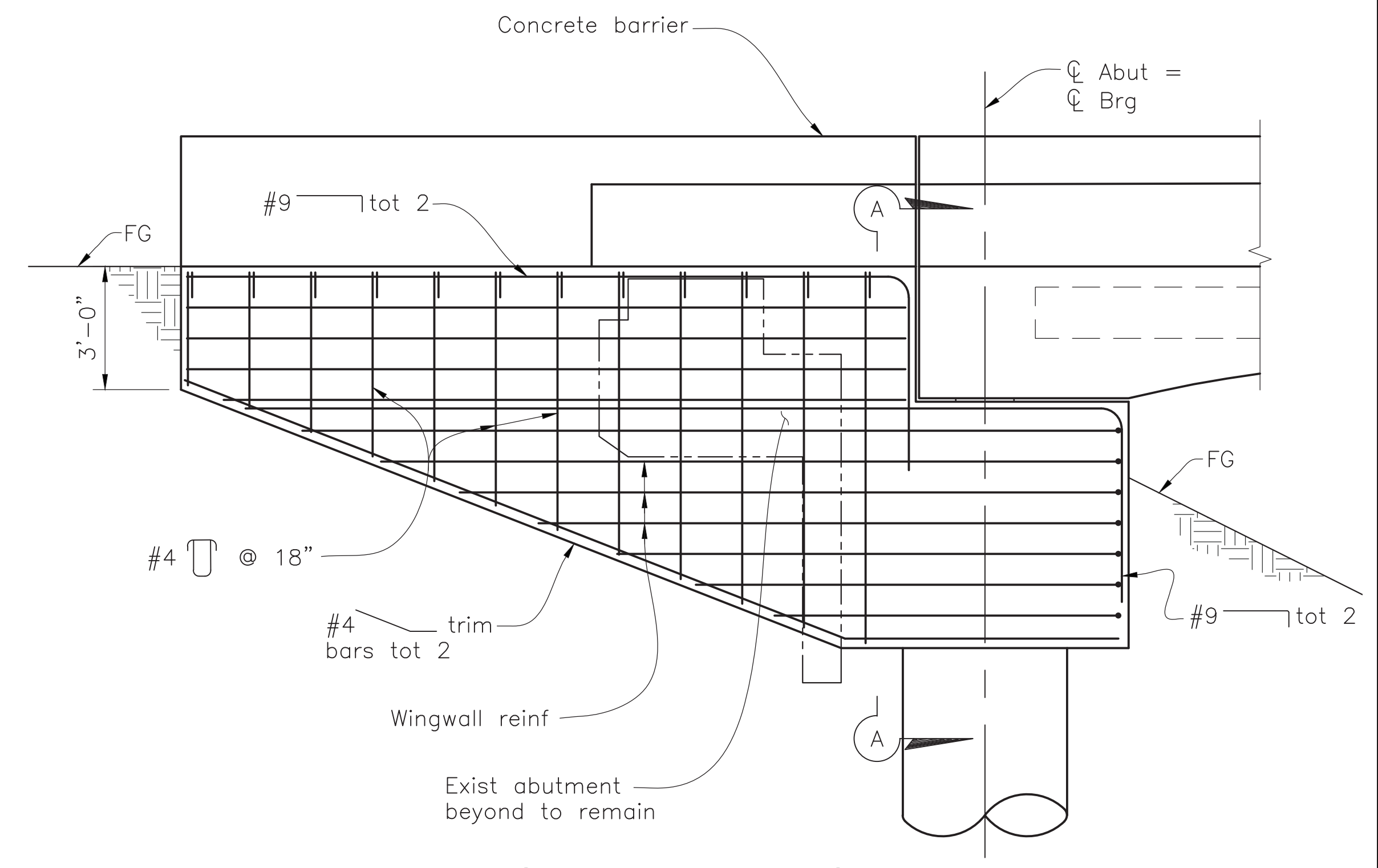
ABUTMENT FOOTING PLAN
3/16" = 1'-0"



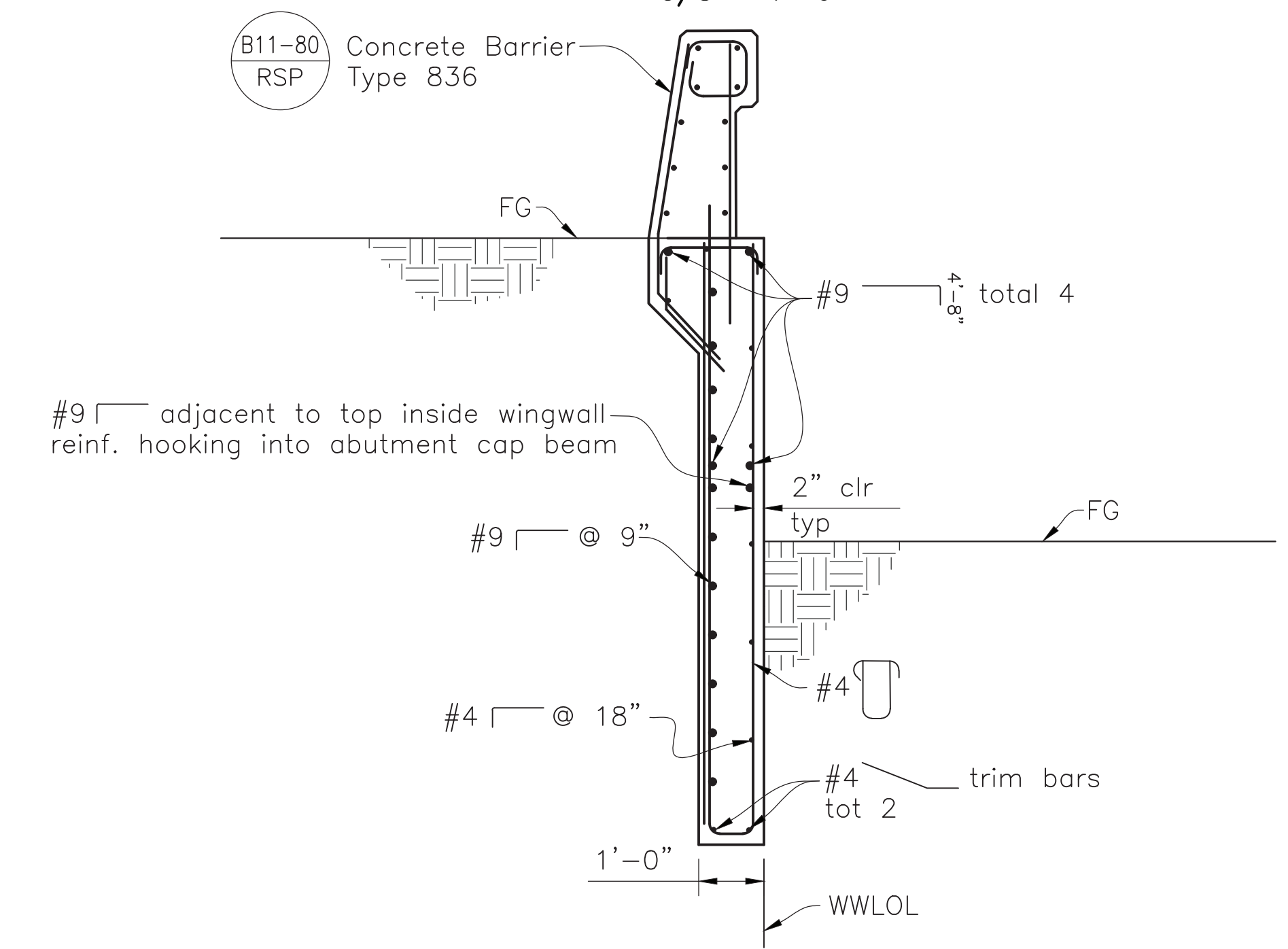
ABUTMENT PLAN
3/16" = 1'-0"



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



WINGWALL ELEVATION
3/8" = 1'-0"



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

- NOTES:**
- Layout for Abutment 1 is shown, Abutment 4 is similar.
 - For "Section B-B" through "D-D" see ABUTMENT DETAILS NO. 2 sheet.
 - Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

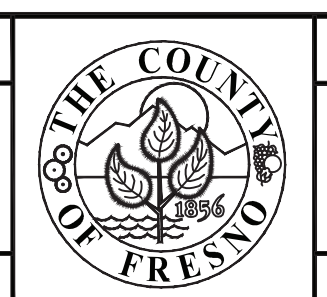
DESIGNED	MAW	DATE	11/22/17
DRAWN	TZE	DATE	11/22/17
CHECKED	NRZ	DATE	11/28/17

Scale	AS SHOWN
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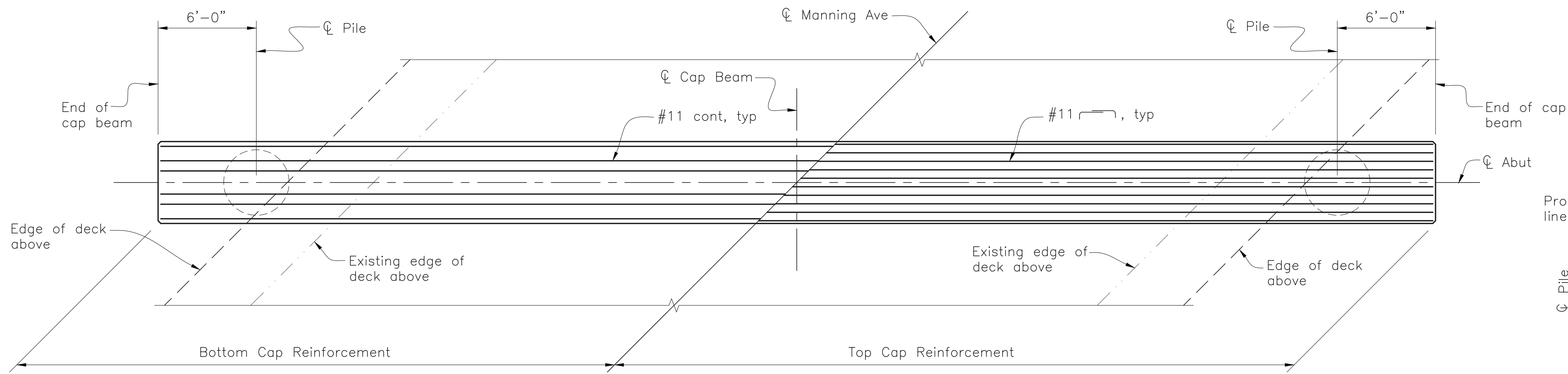
PROJECT	JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE
Road No.	S0900
Bridge No.	42C0691



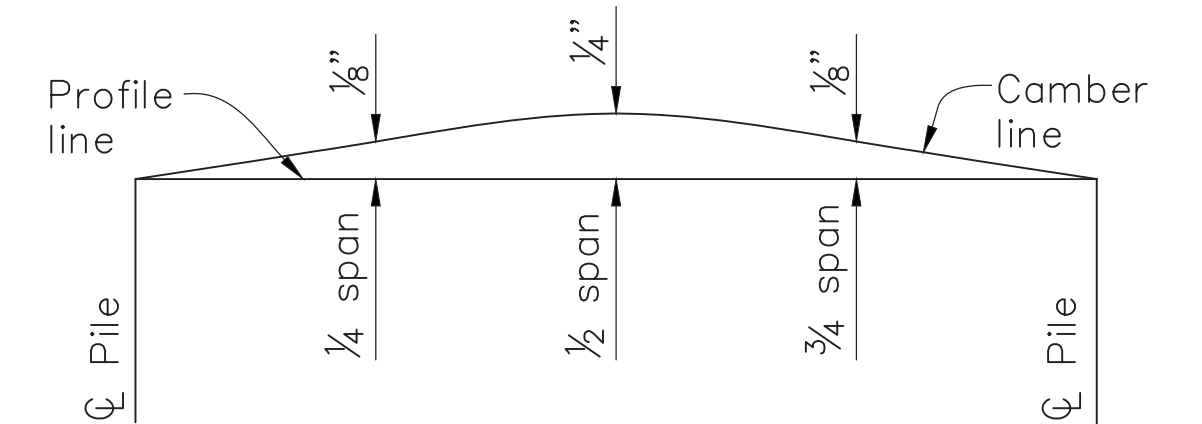
DEPARTMENT OF PUBLIC WORKS & PLANNING	
ABUTMENT LAYOUT BR. No. 42C0691	
Drawing No.	11308
Sheet No.	S-5 (15) of 35

Notes:

1. Place abutment cap stirrups normal to ϕ Abut and space along ϕ Abut.
2. Details and reinforcement are symmetrical about ϕ Manning Ave.
3. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.
4. Not all abutment cap beam reinf. shown for clarity.



PLAN
1/4" = 1'-0"

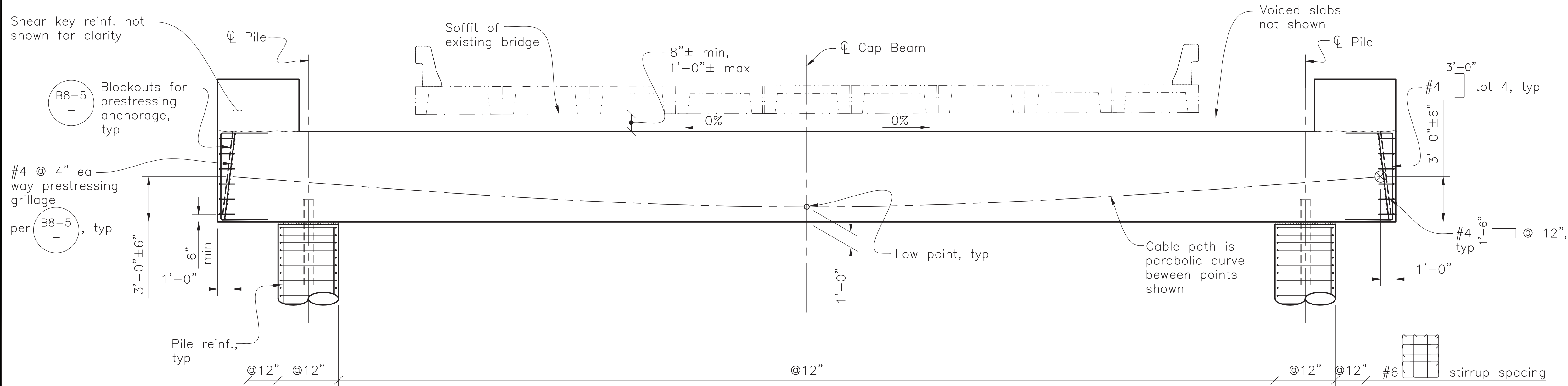


CAMBER DIAGRAM
NO SCALE

Does not include allowance for falsework settlement.

Prestressing Notes:

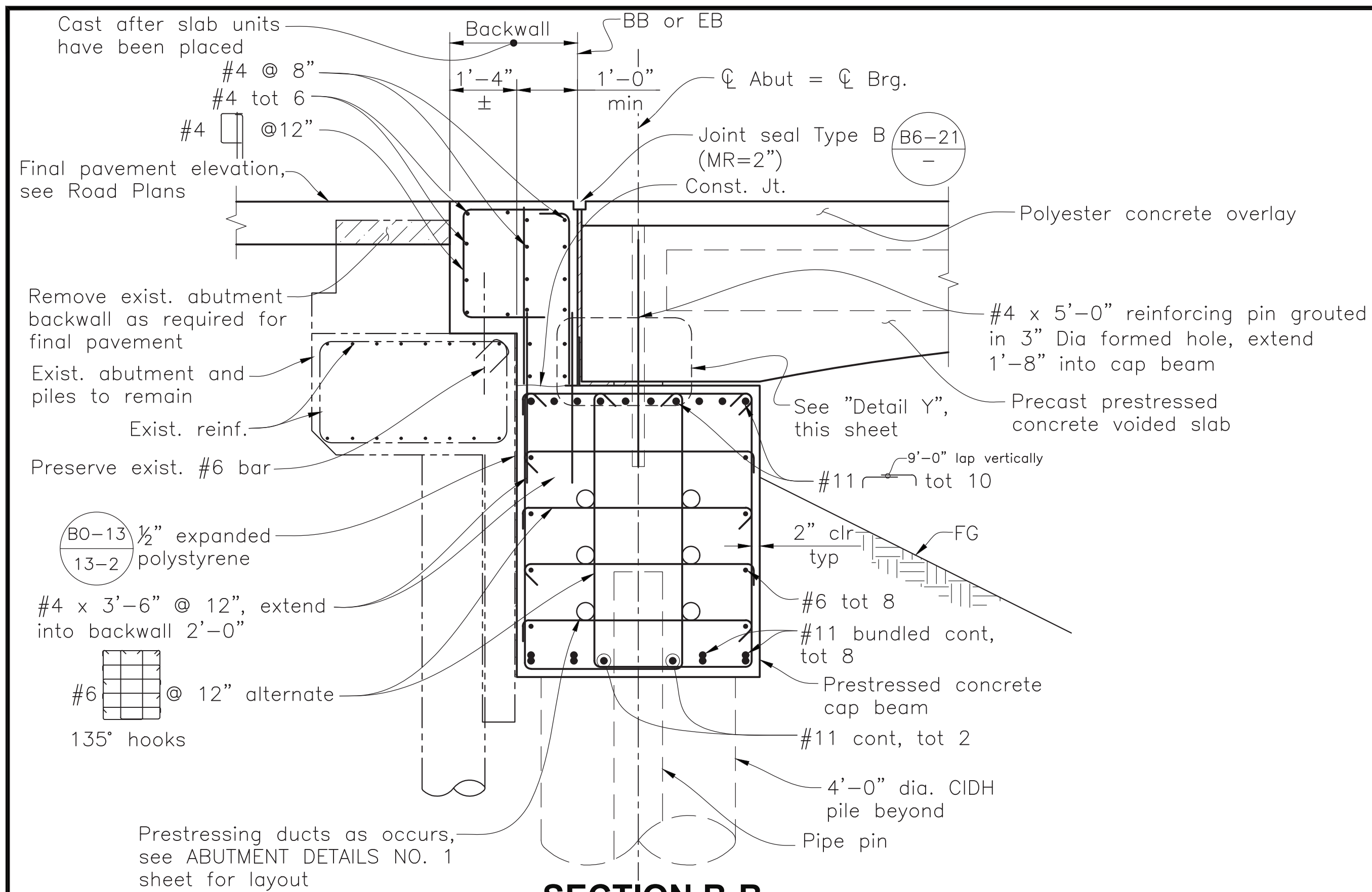
1. Design based on 270 ksi low relaxation strand.
2. Prestressing Force
 $P_{jack} = 3,170$ kips
 Stressing shall be performed from one end only
 Anchor Set = $\frac{3}{8}$ inch
3. Prestressing force shall be distributed uniformly within the limit of prestressing tendons in the bent.
4. Bar reinforcement interfering with the prestress tendon alignment shall be adjusted as approved by the Engineer.
5. At no time during the stressing operation shall more than $\frac{1}{8}$ of the total prestressing force be applied eccentrically about the centerline of the bent.
6. Concrete: $f'_c = 5$ ksi @ 28 days
 $f'_{ci} = 4$ ksi @ time of stressing
7. \otimes Denotes theoretical point of no movement
8. Contractor shall submit elongation calculations based on initial stress at \otimes equal to 0.830 times jacking stress.
9. Friction curvature coefficient $m = 0.15$ (1/rad). Friction wobble coefficient $K = 0.0002$ (1/ft)



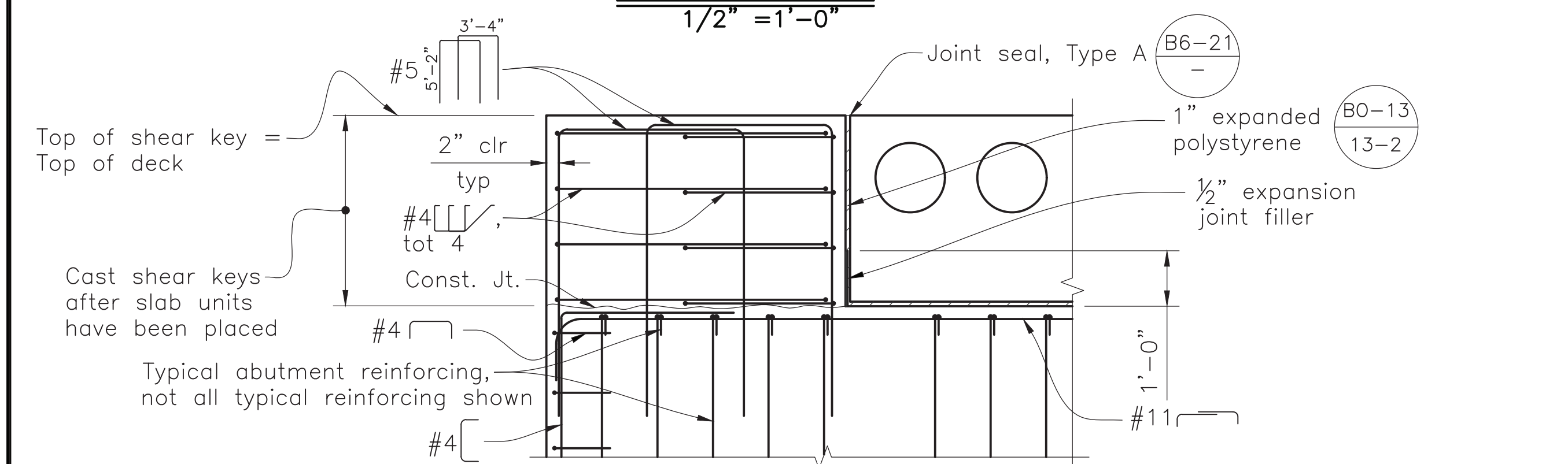
ELEVATION
1/4" = 1'-0"

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

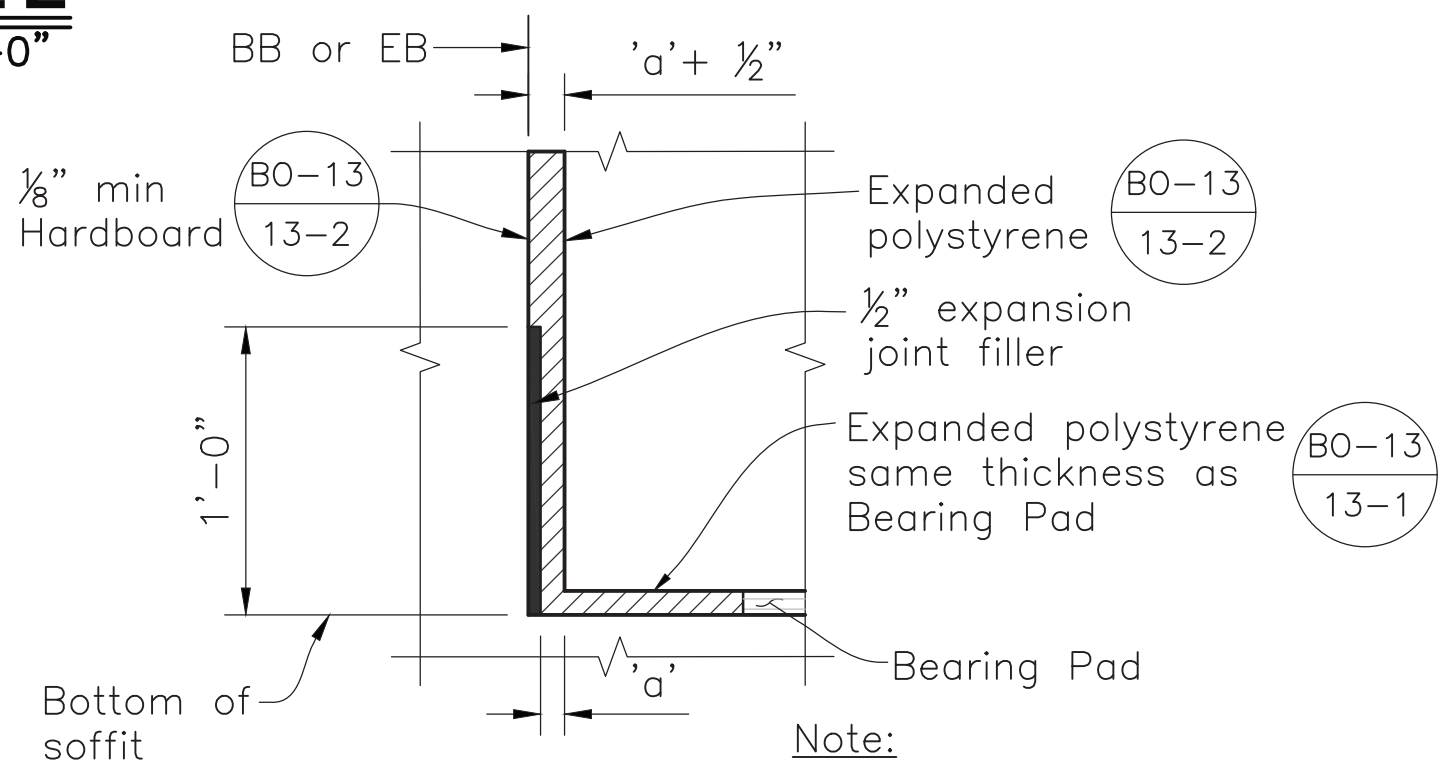
DESIGNED <u>MAW</u>	DATE <u>11/22/17</u>		986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT		DEPARTMENT OF PUBLIC WORKS & PLANNING
DRAWN <u>TZE</u>	DATE <u>11/22/17</u>				JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE		ABUTMENT DETAILS NO. 1
CHECKED <u>NRZ</u>	DATE <u>11/28/17</u>				Road No. S0900 Bridge No. 42C0691		BR. No. 42C0691
REVISION		FOR R/W DATA AND ACCURATE ACCESS DETERMINATION SEE R/W RECORDS AT PUBLIC WORKS			Drawing No. 11308	Sheet No. S-6 (16) of 35	



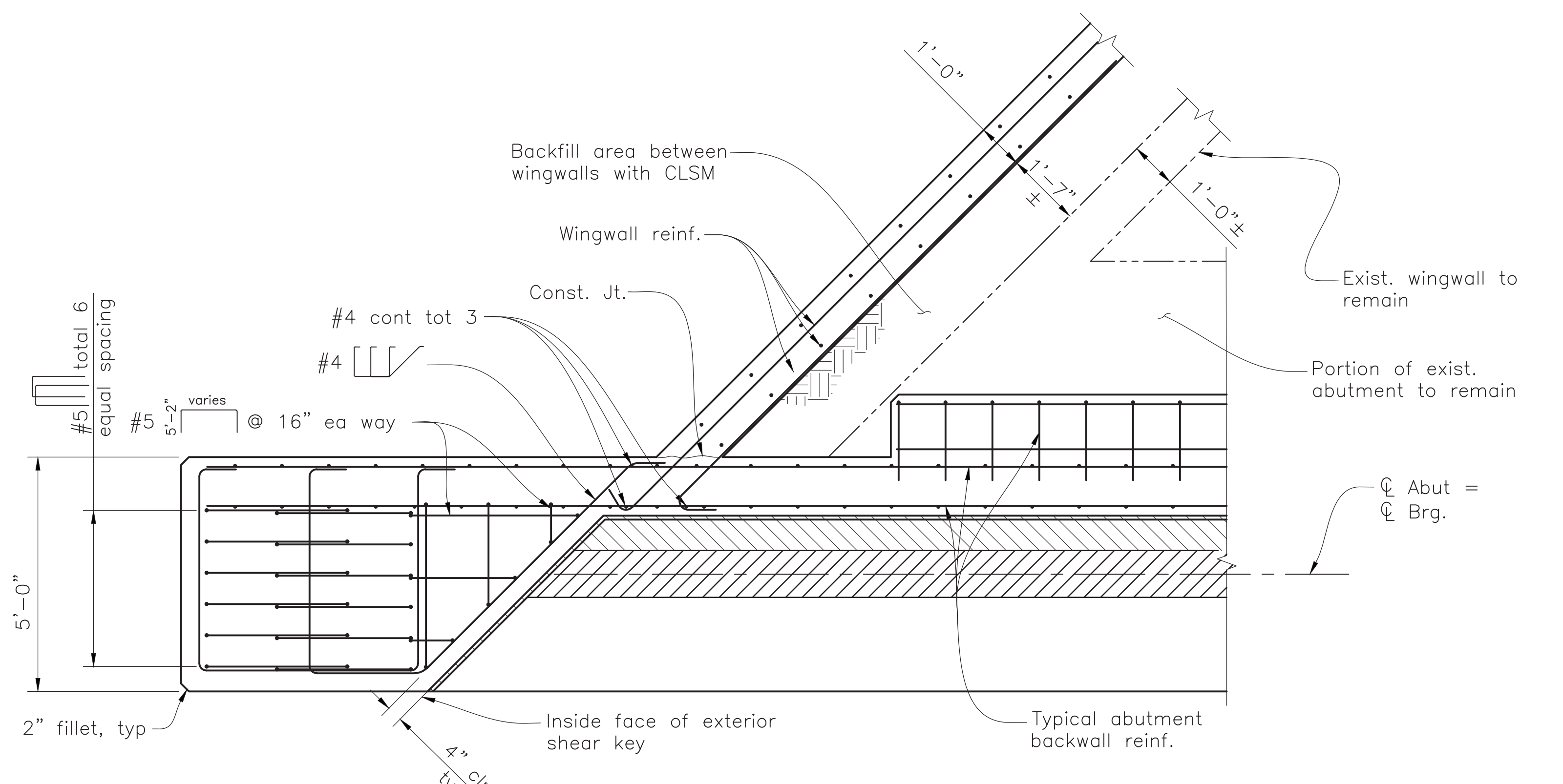
SECTION B-B
1/2" = 1'-0"



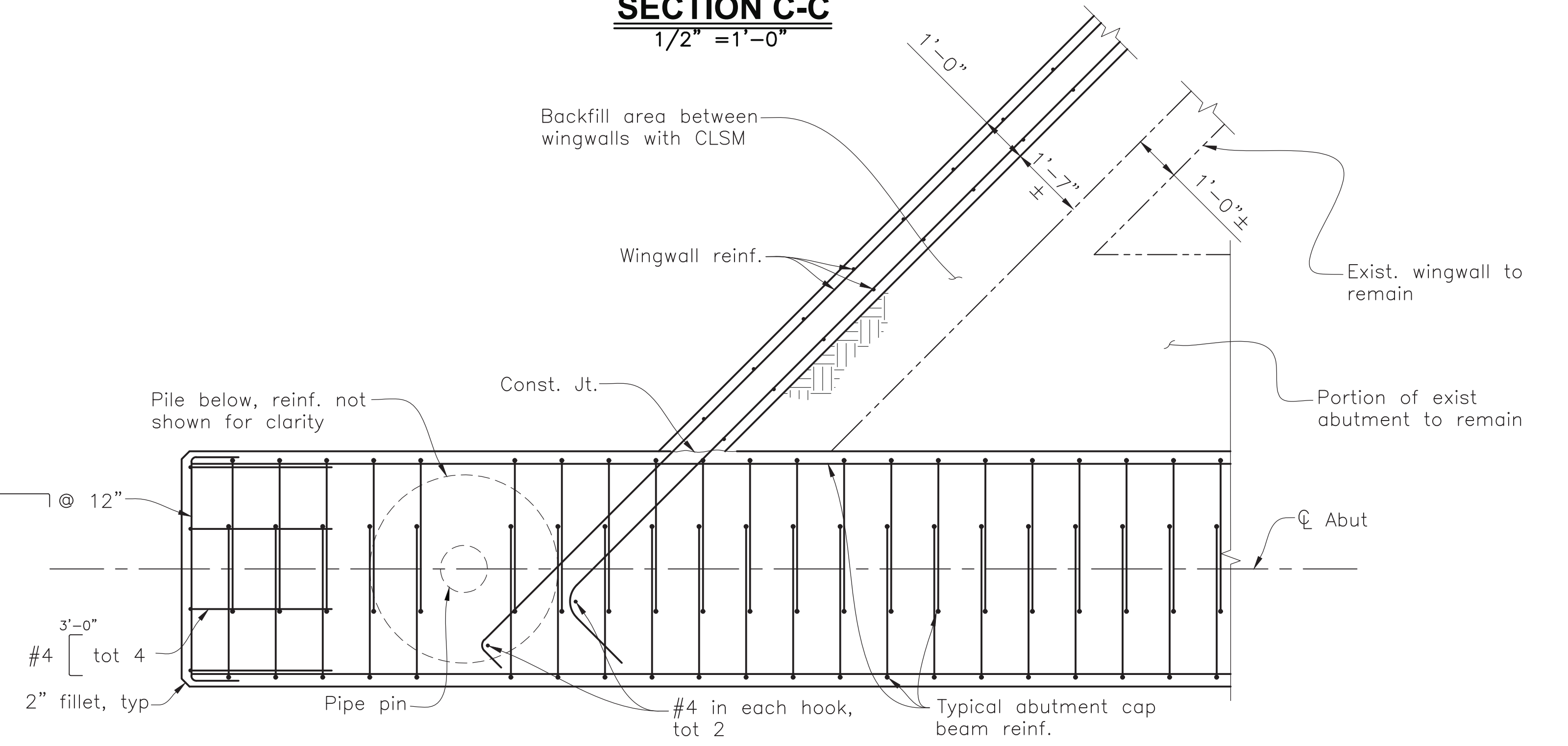
DETAIL Z
1/2" = 1'-0"



DETAIL Y
NO SCALE



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



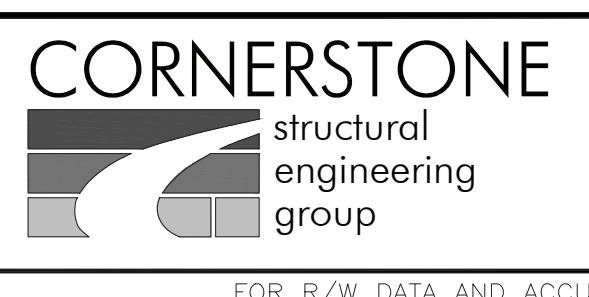
SECTION D-D
1/2" = 1'-0"

GENERAL NOTES:
1. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

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DESIGNED	MAW	DATE	11/22/17
DRAWN	TZE	DATE	11/22/17
CHECKED	NRZ	DATE	11/28/17
REVISION			

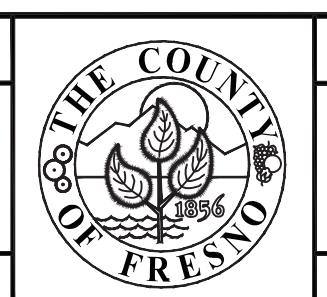
Scale	AS SHOWN
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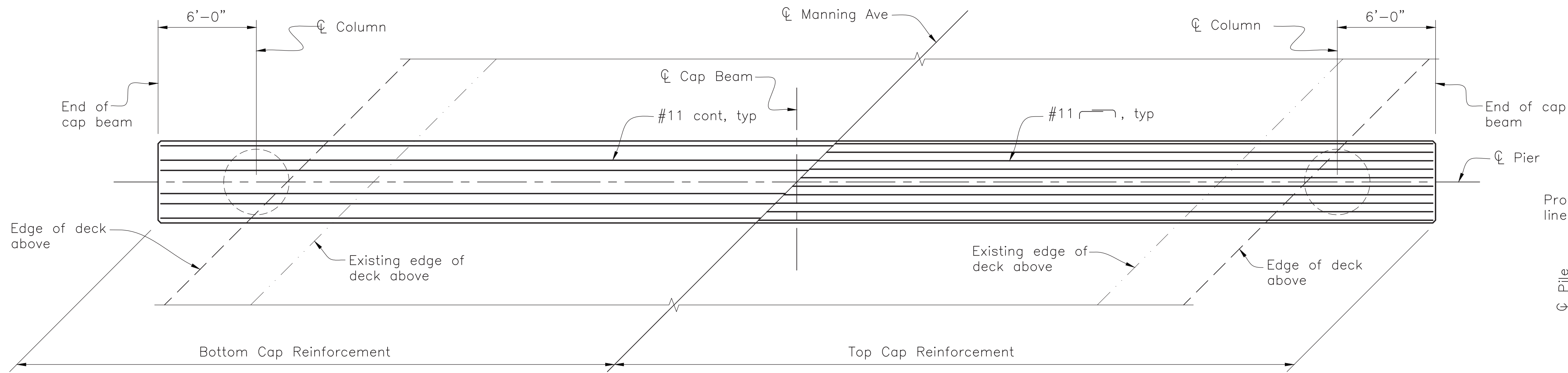
PROJECT	JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE
Road No.	S0900
Bridge No.	42C0691



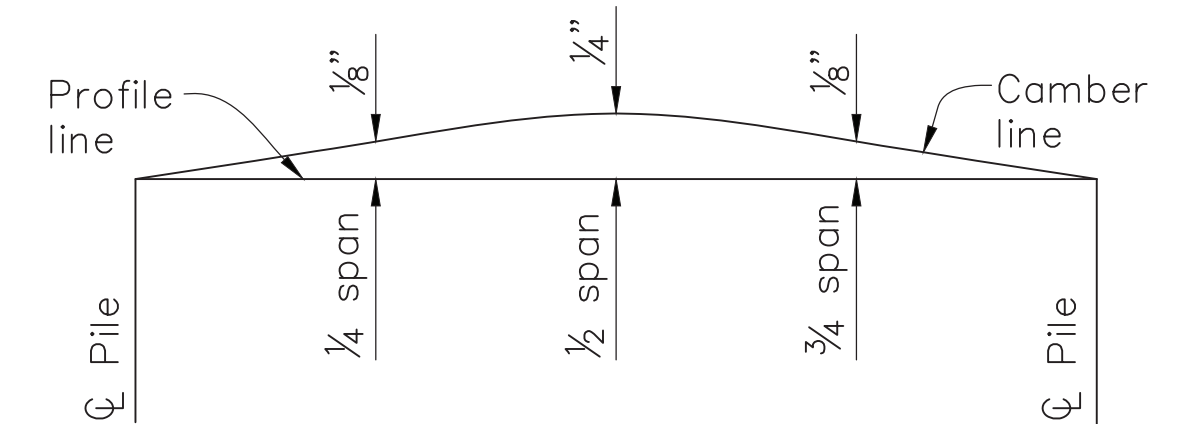
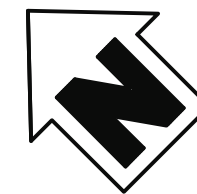
DEPARTMENT OF PUBLIC WORKS & PLANNING
ABUTMENT DETAILS NO. 2 BR. No. 42C0691
Drawing No. 11308
Sheet No. S-7 (17) of 35

Notes:

1. Place pier cap stirrups normal to \perp Pier and space along \perp Pier.
2. Details and reinforcement are symmetrical about \perp Manning Avenue.
3. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.
4. Not all pier cap beam reinf. shown for clarity.



PLAN
1/4" = 1'-0"

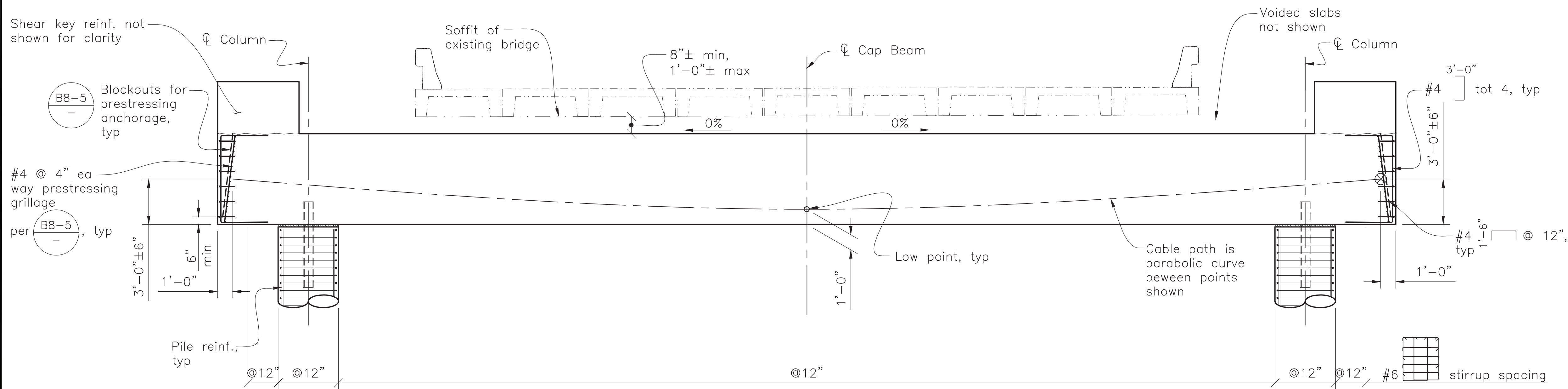


CAMBER DIAGRAM
NO SCALE

Does not include allowance for falsework settlement.

Prestressing Notes:

1. Design based on 270 ksi low relaxation strand.
2. Prestressing Force
 $P_{jack} = 3,170$ kips
 Stressing shall be performed from one end only
 Anchor Set = $\frac{3}{8}$ inch
3. Prestressing force shall be distributed uniformly within the limit of prestressing tendons in the bent.
4. Bar reinforcement interfering with the prestress tendon alignment shall be adjusted as approved by the Engineer.
5. At no time during the stressing operation shall more than $\frac{1}{8}$ of the total prestressing force be applied eccentrically about the centerline of the bent.
6. Concrete: $f'_c = 5$ ksi @ 28 days
 $f'_{ci} = 4$ ksi @ time of stressing
7. \otimes Denotes theoretical point of no movement
8. Contractor shall submit elongation calculations based on initial stress at \otimes equal to 0.830 times jacking stress.
9. Friction curvature coefficient $m = 0.15$ (1/rad). Friction wobble coefficient $K = 0.0002$ (1/ft)



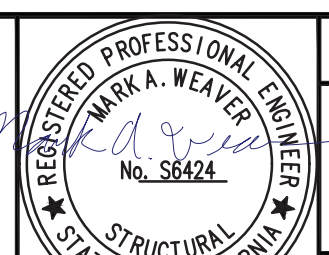
ELEVATION
1/4" = 1'-0"

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DESIGNED	MAW	DATE	11/22/17
DRAWN	TZE	DATE	11/22/17
CHECKED	NRZ	DATE	11/28/17

Scale	AS SHOWN
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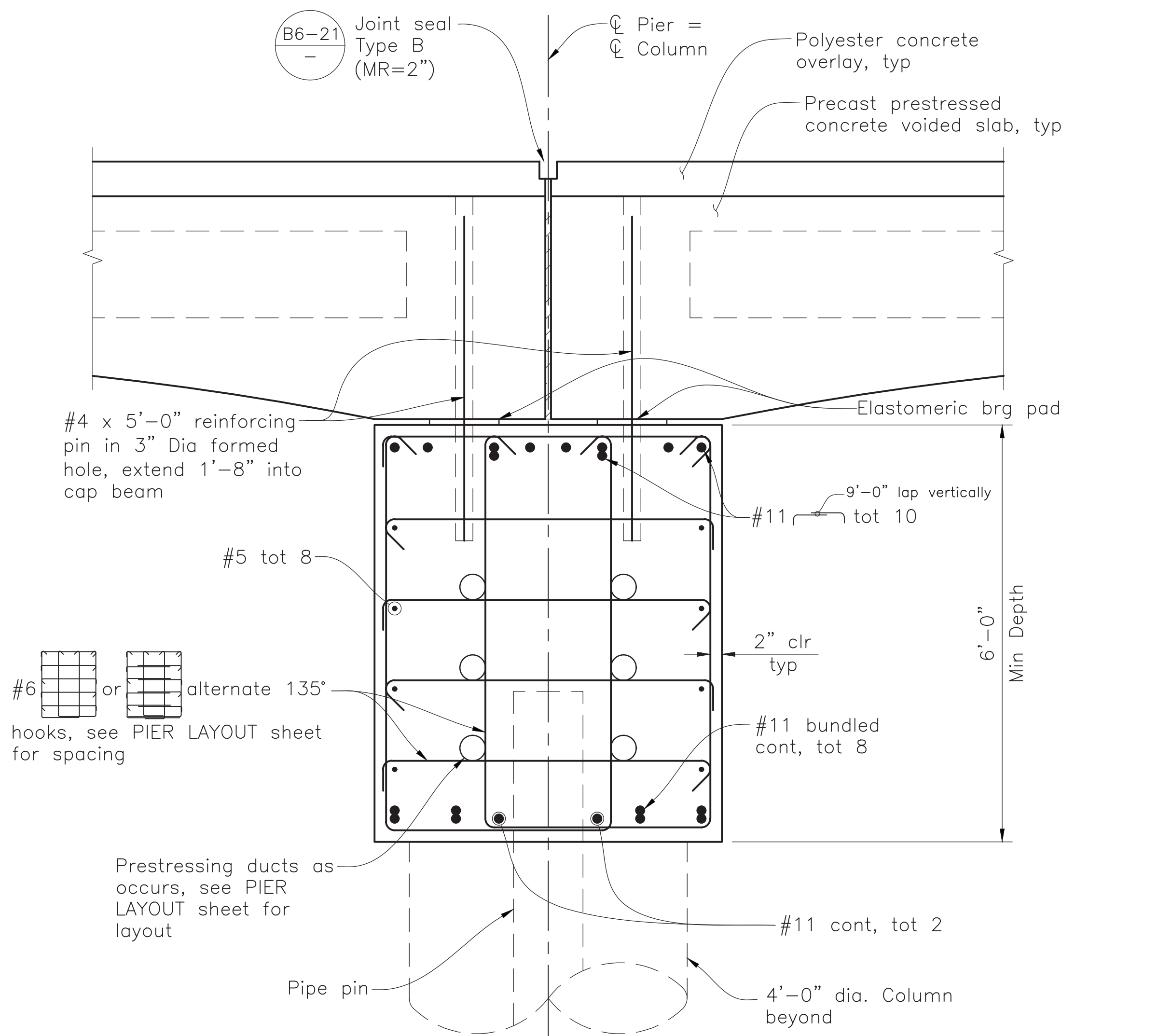
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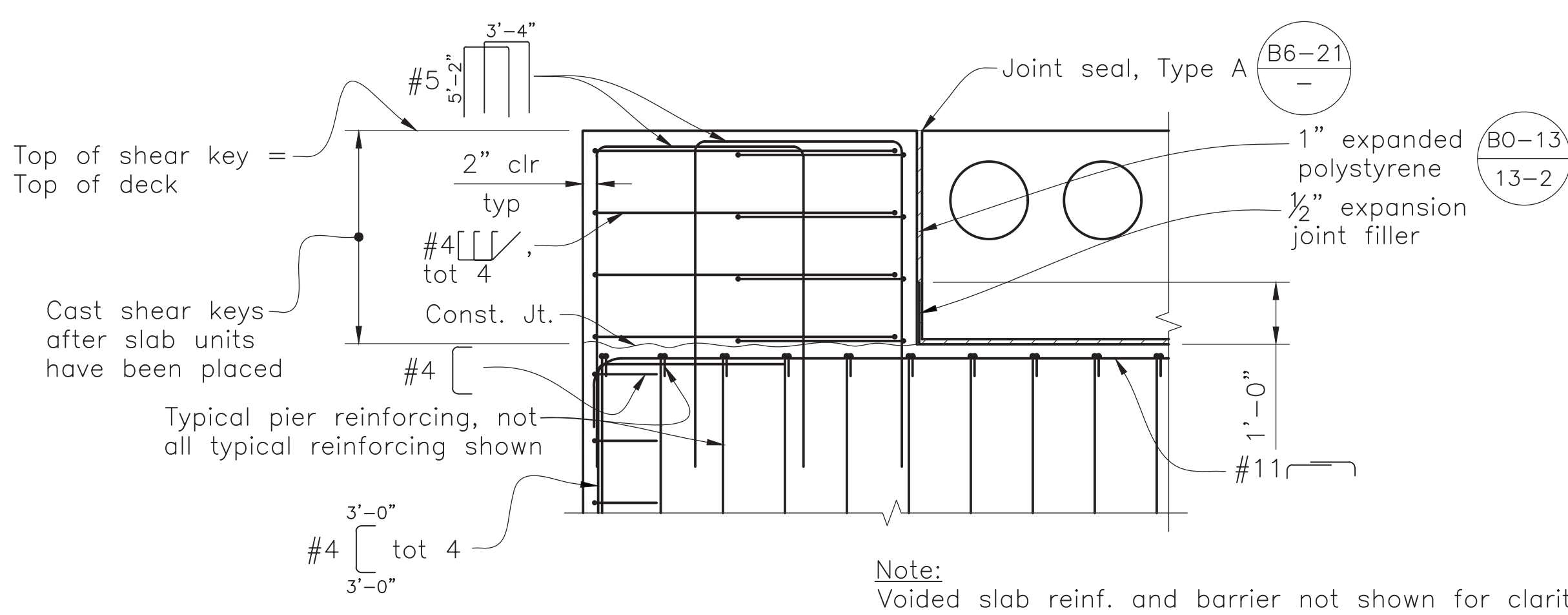
PROJECT
JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE
Road No. S0900 Bridge No. 42C0691



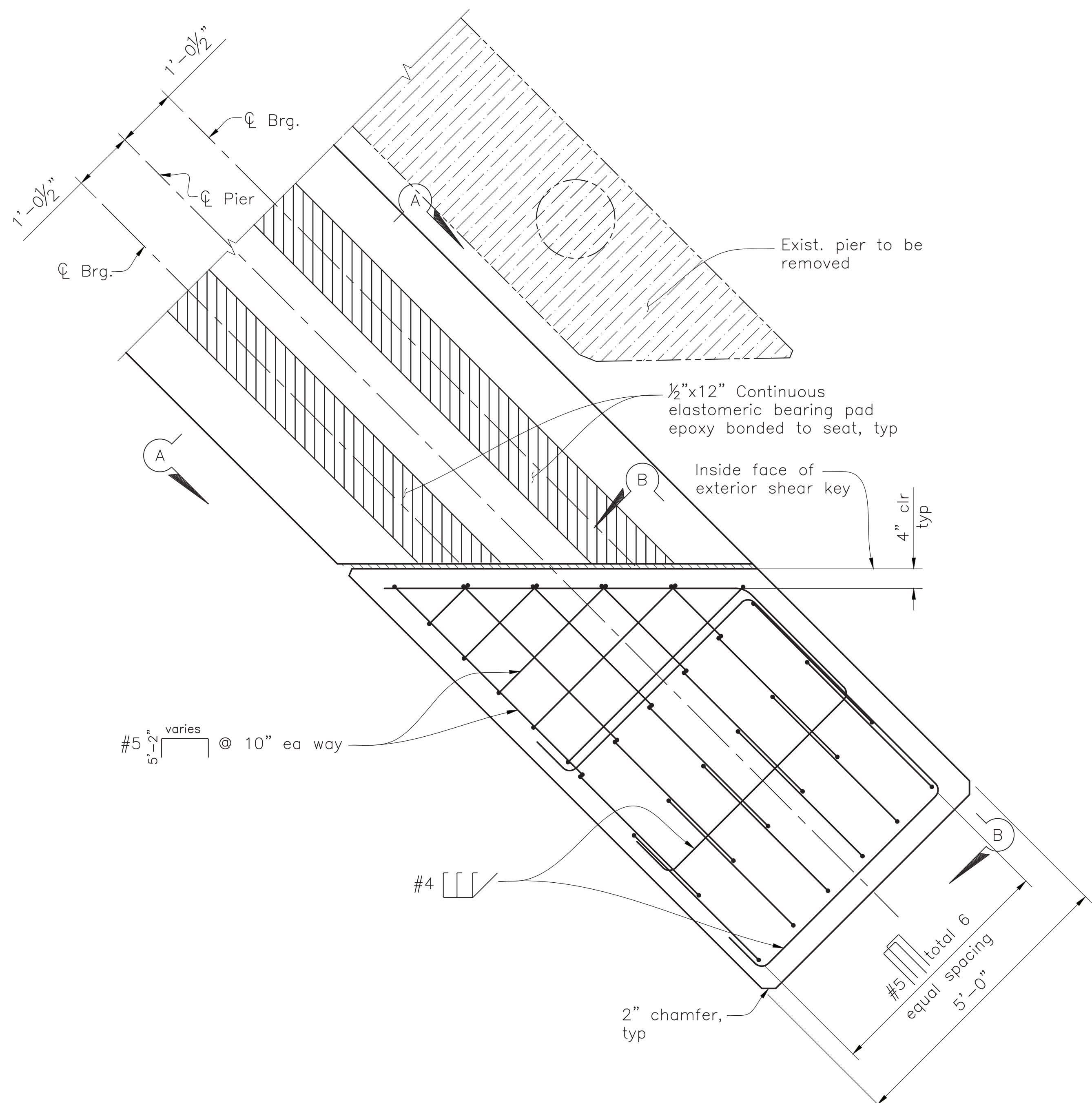
DEPARTMENT OF PUBLIC WORKS & PLANNING
PIER LAYOUT
BR. No. 42C0691
Drawing No. 11308 Sheet No. S-8 (18) of 35



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



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

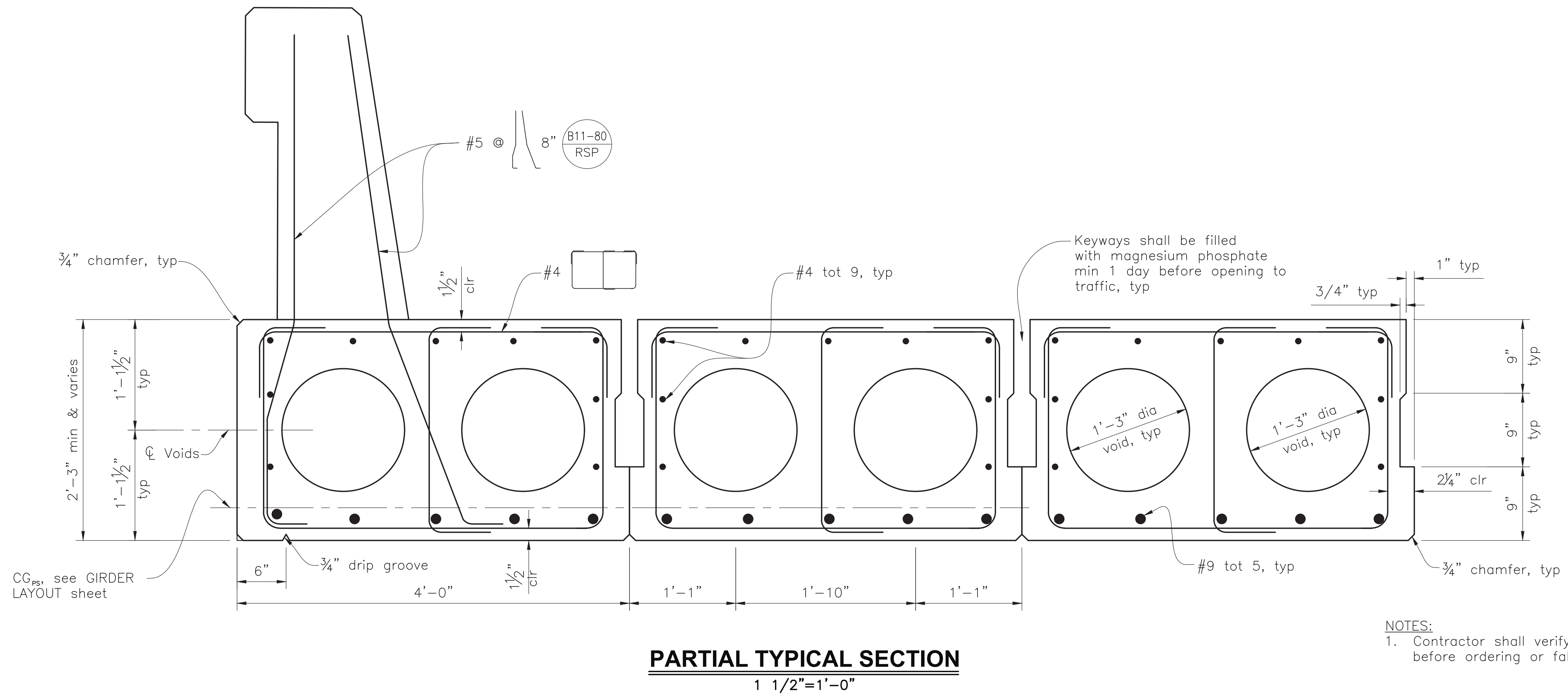
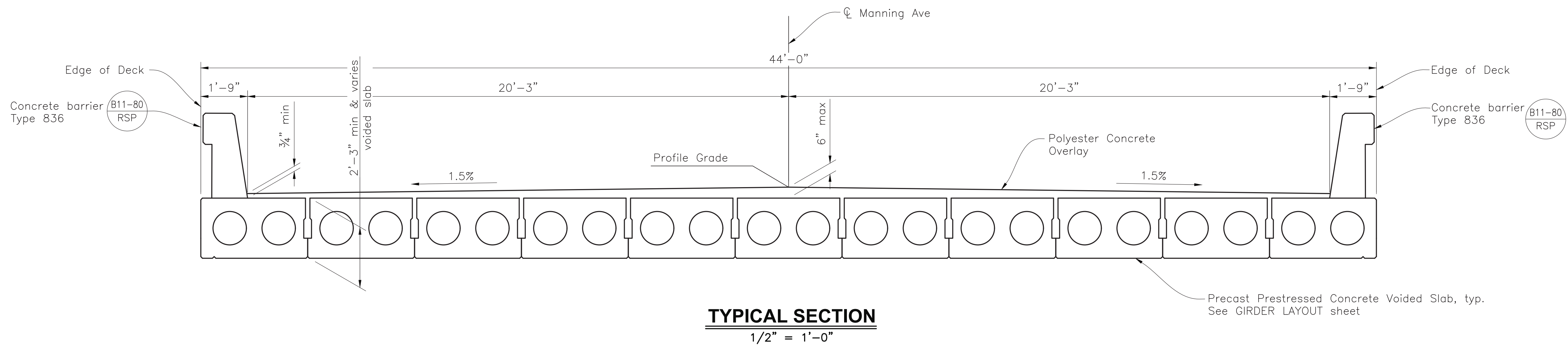


PIER CAP PARTIAL PLAN
3/4" = 1'-0"

NOTES:
1. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

DESIGNED MAW	DATE 11/22/17		986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT		DEPARTMENT OF PUBLIC WORKS & PLANNING
DRAWN TZE	DATE 11/22/17				JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE		PIER DETAILS BR. No. 42C0691
CHECKED NRZ	DATE 11/28/17				Road No. S0900 Bridge No. 42C0691		Drawing No. 11308 Sheet No. S-9 (19) of 35



NOTES:
1. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

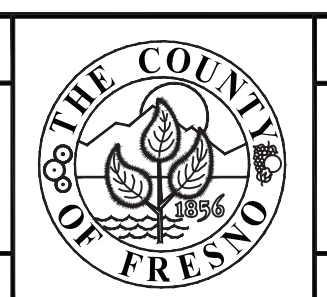
DESIGNED	MAW	DATE	11/22/17
DRAWN	TCW	DATE	11/22/17
CHECKED	NRZ	DATE	11/28/17

Scale	AS SHOWN
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PROJECT	JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE
Road No.	S0900
Bridge No.	42C0691

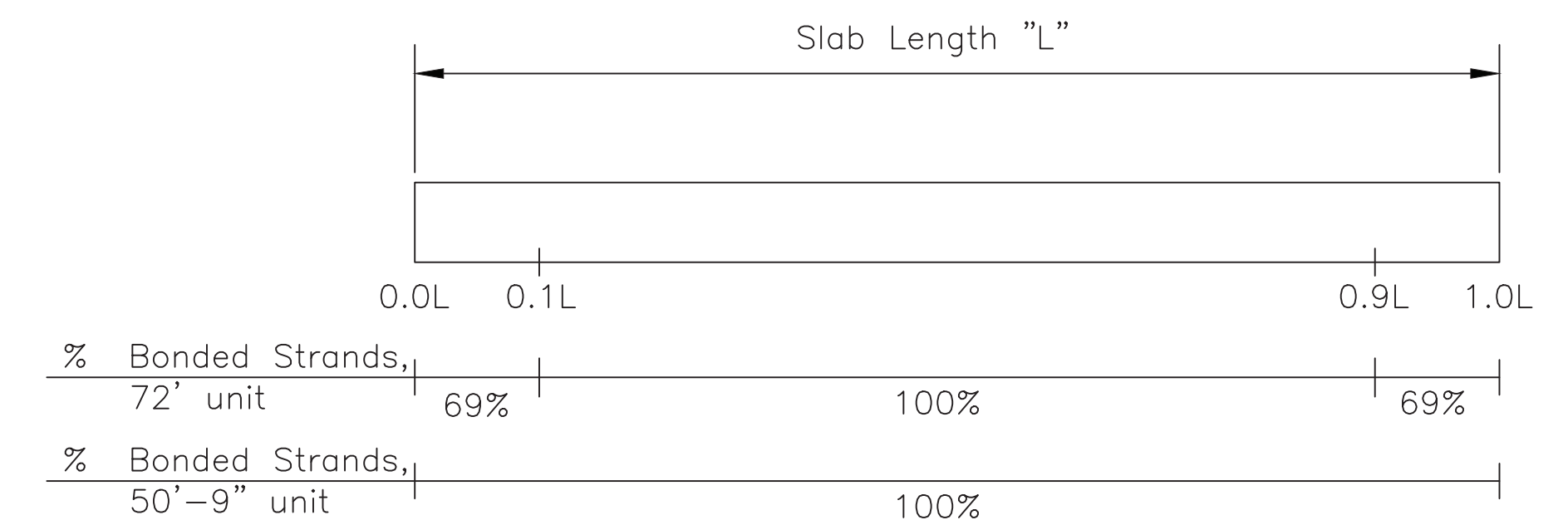


DEPARTMENT OF PUBLIC WORKS & PLANNING	
TYPICAL SECTION BR. No. 42C0691	
Drawing No.	11308
Sheet No.	S-10 (20) of 35

PRESTRESSING NOTES

- Design based on 270 ksi low relaxation strand
- Slabs designed for pretensioning
- Number of strands = $\frac{Pf}{As[(0.75 \times 270) - 35]}$
- Pf is the force required at center of span after all losses. The working force does not include any fabrication specific losses.
- Concrete strength:
f'c is at 28 days
f'ci is at time of stressing
- Total number of 72'-0" precast slabs = 11
Total number of 50'-6" precast slabs = 22
- The minimum center to center distance between adjacent strands is 1.75" for 0.5" dia strands and 2" for 0.6" dia strands
- Debonded strands shall be symmetrically distributed about centerline of the girder. Exterior strands in each horizontal row shall not be debonded.

Precast unit, location or designation and length	Pf = Working force in (kips)	CG _{PS}	Concrete strength (ksi)		Deflection components at midspan Polyester concrete
			f'ci	f'c	
Typical/72' unit	995	4.5"	4.0	5.0	1/2" downward
Typ./50'-6" unit	475	4.0"	4.0	5.0	1/8" downward

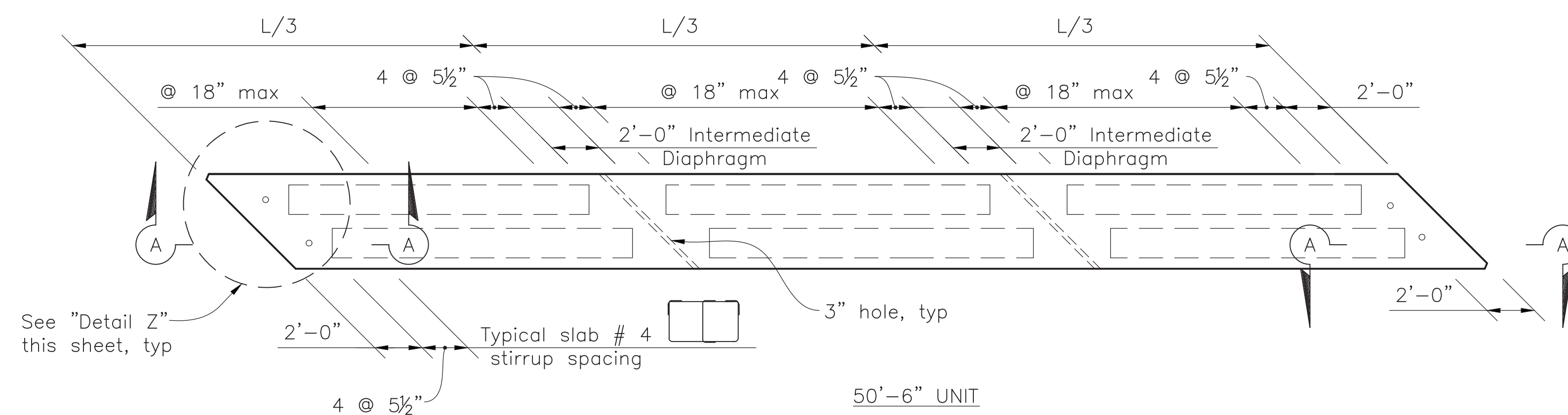
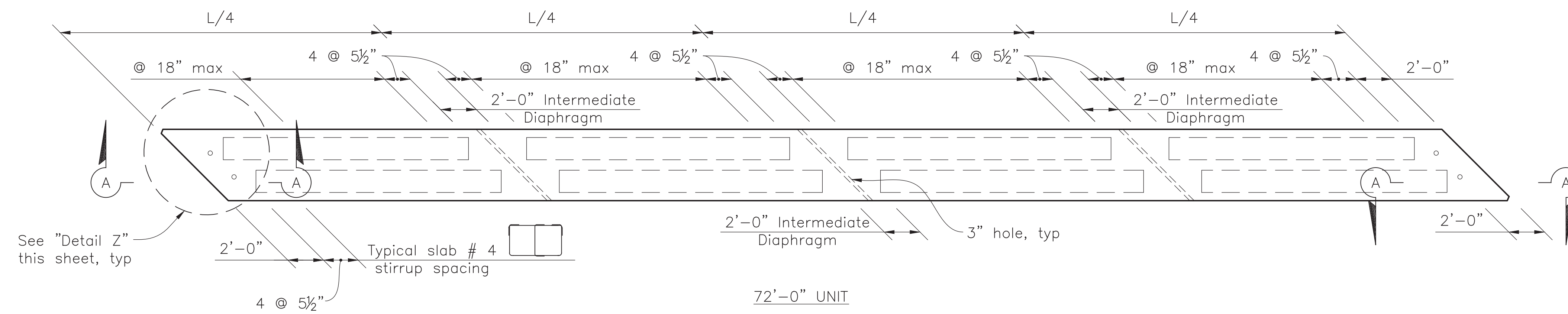


BONDED - PRESTRESSING STRAND DIAGRAM

NO SCALE

NOTES:

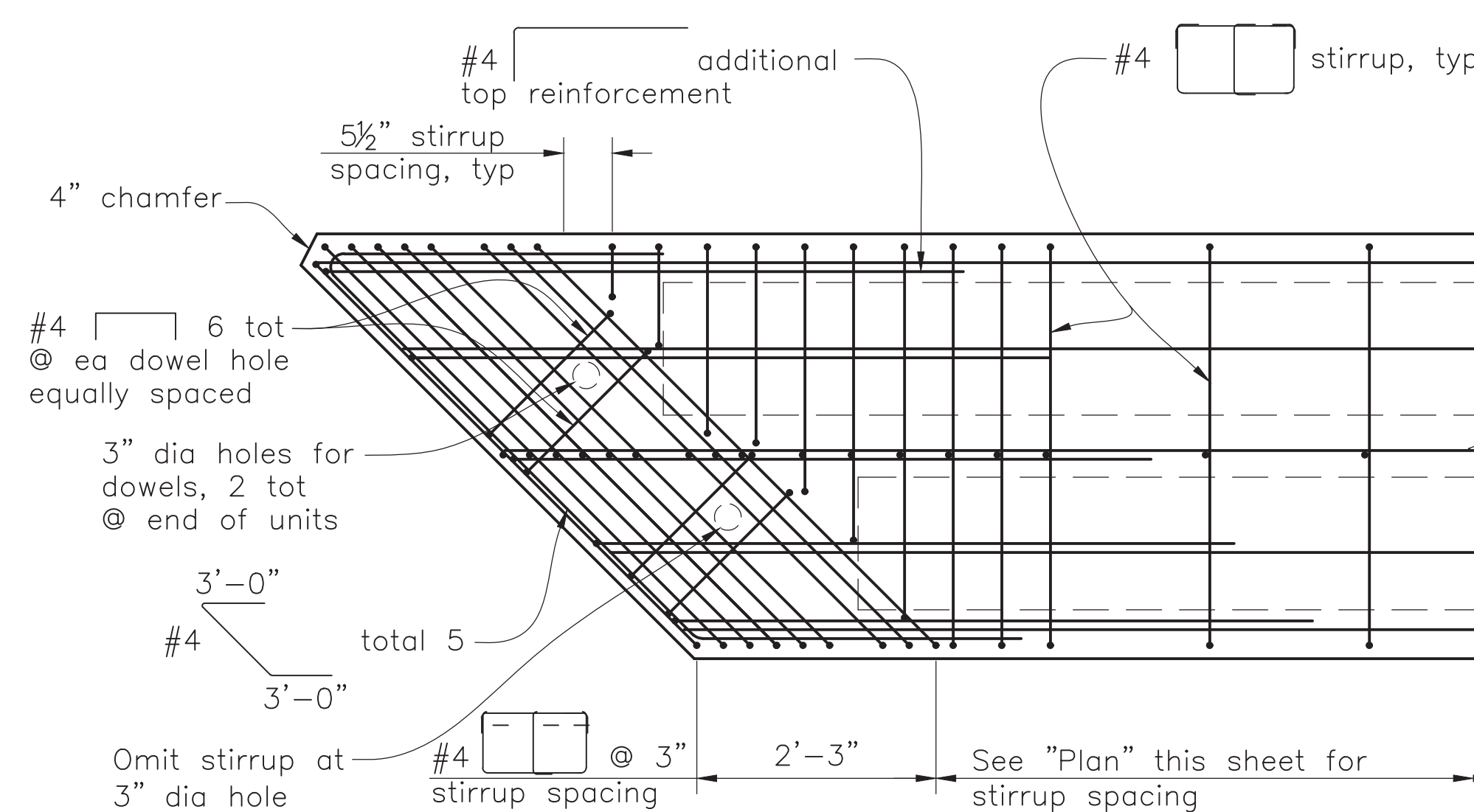
- Fill keyways with magnesium phosphate & grout abutment dowels prior to tensioning tie rods.
- Tension rods to 20,000 lbs. with calibrated torque wrench.
- Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



PLAN

1/4" = 1'-0"

Note:
For "Section A-A" see GIRDER DETAILS sheet



ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

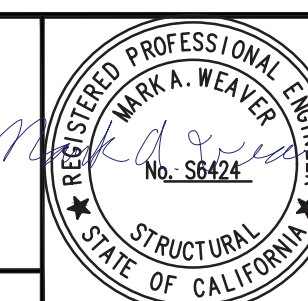
DESIGNED MAW 11/22/17
DRAWN TCW 11/22/17
CHECKED NRZ 11/28/17

Scale

AS SHOWN

CORNERSTONE
structural
engineering
group

986 W Alluvial Ave - Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201



PROJECT

JAMES BYPASS WEST CHANNEL
BRIDGE AT MANNING AVENUE

Road No. S0900

Bridge No. 42C0691

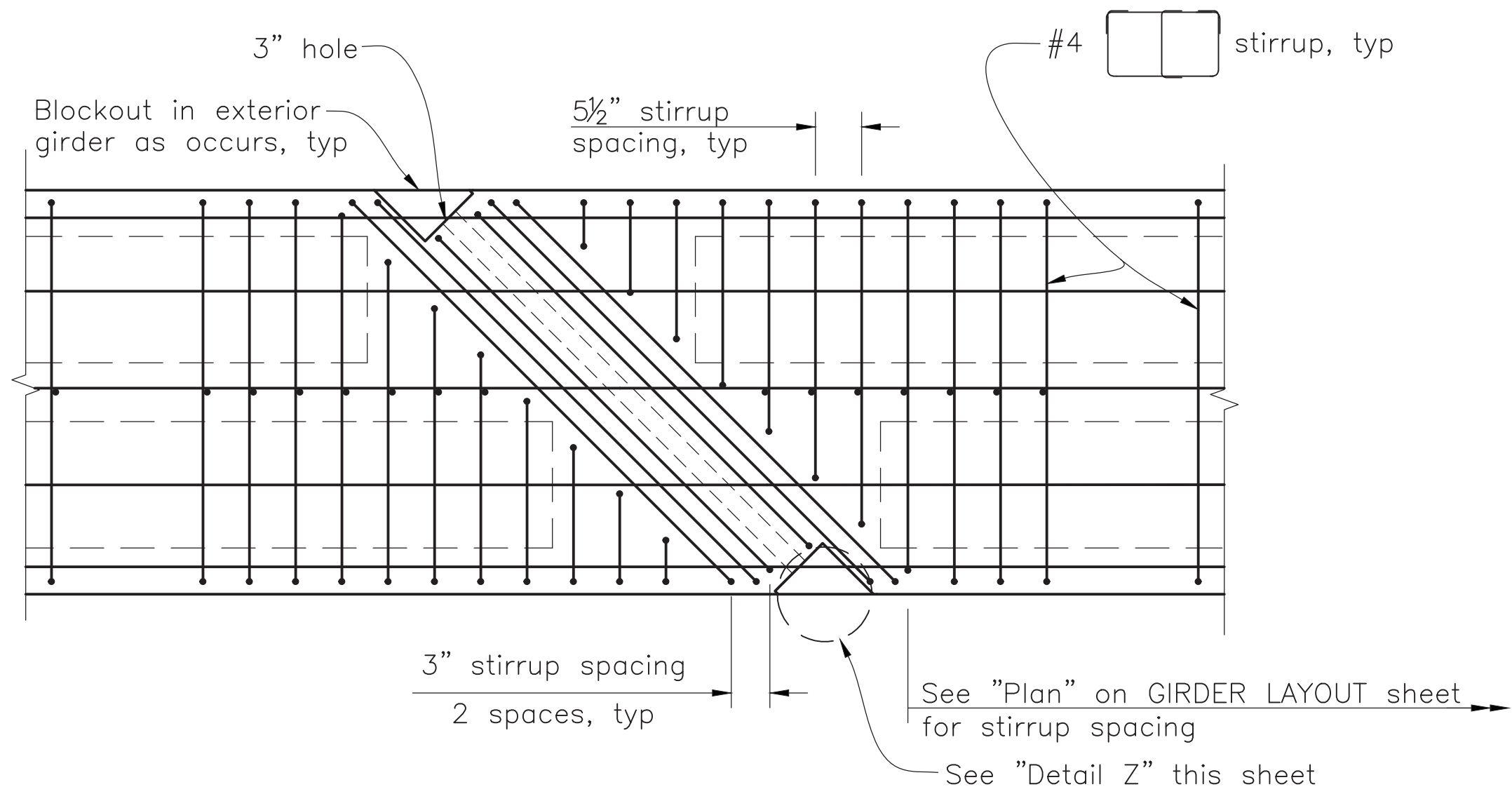


DEPARTMENT OF PUBLIC WORKS & PLANNING

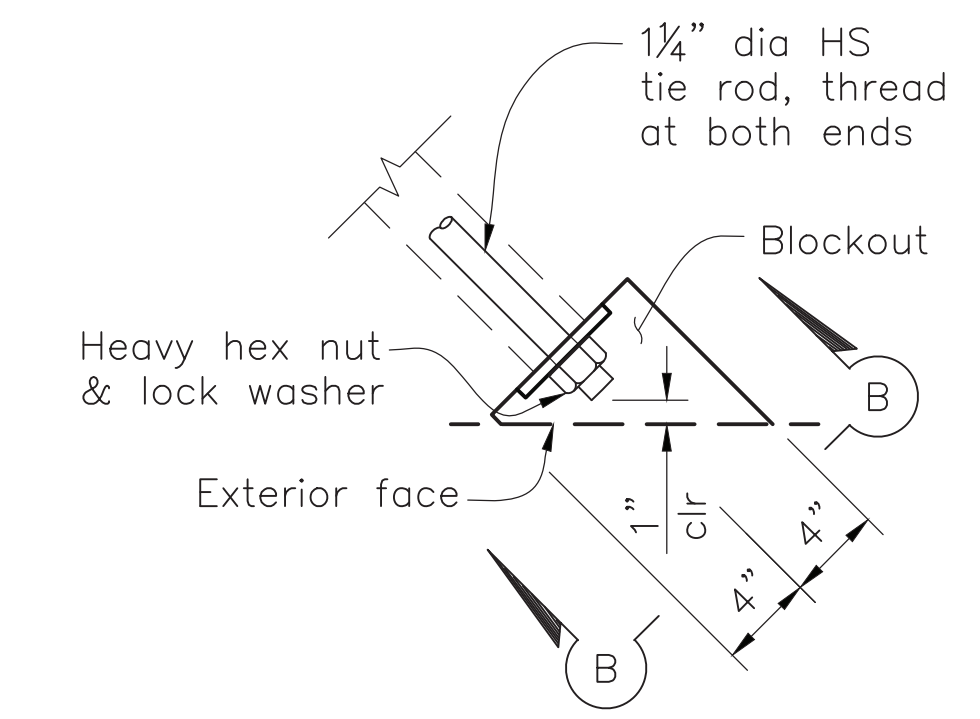
GIRDER LAYOUT
BR. No. 42C0691

Drawing No. 11308

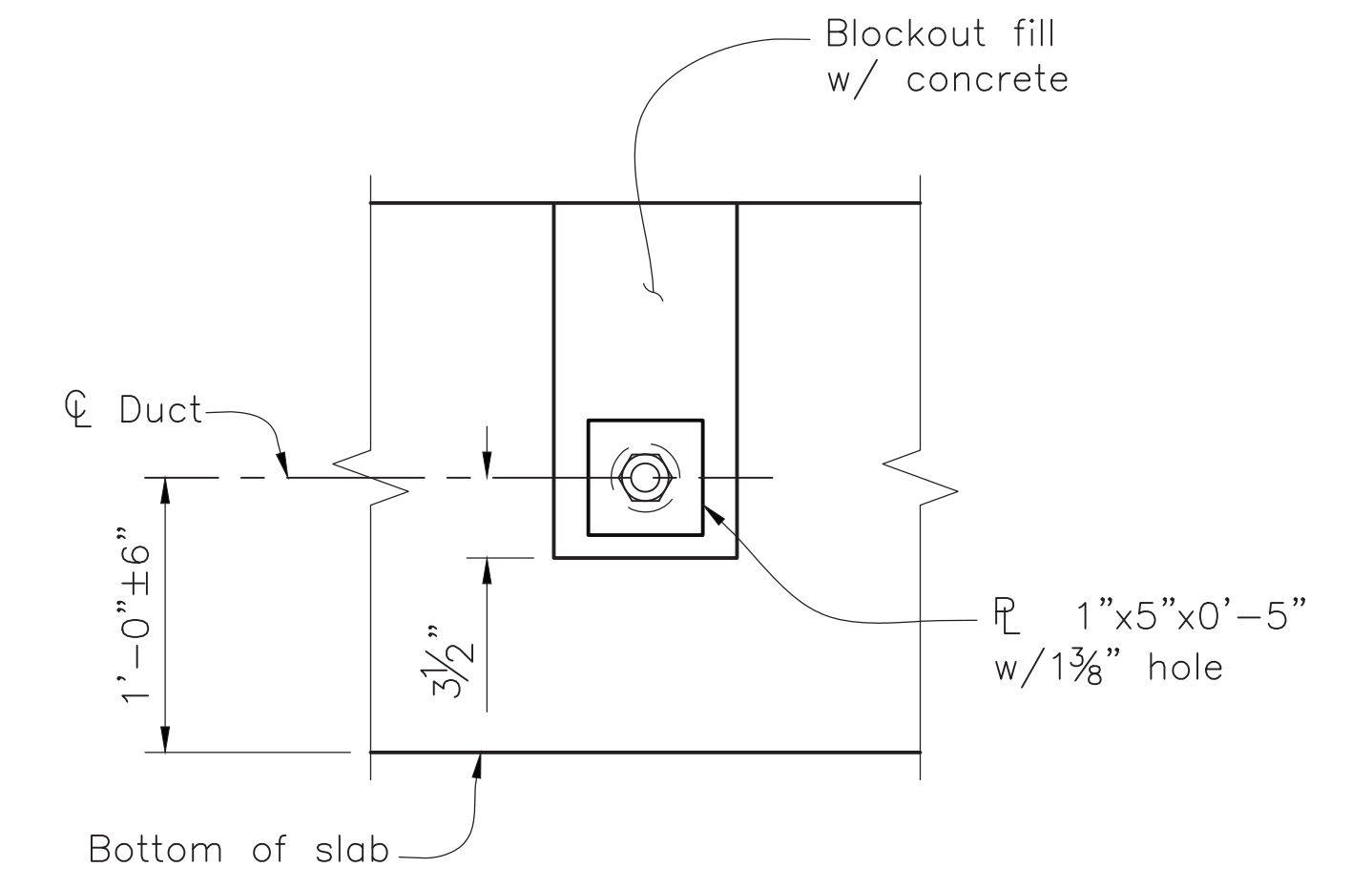
Sheet No. S-11 (21) of 35



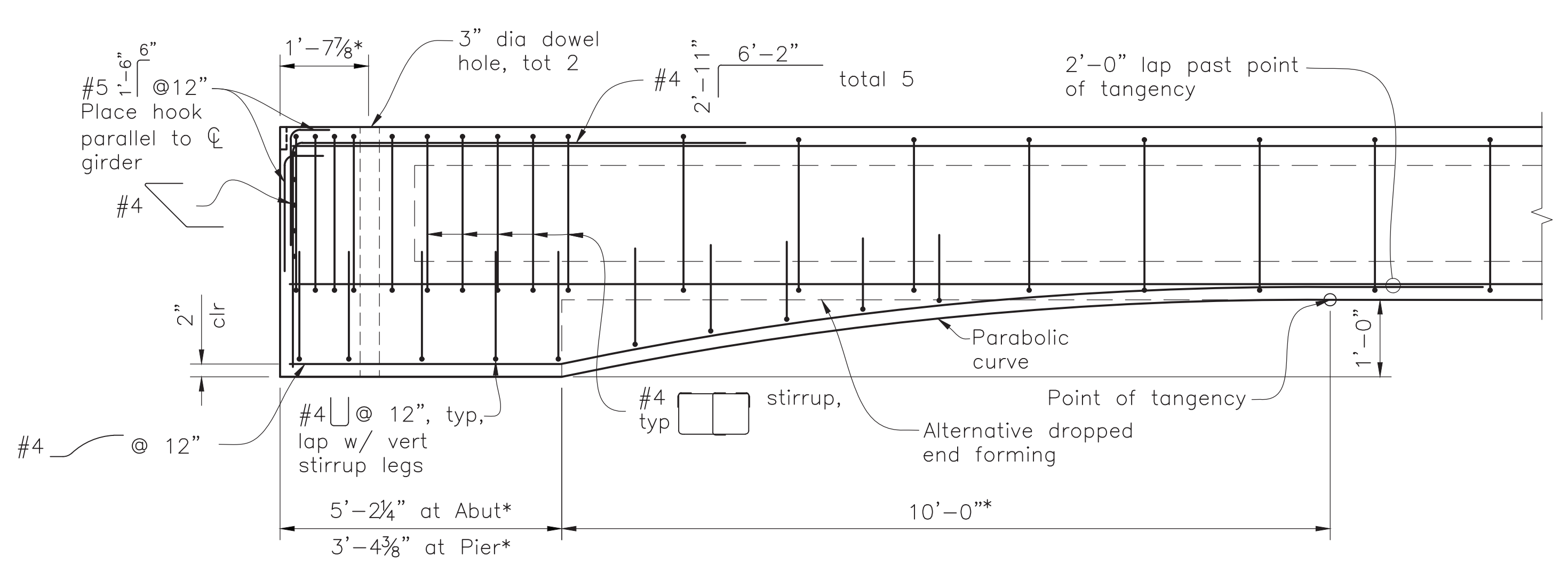
PLAN
3/4" = 1'-0"



DETAIL Z
1 1/2" = 1'-0"



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



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

Notes:
End of voided slab at Abut shown, Pier similar
* Measured along ϕ Manning Avenue

NOTES:

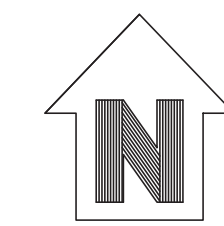
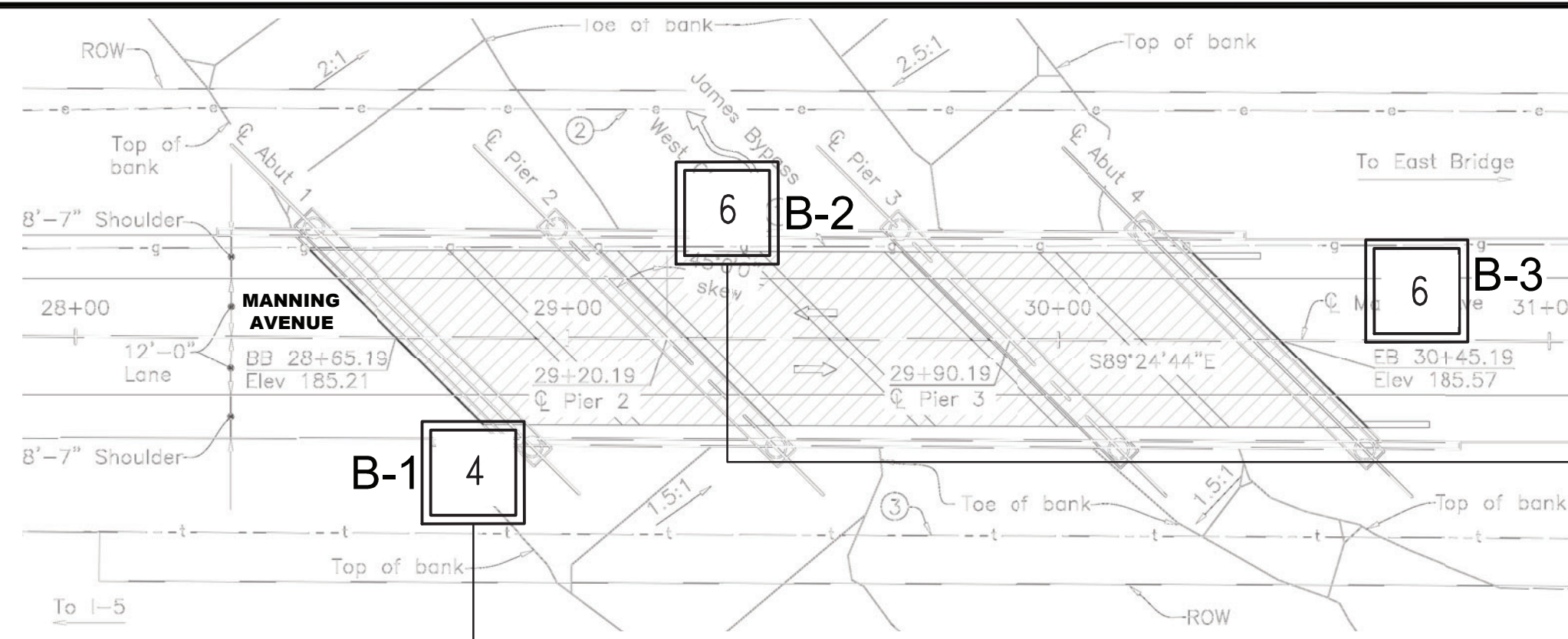
1. Fill keyways with magnesium phosphate & grout abutment and pier dowel holes prior to tensioning tie rods.
2. Tension rods to 20,000 lbs. with calibrated torque wrench.
3. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

DESIGNED <u>MAW</u>	DATE <u>11/22/17</u>		986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT		DEPARTMENT OF PUBLIC WORKS & PLANNING
DRAWN <u>TZE</u>	DATE <u>11/22/17</u>				JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE		GIRDER DETAILS BR. No. 42C0691
CHECKED <u>NRZ</u>	DATE <u>11/28/17</u>				Scale AS SHOWN		Drawing No. 11308 Sheet No. S-12 (22) of 35
REVISION		FOR R/W DATA AND ACCURATE ACCESS DETERMINATION SEE R/W RECORDS AT PUBLIC WORKS		Road No. S0900 Bridge No. 42C0691		W:\2014\2014073 - Fresno County On Call Agreement 14-527\2014073A - James Bypass on Manning Avenue\2014073AS12 - Girder Details.dwg - 1/13/2021 8:10 PM	

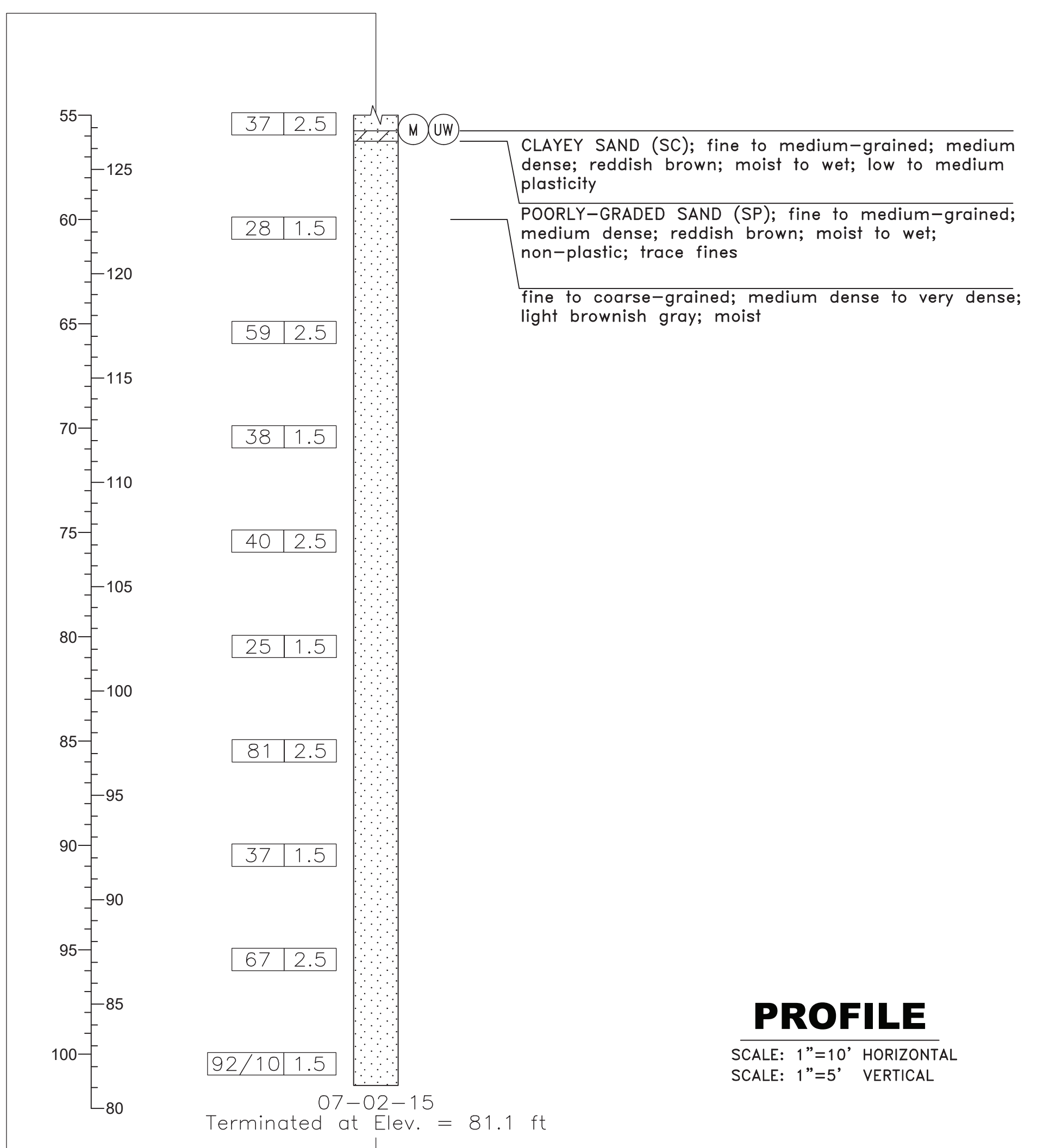
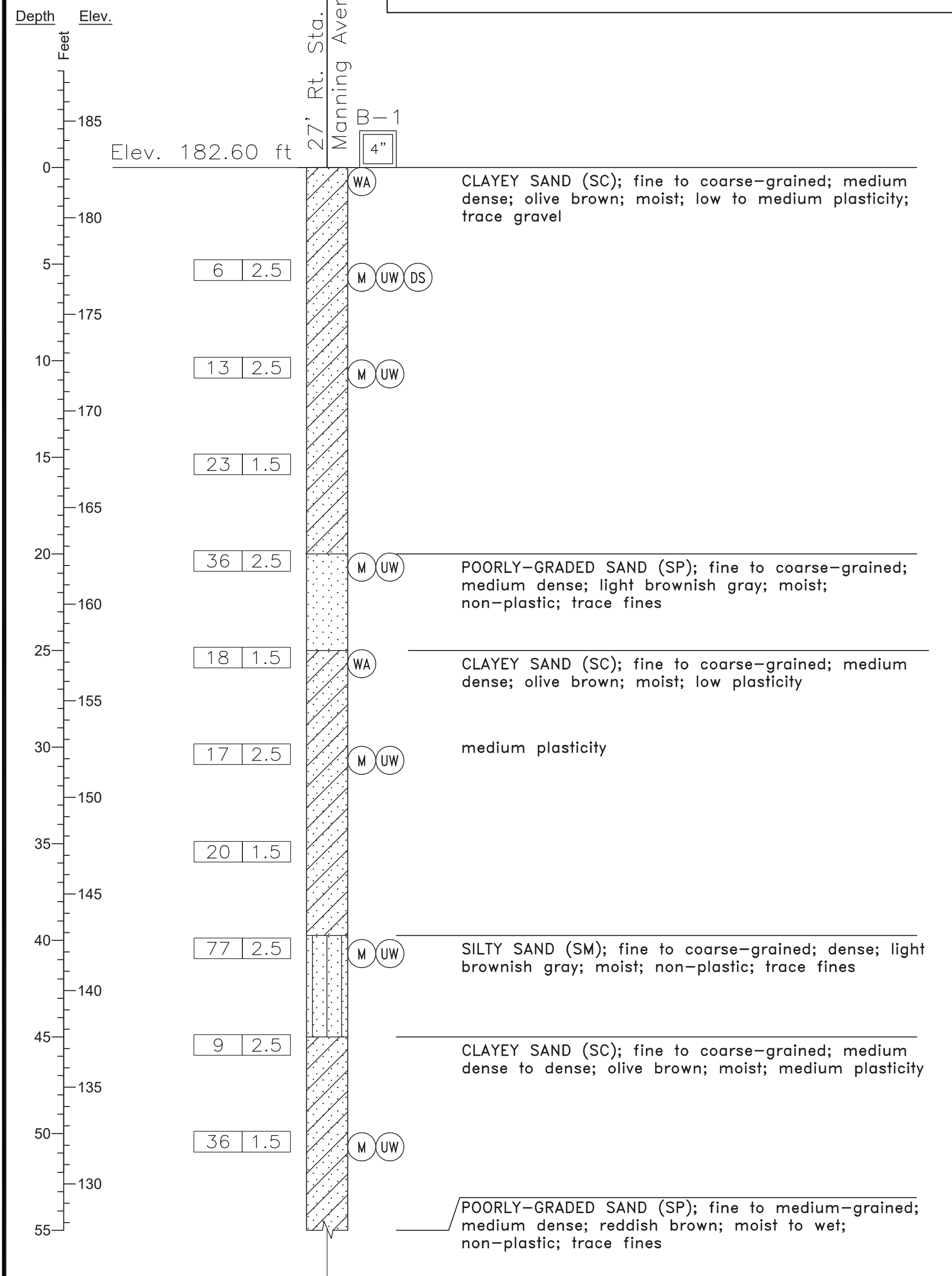
NOTES:

1. 1.5-INCH DIAMETER SAMPLES WERE TAKEN USING A STANDARD PENETRATION TEST (SPT) SPLIT BARREL SAMPLER WITH AN INSIDE DIAMETER (ID) OF 1.5 INCHES AND AN OUTSIDE DIAMETER (OD) OF 2.0 INCHES.
2. 2.5-INCH DIAMETER RING SAMPLES WERE TAKEN USING A CALIFORNIA SPLIT BARREL SAMPLER WITH AN ID OF 2.5 INCHES AND AN OD OF 3.0 INCHES.
3. ALL DRIVE SAMPLES WERE DRIVEN WITH 140 LB HAMMER WITH A FALLING HEIGHT OF 30 INCHES.
4. ELEVATION BASED ON PLANS FROM QUINCY ENGINEERING, DATED 11/4/2013.



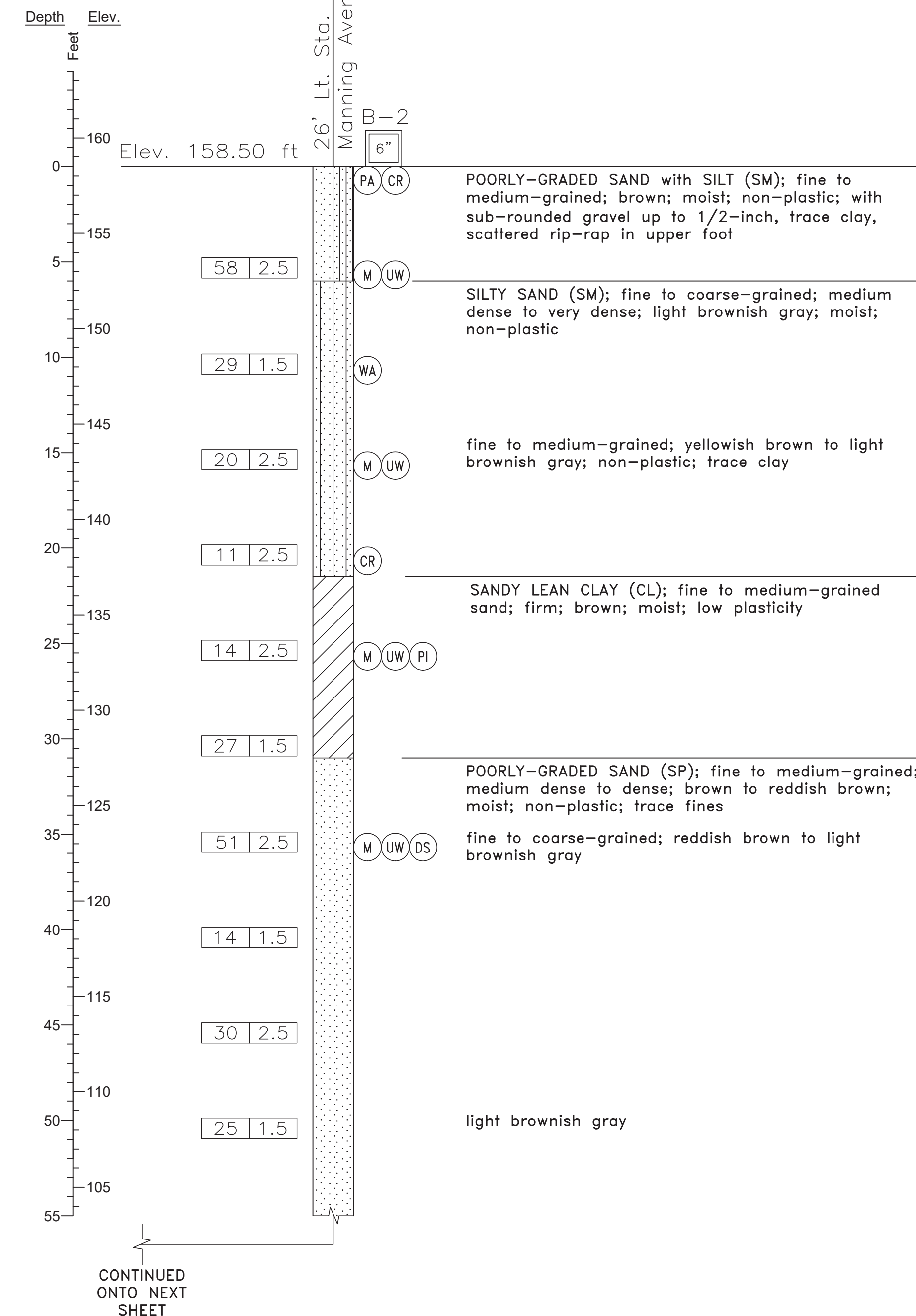
PLAN

SCALE: 1"=30'



PROFILE

SCALE: 1"=10' HORIZONTAL
SCALE: 1"=5' VERTICAL



CONTINUED ONTO NEXT SHEET

MANNING AVENUE (WEST BRIDGE)

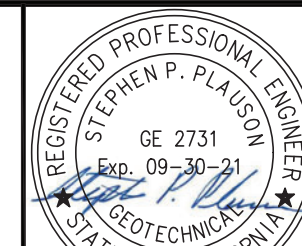
ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

FIELD INVESTIGATION	T. DeSOUZA	DATE	As Shown
DRAWN	D. FAHRNEY		
CHECKED	N. POPENOE		

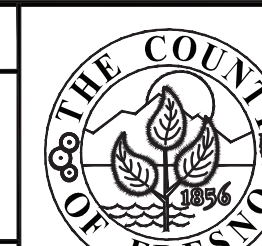
Scale	AS SHOWN
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3731 W Ashcroft Ave
Fresno, California 93722
559.486.0750



PROJECT
JAMES BYPASS WEST CHANNEL
BRIDGE AT MANNING AVENUE



DEPARTMENT OF PUBLIC WORKS & PLANNING
LOG OF TEST BORINGS No. 1
BR. No. 42C0691

REVISION					
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FOR R/W DATA AND ACCURATE ACCESS DETERMINATION SEE R/W RECORDS AT PUBLIC WORKS

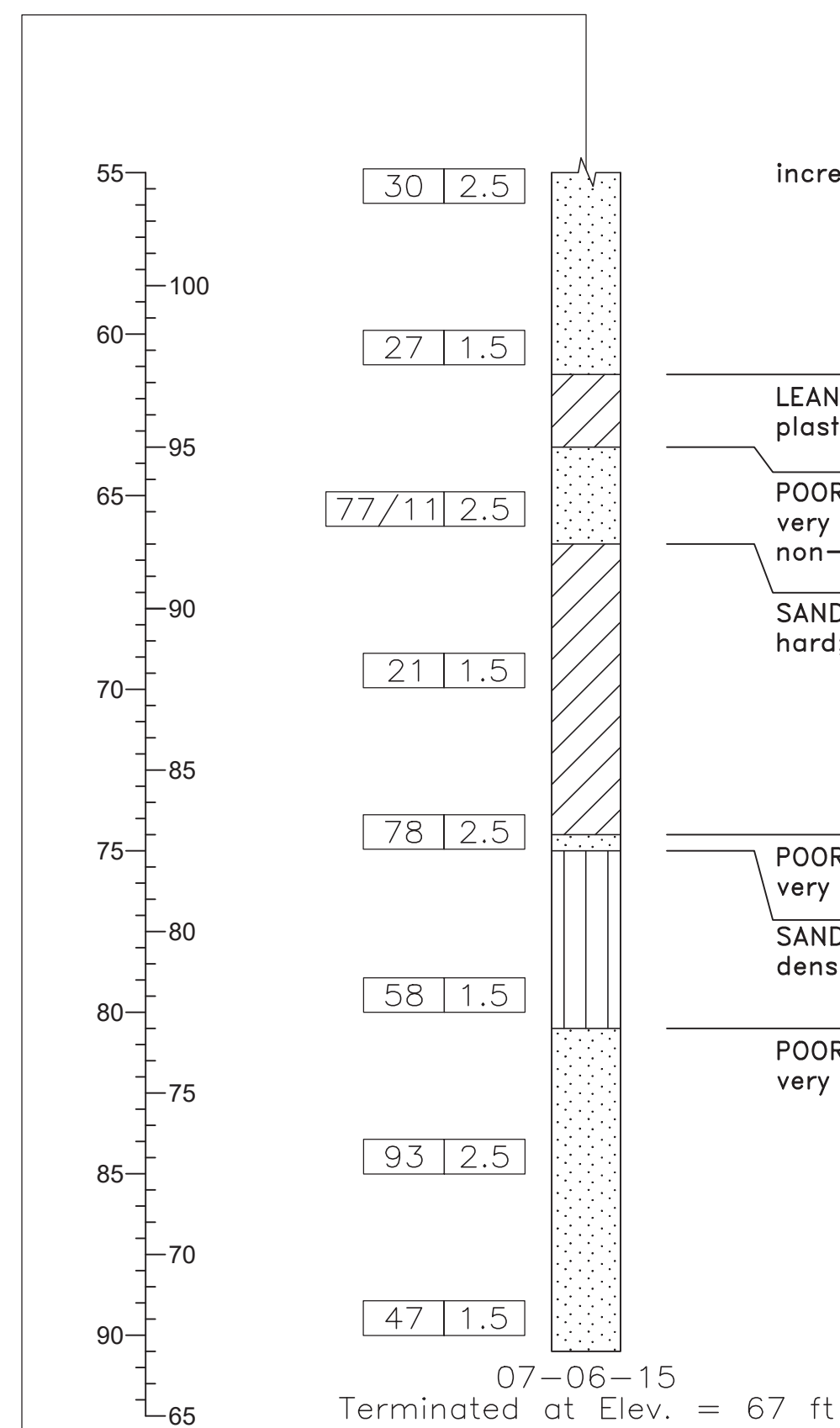
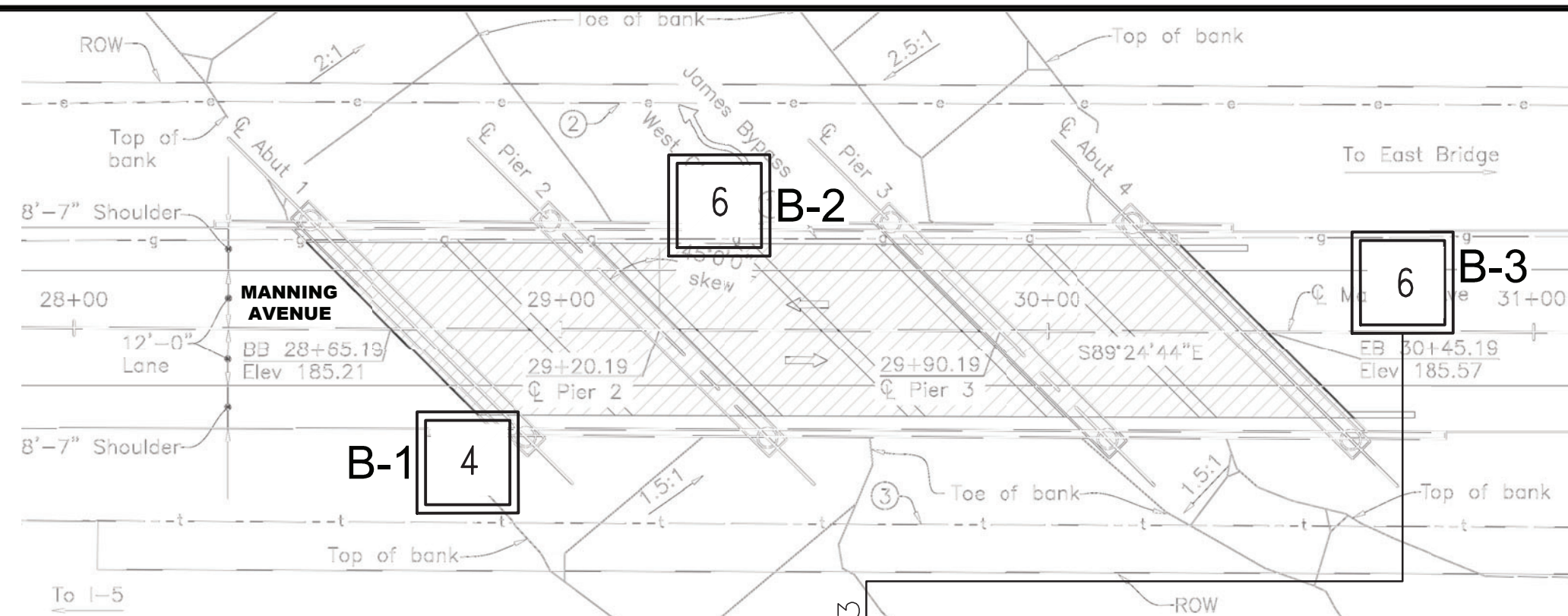
Scale AS SHOWN

Road No. S0900 Bridge No. 42C0691

Drawing No. 11308 Sheet No. S-13 (23) of 35

NOTES:

1. 1.5-INCH DIAMETER SAMPLES WERE TAKEN USING A STANDARD PENETRATION TEST (SPT) SPLIT BARREL SAMPLER WITH AN INSIDE DIAMETER (ID) OF 1.5 INCHES AND AN OUTSIDE DIAMETER (OD) OF 2.0 INCHES.
2. 2.5-INCH DIAMETER RING SAMPLES WERE TAKEN USING A CALIFORNIA SPLIT BARREL SAMPLER WITH AN ID OF 2.5 INCHES AND AN OD OF 3.0 INCHES.
3. ALL DRIVE SAMPLES WERE DRIVEN WITH 140 LB HAMMER WITH A FALLING HEIGHT OF 30 INCHES.
4. ELEVATION BASED ON PLANS FROM QUINCY ENGINEERING, DATED 11/4/2013.



increase in moisture

LEAN CLAY (CL); firm; pale brown; moist; low plasticity; trace sand

POORLY-GRADED SAND (SP); fine to coarse-grained; very dense; light brownish gray; moist to wet; non-plastic; trace fines

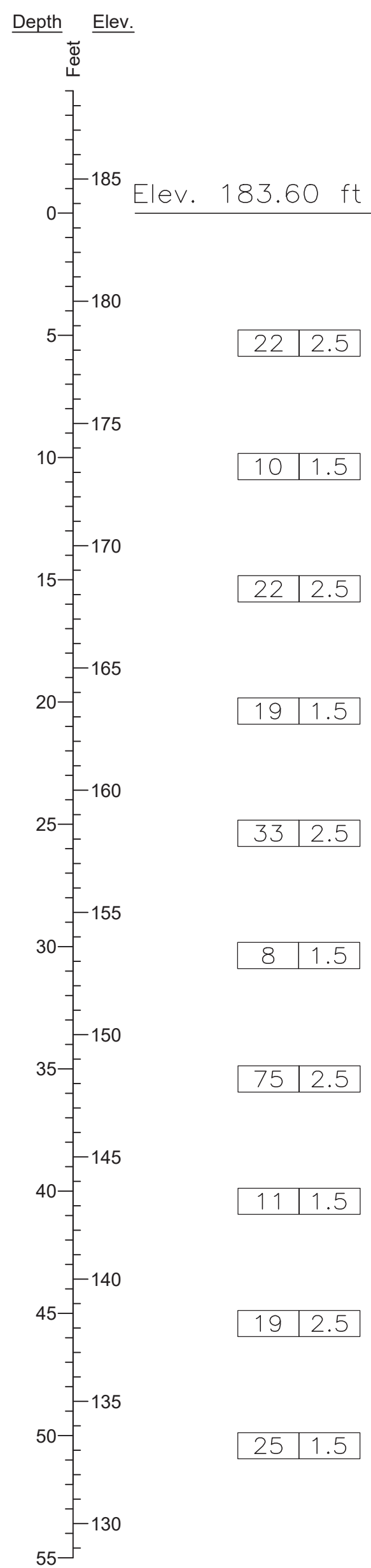
SANDY LEAN CLAY (CL); fine to medium-grained sand; hard; pale brown; moist; low plasticity

POORLY-GRADED SAND (SP); fine to coarse-grained; very dense; reddish brown; moist to wet; non-plastic

SANDY SILT (ML); fine to medium-grained sand; very dense; gray; moist; non-plastic

POORLY-GRADED SAND (SP); fine to coarse-grained; very dense; light brownish gray; moist; non-plastic

PROFILE
SCALE: 1"=10' HORIZONTAL
SCALE: 1"=5' VERTICAL



ASPHALT

AGGREGATE BASE

SANDY LEAN CLAY (CL); fine to medium-grained sand; olive brown to dark gray; moist; low to medium plasticity

CLAYEY SAND (SC); fine to medium-grained; medium dense; grayish brown; moist; low plasticity

POORLY-GRADED SAND (SP); fine to medium-grained; medium dense; reddish brown; moist; non-plastic; trace fines

yellowish brown to light brownish gray

CLAYEY SAND (SC); fine to medium-grained sand; dense; grayish brown; moist; low plasticity

SILTY SAND (SM); fine to medium-grained; medium dense; olive brown; moist; non-plastic; trace clay

LEAN CLAY (CL); firm; olive brown; moist; low plasticity

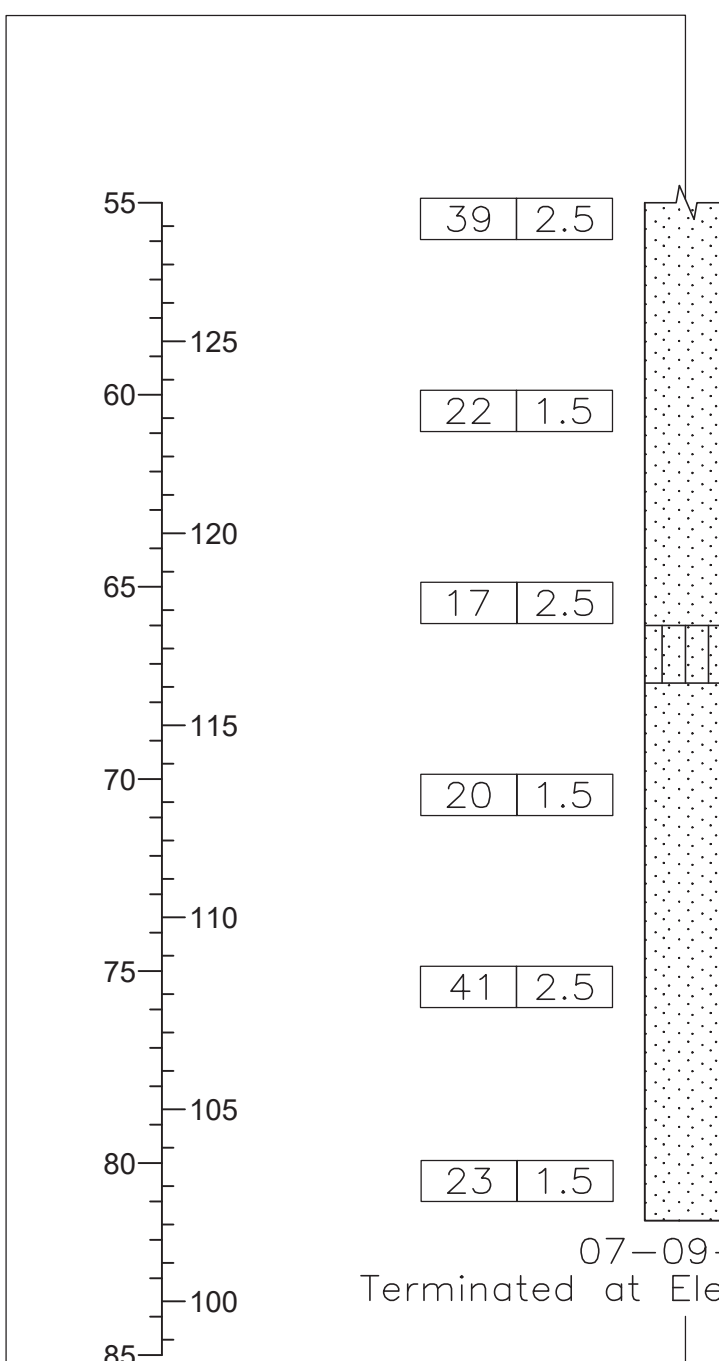
SILTY SAND (SM); fine-grained; very dense; pale brown; moist; non-plastic

LEAN CLAY (CL); firm; brownish gray; moist; low plasticity

CLAYEY SAND (SC); fine to medium-grained; medium dense; pale brown; moist; non-plastic to low plasticity

LEAN CLAY (CL); firm to hard; pale brown; moist; low plasticity

POORLY-GRADED SAND (SP); fine to coarse-grained; medium dense to dense; light brownish gray; moist; non-plastic



light brownish gray to brown; trace fines

SILTY SAND (SM); fine-grained; medium dense; reddish brown; moist; non-plastic

POORLY-GRADED SAND (SP); fine to coarse-grained; medium dense to dense; light brownish gray; moist; non-plastic

brown

light brownish gray

07-09-15
Terminated at Elev. = 102.1 ft

MANNING AVENUE (WEST BRIDGE)

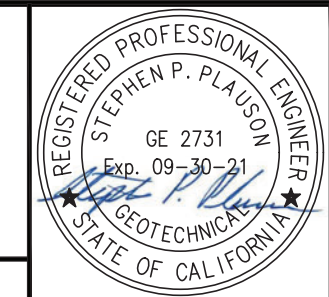
ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

REVISION	DATE	BY
FIELD INVESTIGATION	T. DeSOUZA	As Shown
DRAWN	D. FAHRNEY	
CHECKED	N. POPENOE	

Scale	AS SHOWN
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3731 W Ashcroft Ave
Fresno, California 93722
559.486.0750



PROJECT

JAMES BYPASS WEST CHANNEL BRIDGE AT MANNING AVENUE

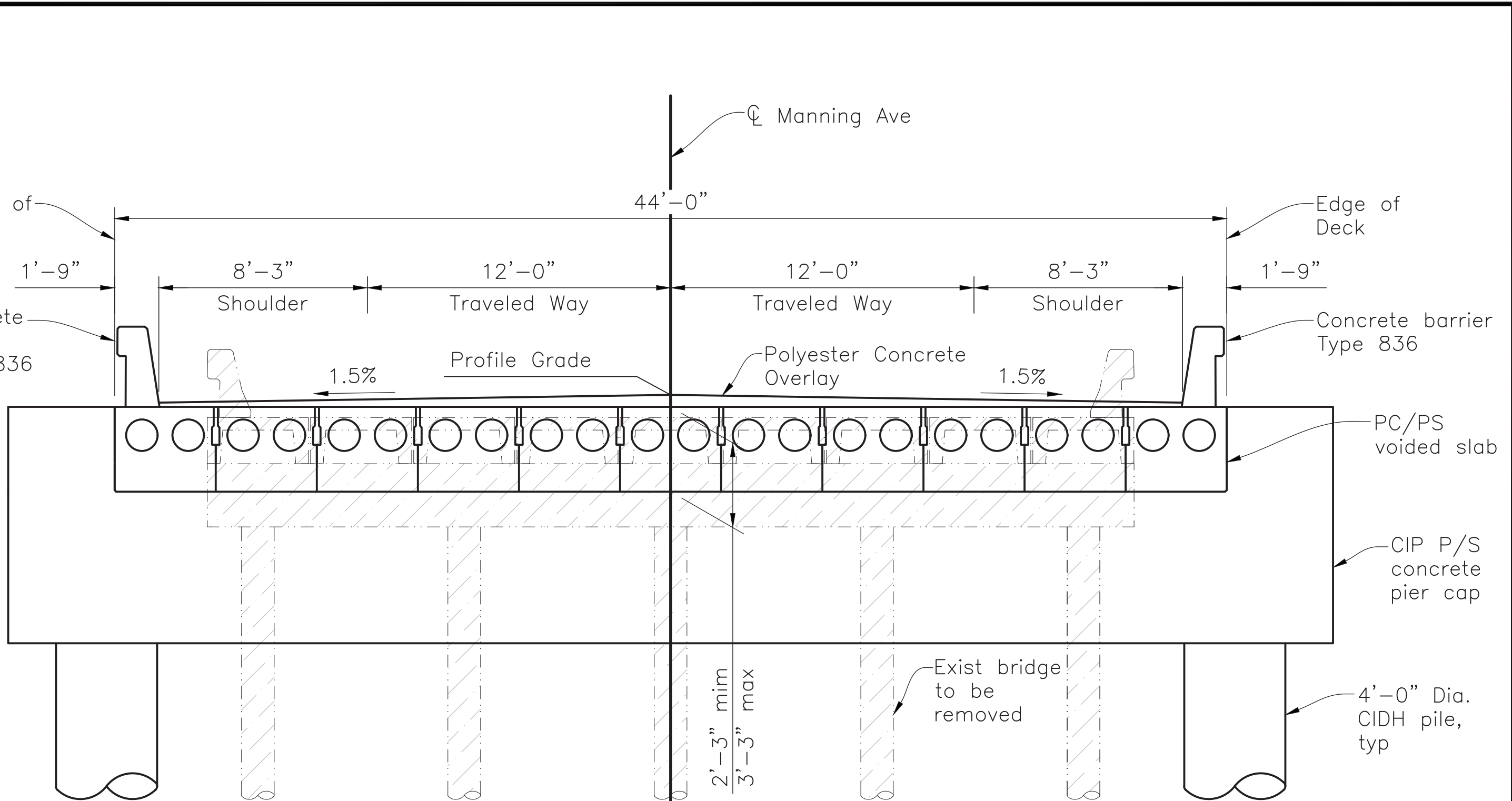
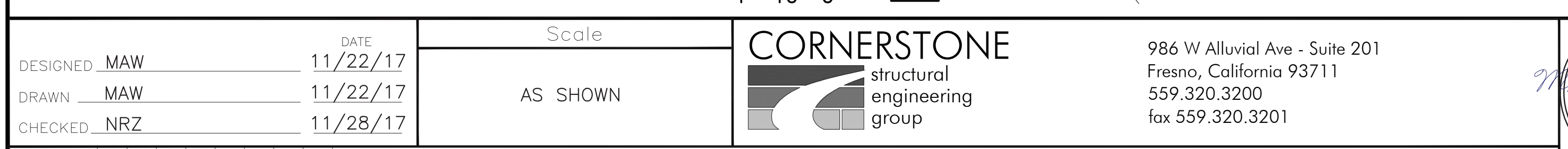
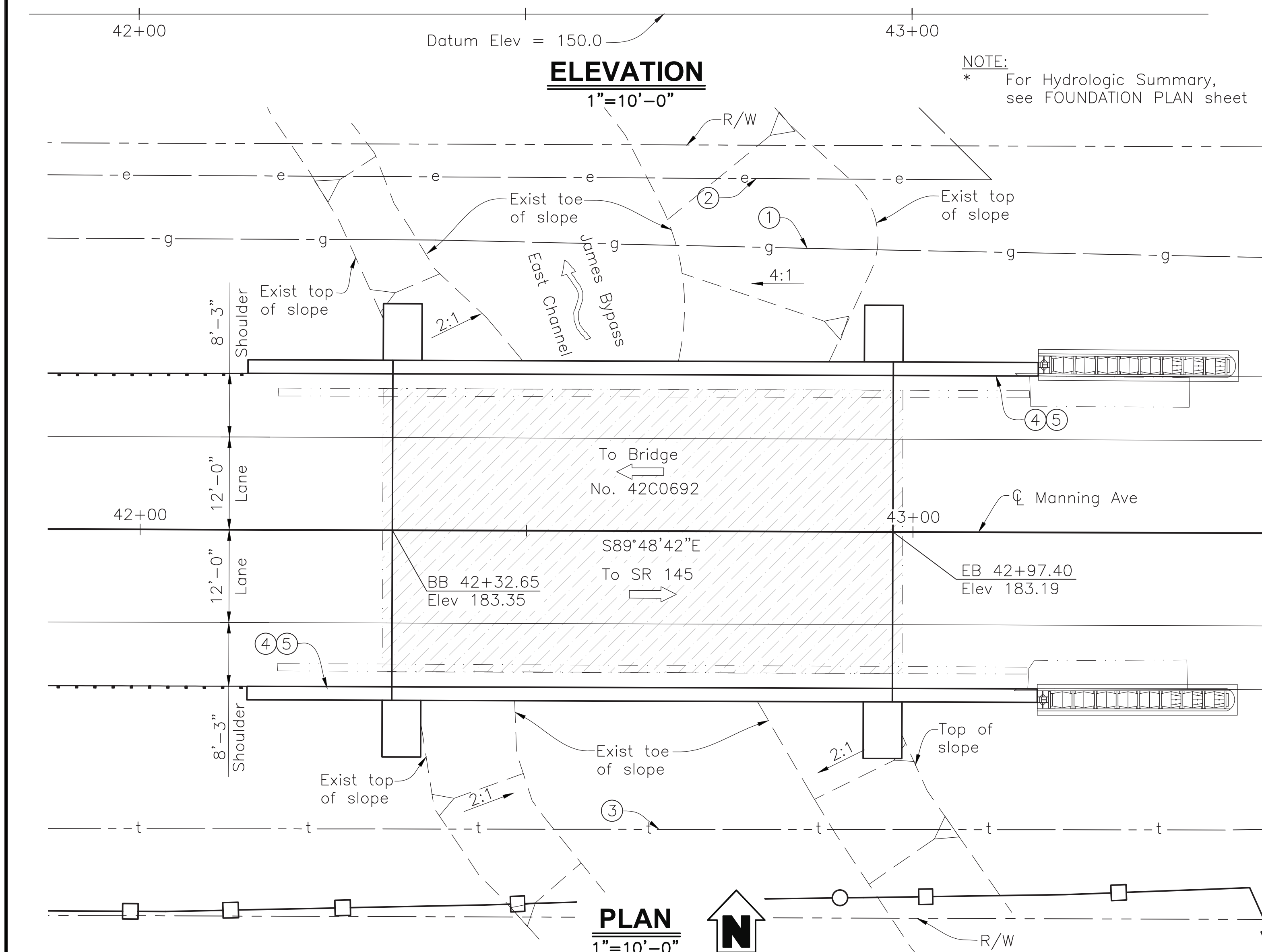
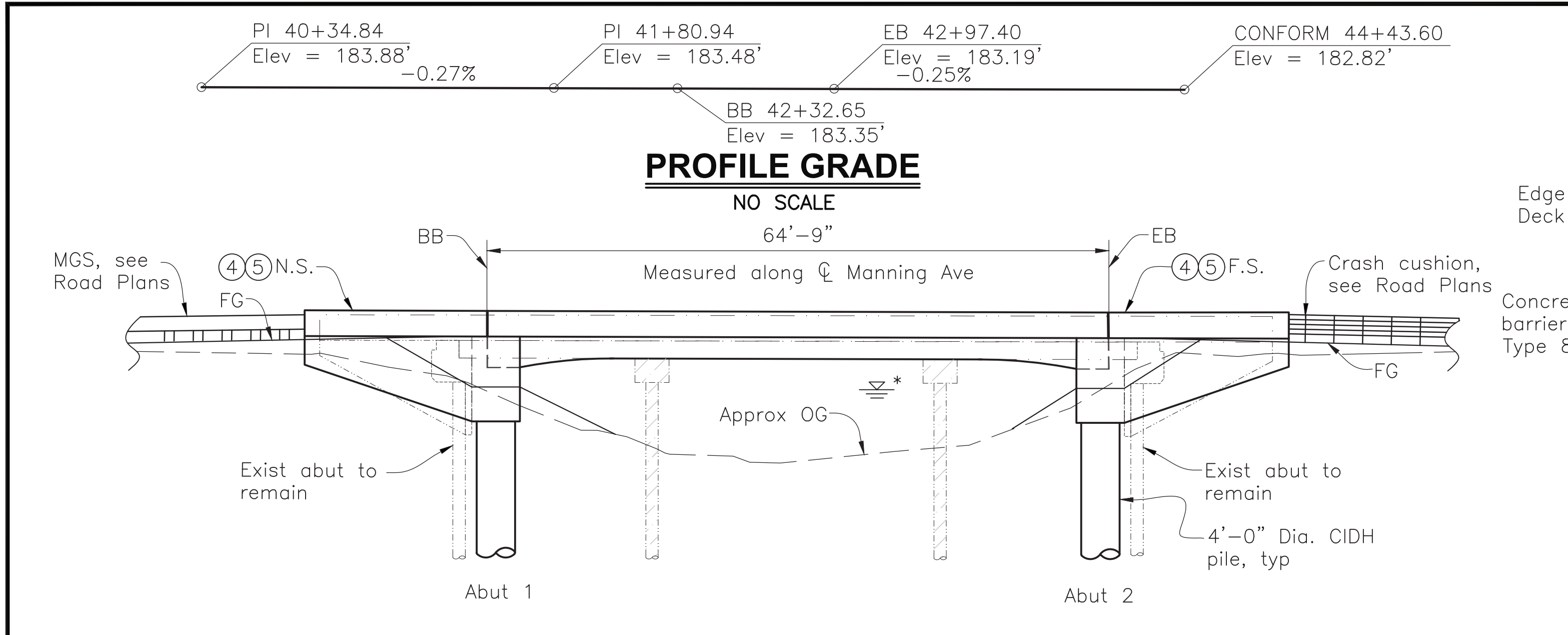
Road No. S0900 Bridge No. 42C0691



DEPARTMENT OF PUBLIC WORKS & PLANNING

LOG OF TEST BORINGS No. 2 BR. No. 42C0691

Drawing No. 11308 Sheet No. S-14 (24) of 35



- Legend:**
- ① Existing 5" gas main to remain (PG&E)
 - ② Existing overhead electric line to remain (PG&E)
 - ③ Existing overhead telephone line to remain (Frontier)
 - ④ Paint "James Bypass East Channel"
 - ⑤ Paint "Br. No. 42C0692"

- Indicates direction of traffic
- ▨ Indicates existing structure to be removed
- ⊙ B0-3 indicates Caltrans standard plan sheet no.
- ⊙ 3-1 indicates detail no.

CALTRANS STANDARD PLANS DATED OCTOBER 2015

- A3A ABBREVIATIONS (SHEET 1 OF 3)
- A3B ABBREVIATIONS (SHEET 2 OF 3)
- A3C ABBREVIATIONS (SHEET 3 OF 3)
- A10A LINES AND SYMBOLS (SHEET 1 OF 5)
- A10B LINES AND SYMBOLS (SHEET 2 OF 5)
- A10C LINES AND SYMBOLS (SHEET 3 OF 5)
- A10D LINES AND SYMBOLS (SHEET 4 OF 5)
- A10E LINES AND SYMBOLS (SHEET 5 OF 5)
- RSP B0-3 BRIDGE DETAILS
- RSP B8-5 CAST-IN-PLACE POST-TENSIONED GIRDER DETAILS

CALTRANS STANDARD PLANS DATED OCTOBER 2018

- RSP B11-79 CONCRETE BARRIER TYPE 836 DETAILS NO. 1
- RSP B11-80 CONCRETE BARRIER TYPE 836 DETAILS NO. 2

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

- NOTES:**
1. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGNED	MAW	DATE	11/22/17
DRAWN	MAW	DATE	11/22/17
CHECKED	NRZ	DATE	11/28/17

Scale	AS SHOWN
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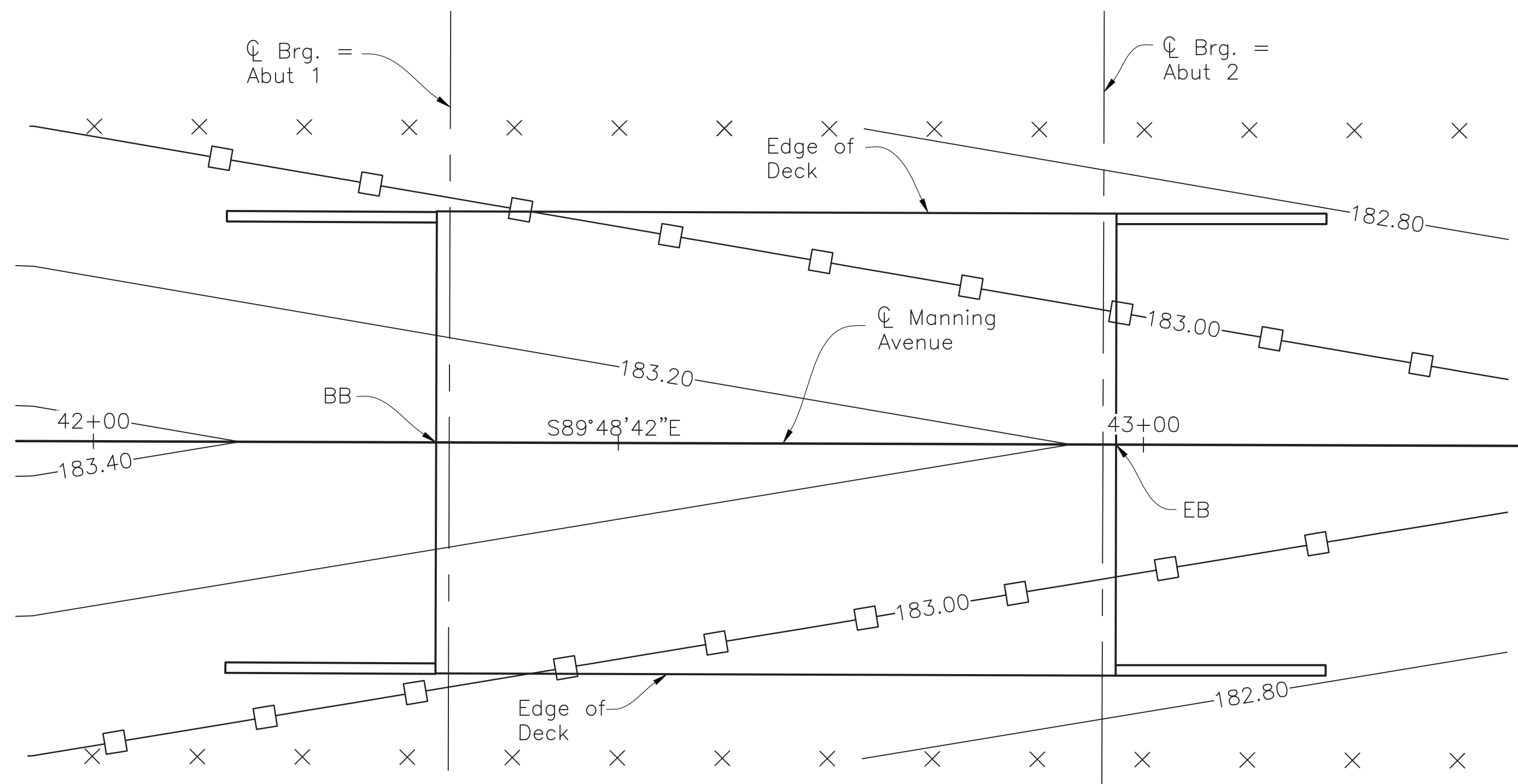
CORNERSTONE
structural engineering group
986 W Alluvial Ave - Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201



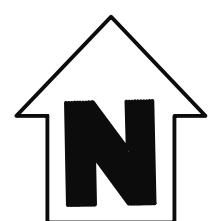
PROJECT
JAMES BYPASS EAST CHANNEL
BRIDGE AT MANNING AVENUE
Road No. S0900 Bridge No. 42C0692



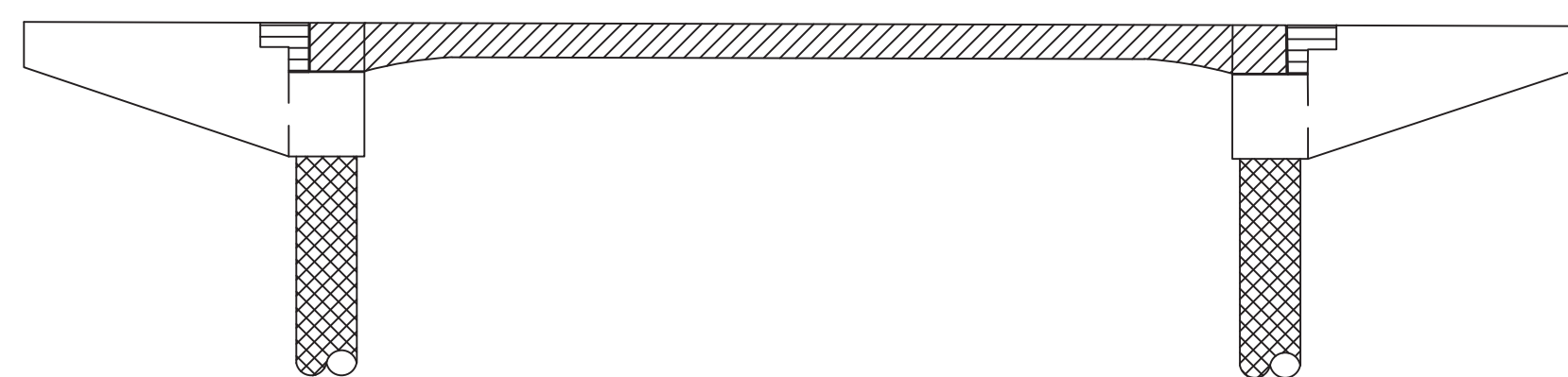
DEPARTMENT OF PUBLIC WORKS & PLANNING
GENERAL PLAN
BR. No. 42C0692
Drawing No. 11308 Sheet No. S-15 (25) of 35



DECK CONTOURS
1"=10'-0"



- Notes:
1. Contours indicate top of deck elevation.
 2. □ Indicates even foot contours.
 3. X Indicates 10 ft intervals measured along ϕ Manning Ave
 4. Contour interval = 0.2 ft
 5. Contours do not include camber or falsework deflection and settlement.

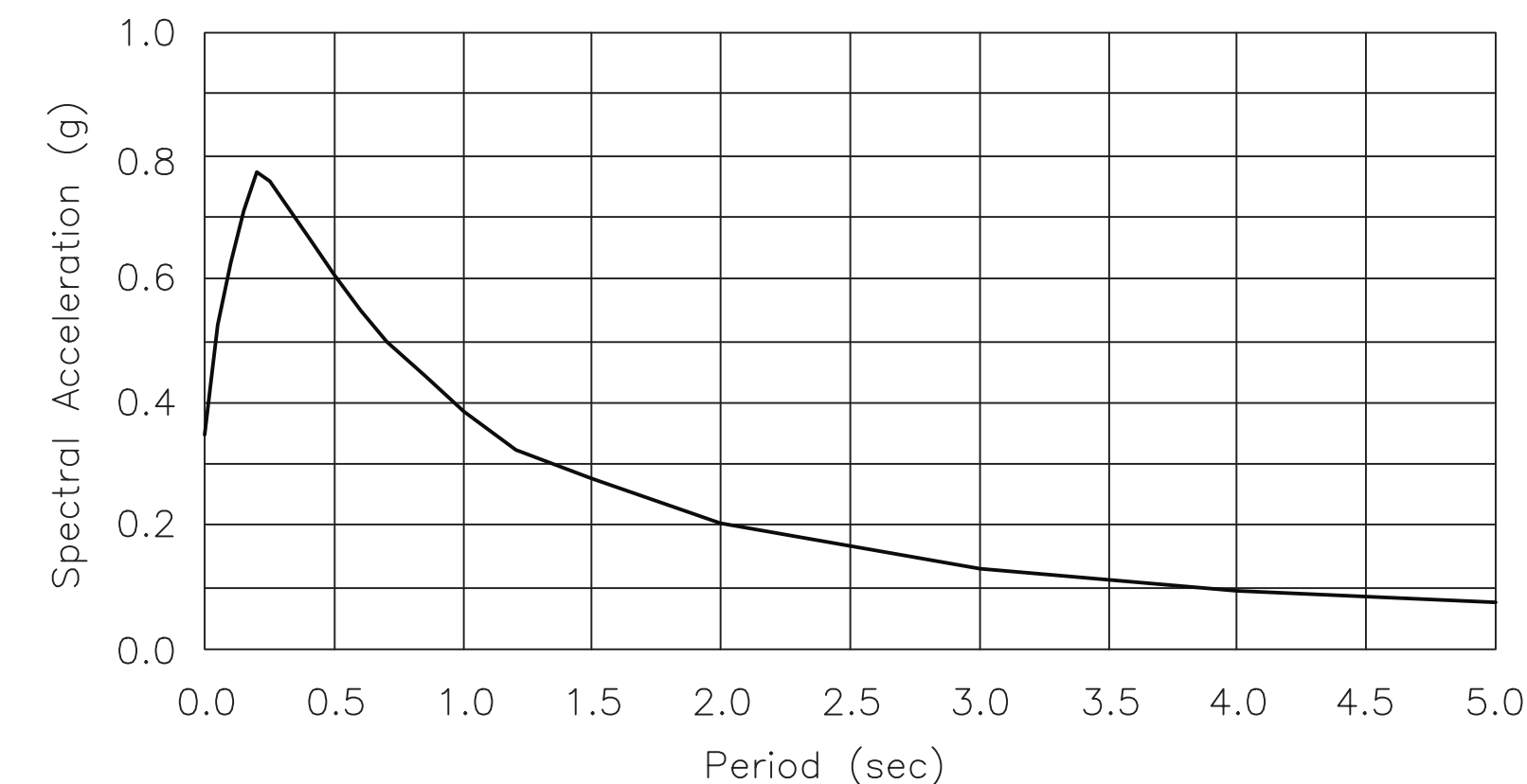


- Precast Prestressed Concrete Slab, see "Prestressing Notes" on GIRDER LAYOUT sheet
- Indicates Rapid Setting Concrete ($f'c = 5.0$ ksi at 28 days)
- Indicates Structural Concrete, Bridge ($f'c = 5.0$ ksi at 28 days)
- Indicates CIDH Piling ($f'c = 3.6$ ksi at 28 days)

CONCRETE STRENGTH & TYPE LIMITS
NO SCALE

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

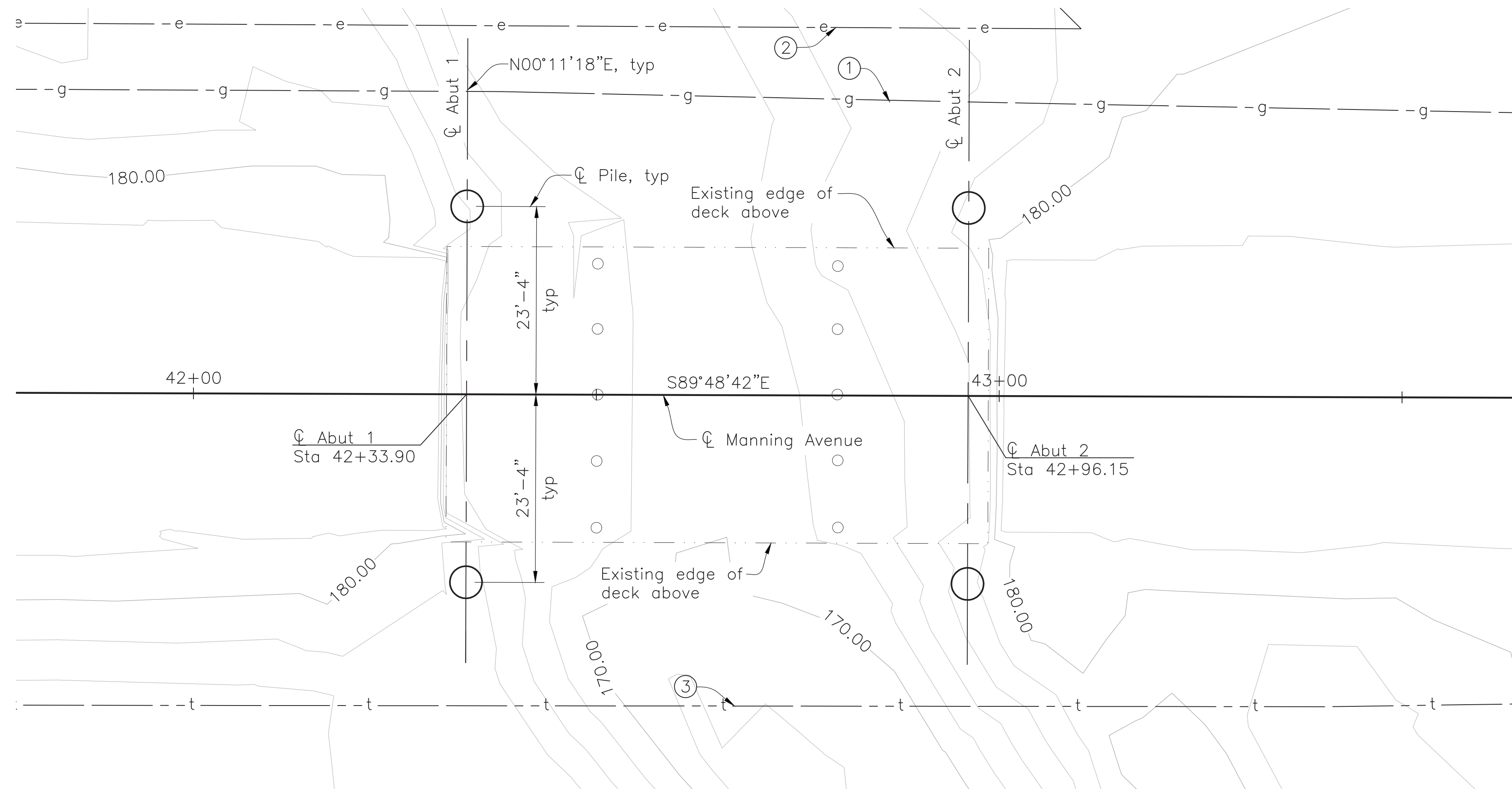
- DESIGN: AASHTO LRFD Bridge Design Specifications, 6th Edition with the Caltrans Amendments.
- SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), Version 1.7 dated April 2013
- DEAD LOAD: Includes 35 psf for future wearing surface.
- LIVE LOADING: HL93 & Permit Design Vehicle.
- SEISMIC LOADING: $V_{s30} = 266$ m/s
Moment Magnitude: 6.5
Peak Ground Acceleration 0.34g
5% Damping



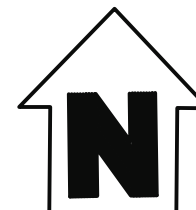
ACCELERATION
RESPONSE SPECTRUM

- REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'c =$ See "Concrete Strength & Limits" on this sheet
- PRESTRESSED CONCRETE: See "Prestressing Notes" on ABUTMENT LAYOUT No. 2 & GIRDER LAYOUT sheets

DESIGNED <u>MAW</u>	DATE <u>11/22/17</u>	Scale	AS SHOWN		986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT JAMES BYPASS EAST CHANNEL BRIDGE AT MANNING AVENUE		DEPARTMENT OF PUBLIC WORKS & PLANNING DECK CONTOURS BR. No. 42C0692
DRAWN <u>TZE</u>	DATE <u>11/22/17</u>			FOR R/W DATA AND ACCURATE ACCESS DETERMINATION SEE R/W RECORDS AT PUBLIC WORKS		Road No. S0900	Bridge No. 42C0692	Drawing No. 11308 Sheet No. S-16 (26) of 35	
CHECKED <u>NRZ</u>	DATE <u>11/28/17</u>					ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN			



FOUNDATION PLAN
1"=10'-0"



LEGEND:

- Indicates existing pile to be removed
- 4'-0" CIDH Pile
- ① Existing 5" gas main to be remain
- ② Existing overhead electric line to be relocated
- ③ Existing overhead telephone line to remain

BASIS OF VERTICAL CONTROL:

LG 97 1/2, A USC&GS BRASS CAP STAMPED S1039 1959, LOCATED ON THE SOUTHEAST CORNER OF MANNING AVENUE AND YUBA AVENUE, 35.5 FEET SOUTH OF THE CENTERLINE OF MANNING AVENUE, 63.3 FEET SOUTHEAST OF THE SECTION CORNER, AND 5.4 FEET EAST OF THE CORNER OF A WOODEN FENCE POST, HAS AN NGVD29 ELEVATION OF 169.573 FEET PER COUNTY OF FRESNO BENCHMARK RECORDS.

BASIS OF BEARINGS:

THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 25, TOWNSHIP 15 SOUTH, RANGE 16 EAST, M.D.B.&M., BEARS N88°33'07"E PER 2014 COUNTY OF FRESNO PRELIMINARY SURVEY OF MANNING AVENUE FROM PLACER AVENUE TO 1.38 MILES WEST OF LASSEN AVENUE (FEDERAL OVERLAY PROJECT).

HYDROLOGIC DATA

	Design Flood	Base Flood
Frequency (years)	100	>100
Discharge (cubic feet per second)	4,750	8,500
Water surface (elevation at bridge in feet)	176.7	177.3

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the County of Fresno or Cornerstone Structural Engineering Group and interested or affected parties should make their own investigation. Flood plain data are based on the Design Hydraulic Study Report by Avila & Associates dated May 31, 2016.

SCOUR DATA TABLE

Support	Long Term (Degradation and Contraction) Scour Elevation (ft)	Short Term (Local) Scour Depth (ft)
Abut 1	N/A	10
Abut 2	N/A	10

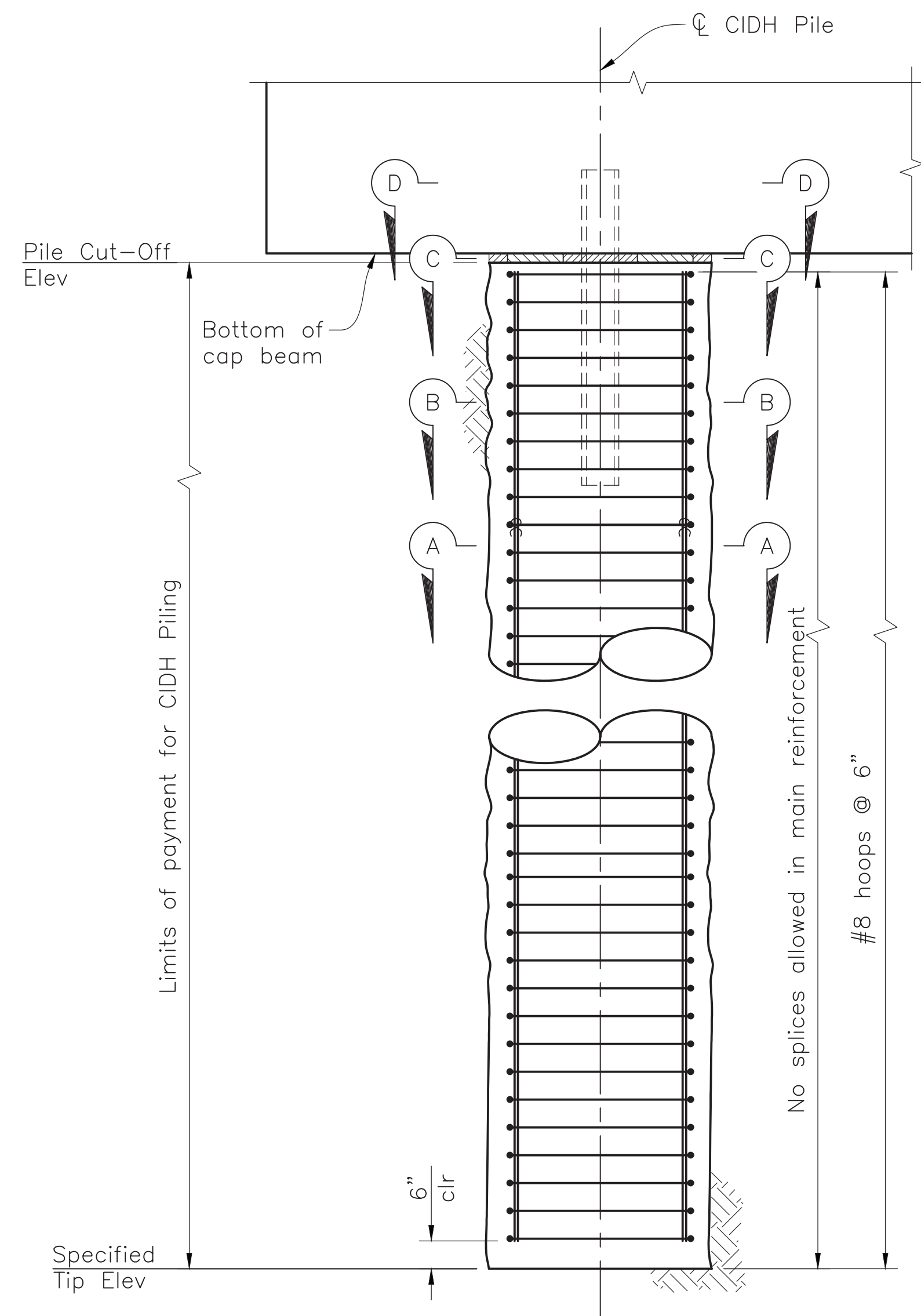
PILE DATA TABLE

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elev (ft)	Specified Tip Elev (ft)	Cutoff Elev (ft)
		Compression	Tension			
Abut 1	48" CIDH	840	0	128.0(a), 150.0(c), 146.0(d)	128.0	174.4
Abut 2	48" CIDH	840	0	134.0(a), 152.0(c), 146.0(d)	134.0	174.3

1. Design tip elevation is controlled by the following demands: (a) Compression (b) Tension (c) Settlement (d)Lateral Load.
2. The CIDH specified tip elevation shall not be raised.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

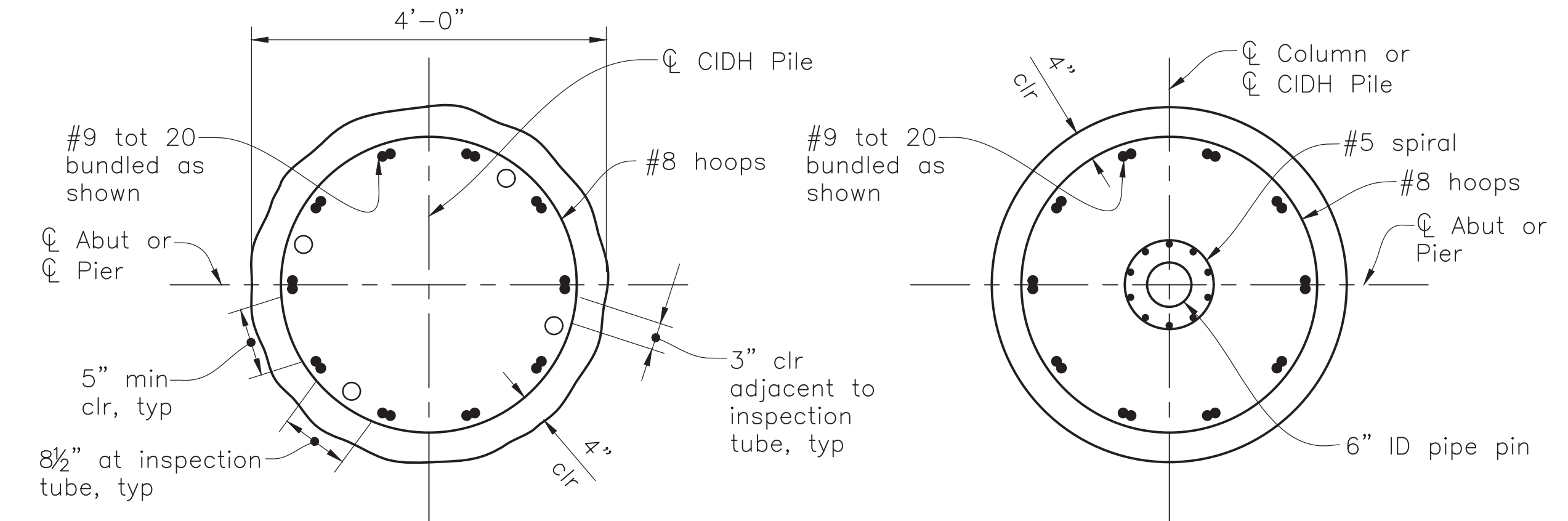
DESIGNED <u>MAW</u> DRAWN <u>EJM</u> CHECKED <u>NRZ</u>	DATE 11/22/17 11/22/17 11/28/17	Scale AS SHOWN		986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT JAMES BYPASS EAST CHANNEL BRIDGE AT MANNING AVENUE Road No. S0900 Bridge No. 42C0692		DEPARTMENT OF PUBLIC WORKS & PLANNING FOUNDATION PLAN BR. No. 42C0692 Drawing No. S-17(27) of 35
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ABUT CIDH PILE ELEVATION
1/2" = 1'-0"

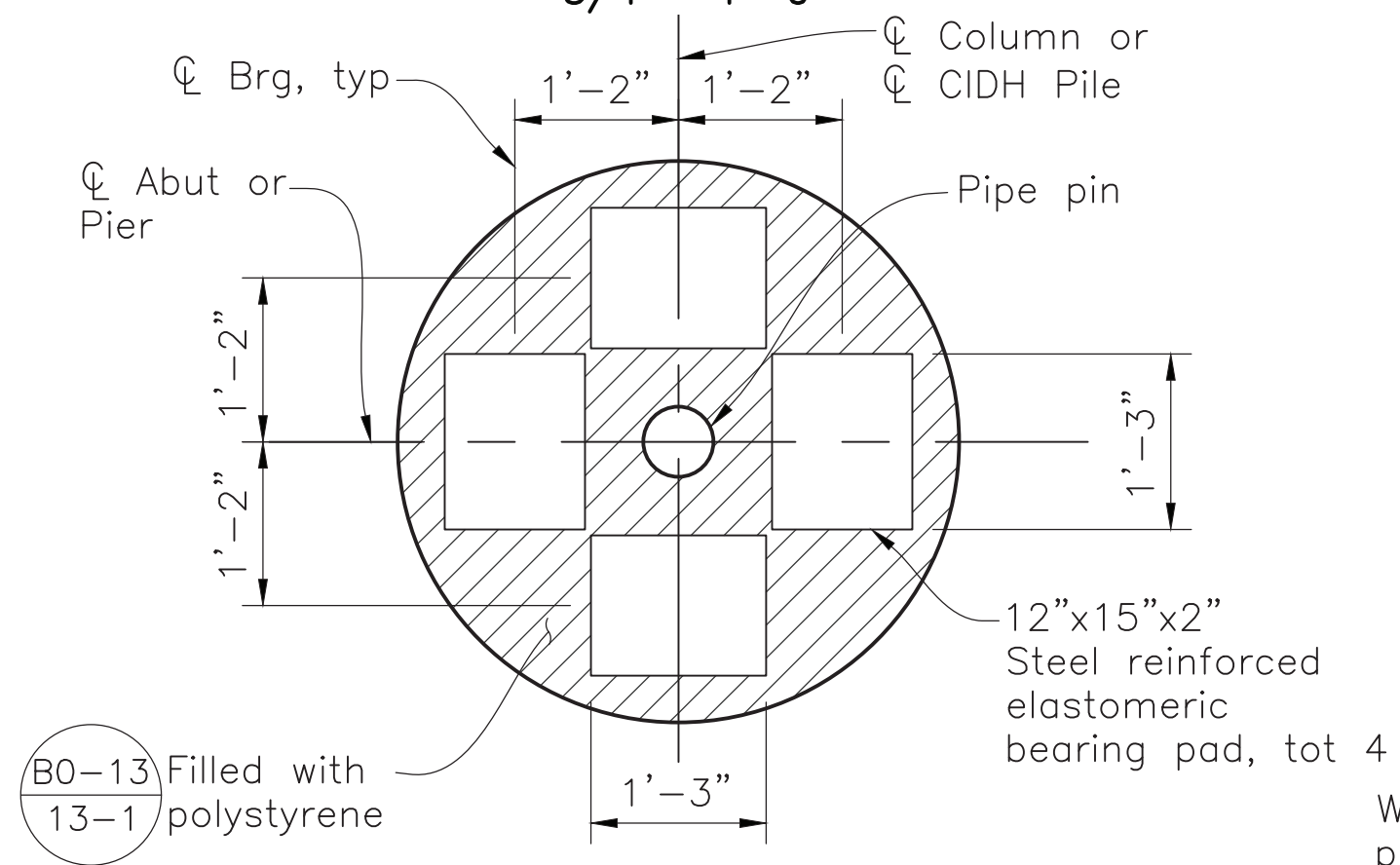
- NOTES:**
- Contractor shall verify all controlling field dimensions before ordering or fabricating any material.
 - All hoops shall be spliced with ultimate butt welded splices.

⊖⊖ Indicates bundled bars

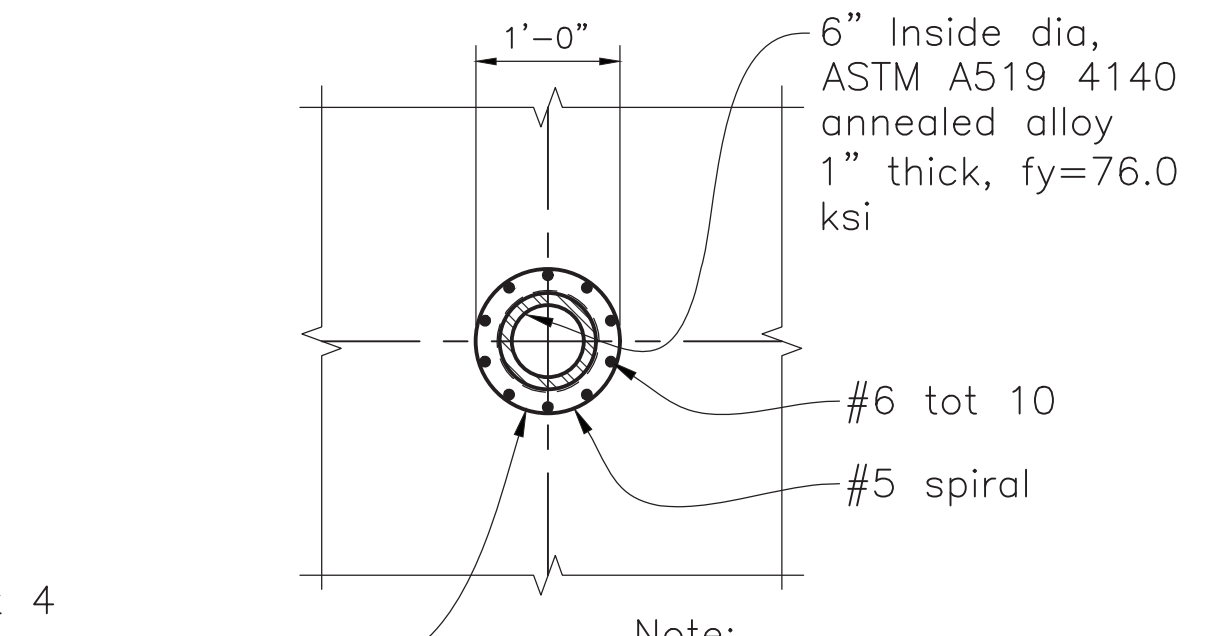


SECTION A-A
3/4" = 1'-0"

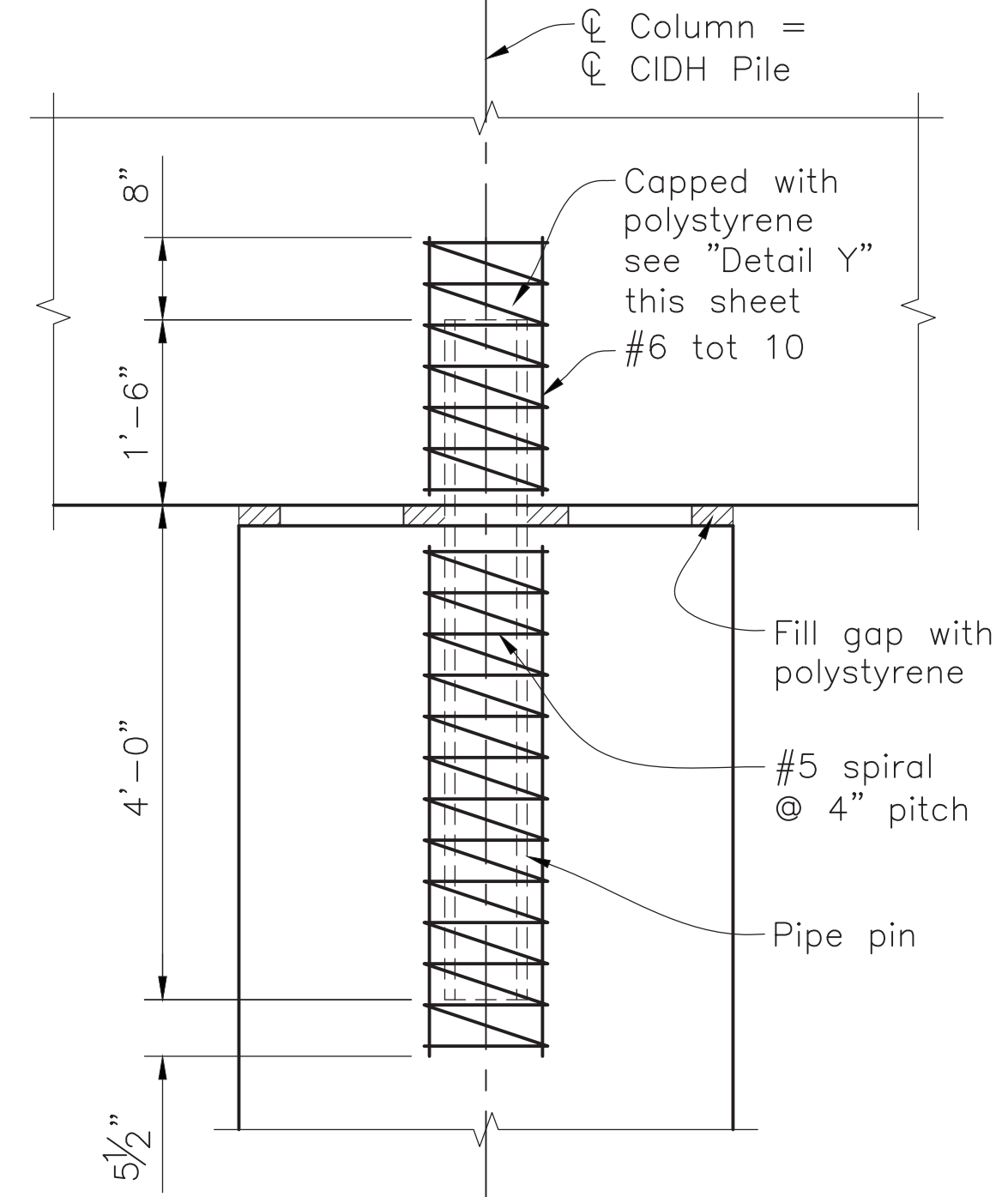
SECTION B-B
3/4" = 1'-0"



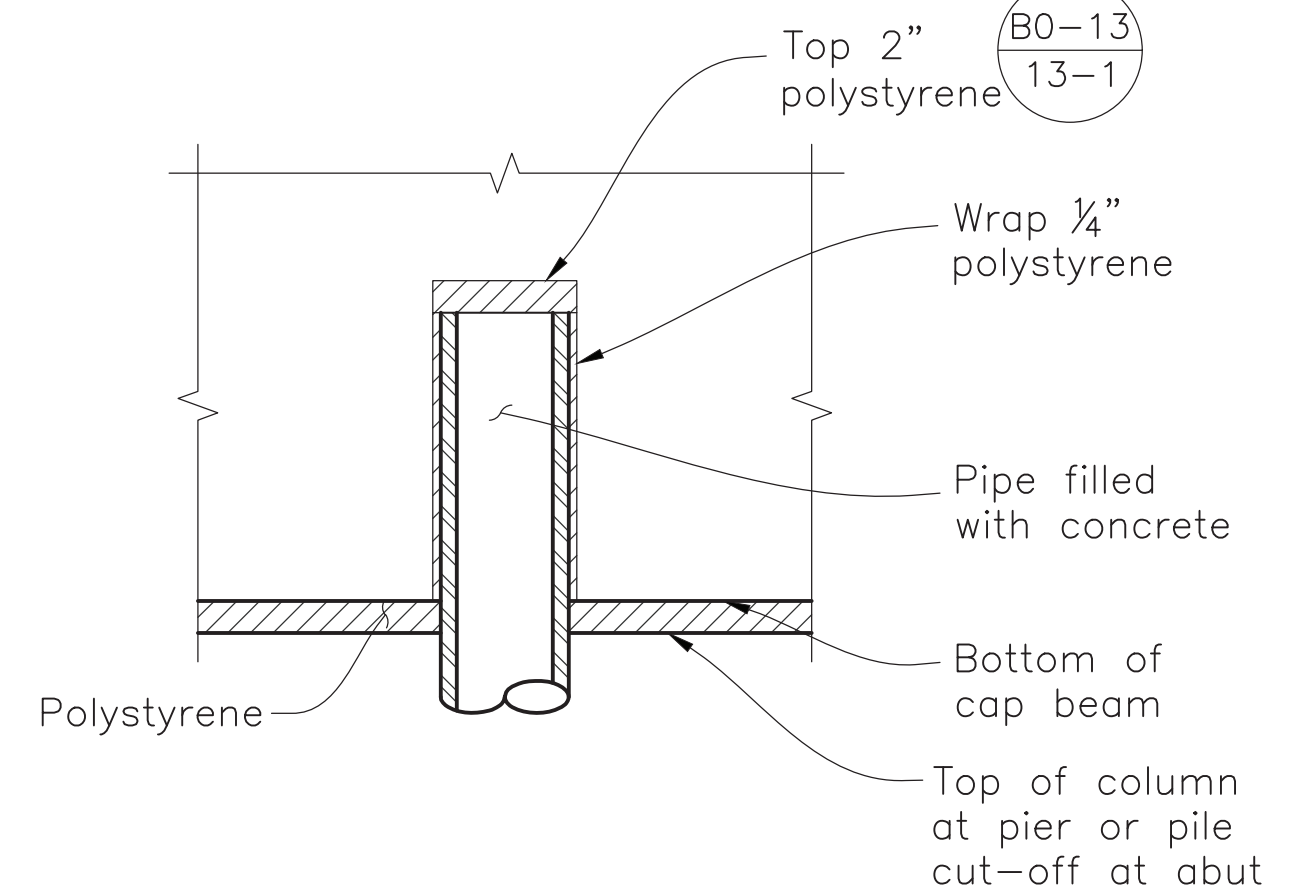
SECTION C-C
3/4" = 1'-0"



SECTION D-D
1" = 1'-0"



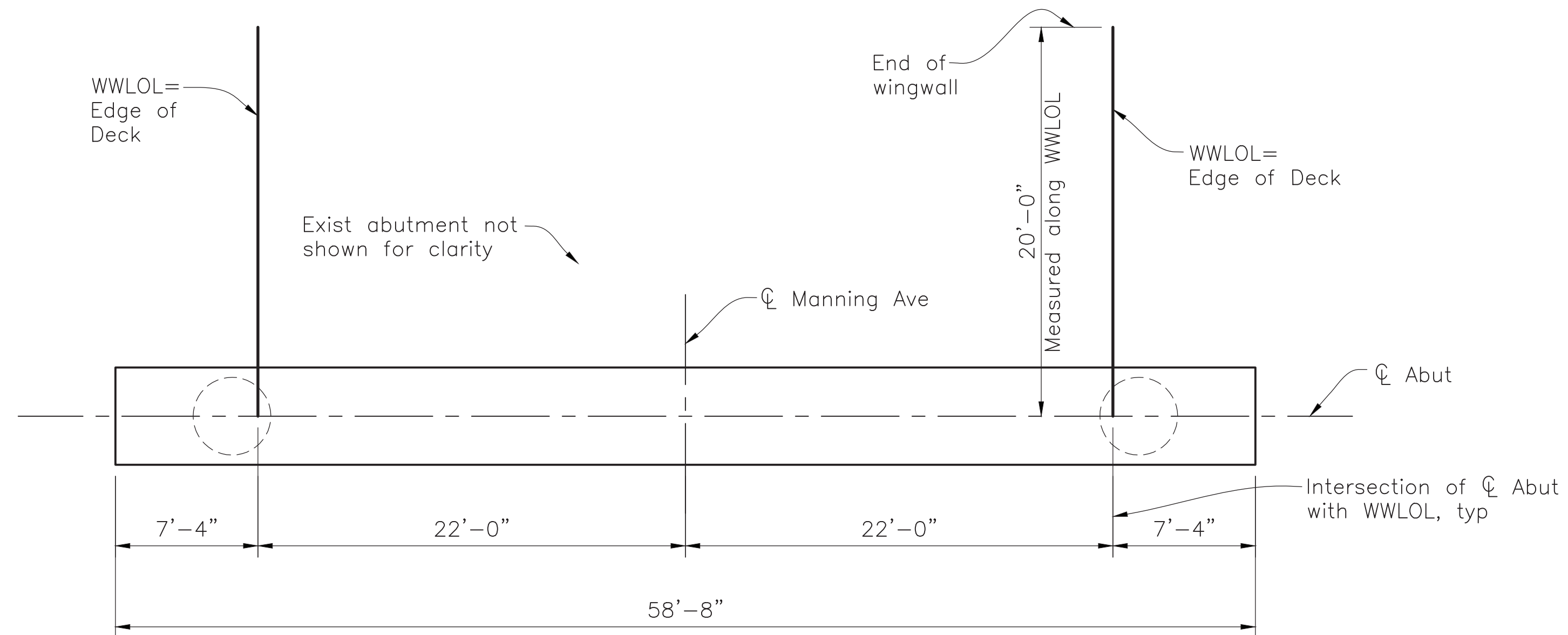
DETAIL Z
3/4" = 1'-0"



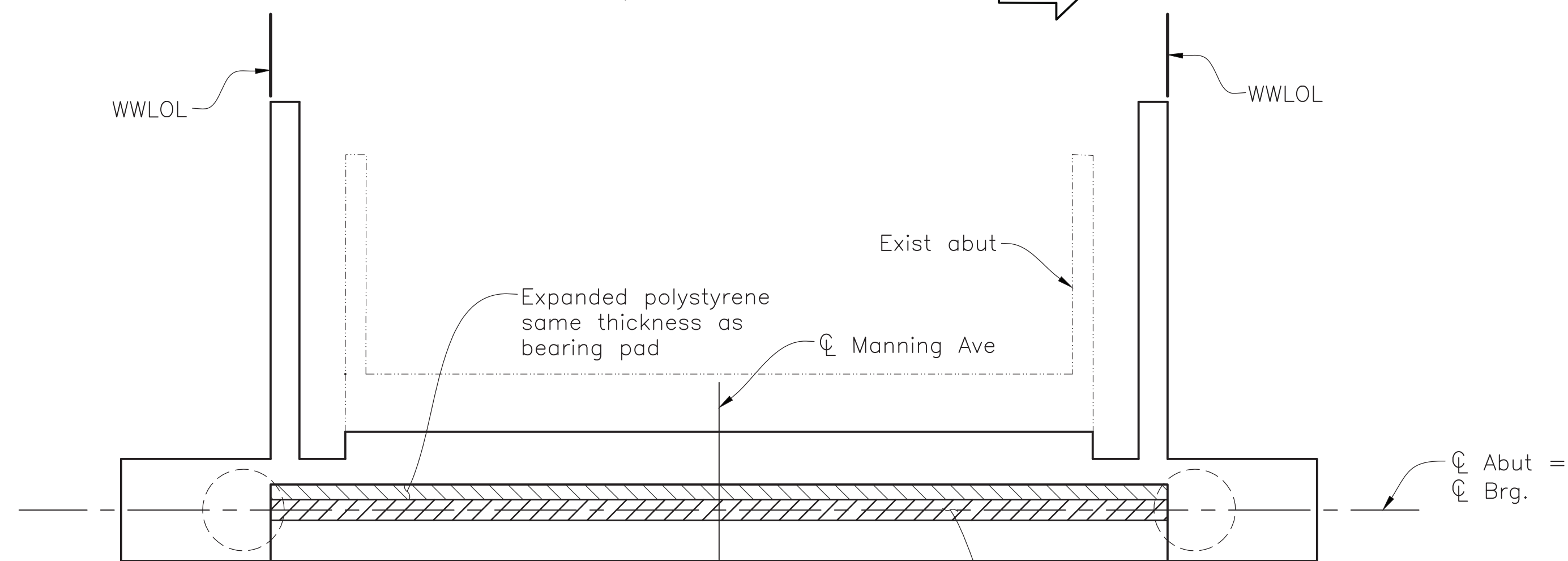
DETAIL Y
NO SCALE

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

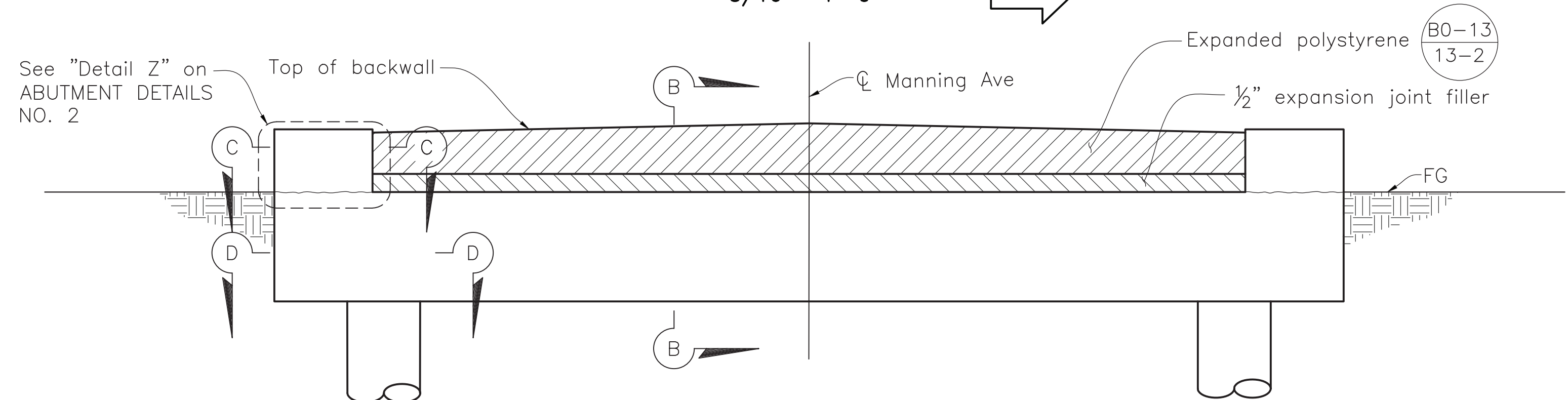
DESIGNED <u>MAW</u>	DATE <u>11/22/17</u>		986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT		DEPARTMENT OF PUBLIC WORKS & PLANNING
DRAWN <u>TZE</u>	DATE <u>11/22/17</u>				JAMES BYPASS EAST CHANNEL BRIDGE AT MANNING AVENUE		PILE DETAILS BR. No. 42C0692
CHECKED <u>NRZ</u>	DATE <u>11/28/17</u>				Road No. S0900		Bridge No. 42C0692
REVISION							



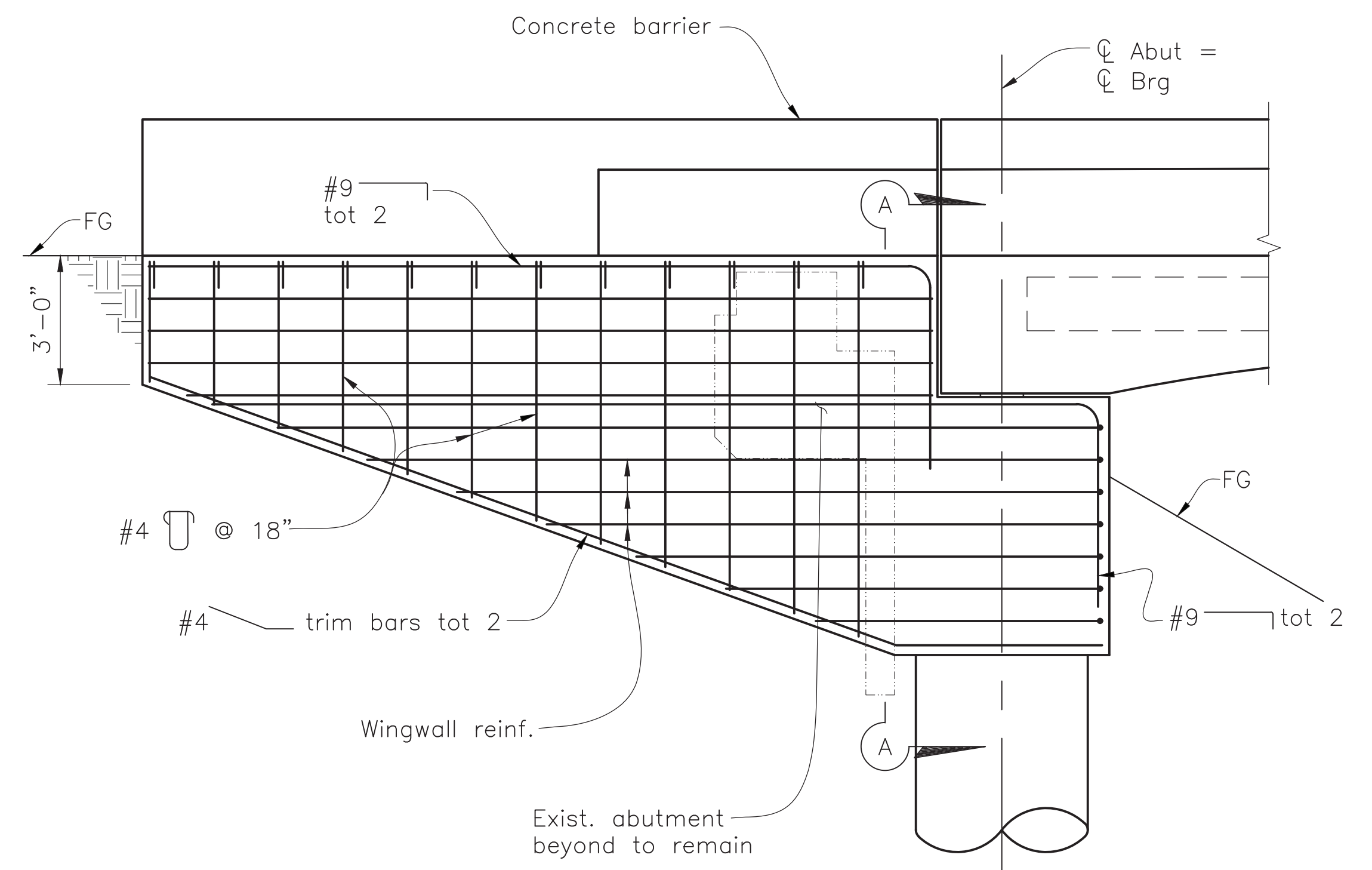
ABUTMENT FOOTING PLAN
3/16" = 1'-0"



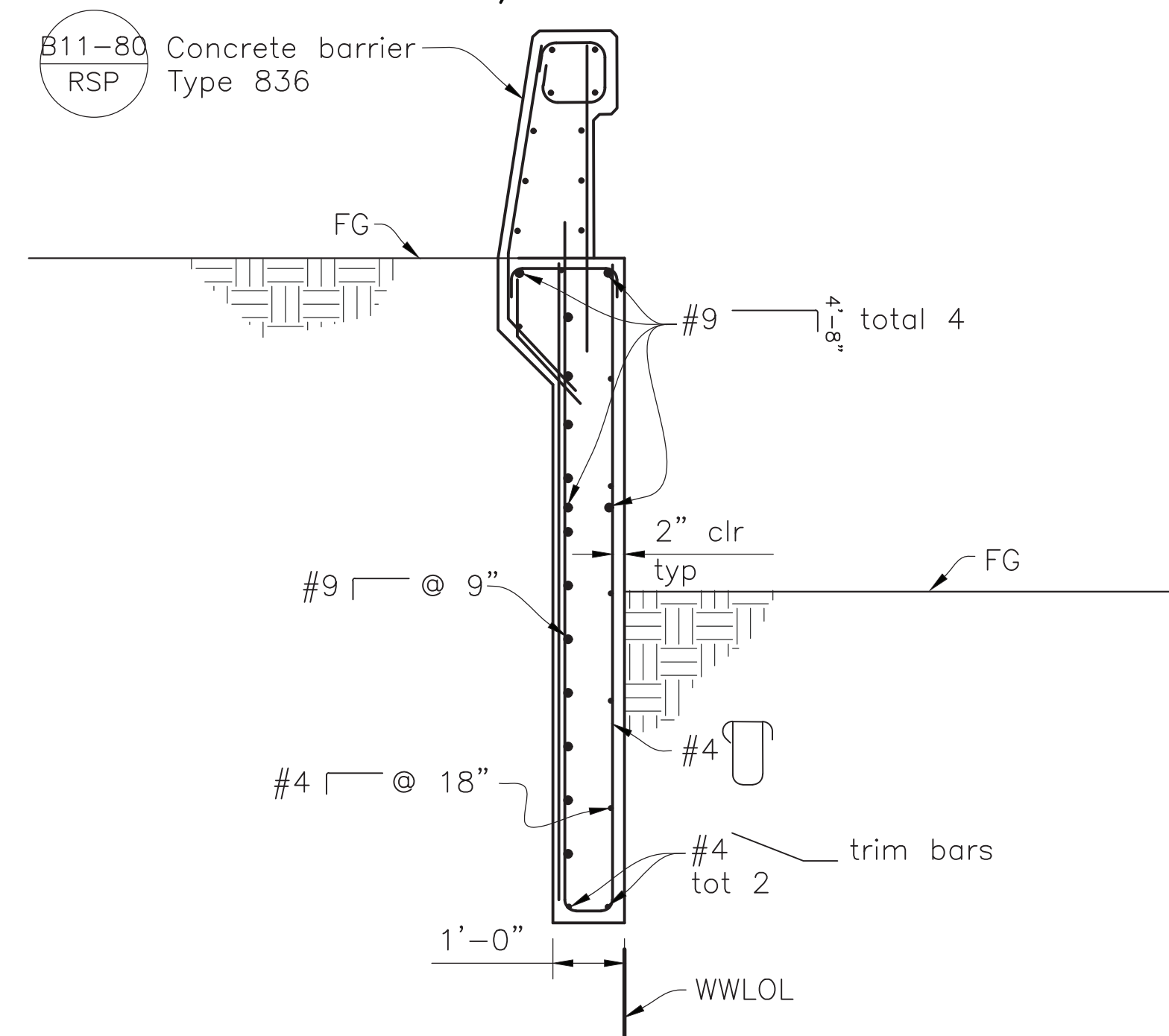
ABUTMENT PLAN
3/16" = 1'-0"



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



WINGWALL ELEVATION
3/8" = 1'-0"



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

- NOTES:**
- Layout at Abutment 1 is shown, Abutment 2 is similar.
 - For "Section B-B" through "D-D" see ABUTMENT DETAILS NO. 2 sheet.
 - Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

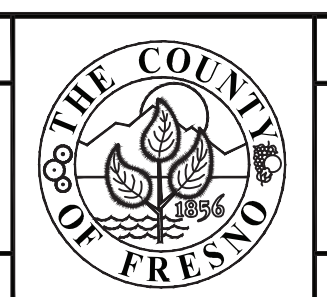
DESIGNED	MAW	DATE	11/22/17
DRAWN	IZE	DATE	11/22/17
CHECKED	NRZ	DATE	11/28/17

Scale	AS SHOWN
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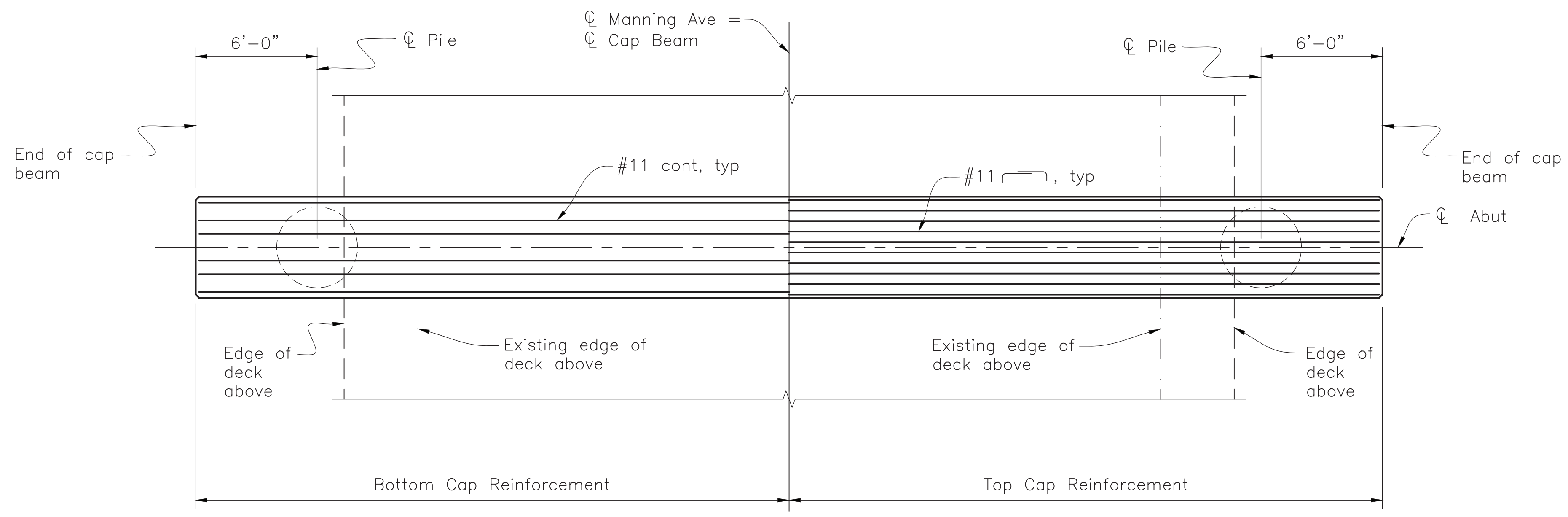
CORNERSTONE
structural engineering group
986 W Alluvial Ave - Suite 201
Fresno, California 93711
559.320.3200
fax 559.320.3201



PROJECT	JAMES BYPASS EAST CHANNEL BRIDGE AT MANNING AVENUE
Road No.	S0900
Bridge No.	42C0692

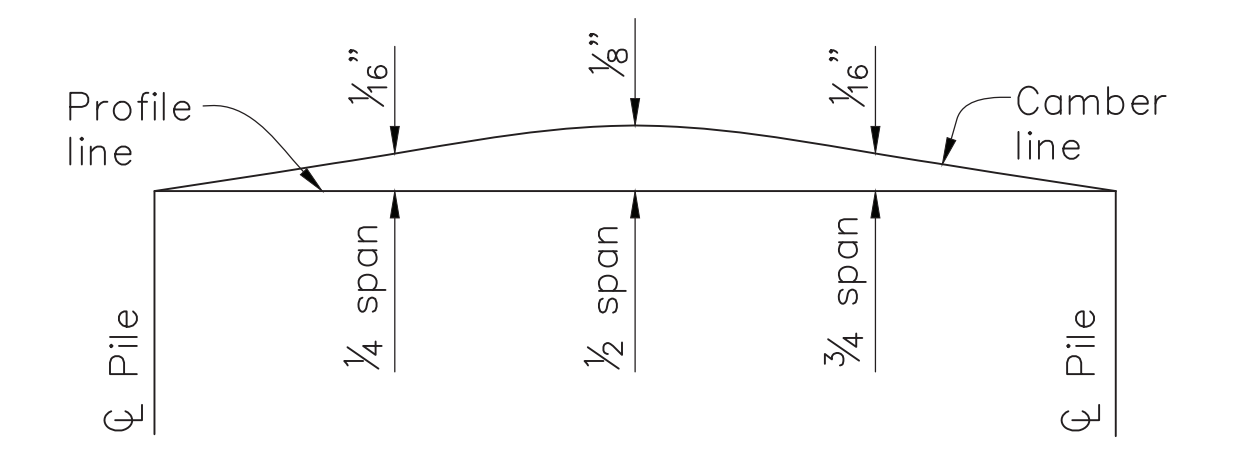


DEPARTMENT OF PUBLIC WORKS & PLANNING	
ABUTMENT LAYOUT BR. No. 42C0692	
Drawing No. 11308	Sheet No. S-19 (29) of 35



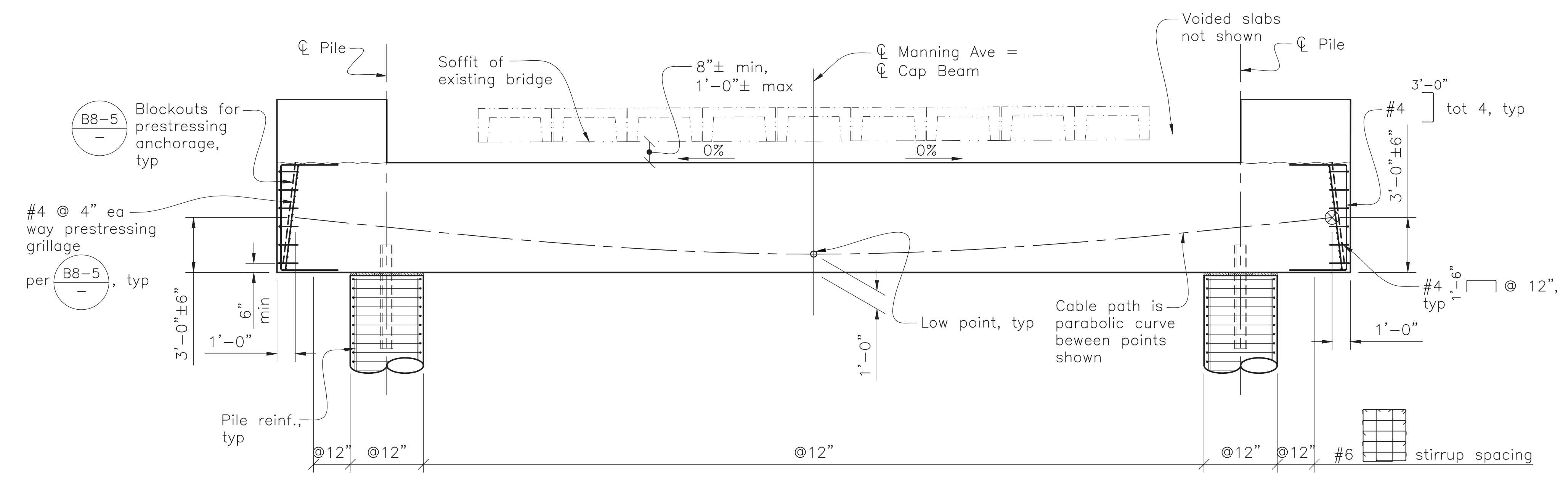
PLAN
1/4" = 1'-0"

- Notes:**
1. Place abutment beam cap stirrups normal to CL Abut and space along CL Abut.
 2. Details and reinforcement are symmetrical about CL Manning Ave.
 3. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.
 4. Not all abutment beam cap reinf. shown for clarity.



CAMBER DIAGRAM
NO SCALE

Does not include allowance for falsework settlement.

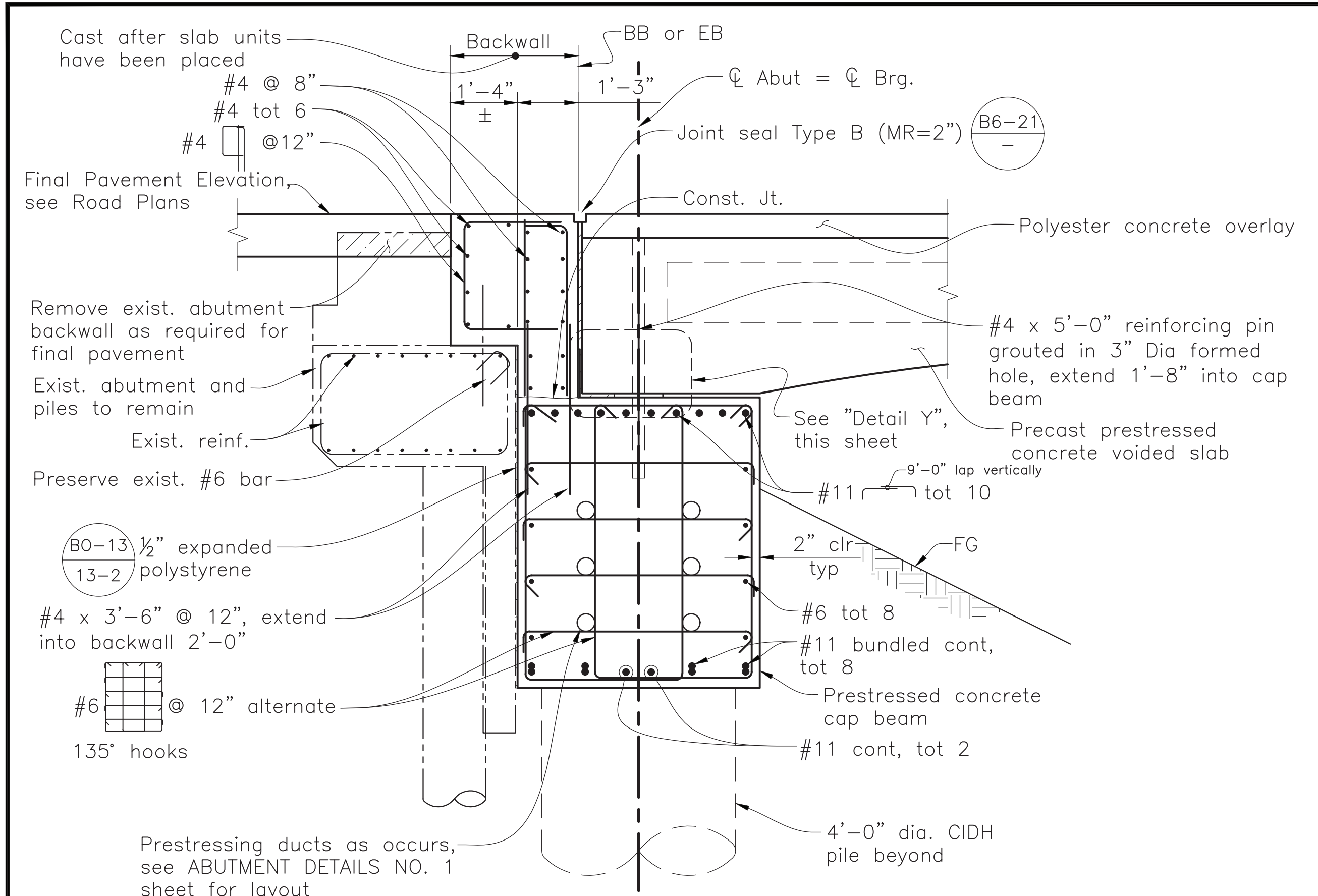


ELEVATION
1/4" = 1'-0"

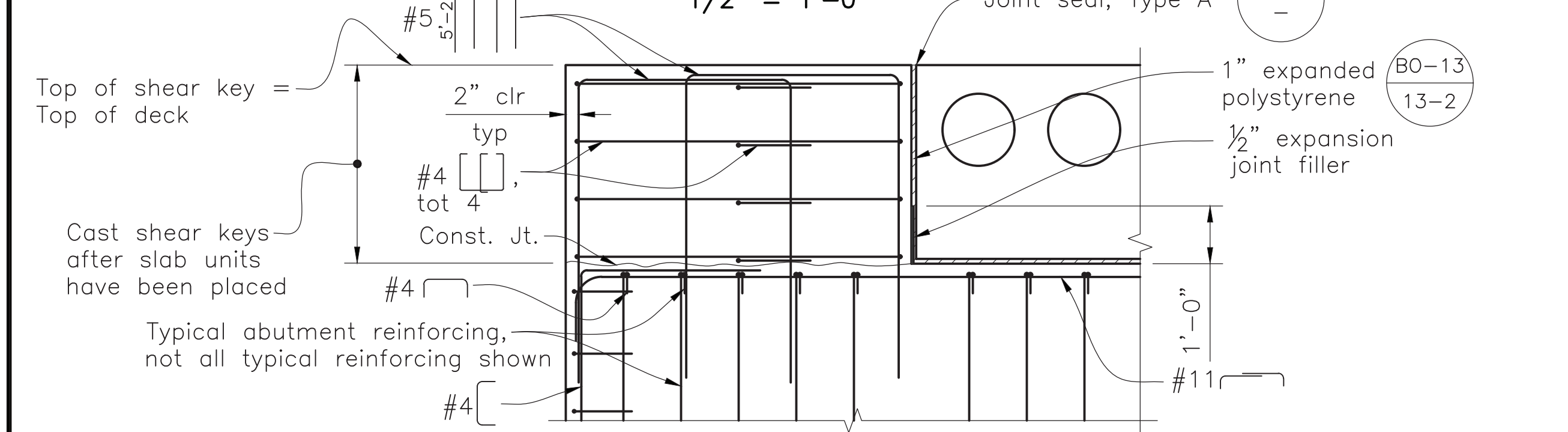
- Prestressing Notes:**
1. Design based on 270 ksi low relaxation strand.
 2. Prestressing Force
 $P_{jack} = 3,170$ kips
 Stressing shall be performed from one end only
 Anchor Set = $\frac{3}{8}$ inch
 3. Prestressing force shall be distributed uniformly within the limit of prestressing tendons in the bent cap.
 4. Bar reinforcement interfering with the prestress tendon alignment shall be adjusted as approved by the Engineer.
 5. At no time during the stressing operation shall more than $\frac{1}{6}$ of the total prestressing force be applied eccentrically about the centerline of the bent.
 6. Concrete: $f'_c = 5$ ksi @ 28 days
 $f'_{ci} = 4$ ksi @ time of stressing
 7. \otimes Denotes theoretical point of no movement
 8. Contractor shall submit elongation calculations based on initial stress at \otimes equal to 0.787 times jacking stress.
 9. Friction curvature coefficient $m = 0.15$ (1/rad). Friction wobble coefficient $K = 0.0002$ (1/ft)

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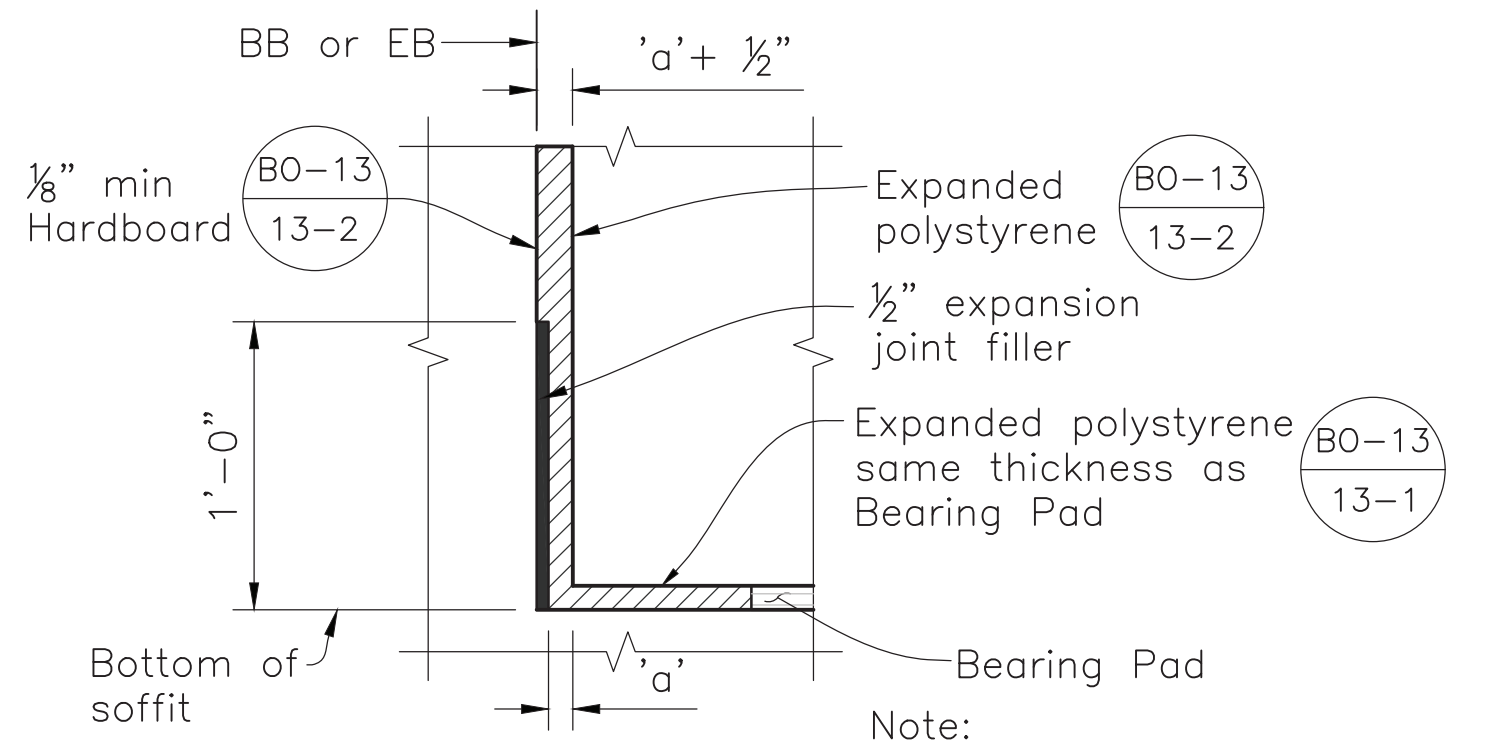
DESIGNED <u>MAW</u>	DATE <u>11/22/17</u>		986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT		DEPARTMENT OF PUBLIC WORKS & PLANNING
DRAWN <u>TZE</u>	DATE <u>11/22/17</u>				JAMES BYPASS EAST CHANNEL BRIDGE AT MANNING AVENUE		ABUTMENT DETAILS NO. 1
CHECKED <u>NRZ</u>	DATE <u>11/28/17</u>				Road No. S0900		BR. No. 42C0692
REVISION					Bridge No. 42C0692		Drawing No. 11308



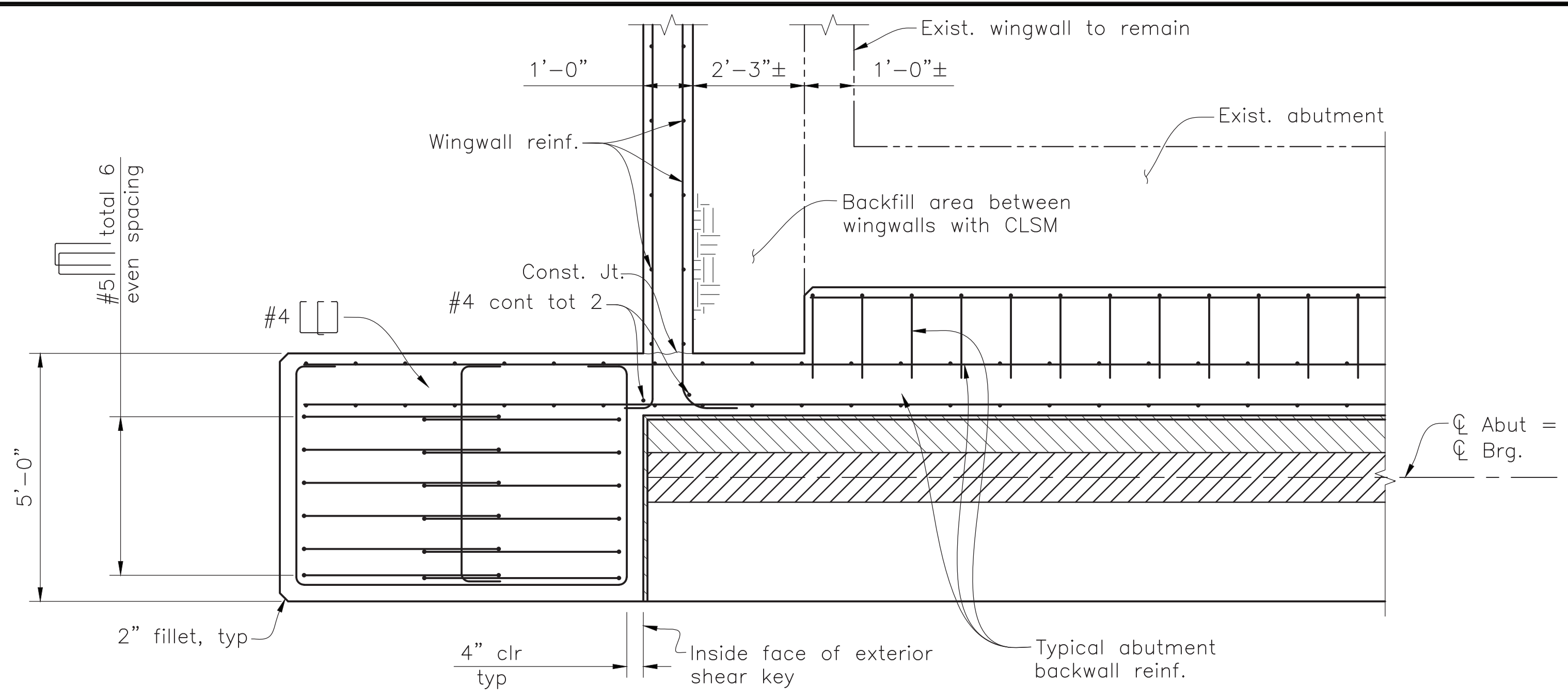
SECTION B-B
1/2" = 1'-0"



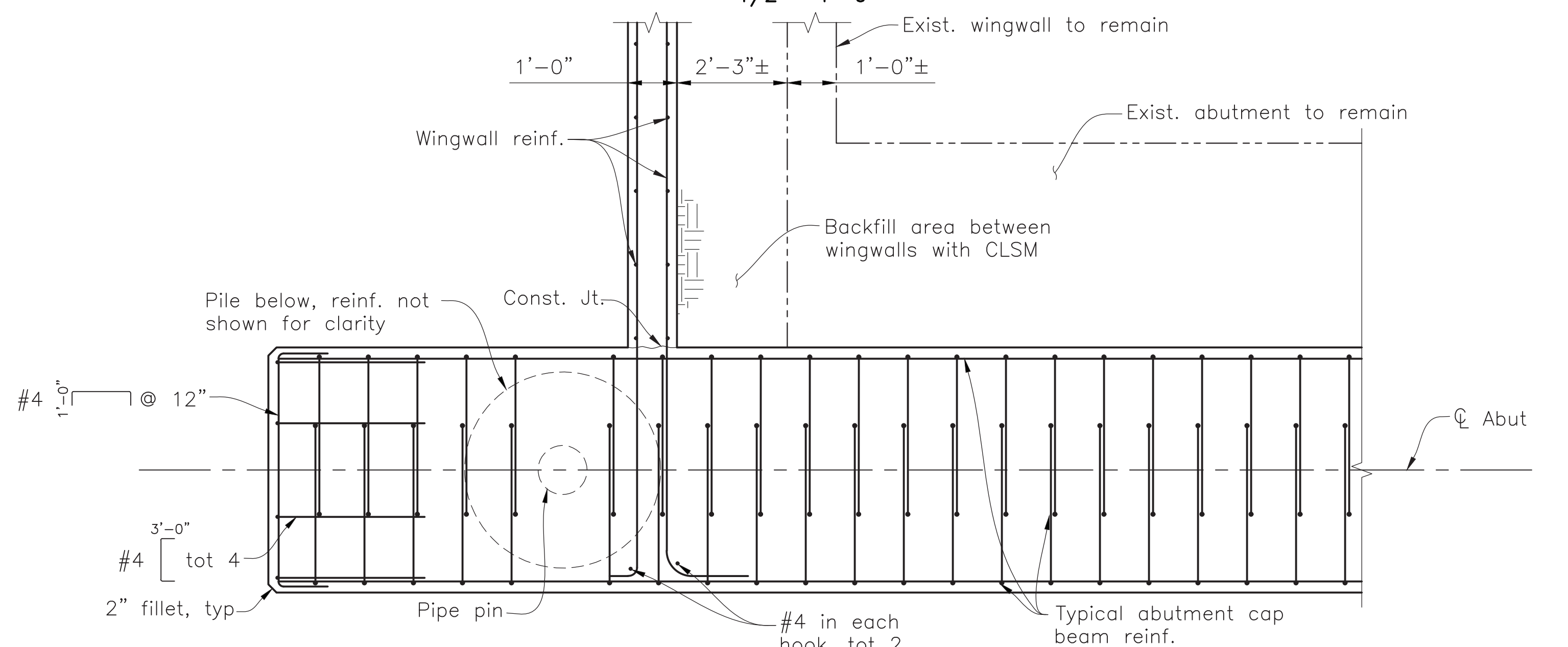
DETAIL Z
1/2" = 1'-0"



DETAIL Y
NO SCALE



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



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

NOTES:
1. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

DESIGNED	MAW	DATE	11/22/17
DRAWN	TZE	DATE	11/22/17
CHECKED	NRZ	DATE	11/28/17
REVISION			

Scale	AS SHOWN
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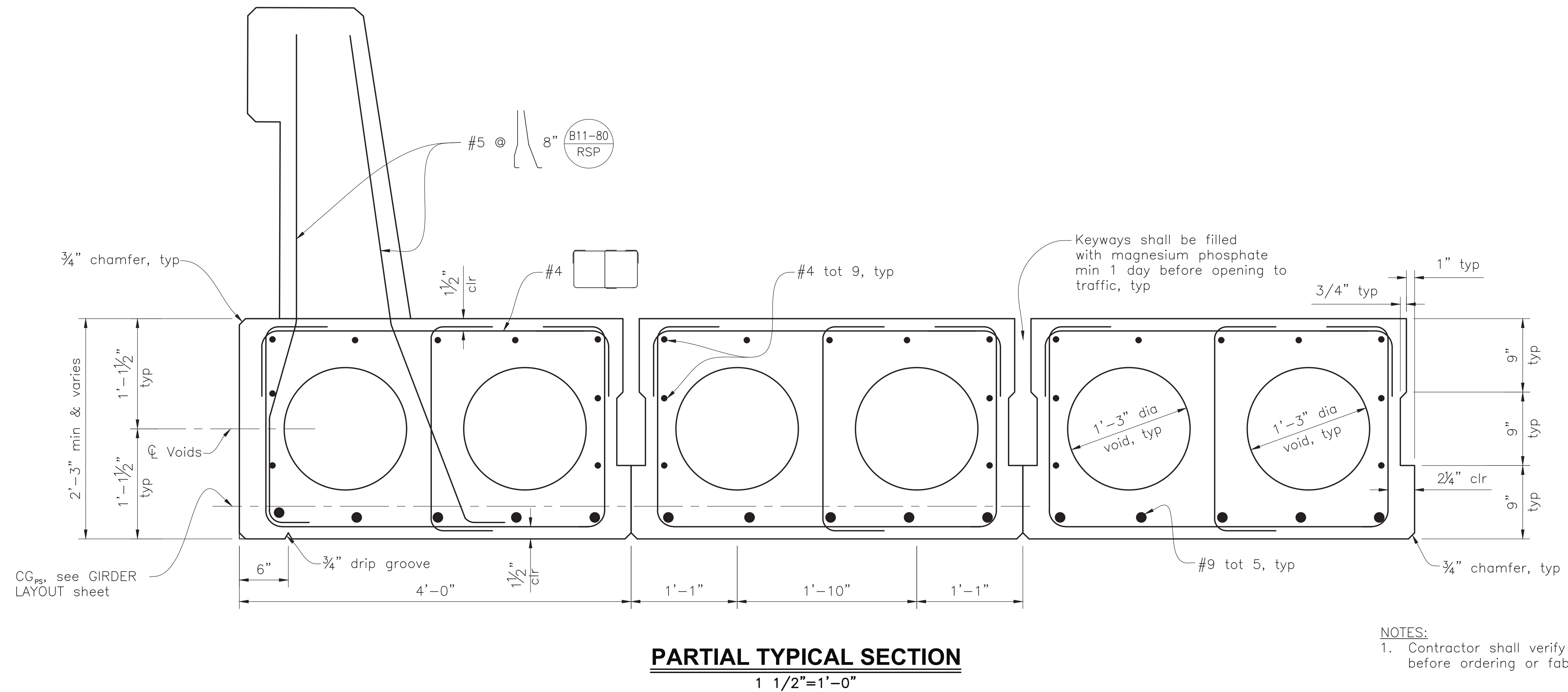
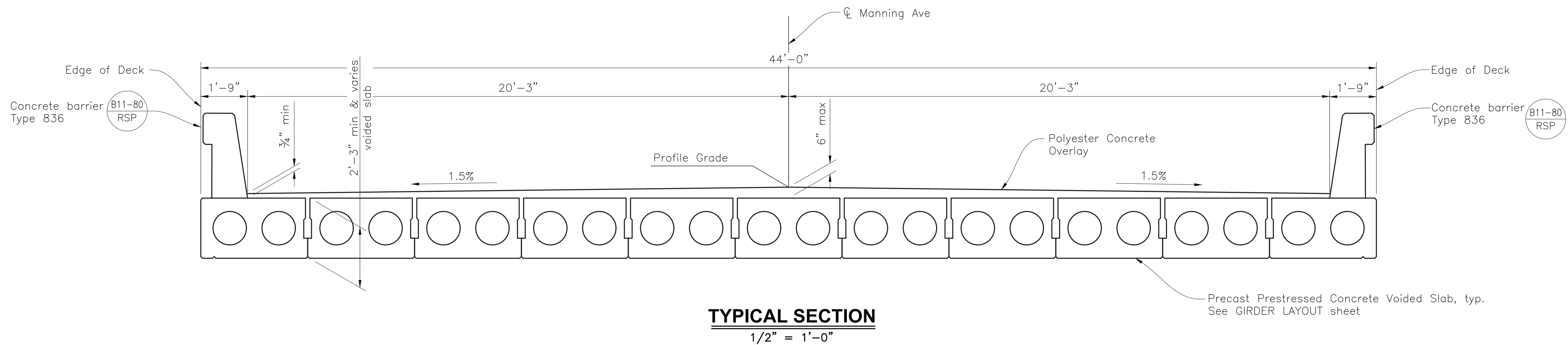
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PROJECT	JAMES BYPASS EAST CHANNEL BRIDGE AT MANNING AVENUE
Road No.	S0900
Bridge No.	42C0692



DEPARTMENT OF PUBLIC WORKS & PLANNING
ABUTMENT DETAILS NO. 2 BR. No. 42C0692
Drawing No. 11308 Sheet No. S-21 (31) of 35



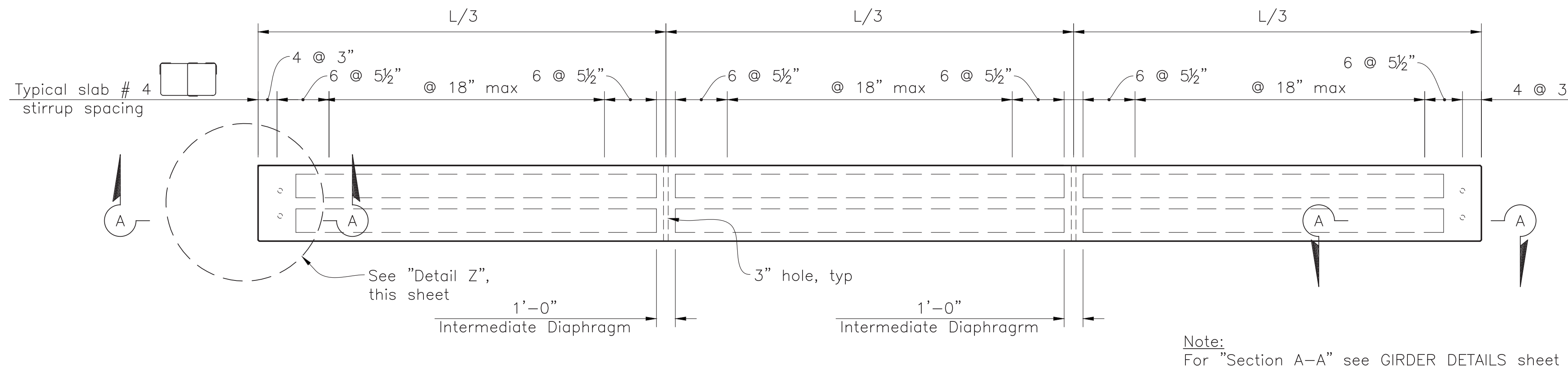
- NOTES:**
- Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

DESIGNED <u>MAW</u> DRAWN <u>TCW</u> CHECKED <u>NRZ</u>	DATE 11/22/17 11/22/17 11/28/17	Scale AS SHOWN	CORNERSTONE structural engineering group 986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT JAMES BYPASS EAST CHANNEL BRIDGE AT MANNING AVENUE Road No. S0900 Bridge No. 42C0692		DEPARTMENT OF PUBLIC WORKS & PLANNING TYPICAL SECTION BR. No. 42C0692 Drawing No. 11308 Sheet No. S-22 (32) of 35
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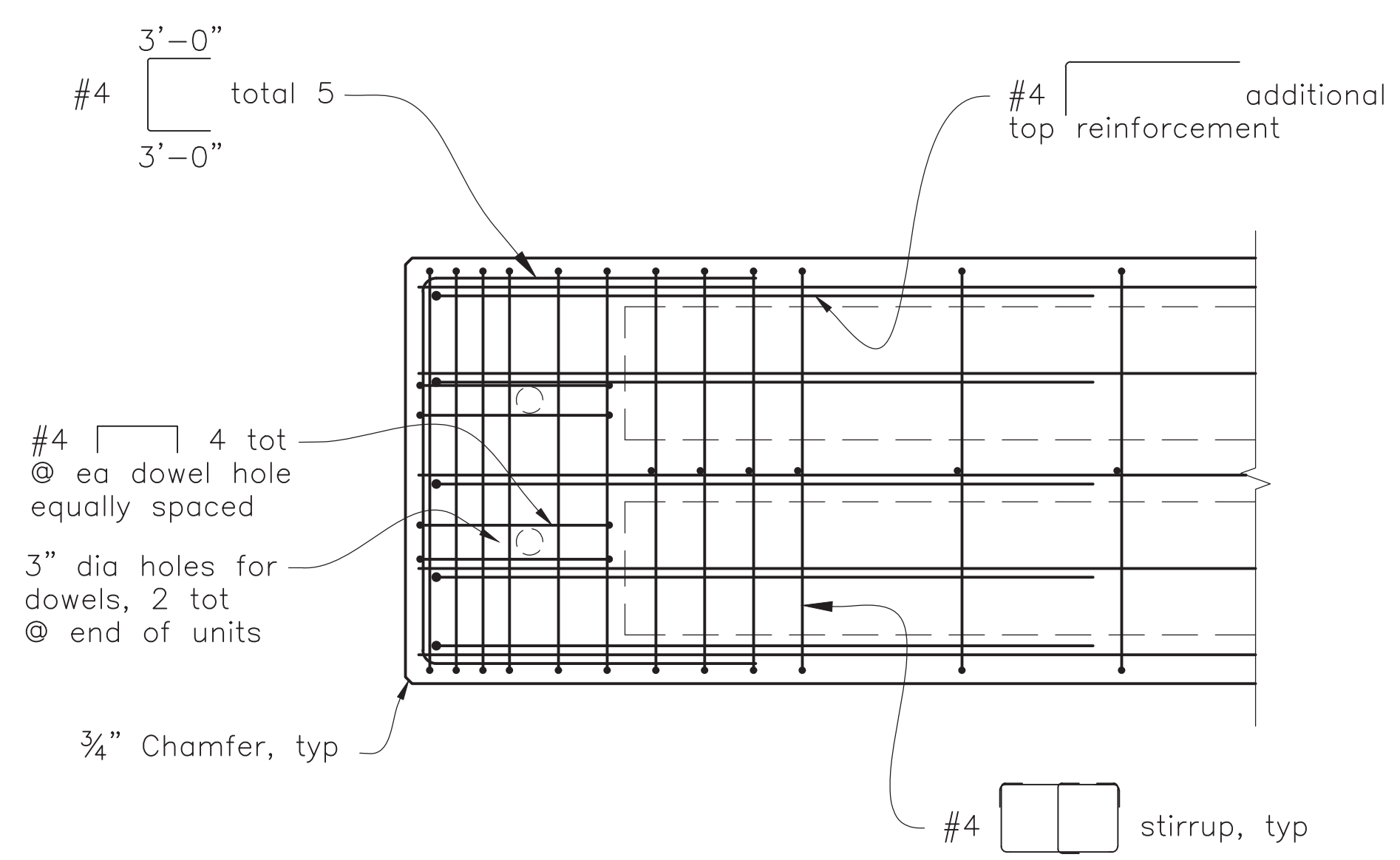
PRESTRESSING NOTES

- Design based on 270 ksi low relaxation strand
- Slabs designed for pretensioning
- Number of strands = $\frac{P_f}{A_s[(0.75 \times 270) - 35]}$
- P_f is the force required at center of span after all losses. The working force does not include any fabrication specific losses.
- Concrete strength:
 $f'c$ is at 28 days
 $f'ci$ is at time of stressing
- Total number of precast slabs = 11
- The minimum center to center distance between adjacent strands is 1.75" for 0.5" dia strands and 2" for 0.6" dia strands
- Debonded strands shall be symmetrically distributed about centerline of the girder. Exterior strands in each horizontal row shall not be debonded.

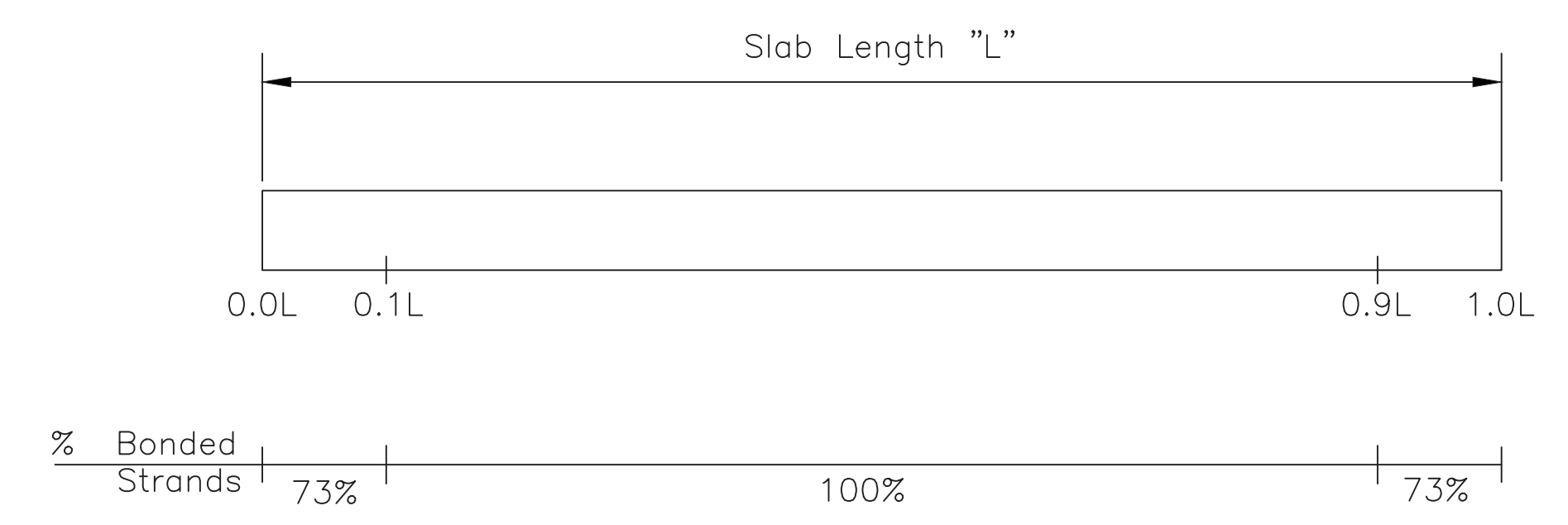


PLAN
1/4" = 1'-0"

Precast unit, location or designation and length	P _f = Working force in (kips)	CG _{PS}	Concrete strength (ksi)		Deflection components at midspan
			f'ci	f'c	Polyester concrete
Typical Unit	850	4"	4.0	5.0	3/8" downward



DETAIL Z
3/4" = 1'-0"



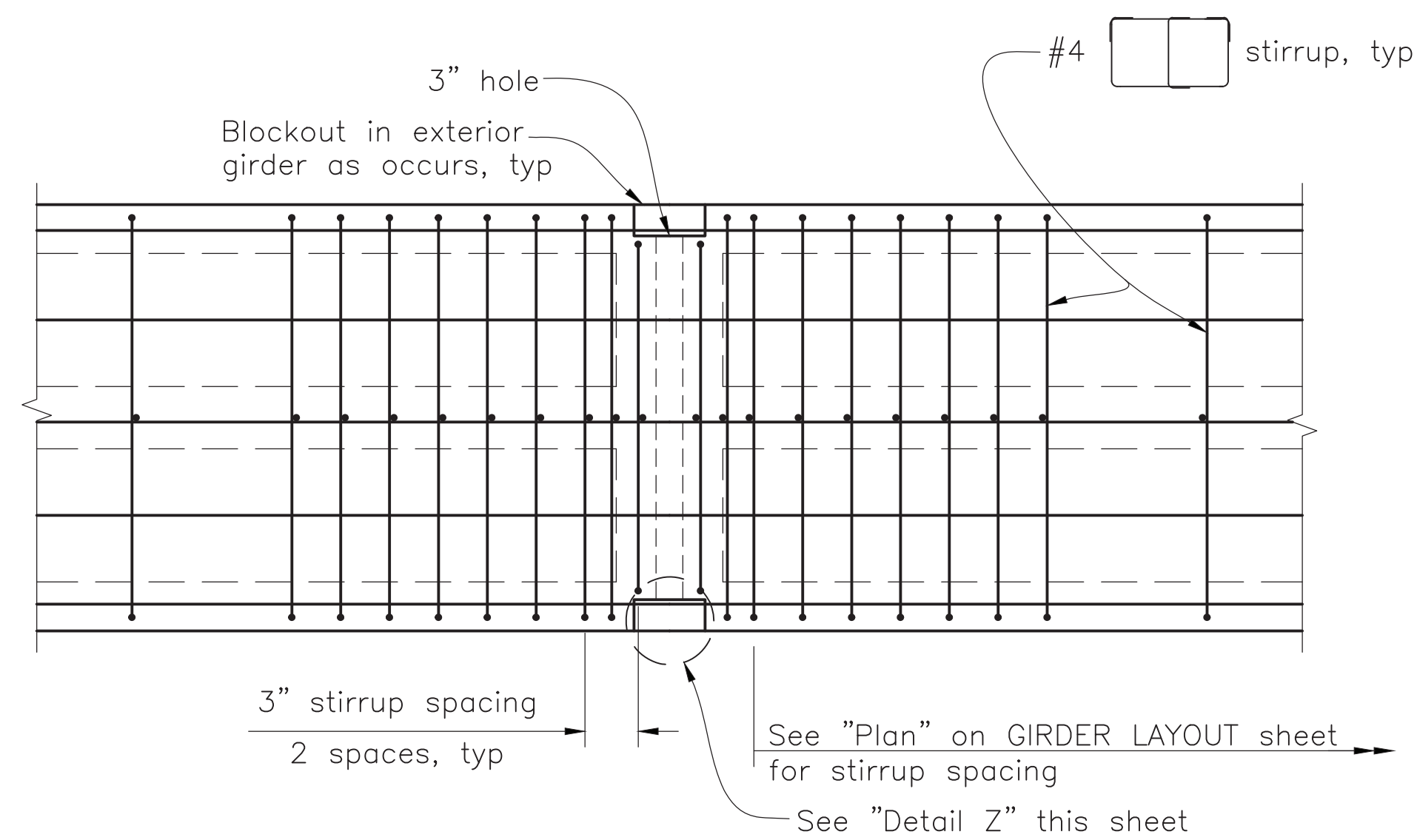
BONDED - PRESTRESSING STRAND DIAGRAM
NO SCALE

NOTES:

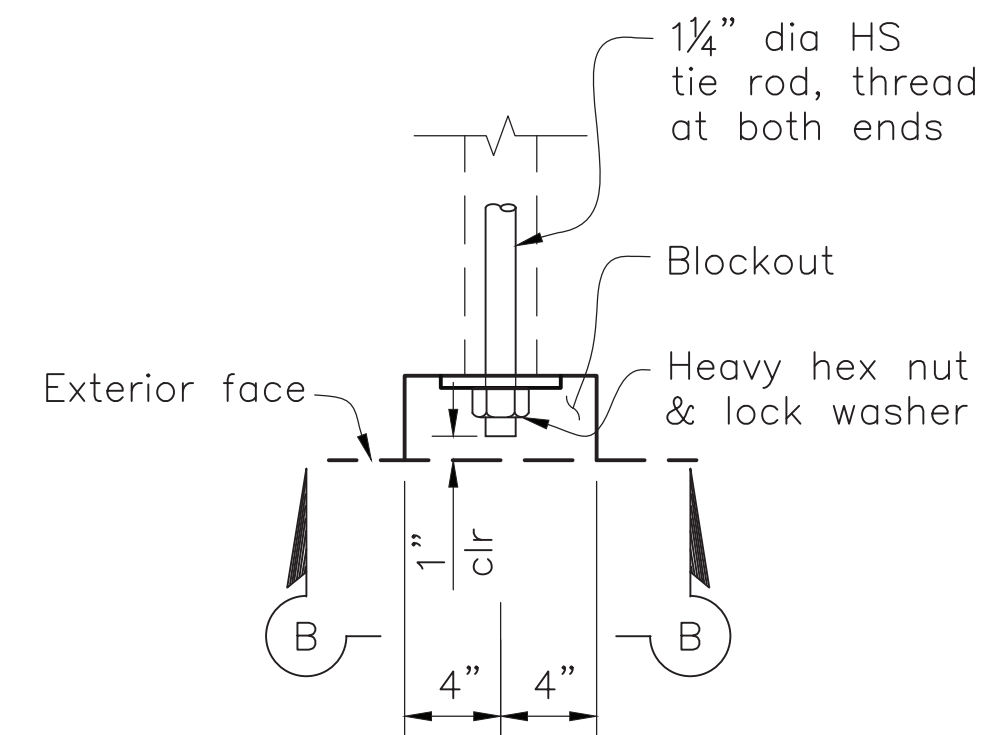
- Fill keyways with magnesium phosphate & grout abutment dowel holes prior to tensioning tie rods.
- Tension rods to 20,000 lbs. with calibrated torque wrench.
- Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

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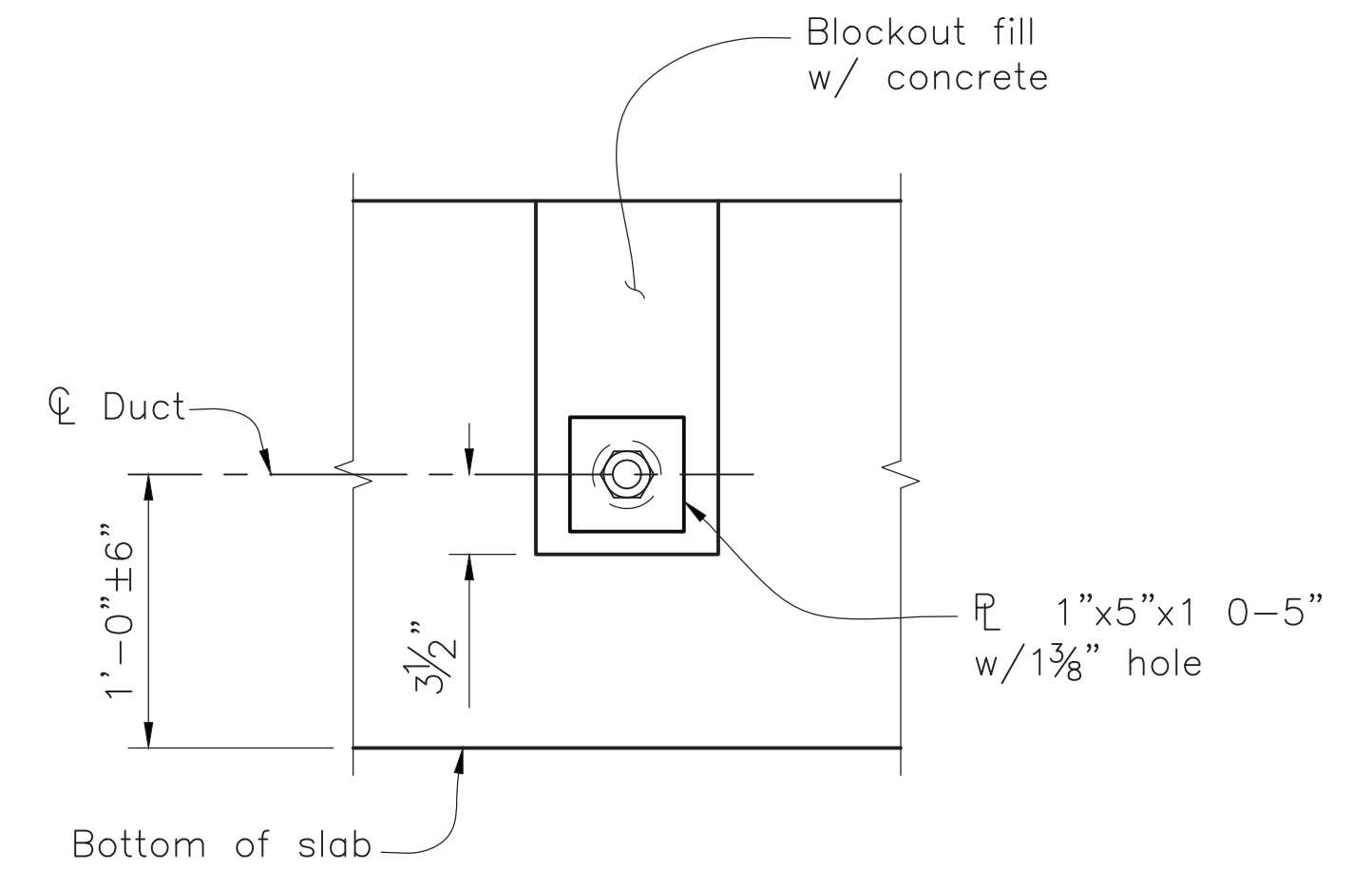
DESIGNED <u>MAW</u> DATE <u>11/22/17</u>	Scale	CORNERSTONE structural engineering group 986 W Alluvial Ave - Suite 201 Fresno, California 93711 559.320.3200 fax 559.320.3201		PROJECT		DEPARTMENT OF PUBLIC WORKS & PLANNING
DRAWN <u>TCW</u> DATE <u>11/22/17</u>	AS SHOWN			JAMES BYPASS EAST CHANNEL BRIDGE AT MANNING AVENUE		GIRDER LAYOUT BR. No. 42C0692
CHECKED <u>NRZ</u> DATE <u>11/28/17</u>				Road No. S0900 Bridge No. 42C0692	Drawing No. 11308 Sheet No. S-23(33) of 35	



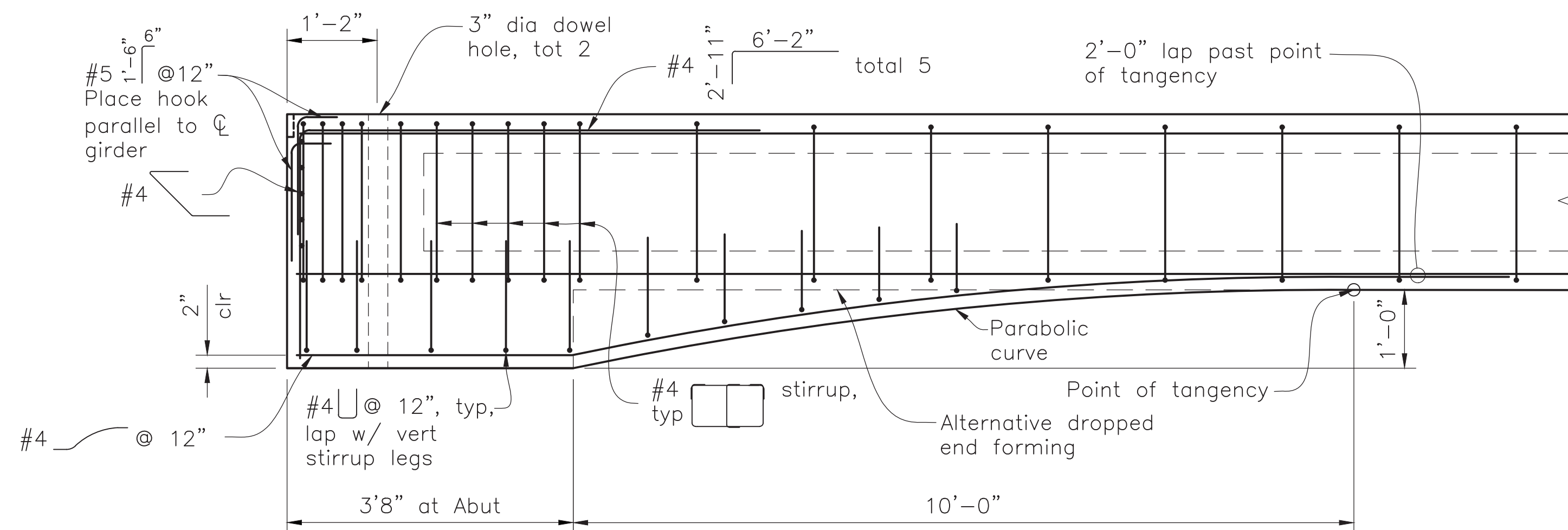
PLAN
3/4" = 1'-0"



DETAIL Z
1 1/2" = 1'-0"



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



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

NOTES:

1. Fill keyways with magnesium phosphate & grout abutment dowel holes prior to tensioning tie rods.
2. Tension rods to 20,000 lbs. with calibrated torque wrench.
3. Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

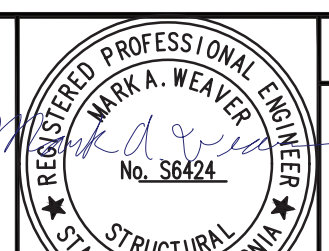
ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

DESIGNED	MAW	DATE	11/22/17
DRAWN	TZE	DATE	11/22/17
CHECKED	NRZ	DATE	11/28/17

Scale	AS SHOWN
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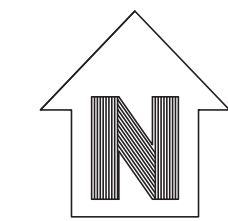
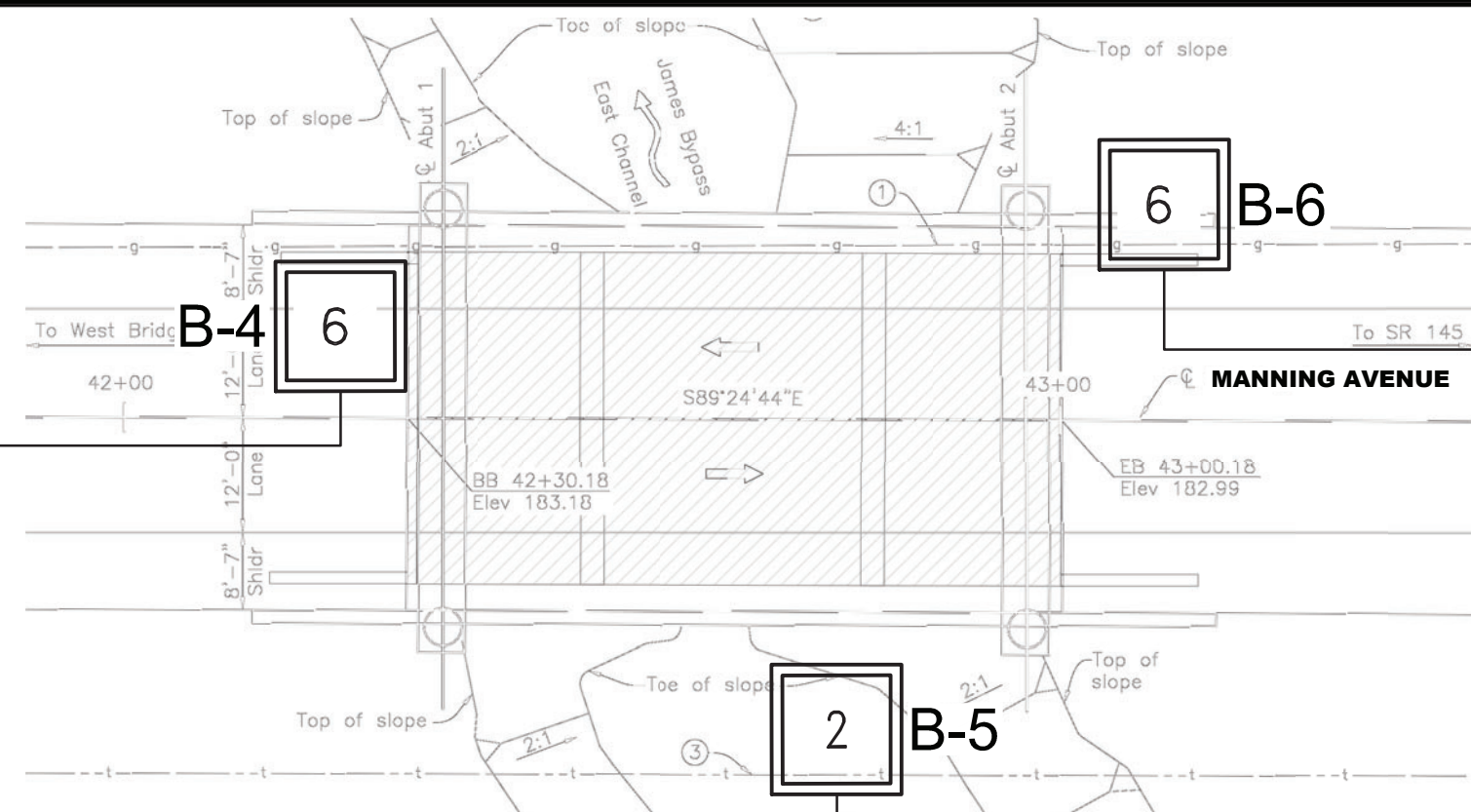
PROJECT	JAMES BYPASS EAST CHANNEL BRIDGE AT MANNING AVENUE
Road No.	S0900
Bridge No.	42C0692



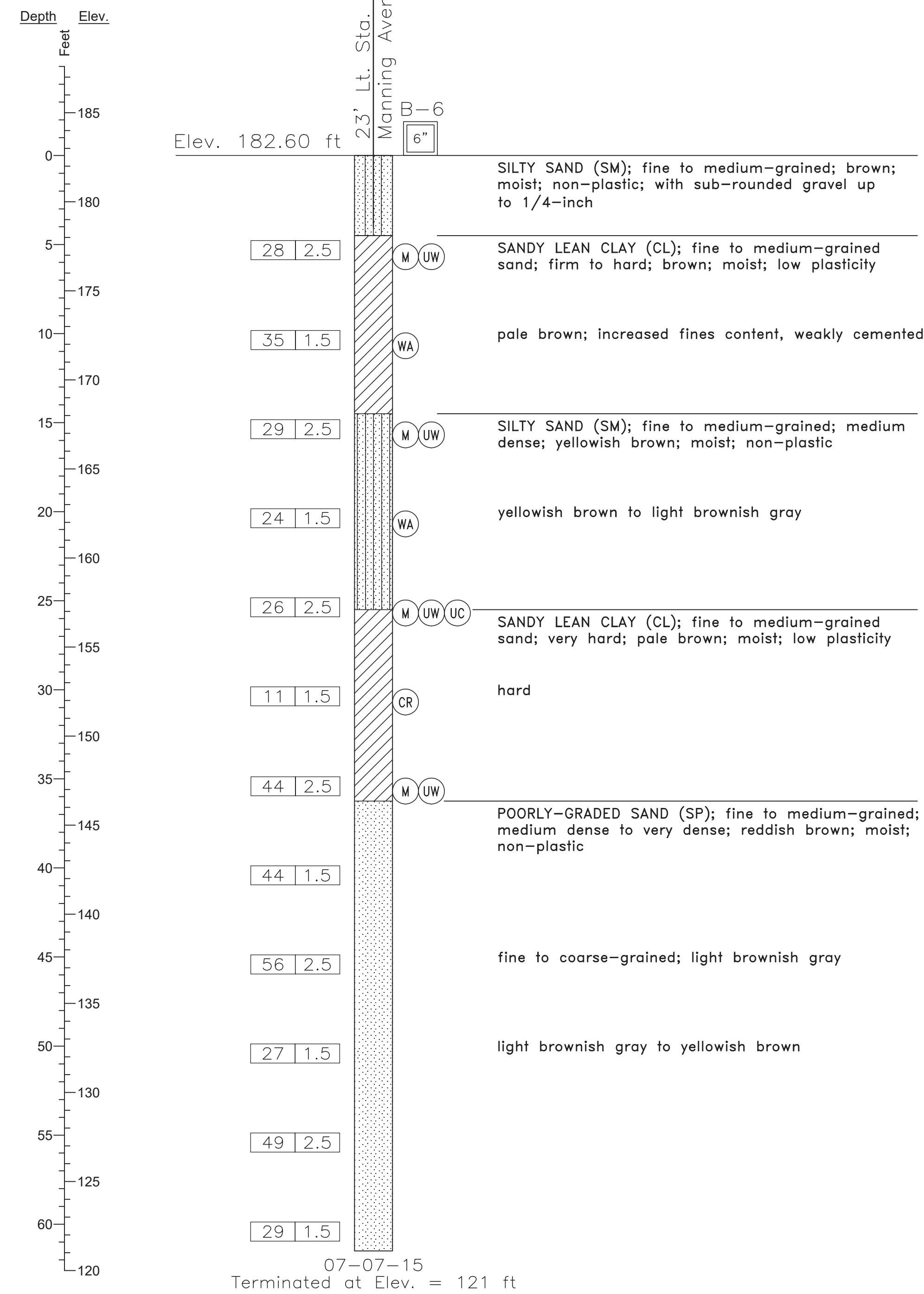
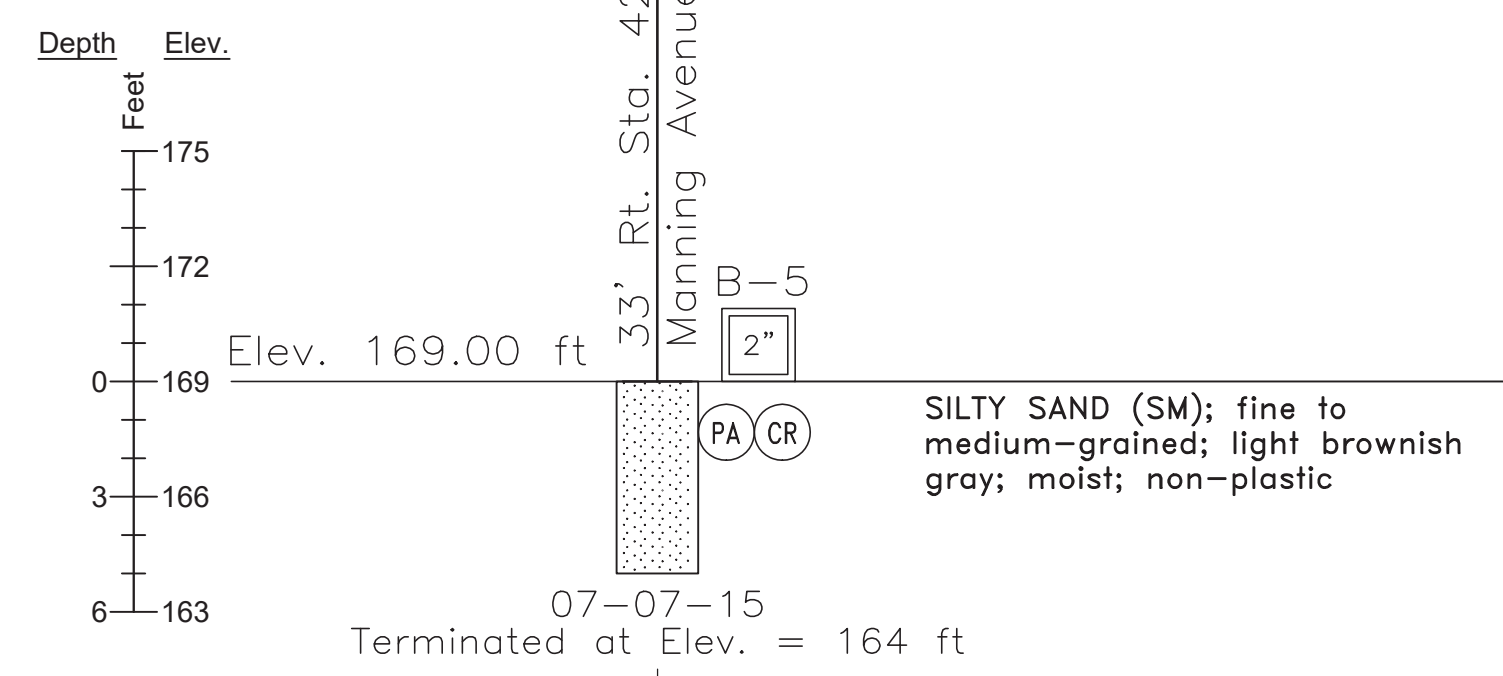
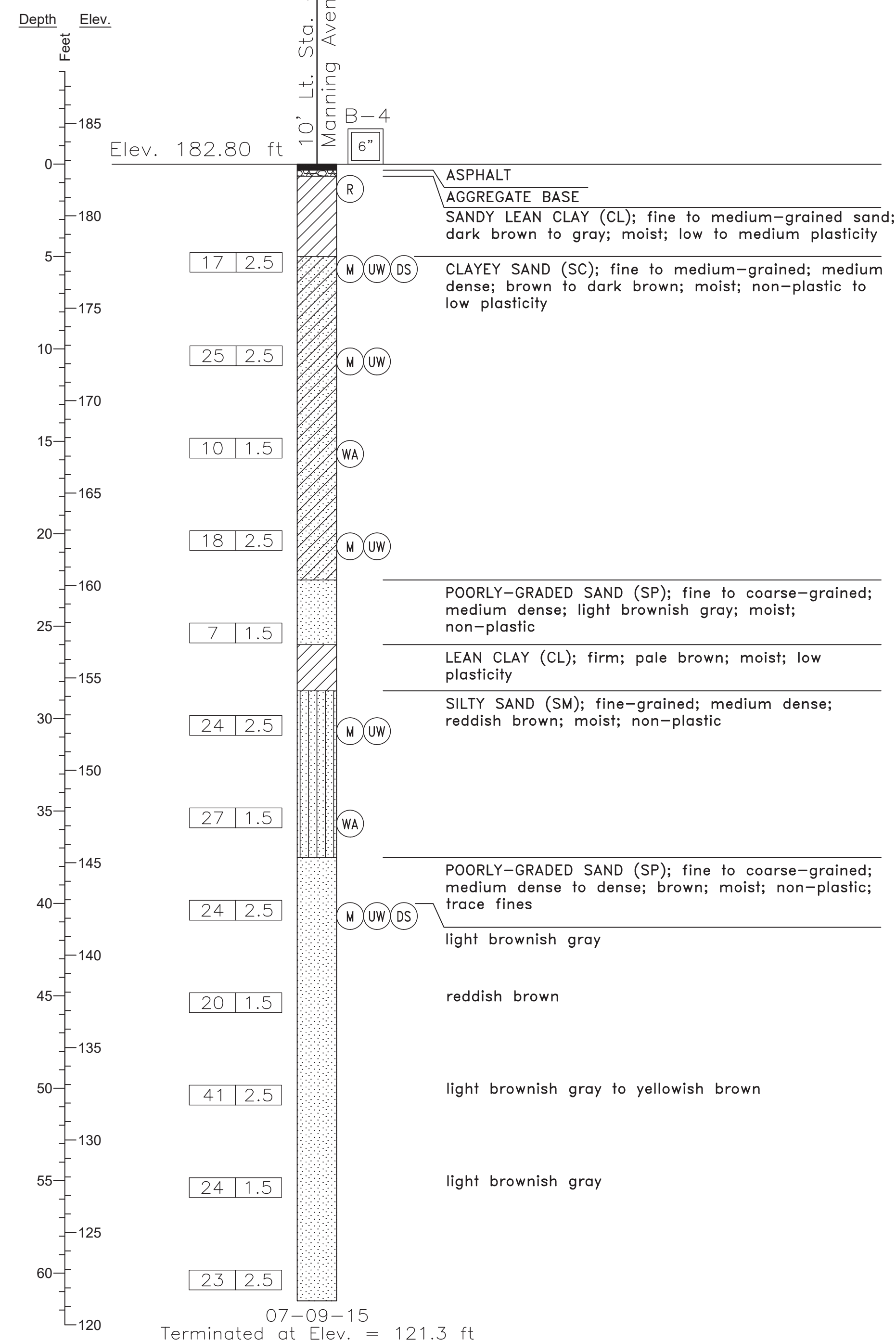
DEPARTMENT OF PUBLIC WORKS & PLANNING	
GIRDER DETAILS BR. No. 42C0692	
Drawing No. 11308	Sheet No. S-24 (34) of 35

NOTES:

1. 1.5-INCH DIAMETER SAMPLES WERE TAKEN USING A STANDARD PENETRATION TEST (SPT) SPLIT BARREL SAMPLER WITH AN INSIDE DIAMETER (ID) OF 1.5 INCHES AND AN OUTSIDE DIAMETER (OD) OF 2.0 INCHES.
2. 2.5-INCH DIAMETER RING SAMPLES WERE TAKEN USING A CALIFORNIA SPLIT BARREL SAMPLER WITH AN ID OF 2.5 INCHES AND AN OD OF 3.0 INCHES.
3. ALL DRIVE SAMPLES WERE DRIVEN WITH 140 LB HAMMER WITH A FALLING HEIGHT OF 30 INCHES.
4. ELEVATION BASED ON PLANS FROM QUINCY ENGINEERING, DATED 11/4/2013.



PLAN
SCALE: 1"=20'



MANNING AVENUE (EAST BRIDGE)

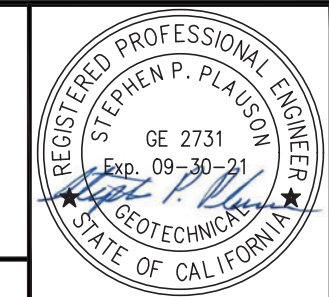
ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN

FIELD INVESTIGATION	T. DeSOUZA	DATE	As Shown
DRAWN	D. FAHRNEY		
CHECKED	N. POPENOE		

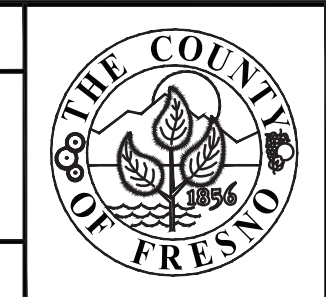
Scale	AS SHOWN
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PROJECT
JAMES BYPASS EAST CHANNEL
BRIDGE AT MANNING AVENUE
Road No. S0900 Bridge No. 42C0692



DEPARTMENT OF PUBLIC WORKS & PLANNING
LOG OF TEST BORINGS
BR. No. 42C0692
Drawing No. 11308 Sheet No. S-25 (35) of 35