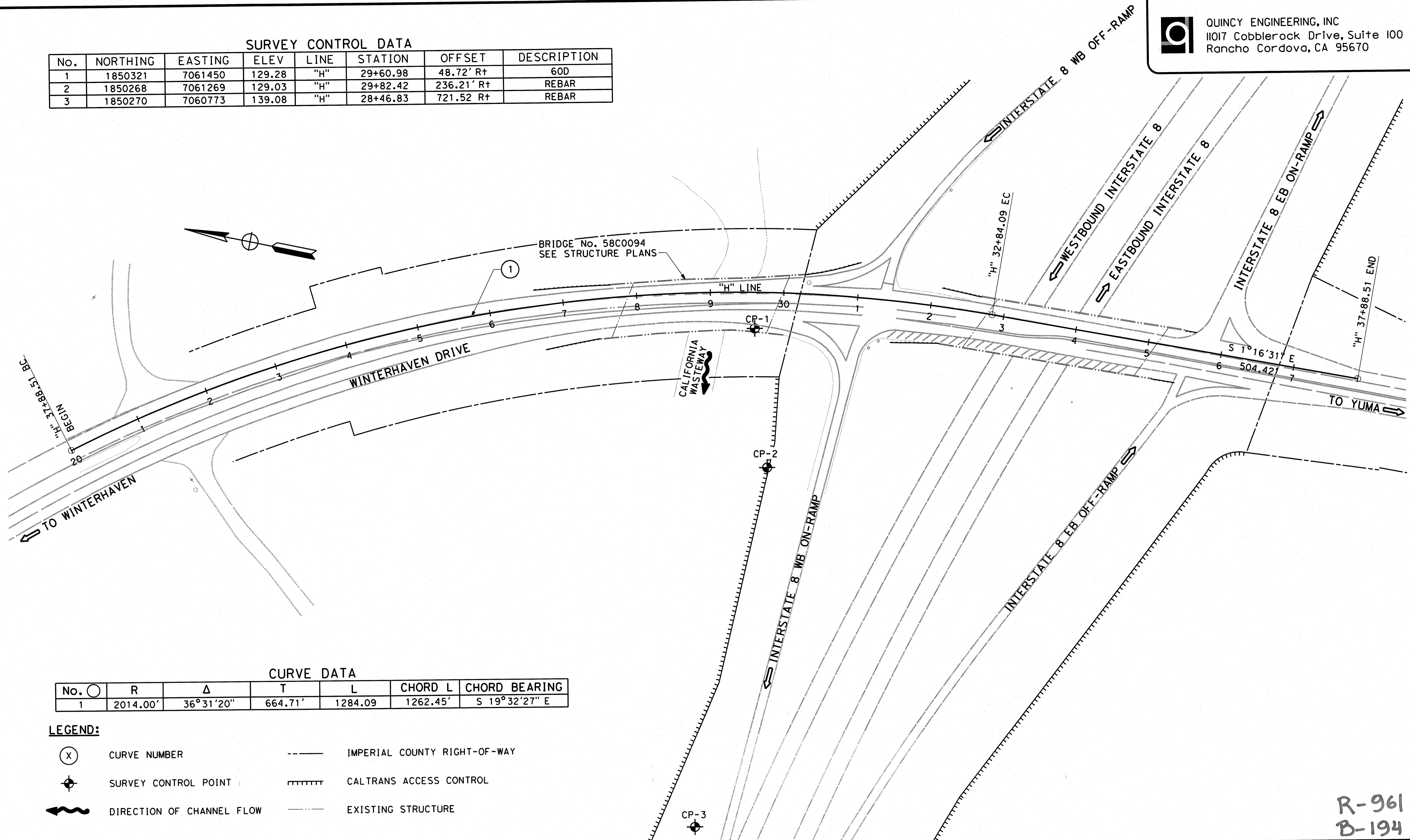


QUINCY ENGINEERING, INC
11017 Cobblecock Drive, Suite 100
Rancho Cordova, CA 95670

SURVEY CONTROL DATA

No.	NORTHING	EASTING	ELEV	LINE	STATION	OFFSET	DESCRIPTION
1	1850321	7061450	129.28	"H"	29+60.98	48.72' R+	60D
2	1850268	7061269	129.03	"H"	29+82.42	236.21' R+	REBAR
3	1850270	7060773	139.08	"H"	28+46.83	721.52 R+	REBAR



CURVE DATA

No.	R	Δ	T	L	CHORD L	CHORD BEARING
1	2014.00'	36° 31' 20"	664.71'	1284.09	1262.45'	S 19° 32' 27" E

LEGEND:

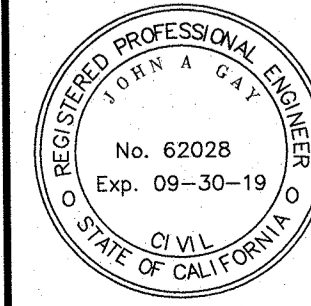
- (X) CURVE NUMBER
- ⊕ SURVEY CONTROL POINT
- ~ DIRECTION OF CHANNEL FLOW
- IMPERIAL COUNTY RIGHT-OF-WAY
- ▤ CALTRANS ACCESS CONTROL
- EXISTING STRUCTURE

R-961
B-194

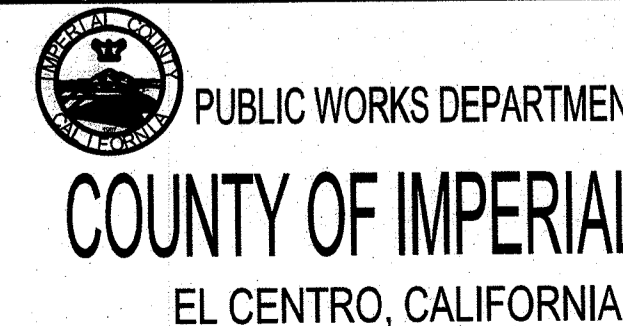
REVISION	DATE	COMMENTS
1	06/23/2016	65% PLANS
2	09/20/2016	90% PLANS
3	02/23/2017	100% PLANS
4	04/26/2017	100% PLANS
5	05/16/2017	100% PLANS
6	05/01/2019	100% PLANS - 2018 Standards Revisions
7	09/16/2019	100% PLANS - CALTRANS Review Comments



PREPARED UNDER THE DIRECT SUPERVISION OF:
Garrett McLaughlin
GARRETT MCLAUGHLIN, P.E.
No. 67687
R.C.E. No.
09/16/2019
DATE



COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
John A. Gay
JOHN A. GAY, P.E.
DIRECTOR OF PUBLIC WORKS
No. 62028
R.C.E. No.
09/30/2019
REG. EXP.
9/19/19
DATE



DATE 05/01/19
DRAWN J. CRUZ
SCALE 1"=60'
CHECKED C. SILVA

PROJECT TITLE
CALIFORNIA WASTEWAY BRIDGE
SEISMIC RETROFIT
IN IMPERIAL COUNTY
COUNTY PROJECT No. 58C0094

CONTROL SHEET	
REFERENCE 105-100	PC-1 SHEET OF 2 9



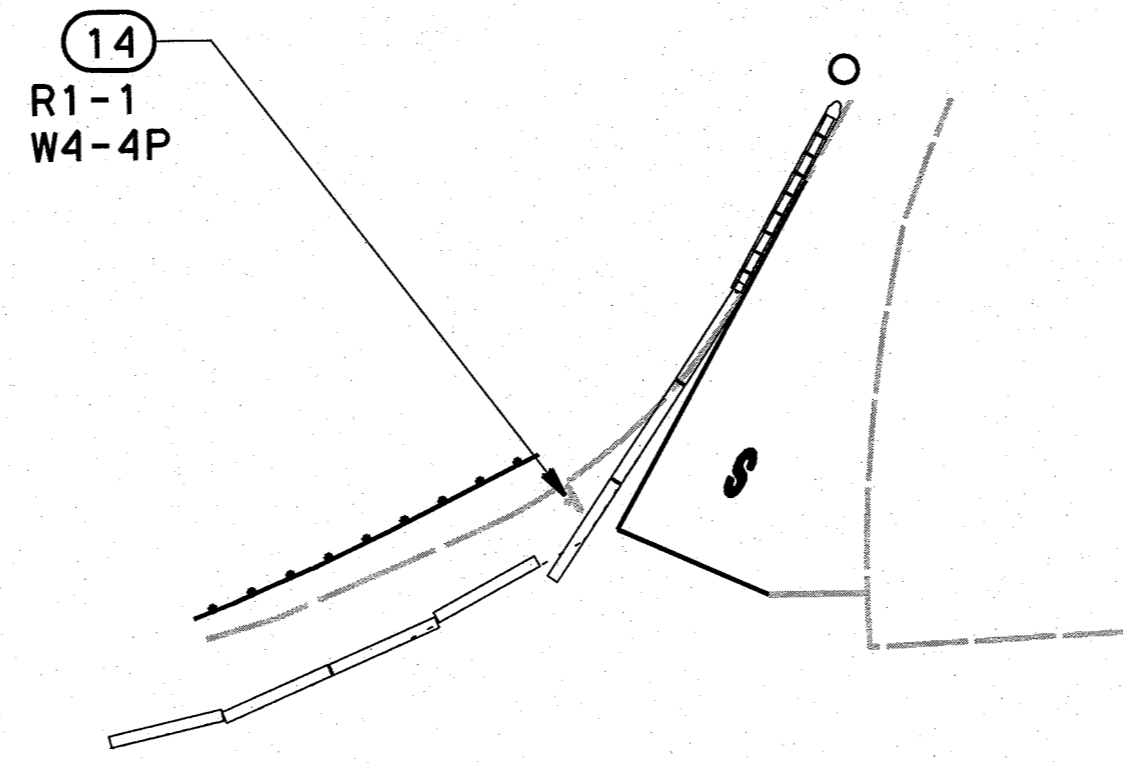
QUINCY ENGINEERING, INC
11017 Cobblestone Drive, Suite 100
Rancho Cordova, CA 95670

NOTES:

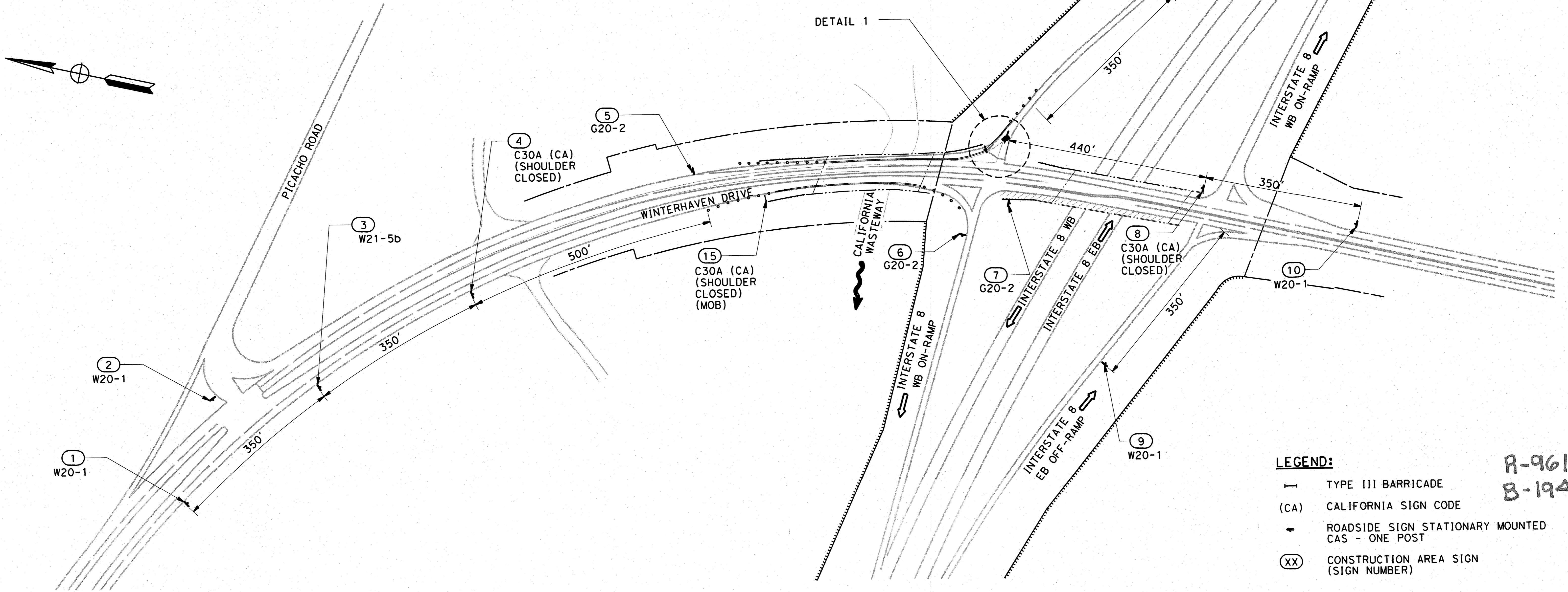
1. LOCATION OF CONSTRUCTION AREA SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
2. THIS PLAN IS ACCURATE FOR CONSTRUCTION AREA SIGNS ONLY.
3. FOR SIGN DETAILS NOT SHOWN SEE "TRAFFIC HANDLING - PLAN" SHEET

ABBREVIATIONS:

CAS - CONSTRUCTION AREA SIGNS
MOB - MOUNTED ON BARRICADE



DETAIL 1



LEGEND:

- TYPE III BARRICADE
- (CA) CALIFORNIA SIGN CODE
- ROADSIDE SIGN STATIONARY MOUNTED
CAS - ONE POST
- (XX) CONSTRUCTION AREA SIGN
(SIGN NUMBER)

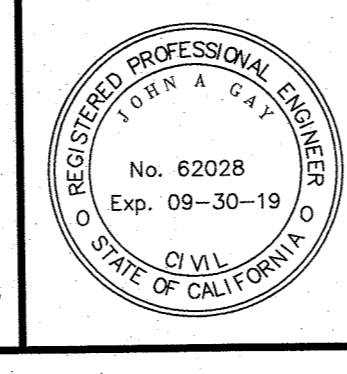
R-961
B-19A

REVISION	DATE	COMMENTS
1	06/23/2016	65% PLANS
2	09/20/2016	90% PLANS
3	02/23/2017	100% PLANS
4	04/26/2017	100% PLANS
5	05/16/2017	100% PLANS
6	05/01/2019	100% PLANS - 2018 Standards Revisions
7	09/16/2019	100% PLANS - CALTRANS Review Comments



PREPARED UNDER THE DIRECT SUPERVISION OF:
Garrett McLaughlin 67687
GARRETT MCLAUGHLIN, P.E. R.C.E. No.

DATE: 09/16/2019 REG. EXP. 06/30/2021



COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
John A. Gay 62028
JOHN A. GAY, P.E. R.C.E. No.
DIRECTOR OF PUBLIC WORKS
DATE: 9/19/19 REG. EXP. 09/30/2019

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE: 05/01/19
DRAWN: J. CRUZ
SCALE: NO SCALE
CHECKED: C. SILVA

PROJECT TITLE
CALIFORNIA WASTEWAY BRIDGE
SEISMIC RETROFIT
IN IMPERIAL COUNTY
COUNTY PROJECT No. 58C0094

CONSTRUCTION AREA SIGNS	
REFERENCE	S-1
105-100	SHEET 3 OF 9

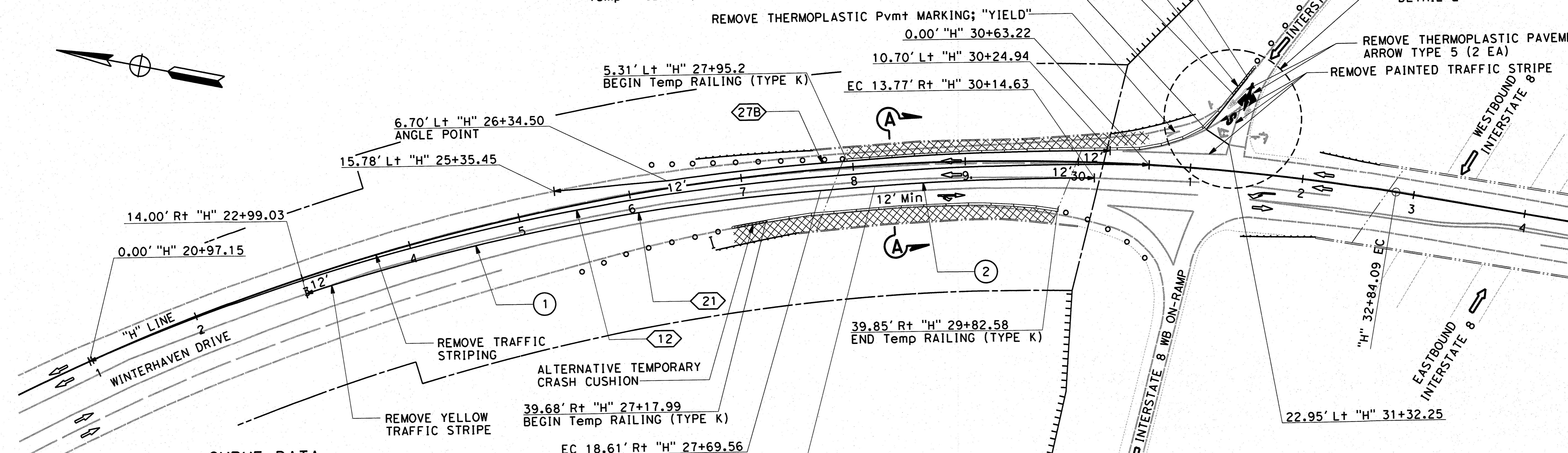
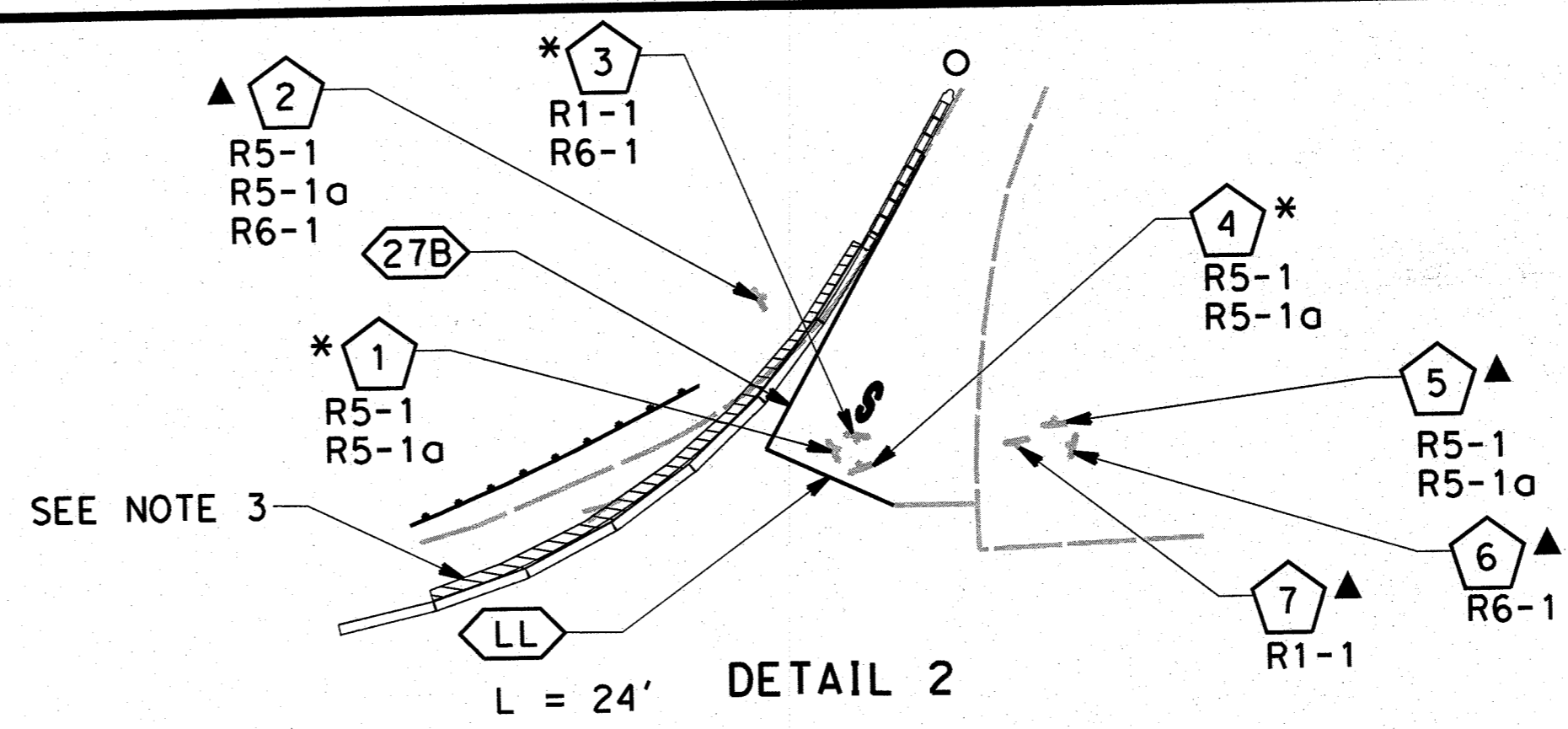
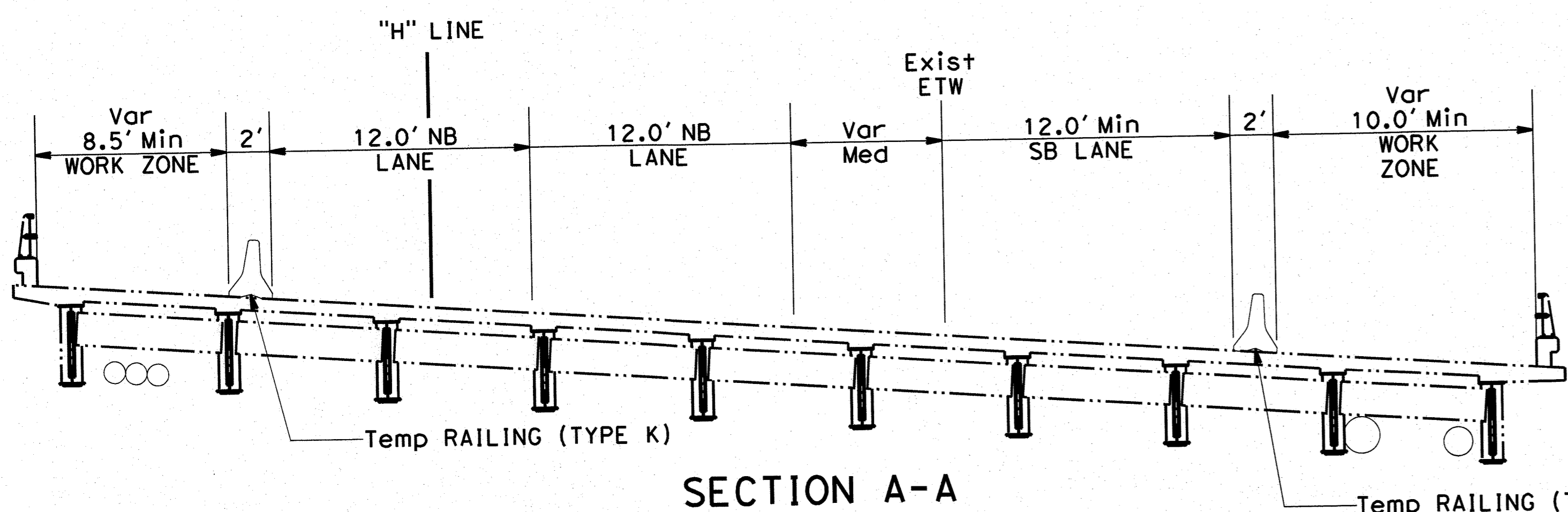
DATE PLOTTED => 9/18/2019 10:42:49 AM USERNAME => kevin

THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY.

QUINCY ENGINEERING, INC
11017 Coblerock Drive, Suite 100
Rancho Cordova, CA 95670

NOTES:

1. CONTRACTOR SHALL PATCH UP ALL HOLES CAUSED BY REMOVING EXISTING SIGNAGE.
2. RESET ROADSIDE SIGNS ARE TO BE REMOVED IN PHASE 1 STORED UNTIL RESET, IN PHASE 3
3. WHERE TYPE K TEMPORARY RAILING IS PLACED ON CURVES AND RADII THAT ARE TOO SEVERE TO CONNECT PANELS WITH BOLTED JOINTS, THE RAILING MUST BE BACKED CONTINUOUSLY WITH EARTH FILL PER 2018 CALTRANS STANDARD PLANS T3B



CURVE DATA

No.	R	Δ	T	L
1	2000.00'	13°0'42"	228.08'	454.20'
2	2500.00'	4°27'59"	97.49'	194.88'

- LEGEND:**
- (X) CURVE NUMBER
 - (No.) TEMPORARY TRAFFIC STRIPE (PAINT) DETAIL NUMBER
 - (LL) LIMIT LINE
 - DIRECTION OF TRAFFIC
 - [Hatched] WORK AREA
 - [Dashed] ALTERNATIVE TEMPORARY CRASH CUSHION
 - [Solid] TEMPORARY RAILING (TYPE K)
 - * STATIONARY MOUNTED CAS - ONE POST
 - Exist ROADSIDE SIGN - ONE POST
 - TYPE III BARRICADE WITH CAS
 - CHANGE IN STRIPING DETAIL
 - o PLASTIC TRAFFIC DRUM @ 20'
 - [Dashed] TEMPORARY PAVEMENT MARKING (PAINT) TYPE 8
 - (XX) CONSTRUCTION AREA SIGNS (SIGN NUMBER)
 - (XX) ROADSIDE SIGN (SIGN NUMBER)
 - ▲ EXISTING SIGN TO REMAIN
 - * RESET ROADSIDE SIGN (WOOD POST)
 - § Temp PAVEMENT MARKING (PAINT); "STOP"
 - Y REMOVE THERMOPLASTIC PvmT MARKING; "YIELD"

TRAFFIC HANDLING NOTES:

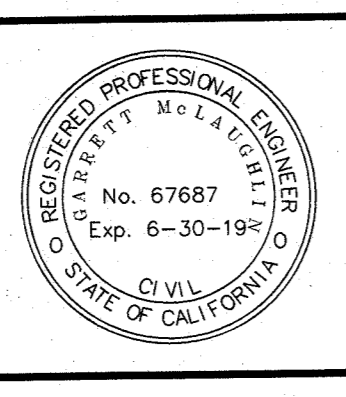
- PHASE 1: USING TRAFFIC CONTROL REMOVE TRAFFIC STRIPING WITHIN LIMITS CALLED OUT, PLACE Temp STRIPE, Temp RAIL (TYPE K) AND CONSTRUCTION AREA SIGNS.
- PHASE 2: SHIFT TRAFFIC TO NEW ALIGNMENT AND PERFORM WORK WITHIN LIMITS SHOWN.
- PHASE 3: USING TRAFFIC CONTROL REMOVE Temp SIGNAGE, Temp STRIPING, Temp K-RAIL, AND RESET SIGNAGE PER "TRAFFIC HANDLING AND SIGN - PLAN" SHEET.
- PHASE 4: USING TRAFFIC CONTROL PLACE FINAL STRIPING PER "PAVEMENT DELINEATION PLAN" SHEET.

ABBREVIATIONS:

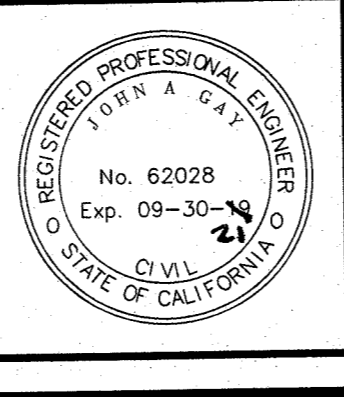
- CAS - CONSTRUCTION AREA SIGNS
- MOB - MOUNTED ON BARRICADE

R-961
B-19A

REVISION	DATE	COMMENTS
2	09/20/2016	90% PLANS
3	02/23/2017	100% PLANS
4	04/26/2017	100% PLANS
5	05/16/2017	100% PLANS
6	05/01/2019	100% PLANS - 2018 Standards Revisions
7	09/16/2019	100% PLANS - CALTRANS Review Comments
8	10/14/2019	100% PLANS - CALTRANS Review Comments



PREPARED UNDER THE DIRECT SUPERVISION OF:
Garrett McLaughlin
GARRETT McLAUGHLIN, P.E.
67687 R.C.E. No.
DATE: 09/16/2019 REG. EXP. 06/30/2021



COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
John A. Gay
JOHN A. GAY, P.E.
DIRECTOR OF PUBLIC WORKS
DATE: 10/14/19 REG. EXP. 09/30/2019

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

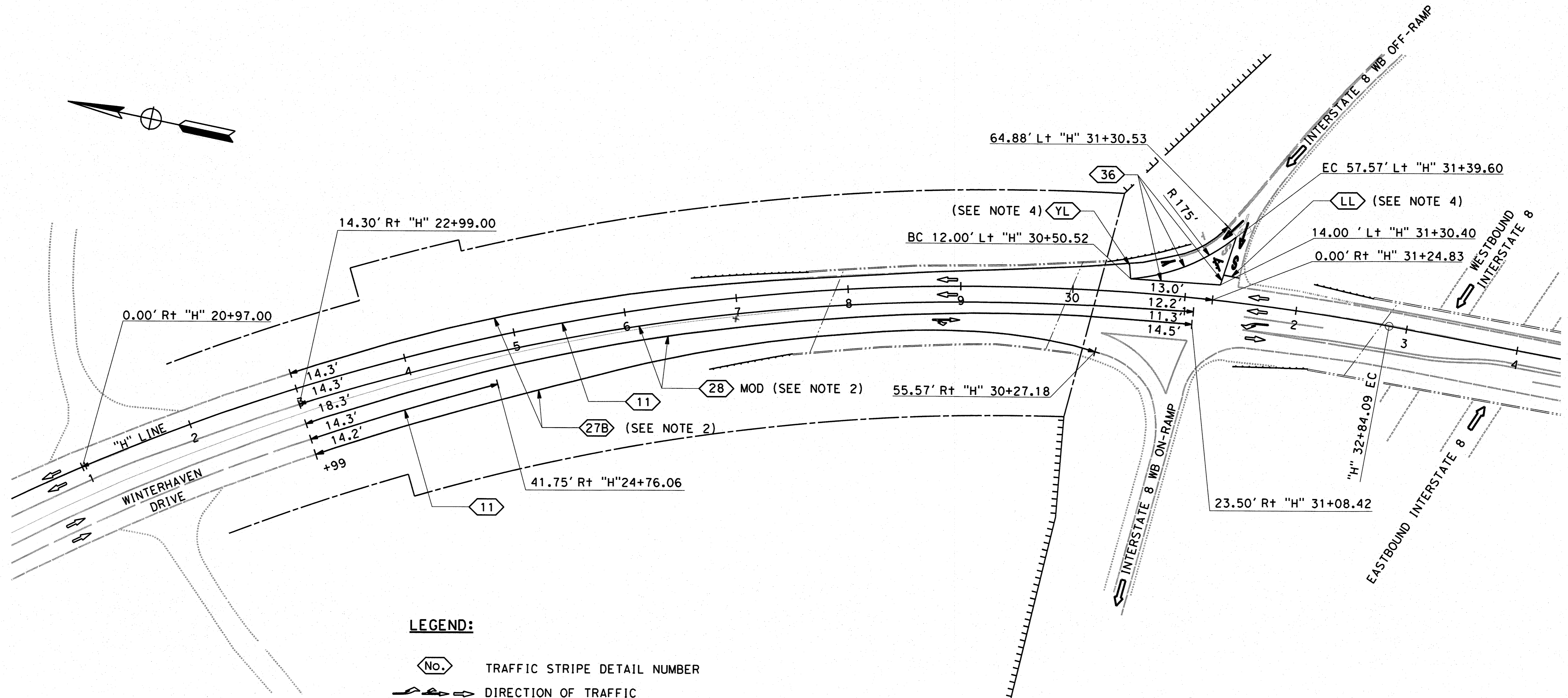
DATE: 05/01/19
DRAWN: J. CRUZ
SCALE: 1"=50'
CHECKED: C. SILVA

PROJECT TITLE
CALIFORNIA WASTEWAY BRIDGE
SEISMIC RETROFIT
IN IMPERIAL COUNTY
COUNTY PROJECT No. 58C0094

TRAFFIC HANDLING AND SIGN - PLAN	
REFERENCE	TH-1
105-100	SHEET 4 OF 9

- NOTES:
1. THIS PLAN ACCURATE FOR PAVEMENT DELINEATION AND SIGN WORK ONLY.
 2. WHEN DETAIL 27B IS PLACED ON BRIDGE DECK, A 1-COAT PAINTED 3" BLACK STRIPE SHALL BE PLACED ADJACENT TO IT ON THE OUTSIDE.
 3. DETAIL 28 MOD SHALL HAVE A 1-COAT PAINTED 3" BLACK STRIPE BETWEEN THE 6" YELLOW STRIPES.
 4. YIELD, STOP BAR, AND TYPE 5 ARROWS SHALL HAVE TYPE R MARKERS PLACED PER RSP A24G.
 5. PRIOR TO PLACING FINAL STRIPES OR MARKINGS REMOVE EXISTING WITHIN LIMITS OF NEW PLACEMENT.

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 11017 Coblerock Drive, Suite 100
 Rancho Cordova, CA 95670



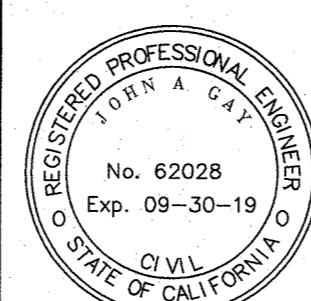
LEGEND:

- (No.) TRAFFIC STRIPE DETAIL NUMBER
- DIRECTION OF TRAFFIC
- CHANGE IN STRIPING DETAIL
- THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY); ARROW TYPE 5
- THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY); "YIELD"
- THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY); "STOP"
- YL THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY); YIELD LINE
- LL THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY); LIMIT LINE

REVISION	DATE	COMMENTS
1	06/23/2016	65% PLANS
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4	04/26/2017	100% PLANS
5	05/16/2017	100% PLANS
6	05/01/2019	100% PLANS - 2018 Standards Revisions
7	09/16/2019	100% PLANS - CALTRANS Review Comments



PREPARED UNDER THE DIRECT SUPERVISION OF:
Garrett McLaughlin
 GARRETT MCLAUGHLIN, P.E.
 67687 R.C.E. No.
 09/16/2019 DATE 06/30/2021 REG. EXP.



COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
 APPROVED FOR CONSTRUCTION BY:
John A. Gay
 JOHN A. GAY, P.E.
 DIRECTOR OF PUBLIC WORKS
 62028 R.C.E. No.
 9/16/19 DATE 09/30/2019 REG. EXP.

PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
 EL CENTRO, CALIFORNIA

DATE 05/01/19
 DRAWN J. CRUZ
 SCALE 1"=50'
 CHECKED C. SILVA

PROJECT TITLE
 CALIFORNIA WASTEWAY BRIDGE
 SEISMIC RETROFIT
 IN IMPERIAL COUNTY
 COUNTY PROJECT No. 58C0094

PAVEMENT DELINEATION PLAN

REFERENCE PD-1
105-100 SHEET 5 OF 9

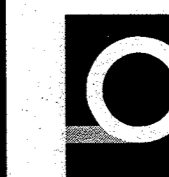
R-961
 B-19A

TEMPORARY TRAFFIC ITEMS

SHEET No.	FROM			TO			TEMPORARY RAILING (TYPE K)	ALTERNATIVE TEMPORARY CRASH CUSHION	PLASTIC TRAFFIC DRUM	TYPE III BARRICADE
	LINE	STATION	R+/L+	LINE	STATION	R+/L+				
TH-1	"H"	25+40.00	58.80' R+	"H"	26+80.00	44.40' R+			7	
TH-1	"H"	26+30.50	22.80' L+	"H"	27+95.20	5.30' L+			10	
TH-1	"H"	26+70.00	55.00' L+	-	-	-				1
TH-1	"H"	27+17.99	39.68' R+	"H"	29+82.58	39.85' R+	260	1		
TH-1	"H"	27+95.20	5.31' L+	"H"	31+31.11	68.36' L+	360	1		
TH-1	"H"	29+82.58	39.85' R+	"H"	30+70.00	39.85' R+			5	
TH-1	"H"	31+49.58	98.91' L+	"H"	31+89.70	166.17' L+			5	
TOTAL							620	2	27	1

ROADSIDE SIGNS

SHEET No.	SIGN No.	RESET ROADSIDE SIGN (WOOD POST)	SIGN CODE	SIGN MESSAGE
TH-1	3	1	R1-1 R6-1	STOP ONE WAY
TH-1	1	1	R5-1 R5-1a	DO NOT ENTER WRONG WAY
TH-1	4	1	R5-1 R5-1a	DO NOT ENTER WRONG WAY
TOTAL		3		



QUINCY ENGINEERING, INC
11017 Cobblestone Drive, Suite 100
Rancho Cordova, CA 95670

LEGEND:

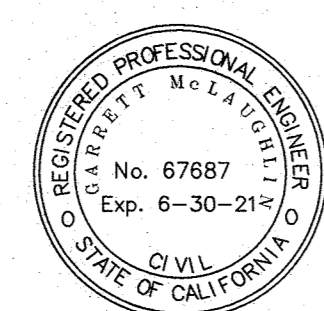
EWNV ENHANCED WET NIGHT VISIBILITY

PAVEMENT DELINEATION

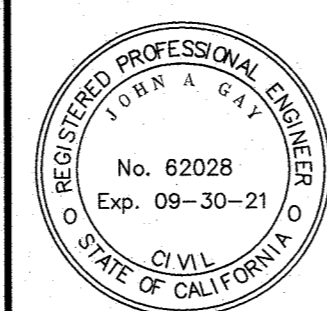
SHEET No.	FROM			TO			TRAFFIC STRIPE DETAIL No.	THERMOPLASTIC STRIPE EWNV		TEMPORARY TRAFFIC STRIPE (PAINT)	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE THERMOPLASTIC PAVEMENT MARKING	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	PAVEMENT MARKER (RETROREFLECTIVE)	TEMPORARY PAVEMENT MARKER	TEMPORARY PAVEMENT MARKING (PAINT)	THERMOPLASTIC PAVEMENT MARKING EWNV	CONTRAST STRIPE PAINT (1-COAT)	DESCRIPTION		
	LINE	STATION	R+/L+	LINE	STATION	R+/L+		6"	8"												
								LF	LF												
TH-1	"H"	20+97.15	0.00'	"H"	30+63.22	0.00'			965	966											
TH-1	"H"	22+99.03	14.00' R+	"H"	30+14.63	13.77' R+	21		720				1420								
TH-1	"H"	25+35.45	15.78' L+	"H"	26+34.50	6.70' L+	27B		100												
TH-1	"H"	26+34.50	6.70' L+	"H"	30+24.94	10.70' L+	27B		390												
TH-1	"H"	30+38.00	10.70' L+	"H"	31+40.50	56.66' L+					250										
TH-1	"H"	31+11.32	34.70' L+	"H"	31+43.00	83.37' L+	27B		60												
TH-1	"H"	31+40.50	56.66' L+	-	-	-						66								ARROW (TYPE 5), Tot 2	
TH-1	"H"	31+33.54	44.03' L+	-	-	-										22				STOP	
TH-1	"H"	31+40.50	56.66' L+	-	-	-										36				ARROW (TYPE 8)	
TH-1	"H"	31+11.32	22.95' L+	"H"	31+32.25	34.70' L+										24				LIMIT LINE	
PD-1	"H"	22+99.00	14.33' L+	"H"	31+30.53	64.88' L+	27B	851			851							212		3" BLACK STRIPE ON BRIDGE	
PD-1	"H"	20+97.00	0.00'	"H"	31+24.83	0.00'	11	1028			62										
PD-1	"H"	22+99.00	14.33' R+	"H"	31+08.76	12.20' R+	28	1608					168						804	BLACK STRIPE BETWEEN YELLOW	
PD-1	"H"	22+99.00	32.45' R+	"H"	31+08.43	23.50' R+	28	1598					1608						799	BLACK STRIPE BETWEEN YELLOW	
PD-1	"H"	22+99.00	46.81' R+	"H"	24+76.06	41.76' R+	11	174			174										
PD-1	"H"	22+99.00	60.95' R+	"H"	30+27.18	55.57' R+	27B	713			713								212	3" BLACK STRIPE ON BRIDGE	
PD-1	"H"	30+50.52	12.00' L+	"H"	30+48.46	25.47' R+								4			12			YIELD LINE	
PD-1	"H"	30+50.52	12.00' L+	"H"	31+30.40	14.00' L+	36							5							
PD-1	"H"	30+50.52	12.00' L+	"H"	31+39.60	57.57' L+	36							6							
PD-1	"H"	30+80.00	27.72' L+	-	-	-						24								24	YIELD
PD-1	"H"	31+11.32	43.00' L+	"H"	31+32.25	32.00' L+								22					66	ARROW (TYPE 5), Tot 2	
PD-1	"H"	31+30.40	14.00' L+	"H"	31+39.60	57.57' L+	36							3							
PD-1	"H"	31+32.28	23.00' L+	"H"	31+46.52	21.94' L+								5						14	LIMIT LINE
PD-1	"H"	31+35.39	35.42' L+	"H"	31+47.50	35.42' L+														22	STOP
TOTAL									6222	2235	3016	126	3196	45	22	82	138	2027			

R-961
B-194

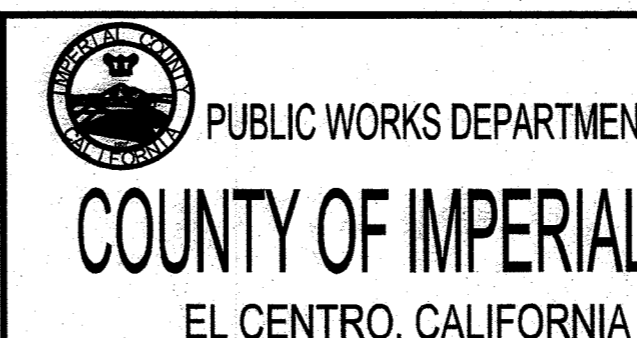
REVISION	DATE	COMMENTS
2	09/20/2016	90% PLANS
3	02/23/2017	100% PLANS
4	04/26/2017	100% PLANS
5	05/16/2017	100% PLANS
6	05/01/2019	100% PLANS - 2018 Standards Revisions
7	09/16/2019	100% PLANS - CALTRANS Review Comments
8	10/14/2019	100% PLANS - CALTRANS Review Comments



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Garrett McLaughlin
GARRETT MCLAUGHLIN, P.E.
67687 R.C.E. No.
09/16/2019 DATE
06/30/2021 REG. EXP.



COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
John A. Gay
JOHN A. GAY, P.E.
DIRECTOR OF PUBLIC WORKS
62028 R.C.E. No.
09/30/2021 REG. EXP.



DATE: 05/01/19
DRAWN: J. CRUZ
SCALE: NO SCALE
CHECKED: C. SILVA

PROJECT TITLE
CALIFORNIA WASTEWAY BRIDGE
SEISMIC RETROFIT
IN IMPERIAL COUNTY
COUNTY PROJECT No. 58C0094

SUMMARY OF QUANTITIES

REFERENCE	Q-1
105-100	SHEET 6 OF 9

QUANTITIES

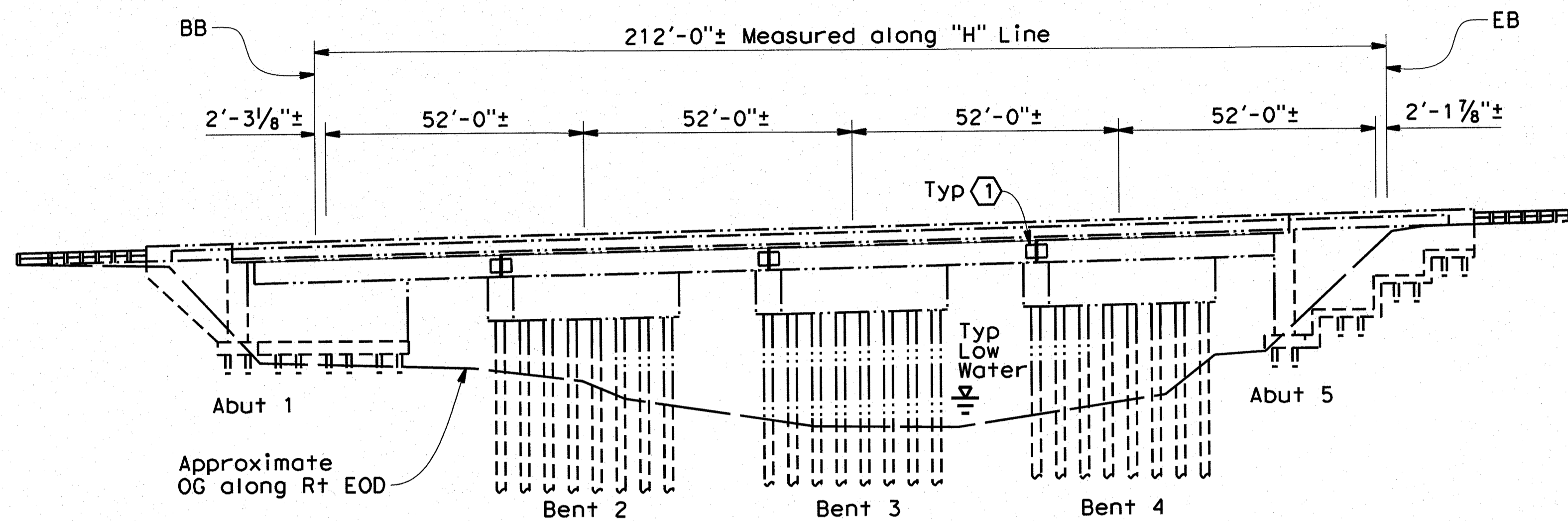
Lead Compliance Plan	LS
Work Area Monitoring (Bridge)	LS
Temporary Access Structures	LS
Structural Concrete, Bridge	8 CY
Drill and Bond Dowel	60 LF
Bar Reinforcing Steel (Bridge)	925 LB
Furnish Structural Steel (Bridge)	2082 LB
Erect Structural Steel (Bridge)	2082 LB
Surface Preparation and Painting of Steel	LS

Legend:

- Typ Water Surface Elevation
- Existing Structure
- Indicates direction of flow
- ① 10"± Dia sewer pipe, see Note 1
- ② 8"± Dia sewer pipe, see Note 1
- ③ 4½"± Dia conduits, see Note 1

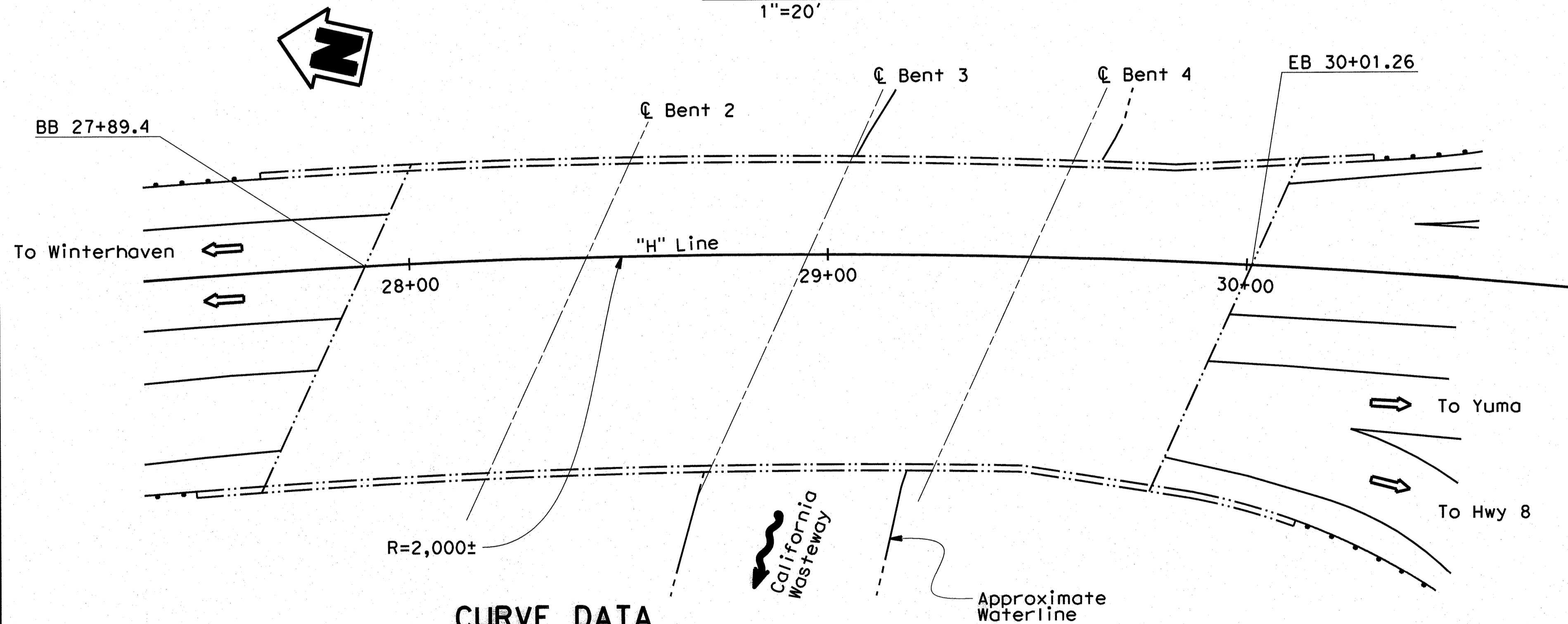
Notes:

- Existing utilities to remain in place and protected during construction operations.
- Log of Test Borings dated 4-14-55 and 3-31-99 are available in the As-Builts records bridge file.



ELEVATION

1"=20'



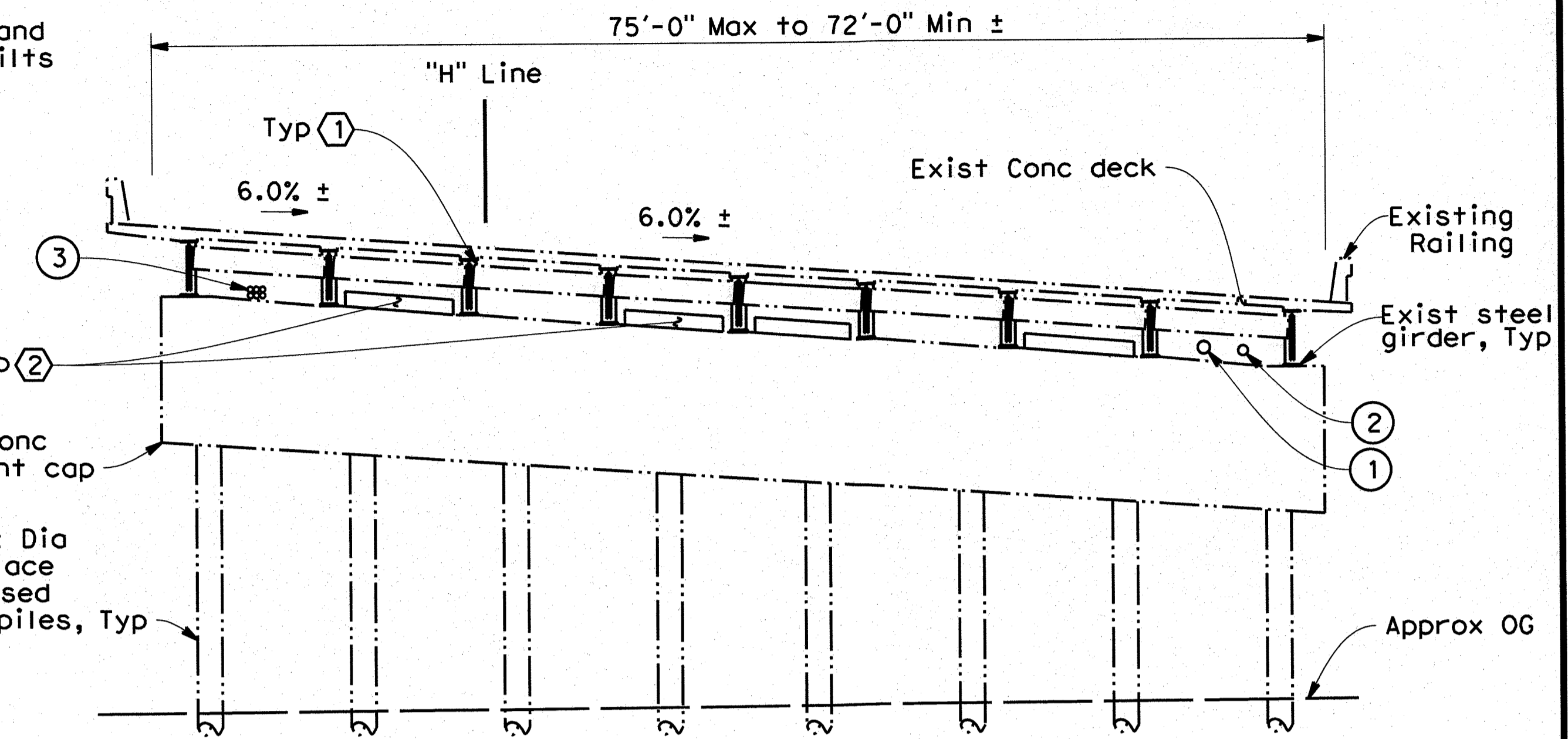
CURVE DATA

R = 2,014'
Δ = 36° 31' 20"
T = 664.71'
L = 1284.09'

PLAN

1"=20'

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



TYPICAL SECTION AT PIER

1/8"=1'0"

GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

SEISMIC DESIGN: Caltrans Seismic Design Criteria Version 1.7 April 2013
Principals of the no collapse seismic retrofit strategy as outlined in Memos to Designer 20-4 "Seismic Retrofit Guidelines for Bridges in California" dated June 2010.
Details of the Approved Retrofit Strategy are contained within "Winterhaven Road Bridge over California Wasteway Final Strategy Report" dated October 2013.

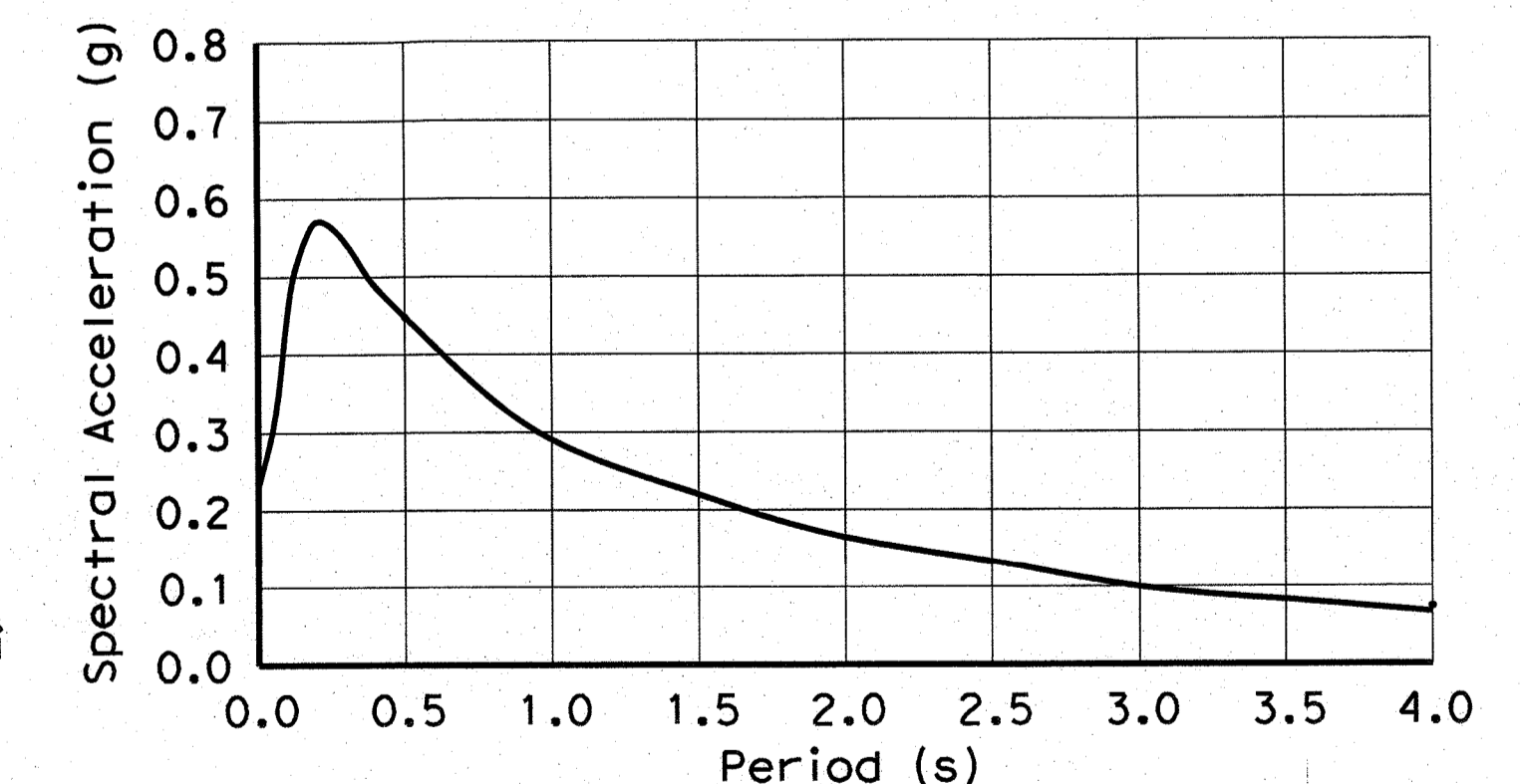
SEISMIC LOADING: SDC ARS Curve for Soil Type D
Soil Profile $V_{30} = 275$ m/s
Moment Magnitude $M_{max} = 6.5$
Peak Bedrock Acceleration = 0.24g with additional fault proximity adjustments for a controlling fault located 8.6 km away

EXISTING REINFORCED CONCRETE:
 $f_y = 44$ ksi
 $f'_c = 5$ ksi

NEW REINFORCED CONCRETE:
 $f_y = 60$ ksi
 $f'_c = 4$ ksi

EXISTING STRUCTURAL STEEL:
ASTM A36 $f_y = 36$ ksi
Weld Metal $f_{exx} = 60$ ksi

NEW STRUCTURAL STEEL: ASTM A36
NEW HIGH STRENGTH BOLTS: ASTM F3125 Grade A490

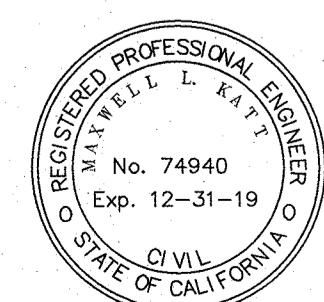


ACCELERATION RESPONSE SPECTRA CURVE

RETROFIT LEGEND

- ① Girder Continuity Plates
- ② Transverse Bent Shear Keys

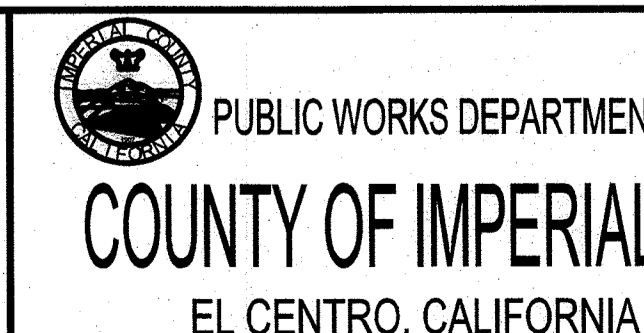
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1	06/23/2016	65% PLANS
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5	05/16/2017	100% PLANS
6	05/01/2019	100% PLANS - 2018 Standards Revisions
7	09/16/2019	100% PLANS - CALTRANS Review Comments



PREPARED UNDER THE DIRECT SUPERVISION OF:
Maxwell L. Katt
MAXWELL L. KATT, P.E.
74940
R.C.E. No.
09/16/2019
DATE



COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
John A. Gay
JOHN A. GAY, P.E.
DIRECTOR OF PUBLIC WORKS
62028
R.C.E. No.
09/30/2019
DATE



DATE 05/01/2019
DRAWN B. MAECHLER
SCALE AS SHOWN
CHECKED S. MCCAULEY

PROJECT TITLE
CALIFORNIA WASTEWAY BRIDGE
SEISMIC RETROFIT
IN IMPERIAL COUNTY
COUNTY PROJECT No. 58C0094

R-961 B-194
GENERAL PLAN
REFERENCE **Br-001**
105-100 SHEET 7 OF 9

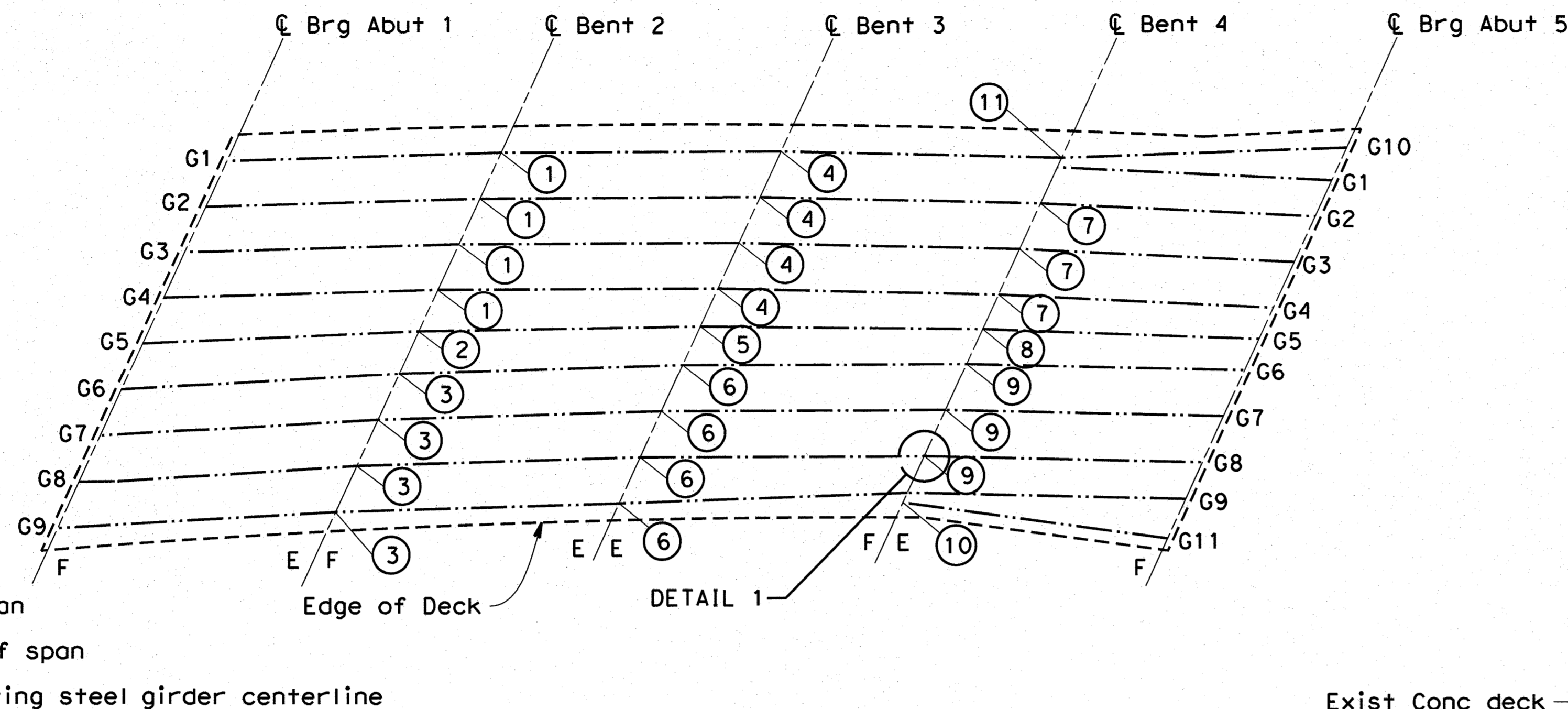
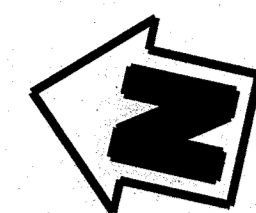


TABLE OF WEB ANGLES

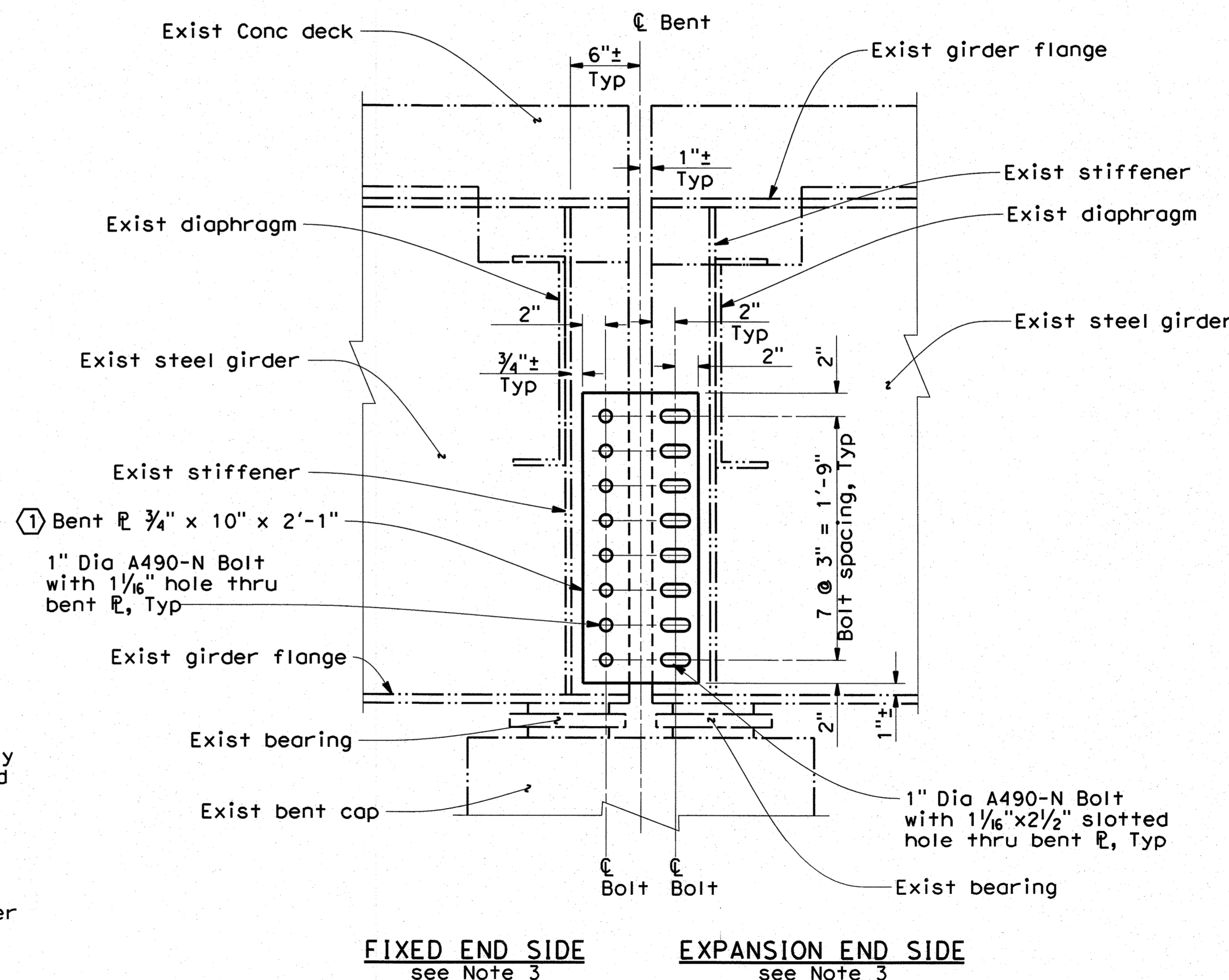
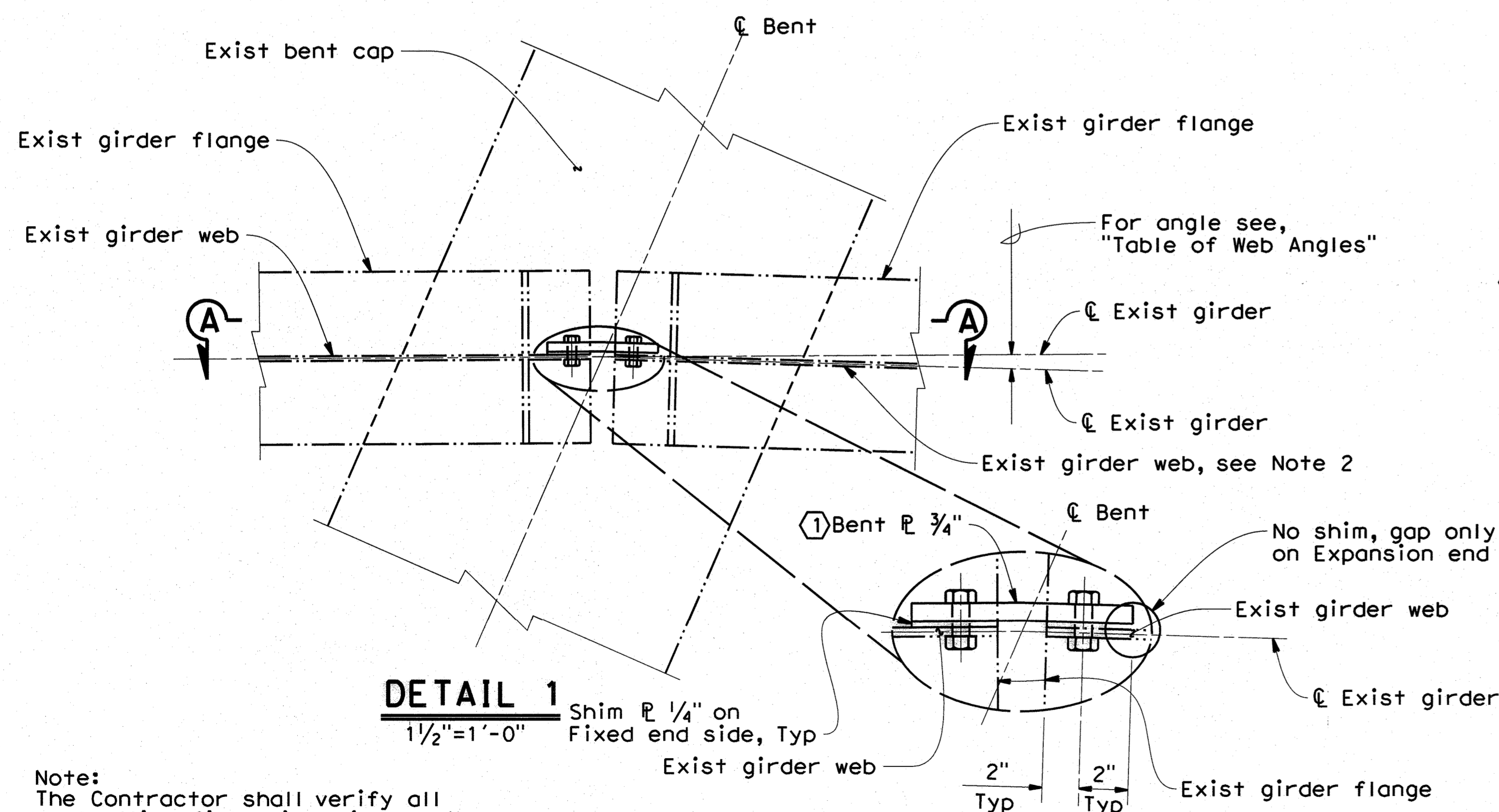
No.	ANGLES
①	1°28'03"±
②	1°29'22"±
③	1°30'32"±
④	1°28'39"±
⑤	1°29'23"±
⑥	1°31'17"±
⑦	1°27'55"±
⑧	1°29'22"±
⑨	1°29'28"±
⑩	7°06'27"±
⑪	3°57'30"±

Notes:

- Plates shall be fabricated with angles at each location.
- All field drilled holes in existing girder webs to be 1-1/16" diameter and centered within hole spacing shown in View A-A.
- At Bent 2 and Bent 4, orient Girder Continuity Plates so that the slotted hole in plate is on the expansion end of existing girder span. At Bent 3, Girder Continuity Plate may be oriented with slotted hole on either girder end.
- Girder Continuity Plates may be erected on either side (east or west) of existing girder webs, with the exception of No. 10 and No 11 which must be erected on the exterior face of girders to avoid utilities.

① Girder Continuity Plates

PLAN
1"=20'



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

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

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74940
R.C.E. No.
09/16/2019
DATE
12/31/2019
REG. EXP.



COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
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John A. Gay
JOHN A. GAY, P.E.
DIRECTOR OF PUBLIC WORKS
9/19/19
DATE
62028
R.C.E. No.
09/30/2019
REG. EXP.

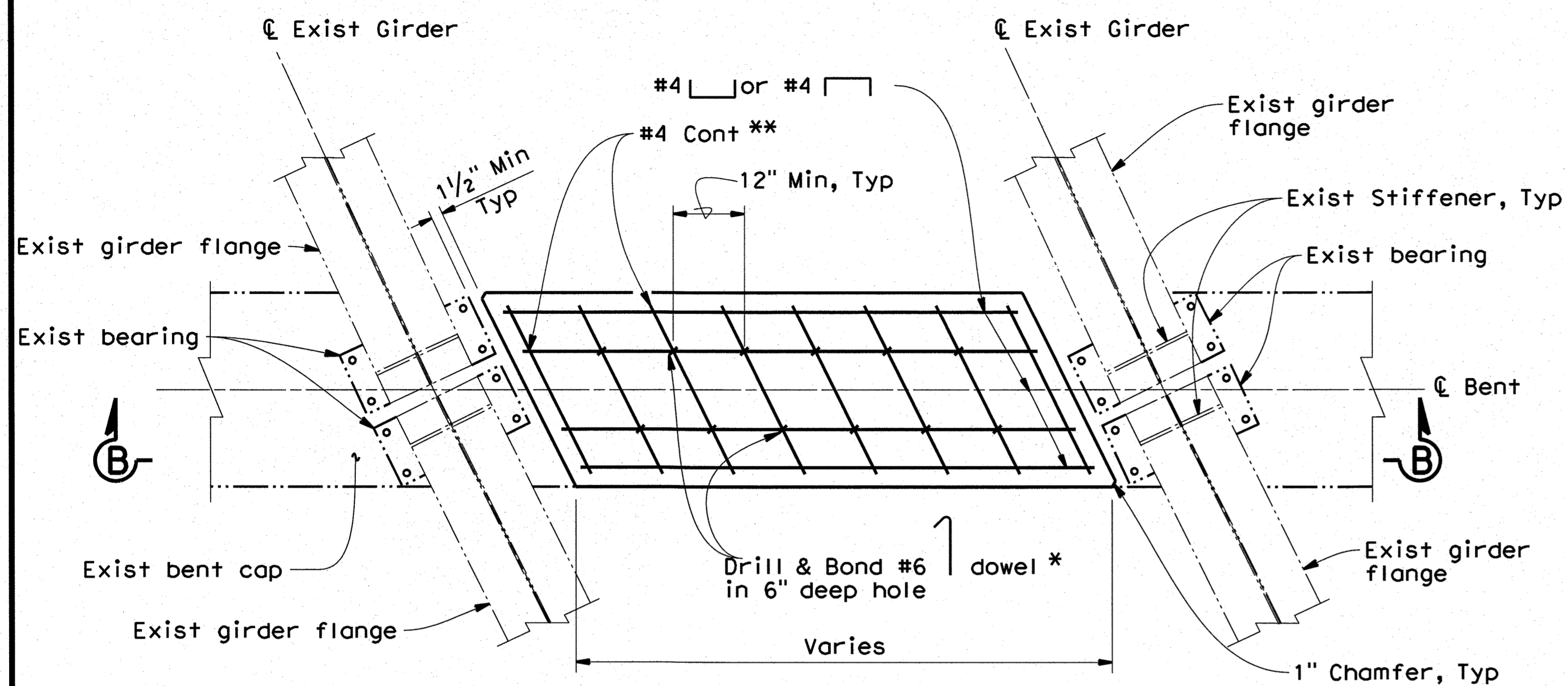
PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
EL CENTRO, CALIFORNIA

DATE
05/01/2019
DRAWN
B. MAECHLER
SCALE
AS SHOWN
CHECKED
S. MCCAULEY

PROJECT TITLE
CALIFORNIA WASTEWAY BRIDGE
SEISMIC RETROFIT
IN IMPERIAL COUNTY
COUNTY PROJECT No. 58C0094

BENT RETROFIT
DETAILS NO. 1
REFERENCE
105-100
Br-002
SHEET 8 OF 9

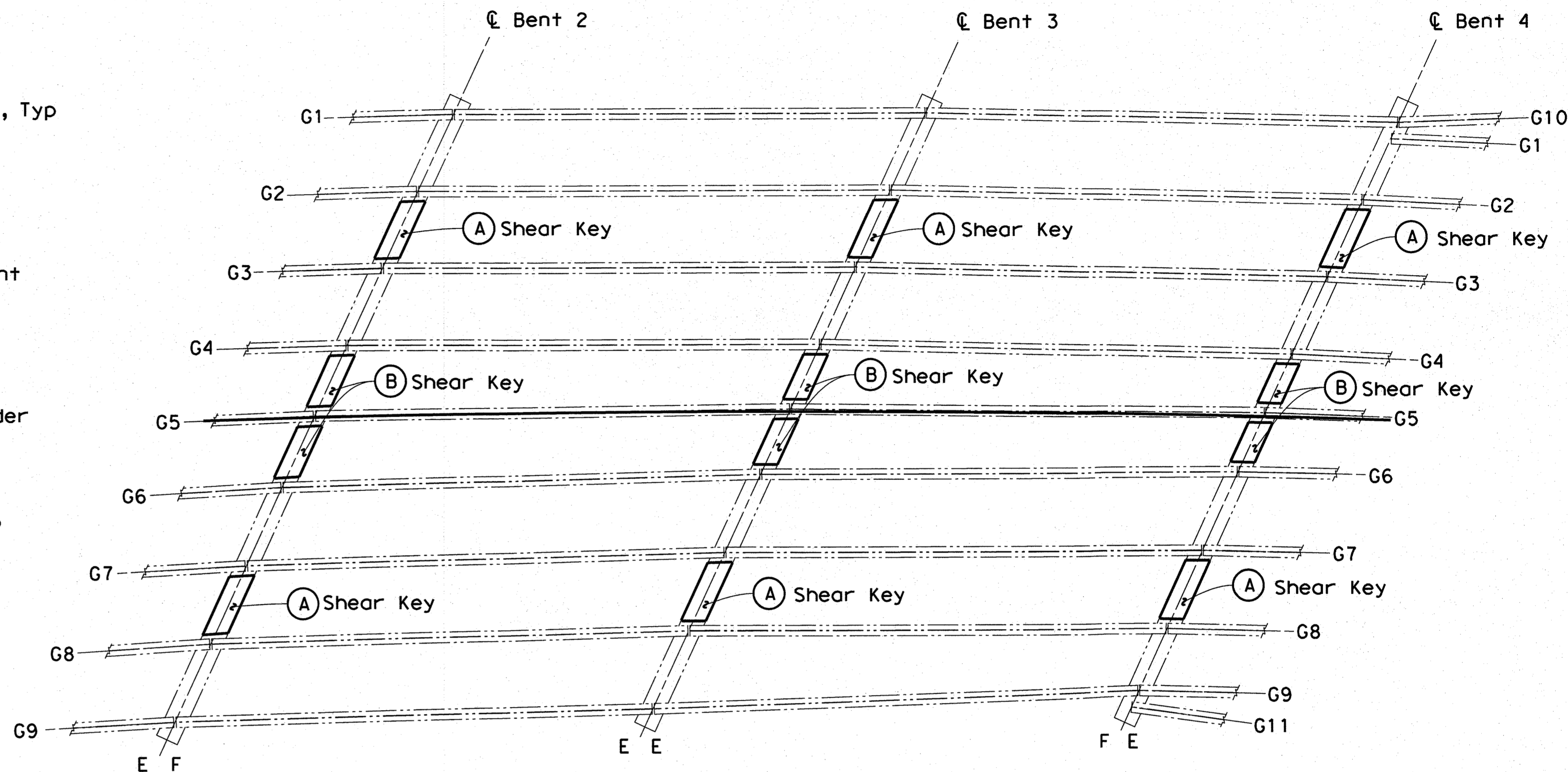
R-961 B-194



SHEAR KEY PLAN

3/4" = 1'-0"

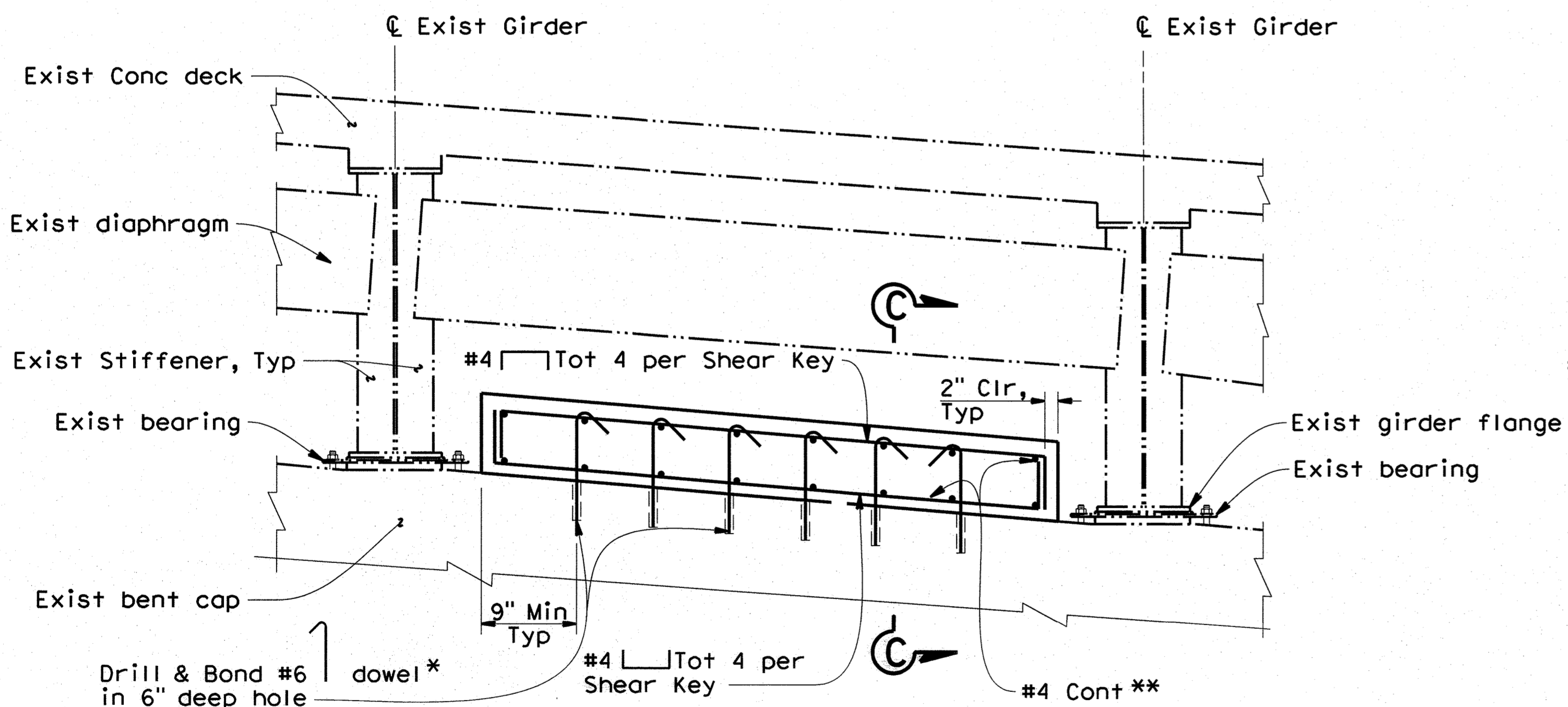
- (A) Shear Key shown, (B) Shear Key similar
- * Tot 12 (A) Shear Key, Tot 8 (B) Shear Key
- ** Tot 16 (A) Shear Key, Tot 12 (B) Shear Key



② Transverse Bent Shear Keys

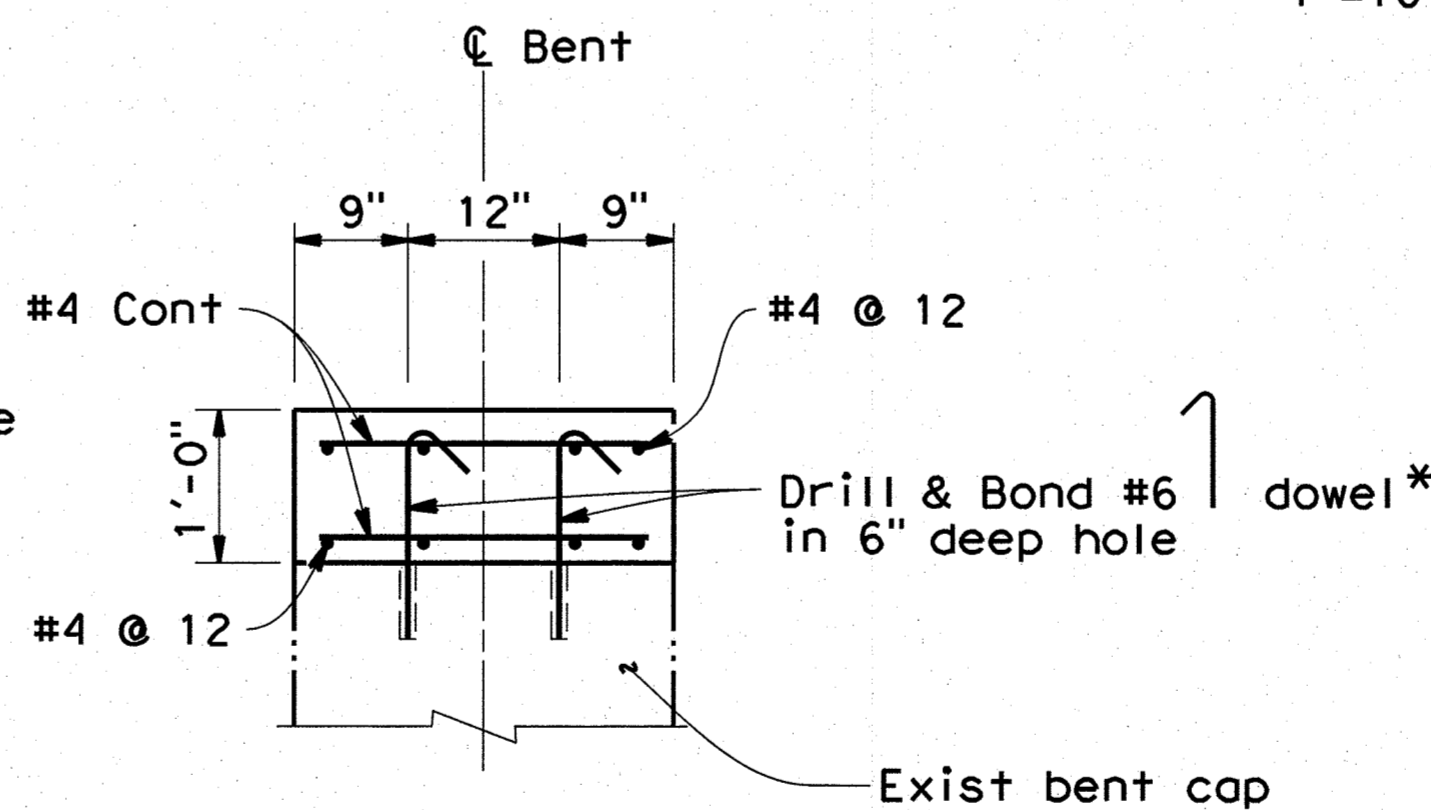
PLAN

1" = 10'



SECTION B-B

3/4" = 1'-0"



SECTION C-C

3/4" = 1'-0"

Legend:

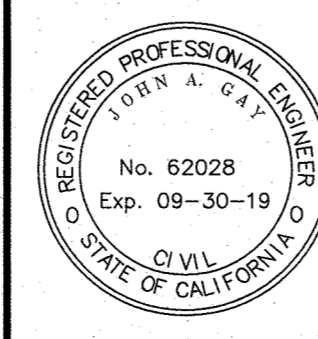
- F = Fixed end of span
- E = Expansion end of span
- G1 = Indicates location of existing steel girder

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

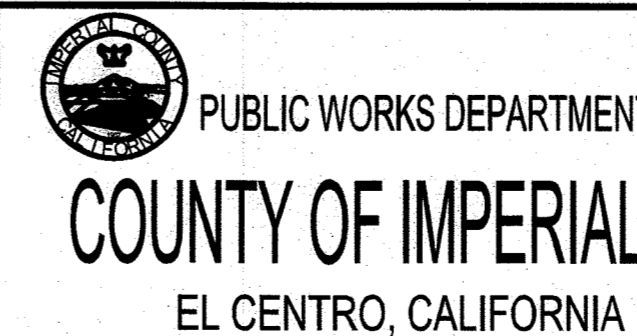
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74940 R.C.E. No.
09/16/2019 DATE 12/31/2019 REG. EXP.



COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
APPROVED FOR CONSTRUCTION BY:
John A. Gay
JOHN A. GAY, P.E.
DIRECTOR OF PUBLIC WORKS
9/19/19 DATE 62028 R.C.E. No.
09/30/2019 REG. EXP.



DATE 05/01/2019
DRAWN BY B. MAECHLER
SCALE AS SHOWN
CHECKED BY S. MCCAULEY

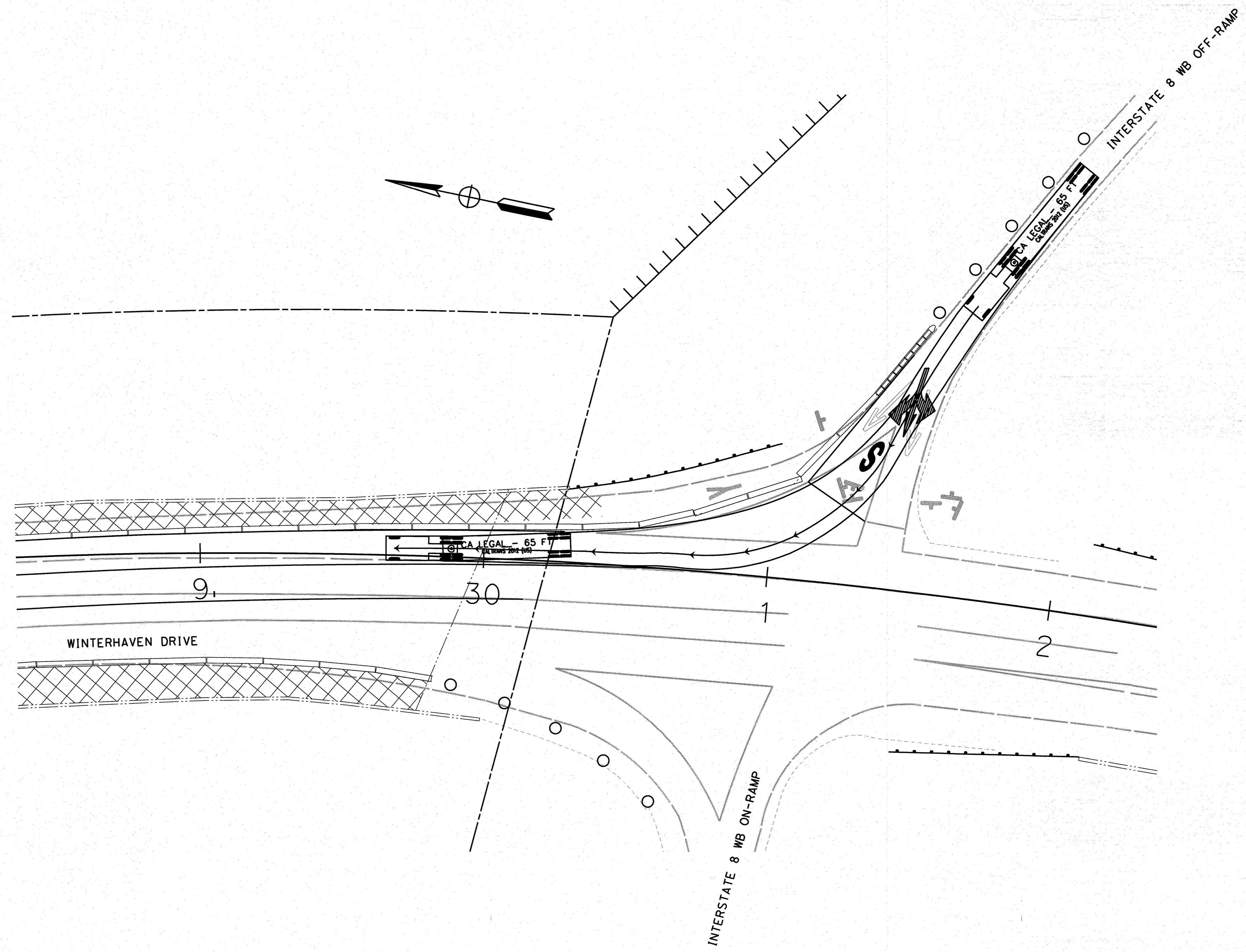
PROJECT TITLE
CALIFORNIA WASTEWAY BRIDGE
SEISMIC RETROFIT
IN IMPERIAL COUNTY
COUNTY PROJECT No. 58C0094

R-961

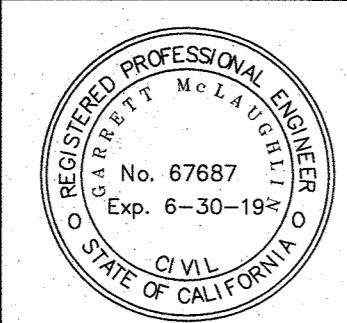
B-194

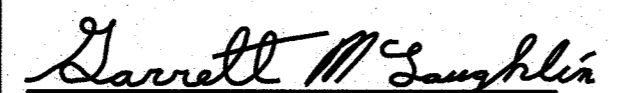
BENT RETROFIT DETAILS NO. 2

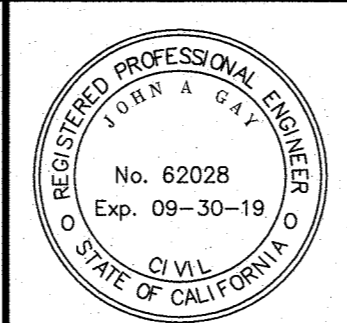
REFERENCE Br-003
105-100 SHEET 9 OF 9

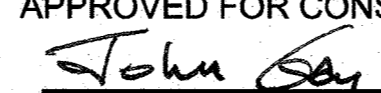



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PREPARED UNDER THE DIRECT SUPERVISION OF:

GARRETT McLAUGHLIN, P.E.
 R.C.E. No. 67687
 DATE: 09/16/2019
 REG. EXP. 06/30/2021



COUNTY OF IMPERIAL PUBLIC WORKS DEPARTMENT
 APPROVED FOR CONSTRUCTION BY:

JOHN A. GAY, P.E.
 DIRECTOR OF PUBLIC WORKS
 R.C.E. No. 62028
 DATE: 9/19/19
 REG. EXP. 09/30/2019


PUBLIC WORKS DEPARTMENT
COUNTY OF IMPERIAL
 EL CENTRO, CALIFORNIA

DATE: _____
 DRAWN: J. CRUZ
 SCALE: 1"=20'
 CHECKED: C. SILVA

PROJECT TITLE:
**CALIFORNIA WASTEWAY BRIDGE
 SEISMIC RETROFIT
 IN IMPERIAL COUNTY
 COUNTY PROJECT No. 58C0094**

REFERENCE: **105-100**
 SHEET OF: **9**

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