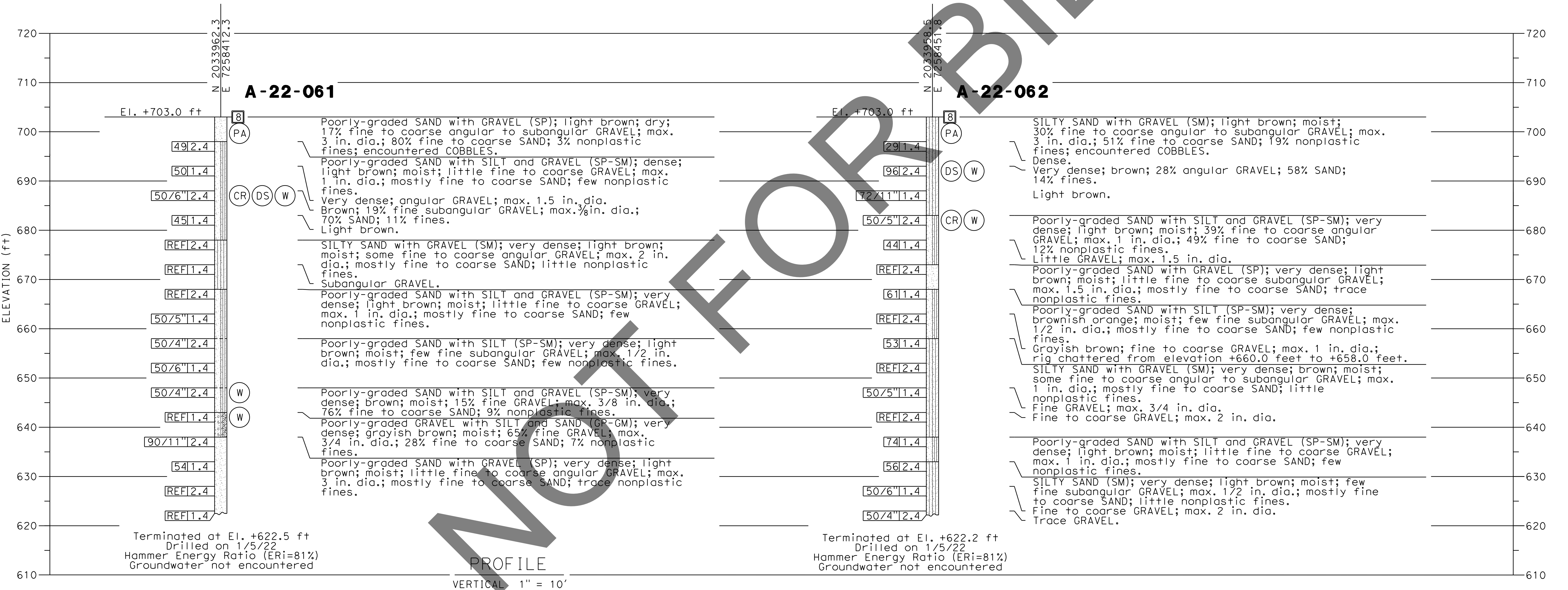
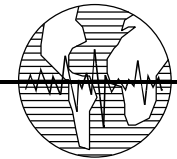
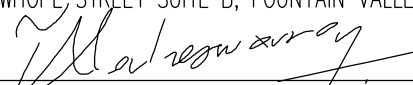


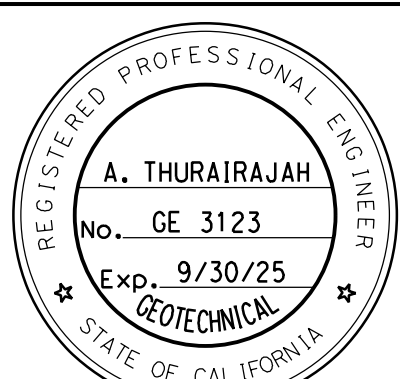
BENCH MARK:
FOUND 3.5" NGS BRASS DISC IN 10"x10"
Conc Mnmt STAMPED "Z1308-1978 NATIONAL
GEODETIC SURVEY" PER NGS DATASHEET PID# EU0704.
NGVD-29 ELEVATION = 1097.43'

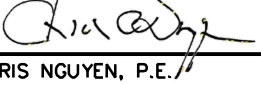
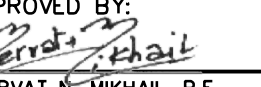
NOTE:
This LOTB sheet (Boring Record) was prepared in accordance with Caltrans
Soil and Rock Logging, Classification and Presentation Manual (2022).



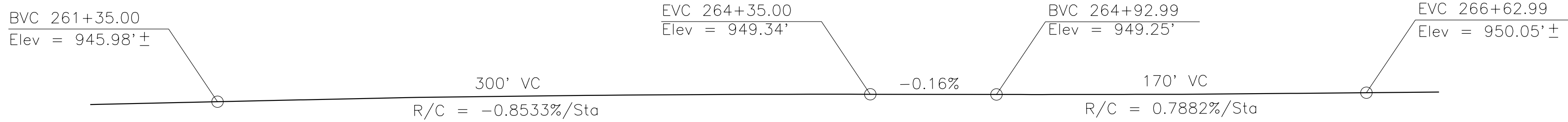
PREPARED BY:

Earth Mechanics, Inc.
Geotechnical & Earthquake Engineering
17800 NEWHOPE STREET SUITE B, FOUNTAIN VALLEY CA. 714-751-3826

(ALAHESH) A. THURAIRAJAH, PROJECT ENGINEER 10-30-24 DATE

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: MJ	DRAWN BY: TN	CHECKED BY: PR	RECOMMENDED BY:  CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE
APPROVED BY:  MERVAT K. MIKHAIL, P.E. DEPUTY DIRECTOR 1/16/2025 DATE		LEI (ROCKY) U. P.E. SUPERVISING ENGINEER 1/15/2025 DATE	

BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES LOG OF TEST BORINGS 3 OF 3 SOMBRA DITCH				
J.L. REF. J.L. 11799	W.O. NO. H14911	PLAN SCALE AS NOTED	SHT. NO. 208	TOT. SHT'S. 240

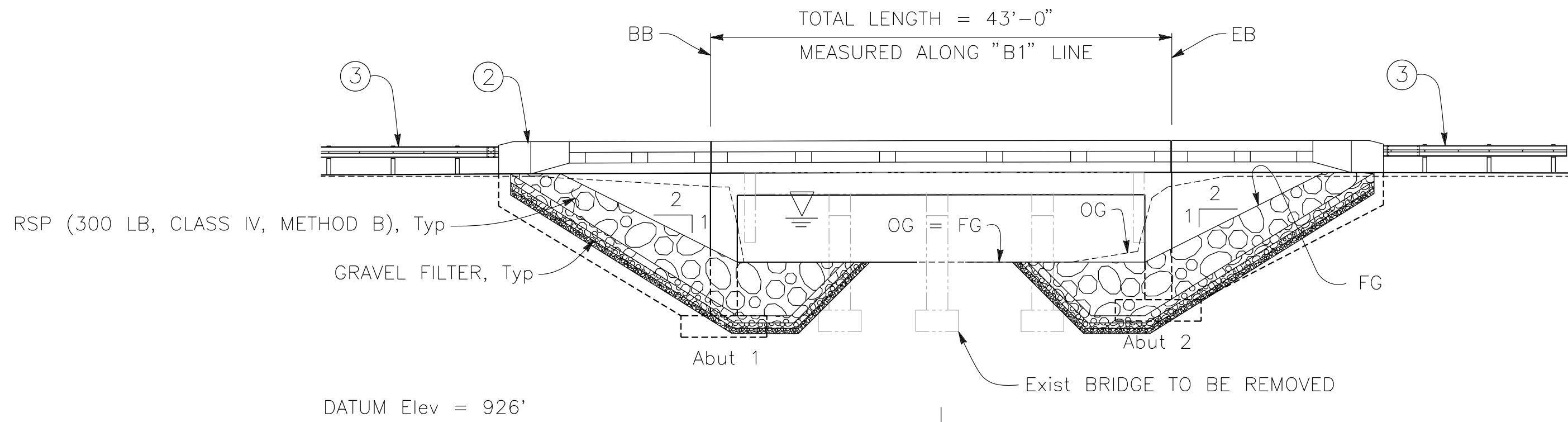


PROFILE GRADE

NO SCALE

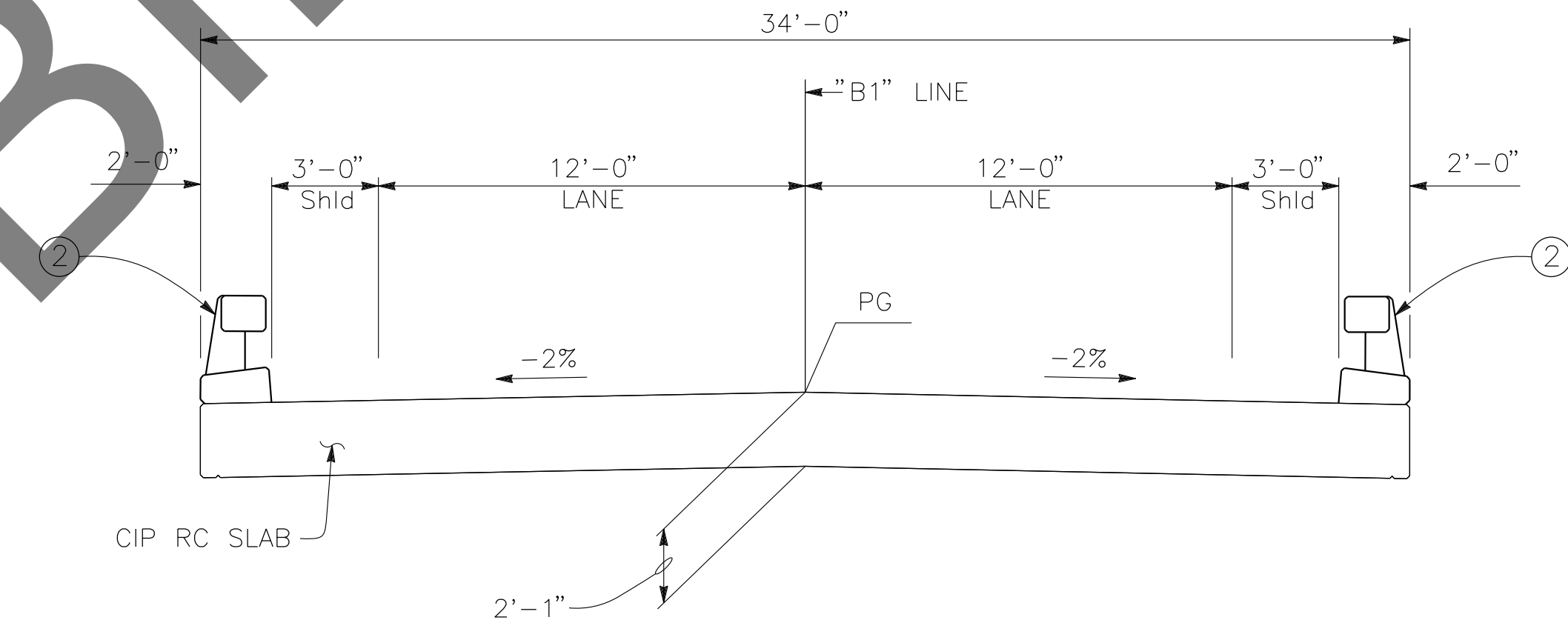
NOTE:

- FOR TEMPORARY DETOUR DURING CONSTRUCTION, SEE ROADWAY PLANS.
- THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



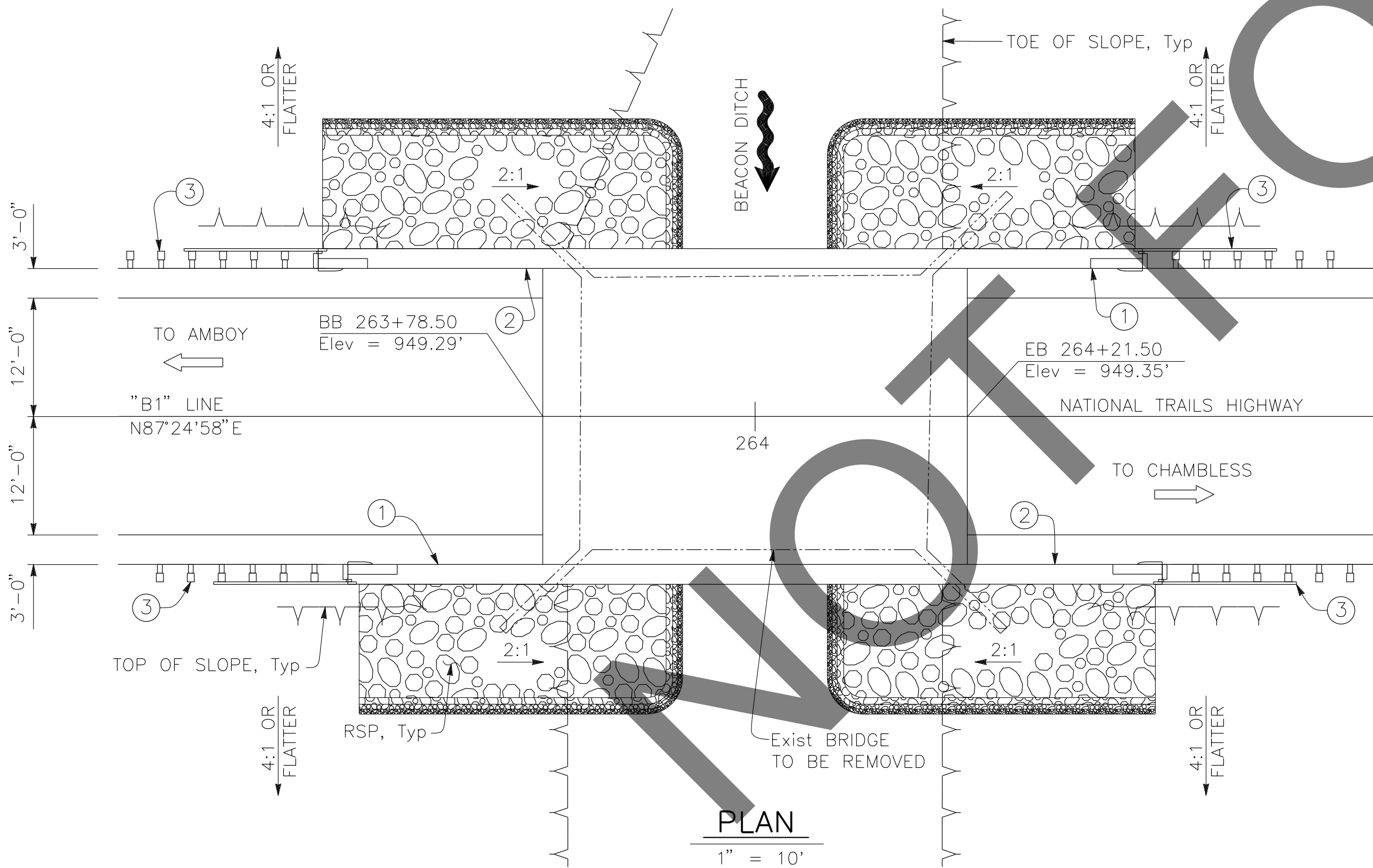
ELEVATION

1" = 10'



TYPICAL SECTION

1/4" = 1'-0"



PLAN

1" = 10'

LEGEND:

- PAINT "BEACON DITCH BRIDGE"
"BR NO. 54C0817" AND
YEAR CONSTRUCTED
- CONCRETE BARRIER (TYPE 85 MOD), TO BE PAINTED WHITE.
- MGS, SEE ROADWAY PLANS
- WATER SURFACE ELEVATION. FOR "HYDROLOGIC
SUMMARY" TABLE, SEE "FOUNDATION PLAN" SHEET.
- EXISTING STRUCTURE, TO BE REMOVED

PREPARED BY:



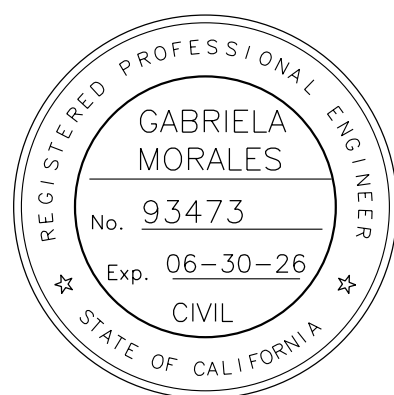
110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642

Gabriela Morales
GABRIELA MORALES, PROJECT ENGINEER

12-16-24
DATE

MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE

FIELD CHANGES



SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: JR	DRAWN BY: EF	CHECKED BY: EG	RECOMMENDED BY: Chris Nguyen, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE
APPROVED BY: Mervat R. Mikhail, P.E. DEPUTY DIRECTOR 1/16/2025 DATE			

BRIDGE REPLACEMENT ON
NATIONAL TRAILS HIGHWAY
AT 10 BRIDGES
GENERAL PLAN
BEACON DITCH

J.L. REF. J.L. 11801	W.O. NO. H14913	PLAN SCALE AS NOTED	SHT. NO. 209	TOT. SHT'S. 240
-------------------------	--------------------	------------------------	-----------------	--------------------

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION
WITH CALIFORNIA AMENDMENTS, PREFACE DATED JUNE 2024

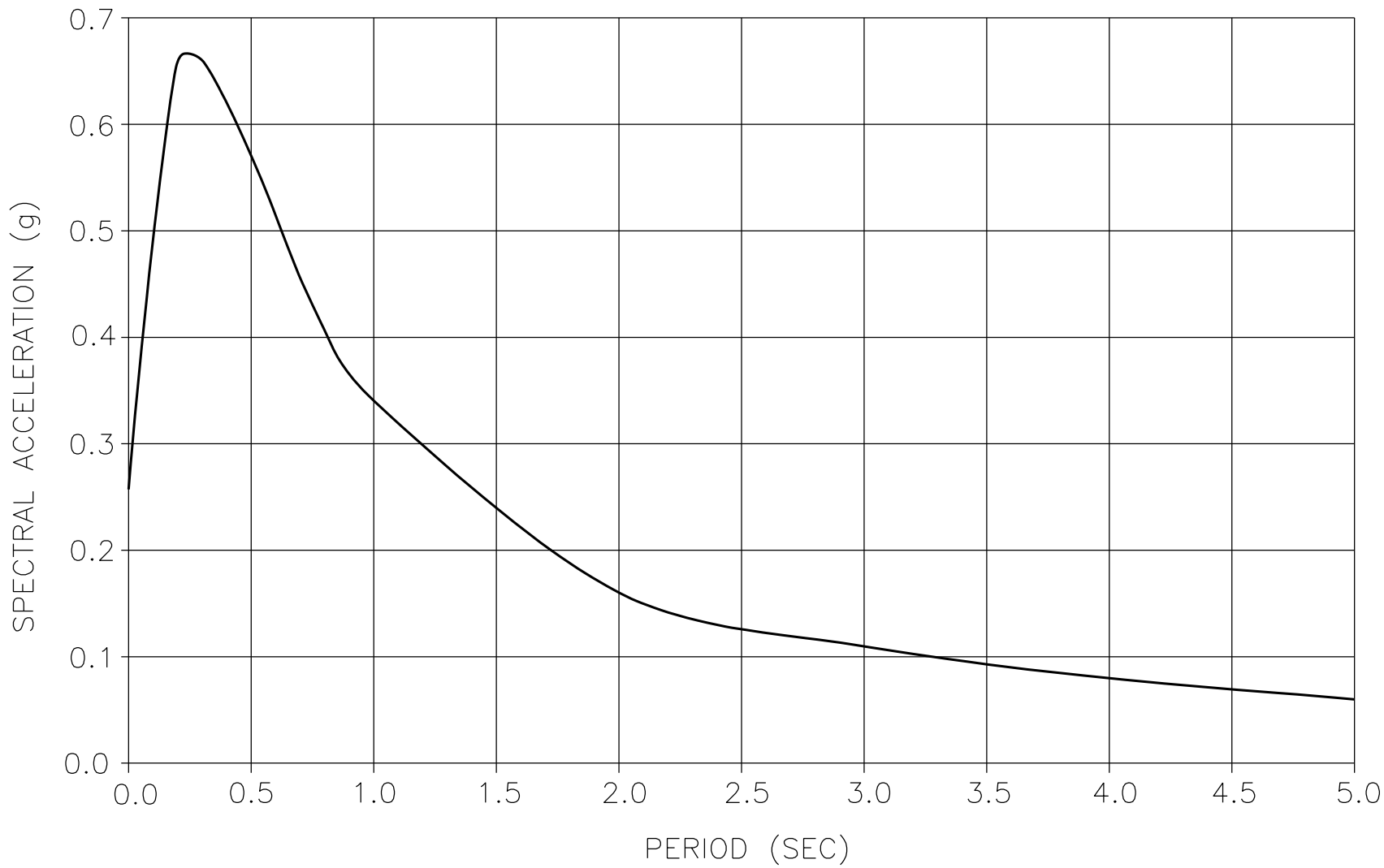
STANDARD PLANS AND SPECIFICATIONS, 2024 EDITION
WITH REVISED STANDARD PLANS, DATED OCTOBER 2024

SEISMIC DESIGN: CALTRANS SEISMIC DESIGN CRITERIA (SDC)
VERSION 2.0, APRIL 2019

DEAD LOAD: INCLUDES 0.035 KSF FOR FUTURE WEARING SURFACE

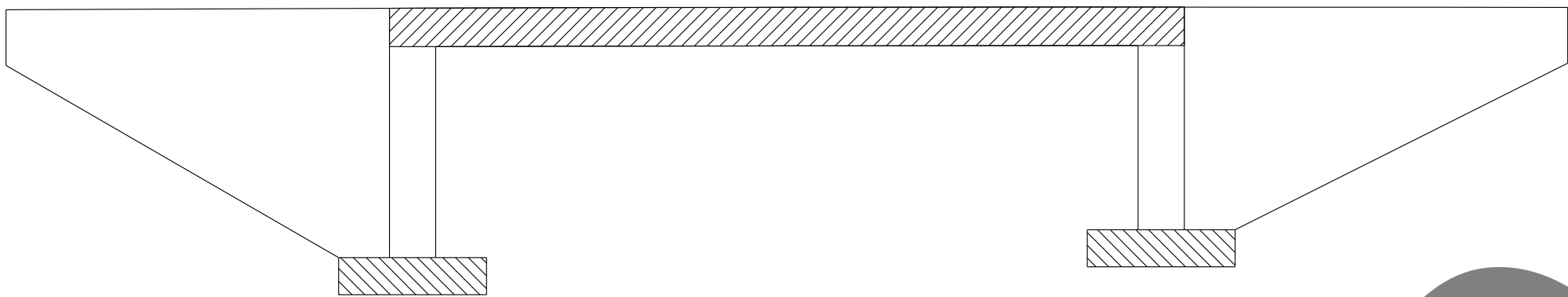
LIVE LOAD: HL-93 AND PERMIT DESIGN LOAD

SEISMIC DATA: SOIL PROFILE : $V_{S30} = 1017$ FT/S
MOMENT MAGNITUDE : 6.40
PEAK GROUND ACCELERATION = 0.26g
5% DAMPING



ARS CURVE
NO SCALE

REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'_c =$ See "CONCRETE STRENGTH AND TYPE LIMITS"
 $n = 8$



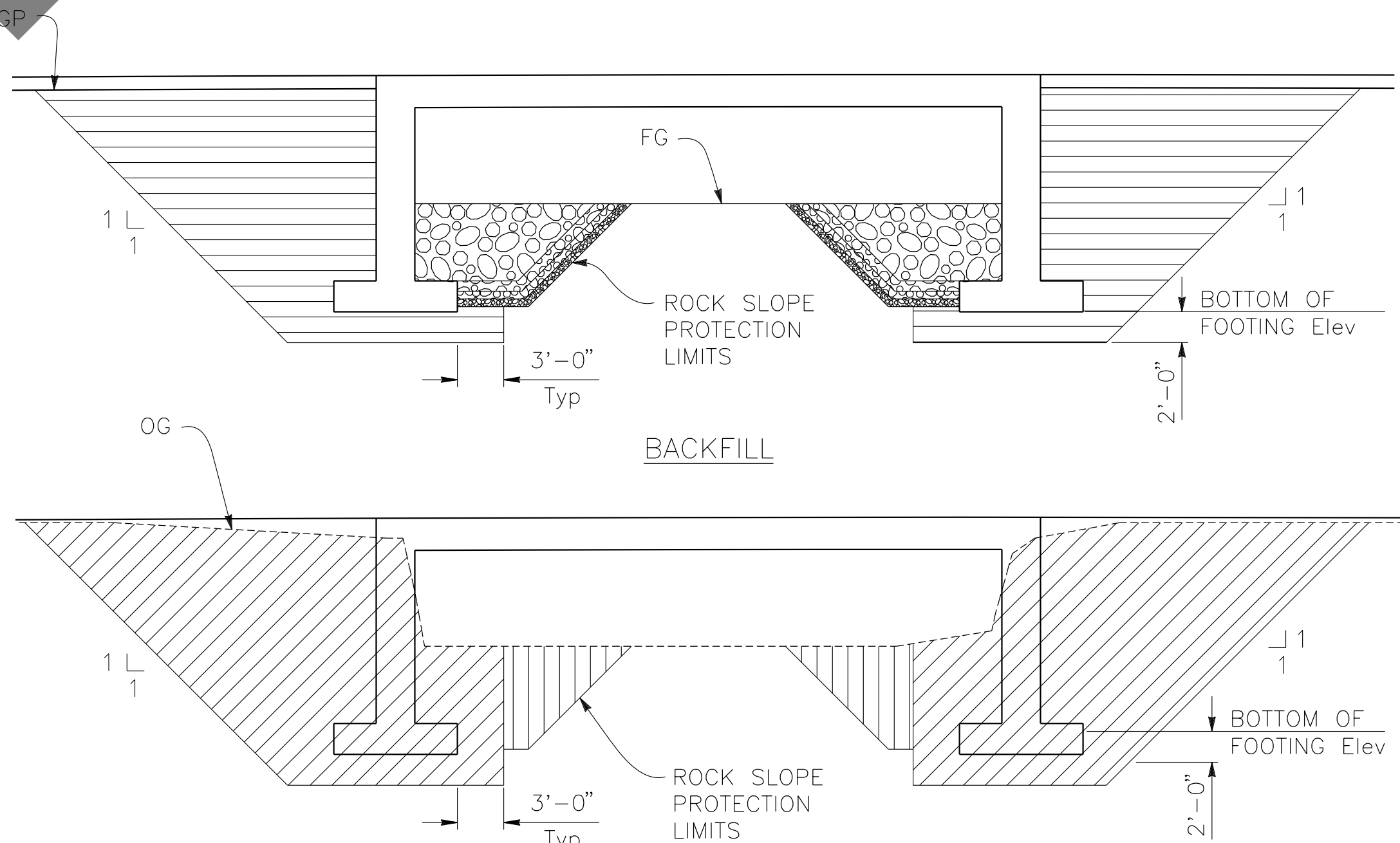
- LEGEND:
- STRUCTURAL CONCRETE, BRIDGE ($f'_c = 3.6$ KSI @ 28 DAYS)
 - STRUCTURAL CONCRETE, BRIDGE FOOTING ($f'_c = 3.6$ KSI @ 28 DAYS)
 - STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER) ($f'_c = 4.0$ KSI)

CONCRETE STRENGTH AND TYPE LIMITS
NO SCALE

SHEET No.	TITLE
209	GENERAL PLAN
210	INDEX TO PLANS
211	DECK CONTOURS
212	FOUNDATION PLAN
213	ABUTMENT LAYOUT
214	ABUTMENT DETAILS
215	SLAB DETAILS
216	ROCK SLOPE PROTECTION DETAILS
217	LOG OF TEST BORINGS 1 OF 2
218	LOG OF TEST BORINGS 2 OF 2



ITEM	QUANTITY	UNIT
CHANNEL EXCAVATION	455	CY
STRUCTURE EXCAVATION (BRIDGE)	1100	CY
STRUCTURE BACKFILL (BRIDGE)	760	CY
STRUCTURAL CONCRETE, BRIDGE FOOTING	43	CY
STRUCTURAL CONCRETE, BRIDGE	101	CY
STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER)	113	CY
BAR REINFORCING STEEL (BRIDGE)	50840	LB
BAR REINFORCING STEEL (GALVANIZED)	550	LB
BRIDGE REMOVAL	1	LS
ROCK SLOPE PROTECTION (300 LB, CLASS IV, METHOD B)	208	CY
GRAVEL FILTER (TYPE A)	47	CY
GRAVEL FILTER (TYPE B)	44	CY
GRAVEL FILTER (TYPE C)	55	CY
CONCRETE BARRIER (TYPE 85 MOD)	166	LF

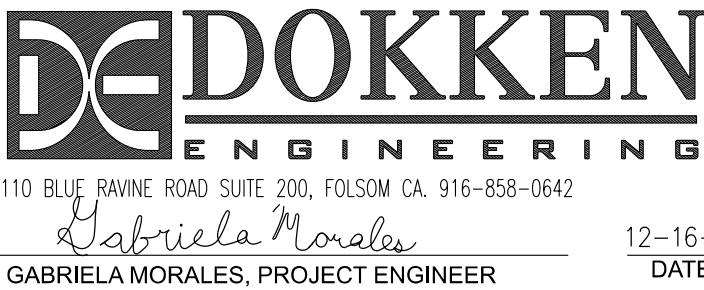


- LEGEND:
- STRUCTURE EXCAVATION (BRIDGE)
 - STRUCTURE BACKFILL (BRIDGE)
 - CHANNEL EXCAVATION
 - ROCK SLOPE PROTECTION, SEE "ROCK SLOPE PROTECTION" SHEET

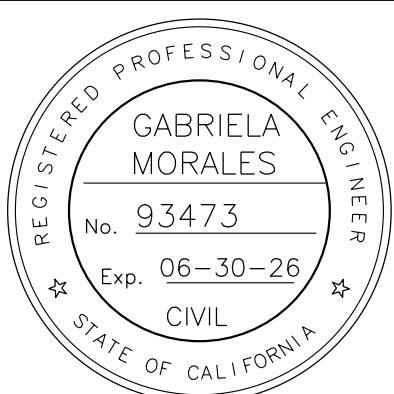
NOTES:
FOR WINGWALL EXCAVATION & BACKFILL
LIMITS SEE STANDARD PLAN A62C.

LIMITS OF PAYMENT FOR
STRUCTURE EXCAVATION AND BACKFILL
NO SCALE

PREPARED BY:



MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: JR	DRAWN BY: EF	CHECKED BY: EG	RECOMMENDED BY: Chris Nguyen, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE
APPROVED BY: LEI (ROCKY) LI, P.E. SUPERVISING ENGINEER 1/15/2025 DATE		APPROVED BY: Mervat R. Mikhail, P.E. DEPUTY DIRECTOR 1/16/2025 DATE	

BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES INDEX TO PLANS BEACON DITCH			
J.L. REF. J.L. 11801	W.O. NO. H14913	PLAN SCALE AS NOTED	SHT. NO. 210
		TOT. SHT'S. 240	

MARK	REVISIONS	DATE	APPR.	DATE



PLAN
1/8" = 10'

NOTES:

- 0.1' CONTOUR INTERVALS SHOWN.
- CONTOURS DO NOT INCLUDE CAMBER.
- TOP OF CONCRETE DECK SHOWN.

LEGEND:

× 10' INTERVALS ALONG STATION LINE.

PREPARED BY:

110 BLUE RAINE ROAD SUITE 200, FOLSOM CA. 916-858-0642

Gabriela Morales

GABRIELA MORALES, PROJECT ENGINEER

12-16-24
DATE

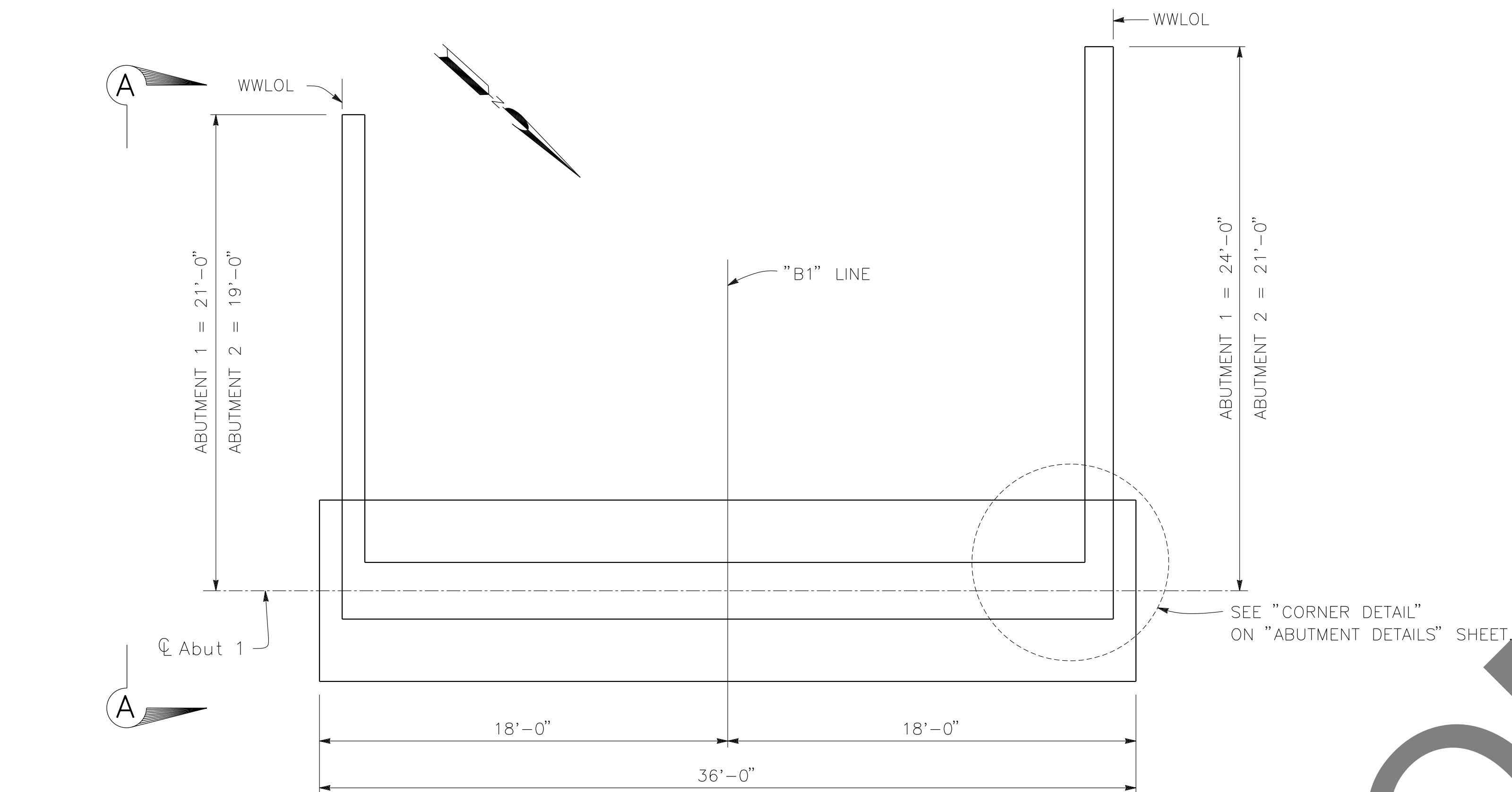
MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES

SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: JR	DRAWN BY: EF	CHECKED BY: EG	RECOMMENDED BY: <i>Chris Nguyen</i> CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE
APPROVED BY: <i>Lei (Rocky) Li</i> LEI (ROCKY) LI, P.E. SUPERVISING ENGINEER 1/15/2025 DATE			APPROVED BY: <i>Mervat R. Mikhail</i> MERVAT R. MIKHAIL, P.E. DEPUTY DIRECTOR 1/16/2025 DATE

J.L. REF. J.L. 11801	W.O. NO. H14913	PLAN SCALE AS NOTED	SHT. NO. 211	TOT. SHT'S. 240
-------------------------	--------------------	------------------------	-----------------	--------------------

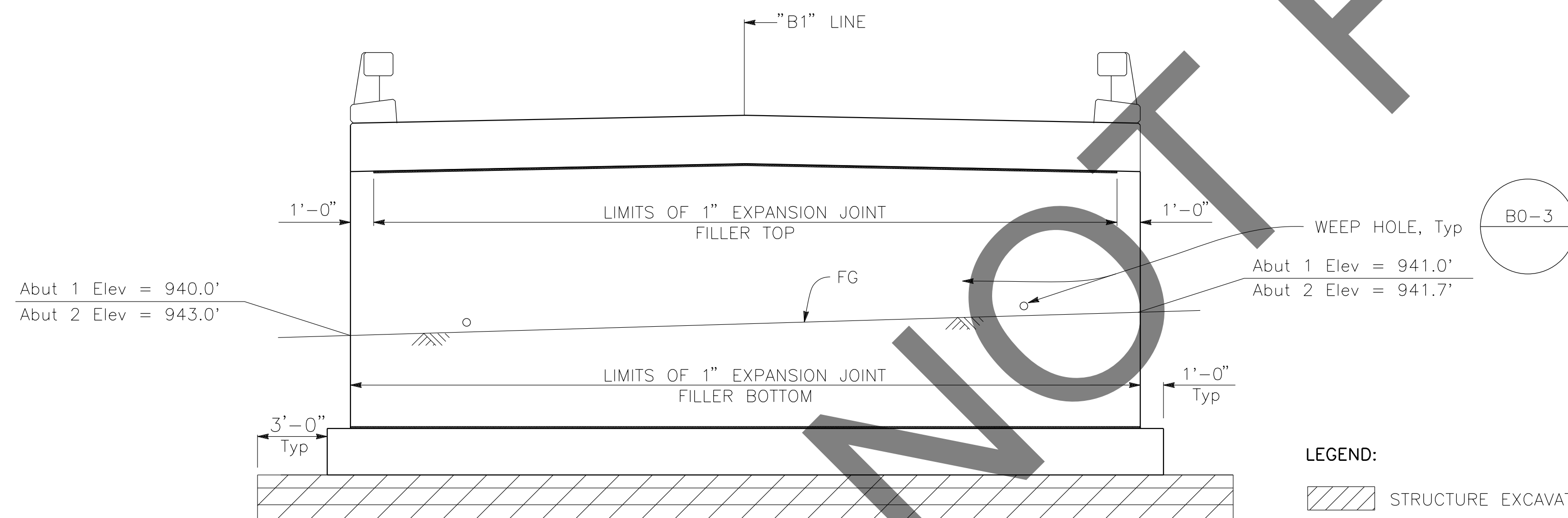
BRIDGE REPLACEMENT ON
NATIONAL TRAILS HIGHWAY
AT 10 BRIDGES
DECK CONTOURS
BEACON DITCH



PLAN

$$\frac{1}{4}'' = 1'-0''$$

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR

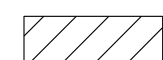


ELEVATION

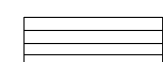
$$\frac{1}{4}'' = 1'-0''$$

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR

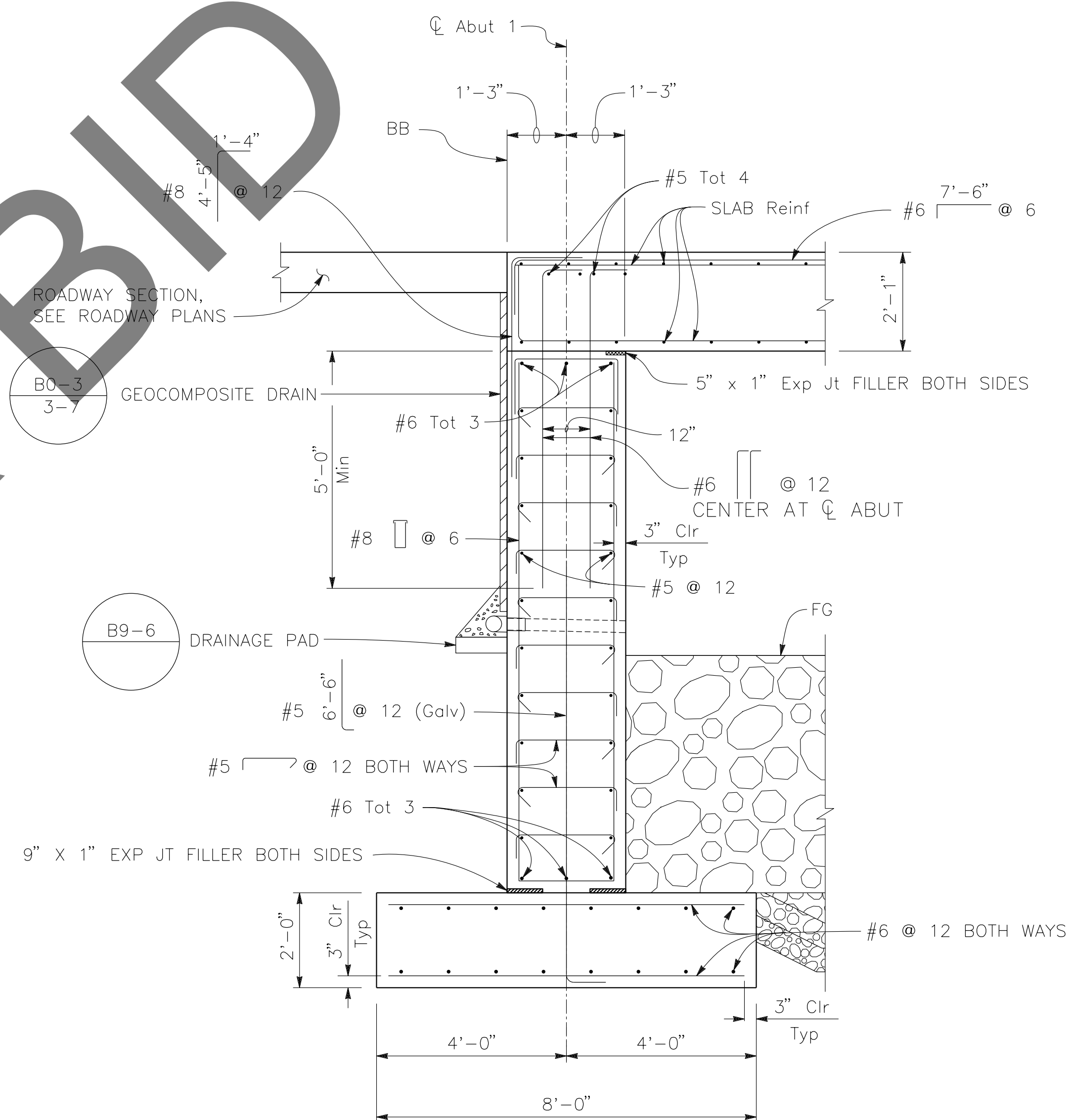
LEGEND:



STRUCTURE EXCAVATION (BRIDGE)



STRUCTURE BACKFILL (BRIDGE)



TYPICAL SECTION

$$\frac{1}{2}'' = 1'-0''$$

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR

NOTES:

1. FOR "VIEW A-A," SEE "ABUTMENT
DETAILS" SHEET

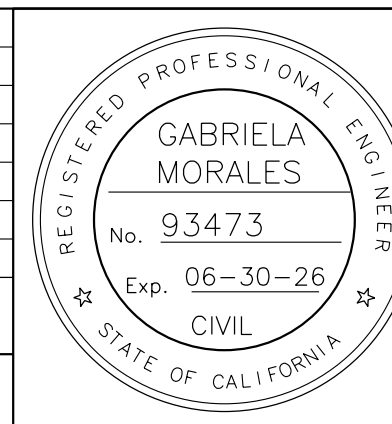
PREPARED BY:



110 BLUE RAVINE ROAD SUITE 200, FOLSOM, CA. 916-858-0642

Gabriela Morales
GABRIELA MORALES, PROJECT ENGINEER

12-16-24
DATE

[illegible]

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: <u>JR</u>	DRAWN BY: <u>EF</u>	CHECKED BY: <u>EG</u>	RECOMMENDED BY: <u>Jim Cheng</u>	1/14/2025
1/15/2025 LEI (ROCKY) LI, P.E. LEI ENGINEER			CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER	DATE
1/16/2025 DATE			APPROVED BY: <u>Mervat K. Mikhail</u> MERVAT K. MIKHAIL, P.E. DEPT. DIRECTOR	1/16/2025
DATE			DATE	DATE

BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES

ABUTMENT LAYOUT

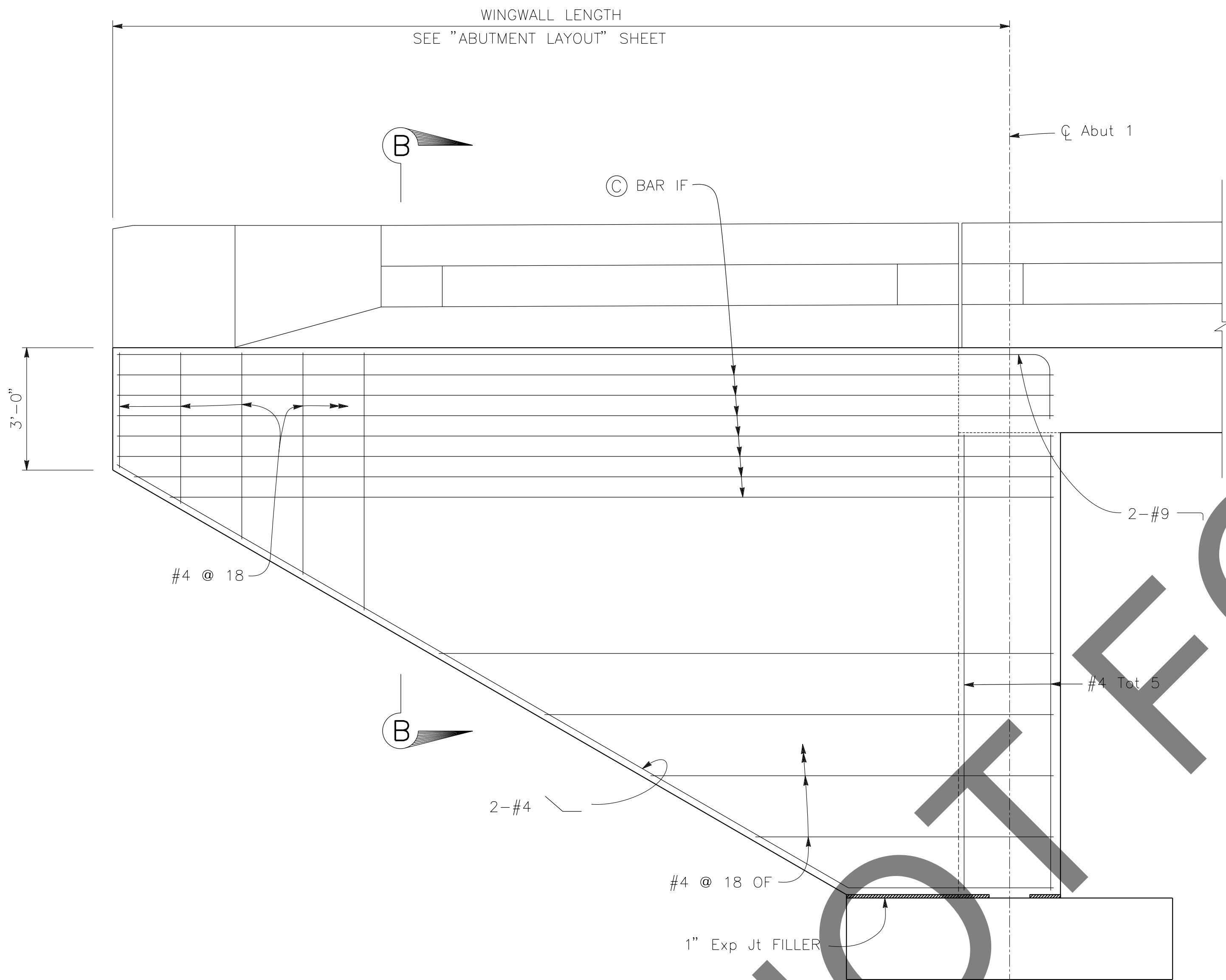
BEACON DITCH

J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
J.L. 11801	H14913	AS NOTED	213	240

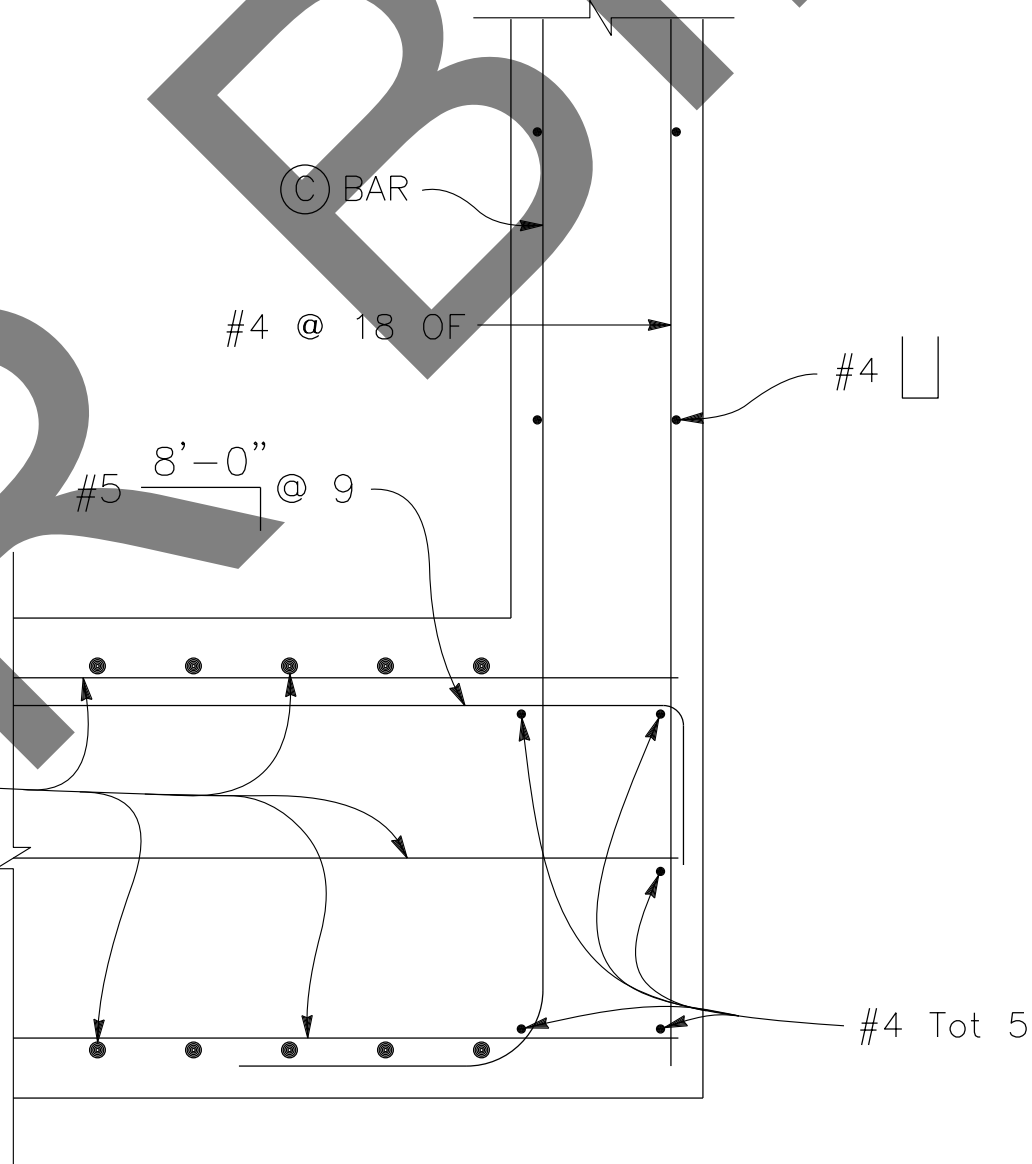
BAR	WINGWALL LENGTH		
	19'-0"	21'-0"	24'-0"
⊙	#9 @ 9	#9 @ 9	#8 @ 6
T	1'-0"	1'-0"	1'-3"

NOTES:
1. FOR DETAILS NOT SHOWN, SEE

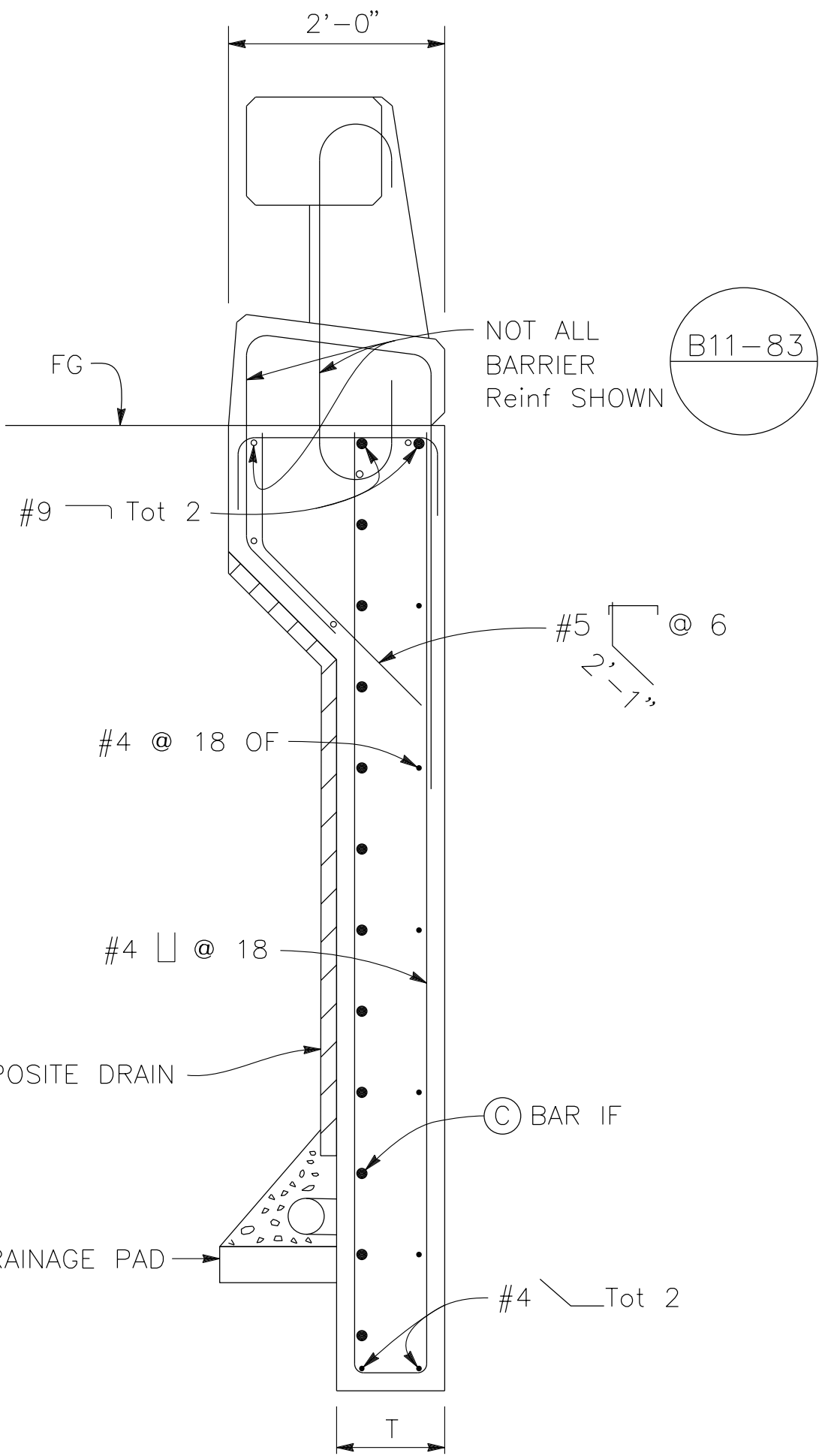
B0-3



VIEW A-A
1/2" = 1'-0"
ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR.



CORNER DETAIL
1" = 1'-0"



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

PREPARED BY:

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642
Gabriela Morales
GABRIELA MORALES, PROJECT ENGINEER
12-16-24
DATE

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES



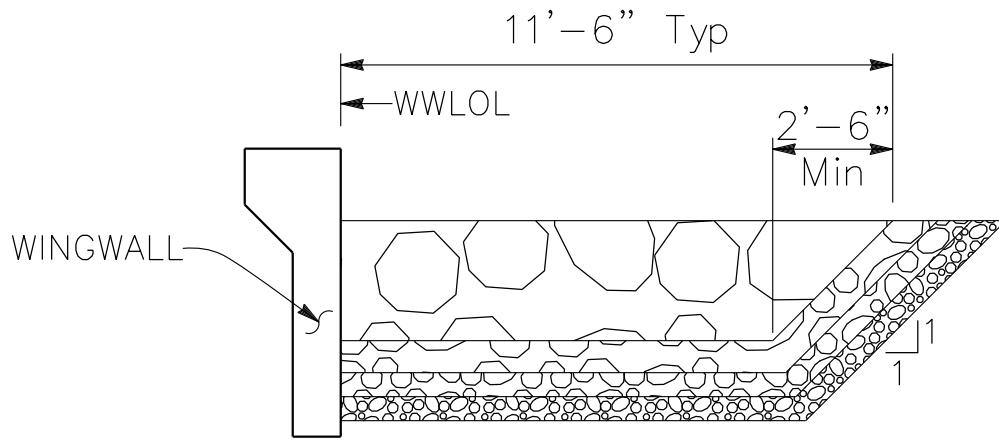
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: JR	DRAWN BY: EF	CHECKED BY: EG	RECOMMENDED BY: <i>Chris Nguyen</i> CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE
APPROVED BY: <i>Lei Rocky Li</i> LEI (ROCKY) LI, P.E. SUPERVISING ENGINEER 1/15/2025 DATE			APPROVED BY: <i>Mervat R. Mikhail</i> MERVAT R. MIKHAIL, P.E. DEPUTY DIRECTOR 1/16/2025 DATE

BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES ABUTMENT DETAILS BEACON DITCH			
J.L. REF. J.L. 11801	W.O. NO. H14913	PLAN SCALE AS NOTED	SHT. NO. 214
		TOT. SHT'S. 240	

NOTES:

1. FOR CHANNEL GRADING CONTOURS, SEE ROADWAY PLANS

* SEE "LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND STRUCTURE BACKFILL" DETAIL ON "INDEX TO PLANS" SHEET.

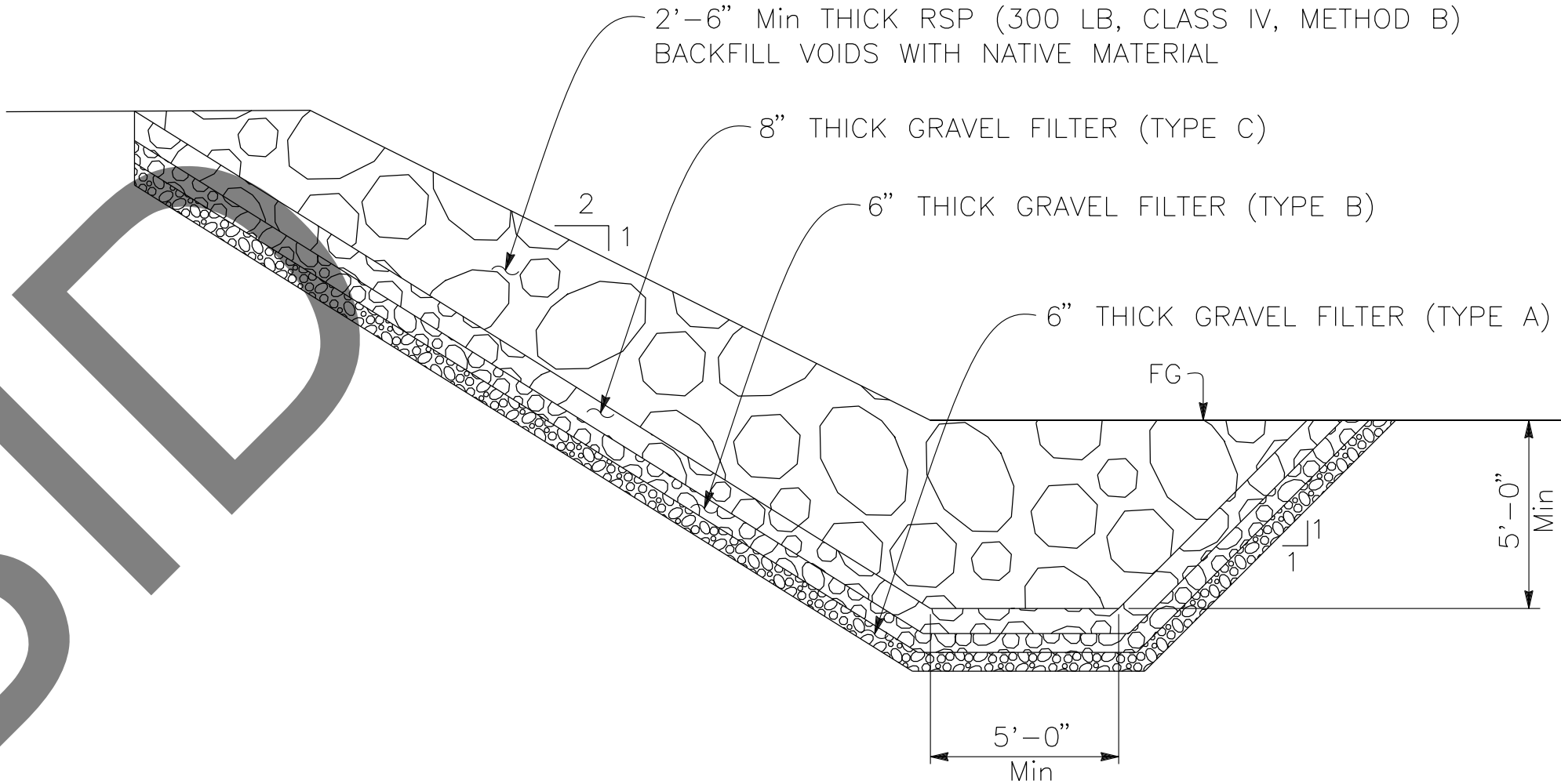


NOTE:
FOR DETAILS NOT SHOWN
SEE SECTION A-A

SECTION C-C

1/4" = 1'-0"

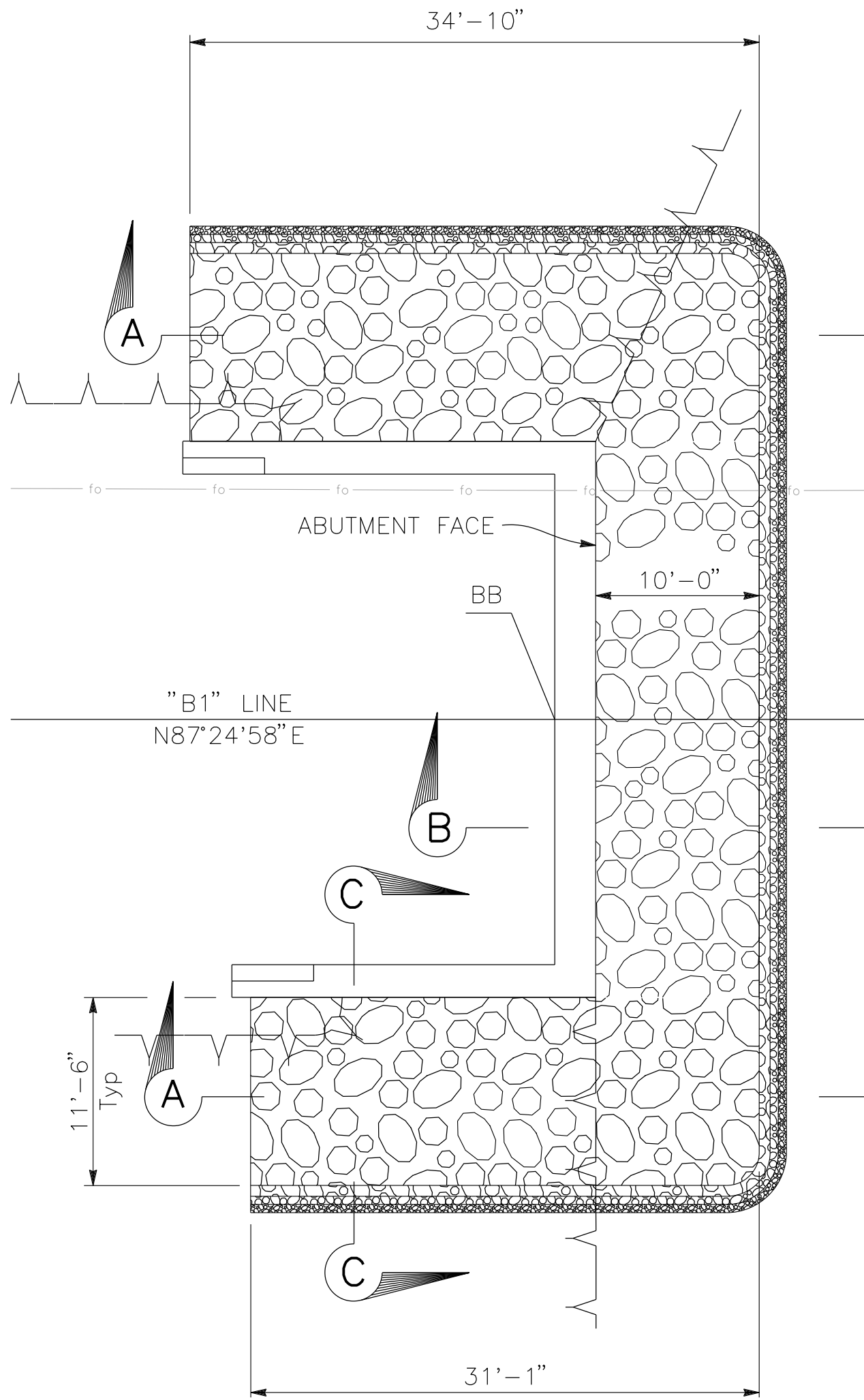
ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR



SECTION A-A

1/4" = 1'-0"

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR



LIMITS OF
PAYMENT FOR
CHANNEL
EXCAVATION

LIMITS OF
PAYMENT FOR
CHANNEL
EXCAVATION

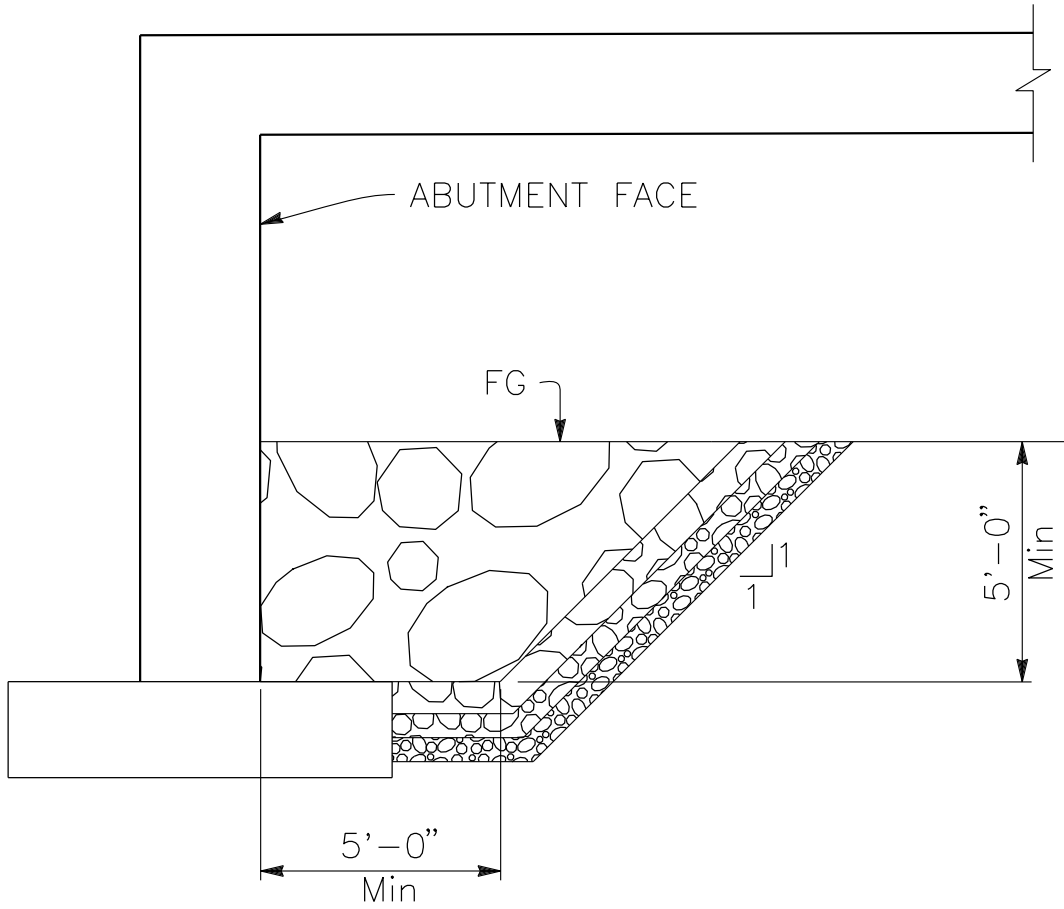
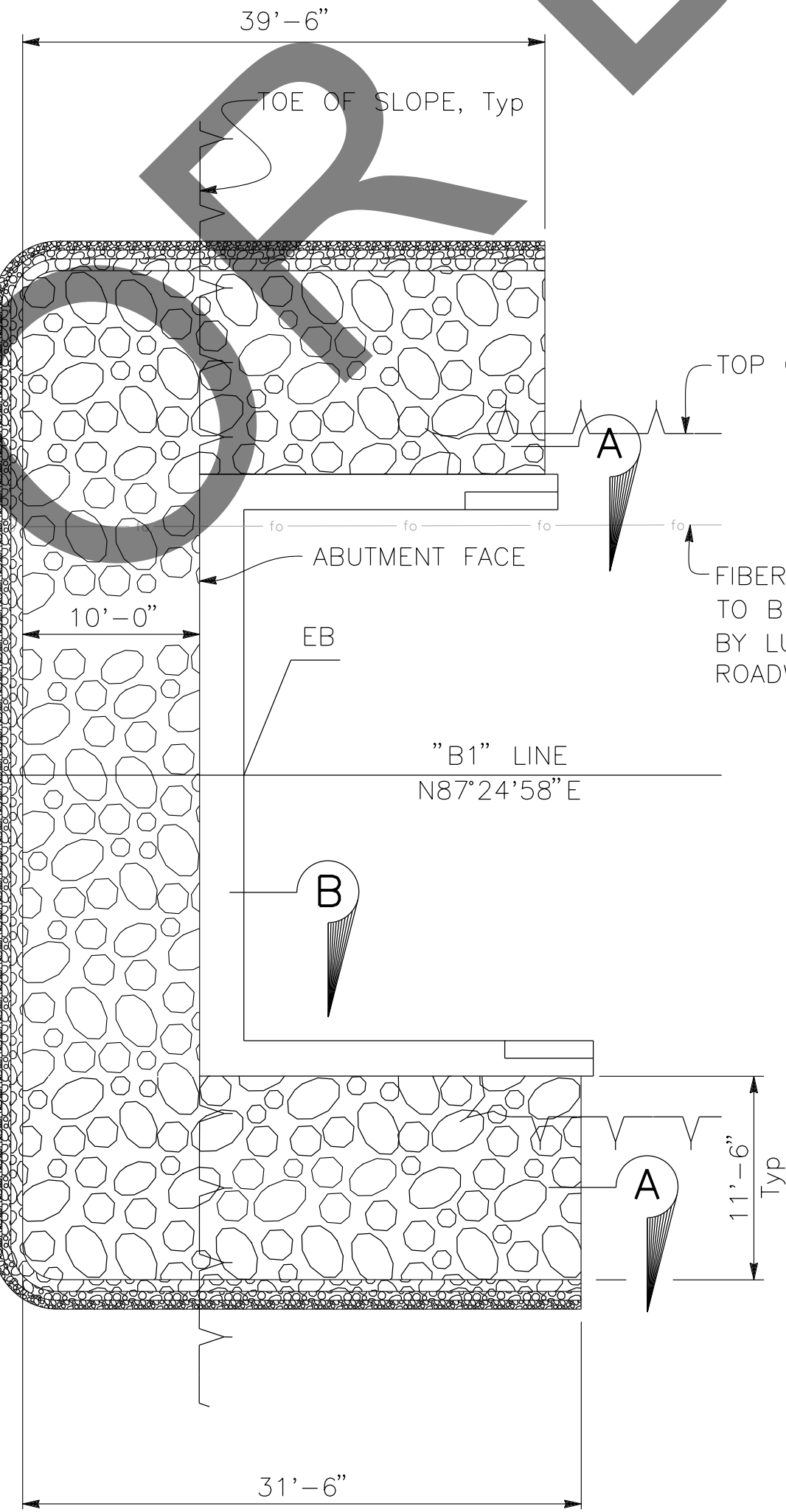
LIMITS OF ROCK SLOPE PROTECTION = 57'-0"

LIMITS OF ROCK SLOPE PROTECTION = 57'-0"

PLAN
1/8" = 1'-0"

LIMITS OF
PAYMENT FOR
CHANNEL
EXCAVATION

LIMITS OF
PAYMENT FOR
CHANNEL
EXCAVATION



SECTION B-B

1/4" = 1'-0"

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR

NOTE:
FOR DETAILS NOT SHOWN
SEE SECTION A-A

PREPARED BY:

DOKKEN
ENGINEERING
110 BLUE RAINE ROAD SUITE 200, FOLSOM CA. 916-858-0642
GABRIELA MORALES, PROJECT ENGINEER
12-16-24
DATE

MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE

FIELD CHANGES



SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: JR DRAWN BY: EF CHECKED BY: EG RECOMMENDED BY: 1/14/2025
CHRIS NGUYEN, P.E.
TRANSPORTATION DESIGN ENGINEERING MANAGER
APPROVED BY: 1/16/2025
MERVAT R. MIKHAIL, P.E.
DEPUTY DIRECTOR

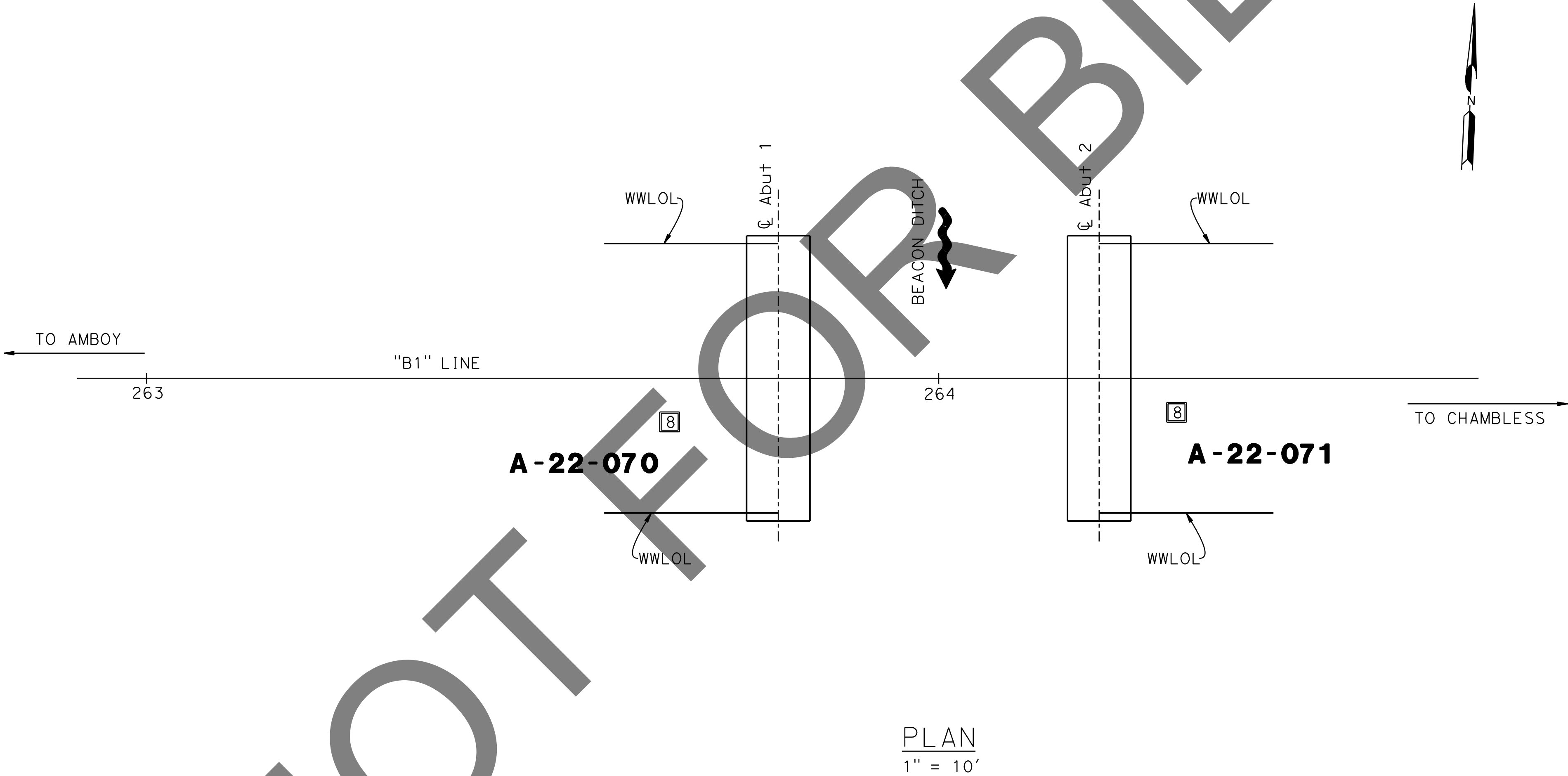
BRIDGE REPLACEMENT ON
NATIONAL TRAILS HIGHWAY
AT 10 BRIDGES
ROCK SLOPE PROTECTION DETAILS
BEACON DITCH

J.L. REF. W.O. NO. PLAN SCALE SHT. NO. TOT. SHT'S.
J.L. 11801 H14913 AS NOTED 216 240

- NOTES:
- (1) This Test Boring Layout sheet was prepared in accordance with Caltrans Soil and Rock Logging, Classification and Presentation Manual (2022).
- (2) 1.4" samples were taken using a Standard Penetration Sampler and 2.4" samples were taken using a California Modified Sampler; multiply California Modified Sampler blowcounts by 0.65 to convert to equivalent SPT blowcounts.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the samplers.
- (4) For Soil Legend, see Caltrans Standard Plans A10F and A10G.

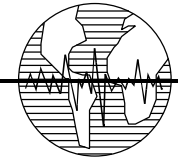
BOREHOLE LOCATION TABLE

Hole ID	Alignment Name	Station and Offset
A-22-070	"B1" Line	263+66 5.5 Rt.
A-22-071	"B1" Line	264+30 4.3 Rt.



PLAN
1" = 10'

PREPARED BY:



Earth Mechanics, Inc.
Geotechnical & Earthquake Engineering
17800 NEWHOPE STREET SUITE B, FOUNTAIN VALLEY CA. 714-751-3826

10-30-24

DATE

(ALAHESH) A. THURAIRAJAH, PROJECT ENGINEER

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			

REGISTERED PROFESSIONAL ENGINEER

A. THURAIRAJAH

No. GE 3123

EXP. 9/30/25

GEOTECHNICAL

STATE OF CALIFORNIA

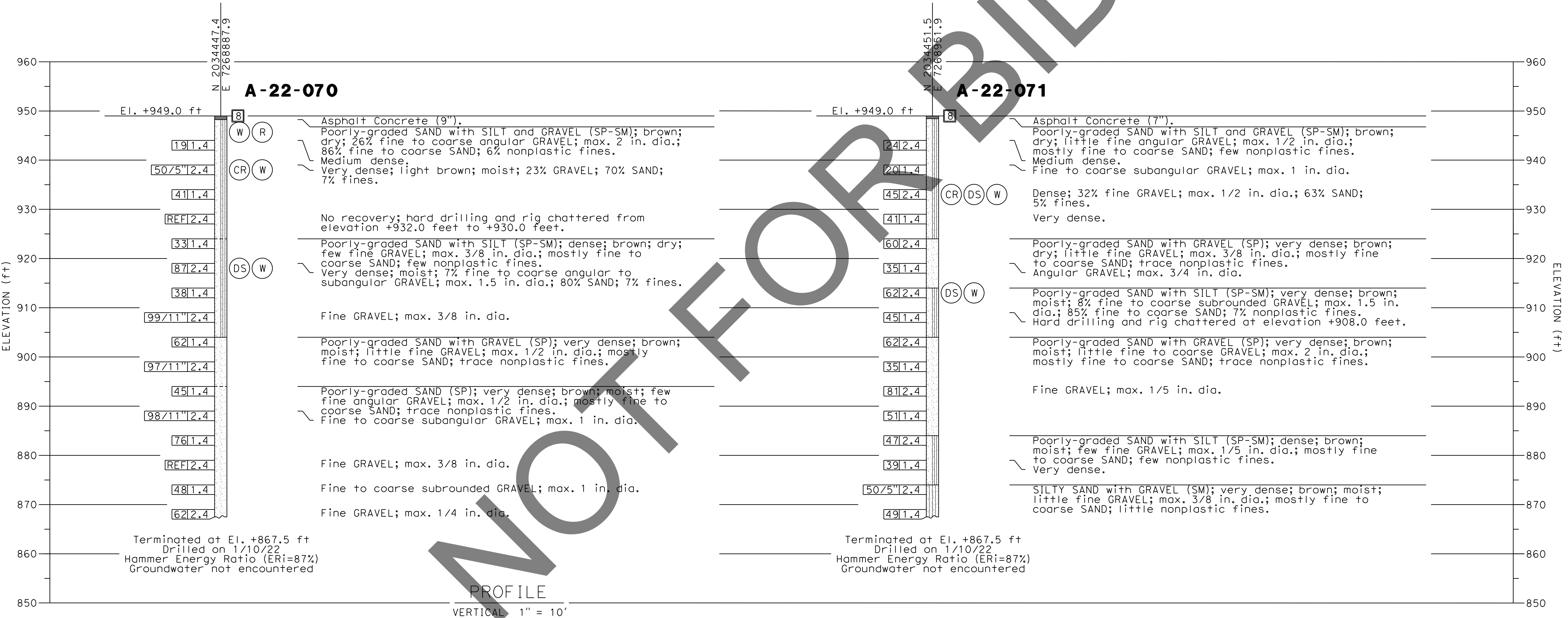
SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

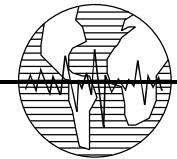
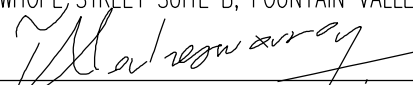
DESIGNED BY:	DRAWN BY:	CHECKED BY:	RECOMMENDED BY:
MJ	TN	PR	<div><div></div><div>1/14/2025</div></div>
CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER			
APPROVED BY:			
<div><div></div><div>1/15/2025</div></div>			<div><div></div><div>1/16/2025</div></div>
LEI (ROCKY) U. P.E. SUPERVISING ENGINEER			MERVAT K. MIKHAIL, P.E. DEPUTY DIRECTOR

BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES			
LOG OF TEST BORINGS 1 OF 2			
BEACON DITCH			
J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.
J.L. 11801	H14913	AS NOTED	217
			TOT. SHT'S.
			240

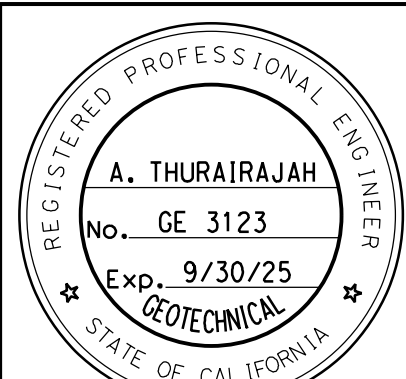
BENCH MARK:
FOUND 3.5" NGS BRASS DISC IN 10"x10"
Conc Mnmt STAMPED "Z1308-1978 NATIONAL
GEODETIC SURVEY" PER NGS DATASHEET PID# EU0704.
NGVD-29 ELEVATION = 1097.43'

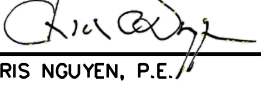

NOTE:
This LOTB sheet (Boring Record) was prepared in accordance with Caltrans
Soil and Rock Logging, Classification and Presentation Manual (2022).



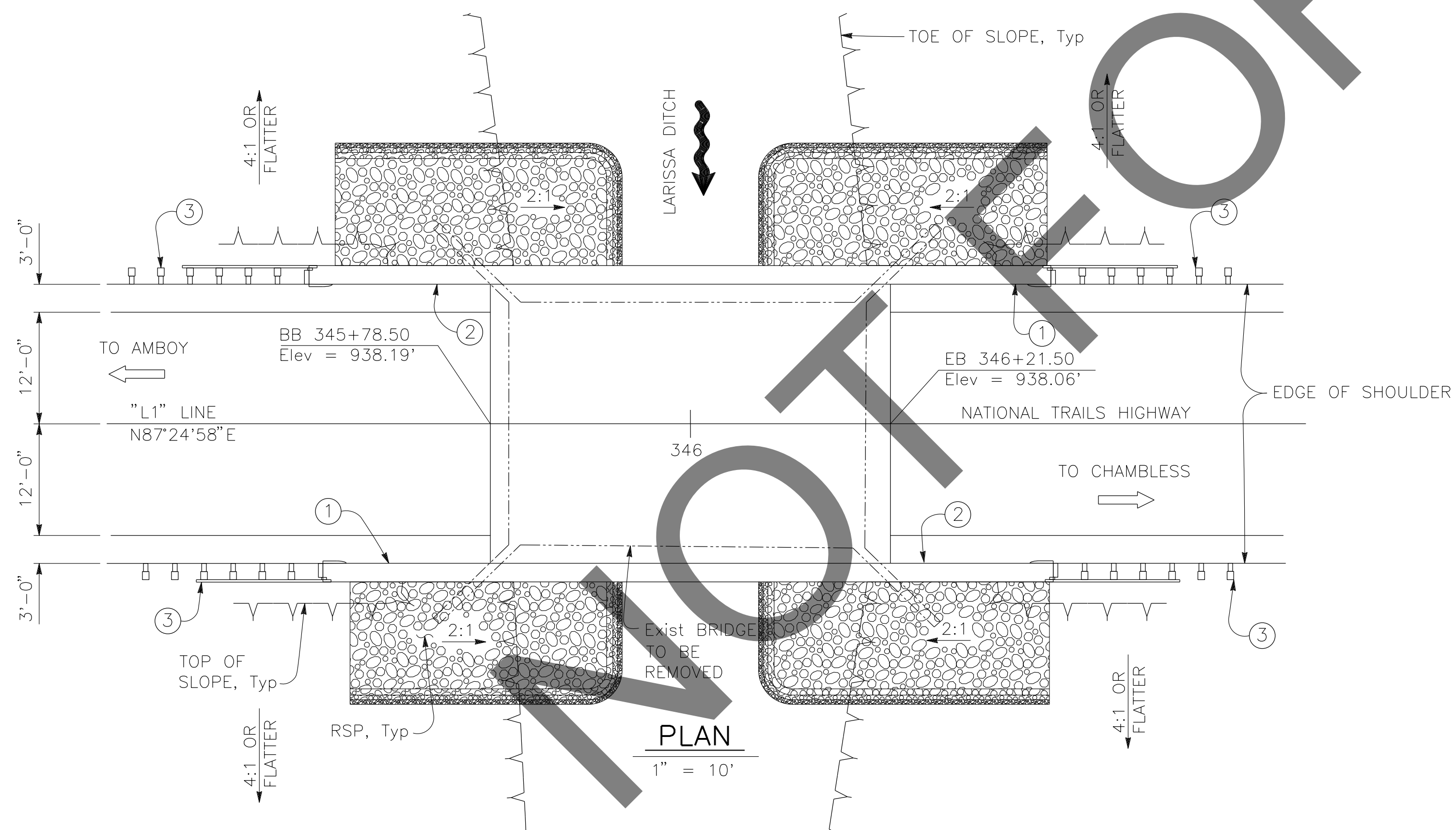
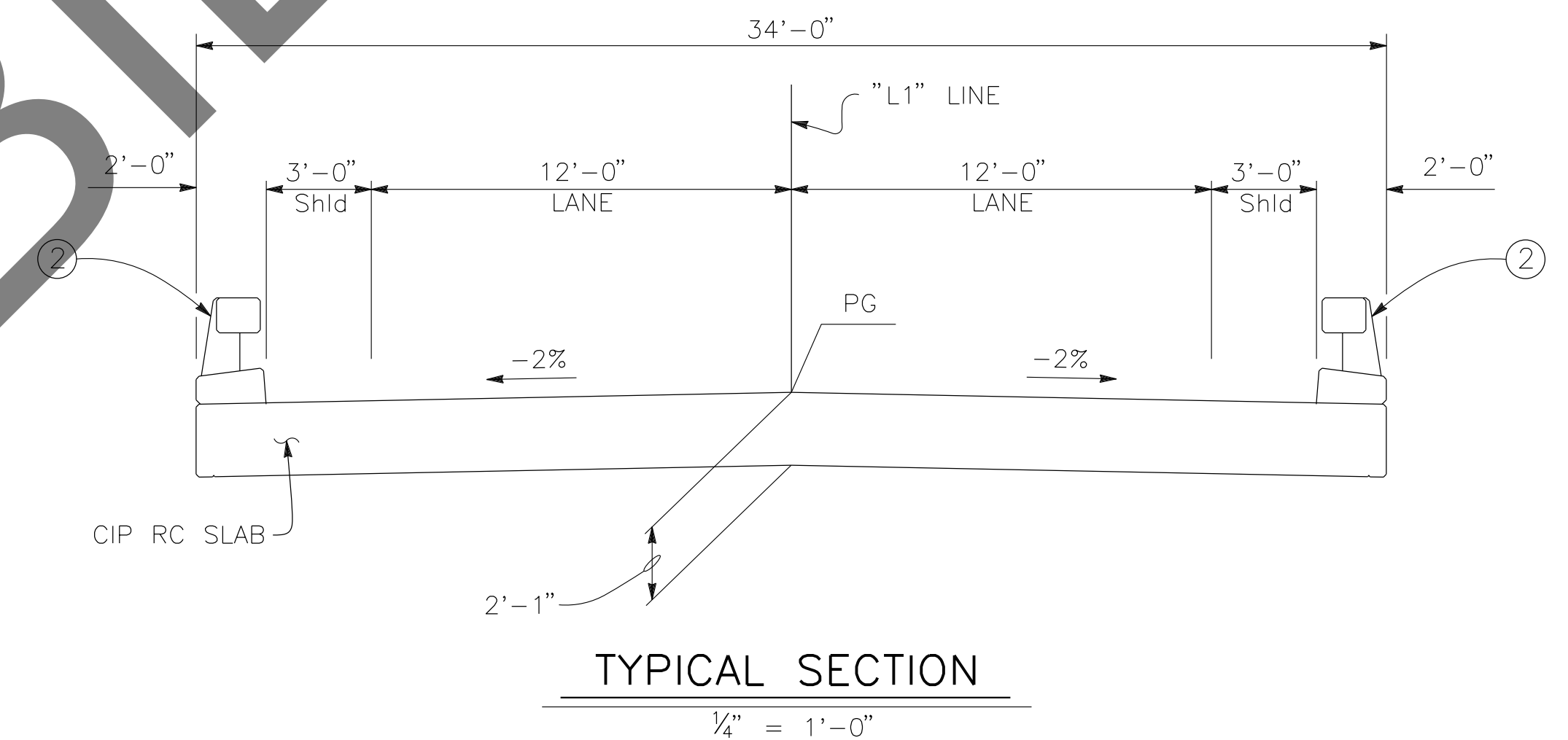
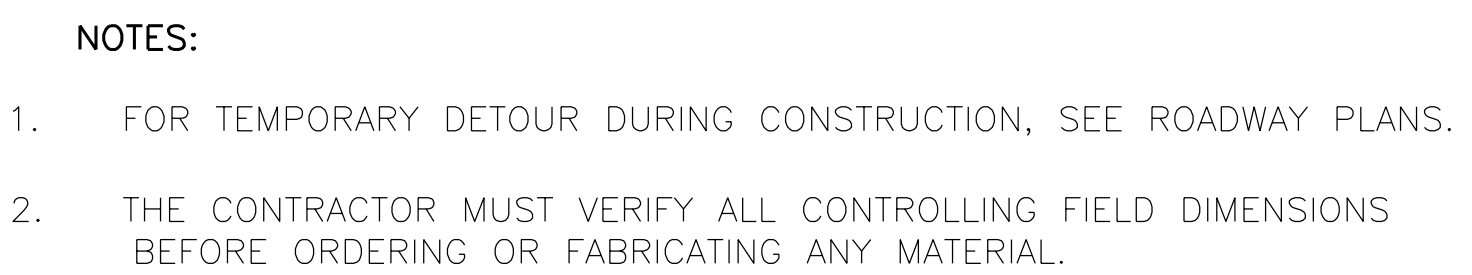
PREPARED BY:

Earth Mechanics, Inc.
Geotechnical & Earthquake Engineering
17800 NEWHOPE STREET SUITE B, FOUNTAIN VALLEY CA. 714-751-3826

(ALAHESH) A. THURAIRAJAH, PROJECT ENGINEER 10-30-24 DATE

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: MJ	DRAWN BY: TN	CHECKED BY: PR	RECOMMENDED BY:  CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE
APPROVED BY:  MERVAT K. MIKHAIL, P.E. DEPUTY DIRECTOR 1/16/2025 DATE		LEI (ROCKY) U. P.E. SUPERVISING ENGINEER 1/15/2025 DATE	

BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES LOG OF TEST BORINGS 2 OF 2 BEACON DITCH				
J.L. REF. J.L. 11801	W.O. NO. H14913	PLAN SCALE AS NOTED	SHT. NO. 218	TOT. SHT'S. 240



LEGEND:



PAINT "LARISSA DITCH BRIDGE"
"BR NO. 54C0818" AND
YEAR CONSTRUCTED

CONCRETE BARRIER (TYPE 85 MOD), TO BE PAINTED WHITE.

MGS, SEE ROADWAY PLANS

WATER SURFACE ELEVATION. FRO "HYDROLOGIC
SUMMARY" TABLE, SEE "FOUNDATION PLAN" SHEET.

EXISTING STRUCTURE, TO BE REMOVED

PREPARED BY: <div style="text-align: center;">  110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642 <i>Gabriela Morales</i> GABRIELA MORALES, PROJECT ENGINEER </div>		<div style="border: 1px solid black; height: 100px; width: 100%;"></div>		<div style="border: 1px solid black; padding: 5px; text-align: center;">  </div>		<div style="text-align: center;"> SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS </div>		BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES GENERAL PLAN LARISSA DITCH													
						DESIGNED BY: <u>JR</u> DRAWN BY: <u>EF</u> CHECKED BY: <u>DY</u> RECOMMENDED BY: <u>[Signature]</u> 1/14/2025 CHRIS NGUYEN, P.E. DATE															
						<u>[Signature]</u> 1/15/2025 APPROVED BY: <u>[Signature]</u> 1/16/2025 MERVAT K. MIKHAIL, P.E. DATE															
MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE		FIELD CHANGES						<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">J.L. REF.</th> <th style="width: 15%;">W.O. NO.</th> <th style="width: 15%;">PLAN SCALE</th> <th style="width: 15%;">SHT. NO.</th> <th style="width: 15%;">TOT. SHT'S</th> </tr> <tr> <td>J.L. 11804</td> <td>H14916</td> <td>AS NOTED</td> <td>219</td> <td>240</td> </tr> </table>				J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S	J.L. 11804	H14916	AS NOTED	219	240
J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S																	
J.L. 11804	H14916	AS NOTED	219	240																	

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION
WITH CALIFORNIA AMENDMENTS, PREFACE DATED JUNE 2024

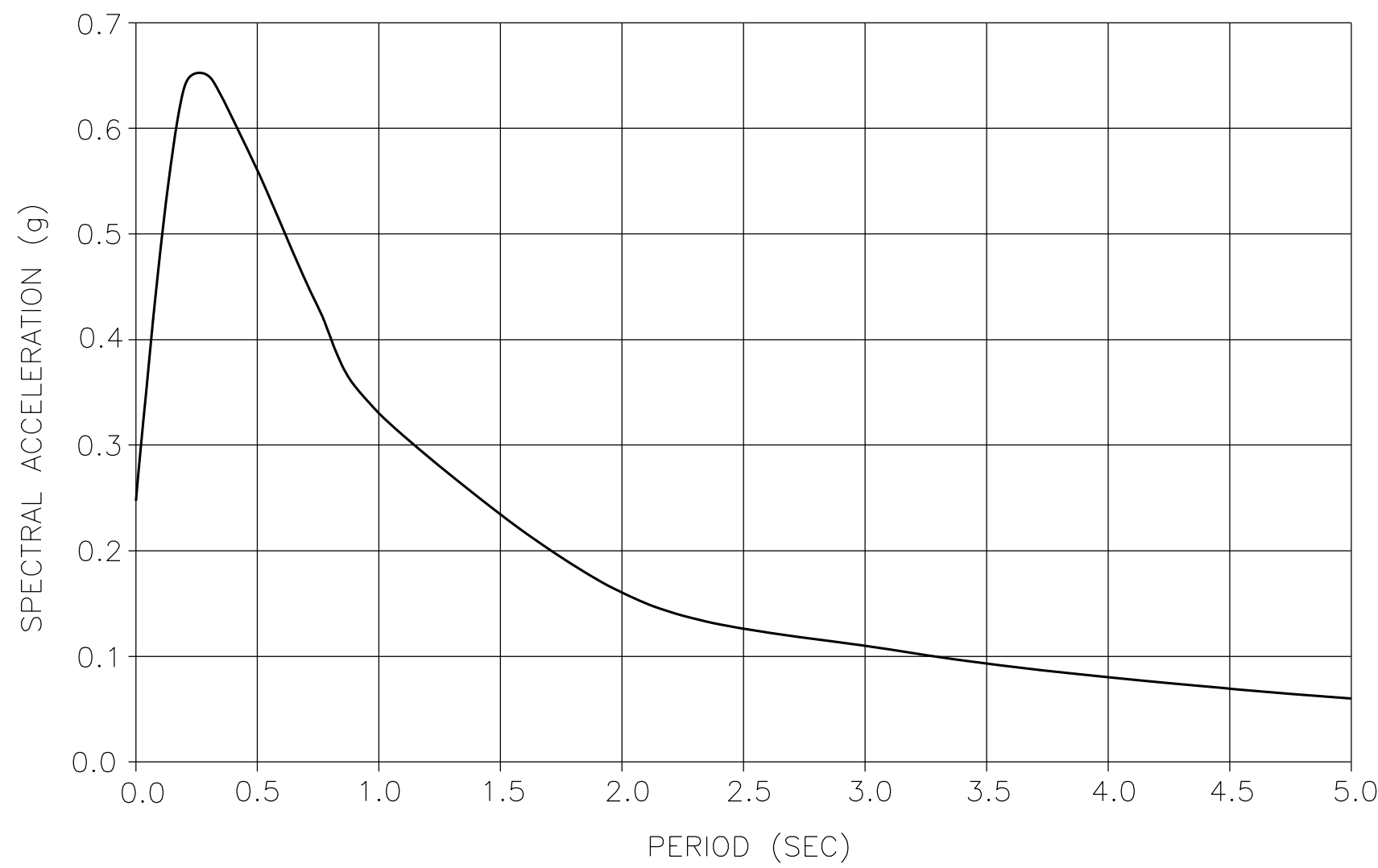
STANDARD PLANS AND SPECIFICATIONS, 2024 EDITION
WITH REVISED STANDARD PLANS, DATED OCTOBER 2024

SEISMIC DESIGN: CALTRANS SEISMIC DESIGN CRITERIA (SDC)
VERSION 2.0, APRIL 2019

DEAD LOAD: INCLUDES 0.035 KSF FOR FUTURE WEARING SURFACE

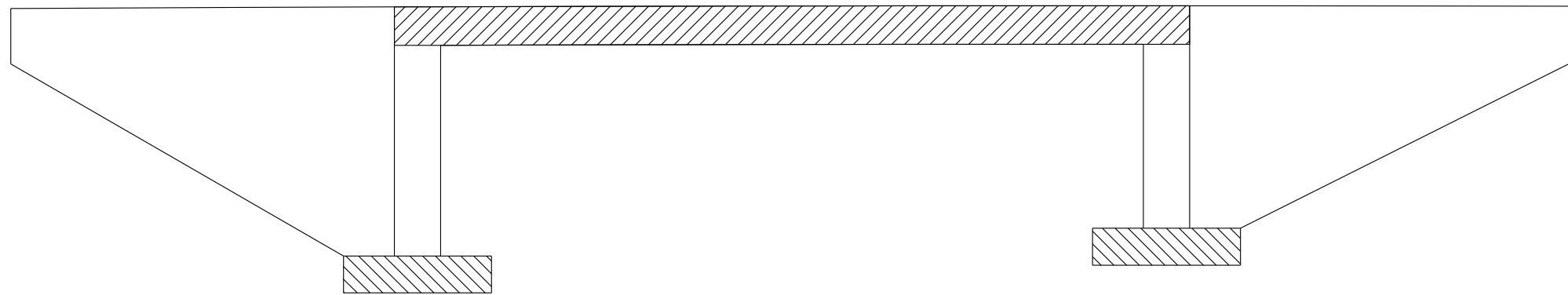
LIVE LOAD: HL-93 AND PERMIT DESIGN LOAD

SEISMIC DATA: SOIL PROFILE : $V_{s30} = 1001$ FT/S
MOMENT MAGNITUDE : 6.40
PEAK GROUND ACCELERATION = 0.25g
5% DAMPING



ARS CURVE
NO SCALE

REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'_c =$ SEE "CONCRETE STRENGTH AND TYPE LIMITS"
 $n = 8$



- LEGEND:
- STRUCTURAL CONCRETE, BRIDGE ($f'_c = 3.6$ KSI @ 28 DAYS)
 - STRUCTURAL CONCRETE, BRIDGE FOOTING ($f'_c = 3.6$ KSI @ 28 DAYS)
 - STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER) ($f'_c = 3.6$ KSI)

CONCRETE STRENGTH AND TYPE LIMITS

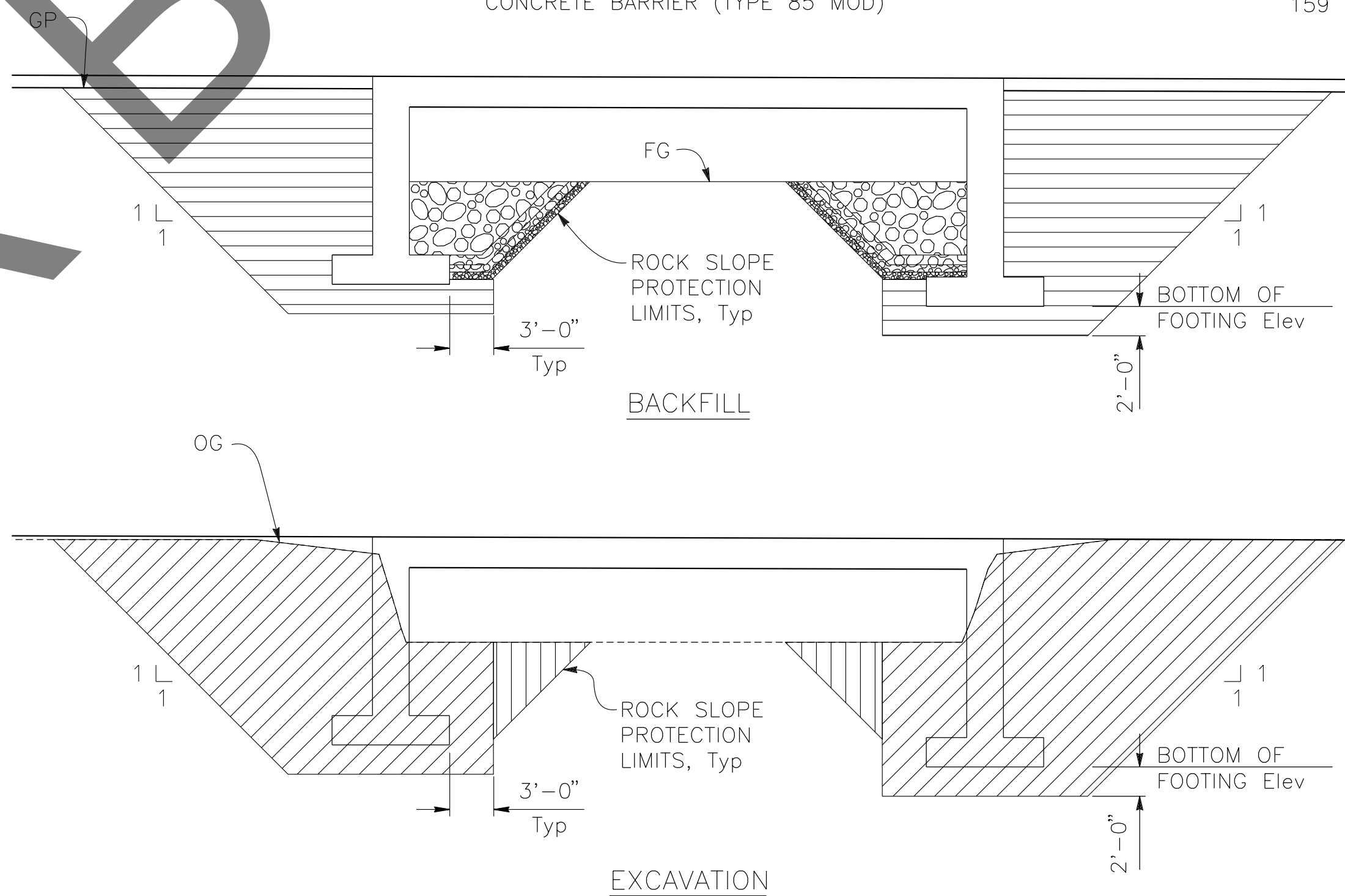
No Scale

INDEX TO PLANS

SHEET No.	TITLE
219	GENERAL PLAN
220	INDEX TO PLANS
221	DECK CONTOURS
222	FOUNDATION PLAN
223	ABUTMENT LAYOUT
224	ABUTMENT DETAILS
225	SLAB DETAILS
226	ROCK SLOPE PROTECTION DETAILS
227	LOG OF TEST BORINGS 1 OF 2
228	LOG OF TEST BORINGS 2 OF 2

STANDARD PLAN SHEET No.

DETAIL No.



- LEGEND:
- STRUCTURE EXCAVATION (BRIDGE)
 - STRUCTURE BACKFILL (BRIDGE)
 - CHANNEL EXCAVATION
 - ROCK SLOPE PROTECTION, SEE "ROCK SLOPE PROTECTION" SHEET

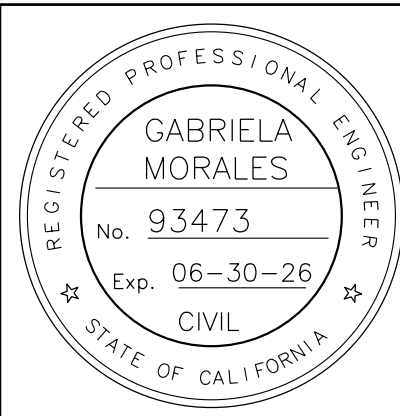
LIMITS OF PAYMENT FOR
STRUCTURE EXCAVATION AND BACKFILL

NO SCALE

PREPARED BY:



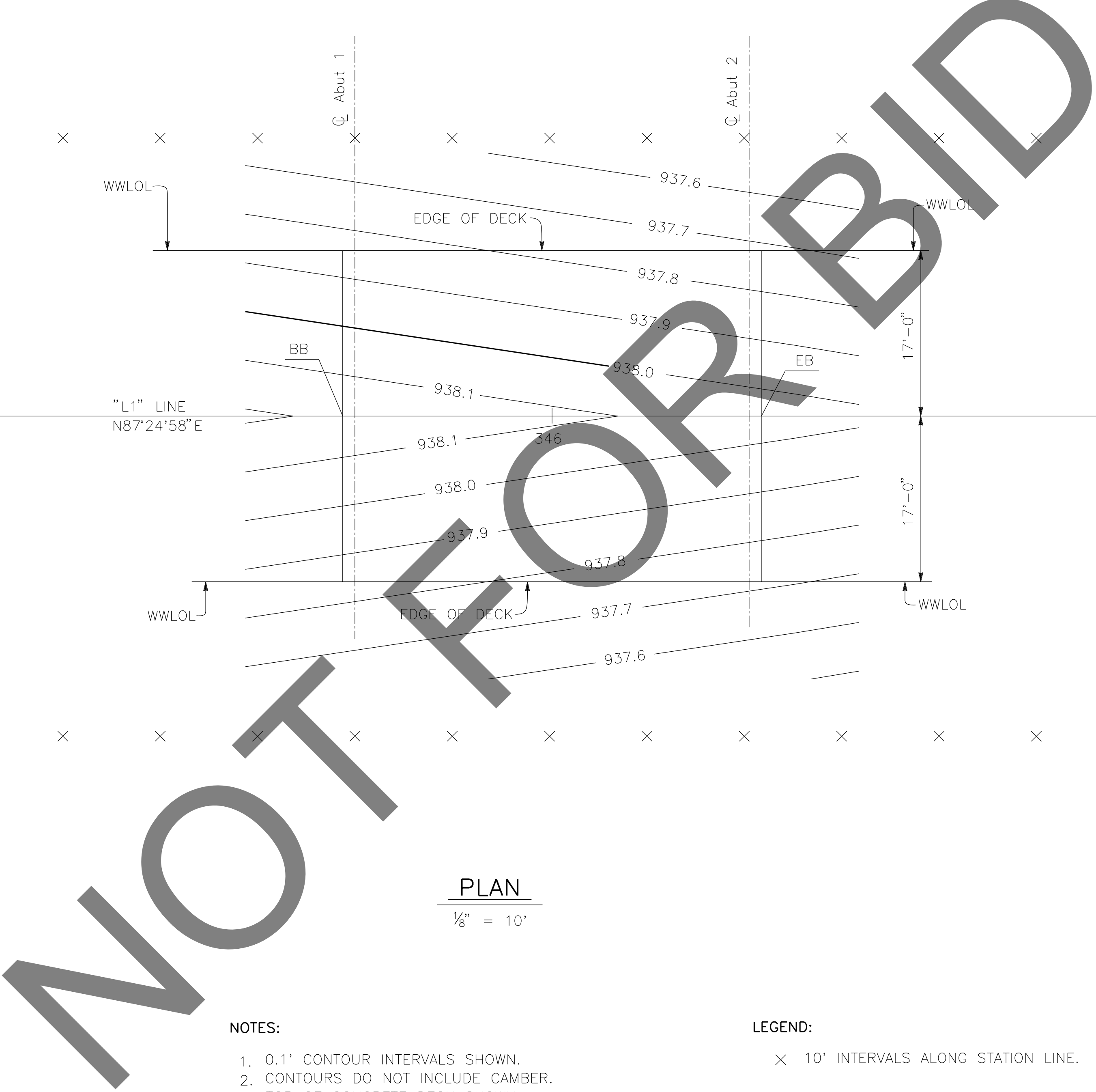
MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		





SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: JR	DRAWN BY: EF	CHECKED BY: DY	RECOMMENDED BY: Chris Nguyen, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE
APPROVED BY: LEI (ROCKY) LI, P.E. SUPERVISING ENGINEER 1/15/2025 DATE		APPROVED BY: Mervat R. Mikhail, P.E. DEPUTY DIRECTOR 1/16/2025 DATE	

BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES INDEX TO PLANS LARISSA DITCH			
J.L. REF. J.L. 11804	W.O. NO. H14916	PLAN SCALE AS NOTED	SHT. NO. 220
		TOT. SHT'S. 240	

MARK	REVISIONS	APPR.	DATE



PREPARED BY: <div style="text-align: center;">  110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642 <u>Gabriela Morales</u> GABRIELA MORALES, PROJECT ENGINEER </div>		<div style="text-align: center;">  GABRIELA MORALES No. 93473 Exp. 06-30-26 CIVIL STATE OF CALIFORNIA </div>		<div style="text-align: center;"> SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS </div>		BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES DECK CONTOURS LARISSA DITCH			
--	--	--	--	--	--	---	--	--	--

				DESIGNED BY: JR DRAWN BY: EF CHECKED BY: DY		RECOMMENDED BY: [Signature] 1/14/2025 CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER					
				[Signature] 1/15/2025 LEI (ROCKY) LI, P.E. SUPERVISING ENGINEER		APPROVED BY: [Signature] 1/16/2025 MERVAT K. MIKHAIL, P.E. DEPUTY DIRECTOR		J.L. REF. W.O. NO. PLAN SCALE SHT. NO. TOT. SHT'S. J.L. 11804 H14916 AS NOTED 221 240			
MARK CHANGES RESIDENT ENGINEER DATE NO CHANGES _____ _____		FIELD CHANGES									

SCOUR DATA TABLE		
SUPPORT LOCATION	LONG TERM (DEGRADATION AND CONTRACTION) SCOUR ELEVATION (FT)	SHORT TERM (LOCAL) SCOUR DEPTH (FT)
Abut 1	929.9	3.9
Abut 2	929.9	5.2

NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO NEW CONSTRUCTION.
2. PILES IN CONFLICT WITH PROPOSED BRIDGE MAY BE FULLY REMOVED OR PARTIALLY REMOVED PER SPECIFICATIONS.

LEGEND:

XX.X BOTTOM OF FOOTING ELEVATION (FT)

HYDROLOGIC SUMMARY		
	DESIGN FLOOD	BASE FLOOD
FREQUENCY	50-YR	100-YR
DISCHARGE*	602 CFS	988 CFS
WATER SURFACE ELEVATION AT BRIDGE	933.8 FT	934.7 FT

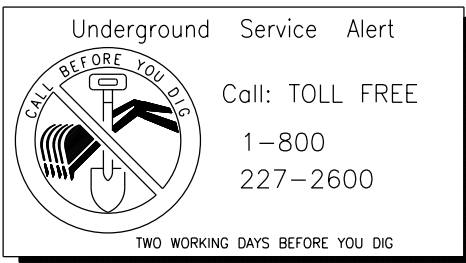
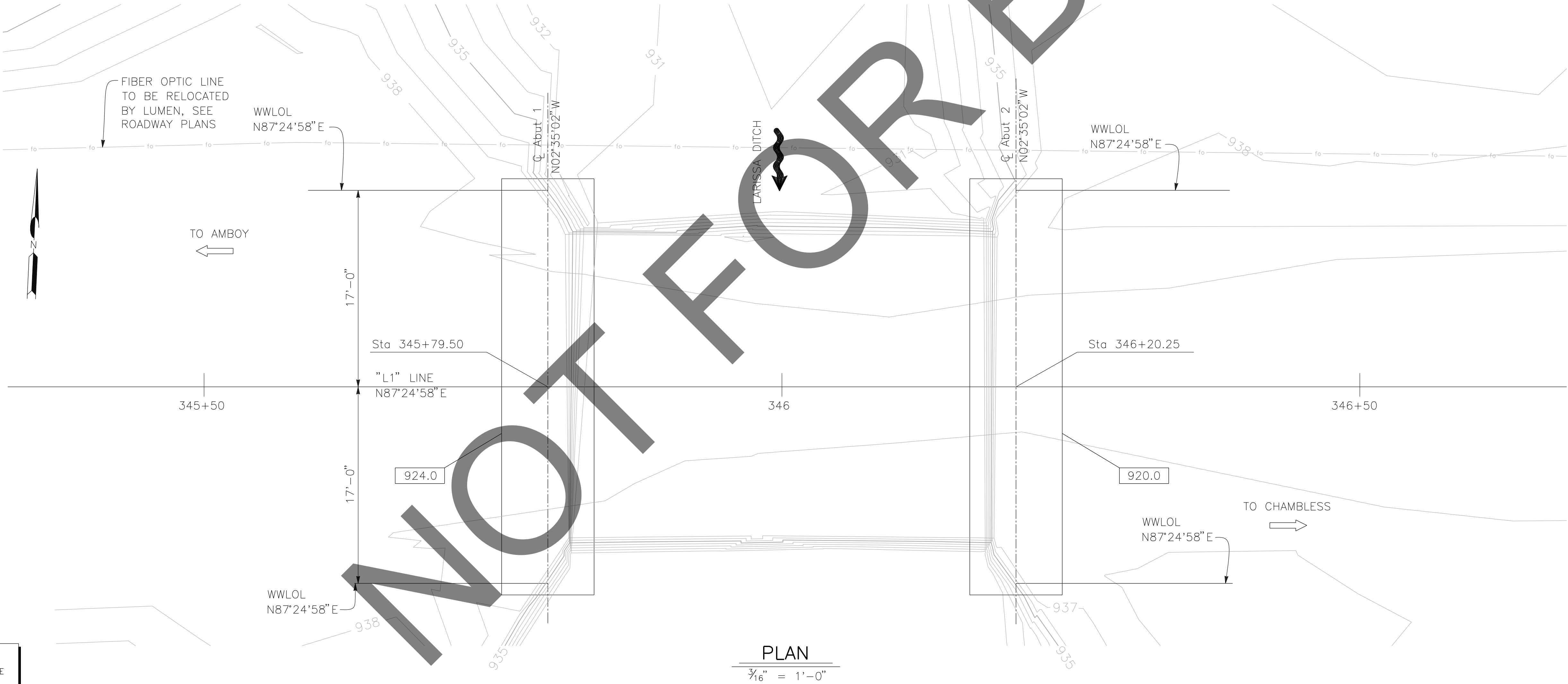
FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY THE STATE AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATION.

* BULKED DESIGN FLOWS

SPREAD FOOTING DATA TABLE			
SUPPORT LOCATION	SERVICE LIMIT STATE PERMISSIBLE NET CONTACT STRESS (KSF)	STRENGTH FACTORED GROSS NOMINAL BEARING RESISTANCE FOR CONTROLLING LOAD CASE (KSF) $\Phi = 0.45$	EXTREME EVENT FACTORED GROSS NOMINAL BEARING RESISTANCE FOR CONTROLLING LOAD CASE (KSF) $\Phi = 1.00$
Abut 1	3.6	6.7	11.1
Abut 2	4.3	6.7	11.0

BENCHMARK

FOUND 3.5" NGS BRASS DISC IN 10"x10" CONC MNMT STAMPED "Z1308-1978 NATIONAL GEODETIC SURVEY" PER NGS DATASHEET
PID# EU0704
NGVD-29 ELEVATION = 1097.43'



PREPARED BY:

DOKKEN ENGINEERING
110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642
Gabriela Morales
GABRIELA MORALES, PROJECT ENGINEER
12-16-24 DATE

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES



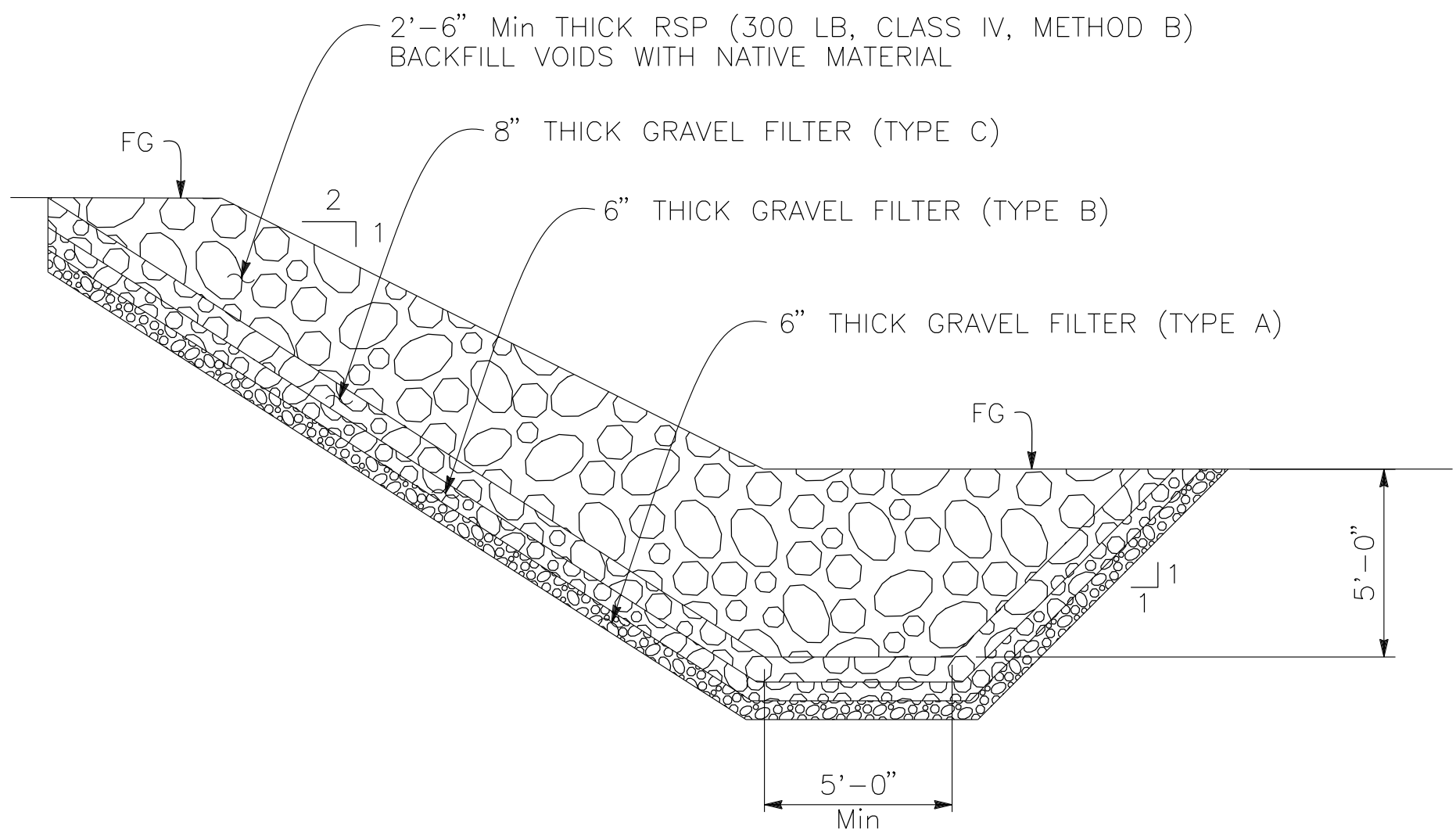
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: JR	DRAWN BY: EF	CHECKED BY: DY	RECOMMENDED BY: <i>Chris Nguyen</i> CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE
APPROVED BY: <i>Lei (Rocky) Li</i> LEI (ROCKY) LI, P.E. SUPERVISING ENGINEER 1/15/2025 DATE			APPROVED BY: <i>Mervat R. Mikhail</i> MERVAT R. MIKHAIL, P.E. DEPUTY DIRECTOR 1/16/2025 DATE

BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES FOUNDATION PLAN LARISSA DITCH			
J.L. REF. J.L. 11804	W.O. NO. H14916	PLAN SCALE AS NOTED	SHT. NO. 222 TOT. SHT'S. 240

NOTES:

1. FOR CHANNEL GRADING CONTOURS, SEE ROADWAY PLANS

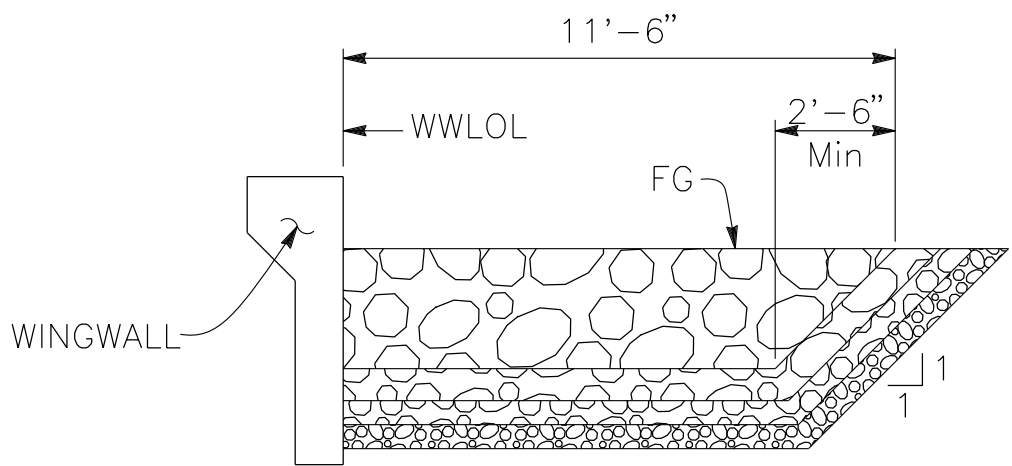
* SEE "LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND STRUCTURE BACKFILL" DETAIL ON "INDEX TO PLANS" SHEET



SECTION A-A

1/4" = 1'-0"

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR

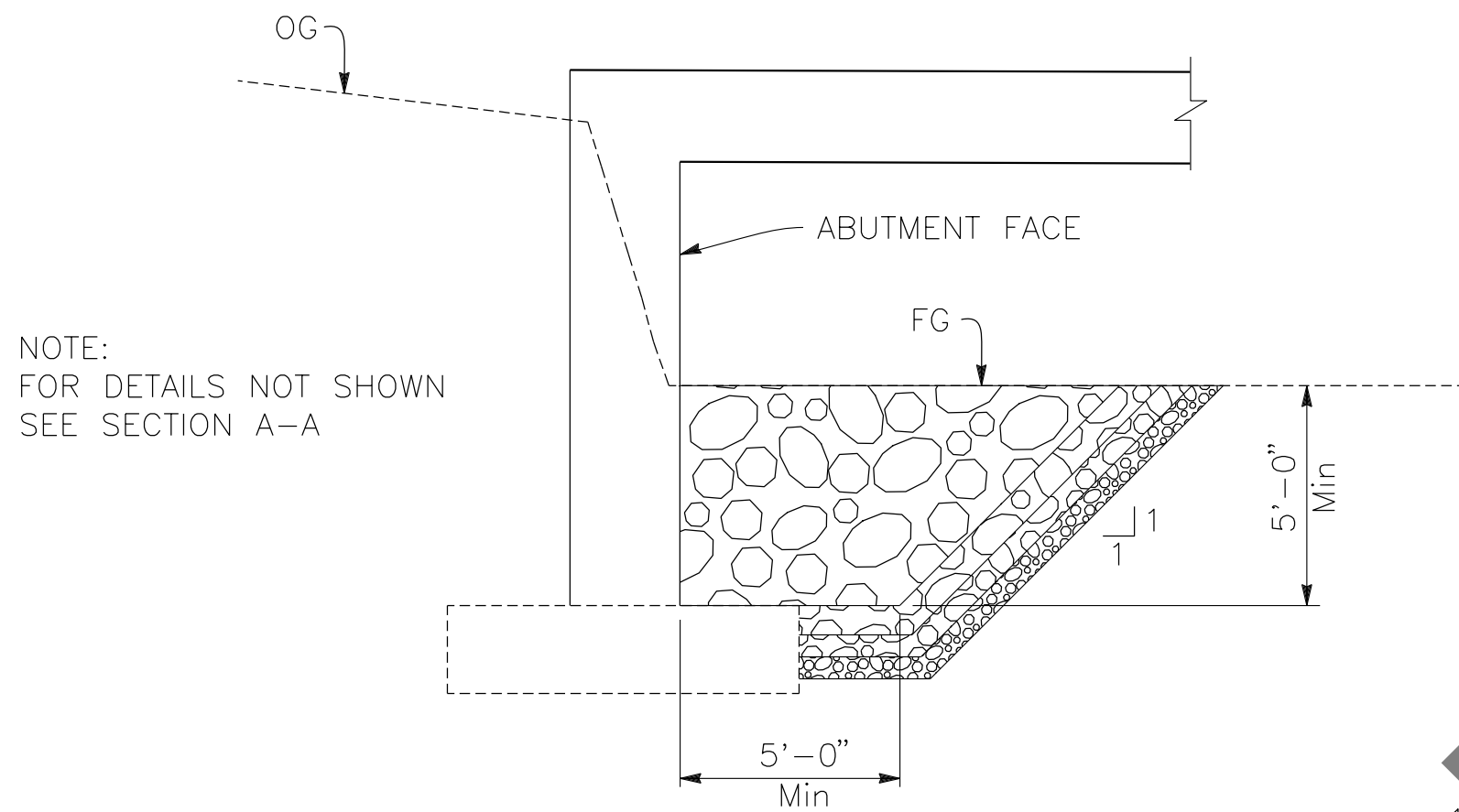


SECTION C-C

1/4" = 1'-0"

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR

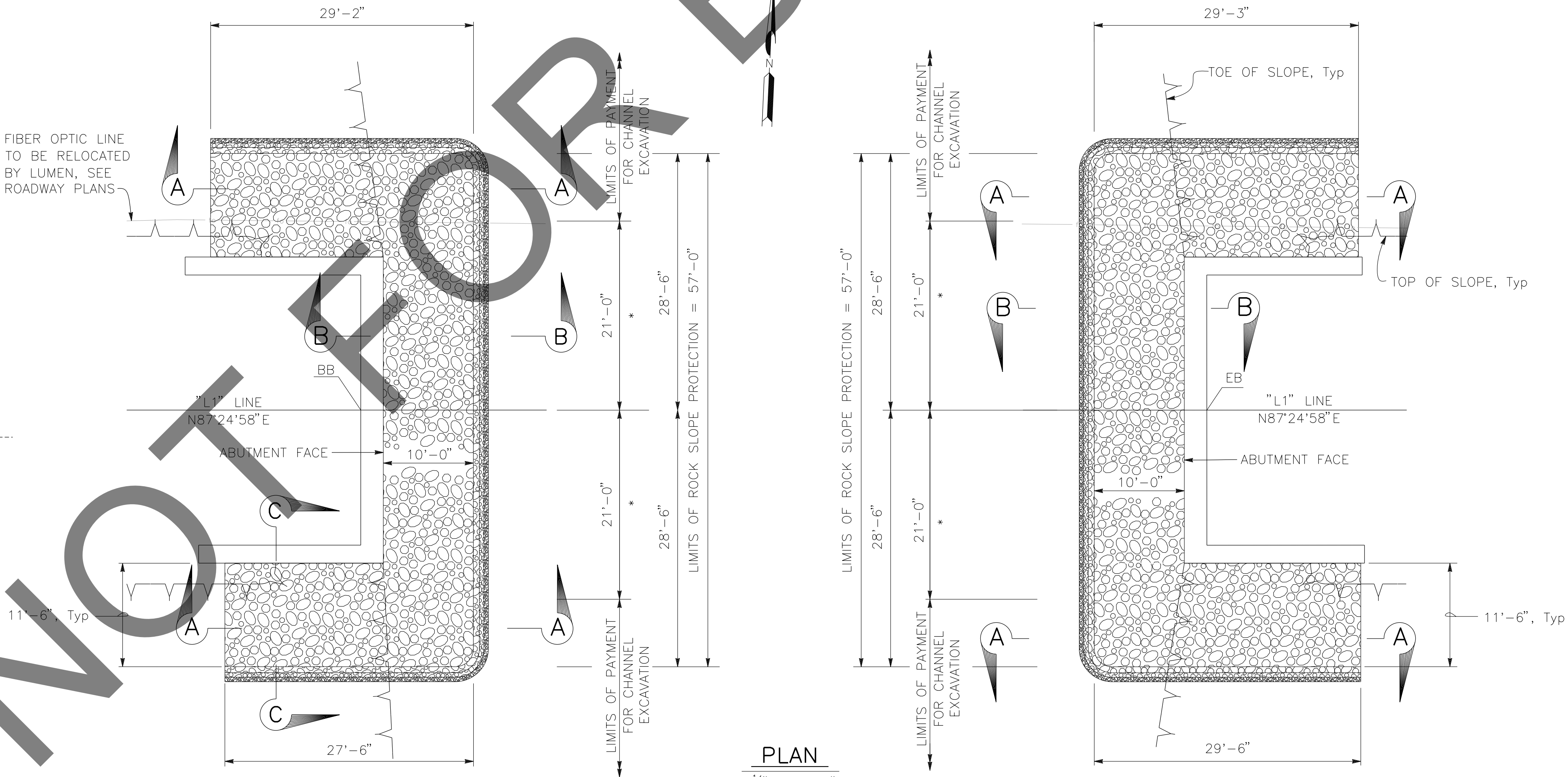
NOTE:
FOR DETAILS NOT SHOWN
SEE SECTION A-A



SECTION B-B

1/4" = 1'-0"

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR



PLAN

1/8" = 1'-0"

PREPARED BY:



110 BLUE RAINE ROAD SUITE 200, FOLSOM CA. 916-858-0642

Gabriela Morales, PROJECT ENGINEER

12-16-24
DATE

MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE

FIELD CHANGES



SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: JR DRAWN BY: EF CHECKED BY: DY RECOMMENDED BY: 1/14/2025
CHRIS NGUYEN, P.E.
TRANSPORTATION DESIGN ENGINEERING MANAGER
APPROVED BY: 1/15/2025
LEI (ROCKY) LI, P.E.
SUPERVISING ENGINEER
DATE
1/16/2025
MERVAT R. MIKHAIL, P.E.
DEPUTY DIRECTOR
DATE

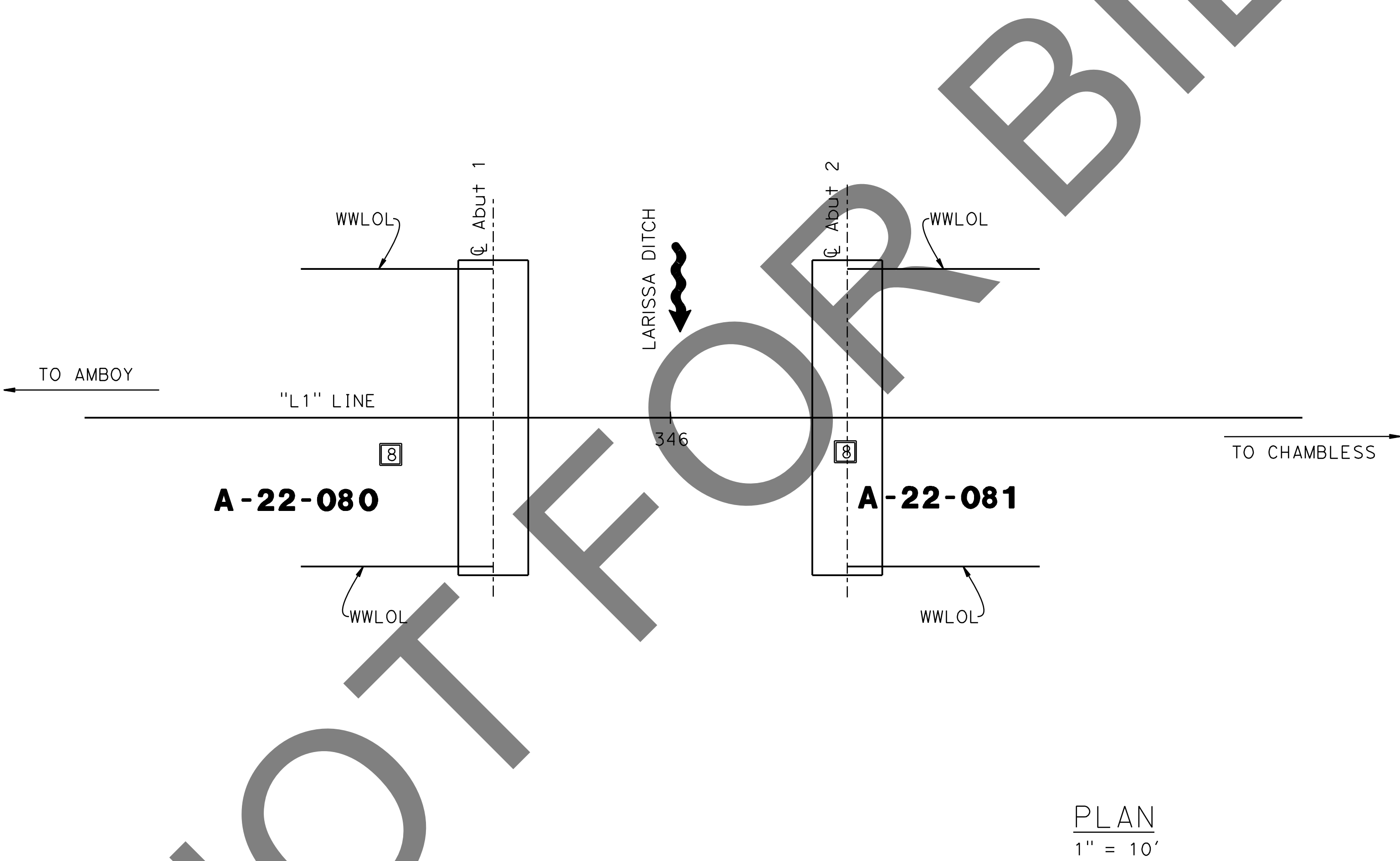
BRIDGE REPLACEMENT ON
NATIONAL TRAILS HIGHWAY
AT 10 BRIDGES
ROCK SLOPE PROTECTION DETAILS
LARISSA DITCH

J.L. REF. W.O. NO. PLAN SCALE SHT. NO. TOT. SHT'S.
J.L. 11804 H14916 AS NOTED 226 240

- NOTES:
- (1) This Test Boring Layout sheet was prepared in accordance with Caltrans Soil and Rock Logging, Classification and Presentation Manual (2022).
- (2) 1.4" samples were taken using a Standard Penetration Sampler and 2.4" samples were taken using a California Modified Sampler; multiply California Modified Sampler blowcounts by 0.65 to convert to equivalent SPT blowcounts.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the samplers.
- (4) For Soil Legend, see Caltrans Standard Plans A10F and A10G.

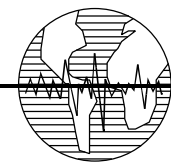
BOREHOLE LOCATION TABLE

Hole ID	Alignment Name	Station and Offset
A-22-080	"L1" Line	345+68 4.2 Rt.
A-22-081	"L1" Line	346+20 3.9 Rt.



PLAN
1" = 10'

PREPARED BY:



Earth Mechanics, Inc.
Geotechnical & Earthquake Engineering

17800 NEWHOPE STREET SUITE B, FOUNTAIN VALLEY CA. 714-751-3826

(Signature)
(ALAHESH) A. THURAIRAJAH, PROJECT ENGINEER 10-30-24 DATE

MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE

FIELD CHANGES



SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: MJ DRAWN BY: TN CHECKED BY: PR RECOMMENDED BY: *(Signature)* 1/14/2025
CHRIS NGUYEN, P.E.
TRANSPORTATION DESIGN ENGINEERING MANAGER

(Signature) 1/15/2025 DATE
LEI (ROCKY) U. P.E.
SUPERVISING ENGINEER
APPROVED BY: *(Signature)* 1/16/2025
MERVAT K. MIKHAIL, P.E.
DEPUTY DIRECTOR

BRIDGE REPLACEMENT ON
NATIONAL TRAILS HIGHWAY
AT 10 BRIDGES
LOG OF TEST BORINGS 1 OF 2
LARISSA DITCH

J.L. REF. W.O. NO. PLAN SCALE SHT. NO. TOT. SHT'S.
J.L. 11804 H14916 AS NOTED 227 240

NOTE:
This LOTB sheet (Boring Record) was prepared in accordance with Caltrans Soil and Rock Logging, Classification and Presentation Manual (2022).

PREPARED BY: Earth Mechanics, Inc. Geotechnical & Earthquake Engineering 17800 NEWHOPE STREET SUITE B, FOUNTAIN VALLEY CA. 714-751-3826 (ALAHESH) A. THURAIRAJAH, PROJECT ENGINEER		10-30-24 DATE				SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS DESIGNED BY: <u>MJ</u> DRAWN BY: <u>TN</u> CHECKED BY: <u>PR</u> LEI (ROCKY) LI, P.E. SUPERVISING ENGINEER		1/15/2025 DATE		BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES LOG OF TEST BORINGS 2 OF 2 LARISSA DITCH		J.L. REF. J.L. 11804 W.O. NO. H14916 PLAN SCALE AS NOTED SHT. NO. 228 TOT. SHT'S. 240							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">MARK</th> <th style="width: 15%;">CHANGES</th> <th style="width: 40%;">RESIDENT ENGINEER</th> <th style="width: 40%;">DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td>NO CHANGES</td> <td> </td> <td> </td> </tr> </tbody> </table>				MARK	CHANGES	RESIDENT ENGINEER	DATE		NO CHANGES			FIELD CHANGES				RECOMMENDED BY: CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE APPROVED BY: MIRVAT A. KHALIL, P.E. DEPUTY DIRECTOR 1/16/2025 DATE			
MARK	CHANGES	RESIDENT ENGINEER	DATE																
	NO CHANGES																		

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION
WITH CALIFORNIA AMENDMENTS, PREFACE DATED JUNE 2024

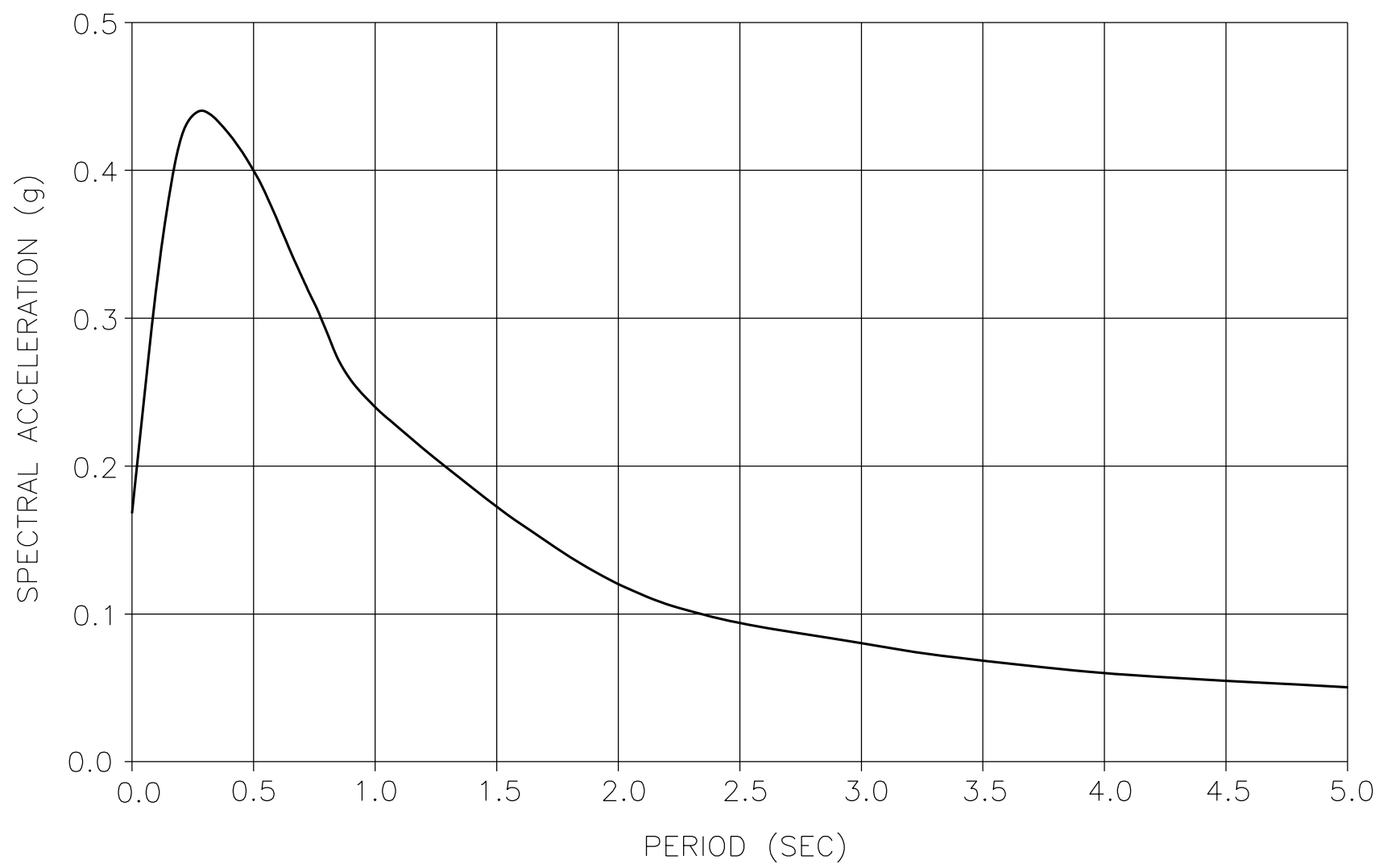
STANDARD PLANS AND SPECIFICATIONS, 2024 EDITION
WITH REVISED STANDARD PLANS, DATED OCTOBER 2024

SEISMIC DESIGN: CALTRANS SEISMIC DESIGN CRITERIA (SDC)
VERSION 2.0, APRIL 2019

DEAD LOAD: INCLUDES 0.035 KSF FOR FUTURE WEARING SURFACE

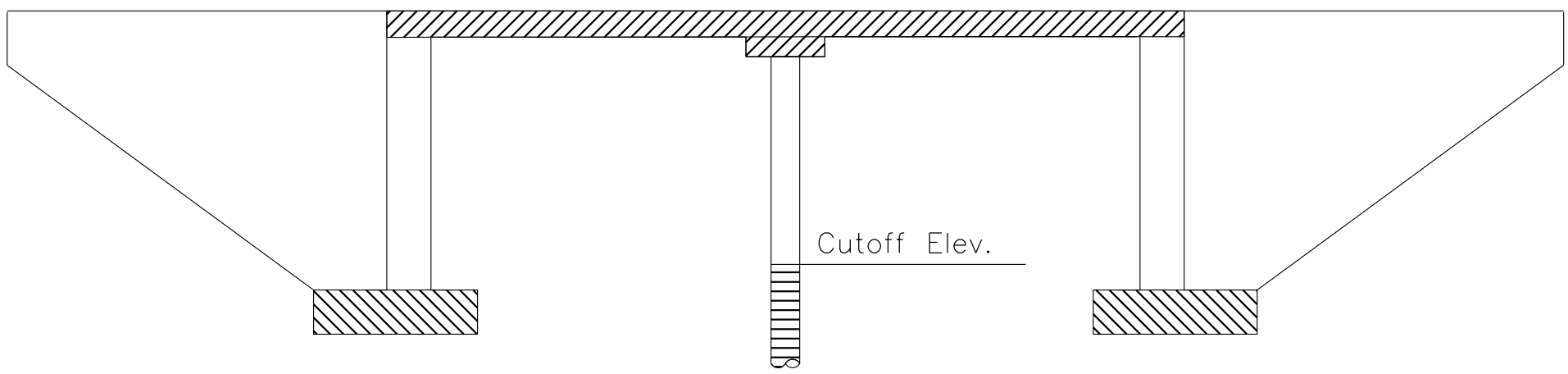
LIVE LOAD: HL-93 AND PERMIT DESIGN LOAD

SEISMIC DATA: SOIL PROFILE : $V_{s30} = 1050$ FT/S
MOMENT MAGNITUDE : 6.51
PEAK GROUND ACCELERATION = 0.17g
5% DAMPING



ARS CURVE
NO SCALE

REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'_c =$ SEE "CONCRETE STRENGTH AND TYPE LIMITS"
 $n = 8$



- LEGEND:
- STRUCTURAL CONCRETE, BRIDGE ($f'_c = 3.6$ KSI @ 28 DAYS)
 - STRUCTURAL CONCRETE, BRIDGE FOOTING ($f'_c = 3.6$ KSI @ 28 DAYS)
 - STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER) ($f'_c = 4.0$ KSI)
 - 24" CAST-IN-DRILLED-HOLE CONCRETE PILING ($f'_c = 3.6$ KSI @ 28 DAYS)

CONCRETE STRENGTH AND TYPE LIMITS

INDEX TO PLANS

SHEET No.	TITLE
229	GENERAL PLAN
230	INDEX TO PLANS
231	DECK CONTOURS
232	FOUNDATION PLAN
233	ABUTMENT LAYOUT
234	ABUTMENT DETAILS
235	PIER LAYOUT
236	SLAB DETAILS
237	ROCK SLOPE PROTECTION DETAILS
238	LOG OF TEST BORINGS 1 OF 3
239	LOG OF TEST BORINGS 2 OF 3
240	LOG OF TEST BORINGS 3 OF 3



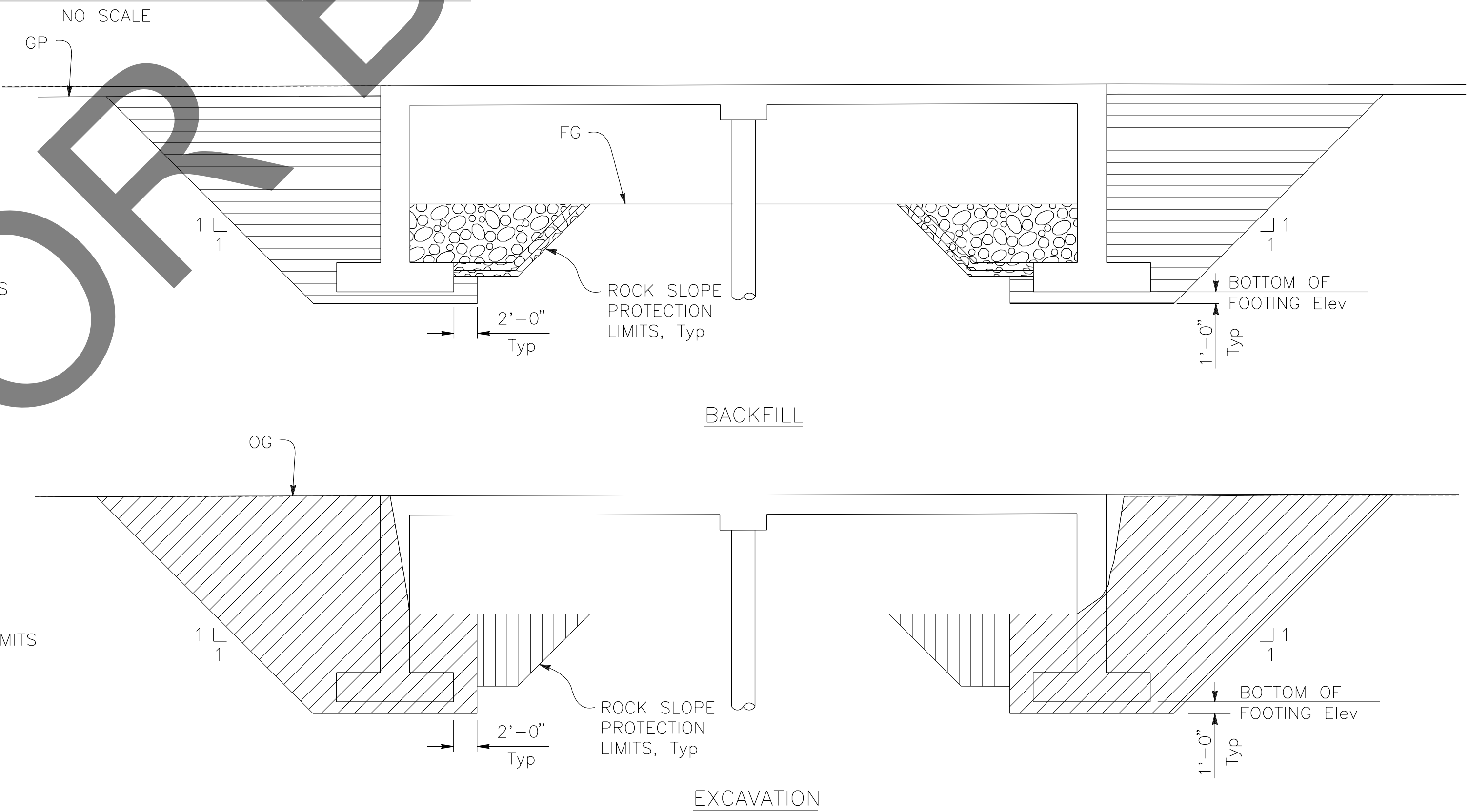
NOTES:

FOR WINGWALL EXCAVATION & BACKFILL LIMITS
SEE STANDARD PLAN A62C.

- LEGEND:
- STRUCTURE EXCAVATION (BRIDGE)
 - STRUCTURE BACKFILL (BRIDGE)
 - CHANNEL EXCAVATION
 - ROCK SLOPE PROTECTION, SEE "ROCK SLOPE PROTECTION DETAILS" SHEET

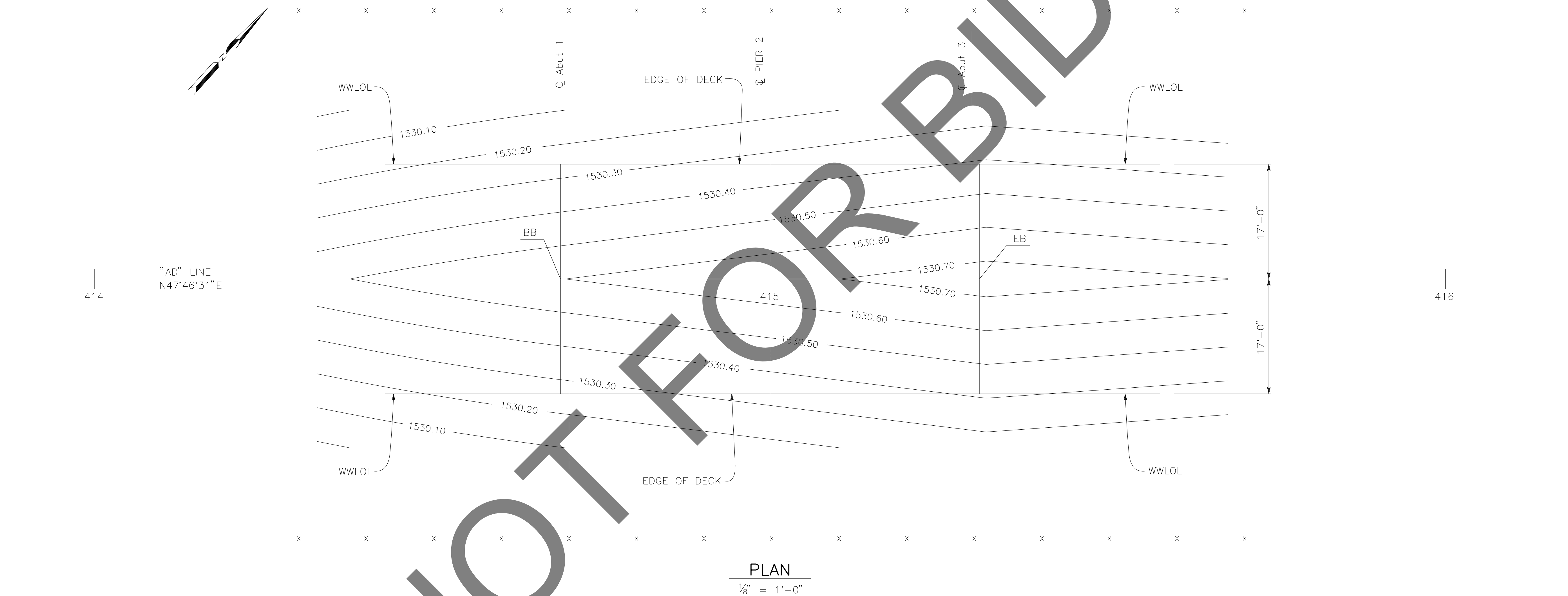
QUANTITIES

ITEM	QUANTITY	UNIT
CHANNEL EXCAVATION	940	CY
STRUCTURE EXCAVATION (BRIDGE)	1200	CY
STRUCTURE BACKFILL (BRIDGE)	850	CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	180	LF
STRUCTURAL CONCRETE, BRIDGE FOOTING	67	CY
STRUCTURAL CONCRETE, BRIDGE	169	CY
STRUCTURAL CONCRETE, BRIDGE (POLYMER FIBER)	138	CY
BAR REINFORCING STEEL (BRIDGE)	80880	LB
BAR REINFORCING STEEL (GALVANIZED)	550	LB
BRIDGE REMOVAL	1	LS
ROCK SLOPE PROTECTION (1/4 T, CLASS V, METHOD B)	469	CY
GRAVEL FILTER (TYPE B)	88	CY
GRAVEL FILTER (TYPE C)	110	CY
CONCRETE BARRIER (TYPE 85 MOD)	223	LF



LIMITS OF PAYMENT FOR
STRUCTURE EXCAVATION AND BACKFILL
NO SCALE

PREPARED BY: DOKKEN ENGINEERING 110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA 916-858-0642 <i>Gabriela Morales</i> GABRIELA MORALES, PROJECT ENGINEER 12-16-24 DATE	MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE	REGISTERED PROFESSIONAL ENGINEER GABRIELA MORALES No. 93473 Exp. 06-30-26 CIVIL STATE OF CALIFORNIA	SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS DESIGNED BY: GM DRAWN BY: AD CHECKED BY: NO RECOMMENDED BY: <i>Chris Nguyen</i> CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE APPROVED BY: <i>Mervat R. Mikhail</i> MERVAT R. MIKHAIL, P.E. DEPUTY DIRECTOR 1/16/2025 DATE	BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES INDEX TO PLANS ADENA DITCH J.L. REF. J.L. 11797 W.O. NO. H14853 PLAN SCALE AS NOTED SHT. NO. 230 TOT. SHT'S. 240
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NOTES:

1. 0.1' CONTOUR INTERVALS SHOWN.
2. CONTOURS DO NOT INCLUDE CAMBER.
3. TOP OF CONCRETE DECK SHOWN.

LEGEND:

X 10' INTERVALS ALONG STATION LINE

[illegible]

SCOUR DATA TABLE		
SUPPORT LOCATION	LONG TERM (DEGRADATION AND CONTRACTION) SCOUR ELEVATION (FT)	SHORT TERM (LOCAL) SCOUR DEPTH (FT)
Abut 1	1520.8	5.1
PIER 2	1520.4	6.0
Abut 3	1520.8	5.1

BENCHMARK

FOUND 3.5" NGS BRASS DISC IN 10"x10" CONC MNMT STAMPED "Z1308-1978 NATIONAL GEODETIC SURVEY" PER NGS DATASHEET PID# EU0704.
NGVD-29 ELEVATION = 1097.43'

NOTES:

- THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO NEW CONSTRUCTION.
- PILES IN CONFLICT WITH PROPOSED BRIDGE MAY BE FULLY REMOVED OR PARTIALLY REMOVED PER SPECIFICATIONS.

LEGEND:

- XX.X
- BOTTOM OF FOOTING ELEVATION
-
-
- 24" Ø CIDH PILE

HYDROLOGIC SUMMARY		
	DESIGN FLOOD	BASE FLOOD
FREQUENCY	50-YR	100-YR
DISCHARGE*	1860 CFS	2524 CFS
WATER SURFACE ELEVATION AT BRIDGE	1526.5 FT	1527.5 FT

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

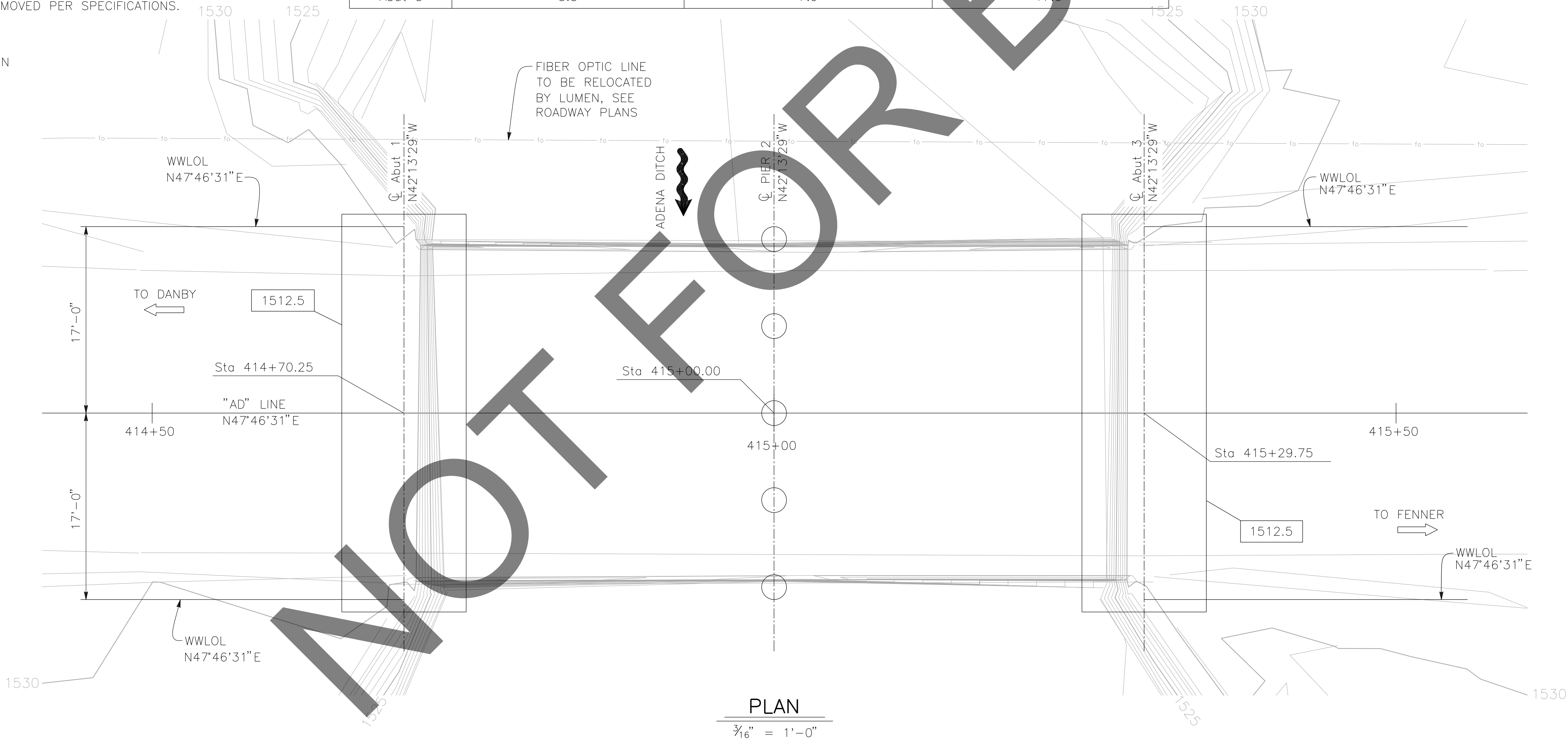
* BULKED DESIGN FLOWS

PILE DATA TABLE					
SUPPORT LOCATION	PILE TYPE	NOMINAL RESISTANCE (KIPS)		DESIGN TIP ELEVATION (FT)	SPECIFIED TIP ELEVATION (FT)
		COMPRESSION	TENSION		
PIER 2	24" CIDH	300	N/A	+1,484(A) +1,494(B) +1,488(C)	+1,484

NOTES:

- DESIGN TIP ELEVATIONS FOR ABUTMENTS ARE CONTROLLED BY: (A) COMPRESSION, (B) SETTLEMENT AND (C) LATERAL LOAD.
- THE CIDH SPECIFIED TIP ELEVATION SHALL NOT BE RAISED.

SPREAD FOOTING DATA TABLE			
LOCATION	SERVICE LIMIT STATE PERMISSIBLE NET CONTACT STRESS (KSF)	STRENGTH FACTORED GROSS NOMINAL BEARING RESISTANCE FOR CONTROLLING LOAD CASE (KSF) $\Phi = 0.45$	EXTREME EVENT FACTORED GROSS NOMINAL BEARING RESISTANCE FOR CONTROLLING LOAD CASE (KSF) $\Phi = 1.00$
Abut 1	3.5	7.9	17.3
Abut 3	3.5	7.9	17.3



PLAN

3/16" = 1'-0"



PREPARED BY:

DOKKEN

ENGINEERING

110 BLUE RAINE ROAD SUITE 200, FOLSOM CA. 916-858-0642

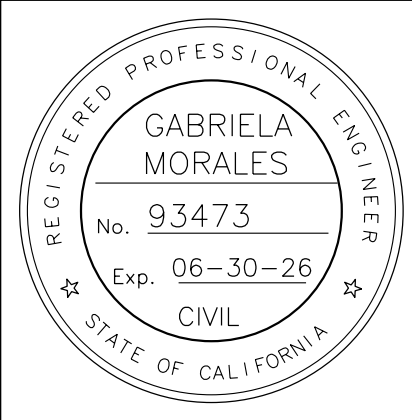
Gabriela Morales

GABRIELA MORALES, PROJECT ENGINEER

12-16-24
DATE

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DESIGNED BY: GM	DRAWN BY: AD	CHECKED BY: NO	RECOMMENDED BY: Chris Nguyen, P.E., TRANSPORTATION DESIGN ENGINEERING MANAGER, 1/14/2025
LEI (ROCKY) LI, P.E., SUPERVISING ENGINEER, 1/15/2025		DATE	APPROVED BY: Mervat R. Mikhail, P.E., DEPUTY DIRECTOR, 1/16/2025

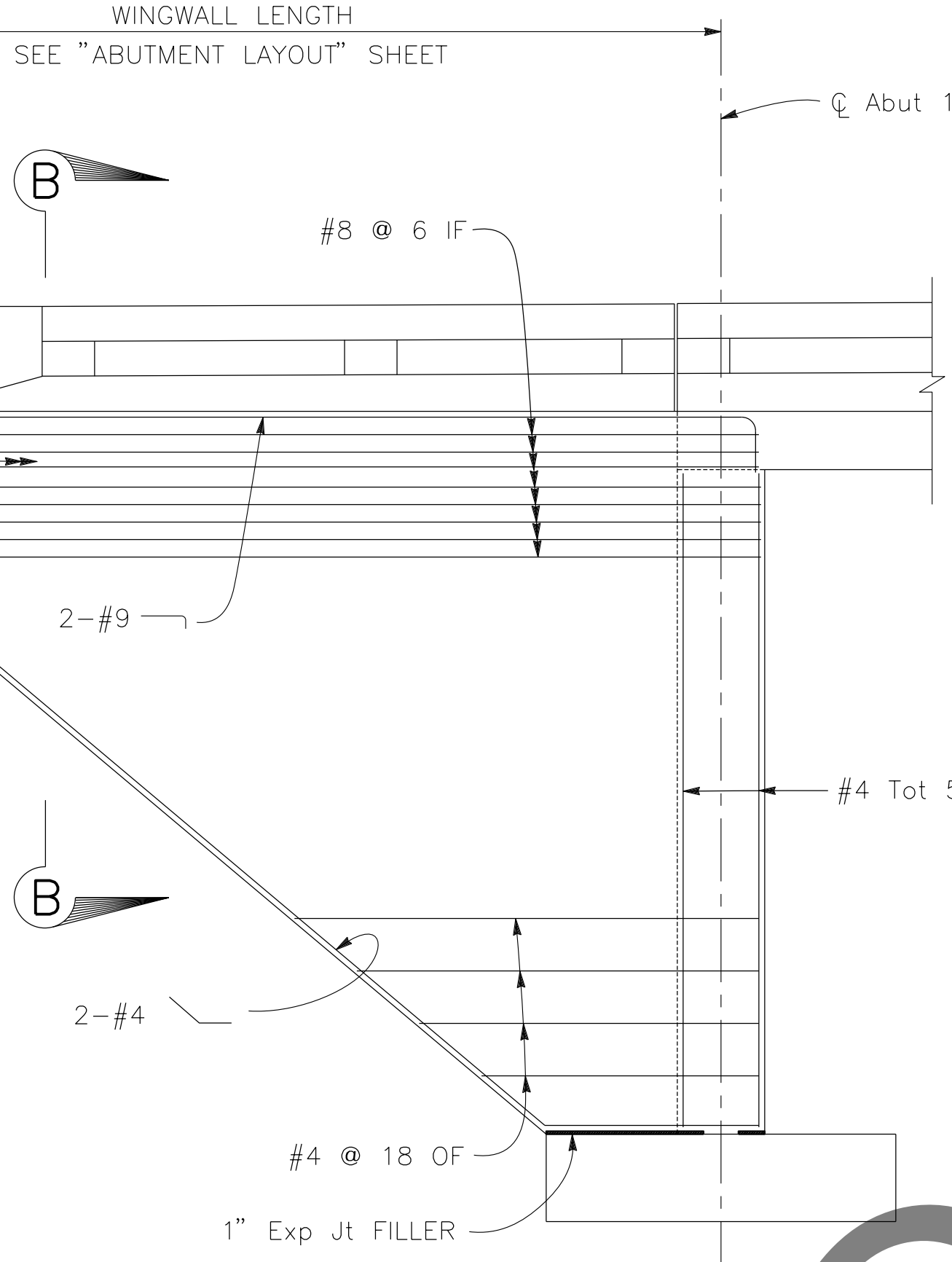
BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES FOUNDATION PLAN ADENA DITCH				
J.L. REF. J.L. 11797	W.O. NO. H14853	PLAN SCALE AS NOTED	SHT. NO. 232	TOT. SHT'S. 240

MARK	REVISIONS	APPR.	DATE

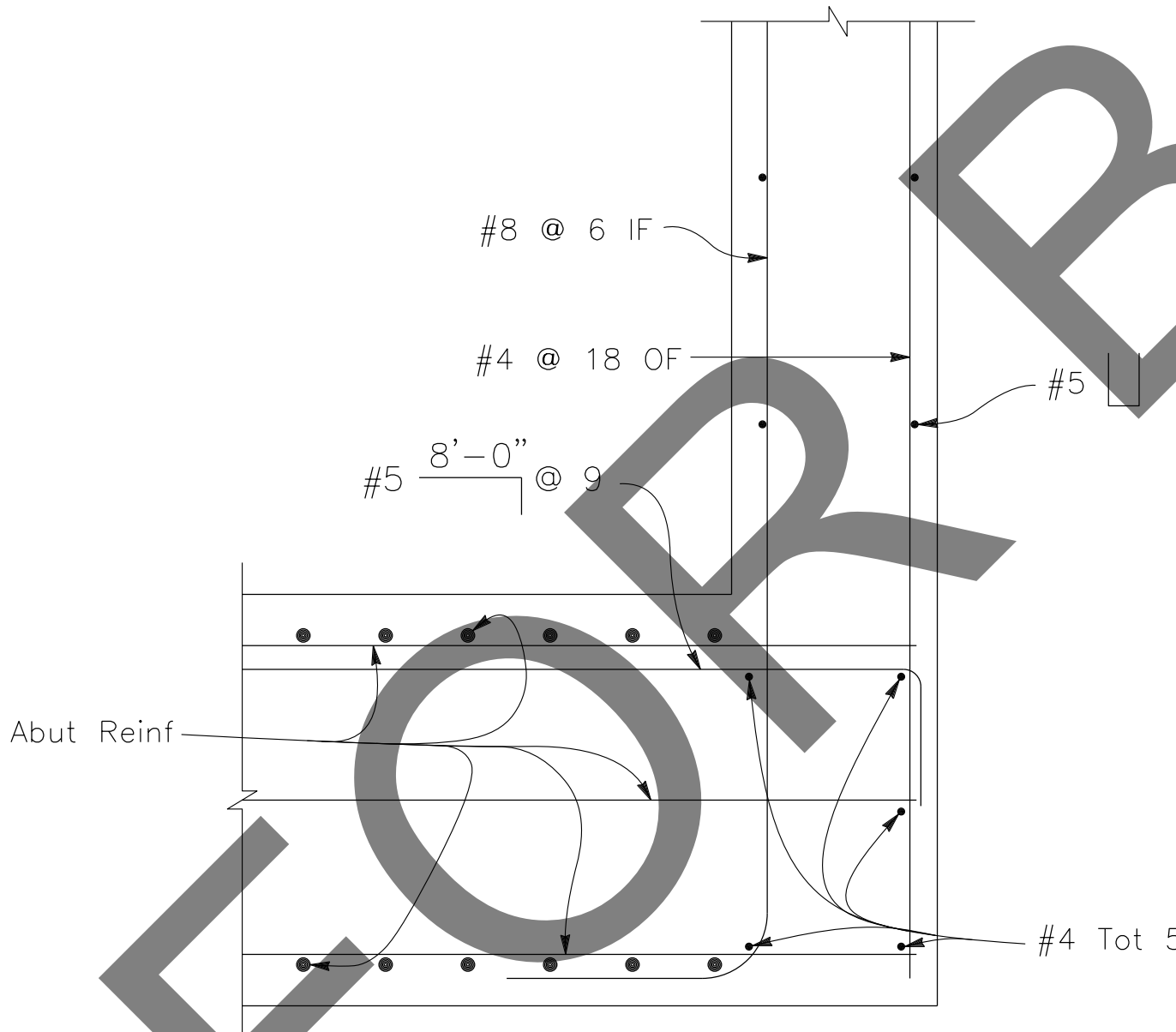
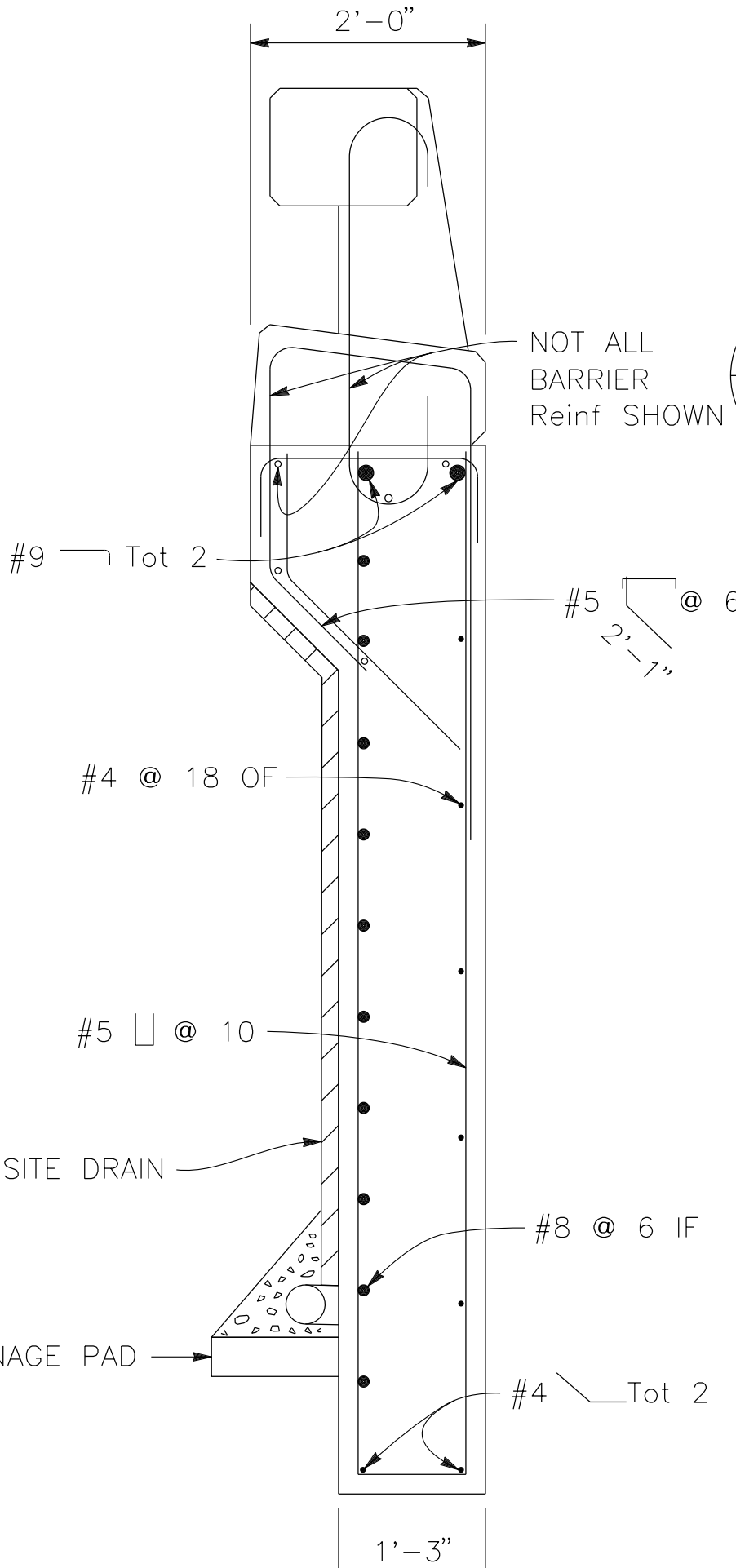
BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES ABUTMENT LAYOUT				
ADENA DITCH				
J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
L.L. 11797	H14853	AS NOTED	233	240

1. FOR DETAILS NOT SHOWN, SEE

10-3


$$\frac{1}{4}'' = 1' - 0''$$

B0-1


$$1'' = 1' - 0''$$

$$\frac{3}{4}'' = 1'-0''$$

BO-1

DOKKEN
ENGINEERING

110 BLUE RAVINE ROAD SUITE 200, FOLSOM CA. 916-858-0642

Gabriela Morales

GABRIELA MORALES, PROJECT ENGINEER

12-16
DATE

[illegible]

DESIGNED BY:	DRAWN BY:	CHECKED BY:	RECOMMENDED BY:	1/14/2025
GM	AD	NO	CHRIS NUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER	
COP CP		1/15/2025	APPROVED BY: Mervat R. Mikhail, P.E. SUPERVISOR	1/16/2025
LEI (ROCKY) U. P.E. SUPERISING ENGINEER		DATE		DATE

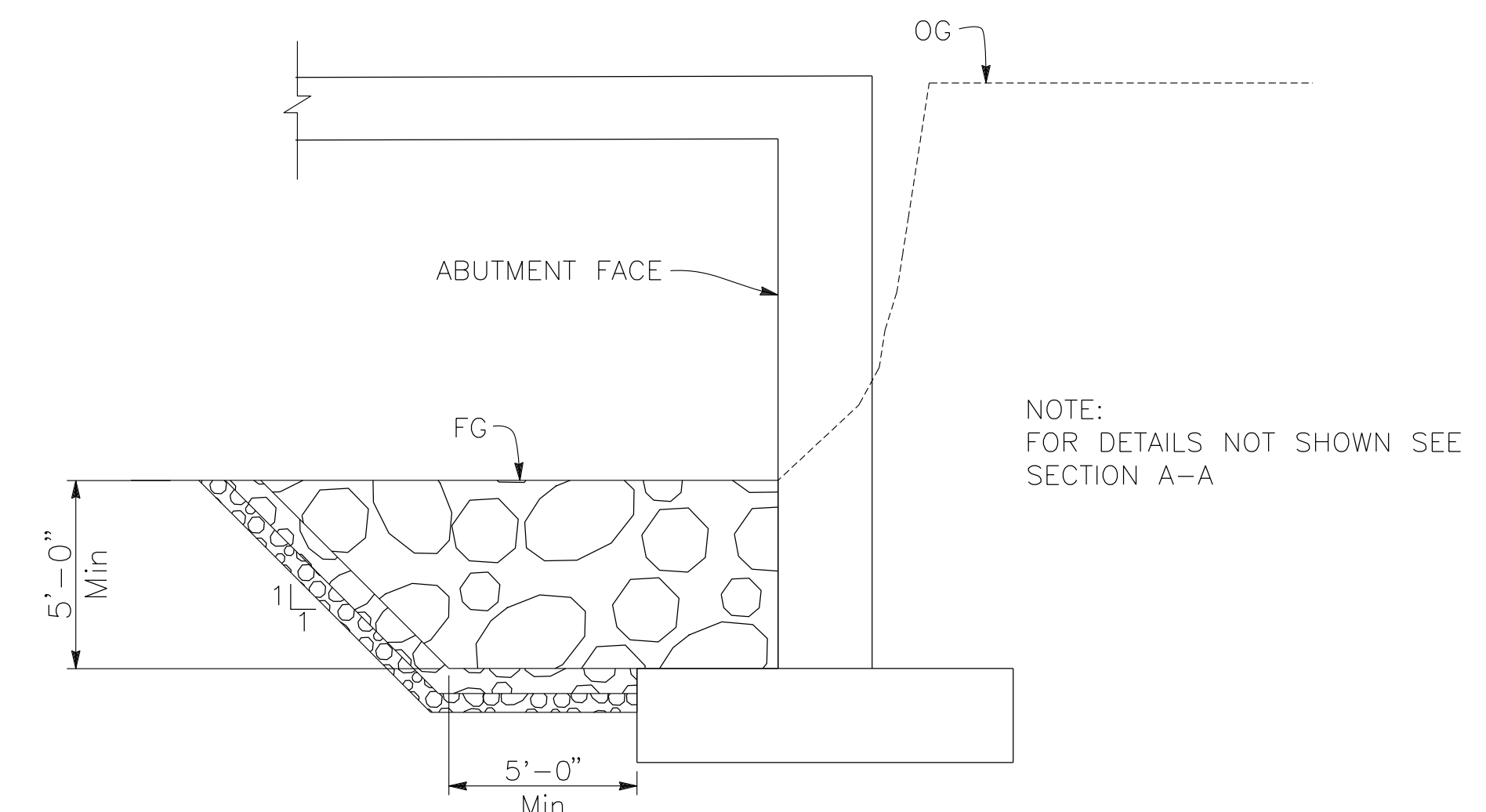
BRIDGE REPLACEMENT ON NATIONAL TRAILS HIGHWAY AT 10 BRIDGES ABUTMENT DETAILS

ADENA DITCH

J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
J.L. 11797	H14853	AS NOTED	234	240

1. FOR CHANNEL GRADING CONTOURS, SEE ROADWAY PLANS

* SEE "LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND STRUCTURE BACKFILL" DETAIL ON "INDEX TO PLANS" SHEET.



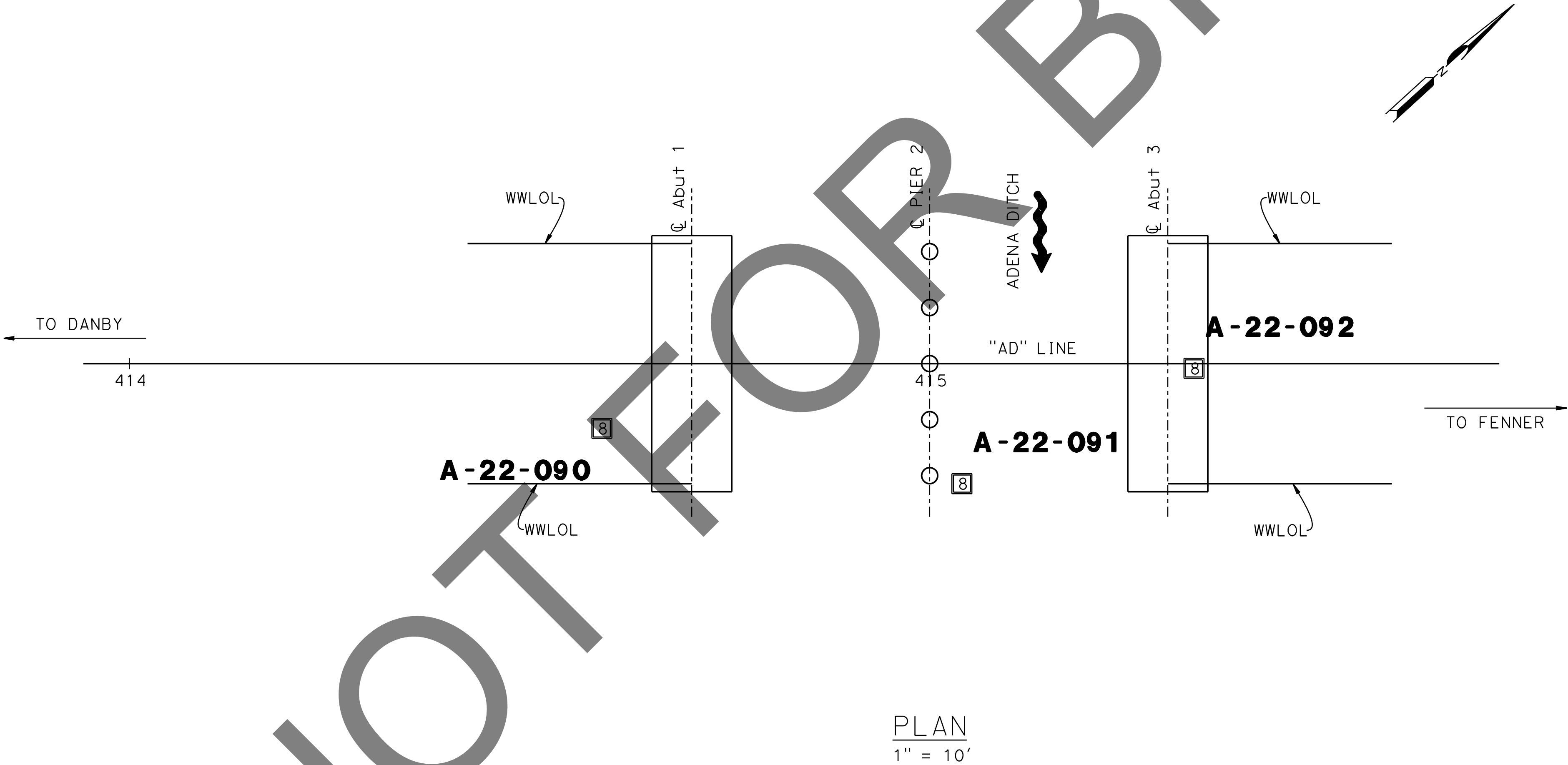
ABUTMENT 3 SHOWN, ABUTMENT 1 SIMILAR.

[illegible]

- NOTES:
- (1) This Test Boring Layout sheet was prepared in accordance with Caltrans Soil and Rock Logging, Classification and Presentation Manual (2022).
- (2) 1.4" samples were taken using a Standard Penetration Sampler and 2.4" samples were taken using a California Modified Sampler; multiply California Modified Sampler blowcounts by 0.65 to convert to equivalent SPT blowcounts.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the samplers.
- (4) For Soil Legend, see Caltrans Standard Plans A10F and A10G.

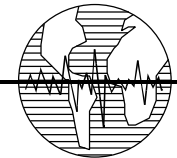
BOREHOLE LOCATION TABLE

Hole ID	Alignment Name	Station and Offset
A-22-090	"AD" Line	414+59 8.1 Rt.
A-22-091	"AD" Line	415+04 15.0 Rt.
A-22-092	"AD" Line	415+33 0.6 Rt.



PLAN
1" = 10'

PREPARED BY:



Earth Mechanics, Inc.
Geotechnical & Earthquake Engineering
17800 NEWHOPE STREET SUITE B, FOUNTAIN VALLEY CA. 714-751-3826

10-30-24

DATE

(ALAHESH) A. THURAIRAJAH, PROJECT ENGINEER

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			

REGISTERED PROFESSIONAL ENGINEER

A. THURAIRAJAH
No. GE 3123
Exp. 9/30/25
GEOTECHNICAL
STATE OF CALIFORNIA

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: MJ

DRAWN BY: TN

CHECKED BY: PR

RECOMMENDED BY:

1/14/2025

CHRIS NGUYEN, P.E.
TRANSPORTATION DESIGN ENGINEERING MANAGER

APPROVED BY:

1/16/2025

MERVAT K. MIKHAIL, P.E.
DEPUTY DIRECTOR

1/15/2025

DATE

BRIDGE REPLACEMENT ON
NATIONAL TRAILS HIGHWAY
AT 10 BRIDGES
LOG OF TEST BORINGS 1 OF 3
ADENA DITCH

J.L. REF. J.L. 11797

W.O. NO. H14853

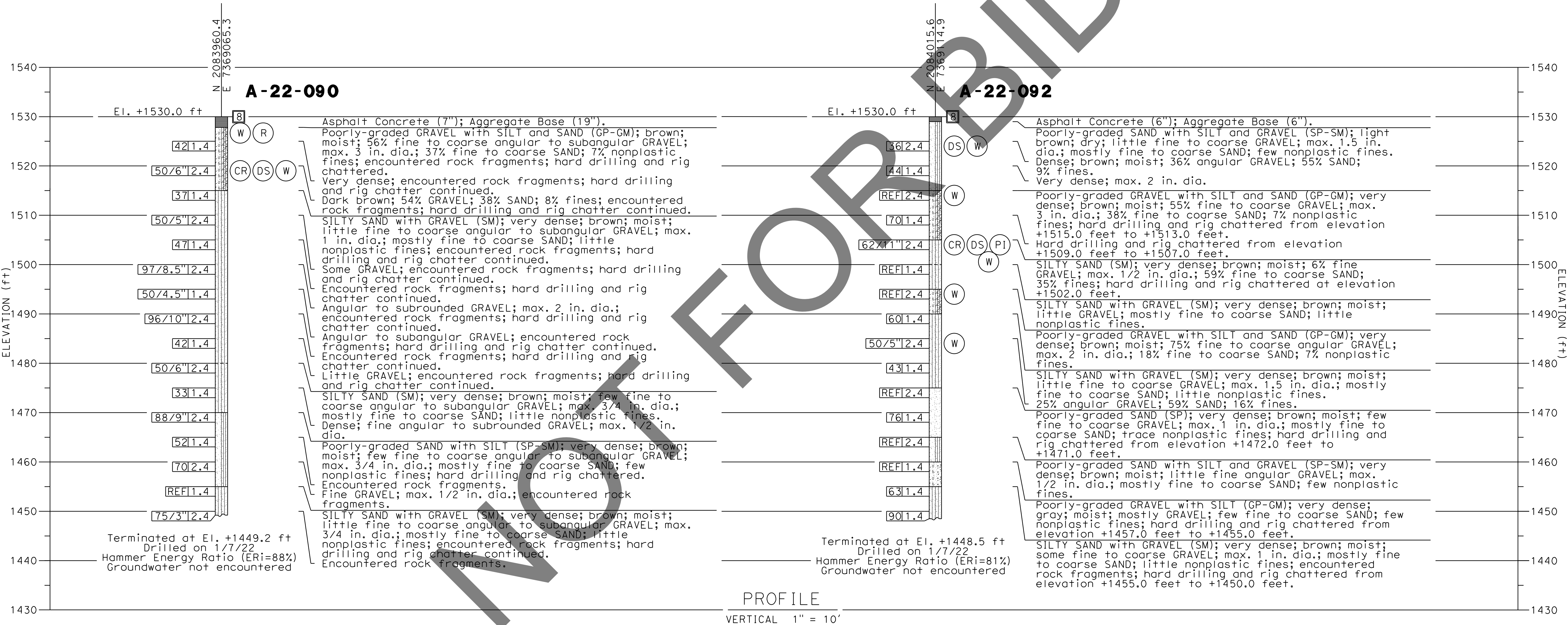
PLAN SCALE AS NOTED

SHT. NO. 238

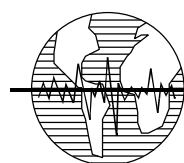
TOT. SHT'S. 240

BENCH MARK:
FOUND 3.5" NGS BRASS DISC IN 10"x10"
Conc Mnmt STAMPED "Z1308-1978 NATIONAL
GEODETIC SURVEY" PER NGS DATASHEET PID# EU0704.
NGVD-29 ELEVATION = 1097.43'

NOTE:
This LOTB sheet (Boring Record) was prepared in accordance with Caltrans
Soil and Rock Logging, Classification and Presentation Manual (2022).



PREPARED BY:



Earth Mechanics, Inc.
Geotechnical & Earthquake Engineering

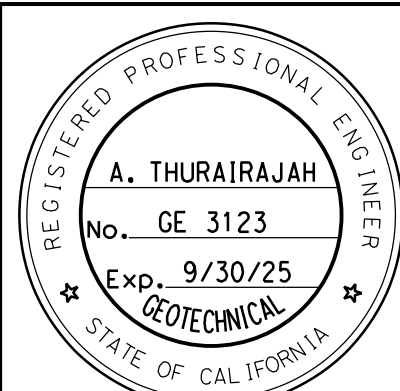
17800 NEWHOPE STREET SUITE B, FOUNTAIN VALLEY CA. 714-751-3826

(ALAHESH) A. THURAIRAJAH, PROJECT ENGINEER

10-30-24
DATE

MARK CHANGES NO CHANGES RESIDENT ENGINEER DATE

FIELD CHANGES



SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: MJ DRAWN BY: TN CHECKED BY: PR RECOMMENDED BY: CHRIS NGUYEN, P.E. 1/14/2025
TRANSPORTATION DESIGN ENGINEERING MANAGER

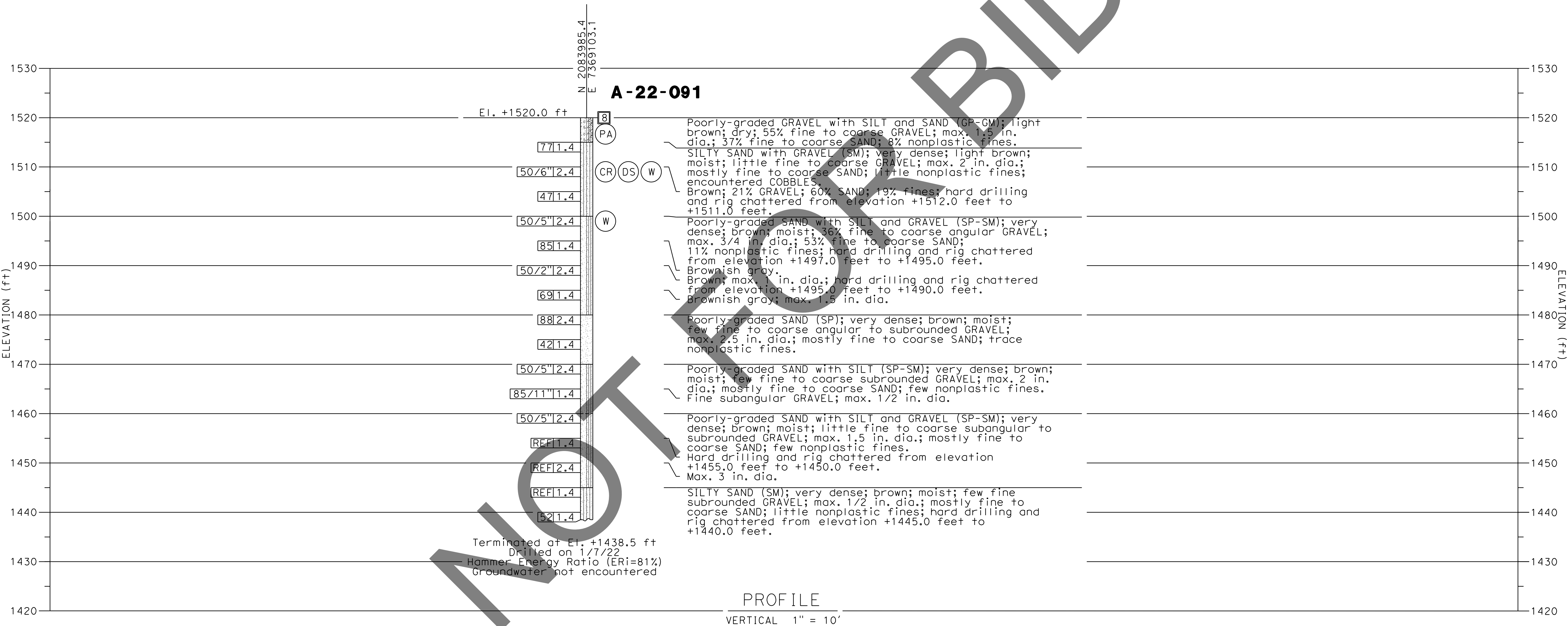
APPROVED BY: LEI (ROCKY) LI, P.E. 1/15/2025
SUPERVISING ENGINEER DATE

BRIDGE REPLACEMENT ON
NATIONAL TRAILS HIGHWAY
AT 10 BRIDGES
LOG OF TEST BORINGS 2 OF 3
ADENA DITCH

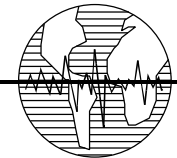
J.L. REF. W.O. NO. PLAN SCALE SHT. NO. TOT. SHT'S
J.L. 11797 H14853 AS NOTED 239 240

BENCH MARK:
FOUND 3.5" NGS BRASS DISC IN 10"x10"
Conc Mnmt STAMPED "Z1308-1978 NATIONAL
GEODETIC SURVEY" PER NGS DATASHEET PID# EU0704.
NGVD-29 ELEVATION = 1097.43'

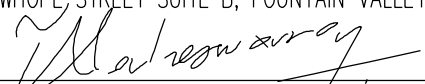
NOTE:
This LOTB sheet (Boring Record) was prepared in accordance with Caltrans
Soil and Rock Logging, Classification and Presentation Manual (2022).



PREPARED BY:

 Earth Mechanics, Inc.
Geotechnical & Earthquake Engineering

17800 NEWHOPE STREET SUITE B, FOUNTAIN VALLEY CA. 91741-751-3826

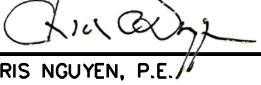
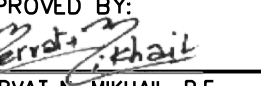

(ALAHESH) A. THURAIRAJAH, PROJECT ENGINEER

10-30-24 DATE

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			



SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: MJ	DRAWN BY: TN	CHECKED BY: PR	RECOMMENDED BY:  CHRIS NGUYEN, P.E. TRANSPORTATION DESIGN ENGINEERING MANAGER 1/14/2025 DATE
APPROVED BY:  MERVAT K. MIKHAIL, P.E. DEPUTY DIRECTOR 1/16/2025 DATE			

LEI (ROCKY) U. P.E.
SUPERVISING ENGINEER

**BRIDGE REPLACEMENT ON
NATIONAL TRAILS HIGHWAY
AT 10 BRIDGES**

LOG OF TEST BORINGS 3 OF 3

ADENA DITCH

J.L. REF. J.L. 11797	W.O. NO. H14853	PLAN SCALE AS NOTED	SHT. NO. 240	TOT. SHT'S. 240
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