

APPROVED AS TO IMPACT ON STATE FACILITIES AND CONFORMANCE WITH APPLICABLE STATE STANDARDS AND PRACTICES AND THAT TECHNICAL OVERSIGHT WAS PERFORMED.

CONSULTANT DESIGN ENGINEER: MICHAEL A. SANCHEZ
 CALTRANS DESIGN OVERSIGHT APPROVAL: --
 LICENSE Exp DATE: --
 DATE SIGNED: --

INDEX OF PLANS

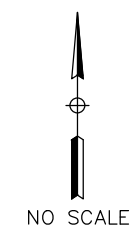
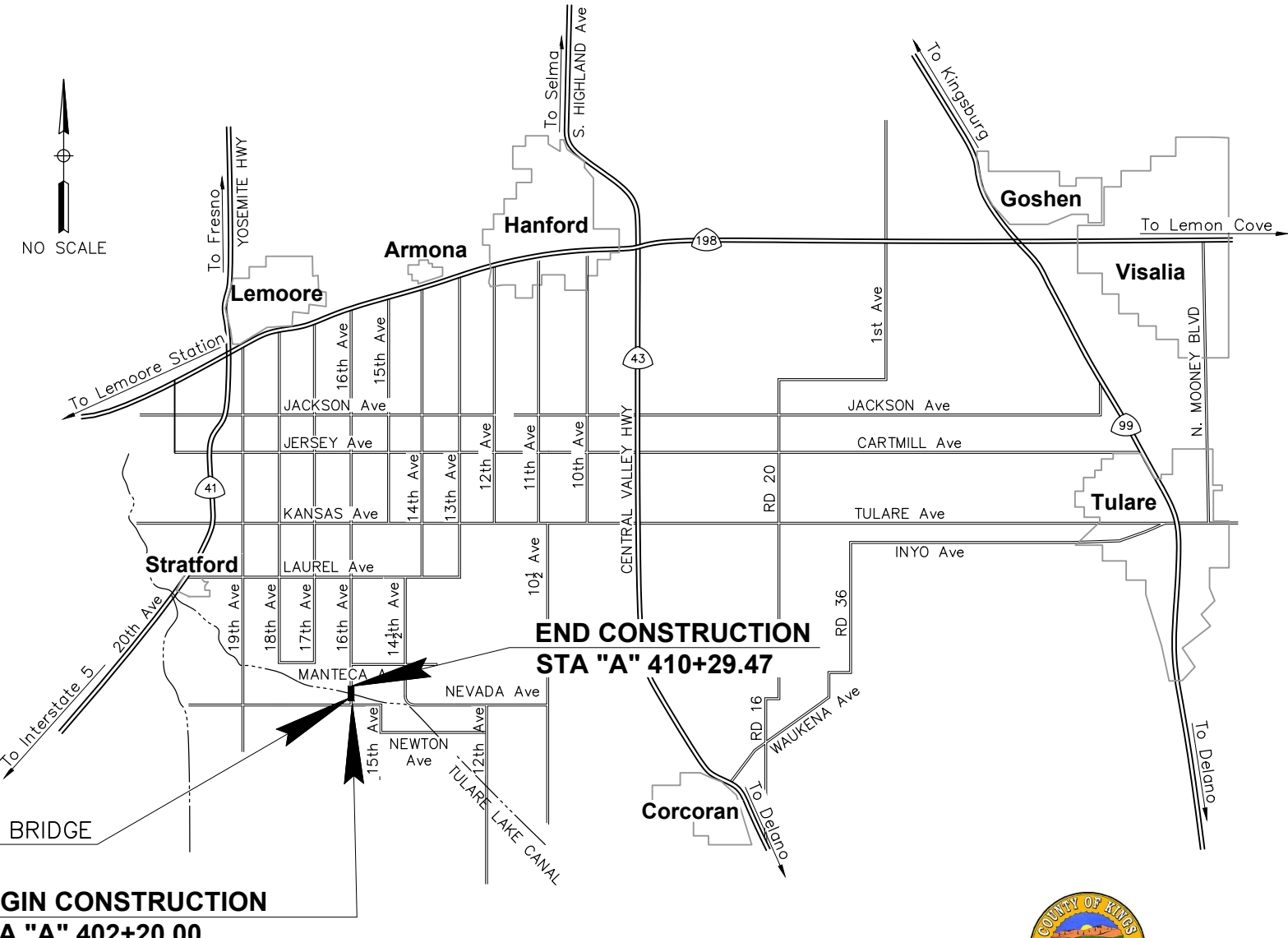
SHEET No.	DESCRIPTION
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8	CONSTRUCTION DETAILS
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THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

KINGS COUNTY
DEPARTMENT OF PUBLIC WORKS
PLANS FOR CONSTRUCTION OF
TULARE LAKE CANAL BRIDGE
BRIDGE NO. 45C0118
 In Kings County Located 0.3 Miles North of Nevada Ave.

TO BE SUPPLEMENTED BY STATE OF CALIFORNIA STANDARD PLANS DATED 2018

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		1	21



MITCHEL CABRERA, P.E.
 CHIEF ENGINEER
 COUNTY OF KINGS
 DATE: 11/22/2022

Michael A. Sanchez
 PROJECT ENGINEER
 REGISTERED CIVIL ENGINEER
 DATE: 10/18/2022

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE
 SUITE 100
 SACRAMENTO, CA 95670

CONTRACT No.	--
PROJECT ID	--

TIME PLOTTED: 11:44:33 AM, Juan Cruz
 LAST REVISION DATE PLOTTED: Thursday, November 10, 2022

KINGS COUNTY - DEPARTMENT OF PUBLIC WORKS
 TULARE LAKE CANAL BRIDGE

CONSULTANT FUNCTIONAL SUPERVISOR
 MICHAEL A. SANCHEZ

CALCULATED/DESIGNED BY
 V. D./M.S.

CHECKED BY
 K.B.

REVISOR BY
 DATE REVISED

NOTES:
 1. FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORDS AT THE COUNTY OFFICE
 2. TRAFFIC STRIPE SHALL BE 4" WIDE, MODIFIED FROM CALTRANS STANDARD PLANS.

LEGEND:

- FLOW LINE
- PAVEMENT DELINEATION DETAIL
- OBJECT MARKER (TYPE P)
- TCE
- SLOPE EASEMENT
- ACQUISITION

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		4	21

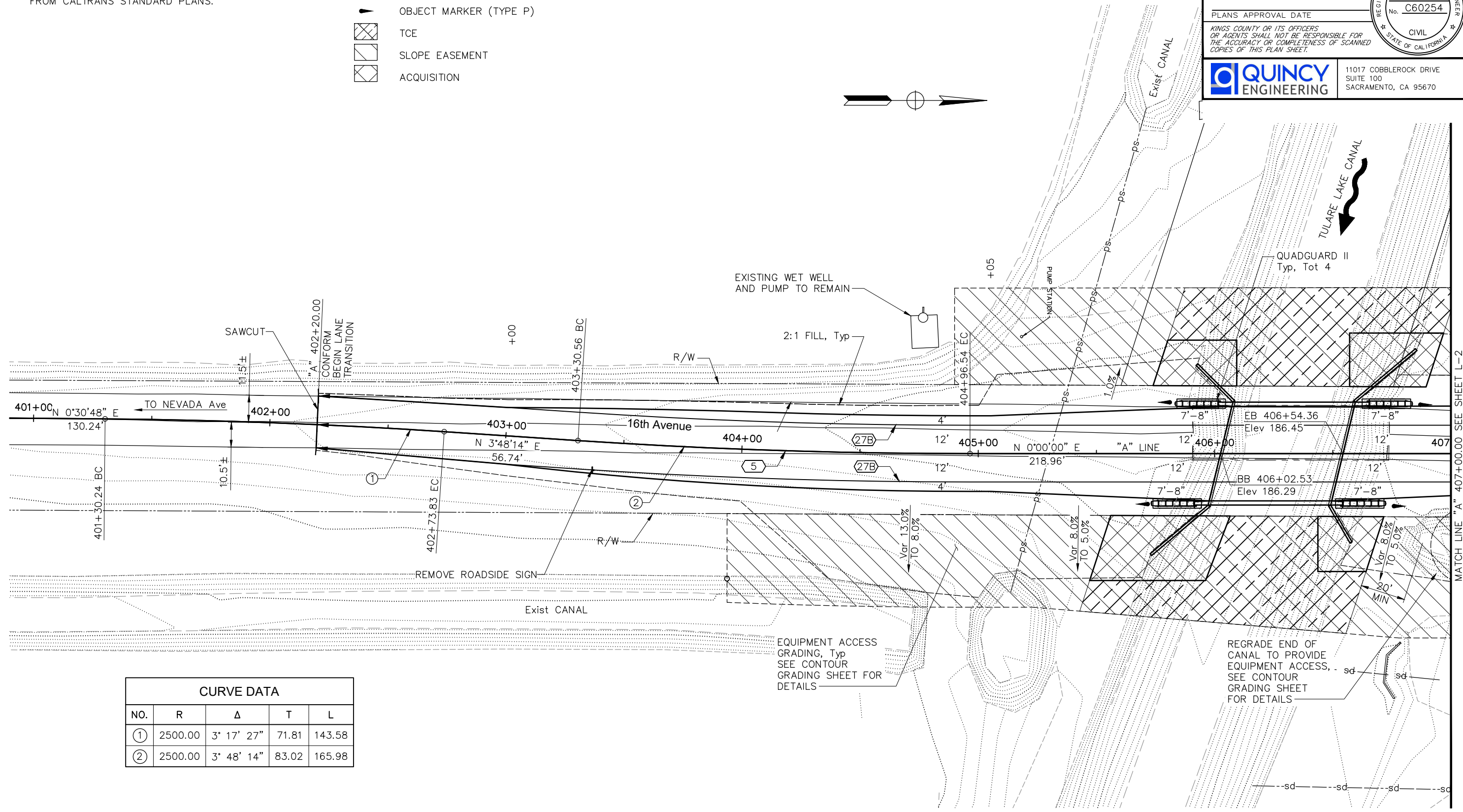
Michael A. Sanchez
 REGISTERED CIVIL ENGINEER
 DATE 10/18/2022

Michael A. Sanchez
 No. C60254
 CIVIL
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA

PLANS APPROVAL DATE

KINGS COUNTY OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

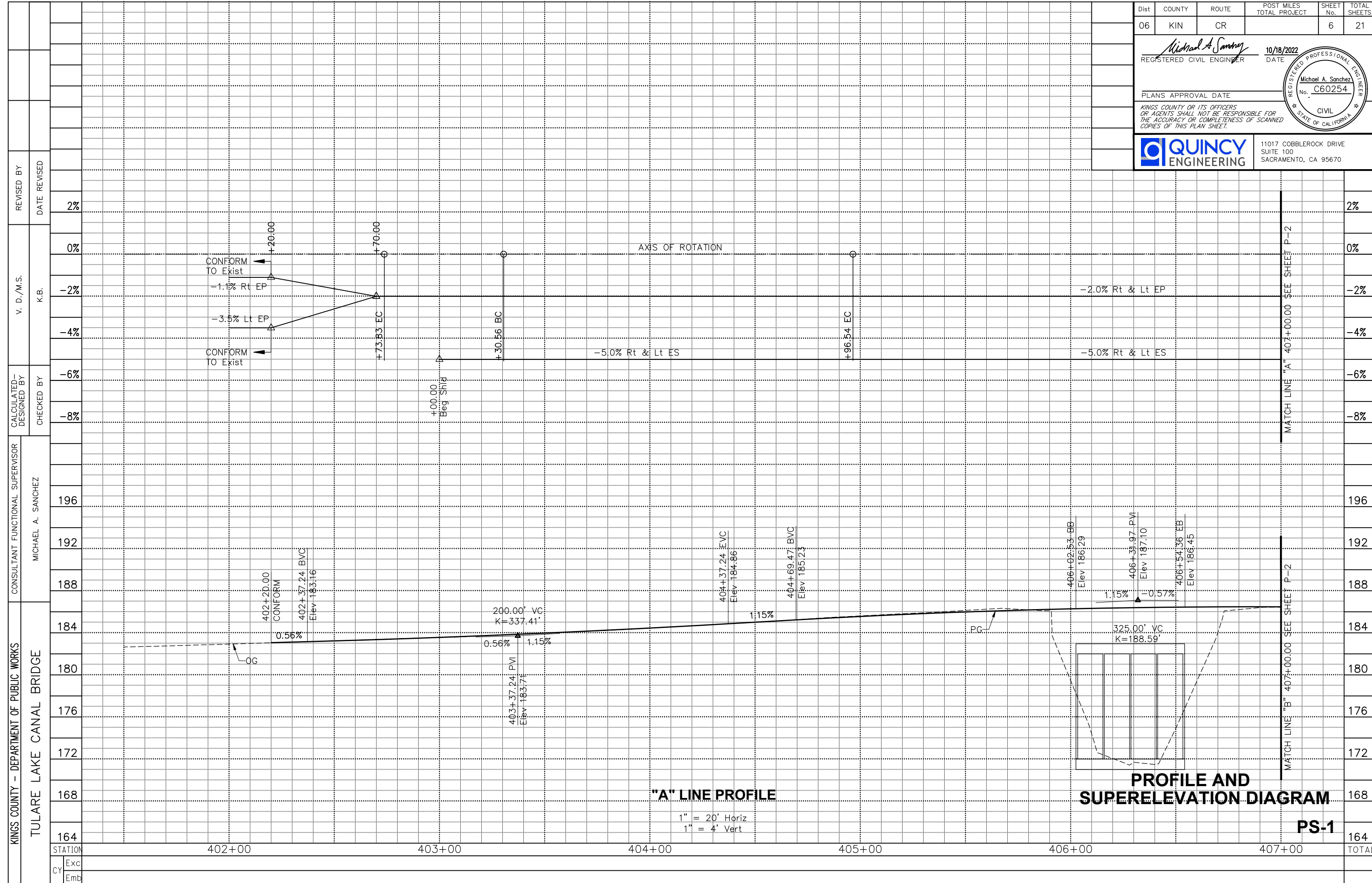
QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE
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 SACRAMENTO, CA 95670




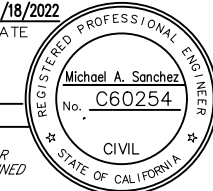

CURVE DATA				
NO.	R	Δ	T	L
①	2500.00	3° 17' 27"	71.81	143.58
②	2500.00	3° 48' 14"	83.02	165.98

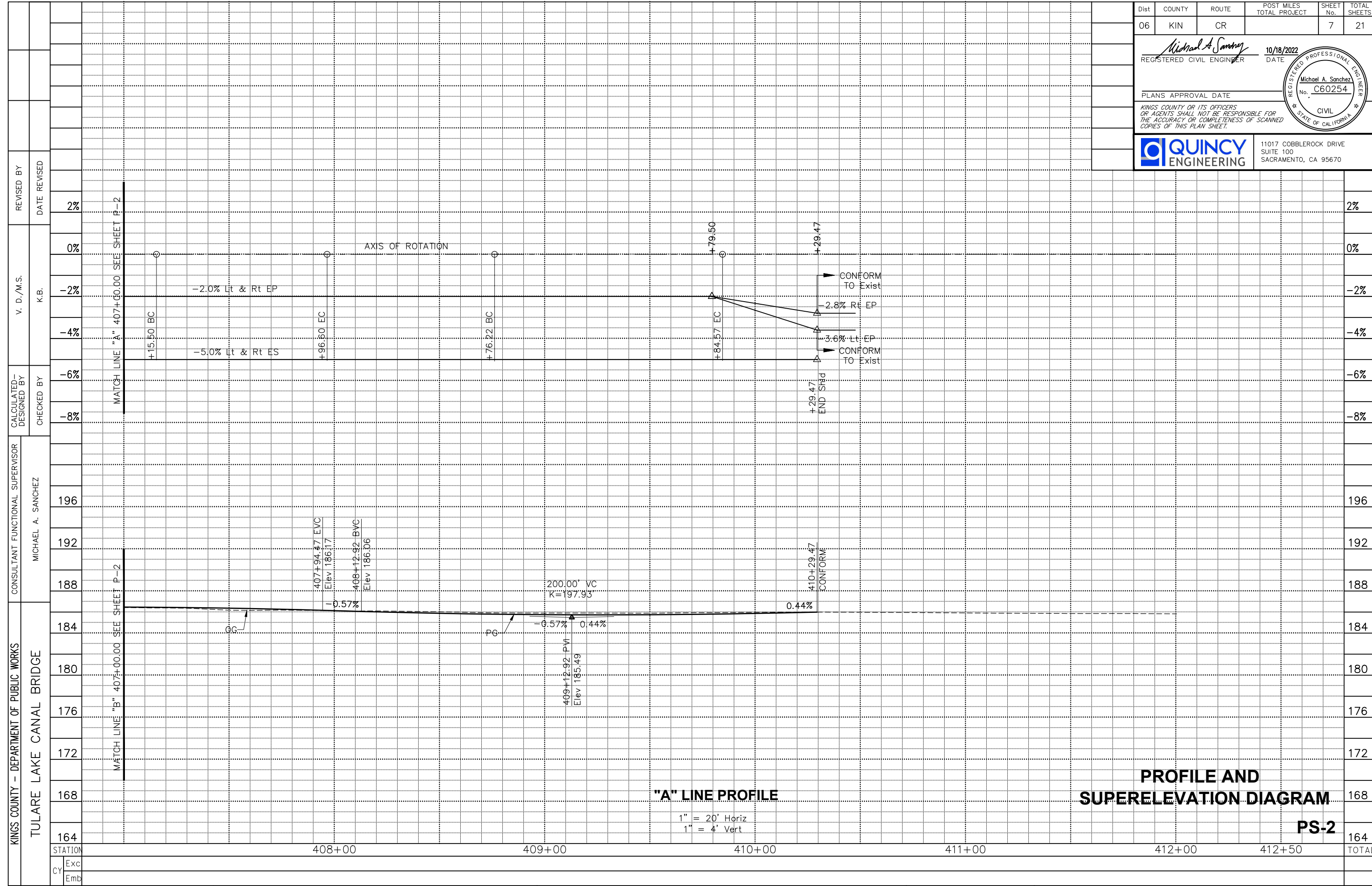
LAYOUT
 1" = 20'

L-1



KINGS COUNTY - DEPARTMENT OF PUBLIC WORKS	CONSULTANT SUPERVISOR	MICHAEL A. SANCHEZ
	FUNCTIONAL SUPERVISOR	MICHAEL A. SANCHEZ
TULARE LAKE CANAL BRIDGE	CALCULATED/DESIGNED BY	K.B.
	CHECKED BY	
STATION	REVISOR	DATE
	REVISED BY	DATE
164		
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		6	21
 REGISTERED CIVIL ENGINEER			10/18/2022 DATE		
PLANS APPROVAL DATE					
<small>KINGS COUNTY OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
			11017 COBBLEROCK DRIVE SUITE 100 SACRAMENTO, CA 95670		



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		7	21

Michael A. Sanchez
 REGISTERED CIVIL ENGINEER
 DATE 10/18/2022

Michael A. Sanchez
 No. C60254
 CIVIL
 STATE OF CALIFORNIA

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QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE
 SUITE 100
 SACRAMENTO, CA 95670

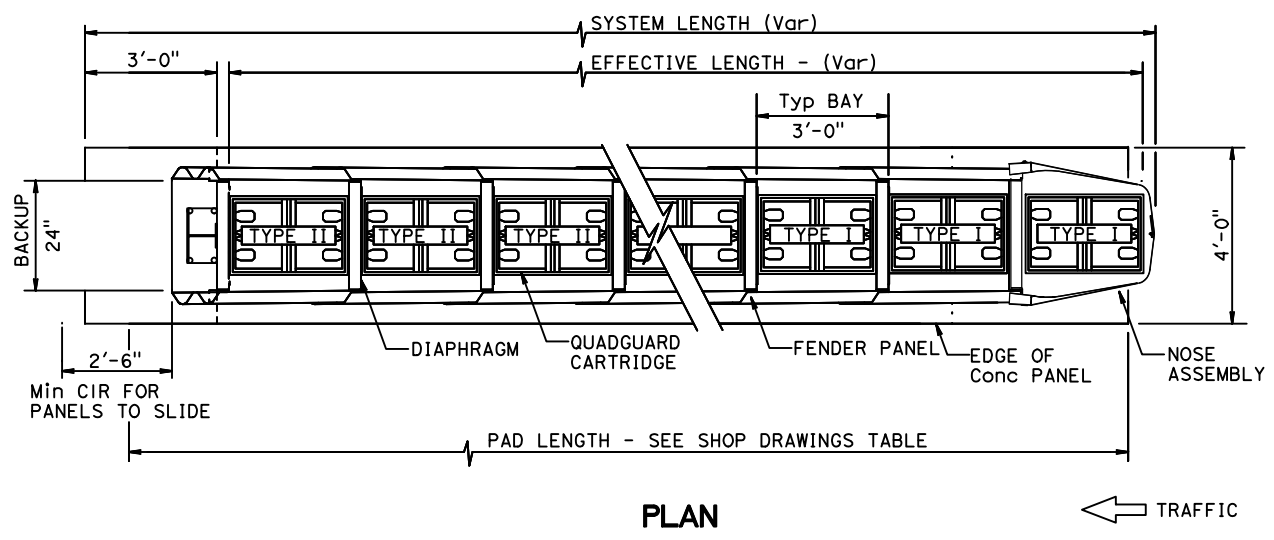
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		8	21

Michael A. Sanchez
 REGISTERED CIVIL ENGINEER
 DATE 10/18/2022

Michael A. Sanchez
 REGISTERED PROFESSIONAL ENGINEER
 No. C60254
 CIVIL
 STATE OF CALIFORNIA

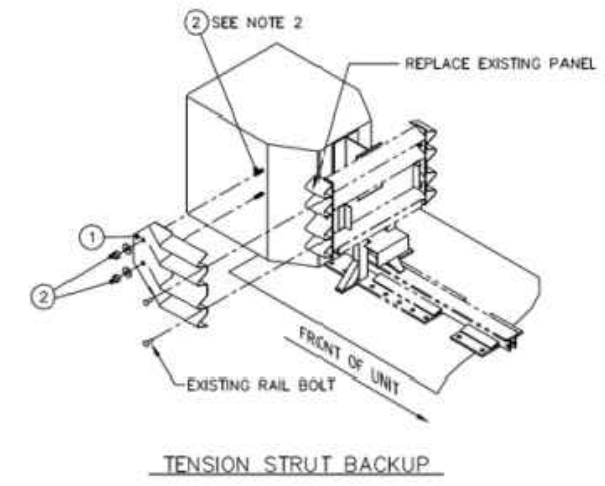
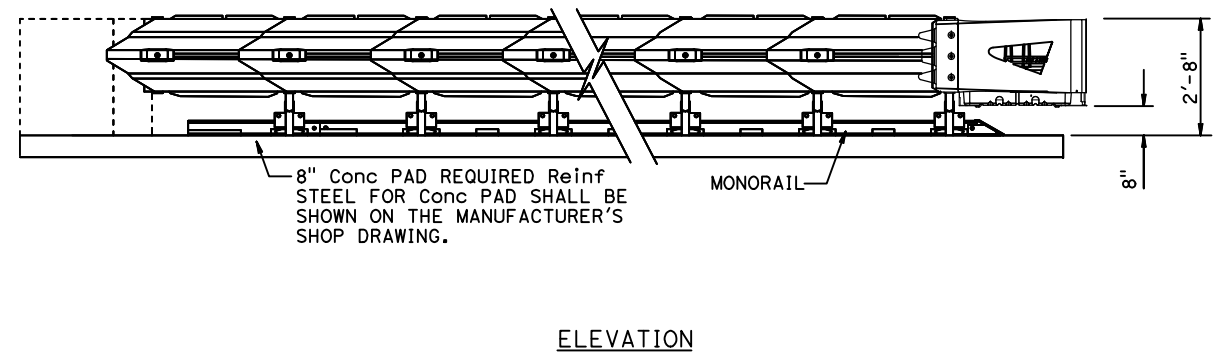
PLANS APPROVAL DATE _____
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QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE
 SUITE 100
 SACRAMENTO, CA 95670

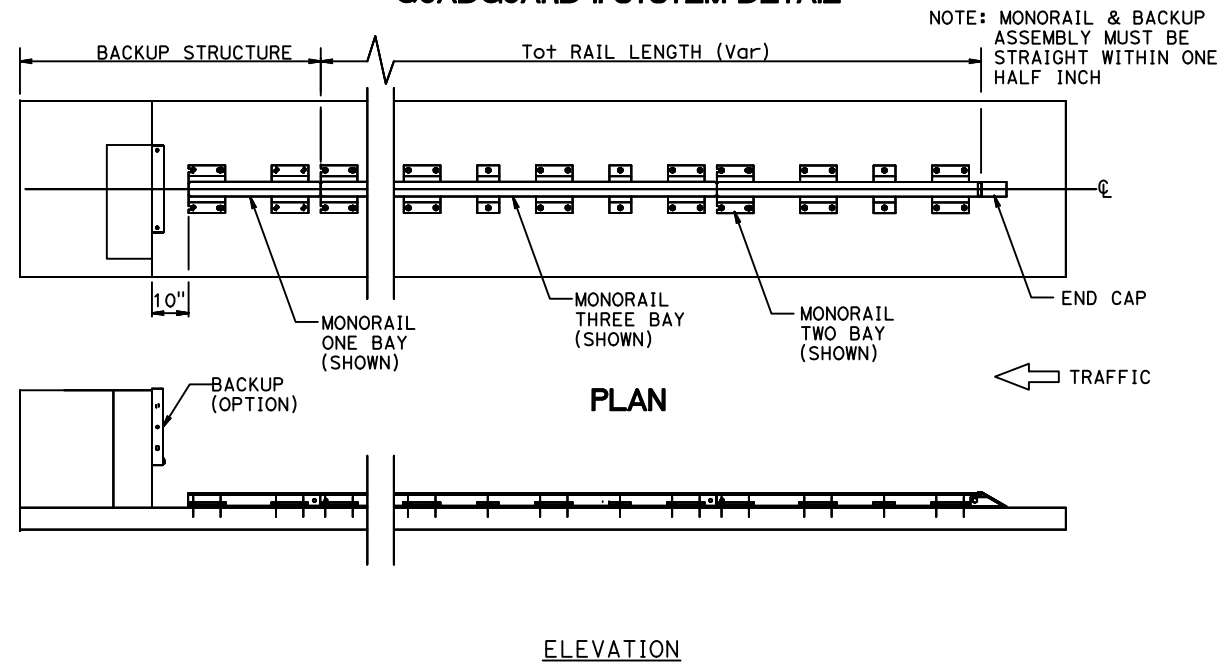


PARTS LIST			
ITEM	STOCK NO.	DESCRIPTION	REQ'D
1	608122G	SIDE PANEL, END SHOE, QG, G	1.00
2	603670B	ANCHOR, MP-3, PT KIT, 3/4X6 1/2 HOR	1.00

No. OF BAYS	UNIT EFFECTIVE LENGTH	PAD LENGTH TYPE B
5	17'-8"	18'-0"



QUADGUARD II SYSTEM DETAIL



MONORAIL ASSEMBLY DETAIL
(SEE THE MANUFACTURER'S SHOP DRAWINGS FOR MONORAIL HARDWARE INSTALLATION.)

GENERAL NOTES

- FOR BI-DIRECTIONAL TRAFFIC, APPROPRIATE TRANSITION PANELS WILL BE REQUIRED.
- USE END SHOE AS TEMPLATE FOR DRILLING. RECOMMENDED HOLE DEPTH 127 [5.00]. FINAL TORQUE TO BE 163 Nm [120 FT-LBS] (TYP). ANCHOR STUD END SHOULD BE FLUSH WITH OUTSIDE SURFACE OF ANCHOR NUT.
- DETAILS OF COMPONENTS FOR THE QUAD AND BACKUPS AND REINFORCING DETAILS WILL BE SHOWN ON THE MANUFACTURER'S SHOP DRAWINGS FURNISHED TO THE ENGINEER.
- CONCRETE SHALL BE CLASS 2 WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 P.S.I.
- IF THE CROSS-SLOPE VARIES MORE THAN 2% OVER THE LENGTH OF THE SYSTEM, THE CONCRETE PAD WILL REQUIRE LEVELLING. MAXIMUM PERMISSIBLE CROSS-SLOPE IS 8%.
- THE INSTALLATION AREA SHOULD BE FREE FROM CURBS, ELEVATED OBJECTS, OR DEPRESSIONS.
- THE QUAD SYSTEM SHOULD BE APPROXIMATELY PARALLEL WITH THE BARRIER OR C OF MERGING BARRIERS.
- UNIT WIDTH SELECTED SHOULD BE ADEQUATE TO PROTECT AN ERRANT VEHICLE TRAVELLING AT 15 DEGREES TO THE ROADWAY FROM THE FACE OR CORNER OF THE FIXED OBJECT.

QUADGUARD II

CONSTRUCTION DETAILS
NO SCALE

REVISIONS:
 REVISED BY: _____ DATE REVISED: _____
 V. D./M.S.: _____ K.B.: _____
 CALCULATED/DESIGNED BY: _____ CHECKED BY: _____
 CONSULTANT SUPERVISOR: MICHAEL A. SANCHEZ
 KINGS COUNTY - DEPARTMENT OF PUBLIC WORKS
 TULARE LAKE CANAL BRIDGE

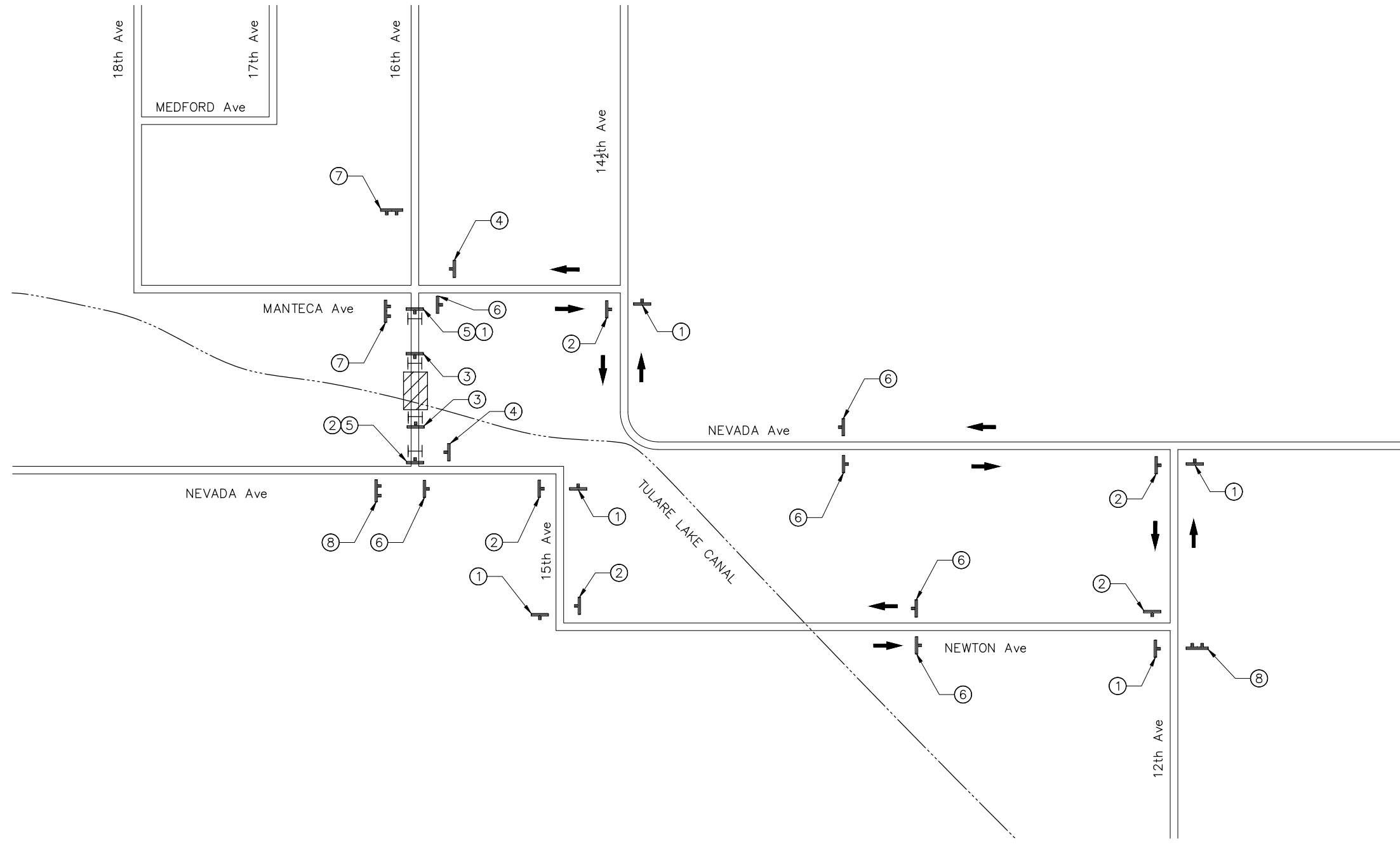
TIME PLOTTED: 11:46:34 AM, Juan Cruz
 DATE PLOTTED: Thursday, November 10, 2022
 LAST REVISION:

REVISIONS: V. D./M.S. K.B. CALCULATED/DESIGNED BY CHECKED BY CONSULTANT FUNCTIONAL SUPERVISOR MICHAEL A. SANCHEZ
 KINGS COUNTY - DEPARTMENT OF PUBLIC WORKS TULARE LAKE CANAL BRIDGE

- NOTES:**
- THIS PLAN ACCURATE FOR DETOUR LAYOUT ONLY.
 - SIGN LOCATIONS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY ENGINEER.
 - ACCESS TO DRIVEWAY SHALL BE MAINTAINED AT ALL TIMES.
 - R11-2 SIGNS MOUNTED ON BARRICADE

- LEGEND:**
- CONSTRUCTION AREA SIGN
 - WORK AREA
 - DETOUR DIRECTION
 - CONSTRUCTION AREA SIGN (CAS) NUMBER
 - TYPE III BARRICADE (5)

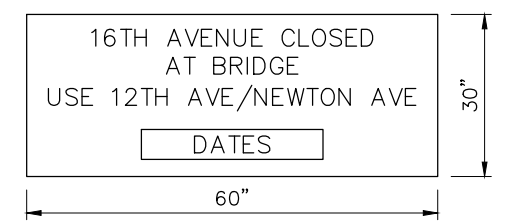
CONSTRUCTION AREA SIGNS						
SIGN NO.	SIGN CODE	SIGN MESSAGE	PANEL SIZE	NO. AND SIZE OF POST		NO OF SIGNS
1	M4-10 (Lt)	"DETOUR" ARROW LEFT	48" x 18"	1	4x4	6
2	M4-10 (Rt)	"DETOUR" ARROW RIGHT	48" x 18"	1	4x4	6
3	R11-2	"ROAD CLOSED"	48" x 30"	1	4x4	2
4	M4-8a	"END DETOUR"	24" x 18"	1	4x4	2
5	R11-4	"ROAD CLOSED TO THRU TRAFFIC"	60" x 30"	1	4X4	2
6	SC-3 (CA)	"DETOUR" ARROW UP	48" x 18"	1	4x4	6
7	SP-1	SEE DETAIL SP-1	60" x 30"	2	4x4	2
8	SP-2	SEE DETAIL SP-2	60" x 30"	2	4x4	2
TOTAL						28



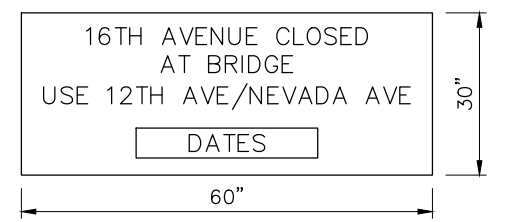
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		10	21

Michael A. Sanchez
 REGISTERED CIVIL ENGINEER DATE 10/18/2022
 Michael A. Sanchez
 No. C60254
 CIVIL
 STATE OF CALIFORNIA

11017 COBBLEROCK DRIVE
 SUITE 100
 SACRAMENTO, CA 95670



DETAIL SP-1
NO SCALE



DETAIL SP-2
NO SCALE

TYPE III BARRICADE		
LINE	INTERSECTION	EA
A	NEVADA Ave	5
A	MANTECCA Ave	5
A	BRIDGE NORTH	5
A	BRIDGE SOUTH	5
TOTAL		20

DETOUR
NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		11	21

Michael A. Sanchez
 REGISTERED CIVIL ENGINEER 10/18/2022
 DATE

PLANS APPROVAL DATE

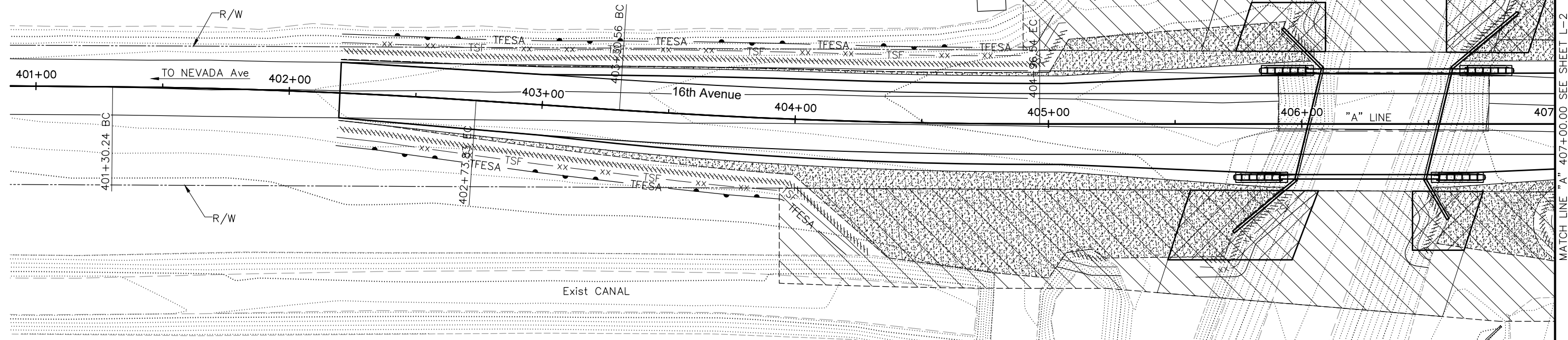
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QUINCY ENGINEERING 11017 COBBLEROCK DRIVE
 SUITE 100
 SACRAMENTO, CA 95670

REGISTERED PROFESSIONAL ENGINEER
 Michael A. Sanchez
 No. C60254
 CIVIL
 STATE OF CALIFORNIA

NOTES:
 1. THIS PLAN ACCURATE FOR EROSION CONTROL AND WATER POLLUTION CONTROL WORK ONLY.

SEED MIX			
SEED	BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
MIX	ACHILLEA MILLEFOLIUM (WESTERN YARROW)	85	1.0
	BROMUS CARINATUS (CALIFORNIA BROME)	80	22.8
	ERIOGONUM FASCICULATUM (CALIFORNIA BUCKWHEAT)	20	1.5
	ERIOPHYLLUM CONFERTIFLORUM (GOLDEN YARROW)	70	0.7
	LOTUS SCOPARIUS (DEER LOTUS)	80	6.6



LEGEND:

- EROSION CONTROL (HYDROSEED)
- TFESA — TEMPORARY HIGH-VISIBILITY FENCE
- TSF — TEMPORARY SILT FENCE
- TEMPORARY FIBER ROLL
- TEMPORARY CONSTRUCTION EASEMENT
- TCE
- ACQUISITION

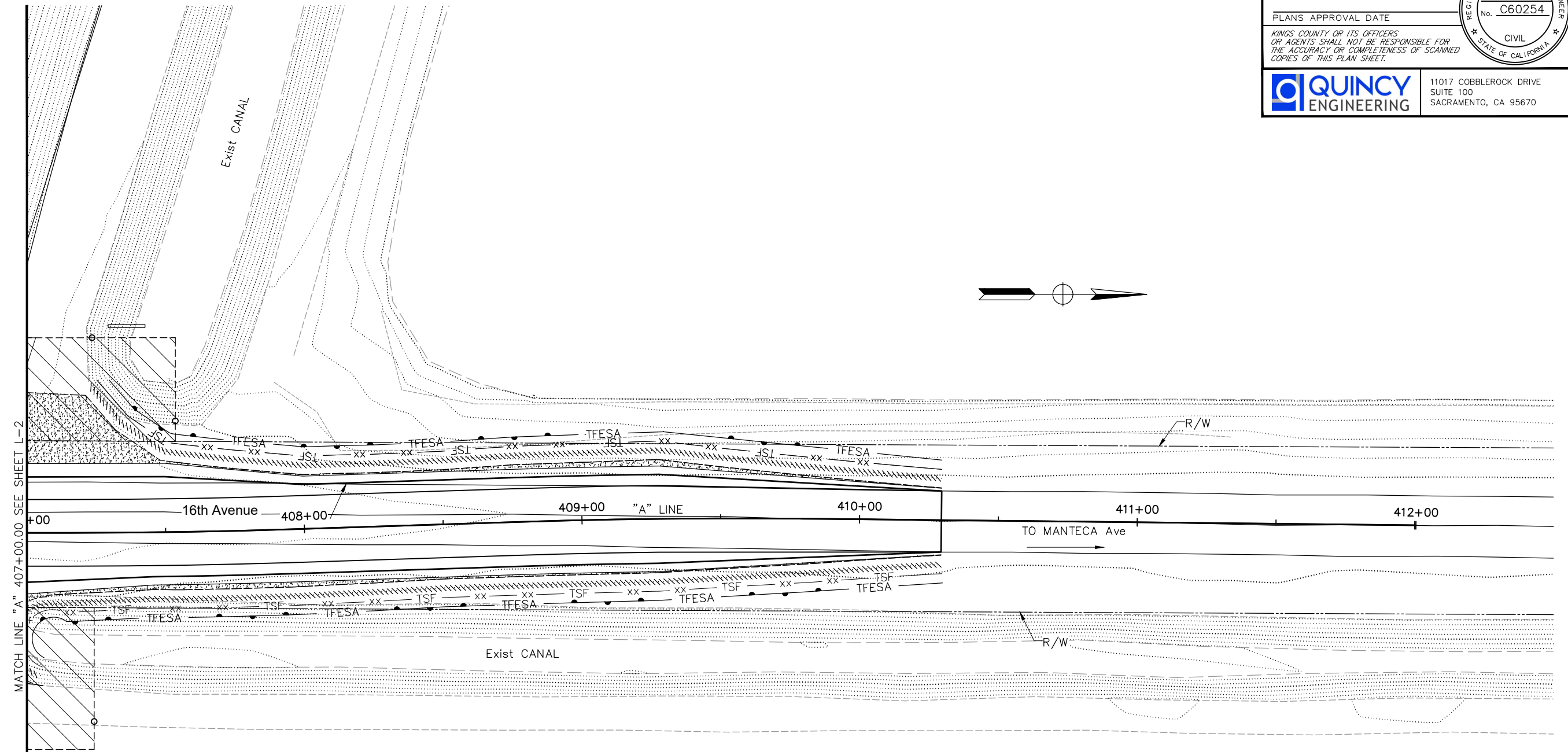
EROSION CONTROL
 1" = 20'

EC-1

KINGS COUNTY - DEPARTMENT OF PUBLIC WORKS
 TULARE LAKE CANAL BRIDGE
 CONSULTANT FUNCTIONAL SUPERVISOR
 MICHAEL A. SANCHEZ
 CALCULATED/DESIGNED BY
 CHECKED BY
 V. D./M.S.
 K.B.
 REVISED BY
 DATE REVISED

KINGS COUNTY - DEPARTMENT OF PUBLIC WORKS TULARE LAKE CANAL BRIDGE	CONSULTANT FUNCTIONAL SUPERVISOR MICHAEL A. SANCHEZ	CALCULATED-DESIGNED BY CHECKED BY	V. D./M.S. K.B.	REVISED BY DATE REVISED

NOTES:
1. THIS PLAN ACCURATE FOR EROSION CONTROL AND WATER POLLUTION CONTROL WORK ONLY.



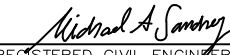
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		12	21

Michael A. Sanchez
 REGISTERED CIVIL ENGINEER
 DATE: 10/18/2022
 PLANS APPROVAL DATE: _____
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 SACRAMENTO, CA 95670

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		13	21


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 SACRAMENTO, CA 95670

EROSION CONTROL

SHEET No.	FROM		TO		TEMPORARY HIGH-VISIBILITY FENCE	TEMPORARY FIBER ROLL	TEMPORARY SILT FENCE	HYDROSEED	COMMENTS
	LINE	STATION	LINE	STATION					
L-1	"A"	402+20.00	"A"	406+02.53	604	594	604	8,414	SOUTH APPROACH
L-2	"A"	406+54.36	"A"	410+29.50	725	747	725	3,368	NORTH APPROACH
TOTAL					1,329	1,341	1,329	11,782	

ROADWAY ITEMS

SHEET No.	FROM		TO		ROADWAY EXCAVATION	EMBANKMENT (N)	CLASS 2 AGGREGATE BASE	HOT MIX ASPHALT (TYPE A)	TACK COAT	COMMENTS
	LINE	STATION	LINE	STATION						
L-1	"A"	402+20.00	"A"	406+02.53	573.4	143.4	489.7	217.0	3.2	SOUTH APPROACH
L-1	"A"	406+02.53	"A"	406+54.36			265.7	39.1	0.6	BRIDGE (STRUCTURAL SECTION/ABOVE CULVERT)
GP	"A"						873.0			BRIDGE (BELOW WING WALL FOUNDATIONS)
L-1/L-2	"A"	406+54.36	"A"	410+29.50	610.8	168.7	517.6	229.4	3.4	NORTH APPROACH
G-1	"A"	404+49.29	"A"	405+69.98	7.0	139.6				SE ACCESS ROAD
G-1	"A"	405+00.00	"A"	405+93.71	22.0	4.6				SW ACCESS ROAD
G-1	"A"	406+53.29	"A"	407+07.20	0.1	71.7				NE ACCESS ROAD
G-1	"A"	406+88.56	"A"	407+50.00	15.1	11.0				NW ACCESS ROAD
TOTAL					1,228.4	538.9	2,146.0	485.5	7.1	

SUMMARY OF QUANTITIES

Q-1

KINGS COUNTY - DEPARTMENT OF PUBLIC WORKS
 TULARE LAKE CANAL BRIDGE
 CONSULTANT FUNCTIONAL SUPERVISOR
 MICHAEL A. SANCHEZ
 CALCULATED-DESIGNED BY
 CHECKED BY
 V. D./M.S.
 K.B.
 REVISED BY
 DATE REVISED

KINGS COUNTY - DEPARTMENT OF PUBLIC WORKS
 TULARE LAKE CANAL BRIDGE
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Dist.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	KIN	CR		14	21

Michael A. Sanchez
 REGISTERED CIVIL ENGINEER DATE 10/18/2022

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 11017 COBBLEROCK DRIVE
 SUITE 100
 SACRAMENTO, CA 95670

MISCELLANEOUS ITEMS

SHEET No.	FROM		TO		QUADGUARD II	OBJECT MARKER (TYPE P)	TYPE III BARRICADE	MINOR CONCRETE (MINOR STRUCTURE)	COMMENTS
	LINE	STATION	LINE	STATION	EA	EA	LF	CY	
L-1	"A"	405+70.00	"A"	406+02.53	2	2		5.6	
L-1	"A"	406+54.36	"A"	406+80.00	2	2		5.6	
DE-1	"A"	402+20.00	"A"	410+29.47			20		
TOTAL					4	4	20	11.2	

PAVEMENT DELINEATION

SHEET No.	FROM		TO		THERMOPLASTIC TRAFFIC STRIPE		COMMENTS
	LINE	STATION	LINE	STATION	4" YELLOW (BROKEN 36-12) LF	4" SOLID WHITE LF	
L-1/L-2	"A"	402+20.00	"A"	410+29.47		1,620	DETAIL 27B
L-1/L-2	"A"	402+20.00	"A"	410+29.47	810		DETAIL 5
TOTAL					810	1,620	

ROADSIDE SIGNS

SHEET No.	SIGN CODE	SIGN MESSAGE	REMOVE ROADSIDE SIGN
			EA
L-1	W5-2	NARROW BRIDGE	1
L-2	W5-2	NARROW BRIDGE	1
TOTAL			2

SUMMARY OF QUANTITIES

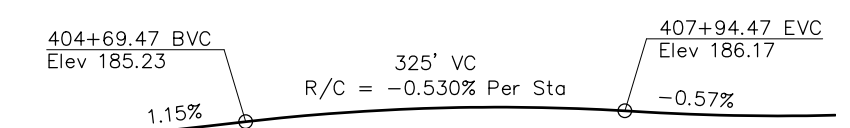
QUANTITIES

Bridge Removal	1	LS
Structure Excavation	1,182	CY
Structure Excavation (Type D)	1,014	CY
Structure Backfill (Non-Native Material)	1,209	CY
Geotextile Fabric	537	SQYD
Class 2 Aggregate Base	879	CY
Structural Concrete (Wingwall)	166	CY
Structural Concrete, Box Culvert	325	CY
Bar Reinforcing Steel (Bridge)	89,742	LBS
Bar Reinforcing Steel (Wingwall)	18,489	LBS
Tubular Bicycle Railing	104	LF
Concrete Barrier (Type 836 Mod)	127	LF

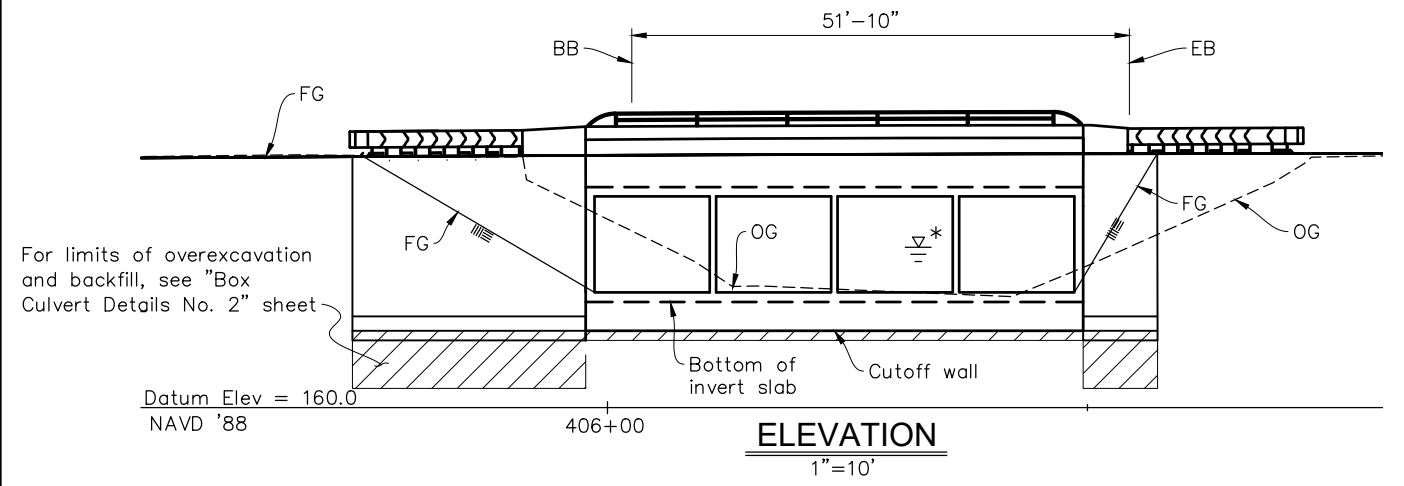
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06	Kin	CR		15	21

Juan Carlos Cruz
 REGISTERED CIVIL ENGINEER
 DATE: 10/18/2022
 No. 88803
 JUAN C. CRUZ
 CIVIL
 STATE OF CALIFORNIA

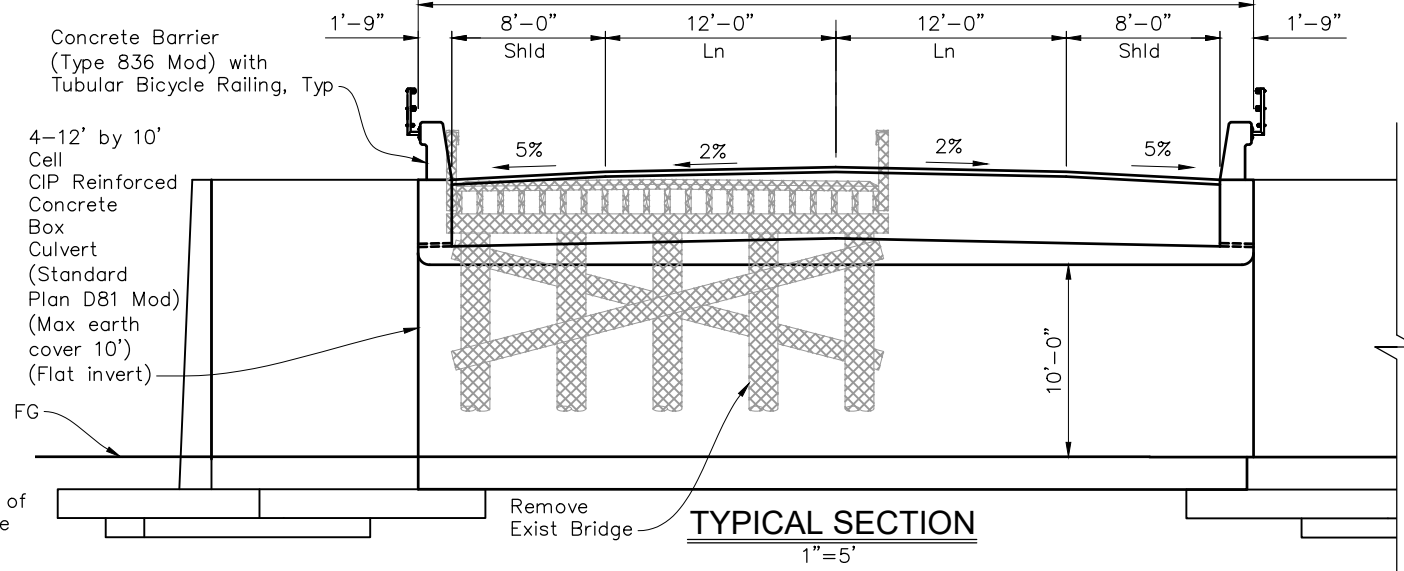
QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE, SUITE 100
 RANCHO CORDOVA, CA 95670
 P: 916.368.9181



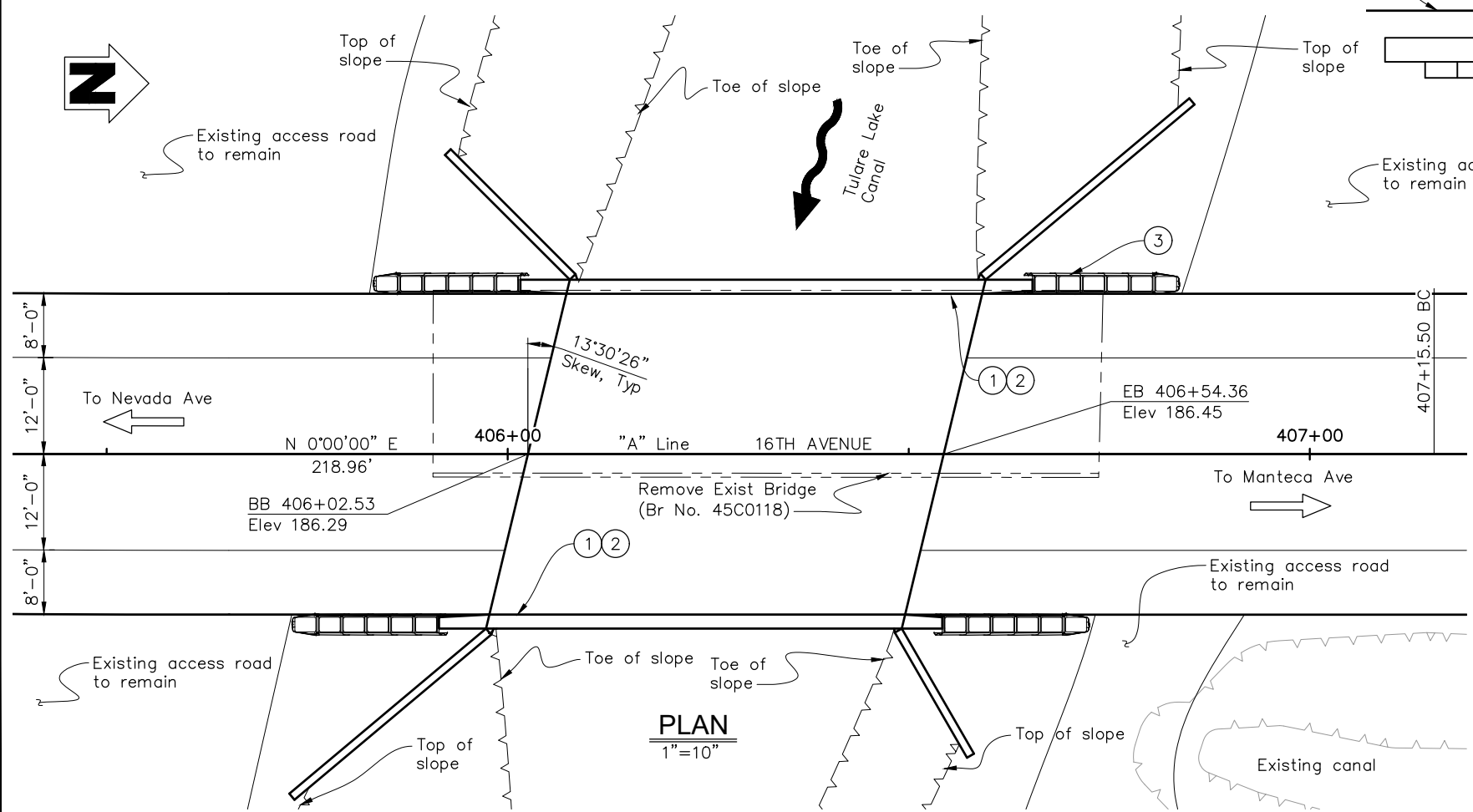
PROFILE GRADE
No Scale



ELEVATION
1"=10'



TYPICAL SECTION
1"=5'



PLAN
1"=10'

"A" Line CURVE DATA

R = 2500.00'
 $\Delta = 1^\circ 51' 31''$
 T = 40.55'
 L = 81.10'

STANDARD PLANS DATED 2018

A3A	Abbreviations (Sheet 1 of 3)
A3B	Abbreviations (Sheet 2 of 3)
A3C	Abbreviations (Sheet 3 of 3)
A10A	Legend - Lines and Symbols (Sheet 1 of 5)
A10B	Legend - Lines and Symbols (Sheet 2 of 5)
A10C	Legend - Lines and Symbols (Sheet 3 of 5)
A10D	Legend - Lines and Symbols (Sheet 4 of 5)
A10E	Legend - Lines and Symbols (Sheet 5 of 5)
A62B	Limits of Payment for Excavation and Backfill - Bridge surcharge and wall
A62C	Limits of Payment for Excavation and Backfill - Bridge
RSP D81	Cast-in-Place Reinforced Concrete - Double Box Culvert
RSP D82	Cast-in-Place Reinforced Concrete - Box Culvert Miscellaneous Details
RSP D84	Box Culvert Wingwalls - Type A, B and C
B0-1	Bridge Details
B0-3	Bridge Details
RSP B11-79	Concrete Barrier Type 836 Details No. 1
RSP B11-80	Concrete Barrier Type 836 Details No. 2

INDEX TO PLANS

Sheet No.	Title
1	General Plan
2	Foundation Plan
3	Box Culvert Details No. 1
4	Box Culvert Details No. 2
5	Box Culvert Details No. 3
6	Tubular Bicycle Railing Details
7	Log of Test Borings

Notes:

- ① Paint "Tulare Lake Canal Bridge"
- ② Paint "No. 45C0118"
- ③ Specialized end treatment system, see Road Plans
- * Highwater elevation
- Existing structure

For General Notes, see Standard Plan RSP D82
For Hydrologic Summary, see "Foundation Plan" sheet

DESIGN OVERSIGHT	DESIGN BY J. Cruz	CHECKED S. Garth	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY" AND PERMIT DESIGN VEHICLE	PREPARED FOR THE Kings County Department of Public Works	BRIDGE NO. 45C0118	TULARE LAKE CANAL BRIDGE GENERAL PLAN
SIGN OFF DATE	DETAILS BY H. Chou/J. Cruz	CHECKED D. Mossman/S. Garth	LAYOUT BY H. Chou/J. Cruz	CHECKED D. Mossman/S. Garth	JUAN CRUZ PROJECT ENGINEER	POST MILE	
	QUANTITIES BY H. Chou/M. Sanchez	CHECKED J. Cruz	SPECIFICATIONS BY K. Gallagher	PLANS AND SPECS COMPARED T. Roschen			

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 UNIT: PROJECT NUMBER & PHASE: CONTRACT NO.:
 DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	1	7

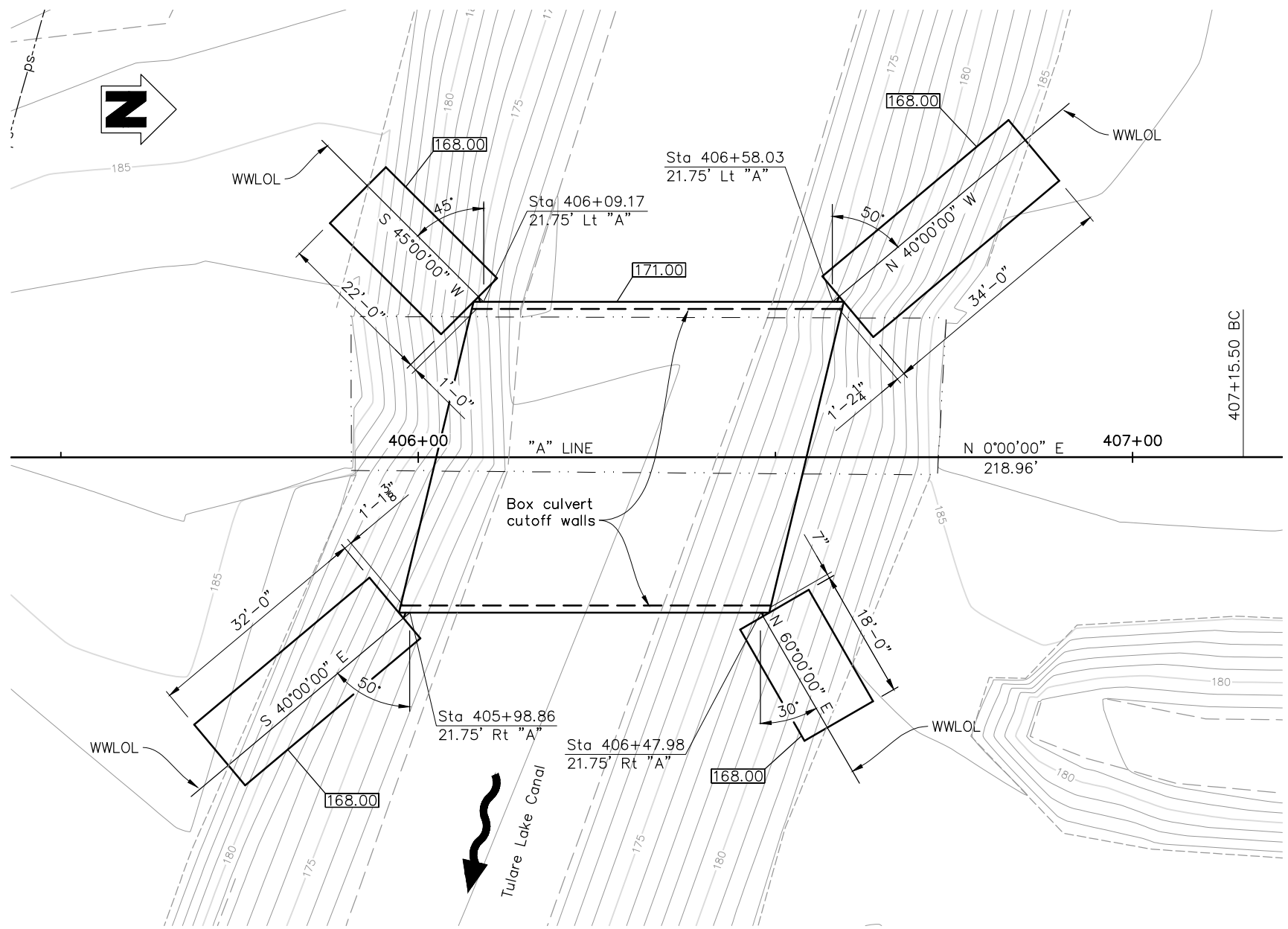
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 TIME PLOTTED 11:47:51 AM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	CR		16	21

Juan Carlos Cruz
 REGISTERED CIVIL ENGINEER
 DATE: 10/18/2022
 No. 88803
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE
 KINGS COUNTY OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE, SUITE 100
 RANCHO CORDOVA, CA 95670
 P: 916.368.9181



"A" Line CURVE DATA
 R = 2500.00'
 Δ = 1° 51' 31"
 T = 40.55'
 L = 81.10'

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

- DESIGN: AASHTO LRFD Bridge Design Specifications, 8th edition with Caltrans Amendments, preface dated April 2019.
- SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), version 1.7 dated April 2013
- LIVE LOADING: HL93 and alternative and permit design load.
- SEISMIC LOADING: Soil profile $V_{30} = 170$ m/s
 Moment Magnitude $M_{max} = 7.1$
 Peak Ground Acceleration = 0.37 g
- CONCRETE: $f_y = 60,000$ psi
 $f'_c = 3,600$ psi
 $n = 8$

BENCH MARK DATA

No.	NORTHING	EASTING	ELEVATION	LINE	STATION	OFFSET	DESCRIPTION
1	1,935,812.74	6,341,580.46	186.48	"A"	407+17.68	51.56'Lt	5/8" Rebar

HYDROLOGIC SUMMARY

Drainage area:	N/A Square Miles		
	Design Flood	Base Flood	Overtopping Flood
Frequency (years)	100	100	N/A
Discharge (cubic feet per second)	600	600	3,000
Water Surface Elev at Bridge (ft)	176.7	176.7	182.5

Flood plain data 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 and interested or affected parties should make their own investigations.

- Notes:
- WWLOL angles are measured perpendicular to "A" line alignment
 - For wingwall footing and wall sizes, see "Box Culvert Details No. 1" sheet.
 - The Contractor shall verify all controlling field dimensions before ordering of fabricating any material.

- Legend:
- X.X Indicates bottom of footing/bottom of invert slab elevation
 - --- Indicates existing bridge to be removed

GEOTECHNICAL PROFESSIONAL APPROVAL DATE

DESIGN OVERSIGHT	SCALE:	VERT.DATUM	HORZ.DATUM	DESIGN BY J. Cruz	CHECKED S. Garth	PREPARED FOR THE KINGS COUNTY DEPARTMENT OF PUBLIC WORKS	BRIDGE NO.	TULARE LAKE CANAL BRIDGE FOUNDATION PLAN
SIGN OFF DATE	PHOTOGRAMMETRY AS OF:	ALIGNMENT TIES	DETAILS BY H. Chou/J. Cruz	CHECKED D. Mossman/S. Garth	PROJECT ENGINEER		45C0118	
	SURVEYED BY	DRAFTED BY	QUANTITIES BY H. Chou/M. Sanchez	CHECKED J. Cruz	PROJECT ENGINEER		POST MILE	

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: PROJECT NUMBER & PHASE: CONTRACT NO.: DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES SHEET 2 OF 7

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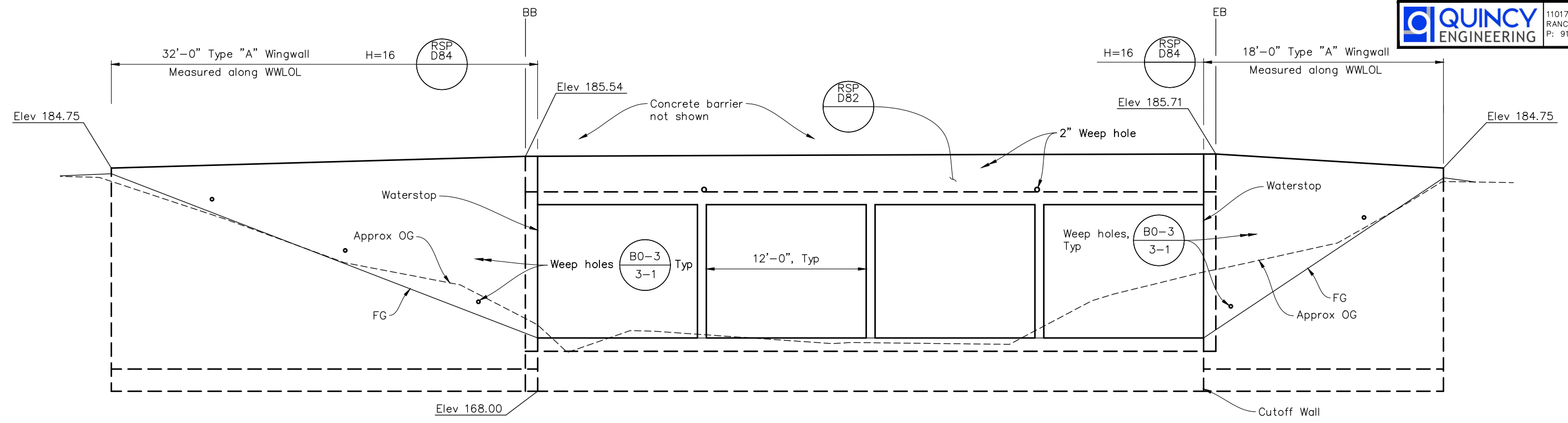
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06	Kin	CR		17	21

Juan Carlos Cruz
 REGISTERED CIVIL ENGINEER
 DATE: 10/18/2022
 No. 88803
 CIVIL
 STATE OF CALIFORNIA

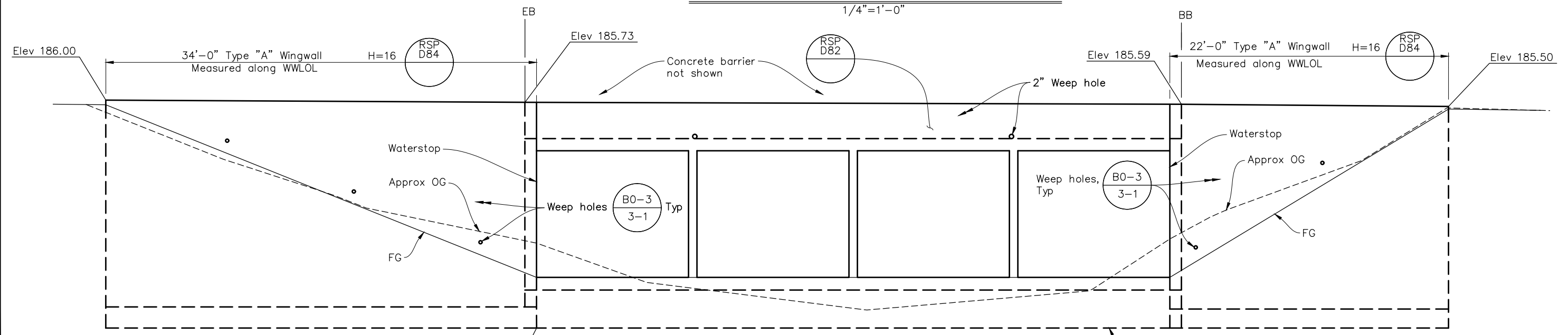
PLANS APPROVAL DATE
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QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE, SUITE 100
 RANCHO CORDOVA, CA 95670
 P: 916.368.9181

- Notes:
- No expansion or weakened plane joints required in box culvert roof and walls.
 - Shear key of wingwalls not shown.
 - Top of wingwall elevations taken at outside face.



EAST WINGWALLS - DEVELOPED ELEVATION
1/4"=1'-0"



WEST WINGWALLS - DEVELOPED ELEVATION
1/4"=1'-0"

DESIGN OVERSIGHT	DESIGN BY J. Cruz	CHECKED S. Garth	PREPARED FOR THE KINGS COUNTY DEPARTMENT OF PUBLIC WORKS	JUAN CRUZ PROJECT ENGINEER	BRIDGE NO. 45C0118	TULARE LAKE CANAL BRIDGE BOX CULVERT DETAILS No. 1
SIGN OFF DATE	DETAILS BY H. Chou/J. Cruz	CHECKED D. Mossman/S. Garth			POST MILE	
DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)	QUANTITIES BY H. Chou/M. Sanchez	CHECKED J. Cruz		UNIT: PROJECT NUMBER & PHASE:	CONTRACT NO.:	

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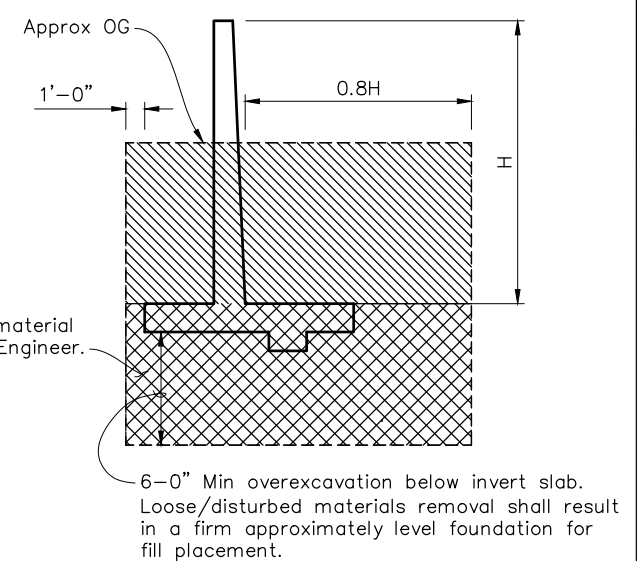
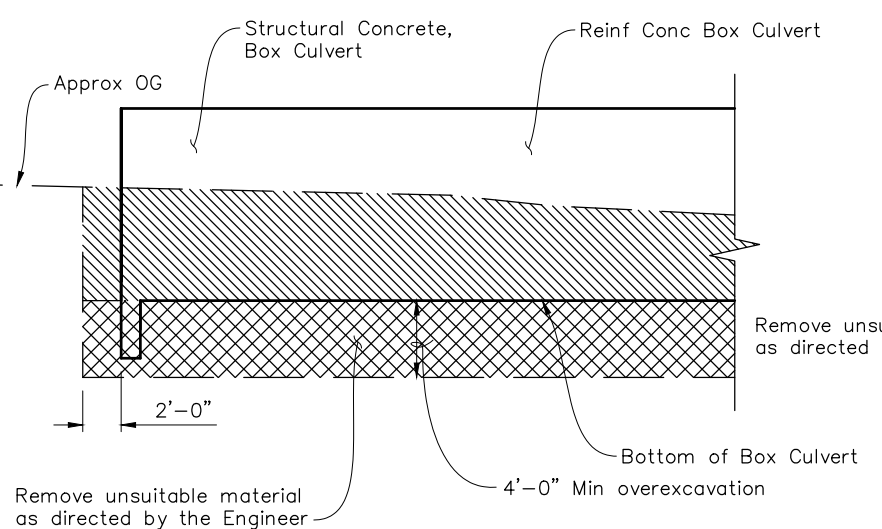
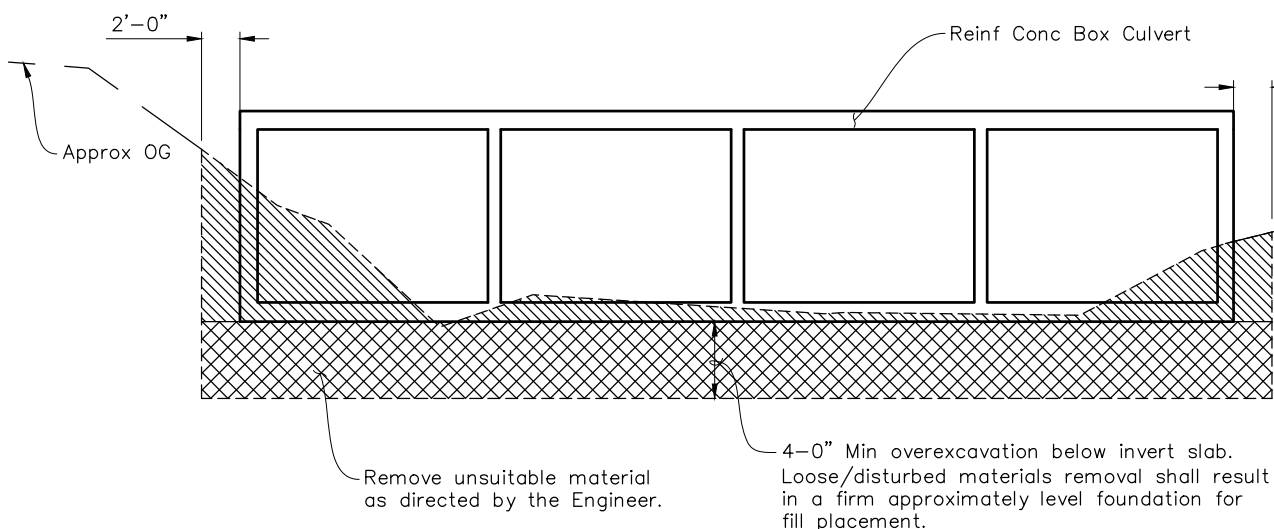
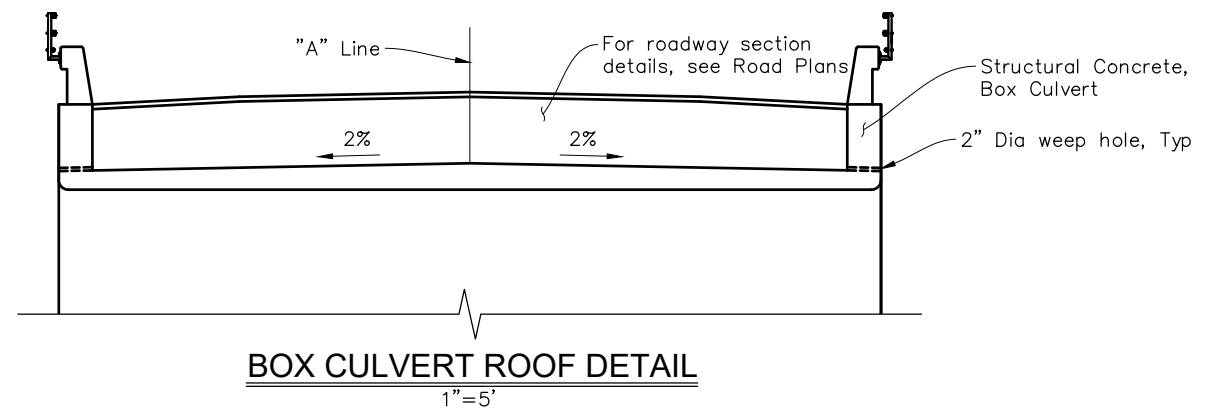
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06	Kin	CR		18	21

REGISTERED CIVIL ENGINEER
 10/18/2022 DATE
 PLANS APPROVAL DATE
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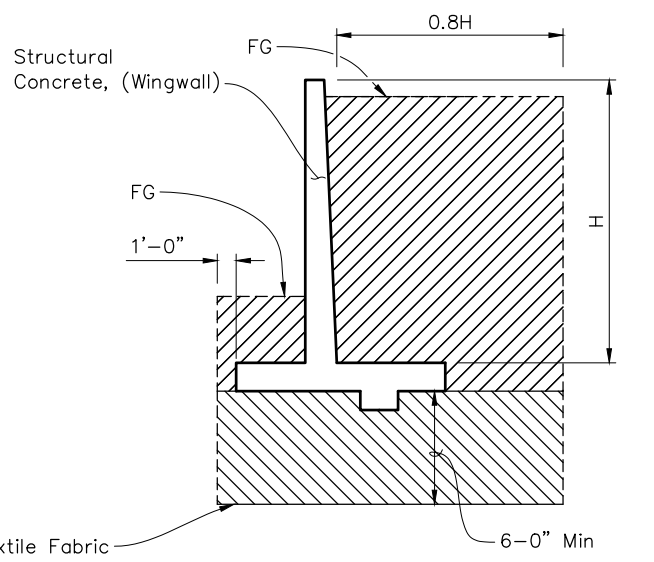
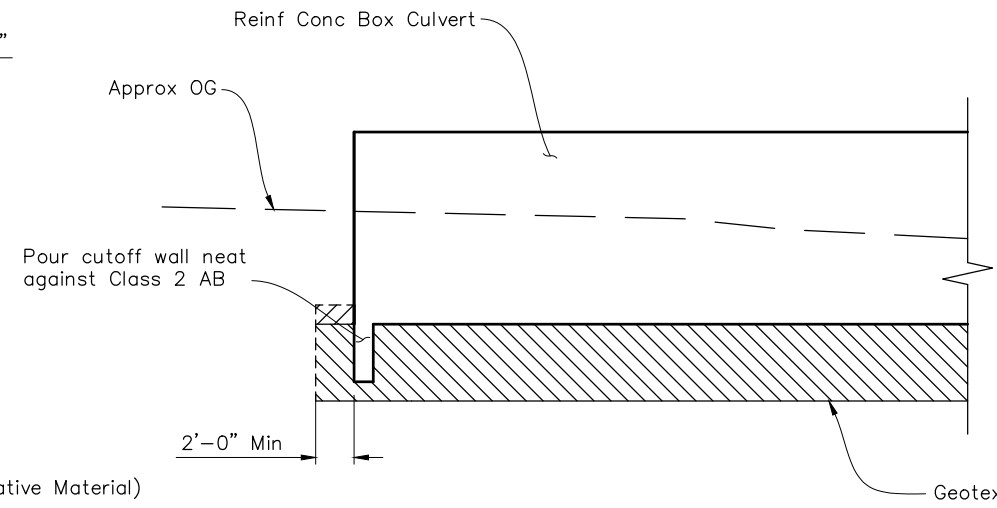
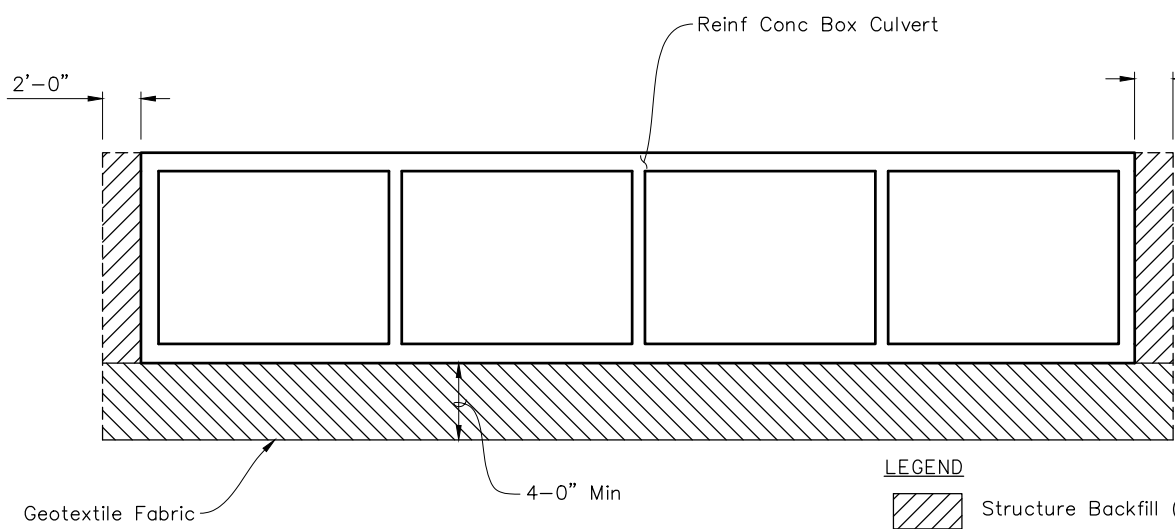
JUAN C CRUZ
 No. 88803
 CIVIL
 STATE OF CALIFORNIA

QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE, SUITE 100
 RANCHO CORDOVA, CA 95670
 P: 916.368.9181



LEGEND

Indicates Structure Excavation
 Indicates Structure Excavation (Type D)
EXCAVATION



LEGEND

Structure Backfill (Non-Native Material)
 Class 2 Aggregate Base
BACKFILL

LIMITS OF PAYMENT
No Scale

Notes: For limits of payment for excavation and backfill of wingwall, see

A62B

DESIGN OVERSIGHT
SIGN OFF DATE

DESIGN	BY J. Cruz	CHECKED S. Garth
DETAILS	BY H. Chou/J. Cruz	CHECKED D. Mossman/S. Garth
QUANTITIES	BY H. Chou/M. Sanchez	CHECKED J. Cruz

PREPARED FOR THE
KINGS COUNTY
DEPARTMENT OF PUBLIC WORKS

JUAN CRUZ
PROJECT ENGINEER

BRIDGE NO.	45C0118
POST MILE	

TULARE LAKE CANAL BRIDGE
BOX CULVERT DETAILS No. 2

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: CONTRACT NO.:

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
	4	7

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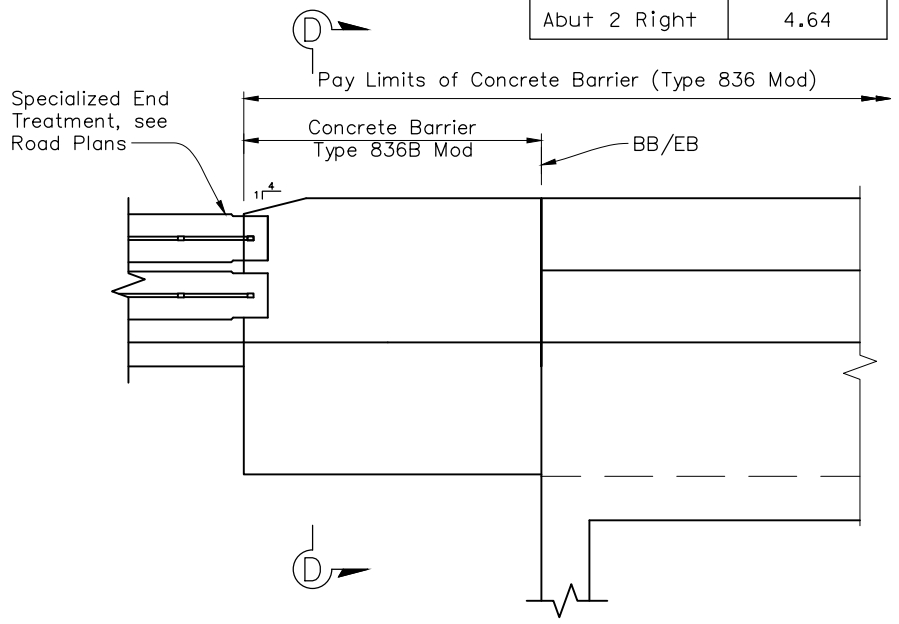
Juan Carlos Cruz
 REGISTERED CIVIL ENGINEER
 DATE: 10/18/2022
 PLANS APPROVAL DATE: _____
 KINGS COUNTY OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
JUAN C CRUZ
 No. 88803
 CIVIL
 STATE OF CALIFORNIA

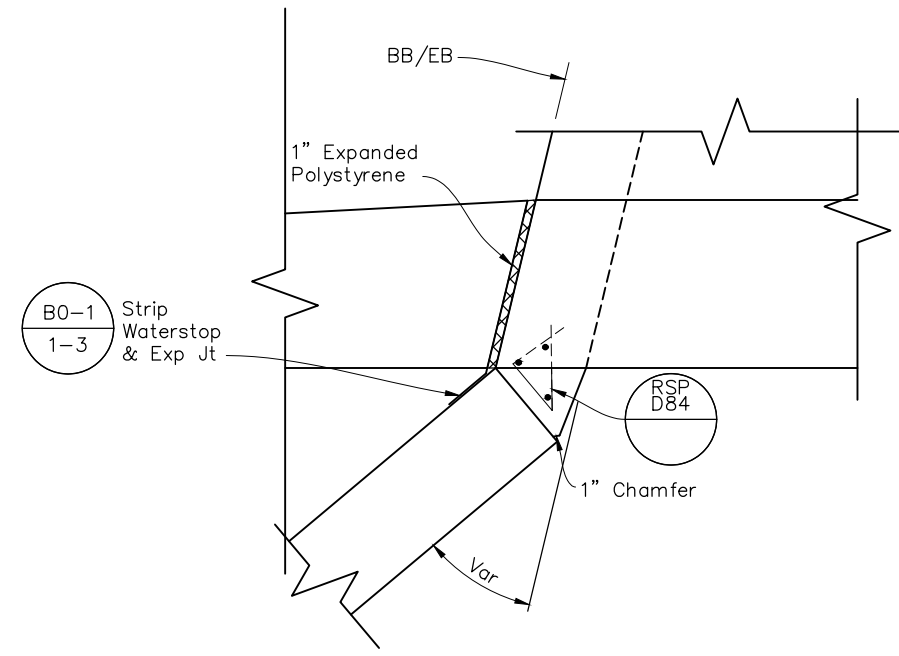
QUINCY ENGINEERING
 11017 COBBLEROCK DRIVE, SUITE 100
 RANCHO CORDOVA, CA 95670
 P: 916.368.9181

Concrete Barrier Extension (Type 836B)

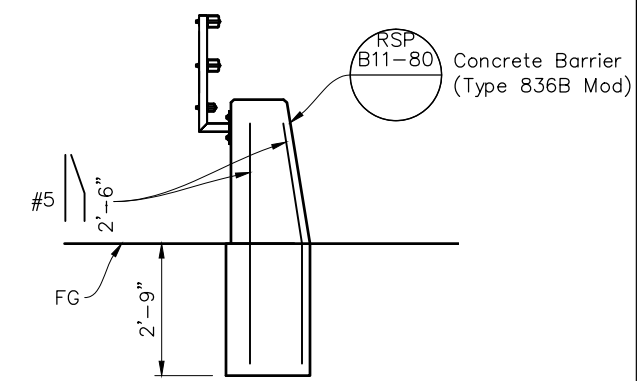
Location	Length (ft)
Abut 1 Left	5.75
Abut 1 Right	6.28
Abut 2 Left	6.27
Abut 2 Right	4.64



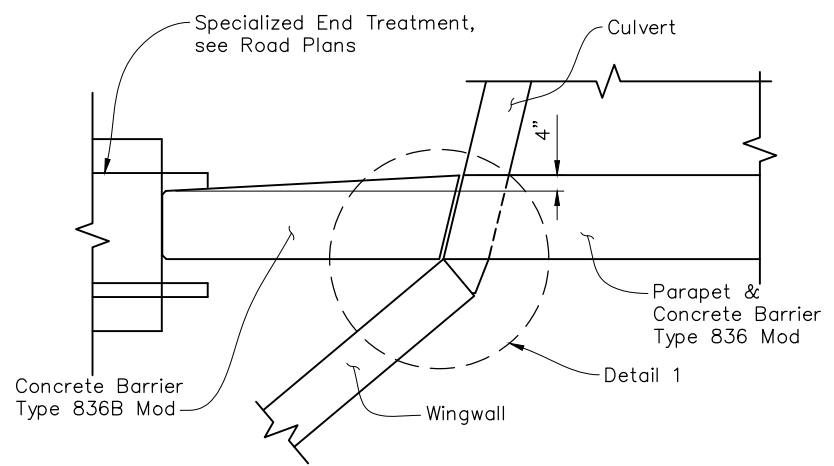
ELEVATION
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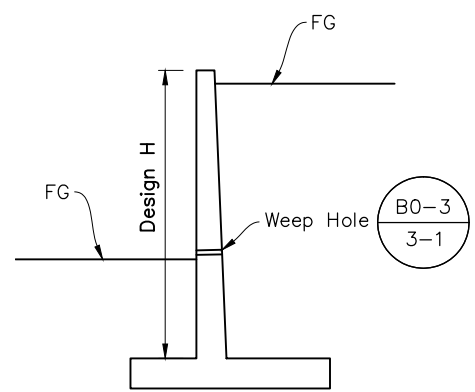
DETAIL 1
 1"=1'-0"
 RSP B11-80



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

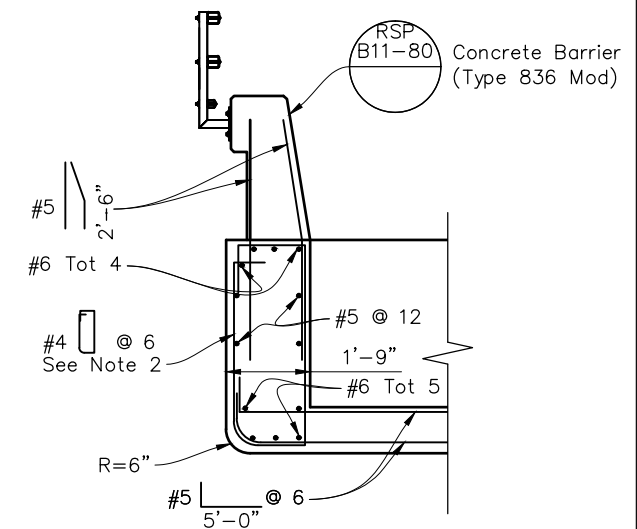


PLAN
End Railing
 1/2"=1'-0"
 RSP B11-80 RSP D84



Wingwall Section
 No Scale
 RSP D84

- Notes:
- For additional details and Reinf not shown in barrier, parapet and roof of box culvert, see RSP B11-79, RSP B11-80 & RSP D82
 - Bundle additional #4 stirrup for 5'-0" near all bridge joints.



Parapet Detail
 1/2" = 1'-0"

DESIGN OVERSIGHT _____

SIGN OFF DATE _____

DESIGN	BY J. Cruz	CHECKED S. Garth
DETAILS	BY H. Chou/J. Cruz	CHECKED D. Mossman/S. Garth
QUANTITIES	BY H. Chou/M. Sanchez	CHECKED J. Cruz

PREPARED FOR THE
KINGS COUNTY
 DEPARTMENT OF PUBLIC WORKS

JUAN CRUZ
 PROJECT ENGINEER

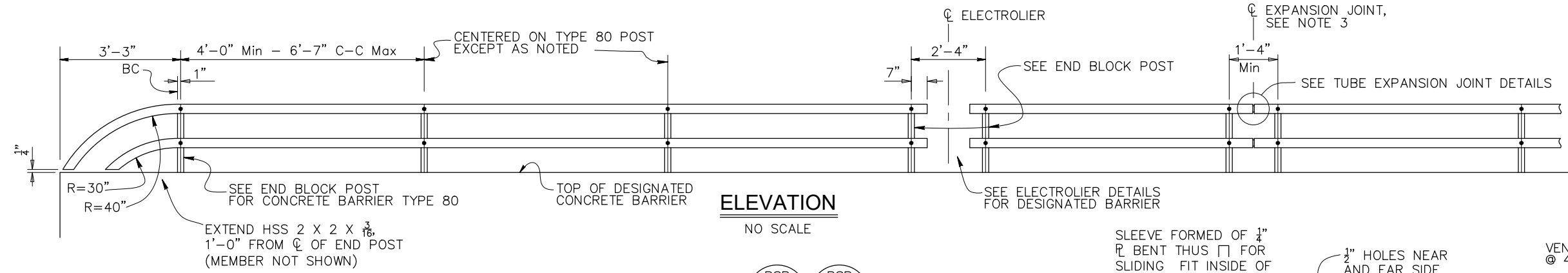
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POST MILE	

TULARE LAKE CANAL BRIDGE
BOX CULVERT DETAILS No. 3

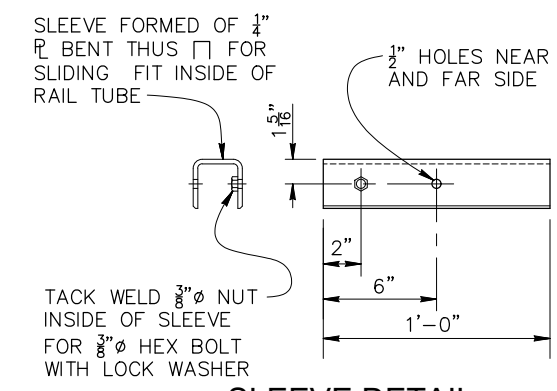
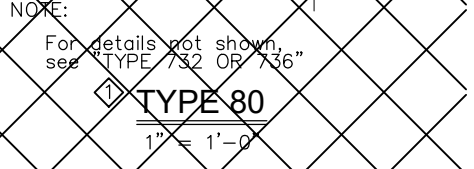
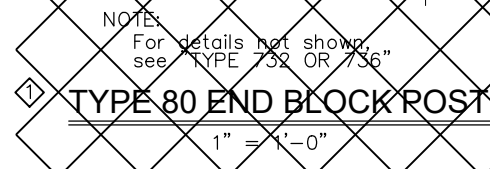
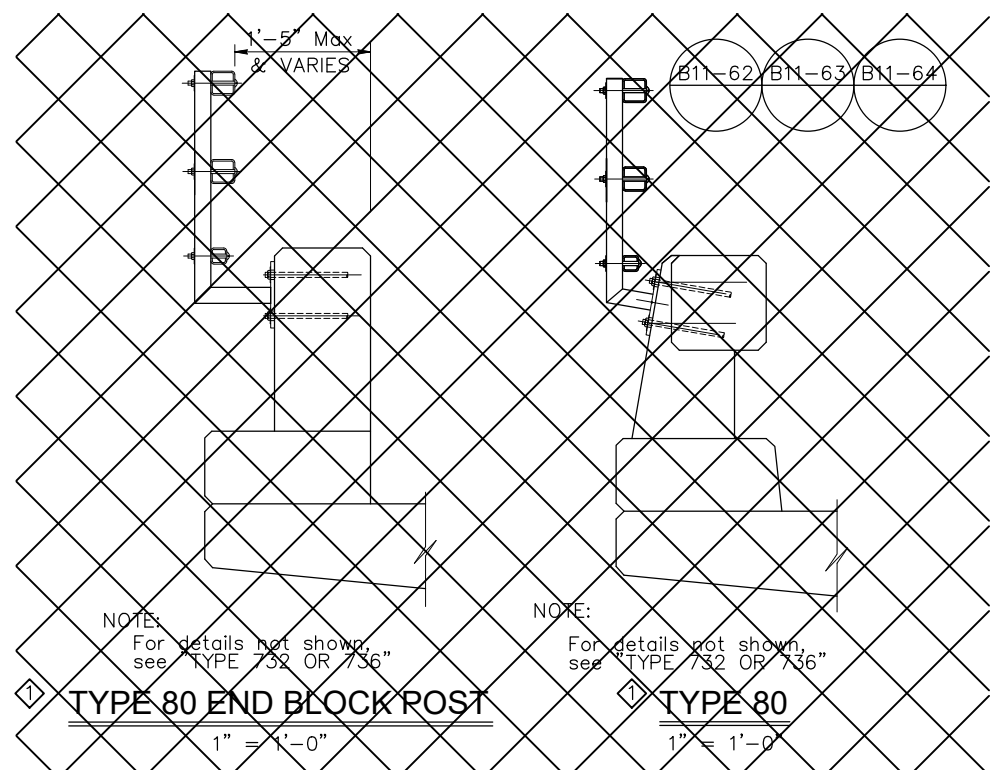
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06	Kin	CR	X	20	21

REGISTERED CIVIL ENGINEER
 10/18/2022 DATE
 JUAN C. CRUZ
 No. 88803
 CIVIL
 STATE OF CALIFORNIA

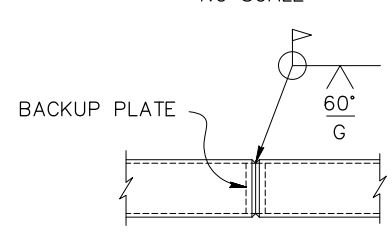
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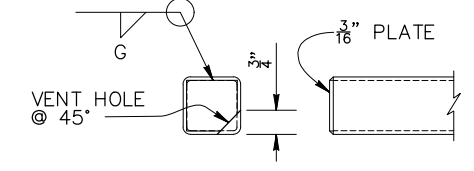
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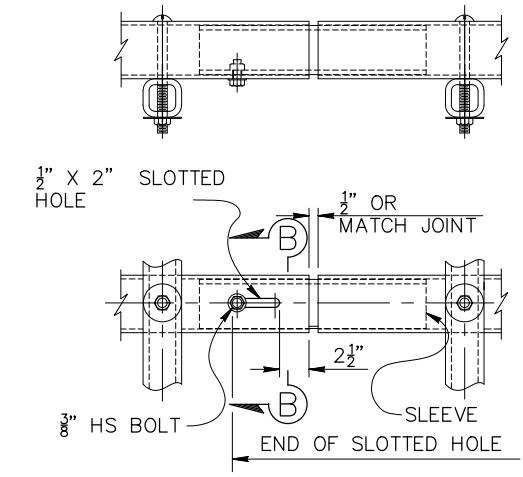
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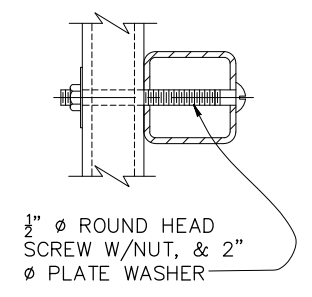
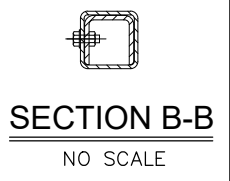
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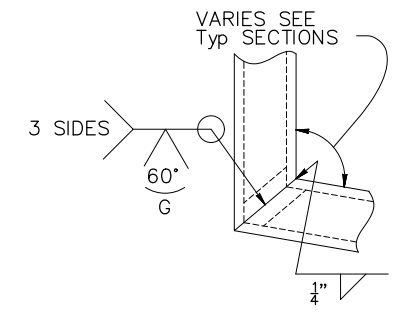
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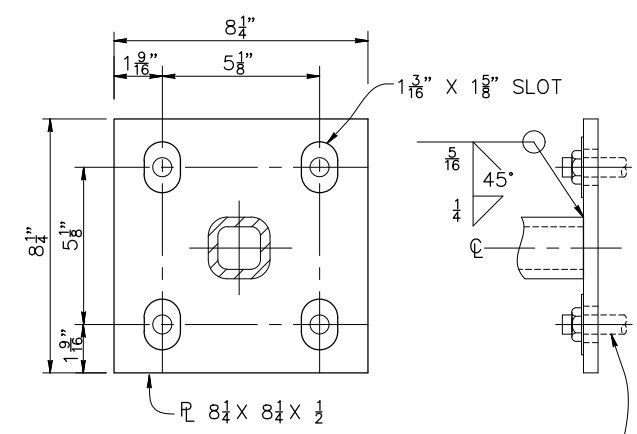
TUBE EXPANSION JOINT DETAILS
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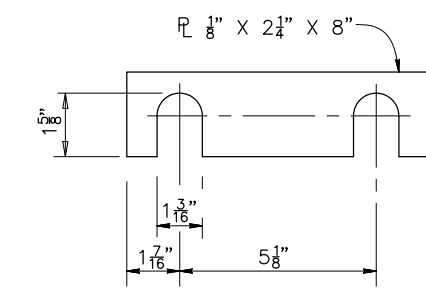
TUBE CONNECTION DETAIL
NO SCALE



DETAIL A
NO SCALE



BASE PLATE DETAIL
NO SCALE



SHIM DETAILS
NO SCALE

- NOTES:
1. Post must be normal to railing.
 2. Rail tubes must be shop bent or fabricated to fit horizontal curve when radius is less than 950'.
 3. Tube expansion joints must be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
 4. Top rail tube must be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
 5. See Project Plans for limits of tubular bicycle railing.

STANDARD DRAWING	NOT USED
FILE NO. xs16-035	DETAIL MODIFIED
APPROVAL DATE October 2014	

STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES
DEPARTMENT OF TRANSPORTATION	POST MILE 45C0118
	POST MILE X

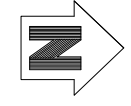
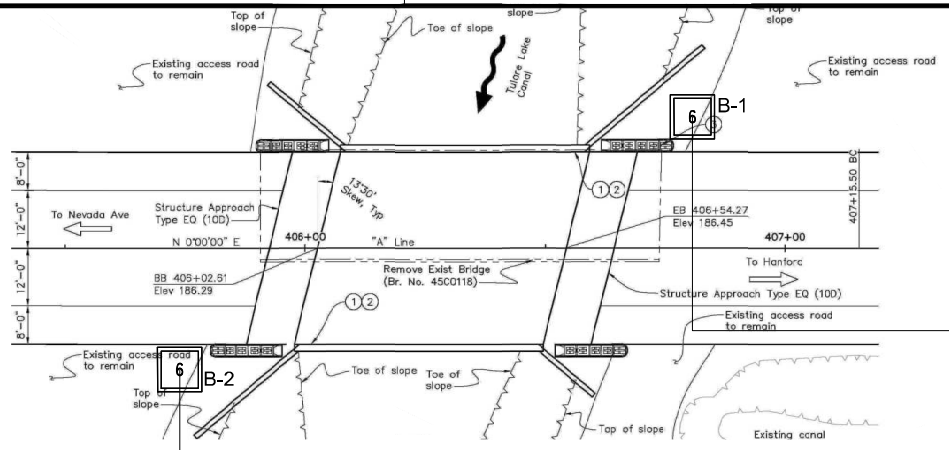
TULARE LAKE CANAL BRIDGE
CONCRETE BARRIER TYPE 80 & 836
TUBULAR BICYCLE RAILING DETAILS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	-	-	21	21

REGISTERED CIVIL ENGINEER *David L. Pearson* DATE 1/23/15
 REGISTERED PROFESSIONAL ENGINEER
 DAVID L. PEARSON
 No. 674
 Exp. 12/31/2023
 STATE OF CALIFORNIA
 GEOTECHNICAL

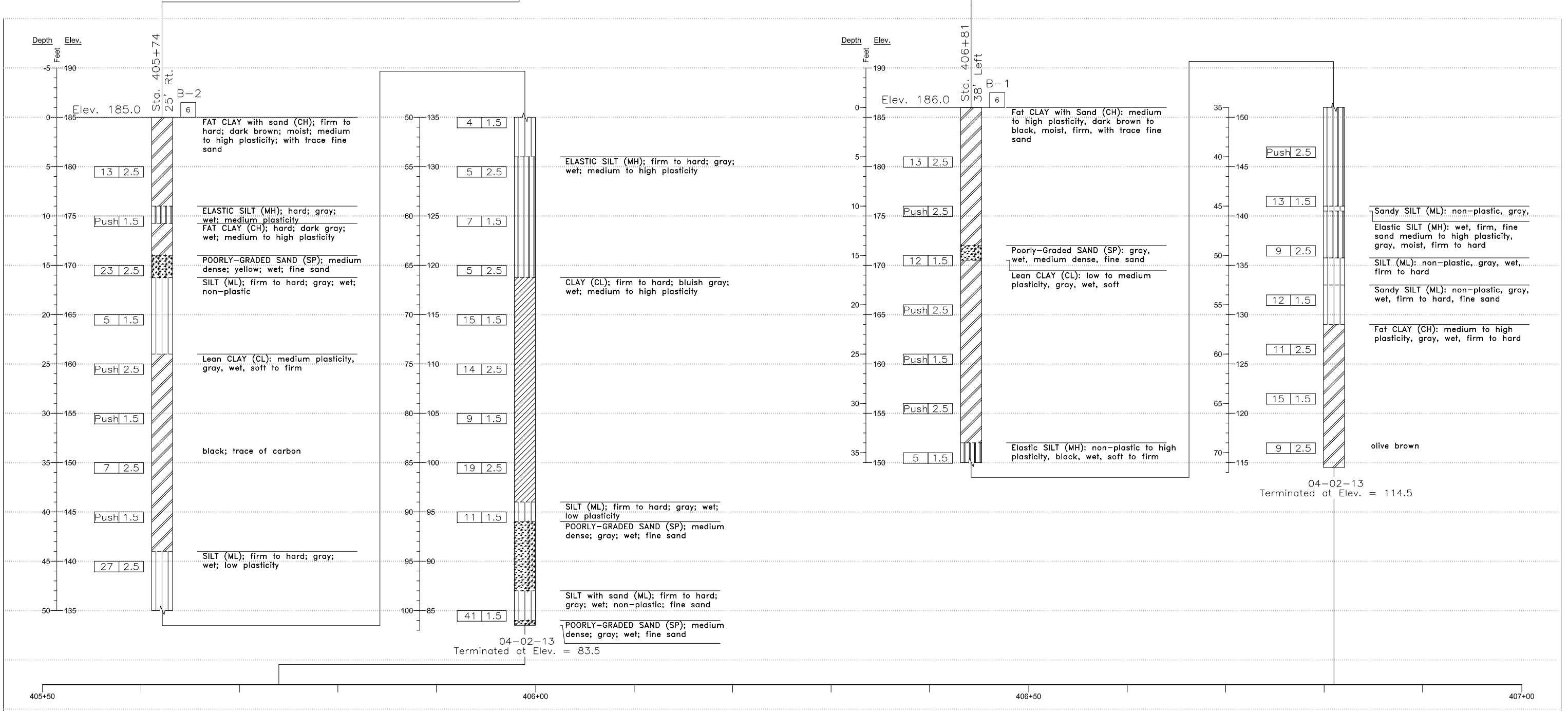
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QUINCY ENGINEERING 11017 COBBLEROCK DRIVE, SUITE 100
 RANCHO CORDOVA, CA 95670
 P: 916.368.9181



PLAN
SCALE: 1"=20'

- NOTES:**
- 1.4-INCH DIAMETER SAMPLES WERE TAKEN USING A STANDARD PENETRATION TEST (SPT) SPLIT BARREL SAMPLER WITH AN INSIDE DIAMETER (ID) OF 1.4 INCHES AND AN OUTSIDE DIAMETER (OD) OF 2.0 INCHES.
 - 2.4-INCH DIAMETER RING SAMPLES WERE TAKEN USING A CALIFORNIA SPLIT BARREL SAMPLER WITH AN ID OF 2.4 INCHES AND AN OD OF 3.0 INCHES.
 - ALL DRIVE SAMPLES WERE DRIVEN WITH 140 LB HAMMER WITH A FALLING HEIGHT OF 30 INCHES.



DESIGN OVERSIGHT		FIELD INVESTIGATION BY M. OWENS	CHECKED N. POPENOE	PREPARED FOR THE COUNTY OF KINGS DEPARTMENT OF PUBLIC WORKS	BRIDGE NO. 45C-0118	LOG OF TEST BORINGS 16TH AVENUE BRIDGE OVER TULARE LAKE CANAL
SIGN OFF DATE		DRAWN BY M. GRIFFIN	CHECKED N. POPENOE		PROJECT ENGINEER JUAN CRUZ	
DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)	www.kleinfelder.com	BY -	CHECKED -	UNIT: PROJECT NUMBER & PHASE:	CONTRACT NO.:	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES SHEET 7 OF 7

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 FILE L:\CADD\2015\00133358\TulareLake-Bridge-LOTB_01-2015\133358-FigA-1_BdgLOTB.dwg

DATE PLOTTED 1/21/2015 3:26:17 PM USERNAME Mgriffin TIME PLOTTED 3:26:17 PM