



CITY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT

PROJECT PLANS FOR THE CONSTRUCTION OF THE MURRAY STREET BRIDGE AT SANTA CRUZ SMALL CRAFT HARBOR SEISMIC RETROFIT/BARRIER REPLACEMENT (BR. NO. 36C0108) FEDERAL AID PROJECT NO. STPLZ-5025(084)

PREPARED BY
TRC ENGINEERS, INC.
RANCHO CORDOVA, CALIFORNIA

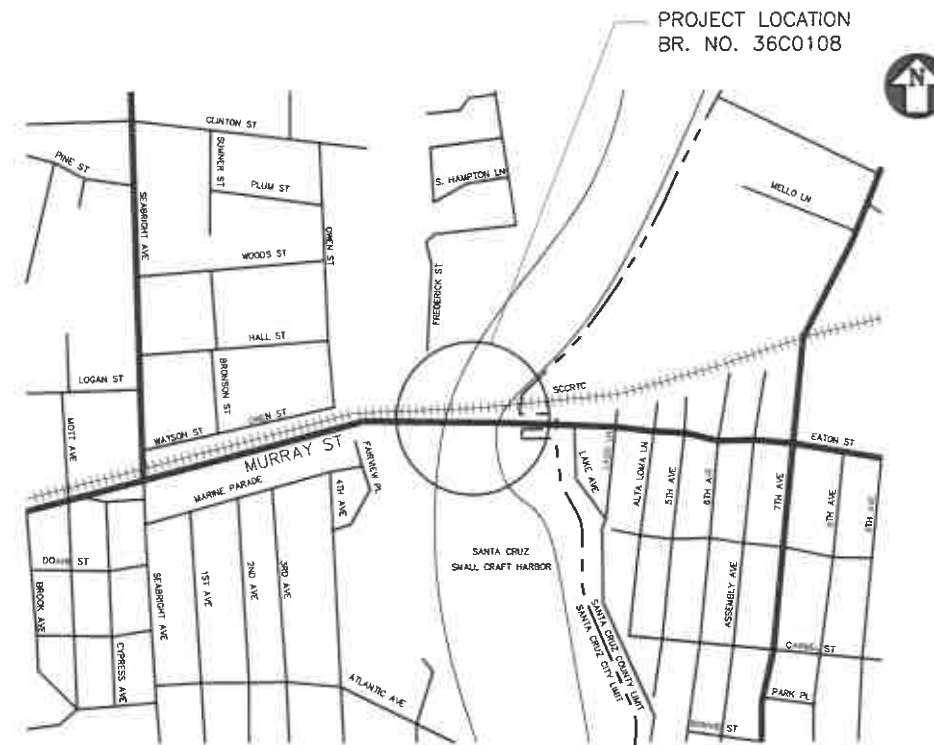
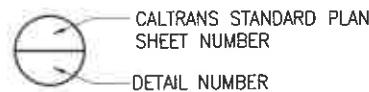
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NOTE:
1. ALL CONSTRUCTION SHALL CONFORM TO THE MOST CURRENT CITY OF SANTA CRUZ STANDARD DETAILS AND STANDARD SPECIFICATIONS; AND, BE SUPPLEMENTED BY THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD PLANS AND STANDARD SPECIFICATIONS DATED 2018.

ABBREVIATIONS

SC	CITY OF SANTA CRUZ
Co. SC	COUNTY OF SANTA CRUZ
C,G,&SW	CURB, GUTTER, AND SIDEWALK
Std	STANDARD
Det	DETAIL
Elev	ELEVATION
RL	RESTRAINED LENGTH



VICINITY MAP

LEGEND

UTILITY	SYMBOL	OWNER
Exist WATER	— # —	CITY OF SANTA CRUZ WATER DEPARTMENT
Exist NATURAL GAS	— — —	PACIFIC GAS AND ELECTRIC COMPANY
Exist SANITARY SEWER	— — —	CITY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT
Exist ELECTRICAL	— — —	PACIFIC GAS AND ELECTRIC COMPANY
Exist OVERHEAD ELECTRICAL	— — —	PACIFIC GAS AND ELECTRIC COMPANY
Exist TELEPHONE	t — —	AT&T
Exist TELEVISION	— — —	AT&T BROADBAND
Exist STORM DRAIN	— S —	CITY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT
Exist FIRE HYDRANT		CITY OF SANTA CRUZ WATER DEPARTMENT
Exist CATCH BASIN		CITY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT
Exist SEWER/STORM MANHOLE		CITY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT

CONSTRUCTION NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR THE INTENT OF THESE PLANS AND SHALL REPORT ANY DISCREPANCIES FOUND IN THEM TO THE ENGINEER PRIOR TO CONSTRUCTION.
- UNDERGROUND UTILITY LOCATIONS AND DEPTHS, WHERE SHOWN ON PLANS, ARE BASED ON UTILITY COMPANY RECORDS AND ARE FOR GENERAL INFORMATION. ALL CONTRACTORS ARE RESPONSIBLE FOR VERIFICATION OF LOCATIONS FOR ALL EXISTING UTILITIES IN THE FIELD.
- EMERGENCY TELEPHONE NUMBERS:**

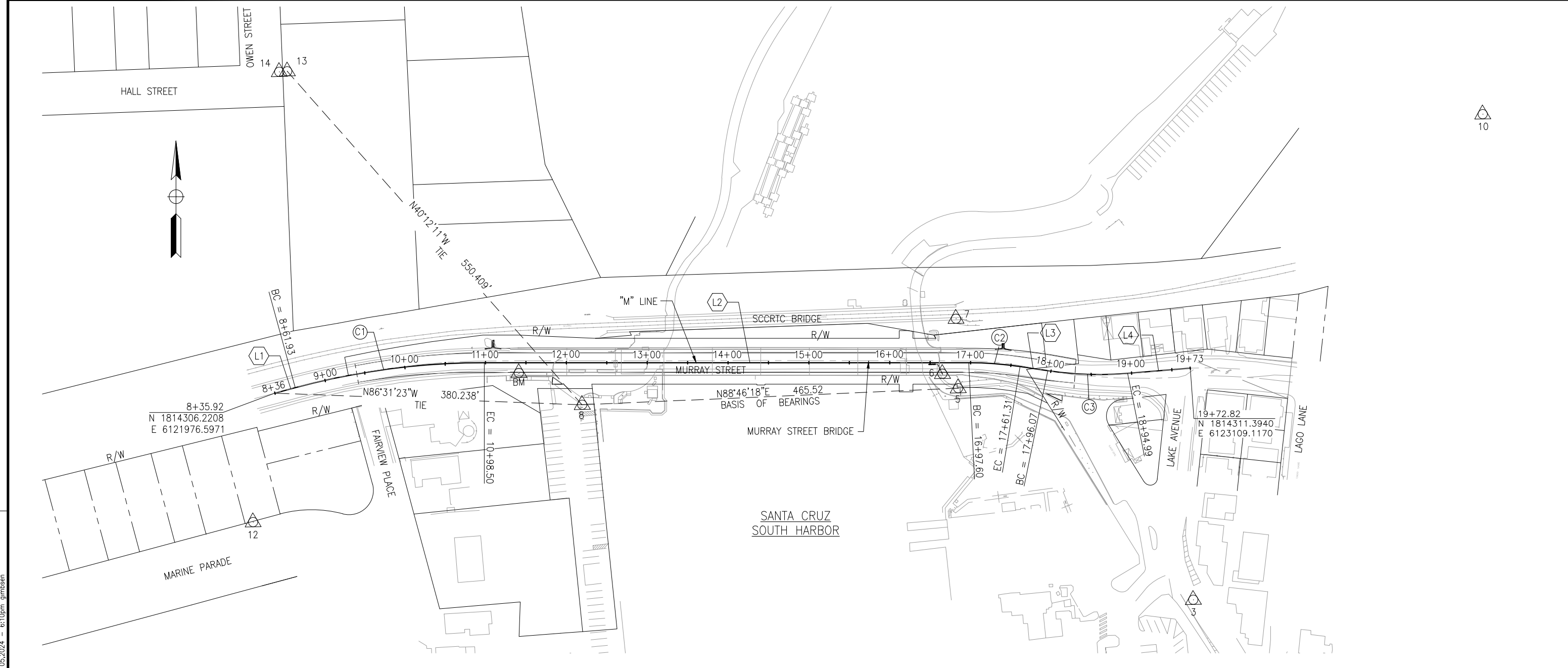
POLICE DEPARTMENT	911
FIRE DEPARTMENT	911
CITY ENGINEER'S OFFICE	(831) 420-5160
CITY PARKS & REC. DEPARTMENT	(831) 420-5270
COUNTY SEWER DEPARTMENT	(831) 420-6036
CITY TRAFFIC MAINTENANCE	(831) 420-5520
CITY WATER DEPARTMENT	(831) 420-5210
PG&E	1-800-743-5000
AT&T	611
U.S.A.	(800) 642-2444
AT&T BROADBAND	(831) 425-1739
- CITY INSPECTOR SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF ANY CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVATION OF STREET TREES. SHOULD A STREET TREE BECOME DAMAGED DURING CONSTRUCTION, THE ENGINEER SHALL DETERMINE IF THE TREE IS TO BE REPLACED BY THE CONTRACTOR. REPLACEMENT TREE(S) SHALL BE 24-INCH WIDE BOX TREE, THE SPECIES TO BE DETERMINED BY THE ENGINEER.
- THE CONTRACTOR SHALL COMPLY WITH ALL ENVIRONMENTAL PERMITS ISSUED FOR THIS PROJECT.
- A 72 HOUR ADVANCE NOTICE SHALL BE GIVEN TO THE SANTA CRUZ WATER DEPARTMENT BEFORE CONSTRUCTION ON WATER SYSTEM, AND BEFORE SCHEDULING CONNECTIONS TO THE EXISTING SYSTEM AT (831) 420-5210.
- PROVIDE 5 WORKING DAYS ADVANCE NOTICE TO SANTA CRUZ WATER DEPARTMENT TO ADJUST EXISTING WATER METER BOXES AND GATE VALVE BOXES AT (831) 420-5210



Mark A. Imbriani
5/10/2024
PROJECT MANAGER
TRC

APPROVED: *[Signature]*
ASSISTANT DIRECTOR OF PUBLIC WORKS
CITY ENGINEER RCE: KEVIN CROSSLEY, CE 74847 12/31/2025
CITY OF SANTA CRUZ

DATE:
5/10/2024
DRAWING NO:
1



10

LEGEND

- R/W RIGHT-OF-WAY LINE
- PROPERTY LINE
- CONTROL POINT

THE HORIZONTAL DATUM IS NAD83.
 THE VERTICAL DATUM IS THE CITY OF SANTA CRUZ DATUM WHICH IS BASED ON NGVD29.
 FOR COMPLETE RIGHT-OF-WAY AND ACCURATE ACCESS DATA, SEE RIGHT-OF-WAY RECORD MAPS AT CITY OF SANTA CRUZ OFFICE.

BASIS OF BEARINGS

N 88°46'18"E L=465.52 BETWEEN CONTROL POINTS #5 AND #8. SAID BEARING BEING A CALIFORNIA COORDINATE SYSTEM (NAD 83) ZONE 3 GRID BEARING DETERMINED BY GPS MEASUREMENTS.

BENCHMARK

PT. #13 - SANTA CRUZ CITY BENCHMARK F6-16, A LEAD PLUG AND TAG IN THE TOP OF THE CONCRETE CURB AT THE EASTERN SIDE OF OWEN STREET AT ITS INTERSECTION WITH HALL STREET. ELEVATION 50.85 FEET (NGVD 29).

NOTE:

ALL SURVEY MONUMENTS TO BE SALVAGED TO THE CITY. PLACE SURVEY MONUMENT IN WIDENED BRIDGE SIDEWALK.

CONTROL POINTS			
PT#	NORTH	EAST	ELEV
3	1814025.2030	6123106.2900	23.07
5	1814293.1390	6122821.5470	11.26
6	1814311.3530	6122802.3950	22.80
7	1814379.1030	6122820.6670	28.44
8	1814283.1600	6122356.1350	6.16
10	1814616.9070	6123477.7190	52.56
12	1814147.4180	6121945.9200	48.53
13	1814703.5410	6122000.8370	50.85
14	1814703.0360	6121990.8330	50.90
BM	1814324.2195	6122278.6151	30.95

LINE DATA		
LINE	DISTANCE	BEARING
L1	26.01'	N76°14'17"E
L2	599.10'	S88°42'04"E
L3	34.76'	S80°06'44"E
L4	77.83'	N86°33'11"E

CURVE DATA				
CURVE	R	Δ	T	L
C1	900.00'	15°03'39"	118.97'	236.57'
C2	425.00'	08°35'20"	31.91'	63.71'
C3	425.00'	13°20'06"	49.68'	98.91'

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

APPROVED FOR PROJECT CONTROL INFORMATION ONLY

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
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 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY	CHECKED
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

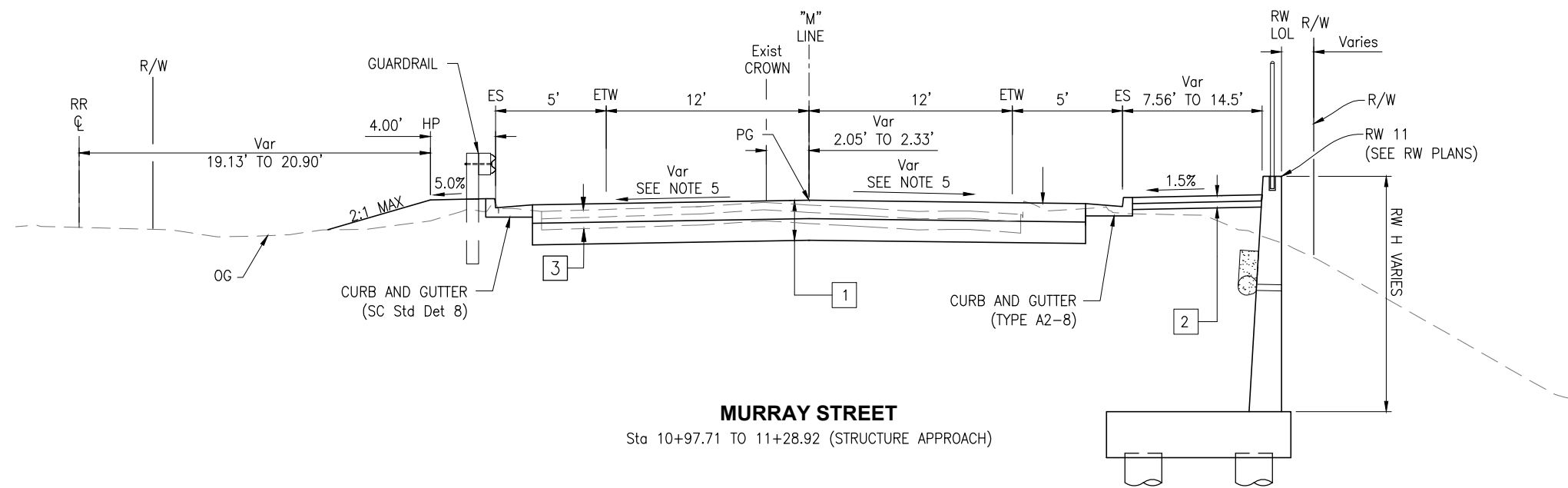
MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO. 36C0108	MURRAY STREET BRIDGE SEISMIC RETROFIT AND BARRIER REPLACEMENT SURVEY CONTROL	SCALE 1"=60'
CONTRACT NO.		SHEET 2 OF 196
EA NO.	REVISION DATES (PRELIMINARY STAGE ONLY)	Vault No.
DISREGARD PRINTS BEARING EARLIER REVISION DATES →		

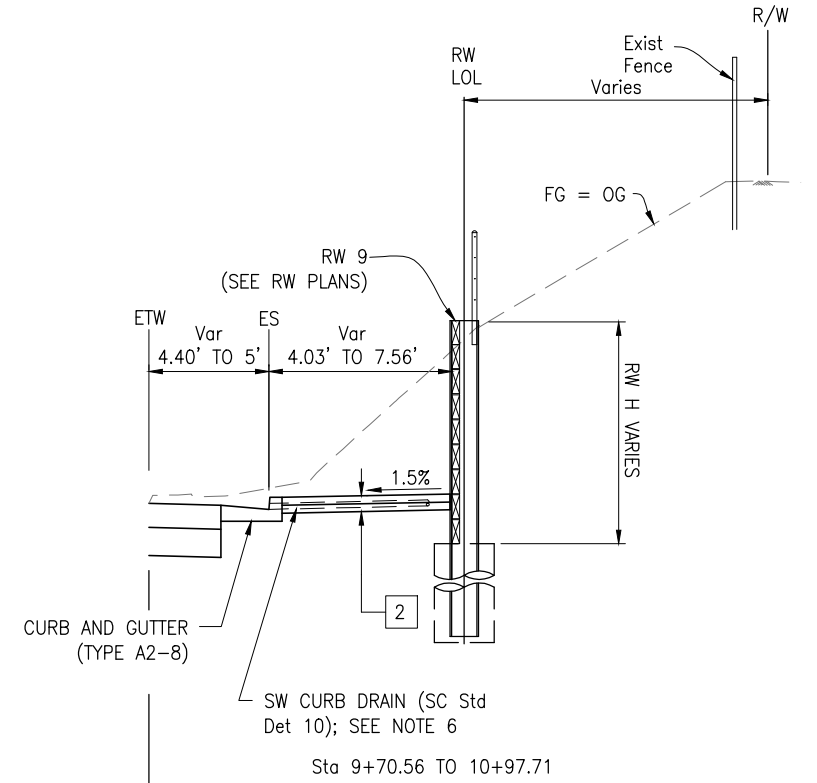
SC-1

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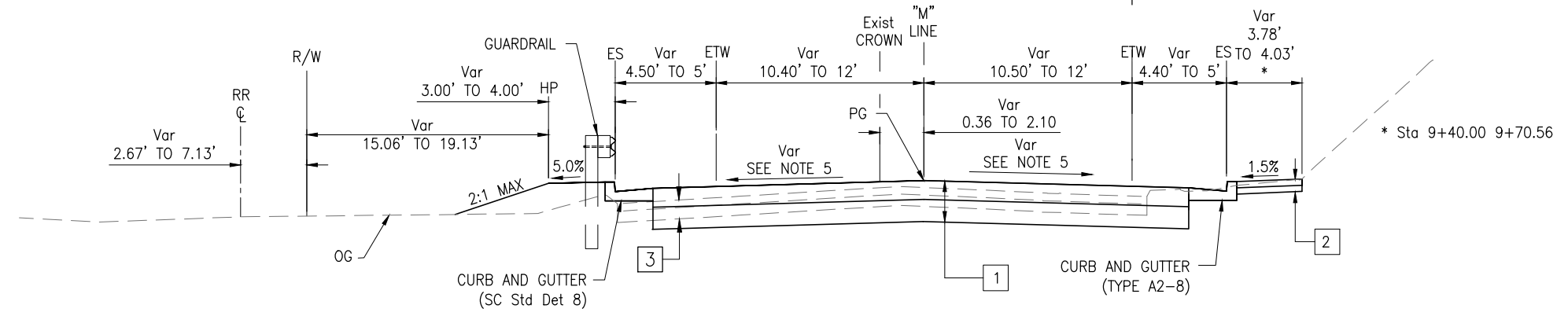
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MURRAY STREET
Sta 10+97.71 TO 11+28.92 (STRUCTURE APPROACH)



Sta 9+70.56 TO 10+97.71



MURRAY STREET
STA 9+40.00 TO 10+97.71

* Sta 9+40.00 9+70.56

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

X-1

PAVEMENT STRUCTURAL SECTIONS

- 1 0.50' HOT MIX ASPHALT (TYPE A)
0.58' CLASS 2 AB
- 2 0.33' PCC
0.33' CLASS 2 AB
- 3 Exist
0.20' AC
0.30' AB

NOTES

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO THE TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. FOR LIMITS OF GUARDRAILING, CONCRETE CURB AND HMA DIKE, SEE PLAN AND PROFILE SHEETS.
3. REMOVE EXISTING STRUCTURAL SECTION.
4. DIMENSIONS MEASURED FROM THE EDGE SHOULDER ARE TO THE FLOW LINE OF THE GUTTER.
5. SEE SHEETS C-1 AND C-2 FOR SUPERELEVATION AND PAVEMENT ELEVATION DETAILS.
6. SIDEWALK CURB DRAIN PER CITY OF SANTA CRUZ DETAIL 10 TO BE INSTALLED BETWEEN RETAINING WALL 9 PILES. SEE RETAINING WALL SHEETS.

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-26
CIVIL
STATE OF CALIFORNIA

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

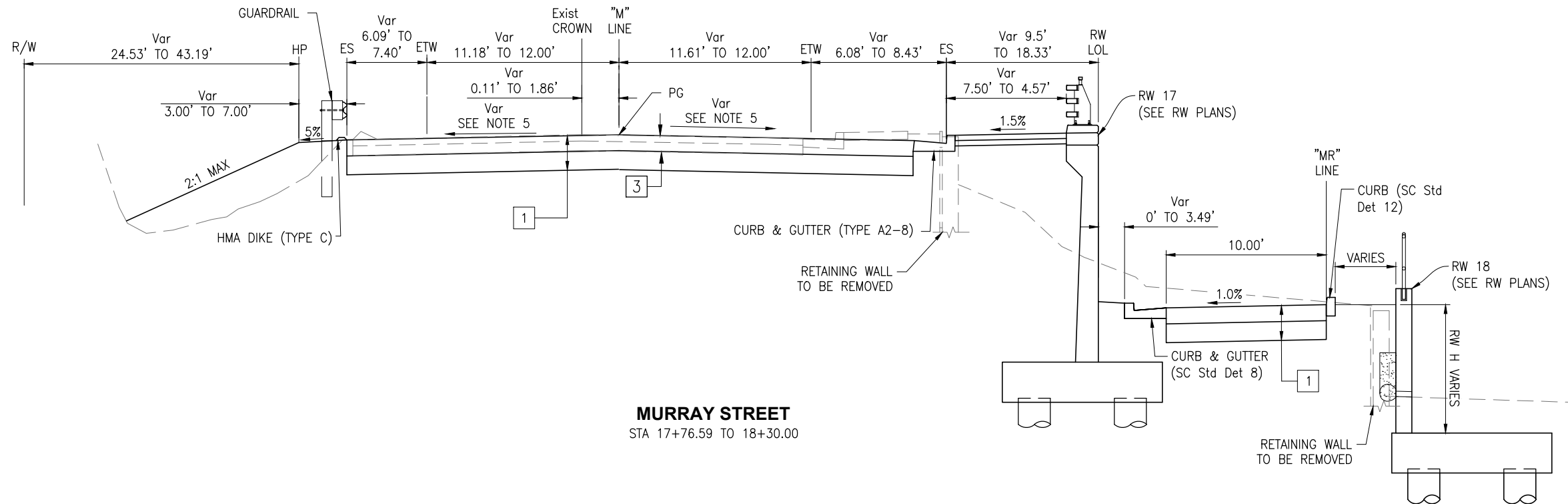
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
TYPICAL CROSS SECTIONS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

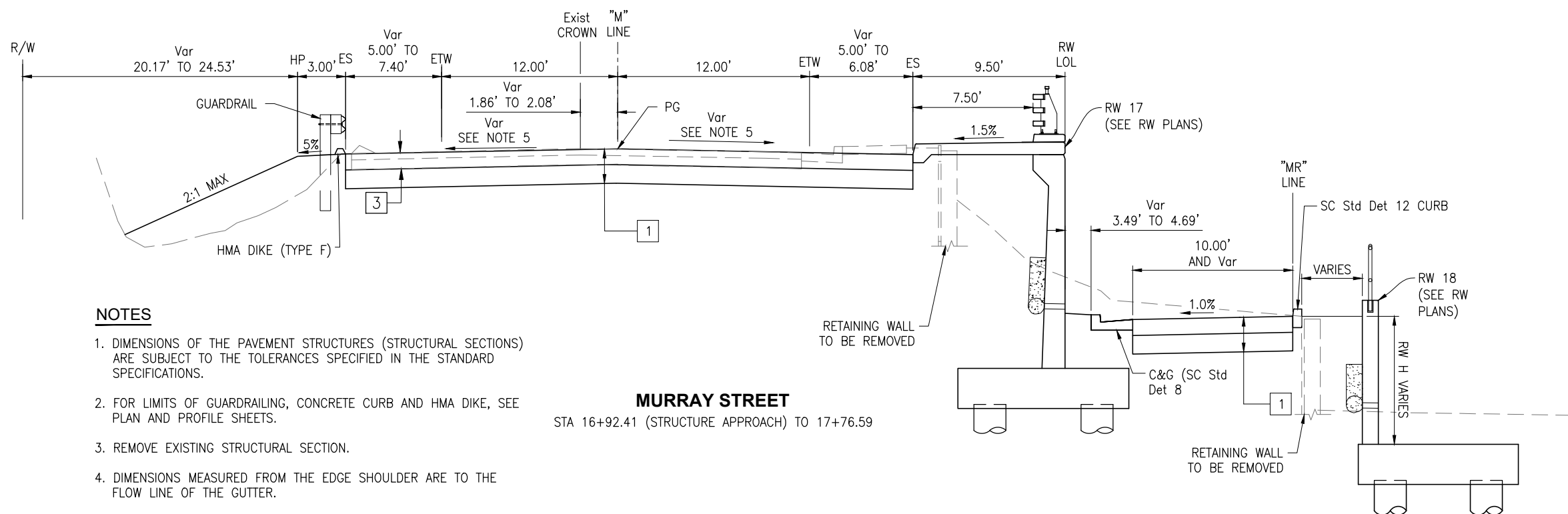
REVISION DATES (PRELIMINARY STAGE ONLY)

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SCALE	NTS
SHEET	3 OF 196
Vault No.	



MURRAY STREET
STA 17+76.59 TO 18+30.00



MURRAY STREET
STA 16+92.41 (STRUCTURE APPROACH) TO 17+76.59

NOTES

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO THE TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. FOR LIMITS OF GUARDRAILING, CONCRETE CURB AND HMA DIKE, SEE PLAN AND PROFILE SHEETS.
3. REMOVE EXISTING STRUCTURAL SECTION.
4. DIMENSIONS MEASURED FROM THE EDGE SHOULDER ARE TO THE FLOW LINE OF THE GUTTER.
5. SEE SHEETS C-1 AND C-2 FOR SUPERELEVATION AND PAVEMENT DETAILS.

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

X-2

Drawing name: \\ccardous-fp2\CAD\1161 - Santa Cruz\Road\Sheets\003-TS01.dwg Layout Tab: X-2 May 10, 2024 - 3:26pm CSiva

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PREPARED FOR THE
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DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
TYPICAL CROSS SECTIONS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)									
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SCALE	NTS
SHEET	4 OF 196
Vault No.	

CURVE DATA				
CURVE	R	Δ	T	L
(C1)	900.00'	15°03'39"	118.94'	236.57'
(C4)	725.00'	9°27'50"	60.01'	119.75'
(C5)	906.00'	10°33'12"	83.68'	166.88'

ABBREVIATIONS:

AITS ALTERNATIVE IN-LINE TERMINAL SYSTEM
 BSW BACK OF SIDEWALK

AITS (TL-2)
 TYPE 12AA LAYOUT
 (SEE NOTE 4)

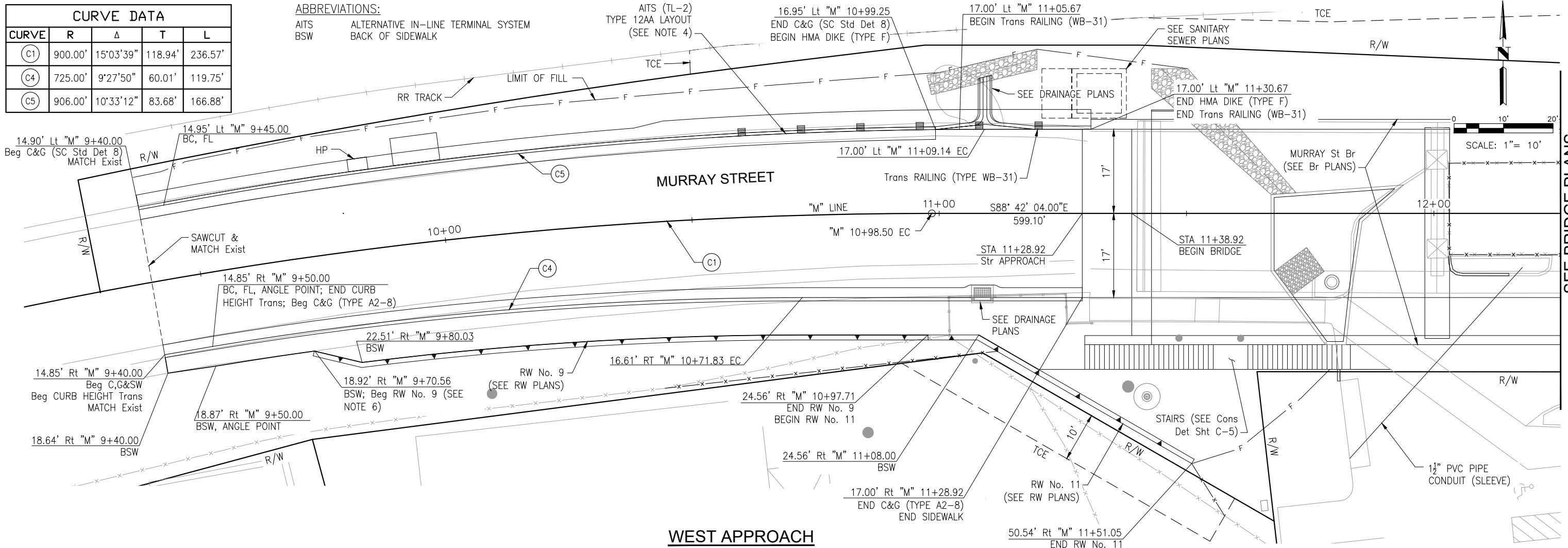
16.95' Lt "M" 10+99.25
 END C&G (SC Std Det 8)
 BEGIN HMA DIKE (TYPE F)

17.00' Lt "M" 11+05.67
 BEGIN Trans RAILING (WB-31)

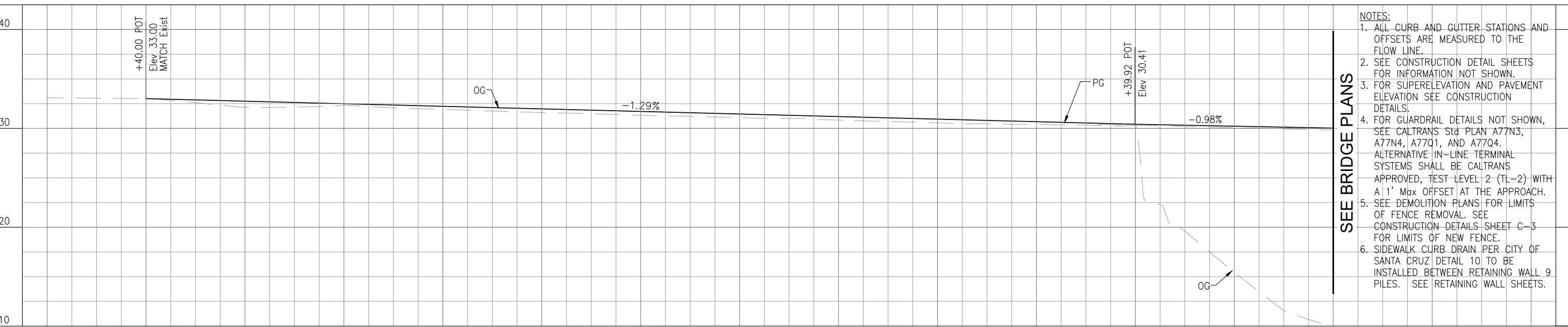
SEE SANITARY SEWER PLANS

SEE DRAINAGE PLANS

17.00' Lt "M" 11+30.67
 END HMA DIKE (TYPE F)
 END Trans RAILING (WB-31)



WEST APPROACH



"M" LINE PROFILE

Horiz: 1"=10'
 Vert: 1"=5'

- NOTES:**
- ALL CURB AND GUTTER STATIONS AND OFFSETS ARE MEASURED TO THE FLOW LINE.
 - SEE CONSTRUCTION DETAIL SHEETS FOR INFORMATION NOT SHOWN.
 - FOR SUPERELEVATION AND PAVEMENT ELEVATION SEE CONSTRUCTION DETAILS.
 - FOR GUARDRAIL DETAILS NOT SHOWN, SEE CALTRANS Std PLAN A77N3, A77N4, A77Q1, AND A77Q4. ALTERNATIVE IN-LINE TERMINAL SYSTEMS SHALL BE CALTRANS APPROVED, TEST LEVEL 2 (TL-2) WITH A 1' Max OFFSET AT THE APPROACH.
 - SEE DEMOLITION PLANS FOR LIMITS OF FENCE REMOVAL. SEE CONSTRUCTION DETAILS SHEET C-3 FOR LIMITS OF NEW FENCE.
 - SIDEWALK CURB DRAIN PER CITY OF SANTA CRUZ DETAIL 10 TO BE INSTALLED BETWEEN RETAINING WALL 9 PILES. SEE RETAINING WALL SHEETS.

NOTE:
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SEE BRIDGE PLANS

SEE BRIDGE PLANS

PP-1

Drawing name: \\ccorbois-f2\CAD\1161 - Santa Cruz\Road\Sheets\05-PP01.dwg Layout Tab: PP-1 May 10, 2024 - 4:09pm CSilva

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DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	

MARK IMBRIANI
 PROJECT MANAGER

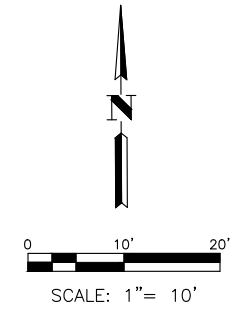
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PLAN AND PROFILE

DISREGARD PRINTS BEARING EARLIER REVISION DATES

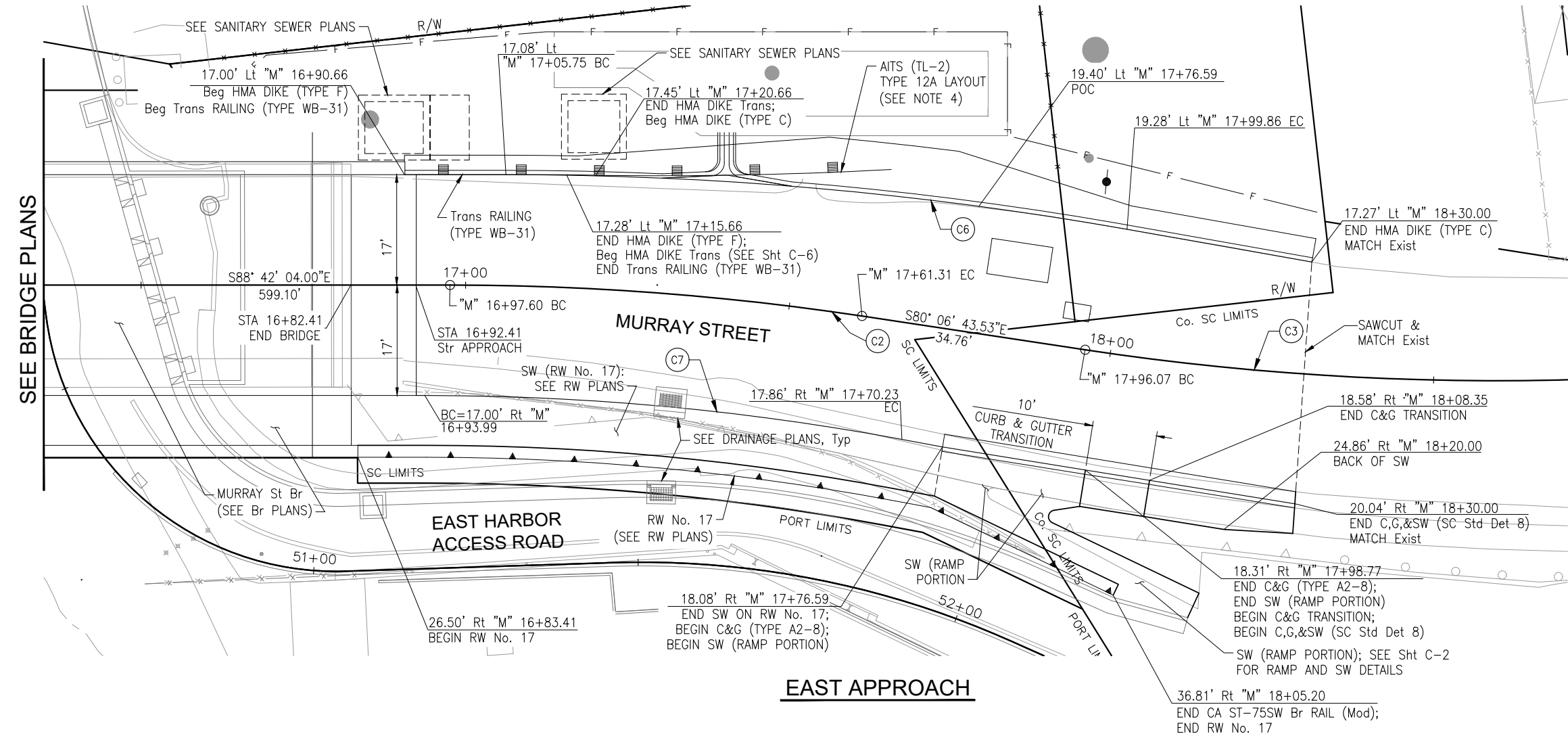
REVISION DATES (PRELIMINARY STAGE ONLY)

SCALE	AS SHOWN
SHEET	5 OF 196
Vault No.	

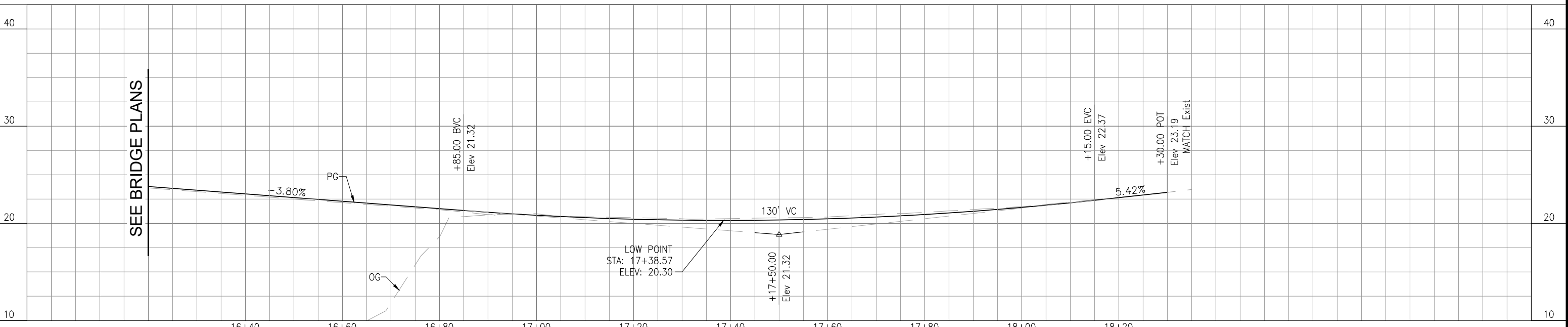


CURVE DATA				
CURVE	R	Δ	T	L
(C2)	425.00'	08°35'20"	31.91'	63.71'
(C3)	425.00'	13°20'06"	49.68'	98.91'
(C6)	550.00'	10°02'08"	48.29'	96.33'
(C7)	400.00'	10°32'59"	36.93'	73.65'

- NOTES:
1. ALL CURB AND GUTTER STATIONS AND OFFSETS ARE MEASURED TO THE FLOW LINE.
 2. SEE CONSTRUCTION DETAIL SHEETS FOR INFORMATION NOT SHOWN.
 3. SEE PP-3 FOR EAST HARBOR ACCESS ROAD DETAIL.
 4. FOR GUARDRAIL DETAILS NOT SHOWN, SEE CALTRANS Std PLAN A77N3, A77N4, A77Q1, AND A77Q4. ALTERNATIVE IN-LINE TERMINAL SYSTEMS SHALL BE CALTRANS APPROVED, TEST LEVEL 2 (TL-2) WITH A 1' Max OFFSET AT THE APPROACH.
 5. SEE DEMOLITION PLANS FOR LIMITS OF FENCE REMOVAL. SEE CONSTRUCTION DETAILS SHEET C-3 FOR LIMITS OF NEW FENCE.



EAST APPROACH



"M" LINE PROFILE
 Horiz: 1"=10'
 Vert: 1"=5'

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

PP-2

Drawing name: \\ccardous-f22\CAD\1161 - Santa Cruz\Road\Sheets\05-PP01.dwg Layout Tab: PP-2 May 10, 2024 - 4:09pm CSilva

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Justina L. Conklin
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DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PLAN AND PROFILE

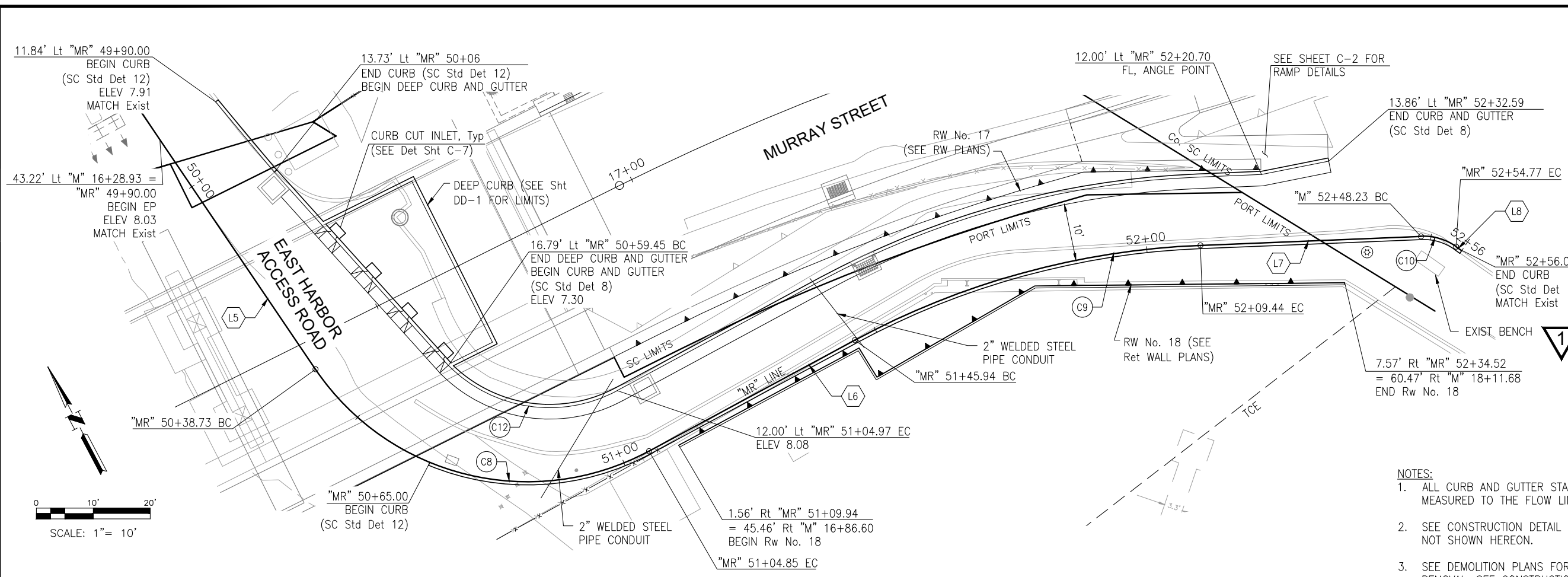
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)				

SCALE	AS SHOWN
SHEET	6 OF 196
Vault No.	

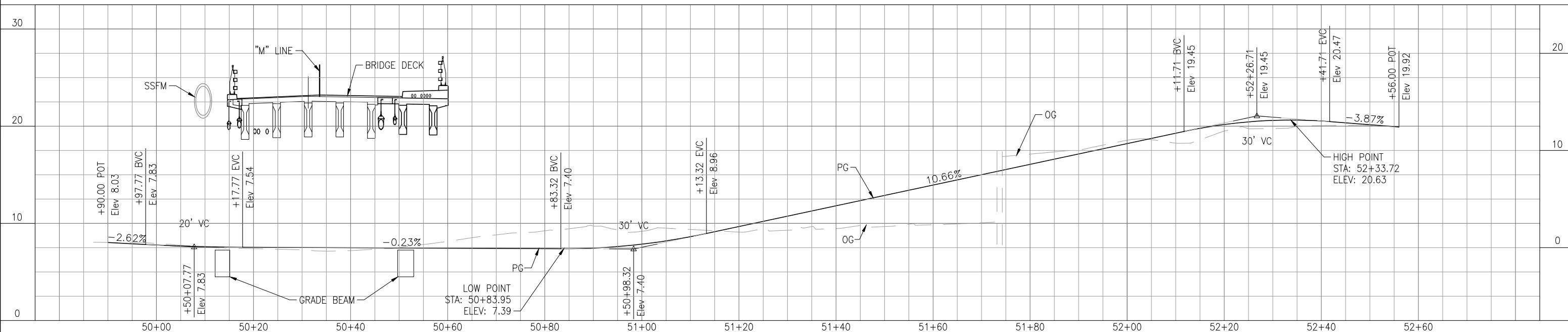
CURVE DATA				
CURVE	R	Δ	T	L
C8	45.00'	84°11'17"	40.65'	66.12'
C9	140.00'	25°59'04"	32.30'	63.49'
C10	10.00'	37°26'56"	3.39'	6.54'
C11	2.50'	77°28'18"	2.01'	3.38'
C12	25.00'	73°39'41"	18.72'	32.14'

LINE DATA		
LINE	DISTANCE	BEARING
L5	58.73'	S06°21'07"E
L6	41.09'	N89°27'36"E
L7	38.80'	S64°33'21"E
L8	1.23'	S27°06'25"E



- NOTES:**
- ALL CURB AND GUTTER STATIONS AND OFFSETS ARE MEASURED TO THE FLOW LINE.
 - SEE CONSTRUCTION DETAIL SHEETS FOR INFORMATION NOT SHOWN HEREON.
 - SEE DEMOLITION PLANS FOR LIMITS OF FENCE REMOVAL. SEE CONSTRUCTION DETAILS SHEET C-3 FOR LIMITS OF NEW FENCE.

EAST HARBOR ACCESS ROAD



"MR" LINE PROFILE

Horiz: 1"=10'
Vert: 1"=5'

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

PP-3

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\005-PP01.dwg Layout Tab: PP-3 May 05, 2024 - 6:18pm gimbisen

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PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
---	---	---	---

TRC

MARK IMBRIANI
PROJECT MANAGER

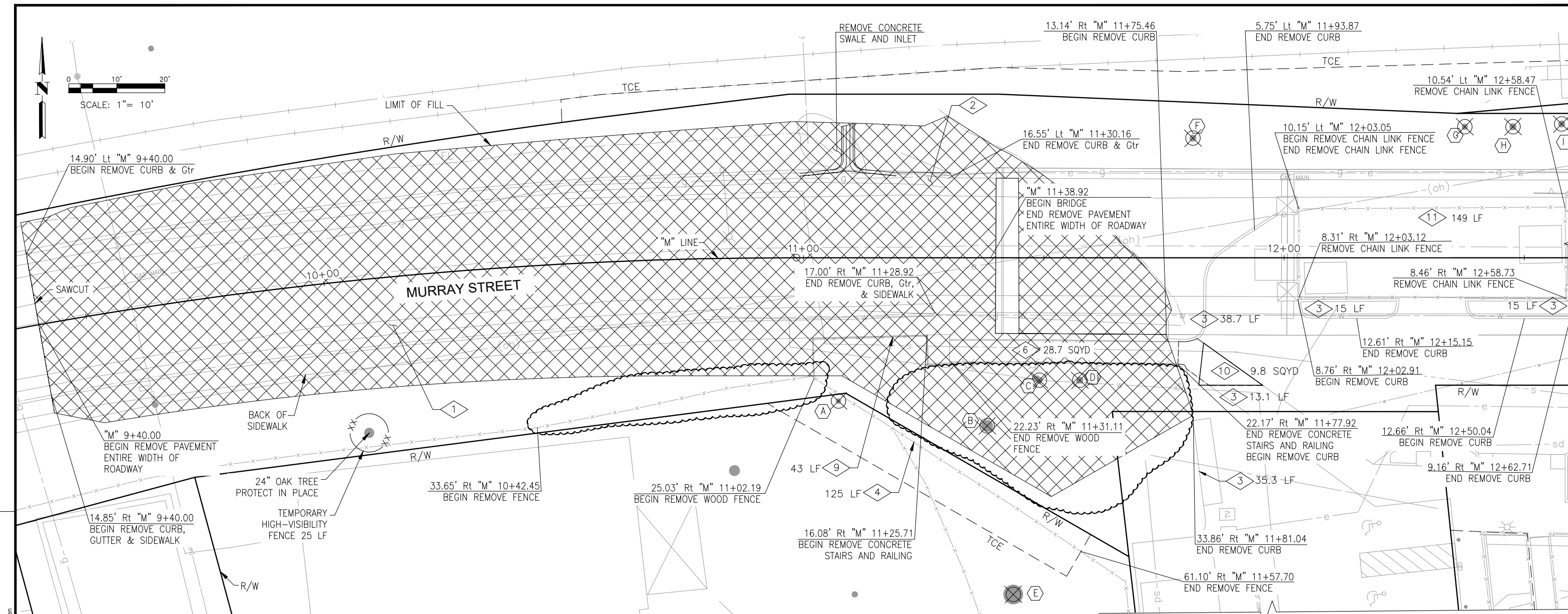
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PLAN AND PROFILE

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

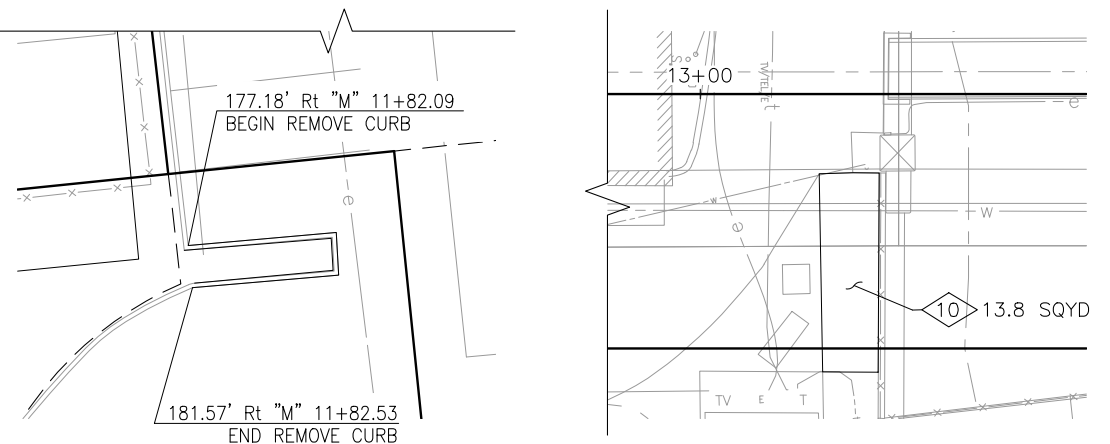
SCALE	AS SHOWN
SHEET	7 OF 196
Vault No.	



WEST APPROACH

- LEGEND:**
- ROADWAY EXCAVATION
 - SHRUBS/GROUND COVER REMOVAL
 - REMOVE TREE
- NOTES:**
- FOR REMOVAL OF ELECTRICAL FACILITIES SEE ELECTRICAL PLANS
 - FOR REMOVAL OF DRAINAGE FACILITIES SEE DRAINAGE PLANS
 - FOR REMOVAL OF WATER FACILITIES SEE WATERLINE PLANS
 - SEE DEMOLITION PLANS FOR LIMITS OF FENCE REMOVAL. SEE CONSTRUCTION DETAILS FOR LIMITS OF TEMPORARY FENCE AND OTHER DETAILS.
- SYMBOL DESCRIPTION**
- REMOVE CONCRETE CURB, GUTTER, & SIDEWALK
 - REMOVE CONCRETE CURB & GUTTER
 - REMOVE CONCRETE CURB
 - REMOVE FENCE
 - REMOVE AC DIKE
 - REMOVE CONCRETE STAIRS
 - REMOVE RETAINING WALL
 - REMOVE WOOD RETAINING WALL
 - REMOVE WOOD FENCE
 - REMOVE (CONCRETE) EXPOSED AGGREGATE
 - REMOVE CHAIN LINK FENCE
 - REMOVE TREE - SEE TABLE

TREE REMOVAL		
SYMBOL	SIZE	TYPE
	<12"	CANARY ISLAND PINE
	38"	MONTEREY PINE (HERITAGE)
	<12"	OAK
	<12"	OAK
	12"	OAK
	12"	WALNUT
	14" - 16"	OAK (DOUBLE TRUNK) (HERITAGE)
	12"	OAK
	<12"	OAK



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

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\008-DEM.dwg Layout Tab: DEM-1 May 05, 2024 - 6:19pm gimbsen

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DEMOLITION PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

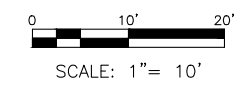
REVISION DATES (PRELIMINARY STAGE ONLY)

SCALE	1"=10'
SHEET	8 OF 196
Vault No.	

DEM-1

11.84' Lt "MR" 49+90.00
BEGIN REMOVE CURB
BEGIN REMOVE PAVEMENT
ENTIRE WIDTH OF ROADWAY

16.71' Lt "M" 16+82.34
BEGIN REMOVE AC DIKE



"M" 16+82.34
END BRIDGE
BEGIN REMOVE PAVEMENT
ENTIRE WIDTH OF ROADWAY

25.20' Lt "MR" 50+43.74
END REMOVE CURB
BEGIN REMOVE CONCRETE
CURB & Gtr

11.29' Rt "M" 16+82.35
BEGIN REMOVE CURB, Gtr,
& SW

17.27' Lt "M" 18+30.00
END REMOVE AC DIKE

SAWCUT & CONFORM, Typ

"M" 18+30.00
END REMOVE PAVEMENT
ENTIRE WIDTH OF ROADWAY

20.04' Rt "M" 18+30.00
END REMOVE CONCRETE CURB,
Gtr, & SW

8.75' Lt "MR" 50+56.94
BEGIN REMOVE CONCRETE
CURB

15.35' Rt "M" 16+81.76
BEGIN REMOVE WOOD
RETAINING WALL

REMOVE METAL BOLLARD (4 TOTAL)
10.38' Rt "MR" 50+78.21
BEGIN REMOVE CHAIN LINK FENCE

0.20' Rt "MR" 51+03.28
BEGIN REMOVE RETAINING WALL
SEE NOTE 4
END REMOVE CHAIN LINK FENCE

3.53' Lt "MR" 51+64.04
END REMOVE RETAINING WALL
BEGIN REMOVE WOOD RETAINING WALL
RECONSTRUCT FLAGPOLE

3.21' Rt "MR" 51+88.29
END REMOVE WOOD RETAINING WALL
BEGIN REMOVE RETAINING WALL
RECONSTRUCT FLAGPOLE

13.32' Lt "MR" 51+98.79
END REMOVE CONCRETE
CURB & Gtr




32.26' Rt "M" 17+93.34
END REMOVE WOOD RETAINING WALL

7.58' Rt "MR" 52+34.52
END REMOVE RETAINING WALL
SEE NOTE 4










"MR" 52+56.00
END REMOVE CONCRETE CURB
END REMOVE PAVEMENT

CUT/CAP IRRIGATION
MAINLINE/LATERAL/CONDUCTORS
(SEE IRRIGATION PLANS)

LEGEND:

-  ROADWAY EXCAVATION
-  SHRUBS/GROUND COVER REMOVAL
-  REMOVE TREE

SYMBOL DESCRIPTION

-  REMOVE CONCRETE CURB, GUTTER, & SIDEWALK
-  REMOVE CONCRETE CURB & GUTTER
-  REMOVE CONCRETE CURB
-  REMOVE FENCE
-  REMOVE AC DIKE
-  REMOVE CONCRETE STAIRS
-  REMOVE RETAINING WALL
-  REMOVE WOOD RETAINING WALL
-  REMOVE CHAIN LINK FENCE

NOTES:

1. FOR REMOVAL OF ELECTRICAL FACILITIES SEE ELECTRICAL PLANS.
2. FOR REMOVAL OF DRAINAGE FACILITIES SEE DRAINAGE PLANS.
3. FOR REMOVAL OF WATER FACILITIES SEE WATERLINE PLANS.
4. CAP ELECTRICAL BEFORE THE REMOVE OF THE RETAINING WALL.

EAST APPROACH

TREE REMOVAL		
Symbol	SIZE	TYPE
X	<12"	MONTEREY PINES
J	48"	EUCALYPTUS (HERITAGE)
K	<12"	RED BUD
L	35"	EUCALYPTUS (HERITAGE)

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

DEM-2

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\008-DEM.dwg Layout Tab: DEM-2 May 05, 2024 - 6:19pm gimbsen

Justina L. Conklin
REGISTERED ENGINEER - CIVIL
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

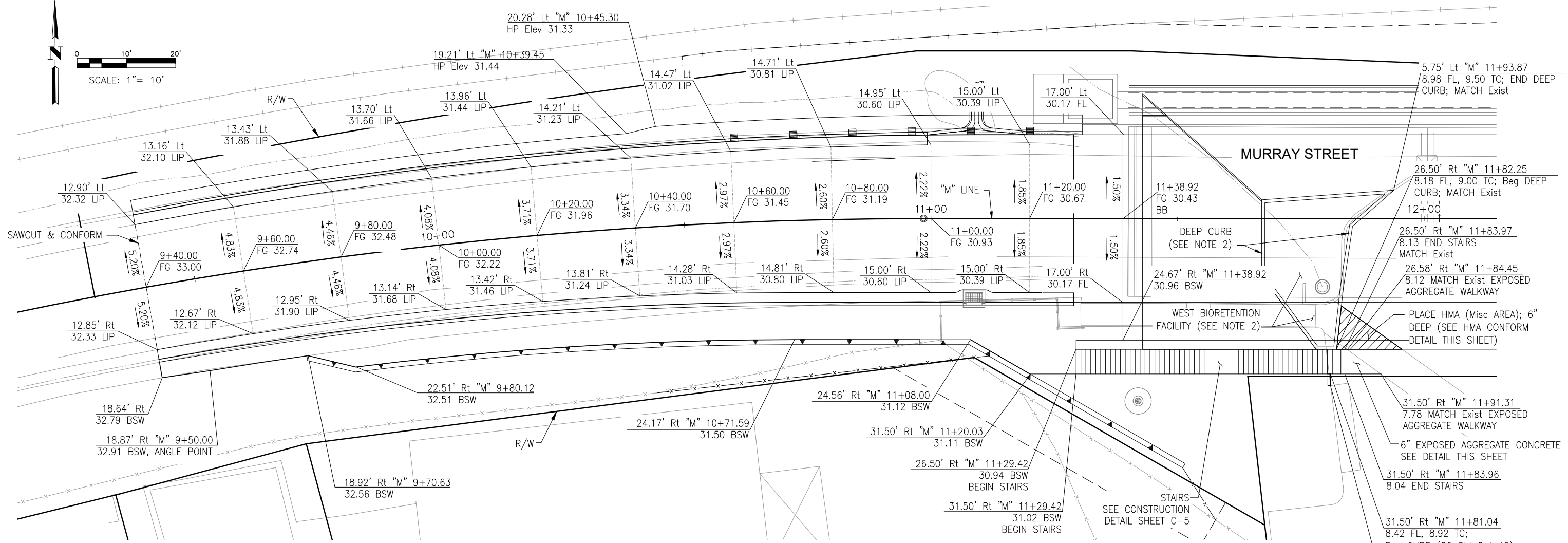
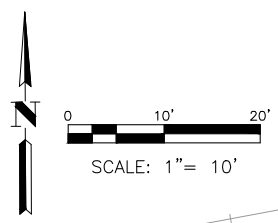
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DEMOLITION PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE	1"=10'
SHEET	9 OF 196
Vault No.	



WEST APPROACH

ABBREVIATIONS:

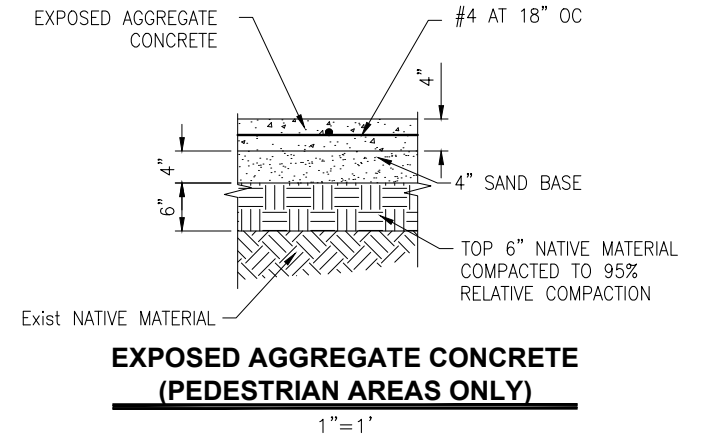
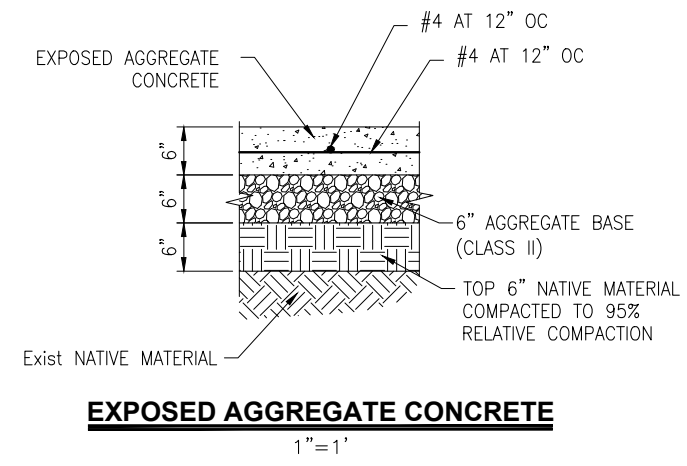
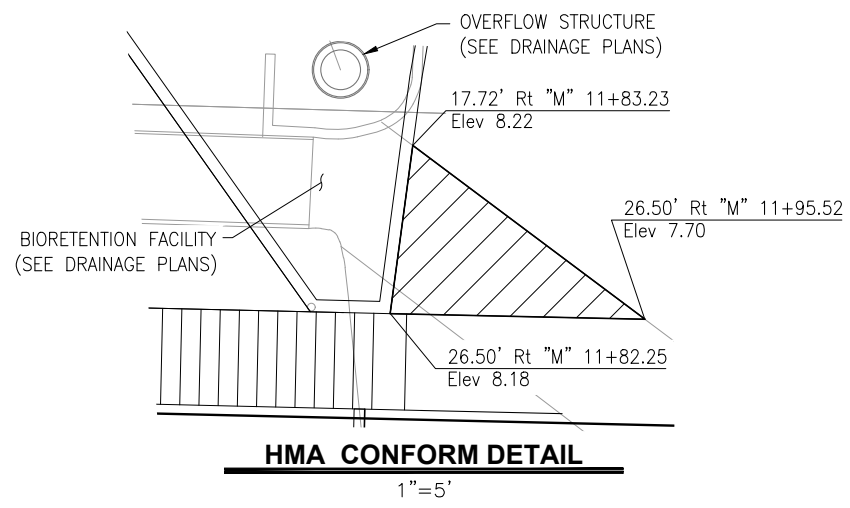
BSW BACK OF SIDEWALK
LIP LIP OF GUTTER
TC TOP OF CURB

LEGEND:

PLACE HMA (Misc AREA)

NOTES:

1. THE SUPERELEVATION TRANSITIONS SHOW A TRANSITION FROM THE EXISTING ROAD SUPERELEVATION TO THE PROPOSED BRIDGE SUPERELEVATION.
2. SEE SHEET DD-1 FOR WEST BIORETENTION FACILITY AND DEEP CURB DETAILS.



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

C-1

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\010-C1 & C2.dwg Layout Tab: C-1 West Elev May 05, 2024 - 8:21pm gimboen

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
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STATE OF CALIFORNIA

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

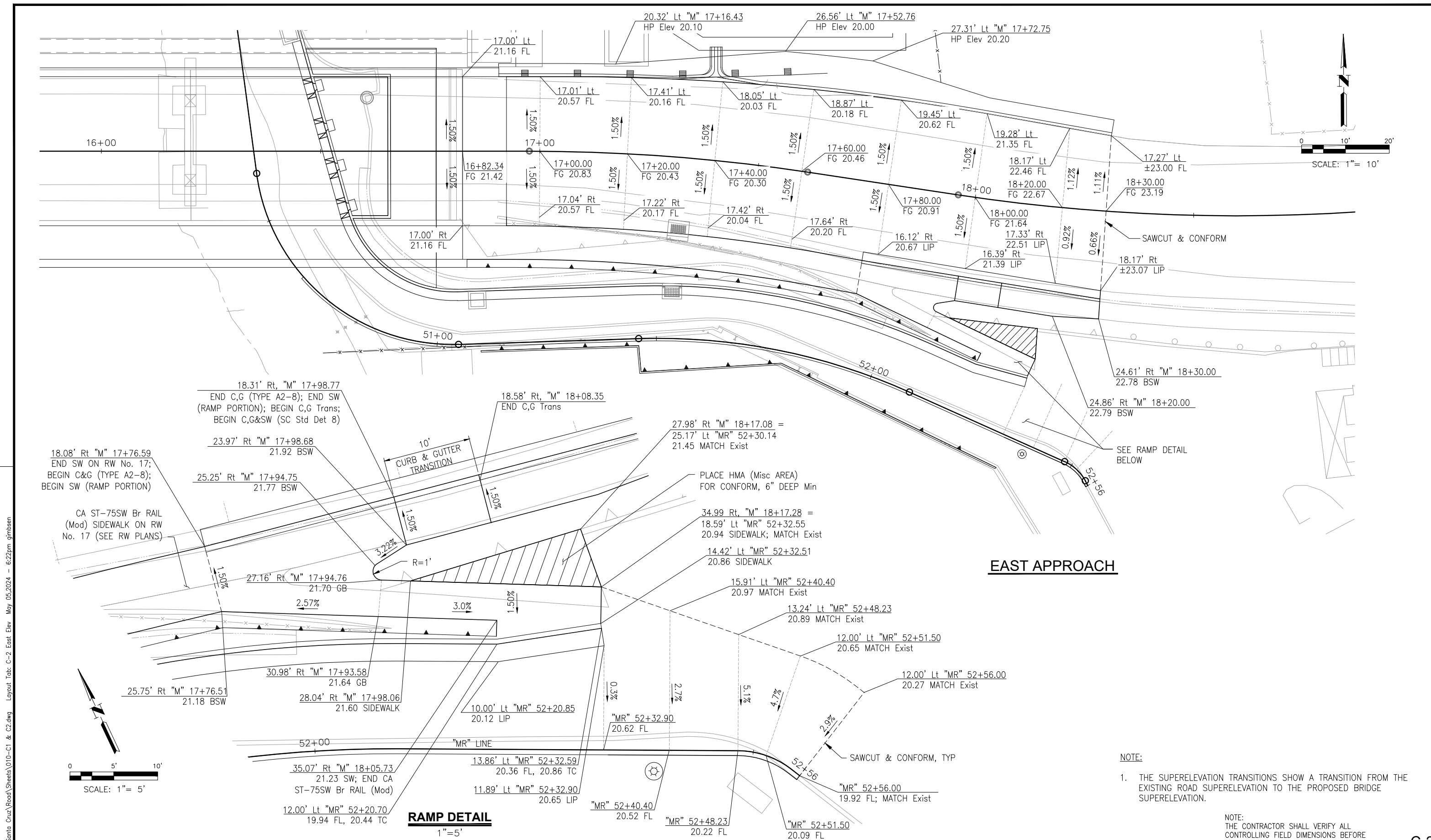
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
CONSTRUCTION DETAILS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)									
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SCALE	AS SHOWN
SHEET	10 OF 196
Vault No.	



EAST APPROACH

RAMP DETAIL
1"=5'

NOTE:
1. THE SUPERELEVATION TRANSITIONS SHOW A TRANSITION FROM THE EXISTING ROAD SUPERELEVATION TO THE PROPOSED BRIDGE SUPERELEVATION.

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

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\010-C1 & C2.dwg Layout Tab: C-2 East Elev May 05, 2024 - 6:22pm gimboen

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

Justina L. Conklin
 REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
 PROJECT MANAGER

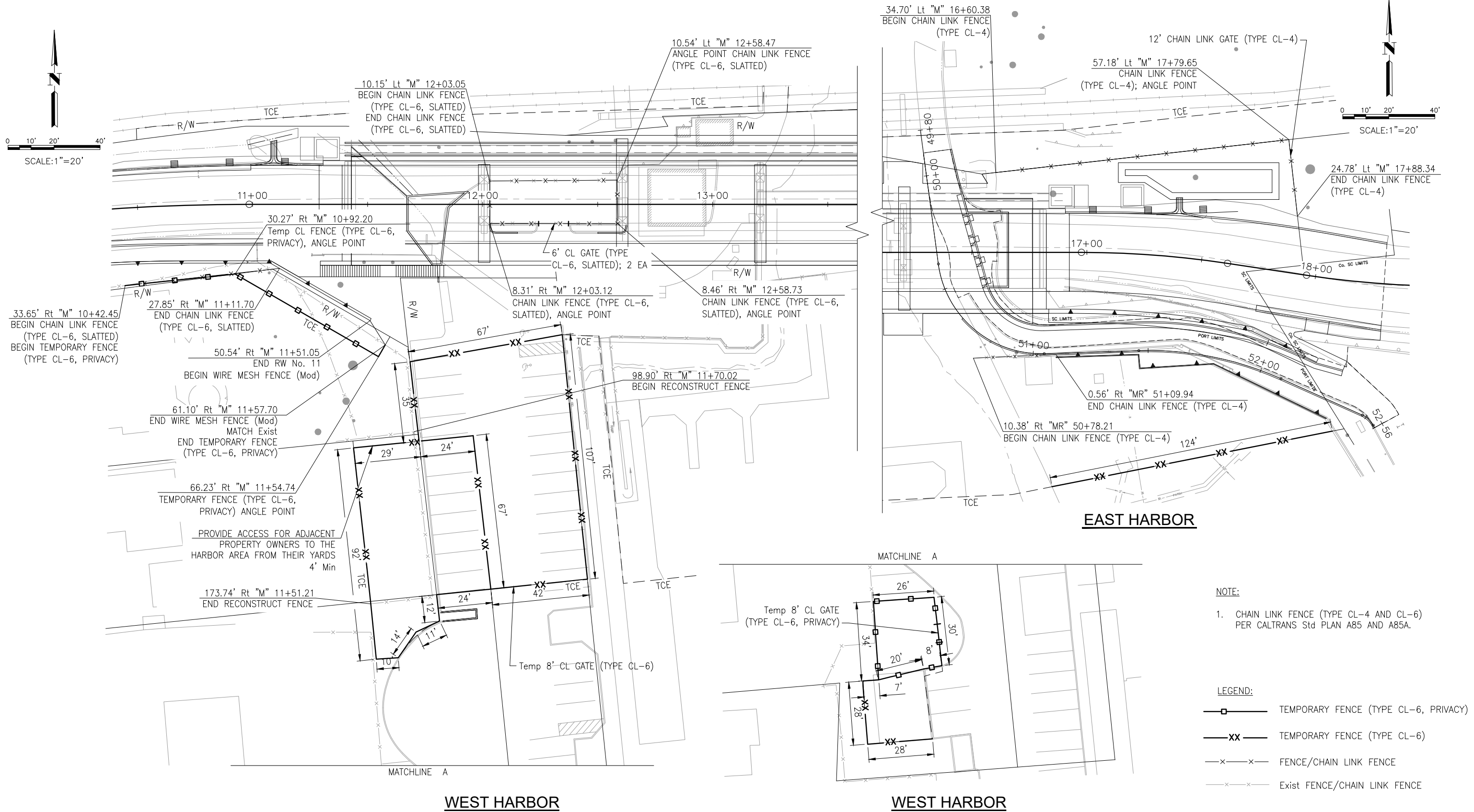
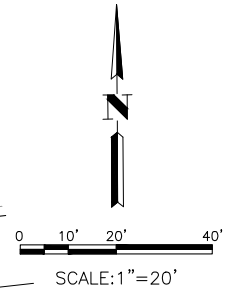
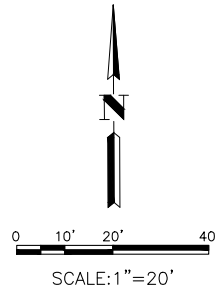
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

**MURRAY STREET BRIDGE
 SEISMIC RETROFIT AND BARRIER REPLACEMENT
 CONSTRUCTION DETAILS**

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE	AS SHOWN
SHEET	11 OF 196
Vault No.	



EAST HARBOR

WEST HARBOR

WEST HARBOR

FENCE DETAILS

NOTE:
1. CHAIN LINK FENCE (TYPE CL-4 AND CL-6) PER CALTRANS Std PLAN A85 AND A85A.

LEGEND:
 —□— TEMPORARY FENCE (TYPE CL-6, PRIVACY)
 —XX— TEMPORARY FENCE (TYPE CL-6)
 —x—x— FENCE/CHAIN LINK FENCE
 —x—x— Exist FENCE/CHAIN LINK FENCE

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

C-3

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\010-C3.dwg Layout Tab: C-3 Fence Details May 05, 2024 - 6:23pm gimboen

Justina L. Conklin
REGISTERED ENGINEER - CIVIL
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

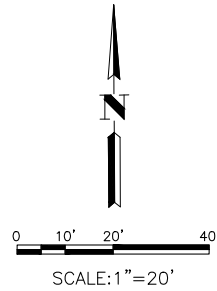
TRC
MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
CONSTRUCTION DETAILS - FENCE DETAILS**

DISREGARD PRINTS BEARING EARLIER REVISION DATES	
REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE	1"=20'
SHEET	12 OF 196
Vault No.	



16.81' Rt "M" 11+81.95
BEGIN REMOVE EXPOSED
AGGREGATE WALKWAY

22.17' Rt "M" 11+77.92
BEGIN REMOVE EXPOSED
AGGREGATE WALKWAY

26.58' Rt "M" 11+84.45
END REMOVE EXPOSED
AGGREGATE WALKWAY

26.58' Rt "M" 11+95.64
END REMOVE EXPOSED
AGGREGATE WALKWAY

177.18' Rt "M" 11+82.09
BEGIN CURB
SC Std Det 12
MATCH Exist

181.57' Rt "M" 11+82.53
END CURB
SC Std Det 12
MATCH Exist

WEST HARBOR

180.26' Rt "M" 11+97.77
SC Std Det 12
MATCH Exist

175.82' Rt "M" 11+97.53
SC Std Det 12
MATCH Exist

8.76' Rt "M" 12+02.91
BEGIN CURB SC Std Det 12

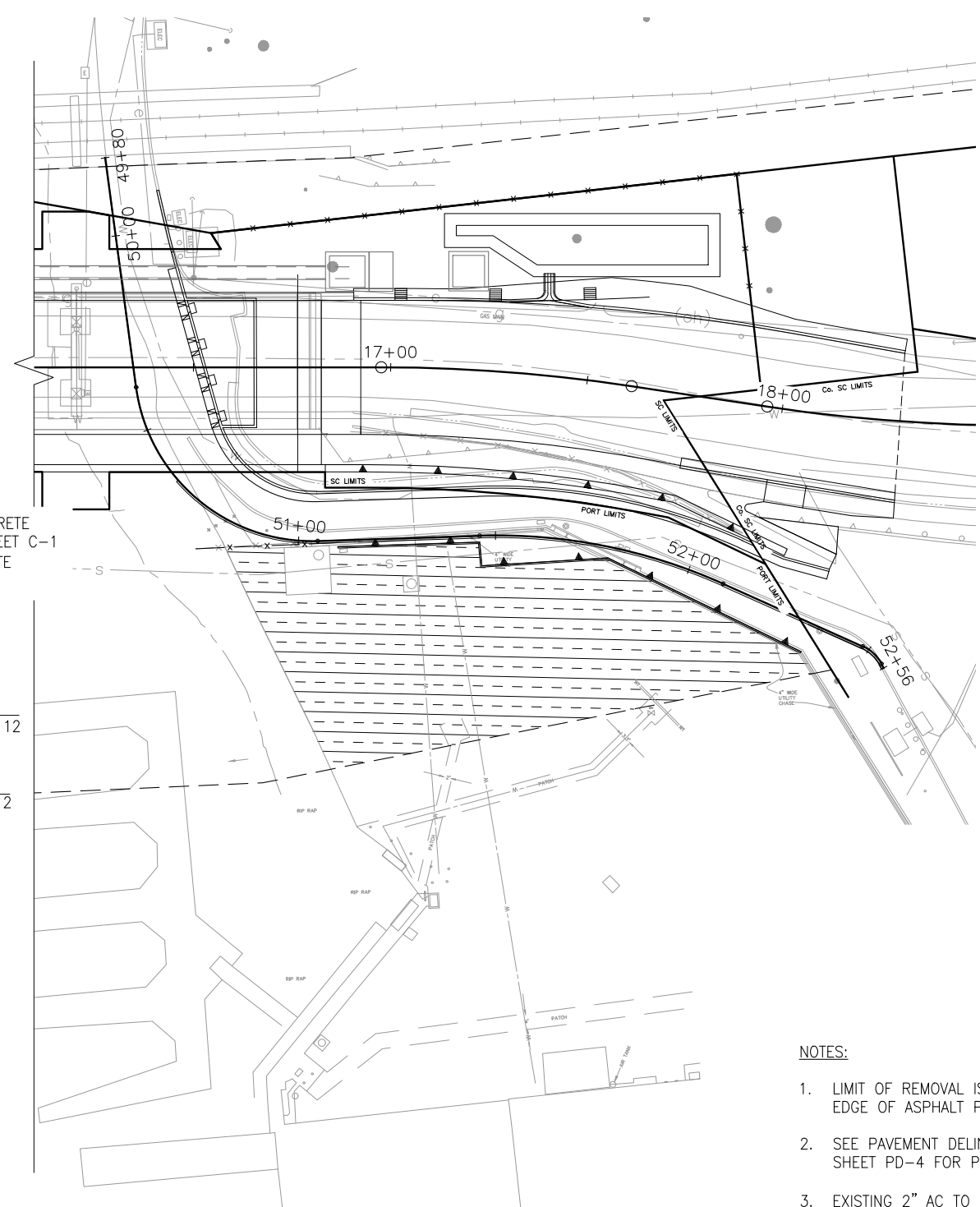
12.61' Rt "M" 12+15.15
END CURB SC Std Det 12

12.66' Rt "M" 12+50.04
BEGIN CURB SC Std Det 12

9.16' Rt "M" 12+62.71
END CURB SC Std Det 12

6" EXPOSED AGGREGATE CONCRETE
SEE CONSTRUCTION DETAIL SHEET C-1
"EXPOSED AGGREGATE CONCRETE
(PEDESTRIAN AREAS ONLY)"

RESET ALL WHEEL STOPS



EAST HARBOR

NOTES:

1. LIMIT OF REMOVAL IS DEFINED BY EXISTING EDGE OF ASPHALT PAVEMENT.
2. SEE PAVEMENT DELINEATION AND SIGN PLAN SHEET PD-4 FOR PARKING LOT STRIPING.
3. EXISTING 2" AC TO BE REMOVED AND REPLACED.

LEGEND:

REMOVE ASPHALT CONCRETE PAVEMENT
 REPLACE WITH 2" HMA (TYPE A)

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

C-4

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\010-C4.dwg Layout Tab: C-4 West Plaza May 05, 2024 - 6:25pm gimbsen

Justina L. Conklin
 REGISTERED ENGINEER - CIVIL
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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

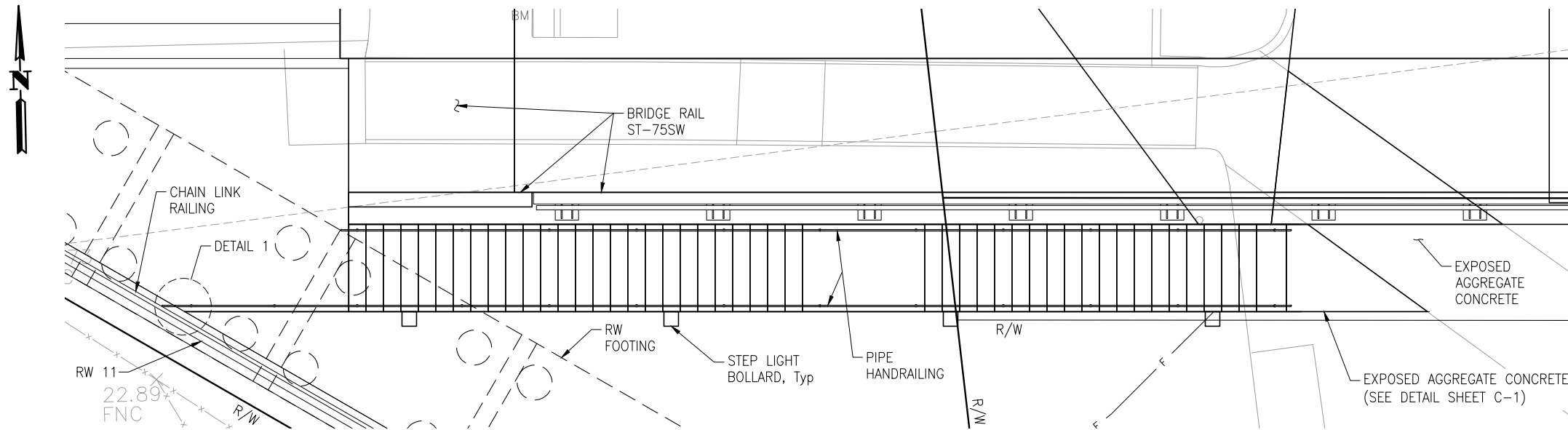
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
CONSTRUCTION DETAILS

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

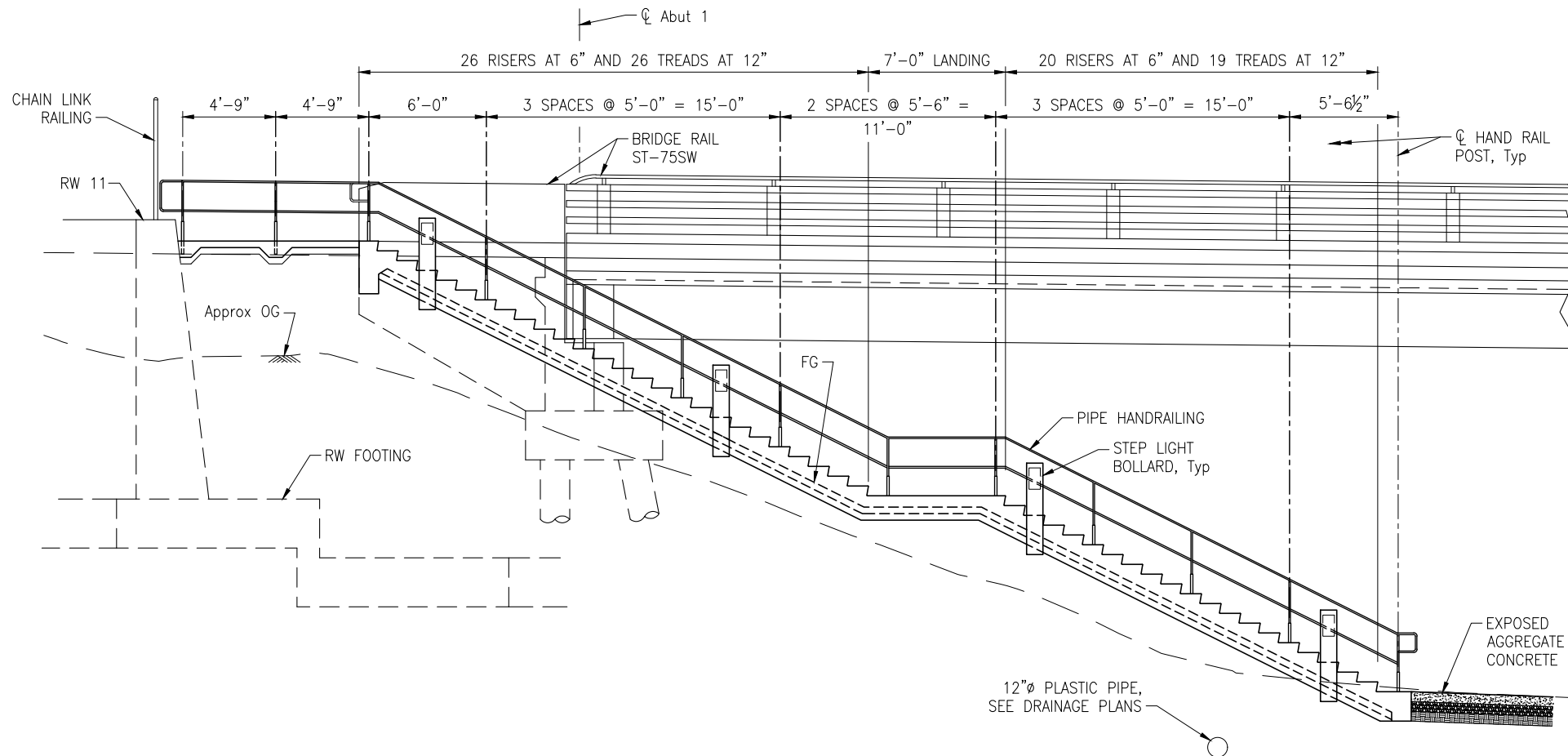
REVISION DATES (PRELIMINARY STAGE ONLY)			

SCALE	1"=20'
SHEET	13 OF 196
Vault No.	



PLAN

1/4" = 1'-0"



ELEVATION

1/4" = 1'-0"

NOTES:

1. WET SET NON-SLIP DETECTABLE WARNING INTO STEP.

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

C-5

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\010-C5&C6.dwg Layout Tab: CD-5 STAIRS May 05,2024 - 6:26pm gimbsen

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED C. PINKERTON
DETAILS	BY A. BEDAL	CHECKED C. PINKERTON
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

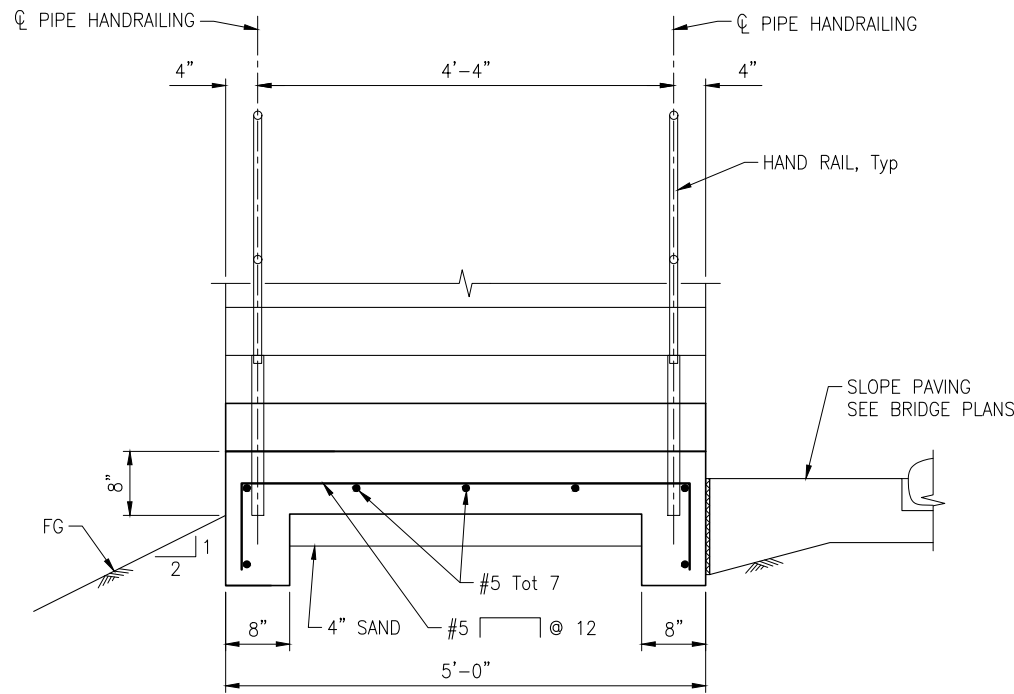
TRC
 MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

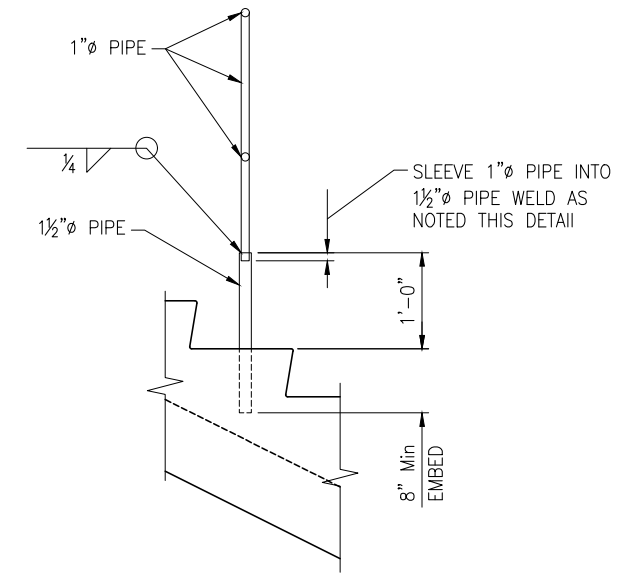
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
CONSTRUCTION DETAILS - STAIRS

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)
	09-09-21

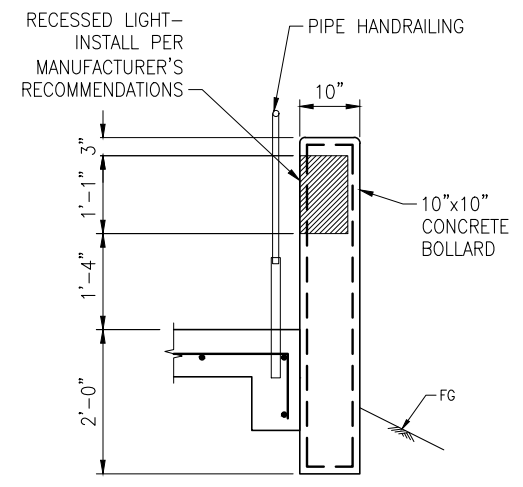
SCALE	AS SHOWN
SHEET	14 OF 196
Vault No.	



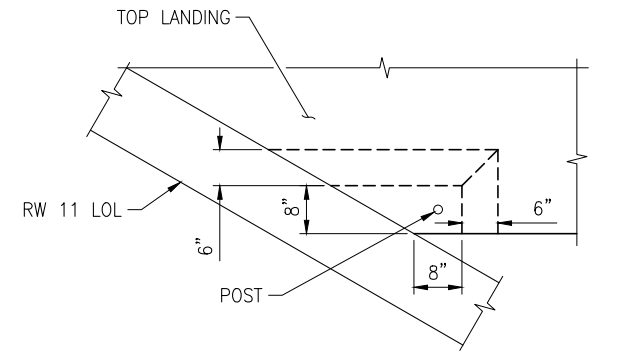
TYPICAL SECTION
1"=1'-0"



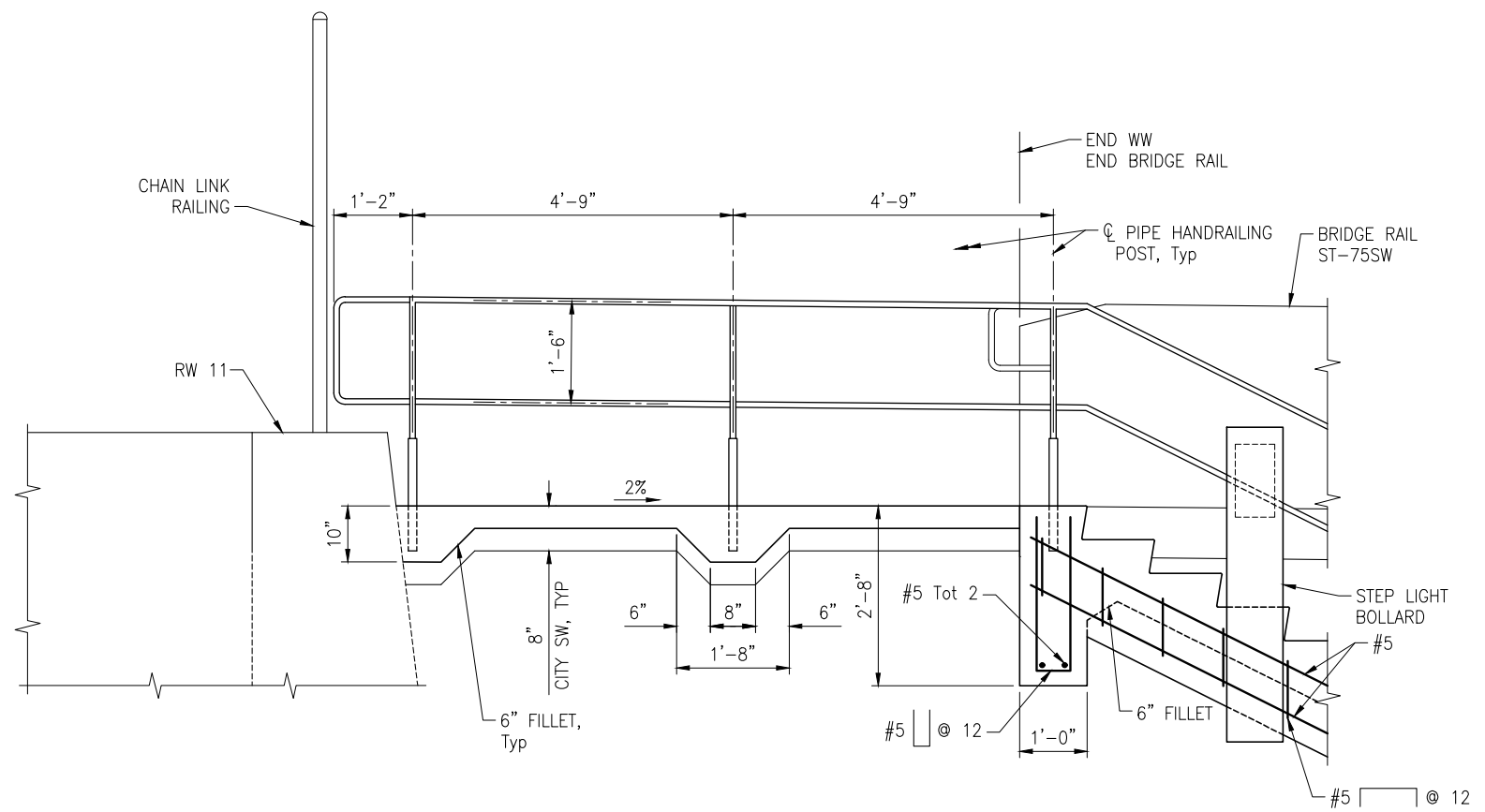
PIPE HANDRAILING POST DETAIL
1"=1'-0"



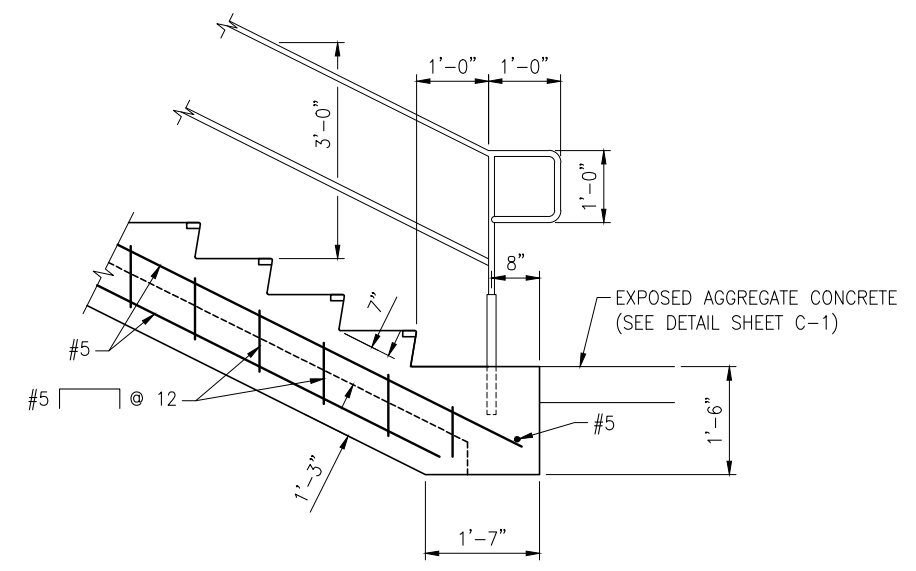
STEP LIGHT BOLLARD
3/4"=1'-0"



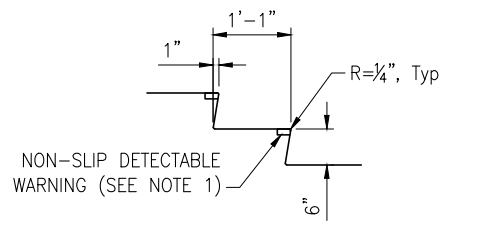
DETAIL 1
3/4"=1'-0"



TOP LANDING DETAIL
3/4"=1'-0"



BOTTOM LANDING DETAIL
3/4"=1'-0"



TYPICAL TREAD
3/4"=1'-0"

NOTE:
1. WET SET NON-SLIP DETECTABLE WARNING INTO STEP.

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

C-6

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\010-C5&C6.dwg Layout Tab: CD-6 STAIRS May 05,2024 - 6:27pm gimben

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED C. PINKERTON
DETAILS	BY A. BEDAL	CHECKED C. PINKERTON
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

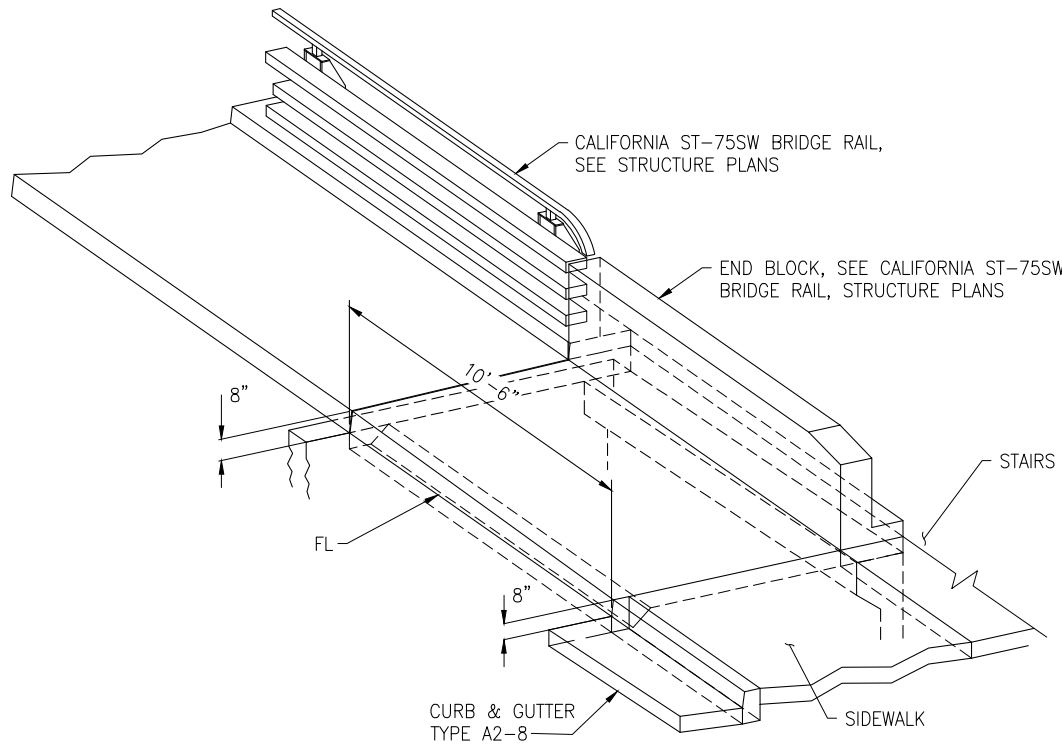
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
CONSTRUCTION DETAILS - STAIRS

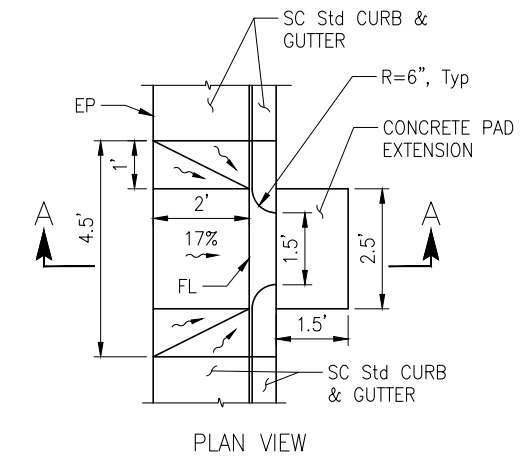
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)									
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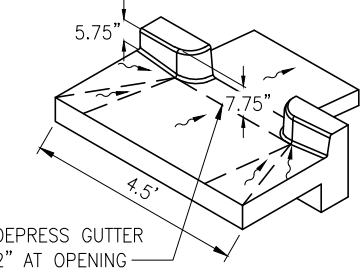
SCALE	AS SHOWN
SHEET	15 OF 196
Vault No.	



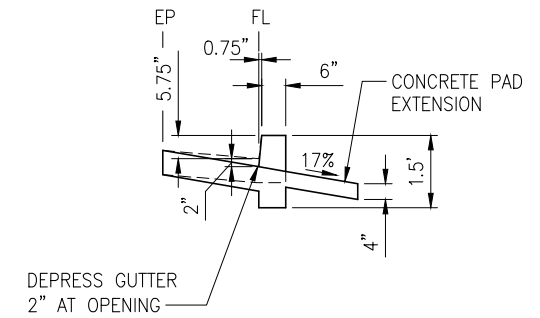
SIDEWALK ISOMETRIC
1/2"=1'



PLAN VIEW

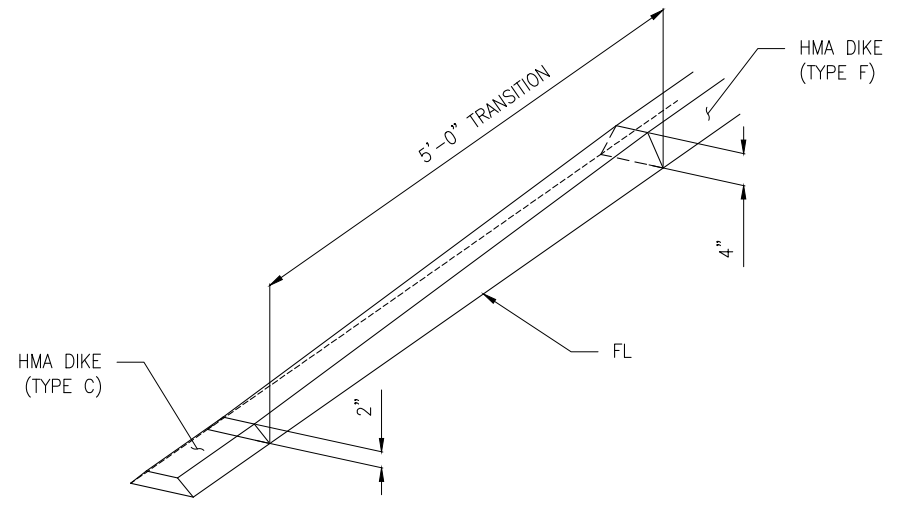


ISOMETRIC VIEW



SECTION A-A

CURB CUT DETAIL
1"=2'



HMA DIKE TRANSITION
1"=1'

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

C-7

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\010-C7.dwg Layout Tab: C-7 May 05 2024 - 6:27pm gimbsen

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

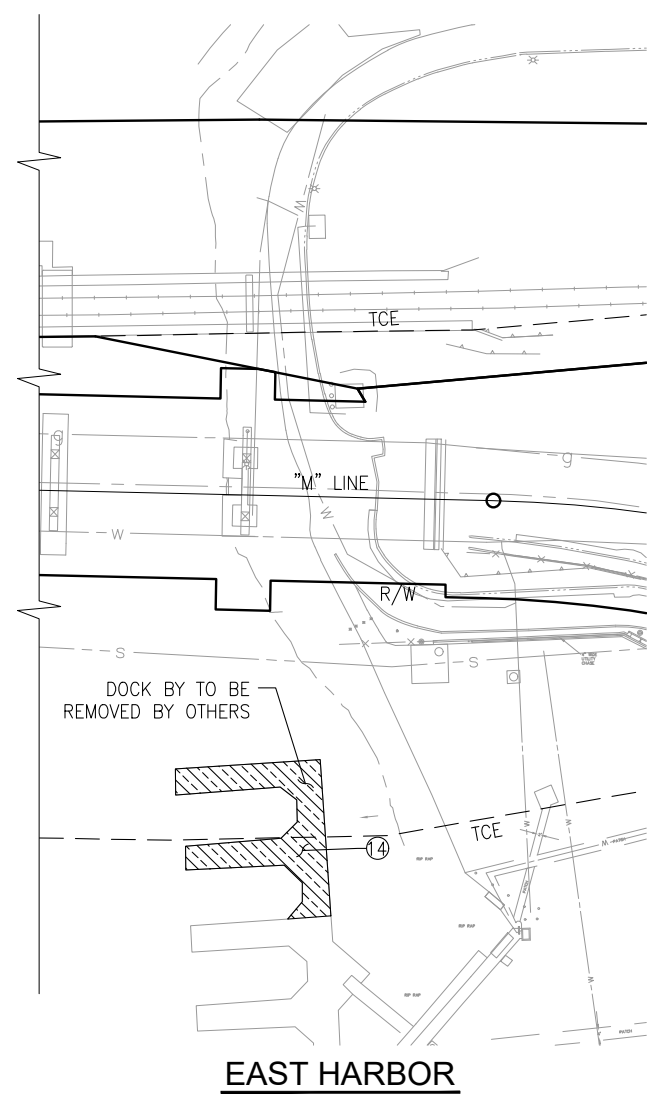
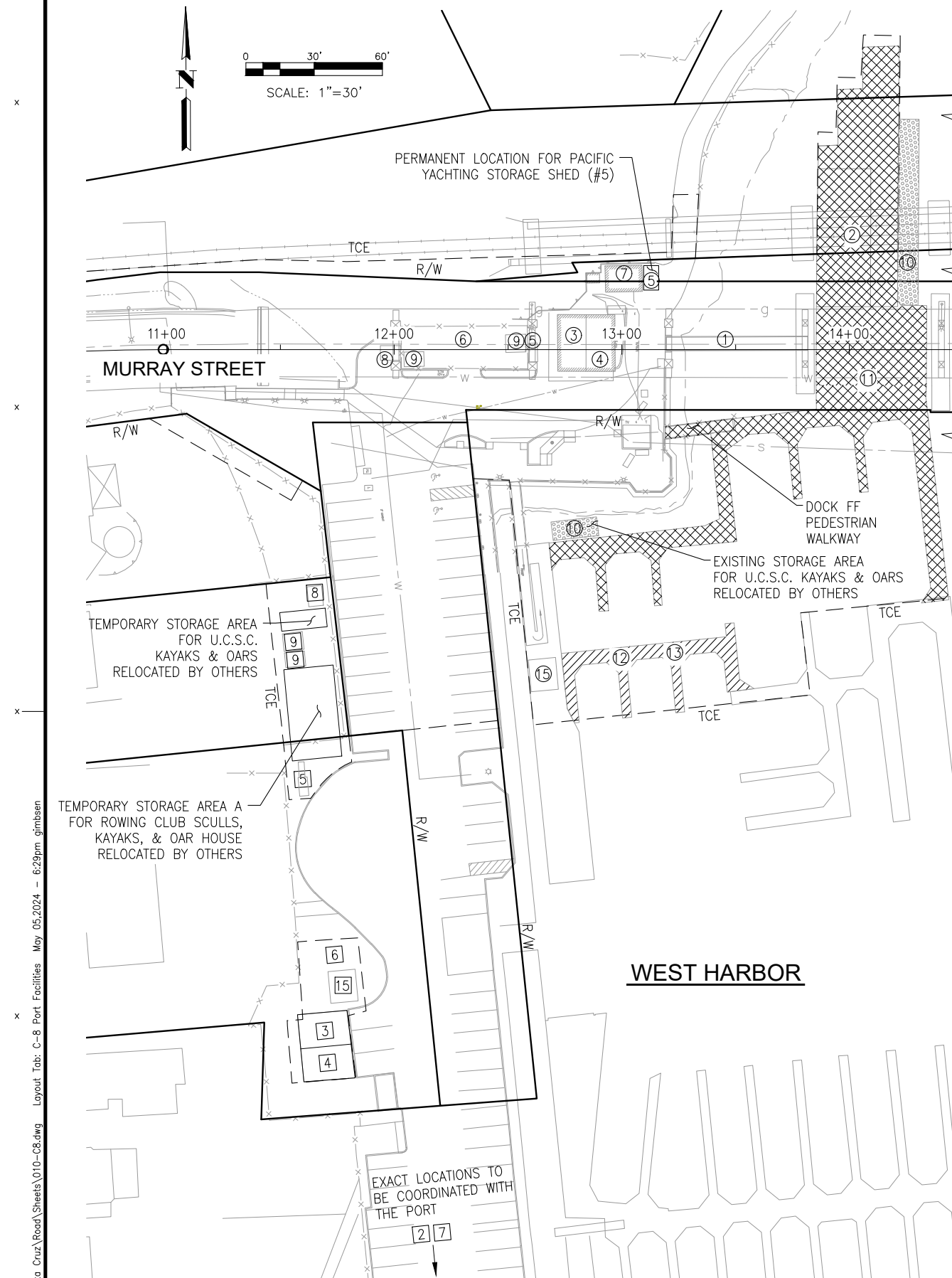
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
CONSTRUCTION DETAILS

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE	AS SHOWN
SHEET	16 OF 196
Vault No.	



- NOTES:**
- Boats and kayaks to be relocated by Port District or others before applicable facility removal. Port Relocation Plan located in the Supplemental Project Information.
 - ⑩, ⑪, and ⑭ stored out of construction zone by Port District.
 - All facilities to be returned to existing locations unless noted.
 - Locations A, B, C as noted in the above table are shown on the on the Port Relocation Plan. See Supplemental Project Information.
 - For dock reconstruction plans (By Others), see Phase 1 plans in Supplemental Project Information.

- LEGEND:**
- xx — TEMPORARY FENCE
 - ⊕ EXISTING LOCATION
 - # TEMPORARY LOCATION DURING CONSTRUCTION
 - [Cross-hatched] PORTION OF DOCK FF TO BE RECONSTRUCTED BY OTHERS
 - [Diagonal lines] PORTION OF DOCK BY TO BE RECONSTRUCTED BY OTHERS
 - [Dotted pattern] JET FLOAT SYSTEM TO BE REMOVED AND RESET BY OTHERS
 - [Horizontal lines] DOCK FF AND GANGWAY TO BE CONSTRUCTED AND REMOVED BY OTHERS

PORT RELOCATION TABLE				
ITEM	DESCRIPTION (OWNER)	ACTION	WORK BY	WORK TYPE
1	PEDESTRIAN BRIDGE (PORT DISTRICT)	EXISTING PED BRIDGE TO BE REMOVED BETWEEN BENT 4&5.	CONTRACTOR	CONSTRUCTION
2	TEMPORARY AND PERMANENT ROWING RACKS - KAYAK/ROWING STORAGE UNITS (PORT DISTRICT)	4680 SQFT+ROOF RELOCATE 60 BOATS TO TEMPORARY STORAGE LOCATIONS A, B, AND C CONSTRUCT TEMPORARY STORAGE RACKS AT LOCATIONS A, B, AND C.	OTHERS	RIGHT OF WAY
3	CHARDONNAY (PORT DISTRICT)	FURNISH A TEMPORARY BUILDING INCLUDING UTILITY CONNECTIONS AND PROTECT EXISTING BUILDING IN PLACE	CONTRACTOR	CONSTRUCTION
4	PACIFIC YACHTING (PORT DISTRICT)	FURNISH A TEMPORARY BUILDING INCLUDING UTILITY CONNECTIONS AND PROTECT EXISTING BUILDING IN PLACE	CONTRACTOR	CONSTRUCTION
5	PACIFIC YACHTING STORAGE SHED BENEATH SPAN 3 (PORT DISTRICT)	FURNISH A TEMPORARY SHED 8'X4'X8', CONSTRUCT IT AT TEMPORARY LOCATION AND RELOCATE TO A NEW LOCATION ADJACENT TO THE SC ROWING CLUB OAR HOUSE AFTER CONSTRUCTION	CONTRACTOR	CONSTRUCTION
6	UCSC STORAGE SPACE BENEATH SPAN 2 (PORT DISTRICT)	REMOVE FENCING FOR BRIDGE CONSTRUCTION AND RECONSTRUCT AFTER CONSTRUCTION. CONSTRUCT TEMPORARY FENCE (TYPE CL-6, PRIVACY) AT TEMPORARY LOCATION	CONTRACTOR	CONSTRUCTION
7	SANTA CRUZ ROWING CLUB OAR HOUSE (PORT DISTRICT)	FURNISH A TEMPORARY SHED 8'X12', CONSTRUCT IT AT TEMPORARY LOCATION AND RELOCATE TO ORIGINAL LOCATION UNDER THE BRIDGE	CONTRACTOR	CONSTRUCTION
8	WASTE OIL SHED (PORT DISTRICT)	FURNISH A TEMPORARY SHED 3'X6'X6', CONSTRUCT IT AT TEMPORARY LOCATION AND RELOCATE TO ORIGINAL LOCATION UNDER THE BRIDGE	CONTRACTOR	CONSTRUCTION
9	UCSC STORAGE SHEDS BUILDINGS/SHOP BENEATH SPANS 2 & 3 (PORT DISTRICT)	FURNISH TWO TEMPORARY SHEDS 8'X12', CONSTRUCT IT AT TEMPORARY LOCATION AND RELOCATE TO ORIGINAL LOCATION UNDER THE BRIDGE	CONTRACTOR	CONSTRUCTION
10	JET FLOAT/REMOVE/STORAGE/REPLACE (PORT DISTRICT)	REMOVE JET FLOAT OUT OF CONSTRUCTION ZONE, STORE IT, AND RECONSTRUCT IT AFTER CONSTRUCTION PLACE TEMPORARY JETFLOAT AT DOCK C SLIP 23	OTHERS	RIGHT OF WAY
11	DOCK FF AND TEMPORARY PEDESTRIAN GANGWAY (PORT DISTRICT)	REMOVE PORTION OF DOCK F-F, INCLUDING REMOVAL OF ADJOINING PEDESTRIAN GANGWAY RELOCATE 20 BOATS TO VISITOR DOCKS AND BACK TO DOCK FF USE OF VISITOR DOCKS TO RELOCATE 20 BOATS PILE REPLACEMENT RECONSTRUCT DOCK F-F. PERMANENT ELECTRICAL SERVICE FOR DOCKS FF & BY	OTHERS	RIGHT OF WAY
12	DOCK FF GANGWAY CONSTRUCTION (1000 SF) (PORT DISTRICT)	CONSTRUCT TEMPORARY NEW WEST HARBOR GUEST DOCK.	OTHERS	RIGHT OF WAY
13	DOCK FF GANGWAY DEMOLITION (1000 SF) (PORT DISTRICT)	DEMOLITION OF DOCK, AFTER BRIDGE CONSTRUCTION IS COMPLETE	OTHERS	RIGHT OF WAY
14	RECONSTRUCT DOCK BY (PORT DISTRICT)	REMOVE TWO NORTHERN MOST SLIPS FROM DOCK BY, RECONSTRUCT THEM AFTER BRIDGE CONSTRUCTION IS COMPLETE	OTHERS	RIGHT OF WAY
15	UCSC BOATING OFFICE	FURNISH A TEMPORARY OFFICE AT THE LOCATION SHOWN. AFTER CONSTRUCTION RELOCATE EXISTING BOATING OFFICE ON DOCK FF.	CONTRACTOR	RIGHT OF WAY

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

C-8

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\010-C8.dwg Layout Tab: C-8 Port Facilities May 05, 2024 - 6:29pm gimbsen

Justina L. Conklin
REGISTERED ENGINEER - CIVIL
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

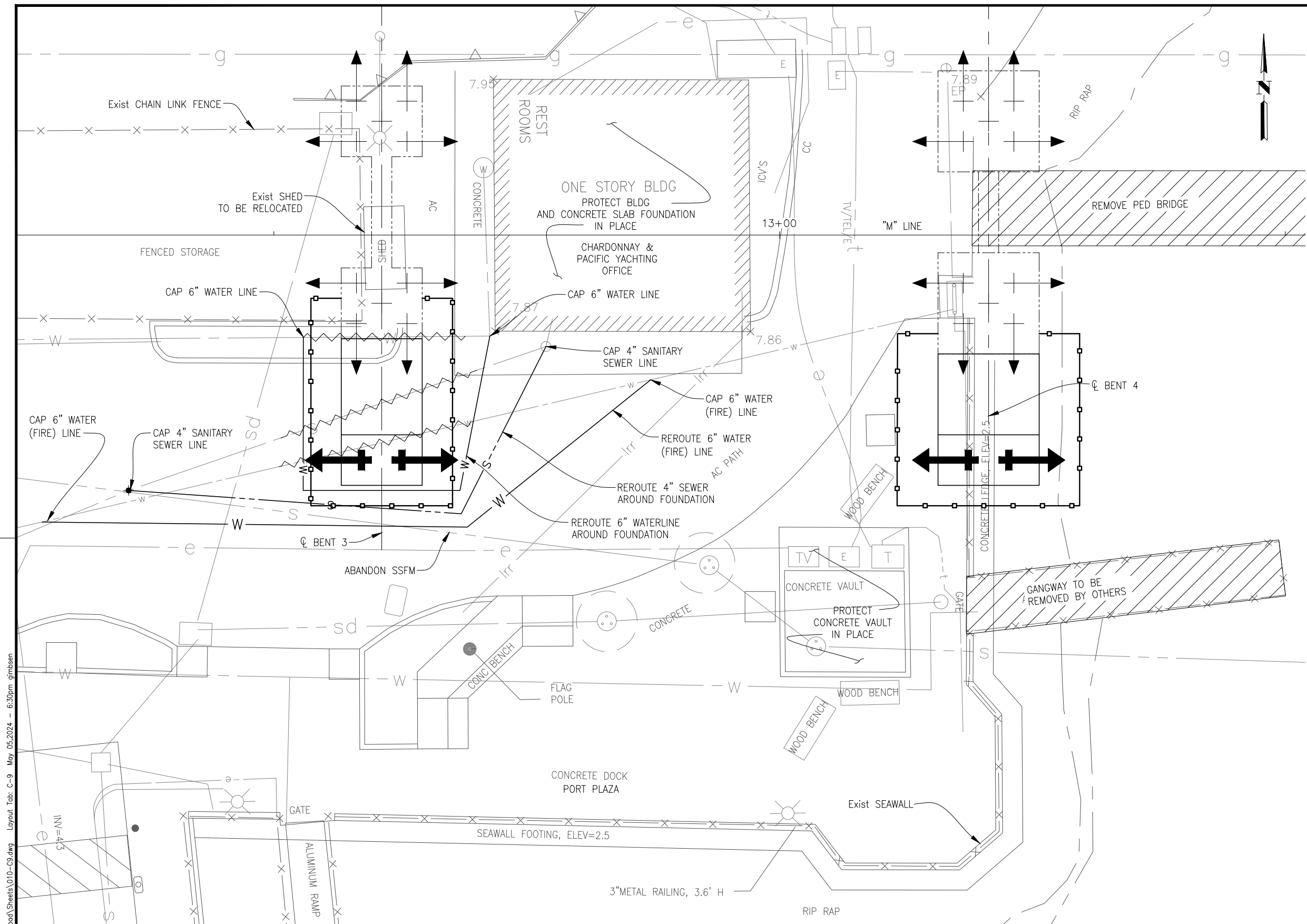
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
CONSTRUCTION DETAILS - PORT FACILITIES

REVISION DATES (PRELIMINARY STAGE ONLY)

7/24/15	3/7/21	3/28/21	4/29/21	3/22/23
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DISREGARD PRINTS BEARING EARLIER REVISION DATES

SCALE	1"=30'
SHEET	17 OF 196
Vault No.	



LEGEND:

	Exist BATTERED PILE
	NEW BATTERED PILE
	Exist STRUCTURE
	NEW STRUCTURE
	TEMPORARY SHORING
	BRIDGE/RAMP REMOVAL
	UTILITY REMOVAL

- UTILITY NOTES:**
1. CONTRACTOR TO RE-ROUTE WATER (FIRE) LINE BEFORE CONSTRUCTION OF BENT 3.
 2. CONTRACTOR TO CAP AND ABANDON SEWER AND WATERLINE THAT FEEDS THE BUILDING DURING CONSTRUCTION AND RE-ROUTE THE SEWER AND WATER AROUND THE NEW FOUNDATION WHEN CONSTRUCTION IS COMPLETE, TO RESTORE UTILITIES TO BUILDING.
 3. ELEVATIONS OF SEWER AND WATER TO BUILDING ARE NOT KNOWN, FIELD VERIFY.

- NOTES:**
1. BASED ON TEST BORINGS, UNDERLYING FILL MATERIALS IN PORT PLAZA APPEAR TO BE CAPABLE OF NO MORE THAN LIGHT STRUCTURE/FILL LOADINGS.
 2. LOCATION OF UTILITY FACILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
 3. UTILITY OWNERSHIP ON THIS PROJECT:
 AT&T - AMERICAN TELEPHONE & TELEGRAPH (TELEPHONE)
 Co. SC - COUNTY OF SANTA CRUZ
 SC SD - CITY OF SANTA CRUZ (STORM DRAIN)
 SC SEWER - CITY OF SANTA CRUZ (SEWER)
 SC WATER - CITY OF SANTA CRUZ (WATER)
 PG&E - PACIFIC GAS & ELECTRIC (GAS & ELECTRIC)
 PAC BELL - PACIFIC BELL (TELEPHONE)
 COMCAST - (CABLE)
 PORT - SANTA CRUZ PORT DISTRICT
 4. TEMPORARY SHORING LOCATIONS SHOWN ARE CONCEPTUAL AND INTENDED TO PROTECT EXISTING FACILITIES, INCLUDING THE CHARDONNAY & PACIFIC YACHTING BUILDINGS ADJACENT TO BENTS AND THE CONCRETE VAULTS ADJACENT TO BENT 4. ACTUAL MEANS OF EXCAVATION AND ALL RELATED DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL DAMAGED FACILITIES MUST BE RESTORED TO THEIR ORIGINAL CONDITION.

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

PLAN
1"=5'

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\010-C9.dwg Layout Tab: C-9 May 05, 2024 - 6:30pm gimben

REGISTERED PROFESSIONAL ENGINEER
 JUSTINA L. CONKLIN
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

Justina L. Conklin
 REGISTERED ENGINEER - CIVIL

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CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

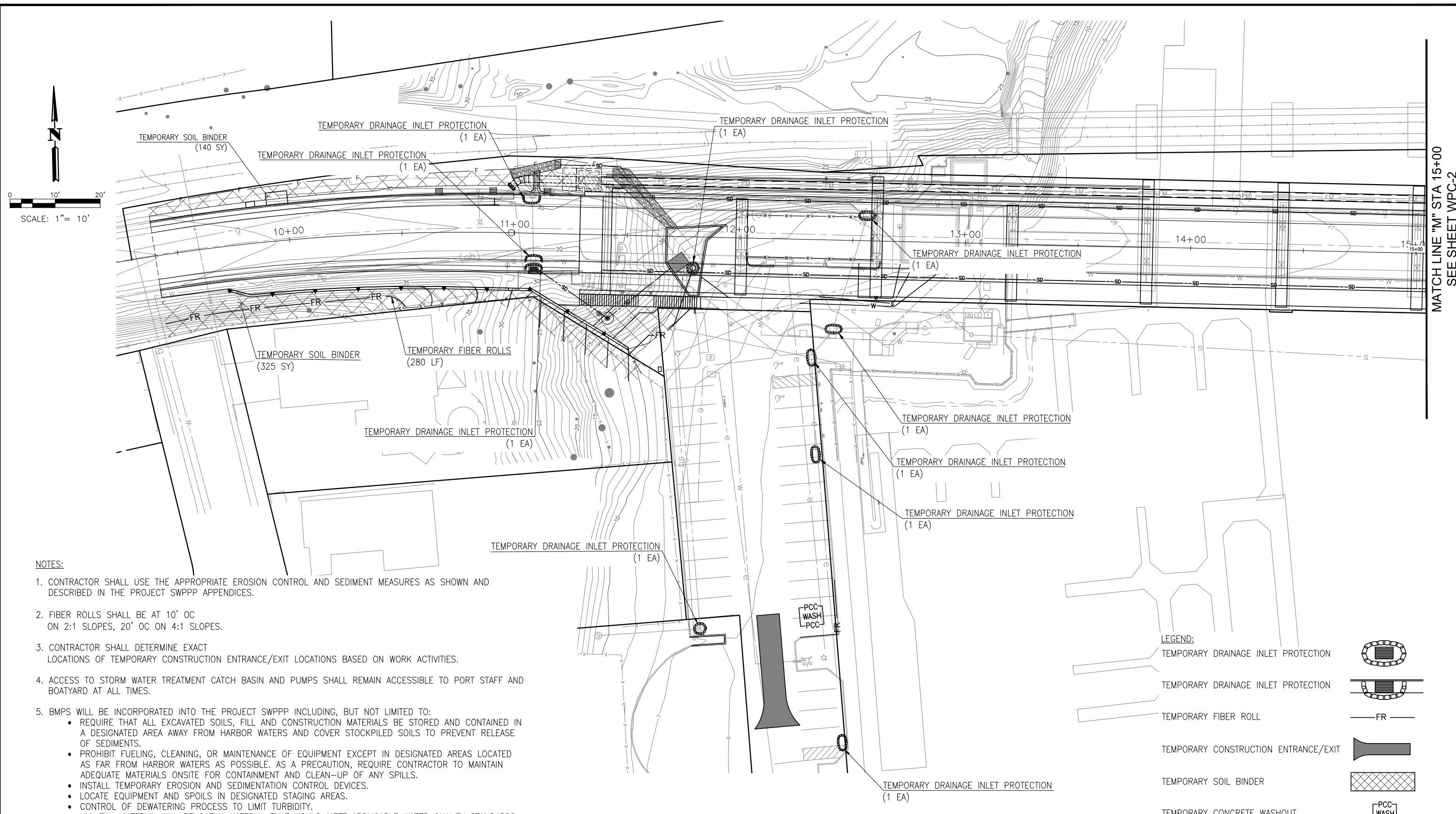
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
WEST HARBOR TEMPORARY SHORING

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

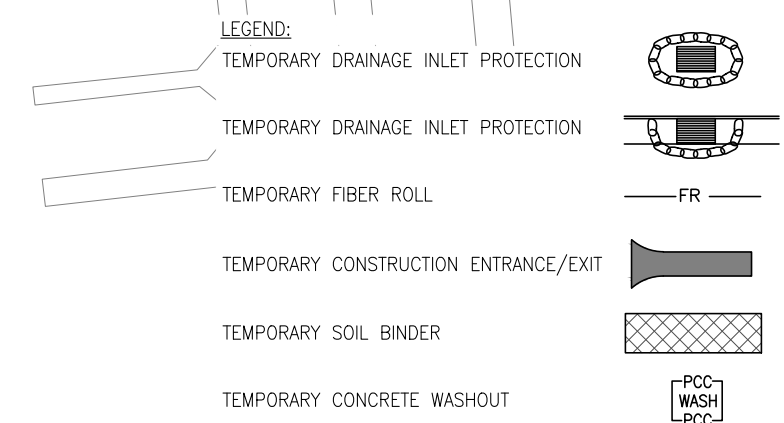
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SCALE	AS SHOWN
SHEET	18 OF 196
VAULT NO.	



MATCH LINE "M" STA 15+00
SEE SHEET WPC-2

- NOTES:**
- CONTRACTOR SHALL USE THE APPROPRIATE EROSION CONTROL AND SEDIMENT MEASURES AS SHOWN AND DESCRIBED IN THE PROJECT SWPPP APPENDICES.
 - FIBER ROLLS SHALL BE AT 10' OC ON 2:1 SLOPES, 20' OC ON 4:1 SLOPES.
 - CONTRACTOR SHALL DETERMINE EXACT LOCATIONS OF TEMPORARY CONSTRUCTION ENTRANCE/EXIT LOCATIONS BASED ON WORK ACTIVITIES.
 - ACCESS TO STORM WATER TREATMENT CATCH BASIN AND PUMPS SHALL REMAIN ACCESSIBLE TO PORT STAFF AND BOATYARD AT ALL TIMES.
 - BMPs WILL BE INCORPORATED INTO THE PROJECT SWPPP INCLUDING, BUT NOT LIMITED TO:
 - REQUIRE THAT ALL EXCAVATED SOILS, FILL AND CONSTRUCTION MATERIALS BE STORED AND CONTAINED IN A DESIGNATED AREA AWAY FROM HARBOR WATERS AND COVER STOCKPILED SOILS TO PREVENT RELEASE OF SEDIMENTS.
 - PROHIBIT FUELING, CLEANING, OR MAINTENANCE OF EQUIPMENT EXCEPT IN DESIGNATED AREAS LOCATED AS FAR FROM HARBOR WATERS AS POSSIBLE. AS A PRECAUTION, REQUIRE CONTRACTOR TO MAINTAIN ADEQUATE MATERIALS ONSITE FOR CONTAINMENT AND CLEAN-UP OF ANY SPILLS.
 - INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES.
 - LOCATE EQUIPMENT AND SPOILS IN DESIGNATED STAGING AREAS.
 - CONTROL OF DEWATERING PROCESS TO LIMIT TURBIDITY.
 - ALL FILL MATERIAL WILL BE CLEAN MATERIAL THAT WOULD MEET APPLICABLE WATER QUALITY STANDARDS.
 - PREPARE AND IMPLEMENT A STORMWATER POLLUTION PREVENTION PLAN THAT FURTHER DETAILS MEASURES FOR EROSION, SEDIMENT AND WATER QUALITY CONTROL.



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

WPC-1

WEST HARBOR & APPROACH

THIS PLAN ACCURATE FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY.

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\016-TWP01.dwg Layout Tab: WPC-1 May 05, 2024 - 6:31pm gimboen

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

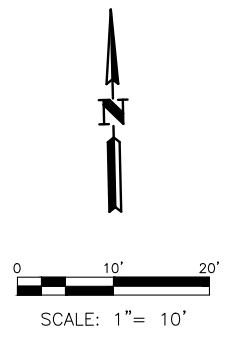
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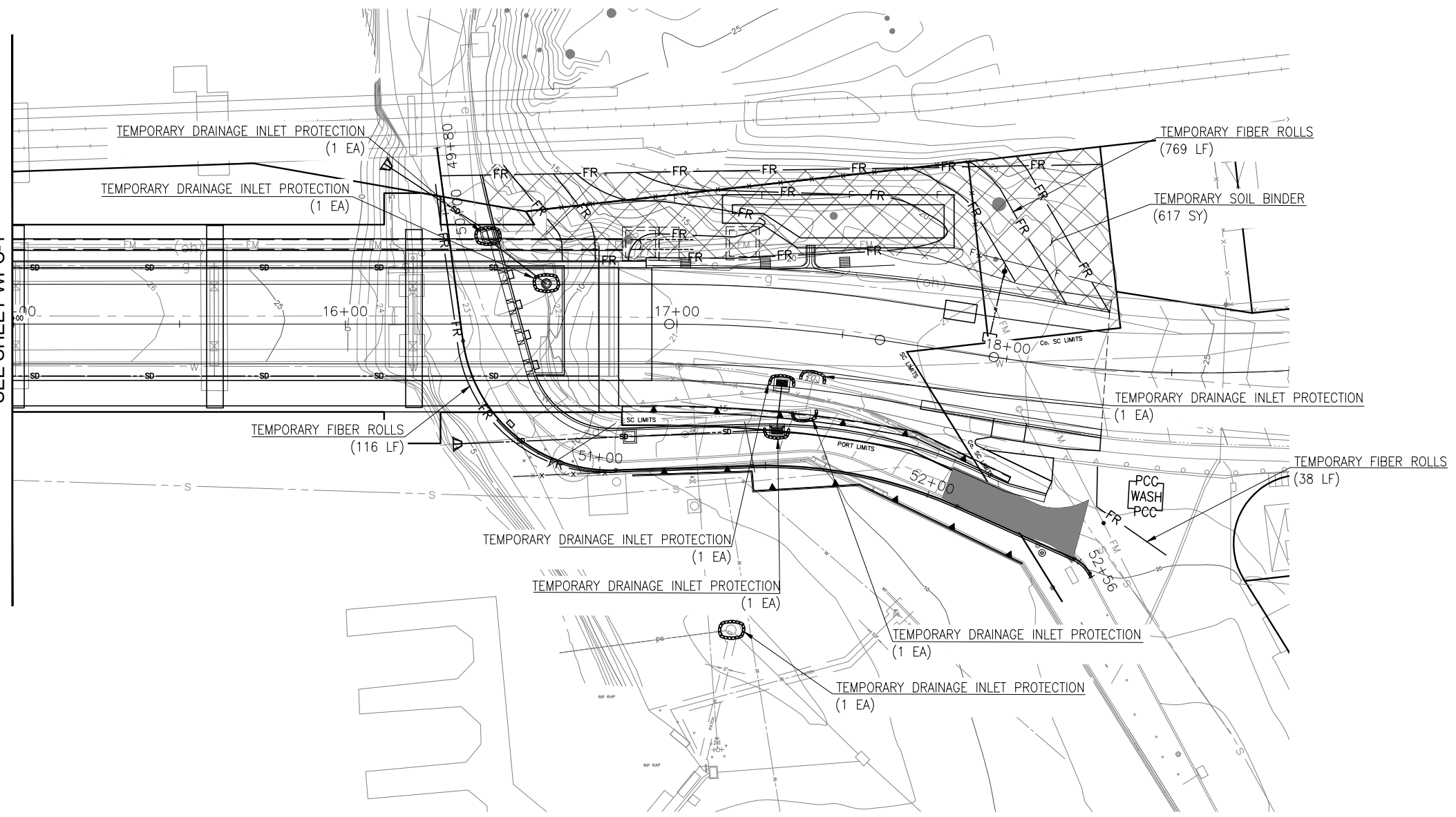
DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO. 36C0108	MURRAY STREET BRIDGE SEISMIC RETROFIT AND BARRIER REPLACEMENT TEMPORARY WATER POLLUTION CONTROL PLAN	SCALE 1"=20'
CONTRACT NO.		SHEET 19 OF 196
EA NO.	REVISION DATES (PRELIMINARY STAGE ONLY)	Vault No.
	DISREGARD PRINTS BEARING EARLIER REVISION DATES → 6/30/18	



MATCH LINE "M" STA 15+00
SEE SHEET WPC-1



EAST APPROACH

THIS PLAN ACCURATE FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY.

NOTE:
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CONTROLLING FIELD DIMENSIONS BEFORE
ORDERING OR FABRICATING ANY MATERIAL.

WPC-2

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\016-TWP01.dwg Layout Tab: WPC-2 May 05, 2024 - 6:32pm gimbsen

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PUBLIC WORKS DEPARTMENT

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DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

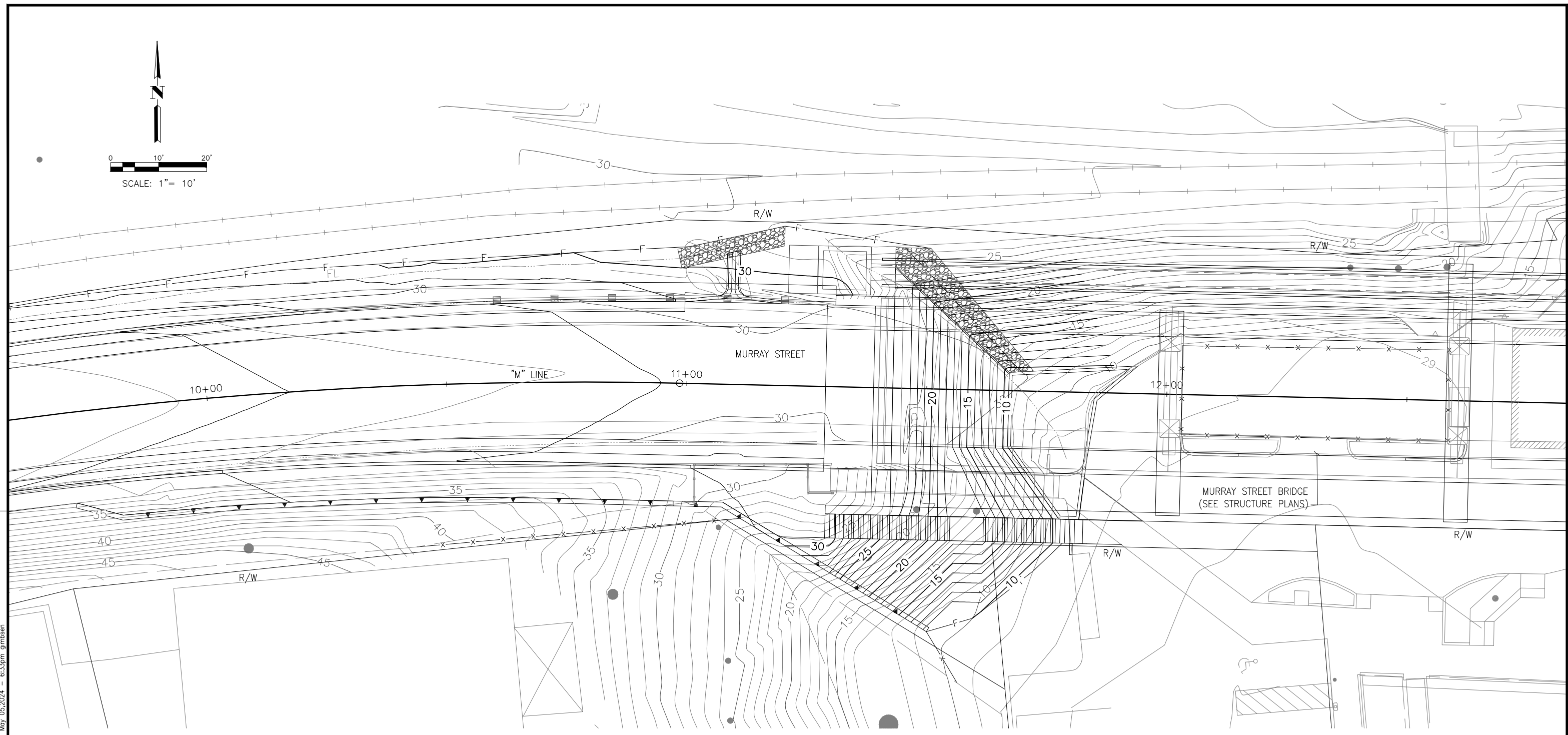
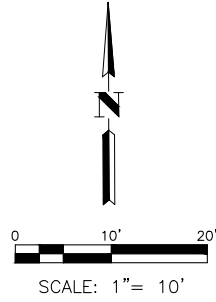
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
TEMPORARY WATER POLLUTION CONTROL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)	
6/30/16	

SCALE	1"=20'
SHEET	20 OF 196
Vault No.	



WEST APPROACH

NOTES:

1. THIS PLAN ACCURATE FOR CONTOUR GRADING WORK ONLY.
2. FOR DECK CONTOURS ON BRIDGE SEE SHEET B-37.

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

G-1

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\019-C.dwg Layout Tab: G-1 May 05, 2024 - 6:33pm gimbsen

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC
 MARK IMBRIANI
 PROJECT MANAGER

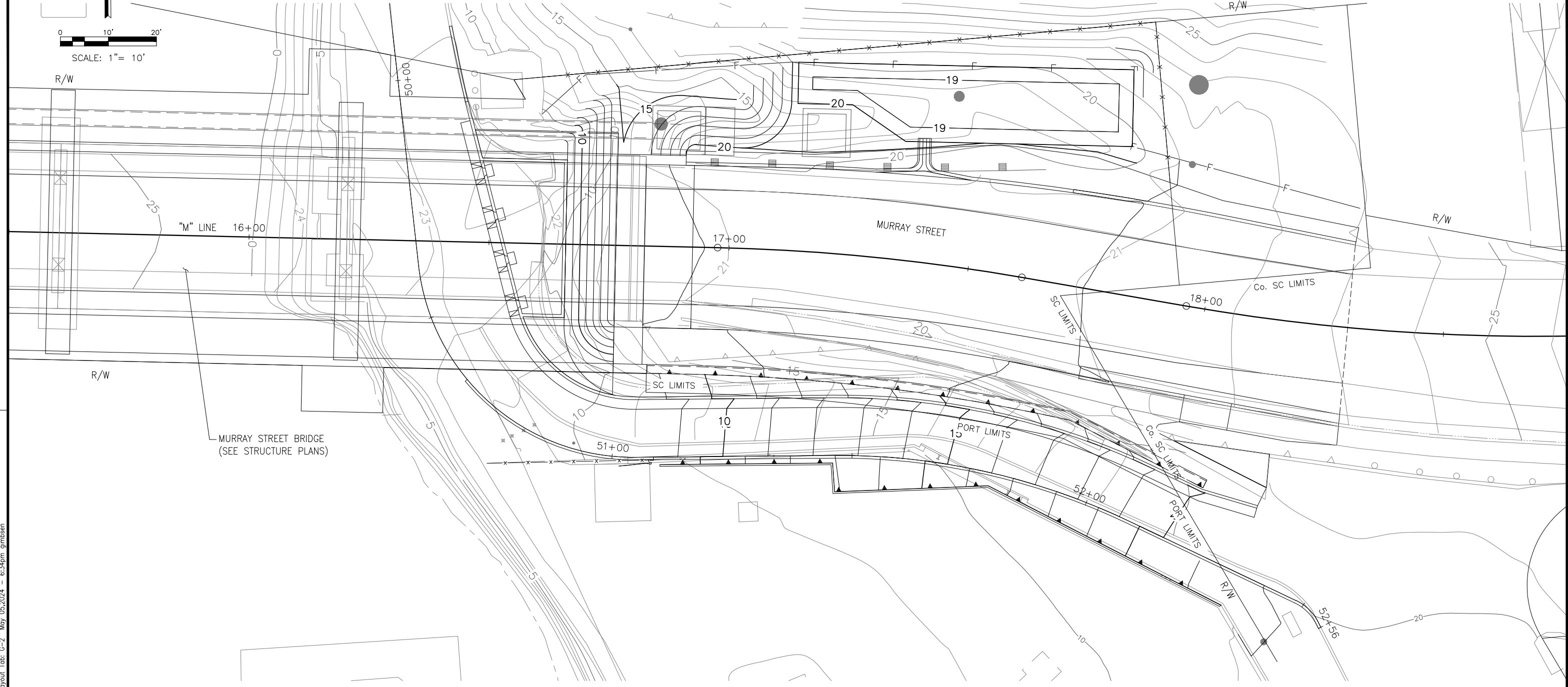
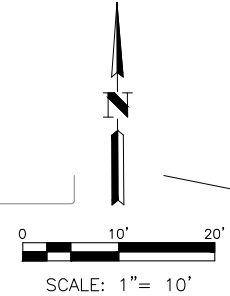
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
CONTOUR GRADING PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE	1"=10'
SHEET	21 OF 196
Vault No.	



NOTES:

1. THIS PLAN ACCURATE FOR CONTOUR GRADING WORK ONLY.
2. FOR DECK CONTOURS ON BRIDGE SEE SHEET B-37.

NOTE:
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G-2

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\019-C.dwg Layout Tab: G-2 May 05, 2024 - 6:34pm gimbsen

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PUBLIC WORKS DEPARTMENT

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DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

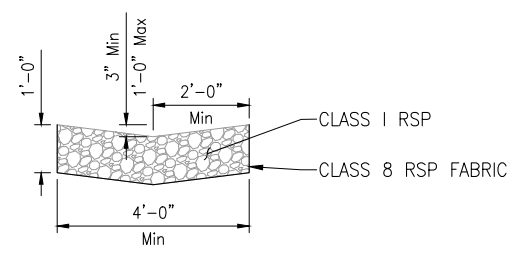
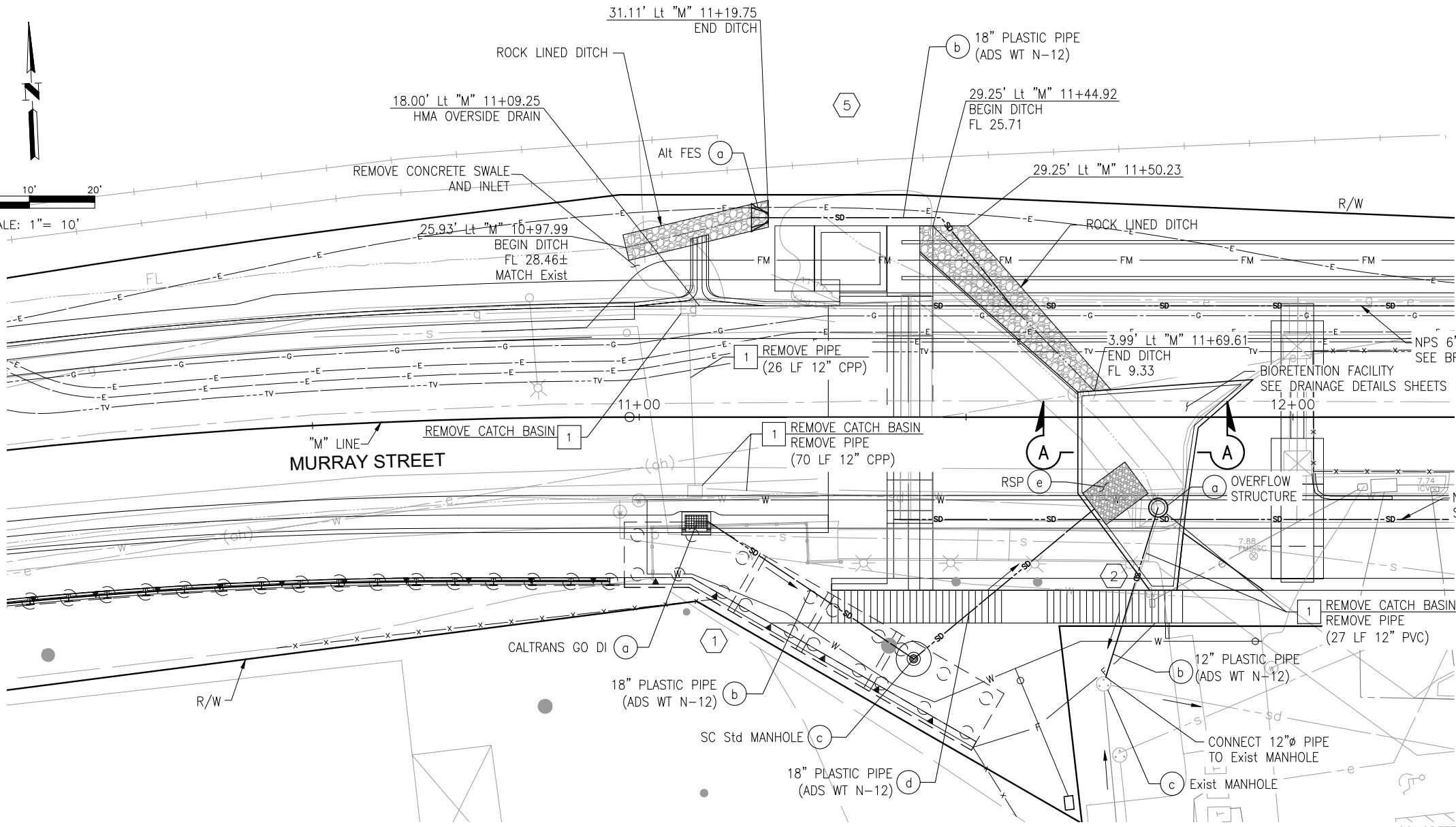
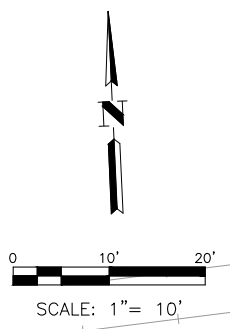
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
CONTOUR GRADING PLAN**

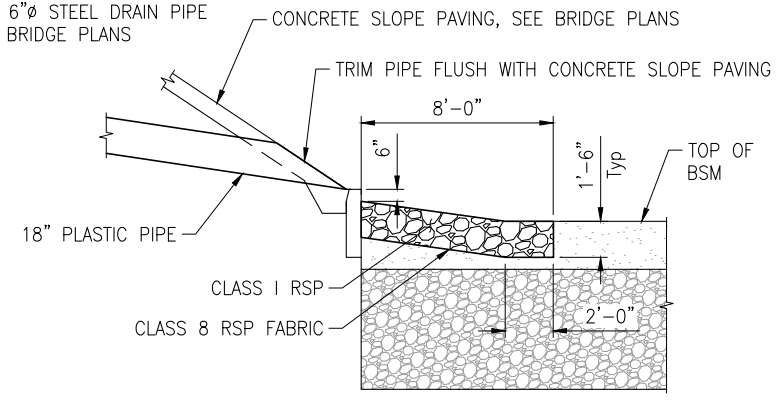
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

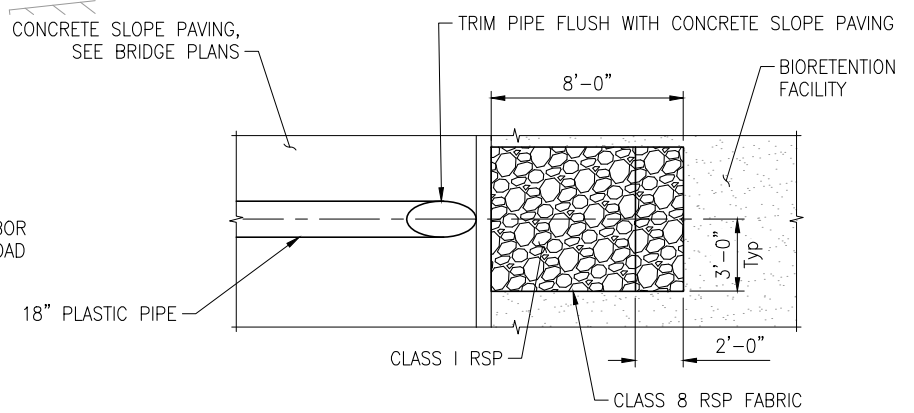
SCALE	1"=10'
SHEET	22 OF 196
Vault No.	



ROCK LINED DITCH
SCALE: 1/2" = 1'



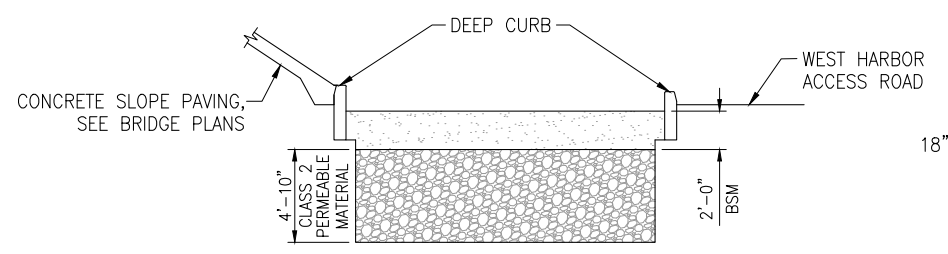
ELEVATION



PLAN

ROCK SLOPE PROTECTION
NO SCALE

WEST APPROACH
SCALE: 1" = 10'



SECTION A-A
SCALE: 1" = 5'

LEGEND:

- DRAINAGE SYSTEM NUMBER
- DRAINAGE UNIT LETTER
- CATCH BASIN/DRAINAGE INLET
- DRAINAGE MANHOLE
- OVERFLOW STRUCTURE
- REMOVE DRAINAGE FACILITY

NOTES:

1. FOR CITY OF SANTA CRUZ MANHOLES, AND CATCH BASINS, REFER TO CITY OF SANTA CRUZ STANDARD DETAILS PAGES 3, 4, AND 6 OF 20.
2. FOR CALTRANS TYPE GO DRAINAGE INLETS, REFER TO CALTRANS STANDARD PLANS D72E OR D73E.
3. FOR PLASTIC FLARED END SECTIONS, REFER TO CALTRANS STANDARD PLAN D94A.
4. FOR OVERFLOW STRUCTURE DETAILS, SEE DRAINAGE DETAILS SHEETS.
5. FOR ADDITIONAL BIORETENTION FACILITY DETAILS AND INFORMATION, SEE DRAINAGE DETAILS SHEETS.
6. FOR DEEP CURB DETAIL, SEE DRAINAGE DETAILS SHEETS.

ABBREVIATION:

- CPP - CORRUGATED PLASTIC PIPE
- BSM - BIORETENTION SOIL MEDIA

THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\021-Dwg Layout Tab: D1 West May 05 2024 - 6:36pm gimben

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL/K. NEGORO	CHECKED J. CONKLIN
QUANTITIES	BY K. NEGORO	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DRAINAGE PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

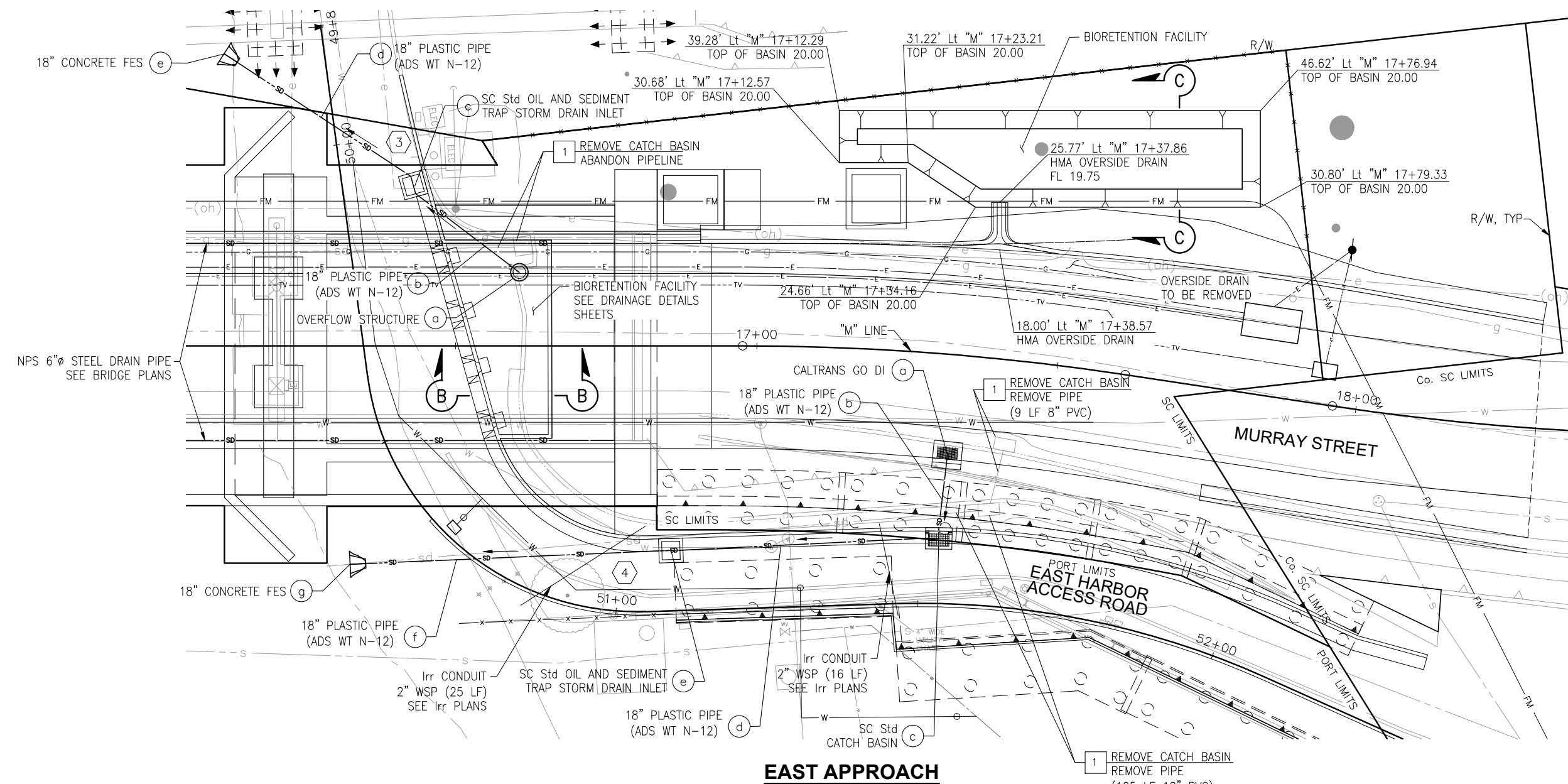
REVISION DATES (PRELIMINARY STAGE ONLY)

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SCALE	AS SHOWN
SHEET	23 OF 196
Vault No.	

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

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\021-D.dwg Layout Tab: D2_East_May_05_2024 - 6:37pm gimbsen



EAST APPROACH
SCALE: 1" = 10'

LEGEND:

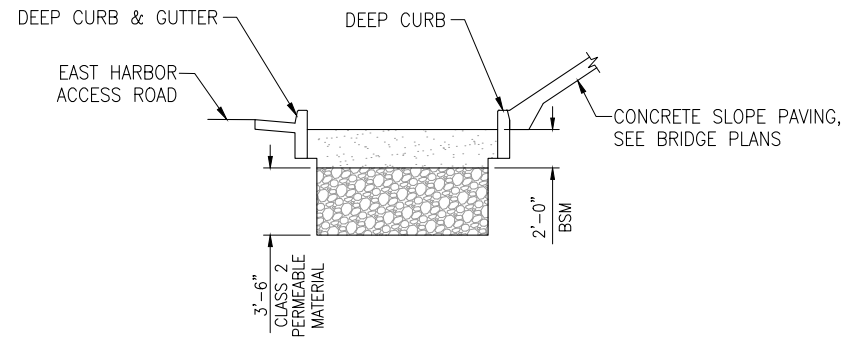
- DRAINAGE SYSTEM NUMBER
- DRAINAGE UNIT LETTER
- CATCH BASIN/DRAINAGE INLET
- SC Std OIL AND SEDIMENT TRAP STORM DRAIN INLET
- DRAINAGE MANHOLE
- OVERFLOW STRUCTURE
- REMOVE DRAINAGE FACILITY

ABBREVIATIONS:

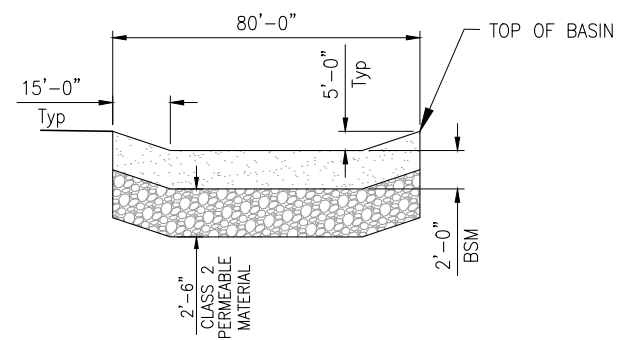
BSM - BIORETENTION SOIL MEDIA

NOTES:

1. FOR CITY OF SANTA CRUZ MANHOLES, CATCH BASINS, AND OIL AND SEDIMENT TRAP STORM DRAIN INLETS, REFER TO CITY OF SANTA CRUZ STANDARD DETAILS PAGES 3, 4, 6, AND 7 OF 20.
2. FOR CALTRANS TYPE GO DRAINAGE INLETS, REFER TO CALTRANS STANDARD PLANS D72E OR D73E.
3. FOR CONCRETE FLARED END SECTIONS, REFER TO CALTRANS STANDARD PLAN D94B.
4. FOR HMA OVERSIDE DRAIN, REFER TO CALTRANS STANDARD PLANS D87D.
5. FOR OVERFLOW STRUCTURE DETAILS, SEE DRAINAGE DETAILS SHEETS.
6. FOR ADDITIONAL BIORETENTION FACILITY DETAILS AND INFORMATION, SEE DRAINAGE DETAILS SHEETS.
7. FOR DEEP CURB AND DEEP CURB & GUTTER DETAILS, SEE DRAINAGE DETAILS SHEETS.



SECTION B-B
SCALE: 1" = 5'



SECTION C-C
SCALE: 1" = 5'

NOTE:
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THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
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Exp. 06-30-25
CIVIL
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Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL/K. NEGORO	CHECKED J. CONKLIN
QUANTITIES	BY K. NEGORO	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

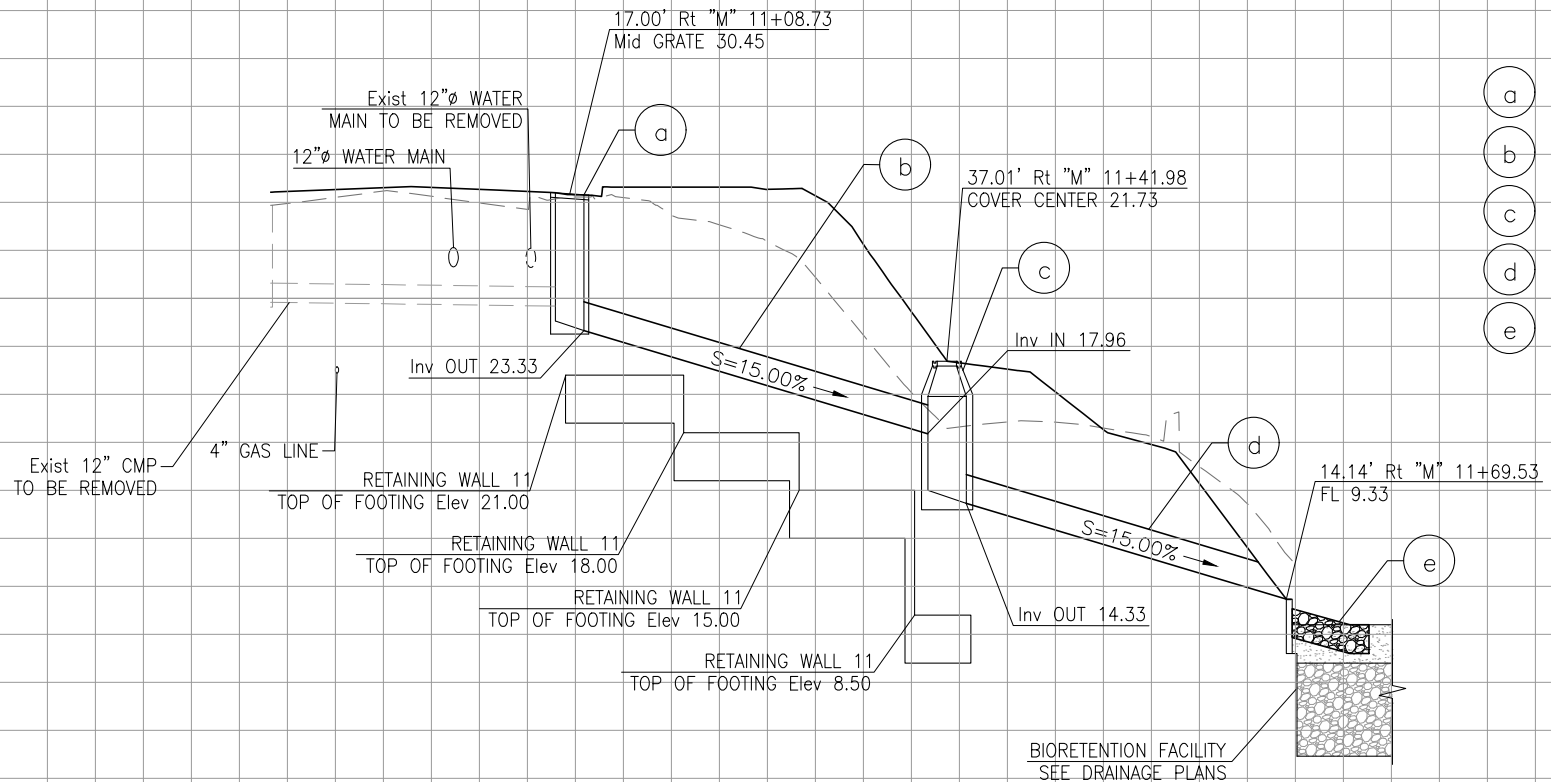
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DRAINAGE PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)					
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SCALE	AS SHOWN
SHEET	24 OF 196
Vault No.	

D-2



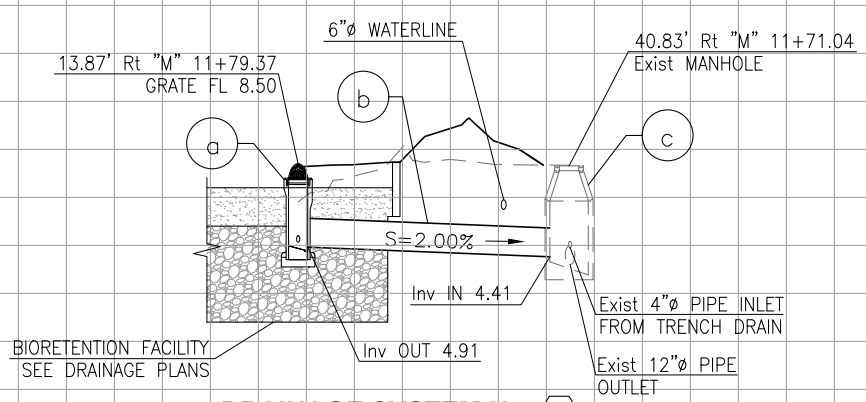
- a CALTRANS TYPE GO DI, H=7.07', GRATE TYPE 24-12X
- b 35.8 LF x 18" PLASTIC PIPE (ADS WT N-12)
- c CITY OF SANTA CRUZ STANDARD MANHOLE, H=7.39'
- d 33.3 LF x 18" PLASTIC PIPE (ADS WT N-12)
- e CLASS I RSP WITH CLASS 8 RSP FABRIC

NOTES:

1. FOR CITY OF SANTA CRUZ MANHOLES, AND CATCH BASINS, REFER TO CITY OF SANTA CRUZ STANDARD DETAILS PAGES 3, 4, AND 6 OF 20.
2. FOR CALTRANS TYPE GO DRAINAGE INLETS, REFER TO CALTRANS STANDARD PLANS D72E OR D73E.
3. FOR CONCRETE FLARED END SECTIONS, REFER TO CALTRANS STANDARD PLAN D94B.
4. FOR BIORETENTION FACILITY DETAILS AND ADDITIONAL INFORMATION, SEE DRAINAGE SHEETS AND DRAINAGE DETAILS SHEETS.

DRAINAGE SYSTEM No. 1

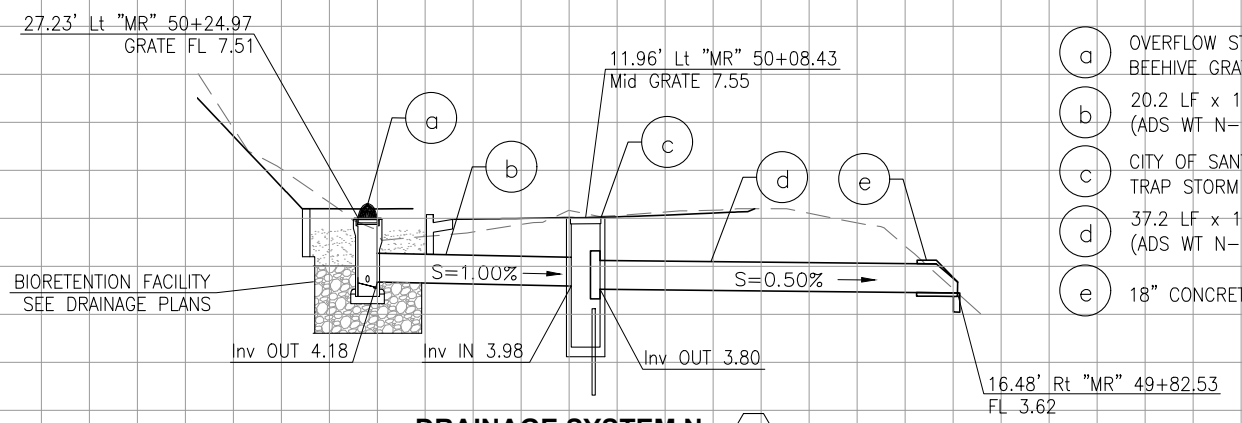
SCALE: Horiz: 1"=10'
Vert: 1"=5'



- a OVERFLOW STRUCTURE WITH BEEHIVE GRATE, H=4.25'
- b 25.2 LF x 12" PLASTIC PIPE (ADS WT N-12)
- c EXISTING MANHOLE

DRAINAGE SYSTEM No. 2

SCALE: Horiz: 1"=10'
Vert: 1"=5'



- a OVERFLOW STRUCTURE WITH BEEHIVE GRATE, H=4.08'
- b 20.2 LF x 18" PLASTIC PIPE (ADS WT N-12)
- c CITY OF SANTA CRUZ Std OIL AND SEDIMENT TRAP STORM DRAIN INLET, H=6.75'
- d 37.2 LF x 18" PLASTIC PIPE (ADS WT N-12)
- e 18" CONCRETE FLARED END SECTION

DRAINAGE SYSTEM No. 3

SCALE: Horiz: 1"=10'
Vert: 1"=5'

NOTE:
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DP-1

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\022-DP.dwg Layout Tab: DP-1 May 05, 2024 - 6:38pm gimbsen

REGISTERED PROFESSIONAL ENGINEER
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Justina L. Conklin
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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR/K. NEGORO	CHECKED J. CONKLIN
QUANTITIES	BY K. NEGORO	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DRAINAGE PROFILES

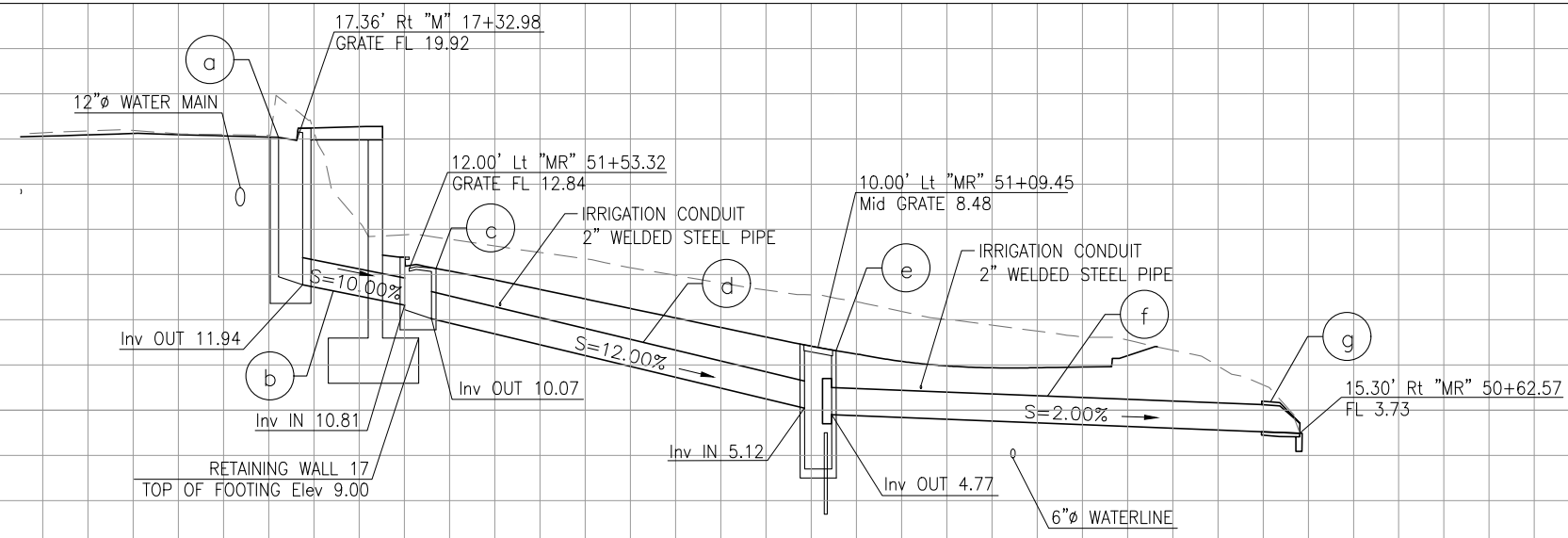
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

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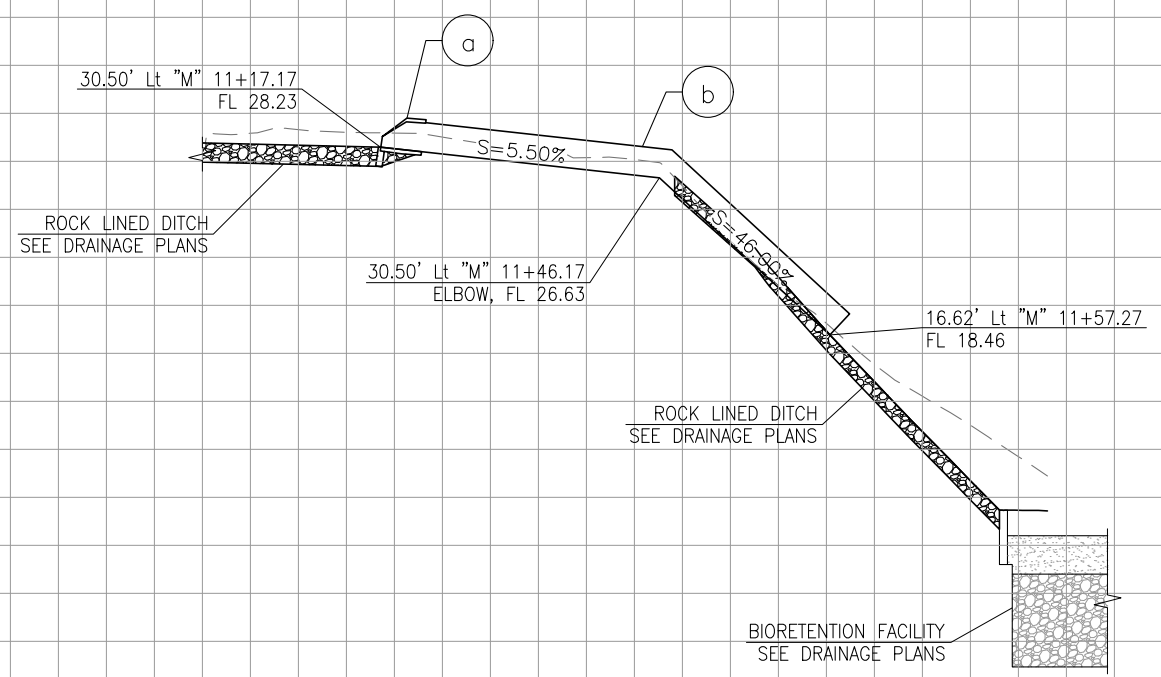
SCALE	AS SHOWN
SHEET	25 OF 196
Vault No.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\022-DP.dwg Layout: Tab: DP-2 May 05, 2024 - 6:39pm gimbisen



DRAINAGE SYSTEM No. 4
 SCALE: Horiz: 1"=10'
 Vert: 1"=5'

- (a) CALTRANS GO DI, H=8.33', GRATE TYPE 24-12X
- (b) 11.3 LF x 18" PLASTIC PIPE (ADS WT N-12)
- (c) CITY OF SANTA CRUZ Std CATCH BASIN TYBE B, H=3.00'
- (d) 41.3 LF x 18" PLASTIC PIPE (ADS WT N-12)
- (e) CITY OF SANTA CRUZ Std OIL AND SEDIMENT TRAP STORM DRAIN INLET, H=6.72'
- (f) 51.8 LF x 18" PLASTIC PIPE (ADS WT N-12)
- (g) 18" CONCRETE FLARED END SECTION



DRAINAGE SYSTEM No. 5
 SCALE: Horiz: 1"=10'
 Vert: 1"=5'

- (a) 18" ALTERNATIVE FLARED END SECTION (PLASTIC)
- (b) 46.8 LF x 18" PLASTIC PIPE (ADS WT N-12)

- NOTES:**
- FOR CITY OF SANTA CRUZ MANHOLES, CATCH BASINS, AND OIL AND SEDIMENT TRAP STORM DRAIN INLETS, REFER TO CITY OF SANTA CRUZ STANDARD DETAILS PAGES 3, 4, 6, AND 7 OF 20.
 - FOR CALTRANS TYPE GO DRAINAGE INLETS, REFER TO CALTRANS STANDARD PLANS D72E OR D73E.
 - FOR PLASTIC AND CONCRETE FLARED END SECTIONS, REFER TO CALTRANS STANDARD PLANS D94A AND D94B.
 - FOR BIORETENTION FACILITY DETAILS AND ADDITIONAL INFORMATION, SEE DRAINAGE SHEETS AND DRAINAGE DETAILS SHEETS.

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

DP-2

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
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 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR/K. NEGORO	CHECKED J. CONKLIN
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

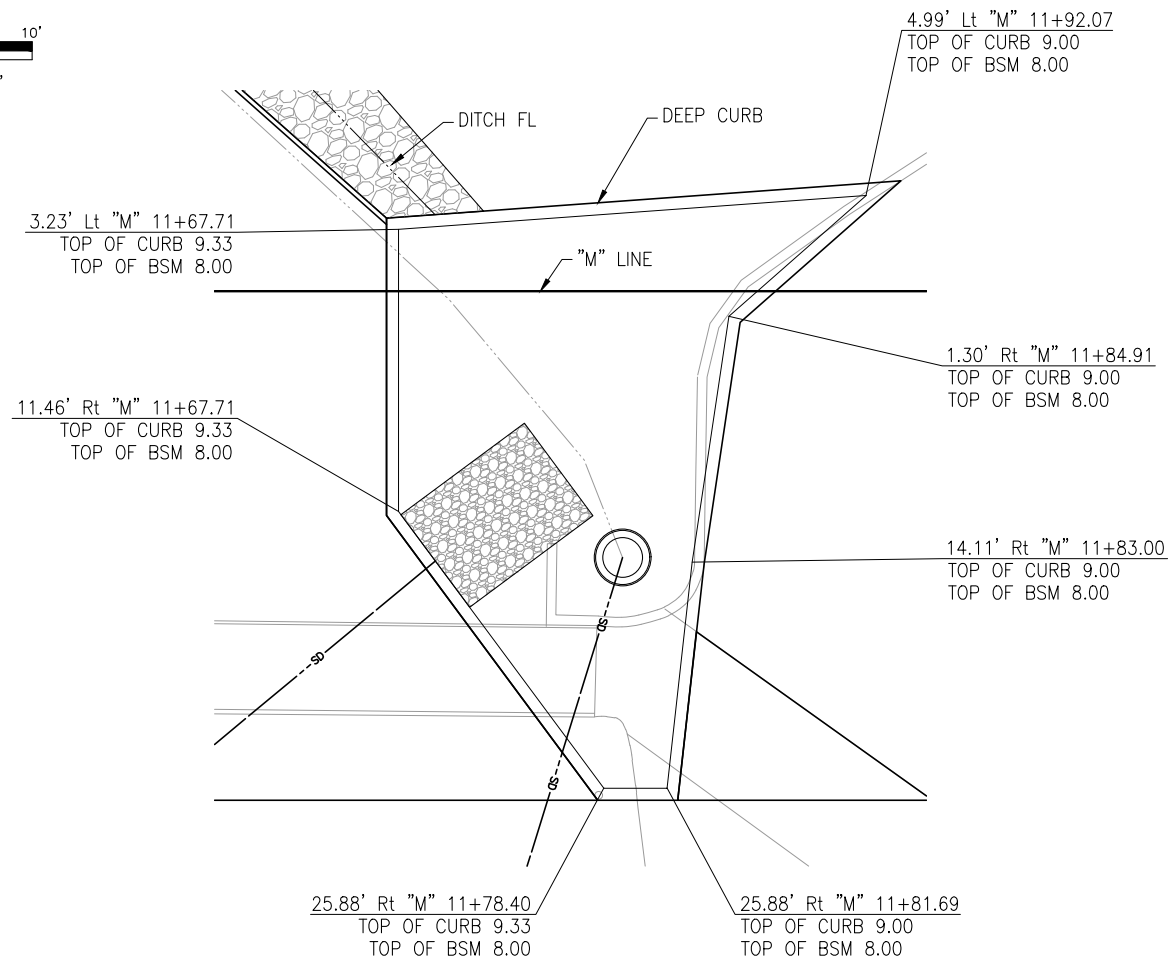
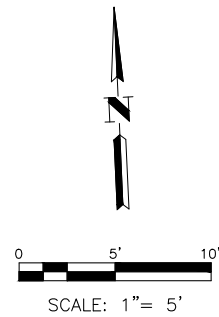
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DRAINAGE PROFILES

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

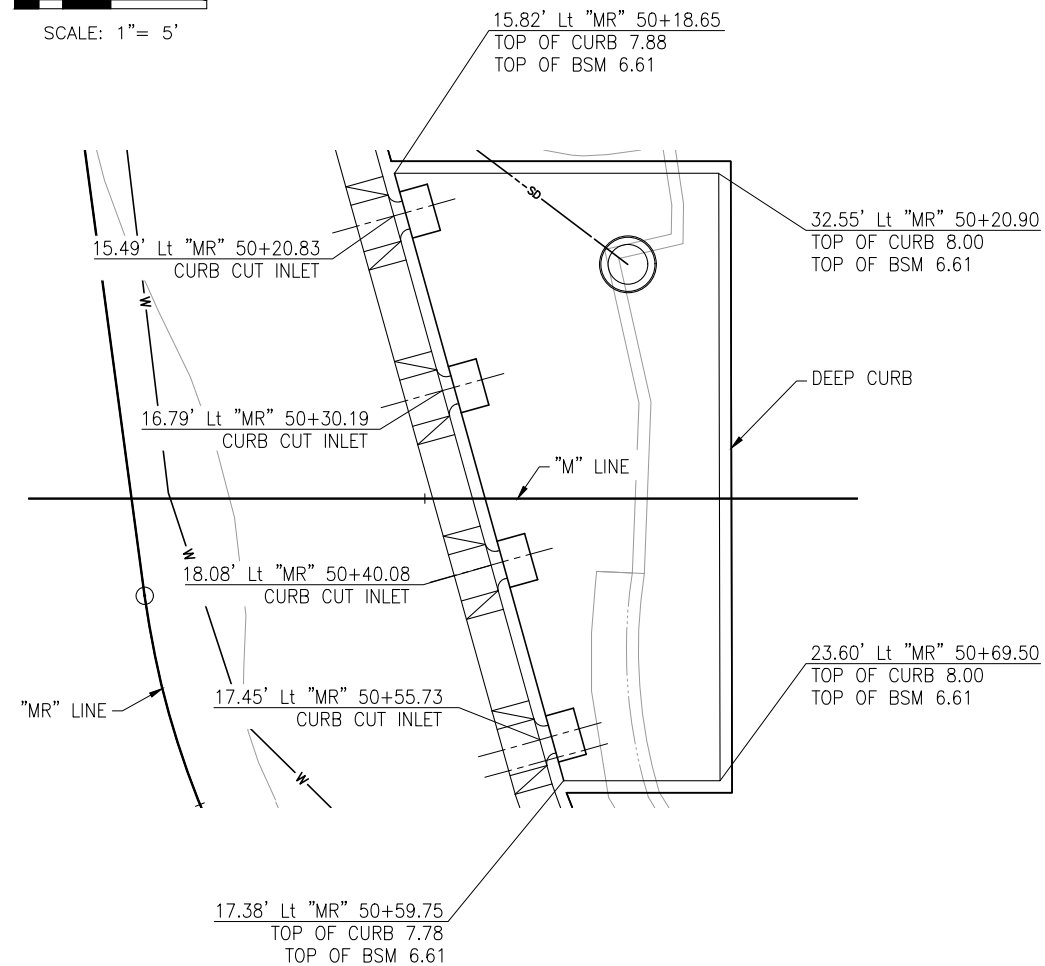
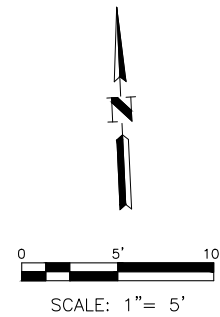
REVISION DATES (PRELIMINARY STAGE ONLY)									

SCALE	AS SHOWN
SHEET	26 OF 196
Vault No.	



WEST BIORETENTION FACILITY

SCALE: 1" = 5'



EAST BIORETENTION FACILITY

SCALE: 1" = 5'

ABBREVIATION:

BSM - BIORETENTION SOIL MEDIA

NOTES:

- FOR ADDITIONAL BIORETENTION FACILITY DETAILS AND INFORMATION, SEE DRAINAGE SHEETS AND SHEET DD-2.
- FOR CURB CUT INLET DETAILS, SEE CONSTRUCTION DETAILS SHEETS.

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

DD-1

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\022-DD.dwg Layout Tab: DD-1 May 05,2024 - 6:40pm gimben

REGISTERED PROFESSIONAL ENGINEER
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Justina L. Conklin
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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY K. NEGORO	CHECKED J. CONKLIN
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

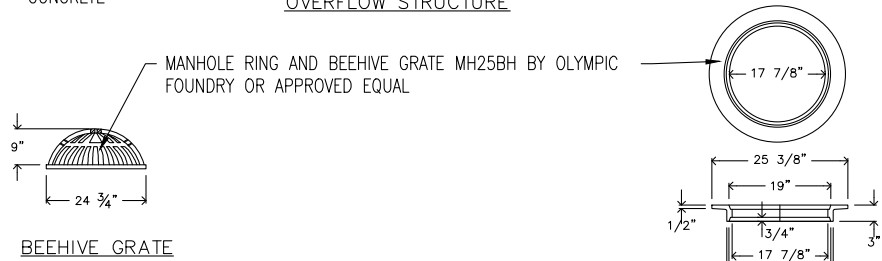
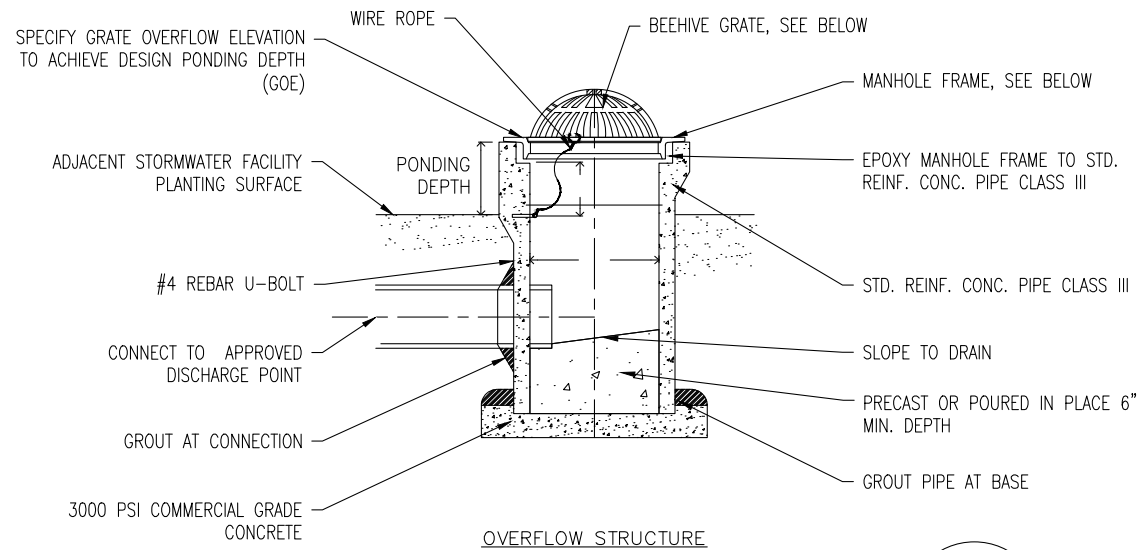
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DRAINAGE DETAILS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

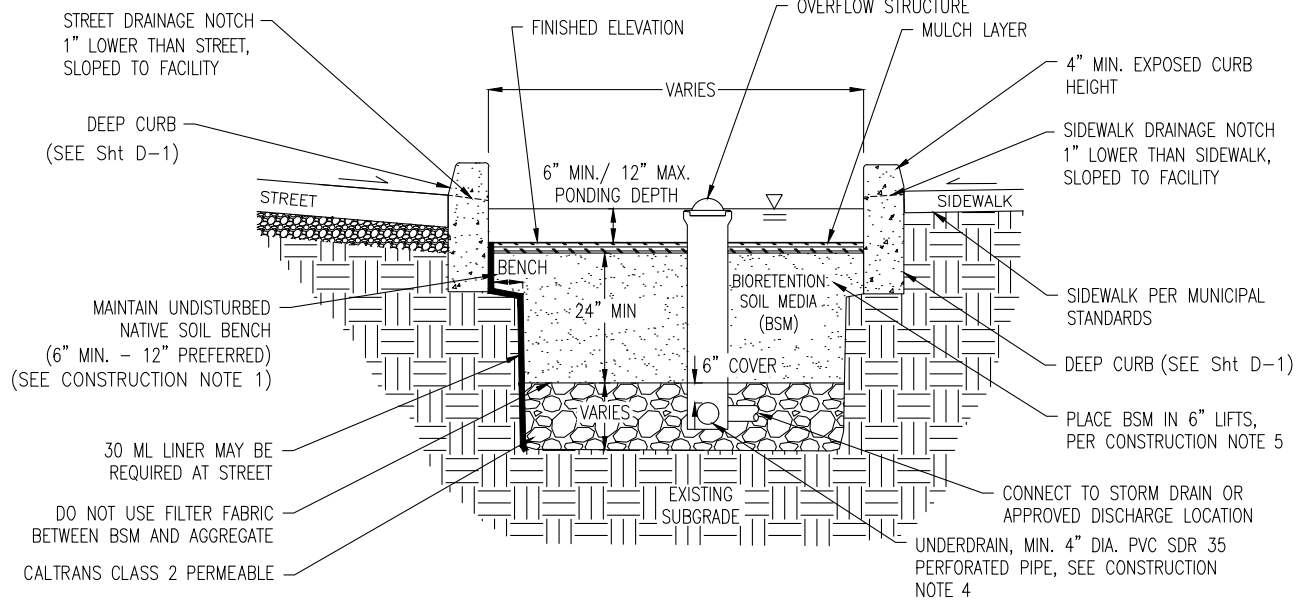
SCALE	AS SHOWN
SHEET	27 OF 196
VAULT NO.	



CONSTRUCTION NOTE (OVERFLOW STRUCTURE WITH BEEHIVE GRATE)
 1. DO NOT ADJUST OVERFLOW GRATE ELEVATION, CONSTRUCT AS SHOWN ON PLANS.

OVERFLOW STRUCTURE WITH BEEHIVE GRATE

NO SCALE



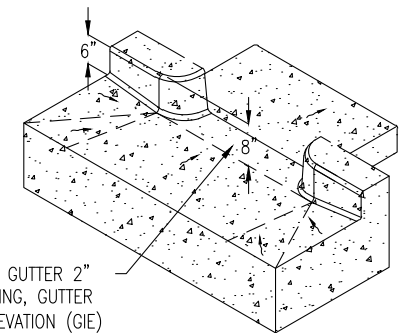
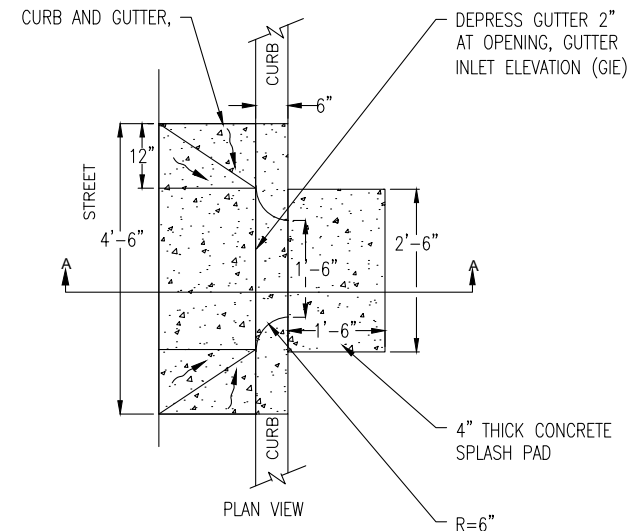
NOTE:
 1. FOR ADDITIONAL BIORETENTION FACILITY DIMENSIONS AND DETAILS, SEE DRAINAGE SHEETS.

BIORETENTION FACILITY

NO SCALE

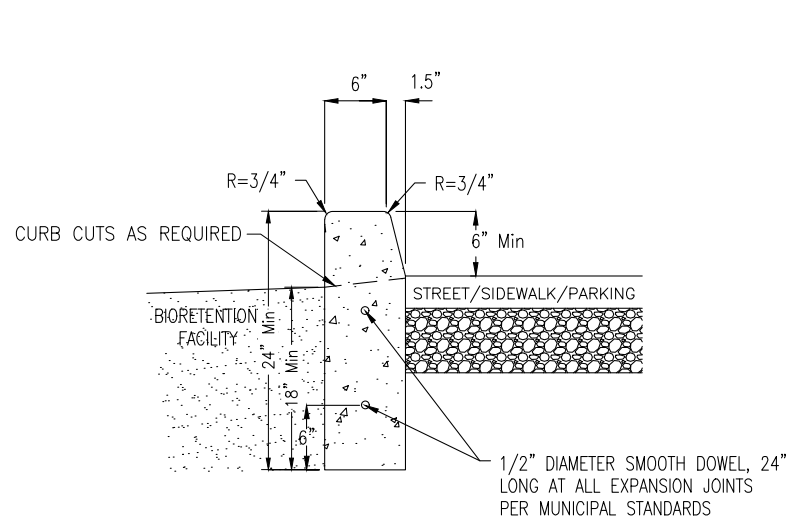
CONSTRUCTION NOTES (BIORETENTION FACILITY)

1. MAINTAIN UNDISTURBED NATIVE SOIL BENCH TO SUPPORT ADJACENT SIDEWALK/ROAD. SEQUENCE WORK TO CONSTRUCT CURBS BEFORE EXCAVATING BIORETENTION AREA FOR AGGREGATE AND SOIL.
2. SCARIFY SUBGRADE BEFORE INSTALLING BIORETENTION AREA AGGREGATE AND BSM.
3. FACILITY EXCAVATION TO ALLOW FOR SPECIFIED AGGREGATE, SOIL, AND MULCH DEPTHS TO ACHIEVE FINISHED ELEVATIONS ON CIVIL PLANS.
4. INSTALL UNDERDRAIN WITH HOLES FACING DOWN. TOP OF UNDERDRAIN 6\"/>



DEPRESS GUTTER 2\"/>

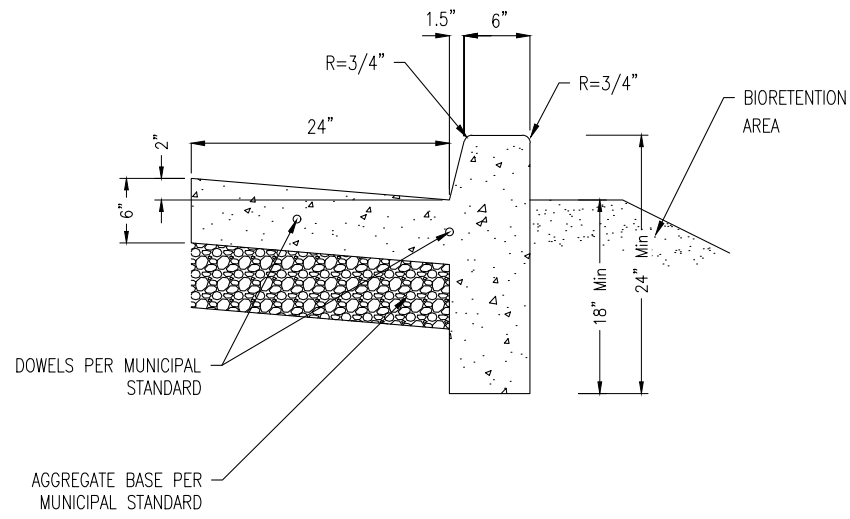
PERSPECTIVE VIEW



CONSTRUCTION NOTES (DEEP CURB)
 1. FINISH ALL EXPOSED CONCRETE SURFACES.

DEEP CURB

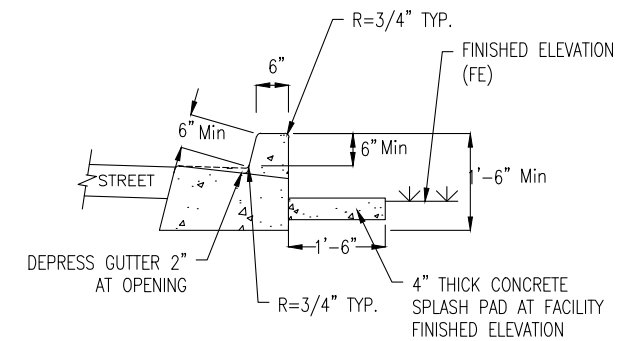
NO SCALE



CONSTRUCTION NOTES (DEEP CURB & GUTTER)
 1. FINISH ALL EXPOSED CONCRETE SURFACES.

DEEP CURB & GUTTER

NO SCALE



SECTION A-A

CONSTRUCTION NOTE (CURB CUT INLET)

1. AFTER CONSTRUCTION PLACE SAND BAGS AT GUTTER OPENINGS TO KEEP STORM FLOWS FROM ENTERING FACILITY UNTIL VEGETATION IS ESTABLISHED.

CURB CUT INLET

NO SCALE

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

DD-2

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\022-DD.dwg Layout Tab: DD-2 May 05,2024 - 6:41pm gimben

REGISTERED PROFESSIONAL ENGINEER
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Justina L. Conklin
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PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY K. NEGORO	CHECKED J. CONKLIN
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DRAINAGE DETAILS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

--	--	--	--	--	--	--	--	--	--

SCALE	AS SHOWN
SHEET	28 OF 196
Vault No.	

STORM DRAIN QUANTITIES

SHEET NUMBER	DRAINAGE SYSTEM No.	DRAINAGE UNIT	ABANDON PIPELINE	REMOVE PIPE	REMOVE CATCH BASIN	CATCH BASIN (TYPE B) (CITY Std)	OIL AND SEDIMENT TRAP STORM DI (CITY Std)	OVERFLOW STRUCTURE WITH BEEHIVE GRATE	STANDARD MANHOLE (CITY Std)	12" PLASTIC PIPE (ADS WT N-12)	18" PLASTIC PIPE (ADS WT N-12)	18" CONCRETE FLARED END SECTION	18" ALTERNATIVE FLARED END SECTION	MINOR CONCRETE (MINOR STRUCTURE)	MISCELLANEOUS IRON AND STEEL	DRAINAGE INLET MARKER	ROCK SLOPE PROTECTION (20 LB, CLASS 1, METHOD B)	ROCK SLOPE PROTECTION FABRIC (CLASS 8)	CLASS 2 PERMEABLE MATERIAL (BLANKET)	BIORETENTION SOIL MEDIA	DESCRIPTION		
			EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	CY	LB	EA	CY	SQYD		CY	CY
D-1	1	a												2.3	239	1						DRAINAGE INLET TYPE GO, GRATE TYPE 24-12X	
		b									35.8												
		c							1														
		d										33.3											
		e																2.7	10.0				ROCK SLOPE PROTECTION
	2	a						1															
		b									25.2												
		c																					EXISTING MANHOLE
	5	a												1									
		b										46.8											
																		3.4	15.9				ROCK LINED DITCH
																		7.8	32.3				ROCK LINED DITCH
																				73.9	30.6		BIORETENTION FACILITY
				123	3																		REMOVAL ITEMS
D-2	3	a						1															
		b									20.2												
		c				1											1						
		d										37.2											
		e											1										
	4	a													5.1	239	1						DRAINAGE INLET TYPE GO, GRATE TYPE 24-12X
		b										11.3											
		c				1																	
		d										41.3											
		e					1										1						
		f										51.8											
												1											
																			143.2	102.8		BIORETENTION FACILITY	
		1																				ABANDON ITEMS	
			114	3																		REMOVAL ITEMS	
TOTAL			1	237	6	1	2	2	1	25.2	277.7	2	1	7.4	478	5	13.9	58.2	217.1	133.4			

NOTE:
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CONTROLLING FIELD DIMENSIONS BEFORE
ORDERING OR FABRICATING ANY MATERIAL.

DQ-1

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\023-DQ.dwg Layout: Tab: DQ-1 May 05, 2024 - 6:42pm gimbsen

JUSTINA L. CONKLIN
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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY K. NEGORO	CHECKED J. CONKLIN
QUANTITIES	BY K. NEGORO	CHECKED A. BEDAL

MARK IMBRIANI
PROJECT MANAGER

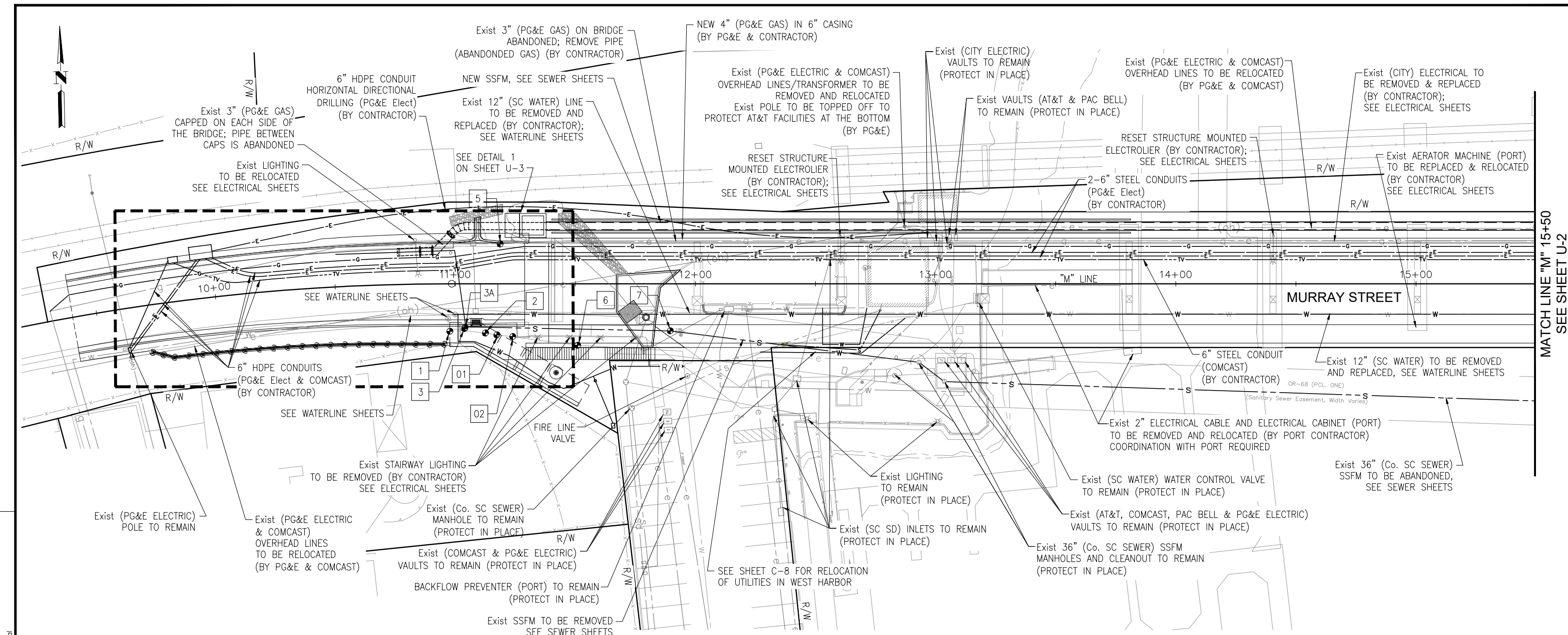
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DRAINAGE QUANTITIES

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)									

SCALE	NO SCALE
SHEET	29 OF 196
Vault No.	



MATCH LINE "M" 15+50
SEE SHEET U-2

POTHOLING INFORMATION TABLE

##	NORTHING	EASTING	STATION	OFFSET	OG ELEVATION	DEPTH*	OWNER	SIZE
1	1814318.2624	6122235.1630	"M" 10+97.74	19.77' Rt	31.53	3.58'	SC WATER	6" IRON
01	1814316.3370	6122254.7310	"M" 11+17.36	21.25' Rt	29.10	2.08'	SC WATER	6" IRON
2	1814317.2200	6122249.9810	"M" 11+12.59	20.48' Rt	29.54	2.50'	SC WATER	6" IRON
02	1814315.5070	6122261.2580	"M" 11+23.95	21.94' Lt	29.07	2.08'	SC WATER	6" IRON
3	1814319.2656	6122241.3645	"M" 11+03.93	18.63' Rt	30.51	3.58'	SC WATER	SC WATER
3A	1814319.7584	6122241.5146	"M" 11+04.07	18.13' Rt	30.56	6.67'	SC SEWER	30" SSFM
5	1814354.1160	6122256.9380	"M" 11+18.71	16.57' Lt	29.99	5.58'	PG&E	UNKNOWN
6	1814311.2400	6122288.1870	"M" 11+50.92	25.59' Rt	20.30	3.00'	SC WATER	6" IRON
7	1814316.358	6122326.9500	"M" 11+89.56	19.60' Rt	7.87	4.50'	SC SEWER	30" SSFM

THIS PLAN IS ACCURATE FOR UTILITY WORK ONLY * DEPTH MEASURED FROM OG TO TOP OF PIPE

NOTES:

- LOCATION OF UTILITY FACILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- UTILITY OWNERSHIP ON THIS PROJECT:
 AT&T - AMERICAN TELEPHONE & TELEGRAPH (TELEPHONE)
 Co. SC - COUNTY OF SANTA CRUZ
 SC SD - CITY OF SANTA CRUZ (STORM DRAIN)
 SC SEWER - CITY OF SANTA CRUZ (SEWER)
 SC WATER - CITY OF SANTA CRUZ (WATER)
 PG&E - PACIFIC GAS & ELECTRIC (GAS & ELECTRIC)
 COMCAST - (CABLE)
 PORT - SANTA CRUZ PORT DISTRICT
- PG&E OVERHEAD LINES WILL BE DE-ENERGIZED AND REMAIN UNTIL RELOCATION IS COMPLETED.

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

LEGEND:

---g---	Exist NATURAL GAS	---g---	NEW NATURAL GAS
---e---(oh)---	Exist OVERHEAD ELECTRICAL	---e---(OH)---	NEW OVERHEAD ELECTRICAL
---e---	Exist ELECTRICAL	---e---	NEW ELECTRICAL
---sd---	Exist STORM DRAIN	---sd---	NEW STORM DRAIN
---t---	Exist TELEPHONE	---t---	NEW TELEPHONE
---w---	Exist WATER	---w---	NEW WATER
---s---	Exist SEWER	---s---	NEW SEWER
---tv---	Exist TELEVISION	---tv---	NEW COMCAST
⊙	POT HOLE LOCATION	##	POT HOLE NUMBER
⊙	WATER VALVE	SSFM	SANITARY SEWER FORCE MAIN

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\024-UP.dwg Layout Tab: U1 May 15, 2024 - 1:19pm ABedal

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

Justina L. Conklin
 REGISTERED ENGINEER - CIVIL

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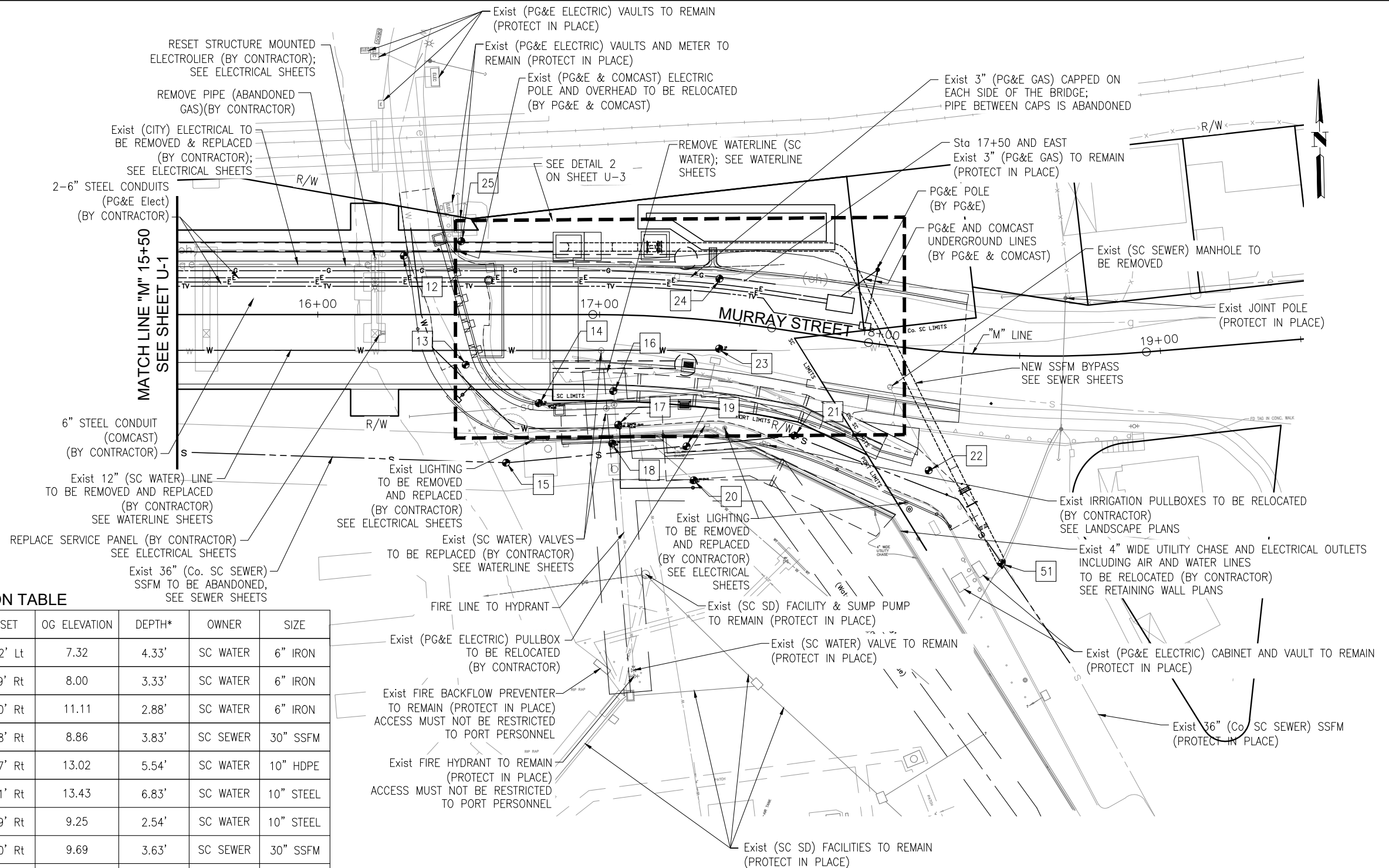
PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY	CHECKED
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO. 36C0108	MURRAY STREET BRIDGE SEISMIC RETROFIT AND BARRIER REPLACEMENT UTILITY PLAN	SCALE 1"=20'
CONTRACT NO.		SHEET 30 OF 196
EA NO.	REVISION DATES (PRELIMINARY STAGE ONLY)	Vault No.
DISREGARD PRINTS BEARING EARLIER REVISION DATES		



POTHOLING INFORMATION TABLE

##	NORTHING	EASTING	STATION	OFFSET	OG ELEVATION	DEPTH*	OWNER	SIZE
12	1814346.8632	6122768.6852	"M" 16+30.49	20.92' Lt	7.32	4.33'	SC WATER	6" IRON
13	1814307.6740	6122789.7480	"M" 16+52.44	17.79' Rt	8.00	3.33'	SC WATER	6" IRON
14	1814293.4770	6122815.4020	"M" 16+78.41	31.40' Rt	11.11	2.88'	SC WATER	6" IRON
15	1814272.5670	6122803.2760	"M" 16+66.76	52.58' Rt	8.86	3.83'	SC SEWER	30" SSFM
16	1814297.1423	6122841.9175	"M" 17+05.32	27.07' Rt	13.02	5.54'	SC WATER	10" HDPE
17	1814285.1270	6122843.3900	"M" 17+07.48	39.01' Rt	13.43	6.83'	SC WATER	10" STEEL
18	1814278.5340	6122841.1230	"M" 17+08.29	45.69' Rt	9.25	2.54'	SC WATER	10" STEEL
19	1814276.9330	6122867.4800	"M" 17+34.86	45.30' Rt	9.69	3.63'	SC SEWER	30" SSFM
20	1814264.8120	6122869.7620	"M" 17+39.02	57.08' Rt	9.23	3.00'	SC WATER	6" PVC
21	1814279.8650	6122905.8380	"M" 17+74.98	36.56' Rt	18.29	9.67'	SC SEWER	30" SSFM
22	1814266.4240	6122953.2530	"M" 18+21.48	42.49' Rt	20.87	7.75'	SC SEWER	30" SSFM
23	1814311.3450	6122879.8250	"M" 17+43.54	9.65' Rt	20.55	4.00'	SC WATER	12" IRON
24	1814336.1610	6122880.5420	"M" 17+41.10	15.05' Lt	20.39	3.92'	PG&E	3" IRON
25	1814351.5362	6122789.1581	"M" 16+50.85	26.05' Lt	8.12	3.00'	PG&E	3" IRON
51	1814232.8816	6122978.3989	"M" 18+45.99	73.82' Rt	?	?	SC SEWER	30" SSFM

* DEPTH MEASURED FROM OG TO TOP OF PIPE

THIS PLAN IS ACCURATE FOR UTILITY WORK ONLY

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

U-2

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\024-UP.dwg Layout: Tab: U2 May 05, 2024 - 6:44pm gimbosen

Justin L. Conklin
 REGISTERED ENGINEER - CIVIL
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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY	CHECKED
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

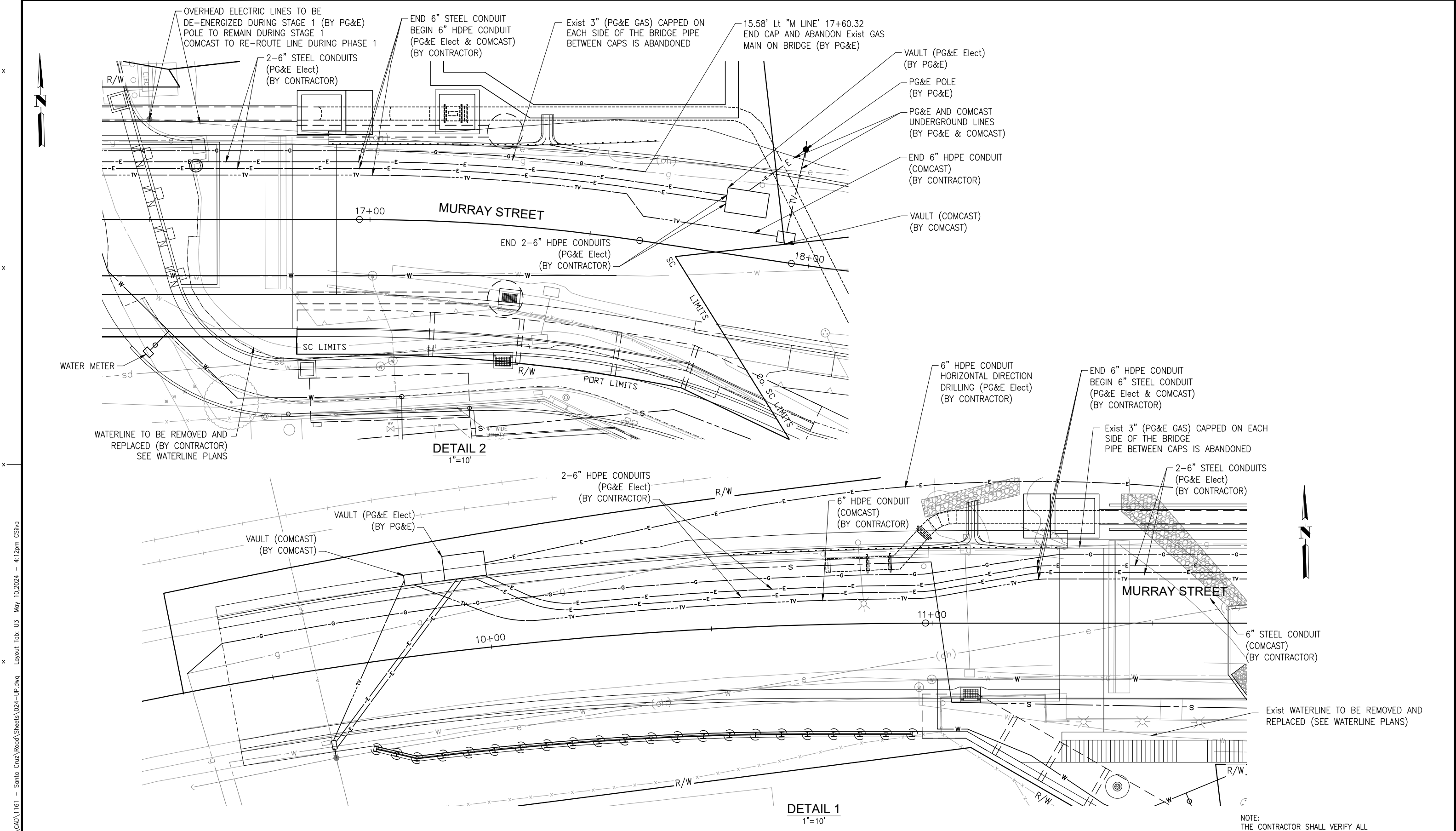
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
UTILITY PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)			

SCALE	1"=20'
SHEET	31 OF 196
Vault No.	



THIS PLAN IS ACCURATE FOR UTILITY WORK ONLY

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

U-3

Drawing name: \\ccardous-fb2\CAD\1161 - Santa Cruz\Road\Sheets\024-UP.dwg Layout Tab: U3 May 10, 2024 - 4:12pm CSilva

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
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Justina L. Conklin
 REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY	CHECKED
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
 PROJECT MANAGER

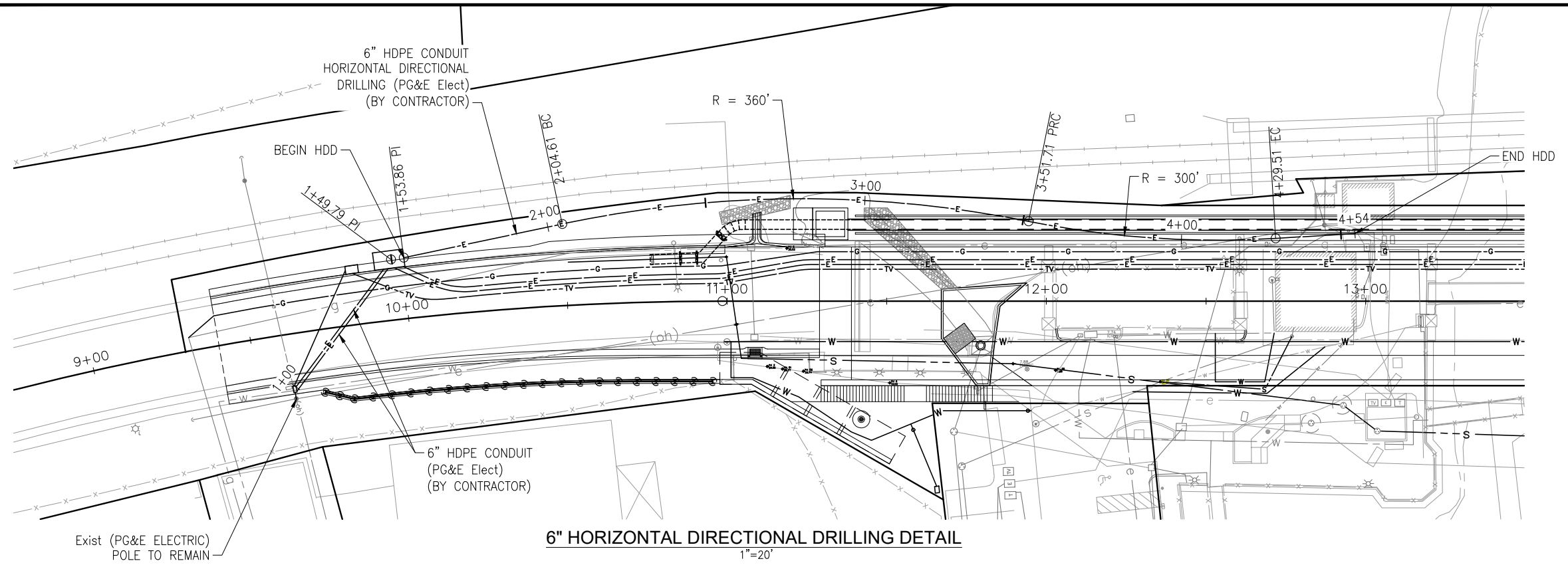
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
UTILITY PLAN

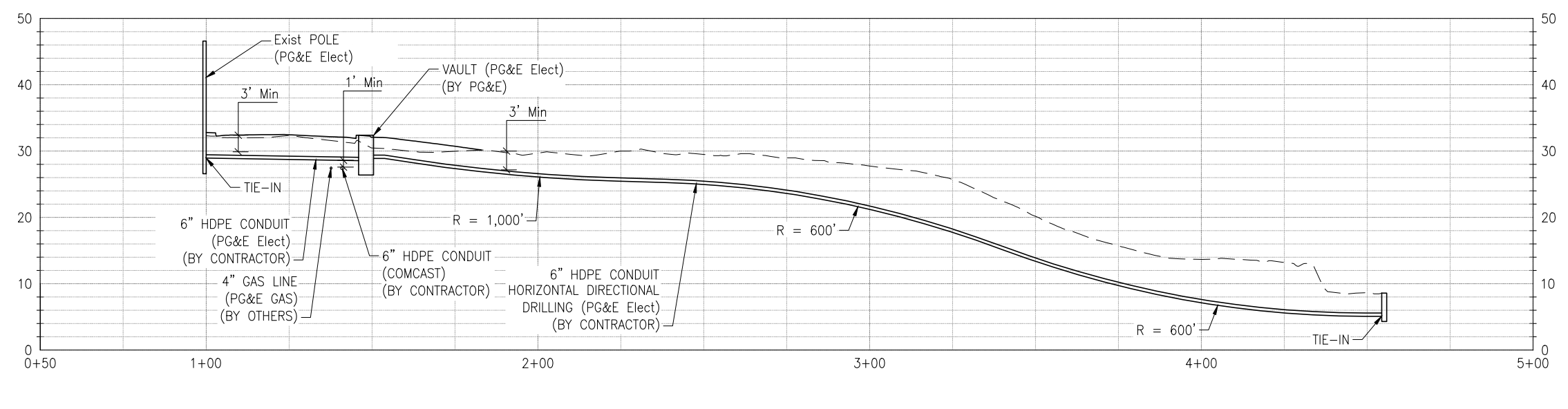
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE	1"=20'
SHEET	32 OF 196
VAULT NO.	



6" HORIZONTAL DIRECTIONAL DRILLING DETAIL
1"=20'



6" HORIZONTAL DIRECTIONAL DRILLING ELEVATION
H: 1"=20'
V: 1"=10'

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

U-4

THIS PLAN IS ACCURATE FOR UTILITY WORK ONLY

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY	CHECKED
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
UTILITY PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE	1"=20'
SHEET	33 OF 196
Vault No.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\024-UP.dwg Layout Tab: U4 May 15, 2024 - 3:11pm ABedal

CITY OF SANTA CRUZ WATER DEPARTMENT STANDARD CONSTRUCTION NOTES:

1. ALL WORK ON THE WATER SYSTEM SHALL BE IN CONFORMANCE WITH THE CITY OF SANTA CRUZ WATER SYSTEM STANDARD SPECIFICATIONS AND DETAILS, DECEMBER 2009 REVISION.
2. THE CONTRACTOR SHALL SUBMIT AT LEAST 2 COPIES OF THE PROJECT SCHEDULE AND SUBMITTALS FOR ALL MATERIALS THAT WILL BECOME THE PROPERTY OF SCWD. DELIVER TO THE PROJECT ENGINEER PRIOR TO START OF CONSTRUCTION AND WITH SUFFICIENT TIME TO VERIFY COMPLIANCE:
212 LOCUST STREET, SUITE C
SANTA CRUZ, CA 95060
3. THE CONTRACTOR SHALL SUBMIT THE CONTACT INFORMATION FOR, AND IF REQUIRED, PROVIDE THE QUALIFICATIONS OF, AN INDEPENDENT GEOTECHNICAL ENGINEERING FIRM QUALIFIED TO CONDUCT COMPACTION TESTING. THE MINIMUM COMPACTION TEST FREQUENCY SHALL BE ONCE EVERY 50 LINEAL FEET IN EACH BACKFILL TYPE, EXCEPT CLSM. ALL COSTS ASSOCIATED WITH SUCH TESTING AND POSSIBLE RETESTING OF FAILED AREAS OR AREAS THAT HAVE BEEN RE-EXCAVATED SUBSEQUENT TO INITIAL TESTING, SHALL BE BORNE BY THE CONTRACTOR. DOCUMENTATION OF TEST RESULTS SHALL BE SUBMITTED TO INSPECTOR WITHIN 24 HOURS OF TESTING.
4. A MINIMUM OF TWO WORKING DAYS ADVANCED NOTICE SHALL BE GIVEN TO THE CITY OF SANTA CRUZ WATER DEPARTMENT (SCWD) BEFORE CONSTRUCTION ON ANY PORTION OF THE WATER SYSTEM. A MINIMUM OF TWO WORKING DAYS WRITTEN NOTICE SHALL BE GIVEN TO ALL CUSTOMERS IN THE AREA OF CONSTRUCTION PRIOR TO COMMENCEMENT OF WORK. NOTIFICATION DOOR HANGERS WILL BE PROVIDED BY SCWD TO BE DISTRIBUTED BY THE CONTRACTOR.
5. A MINIMUM OF THREE WORKING DAYS ADVANCED NOTICE SHALL BE GIVEN TO THE SCWD IN ORDER TO SCHEDULE A SHUTDOWN OF THE SYSTEM. VALVES CONNECTED TO THE EXISTING SYSTEM SHALL BE OPERATED BY SCWD PERSONNEL ONLY. CONTRACTOR SHALL PRE-DIG SYSTEM CONNECTION LOCATIONS SUFFICIENTLY IN ADVANCE OF SCHEDULED SHUTDOWN TO VERIFY EXISTING CONDITIONS AND OBTAIN EXACT MATERIALS NEEDED TO COMPLETE THE CONNECTION IN ORDER TO REDUCE THE POSSIBILITY OF A PROLONGED OR FALSE SHUTDOWN. SCWD SHALL NOT BE HELD RESPONSIBLE FOR CONSTRUCTION DELAYS DUE TO INABILITY TO OBTAIN A COMPLETE SHUTDOWN.
6. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT FOR PRESSURE AND LEAKAGE TESTING. SCWD WILL PROVIDE MATERIAL AND EQUIPMENT AND PERFORM THE INITIAL DISINFECTION AND WATER QUALITY TESTING OF THE PIPELINE. MAINLINE CHLORINATION MUST BE SCHEDULED FOR A MONDAY OR TUESDAY MORNING DUE TO LABORATORY TESTING CONSTRAINTS.
7. A SERVICE TO BE "RENEWED" SHALL CONSIST OF INSTALLING NEW COPPER SERVICE PIPE FROM THE NEW MAIN TO THE METER. A SERVICE TO BE "RECONNECTED" SHALL CONSIST OF CONNECTING NEW COPPER SERVICE PIPE FROM THE NEW MAIN TO THE EXISTING SERVICE LINE. UNDER NO CIRCUMSTANCE SHALL COPPER SERVICES BE CRIMPED AS A METHOD OF RECONNECTION.
8. NO EXISTING SERVICES SHALL BE RECONNECTED UNTIL THE NEW MAIN HAS BEEN FLUSHED, HYDROSTATICALLY TESTED, DISINFECTED, HAS PASSED ALL WATER QUALITY TESTING, AND HAS BEEN TIED INTO THE SYSTEM.
9. ALL VALVES AND FITTINGS (EXCEPT TRANSITION COUPLINGS AT SYSTEM CONNECTIONS) SHALL HAVE RESTRAINTS INCORPORATED INTO THE JOINTS AND FOR ALL OTHER JOINTS WITHIN A DISTANCE OF SUCH FITTING AS DEFINED BY STANDARD DETAIL #18.
10. MINIMUM SEPARATION FROM OTHER PARALLEL AND CROSSING UTILITIES SHALL BE MAINTAINED PER CALIFORNIA CODE OF REGULATIONS. IF CONDITIONS REQUIRE CONSTRUCTION AT CLEARANCES LESS THAN THOSE PRESCRIBED BY CALIFORNIA CODE, APPROVAL FROM THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH SHALL BE OBTAINED PRIOR TO PROCEEDING.
11. CONTRACTOR SHALL EXPOSE THE CORPORATION STOPS AND PROVIDE A MINIMUM OF TWO WORKING DAYS NOTICE TO SCWD TO SCHEDULE SHUTOFF AND INSPECTION OF EXISTING SERVICE LINES TO BE RETIRED ON A MAIN TO REMAIN IN SERVICE. CONTRACTOR SHALL REMOVE METER BOXES AND RESTORE SIDEWALK AND PAVING. SERVICE LINES SHALL NOT BE CRIMPED AS A METHOD OF RETIREMENT.
12. EXISTING VALVES TO BE RETIRED MUST HAVE OPEN/CLOSE STATUS BE CONFIRMED BY SCWD PRIOR TO THE VALVE BOX REMOVAL, THE HOLE BACKFILLED WITH SLURRY-CEMENT OR CONCRETE, AND PAVEMENT TO MATCH EXISTING.
13. EXACT FIRE HYDRANT LOCATIONS MUST BE APPROVED BY THE APPLICABLE FIRE DEPARTMENT, PUBLIC WORKS DEPARTMENT, AND SCWD PRIOR TO INSTALLATION.
14. UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND EXISTING UTILITIES AND UNDERGROUND STRUCTURES MAY NOT BE SHOWN. LOCATION OF EXISTING UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE VERIFIED PRIOR TO THE SAWCUT AND EXCAVATION FOR INSTALLATION OF THE NEW FACILITY TO CONFIRM CONSTRUCTABILITY IN THE PROPOSED ALIGNMENT. IF DURING THE COURSE OF WORK THE CONTRACTOR ENCOUNTERS ANY EXISTING UTILITIES OR OTHER CONFLICTING STRUCTURES THAT FORCE THE REALIGNMENT OF THE NEW PIPELINE AT A DIFFERENT GRADE, OR REQUIRE OTHER MINOR ALTERATIONS, SUCH RELAYING OR MINOR ALTERATIONS WILL BE MADE AT NO ADDITIONAL EXPENSE TO THE CITY. CALL UNDERGROUND SERVICE ALERT AT LEAST TWO WORKING DAYS BEFORE DIGGING AT 811/(800) 227-2600. ALWAYS CONFIRM STATUS AND SAFETY OF SUSPECTED ABANDONED FACILITIES PRIOR TO REMOVAL.
15. SHOULD ANY UTILITY OR PROPERTY BE DAMAGED BY THE OPERATIONS OF THE CONTRACTOR, IMMEDIATELY NOTIFY THE OWNER AND THE WATER DEPARTMENT. ANY NON-PRESSURIZED SEWER OR DRAINAGE PIPELINES OR ABANDONED FACILITIES ARE NOT REQUIRED TO BE MARKED. DAMAGE TO NON-PRESSURIZED SEWER OR DRAINAGE PIPELINES DURING THE COURSE OF WORK IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
16. THE CONTRACTOR SHALL KEEP THE CONSTRUCTION SITE IN A NEAT AND CLEAN CONDITION AT ALL TIMES. ALL TRASH AND EXCESS EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE AS NEEDED AND AT THE END OF EACH WORK DAY. STREET AREAS SHALL BE SWEEP AS NEEDED AND AT THE END OF EACH WORK DAY. IF DUST PROBLEMS SHOULD OCCUR, DUST CONTROL SHALL BE PROVIDED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE SCWD AND OTHER REGULATORY AGENCIES.
17. CONTRACTOR SHALL KEEP ON SITE AND READY AT ALL TIMES DURING CONSTRUCTION ALL EQUIPMENT AND MATERIALS NEEDED TO BE IMPLEMENTED TO ENSURE THE PROTECTION OF ALL SURFACE WATER BODIES AND SEWER AND STORM DRAIN SYSTEMS FROM RUNOFF WHICH MAY BE CONTAMINATED BY SEDIMENT, SAWCUT SLURRY OR OTHER POLLUTION IN THE EVENT OF EMERGENCY WATER FACILITY BREAKAGE, TRENCH DEWATERING ACTIVITY, OR WET WEATHER EVENT THAT MAY ERODE STOCKPILES OR EXPOSED SOIL AREAS.
18. APPROVAL BY THE CITY OF SANTA CRUZ WATER DEPARTMENT FOR THE FIRE SERVICE INSTALLATION SHALL ONLY BE FOR THE SERVICE LINE LOCATION AND THE CONNECTION TO THE CITY WATER SYSTEM. THE FIRE SERVICE SIZE AND DESIGN APPROVAL ARE THE RESPONSIBILITY OF THE LOCAL FIRE PROTECTION AGENCY.
19. CONTRACTOR SHALL COMPLY WITH ALL CURRENT FEDERAL, STATE AND LOCAL LAWS, STANDARDS, AND REGULATORY AGENCY REQUIREMENTS CONCERNING THE HANDLING OF ASBESTOS CONTAINING MATERIALS. CONTRACTOR SHALL SUBMIT A COPY OF ALL RELEVANT CAL/OSHA DOCUMENTATION AND DOCUMENTED WORKER TRAINING TO CITY PRIOR TO HANDLING ANY ASBESTOS CONTAINING MATERIALS. ASBESTOS DISTURBANCE AND/OR REMOVAL ACTIVITIES SHALL BE CONDUCTED BY PROPERLY TRAINED, ACCREDITED, AND LICENSED PERSONNEL USING PROPER PROTECTIVE EQUIPMENT. TRANSITE PIPE SHALL BE CUT ONLY WITH A SNAP TYPE CUTTER IN A POSTED REGULATED AREA AND NEVER WITH AN ABRASIVE SAW. FIELD CUT TRANSITE PIPE ENDS SHALL NOT BE RE-BEVELED. REMOVE ALL DISTURBED ASBESTOS-CONTAINING MATERIALS AS INTACT AS POSSIBLE AND IMMEDIATELY SEAL IN LEAK-TIGHT SIX MIL THICK POLY WRAP WITH PROPER LABELING. CONTRACTOR SHALL SUBMIT A COPY OF THE NON-HAZARDOUS WASTE MANIFEST TO CITY TO DOCUMENT PROPER DISPOSAL.

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

W-1

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\027-Waterline Plans.dwg Layout Tab: W-1 May 05,2024 - 7:00pm gimbsen

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY	CHECKED
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	

MARK IMBRIANI
PROJECT MANAGER

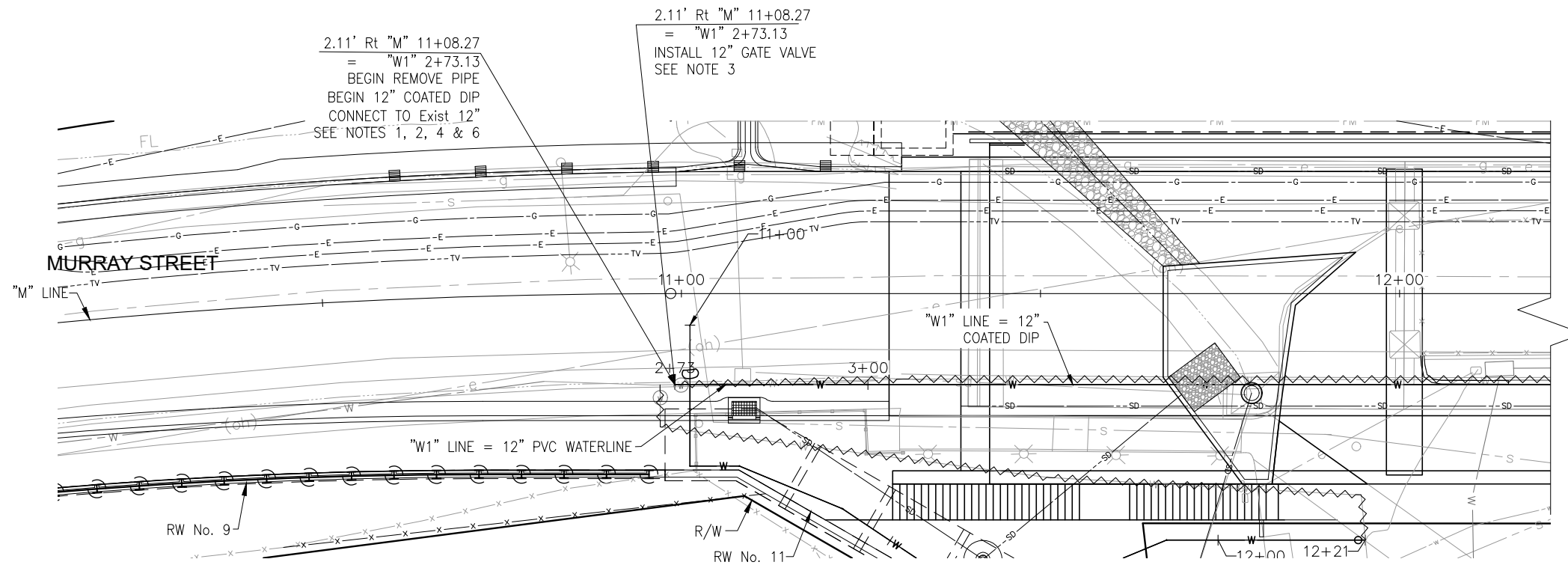
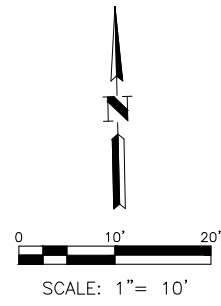
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
WATERLINE STANDARD CONSTRUCTION NOTES**

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)									
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SCALE	NONE
SHEET	34 OF 196
Vault No.	



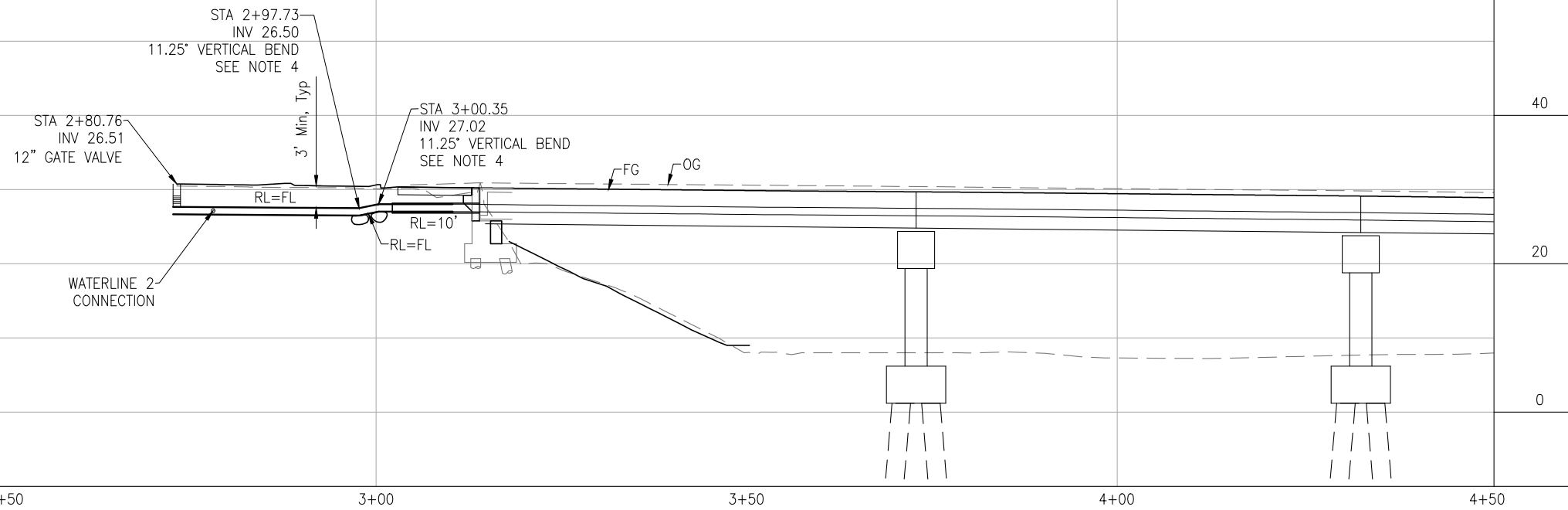
WATERLINE 1 PLAN

LEGEND:

- ACP - ASBESTOS CEMENT PIPE
- DIP - DUCTILE IRON PIPE
- FL - FULL LENGTH
- RL - RESTRAINED LENGTH
- SSFM - SANITARY SEWER FORCE MAIN
- Remove Pipe
- THRUST BLOCK

NOTES:

1. EXISTING UTILITY ELEVATION AND/OR LOCATION UNKNOWN AND TO BE FIELD VERIFIED. ADJUST WATERLINE AS NECESSARY TO AVOID CONFLICT WITH EXIST UTILITIES.
2. INSTALL SERVICE CONNECTION PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 1.
3. GATE VALVE INSTALLATION PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 11.
4. INSTALL THRUST BLOCK PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 19.
5. FOR RESTRAINED LENGTH DETAILS NOT SHOWN SEE JOINT RESTRAINT INSTALLATION PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 18.
6. FOR TRENCH DETAILS NOT SHOWN SEE STANDARD WATER MAIN TRENCH PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 15.
7. WHEN 3' MINIMUM COVER CANNOT BE ACHIEVED SEE SUB-STANDARD WATER MAIN TRENCH PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 16.



**PROFILE
"W1" LINE**

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

W-2

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\027-Waterline Plans.dwg Layout Tab: W-2 May 15, 2024 12:42pm ABedal

REGISTERED PROFESSIONAL ENGINEER
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Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
WATERLINE PLAN AND PROFILE**

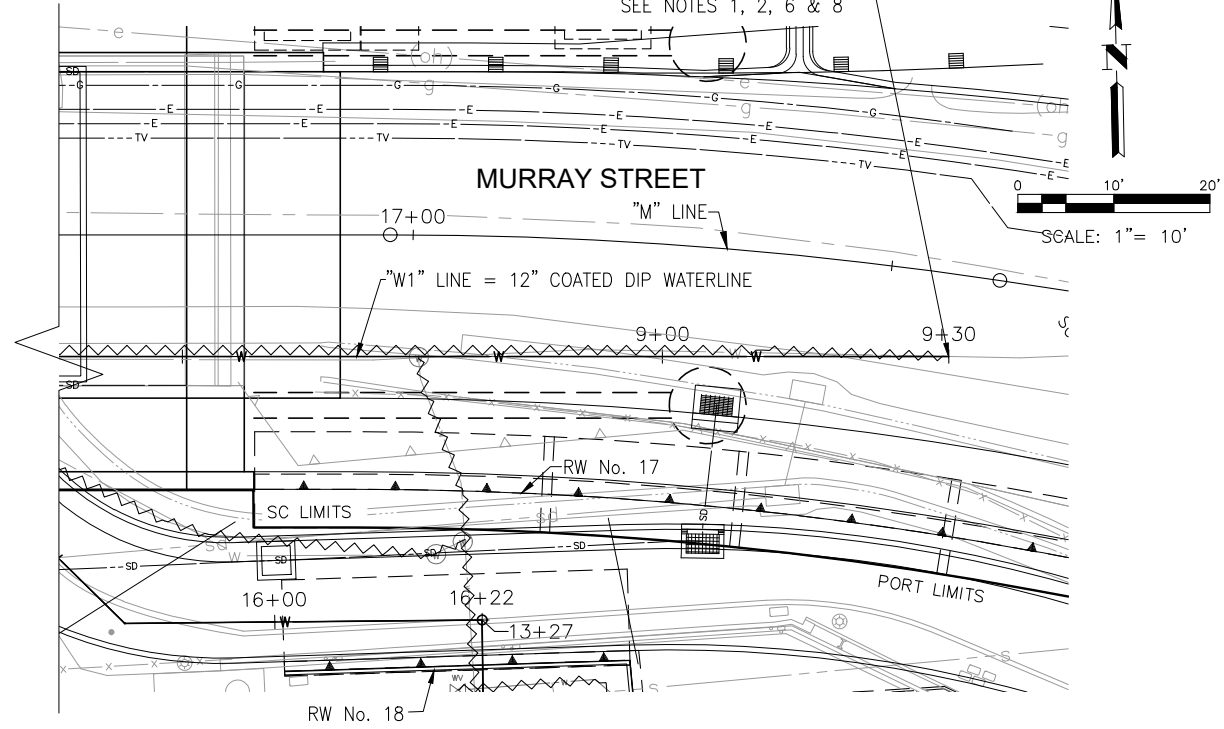
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

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SCALE	1"=10'
SHEET	35 OF 196
Vault No.	

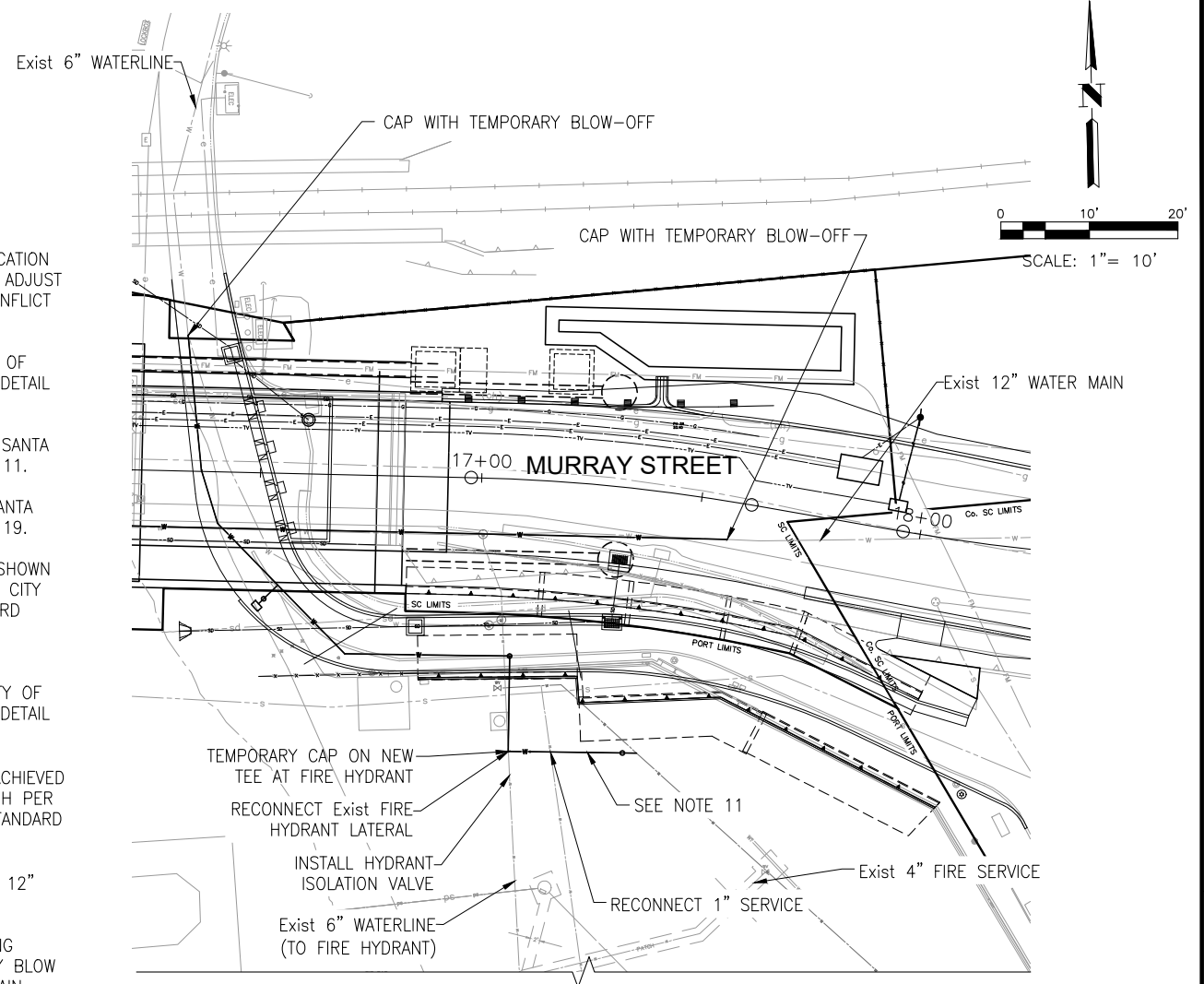
8.58' Rt "M" 17+57.17
 = "W1" 9+29.82
 END REMOVE PIPE
 END 12" COATED DIP
 INSTALL 12" GATE VALVE
 SEE NOTE 3
 CONNECT TO Exist 12"
 SEE NOTES 1, 2, 6 & 8



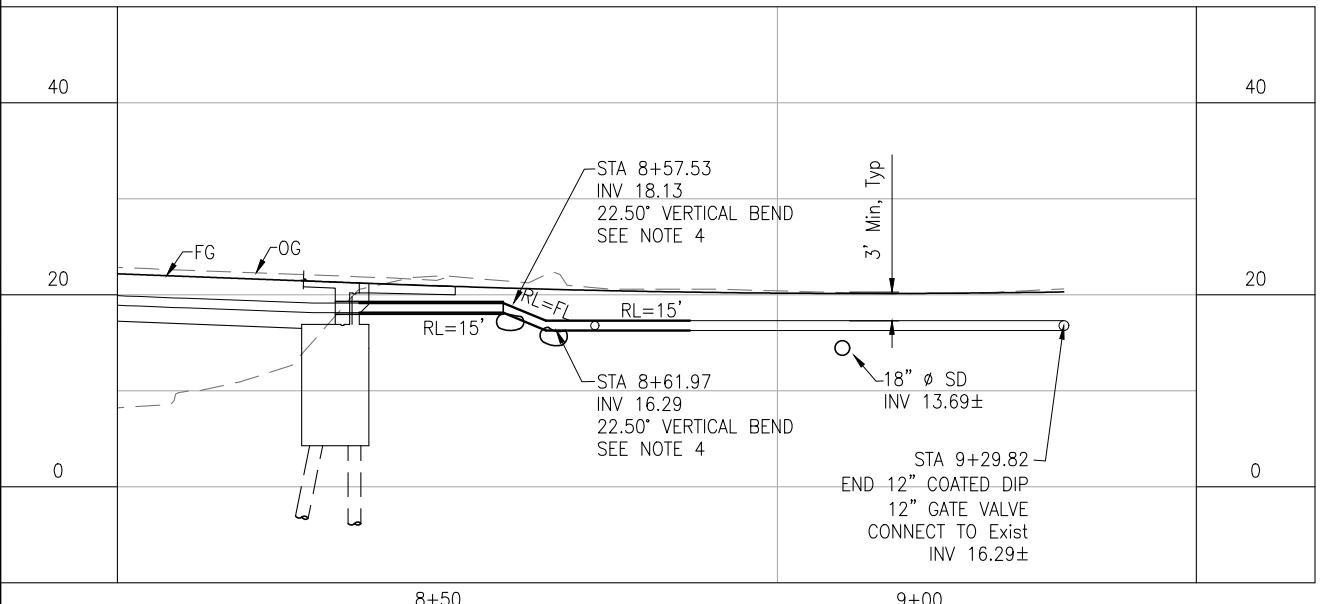
WATERLINE 1 PLAN

- LEGEND:**
- ACP - ASBESTOS CEMENT PIPE
 - DIP - DUCTILE IRON PIPE
 - FL - FULL LENGTH
 - RL - RESTRAINED LENGTH
 - SSFM - SANITARY SEWER FORCE MAIN
 - - - REMOVE PIPE
 - - THRUST BLOCK

- NOTES:**
1. EXISTING UTILITY ELEVATION AND/OR LOCATION UNKNOWN AND TO BE FIELD VERIFIED. ADJUST WATERLINE AS NECESSARY TO AVOID CONFLICT WITH EXIST UTILITIES.
 2. INSTALL SERVICE CONNECTION PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 1.
 3. GATE VALVE INSTALLATION PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 11.
 4. INSTALL THRUST BLOCK PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 19.
 5. FOR RESTRAINED LENGTH DETAILS NOT SHOWN SEE JOINT RESTRAINT INSTALLATION PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 18.
 6. FOR TRENCH DETAILS NOT SHOWN SEE STANDARD WATER MAIN TRENCH PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 15.
 7. WHEN 3' MINIMUM COVER CANNOT BE ACHIEVED SEE SUB-STANDARD WATER MAIN TRENCH PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 16.
 8. CAP WITH TEMPORARY BLOW OFF WHILE 12" WATERLINE IS OUT OF SERVICE.
 9. MAKE CONNECTIONS ONLY AFTER PASSING DISINFECTION AND TESTING. TEMPORARY BLOW OFFS NEEDED AT EACH END OF NEW MAIN.
 10. WATER SERVICE IN EAST HARBOR TO REMAIN UNTIL WATERLINE 5 IS IN SERVICE.
 11. THIS SEGMENT OF NEW MAIN MUST BE CONSTRUCTED, DISINFECTED, AND TESTED BEFORE ABANDONING THE EXISTING MAIN UNDER THE BRIDGE.



WATERLINE 5 PLAN



PROFILE "W1" LINE

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

W-3

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\027-Waterline Plans.dwg Layout Tab: W-3 May 05, 2024 - 7:03pm gimbsen

REGISTERED PROFESSIONAL ENGINEER
 JUSTINA L. CONKLIN
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC
 MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

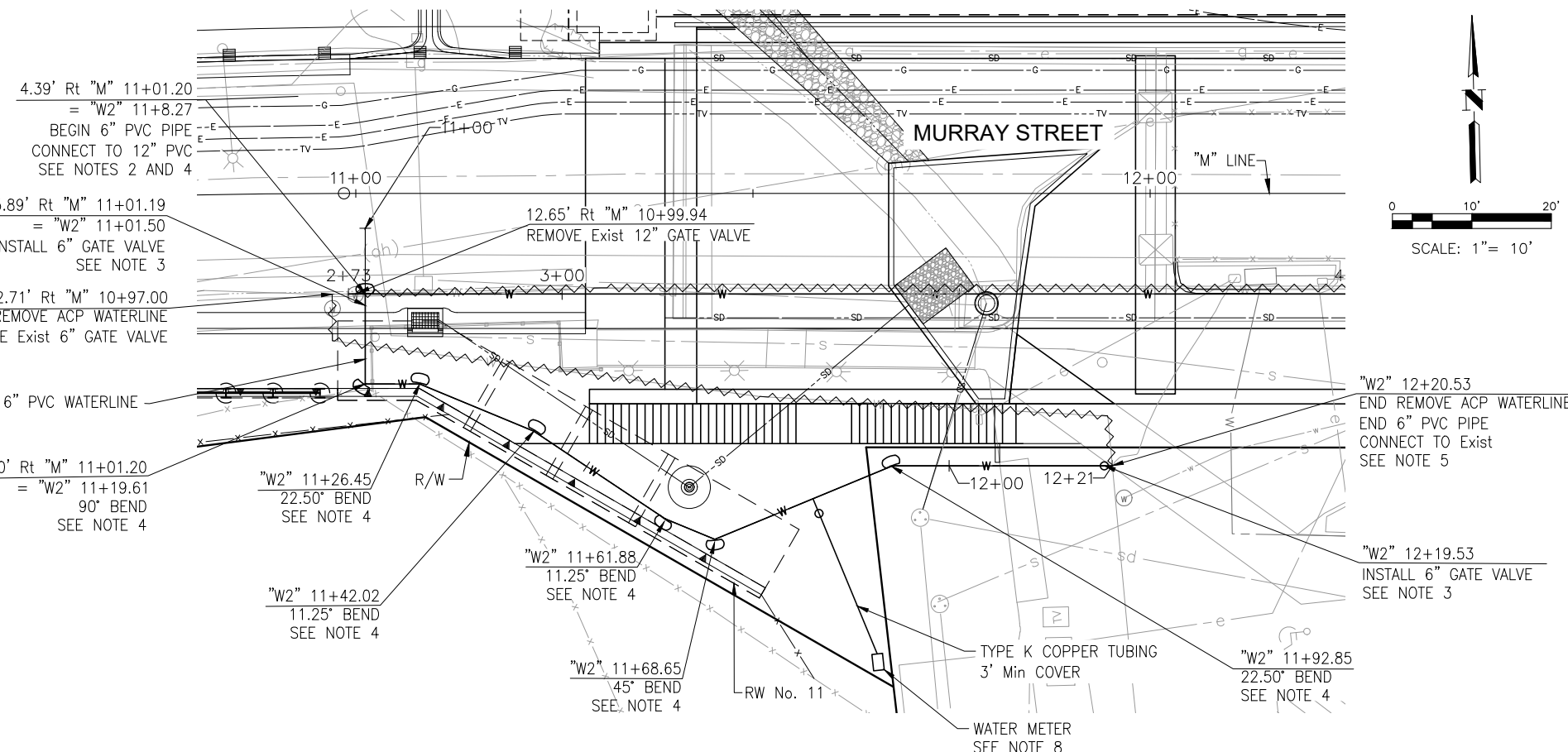
**MURRAY STREET BRIDGE
 SEISMIC RETROFIT AND BARRIER REPLACEMENT
 WATERLINE PLAN AND PROFILE**

DISREGARD PRINTS BEARING EARLIER REVISION DATES

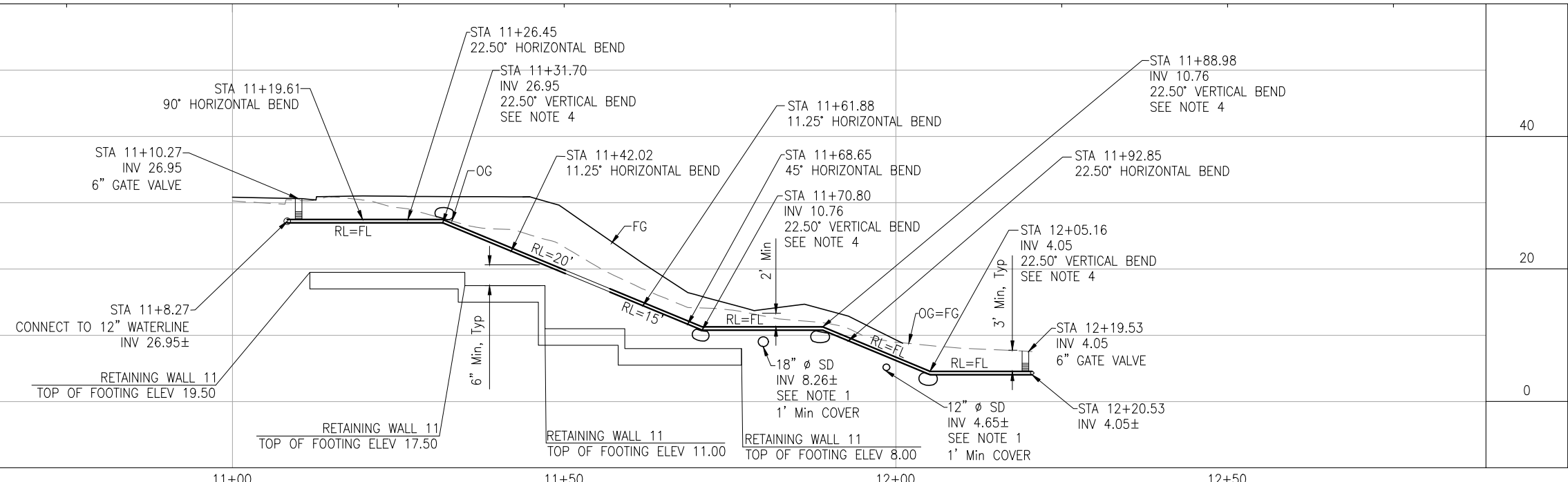
REVISION DATES (PRELIMINARY STAGE ONLY)

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SCALE	1"=10'
SHEET	36 OF 196
Vault No.	



WATERLINE 2 PLAN



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

W-4

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\027-Waterline Plans.dwg Layout Tab: W-4 May 05, 2024 - 7:04pm gimbsen

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

TRC Engineers or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR	CHECKED A. BEDAL

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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TRC

MARK IMBRIANI
PROJECT MANAGER

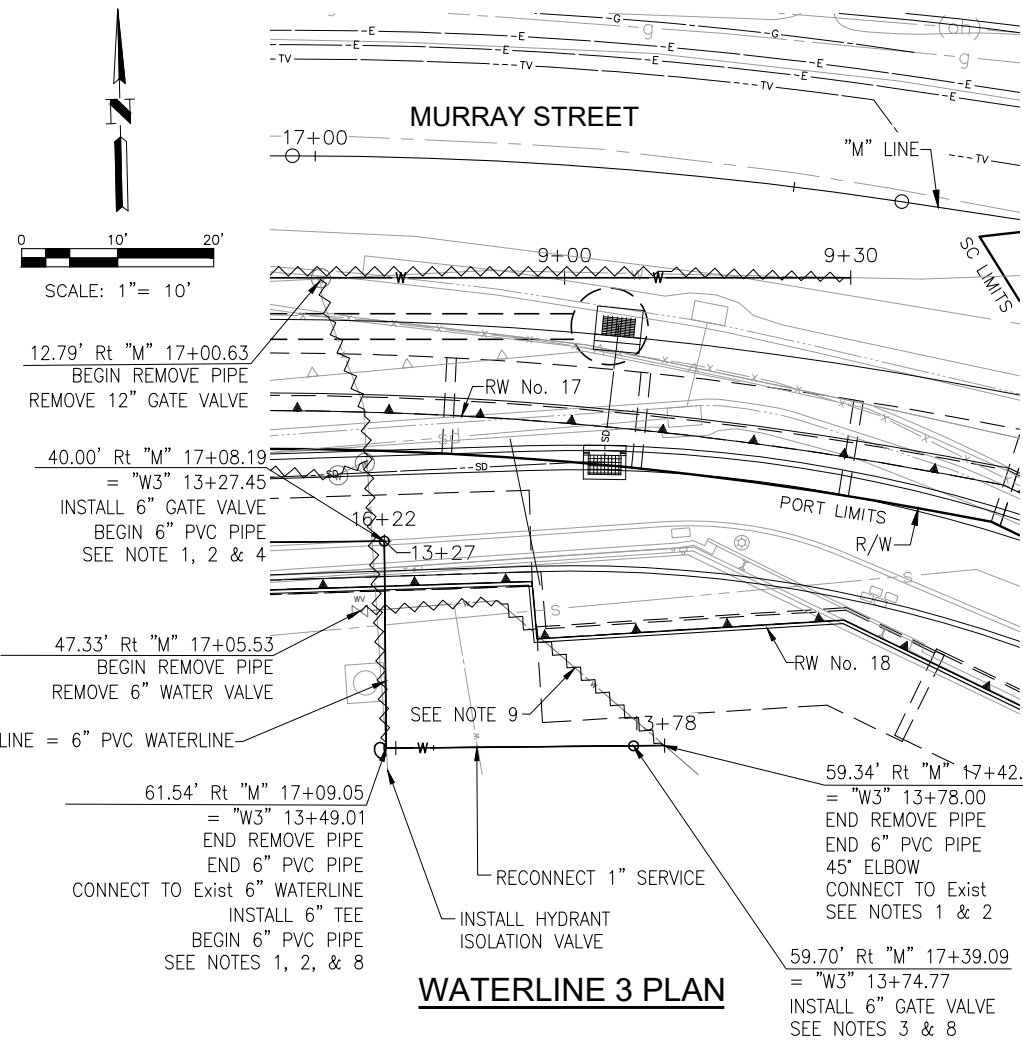
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
WATERLINE PLAN AND PROFILE

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)									
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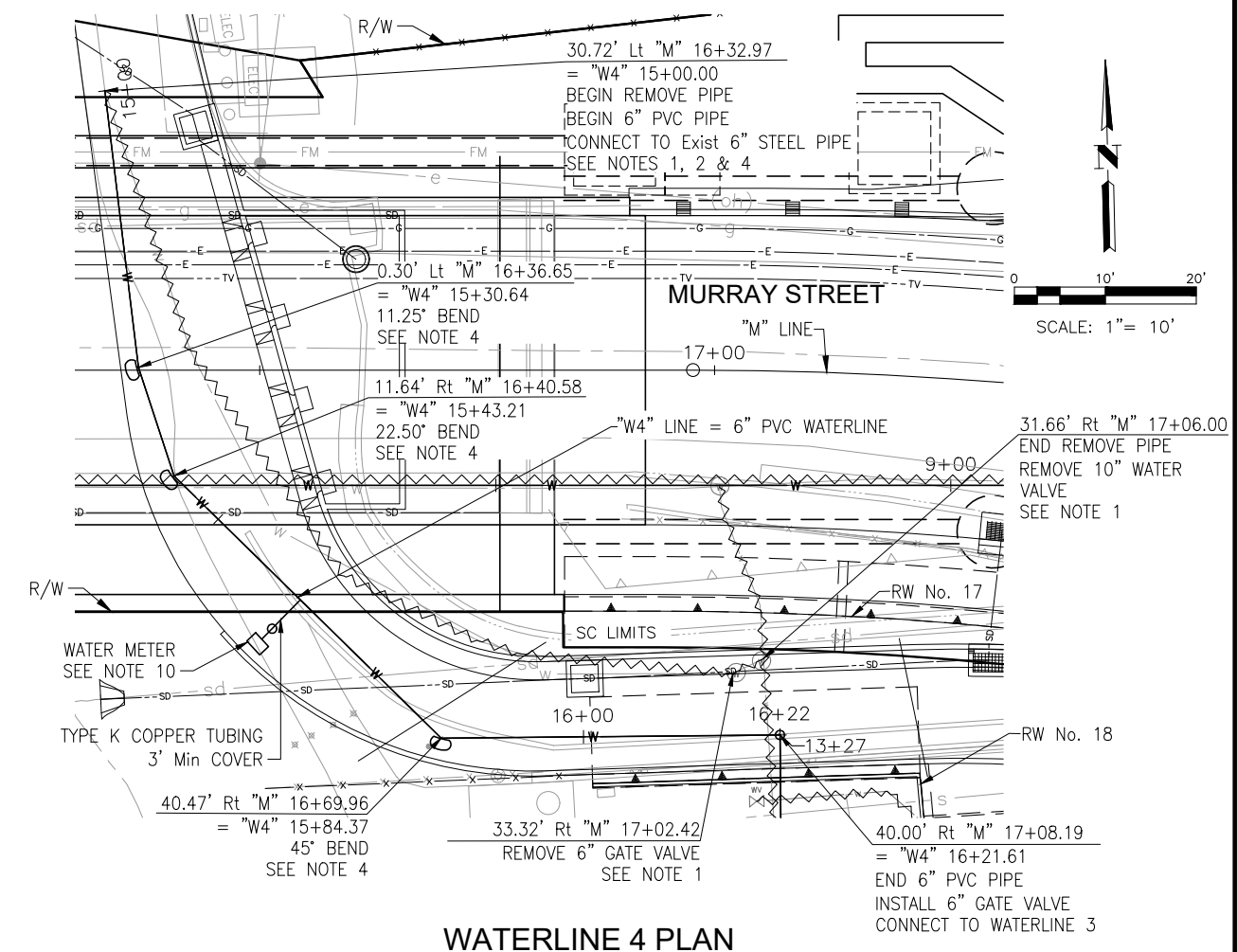
SCALE	1"=10'
SHEET	37 OF 196
Vault No.	



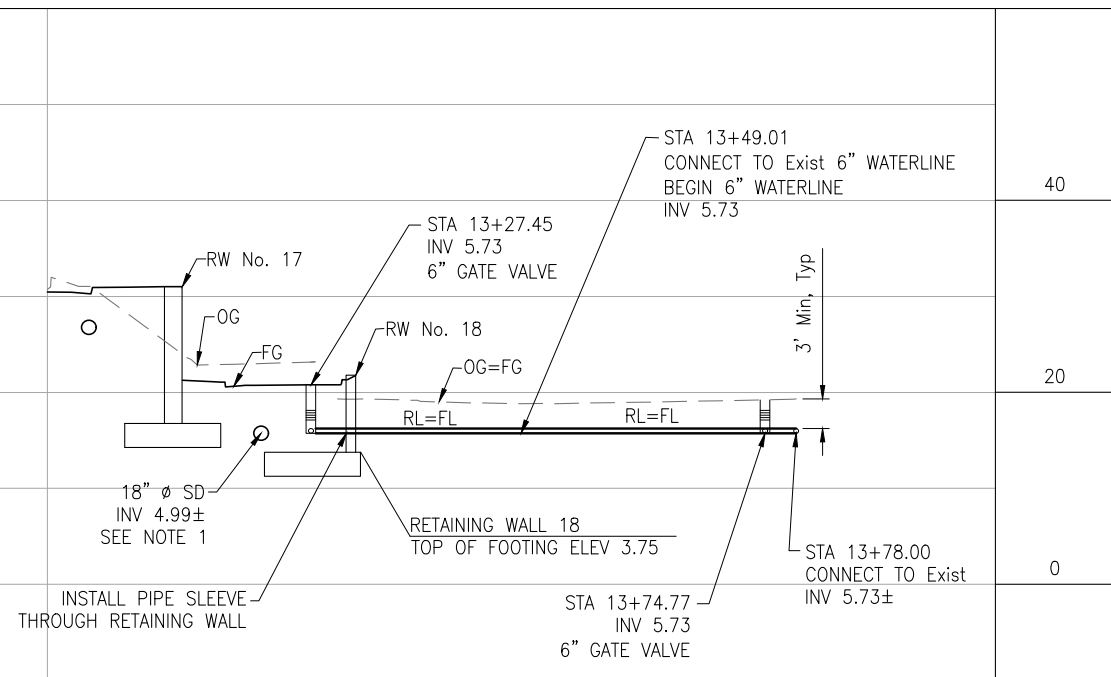
WATERLINE 3 PLAN

- LEGEND:**
- ACP - ASBESTOS CEMENT PIPE
 - DIP - DUCTILE IRON PIPE
 - FL - FULL LENGTH
 - RL - RESTRAINED LENGTH
 - SSFM - SANITARY SEWER FORCE MAIN
 - REMOVE PIPE
 - THRUST BLOCK

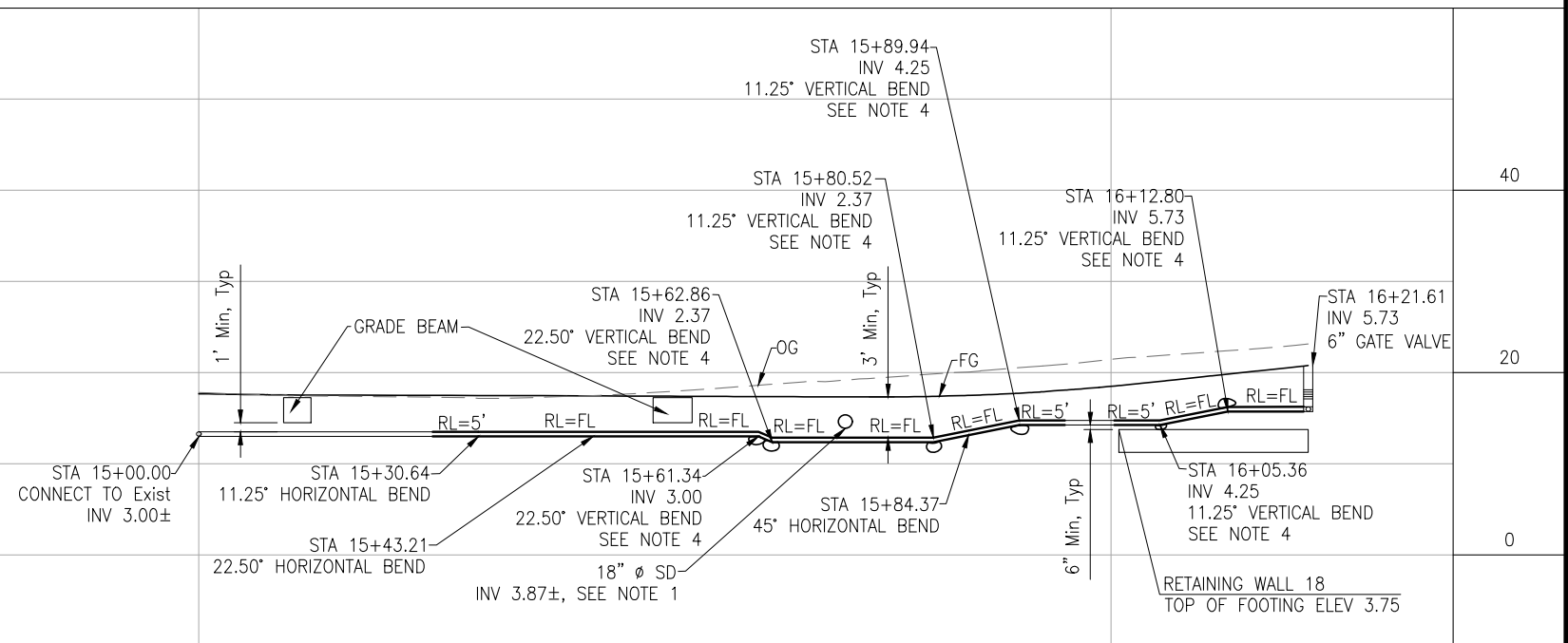
- NOTES:**
1. EXISTING UTILITY ELEVATION AND/OR LOCATION UNKNOWN AND TO BE FIELD VERIFIED. ADJUST WATERLINE AS NECESSARY TO AVOID CONFLICT WITH EXIST UTILITIES.
 2. INSTALL SERVICE CONNECTION PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 1.
 3. GATE VALVE INSTALLATION PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 11.
 4. INSTALL THRUST BLOCK PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 19.
 5. FOR RESTRAINED LENGTH DETAILS NOT SHOWN SEE JOINT RESTRAINT INSTALLATION PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 18.
 6. FOR TRENCH DETAILS NOT SHOWN SEE STANDARD WATER MAIN TRENCH PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 15.
 7. WHEN 3' MINIMUM COVER CANNOT BE ACHIEVED SEE SUB-STANDARD WATER MAIN TRENCH PER CITY OF SANTA CRUZ WATER SYSTEM STANDARD DETAIL 16.
 8. RECONNECT FIRE HYDRANT LATERAL AFTER 1" WATER SERVICE DISINFECTION, TESTING, AND SYSTEM CONNECTION.
 9. WATER SERVICE TO REMAIN UNTIL WATERLINE 3 IS IN SERVICE.
 10. INSTALL CITY PROVIDED SPACER. WATER METER TO BE INSTALLED BY SANTA CRUZ WATER DEPARTMENT.



WATERLINE 4 PLAN



PROFILE "W3" LINE



PROFILE "W4" LINE

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

W-5

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\027-Waterline Plans.dwg Layout Tab: W-5 May 05, 2024 - 7:05pm gimbsen

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
WATERLINE PLAN AND PROFILE**

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	
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SCALE	1"=10'
SHEET	38 OF 196
Vault No.	

WATERLINE

SHEET No.	WATER LINE No.	REMOVE PIPE (PLASTIC, STEEL OR PVC)	REMOVE PIPE (ASBESTOS CEMENT)	REMOVE WATER VALVE	6" TEE (N)*	6" GATE VALVE	12" GATE VALVE	TYPE K COPPER TUBING	6" PVC PIPE	12" COATED DIP	THRUST BLOCKS	6" 11¼" ELBOW	6" 22½" ELBOW	6" 45° ELBOW	6" 90° ELBOW	12" 11¼" ELBOW	12" 22½" ELBOW	12" 45° ELBOW	INSTALL WATER METER SPACER (N)*
		LF	LF	EA	EA	EA	EA	LF	LF	LF	SQFT	EA	EA	EA	EA	EA	EA	EA	EA
W-2 & W-3	1						2			657.7	10.0					2	2		
W-3	5				1	1			110.0		23.0		2	1					
W-4	2					2		21.2	125.9		18.0	2	6	3	1				1
W-5	3				1	2			50.6		6.0			1					
W-5	4							6.1	122.1		10.0	5	3	1					1
W-2 & W-3		656.7																	
W-4			111	2															
W-5		196.5		4															
TOTAL		853.2	111	6	2	5	2	27.3	408.6	657.7	67.0	7	11	6	1	2	2	0	2

(N)* - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

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

W-6

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\027-Waterline Plans.dwg Layout Tab: W-6 May 15, 2024 - 12:42pm ABedal

JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. BEDAL	CHECKED J. CONKLIN
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO. 36C0108
CONTRACT NO.
EA NO.

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
WATERLINE QUANTITIES

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)									

SCALE	NO	SCALE
SHEET	39	OF 196
Vault No.		

SCCSD GENERAL CONSTRUCTION NOTES

- 1. ALL CONSTRUCTION SHALL CONFORM TO THE FOLLOWING:
1.1. MOST CURRENT EDITION OF THE COUNTY OF SANTA CRUZ COUNTY DESIGN CRITERIA
1.2. 2018 STATE STANDARD PLANS AND THE APPLICABLE PROVISIONS OF THE 2018 STATE STANDARD SPECIFICATIONS
1.3. PROJECT SPECIAL PROVISIONS
1.4. PROJECT GEOTECHNICAL REPORT, TITLED "EAST CLIFF TRANSMISSION MAIN RELOCATION AT MURRAY STREET BRIDGE SANTA CRUZ, CALIFORNIA" BY CRAWFORD & ASSOCIATES, INC. AND TABER, DATED SEPTEMBER 8, 2019.
2. NO CHANGES TO THE APPROVED PROJECT PLANS SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
3. LOCATION OF THE UNDERGROUND UTILITIES ON THE PLANS ARE APPROXIMATE ONLY. CALL "UNDERGROUND SERVICE ALERT" (USA) AT 800-642-2444 AT LEAST 48 HOURS BEFORE DIGGING.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATIONS AND DEPTHS OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION AND TO NOTIFY THE ENGINEER IN CASE OF CONFLICT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES AND STRUCTURES FOUND AT THE SITE, NOT CALLED TO BE ABANDONED OR REMOVED.
5. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO THE PRE-CONSTRUCTION CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
6. REFER TO DRAWING SS-3 FOR GENERAL SEQUENCING REQUIREMENTS. PHASE 1 OF THE SEWER FORCE MAIN BYPASS MUST BE READY TO GO ONLINE PRIOR TO THE ABANDONMENT OF THE EXISTING SEWER FORCE MAIN AND ASSOCIATED PIPING.
7. THE CONTRACTOR SHALL COORDINATE WITH THE DISTRICT TO IDENTIFY EXPECTED TIMES FOR LOW FLOW CONDITIONS AND PRESENT A SCHEDULE AND PLAN TO THE DISTRICT FOR REVIEW AND WRITTEN APPROVAL PRIOR TO SHUT DOWN OF THE EXISTING SEWER FORCE MAIN FOR ANY DURATION.
8. THE CONTRACTOR SHALL COORDINATE WITH THE DISTRICT FOR THE DISCONNECTION OF THE EXISTING SEWER FORCE MAIN.
9. THE CONTRACTOR SHALL POSSESS A CLASS "A" CONTRACTOR'S LICENSE AT THE TIME OF BID.
10. FIELD SURVEY DATA SHOWN IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY BESS UTILITY SOLUTIONS IN JULY 2019. DATUM IS NAD 83 CALIFORNIA STATE PLANES ZONE III. CONTROL POINTS ARE DEFINED ON DRAWING SS-2.
11. MAINTAIN A MINIMUM OF TEN (10) FEET HORIZONTAL AND TWELVE (12) INCHES VERTICAL SEPARATION BETWEEN WATER AND SANITARY OR STORM SEWER MAINS AND SERVICES. SANITARY AND STORM SEWER PIPE JOINTS SHALL BE PLACED AT LEAST NINE (9) FEET FROM ANY WATERLINE CROSSING.
12. MAINTAIN A MINIMUM OF 36-INCHES OF VERTICAL SEPARATION BETWEEN ANY STORM SEWER (STORM DRAIN OR FOOTING DRAIN) AND WATERLINE (MAINS OR SERVICES) OR SANITARY SEWER (MAINS OR SERVICES). IF 36-INCHES CANNOT BE MAINTAINED, PROVIDE A MINIMUM OF 4-INCH THICK INSULATION.
13. ALL WATER/SEWER PIPE INSULATION SHALL BE RIGID BOARD, HIGH DENSITY EXTRUDED POLYSTYRENE, MIN. 60 P.S.I., FOR UNDERGROUND INSTALLATIONS EQUIVALENT TO R-20 PER FOUR (4) INCH THICK INSULATION.
14. CONTRACTOR SHALL VERIFY AND RECORD THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD AND RECORD ANY CHANGES ON THE CONTRACTOR RECORD DRAWINGS.
15. THE CONTRACTOR SHALL RESTORE ALL DISTURBED PROPERTY, INCLUDING DRAINAGE SWALES, DISTURBED BY CONTRACT ACTIVITIES TO PRECONSTRUCTION CONDITION OR AS INDICATED ON THE PLANS.
16. IN CASE OF CONFLICT BETWEEN STATIONING OR DIMENSIONED LOCATION OF PIPE OR FITTINGS, USE DIMENSIONED LOCATIONS.
17. CONTRACTOR SHALL FIELD INSTALL RESTRAINED FITTINGS ON ALL MECHANICAL JOINTS.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, AND MUNICIPAL LAWS THAT PROHIBIT UNPERMITTED DISCHARGE OF POLLUTANTS, INCLUDING SEDIMENTS, THAT ARE A RESULT OF EROSION AND OTHER CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONDUCT ALL WORK SO SEDIMENT IS NOT TRANSPORTED ONTO THE ROADWAY OR ADJACENT PROPERTY. AT A MINIMUM, THE CONTRACTOR SHALL SWEEP UP ANY SEDIMENT TRACKED ONTO PAVED SURFACES IN PUBLIC RIGHT-OF-WAY WITHIN 24 HOURS OF THE TRACKING TO MINIMIZE THE WASH-OFF OF SEDIMENT INTO THE STORM DRAINS OR WATER WAYS.
19. THE CONTRACT REQUIRES THE CONTRACTOR PROVIDE ALL LABOR AND MATERIALS NEEDED TO PROVIDE A COMPLETE AND FUNCTIONAL PROJECT CONSISTENT WITH THE DRAWINGS AND SPECIFICATIONS CAPABLE OF PERFORMING AS SPECIFIED.

SANITARY SEWER CONSTRUCTION NOTES

- 1. ALL MANHOLES SHALL HAVE A MINIMUM OF ONE-SIX (6") INCH GRADE RING. MAXIMUM GRADE RING ADJUSTMENT SHALL NOT EXCEED EIGHTEEN (18") INCHES.

DESIGN LOADS

- 1. PIPELINE MAINTENANCE LL = 100 PSF
2. WIND LOADS
BASIC WIND SPEED (3 SEC GUST) = 135 MPH
RISK CATEGORY = III
WIND EXPOSURE = B
SEISMIC LOAD
RISK CATEGORY = III
DESIGN CATEGORY D
SOIL SITE CLASS D
IMPORTANCE FACTOR = IE = 1.25
SPECTRAL RESPONSE ACCELERATIONS
SS = 1.50 SDS = 1.00
S1 = 0.685 SD1 = 0.685
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

CONCRETE

- 1. ALL STRUCTURAL CONCRETE UNLESS OTHERWISE NOTED SHALL HAVE A DENSITY OF 150 PCF. AGGREGATES SHALL CONFORM TO ASTM C33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.05%.
2. ALL CONCRETE SHALL DEVELOP MINIMUM COMPRESSIVE STRENGTHS AT THE END OF 28 DAYS AS FOLLOWS:

Table with 6 columns: USE, STRENGTH (psi), MAX SLUMP, MAX W/C RATIO, MAX AGGREGATE SIZE, MIN CEMENT CONTENT. Row 1: VAULTS, 4500, 3 INCH, 0.45, 1.00", 5.25 SACK/YD

- 3. ALL CEMENT SHALL CONFORM TO ASTM C150 TYPE I OR II.
4. CONCRETE MIX DESIGNS SHALL BE PREPARED BY AN INDEPENDENT LABORATORY IN ACCORDANCE WITH ACI 318 AND REVIEWED BY THE ENGINEER.
5. ADMIXTURES SHALL COMPLY WITH ASTM C494 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE. ADMIXTURES SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT (CALCIUM CHLORIDE SHALL NOT BE USED).
6. PLACEMENT OF CONCRETE SHALL BE IN CONFORMANCE WITH THE ACI 301.
7. CONTROL JOINTS SHALL BE LOCATED AND FORMED AS SHOWN ON THE DRAWINGS. SLAB CONTROL JOINTS SHALL BE PLACED AT POINTS OF LOW STRESS AS WELL AS LOCATED TO MINIMIZE EFFECTS OF SHRINKAGE. KEY AND DOWEL SLAB CONSTRUCTION JOINTS AS SHOWN ON THE PLANS. ALL CONSTRUCTION JOINTS SHALL BE CLEANED THOROUGHLY AND ALL LAITANCE SHALL BE REMOVED FROM THE SURFACE. ALL VERTICAL JOINTS SHALL BE THOROUGHLY WETTED AND SLUSHED WITH A COAT OF NEAT CEMENT OR BONDING AGENT IMMEDIATELY BEFORE POURING NEW CONCRETE.
8. SET FLOOR SCREEDS TO REQUIRED ELEVATIONS DURING CONCRETE POURING TO COMPENSATE FOR FORM SETTLEMENT.
9. ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS SHALL BE ACCURATELY SET IN PLACE BEFORE CONCRETE IS POURED.
10. GROUT: PRE-MANUFACTURED MIX WITH MINIMUM COMPRESSIVE STRENGTH AT THE END OF 28 DAYS OF 7500 PSI WITH MINIMUM WATER CONSISTENT WITH PLACING REQUIREMENTS.
11. AIR CONTENT: CONFORM TO ACI 318 TABLE 4.1.1 EXPOSURE CLASS F2.

REINFORCING STEEL

- 1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.
2. REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60.
3. ALL CONCRETE SHALL BE REINFORCED UNLESS SPECIFICALLY NOTED "NOT REINFORCED" IN THE DRAWINGS. IF REINFORCING BARS ARE NOT SHOWN OR NOTED, PROVIDE SAME REINFORCEMENT AS FOR SIMILAR CONDITIONS ELSEWHERE IN THE WORK, OR AS DIRECTED BY THE ENGINEER.
4. REINFORCEMENT BARS SHALL NOT BE SPLICED EXCEPT AS DETAILED AND LOCATED ON DRAWINGS.
5. REINFORCEMENT BARS SHALL BE ACCURATELY PLACED AND FIRMLY SUPPORTED USING TIES AND SUPPORT BARS IN ADDITION TO REINFORCEMENT SHOWN. DOWELS SHOULD BE PROVIDED TO MATCH ALL REINFORCEMENT AT CONSTRUCTION JOINTS UNLESS OTHERWISE NOTED.
6. NO REINFORCEMENT WELDING SHALL BE DONE UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER (TACK WELDING INCLUDED). WELDING OF REINFORCEMENT IS ONLY PERMITTED FOR REINFORCING STEEL HAVING A CARBON EQUIVALENT LESS THAN 0.65% ACCORDING TO AWS D1.4 SPECIFICATIONS.
7. ALL DIMENSIONS SHOWN FOR LOCATION OF REINFORCING ARE TO THE FACE OF BARS AND DENOTE CLEAR COVERAGE UNLESS OTHERWISE NOTED.

Table with 3 columns: LOCATION, CONDITION, MINIMUM COVER. Rows: CONCRETE CAST AGAINST EARTH (ALL, 3"); FORMED CONCRETE EXPOSED TO EARTH OR WEATHER (#5 AND SMALLER, #6 AND LARGER, 1 1/2" to 2"); FORMED CONCRETE NOT EXPOSED TO EARTH OR WEATHER (SLABS AND WALLS #11 AND SMALLER, SLABS AND WALLS #14 AND LARGER BEAMS AND COLUMNS, 3/4" to 1 1/2")

- 8. DRAWINGS SHOW TYPICAL REINFORCING CONDITIONS. CONTRACTOR SHALL PREPARE DETAILED PLACEMENT DRAWINGS OF ALL CONDITIONS SHOWING QUANTITY SPACING, SIZES, CLEARANCE, LAPS, INTERSECTIONS, AND COVERAGE REQUIRED BY STRUCTURAL DETAILS, APPLICABLE CODE AND TRADE STANDARDS. CONTRACTOR SHALL NOTIFY REINFORCING INSPECTOR OF ANY ADJUSTMENTS FROM TYPICAL CONDITIONS WHICH ARE PROPOSED IN PLACEMENT DRAWINGS TO FACILITATE FIELD PLACEMENT OF REINFORCING STEEL AND CONCRETE.

STRUCTURAL STEEL

- 1. STRUCTURAL STEEL SHALL CONFORM TO THE ASTM DESIGNATION AS INDICATED BELOW UNLESS NOTED OTHERWISE
STEEL TUBES ASTM A500 GRADE B
ALL WF SHAPES ASTM A992 GRADE 50
ANGLES, CHANNELS AND PLATES ASTM A572 GRADE 50
PIPE SEE SPECIFICATIONS
MACHINE BOLTS ASTM A307
HIGH STRENGTH BOLTS ASTM A325X
ANCHOR BOLTS ASTM F1554 GRADE 55 HOT DIPPED GALVANIZED
THREADED ROD ASTM A572 GRADE 50
NUTS ASTM A563
HARDENED WASHERS ASTM F436
CONCRETE STUD CONNECTORS ASTM A108
2. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS IN ACCORDANCE WITH AWS D1.1 USING E70XX ELECTRODES FOR SHIELDED METAL ARC, F7XX-EXXX FOR SUBMERGED ARC AND E70-X FOR GAS METAL ARC. WELDS SHALL BE INSPECTED BY AN AWS-CW INSPECTOR.
3. WHERE MINIMUM AISC FILLET WELD THICKNESS REQUIREMENTS EXCEED WELDS SHOWN ON DETAILS, PROVIDE MINIMUM AISC WELD.
4. ALL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP. PROVIDE CAMBERS WHERE SHOWN ON THE DRAWINGS.
5. BOLTS HOLES SHALL BE 1/16 LARGER IN DIAMETER THAN THE BOLT. USE STANDARD AISC GAGE AND PITCH FOR BOLTS EXCEPT AS NOTED OTHERWISE.
6. HOLES FOR ANCHOR BOLTS EMBEDDED IN CONCRETE SHALL BE THE SAME NOMINAL DIAMETER OF THE BOLT PLUS 5/16" UNLESS NOTED OTHERWISE.
7. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL SHOW SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS AND ERECTION DIAGRAMS.
8. AFTER FABRICATION ALL STEEL SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153.

May 29, 2024 - 11:49am
S:\Projects\2024\19-2418-700-CA-GEN.DWG - Murray Street Bridge, District 1385-525 - Santa Cruz County Sanitation District

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES

SHEET NAME: SANITARY SEWER FORCE MAIN UTILITY NOTES

DRAWING NAME: 19-2418-700-CA-GEN.DWG

Table with columns: BY, REVISION, DATE. Includes a circular professional engineer seal for D. Todd Kotey, No. C-44811, Exp. 3/31/26.

PROJECT ENGINEER: D. TODD KOTEY

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
SANITARY SEWER - SANITARY SEWER FORCE MAIN UTILITY NOTES

DRAWN: DCP
CHECKED: DTK
DATE: 5/10/2024
SCALE: NO SCALE
JOB NO. 234585



SURVEY CONTROL COORDINATE TABLE

NO.	NORTHING	EASTING	ELEVATION
CP-5	1814293.14	6122821.55	11.26
CP-6	1814311.35	6122802.40	22.80
CP-8	1814283.16	6122356.14	6.17
CP-12	1814147.42	6121945.92	48.53
CP-13	1814703.54	6122000.84	50.86

BASIS OF BEARING

N 88°46'18" E L=465.52 BETWEEN CONTROL POINTS #5 AND #8. SAID BEARING BEING A CALIFORNIA COORDINATE SYSTEM (NAD 83) ZONE 3 GRID BEARING DETERMINED BY GPS MEASUREMENTS.

BENCHMARK

SANTA CRUZ CITY BENCHMARK F6-16, A LEAD PLUG AND TAG IN THE TOP OF THE CONCRETE CURB AT THE EASTERN SIDE OF OWEN STREET AT ITS INTERSECTION WITH HALL STREET. ELEVATION 50.85 FEET (NGVD 29).

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES

SHEET NAME: SANITARY SEWER FORCE MAIN
INDEX AND CONTROL

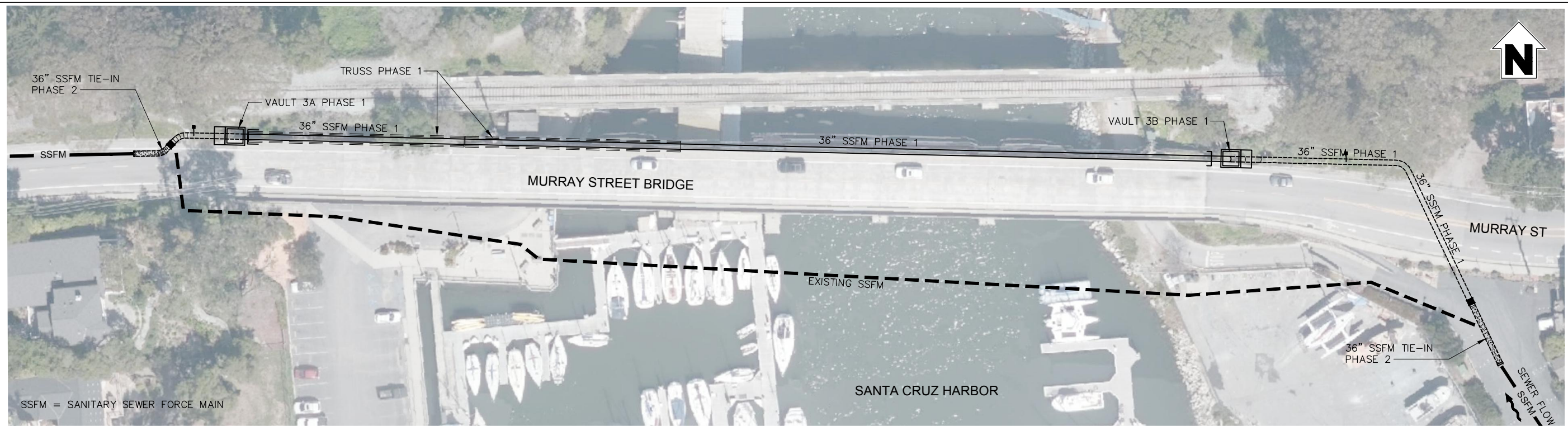
DRAWING NAME: 19-2418-700-CA-GEN.DWG

DATE	REVISION	BY

PROJECT ENGINEER
D. TODD KOTLEY

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
SANITARY SEWER - SANITARY SEWER FORCE MAIN INDEX AND CONTROL

DRAWN: DCP
CHECKED: DTK
DATE: 5/10/2024
SCALE: 1" = 50'
JOB NO. 234585



SSFM = SANITARY SEWER FORCE MAIN

SEQUENCE SCHEDULE

PHASE	LEGEND	ITEMS	DWGS
PHASE 1	-----	CONSTRUCT 36" BELOW GROUND PIPE AND VAULTS	SS-5 THRU SS-16
	=====	CONSTRUCT 36" ABOVE GROUND PIPE, TRUSS, CASING AND SUPPORTS.	
PHASE 2	▨▨▨▨▨	REMOVE DISHED HEADS AND CONSTRUCT 36" SSFM TIE-INS TO EXISTING.	SS-12 SS-13
ABANDONMENT	-----	ABANDON/REMOVE EXISTING SSFM. SEE SHEET SS-4 FOR DETAILS.	SS-4

May 29, 2024 - 11:49am
 S:\Projects\2024\19-2418-700-CA-SEQUENCE.dwg

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES



SHEET NAME: SEQUENCE

DRAWING NAME: 19-2418-700-CA-SEQUENCE.DWG

DATE	REVISION	BY

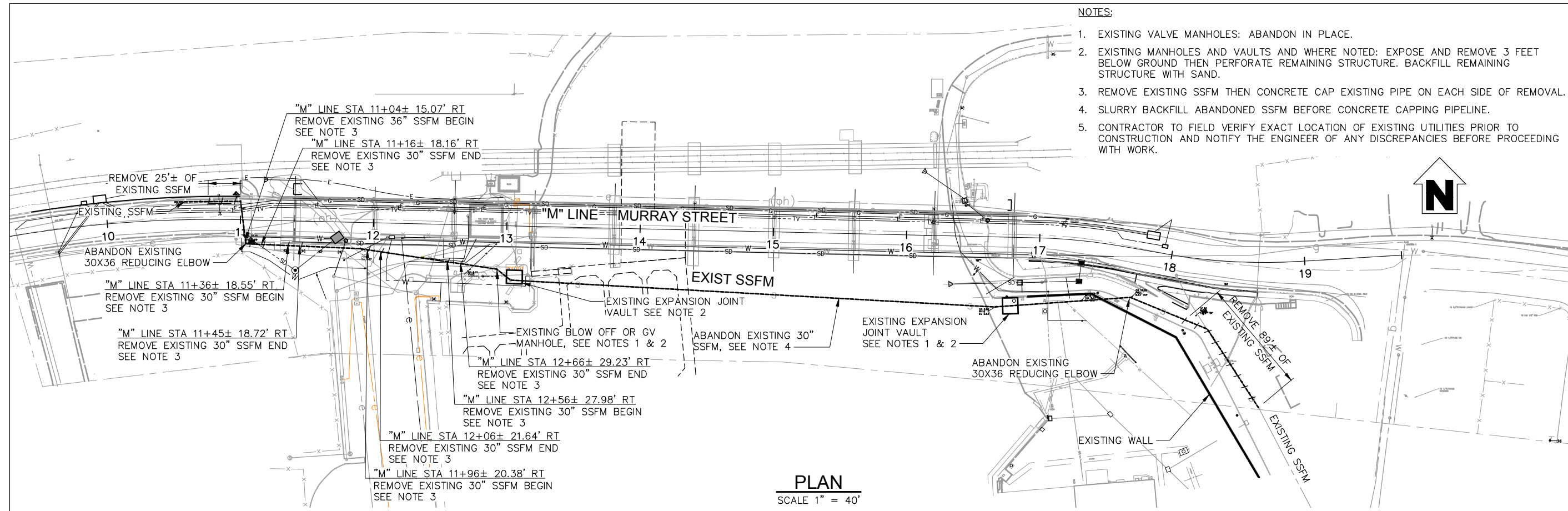


PROJECT ENGINEER
D. TODD KOTEY

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
SANITARY SEWER - SEQUENCE

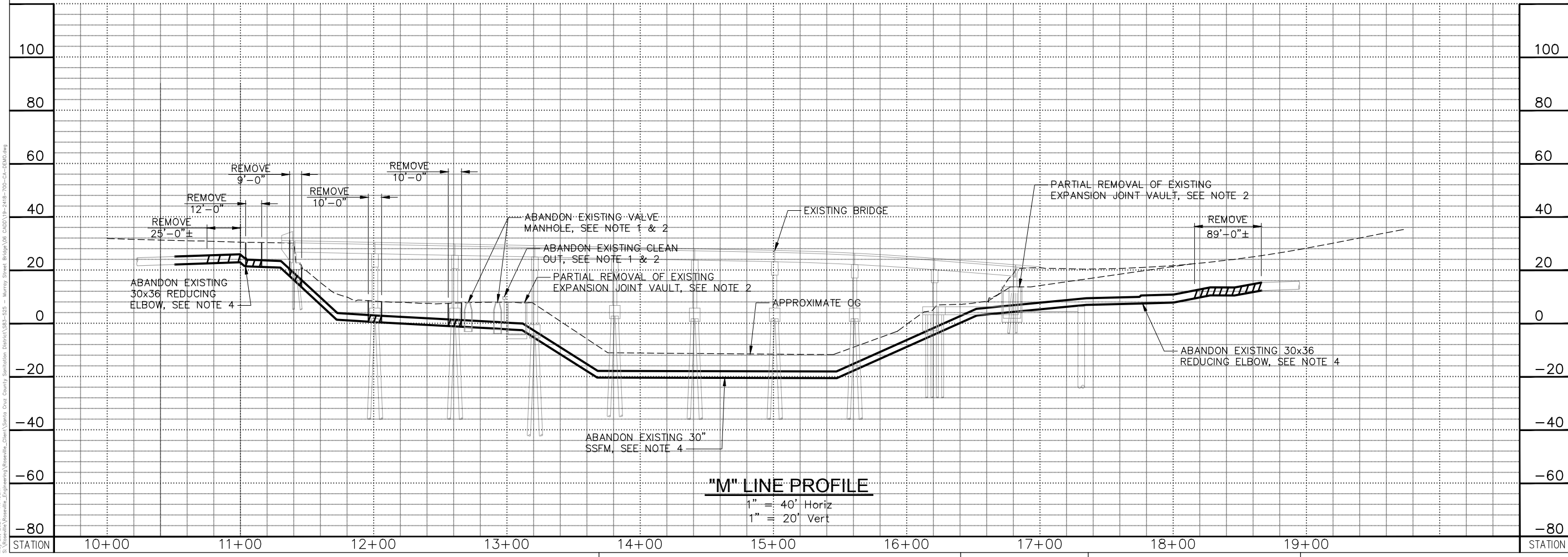
DRAWN: MGI
CHECKED: DTK
DATE: 5/10/2024
SCALE: 1" = 30'
JOB NO. 234585

SS-3
42 OF 196




- NOTES:
- EXISTING VALVE MANHOLES: ABANDON IN PLACE.
 - EXISTING MANHOLES AND VAULTS AND WHERE NOTED: EXPOSE AND REMOVE 3 FEET BELOW GROUND THEN PERFORATE REMAINING STRUCTURE. BACKFILL REMAINING STRUCTURE WITH SAND.
 - REMOVE EXISTING SSFM THEN CONCRETE CAP EXISTING PIPE ON EACH SIDE OF REMOVAL.
 - SLURRY BACKFILL ABANDONED SSFM BEFORE CONCRETE CAPPING PIPELINE.
 - CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

PLAN
SCALE 1" = 40'

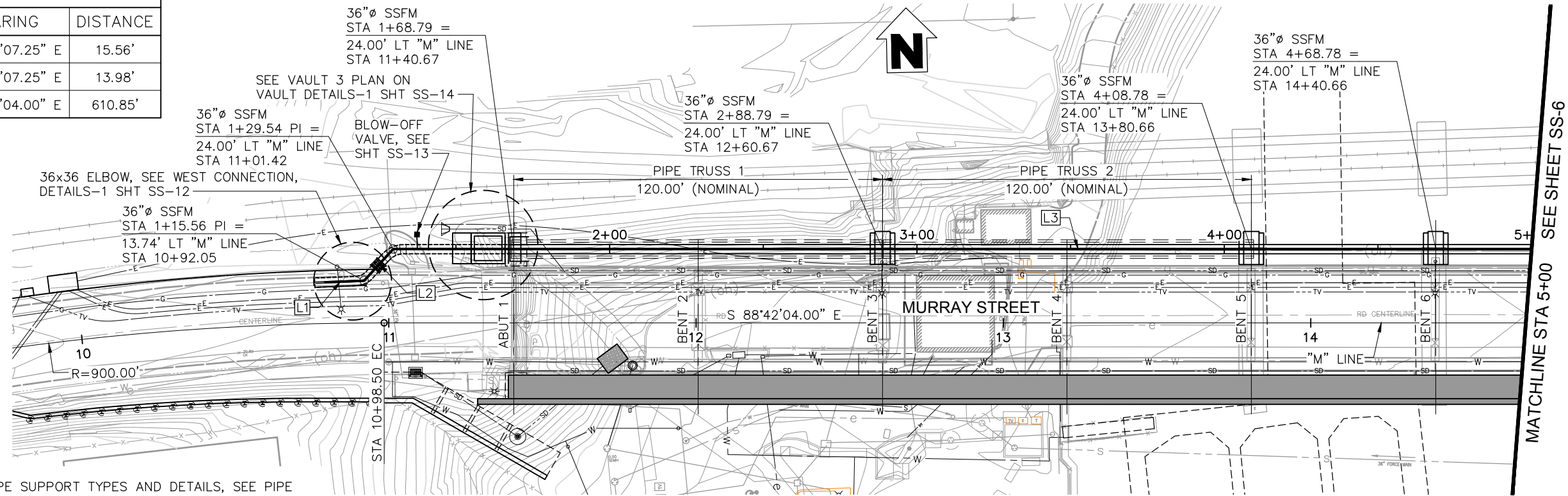


"M" LINE PROFILE
1" = 40' Horiz
1" = 20' Vert

May 29, 2024 - 11:48am
 C:\Users\tdk\OneDrive\Documents\Projects\19-2418-700-CA-DEM0.dwg

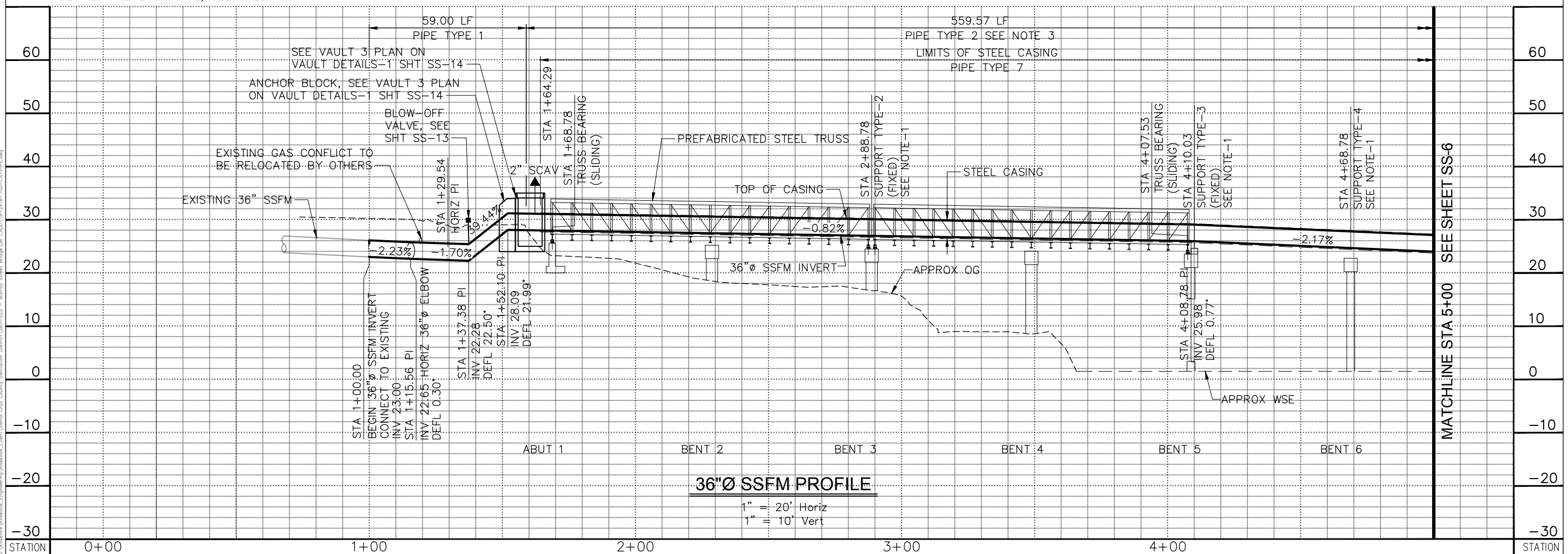
DATE	REVISION	BY			
					
PROJECT ENGINEER			D. TODD KOTEY		
SANTA CRUZ COUNTY SANITATION DISTRICT MURRAY STREET BRIDGE SANITARY SEWER - ABANDONMENT AND DEMOLITION					
DRAWN: DCP					
CHECKED: DTK					
DATE: 5/10/2024					
SCALE: 1" = 50'					
JOB NO. 234585					
SS-4					
43 OF 196					

LINE TABLE		
NO.	BEARING	DISTANCE
L1	N 88°56'07.25" E	15.56'
L2	N 43°56'07.25" E	13.98'
L3	S 88°42'04.00" E	610.85'



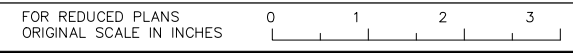
- NOTES:
- FOR PIPE SUPPORT TYPES AND DETAILS, SEE PIPE SUPPORT DETAILS SHEETS
 - SEE BRIDGE PLANS FOR UTILITY INFORMATION
 - FOR CARRIER PIPE STIFFENERS AND CASING INSULATOR DETAILS AND LOCATIONS, SEE SHEET SS-10.

PLAN
1" = 20'



36" Ø SSFM PROFILE
1" = 20' Horiz
1" = 10' Vert

May 29, 2024 - 11:50am
 C:\Users\kvoleski\OneDrive\Documents\Projects\19-2418-700-CA-PIPE.dwg



SHEET NAME: PLAN AND PROFILE

DRAWING NAME: 19-2418-700-CA-PIPE.DWG

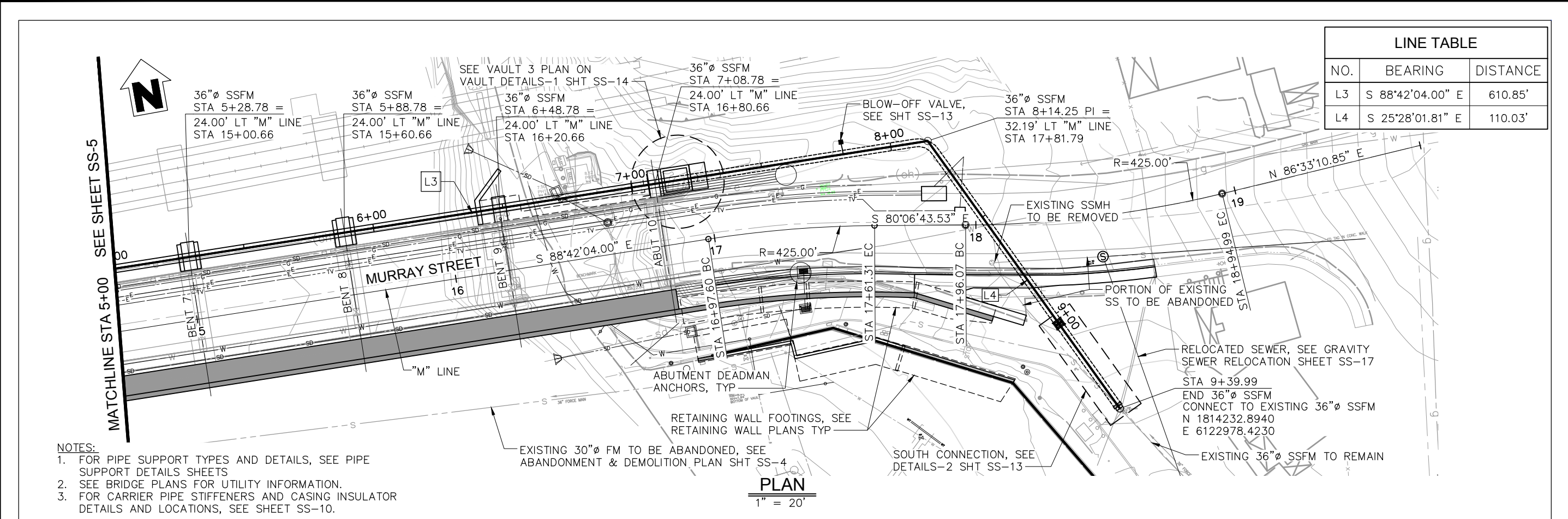
DATE	REVISION	BY

PROJECT ENGINEER
D. TODD KOTLEY

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
 STA 1+00 TO STA 5+00
 SANITARY SEWER - PLAN AND PROFILE

DRAWN: DCP
 CHECKED: DTK
 DATE: 5/10/2024
 SCALE: AS SHOWN
 JOB NO. 234585

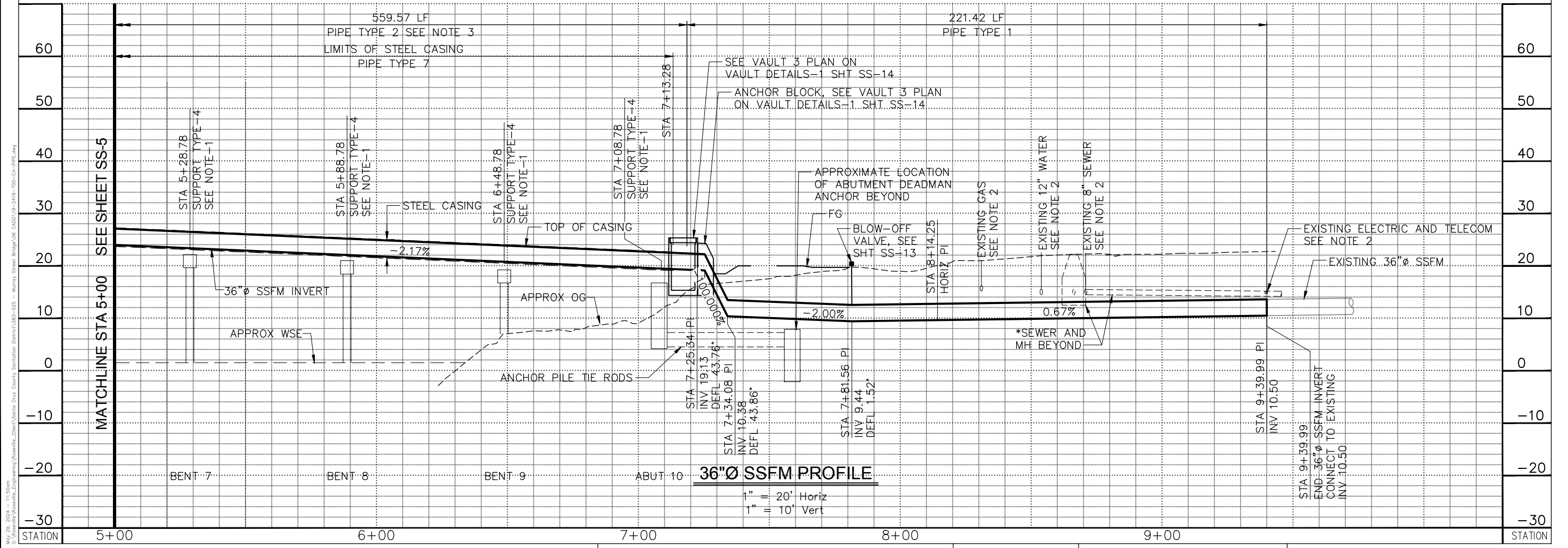
SS-5
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LINE TABLE		
NO.	BEARING	DISTANCE
L3	S 88°42'04.00" E	610.85'
L4	S 25°28'01.81" E	110.03'

- NOTES:**
- FOR PIPE SUPPORT TYPES AND DETAILS, SEE PIPE SUPPORT DETAILS SHEETS
 - SEE BRIDGE PLANS FOR UTILITY INFORMATION.
 - FOR CARRIER PIPE STIFFENERS AND CASING INSULATOR DETAILS AND LOCATIONS, SEE SHEET SS-10.

PLAN
1" = 20'



36" Ø SSFM PROFILE
1" = 20' Horiz
1" = 10' Vert

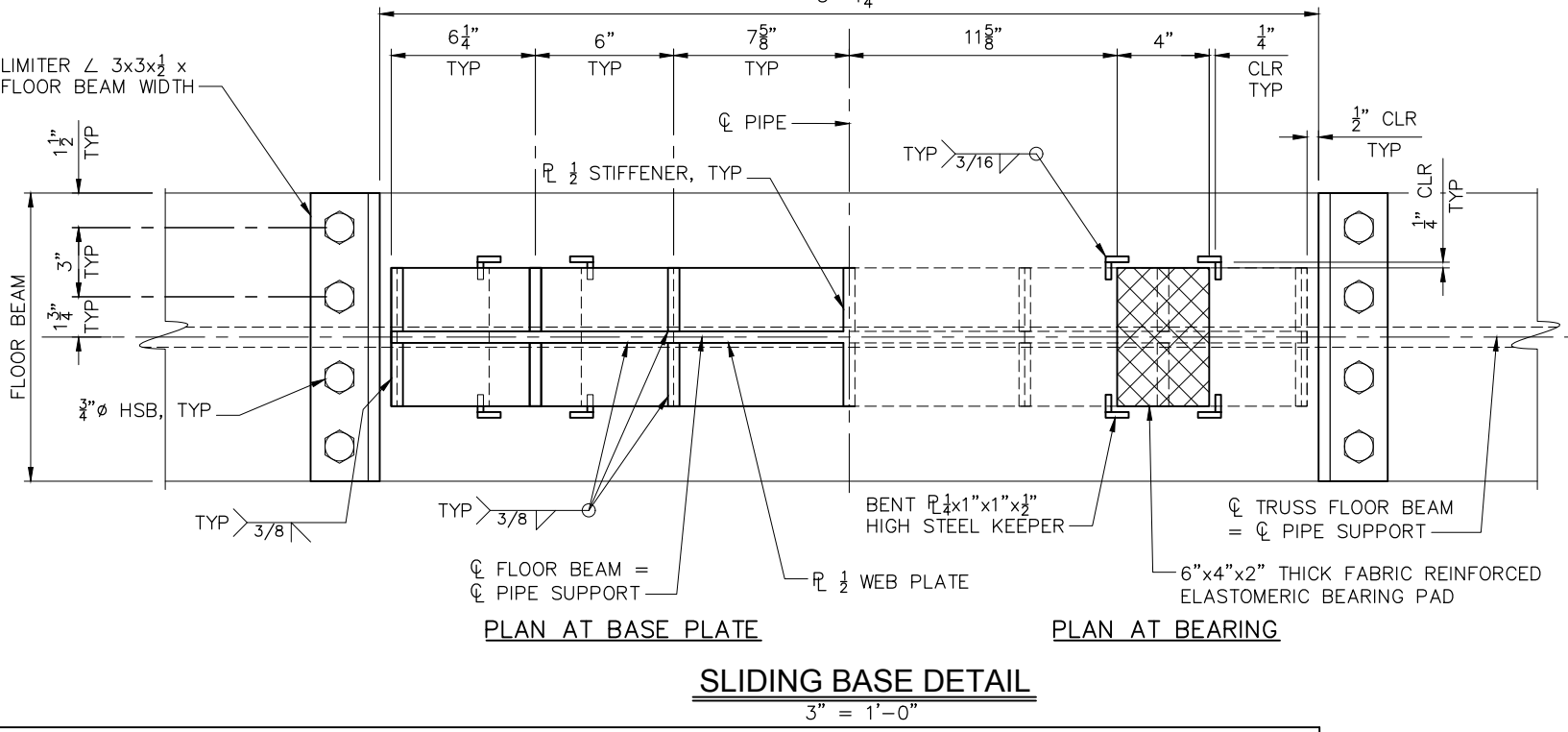
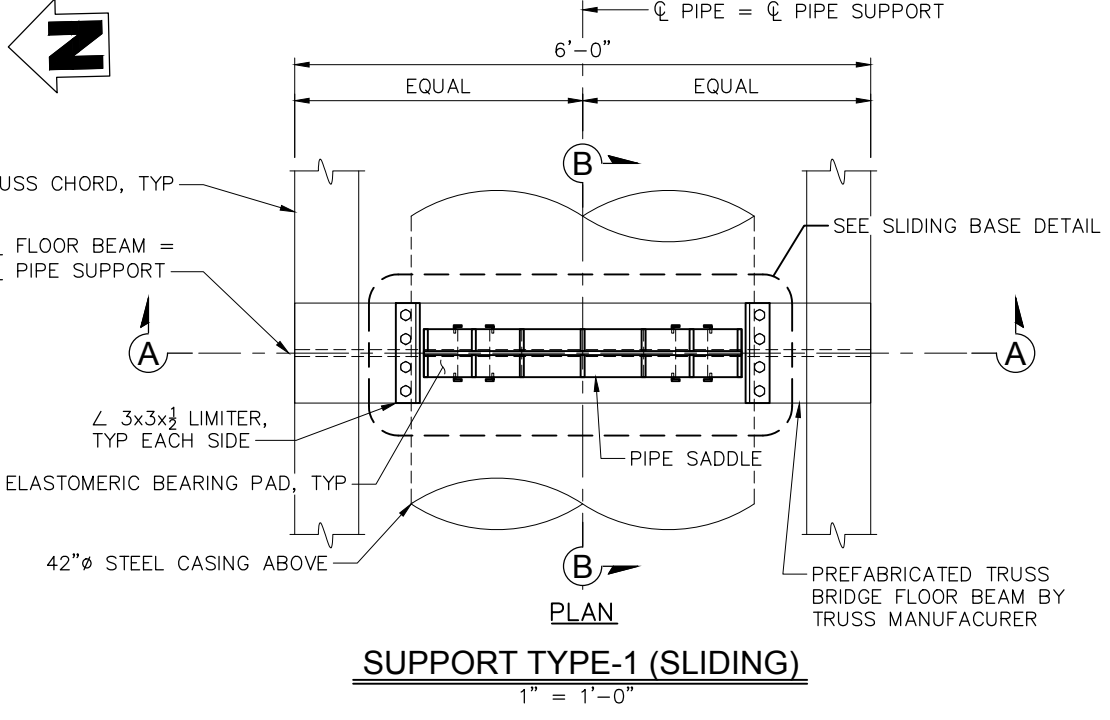
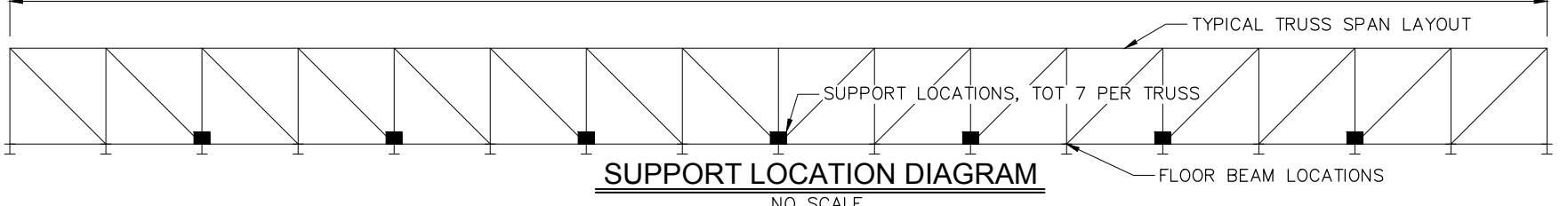
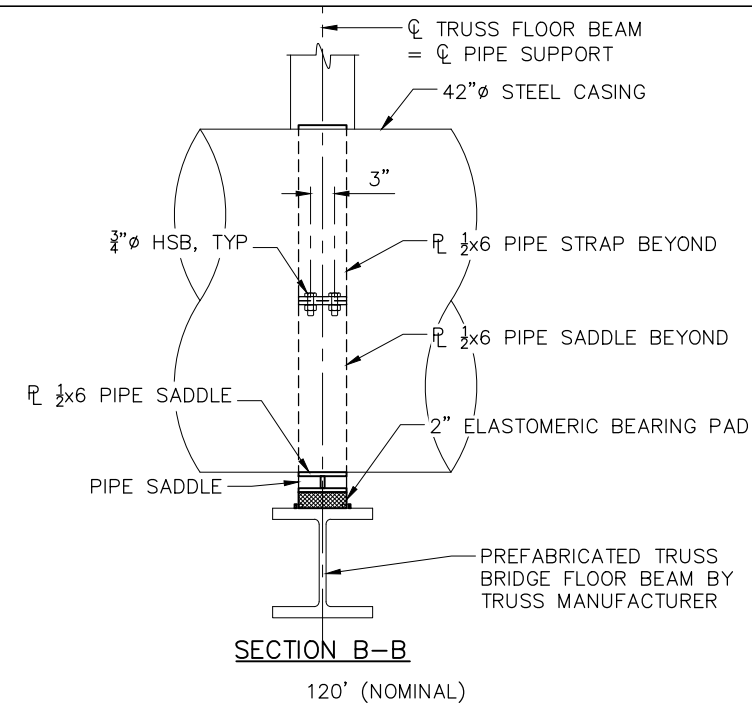
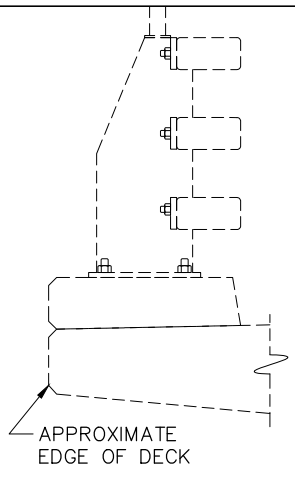
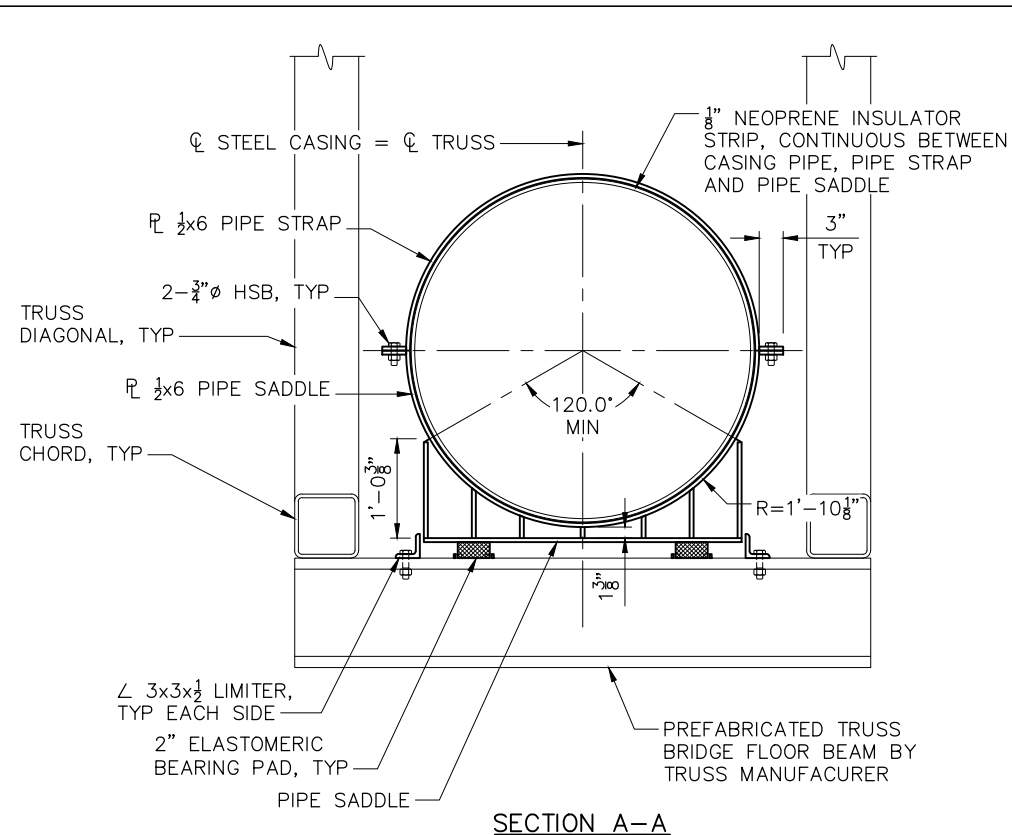
May 29, 2024 - 11:50am
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FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES

SHEET NAME: PLAN AND PROFILE

DRAWING NAME: 19-2418-700-CA-PIPE.DWG

BY	
REVISION	
DATE	
PROJECT ENGINEER	D. TODD KOTLEY
SANTA CRUZ COUNTY SANITATION DISTRICT	MURRAY STREET BRIDGE
	STA 5+00 TO STA 9+39.99
	SANITARY SEWER - PLAN AND PROFILE
DRAWN:	DCP
CHECKED:	DTK
DATE:	5/10/2024
SCALE:	SCALE
JOB NO.	234585
SS-6	
45 OF 196	



PIPE SUPPORT ELEVATION DATA

	ABUT 1	BENT 2	BENT 3	BENT 4	BENT 5	BENT 6	BENT 7	BENT 8	BENT 9	ABUT 10
BOTTOM OF STEEL CASING Elev	27.66	N/A	26.68	N/A	25.70	24.40	23.10	21.80	20.50	19.20
TOP OF CONCRETE Elev (VERIFY)	25.58	N/A	24.50	N/A	23.52/24.60	22.75	22.17	21.00	19.25	16.75
DIMENSION "a" SEE SS-12	2.08'	N/A	2.17'	N/A	2.17'/1.09'	1.64'	0.93'	0.80'	1.25'	2.45'

May 29, 2024 - 11:50am
 C:\Users\jvassal\OneDrive\Documents\Projects\Sanita Cruz County Sanitation District\19-2418-700-CA-SUPPORTS.DWG

FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES

SHEET NAME: PIPE SUPPORT DETAILS-1

DRAWING NAME: 19-2418-700-CA-SUPPORTS.DWG

BY	
REVISION	
DATE	

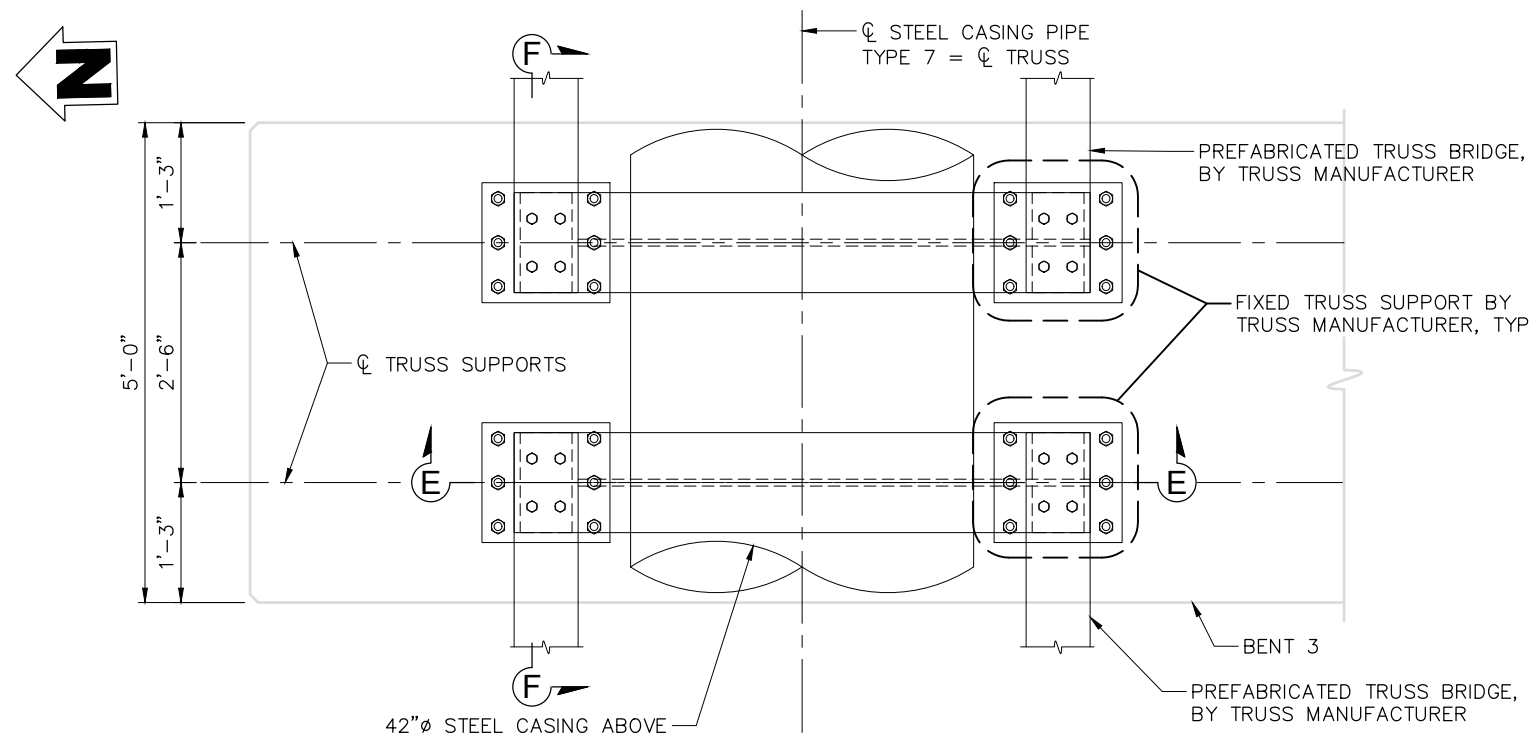
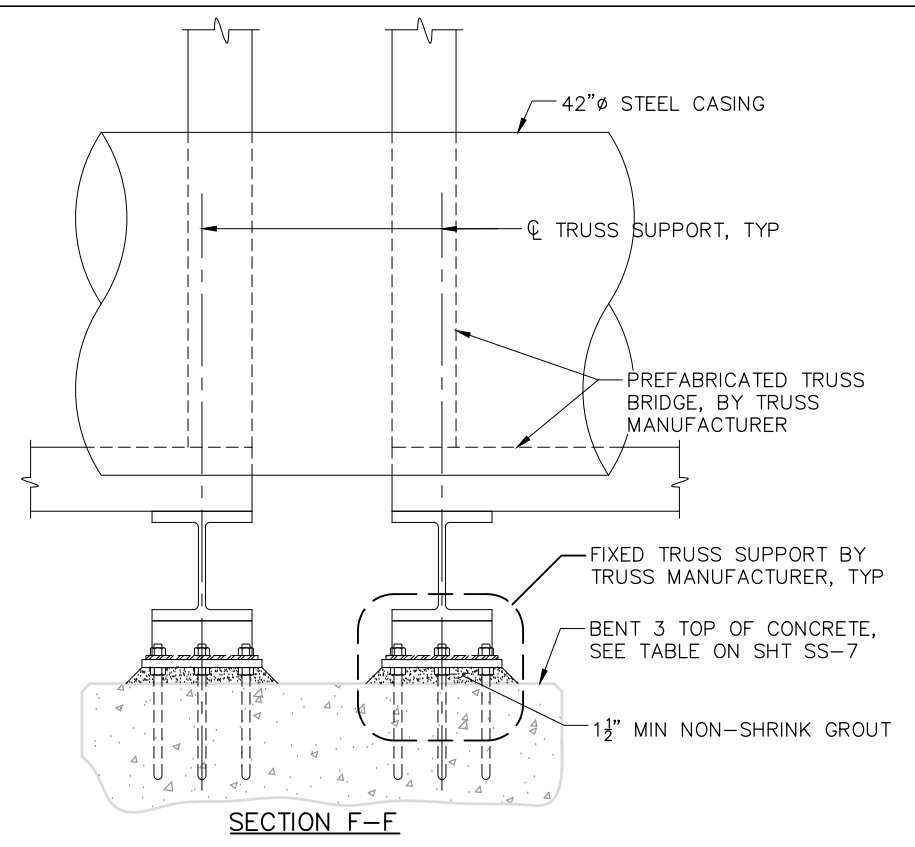
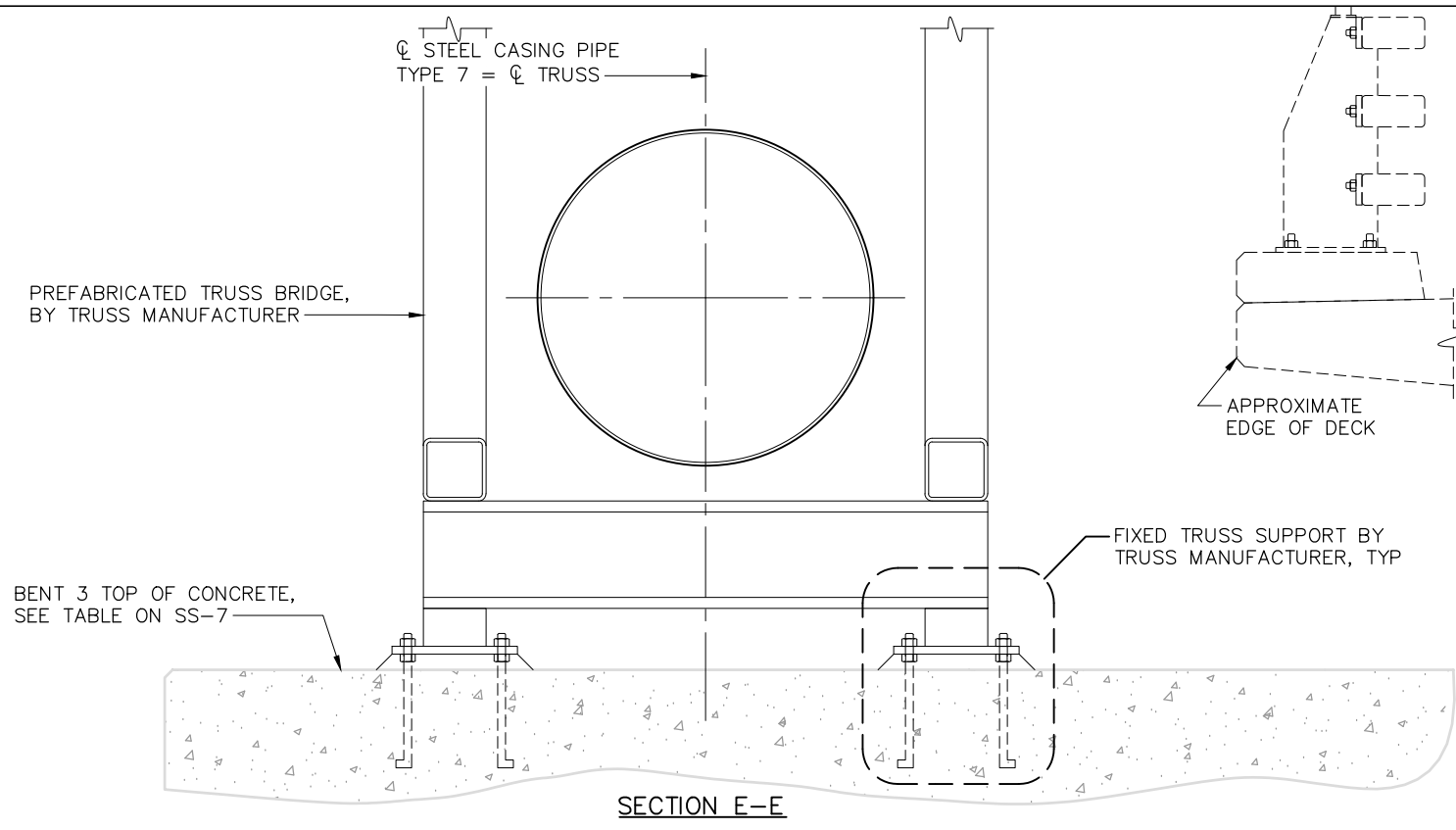
PROJECT ENGINEER
D. TODD KOTY

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
SANITARY SEWER - PIPE SUPPORT DETAILS-1

DRAWN: DCP
CHECKED: DTK
DATE: 5/10/2024
SCALE: AS SHOWN
JOB NO. 234585


SS-7
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May 29, 2024 - 11:50am
 C:\Users\jvossell\OneDrive\Documents\Projects\Sanita Cruz County Sanitation District\385-525 - Murray Street Bridge\385-525 - Murray Street Bridge\385-525 - Murray Street Bridge.dwg



PLAN
SUPPORT TYPE-2 (FIXED)
 1" = 1'-0"

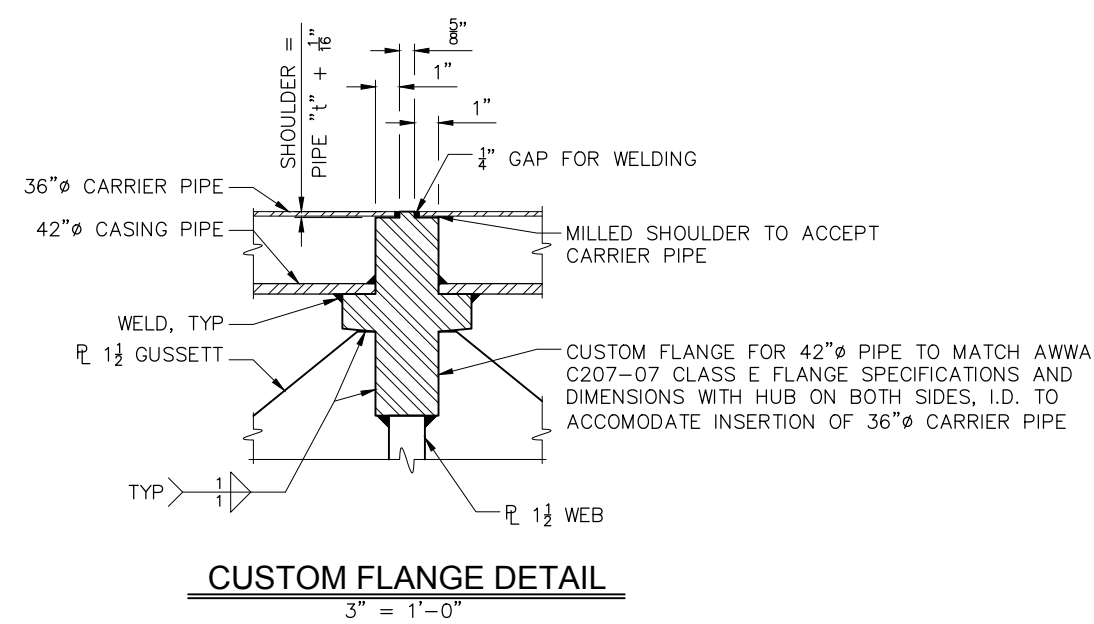
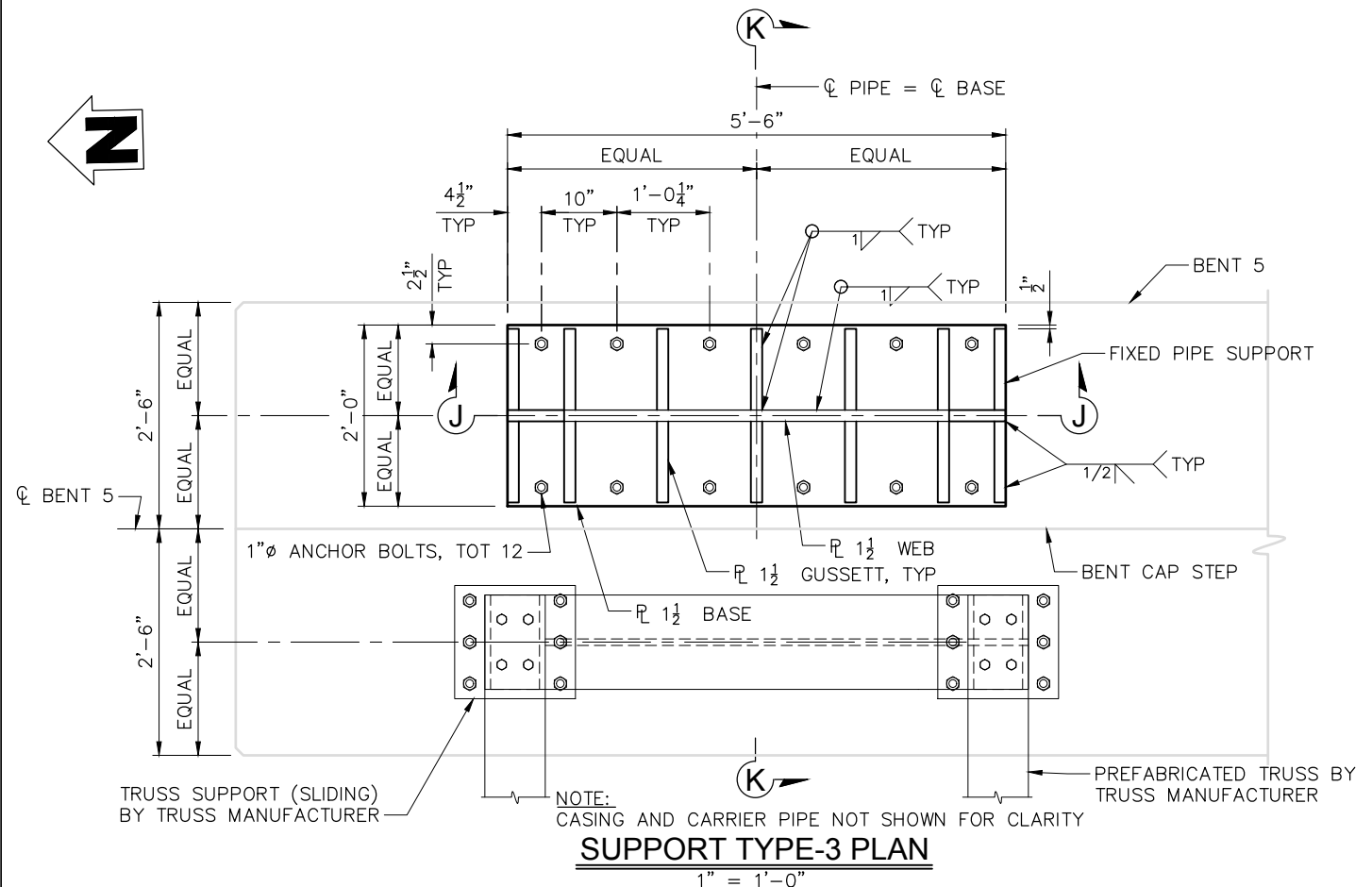
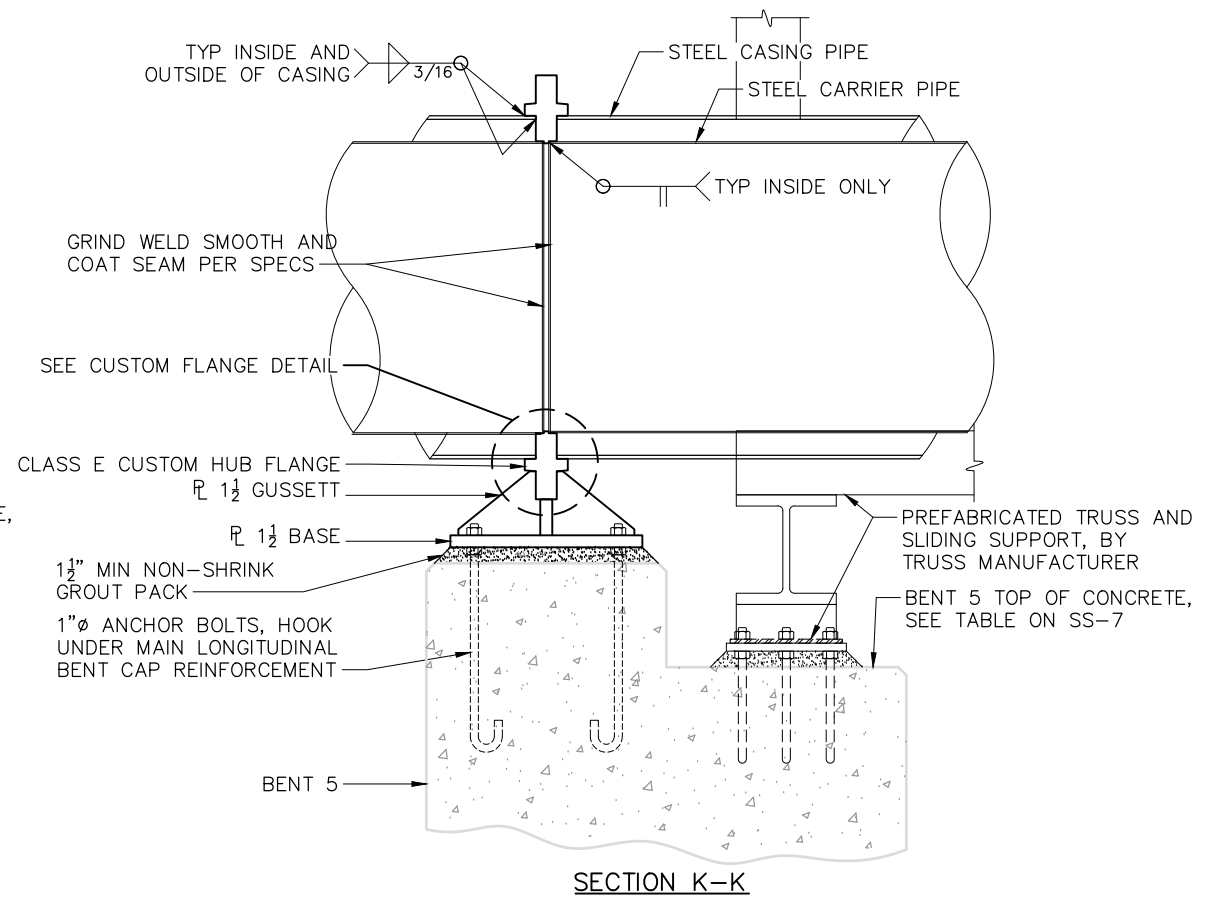
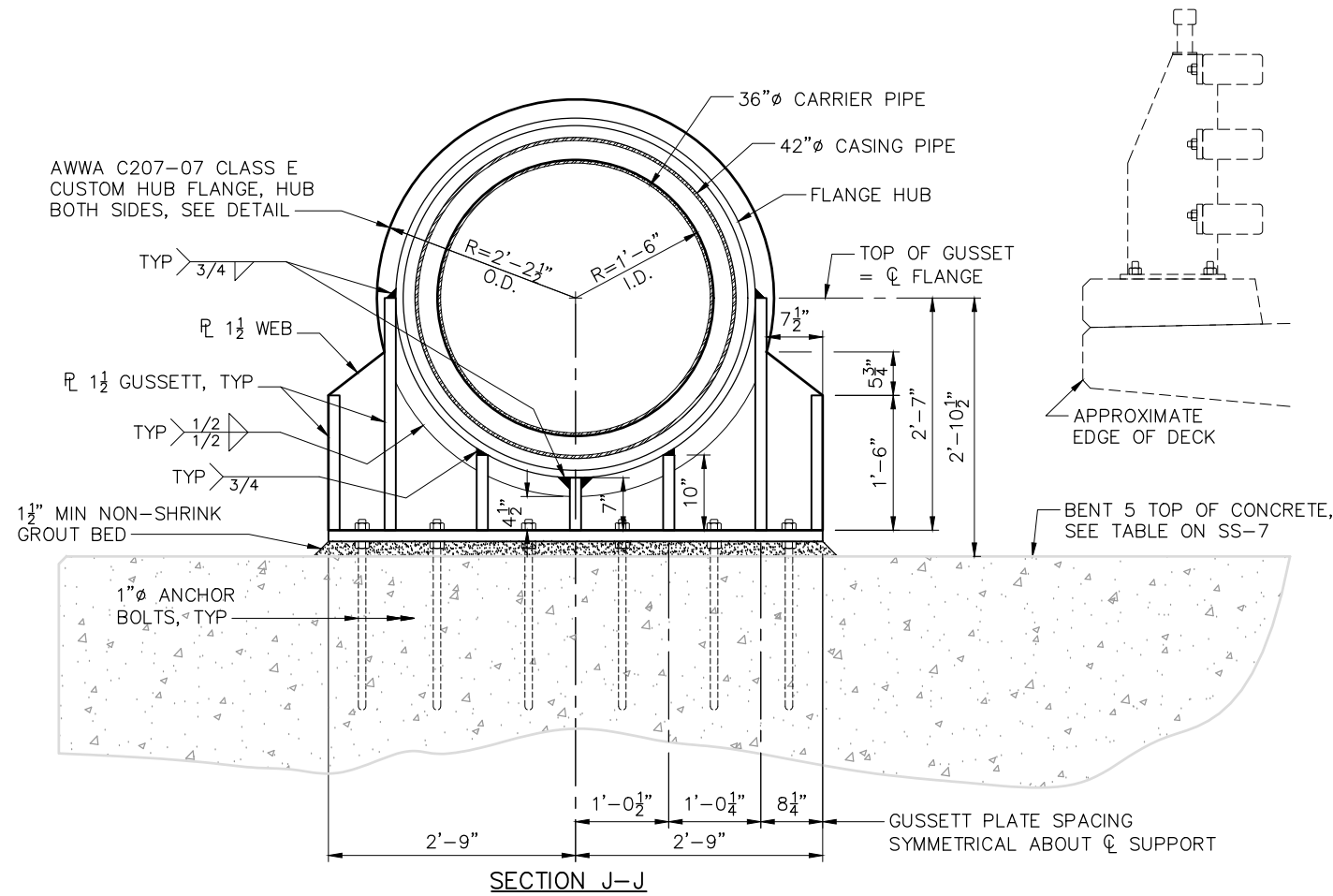
NOTE: TO BE DESIGNED BY TRUSS MANUFACTURER

BY	
REVISION	
DATE	
	
PROJECT ENGINEER	D. TODD KOTEY
SANTA CRUZ COUNTY SANITATION DISTRICT	MURRAY STREET BRIDGE
SANITARY SEWER - PIPE SUPPORT DETAILS-2	
DRAWN:	DCP
CHECKED:	DTK
DATE:	5/10/2024
SCALE:	AS SHOWN
JOB NO.	234585
SS-8	
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FOR REDUCED PLANS ORIGINAL SCALE IN INCHES

SHEET NAME: PIPE SUPPORT DETAILS-2

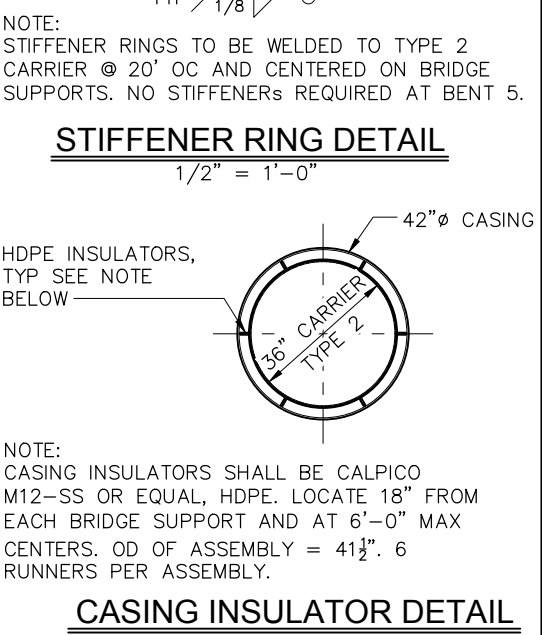
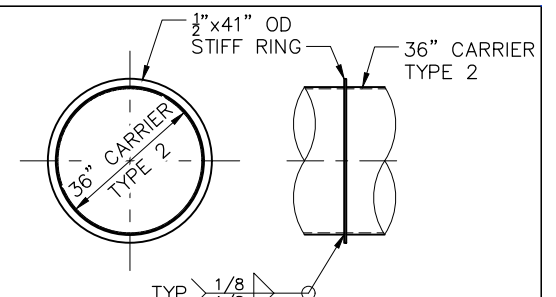
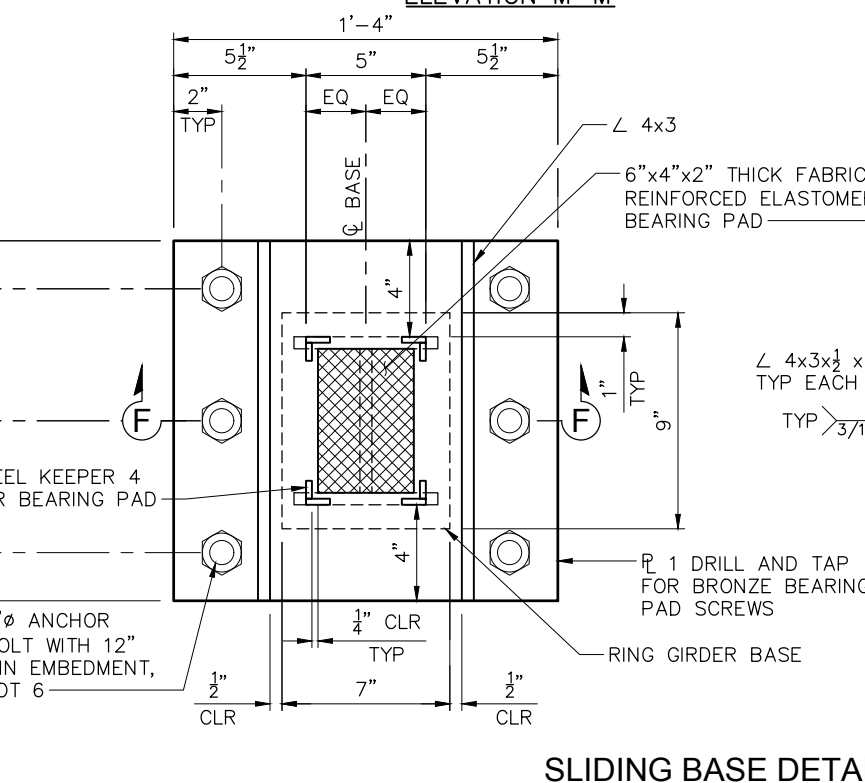
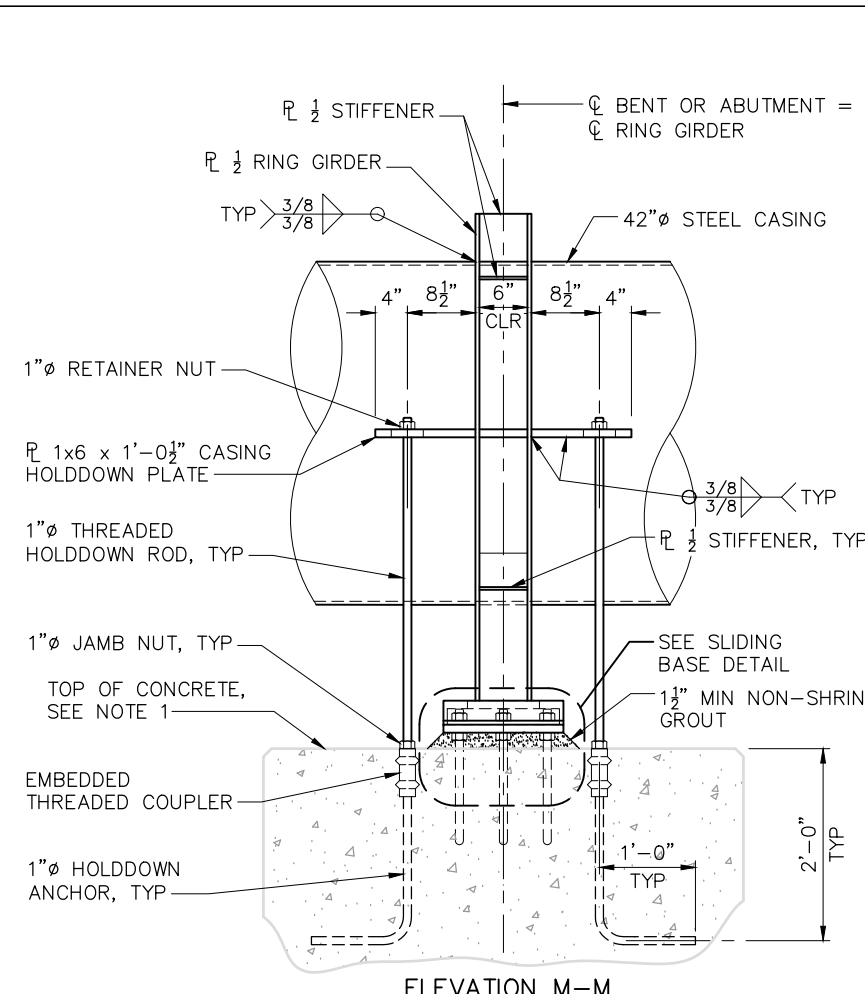
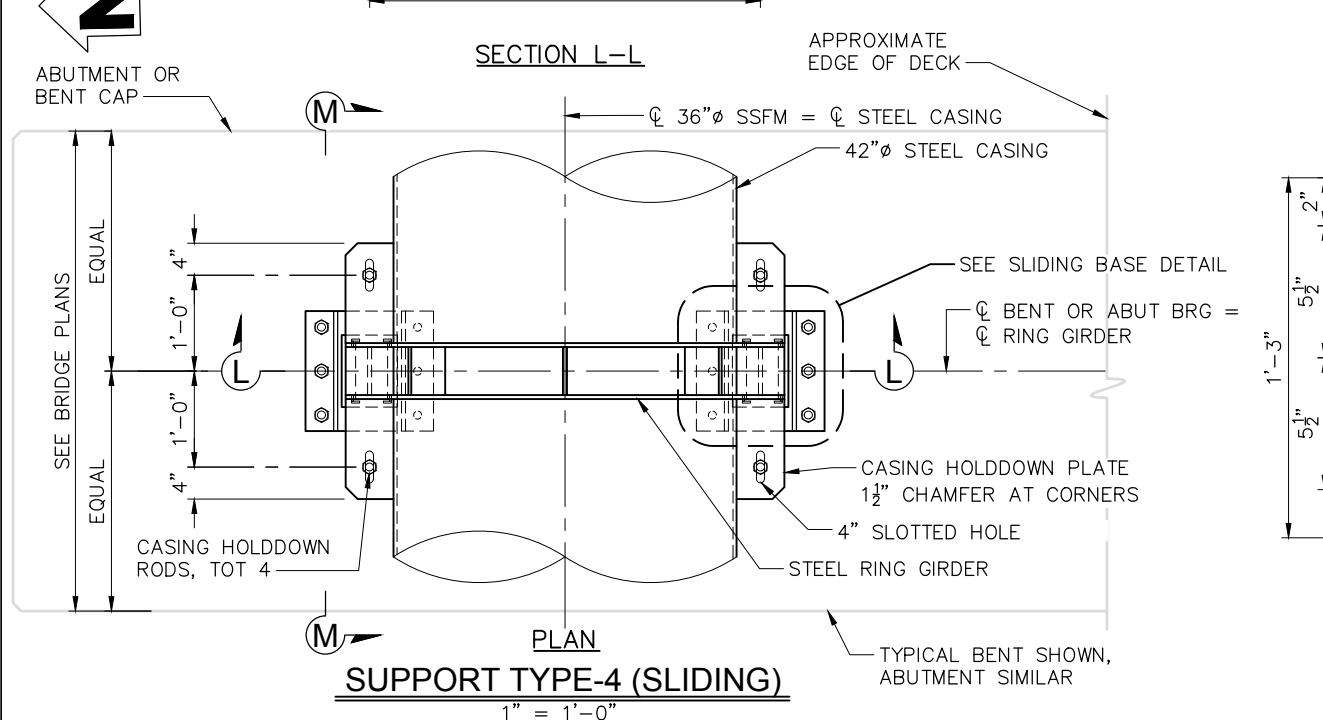
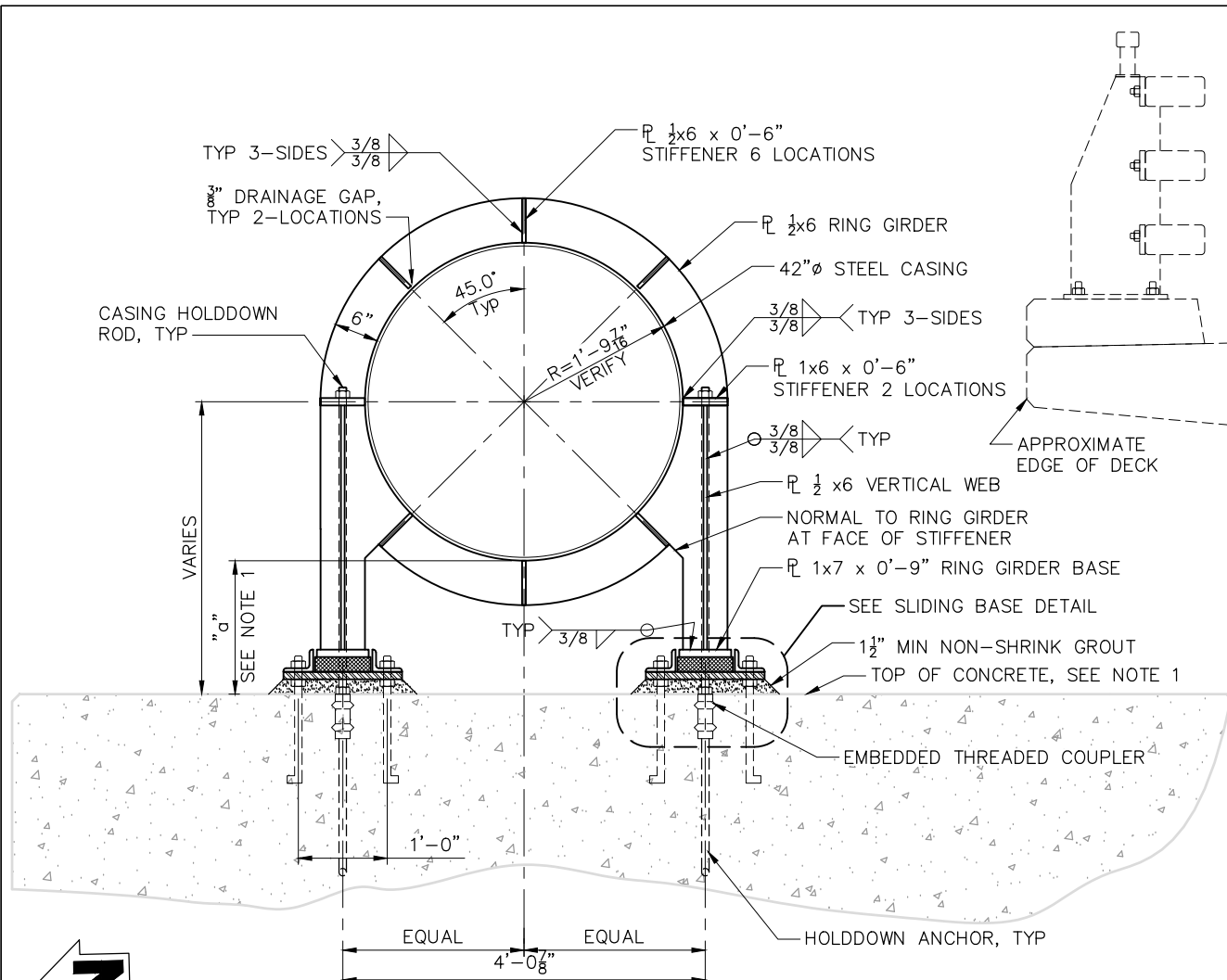
DRAWING NAME: 19-2418-700-CA-SUPPORTS.DWG



May 29, 2024 - 11:50am
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DATE	REVISION	BY

PROJECT ENGINEER	D. TODD KOTLEY
SANTA CRUZ COUNTY SANITATION DISTRICT	MURRAY STREET BRIDGE
SANITARY SEWER - PIPE SUPPORT DETAILS-3	
DRAWN:	DCP
CHECKED:	DTK
DATE:	5/10/2024
SCALE:	AS SHOWN
JOB NO.	234585
SS-9	
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NOTE:
STIFFENER RINGS TO BE WELDED TO TYPE 2 CARRIER @ 20' OC AND CENTERED ON BRIDGE SUPPORTS. NO STIFFENERS REQUIRED AT BENT 5.

STIFFENER RING DETAIL
1/2" = 1'-0"

NOTE:
CASING INSULATORS SHALL BE CALPICO M12-SS OR EQUAL, HDPE. LOCATE 18" FROM EACH BRIDGE SUPPORT AND AT 6'-0" MAX CENTERS. OD OF ASSEMBLY = 41 1/2". 6 RUNNERS PER ASSEMBLY.

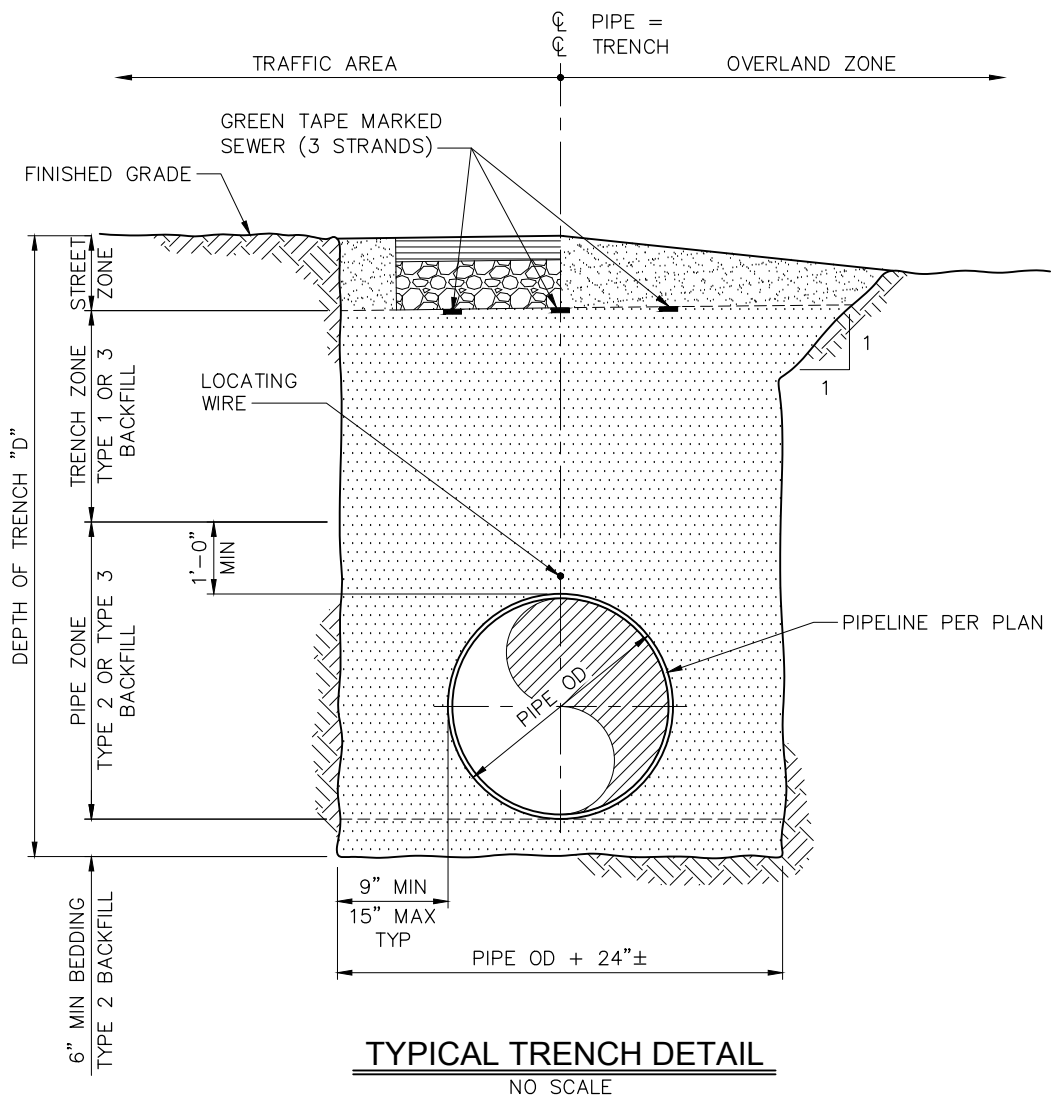
CASING INSULATOR DETAIL
1/2" = 1'-0"

NOTES:
1. FOR BENT AND ABUTMENT ELEVATION DATA, SEE TABLE ON SHEET SS-7.

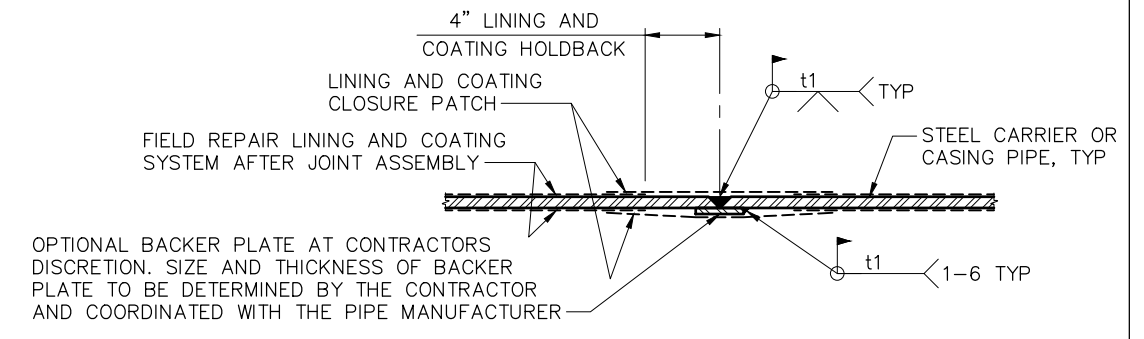
May 29, 2024 - 11:50am
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BY			
REVISION			
DATE			
PROJECT ENGINEER	D. TODD KOTLEY		
PROJECT ENGINEER	D. TODD KOTLEY		
SANTA CRUZ COUNTY SANITATION DISTRICT	MURRAY STREET BRIDGE		
	SANITARY SEWER - PIPE SUPPORT DETAILS-4		
DRAWN:	DCP		
CHECKED:	DTK		
DATE:	5/10/2024		
SCALE:	AS SHOWN		
JOB NO.	234585		
SS-10	49 OF 196		

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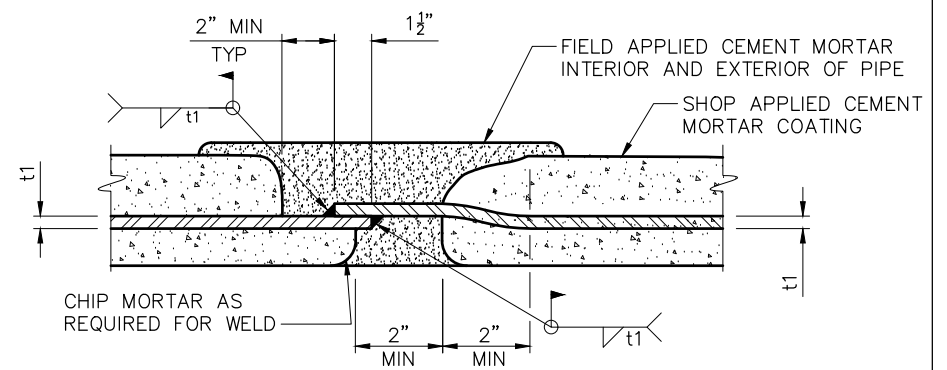


TYPICAL TRENCH DETAIL
NO SCALE

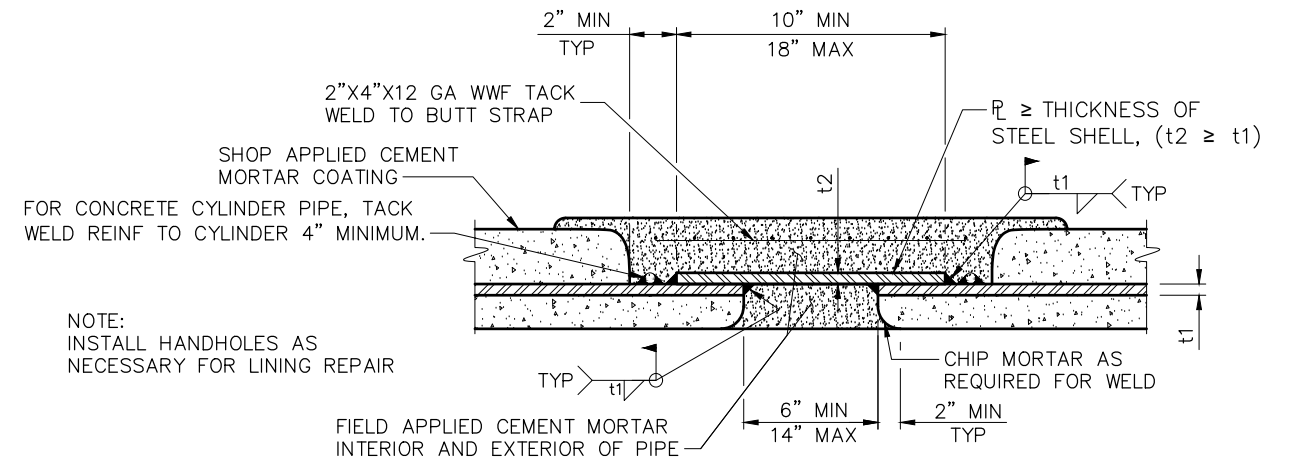


OPTIONAL BACKER PLATE AT CONTRACTORS DISCRETION. SIZE AND THICKNESS OF BACKER PLATE TO BE DETERMINED BY THE CONTRACTOR AND COORDINATED WITH THE PIPE MANUFACTURER

BUTT WELD JOINT DETAIL
NO SCALE



EXPANDED BELL JOINT DETAIL
NO SCALE



NOTE:
INSTALL HANDHOLES AS NECESSARY FOR LINING REPAIR

BUTT STRAP JOINT DETAIL
NO SCALE

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES

SHEET NAME: PIPELINE BORE AND JACK DETAILS

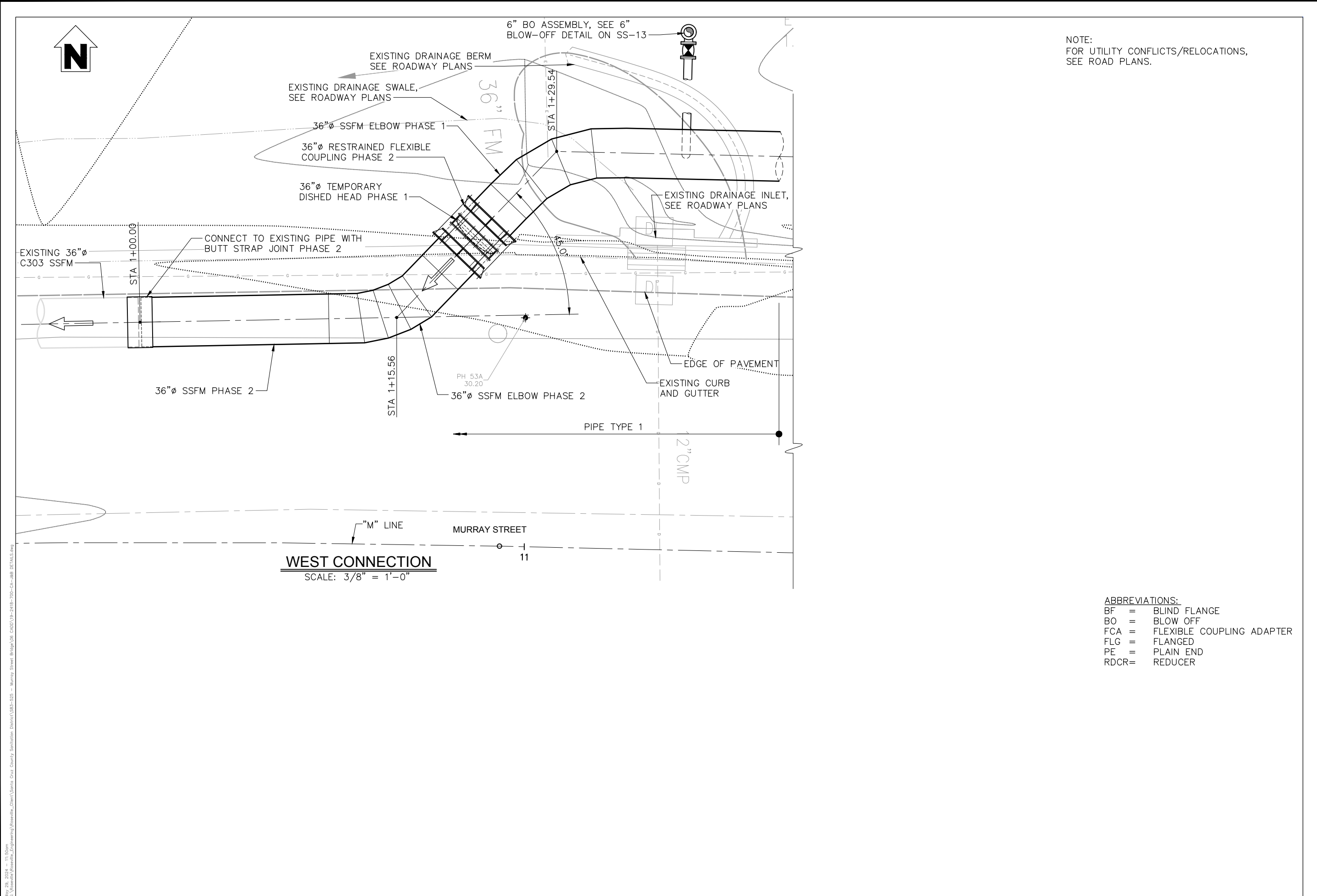
DRAWING NAME: 19-2418-700-CA-J&B DETAILS.DWG

DATE	
REVISION	
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D. TODD KOTLEY

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
SANITARY SEWER - PIPELINE BORE AND JACK DETAILS

DRAWN: DCP
CHECKED: DTK
DATE: 5/10/2024
SCALE: AS SHOWN
JOB NO. 234585

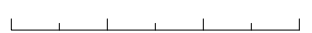


NOTE:
FOR UTILITY CONFLICTS/RELOCATIONS,
SEE ROAD PLANS.

- ABBREVIATIONS:**
- BF = BLIND FLANGE
 - BO = BLOW OFF
 - FCA = FLEXIBLE COUPLING ADAPTER
 - FLG = FLANGED
 - PE = PLAIN END
 - RDCR = REDUCER

May 29, 2024 - 11:50am
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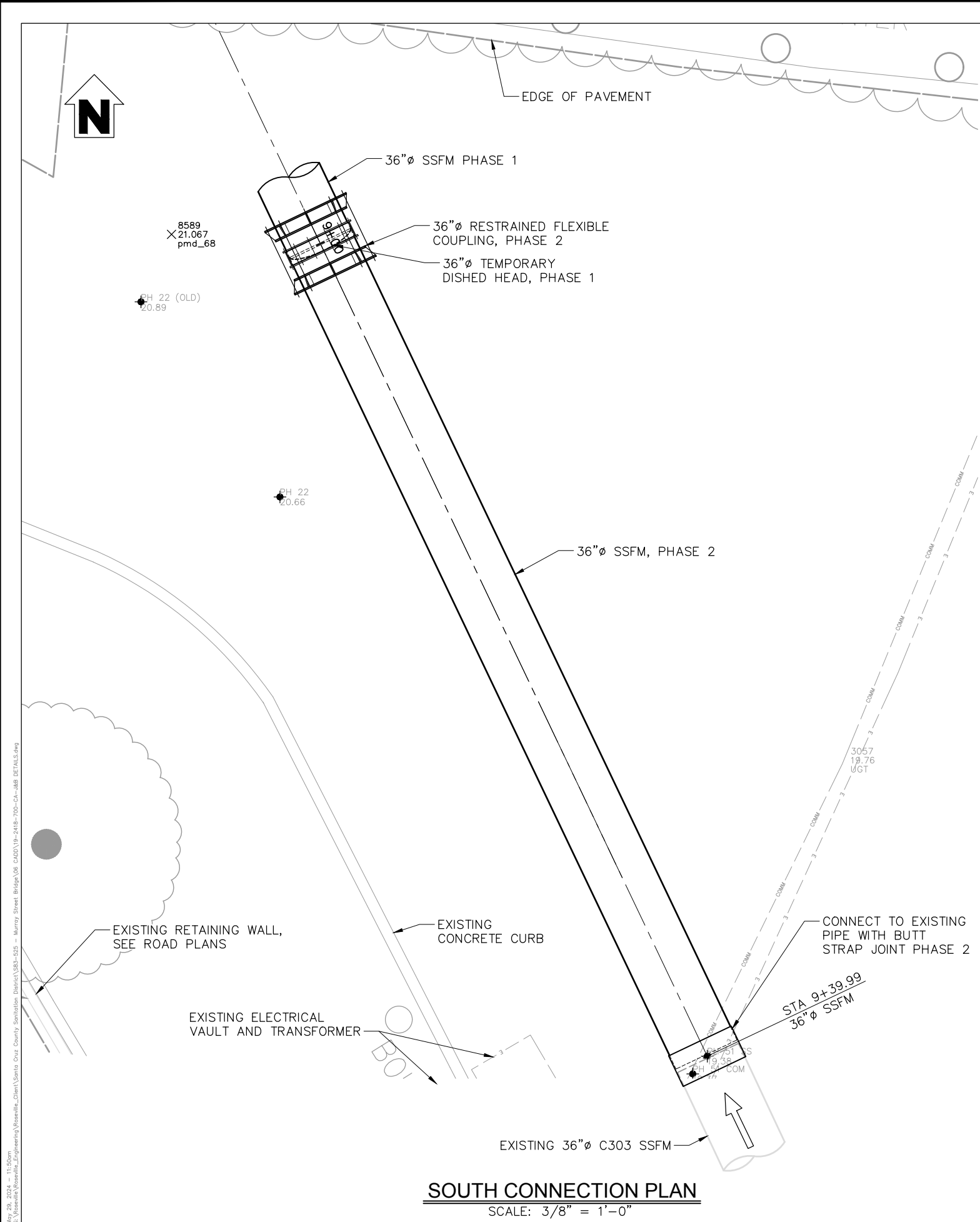
FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES



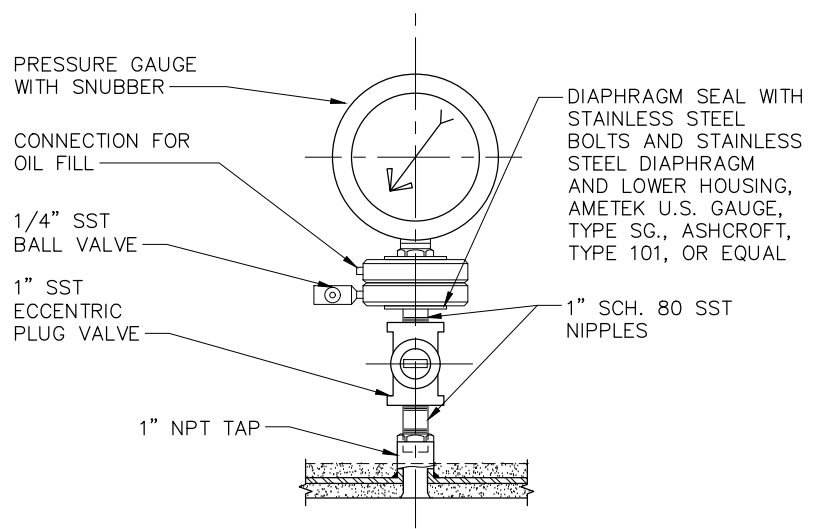
SHEET NAME: DETAILS-1

DRAWING NAME: 19-2418-700-CA-J&B DETAILS.DWG

DATE	REVISION	BY
PROJECT ENGINEER	D. TODD KOTY	
SANTA CRUZ COUNTY SANITATION DISTRICT	MURRAY STREET BRIDGE	
	SANITARY SEWER - DETAILS-1	
DRAWN:	DCP	
CHECKED:	DTK	
DATE:	5/10/2024	
SCALE:	AS SHOWN	
JOB NO.	234585	
SS-12		
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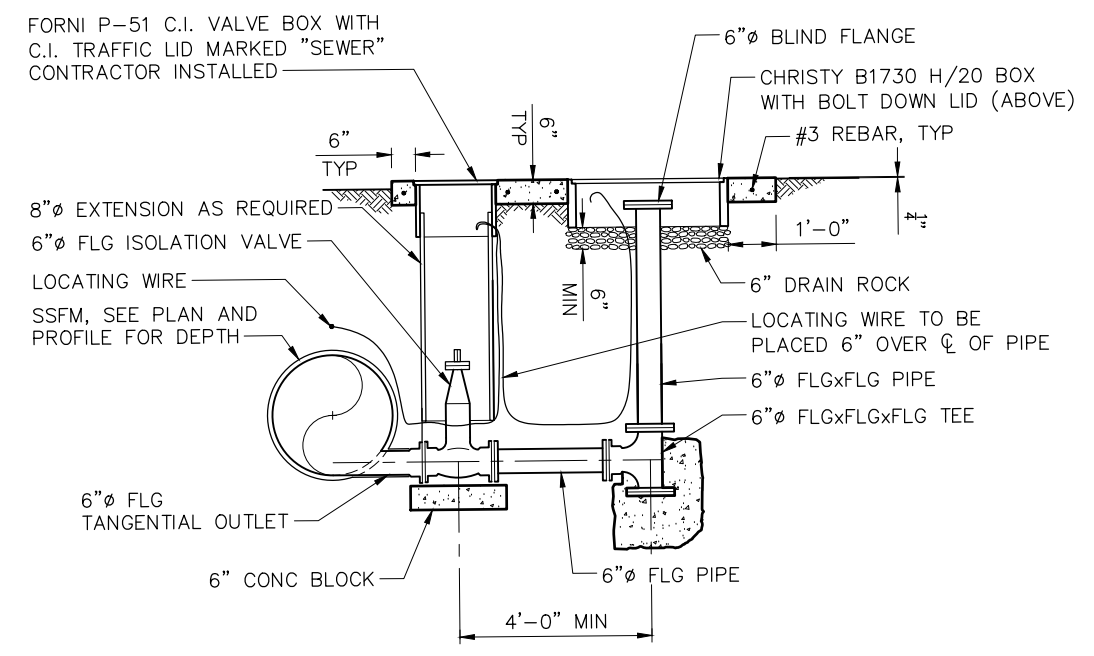
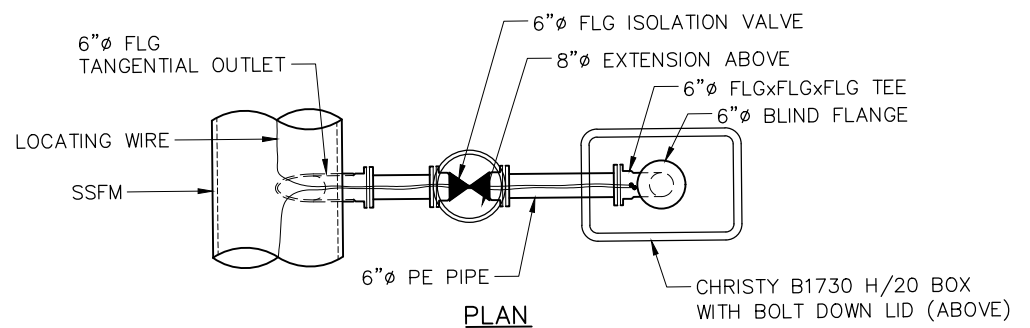
SOUTH CONNECTION PLAN
SCALE: 3/8" = 1'-0"



PRESSURE GAUGE DETAIL
Scale: NTS

- NOTES:
- FOR UTILITY CONFLICTS/RELOCATIONS, SEE ROAD PLANS.
 - SEE SHEET SS-17 FOR CAST-IN-PLACE VAULT PLAN.

- ABBREVIATIONS:
- BF = BLIND FLANGE
 - BO = BLOW OFF
 - FCA = FLANGED COUPLING ADAPTER
 - FLG = FLANGED
 - PE = PLAIN END
 - RDCR = REDUCER
 - RMJ = RESTRAINED MECH JOINT



- NOTE:
- FOR PIPE AND APPURTENANCE TYPE, SEE PIPE SCHEDULE.
 - PIPE SPOOL LENGTH MAY BE INCREASED DUE TO FIELD CONDITIONS WITH ENGINEER APPROVAL.
 - OMIT FLANGES ON PIPES LESS THAN 2" OR 3" AND USE THREAD.
 - ALL PIPE SPOOLS BELOW GRADE SHALL BE SCH 80 FEL&C.

6" BLOW OFF DETAIL
SCALE: 1/2" = 1'-0"

DATE	REVISION	BY

PROJECT ENGINEER
D. TODD KOTLEY

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
SANITARY SEWER - DETAILS-2

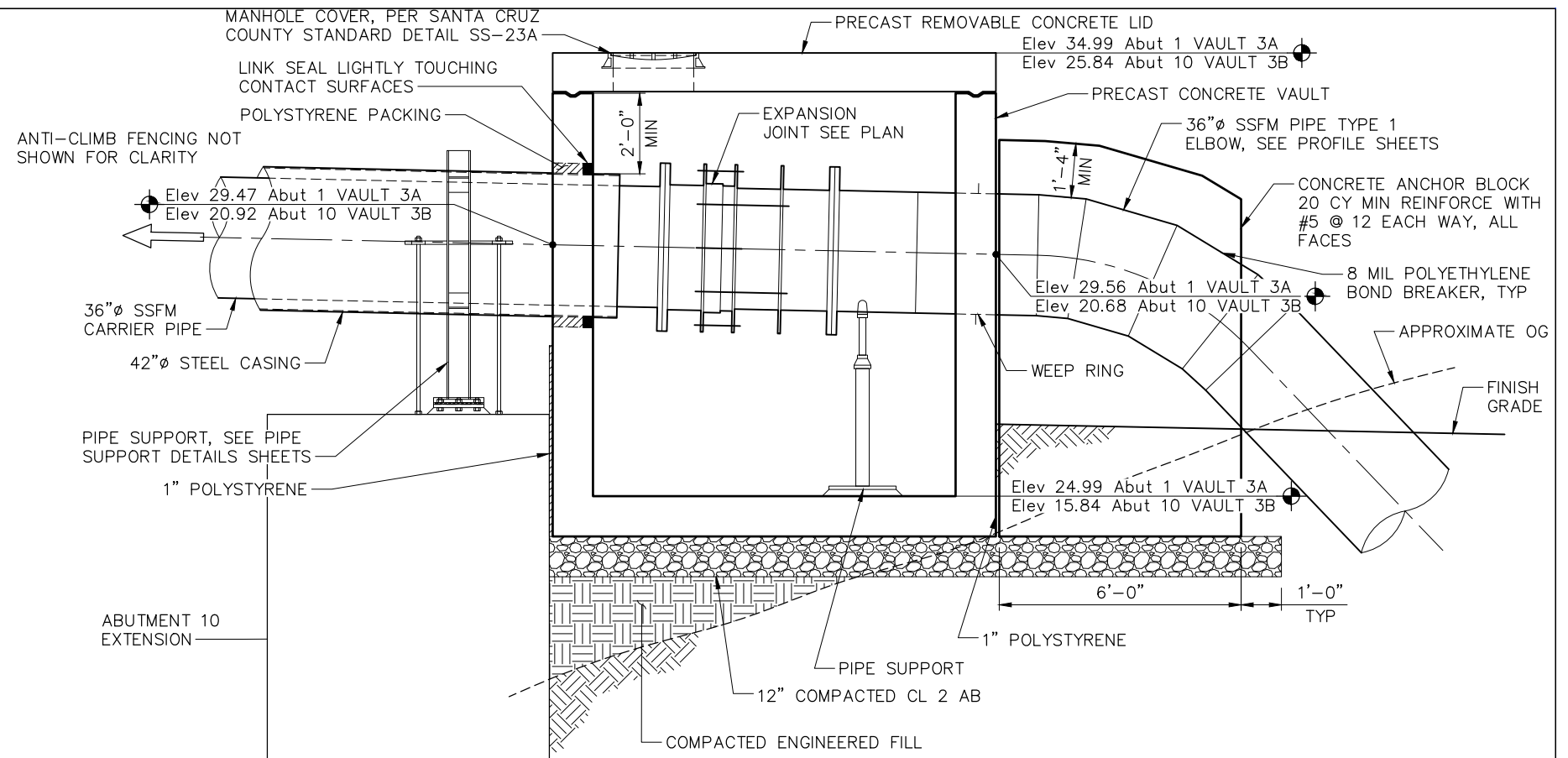
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CHECKED: DTK
DATE: 5/10/2024
SCALE: 3/8" = 1'-0"
JOB NO. 234585

May 29, 2024 - 11:50am
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FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES

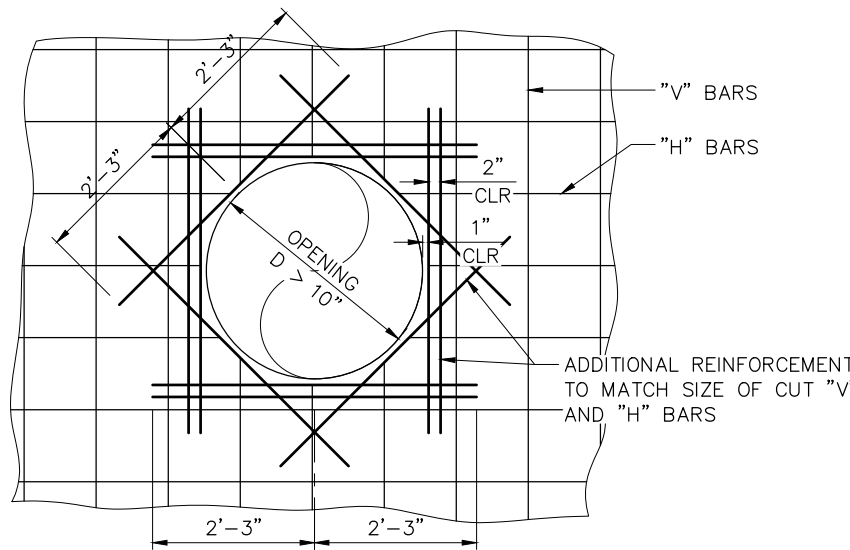
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DRAWING NAME: 19-2418-700-CA-J&B DETAILS.DWG



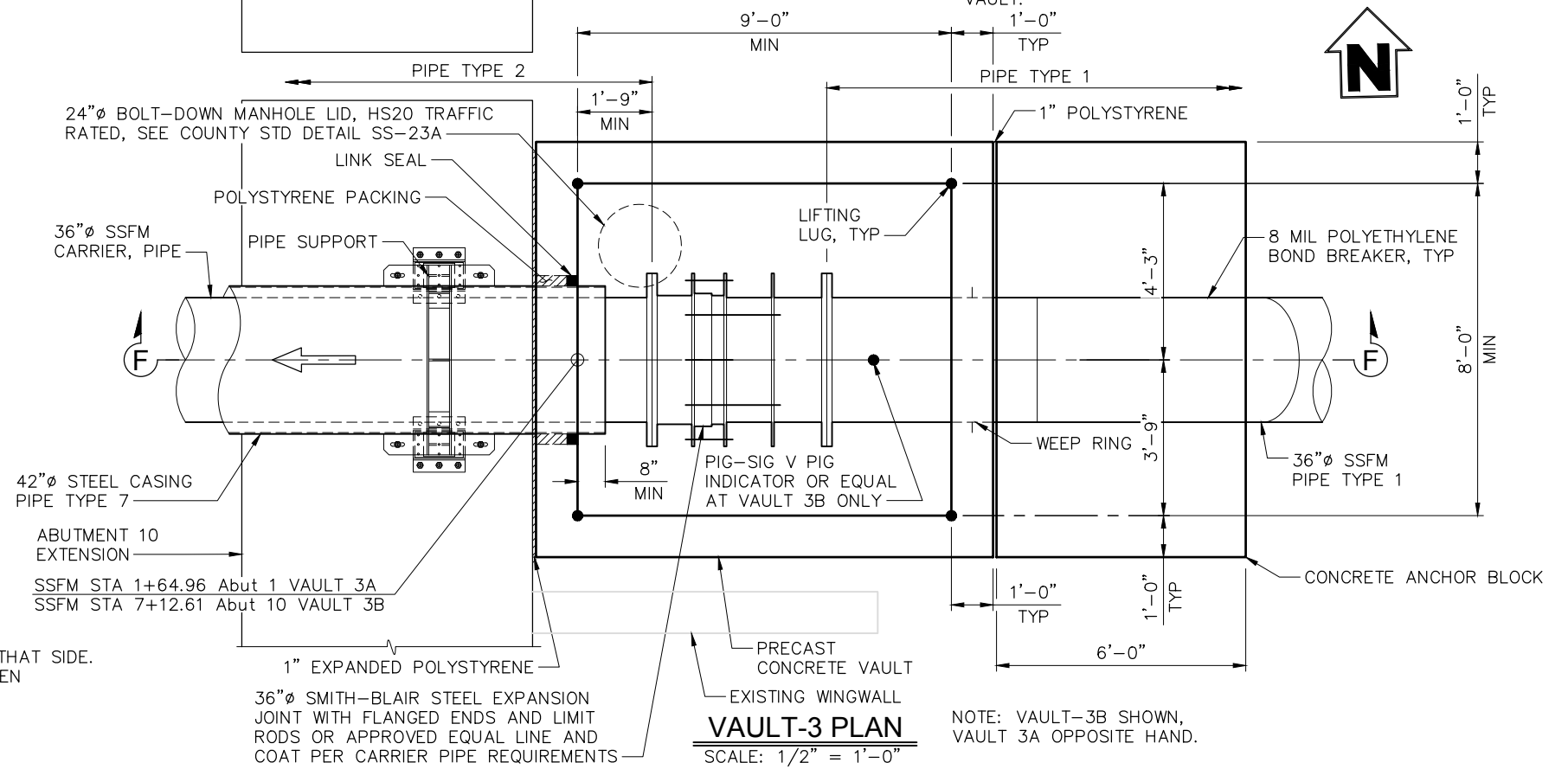
SECTION F-F
SCALE: 1/2" = 1'-0"

- NOTES:
1. ABUTMENT 10 SHOWN, ABUTMENT 1 SIMILAR BY OPPOSITE HAND
 2. FIELD VERIFY ALL CONTROLLING ELEVATIONS AND DIMENSIONS PRIOR TO FABRICATING VAULTS.
 3. EAST ABUTMENT VAULT SHOWN. 2" SCAV IN WEST ABUTMENT VAULT.



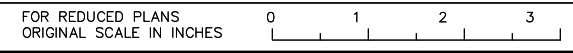
- NOTES:
1. IF "D" IS < 10" ADJUST BAR SPACING AROUND OPENING, NO CUT BARS
 2. ADDITIONAL BARS SIZES TO MATCH THOSE OF THE CUT BARS.
 3. IF OPENING IS CLOSER THAN 18" TO INTERSECTING WALL OR SLAB, OMIT DIAGONALS ON THAT SIDE.
 4. IF OPENING IS TOO CLOSE TO END OF WALL OR SLAB TO PROVIDE SPECIFIED LENGTH, THEN PROVIDE 180° STANDARD HOOK INSTEAD.

TYPICAL CIRCULAR OPENING REINFORCEMENT DETAIL
SCALE: 1" = 1'-0"



VAULT-3 PLAN
SCALE: 1/2" = 1'-0"

NOTE: VAULT-3B SHOWN, VAULT 3A OPPOSITE HAND.



SHEET NAME: VAULT DETAILS-1

DRAWING NAME: 19-2418-700-CA-VAULTS.DWG

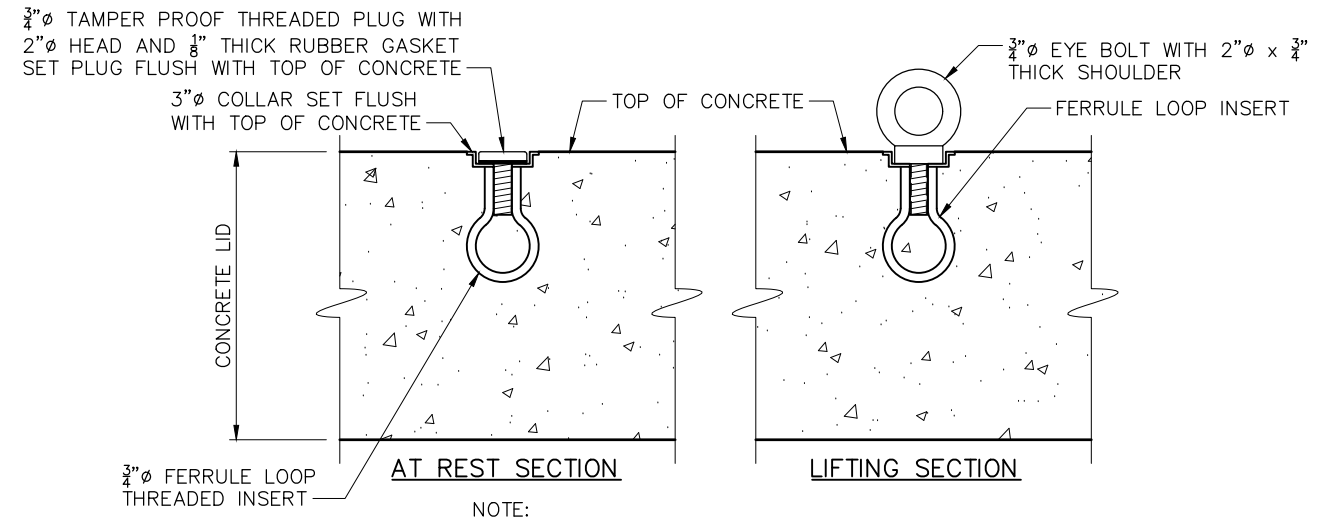
BY	
REVISION	
DATE	

PROJECT ENGINEER
D. TODD KOTLEY

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
SANITARY SEWER - VAULT DETAILS-1

DRAWN: DCP
CHECKED: DTK
DATE: 5/10/2024
SCALE: SCALE
JOB NO. 234585

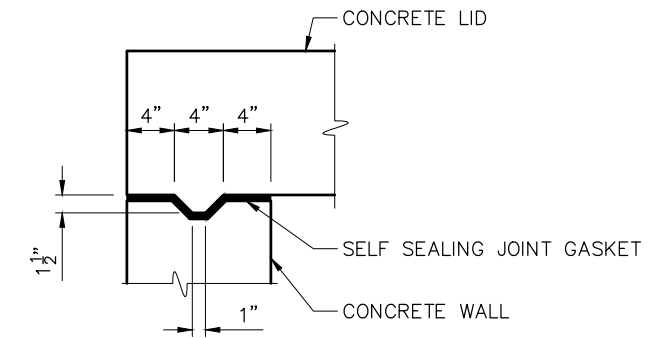
May 29, 2024 - 11:50am
 C:\Users\kvoasani\OneDrive\Documents\Projects\Sanita Cruz County Sanitation District\19-2418-700-CA-Vaults.dwg



NOTE:
POSITION LIFTING LUGS AS SHOWN ON PLANS

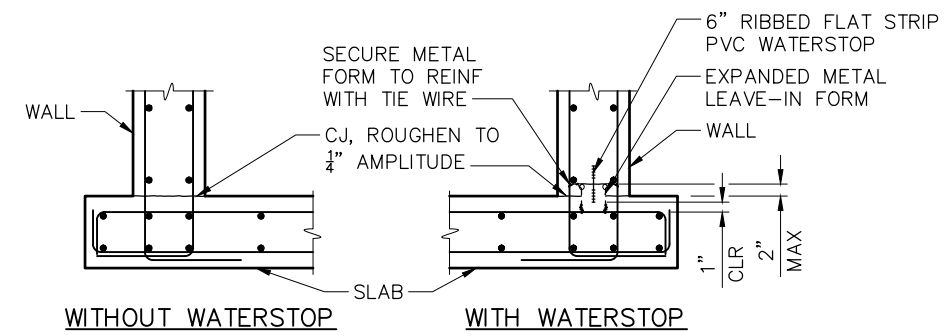
LIFTING LUG DETAIL

SCALE: 3" = 1'-0"



CONCRETE KEYWAY DETAIL

SCALE: 3" = 1'-0"



CONSTRUCTION JOINT DETAIL

SCALE: 3/4" = 1'-0"

BY	REVISION	DATE



PROJECT ENGINEER

D. TODD KOTEY

SANTA CRUZ COUNTY SANITATION DISTRICT

MURRAY STREET BRIDGE

SANITARY SEWER - VAULT DETAILS-2

DRAWN: DCP

CHECKED: DTK

DATE: 5/10/2024

SCALE: AS SHOWN

JOB NO. 234585

SS-15

54 OF 196

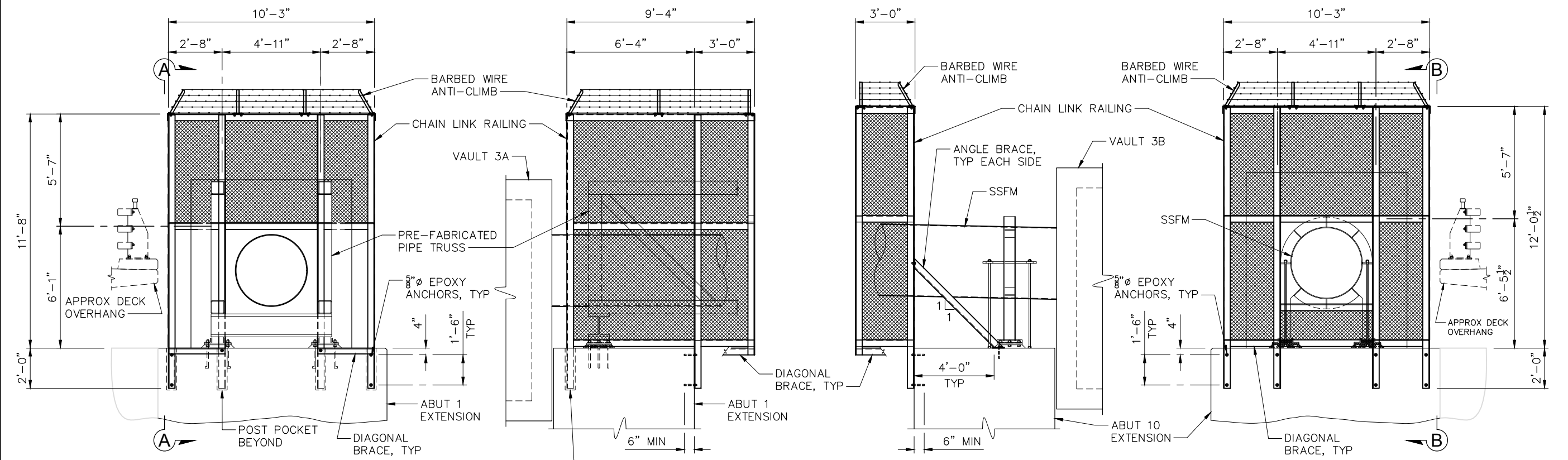
FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES



SHEET NAME: VAULT DETAILS-2

DRAWING NAME: 19-2418-700-CA-VAULTS.DWG

May 29, 2024 - 11:50am
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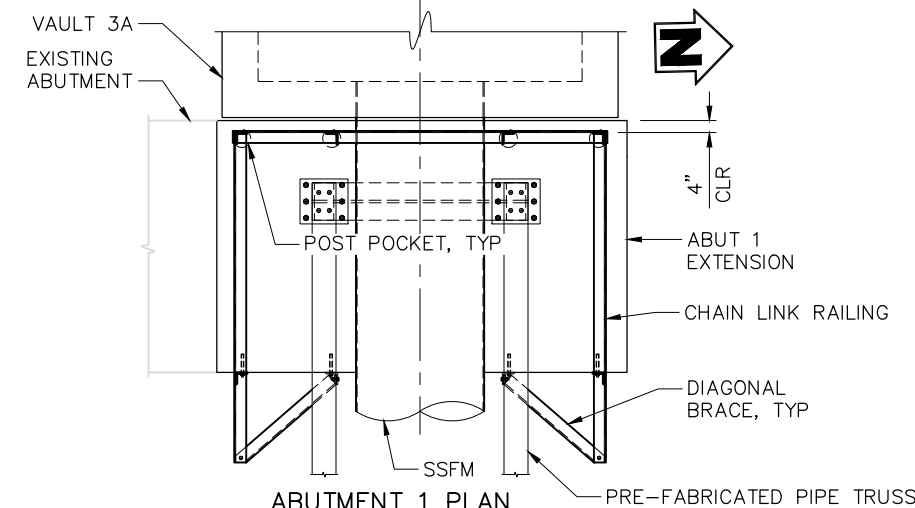


ABUTMENT 1 ELEVATION

ABUTMENT 1 SECTION A-A

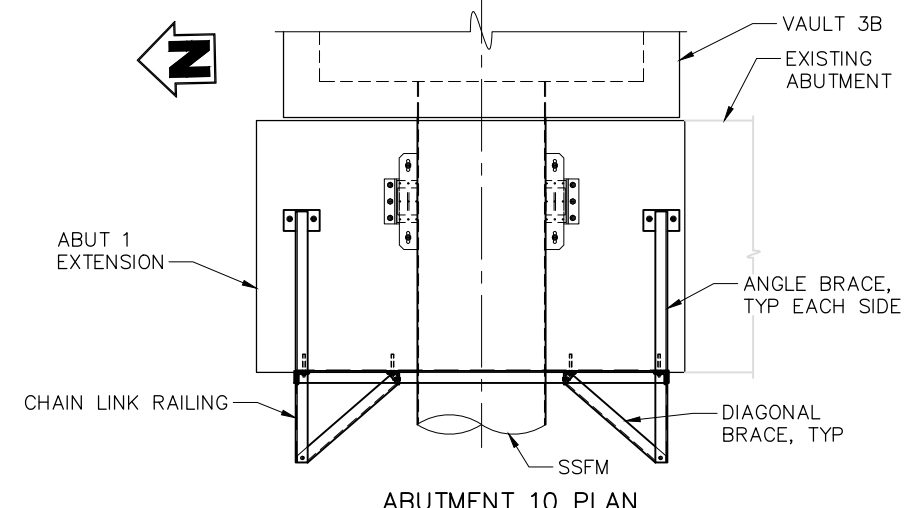
ABUTMENT 10 SECTION B-B

ABUTMENT 10 ELEVATION



ABUTMENT 1 PLAN
ABUTMENT 1 ANTI-CLIMB DETAIL
 SCALE: 1/2" = 1'-0"

- NOTES:
1. ALL FRAMING ANGLES TO BE 4x4x $\frac{3}{8}$ HOT DIPPED GALVANIZED STEEL
 2. CHAIN LINK MESH TO BE 1" MESH BLACK EPOXY COATED.
 3. ALL FASTENERS TO BE HOT DIPPED GALVANIZED $\frac{5}{8}$ " ϕ HSB.
 4. FOR DETAILS NOT SHOWN HERE, SEE CALTRANS STANDARD PLAN CHAIN LINK RAILING TYPE 7 B11-52.



ABUTMENT 10 PLAN
ABUTMENT 10 ANTI-CLIMB DETAIL
 SCALE: 1/2" = 1'-0"

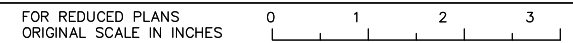
BY	
REVISION	
DATE	

PROJECT ENGINEER
D. TODD KOTLEY

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
 SANITARY SEWER - PIPELINE ANTI-CLIMB DETAILS

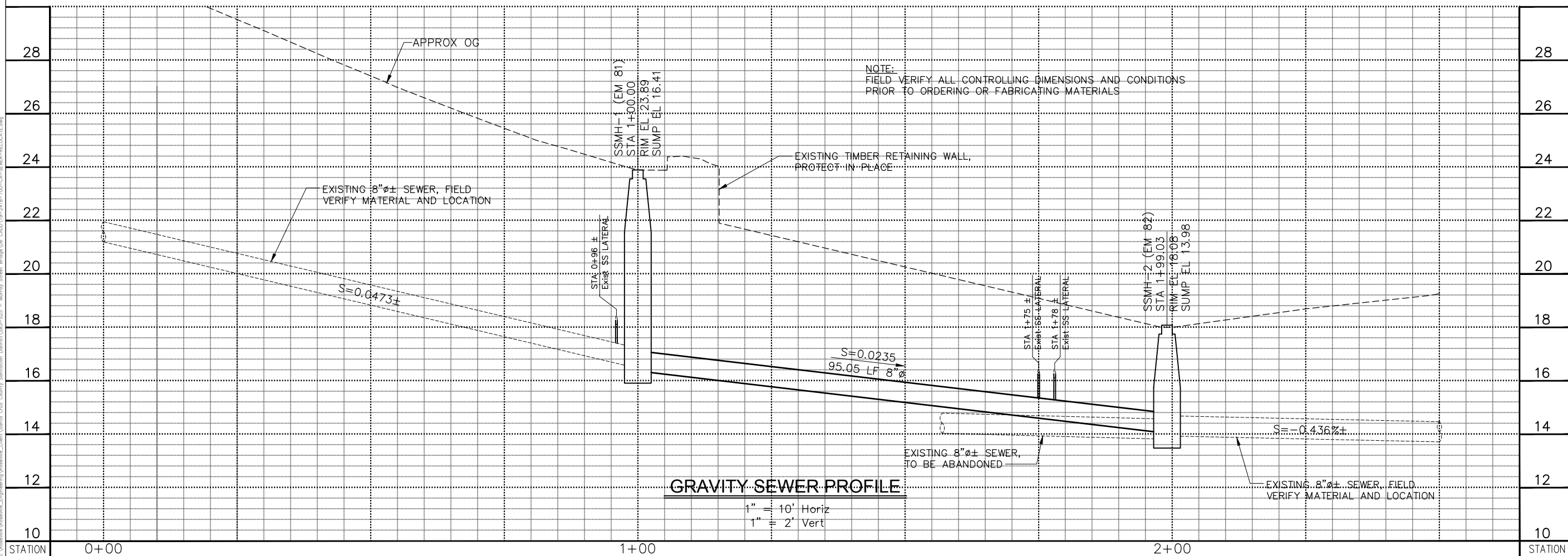
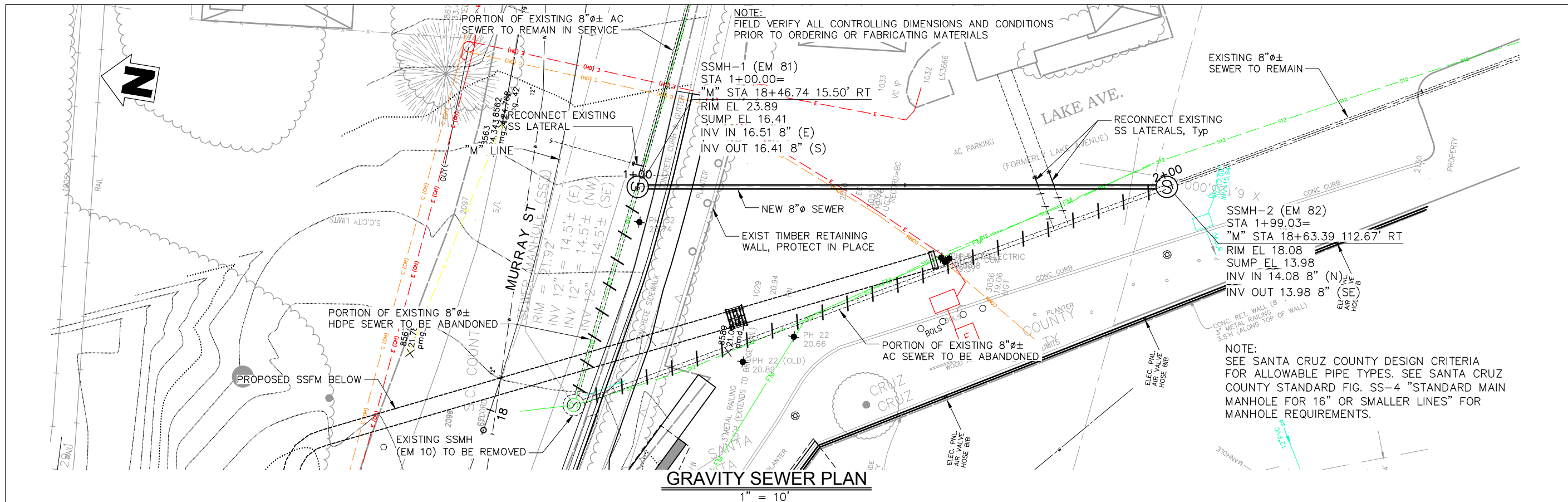
DRAWN:	DCP
CHECKED:	DTK
DATE:	5/10/2024
SCALE:	AS SHOWN
JOB NO.	234585

SS-16
 55 OF 196




SHEET NAME: PIPELINE ANTI-CLIMB DETAILS

DRAWING NAME: 19-2418-700-CA-VAULTS.DWG



May 29, 2024 - 11:50am
 C:\Users\kvoleski\OneDrive\Documents\Projects\Sanita Cruz County Sanitation District\19-2418-700-CA-SEWER-RELOCATE.dwg

DATE	REVISION	BY
		
PROJECT ENGINEER	D. TODD KOTÉY	
SANTA CRUZ COUNTY SANITATION DISTRICT	MURRAY STREET BRIDGE	
	SANITARY SEWER - GRAVITY SEWER RELOCATION	
DRAWN:	DCP	
CHECKED:	DTK	
DATE:	5/10/2024	
SCALE:	SCALE	
JOB NO.	234585	
SS-17		
56 OF 196		

ABBREVIATIONS	
A	AMDERE
AFG	ABOVE FINISHED GRADE
AICS	AMPERES INTERRUPTING CAPACITY, SYMMETRICAL
AWG	AMERICAN WIRE GAUGE
BAT	BATTERY
BC	BARE COPPER
C	CONDUIT, CONDUCTOR
CB	CIRCUIT BREAKER
CO	CONDUIT ONLY
G, GND	GROUND
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
HOA	HAND OFF AUTOMATIC
HTR	HEATER
IGW	INDUSTRIAL GATEWAY
JB	JUNCTION BOX
MIN	MINIMUM
N	NEUTRAL
NC	NORMALLY CLOSED
NO., #	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PB	PUSH BUTTON, PULL BOX
PH, Ø	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
POC	POINT OF CONNECTION
PS	POWER SUPPLY
PVC	POLYVINYL CHLORIDE
RECPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
SPD	SURGE PROTECTION DEVICE
SS	STAINLESS STEEL
T-STAT	THERMOSTAT
TM	THERMAL MAGNETIC
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT
WP	WEATHERPROOF
XFMR	TRANSFORMER

LOAD CALCULATION						
LOAD CENTER: SERVICE PED 120 VAC, 1 PHASE						
EQUIPMENT NUMBER	HP	MOTOR CONTROL	EQUIPMENT DESCRIPTION	LOAD (AMPS)	QTY	LOAD (KVA)
		CB	LIGHT/FAN/HEATER	10	1	1.200
		CB	CONTROL PANEL	5	1	0.600
SUBTOTAL						1.800
LARGEST MOTOR @ 25%				0	HP	0.000
TOTAL						1.8
3 PHASE CURRENT				15 AMPS		
CALCULATED LOAD CURRENT				100%		
CALCULATED SERVICE SIZE				15 AMPS		
MAIN BREAKER SIZE				100 AMPS		
% MAIN BREAKER LOAD				15%		

UTILITY DIVISION OF WORK		
DESCRIPTION OF WORK	ELECTRICAL CONTRACTOR	UTILITY COMPANY
PRIMARY CONDUCTORS		✓
SECONDARY CONDUITS	✓	
SECONDARY CONDUCTORS		✓
TRANSFORMER		✓
TRANSFORMER CONNECTIONS		✓
BOLLARDS	✓	
METER ENCLOSURE AND BASE	✓	
UTILITY METER		✓

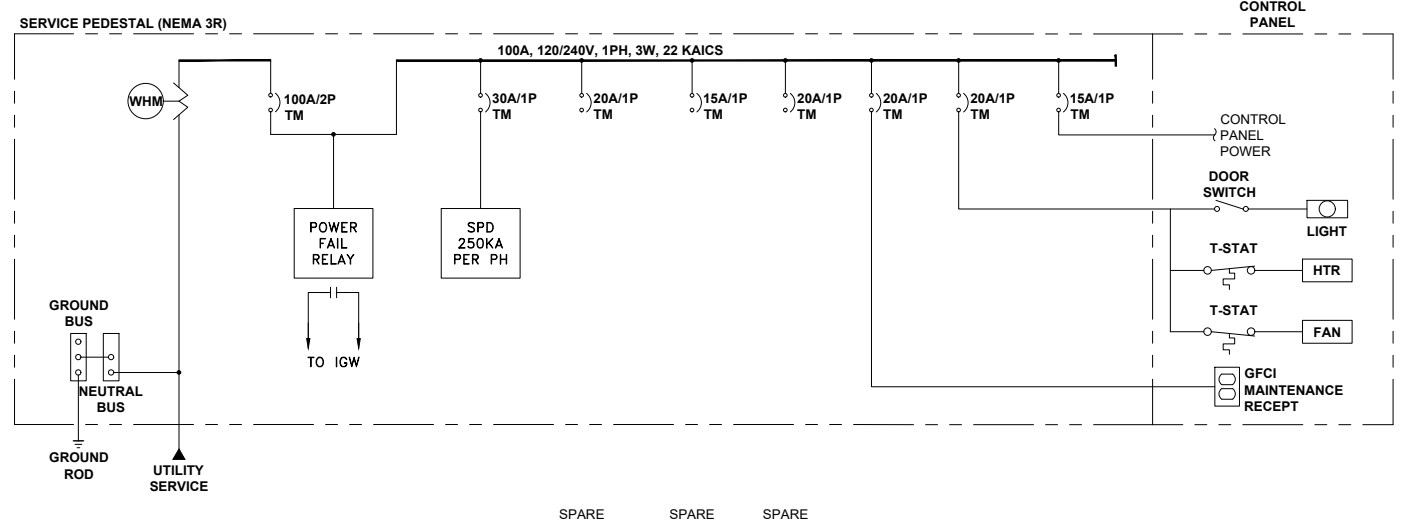
POWER UTILITY INFORMATION	
UTILITY COMPANY	PG&E
CONTACT NAME	
PHONE NUMBER	
FAX NUMBER	
EMAIL	
STREET ADDRESS	
CITY, STATE ZIP+4	

NAMEPLATE SCHEDULE			
NO.	NAMEPLATE SIZE	LETTER SIZE	LABEL
1	1"x2.5"	1/8"	VAULT 3B HIGH LEVEL
2	1"x2.5"	1/8"	VAULT 3B HIGH LEVEL
3	1"x2.5"	1/8"	MAIN DISCONNECT
4	1"x2.5"	1/8"	SPD
5	1"x2.5"	1/8"	SPARE
6	1"x2.5"	1/8"	SPARE
7	1"x2.5"	1/8"	GFCI MAINTENANCE RECEPTACLE
8	1"x2.5"	1/8"	LIGHT/FAN/HEATER
9	1"x2.5"	1/8"	CONTROL PANEL POWER

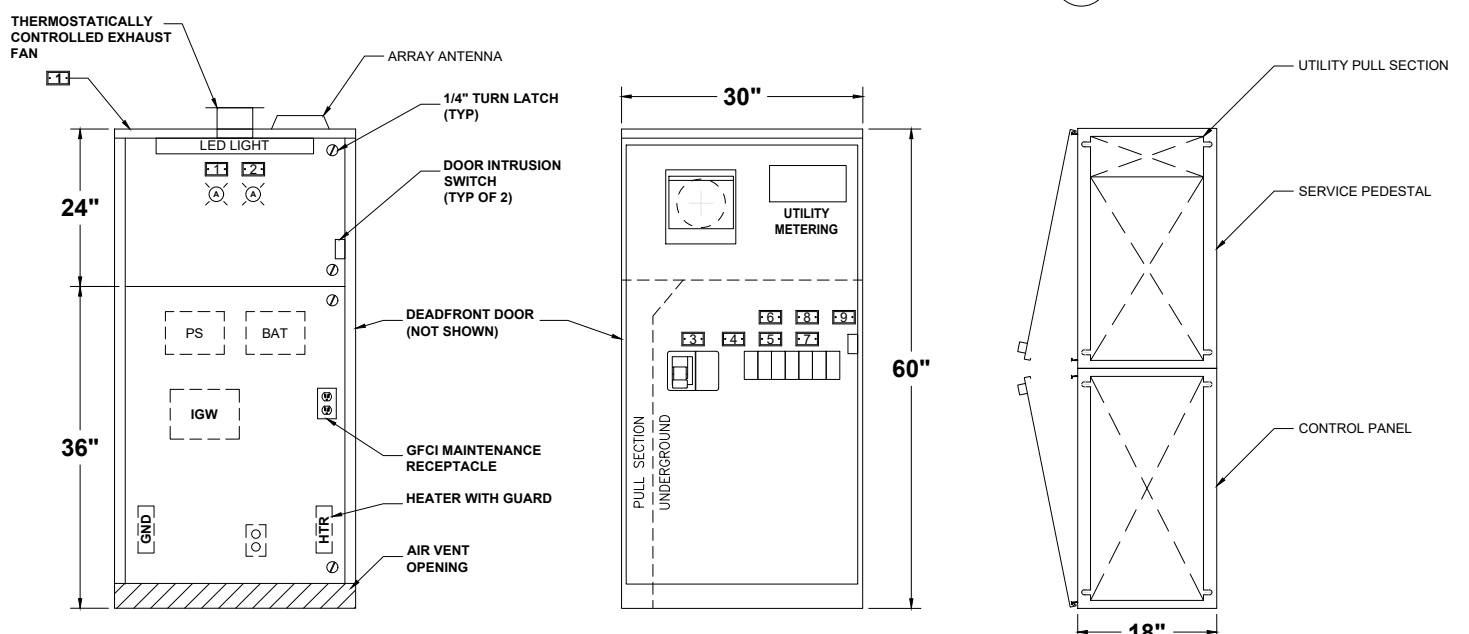
GENERAL SYMBOL LIST	
	EXISTING GAS PIPE
	EXISTING OVERHEAD ELECTRICAL
	EXISTING UNDERGROUND ELECTRICAL
	EXISTING WATER PIPE
	EXISTING IRRIGATION PIPE
	EXISTING STORM DRAIN PIPE
	EXISTING SANITARY SEWER PIPE
	UNDERGROUND CONDUIT, UON
	#4/0 BARE COPPER GROUND WIRE
	UTILITY CO. TRANSFORMER
	PULLBOX
	SERVICE PEDESTAL
	EXISTING
	SWITCH
	THERMOSTAT
	UTILITY POLE
	WATT HOUR METER
	CIRCUIT BREAKER, NO OF POLE AS NOTED
	RELAY

CONDUIT AND CONDUCTOR SCHEDULE									
CONDUIT	FROM	TO	CONDUIT	TYPE	POWER WIRE	CONTROL WIRE	SIGNAL	GROUND	COMMENTS
P1000	UTILITY POLE	SERVICE PEDESTAL	1	3"	PVC-40	-	-	-	PULL ROPE (CONDUIT PER UTILITY ENGINEERED DRAWINGS)
C1051	CP-100	VAULT 3B	1	1"	PVC-40	-	4 #14	-	FLOOD SWITCHES LSH1051, LSH11051
XC1052	CP-100	VAULT 3B	1	1"	PVC-40	-	-	-	PULL ROPE

* CONDUIT TYPE PVC-40 ARE FOR BELOW GRADE USE ONLY. ALL CONDUIT RISERS AND ABOVE GROUND CONDUIT SHALL BE GRS-PVC



ONE LINE DIAGRAM



- NOTES
- EXTERIOR 12 GAUGE HOT DIPPED GALVANIZED STEEL, INTERIOR DEAD FRONT PANEL AND BACK PAN SHALL BE 14 GAUGE COLD ROLLED STEEL ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
 - CONSTRUCTION IS NEMA 3R, RAIN TIGHT AND DUST TIGHT, RATED FOR OUTDOOR USE.
 - ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.
 - NUTS, BOLTS AND SCREWS SHALL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.
 - DOOR SHALL HAVE THREE POINT LATCHING MECHANISM WITH PADLOCKABLE HASP.
 - PROVIDE PHENOLIC NAMEPLATES TO IDENTIFY ALL DEVICES AND OPERATOR CONTROLS.
 - CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
 - A LAMINATED PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
 - ENCLOSURE WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.
 - ENCLOSURE WILL BE U.L. LISTED AS INDUSTRIAL CONTROL PANELS U.L. 508 FILE NO. E62062
 - ENCLOSURE SHALL BE OF TWO PIECE CONSTRUCTION, ONE METER SECTION AND ONE SERVICE SECTION.
 - EXTERIOR COLOR: ANSI 61 LIGHT GRAY. INTERIOR COLOR: WHITE.
 - ENCLOSURE SHALL BE TESCO CONTROLS INC. MODEL #24-200 OR APPROVED EQUIVALENT.

SERVICE PEDESTAL AND CONTROL PANEL

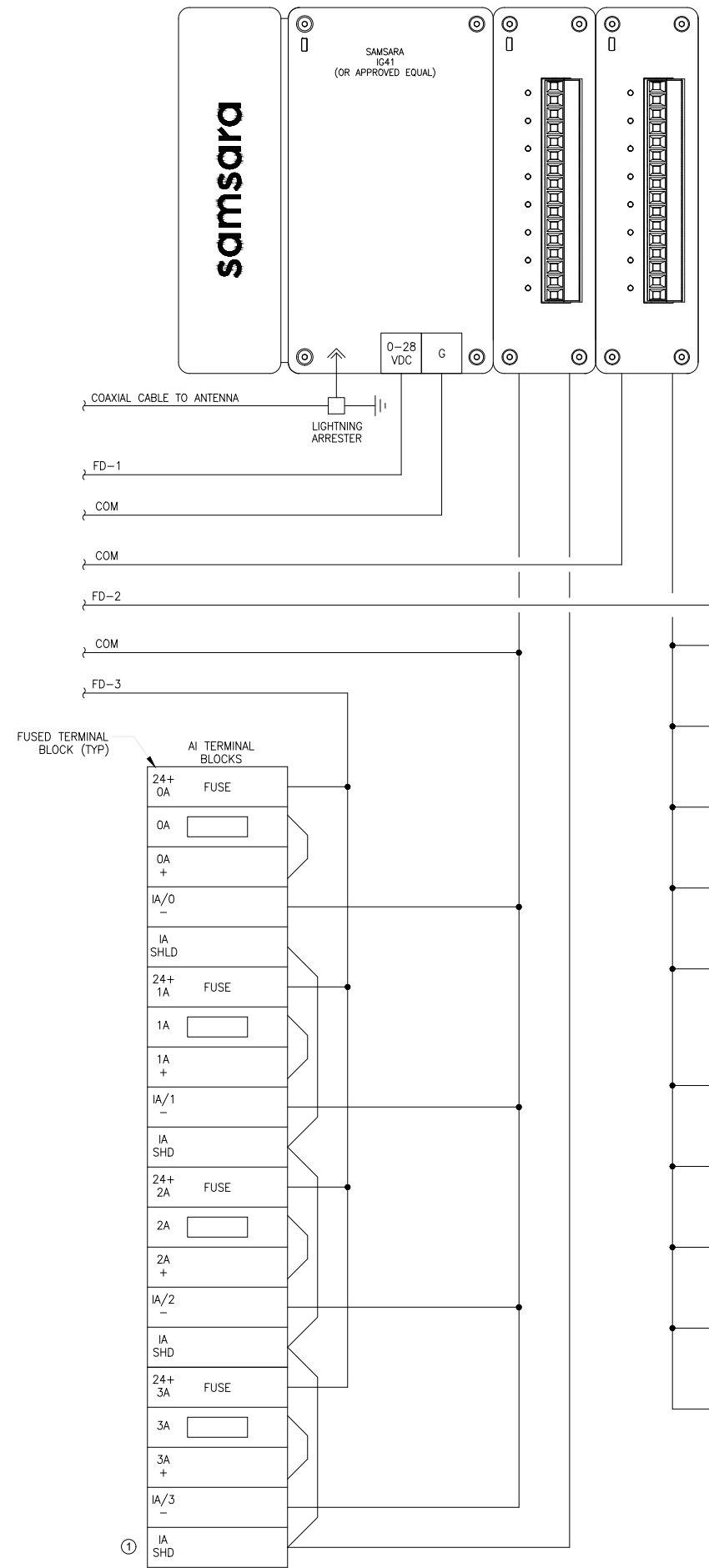
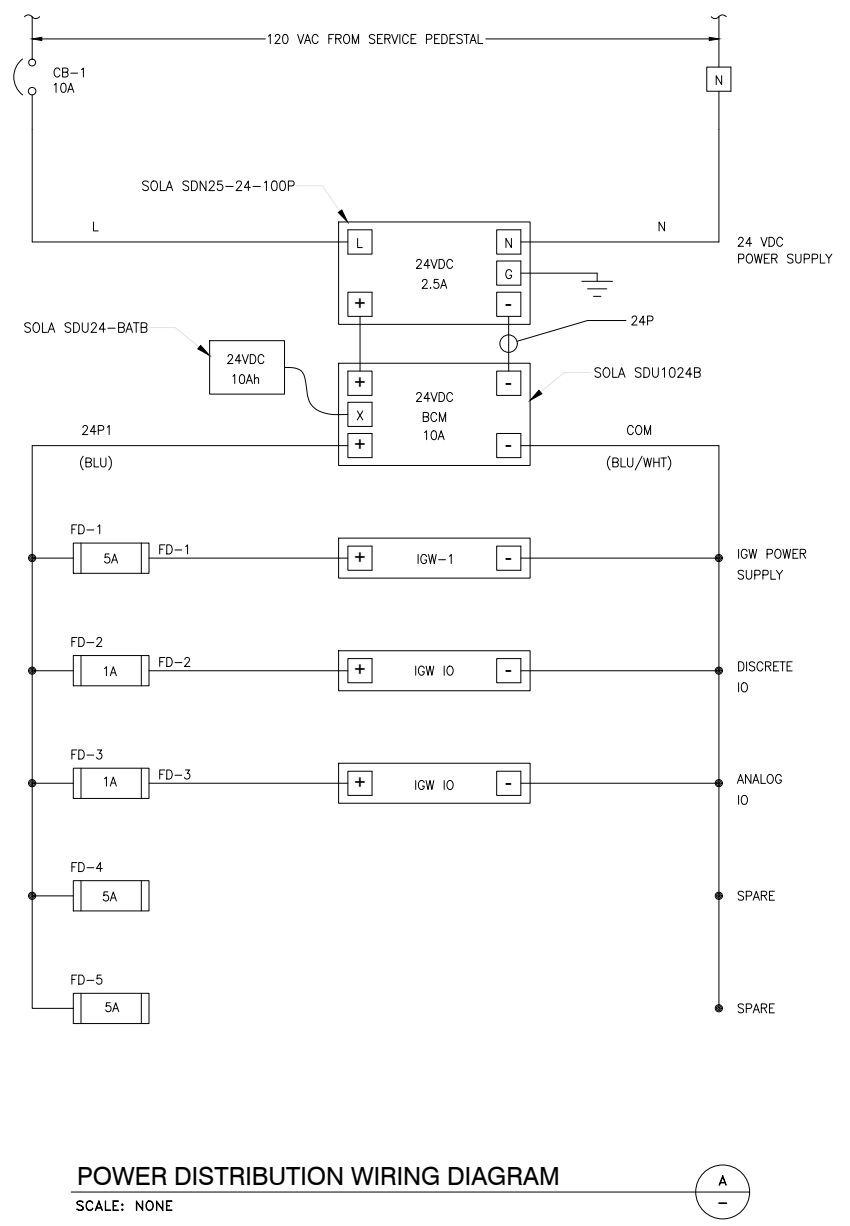
BY	
REVISION	
DATE	
PROJECT ENGINEER	Jeremy Pollet
SANTA CRUZ COUNTY SANITATION DISTRICT	MURRAY STREET BRIDGE
ELECTRICAL - SERVICE PEDESTAL AND CONTROL PANEL	
DRAWN:	JD
CHECKED:	JP
DATE:	5/10/2024
SCALE:	NO SCALE
JOB NO.	234585
SSE-1	
57 OF 196	

FOR REDUCED PLANS ORIGINAL SCALE IN INCHES

SHEET NAME: SERVICE PEDESTAL AND CONTROL PANEL

DRAWING NAME: CRUZ21-001-SSE-1.DWG

May 30, 2024 - 10:30am
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GENERAL NOTES

A. THIS DIAGRAM ILLUSTRATES TYPICAL WIRING NOT SPECIFIC TO THIS PROJECT. CONTRACTOR TO PROVIDE ACCOMMODATION FOR ALL I/O SHOWN ON P&ID'S.

SHEET NOTES

1. WIRE LABELS TO HAVE SAME NUMBER AS TERMINAL NUMBER CONNECTED TO. PROVIDE ADDITIONAL TERMINAL BLOCKS, QUANTITY TO MATCH I/O MODULES INCLUDING UNUSED I/O'S.

- ① (ESL1002) AC POWER FAIL
- (ESL1003) DC POWER FAIL
- (UST1092) UPS TROUBLE
- (NSH1092) UPS ON
- (ZS1091) CONTROL PANEL INTRUSION
- (LAHH1051) VAULT 3B HIGH LEVEL
- (LAHH1051) VAULT 3B HIGH LEVEL
- SPARE
- SPARE

BY	
REVISION	
DATE	

PROJECT ENGINEER
 Jeremy Pollet

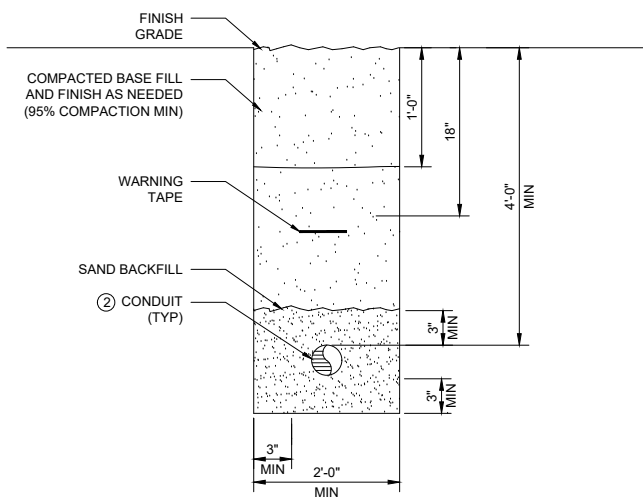
SANTA CRUZ COUNTY SANITATION DISTRICT
 MURRAY STREET BRIDGE
 ELECTRICAL - EXAMPLE CONTROL SYSTEM WIRING DIAGRAMS

DRAWN: JD
 CHECKED: JP
 DATE: 5/10/2024
 SCALE: NO SCALE
 JOB NO. 234585

FOR REDUCED PLANS
 ORIGINAL SCALE IN INCHES

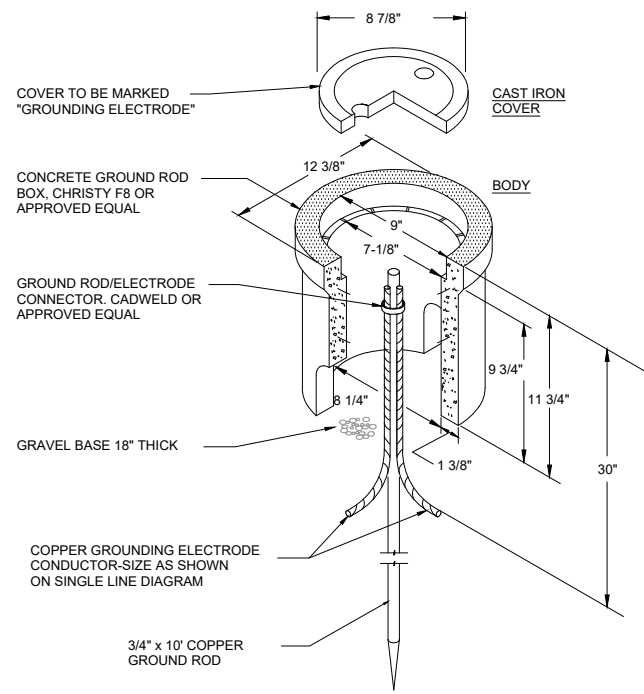
SHEET NAME: EXAMPLE CONTROL SYSTEM WIRING DIAGRAMS

DRAWING NAME: CRUZZ1-001-SSE-2.DWG

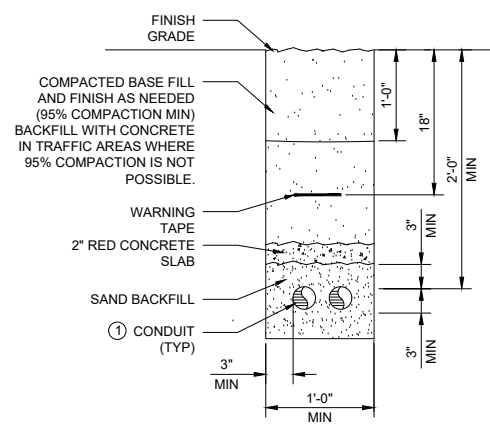


- DETAIL NOTES**
- REFER TO UTILITY COMPANY ENGINEERED DRAWINGS.
 - REFER TO SITE PLAN AND CONDUIT AND CONDUCTOR SCHEDULE FOR QUANTITY.

SECONDARY SERVICE TRENCH DETAIL A
TYP
SCALE: NONE

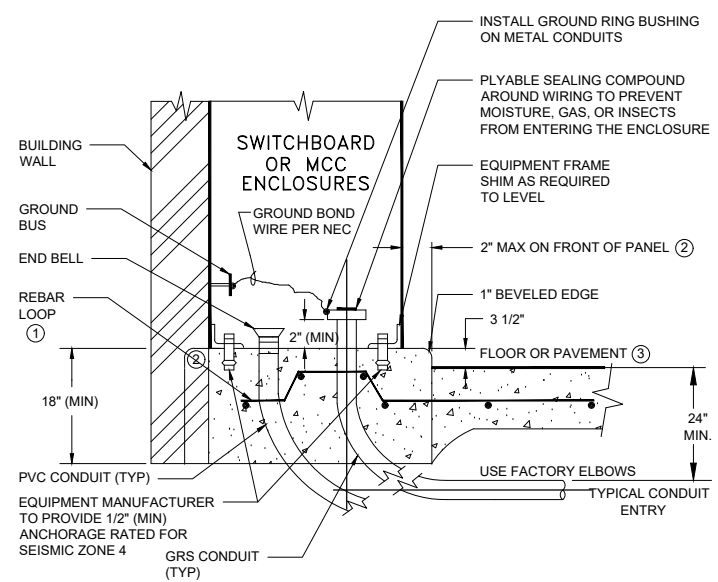


CONCRETE GROUND ROD BOX DETAIL B
TYP
SCALE: NONE



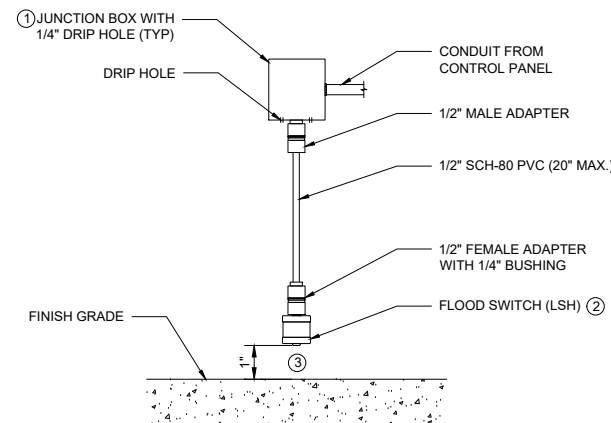
- DETAIL NOTES**
- PROVIDE 3" MIN. SEPARATION BETWEEN CONDUIT TO CONDUIT EDGE FOR BOTH HORIZONTAL AND VERTICALLY STAGGERED CONDUITS.

CONDUIT TRENCH DETAIL C
TYP
SCALE: NONE



- DETAIL NOTES**
- CONCRETE PAD ABOVE FLOOR TO BE POURED AFTER MAIN PAD HAD BEEN POURED. PAD ABOVE FLOOR TO BE CLASS "A" CONCRETE COMPOSITION ACCURATELY LEVELED WITHIN 1/16 INCH. REBAR TO BE #4 @12" CROSSWAYS & VERTICAL EVERY 6" (MINIMUM) OR AS CALLED OUT IN STRUCTURAL DRAWINGS.
 - IF NO BUILDING WALL EXTEND PAD 4" BEYOND ENCLOSURE ON BACK & SIDES.
 - PROVIDE MIN 36" PAD IN FRONT OF PANEL OR MCC FOR CLEAR AND LEVEL WORK SPACE.

EQUIPMENT CONCRETE PAD DETAIL D
TYP
SCALE: NONE



- DETAIL NOTES**
- JUNCTION BOX SHALL BE 6"X6"X6" (MIN) WITH NEMA RATING AS SPECIFIED BY ELECTRICAL PLANS.
 - PROVIDE GEMS-LS-1900-35682 OR APPROVED EQUAL.
 - SET LSH 1" AFF AND LSHH @ 3" AFF.

FLOOD SWITCH DETAIL E
TYP
SCALE: NONE

BY	
REVISION	
DATE	

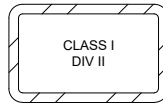
PROJECT ENGINEER
Jeremy Pollet

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
ELECTRICAL - DETAILS

DRAWN: JD
CHECKED: JP
DATE: 5/10/2024
SCALE: NO SCALE
JOB NO. 234585

May 30, 2024 - 10:16am
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AREA CLASSIFICATION



18-IN ABOVE
VAULT 3
EXTENDING 10-FT
HORIZONTALLY



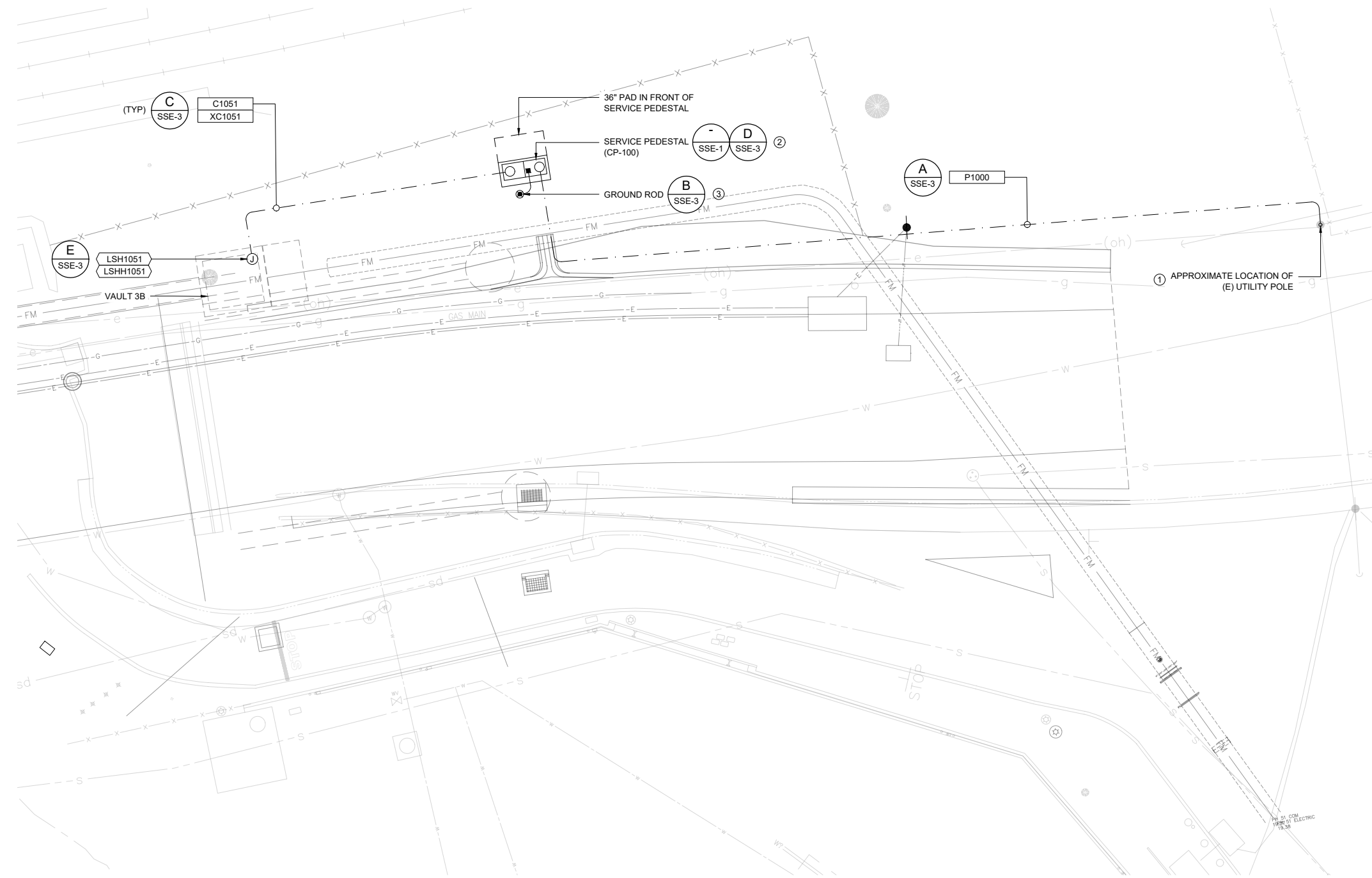
ALL OTHER AREAS

GENERAL NOTES

- A. AREA CLASSIFICATION SHALL APPLY UNLESS OTHERWISE NOTED ON THE PLANS OR SPECIFICATIONS.
- B. PROVIDE CONDUIT SEAL OFF FITTING IN ALL CONDUITS CROSSING CLASS I DIV. II BOUNDARY.
- C. ONLY NEW CONDUITS ARE SHOWN. ALL EXISTING UNDERGROUND UTILITIES SHALL BE LOCATED AND PROTECTED FROM DAMAGE. IF UNDERGROUND FACILITIES ARE DAMAGED, THEY SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.

SHEET NOTES

- 1. CONTRACTOR SHALL COORDINATE ALL UTILITY COMPANY ACTIVITIES.
- 2. APPROXIMATE LOCATION OF SERVICE PEDESTAL. CONTRACTOR SHALL COORDINATE EXACT LOCATION WITH SANTA CRUZ COUNTY.
- 3. USE #4 SOLID BARE COPPER FOR GROUND ROD CONNECTION TO SERVICE PEDESTAL GROUND BAR.



ELECTRICAL SITE PLAN
1" = 10'



May 30, 2024 - 10:14am
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FOR REDUCED PLANS
ORIGINAL SCALE IN INCHES



SHEET NAME: SITE PLAN

DRAWING NAME: CRUZ21-001-SSE-4.DWG

DATE	REVISION	BY



PROJECT ENGINEER

Jeremy Pollet

SANTA CRUZ COUNTY SANITATION DISTRICT

MURRAY STREET BRIDGE

ELECTRICAL - SITE PLAN

DRAWN: JD

CHECKED: JP

DATE: 5/10/2024

SCALE: NO SCALE

JOB NO. 234585

SSE-4

60 OF 196

INSTRUMENT SYMBOLS

P & I DIAGRAM INSTRUMENT FUNCTIONAL IDENTIFICATION

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FIELD MOUNTED INSTRUMENT		HARDWIRE CONNECTION		DIAPHRAGM VALVE
	FACE MOUNTED INSTRUMENT ON LOCAL PANEL, OPERATOR ACCESSIBLE		EXISTING ELECTRIC SIGNAL		VALVE ACTUATOR
	INSTRUMENT MOUNTED IN LOCAL PANEL, OPERATOR INACCESSIBLE		ELECTRICAL SIGNAL		VALVE POSITIONER
	FACE MOUNTED INSTRUMENT ON FIELD PANEL, OPERATOR ACCESSIBLE		ELECTRIC POWER/CONTROL		GLOBE VALVE
	INSTRUMENT MOUNTED IN FIELD PANEL, OPERATOR INACCESSIBLE		PNEUMATIC SIGNAL		GATE VALVE OR PINCH VALVE (NORMALLY OPEN)
	OPERATION PERFORMED WITH LOGIC OR HARDWIRED DEVICES - REFERENCE ELEMENTARY DWG. #		CAPILLARY TUBING (FILLED SYSTEM)		GATE VALVE OR PINCH VALVE (NORMALLY CLOSED)
	LAMP INDICATION (STATUS OR ALARM)		HYDRAULIC SIGNAL		PLUG VALVE (NORMALLY OPEN)
	ANNUNCIATOR WINDOW R - ROW # C - COLUMN #		SONIC OR ELECTROMAGNETIC SIGNAL		PLUG VALVE (NORMALLY CLOSED)
	COMMUNICATIONS POINT		LOGIC OR DATA SIGNAL		BALL VALVE (NORMALLY OPEN)
	DISCRETE INPUT		MAIN PROCESS LINE		BALL VALVE (NORMALLY CLOSED)
	DISCRETE OUTPUT		SECONDARY PROCESS LINE		BALL CHECK VALVE
	ANALOG INPUT		AUXILIARY PROCESS LINE		BUTTERFLY VALVE
	ANALOG OUTPUT		DIRECTION OF FLOW		CHECK VALVE
	INSTRUMENT PANEL MOUNTED WITH COMPUTING, CONVERTING FUNCTION		MANUFACTURER'S PRE-WIRING		SLUICE GATE (NORMALLY OPEN)
	CONVERT		ELECTRIC SUPPLY OR AIR SUPPLY		SLUICE GATE (NORMALLY CLOSED)
	COMPUTE		MOTOR		SLIDE GATE (NORMALLY OPEN)
	SUMMING		CENTRIFUGAL PUMP		SLIDE GATE (NORMALLY CLOSED)
	SUBTRACTOR		BLOWER OR FAN		VACUUM RELIEF VALVE
	MULTIPLYING		COMPRESSOR		PRESSURE RELIEF VALVE
	DIVIDING		SUBMERSIBLE PUMP		DIAPHRAGM SEAL
	ROOT EXTRACTION		VERTICAL PUMP		PULSATION DAMPENER
	PROPORTIONAL		ROTARY LOBE OR GEAR PUMP		PRESSURE REDUCING VALVE
	DERIVATIVE		METERING PUMP		QUICK CONNECT W/CHECK
	VALVE/GATE NUMBER		MIXER		ARV
	EQUIPMENT NUMBER		PROGRESSIVE CAVITY PUMP		MAGNETIC FLOW METER
	PLC OR COMPUTER FUNCTION PERFORMING OPERATION WITH VISUAL INDICATION		SOLENOID VALVE		MAGNETIC FLOW TUBE
	PLC OR COMPUTER FUNCTION PERFORMING OPERATION WITH VISUAL ALARM INDICATION		AUDIBLE ALARM (BUZZER OR HORN)		CAM-LOC
	PLC OR COMPUTER PERFORMING INTERNAL OPERATION		DRAIN		
	AUTODIALER PRIORITY # PC BASED SOFTWARE		PAGE THAT LINE IS CONTINUED ON		
			REDUCER		
			BLIND FLANGED END		
			CAPPED END		
			TELEPHONE		

CODE LETTER	FIRST LETTER(S)		SUCCEEDING LETTER(S)		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		AUTO
B	BURNER FLAME				
C	CHLORINE			CONTROL	CLOSE
D	DENSITY	DIFFERENTIAL	DIRECTION		
E	VOLTAGE		ELEMENT, SENSOR		
F	FLOW	RATIO	FUEL		FAILURE
G	GAUGING		VIEWING DEVICE		
H	HAND				HIGH/HAND
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		PILOT LIGHT		LOW/LOCAL
M	MOISTURE/MOTOR	MOMENTARY	MOTOR		MIDDLE/MANUAL
N	STATUS				
O	OPERATOR		ORIFICE		OPEN/OVERLOAD
P	PRESSURE		POINT		
Q	EVENT	TOTALIZE	TOTAL		
R	RESET		RECORD		RUNNING/REMOTE
S	SPEED	SAFETY		SWITCH	STOP/SPEED
T	TEMPERATURE		TEST	TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION		
V	VIBRATION/VALVE			VALVE	
W	FORCE, WEIGHT		WELL		
X	TELEMETRY INTERFACE				
Y	COMPUTER INTERFACE			COMPUTE/RELAY/ CONVERTER	
Z	POSITION			ACTUATE	POSITION

ABBREVIATIONS

A	AMPERES, AMBER	mA	MILLIAMPERES	FAN	FAN	RVSS	REDUCED VOLTAGE SOLID STATE
AC	ALTERNATING CURRENT	MIN	MINIMUM	FC	FAIL CLOSED	S	SWITCH
ACU	AIR CONDITIONING UNIT	MOA	MANUAL-OFF-AUTO	FE	FLOW METER ELEMENT	(SIM)	SIGNAL INPUT MODULE
ADR	AIR DRYER	MOT	MOTOR OVERTEMP SENSOR	FLC	FLOCCULATOR	SCR	SILICON CONTROLLED RECTIFIER
AER	AERATOR	MOV	MOTOR OPERATED VALVE	FLP	FAIL LAST POSITION	(SOM)	SIGNAL OUTPUT MODULE
AGR	AGITATOR	MTU	MODULAR TREATMENT UNIT	FLT	FILTER	SMP	TYPICAL
AI	ANALOG INPUT	MUX	MULTIPLEXER	FO	FAIL OPEN	SP	SET POINT
AO	ANALOG OUTPUT	MWR	MOTORIZED WEIR	FS	FLOAT SWITCH	SS	SURGE SUPPRESSOR
B	BLUE	MXR	MIXER	FVNR	FULL VOLTAGE NON REVERSING	TDD, TDE	TIME DELAY RELAY
BLR	BLOWER	N	NEUTRAL	G	GREEN	TWP	TWISTED PAIR
C	CLOSE, CONTROL	NC	NORMALLY CLOSED	G, GND	GROUND	TWSP	TWISTED SHIELDED PAIR
CFE	CLEARWELL FILTER EFFLUENT	NO	NORMALLY OPEN	GNR	MACERATOR/GRINDER	TYP	TYPICAL
CLR	CLARIFIER	O	OPEN	HMI	HUMAN MACHINE INTERFACE	UVC	ULTRAVIOLET CHANNEL
CMP	COMPRESSOR	OAC	OPEN-AUTO-CLOSE	HP AIR	HIGH PRESSURE AIR	V	VOLTS, VOLTAGE
CR	CONTROL RELAY	OCA	OPEN-CLOSE-AUTO	HOA	HAND-OFF-AUTO	VFD	VARIABLE FREQUENCY DRIVE
CTF	CENTRIFUGE	PB	PUSHBUTTON	HOG	HYDRAULIC OPERATED GATE	VLV	VALVE
d	DIFFERENTIAL	pH	HYDROGEN ION CONCENTRATION	I	INTERLOCK		
DC	DIRECT CURRENT	PID	PROPORTIONAL/INTEGRAL/DERIVATIVE	I/O	INPUT/OUTPUT		
(DDM)	DIGITAL DISPLAY MODULE	PLC	PROGRAMMABLE LOGIC CONTROLLER	ISR	INTRINSICALLY SAFE RELAY		
DI	DIGITAL INPUT	PMP	PUMP	LOR	LOCAL/OFF/REMOTE		
DO	DIGITAL OUTPUT	PNL	PANEL	LOS	LOCK-OUT STOP		
DPDT	DOUBLE POLE DOUBLE THROW	POT	POTENTIOMETER	LP AIR	LOW PRESSURE AIR		
DRV	DRIVE	POV	PNEUMATIC OPERATED VALVE	PV	PROCESS VARIABLE		
(E)	EXISTING	PS	PRESSURE SWITCH	R	RED		
ETM	ELAPSED TIME METER	PRV	PRESSURE RELIEF VALVE	(R)	EXISTING TO BE REMOVED OR RELOCATED		
(F)	FUTURE	PTT	PUSH TO TEST	REF	REFERENCE		

May 09, 2024 - 11:46am
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FOR REDUCED PLANS ORIGINAL SCALE IN INCHES

SHEET NAME: INSTRUMENTATION SYMBOLS AND ABBREVIATIONS

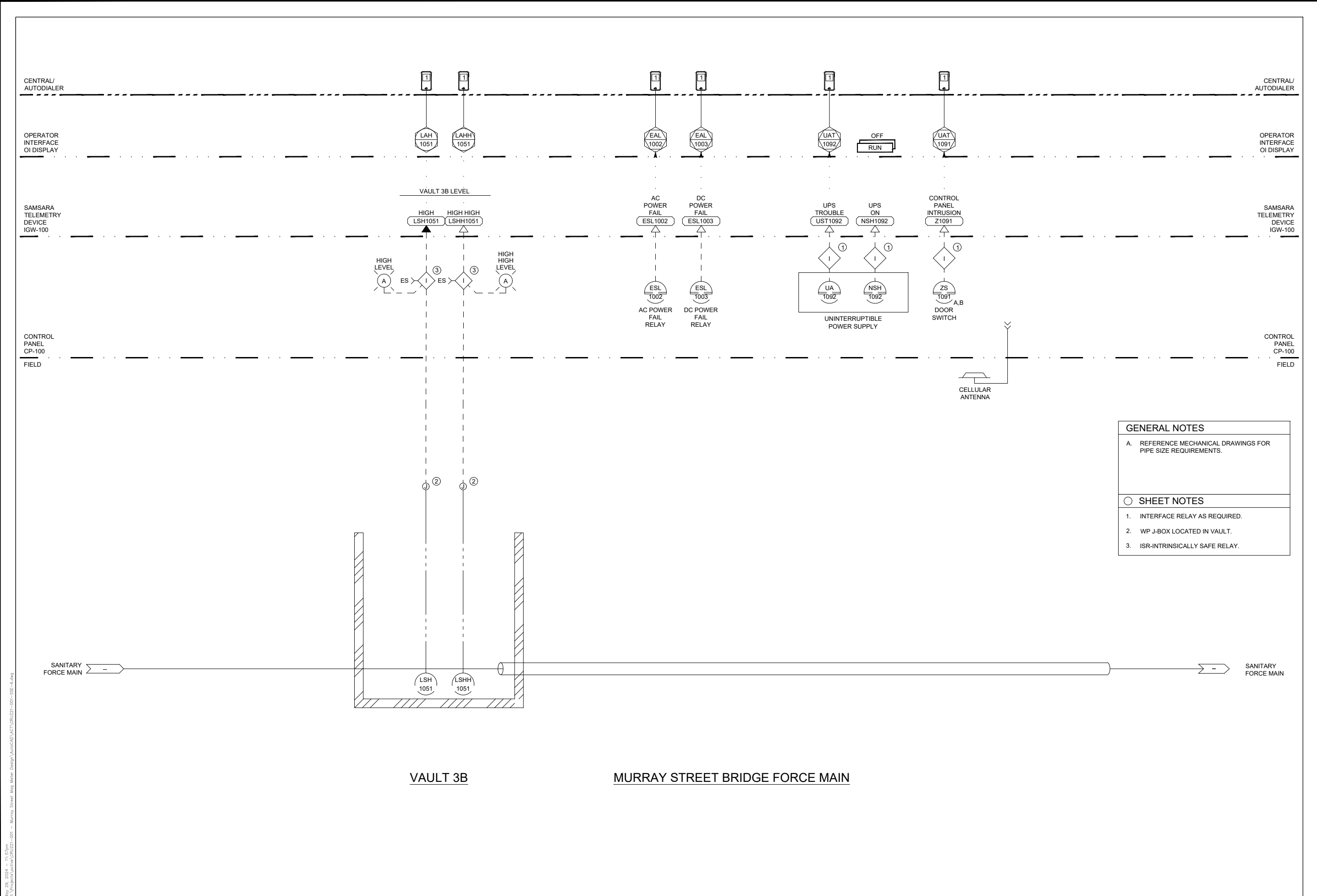
DRAWING NAME: CRUZZ1-001-SSE-5.DWG

BY	DATE	REVISION

PROJECT ENGINEER
Jeremy Pollet

SANTA CRUZ COUNTY SANITATION DISTRICT
MURRAY STREET BRIDGE
 ELECTRICAL - INSTRUMENTATION SYMBOLS AND ABBREVIATIONS

DRAWN: JD
 CHECKED: JP
 DATE: 5/10/2024
 SCALE: NO SCALE
 JOB NO. 234585



GENERAL NOTES

A. REFERENCE MECHANICAL DRAWINGS FOR PIPE SIZE REQUIREMENTS.

SHEET NOTES

1. INTERFACE RELAY AS REQUIRED.

2. WP J-BOX LOCATED IN VAULT.

3. ISR-INTRINSICALLY SAFE RELAY.

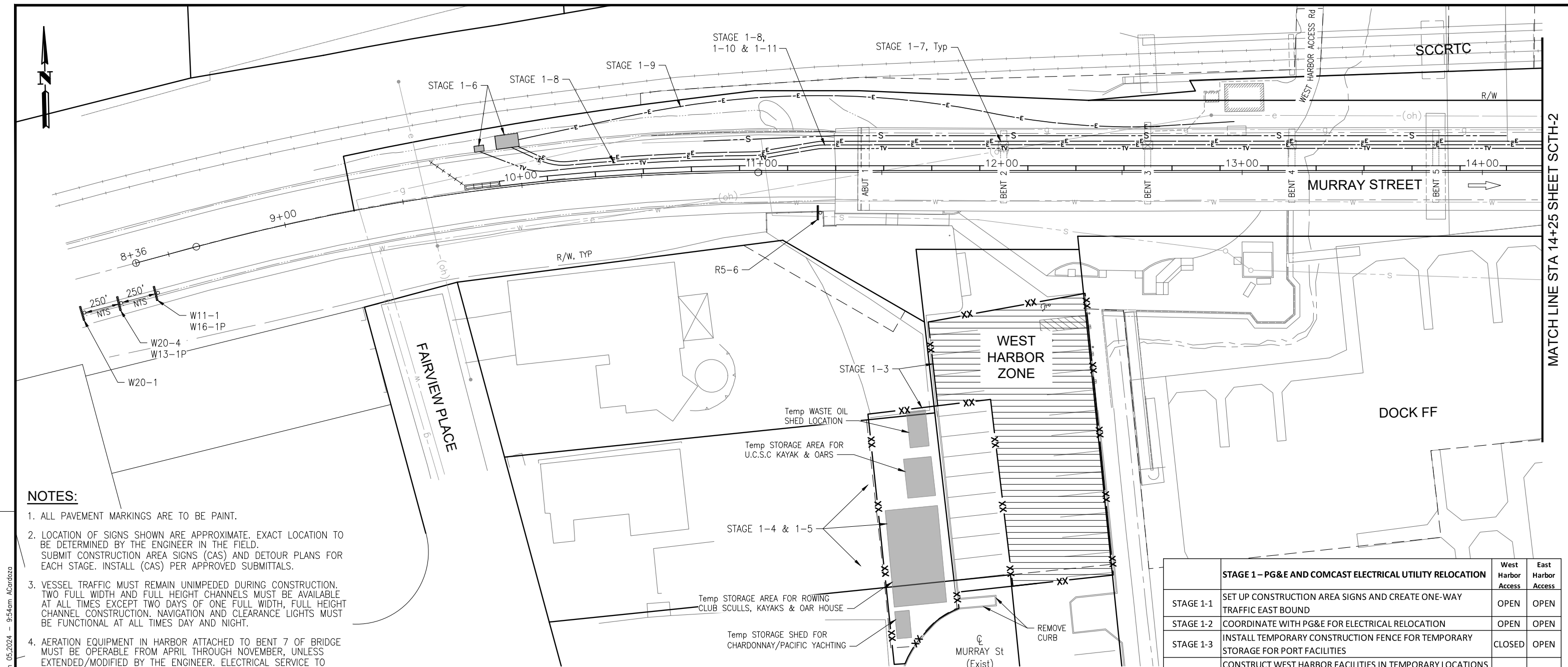
BY	
REVISION	
DATE	
PROJECT ENGINEER	Jeremy Pollet
SANTA CRUZ COUNTY SANITATION DISTRICT	MURRAY STREET BRIDGE
ELECTRICAL - MURRAY STREET FLOW METERING P&ID	
DRAWN:	JD
CHECKED:	JP
DATE:	5/10/2024
SCALE:	NO SCALE
JOB NO.	234585
SSE-6	
62 OF 196	

May 29, 2024 - 11:57am
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FOR REDUCED PLANS ORIGINAL SCALE IN INCHES

SHEET NAME: MURRAY STREET FLOW METERING P&ID

DRAWING NAME: CRUZ21-001-SSE-6.DWG



NOTES:

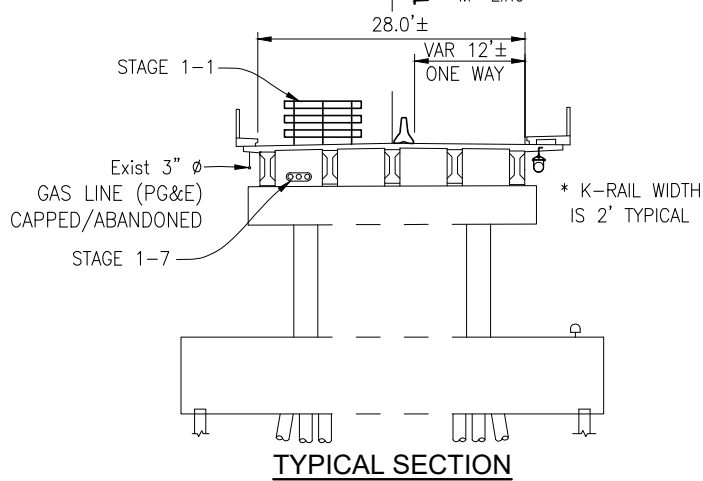
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
5. SEE DETOUR PLAN FOR ALL OTHER DETOUR CONSTRUCTION AREA SIGN LOCATIONS.
6. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- CONTRACTOR STAGING AREA
- TYPE III BARRICADE
- TEMPORARY RAILING (TYPE K)
- TEMPORARY PEDESTRIAN ACCESS ROUTE
- MASH TL-2 SLED END TREATMENT
- TEMPORARY SIGN SINGLE POST
- DIRECTION OF TRAFFIC
- PEDESTRIAN DIRECTION ARROWS
- DOCK REMOVAL (BY OTHERS)
- DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS)
- STRUCTURE REMOVAL
- PLACE TEMP PAVEMENT MARKING (TAPE)
- PORTABLE DELINEATORS AT 10' MAX SPACING
- TEMPORARY FENCE
- SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE	QUANTITY
R5-6	NO BICYCLIST (SYMBOL)	1
W11-01	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1



	STAGE 1 - PG&E AND COMCAST ELECTRICAL UTILITY RELOCATION	West Harbor Access	East Harbor Access
STAGE 1-1	SET UP CONSTRUCTION AREA SIGNS AND CREATE ONE-WAY TRAFFIC EAST BOUND	OPEN	OPEN
STAGE 1-2	COORDINATE WITH PG&E FOR ELECTRICAL RELOCATION	OPEN	OPEN
STAGE 1-3	INSTALL TEMPORARY CONSTRUCTION FENCE FOR TEMPORARY STORAGE FOR PORT FACILITIES	CLOSED	OPEN
STAGE 1-4	CONSTRUCT WEST HARBOR FACILITIES IN TEMPORARY LOCATIONS (SEE SHEET C-8)	CLOSED	OPEN
STAGE 1-5	INSTALL WEST HARBOR TEMPORARY FENCE AND GATE TO SECURE CONTRACTOR WORK AREA	CLOSED	OPEN
STAGE 1-6	CONSTRUCT UTILITY VAULTS (BY PG&E AND COMCAST)	OPEN	OPEN
STAGE 1-7	CUT OPENINGS IN BRIDGE DIAPHRAGMS & ABUTMENTS FOR UTILITY CASINGS	OPEN/CLOSE	CLOSE/OPEN
STAGE 1-8	PLACE CASINGS IN BRIDGE AND UTILITY CONDUITS IN APPROACHES	OPEN/CLOSE	OPEN/CLOSE
STAGE 1-9	HORIZONTAL DIRECTIONAL BORE FOR ELECT CONDUIT ON NORTH SIDE OF BRIDGE TO NEW TRANSFORMER IN WEST HARBOR	CLOSED	OPEN
STAGE 1-10	PULL WIRES THROUGH CONDUIT IN ROAD AND BRIDGE AND MAKE FINAL CONNECTIONS TO VAULTS/TRANSFORMERS (BY PG&E AND COMCAST)	OPEN	OPEN
STAGE 1-11	ENERGIZE NEW LINES AND REMOVE OVERHEAD LINES FROM NORTH SIDE OF MURRAY (BY PG&E AND COMCAST)	OPEN	OPEN
STAGE 1-12	CONSTRUCT EAST HARBOR WATERLINE	OPEN	OPEN

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 1

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)
2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13 1/22/21

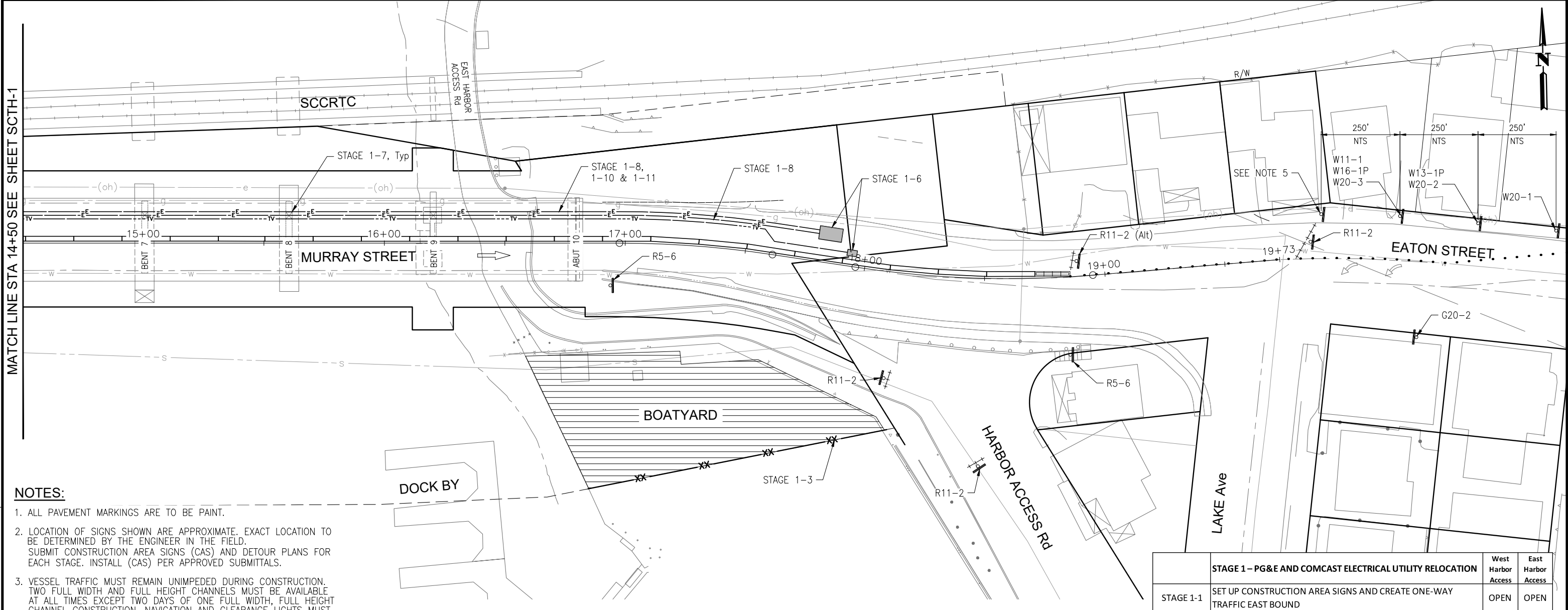
SCALE	1"=20'
SHEET	63 OF 196
VAULT NO.	

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SCTH-1

MATCH LINE STA 14+25 SHEET SCTH-2

MATCH LINE STA 14+50 SEE SHEET SCSH-1



NOTES:

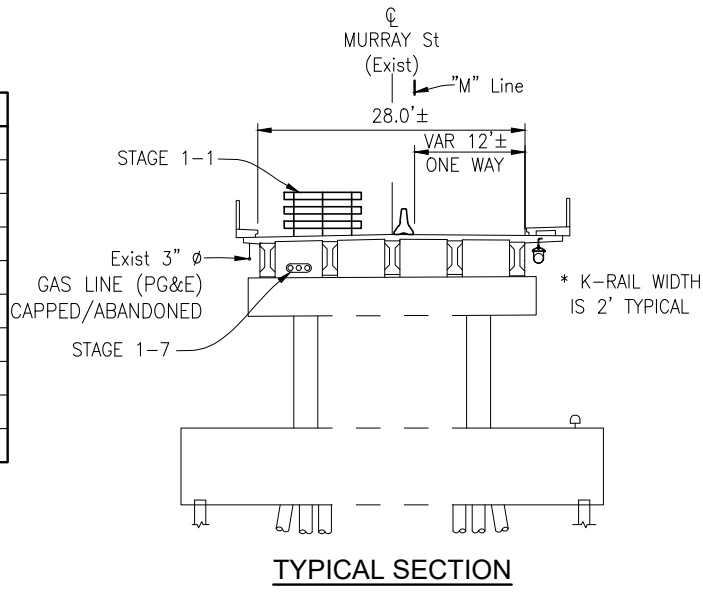
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5. SEE DETOUR PLAN FOR ALL OTHER DETOUR CONSTRUCTION AREA SIGN LOCATIONS.
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LEGEND:

- CONTRACTOR STAGING AREA
- TYPE III BARRICADE
- TEMPORARY RAILING (TYPE K)
- TEMPORARY PEDESTRIAN ACCESS ROUTE
- MASH TL-2 SLED END TREATMENT
- TEMPORARY SIGN SINGLE POST
- DIRECTION OF TRAFFIC
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- DOCK REMOVAL (BY OTHERS)
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- STRUCTURE REMOVAL
- PLACE TEMP PAVEMENT MARKING (TAPE)
- PORTABLE DELINEATORS AT 10' MAX SPACING
- TEMPORARY FENCE
- SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1
R5-6	NO BICYCLIST SYMBOL	2
R11-2 (Alt)	BRIDGE CLOSED	1
R11-2	ROAD CLOSED	3
W11-1	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-2	DETOUR AHEAD	1
W20-3	ROAD CLOSED AHEAD	1



	STAGE 1 – PG&E AND COMCAST ELECTRICAL UTILITY RELOCATION	West Harbor Access	East Harbor Access
STAGE 1-1	SET UP CONSTRUCTION AREA SIGNS AND CREATE ONE-WAY TRAFFIC EAST BOUND	OPEN	OPEN
STAGE 1-2	COORDINATE WITH PG&E FOR ELECTRICAL RELOCATION	OPEN	OPEN
STAGE 1-3	INSTALL TEMPORARY CONSTRUCTION FENCE FOR TEMPORARY STORAGE FOR PORT FACILITIES	CLOSED	OPEN
STAGE 1-4	CONSTRUCT WEST HARBOR FACILITIES IN TEMPORARY LOCATIONS (SEE SHEET C-8)	CLOSED	OPEN
STAGE 1-5	INSTALL WEST HARBOR TEMPORARY FENCE AND GATE TO SECURE CONTRACTOR WORK AREA	CLOSED	OPEN
STAGE 1-6	CONSTRUCT UTILITY VAULTS (BY PG&E AND COMCAST)	OPEN	OPEN
STAGE 1-7	CUT OPENINGS IN BRIDGE DIAPHRAGMS & ABUTMENTS FOR UTILITY CASINGS	OPEN/ CLOSE	CLOSE/ OPEN
STAGE 1-8	PLACE CASINGS IN BRIDGE AND UTILITY CONDUITS IN APPROACHES	OPEN/ CLOSE	OPEN/ CLOSE
STAGE 1-9	HORIZONTAL DIRECTIONAL BORE FOR ELECT CONDUIT ON NORTH SIDE OF BRIDGE TO NEW TRANSFORMER IN WEST HARBOR	CLOSED	OPEN
STAGE 1-10	PULL WIRES THROUGH CONDUIT IN ROAD AND BRIDGE AND MAKE FINAL CONNECTIONS TO VAULTS/TRANSFORMERS (BY PG&E AND COMCAST)	OPEN	OPEN
STAGE 1-11	ENERGIZE NEW LINES AND REMOVE OVERHEAD LINES FROM NORTH SIDE OF MURRAY (BY PG&E AND COMCAST)	OPEN	OPEN
STAGE 1-12	CONSTRUCT EAST HARBOR WATERLINE	OPEN	OPEN

NOTE:
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THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

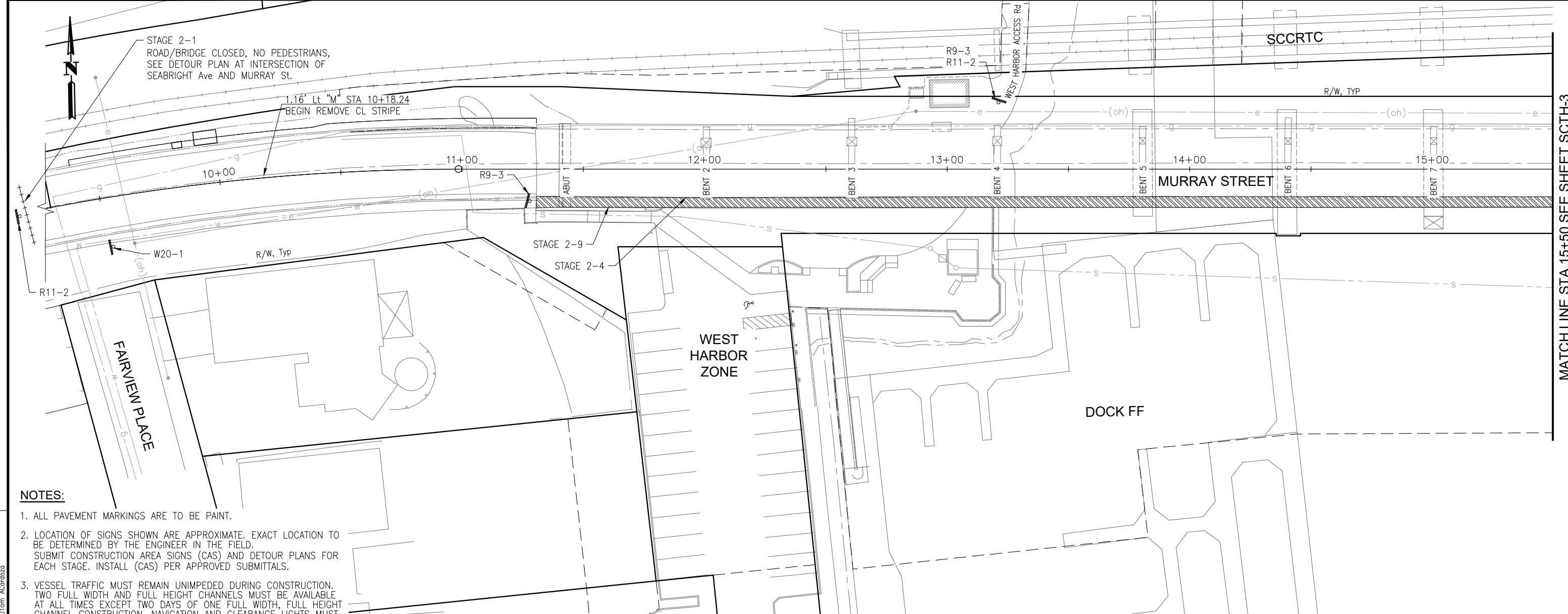
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 1

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13
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 SHEET 64 OF 196
 VAULT NO.

SCTH-2

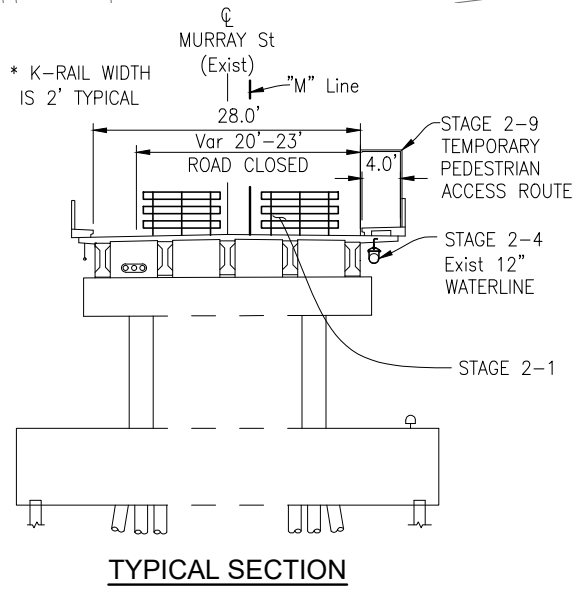


- NOTES:**
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
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- LEGEND:**
- CONTRACTOR STAGING AREA
 - TYPE III BARRICADE
 - TEMPORARY RAILING (TYPE K)
 - TEMPORARY PEDESTRIAN ACCESS ROUTE
 - MASH TL-2 SLED END TREATMENT
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 - DOCK REMOVAL (BY OTHERS)
 - DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS)
 - STRUCTURE REMOVAL
 - PLACE TEMP PAVEMENT MARKING (TAPE)
 - PORTABLE DELINEATORS AT 10' MAX SPACING
 - TEMPORARY FENCE
 - SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
R9-3	NO PEDESTRIAN (SYMBOL)	3
R11-2	ROAD CLOSED	2
W20-1	ROAD WORK AHEAD	1



	STAGE 2 - ANCHOR PILE AND EAST SIDE LAND BASED SUBSTRUCTURE WORK	West Harbor Access	East Harbor Access
STAGE 2-1	DETOUR TRAFFIC AND CLOSE BRIDGE TO ALL TRAFFIC	OPEN	CLOSED
STAGE 2-2	CONSTRUCT BENT 9 AND ABUTMENT 10 PILES (NORTH & SOUTH)	OPEN	CLOSED
STAGE 2-3	CONSTRUCT NORTH CIDH PILE AND TIE RODS TO ABUTMENT 10	OPEN	CLOSED
STAGE 2-4	CITY WATERLINE ON BRIDGE CAPPED AND REMOVED	OPEN	CLOSED
STAGE 2-5	REMOVE TIMBER RETAINING WALL, CURB GUTTER AND SIDEWALK AT SE QUADRANT	OPEN	CLOSED
STAGE 2-6	CONSTRUCT SOUTH CIDH PILE AND TIE RODS TO ABUTMENT 10	OPEN	CLOSED
STAGE 2-7	CONSTRUCT FOOTINGS, CURTAIN WALL AND WINGWALLS, AND GRADE BEAMS BETWEEN BENT 9 AND ABUTMENT 10	OPEN	CLOSED
STAGE 2-8	CONSTRUCT TEMPORARY WALL A AND SIDEWALK TO ALLOW PEDESTRIAN PASSAGE	OPEN	CLOSED
STAGE 2-9	CONSTRUCT TEMPORARY PEDESTRIAN ACCESS ROUTE ALONG SOUTH SIDE OF BRIDGE	OPEN	CLOSED
STAGE 2-10	TRENCH AND INSTALL 48" CASING ACROSS MURRAY STREET AT EAST END, INSTALL SSFM 36" CARRIER PIPE	OPEN	CLOSED

NOTE:
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THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 2

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

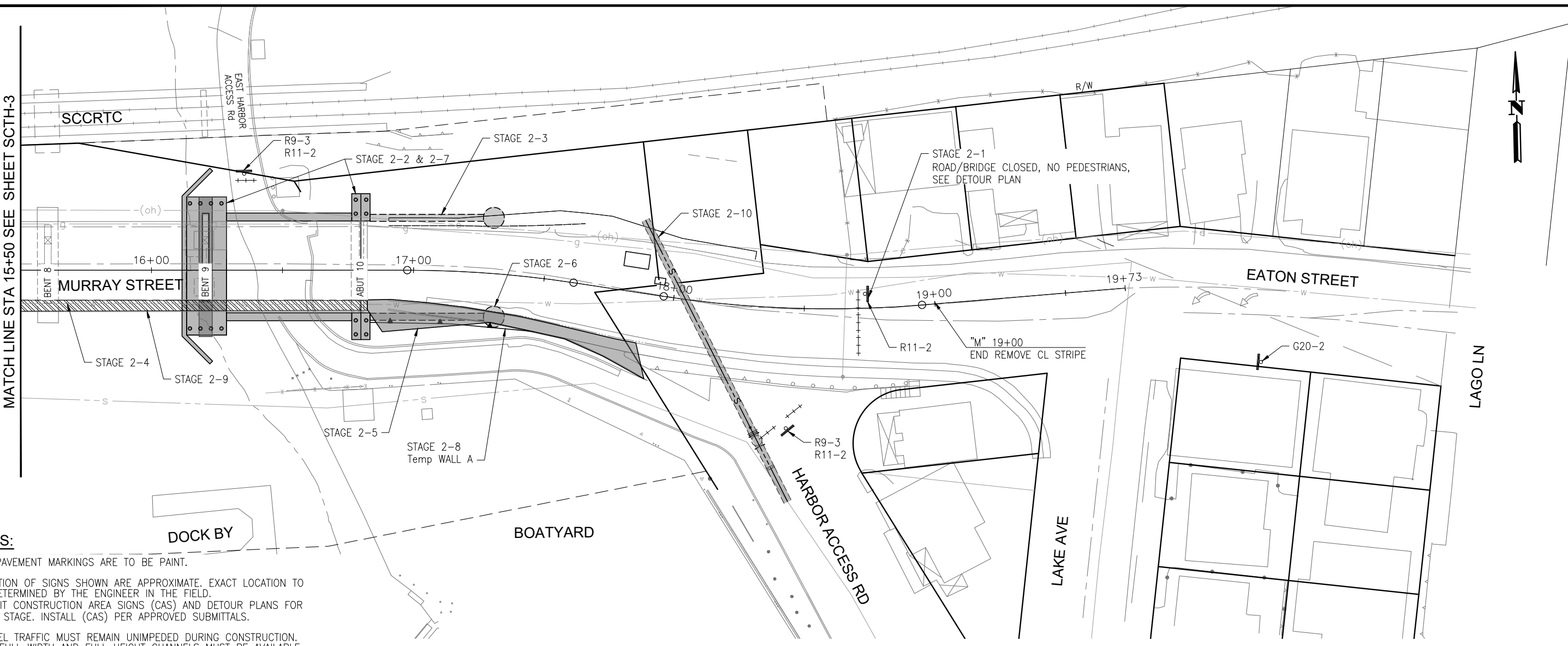
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SCALE	1"=20'
SHEET	65 OF 196
VAULT NO.	

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 Layout Tab: Scth-3
 May 03, 2024 - 9:01am ACardozo

MATCH LINE STA 15+50 SEE SHEET Scth-3

MATCH LINE STA 15+50 SEE SHEET SCTH-3



NOTES:

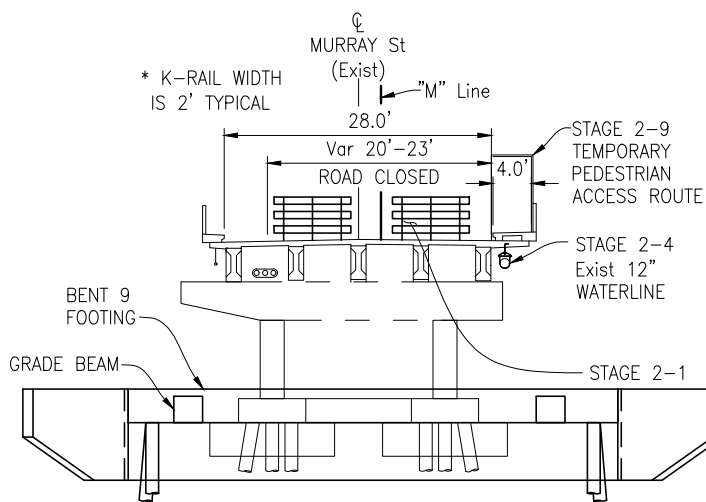
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6. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1
R9-3	NO PEDESTRIAN (SYMBOL)	2
R11-2	ROAD CLOSED	3

LEGEND:

- CONTRACTOR STAGING AREA
- TYPE III BARRICADE
- TEMPORARY RAILING (TYPE K)
- TEMPORARY PEDESTRIAN ACCESS ROUTE
- MASH TL-2 SLED END TREATMENT
- TEMPORARY SIGN SINGLE POST
- DIRECTION OF TRAFFIC
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- DOCK REMOVAL (BY OTHERS)
- DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS)
- STRUCTURE REMOVAL
- PLACE TEMP PAVEMENT MARKING (TAPE)
- PORTABLE DELINEATORS AT 10' MAX SPACING
- TEMPORARY FENCE
- SSFM TEMPORARY BYPASS



TYPICAL SECTION

	STAGE 2 - ANCHOR PILE AND EAST SIDE LAND BASED SUBSTRUCTURE WORK	West Harbor Access	East Harbor Access
STAGE 2-1	DETOUR TRAFFIC AND CLOSE BRIDGE TO ALL TRAFFIC	OPEN	CLOSED
STAGE 2-2	CONSTRUCT BENT 9 AND ABUTMENT 10 PILES (NORTH & SOUTH)	OPEN	CLOSED
STAGE 2-3	CONSTRUCT NORTH CIDH PILE AND TIE RODS TO ABUTMENT 10	OPEN	CLOSED
STAGE 2-4	CITY WATERLINE ON BRIDGE CAPPED AND REMOVED	OPEN	CLOSED
STAGE 2-5	REMOVE TIMBER RETAINING WALL, CURB GUTTER AND SIDEWALK AT SE QUADRANT	OPEN	CLOSED
STAGE 2-6	CONSTRUCT SOUTH CIDH PILE AND TIE RODS TO ABUTMENT 10	OPEN	CLOSED
STAGE 2-7	CONSTRUCT FOOTINGS, CURTAIN WALL AND WINGWALLS, AND GRADE BEAMS BETWEEN BENT 9 AND ABUTMENT 10	OPEN	CLOSED
STAGE 2-8	CONSTRUCT TEMPORARY WALL A AND SIDEWALK TO ALLOW PEDESTRIAN PASSAGE	OPEN	CLOSED
STAGE 2-9	CONSTRUCT TEMPORARY PEDESTRIAN ACCESS ROUTE ALONG SOUTH SIDE OF BRIDGE	OPEN	CLOSED
STAGE 2-10	TRENCH AND INSTALL 48\"/>		

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SCTH-4

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JUSTINA L. CONKLIN
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 CIVIL
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ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

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SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 2

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

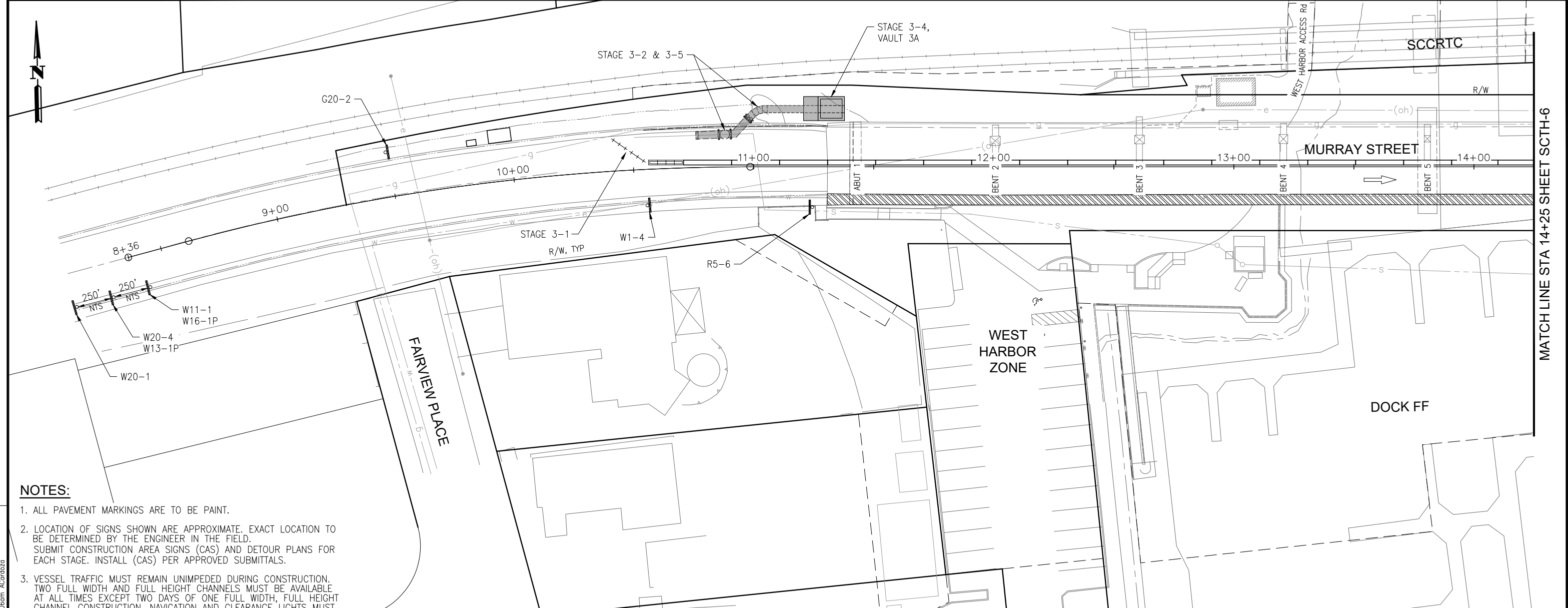
REVISION DATES (PRELIMINARY STAGE ONLY)					
2/7/13	3/7/13	4/7/13	5/7/13	6/7/13	7/7/13
8/22/21					

SCALE 1"=20'

SHEET 66 OF 196

Vault No.

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-4
 May 03, 2024 - 9:03am ACardozo

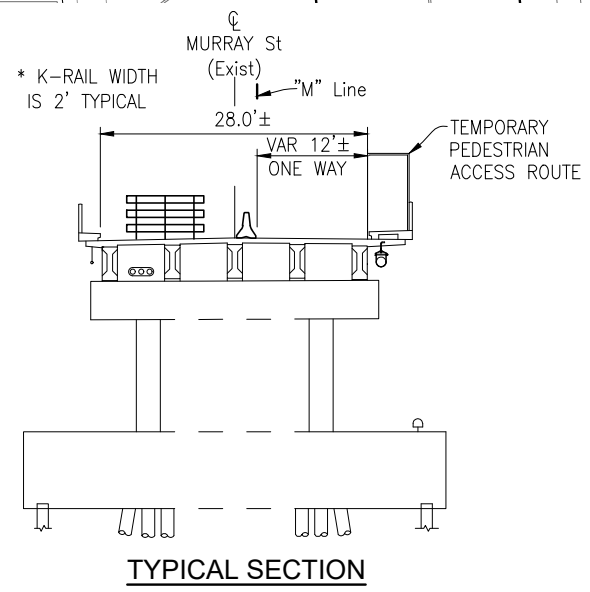


- NOTES:**
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
 2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
 3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
 4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
 5. SEE DETOUR PLAN FOR ALL OTHER DETOUR CONSTRUCTION AREA SIGN LOCATIONS.
 6. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

- LEGEND:**
- CONTRACTOR STAGING AREA
 - TYPE III BARRICADE
 - TEMPORARY RAILING (TYPE K)
 - TEMPORARY PEDESTRIAN ACCESS ROUTE
 - MASH TL-2 SLED END TREATMENT
 - TEMPORARY SIGN SINGLE POST
 - DIRECTION OF TRAFFIC
 - PEDESTRIAN DIRECTION ARROWS
 - DOCK REMOVAL (BY OTHERS)
 - DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS)
 - STRUCTURE REMOVAL
 - PLACE TEMP PAVEMENT MARKING (TAPE)
 - PORTABLE DELINEATORS AT 10' MAX SPACING
 - TEMPORARY FENCE
 - SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE	QUANTITY
G20-2	END ROAD WORK	1
R5-6	NO BICYCLIST (SYMBOL)	1
W1-4	ARROW (SYMBOL)	1
W11-01	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1



	STAGE 3 - SSFM EAST AND WEST APPROACH CONSTRUCTION	West Harbor Access	East Harbor Access
STAGE 3-1	RE-ESTABLISH ONE WAY EB TRAFFIC ON BRIDGE	OPEN	OPEN
STAGE 3-2	TRENCH ALONG NORTH SIDE OF EAST APPROACH AND INSTALL SSFM 36" PIPE	OPEN	CLOSED
STAGE 3-3	CONSTRUCT SSFM VAULT 4	OPEN	OPEN
STAGE 3-4	CONSTRUCT SSFM VAULTS 3A AND 3B	OPEN	OPEN
STAGE 3-5	INSTALL EAST AND WEST SSFM MANIFOLDS	OPEN	OPEN

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

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

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)
2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13 1/7/14 2/7/14 3/7/14 4/7/14 5/7/14 6/7/14 7/7/14 8/7/14 9/7/14 10/7/14 11/7/14 12/7/14 1/7/15 2/7/15 3/7/15 4/7/15 5/7/15 6/7/15 7/7/15 8/7/15 9/7/15 10/7/15 11/7/15 12/7/15 1/7/16 2/7/16 3/7/16 4/7/16 5/7/16 6/7/16 7/7/16 8/7/16 9/7/16 10/7/16 11/7/16 12/7/16 1/7/17 2/7/17 3/7/17 4/7/17 5/7/17 6/7/17 7/7/17 8/7/17 9/7/17 10/7/17 11/7/17 12/7/17 1/7/18 2/7/18 3/7/18 4/7/18 5/7/18 6/7/18 7/7/18 8/7/18 9/7/18 10/7/18 11/7/18 12/7/18 1/7/19 2/7/19 3/7/19 4/7/19 5/7/19 6/7/19 7/7/19 8/7/19 9/7/19 10/7/19 11/7/19 12/7/19 1/7/20 2/7/20 3/7/20 4/7/20 5/7/20 6/7/20 7/7/20 8/7/20 9/7/20 10/7/20 11/7/20 12/7/20 1/7/21 2/7/21 3/7/21 4/7/21 5/7/21 6/7/21 7/7/21 8/7/21 9/7/21 10/7/21 11/7/21 12/7/21 1/7/22 2/7/22 3/7/22 4/7/22 5/7/22 6/7/22 7/7/22 8/7/22 9/7/22 10/7/22 11/7/22 12/7/22 1/7/23 2/7/23 3/7/23 4/7/23 5/7/23 6/7/23 7/7/23 8/7/23 9/7/23 10/7/23 11/7/23 12/7/23 1/7/24 2/7/24 3/7/24 4/7/24 5/7/24 6/7/24 7/7/24 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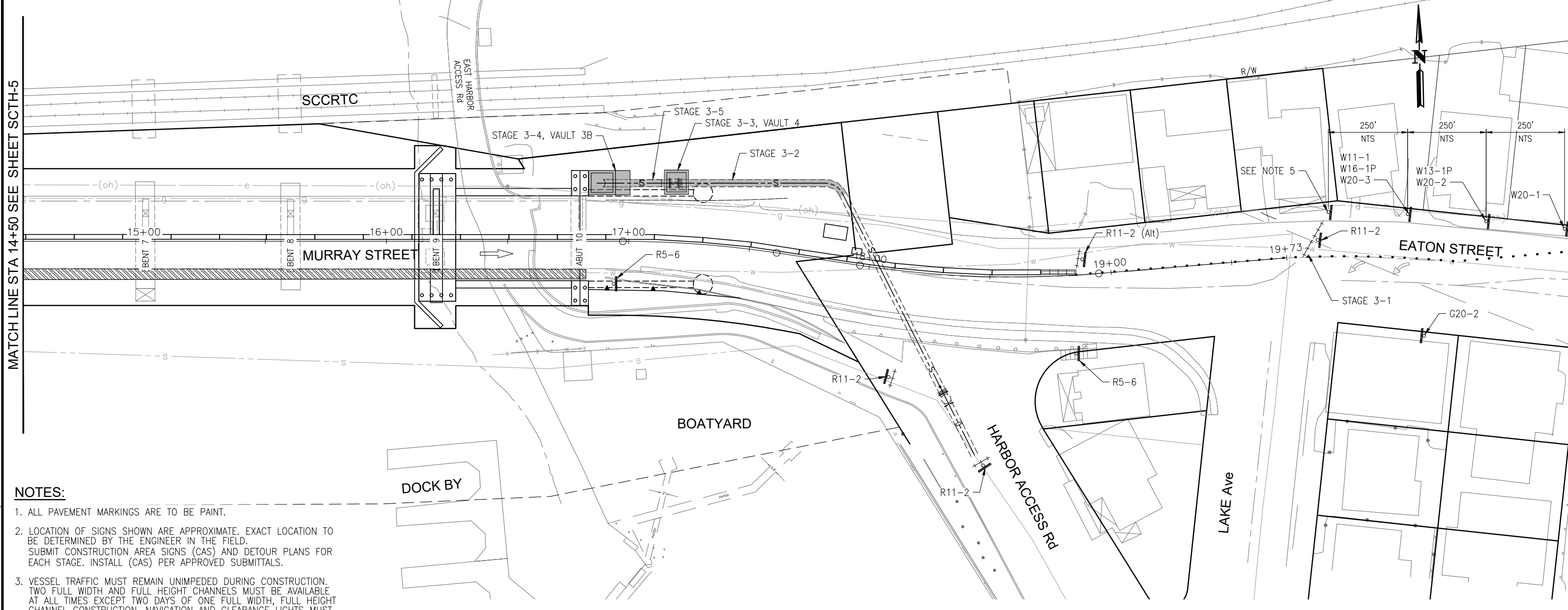
SCALE 1"=20'
 SHEET 67 OF 196
 VAULT NO.

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SETH-5
 May 03, 2024 - 9:06am ACardozo

MATCHLINE STA 14+25 SHEET SETH-6

SETH-5

MATCH LINE STA 14+50 SEE SHEET SCSH-5



NOTES:

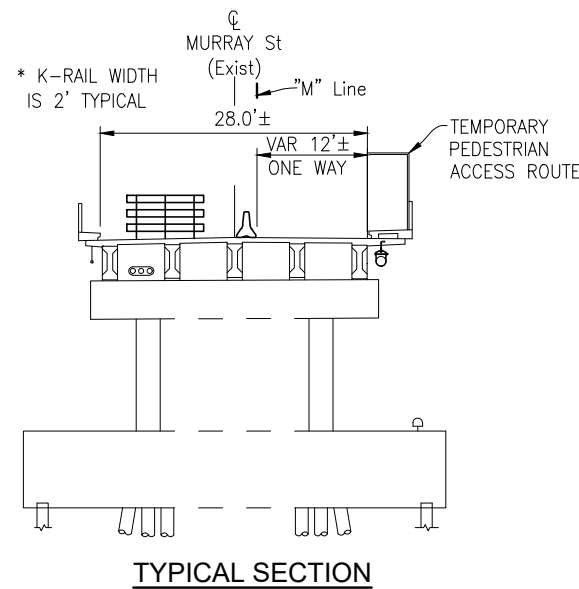
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LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
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CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
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W20-2	DETOUR AHEAD	1
W20-3	ROAD CLOSED AHEAD	1



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STAGE 3-1	RE-ESTABLISH ONE WAY EB TRAFFIC ON BRIDGE	OPEN	OPEN
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STAGE 3-3	CONSTRUCT SSFM VAULT 4	OPEN	OPEN
STAGE 3-4	CONSTRUCT SSFM VAULTS 3A AND 3B	OPEN	OPEN
STAGE 3-5	INSTALL EAST AND WEST SSFM MANIFOLDS	OPEN	OPEN

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SCTH-6

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

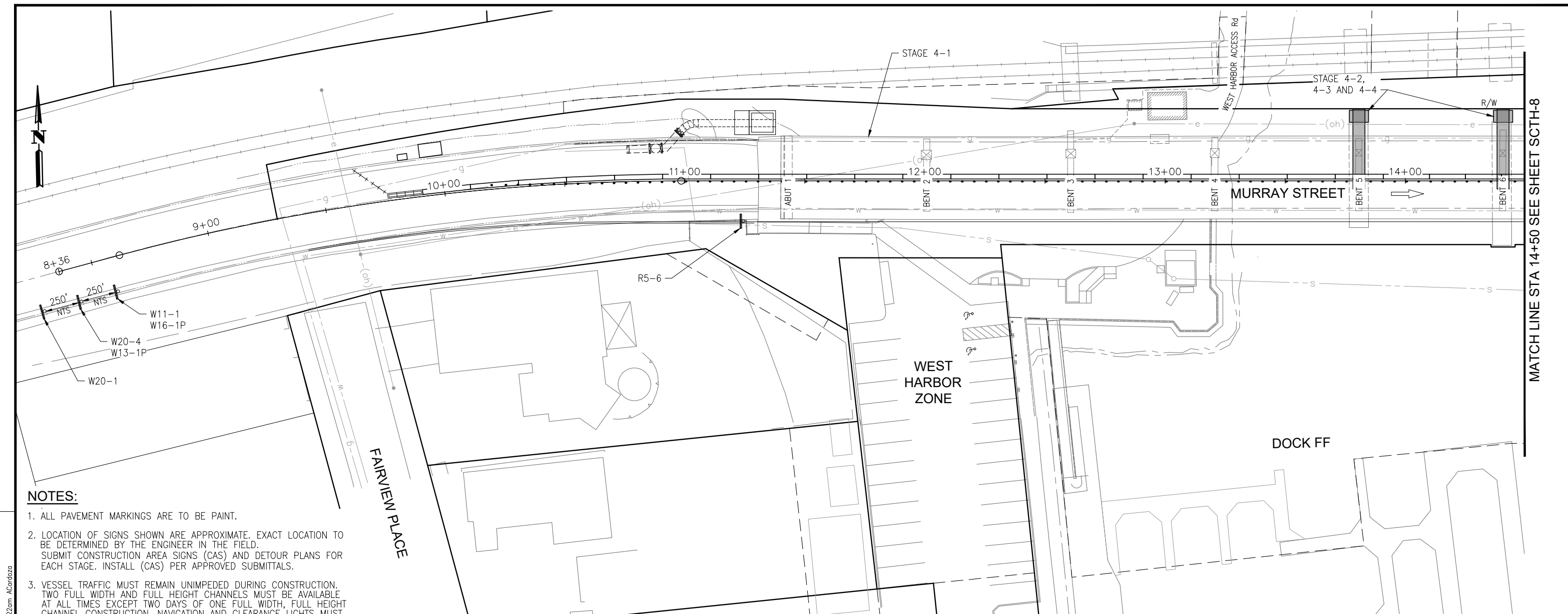
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 3

REVISION DATES (PRELIMINARY STAGE ONLY)

2/7/13	3/7/13	4/7/13	5/7/13	6/7/13	7/7/13	8/7/13	9/7/13	10/7/13	11/7/13	12/7/13
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SCALE	1"=20'
SHEET	68 OF 196
VAULT NO.	



NOTES:

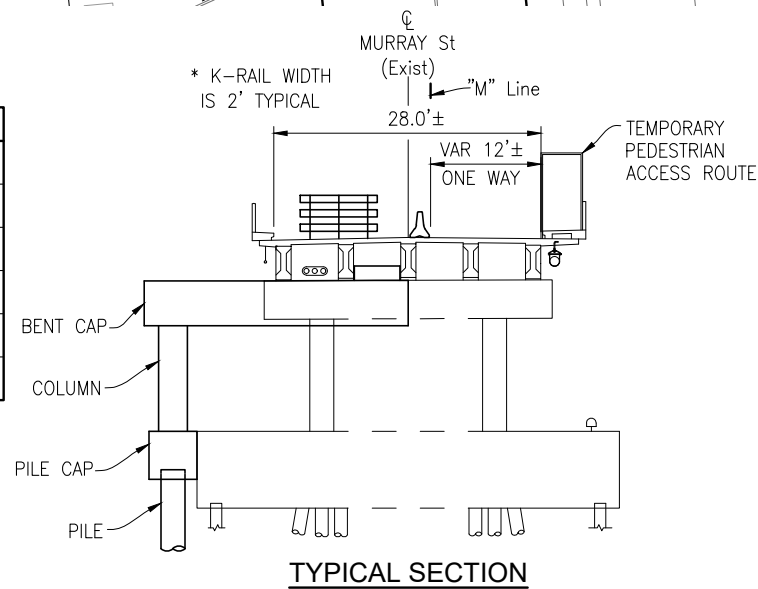
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
5. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE	QUANTITY
R5-6	NO BICYCLIST (SYMBOL)	1
W11-01	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1



	STAGE 4 - IN WATER SUBSTRUCTURE WORK ON NORTH SIDE	West Harbor Access	East Harbor Access
STAGE 4-1	PROVIDE TEMPORARY LIGHTING ON THE NORTH SIDE OF BRIDGE	OPEN	CLOSED
STAGE 4-2	CONSTRUCT NORTH SIDE PILES AT BENTS 5 THROUGH 8	OPEN	CLOSED
STAGE 4-3	CONSTRUCT PILE CAPS, COLUMNS, AND BENT CAPS AT BENTS 5 THROUGH 8	OPEN	CLOSED
STAGE 4-4	CONSTRUCT NORTH SIDE FENDER SYSTEM AT BENTS 5 THROUGH 8	OPEN	CLOSED

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 4

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13
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SCALE	1"=20'
SHEET	69 OF 196
Vault No.	

MATCH LINE STA 14+50 SEE SHEET SCTH-8

SCTH-7

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-7
 May 03, 2024 - 9:22am ACardozo

MATCH LINE STA 14+75 SEE SHEET SCSH-7

NOTES:

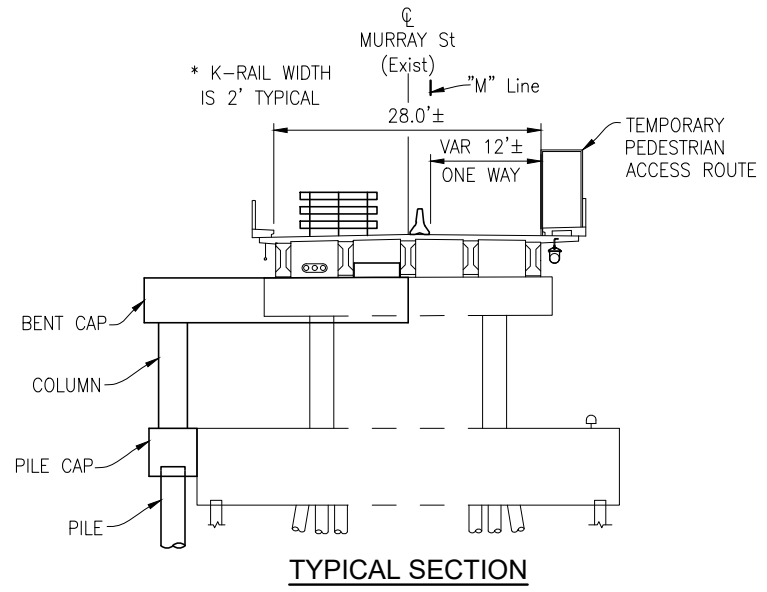
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
5. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1
R5-6	NO BICYCLIST (SYMBOL)	2
R9-3	NO PEDESTRIAN (SYMBOL)	2
R11-2 (Alt)	BRIDGE CLOSED	1
R11-2	ROAD CLOSED	3
W11-1	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-2	DETOUR AHEAD	1
W20-3	ROAD CLOSED AHEAD	1



TYPICAL SECTION

	STAGE 4 - IN WATER SUBSTRUCTURE WORK ON NORTH SIDE	West Harbor Access	East Harbor Access
STAGE 4-1	PROVIDE TEMPORARY LIGHTING ON THE NORTH SIDE OF BRIDGE	OPEN	CLOSED
STAGE 4-2	CONSTRUCT NORTH SIDE PILES AT BENTS 5 THROUGH 8	OPEN	CLOSED
STAGE 4-3	CONSTRUCT PILE CAPS, COLUMNS, AND BENT CAPS AT BENTS 5 THROUGH 8	OPEN	CLOSED
STAGE 4-4	CONSTRUCT NORTH SIDE FENDER SYSTEM AT BENTS 5 THROUGH 8	OPEN	CLOSED

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

SCSH-8

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

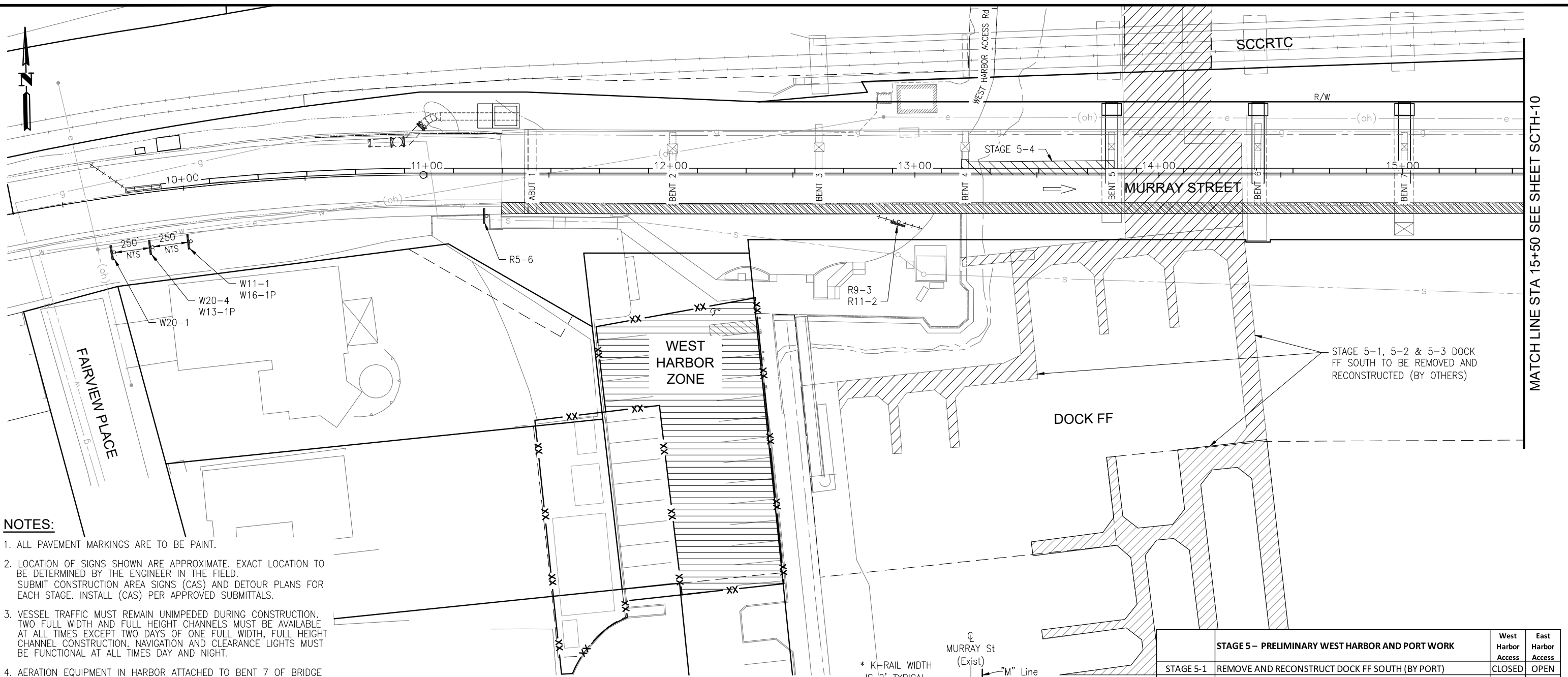
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)
2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13

SCALE	1"=20'
SHEET	70 OF 196
Vault No.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg Layout Tab: SCSH-8 May 03, 2024 - 9:23am ACardozo



- NOTES:**
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
 2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
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 5. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

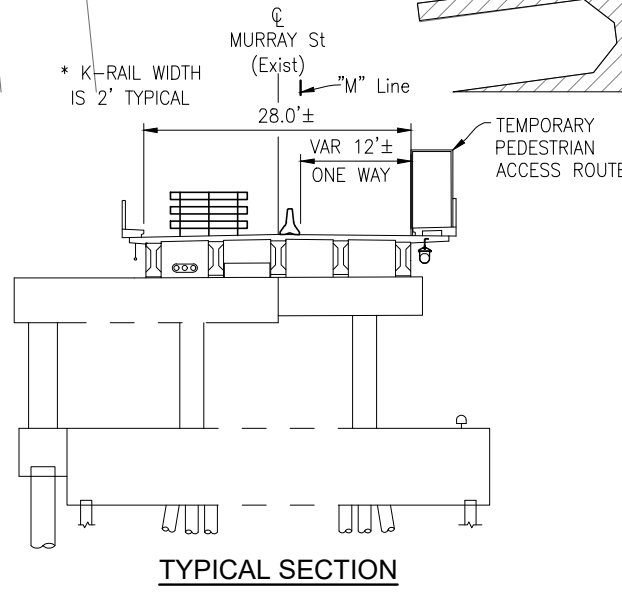
- LEGEND:**
- CONTRACTOR STAGING AREA
 - TYPE III BARRICADE
 - TEMPORARY RAILING (TYPE K)
 - TEMPORARY PEDESTRIAN ACCESS ROUTE
 - MASH TL-2 SLED END TREATMENT
 - TEMPORARY SIGN SINGLE POST
 - DIRECTION OF TRAFFIC
 - PEDESTRIAN DIRECTION ARROWS
 - DOCK REMOVAL (BY OTHERS)
 - DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS)
 - STRUCTURE REMOVAL
 - PLACE TEMP PAVEMENT MARKING (TAPE)
 - PORTABLE DELINEATORS AT 10' MAX SPACING
 - TEMPORARY FENCE
 - SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
R5-6	NO BICYCLIST (SYMBOL)	1
R9-3	NO PEDESTRIAN (SYMBOL)	1
R11-2	ROAD CLOSED	1
W11-1	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1

STAGE 5 - PRELIMINARY WEST HARBOR AND PORT WORK

		West Harbor Access	East Harbor Access
STAGE 5-1	REMOVE AND RECONSTRUCT DOCK FF SOUTH (BY PORT)	CLOSED	OPEN
STAGE 5-2	CONSTRUCT TEMPORARY DOCK FF (BY PORT)	CLOSED	OPEN
STAGE 5-3	REMOVE PORTION OF DOCK FF (BY PORT)	CLOSED	OPEN
STAGE 5-4	REMOVE PEDESTRIAN BRIDGE BETWEEN BENTS 4 AND 5	CLOSED	OPEN
STAGE 5-5	REMOVE PORTION OF DOCK BY (BY PORT)	CLOSED	OPEN



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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 5

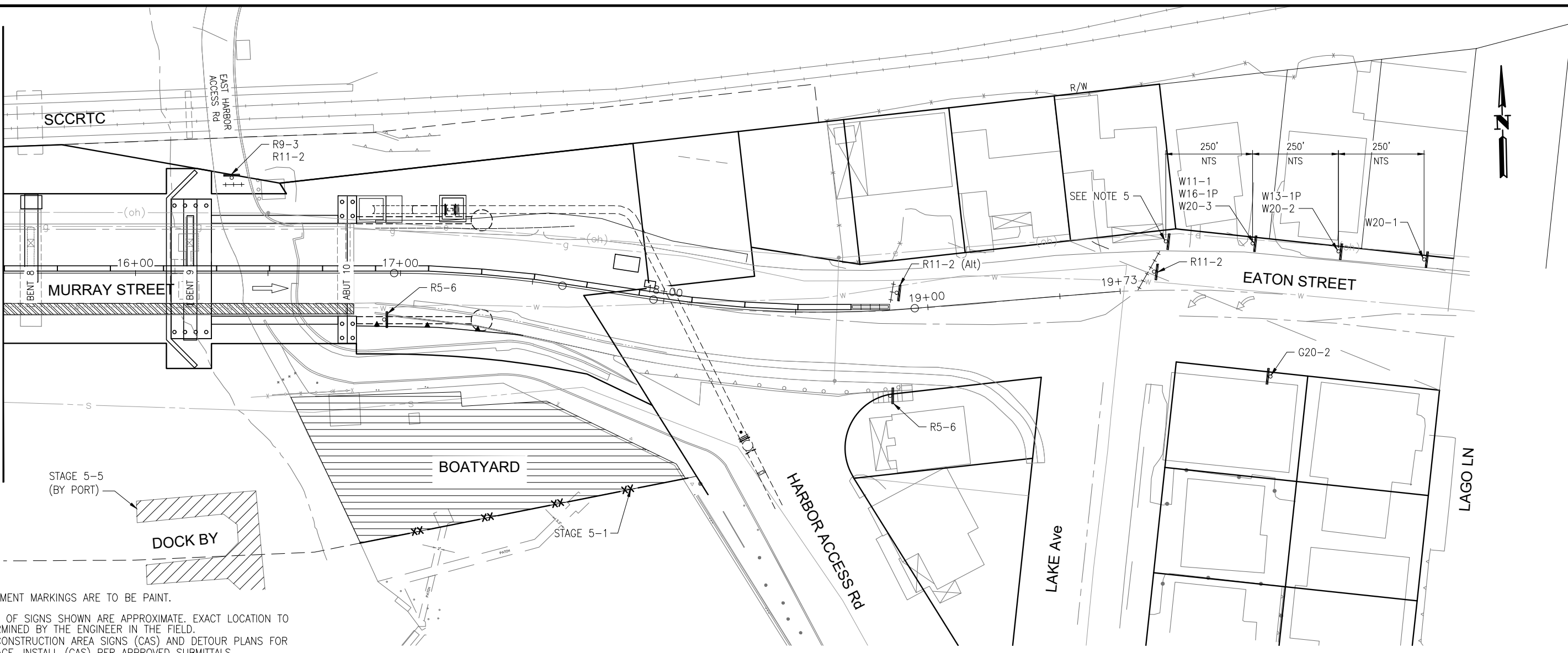
REVISION DATES (PRELIMINARY STAGE ONLY)

2/7/13	3/7/13	4/7/13	5/7/13	6/7/13	7/7/13	8/7/13	9/7/13	10/7/13	11/7/13	12/7/13	1/7/14	2/7/14	3/7/14	4/7/14	5/7/14	6/7/14	7/7/14	8/7/14	9/7/14	10/7/14	11/7/14	12/7/14	1/7/15	2/7/15	3/7/15	4/7/15	5/7/15	6/7/15	7/7/15	8/7/15	9/7/15	10/7/15	11/7/15	12/7/15	1/7/16	2/7/16	3/7/16	4/7/16	5/7/16	6/7/16	7/7/16	8/7/16	9/7/16	10/7/16	11/7/16	12/7/16	1/7/17	2/7/17	3/7/17	4/7/17	5/7/17	6/7/17	7/7/17	8/7/17	9/7/17	10/7/17	11/7/17	12/7/17	1/7/18	2/7/18	3/7/18	4/7/18	5/7/18	6/7/18	7/7/18	8/7/18	9/7/18	10/7/18	11/7/18	12/7/18	1/7/19	2/7/19	3/7/19	4/7/19	5/7/19	6/7/19	7/7/19	8/7/19	9/7/19	10/7/19	11/7/19	12/7/19	1/7/20	2/7/20	3/7/20	4/7/20	5/7/20	6/7/20	7/7/20	8/7/20	9/7/20	10/7/20	11/7/20	12/7/20	1/7/21	2/7/21	3/7/21	4/7/21	5/7/21	6/7/21	7/7/21	8/7/21	9/7/21	10/7/21	11/7/21	12/7/21	1/7/22	2/7/22	3/7/22	4/7/22	5/7/22	6/7/22	7/7/22	8/7/22	9/7/22	10/7/22	11/7/22	12/7/22	1/7/23	2/7/23	3/7/23	4/7/23	5/7/23	6/7/23	7/7/23	8/7/23	9/7/23	10/7/23	11/7/23	12/7/23	1/7/24	2/7/24	3/7/24	4/7/24	5/7/24	6/7/24	7/7/24	8/7/24	9/7/24	10/7/24	11/7/24	12/7/24	1/7/25	2/7/25	3/7/25	4/7/25	5/7/25	6/7/25	7/7/25	8/7/25	9/7/25	10/7/25	11/7/25	12/7/25	1/7/26	2/7/26	3/7/26	4/7/26	5/7/26	6/7/26	7/7/26	8/7/26	9/7/26	10/7/26	11/7/26	12/7/26	1/7/27	2/7/27	3/7/27	4/7/27	5/7/27	6/7/27	7/7/27	8/7/27	9/7/27	10/7/27	11/7/27	12/7/27	1/7/28	2/7/28	3/7/28	4/7/28	5/7/28	6/7/28	7/7/28	8/7/28	9/7/28	10/7/28	11/7/28	12/7/28	1/7/29	2/7/29	3/7/29	4/7/29	5/7/29	6/7/29	7/7/29	8/7/29	9/7/29	10/7/29	11/7/29	12/7/29	1/7/30	2/7/30	3/7/30	4/7/30	5/7/30	6/7/30	7/7/30	8/7/30	9/7/30	10/7/30	11/7/30	12/7/30	1/7/31	2/7/31	3/7/31	4/7/31	5/7/31	6/7/31	7/7/31	8/7/31	9/7/31	10/7/31	11/7/31	12/7/31
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SCTH-9
 SCALE 1"=20'
 SHEET 71 OF 196
 VAULT NO.

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-9 Jun 05/2024 - 9:50am ACardozo

MATCH LINE STA 15+50 SEE SHEET SCTH-9



NOTES:

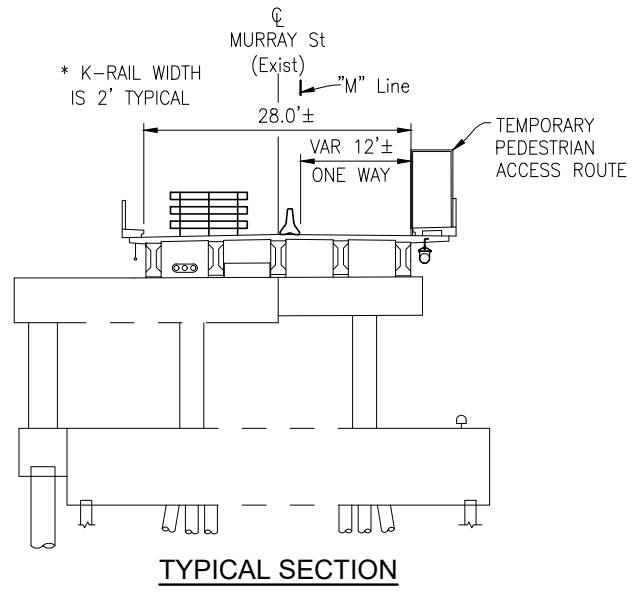
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5. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1
R5-6	NO BICYCLIST SYMBOL	2
R9-3	NO PEDESTRIAN (SYMBOL)	1
R11-2 (Alt)	BRIDGE CLOSED	1
R11-2	ROAD CLOSED	2
W11-1	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-2	DETOUR AHEAD	1
W20-3	ROAD CLOSED AHEAD	1



	STAGE 5 - PRELIMINARY WEST HARBOR AND PORT WORK	West Harbor Access	East Harbor Access
STAGE 5-1	REMOVE AND RECONSTRUCT DOCK FF SOUTH (BY PORT)	CLOSED	OPEN
STAGE 5-2	CONSTRUCT TEMPORARY DOCK FF (BY PORT)	CLOSED	OPEN
STAGE 5-3	REMOVE PORTION OF DOCK FF (BY PORT)	CLOSED	OPEN
STAGE 5-4	REMOVE PEDESTRIAN BRIDGE BETWEEN BENTS 4 AND 5	CLOSED	OPEN
STAGE 5-5	REMOVE PORTION OF DOCK BY (BY PORT)	CLOSED	OPEN

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. **SCTH-10**

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC
 MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

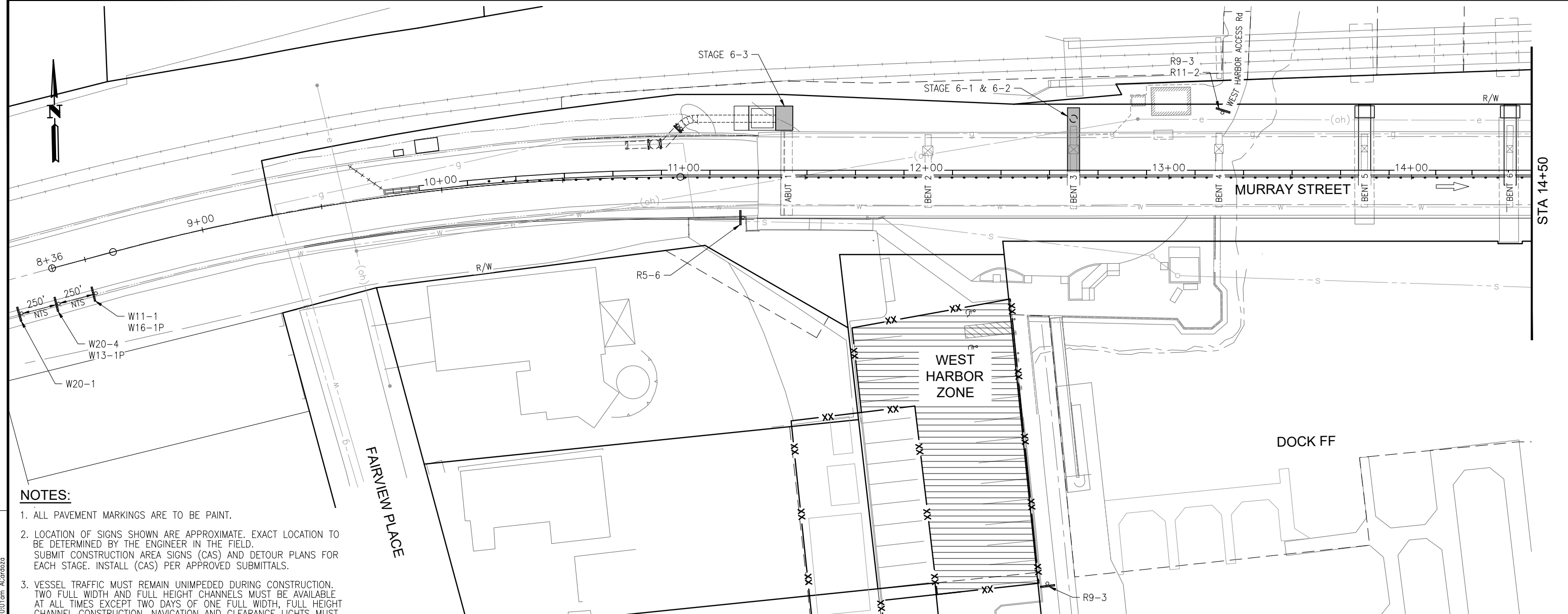
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 5

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

2/7/13	3/7/13	4/7/13	5/7/13	6/7/13	7/7/13	8/7/13	9/7/13	10/7/13	11/7/13	12/7/13
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SCALE	1"=20'
SHEET	72 OF 196
Vault No.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-10 Jun 05 2024 - 9:52am ACardozo



NOTES:

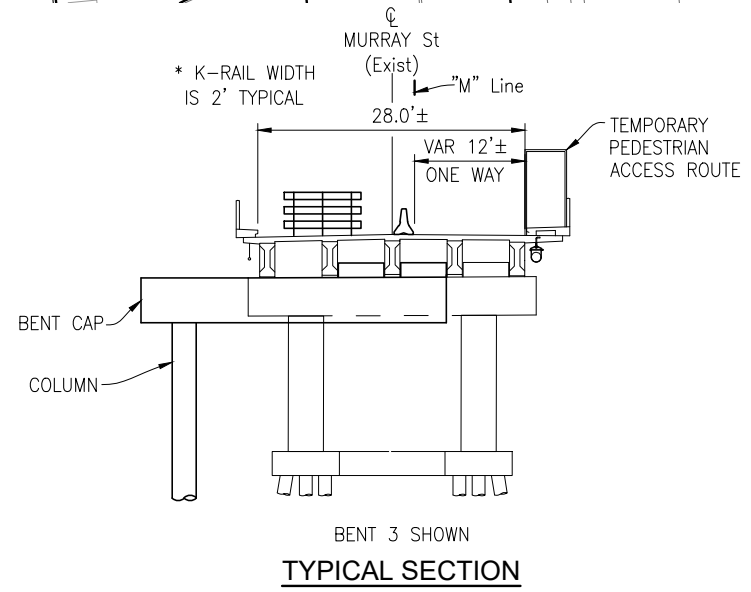
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4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
5. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- CONTRACTOR STAGING AREA
- TYPE III BARRICADE
- TEMPORARY RAILING (TYPE K)
- TEMPORARY PEDESTRIAN ACCESS ROUTE
- MASH TL-2 SLED END TREATMENT
- TEMPORARY SIGN SINGLE POST
- DIRECTION OF TRAFFIC
- PEDESTRIAN DIRECTION ARROWS
- DOCK REMOVAL (BY OTHERS)
- DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS)
- STRUCTURE REMOVAL
- PLACE TEMP PAVEMENT MARKING (TAPE)
- PORTABLE DELINEATORS AT 10' MAX SPACING
- TEMPORARY FENCE
- SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE	QUANTITY
R5-6	NO BICYCLIST (SYMBOL)	1
R11-2	ROAD CLOSED	1
W9-3	NO PEDESTRIAN (SYMBOL)	2
W11-01	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1



	STAGE 6 - WEST SIDE LAND BASED SUBSTRUCTURE WORK NORTH SIDE	West Harbor Access	East Harbor Access
STAGE 6-1	INSTALL NORTH SIDE PILE AT BENT 3	CLOSED	OPEN
STAGE 6-2	CONSTRUCT PILE CAP, COLUMN, AND BENT CAP AT BENT 3	CLOSED	OPEN
STAGE 6-3	CONSTRUCT ABUTMENT 1	CLOSED	OPEN

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. SCTH-11

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

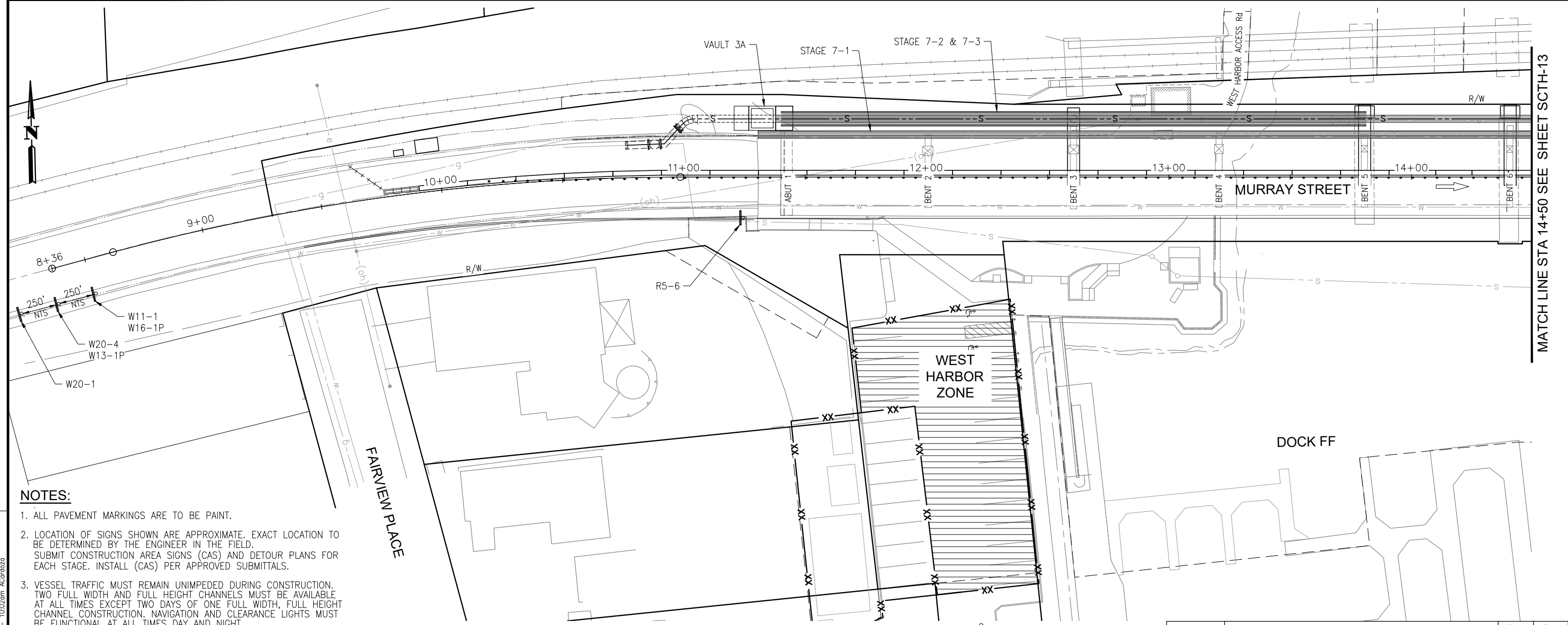
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 6

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)
2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13 1/7/14 2/7/14 3/7/14 4/7/14 5/7/14 6/7/14 7/7/14 8/7/14 9/7/14 10/7/14 11/7/14 12/7/14 1/7/15 2/7/15 3/7/15 4/7/15 5/7/15 6/7/15 7/7/15 8/7/15 9/7/15 10/7/15 11/7/15 12/7/15 1/7/16 2/7/16 3/7/16 4/7/16 5/7/16 6/7/16 7/7/16 8/7/16 9/7/16 10/7/16 11/7/16 12/7/16 1/7/17 2/7/17 3/7/17 4/7/17 5/7/17 6/7/17 7/7/17 8/7/17 9/7/17 10/7/17 11/7/17 12/7/17 1/7/18 2/7/18 3/7/18 4/7/18 5/7/18 6/7/18 7/7/18 8/7/18 9/7/18 10/7/18 11/7/18 12/7/18 1/7/19 2/7/19 3/7/19 4/7/19 5/7/19 6/7/19 7/7/19 8/7/19 9/7/19 10/7/19 11/7/19 12/7/19 1/7/20 2/7/20 3/7/20 4/7/20 5/7/20 6/7/20 7/7/20 8/7/20 9/7/20 10/7/20 11/7/20 12/7/20 1/7/21 2/7/21 3/7/21 4/7/21 5/7/21 6/7/21 7/7/21 8/7/21 9/7/21 10/7/21 11/7/21 12/7/21 1/7/22 2/7/22 3/7/22 4/7/22 5/7/22 6/7/22 7/7/22 8/7/22 9/7/22 10/7/22 11/7/22 12/7/22 1/7/23 2/7/23 3/7/23 4/7/23 5/7/23 6/7/23 7/7/23 8/7/23 9/7/23 10/7/23 11/7/23 12/7/23 1/7/24 2/7/24 3/7/24 4/7/24 5/7/24 6/7/24 7/7/24 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SCALE 1"=20'
 SHEET 73 OF 196
 VAULT NO.

MATCH LINE STA 14+50 SEE SHEET SCTH-13

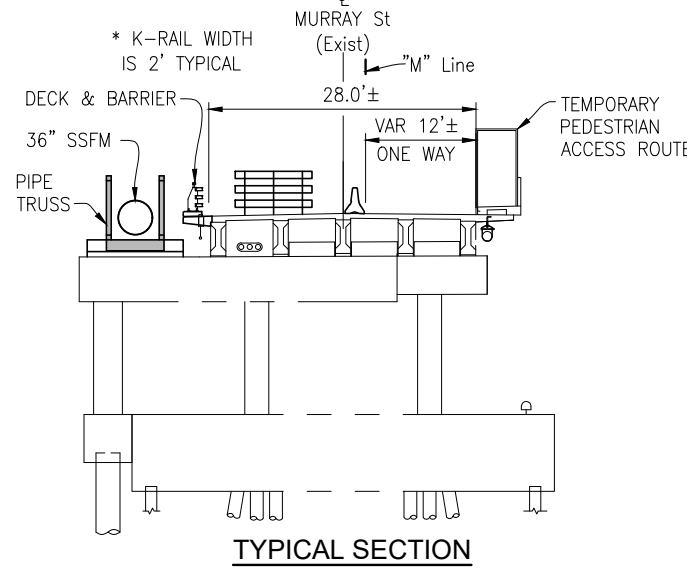


- NOTES:**
- ALL PAVEMENT MARKINGS ARE TO BE PAINT.
 - LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
 - VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
 - AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
 - EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE	QUANTITY
R5-6	NO BICYCLIST (SYMBOL)	1
W11-01	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1

- LEGEND:**
- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |



	STAGE 7 – NORTH SIDE BRIDGE WORK AND SSFM COMPLETION	West Harbor Access	East Harbor Access
STAGE 7-1	DEMO NORTH OVERHANG AND CONSTRUCT NEW OVERHANG, BARRIER, AND DECK DRAINAGE	OPEN	OPEN
STAGE 7-2	SET PIPE TRUSS AND PIPE ANCHORAGES	OPEN	OPEN
STAGE 7-3	INSTALL 36" SSFM	OPEN	OPEN
STAGE 7-4	OPEN 36" SSFM	OPEN	OPEN

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. **SCTH-12**

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 7

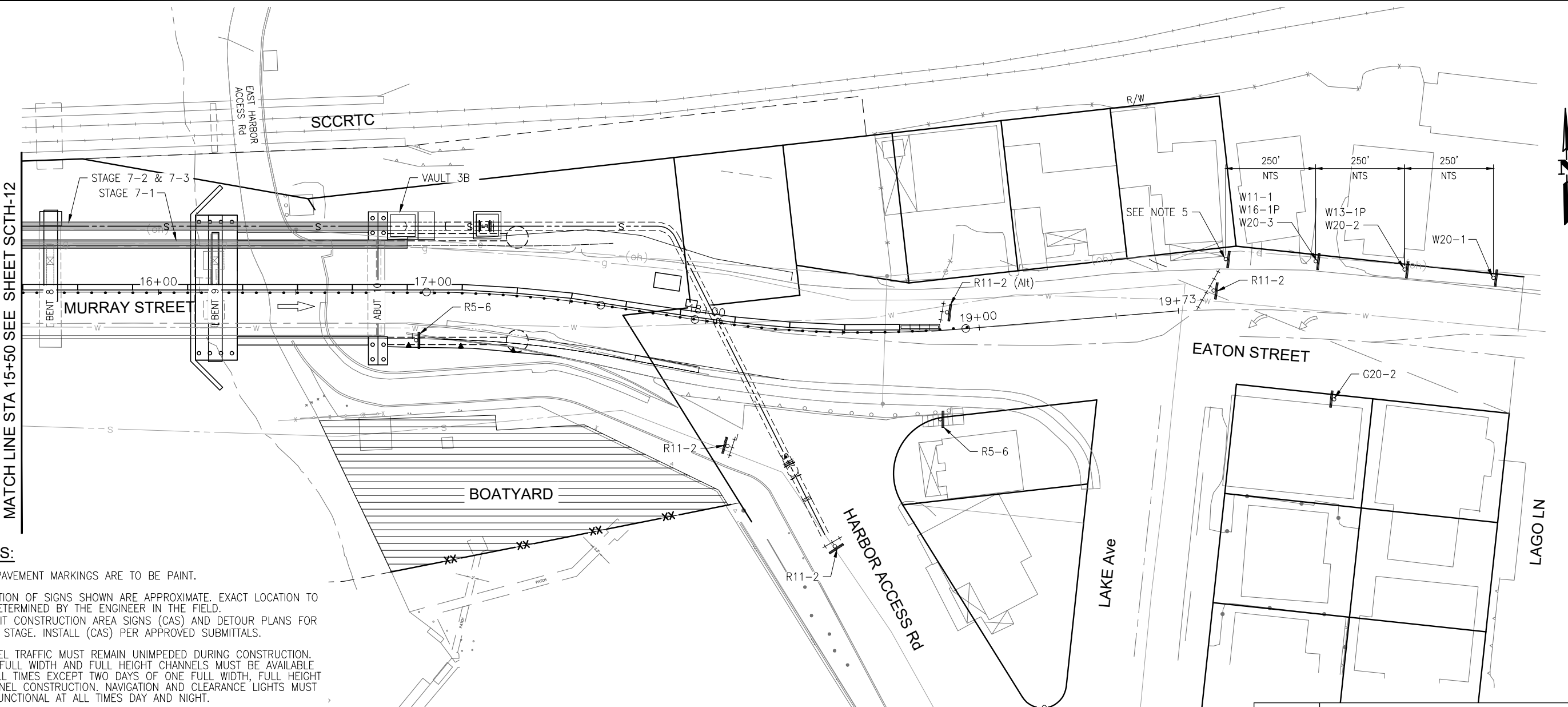
DISREGARD PRINTS BEARING EARLIER REVISION DATES

2/7/13	3/7/13	4/7/13	5/7/13	6/7/13	7/7/13	8/7/13	9/7/13	10/7/13	11/7/13	12/7/13
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SCALE	1"=20'
SHEET	74 OF 196
VAULT NO.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg Layout Tab: SCTH-12 May 03, 2024 10:02am ACordoba

MATCH LINE STA 15+50 SEE SHEET SCTH-12



NOTES:

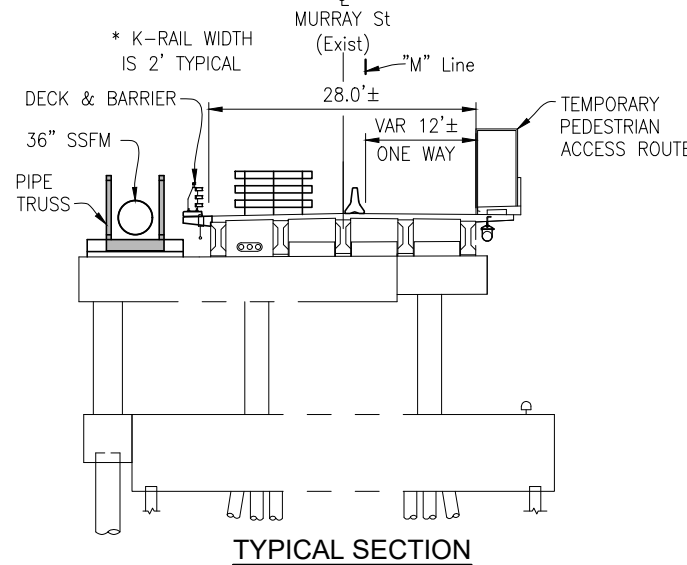
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
5. CLOSE PEDESTRIAN ACCESS ROUTES WHEN OVERHEAD WORK IS BETWEEN BENT 9 AND ABUTMENT 10.
6. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1
R5-6	NO BICYCLIST SYMBOL	2
R11-2 (Alt)	BRIDGE CLOSED	1
R11-2	ROAD CLOSED	3
W11-1	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-2	DETOUR AHEAD	1
W20-3	ROAD CLOSED AHEAD	1



	STAGE 7 – NORTH SIDE BRIDGE WORK AND SSFM COMPLETION	West Harbor Access	East Harbor Access
STAGE 7-1	DEMO NORTH OVERHANG AND CONSTRUCT NEW OVERHANG, BARRIER, AND DECK DRAINAGE	OPEN	OPEN
STAGE 7-2	SET PIPE TRUSS AND PIPE ANCHORAGES	OPEN	OPEN
STAGE 7-3	INSTALL 36" SSFM	OPEN	OPEN
STAGE 7-4	OPEN 36" SSFM	OPEN	OPEN

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg Layout Tab: SCTH-13 May 03,2024 10:02am ACardozo

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

TRC Engineers or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC
 MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

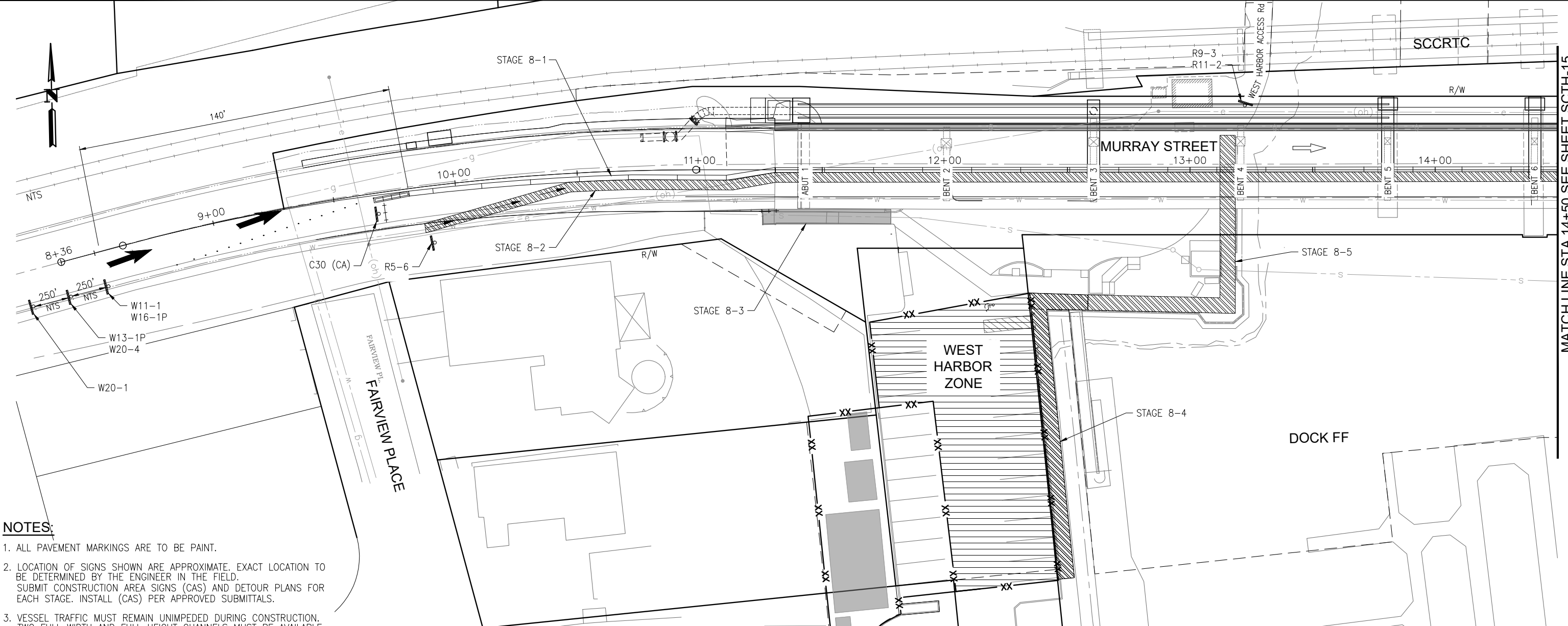
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 7

REVISION DATES (PRELIMINARY STAGE ONLY)

2/7/13	3/7/13	4/7/13	5/7/13	6/7/13	7/7/13	8/7/13	9/7/13	10/7/13	11/7/13	12/7/13
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SCALE	1"=20'
SHEET	75 OF 196
Vault No.	

MATCH LINE STA 14+50 SEE SHEET SCSH-15

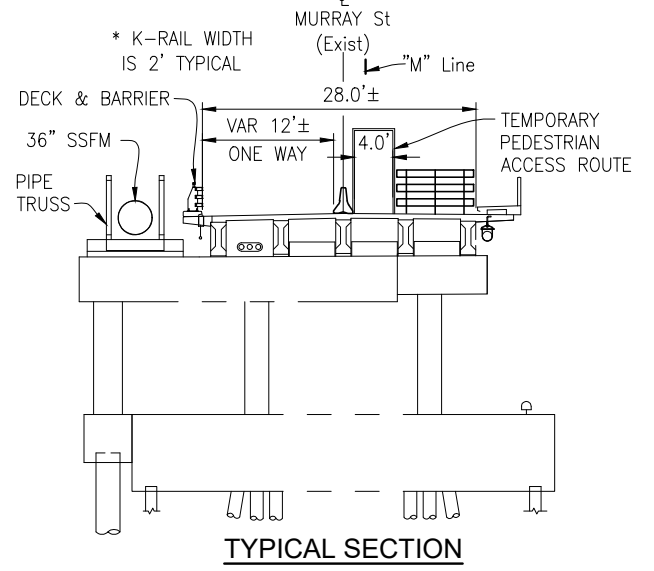


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 - EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

- LEGEND:**
- CONTRACTOR STAGING AREA
 - TYPE III BARRICADE
 - TEMPORARY RAILING (TYPE K)
 - TEMPORARY PEDESTRIAN ACCESS ROUTE
 - MASH TL-2 SLED END TREATMENT
 - TEMPORARY SIGN SINGLE POST
 - DIRECTION OF TRAFFIC
 - PEDESTRIAN DIRECTION ARROWS
 - DOCK REMOVAL (BY OTHERS)
 - DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS)
 - STRUCTURE REMOVAL
 - PLACE TEMP PAVEMENT MARKING (TAPE)
 - PORTABLE DELINEATORS AT 10' MAX SPACING
 - TEMPORARY FENCE
 - SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE	QUANTITY
C30 (CA)	LANE CLOSED	1
R5-6	NO BICYCLIST (SYMBOL)	1
R9-3	NO PEDESTRIAN (SYMBOL)	2
R11-2	ROAD CLOSED	1
W11-01	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1



STAGE 8 - WEST HARBOR CONSTRUCTION		West Harbor Access	East Harbor Access
STAGE 8-1	SHIFT EASTBOUND TRAFFIC FROM SOUTHSIDE TO NORTHSIDE OF BRIDGE	CLOSED	OPEN
STAGE 8-2	MOVE TEMPORARY PEDESTRIAN ACCESS ROUTE ADJACENT TO TEMPORARY RAILING (TYPE K) NEAR CENTERLINE	CLOSED	OPEN
STAGE 8-3	CLOSE WEST STAIRS AND WEST HARBOR ACCESS ROAD BENEATH BRIDGE	CLOSED	OPEN
STAGE 8-4	CONSTRUCT TEMPORARY PEDESTRIAN ACCESS ROUTE FROM WEST PARKING LOT TO DOCK FF GANGWAY	CLOSED	OPEN
STAGE 8-5	CONSTRUCT TEMPORARY PEDESTRIAN ACCESS ROUTE UNDER BRIDGE AT WEST ACCESS ROAD	CLOSED	OPEN

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

JUSTINA L. CONKLIN
REGISTERED ENGINEER - CIVIL
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

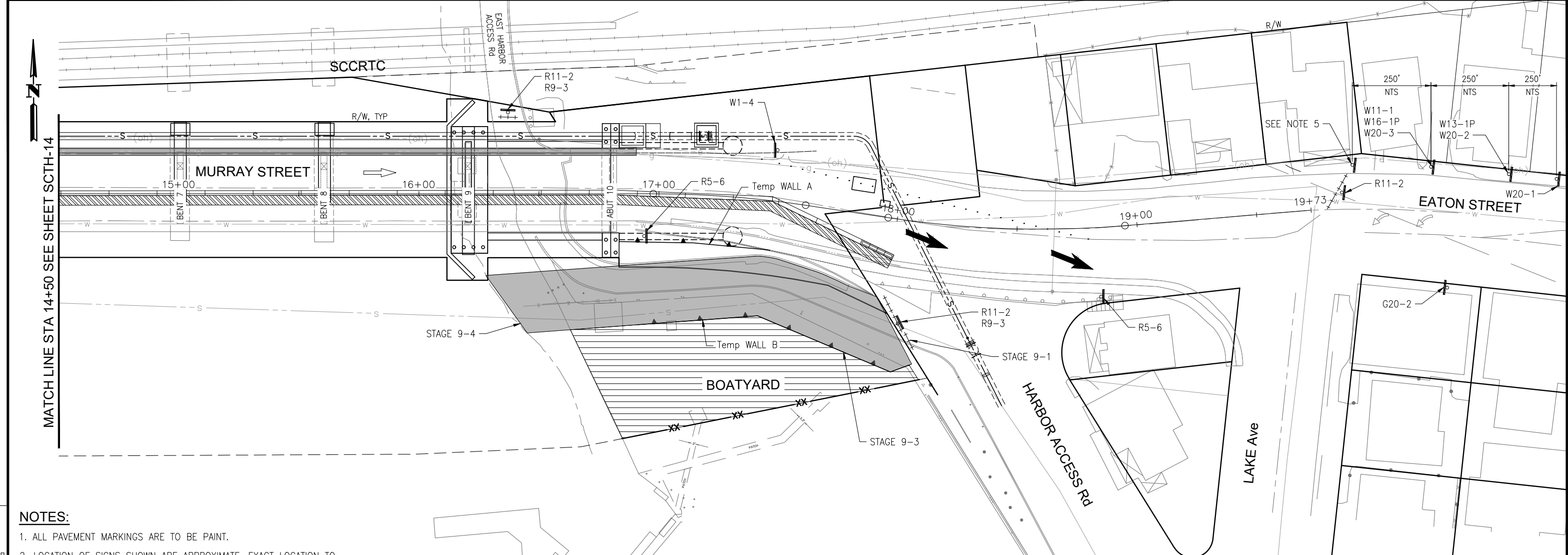
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 8

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)
2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13

SCALE	1"=20'
SHEET	76 OF 196
Vault No.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg Layout Tab: SCSH-14 May 03, 2024 - 2:58pm ACordozo



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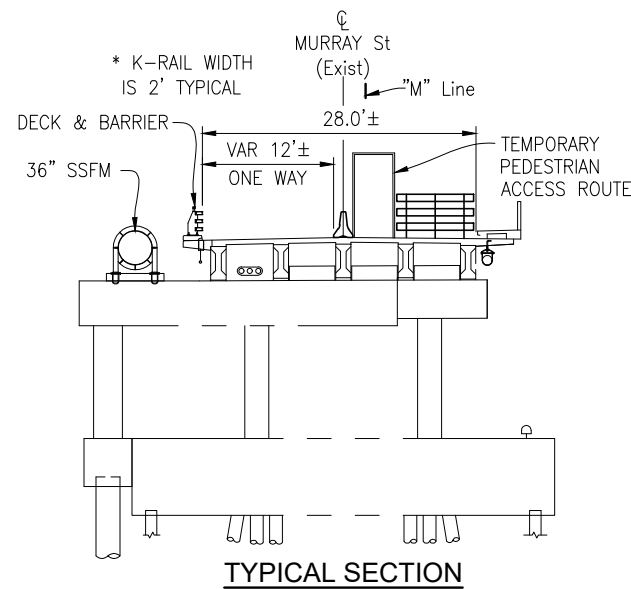
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LEGEND:

- CONTRACTOR STAGING AREA
- TYPE III BARRICADE
- TEMPORARY RAILING (TYPE K)
- TEMPORARY PEDESTRIAN ACCESS ROUTE
- MASH TL-2 SLED END TREATMENT
- TEMPORARY SIGN SINGLE POST
- DIRECTION OF TRAFFIC
- PEDESTRIAN DIRECTION ARROWS
- DOCK REMOVAL (BY OTHERS)
- DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS)
- STRUCTURE REMOVAL
- PLACE TEMP PAVEMENT MARKING (TAPE)
- PORTABLE DELINEATORS AT 10' MAX SPACING
- TEMPORARY FENCE
- SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1
R5-6	NO BICYCLIST SYMBOL	2
R9-3	NO PEDESTRIAN (SYMBOL)	2
R11-2 (Alt)	BRIDGE CLOSED	1
R11-2	ROAD CLOSED	3
W11-1	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-2	DETOUR AHEAD	1
W20-3	ROAD CLOSED AHEAD	1



STAGE 9 – EAST HARBOR CONSTRUCTION		West Harbor Access	East Harbor Access
STAGE 9-1	CLOSE EAST HARBOR ACCESS ROAD BENEATH BRIDGE	OPEN	CLOSED
STAGE 9-2	PROVIDE PEDESTRIAN ACCESS TO NORTH HARBOR ALONG CONTRACTOR ACCESS ROAD OR PROVIDE DETOUR SIGNS DIRECTING PEDESTRIANS TO NORTH HARBOR VIA 7TH STREET TO MELLO LANE	OPEN	CLOSED
STAGE 9-3	CONSTRUCT TEMPORARY WALL B IN BOATWORKS YARD	OPEN	CLOSED
STAGE 9-4	CONSTRUCT TEMPORARY ACCESS ROAD	OPEN	CLOSED

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. **SCTH-15**

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 9

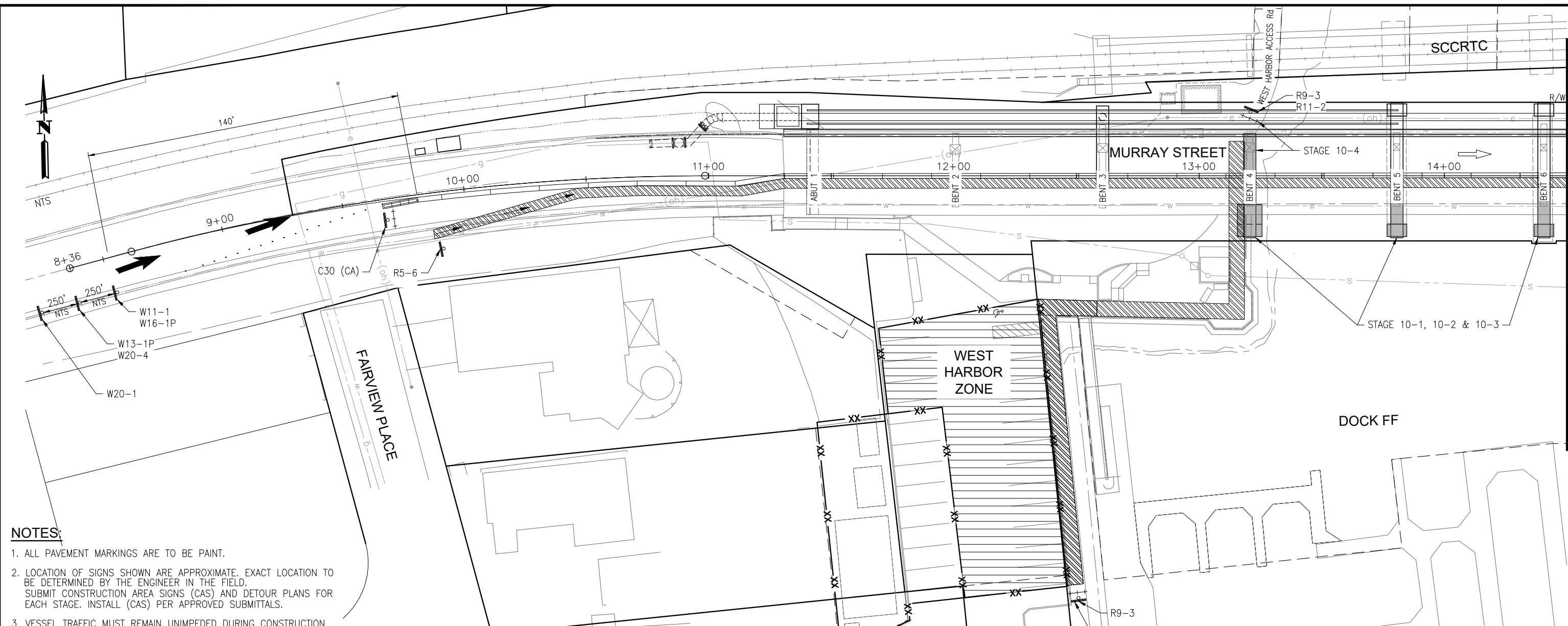
REVISION DATES (PRELIMINARY STAGE ONLY)

2/7/13	9/7/13	4/7/14	5/7/15	3/23/15	7/31/15	9/24/15	3/24/21	6/22/21
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SCALE	1"=20'
SHEET	77 OF 196
Vault No.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-15
 May 03, 2024 - 11:27am ACordoba

MATCH LINE STA 14+50 SEE SHEET SCTH-17

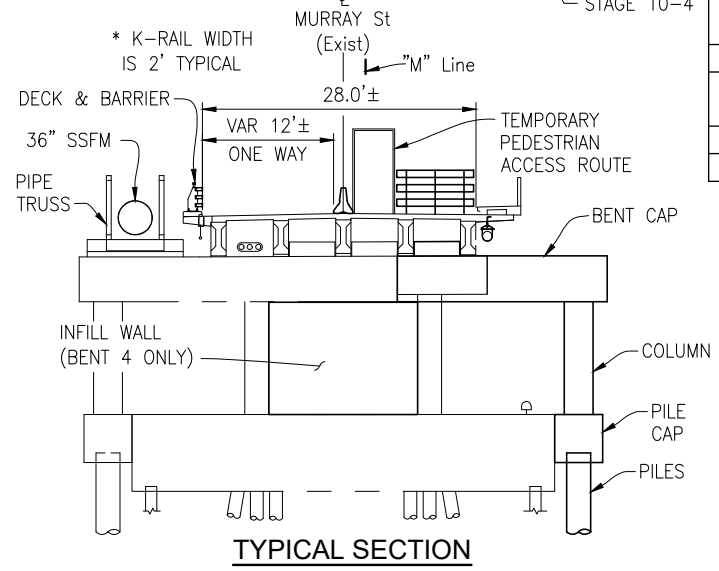


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- LEGEND:**
- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE	QUANTITY
C30 (CA)	LANE CLOSED	1
R5-6	NO BICYCLIST (SYMBOL)	1
R9-3	NO PEDESTRIAN (SYMBOL)	2
R11-2	ROAD CLOSED	1
W11-01	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1



	STAGE 10 – IN WATER SUBSTRUCTURE WORK ON SOUTH SIDE	West Harbor Access	East Harbor Access
STAGE 10-1	CONSTRUCT SOUTH SIDE PILES AT BENTS 4 THROUGH 8	OPEN	CLOSED
STAGE 10-2	CONSTRUCT PILE CAPS, COLUMNS, AND BENT CAPS AT BENTS 4 THROUGH 8	OPEN	CLOSED
STAGE 10-3	CONSTRUCT SOUTH SIDE FENDER SYSTEM AT BENTS 5 THROUGH 8	OPEN	CLOSED
STAGE 10-4	CONSTRUCT INFILL WALL AT BENT 4	CLOSED	CLOSED

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE CITY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

MURRAY STREET BRIDGE SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 10

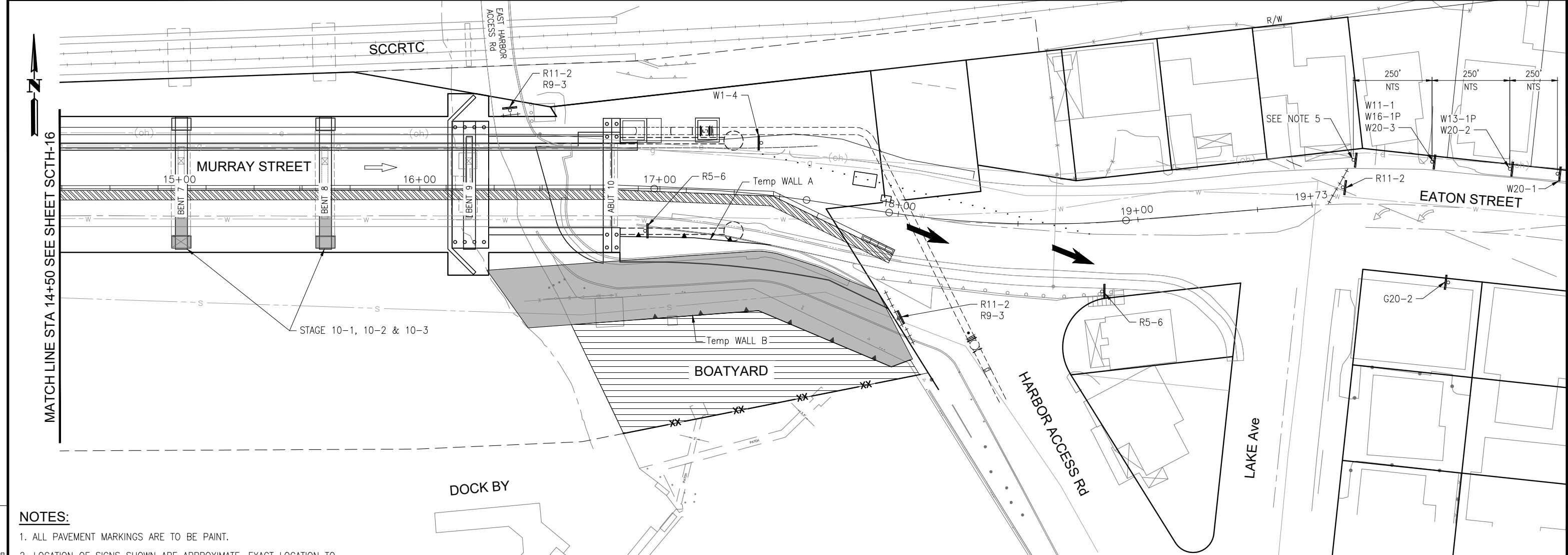
BRIDGE NO. 36C0108	CONTRACT NO.	EA NO.
REVISION DATES (PRELIMINARY STAGE ONLY) 2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13		

SCALE 1"=20'

SHEET 78 OF 196

Vault No.

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-16
 May 03, 2024 12:16pm ACordoba



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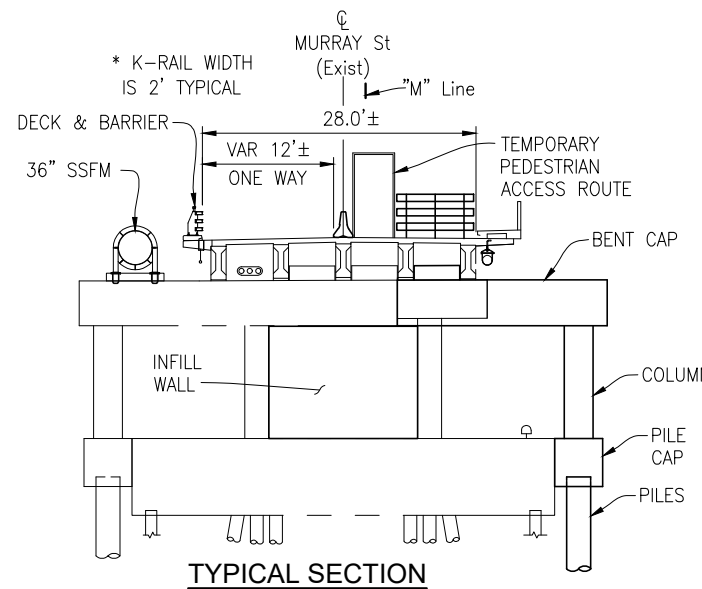
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LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
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| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1
R5-6	NO BICYCLIST SYMBOL	2
R9-3	NO PEDESTRIAN (SYMBOL)	2
R11-2 (Alt)	BRIDGE CLOSED	1
R11-2	ROAD CLOSED	3
W11-1	BICYCLE (SYMBOL)	1
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	STAGE 10 - IN WATER SUBSTRUCTURE WORK ON SOUTH SIDE	West Harbor Access	East Harbor Access
STAGE 10-1	CONSTRUCT SOUTH SIDE PILES AT BENTS 4 THROUGH 8	OPEN	CLOSED
STAGE 10-2	CONSTRUCT PILE CAPS, COLUMNS, AND BENT CAPS AT BENTS 4 THROUGH 8	OPEN	CLOSED
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STAGE 10-4	CONSTRUCT INFILL WALL AT BENT 4	CLOSED	CLOSED

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. SCTH-17

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
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ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

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CONTRACT NO.	
EA NO.	

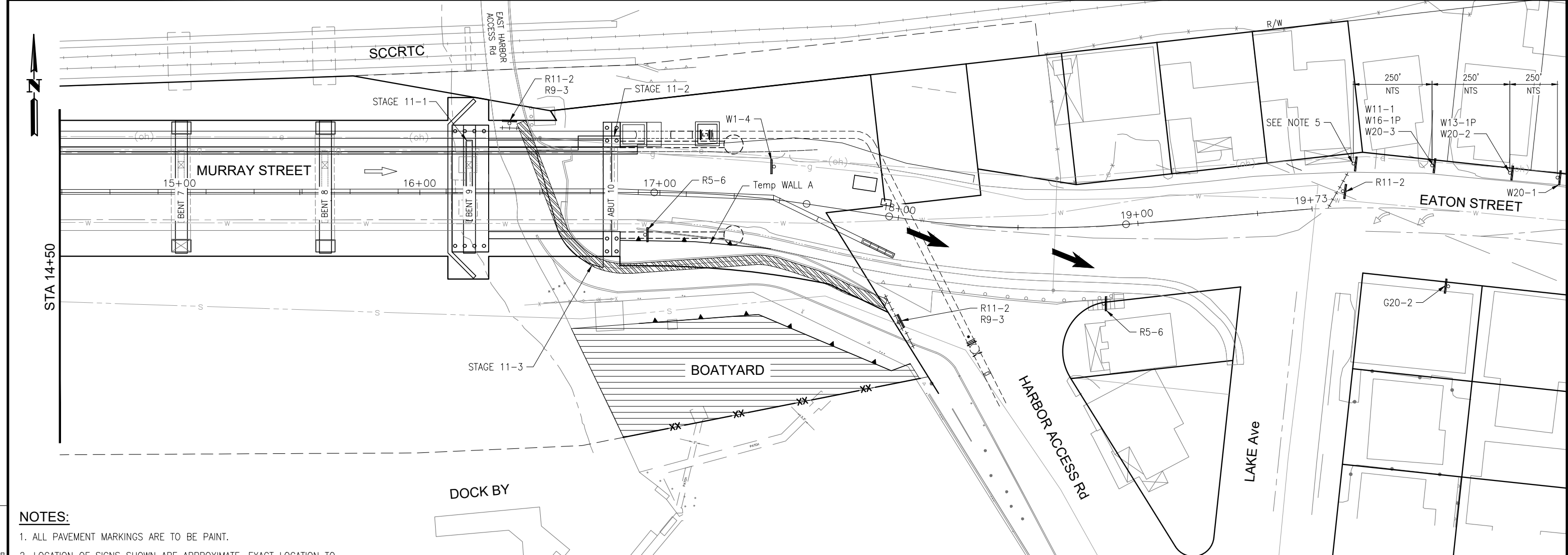
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 10

REVISION DATES (PRELIMINARY STAGE ONLY)

2/7/13	3/7/13	4/7/13	5/7/13	6/7/13	7/7/13	8/7/13	9/7/13	10/7/13	11/7/13	12/7/13
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SCALE	1"=20'
SHEET	79 OF 196
Vault No.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-17
 May 03, 2024 - 11:58am ACordoba



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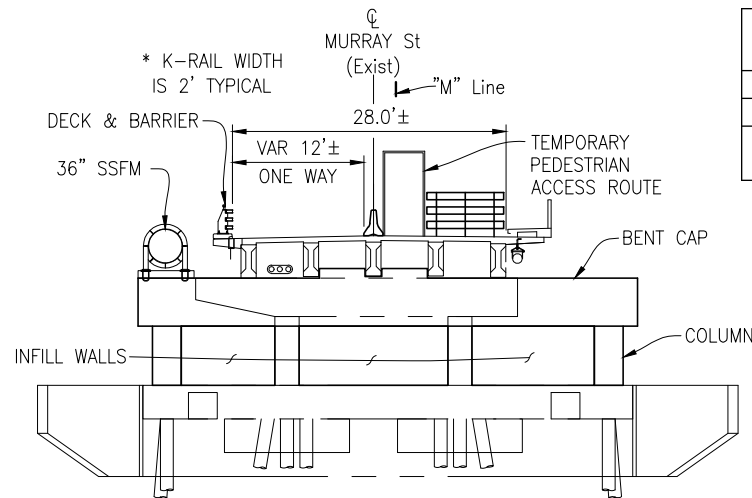
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- MASH TL-2 SLED END TREATMENT
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- TEMPORARY FENCE
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CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
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R11-2	ROAD CLOSED	3
W11-1	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-2	DETOUR AHEAD	1
W20-3	ROAD CLOSED AHEAD	1



(BENT 9 SHOWN)
TYPICAL SECTION

	STAGE 11 – LAND BASED SUBSTRUCTURE WORK ON SOUTH SIDE (EAST END)	West Harbor Access	East Harbor Access
STAGE 11-1	CONSTRUCT COLUMNS, INFILL WALLS, AND BENT CAP AT BENT 9	OPEN	CLOSED
STAGE 11-2	CONSTRUCT ABUTMENT 10	OPEN	CLOSED
STAGE 11-3	CONSTRUCT TEMPORARY PEDESTRIAN ACCESS ROUTE ALONG EAST ACCESS ROAD	OPEN	CLOSED

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. **SCTH-18**

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

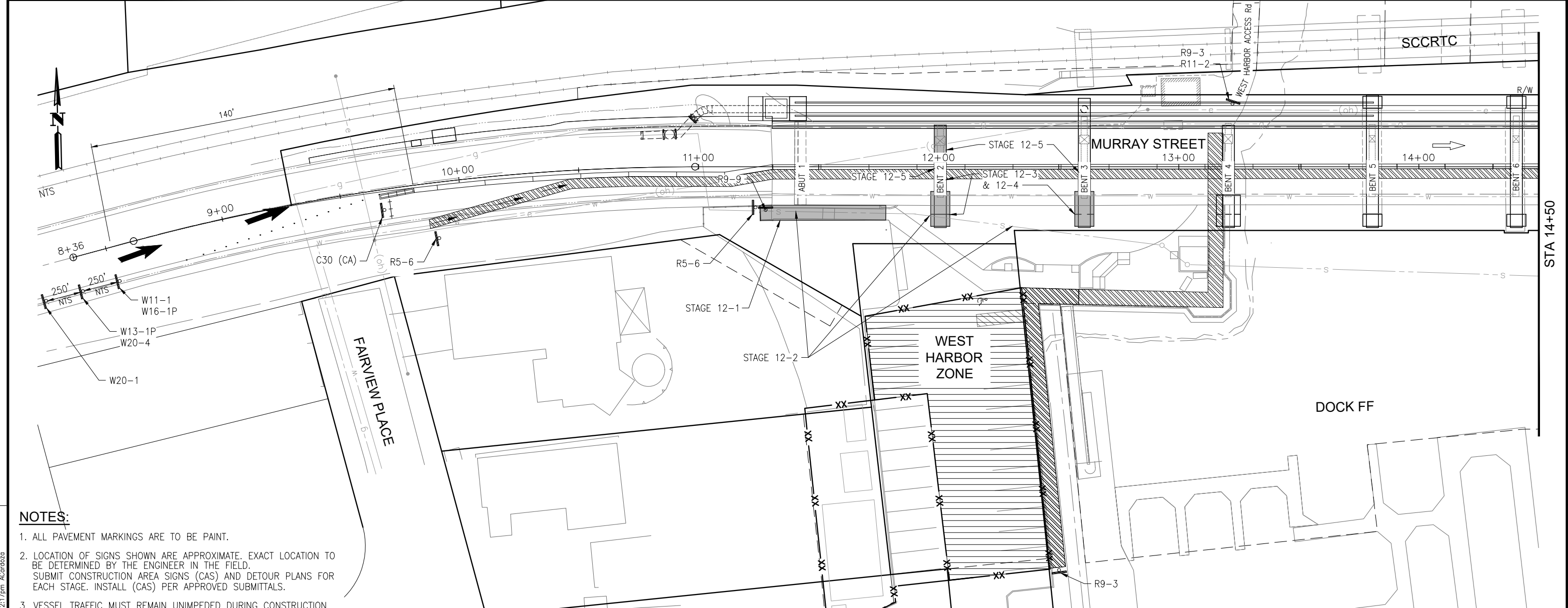
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 11

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)
2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13 1/22/14 2/22/14 3/22/14 4/22/14 5/22/14 6/22/14 7/22/14 8/22/14 9/22/14 10/22/14 11/22/14 12/22/14 1/22/15 2/22/15 3/22/15 4/22/15 5/22/15 6/22/15 7/22/15 8/22/15 9/22/15 10/22/15 11/22/15 12/22/15 1/22/16 2/22/16 3/22/16 4/22/16 5/22/16 6/22/16 7/22/16 8/22/16 9/22/16 10/22/16 11/22/16 12/22/16 1/22/17 2/22/17 3/22/17 4/22/17 5/22/17 6/22/17 7/22/17 8/22/17 9/22/17 10/22/17 11/22/17 12/22/17 1/22/18 2/22/18 3/22/18 4/22/18 5/22/18 6/22/18 7/22/18 8/22/18 9/22/18 10/22/18 11/22/18 12/22/18 1/22/19 2/22/19 3/22/19 4/22/19 5/22/19 6/22/19 7/22/19 8/22/19 9/22/19 10/22/19 11/22/19 12/22/19 1/22/20 2/22/20 3/22/20 4/22/20 5/22/20 6/22/20 7/22/20 8/22/20 9/22/20 10/22/20 11/22/20 12/22/20 1/22/21 2/22/21 3/22/21 4/22/21 5/22/21 6/22/21 7/22/21 8/22/21 9/22/21 10/22/21 11/22/21 12/22/21 1/22/22 2/22/22 3/22/22 4/22/22 5/22/22 6/22/22 7/22/22 8/22/22 9/22/22 10/22/22 11/22/22 12/22/22 1/22/23 2/22/23 3/22/23 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SCALE 1"=20'
 SHEET 80 OF 196
 VAULT NO.

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 May 03, 2024 12:04pm ACordoba



NOTES:

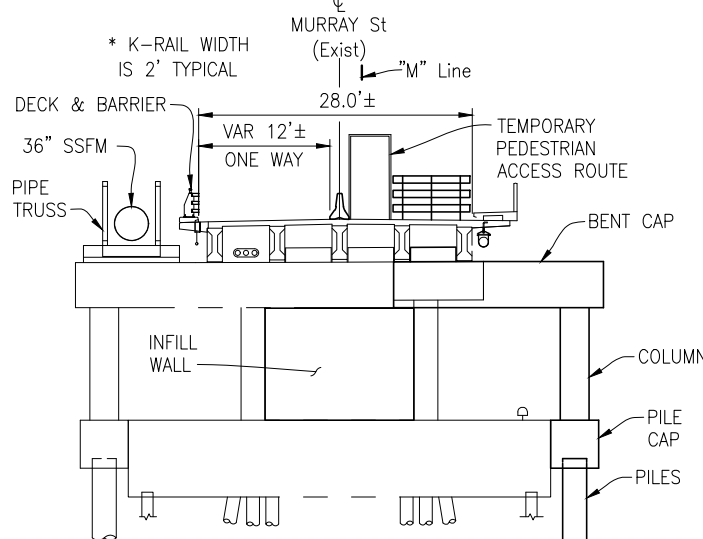
- ALL PAVEMENT MARKINGS ARE TO BE PAINT.
- LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
- VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
- AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
- EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- CONTRACTOR STAGING AREA
- TYPE III BARRICADE
- TEMPORARY RAILING (TYPE K)
- TEMPORARY PEDESTRIAN ACCESS ROUTE
- MASH TL-2 SLED END TREATMENT
- TEMPORARY SIGN SINGLE POST
- DIRECTION OF TRAFFIC
- PEDESTRIAN DIRECTION ARROWS
- DOCK REMOVAL (BY OTHERS)
- DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS)
- STRUCTURE REMOVAL
- PLACE TEMP PAVEMENT MARKING (TAPE)
- PORTABLE DELINEATORS AT 10' MAX SPACING
- TEMPORARY FENCE
- SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE	QUANTITY
C30 (CA)	LANE CLOSED	1
R5-6	NO BICYCLIST (SYMBOL)	1
R9-3	NO PEDESTRIAN (SYMBOL)	2
R11-2	ROAD CLOSED	1
W11-01	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1



TYPICAL SECTION

	STAGE 12 -LAND BASED SUBSTRUCTURE WORK ON SOUTH SIDE (WEST END)	West Harbor Access	East Harbor Access
STAGE 12-1	REMOVE WEST HARBOR PEDESTRIAN STAIRS	CLOSED	OPEN
STAGE 12-2	ABANDON AND REMOVE PORTIONS OF EXISTING SSFM TO ALLOW PILE INSTALLATION ON SOUTH SIDE	CLOSED	OPEN
STAGE 12-3	INSTALL SOUTH SIDE PILES AT BENTS 2 AND 3	CLOSED	OPEN
STAGE 12-4	AT BENT 2, CONSTRUCT PILE CAP, COLUMN, AND ENTIRE BENT CAP. AT BENT 3, CONSTRUCT SOUTH PILE CAP, COLUMN, AND PORTION OF BENT CAP.	CLOSED	OPEN
STAGE 12-5	CONSTRUCT INFILL WALLS AND BENTS 2 AND 3 ON SOUTH SIDE	CLOSED	OPEN

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO. 36C0108
CONTRACT NO.
EA NO.

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 12

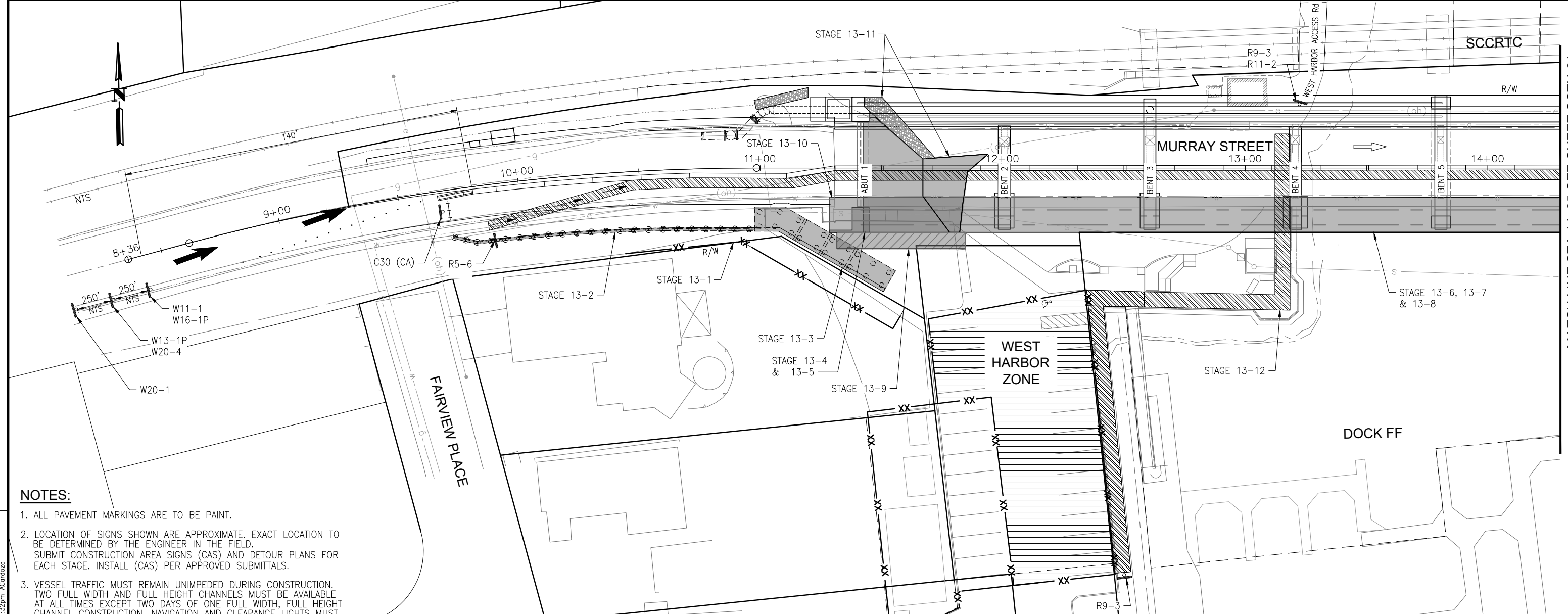
REVISION DATES (PRELIMINARY STAGE ONLY)

2/7/13	9/7/13	4/7/14	5/7/15	7/24/15	7/24/15	9/24/15	3/24/21	6/22/21
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SCALE	1"=20'
SHEET	81 OF 196
Vault No.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg Layout Tab: SCTH-19 May 03, 2024 12:17pm ACardozo

MATCH LINE STA 14+25 SEE SHEET SCTH-21

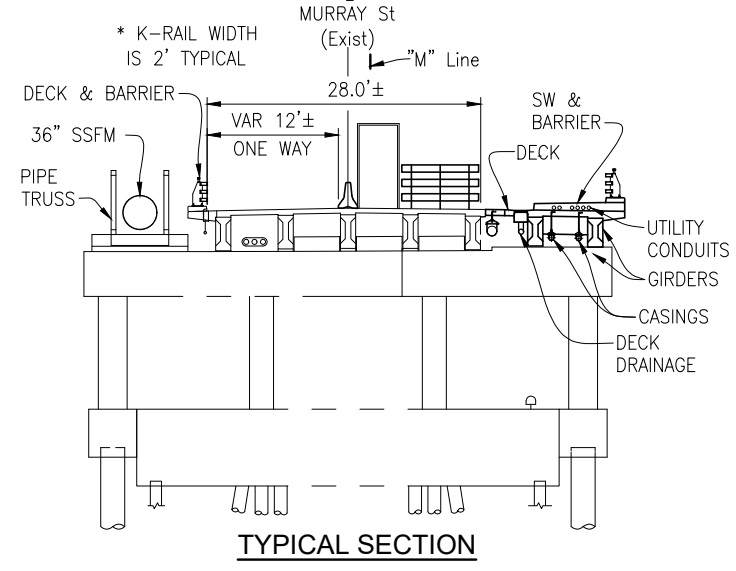


- NOTES:**
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
 2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
 3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
 4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
 5. SEE DETOUR PLAN FOR ALL OTHER DETOUR CONSTRUCTION AREA SIGN LOCATIONS.
 6. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

- LEGEND:**
- CONTRACTOR STAGING AREA
 - TYPE III BARRICADE
 - TEMPORARY RAILING (TYPE K)
 - TEMPORARY PEDESTRIAN ACCESS ROUTE
 - MASH TL-2 SLED END TREATMENT
 - TEMPORARY SIGN SINGLE POST
 - DIRECTION OF TRAFFIC
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 - STRUCTURE REMOVAL
 - PLACE TEMP PAVEMENT MARKING (TAPE)
 - PORTABLE DELINEATORS AT 10' MAX SPACING
 - TEMPORARY FENCE
 - SSFM TEMPORARY BYPASS

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE	QUANTITY
C30 (CA)	LANE CLOSED	1
R5-6	NO BICYCLIST (SYMBOL)	1
R9-3	NO PEDESTRIAN (SYMBOL)	2
R11-2	ROAD CLOSED	1
W11-01	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-4	ONE LANE AHEAD	1



	STAGE 13—SOUTHWEST SIDE WIDENING CONSTRUCTION	West Harbor Access	East Harbor Access
STAGE 13-1	REMOVE O'NEILL PROPERTY FENCE AND INSTALL TEMPORARY CONSTRUCTION FENCING	CLOSED	OPEN
STAGE 13-2	CONSTRUCT RETAINING WALL #9	CLOSED	OPEN
STAGE 13-3	CONSTRUCT RETAINING WALL #11	CLOSED	OPEN
STAGE 13-4	CONSTRUCT SOUTH SIDE PILES AT ABUTMENT 1	CLOSED	OPEN
STAGE 13-5	CONSTRUCT ABUTMENT 1 WIDENING	CLOSED	OPEN
STAGE 13-6	DEMO SOUTH BRIDGE SIDEWALK, BARRIER, AND OVERHANG	CLOSED	OPEN
STAGE 13-7	SET GIRDERS	CLOSED	OPEN
STAGE 13-8	CONSTRUCT BRIDGE DECK, SIDEWALK, AND BARRIER WITH FUTURE UTILITY CONDUITS	CLOSED	OPEN
STAGE 13-9	CONSTRUCT WEST SIDE STAIRS	CLOSED	OPEN
STAGE 13-10	CONSTRUCT WEST STORM DRAIN, CITY WATERLINE, AND APPROACH SIDEWALK	CLOSED	OPEN
STAGE 13-11	CONSTRUCT ABUTMENT 1 SLOPE PAVING, DRAINAGE, ETC.	CLOSED	OPEN
STAGE 13-12	REMOVE TEMPORARY PEDESTRIAN ACCESS ROUTE ALONG WEST ACCESS ROAD	CLOSED	OPEN

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 13

BRIDGE NO. 36C0108
 CONTRACT NO. _____
 EA NO. _____

SCALE 1"=20'

SHEET 82 OF 196

VAULT NO. _____

REVISION DATES (PRELIMINARY STAGE ONLY)

2/7/13	3/7/13	4/7/13	5/7/13	6/7/13	7/7/13	8/7/13	9/7/13	10/7/13	11/7/13	12/7/13
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DISREGARD PRINTS BEARING EARLIER REVISION DATES

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg Layout Tab: SCTH-20 May 03, 2024 1:32pm ACardozo

MATCH LINE STA 14+25 SEE SHEET SCTH-20

NOTES:

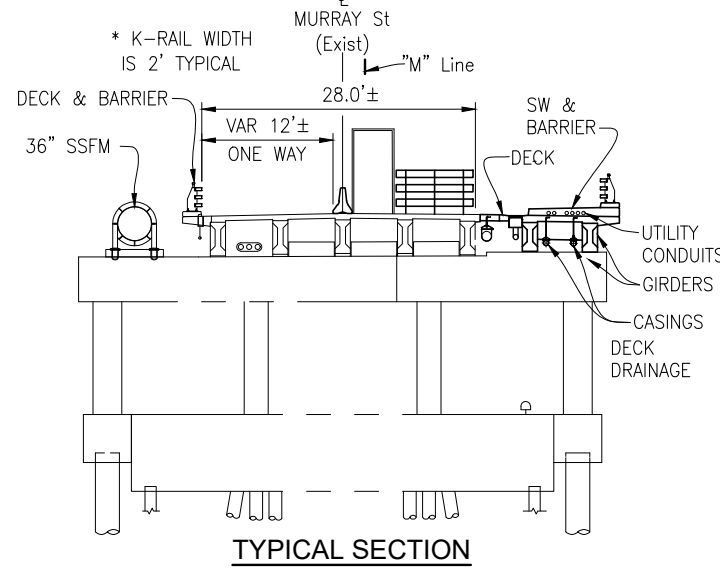
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
5. SEE DETOUR PLAN FOR ALL OTHER DETOUR CONSTRUCTION AREA SIGN LOCATIONS.
6. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | SSFM TEMPORARY BYPASS |
| | DIRECTION OF TRAFFIC | | |
| | PEDESTRIAN DIRECTION ARROWS | | |

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1
R5-6	NO BICYCLIST (SYMBOL)	1
R11-2	ROAD CLOSED	1
W1-4	ARROW (SYMBOL)	1
W11-1	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-2	DETOUR AHEAD	1
W20-3	ROAD CLOSED AHEAD	1



	STAGE 13 – SOUTHWEST SIDE WIDENING CONSTRUCTION	West Harbor Access	East Harbor Access
STAGE 13-1	REMOVE O'NEILL PROPERTY FENCE AND INSTALL TEMPORARY CONSTRUCTION FENCING	CLOSED	OPEN
STAGE 13-2	CONSTRUCT RETAINING WALL #9	CLOSED	OPEN
STAGE 13-3	CONSTRUCT RETAINING WALL #11	CLOSED	OPEN
STAGE 13-4	CONSTRUCT SOUTH SIDE PILES AT ABUTMENT 1	CLOSED	OPEN
STAGE 13-5	CONSTRUCT ABUTMENT 1 WIDENING	CLOSED	OPEN
STAGE 13-6	DEMO SOUTH BRIDGE SIDEWALK, BARRIER, AND OVERHANG	CLOSED	OPEN
STAGE 13-7	SET GIRDERS	CLOSED	OPEN
STAGE 13-8	CONSTRUCT BRIDGE DECK, SIDEWALK, AND BARRIER WITH FUTURE UTILITY CONDUITS	CLOSED	OPEN
STAGE 13-9	CONSTRUCT WEST SIDE STAIRS	CLOSED	OPEN
STAGE 13-10	CONSTRUCT WEST STORM DRAIN, CITY WATERLINE, AND APPROACH SIDEWALK	CLOSED	OPEN
STAGE 13-11	CONSTRUCT ABUTMENT 1 SLOPE PAVING, DRAINAGE, ETC.	CLOSED	OPEN
STAGE 13-12	REMOVE TEMPORARY PEDESTRIAN ACCESS ROUTE ALONG WEST ACCESS ROAD	CLOSED	OPEN

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. **SCTH-21**

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

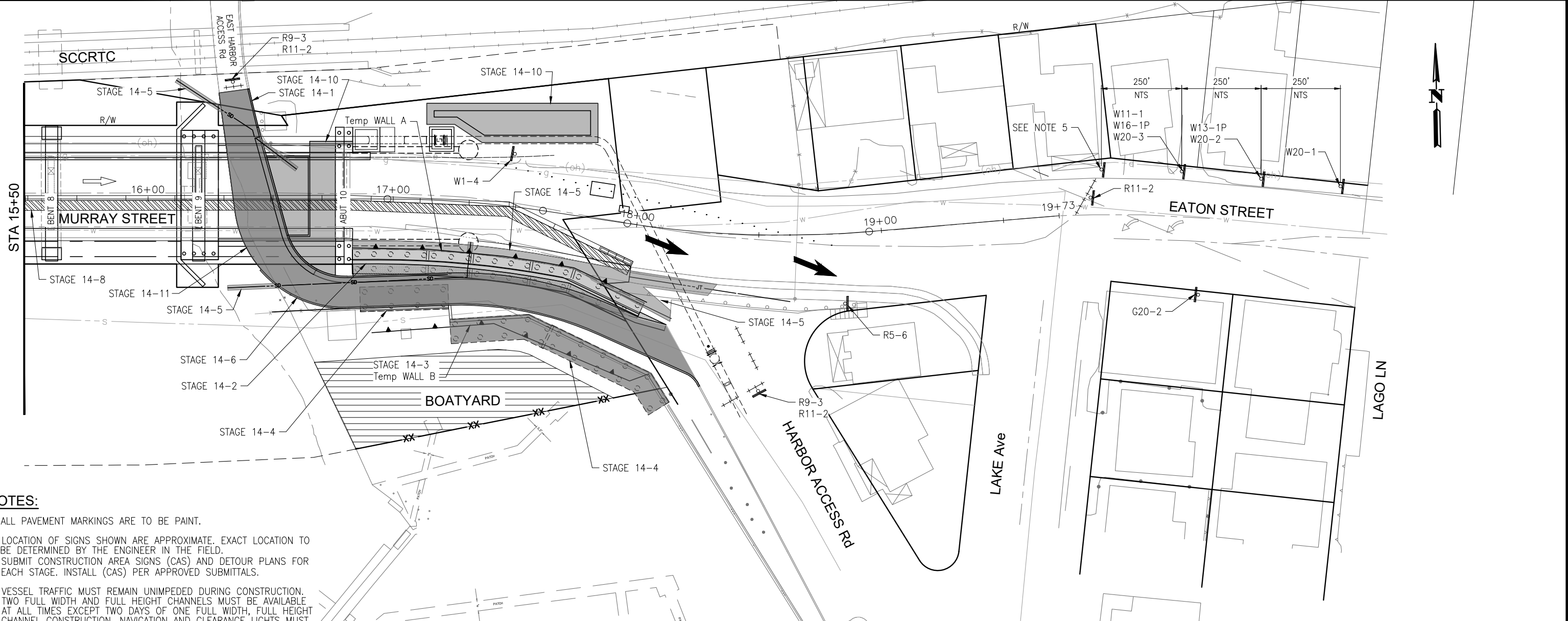
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 13

DISREGARD PRINTS BEARING EARLIER REVISION DATES

2/7/13	3/7/13	4/7/13	5/7/13	6/7/13	7/7/13	8/7/13	9/7/13	10/7/13	11/7/13	12/7/13
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SCALE	1"=20'
SHEET	83 OF 196
Vault No.	



NOTES:

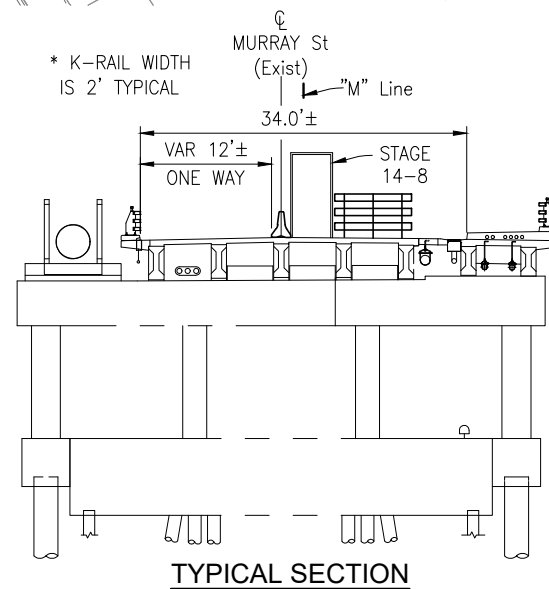
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
5. SEE DETOUR PLAN FOR ALL OTHER DETOUR CONSTRUCTION AREA SIGN LOCATIONS.
6. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1
R5-6	NO BICYCLIST (SYMBOL)	1
R9-3	NO PEDESTRIAN (SYMBOL)	2
R11-2	ROAD CLOSED	3
W1-4	ARROW (SYMBOL)	1
W11-1	BICYCLE (SYMBOL)	1
W13-1P	25 MPH	1
W16-1P	SHARE THE ROAD	1
W20-1	ROAD WORK AHEAD	1
W20-2	DETOUR AHEAD	1



TYPICAL SECTION

	STAGE 14 – SOUTHEAST SIDE WIDENING CONSTRUCTION	West Harbor Access	East Harbor Access
STAGE 14-1	REMOVE TEMPORARY PEDESTRIAN ACCESS ROUTE ALONG EAST ACCESS ROAD	OPEN	CLOSED
STAGE 14-2	CONSTRUCT RETAINING WALL #17 AND REMOVE TEMPORARY WALL A	OPEN	CLOSED
STAGE 14-3	REMOVE TEMPORARY WALL B	OPEN	CLOSED
STAGE 14-4	CONSTRUCT RETAINING WALL #18	OPEN	CLOSED
STAGE 14-5	CONSTRUCT EAST STORM DRAINS, CITY WATERLINE, AND APPROACH SIDEWALK	OPEN	CLOSED
STAGE 14-6	CONSTRUCT EAST ACCESS ROAD WITHOUT FINAL LIFT	OPEN	CLOSED
STAGE 14-7	RESTORE CITY WATER	OPEN	CLOSED
STAGE 14-8	REMOVE TEMPORARY PEDESTRIAN ACCESS ROUTE FROM BRIDGE, SOUTH SIDEWALK OPEN	OPEN	OPEN
STAGE 14-9	RE-OPEN BRIDGE TO TWO-WAY TRAFFIC	OPEN	OPEN
STAGE 14-10	CONSTRUCT ABUTMENT 10 SLOPE PAVING AND BIORETENTION FACILITIES	OPEN	CLOSED
STAGE 14-11	COMPLETE EAST ACCESS ROAD INCLUDING FINAL ASPHALT LIFT AND CURB	OPEN	CLOSED

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

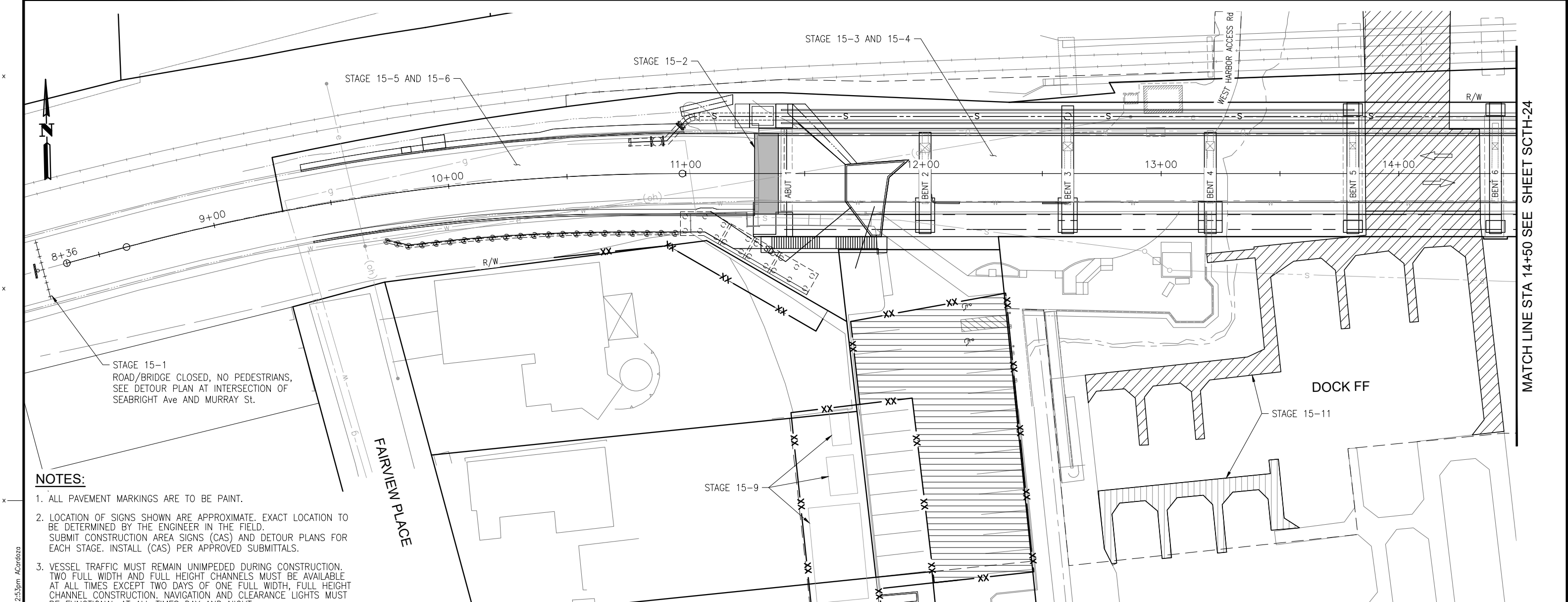
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 14

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 2/7/13 3/7/13 4/7/13 5/7/13 6/7/13 7/7/13 8/7/13 9/7/13 10/7/13 11/7/13 12/7/13
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SCALE	1"=20'
SHEET	84 OF 196
Vault No.	

SCTH-22

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-22
 May 03, 2024 12:51pm ACordoba

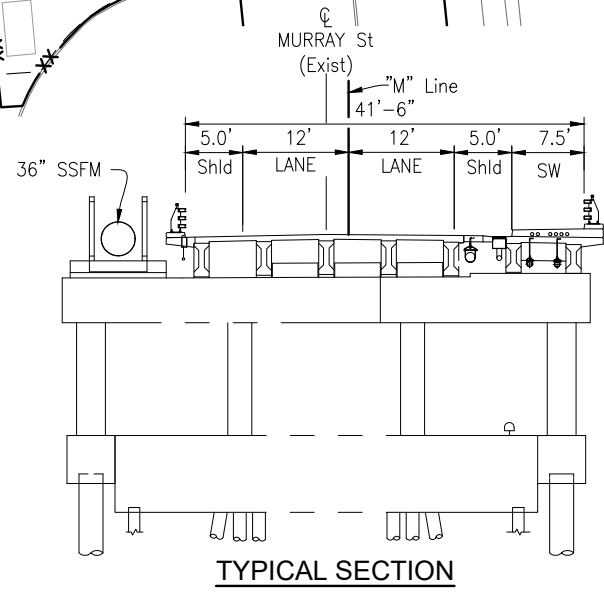


NOTES:

1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
5. SEE DETOUR PLAN FOR ALL OTHER DETOUR CONSTRUCTION AREA SIGN LOCATIONS.
6. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |



STAGE 15 - PROJECT COMPLETION		West Harbor Access	East Harbor Access
STAGE 15-1	SETUP DETOUR SIGNS AND SHUT DOWN BRIDGE AND ROADWAY	OPEN	OPEN
STAGE 15-2	CONSTRUCT STRUCTURE APPROACH SLABS	OPEN	OPEN
STAGE 15-3	PREPARE BRIDGE DECK	OPEN	OPEN
STAGE 15-4	PLACE POLYESTER CONCRETE OVERLAY & INSTALL JOINT SEALS	OPEN	OPEN
STAGE 15-5	RECONSTRUCT ROADWAY APPROACHES	OPEN	OPEN
STAGE 15-6	PLACE FINAL STRIPING	OPEN	OPEN
STAGE 15-7	REOPEN BRIDGE AND ROADWAY	OPEN	OPEN
STAGE 15-8	LANDSCAPING	OPEN	OPEN
STAGE 15-9	RELOCATE FACILITIES IN WEST HARBOR TO ORIGINAL LOCATIONS	OPEN	OPEN
STAGE 15-10	RESTORE WEST HARBOR TO ORIGINAL CONDITION	OPEN	OPEN
STAGE 15-11	RECONSTRUCT DOCK FF AND BY (BY OTHERS)	OPEN	OPEN

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

JUSTINA L. CONKLIN
 REGISTERED ENGINEER - CIVIL
 No. 53183
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 15

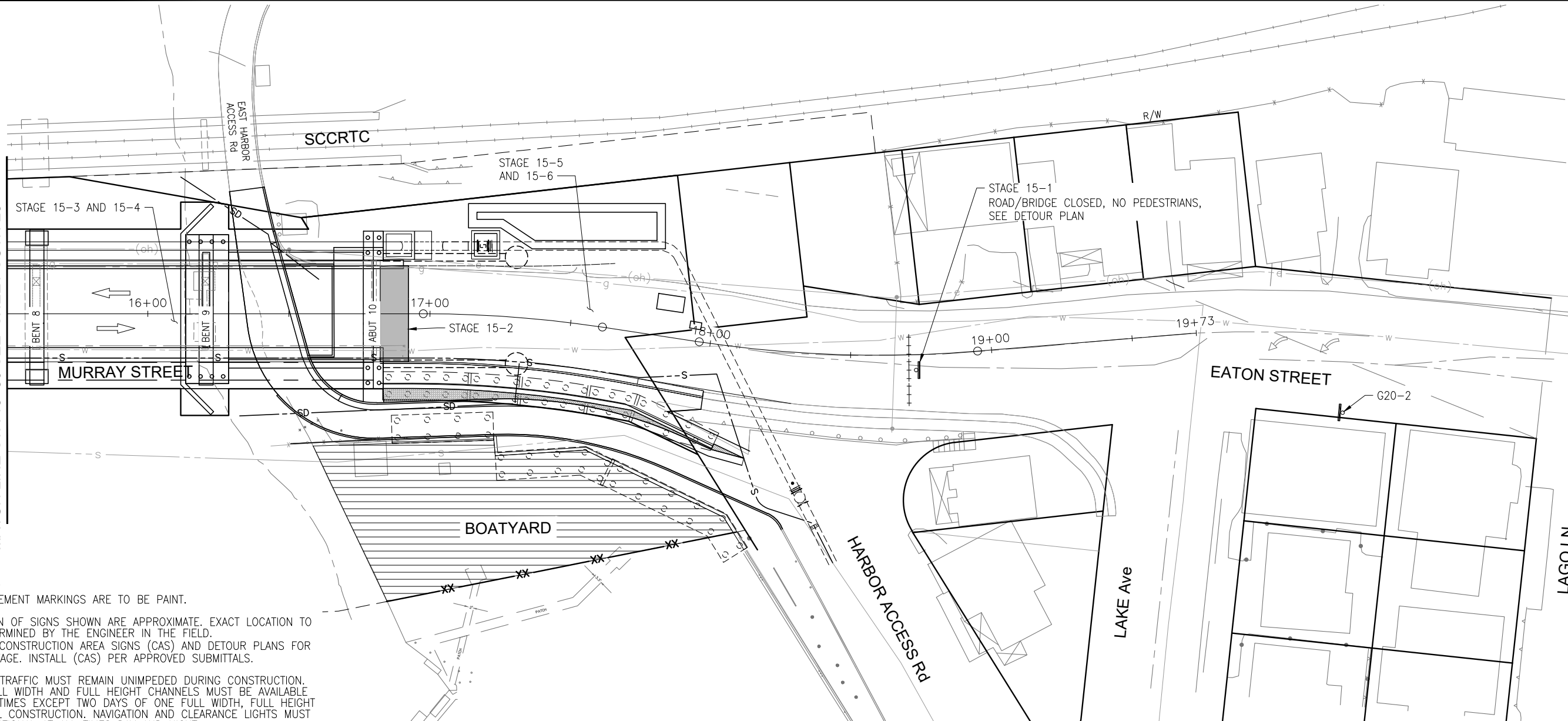
DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)	
2/7/13	9/7/13	4/7/14	5/7/15
7/31/15	9/29/15	3/24/21	6/22/21

SCALE	1"=20'
SHEET	85 OF 196
VAULT NO.	

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-23
 May 03, 2024 12:53pm ACordoba

MATCH LINE STA 14+50 SEE SHEET SCTH-24

MATCH LINE STA 15+50 SEE SHEET SCTH-23



NOTES:

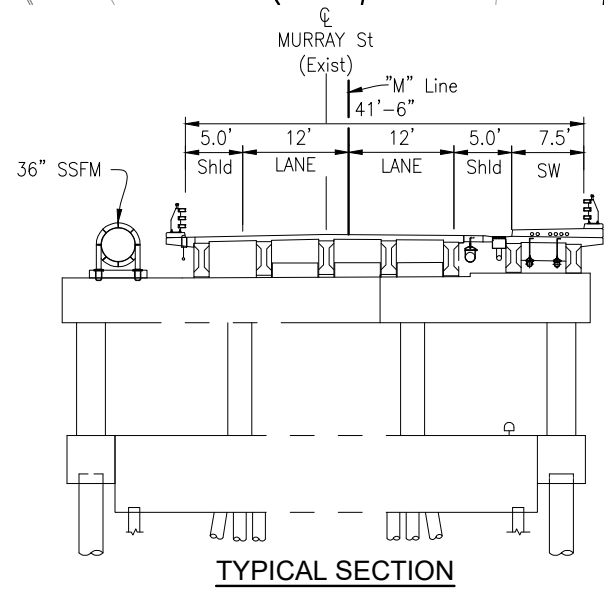
1. ALL PAVEMENT MARKINGS ARE TO BE PAINT.
2. LOCATION OF SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD. SUBMIT CONSTRUCTION AREA SIGNS (CAS) AND DETOUR PLANS FOR EACH STAGE. INSTALL (CAS) PER APPROVED SUBMITTALS.
3. VESSEL TRAFFIC MUST REMAIN UNIMPEDED DURING CONSTRUCTION. TWO FULL WIDTH AND FULL HEIGHT CHANNELS MUST BE AVAILABLE AT ALL TIMES EXCEPT TWO DAYS OF ONE FULL WIDTH, FULL HEIGHT CHANNEL CONSTRUCTION. NAVIGATION AND CLEARANCE LIGHTS MUST BE FUNCTIONAL AT ALL TIMES DAY AND NIGHT.
4. AERATION EQUIPMENT IN HARBOR ATTACHED TO BENT 7 OF BRIDGE MUST BE OPERABLE FROM APRIL THROUGH NOVEMBER, UNLESS EXTENDED/MODIFIED BY THE ENGINEER. ELECTRICAL SERVICE TO AERATION EQUIPMENT SHALL REMAIN AVAILABLE AT ALL TIMES.
5. EMERGENCY ACCESS FOR HARBOR PATROL MUST BE MAINTAINED AT ALL TIMES.

LEGEND:

- | | | | |
|--|-----------------------------------|--|--|
| | CONTRACTOR STAGING AREA | | DOCK REMOVAL (BY OTHERS) |
| | TYPE III BARRICADE | | DOCK TO BE CONSTRUCTED/RECONSTRUCTED (BY OTHERS) |
| | TEMPORARY RAILING (TYPE K) | | STRUCTURE REMOVAL |
| | TEMPORARY PEDESTRIAN ACCESS ROUTE | | PLACE TEMP PAVEMENT MARKING (TAPE) |
| | MASH TL-2 SLED END TREATMENT | | PORTABLE DELINEATORS AT 10' MAX SPACING |
| | TEMPORARY SIGN SINGLE POST | | TEMPORARY FENCE |
| | DIRECTION OF TRAFFIC | | SSFM TEMPORARY BYPASS |
| | PEDESTRIAN DIRECTION ARROWS | | |

CONSTRUCTION AREA SIGNS

SIGN CODE	SIGN MESSAGE/SYMBOL	QUANTITY
G20-2	END ROAD WORK	1



STAGE 15 – PROJECT COMPLETION		West Harbor Access	East Harbor Access
STAGE 15-1	SETUP DETOUR SIGNS AND SHUT DOWN BRIDGE AND ROADWAY	OPEN	OPEN
STAGE 15-2	CONSTRUCT STRUCTURE APPROACH SLABS	OPEN	OPEN
STAGE 15-3	PREPARE BRIDGE DECK	OPEN	OPEN
STAGE 15-4	PLACE POLYESTER CONCRETE OVERLAY & INSTALL JOINT SEALS	OPEN	OPEN
STAGE 15-5	RECONSTRUCT ROADWAY APPROACHES	OPEN	OPEN
STAGE 15-6	PLACE FINAL STRIPING	OPEN	OPEN
STAGE 15-7	REOPEN BRIDGE AND ROADWAY	OPEN	OPEN
STAGE 15-8	LANDSCAPING	OPEN	OPEN
STAGE 15-9	RELOCATE FACILITIES IN WEST HARBOR TO ORIGINAL LOCATIONS	OPEN	OPEN
STAGE 15-10	RESTORE WEST HARBOR TO ORIGINAL CONDITION	OPEN	OPEN
STAGE 15-11	RECONSTRUCT DOCK FF AND BY (BY OTHERS)	OPEN	OPEN

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

THIS PLAN IS ACCURATE FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY.

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. CHRISTENSEN	CHECKED M. IMBRIANI
DETAILS	BY G. IMBSEN	CHECKED M. IMBRIANI
QUANTITIES	BY A. BEDAL	CHECKED J. CONKLIN
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
 PROJECT MANAGER

BRIDGE NO. 36C0108
CONTRACT NO.
EA NO.

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
STAGE CONSTRUCTION/TRAFFIC HANDLING PLAN STAGE 15

DISREGARD PRINTS BEARING EARLIER REVISION DATES

2/7/13	9/7/13	4/7/14	5/7/15	5/23/15	7/31/15	9/29/15	3/24/21	6/22/21
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SCALE 1"=20'
 SHEET 86 OF 196
 VAULT NO.

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\031-SC-TH01-XXX.dwg
 Layout Tab: SCTH-24
 May 03, 2024 - 1:08pm ACordaza



CONSTRUCTION AREA SIGN CHART			
TYPE	QUANTITY	DESCRIPTION	DIMENSION
M4-8a	2	END DETOUR	24"x18"
M4-10(L)	9	DETOUR (LEFT ARROW)	48"x18"
M4-10(R)	7	DETOUR (RIGHT ARROW)	48"x18"
SC3 (CA)	7	DETOUR (STRAIGHT/UP ARROW)	36"x12"
W20-1	2	ROAD WORK AHEAD	36"x36"
W20-2	2	DETOUR AHEAD	36"x36"
W20-3	2	ROAD CLOSED AHEAD	36"x36"
S2	13	MURRAY St BRIDGE CLOSED <DATE> TO <DATE> <HOUR> TO <HOUR>	42"x30"
S3	3	MURRAY St BRIDGE CLOSED <DATE> TO <DATE> <HOUR> TO <HOUR> USE 7th Ave	48"x36"
S4	2	MURRAY St BRIDGE CLOSED <DATE> TO <DATE> <HOUR> TO <HOUR> USE SEABRIGHT Ave	48"x36"
CMS	4	MURRAY St BRIDGE CLOSED <DATE> TO <DATE> <HOUR> TO <HOUR>	-

- CONSTRUCTION AREA SIGNING NOTES**
- ALL SIGNS SHALL BE RETROREFLECTIVE MATERIAL.
 - REQUIREMENTS FOR SPECIAL MESSAGE SIGNS ARE AS FOLLOWS:
 - BLACK LETTERS ON ORANGE BACKGROUND
 - MINIMUM LETTER SIZE = 6 INCHES
 - 2" SPACING BETWEEN LINES
 - 3" MINIMUM BORDER
 - LOCATION OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE, EXACT LOCATION TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - CHANGEABLE MESSAGE SIGN (CMS) SHALL BE INSTALLED AT LOCATIONS INDICATED A MINIMUM OF 5 DAYS PRIOR TO BRIDGE CLOSURE.
 - ALL CONSTRUCTION AREA SIGNS SHALL BE COVERED DURING NON-CLOSURE HOURS.
 - TYPE III BARRICADE, AND SIGNS ON TYPE III BARRICADE SHALL BE REMOVED FROM THE ROADWAY DURING NON-CLOSURE HOURS.

- LEGEND:**
- DIRECTION OF TRAFFIC
 - WORK AREA
 - TYPE III BARRICADE WITH WARNING LIGHT
 - TYPE III BARRICADE WITH WARNING LIGHT AND SIGN
 - SIGN AND POST
 - CHANGEABLE MESSAGE SIGN WITH TRAILER

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

DE-1

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\055-Detour.dwg Layout Tab: DE-1 May 05, 2024 - 7:15pm gimbsen

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY A. CARDOZA	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR	CHECKED J. CONKLIN

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DETOUR PLAN - BRIDGE CLOSED**

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

12/08/21	1/10/22								
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SCALE	NTS
SHEET	87 OF 196
Vault No.	



CONSTRUCTION AREA SIGN CHART			
TYPE	QUANTITY	DESCRIPTION	DIMENSION
M4-8a	1	END DETOUR	24"x18"
M4-10(L)	7	DETOUR (LEFT ARROW)	48"x18"
M4-10(R)	3	DETOUR (RIGHT ARROW)	48"x18"
SC3 (CA)	4	DETOUR (STRAIGHT/UP ARROW)	36"x12"
W20-1	2	ROAD WORK AHEAD	36"x36"
W20-2	1	DETOUR AHEAD	36"x36"
W20-3	1	ROAD CLOSED AHEAD	36"x36"
S2	9	MURRAY St BRIDGE CLOSED <DATE> TO <DATE> <HOUR> TO <HOUR>	42"x30"
S3	3	MURRAY St BRIDGE CLOSED <DATE> TO <DATE> <HOUR> TO <HOUR> USE 7th Ave	48"x36"
CMS	2	MURRAY St BRIDGE CLOSED <DATE> TO <DATE> <HOUR> TO <HOUR>	-

CONSTRUCTION AREA SIGNING NOTES

- ALL SIGNS SHALL BE RETROREFLECTIVE MATERIAL.
- REQUIREMENTS FOR SPECIAL MESSAGE SIGNS ARE AS FOLLOWS:
 - BLACK LETTERS ON ORANGE BACKGROUND
 - MINIMUM LETTER SIZE = 6 INCHES
 - 2" SPACING BETWEEN LINES
 - 3" MINIMUM BORDER
- LOCATION OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE, EXACT LOCATION TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CHANGEABLE MESSAGE SIGN (CMS) SHALL BE INSTALLED AT LOCATIONS INDICATED A MINIMUM OF 5 DAYS PRIOR TO BRIDGE CLOSURE.
- ALL CONSTRUCTION AREA SIGNS SHALL BE COVERED DURING NON-CLOSURE HOURS.
- TYPE III BARRICADE, AND SIGNS ON TYPE III BARRICADE SHALL BE REMOVED FROM THE ROADWAY DURING NON-CLOSURE HOURS.

LEGEND:

- DIRECTION OF TRAFFIC
- WORK AREA
- TYPE III BARRICADE WITH WARNING LIGHT
- TYPE III BARRICADE WITH WARNING LIGHT AND SIGN
- SIGN AND POST
- CHANGEABLE MESSAGE SIGN WITH TRAILER

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

DE-2

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\055-Detour.dwg Layout Tab: DE-2 May 05, 2024 - 7:16pm gimbsen

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JUSTINA L. CONKLIN
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Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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PUBLIC WORKS DEPARTMENT

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DETAILS	BY A. CARDOZA	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR	CHECKED J. CONKLIN

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

TRC

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

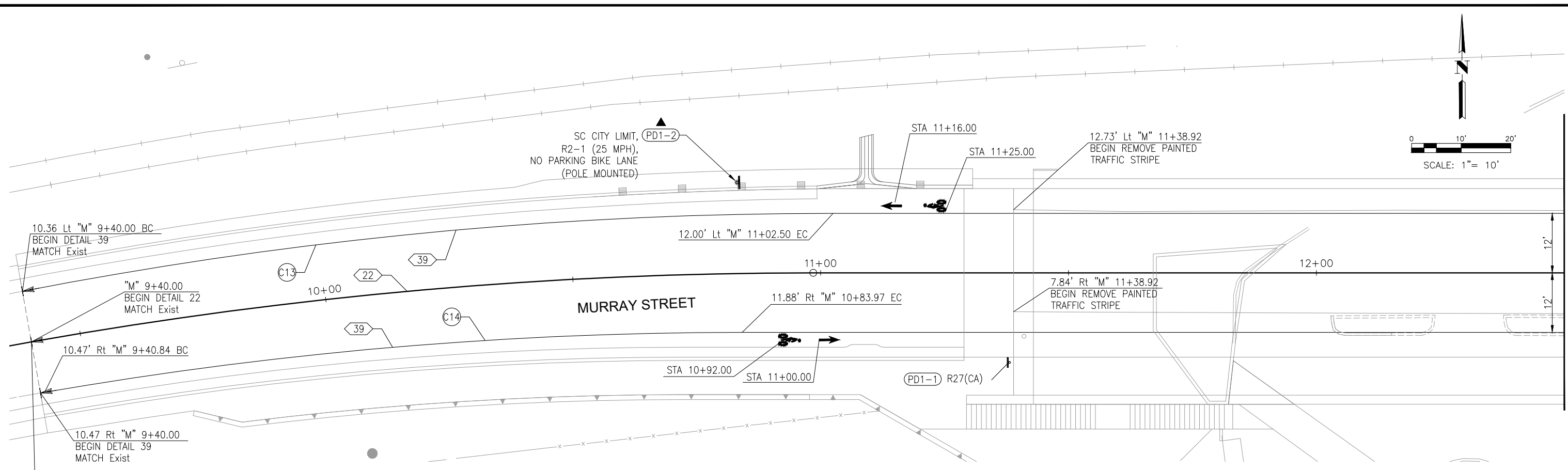
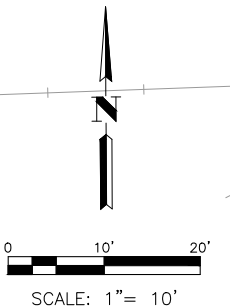
**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
DETOUR PLAN - WB TRAFFIC CLOSURE**

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)













12/08/21	01/10/22								
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SCALE	NTS
SHEET	88 OF 196
Vault No.	



WEST APPROACH

LEGEND:

-  BIKE LANE SYMBOL WITH PERSON PER CALTRANS Std PLAN A24C
-  LIMIT LINE (STOP LINE) PER CALTRANS Std PLAN A24E
-  STOP PER CALTRANS Std PLAN A24D
-  BIKE LANE ARROW PER CALTRANS Std PLAN A24A
-  (NO.) TRAFFIC STRIPE DETAIL NUMBER
-  —| BEGIN/END OF TRAFFIC STRIPE DETAIL
-  F ROADSIDE SIGN
-  (S1-1) ROADSIDE SIGN NUMBER
-  ▲ RESET ROADSIDE SIGN
-  ● RELOCATE ROADSIDE SIGN
-  ■ REMOVE ROADSIDE SIGN
-  **ME** BIKE PER CALTRANS Std PLAN A24E

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. ALL PAINTED STALL LINES AND PAVEMENT MARKINGS TO BE 2-COAT.
3. FEDERAL SIGN CODES ARE SHOWN UNLESS DESIGNATED BY (CA) WHICH INDICATES A CALIFORNIA SIGN CODE.
4. FINAL SIGN PLACEMENT WILL BE AT THE DIRECTION OF THE ENGINEER.
5. PARKING STALL STRIPING TO BE 4" WHITE LINES.
6. ACCESSIBILITY AISLE DIAGONAL STRIPING TO BE 4" WHITE LINES AT 2' O/C.
7. INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) PAVEMENT MARKING PER CALTRANS STANDARD PLAN A24C.
8. ALL EXISTING SIGNS IN CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED AND SALVAGED TO THE CITY WHETHER OR NOT CALLED OUT ON THE PLAN.
9. SEE SIGN QUANTITY TABLE SHEET PDQ-1 FOR SIGN DETAILS.
10. SANTA CRUZ CITY LIMIT SIGN TO BE PROTECTED IN PLACE.

CURVE DATA				
CURVE	R	Δ	T	L
C13	858.00'	10°59'07"	82.51'	164.51'
C14	825.00'	09°52'38"	71.29'	142.22'

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

PD-1

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\048-PD01.dwg Layout Tab: PD-1 May 05, 2024 - 7:17pm gimbisen

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

TRC
MARK IMBRIANI
PROJECT MANAGER

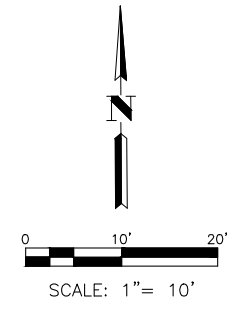
BRIDGE NO. 36C0108
CONTRACT NO.
EA NO.

**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PAVEMENT DELINEATION AND SIGN PLAN**

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)									

SCALE 1"=10'
SHEET 89 OF 196
Vault No.



APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

NOTE:
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PD-2

JUSTINA L. CONKLIN
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TRC
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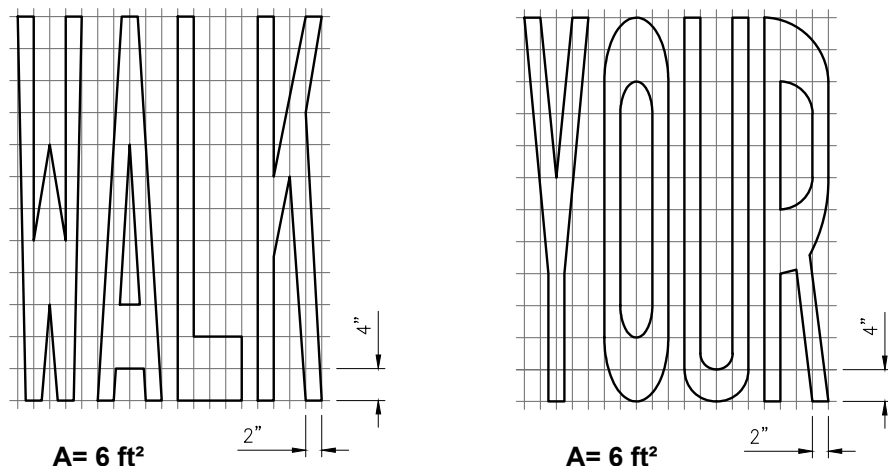
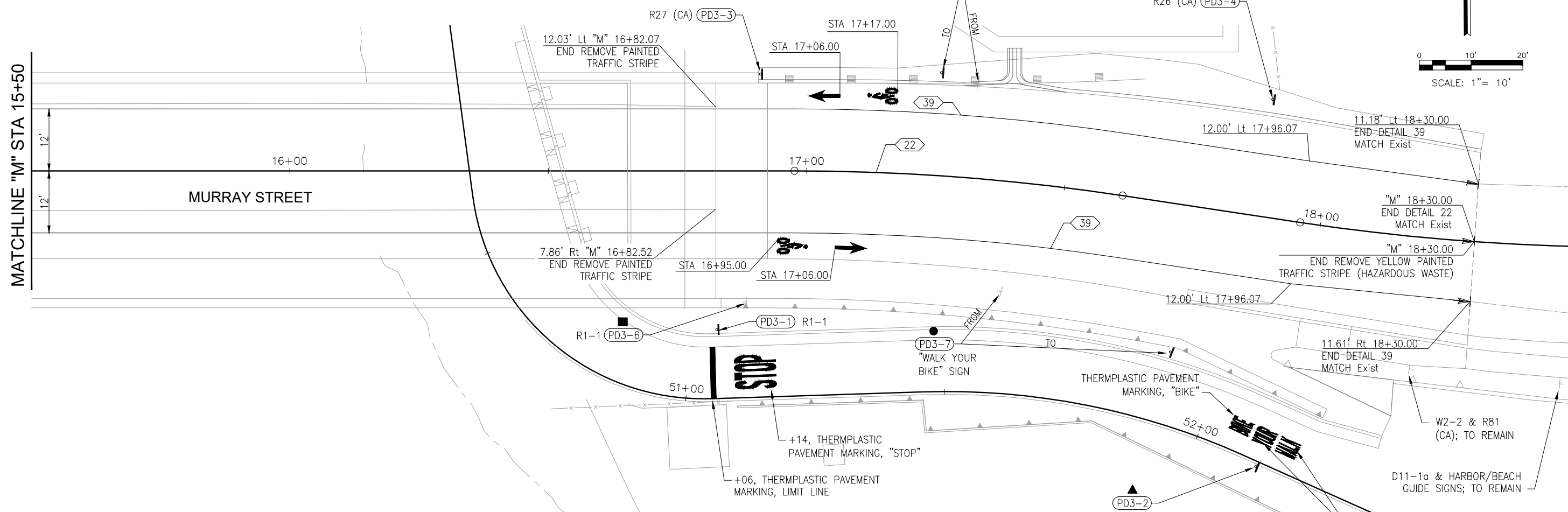
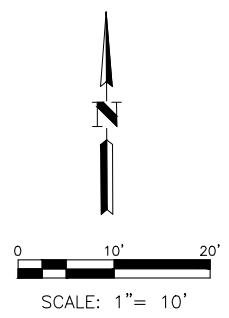
**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PAVEMENT DELINEATION AND SIGN PLAN**

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)									

SCALE 1"=10'
SHEET 90 OF 196
VAULT NO.

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\048-PD01.dwg Layout Tab: PD-2 May 05, 2024 - 7:18pm gimbisen



PAVEMENT MARKINGS WORDS DETAIL
NO SCALE

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

NOTE:
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PD-3

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\048-PD01.dwg Layout Tab: PD-3 May 05, 2024 - 7:19pm gimbsen

Justina L. Conklin
REGISTERED ENGINEER - CIVIL

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CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

MARK IMBRIANI
PROJECT MANAGER

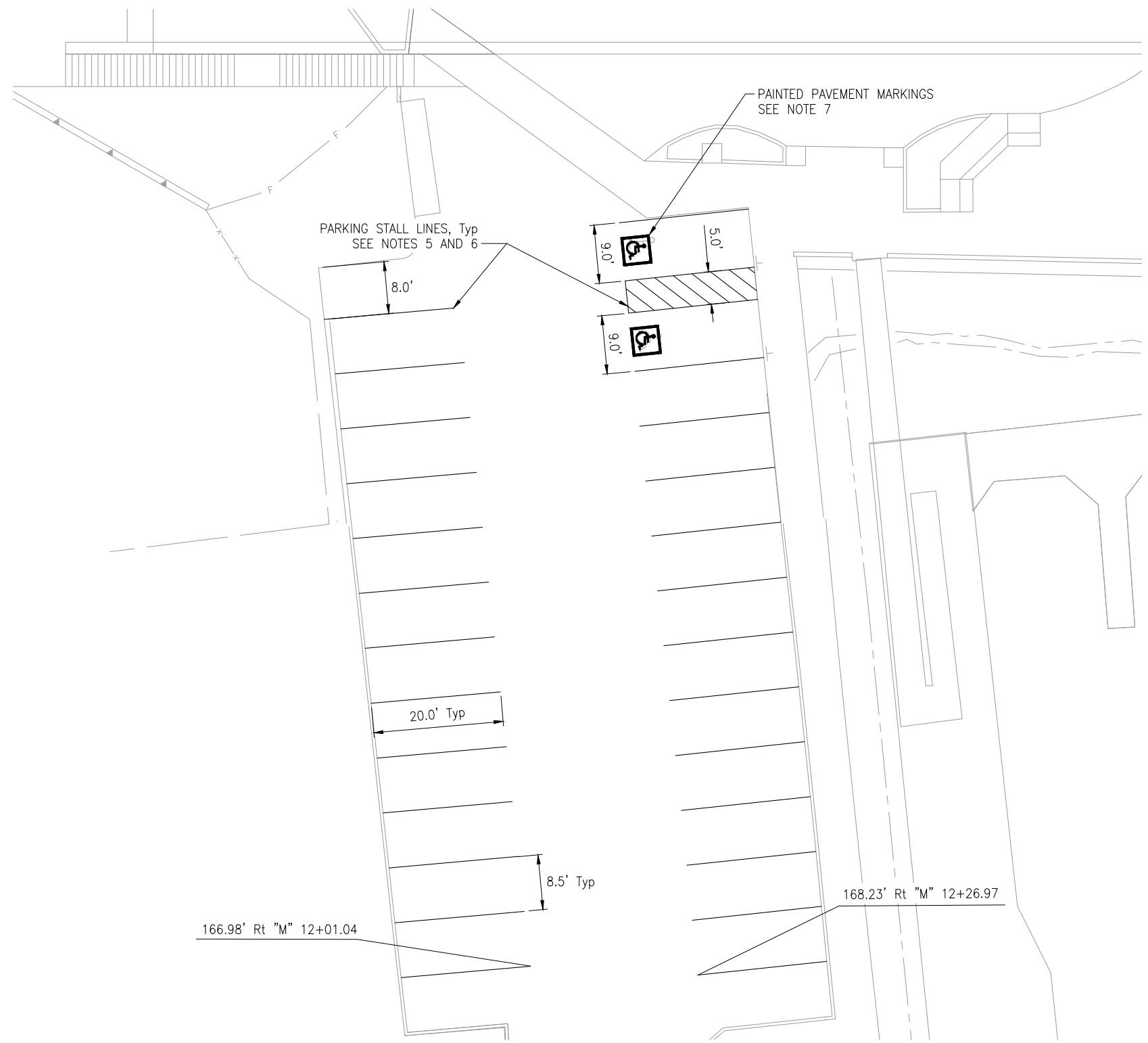
BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PAVEMENT DELINEATION AND SIGN PLAN

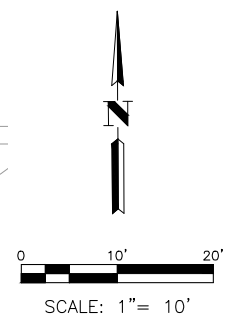
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE	1"=10'
SHEET	91 OF 196
Vault No.	



NOTE:
1. SEE NOTES ON SHEET PD-1.



WEST HARBOR PARKING

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

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

PD-4

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\048-PD01.dwg Layout Tab: PD-4 May 05, 2024 - 7:19pm gjmbaen

Justina L. Conklin
REGISTERED ENGINEER - CIVIL
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Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR/M. BEEM	CHECKED A. BEDAL
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PAVEMENT DELINEATION AND SIGN PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE	1"=10'
SHEET	92 OF 196
VAULT NO.	

SIGN QUANTITIES

SHEET No.	SIGN NUMBER	SIGN CODE		SIGN PANEL SIZE L X D	PANEL AREA	BACKGROUND		LEGEND		ROADSIDE SIGN	POST SIZE	FURNISH SINGLE SHEET ALUMINUM SIGN (0.063"-UNFRAMED)	RESET ROADSIDE SIGN	REMOVE ROADSIDE SIGN	RELOCATE ROADSIDE SIGN	COMMENT
		FEDERAL	CALIFORNIA			COLOR	RETROREFLECTIVITY ASTM TYPE	COLOR	RETROREFLECTIVITY ASTM TYPE							
PD-1	1		R27 (CA)	12 x 18	1.5	WHITE	II	RED	II	1	1	1.5				
	2	R2-1											1			SC CITY LIMIT, R2-1, NO PARKING BIKE LANE (POLE Mt)
PD-3	1	R1-1		30 x 30	5.18	RED	III	WHITE	II	1	1	5.18				
	2												1			DO NOT ENTER - PORT DISTRICT VEHICLES ONLY
	3		R27 (CA)	12 x 18	1.5	WHITE	II	RED	II	1	1	1.5				
	4		R26 (CA)											1		
	5														1	DECORATIVE SANTA CRUZ SIGN
	6	R1-1												1		
	7															1
TOTAL										3	3	8.18	3	1	2	

PAVEMENT DELINEATION QUANTITIES

SHEET No.	LOCATION/STATION	6" THERMOPLASTIC TRAFFIC STRIPE	THERMOPLASTIC PAVEMENT MARKING	PAVEMENT MARKER (RETROREFLECTIVE)	PAINTED STALL LINES AND PAVEMENT MARKINGS	DESCRIPTION
		LF	SQFT	EA	SQFT	
PD-1 TO PD-3	"M" 9+40.00 TO 18+30.00	1780				ON CENTERLINE
PD-1 TO PD-3	"M" 9+40.00 TO 18+30.00, Lt	892				ALL TRAFFIC STRIPE DETAILS INCLUDED
PD-1 TO PD-3	"M" 9+40.00 TO 18+30.00, Rt	888				ALL TRAFFIC STRIPE DETAILS INCLUDED
PD-1	MURRAY STREET		21			ALL MARKINGS AND SYMBOLS INCLUDED
PD-3	MURRAY STREET		70			ALL MARKINGS AND SYMBOLS INCLUDED
PD-1 TO PD-3	MURRAY STREET			77		ON CENTERLINE
PD-4	WEST HARBOR PARKING LOT				252	ALL MARKINGS, STRIPES, AND SYMBOLS INCLUDED
TOTAL		3560	91	77	252	

REMOVE TRAFFIC STRIPE

SHEET No.	LOCATION/STATION	PAINTED	YELLOW PAINTED (HAZARDOUS WASTE)
		LF	LF
PD-1 TO PD-3	"M" 9+40.00 TO 18+30.00		890
PD-1 TO PD-3	"M" 11+38.92 TO 16+82.07, Lt	543	
PD-1 TO PD-3	"M" 11+38.92 TO 16+82.52, Rt	544	
TOTAL		1087	890

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

PDQ-1

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\063-PDQ.dwg Layout Tab: PDQ-1 May 05, 2024 - 7:21pm gimbsen

JUSTINA L. CONKLIN
REGISTERED ENGINEER - CIVIL
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CIVIL
STATE OF CALIFORNIA

PREPARED FOR THE
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PUBLIC WORKS DEPARTMENT

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ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PAVEMENT DELINEATION & SIGN QUANTITIES

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)									
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SCALE	NTS
SHEET	93 OF 196
Vault No.	

PAVEMENT STRUCTURE

SHEET No.	LINE DESIGNATION	STATION/LOCATION	HOT MIX ASPHALT (TYPE A)			CLASS 2 AGGREGATE BASE			REMOVE ASPHALT CONCRETE PAVEMENT		
			TON	CY	CY	CY	CY	CY	CY		
PP-1	"M"	9+40.00 TO 11+38.92	207.4	150.1							
PP-2	"M"	16+82.41 TO 18+30.00	183.4	113.0							
PP-3	"MR"	49+90.00 TO 52+56.00	120.2	78.9							
C-1/C-2	"M"	HMA Dikes	1.6								
C-1/C-2	"M"	HMA (Misc AREA)	8.6								
C-4	"M"	WEST HARBOR	166.0							31.1	
C-4	"M"	EAST HARBOR	65.4							79.1	
TOTAL			752.6	342.0	110.2						

IRRIGATION CONDUIT

SHEET No.	LOCATION	SIDE	2" WELDED STEEL PIPE CONDUIT	
			LF	
PP-3	"MR" 50+85.00	Rt/Lt	25.0	
PP-3	"MR" 51+45.00	Rt/Lt	16	
TOTAL			41	

ELECTRICAL CONDUIT

SHEET No.	LOCATION	1 1/2" PVC PIPE CONDUIT (SLEEVE)	
		LF	
PP-1	WEST HARBOR	52	
TOTAL		52	

TEMPORARY WATER POLLUTION CONTROL

SHEET No.	TEMPORARY DRAINAGE INLET PROTECTION		TEMPORARY CONSTRUCTION ENTRANCE	TEMPORARY FIBER ROLL	TEMPORARY SOIL BINDER
	EA	EA	LF	SQYD	
WPC-1	10	1	280	465	
WPC-2	7	1	923	617	
TOTAL	17	2	1203	1082	

MINOR CONCRETE

SHEET No.	LOCATION	STATION	MINOR CONCRETE (CURB AND GUTTER, CITY STANDARD)	MINOR CONCRETE (CURB AND GUTTER, TYPE A2-8)	MINOR CONCRETE (SIDEWALK, CITY STANDARD)	MINOR CONCRETE (DEEP CURB AND GUTTER)	MINOR CONCRETE (DEEP CURB)	MINOR CONCRETE (CURB, GUTTER, AND SIDEWALK, CITY STANDARD)	MINOR CONCRETE (CURB, CITY STANDARD)	MINOR CONCRETE (EXPOSED AGGREGATE CONCRETE)	MINOR CONCRETE (STAIRS)
			CY	CY	CY	CY	CY	CY	CY	SOFT	CY
PP-1	"M" - Lt	9+40.00 TO 10+99.25	9.0								
PP-1	"M" - Rt	9+40.00 TO 9+50.00		0.6	0.4						
PP-1	"M" - Rt	9+50.00 TO 11+28.92		11.3	15.5						
PP-2	"M" - Rt	17+76.59 TO 17+98.77		1.4	3.8						
PP-2	"M" - Rt	17+98.77 TO 18+30.00						3.9			
PP-3	"MR" - Lt	49+90.00 TO 50+06.00							0.4		
PP-3	"MR" - Lt	50+06.00 TO 50+59.45				3.8					
PP-3	"MR" - Rt	50+65.00 TO 52+56.00							4.5		
PP-3	"MR" - Lt	50+80.00 TO 52+32.59	9.2								
C-1	"M" - Rt	11+29.42 TO 11+83.97									8.6
C-1	"M" - Rt	11+81.04							0.1		
C-1	"M" - Rt	11+83.96 TO 11+91.20								23.5	
C-4	"M" - Rt	11+82.09 TO 11+82.53							0.8		
C-4	"M" - Rt	12+02.91 TO 12+15.15							0.4		
C-4	"M" - Rt	12+50.04 TO 12+62.71							0.4		
C-4	"M" - Rt	13+12.39								124.4	
DD-1	"M" - Lt	11+67.71 TO 11+92.07					4.6				
DD-1	"MR" - Lt	50+18.65 TO 50+59.75					2.6				
TOTAL			18.3	13.3	19.6	3.8	7.2	3.9	6.5	147.9	8.6

TEMPORARY FENCE

SHEET No.	TEMPORARY FENCE (TYPE CL-6)	TEMPORARY FENCE (TYPE CL-6, PRIVACY)	TEMPORARY HIGH-VISIBILITY FENCE	TEMPORARY GATE
	LF	LF	LF	EA
DEM-1			25	
C-3	721	244		2
TOTAL	721	244	25	2

ROADWAY EXCAVATION

SHEET No.	LINE DESIGNATION	STATION	EXCAVATION	EMBANKMENT (N)
			CY	CY
DEM-1	"M"	9+40.00 TO 11+38.92	297.4	168.8
DEM-2	"M"	16+82.34 TO 18+30.00	304.4	169.5
DEM-2	"MR"	49+90.00 TO 52+56.00	290.5	61.1
TOTAL			892.2	399.4

FENCE

SHEET No.	LINE DESIGNATION	STATION	LOCATION	WIRE MESH FENCE (Mod)	CHAIN LINK FENCE (TYPE CL-4)	12' CHAIN LINK GATE (TYPE CL-4)	CHAIN LINK FENCE (TYPE CL-6, SLATTED)	6' CHAIN LINK GATE (TYPE CL-6, SLATTED)	RECONSTRUCT FENCE
				LF	LF	EA	LF	EA	LF
C-3	"M"	10+42.45 TO 11+11.70	Rt				68		
C-3	"M"	11+51.05 TO 11+57.70	Rt	13					
C-3	"M"	11+51.21 TO 11+70.02	Rt						100
C-3	"M"	12+03.05	Lt/Rt				137		
C-3	"M"	12+25	Rt					2	
C-3	"M"	16+60.38 TO 17+88.34	Lt		150				
C-3	"M"	17+80	Lt			1			
C-3	"MR"	50+78.21 TO 51+09.94	Rt		36				
TOTAL				13	186	1	205	2	100

GUARDRAIL

SHEET No.	LINE DESIGNATION	STATION	LOCATION	TRANSITION RAILING (TYPE WB-31)	ALTERNATIVE IN-LINE TERMINAL SYSTEM
				EA	EA
PP-1	"M"	11+05.67	Lt	1	
PP-2	"M"	16+90.66	Lt	1	
PP-1	"M"	11+05.67	Lt		1
PP-2	"M"	17+15.66	Lt		1
TOTAL				2	2

PLACE HOT MIX ASPHALT

SHEET No.	LOCATION	STATION	DIKE (TYPE C)	DIKE (TYPE F)	MISCELLANEOUS AREA	HOT MIX ASPHALT (TYPE A), (N) *
			LF	LF	SQYD	TON
PP-1	"M" - Lt	10+99.25 TO 11+30.67		31.4		0.3
PP-2	"M" - Lt	16+90.66 TO 17+20.66		29.9		0.4
PP-2	"M" - Lt	17+20.66 TO 18+30.00	111.0			0.9
C-1	"M" - Rt	11+82.25 TO 11+95.52			6.5	2.3
C-2	"M" - Rt	17+98.06 TO 18+17.28			7.9	2.8
D-1	"M" - Lt	11+09.25			5.4	1.9
D-2	"M" - Lt	17+38.57			4.6	1.6
TOTAL			111.0	61.3	24.4	10.2

* QUANTITY INCLUDED IN PAVEMENT STRUCTURE QUANTITIES SUMMARY.

(N) = NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

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

Q-1

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\054-Quantities.dwg Layout Tab: Q-1 Jun 24, 2024 11:37am ABedal

PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR	CHECKED J. CONKLIN

MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
SUMMARY OF QUANTITIES

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)

SCALE	NTS
SHEET	94 OF 196
Vault No.	

REMOVE FENCE

SHEET No.	LINE DESIGNATION	STATION	LOCATION	FENCE	WOOD FENCE	CHAIN LINK FENCE
				LF	LF	LF
DEM-1	"M"	10+42.45 TO 11+57.70	Rt	125		
DEM-1	"M"	11+02.19 TO 11+31.11	Rt		43	
DEM-1	"M"	12+03.05	Lt			149
DEM-2	"MR"	50+78.21 TO 51+03.28	Rt			32
TOTAL				125	43	181

RECONSTRUCT FLAGPOLE

SHEET No.	LINE DESIGNATION	STATION	RECONSTRUCT FLAGPOLE	COMMENT
			EA	
DEM-2	"MR"	51+64.04 & 51+88.29	2	FLAGPOLE LOCATED ON RETAINING WALL 18.
TOTAL			2	

REMOVE

SHEET No.	LINE DESIGNATION	STATION	LOCATION	CONCRETE CURB	CONCRETE (EXPOSED AGGREGATE)	CONCRETE (STAIRS)	METAL BOLLARD	RETAINING WALL (WOOD)	RETAINING WALL
				LF	SQYD	SQYD	EA	LF	LF
DEM-1	"M"	11+77.92 TO 11+81.04	Rt	13.1					
DEM-1	"M"	11+75.46 TO 11+93.87	Rt	38.7					
DEM-1	"M"	11+82.09 TO 11+82.53	Rt	35.3					
DEM-1	"M"	12+02.91 TO 12+15.15	Rt	15.0					
DEM-1	"M"	12+50.04 TO 12+62.71	Rt	15.0					
DEM-1	"M"	11+77.92 TO 11+78.04	Rt		9.8				
DEM-1	"M"	13+15.00	Rt		13.8				
DEM-1	"M"	11+25.71 TO 11+77.92	Rt			28.7			
DEM-2	"MR"	50+78.40	Rt				4		
DEM-2	"M"	16+81.76 TO 17+93.34	Rt					118.0	
DEM-2	"MR"	51+64.04 TO 51+88.29	Rt					25.0	
DEM-2	"MR"	51+03.27 TO 51+64.04	Rt/Lt						62.0
DEM-2	"MR"	51+88.29 TO 52+34.52	Rt						60.0
TOTAL				117.1	23.6	28.7	4	143.0	122.0

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

Q-2

Drawing name: H:\1161 - Santa Cruz\Road\Sheets\054-Quantities.dwg Layout Tab: Q-2 Jun 24, 2024 - 11:38am ABedal

REGISTERED PROFESSIONAL ENGINEER
JUSTINA L. CONKLIN
No. 53183
Exp. 06-30-25
CIVIL
STATE OF CALIFORNIA

PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY A. BEDAL	CHECKED J. CONKLIN
DETAILS	BY D. LOR	CHECKED J. CONKLIN
QUANTITIES	BY D. LOR	CHECKED J. CONKLIN

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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MARK IMBRIANI
PROJECT MANAGER

BRIDGE NO.	36C0108
CONTRACT NO.	
EA NO.	

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
SUMMARY OF QUANTITIES

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)									

SCALE	NTS
SHEET	95 OF 196
VAULT NO.	

LANDSCAPE WATER CONSERVATION STANDARDS

- (c) DEDICATED LANDSCAPE WATER METER.
- (1) SEPARATE WATER SERVICE METERS SHALL BE REQUIRED FOR ALL NEW LANDSCAPING, EXCEPT A SINGLE-FAMILY OR TWO-UNIT RESIDENCE, WHICH EQUALS OR EXCEEDS FIVE THOUSAND SQUARE FEET IN AREA, AND FOR RENOVATED LANDSCAPE SITES THAT RESULT IN EXPANSION OF THE TOTAL LANDSCAPED AREA EQUAL TO OR MORE THAN FIVE THOUSAND SQUARE FEET.
- (2) FOR ALL NEW NONRESIDENTIAL LANDSCAPES NOT REQUIRED TO HAVE A SEPARATE WATER SERVICE METER, A PRIVATE IRRIGATION SUB-METER SHALL BE INSTALLED BETWEEN THE POINT OF CONNECTION ON THE DOMESTIC WATER SERVICE AND FIRST IRRIGATION VALVE. THE SUB-METER SHALL REGISTER WATER USE IN CUBIC FEET.
- (b) LANDSCAPE WATER BUDGET.
- (1) THE LANDSCAPE WATER BUDGET FOR NEW RESIDENTIAL LANDSCAPES SHALL BE NO MORE THAN FIFTY-FIVE PERCENT OF REFERENCE EVAPOTRANSPIRATION PER SQUARE FOOT OF LANDSCAPED AREA, AND THE WATER BUDGET FOR NONRESIDENTIAL LANDSCAPES SHALL BE NO MORE THAN FORTY-FIVE PERCENT OF REFERENCE EVAPOTRANSPIRATION PER SQUARE FOOT OF LANDSCAPED AREA. THE LANDSCAPE WATER BUDGET SHALL BE CALCULATED USING THE EQUATION BELOW:
- LANDSCAPE WATER BUDGET = (0.55 OR 0.45) (ETO) (0.00083) (LA),
- WHERE:
 WATER BUDGET = ANNUAL UPPER LIMIT OF IRRIGATION WATER ALLOWED (CCF/YEAR)
 0.55 OR 0.45 = ET ADJUSTMENT FACTOR
 ETO = REFERENCE EVAPOTRANSPIRATION (INCHES PER YEAR)
 0.00083 = CONVERSION FACTOR TO CCF
 LA = LANDSCAPE AREA (SQUARE FEET)
- (2) NEW LANDSCAPES THAT INCLUDE A RECREATION AREA OR ARE IRRIGATED WITH RECYCLED WATER ARE ALLOWED ONE HUNDRED PERCENT OF REFERENCE EVAPOTRANSPIRATION PER SQUARE FOOT.
- (3) THE ESTIMATED ANNUAL WATER USE, CALCULATED BY ADDING THE AMOUNT OF WATER RECOMMENDED IN THE IRRIGATION SCHEDULE, OR BY ANOTHER METHOD APPROVED BY THE WATER AGENCY, SHALL NOT EXCEED THE ANNUAL LANDSCAPE WATER BUDGET.
- (4) THE LANDSCAPE WATER BUDGET ASSIGNED FOR A GIVEN IRRIGATION ACCOUNT SHALL NOT BE INCREASED UNLESS REVIEW OF SUBSEQUENT LANDSCAPE PLANS HAS OCCURRED AND APPROVAL OF SAID PLANS HAS BEEN OBTAINED BY THE LAND USE OR WATER AGENCY.
- (c) TURF LIMITS.
- (1) THE COMBINED SIZE OF TURF AND AREAS DEVOTED TO HIGH WATER USE PLANTS, DECORATIVE POOLS, FOUNTAINS, WATER FEATURES AND SWIMMING POOLS FOR RESIDENTIAL PROJECTS SHALL BE LIMITED TO NO MORE THAN TWENTY-FIVE PERCENT OF THE TOTAL DEVELOPED LANDSCAPE AREA. TURF IS NOT PERMITTED IN NEW NONRESIDENTIAL LANDSCAPE PROJECTS. THESE LIMITS DO NOT APPLY TO RECREATION AREAS REQUIRING LARGE TURF AREAS FOR THEIR PRIMARY FUNCTION. HOWEVER, RECREATION AREAS SHALL BE DESIGNED TO LIMIT TURF IN ANY PORTION OF THE LANDSCAPED AREA NOT ESSENTIAL FOR THE OPERATION OF THE RECREATIONAL FACILITY.
- (2) EXCEPT WHEN REQUIRED AS A STORMWATER BEST MANAGEMENT PRACTICE, TURF AND OTHER HIGH WATER USE PLANTS SHALL NOT BE PLANTED IN THE FOLLOWING CONDITIONS:
- (a) PLANTING AREAS LESS THAN TEN FEET WIDE IN ANY DIRECTION;
 (b) ON SLOPES GREATER THAN FIVE PERCENT;
 (c) IN STREET MEDIANS, TRAFFIC ISLANDS, PLANTER STRIPS, AND PARKING LOT ISLANDS.

- (3) TURF VARIETIES SHALL BE WATER-CONSERVING SPECIES, SUCH AS TALL AND HARD FESCUES.
- (d) LANDSCAPE DESIGN.
- (1) EXCEPT FOR AREAS DESIGNATED FOR TURF OR HIGH WATER USE PLANTS, ALL PLANTS SHALL BE COMPOSED OF VERY LOW TO MODERATE WATER USE PLANTS, AS IDENTIFIED IN WATER USE CLASSIFICATION OF LANDSCAPE SPECIES (WUCOLS GUIDE) OR OTHER SPECIES, INCLUDING NATIVE PLANTS THAT ARE WELL ADAPTED TO THE CLIMATE OF THE REGION, AND REQUIRE MINIMAL WATER ONCE ESTABLISHED.
- (2) PLANTS HAVING SIMILAR WATER REQUIREMENTS SHALL BE GROUPED TOGETHER IN DISTINCT HYDROZONES, AND WHERE IRRIGATION IS REQUIRED, THE DISTINCT HYDROZONES SHALL BE IRRIGATED WITH SEPARATE VALVES.
- (3) PLANTING OF TREES AND THE PROTECTION AND PRESERVATION OF EXISTING NATIVE SPECIES AND NATURAL AREAS IS ENCOURAGED.
- (4) WATER IN DECORATIVE POOLS AND FOUNTAINS MUST BE RECIRCULATED.
- (e) IRRIGATION DESIGN.
- (1) ALL IRRIGATION SYSTEMS SHALL BE DESIGNED TO AVOID RUNOFF, OVERSPRAY, LOW-HEAD DRAINAGE AND OTHER SIMILAR CONDITIONS WHERE WATER FLOWS OFF SITE ONTO ADJACENT PROPERTY, NON-IRRIGATED AREA, WALKS, ROADWAYS, OR STRUCTURES.
- (2) AREAS LESS THAN TEN FEET WIDE MUST BE IRRIGATED WITH SUBSURFACE OR LOW VOLUME IRRIGATION.
- (3) POINT SOURCE IRRIGATION IS REQUIRED WHERE PLANT HEIGHT MATURITY WILL AFFECT THE UNIFORMITY OF AN OVERHEAD SYSTEM.
- (4) ALL OVERHEAD SPRAY NOZZLES SHALL HAVE A PRECIPITATION RATE OF NO MORE THAN ONE INCH PER HOUR.
- (5) OVERHEAD SPRINKLER SYSTEMS SHALL NOT BE PERMITTED WITHIN TWENTY-FOUR INCHES OF ANY NON-PERMEABLE SURFACE, INCLUDING DRIVEWAYS AND SIDEWALKS. THE SETBACK AREA MAY BE PLANTED OR UNPLANTED. ALLOWABLE IRRIGATION WITHIN THE SETBACK MAY INCLUDE DRIP, SUBSURFACE, OR OTHER LOW VOLUME, NON-SPRAY IRRIGATION TECHNOLOGY.
- (6) PLANTS THAT REQUIRE DIFFERENT AMOUNTS OF WATER SHALL BE IRRIGATED USING SEPARATE IRRIGATION CIRCUITS AND VALVES.
- (7) TREES SHALL BE WATERED USING SEPARATE IRRIGATION CIRCUITS.
- (8) WHERE AVAILABLE, RECYCLED WATER SHALL BE USED TO IRRIGATE LANDSCAPES.
- (f) IRRIGATION EQUIPMENT.
- (1) A PRESSURE REGULATOR SHALL BE INSTALLED IF PRESSURE AT THE WATER METER EXCEEDS EIGHTY PSI. ADDITIONAL PRESSURE REGULATION DEVICES ARE REQUIRED IF THE WATER PRESSURE EXCEEDS THE RECOMMENDED PRESSURE OF THE SPECIFIED IRRIGATION DEVICES.
- (2) WEATHER-BASED OR OTHER SENSOR-BASED, SELF-ADJUSTING IRRIGATION CONTROLLERS SHALL BE REQUIRED, WHERE FEASIBLE.
- (3) IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH RAIN-SENSING DEVICES TO PREVENT IRRIGATION DURING RAINY WEATHER.
- (4) SPRINKLER HEADS SHALL HAVE MATCHED PRECIPITATION RATES WITHIN EACH CONTROL CIRCUIT VALVE AND SHALL BE SELECTED FOR PROPER COVERAGE AND PRECIPITATION RATE, THEREBY MINIMIZING OVERSPRAY AND RUNOFF.
- (5) ANTI-DRAIN CHECK VALVES SHALL BE INSTALLED AT STRATEGIC POINTS TO MINIMIZE OR PREVENT LOW-HEAD DRAINAGE.
- (6) SWING JOINTS OR OTHER RISER PROTECTION COMPONENTS ARE REQUIRED ON ALL RISERS LOCATED IN HIGH TRAFFIC AREAS.
- (7) THE IRRIGATION SYSTEM SHALL PROVIDE FOR THE INSTALLATION OF A MANUAL SHUTOFF VALVE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF CONNECTION TO MINIMIZE WATER LOSS IN CASE OF AN EMERGENCY OR ROUTINE REPAIR. ADDITIONAL MANUAL SHUTOFF VALVES SHALL BE INSTALLED AS NECESSARY.
- (8) FLOW SENSORS THAT DETECT AND REPORT HIGH FLOW CONDITIONS DUE TO BROKEN PIPES AND/OR BROKEN SPRINKLER HEADS ARE REQUIRED ON ALL LANDSCAPES OF FIVE THOUSAND SQUARE FEET OR LARGER.
- (g) SOIL MANAGEMENT, PREPARATION, AND MULCHING.
- (1) PRIOR TO PLANTING OF ANY MATERIALS, COMPACTED SOILS SHALL BE TRANSFORMED INTO A FRIABLE CONDITION. SOIL SHALL BE PREPARED FOR PLANTING BY RIPPING AND INCORPORATING AN ORGANIC AMENDMENT AT THE RATE OF SIX CUBIC YARDS PER ONE THOUSAND SQUARE FEET INTO

- THE TOP SIX INCHES, OR AMENDED WITH ORGANIC MATERIAL AS RECOMMENDED BY A LANDSCAPE ARCHITECT OR SOIL LABORATORY REPORT.
- (2) ALL EXPOSED SOIL SURFACES OF NON-TURF AREAS WITHIN THE DEVELOPED LANDSCAPE AREA MUST BE MULCHED WITH A MINIMUM THREE-INCH LAYER OF ORGANIC MATERIAL.
- (3) A LABORATORY ANALYSIS AND SOIL MANAGEMENT REPORT SHALL BE COMPLETED AND SUBMITTED FOR PROJECTS OVER FIVE THOUSAND SQUARE FEET OF LANDSCAPE AREA AND FOR PROJECTS WHERE SIGNIFICANT MASS GRADING IS PLANNED AND THE RECOMMENDATIONS INCORPORATED INTO THE LANDSCAPE PLANS. FOR LANDSCAPES WITH MULTIPLE LANDSCAPE INSTALLATIONS, A SOIL SAMPLING RATE OF ONE IN SEVEN LOTS OR APPROXIMATELY FIFTEEN PERCENT SHALL SATISFY THIS REQUIREMENT.
- (h) STORMWATER MANAGEMENT.
- (1) ALL PLANTING AREAS ARE REQUIRED TO HAVE FRIABLE SOIL TO MAXIMIZE WATER RETENTION AND INFILTRATION. IMPLEMENTING STORMWATER BEST MANAGEMENT PRACTICES TO MINIMIZE RUNOFF AND INCREASE ON-SITE RETENTION AND INFILTRATION IS STRONGLY ENCOURAGED.
- (2) PROJECT APPLICANTS SHOULD REFER TO THE LOCAL PUBLIC WORKS AGENCY FOR INFORMATION ON ANY APPLICABLE STORMWATER REQUIREMENTS.
- (i) ALTERNATIVE WATER SOURCES.
- (1) IRRIGATING WITH ALTERNATIVE WATER SOURCES SUCH AS RECYCLED WATER, GRAYWATER, OR RAINWATER IS ENCOURAGED WHERE AVAILABLE ON SITE AND PERMITTED. ALL GRAYWATER SYSTEMS SHALL CONFORM TO THE CALIFORNIA PLUMBING CODE (TITLE 24, PART 5, CHAPTER 16) AND ANY APPLICABLE LOCAL ORDINANCE STANDARDS. ALL RECYCLED WATER IRRIGATION SYSTEMS SHALL BE DESIGNED AND OPERATED IN ACCORDANCE WITH APPLICABLE LOCAL AND STATE LAWS. THE WATER BUDGET FOR LANDSCAPES USING ONLY RECYCLED WATER SOURCES SHALL BE ONE HUNDRED PERCENT.
- (j) LANDSCAPE WATER CONSERVATION STANDARDS FOR SINGLE-FAMILY AND TWO-UNIT RESIDENCES ON LOTS LESS THAN TEN THOUSAND SQUARE FEET.
- (1) INSTALL CLIMATE-ADAPTED PLANTS THAT REQUIRE LITTLE OR NO SUMMER WATER FOR SEVENTY-FIVE PERCENT OF THE LANDSCAPED AREA (EXCLUDING AREA DEVOTED TO EDIBLE PLANTS).
- (2) APPLY A THREE-INCH LAYER OF MULCH ON ALL EXPOSED SOIL SURFACES.
- (3) TURF LIMITS.
- (a) THE COMBINED SIZE OF TURF AND AREAS DEVOTED TO HIGH WATER USE PLANTS, DECORATIVE POOLS, FOUNTAINS, WATER FEATURES AND SWIMMING POOLS FOR RESIDENTIAL PROJECTS SHALL BE LIMITED TO NO MORE THAN TWENTY-FIVE PERCENT OF THE TOTAL DEVELOPED LANDSCAPE AREA.
- (b) TURF SHALL NOT BE PLANTED ON SLOPES GREATER THAN FIVE PERCENT.
- (c) TURF IS PROHIBITED IN AREAS LESS THAN TEN FEET WIDE IN ANY DIRECTION.
- (d) IRRIGATION EQUIPMENT.
- (e) ALL OVERHEAD SPRAY NOZZLES SHALL HAVE A PRECIPITATION RATE OF NO MORE THAN ONE INCH PER HOUR.
- (f) AREAS LESS THAN TEN FEET IN ANY DIRECTION SHALL BE IRRIGATED WITH LOW VOLUME OR SUBSURFACE IRRIGATION THAT PRODUCES NO RUNOFF OR OVERSPRAY.
- (g) OVERHEAD SPRINKLER SYSTEMS SHALL NOT BE PERMITTED WITHIN TWENTY-FOUR INCHES OF ANY NON-PERMEABLE SURFACE, INCLUDING DRIVEWAYS AND SIDEWALKS. THE SETBACK AREA MAY BE PLANTED OR UNPLANTED. ALLOWABLE IRRIGATION WITHIN THE SETBACK MAY INCLUDE DRIP, SUBSURFACE, OR OTHER LOW VOLUME, NON-SPRAY IRRIGATION TECHNOLOGY.

PROJECT APPLICANT INFORMATION

Name: Patrick Boyd Company Phone No. 559-472-9966
 Title: Landscape Architect Mobile Phone No. 559-901-8647
 Company: Designlab 252 Email Address: patrick@designlab252.com
 Street Address: 1547 E. Pryor Drive
 City: Fresno State: CA Zip Code: 93720

PROJECT ADDRESS AND LOCATION INFORMATION

Parcel, tract or lot number, if available: Latitude/Longitude (optional):
 Street Address: State: Zip Code:

PROPERTY OWNER/DESIGNEE INFORMATION

Name: City of Santa Cruz Telephone No.
 Title: Public Works Department Fax No.
 Company: Email Address:
 Street Address: State: Zip Code:
 City:

Project Type: New Rehabilitated Public Private
 Cemetary Homeowner Installed

Compliance Type: Full Compliance Prescriptive Compliance

Water Type: Potable Recycled Well

Water Purveyor: City of Santa Cruz (City of xxxx, County of xxx, Private Water Co, et)

Insert monthly Eto and Precipitation totals where:
 Eto = Reference Evapotranspiration/month for Project Location (See Water Efficient Landscape Document)
 Precip. = Precipitation /month for Project Location (see Wucols or local weather station data on internet).
 Eppt = Effective precipitation (25% of monthly Precip)

LOCATION: Santa Cruz

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL TOTAL
Eto/Mo	1.5	1.8	2.6	3.5	4.3	4.4	4.8	4.4	3.8	2.8	1.7	1.2	36.8
Precip.													0.00
Eppt.													0.00

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Eto-Eppt	1.5	1.8	2.6	3.5	4.3	4.4	4.8	4.4	3.8	2.8	1.7	1.2	36.8

VALVE NUMBER	Type	Hydrozone	Area	A				B				C				D		E	
				VL	LW	MW	HW	VL	LW	MW	HW	VL	LW	MW	HW	LW	HW	Water Feature	
A1	B	LW	1028	0	0	0	0	0	1028	0	0	0	0	0	0	0	0	0	0
B1	B	LW	1015	0	0	0	0	0	1015	0	0	0	0	0	0	0	0	0	0
TOTALS				0	0	0	0	0	2043	0	0	0	0	0	0	0	0	0	

* Hydrozone area for all tree valves calculated by using the mature canopy of trees

*Hydro zone	Water Use	Factor	Project Value	** Irrigation Method	Type
VL	Very Low	0-0.1	0.1	B1 Drip Bubbler Tre	A Trees
LW	Low	0.1-0.3	0.3	B2 Drip Bubbler Shr	B Shrubs/GC on bubblers
MW	Medium	0.4-0.6	0.5	DL/DR Drip line/Drip Ri	C Turf/GC on Sprays
HW	High	0.7-1.0	0.7	R Rotor	D Temp (< 2 years only)
SLA	Special	1	1	S Spray	E Water Feature-pool or fountain

Monthly water requirements = KCL/IE

where: KCL = (Eto/Mo-Etpp/Mo)*PF
 Eto/Mo = Reference Evapotranspiration per month (See chart)
 Etpp/Mo = 25% of average monthly precipitation
 PF = PLANT FACTOR
 IE = IRRIGATION EFFICIENCY

Project Precipitation Rates	Irrigation Method	Precip Rate
B1		0.51
B2		0.27
DL		0.64

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Eto/Mo-Eppt/Mo	1.50	1.80	2.60	3.50	4.30	4.40	4.80	4.40	3.80	2.80	1.70	1.20

MONTHLY WATER REQUIREMENTS (inches)

Valve #	PF	IE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A1	0.3	0.81	0.56	0.67	0.96	1.30	1.59	1.63	1.78	1.63	1.41	1.04	0.63	0.44
B1	0.3	0.81	0.56	0.67	0.96	1.30	1.59	1.63	1.78	1.63	1.41	1.04	0.63	0.44
TOTAL			1.11	1.33	1.93	2.59	3.19	3.26	3.56	3.26	2.81	2.07	1.26	0.89

MWELQ REQUIRED ITEMS	PRESENT IN PACKAG		COMMENTS
	YES	NO	
Project information	X		
Water Efficient Landscape Worksheet	X		
Soil Management report-or noted to be done in construction		X	REQUESTED BY CONTRACTOR DURING CONSTRUCTION
Landscape Design Plan	X		
Irrigation Design Plan	X		
Grading Plan-or noted with Civil Plans		X	NOTED WITH CIVIL PLANS
MWELQ calculations are correct:	X		
Correct Eto per location efficiency)	X		
Hydrozones areas are calculated correctly	X		
MAWA and ETWU formulas and calculations are shown	X		
Special Landscape Areas Present? Approved?		X	
MWELQ statements and signatures are present on the planting,irrigation and grading plans.	X		

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package

Reference Evapotranspiration (Eto)	36.8	Project type ETAF	0.45					
HYDROZONES/ PLANTING DESCRIPTION	HYDROZONE*	PF	IRRIGATION METHOD	Irrigation Efficiency (IE)	ACTUAL ETAF (PF/IE)	LANDSCAPE AREA (Sq. Ft.)	ACTUAL ETAF X AREA	ESTIMATED TOTAL WATER USE (ETWU)
Regular Landscape Areas								
TREES	VERY LOW	0.1	B1/DR	0.81	0.12	0	0	0
	LOW	0.3	B1/DR	0.81	0.37	0	0	0
	MEDIUM	0.5	B1/DR	0.81	0.62	0	0	0
	HIGH	0.7	B1/DR	0.81	0.86	0	0	0
SHRUBS/GC	VERY LOW	0.1	B2/DL	0.81	0.12	0	0	0
	LOW	0.3	B2/DL	0.81	0.37	2,043	757	17,264
	MEDIUM	0.5	B2/DL	0.81	0.62	0	0	0
	HIGH	0.7	B2/DL	0.81	0.86	0	0	0
TURF/GC	VERY LOW	0.1	R/S	0.75	0.13	0	0	0
	LOW	0.3	R/S	0.75	0.40	0	0	0
	MEDIUM	0.5	R/S	0.75	0.67	0	0	0
	HIGH	0.7	R/S	0.75	0.93	0	0	0
TEMPORARY WATER FEATURE	LOW	0.3		1	0.30	0	0	0
	HIGH	0.7		1	0.70	0	0	0
TOTALS						2,043	757	17,264
Special Landscape Areas						1.00	0	0
						ETWU TOTAL		17,264.11
						(MAXIMUM ALLOWED WATER ALLOWANCE) MAWA		20,975.89

** Enter total SLA area here

ETAF Calculations

Regular Landscape Areas	Total ETAF x area	757
Total Area	2,043	
Average ETAF	0.37	

All Landscape Areas	Total ETAF x area	757
Total Area	2,043	
Sitewide ETAF	0.37	

MAWA = Eto x 0.62 x Project ETAF x LA + (1-PROJECT ETAF)*SLA
 20,975.89 = 36.8 x 0.62 x 0.45 x 2043

ETWU = Eto x 0.62 x ACTUAL ETAF X AREA
 17,264.11 = 36.8 x 0.62 x 757

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non residential areas

Monthly water requirements = KCL/IE

where KCL = (Eto/Mo-Etpp/Mo)*PF
 Eto/Mo = Reference Evapotranspiration per month (See chart)
 Etpp/Mo = 25% of average monthly precipitation
 PF = PLANT FACTOR
 IE = IRRIGATION EFFICIENCY

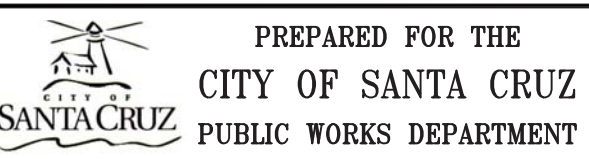
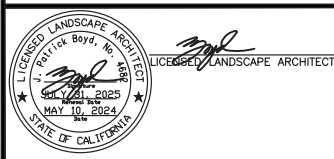
Project Precipitation Rates	Irrigation Method	Precip Rate
B1		0.51
B2		0.27
DL		1
D		0
O		0

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Eto	1.50	1.80	2.60	3.50	4.30	4.40	4.80	4.40	3.80	2.80	1.70	1.20

GALLONS PER MONTH=(AREA(sf) X 144) X IN(MO) /231

MONTHLY WATER REQUIREMENTS (GALLONS)

Valve #	AREA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A1	1,028	356	427	617	831	1,021	1,044	1,139	1,044	902	665	403	285
B1	1,015	352	422	609	820	1,008	1,031	1,125	1,031	891	656	398	281
TOTAL	708	849	1,226	1,651	2,028	2,075	2,264	2,075	1,792	1,321	802	566	
TOTAL/WEEK		0	196	283	381	468	479	523	479	414	305	185	131
TOTAL/DAY		0	28	40	54	67	68	75	68	59	44	26	19
TOTAL/HR (12 HRS DAY)		0	2	3	5	6	6	6	6	5	4	2	2



DESIGN	BY	KJ	CHECKED	PB
DETAILS	BY	KJ	CHECKED	PB
QUANTITIES	BY	KJ	CHECKED	PB

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

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 Studio: 559.472.9966 Fax: 559.472.9969

BRIDGE NO. 36C0108
 CONTRACT NO.
 EA NO.

MURRAY STREET BRIDGE
 SEISMIC RETROFIT AND BARRIER REPLACEMENT
 LANDSCAPE COVER SHEET

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SCALE N/A
 SHEET 96 OF 196
 VAULT NO.

PLANT LEGEND

PLANT GROUP (SIZE)	PLANT NO.	SYMBOL	BOTANICAL NAME	COMMON NAME	WATER USE	HOLE SIZE		BASIN TYPE	APPLICATION RATES				ON CENTER SPACING	MINIMUM PLANTING DISTANCE FROM:					REMARKS
						DIAMETER	DEPTH		WOOD MULCH	PACKET FERTILIZER	SOIL AMENDMENT	SLOW-RELEASE FERTILIZER		EP	FENCE	WALL	PAVED DITCH	EARTH DITCH	
INCH	INCH	CF	EA	CF	oz	ft	ft	ft	ft	ft	ft	ft	ft	ft					
	1		ARTEMISIA x 'POWIS CASTLE'	POWIS CASTLE ARTEMISIA	LOW	④	④	I	1.5	1 pkt	0.25	4	③	2	2	2	2	2	SHRUB
	2		CEANOTHUS GRISEUS HORIZONTALIS	CARMEL CREEPER	LOW	④	④	I	1.5	1 pkt	0.25	4	③	3	3	3	3	3	SHRUB
	3		ECHIUM CANDICANS	PRIDE OF MADEIRA	LOW	④	④	I	1.5	1 pkt	0.25	4	③	5	5	5	5	5	SHRUB
	4		MUHLENBERGIA RIGENS	DEER GRASS	LOW	④	④	I	1.5	1 pkt	0.25	4	③	2	2	2	2	2	SHRUB
	5		PENNISETUM ORIENTALE	ORIENTAL FOUNTAIN GRASS	MEDIUM	④	④	I	1.5	1 pkt	0.25	4	③	2	2	2	2	2	SHRUB
	6		PENSTEMON MEXICALI 'RED ROCKS'	PENSTEMON	LOW	④	④	I	1.5	1 pkt	0.25	4	③	2	2	2	2	2	SHRUB
	7		RHAPHIOLEPIS INDICA	INDIAN HAWTHORN	LOW	④	④	I	1.5	1 pkt	0.25	4	③	3	3	3	3	3	SHRUB
	8		ROSMARINUS OFFICINALIS 'PROSTRATUS'	DWARF ROSEMARY	LOW	④	④	I	1.5	1 pkt	0.25	4	③	3	3	3	3	3	SHRUB
	9		PARTHENOCISSUS TRICUSPIDATA	JAPANESE CREEPER	LOW	④	④	I	1.5	1 pkt	0.25	4	③	-	-	-	-	-	VINE

(N) - NOT A SEPARATE BID ITEM

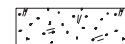

PLANTING REQUIREMENTS

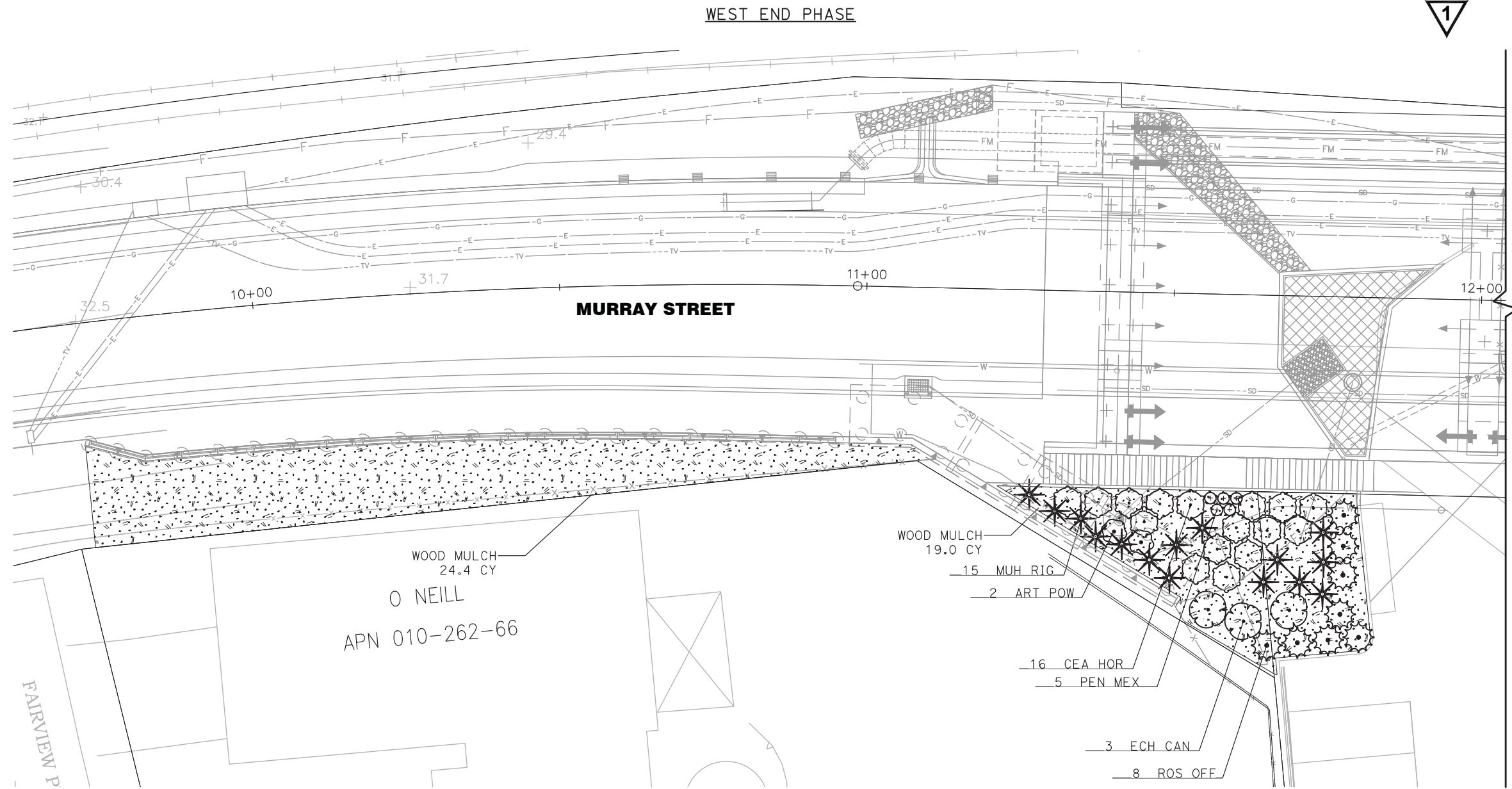
- ① WOOD MULCH MUST BE WOOD CHIP
- ② SOIL AMENDMENT MUST BE PER SOILS REPORT RECOMMENDATION
- ③ AS SHOWN ON PROJECT PLANS
- ④ SUFFICIENT TO RECEIVE ROOT BALL

PL-1

		PREPARED FOR THE CITY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT	DESIGN BY KJ CHECKED PB DETAILS BY KJ CHECKED PB QUANTITIES BY KJ CHECKED PB		BRIDGE NO. 36C0108 CONTRACT NO.	MURRAY STREET BRIDGE SEISMIC RETROFIT AND BARRIER REPLACEMENT	SCALE N/A SHEET 97 OF 196 VAULT NO.	
	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3			P.O. Box 27616 Fresno, CA 93729 Studio: 559.472.9966 Fax: 559.472.9969	EA NO.	PLANT LIST		
				DISREGARD PRINTS BEARING EARLIER REVISION DATES →			REVISION DATES (PRELIMINARY STAGE ONLY)	

LEGEND:

-  WOOD MULCH-6" DEPTH
-  EROSION CONTROL-SEE SHEET EC-1



I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.

J. PATRICK BOYD
LLA No. 4682

DATE: 05-10-2024

PL-2



PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY	KJ	CHECKED	PB	
DETAILS	BY	KJ	CHECKED	PB	
QUANTITIES	BY	KJ	CHECKED	PB	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0	1	2	3

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Studio: 559.472.9966 Fax: 559.472.9969

BRIDGE NO.
36C0108
CONTRACT NO.
EA NO.

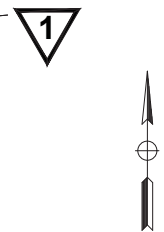
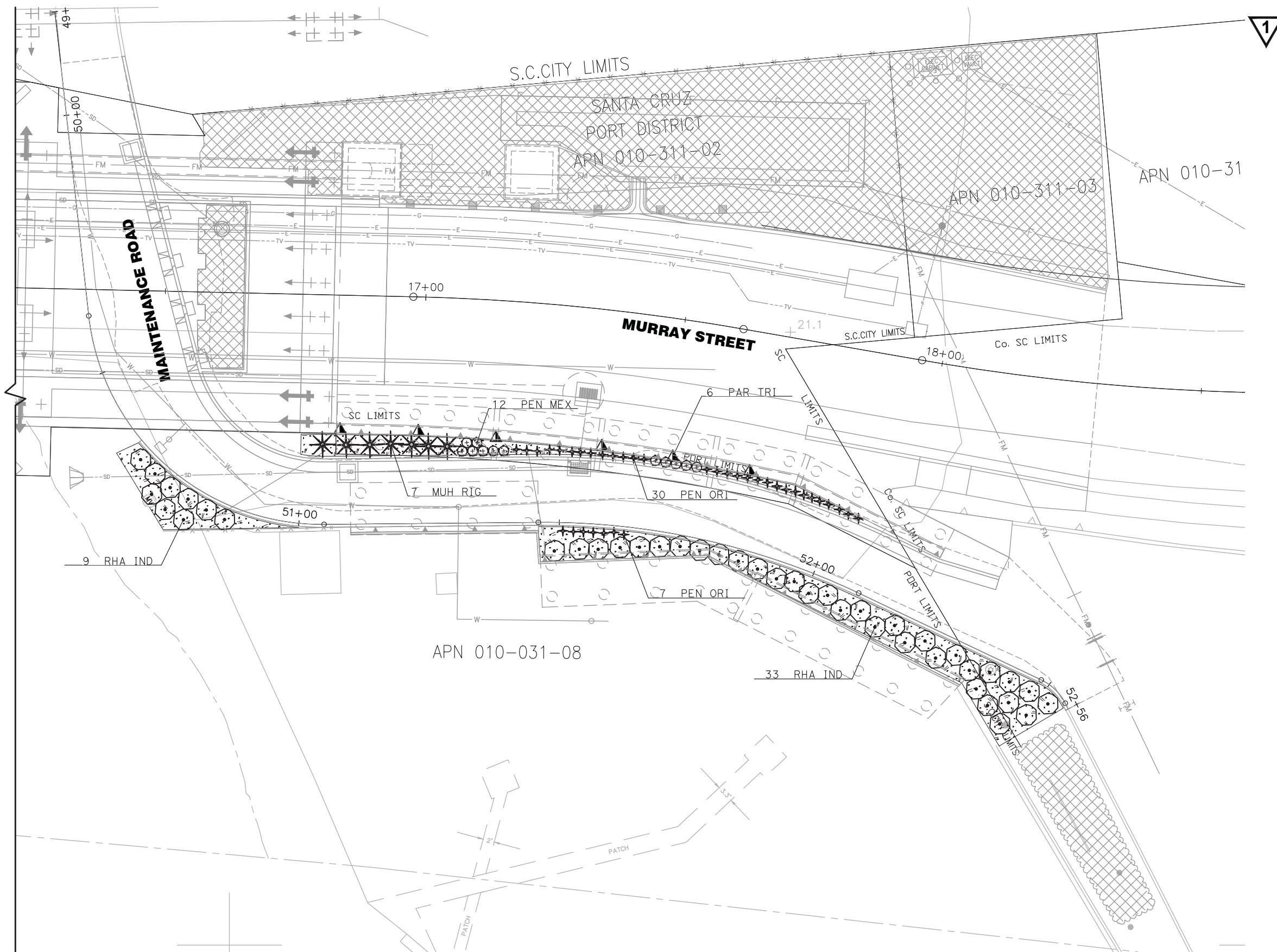
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PLANTING PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE 1"=10'-0"
SHEET 98 OF 196
VAULT NO.

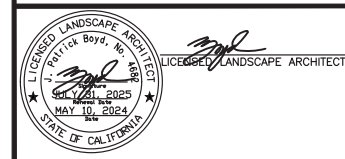
EAST END PHASE



I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.

J. PATRICK BOYD
LLA No. 4682
DATE: 05-10-2024

PL-3



PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY	KJ	CHECKED	PB
DETAILS	BY	KJ	CHECKED	PB
QUANTITIES	BY	KJ	CHECKED	PB
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				
		0	1	2
			3	

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Studio: 559.472.9966 Fax: 559.472.9969

BRIDGE NO.
36C0108
CONTRACT NO.
EA NO.

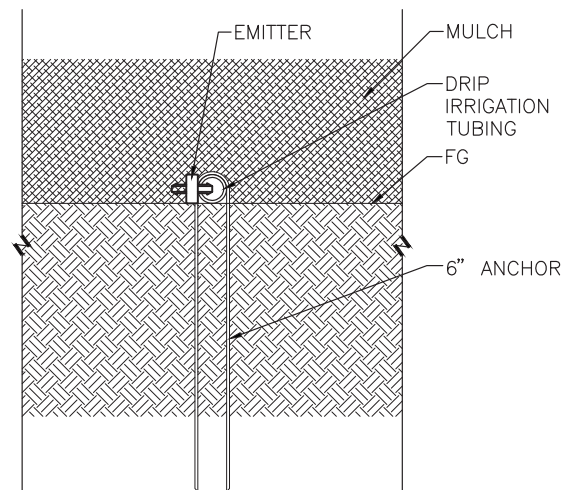
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
PLANTING PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)

SCALE 1"=10'-0"
SHEET 99 OF 196
VAULT NO.

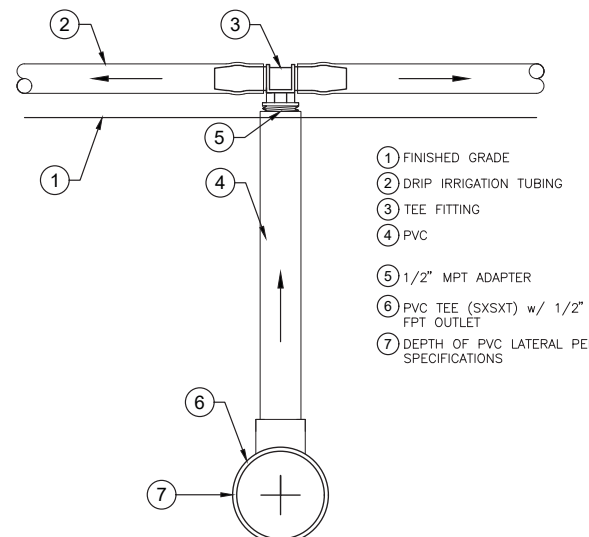
IRRIGATION SPRINKLER SCHEDULE

SYMBOL	DESCRIPTION	OPERATING PRESSURE (psi)	PRESSURE COMPENSATING	PLUS/MINUS 5%	REMARKS
				DISCHARGE	
				GALLONS PER HOUR (GPH)	
☐	DRIP EMITTER	20	X	2	



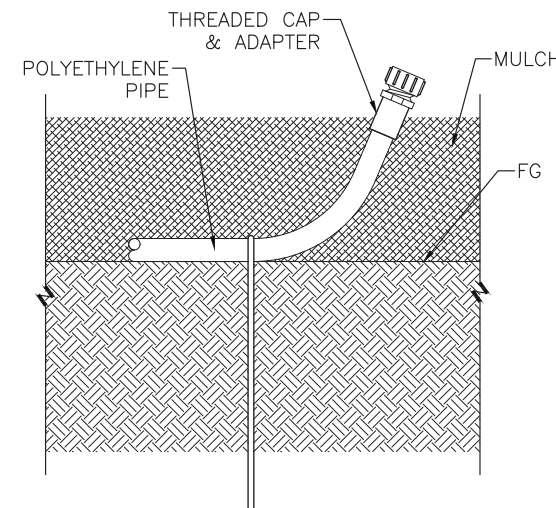
1 DRIP IRRIGATION TUBING
6" = 1'-0"

DL-IR-SPR-DRIP-41



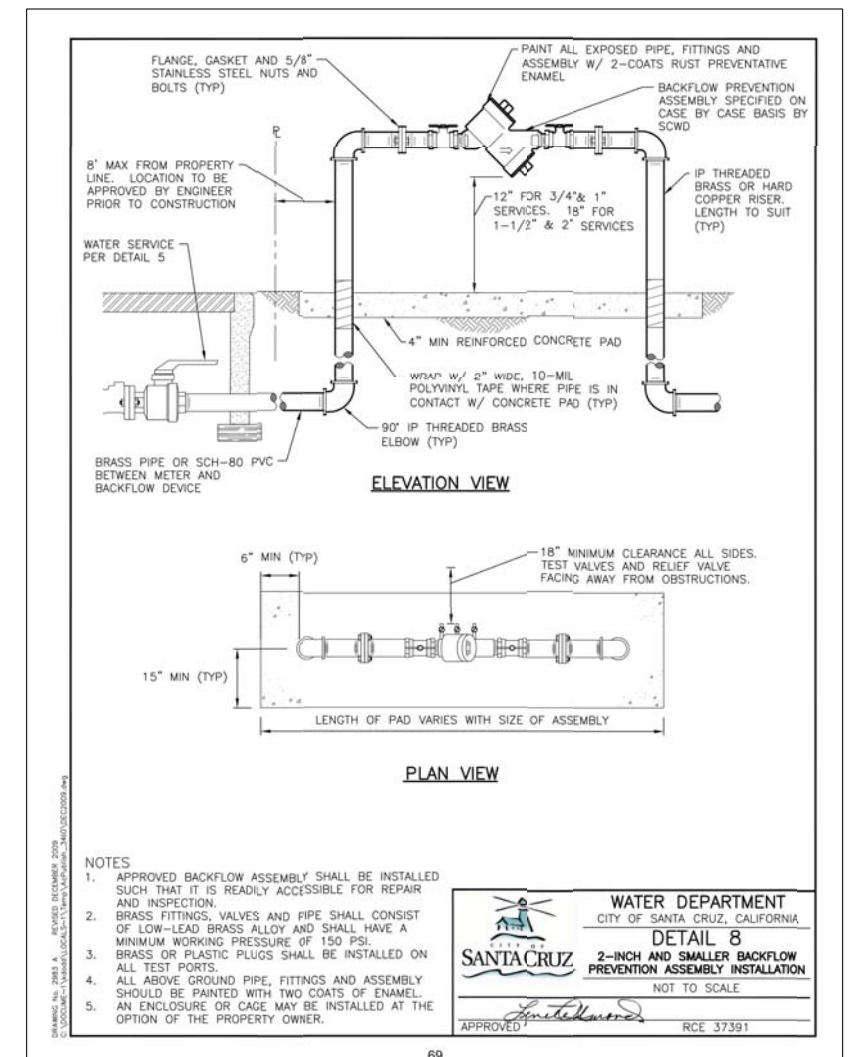
2 DRIP IRRIGATION TUBING LATERAL CONNECTION
6" = 1'-0"

DL-IR-SPR-DRIP-38



3 FLUSH VALVE - MANUAL - TERMINAL END
6" = 1'-0"

DL-IR-SPR-DRIP-30



NOTES

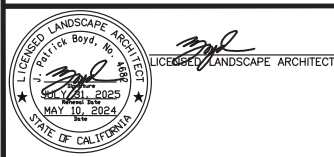
- APPROVED BACKFLOW ASSEMBLY SHALL BE INSTALLED SUCH THAT IT IS READILY ACCESSIBLE FOR REPAIR AND INSPECTION.
- BRASS FITTINGS, VALVES AND PIPE SHALL CONSIST OF LOW-LEAD BRASS ALLOY AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.
- BRASS OR PLASTIC PLUGS SHALL BE INSTALLED ON ALL TEST PORTS.
- ALL ABOVE GROUND PIPE, FITTINGS AND ASSEMBLY SHOULD BE PAINTED WITH TWO COATS OF ENAMEL. AN ENCLOSURE OR CAGE MAY BE INSTALLED AT THE OPTION OF THE PROPERTY OWNER.

WATER DEPARTMENT
CITY OF SANTA CRUZ, CALIFORNIA
DETAIL 8
2-INCH AND SMALLER BACKFLOW PREVENTION ASSEMBLY INSTALLATION
NOT TO SCALE

APPROVED: *[Signature]* RCE 37391

69

ISS-1



PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY	KJ	CHECKED	PB	
DETAILS	BY	KJ	CHECKED	PB	
QUANTITIES	BY	KJ	CHECKED	PB	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0	1	2	3

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Studio: 559.472.9966 Fax: 559.472.9969

BRIDGE NO.
36C0108
CONTRACT NO.
EA NO.

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
IRRIGATION SPRINKLER SCHEDULE, QUANTITY AND DETAILS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

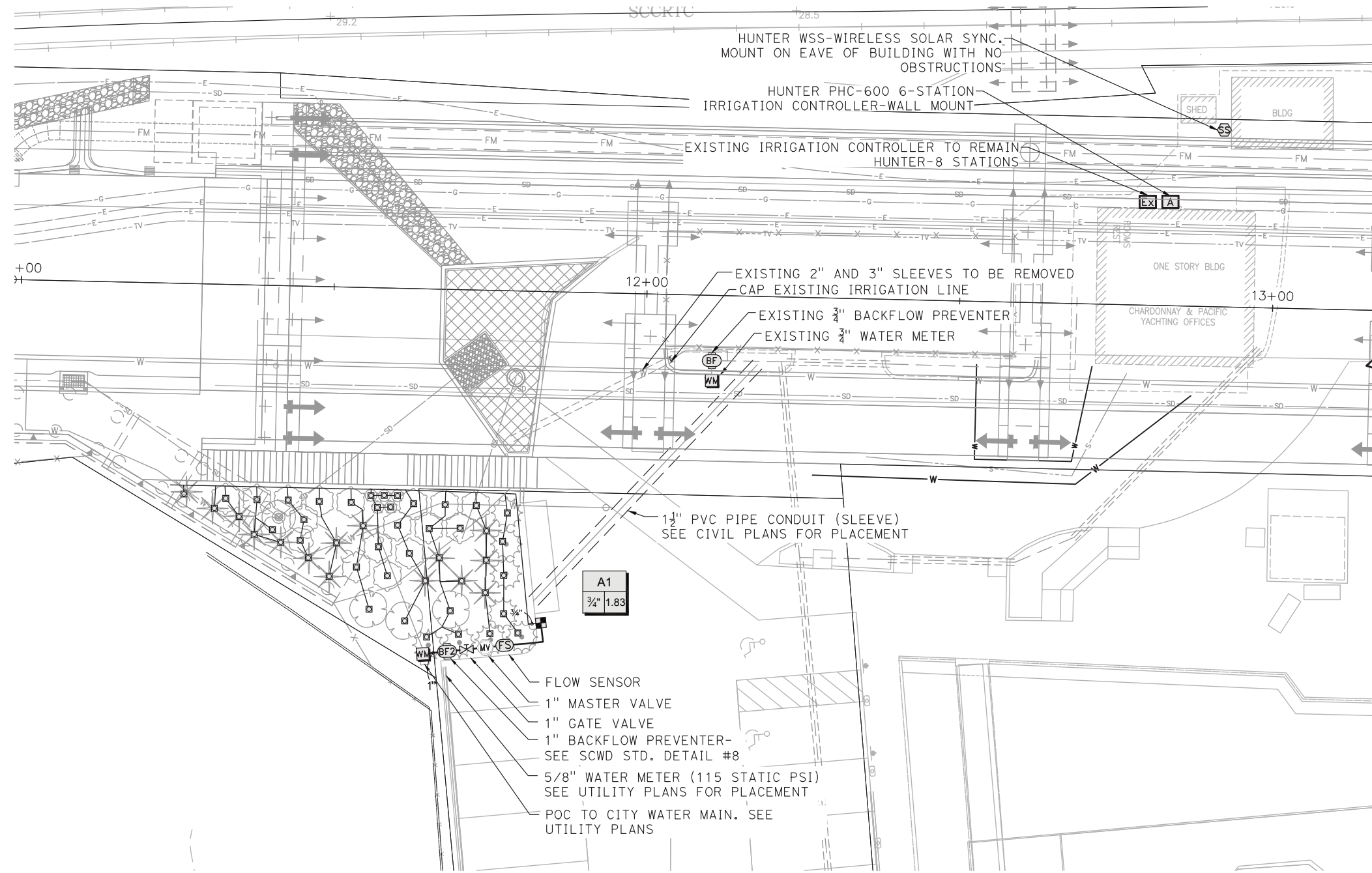
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SCALE N/A
SHEET 101 OF 196
VAULT NO.

VALVE CALLOUT:



WEST END PHASE

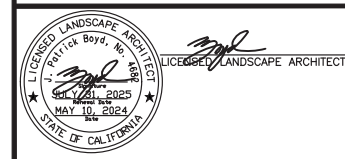


I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.

J. PATRICK BOYD
LLA No. 4682

05-10-2024
DATE:

IP-1



PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY	KJ	CHECKED	PB	
DETAILS	BY	KJ	CHECKED	PB	
QUANTITIES	BY	KJ	CHECKED	PB	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0	1	2	3

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BRIDGE NO.
36C0108
CONTRACT NO.
EA NO.

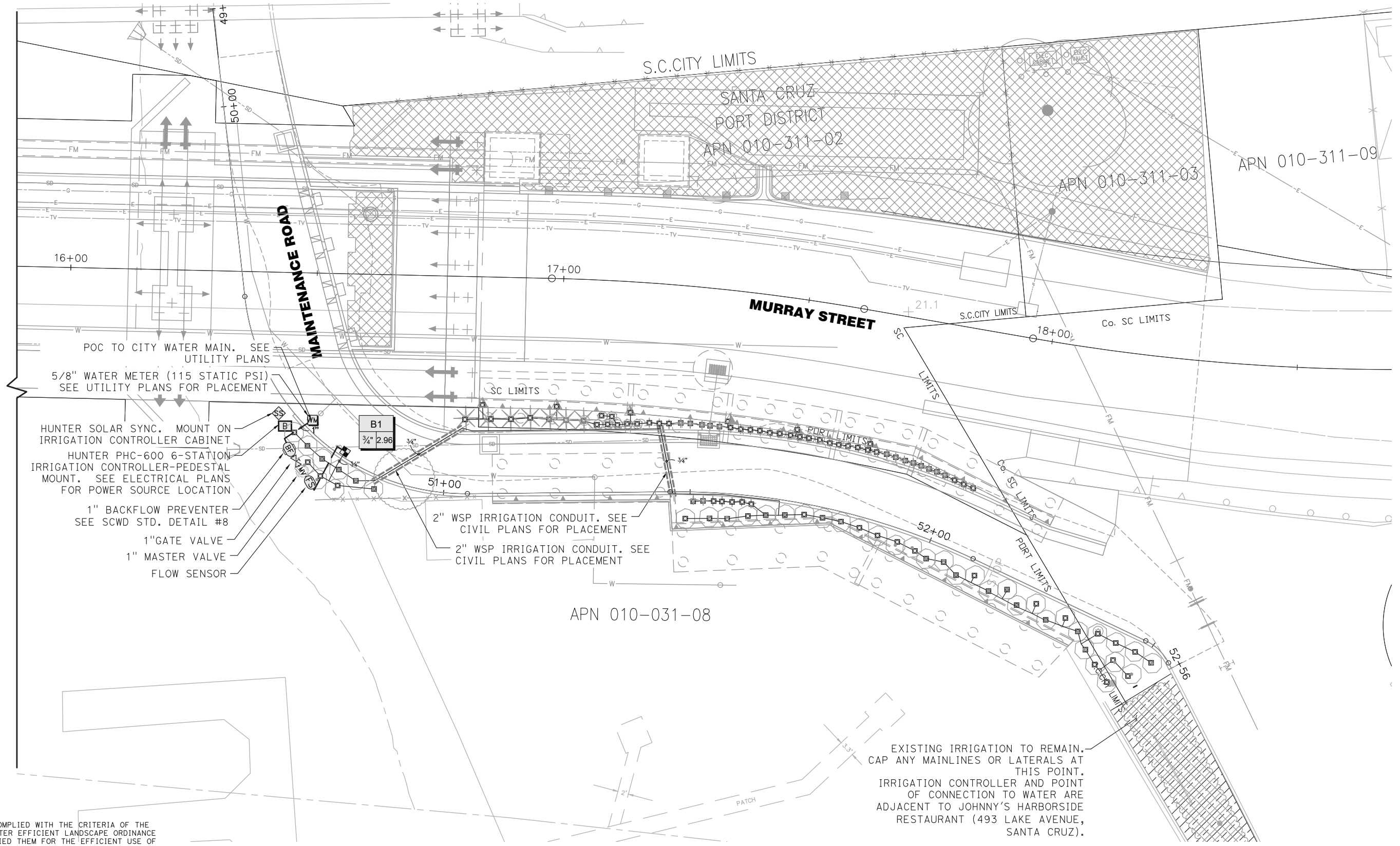
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
IRRIGATION PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)									

SCALE 1"=10'-0"
SHEET 102 OF 196
VAULT NO.

EAST END PHASE

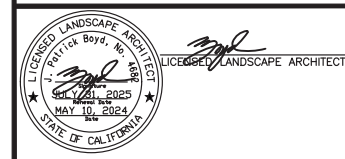


- HUNTER SOLAR SYNC. MOUNT ON IRRIGATION CONTROLLER CABINET
- HUNTER PHC-600 6-STATION IRRIGATION CONTROLLER-PEDESTAL MOUNT. SEE ELECTRICAL PLANS FOR POWER SOURCE LOCATION
- 1" BACKFLOW PREVENTER SEE SCWD STD. DETAIL #8
- 1" GATE VALVE
- 1" MASTER VALVE
- FLOW SENSOR

- 2" WSP IRRIGATION CONDUIT. SEE CIVIL PLANS FOR PLACEMENT
- 2" WSP IRRIGATION CONDUIT. SEE CIVIL PLANS FOR PLACEMENT

EXISTING IRRIGATION TO REMAIN. CAP ANY MAINLINES OR LATERALS AT THIS POINT. IRRIGATION CONTROLLER AND POINT OF CONNECTION TO WATER ARE ADJACENT TO JOHNNY'S HARBORSIDE RESTAURANT (493 LAKE AVENUE, SANTA CRUZ).

I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.
 J. FARRICK BOYD
 LLA No. 4682
 DATE: 05-10-2024



PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY PBKJ	CHECKED KJ PB
DETAILS	BY KJ	CHECKED PB
QUANTITIES	BY KJ	CHECKED PB
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

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BRIDGE NO. 36C0108
 CONTRACT NO.
 EA NO.

MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
 IRRIGATION PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE 1"=10'-0"
 SHEET 103 OF 196
 VAULT NO.

**IRRIGATION QUANTITIES
(LATERAL SUPPLY SIDE OF
CONTROL VALVE)**

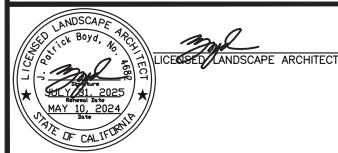
CONTROLLER LETTER	VALVE NUMBER	3/4" PLASTIC PIPE(SCH 40) SUPPLY LINE	1/2" DRIP IRRIGATION TUBING	SPRINKLER ASSEMBLY (N)
				DRIP EMITTER
		LF	LF	EA
A	1	25	260	49
B	1	110	325	104
TOTAL		135	585	

(N) - NOT A SEPARATE BID ITEM

**IRRIGATION QUANTITIES
(MAIN SUPPLY SIDE OF
CONTROL VALVE)**

SHEET NUMBER	6-STATION IRRIGATION CONTROLLER-WALL MOUNT	6-STATION IRRIGATION CONTROLLER-PEDESTAL MOUNT	1" BACKFLOW PREVENTER ASSEMBLY	FLOW SENSOR	VALVES			1" PLASTIC PIPE (SCH 40) SUPPLY LINE
					1" MASTER VALVE	1" GATE VALVE	3/4" DRIP VALVE ASSEMBLY	
IP-1	1		1	1	1	1	1	25
IP-2		1	1	1	1	1	1	25
TOTAL	1	1	2	2	2	2	2	50

IQ-1



PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY	KJ	CHECKED	PB
DETAILS	BY	KJ	CHECKED	PB
QUANTITIES	BY	KJ	CHECKED	PB

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

0 1 2 3

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BRIDGE NO.
36C0108
CONTRACT NO.
EA NO.

**MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT**
IRRIGATION QUANTITIES

DISREGARD PRINTS BEARING
EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SCALE N/A
SHEET 104 OF 196
VAULT NO.

HYDROSEED

ITEM	MATERIAL	MATERIAL TYPE	DEPTH	APPLICATION RATE
HYDROSEED	SEED	SEED MIX		19 LB/ACRE
	FIBER	WOOD		500 LB/ACRE
	TACKIFIER	PSYLLIUM		150 LB/ACRE

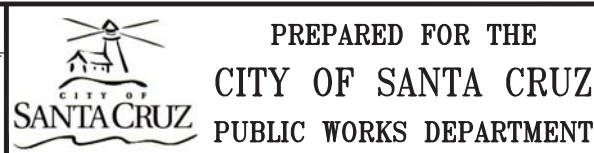
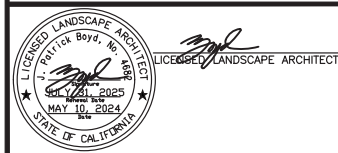
EROSION CONTROL QUANTITIES

SHEET NUMBER	DESCRIPTION	HYDROSEED
		SQFT
EC-1	HYDROSEED	600
EC-2	HYDROSEED	5,190

SEED MIX

BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
BROMUS CARINATUS (CALIFORNIA BROME)	90	8
ELYMUS GLAUCUS (BLUE WILDRYE)	80	8
ESCHSCHOLZIA CALIFORNICA (CALIFORNIA POPPY)	85	1
LUPINUS BICOLOR (BICOLOR LUPINE)	85	2

ECL-1



DESIGN	BY	KJ	CHECKED	PB
DETAILS	BY	KJ	CHECKED	PB
QUANTITIES	BY	KJ	CHECKED	PB

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

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 P.O. Box 27616 Fresno, CA 93729
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BRIDGE NO.
36C0108
 CONTRACT NO.
 EA NO.

**MURRAY STREET BRIDGE
 SEISMIC RETROFIT AND BARRIER REPLACEMENT**

EROSION CONTROL LEGEND

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

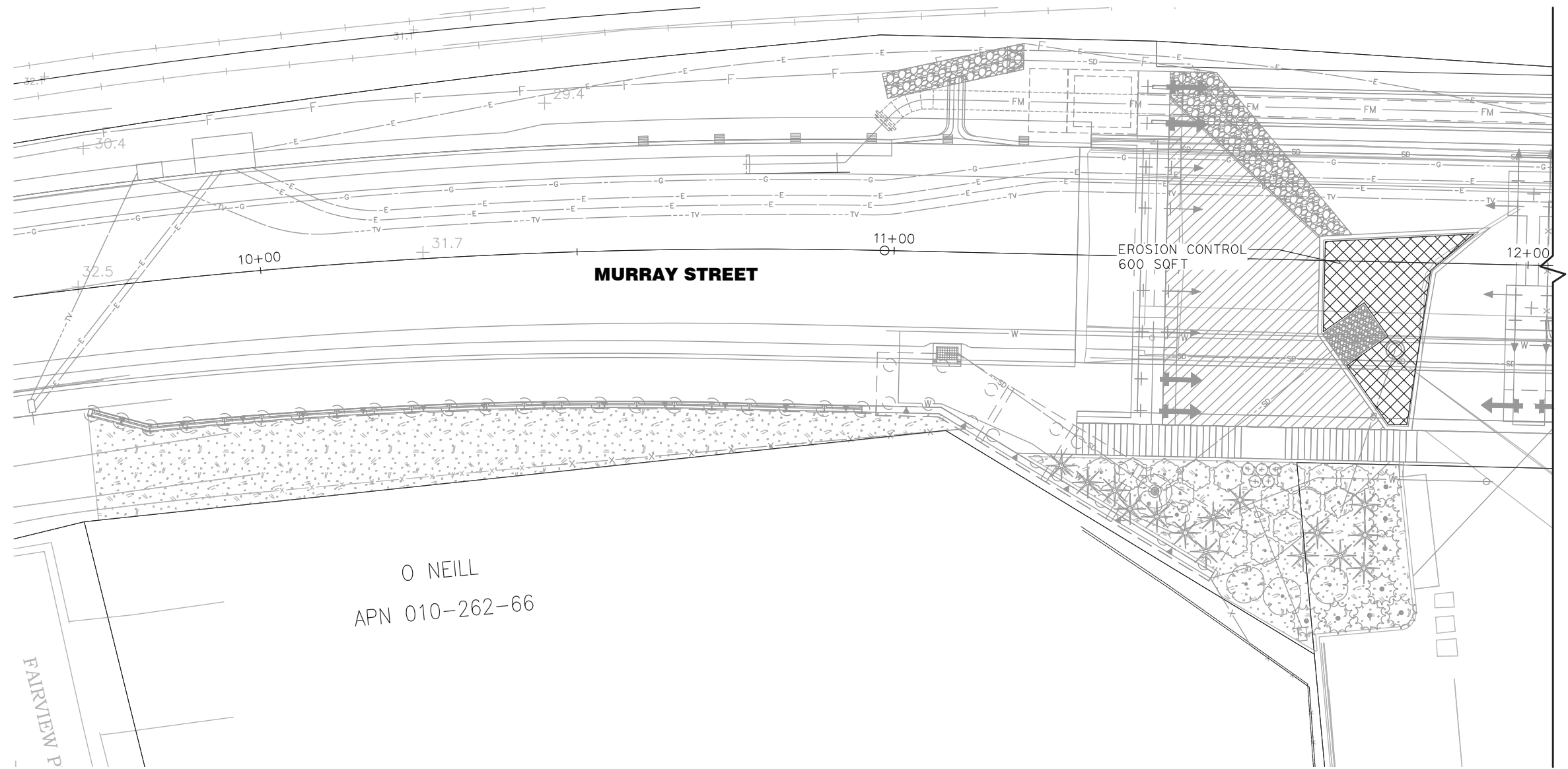
REVISION DATES (PRELIMINARY STAGE ONLY)									

SCALE **NO SCALE**
 SHEET 105 OF 196
 VAULT NO.

LEGEND:

 EROSION CONTROL

WEST END PHASE



O NEILL
APN 010-262-66

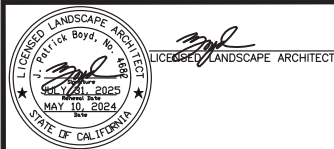
FAIRVIEW P

I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.

J. PATRICK BOYD
LLA No. 4682

05-10-2024
DATE:

EC-1



PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY	KJ	CHECKED	PB	
DETAILS	BY	KJ	CHECKED	PB	
QUANTITIES	BY	KJ	CHECKED	PB	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0	1	2	3

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P.O. Box 27616 Fresno, CA 93729
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BRIDGE NO.
36C0108
CONTRACT NO.
EA NO.

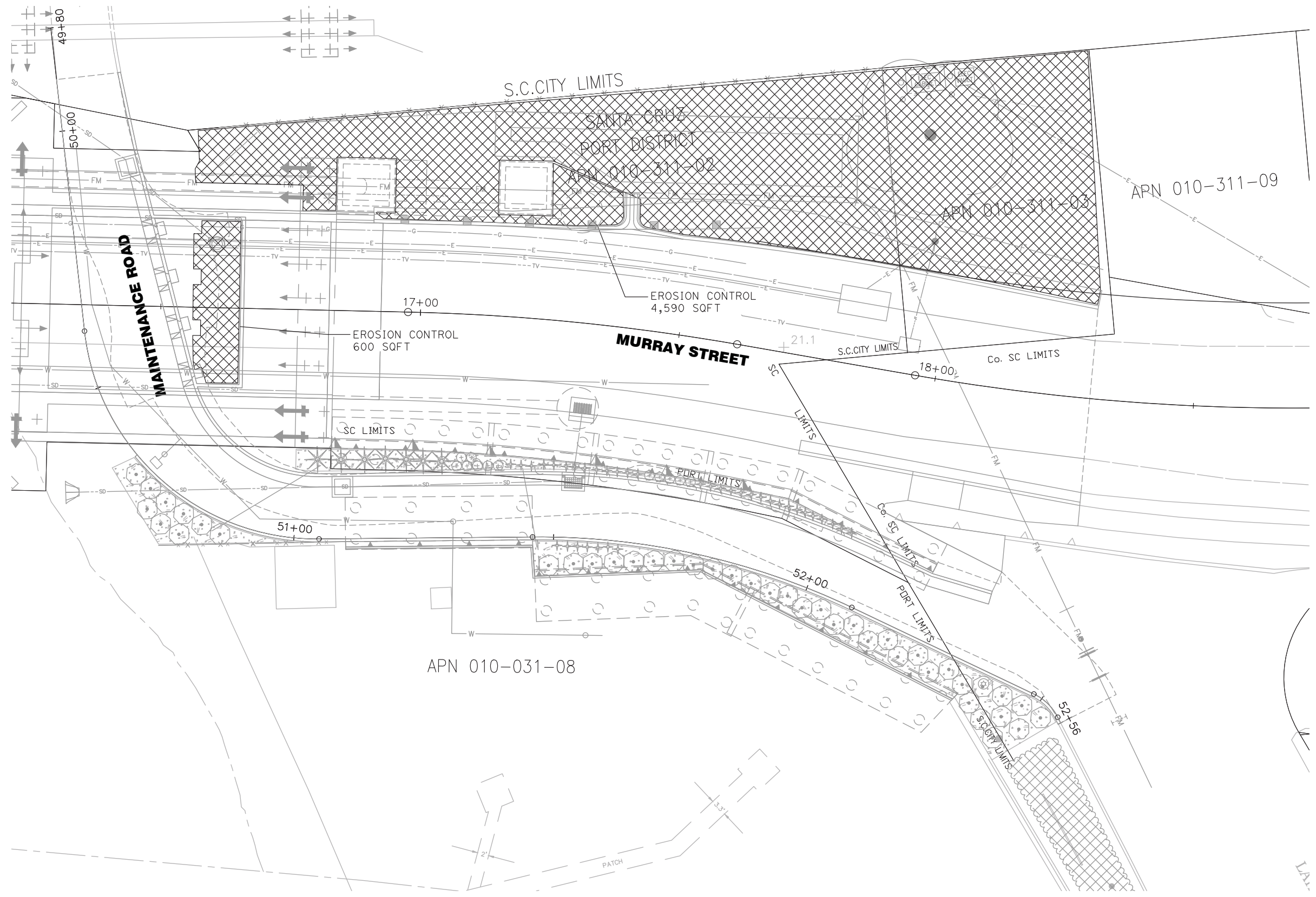
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
EROSION CONTROL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

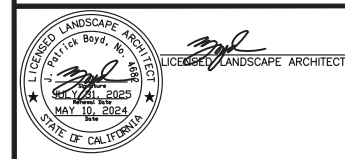
REVISION DATES (PRELIMINARY STAGE ONLY)	

SCALE 1"=10'-0"
SHEET 106 OF 196
VAULT NO.

EAST END PHASE



EC-2



PREPARED FOR THE
CITY OF SANTA CRUZ
 PUBLIC WORKS DEPARTMENT

DESIGN	BY	KJ	CHECKED	PB
DETAILS	BY	KJ	CHECKED	PB
QUANTITIES	BY	KJ	CHECKED	PB

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
---	---	---	---

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 P.O. Box 27616 Fresno, CA 93729
 Studio: 559.472.9966 Fax: 559.472.9969

BRIDGE NO.
36C0108
 CONTRACT NO.
 EA NO.

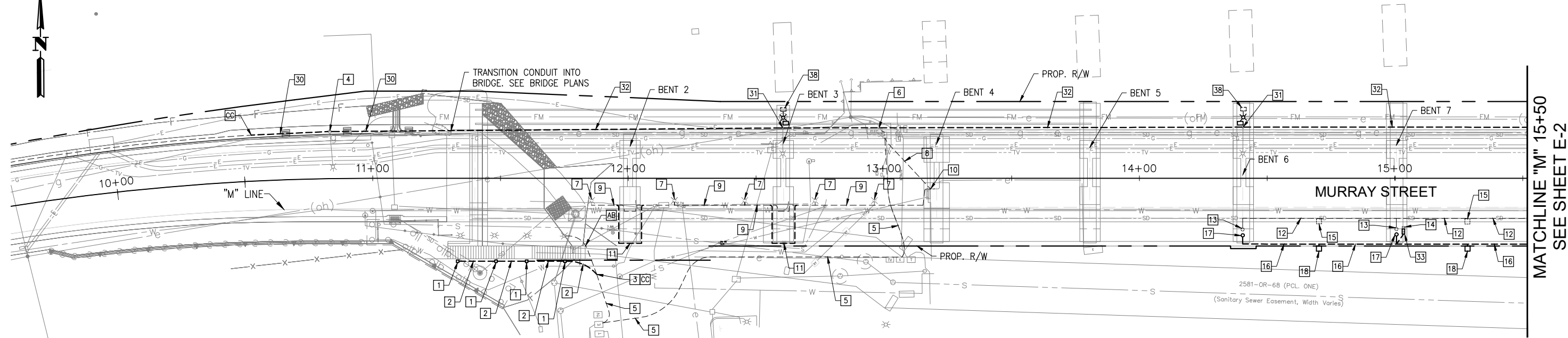
MURRAY STREET BRIDGE
SEISMIC RETROFIT AND BARRIER REPLACEMENT
EROSION CONTROL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)									

SCALE 1"=10'-0"
 SHEET 107 OF 196
 VAULT NO.

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.



MATCHLINE "M" 15+50
SEE SHEET E-2

CONSTRUCTION NOTES (ELECTRICAL SHEETS ONLY)

- 1] CONSTRUCT CONCRETE STEP LIGHT BOLLARD WITH LOUVERED LED LIGHT FIXTURE. SEE DETAIL ON SHEET C-6.
- 2] FURNISH AND INSTALL 3/4" PVC CONDUIT WITH 2 #10 (STAIRWAY LIGHTING) AND 1 #10 (GROUND).
- 3] CONNECT NEW CONDUIT TO EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS BACK TO POINT OF CONNECTION FOR STAIRWAY LIGHTING PRIOR TO CUTTING EXISTING CONDUIT.
- 4] REMOVE STREET LIGHT POLE, FOUNDATION, CONDUCTORS AND CONDUIT AS NECESSARY FOR SEWER CONSTRUCTION. CONSTRUCT NEW FOUNDATION PER CITY OF SANTA CRUZ STANDARD DRAWING ELECTROLIER (TYPE I). CONFIRM BOLT PATTERN OF EXISTING POLE PRIOR TO CONSTRUCTING NEW FOUNDATION. RE-INSTALL EXISTING POLE WITH NEW CONDUIT AND CONDUCTORS AS NECESSARY.
- 5] EXISTING 3/4" PVC CONDUIT. CONTRACTOR TO CONFIRM LOCATION, SIZE, AND CONTENTS. REMOVE EXISTING STAIRWAY LIGHTING AND GROUND CONDUCTORS (BECOME PROPERTY OF CONTRACTOR.) FURNISH AND INSTALL NEW 2 #10 (STAIRWAY LIGHTING) AND 1 #10 (GROUND).
- 6] POINT OF CONNECTION FOR SOFFIT LIGHTING (WEST END) AND STAIRWAY LIGHTING.
- 7] REMOVE EXISTING SOFFIT LIGHT & FURNISH SOFFIT LUMINAIRE PER CALTRANS STD. ES-9E DETAIL P.
- 8] MAINTAIN EXISTING UNDERGROUND SOFFIT LIGHTING CONDUIT. REMOVE EXISTING CONDUCTORS TO POINT OF CONNECTION FOR SOFFIT LIGHTING (BECOME PROPERTY OF CONTRACTOR.) FURNISH AND INSTALL 2 #10 (SOFFIT LIGHTING) AND 1 #10 (GROUND).
- 9] EXISTING 3/4" CONDUIT MOUNTED TO BRIDGE STRUCTURE FOR SOFFIT LIGHTING. REMOVE EXISTING CONDUCTORS TO POINT OF CONNECTION FOR SOFFIT LIGHTING (BECOME PROPERTY OF CONTRACTOR.) FURNISH AND INSTALL 2 #10 (SOFFIT LIGHTING) AND 1 #10 (GROUND).
- 10] EXISTING CONDUIT TRANSITIONS FROM UNDERGROUND TO VERTICAL COLUMN MOUNTED. REMOVE EXISTING CONDUCTORS TO POINT OF CONNECTION FOR SOFFIT LIGHTING (BECOME PROPERTY OF CONTRACTOR.) FURNISH AND INSTALL 2 #10 (SOFFIT LIGHTING) AND 1 #10 (GROUND).
- 11] EXISTING CONDUIT TRANSITIONS AROUND THE BENT AND GIRDER. REMOVE EXISTING CONDUIT BETWEEN CONDUIT BODIES. REMOVE EXISTING CONDUCTORS TO POINT OF CONNECTION FOR SOFFIT LIGHTING (BECOME PROPERTY OF CONTRACTOR.) FURNISH AND INSTALL NEW 3/4" TYPE NM FLEXIBLE CONDUIT AND LB CONDUIT BODIES AS NECESSARY TO TRANSITION AROUND NEW BENT EXTENSION AND GIRDERS (SEE DETAIL 1 ON SHEET E-2.) FURNISH AND INSTALL 2 #10 (SOFFIT LIGHTING) AND 1 #10 (GROUND).
- 12] REMOVE EXISTING BRIDGE-MOUNTED CONDUIT AND CONDUCTORS (BECOME PROPERTY OF CONTRACTOR.)
- 13] REMOVE AND SALVAGE EXISTING RED NAVIGATION LIGHT MOUNTED ON TOP OF FOOTING.
- 14] REMOVE AND SALVAGE EXISTING AERATOR STARTER BOX.
- 15] REMOVE AND SALVAGE EXISTING GREEN NAVIGATION LIGHT AND SWIVEL MOUNTING FROM OUTER EDGE OF BRIDGE RAILING.
- 16] FURNISH AND INSTALL 1.25" TYPE NM FLEXIBLE CONDUIT MOUNTED TO BOTTOM OF BRIDGE DECK BELOW BRIDGE RAIL. USE CONDUIT BODIES AS NECESSARY TO MAKE 90-DEGREE TURNS. FURNISH AND INSTALL 2 #10 (NAVIGATION LIGHTING), 3 #6 (AERATOR STARTER BOX), AND 1 #8 (GROUND).
- 17] FURNISH AND INSTALL 180-DEGREE RED PIER LIGHT WITH ALUMINUM HOUSING (EDKO FEDERAL SERIES TYPE 1 PIER LIGHT, B&B ROADWAY PL PIER LIGHT, OR APPROVED EQUAL).
- 18] FURNISH AND INSTALL 360-DEGREE GREEN NAVIGATION LIGHT WITH ALUMINUM HOUSING WITH SWIVEL ARM (EDKO FEDERAL SERIES TYPE 1-P PILOT TYPE NAVIGATION LIGHT, B&B ROADWAY CC CENTER CHANNEL LIGHT, OR APPROVED EQUAL). BASE SHALL BE MOUNTED IN A POSITION, AND ARM SHALL BE OF AN APPROPRIATE LENGTH, TO ALLOW THE LIGHT TO EXTEND BELOW THE BOTTOM OF THE BRIDGE DECK (VISIBLE FROM 360-DEGREES) AND ALSO SWIVEL TO THE TOP OF BRIDGE RAIL FOR BULB REPLACEMENT.
- 19] EXISTING 2" PVC CONDUIT CONTAINING MAIN FEED TO SERVICE PANEL. PULL BACK CONDUCTORS. REMOVE AND DISPOSE OF EXISTING CONDUIT WITHIN LIMITS OF NEW FOUNDATION. CONNECT NEW CONDUIT TO EXISTING CONDUIT. CONTRACTOR SHALL COORDINATE SHUTDOWN OF POWER WITH PG&E & SANTA CRUZ HARBOR. CONTRACTOR TO PROVIDE TEMPORARY POWER TO MAINTAIN 24-HOUR OPERATION OF NAVIGATION LIGHTS.
- 20] EXISTING 2" PVC CONDUIT CONTAINING DREDGE DISCONNECT CONDUCTORS (EXISTING BREAKERS 14, 16, AND 18) AND BOOSTER CONDUCTORS (EXISTING BREAKERS 15 AND 17). PULL BACK CONDUCTORS. REMOVE AND DISPOSE OF EXISTING CONDUIT WITHIN LIMITS OF NEW FOUNDATION. CONNECT NEW CONDUIT TO EXISTING CONDUIT. CONTRACTOR SHALL COORDINATE SHUTDOWN OF POWER WITH SANTA CRUZ HARBOR. CONTRACTOR TO PROVIDE TEMPORARY POWER TO MAINTAIN 24-HOUR OPERATION OF DREDGE AND BOOSTER.
- 21] EXISTING 1" PVC CONDUIT CONTAINING RAILROAD BRIDGE AERATOR CONDUCTORS (EXISTING BREAKERS 8, 10, AND 12) WITH NORTH PATHWAY LIGHTING SPLICED TO THEM. PULL BACK CONDUCTORS. REMOVE AND DISPOSE OF EXISTING CONDUIT WITHIN LIMITS OF NEW FOUNDATION. CONNECT NEW CONDUIT TO EXISTING CONDUIT. CONTRACTOR SHALL COORDINATE SHUTDOWN OF POWER WITH SANTA CRUZ HARBOR. CONTRACTOR TO PROVIDE TEMPORARY POWER TO MAINTAIN 24-HOUR OPERATION OF AERATOR.

- 22] EXISTING EMPTY 2" PVC CONDUIT. CONNECT NEW CONDUIT TO EXISTING CONDUIT NEAR NEW SERVICE PANEL.
 - 23] FURNISH AND INSTALL 2" PVC CONDUIT WITH 2 #10 (PATHWAY LIGHTING) AND 1 #10 (GROUND).
 - 24] REMOVE AND DISPOSE OF EXISTING 120/208 VOLT SERVICE PANEL, ENCLOSURE, AND PHOTOELECTRIC CELL. DISCONNECT EXISTING CIRCUITS. PROVIDE TEMPORARY POWER TO ALL EXISTING CIRCUITS TO MAINTAIN CONTINUOUS 24-HOUR OPERATION.
 - 25] FURNISH AND INSTALL NEW SERVICE PANEL (255-AMP MAIN CIRCUIT BREAKER, 120/208 VOLT, 3-PHASE, 4-WIRE, 60 Hz) WITH WALL-MOUNTED NEMA TYPE 4X ENCLOSURE. ENCLOSURE SHALL ACCOMMODATE ALL CONDUITS INDICATED ON THE PLANS AND SHALL BE EQUIPPED WITH A PHOTOELECTRIC UNIT TO CONTROL THE SOFFIT LIGHTING. SERVICE PANEL SHALL HAVE THE FOLLOWING CIRCUIT BREAKERS:
- | CIRCUIT BREAKER | DESCRIPTION |
|-----------------|--|
| 20A, 120V, 1P | LIGHTING CONTACTOR (SOFFIT LIGHT) |
| 20A, 120V, 1P | MURRAY BRIDGE NAVIGATION LIGHTS |
| 20A, 120V, 1P | PATHWAY LIGHTING |
| 40A, 208V, 3P | MURRAY BRIDGE AERATOR |
| 30A, 208V, 2P | BOOSTER PUMP (DREDGE) |
| 20A, 120V, 1P | PHOTO CELL (SOFFIT LIGHT) |
| 20A, 120V, 1P | RAILROAD BRIDGE NAVIGATION LIGHTS & NORTH LIGHTING |
| 20A, 120V, 1P | IRRIGATION |
| 40A, 208V, 3P | RAILROAD BRIDGE AERATOR |
| 100A, 208V, 3P | DREDGE DISCONNECT |
| 20A, 120V, 1P | SPARE |
| 20A, 120V, 1P | SPARE |
- 26] TRANSITION UNDERGROUND CONDUIT INTO RETAINING WALL-SEE RETAINING WALL PLANS.
 - 27] FURNISH AND INSTALL 2" CONDUIT WITHIN PROPOSED RETAINING WALL (SEE RETAINING WALL PLANS) WITH 2 #10 (PATHWAY LIGHTING) AND 1 #10 (GROUND).
 - 28] REMOVE AND SALVAGE EXISTING PATHWAY LIGHT POLE TO SANTA CRUZ HARBOR. COMPLETELY REMOVE AND DISPOSE OF EXISTING FOUNDATION. FURNISH AND INSTALL NEW LIGHT POLE (McGRAW-EDISON RSA4T12AFZ1 OR APPROVED EQUAL). RE-USE LUMINAIRE AND HOUSING ON NEW POLE. CONSTRUCT FOUNDATION SIMILAR TO CALTRANS STANDARD PLAN ES-7B, TYPE 1-A.
 - 29] REMOVE AND SALVAGE EXISTING PATHWAY LIGHT POLE TO SANTA CRUZ HARBOR. COMPLETELY REMOVE AND DISPOSE OF EXISTING FOUNDATION. FURNISH AND INSTALL NEW LIGHT POLE (McGRAW-EDISON RSA4T12AFZ1 OR APPROVED EQUAL) MOUNTED TO TOP OF RETAINING WALL (SEE RETAINING WALL PLANS). RE-USE LUMINAIRE AND HOUSING ON NEW POLE.
 - 30] WITHIN LIMITS OF NEW GUARD RAIL, FURNISH & INSTALL 2" SCH 40 PVC CONDUIT WITH 2 #8 (STREET LIGHTS) & 1 #8 (GROUND). ABANDON EXISTING CONDUIT. SPLICE NEW CONDUCTORS TO EXISTING STREET LIGHT CIRCUIT.
 - 31] RESET STRUCTURE MOUNTED ELECTROLIER. FURNISH & INSTALL PULL BOX AND CONDUIT RISER CONNECTION. SEE BRIDGE PLANS.
 - 32] FURNISH AND INSTALL 2" SCH 40 PVC CONDUIT WITH 2 #8 (STREET LIGHTS) AND 1 #8 (GROUND) WITHIN PROPOSED BRIDGE. SEE BRIDGE PLANS.
 - 33] FURNISH & INSTALL AERATOR STARTER, SQUARE D MODEL SDW12V08, OR APPROVED EQUAL.
 - 34] CONDUITS CORRESPONDING TO CONSTRUCTION NOTES 19, 20, 21, 22, & 23 SHALL BE FURNISHED & INSTALLED BETWEEN THE NEW SERVICE PANEL AND THE EXISTING CONDUIT TO REMAIN AT THE CC LOCATION, IF ANY. CONDUIT SHALL BE WALL-MOUNTED BETWEEN THE SERVICE PANEL & TOP OF FOUNDATION. CONDUIT SHALL BE MOUNTED TO THE TOP OF FOUNDATION & SIDE OF FOUNDATION, THEN UNDERGROUND BEYOND THE LIMITS OF THE FOUNDATION. CONDUIT BODIES MAY BE USED TO FACILITATE WIRE INSTALLATION AT 90° TURNS ON THE FOUNDATION AND BENT.
 - 35] FURNISH AND INSTALL CALTRANS NO. 3 1/2(E) PULL BOX.
 - 36] FURNISH AND INSTALL 2" PVC CONDUIT WITH 2 #10 (PATHWAY LIGHTING), 2 #8 (IRRIGATION), AND 1 #8 (GROUND). IRRIGATION CONDUCTORS MAY BE MODIFIED PER MANUFACTURER'S REQUIREMENTS.
 - 37] FURNISH AND INSTALL 3/4" PVC CONDUIT WITH 2 #8 (IRRIGATION) AND 1 #8 (GROUND). CONDUIT AND CONDUCTORS MAY BE MODIFIED PER MANUFACTURER'S REQUIREMENTS.
 - 38] WHEN EXISTING ELECTROLIER IS NOT FUNCTIONING OR HAS BEEN REMOVED, FURNISH, INSTALL & MAINTAIN TEMPORARY STREET LIGHT, GREENSHINE PORTA SERIES OR EQUAL WITH ILLUMINANCE SIMILAR TO CITY OF SANTA CRUZ STANDARD DETAIL ELECTROLIER (TYPE I). CONTRACTOR SHALL FURNISH ISOLUX DIAGRAMS FOR COMPARISON.

LEGEND (SHEETS E-1 & E-2 ONLY):

- EXISTING CONDUIT
- PROPOSED CONDUIT
- ✕ EXISTING SOFFIT LIGHT
- ✕ PROPOSED PATHWAY LIGHT
- AB ABANDONED. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
- CC CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
- TEMPORARY STREET LIGHT
- PULL BOX

FOR OTHER SYMBOLS REFER TO STATE STANDARD DRAWINGS.

SPECIAL NOTES

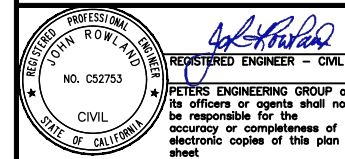
UNDERGROUND FACILITIES SHOWN WERE LOCATED BASED ON INFORMATION PROVIDED BY UTILITY COMPANIES AND BY MEASURING SURFACE FEATURES. NO ATTEMPT WAS MADE TO LOCATE OTHER UNDERGROUND FACILITIES THAT WERE NOT READILY APPARENT FROM A VISUAL INSPECTION OF SURFACE FEATURES.

CONTRACTOR SHALL VERIFY ACTUAL DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CALL "UNDERGROUND SERVICE ALERT" (U.S.A.), TOLL FREE 811 PRIOR TO TRENCHING, GRADING, EXCAVATION, DRILLING, PIPE PUSHING, PLANTING TREES, DIGGING POST HOLES FOR FENCES, ETC. U.S.A. WILL SUPPLY INFORMATION OR LOCATE AND MARK ANY UNDERGROUND FACILITIES.

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



E-1



PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. VERDUZCO	CHECKED J. ROWLAND
DETAILS	BY M. VERDUZCO	CHECKED J. ROWLAND
QUANTITIES	BY	CHECKED
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

PETERS ENGINEERING GROUP
862 POLLASKY AVENUE
DLOVIS, CALIFORNIA 93612
PHONE (559) 299-1544

BRIDGE NO. 36C0108
CONTRACT NO.
EA NO.

MURRAY STREET BRIDGE SEISMIC RETROFIT AND BARRIER REPLACEMENT ELECTRICAL PLAN

DISREGARD PRINTS BEARING EARLIER REVISION DATES

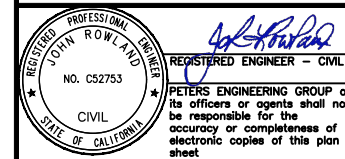
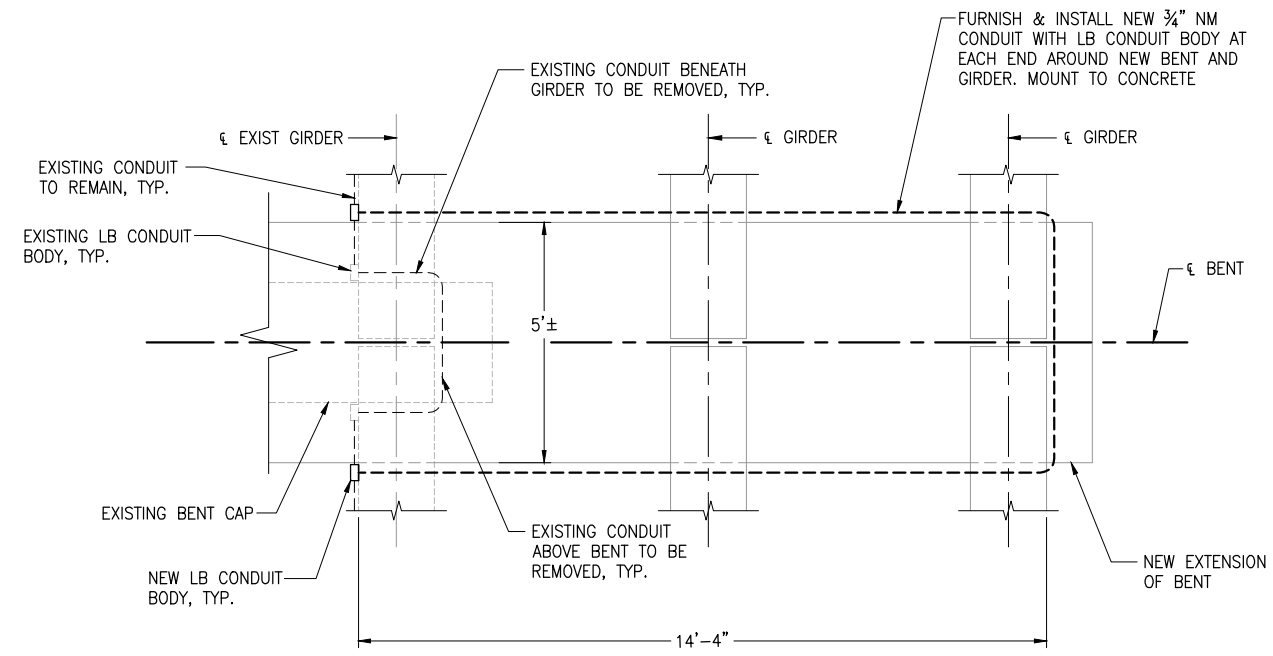
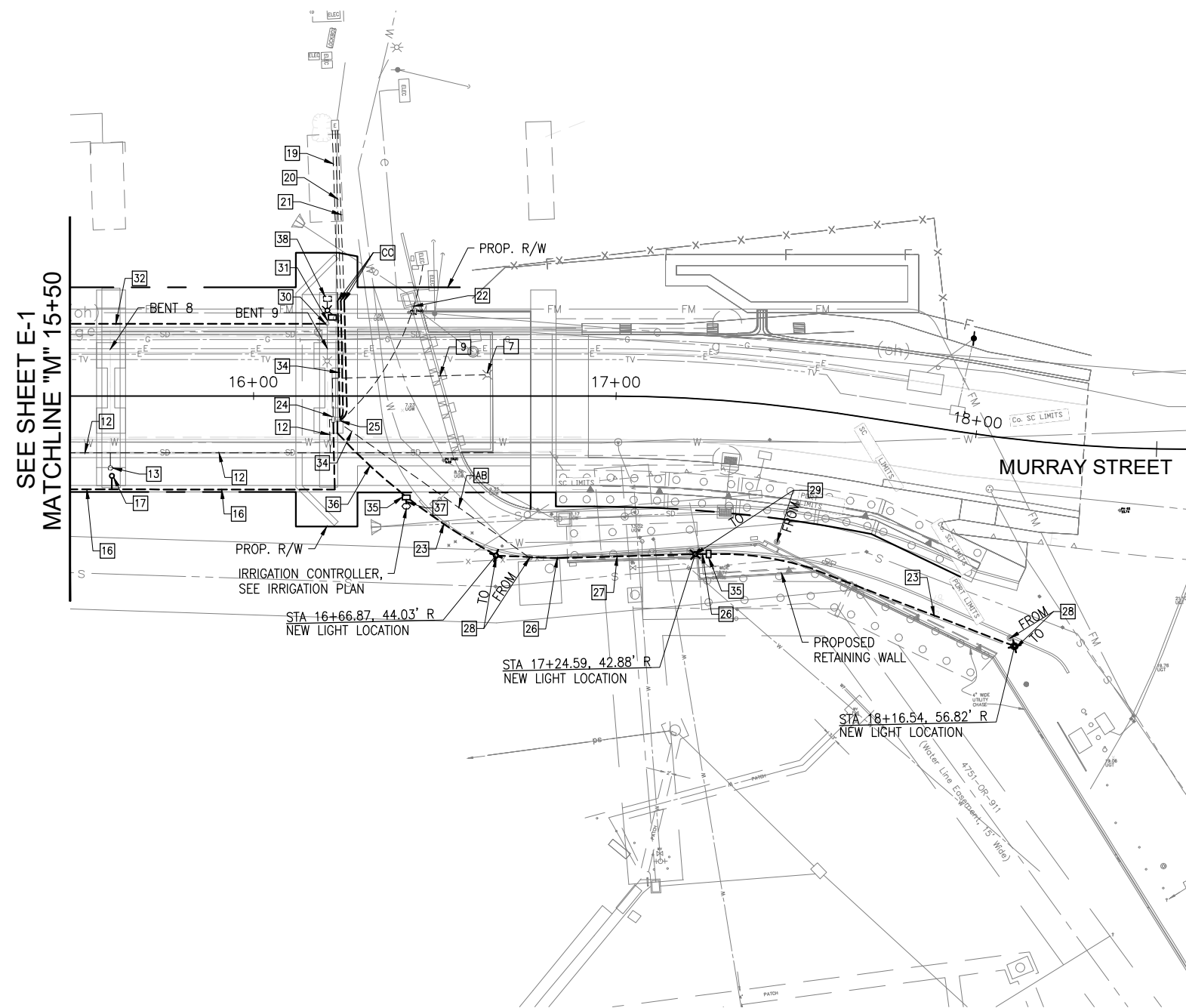
REVISION DATES (PRELIMINARY STAGE ONLY)

SCALE 1"=20'
SHEET 108 OF 196
VAULT NO.

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

GENERAL NOTES (SHEETS E-1 & E-2 ONLY)

1. WORK SHALL BE DONE IN ACCORDANCE WITH THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS, 2018 EDITION, AND THE LATEST EDITION OF THE CITY OF SANTA CRUZ STANDARD SPECIFICATIONS AND DRAWINGS.
2. THESE PLANS ARE ACCURATE FOR ELECTRICAL WORK ONLY.
3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UTILITIES WHETHER OR NOT THEY ARE SHOWN ON THESE PLANS, AND SHALL PROVIDE PROTECTION PRIOR TO, DURING, AND AFTER TRENCHING, JACKING AND/OR BORING. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) BY CALLING 811 AT LEAST TWO (2) WORKING DAYS BEFORE BEGINNING WORK.
4. CONTRACTOR SHALL ARRANGE WITH UTILITY COMPANIES FOR ALL REQUIRED UTILITY RELOCATIONS, INCLUDING OVERHEAD CONFLICTS.
5. ALL FACILITIES, INCLUDING CABINETS, PULL BOXES, AND CONDUITS, ARE SHOWN IN THEIR APPROXIMATE LOCATIONS. AFTER ALL UNDERGROUND UTILITIES ARE MARKED, THE CONTRACTOR SHALL MARK FINAL LOCATIONS IN THE FIELD AND NOTIFY THE ENGINEER AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK TO OBSERVE THE MARKED LOCATIONS.
6. NAVIGATION LIGHTS MUST BE OPERATIONAL AT ALL TIMES. CONTRACTOR SHALL FURNISH & INSTALL TEMPORARY NAVIGATION LIGHTS IF NECESSARY TO PROVIDE 24-HOUR OPERATION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY POWER.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY POWER TO ALL EXISTING CIRCUITS (DREDGE, AERATORS, NAVIGATION LIGHTS, LIGHTING, ETC.) ON A 24-HOUR BASIS DURING CONSTRUCTION. ANY DEVIATION REQUIRES THE APPROVAL OF THE ENGINEER.



PREPARED FOR THE
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT

DESIGN	BY M. VERDUZCO	CHECKED J. ROWLAND
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ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1 2 3

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REVISION DATES (PRELIMINARY STAGE ONLY)

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SCALE 1"=20'
SHEET 109 OF 196
VAULT NO.

