

Appendix A:

BB2 Removal Project Design Plans

Part A: BB2 Removal Design Plans

Part B: Creek Park Design Plans

Appendix A:

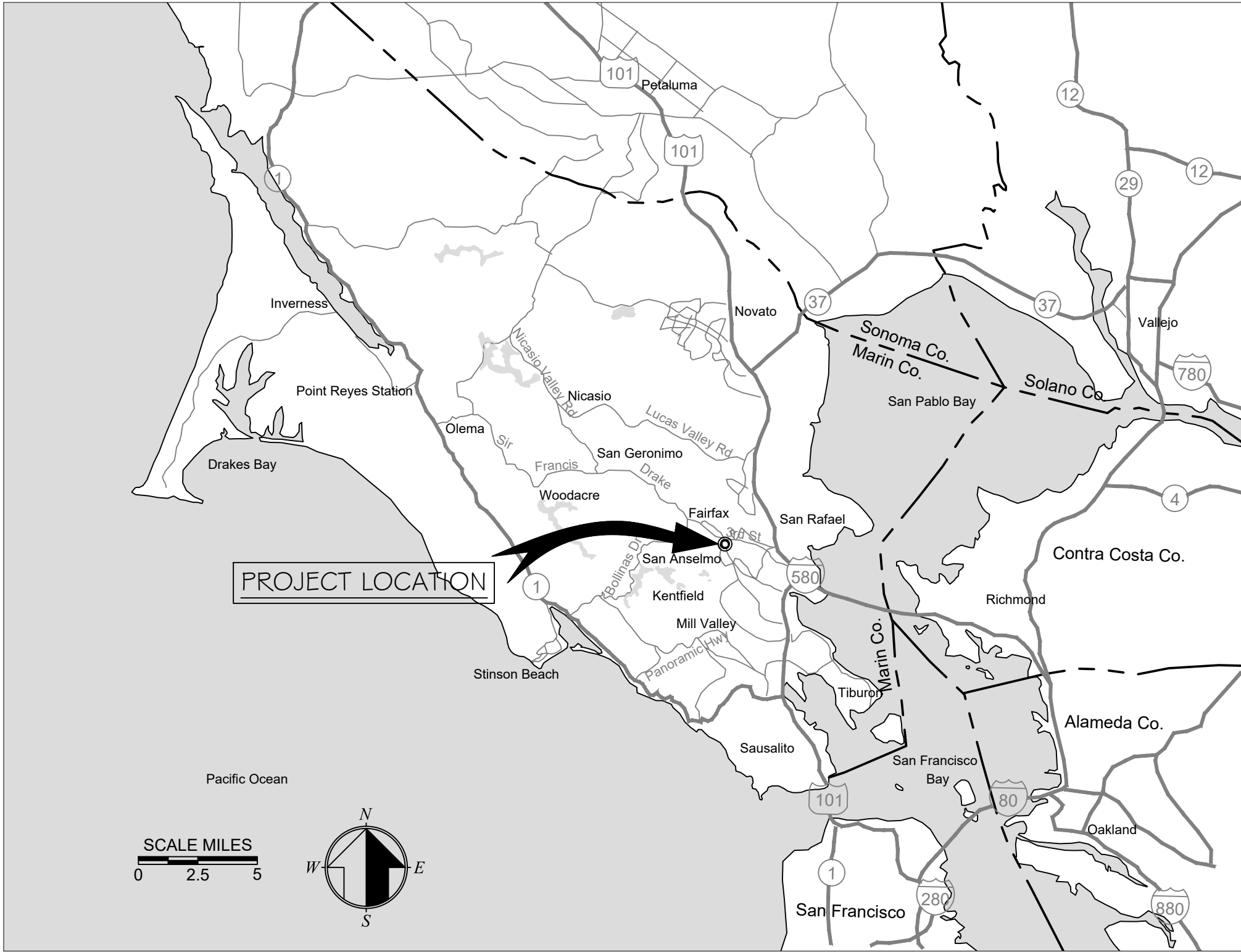
BB2 Removal Project Design Plans

Part A: BB2 Removal Design Plans

SAN ANSELMO FLOOD RISK REDUCTION PROJECT

BUILDING BRIDGE No. 2

SAN ANSELMO, CALIFORNIA



LOCATION MAP

GENERAL CIVIL NOTES:

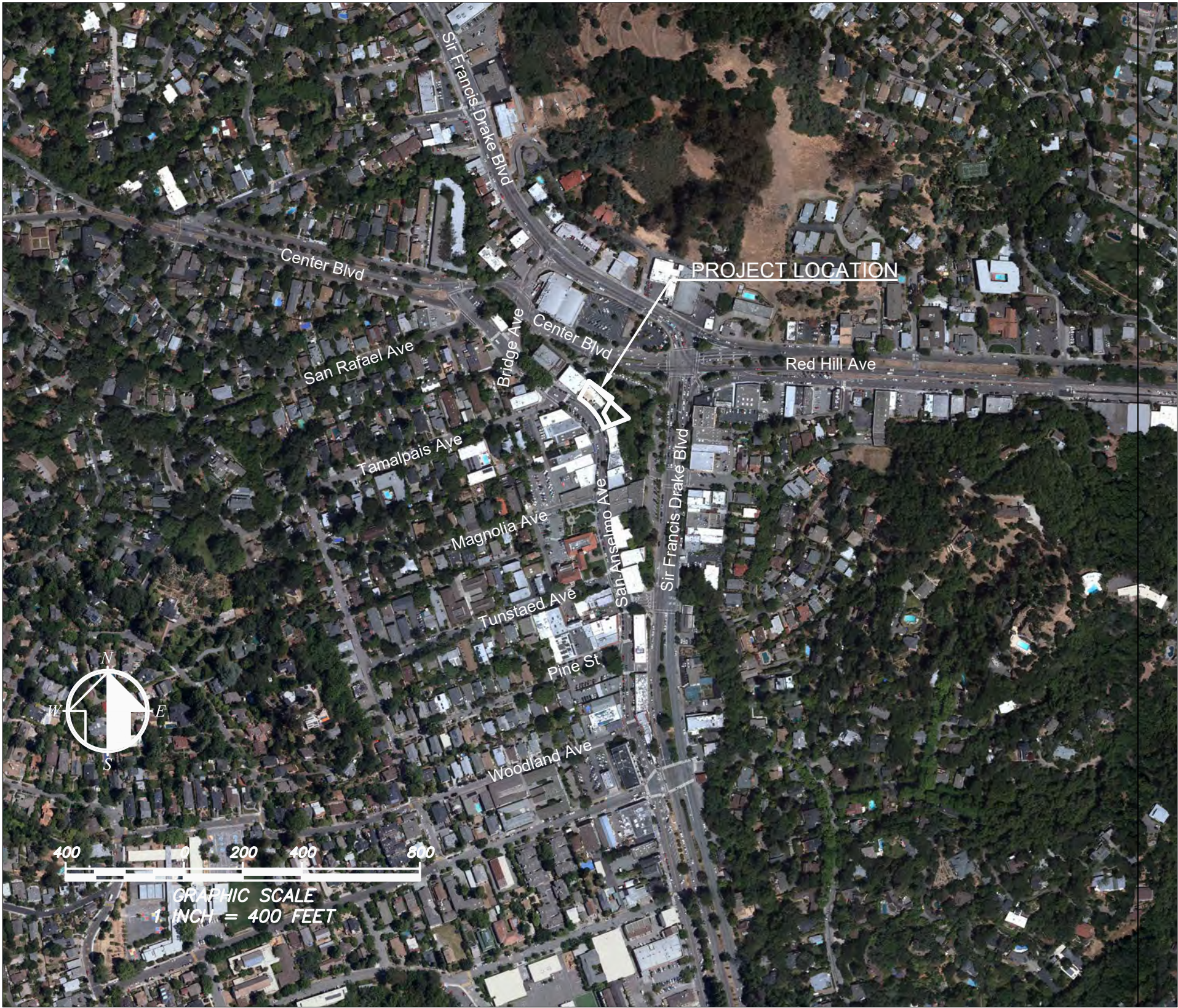
1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS OF THE SITE AND EXISTING CONDITIONS PRIOR TO COMMENCING CONSTRUCTION. IF THERE ARE ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THESE DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IN WRITING.

2. CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO ENSURE THAT ALL PROPERTY IS PROTECTED DURING THIS OPERATION. ANY DAMAGE OR CHANGED CONDITIONS SHALL BE REPAIRED AND RESTORED TO A CONDITION EQUAL TO THAT EXISTING AT THE COMMENCEMENT OF THE WORK. CONTRACTOR SHALL RESTORE ANY DAMAGE AT HIS OWN EXPENSE.

3. WORK WILL BE CONDUCTED IN AN ENVIRONMENTALLY SENSITIVE AREA; THEREFORE, THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO RESTRICT HIS OPERATIONS TO THE LEAST AREA OF WORK POSSIBLE AND SHALL NOT DISTURB PROPERTY OR THE ENVIRONMENTAL HABITAT BEYOND THE AREAS OF WORK. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE HIS WORK AREA AND KEEP THE CONSTRUCTION AREA CLEAN AND FREE OF ALL EXCESS TRASH, DEBRIS, POLLUTANTS, AND DUST AT ALL TIMES.
4. ALL WORK SHOWN HEREON SHALL BE DONE IN ACCORDANCE WITH THE UNIFORM CONSTRUCTION STANDARDS APPROVED AND ADOPTED BY THE CITIES AND TOWNS OF MARIN AND COUNTY OF MARIN, IN JULY 2018; THE STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA, BUSINESS, TRANSPORTATION AND HOUSING AGENCY, DEPARTMENT OF TRANSPORTATION, DATED 2018; THE STANDARD PLANS OF THE STATE OF CALIFORNIA, BUSINESS AND TRANSPORTATION AGENCY, DEPARTMENT OF TRANSPORTATION, DATED 2018 (IN SO FAR AS THE SAME MAY APPLY) AS MODIFIED BY THE SPECIAL PROVISIONS FOR THIS PROJECT.

LIST OF DRAWINGS		
SHEET No	DWG No.	DESCRIPTION
1	G-1	PROJECT LOCATION, GENERAL NOTES AND LIST OF DRAWINGS
2	G-2	EXISTING TOPOGRAPHY AND SURVEY CONTROL SYSTEM
3	G-3	EXISTING UTILITIES
4	G-4	LIMIT OF WORK, CONSTRUCTION ACCESS & STAGING AREAS
5	G-5	DEMOLITION PLAN - CONCRETE STRUCTURE
6	G-6	DEMOLITION PLAN - STAGE DECK AND STORM DRAINS
7	G-7	CONSTRUCTION MANAGEMENT PLAN
8	B-1	GEOLOGIC EXPLORATION LOCATIONS
9	B-2	GEOLOGIC SECTION
10	C-1	FINISHED SITE PLAN
11	C-2	RETAINING WALL - STRUCTURAL NOTES
12	C-3	RETAINING WALL - PLAN AND ELEVATION
13	C-4	RETAINING WALL - FOUNDATION PLAN AND SECTIONS
14	C-5	RETAINING WALL - DETAILS
15	C-6	CREEK PARK BRIDGE - GENERAL PLAN
16	C-7	CREEK PARK BRIDGE - FOUNDATION PLAN
17	C-8	CREEK PARK BRIDGE - ABUT 1 PLAN AND ELEVATION
18	C-9	CREEK PARK BRIDGE - ABUT 2 PLAN, ELEVATION AND SECTIONS
19	C-10	CREEK PARK BRIDGE - ABUTMENT DETAILS No. 1
20	C-11	CREEK PARK BRIDGE - ABUTMENT DETAILS No. 2
21	C-12	CREEK PARK BRIDGE - ABUTMENT DETAILS No. 3
22	C-13	SITE DRAINAGE PLAN
23	C-14	DRAINAGE ELEVATION PROFILES
24	C-15	DRAINAGE DETAILS
25	C-16	CHANNEL GRADING PLAN
26	C-17	FOOTING SCOUR AND BANK EROSION PROTECTION PLAN
27	C-18	CHANNEL GRADING SECTIONS
28	C-19	CHANNEL CONSTRUCTION DETAILS (1 OF 2)
29	C-20	CHANNEL CONSTRUCTION DETAILS (2 OF 2)
30	C-21	PLANTING PLAN
31	L-901	CREEK MAINTENANCE STEP DETAIL
32	L-903	STONE VENEER DETAIL

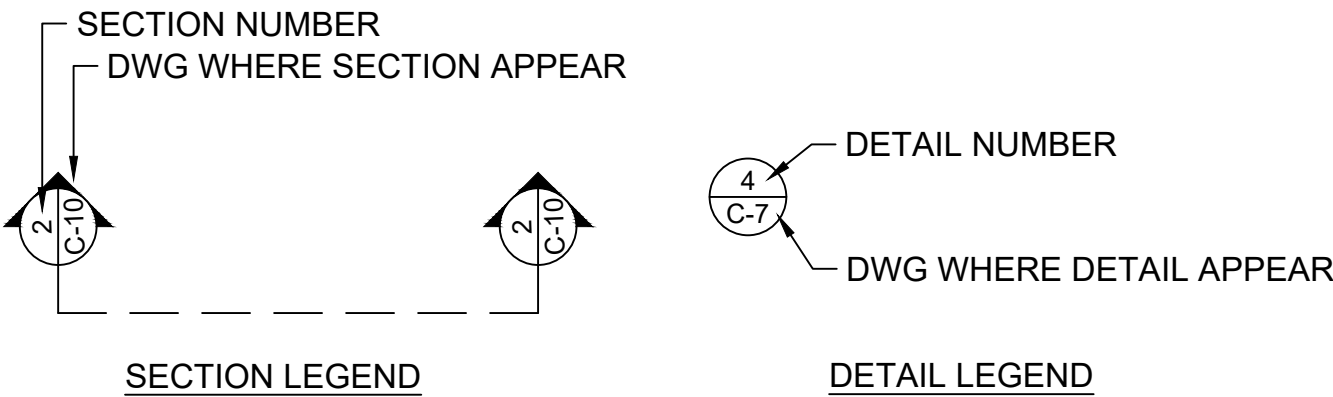
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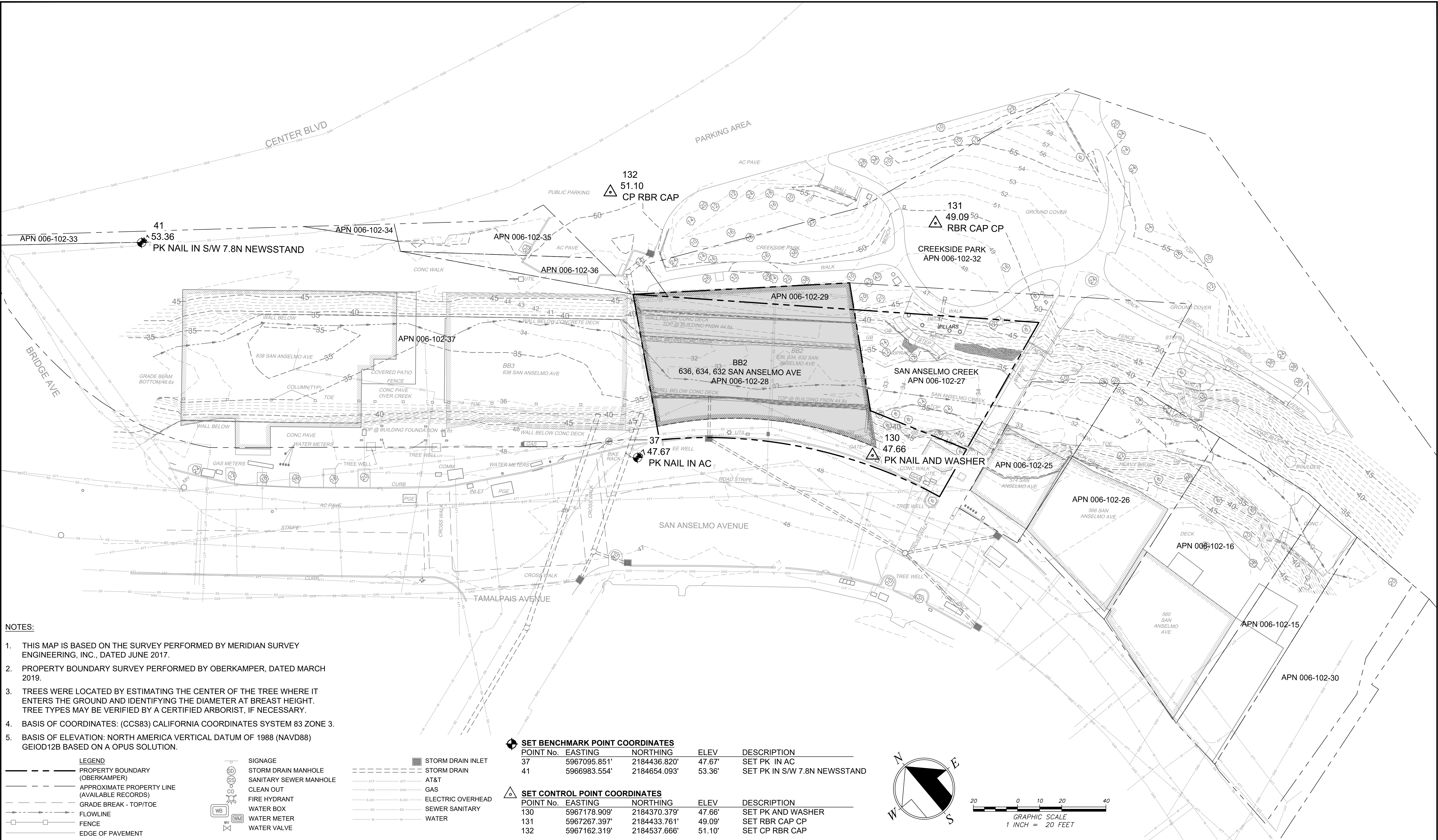
VICINITY MAP

ABBREVIATIONS

AB	AGGREGATE BASE	FF	FINISH FLOOR	PL	PROPERTY LINE
AC	ASPHALT CONCRETE	FG	FINISH GROUND	PR	PLANTED ROCK
AT	AT	FH	FIRE HYDRANT	PSI	POUND PER SQUARE INCH
@	AT	FL	FLOW LINE	PT	POINT
APPROX	APPROXIMATE	FNC	FENCE	PVC	POLYVINYL CHLORIDE PIPE
ASTM	AMERICAN INSTITUTE OF TESTING AND MATERIALS	FNDN	FOUNDATION	R	RADIUS
BLDG	BUILDING	FT	FEET	RCP	REINFORCE CONCRETE PIPE
BB2	BUILDING BRIDGE #2	GB	GRADE BREAK	RSP	ROCK SLOPE PROTECTION
BB3	BUILDING BRIDGE #3	H	HORIZONTAL	SCH	SCHEDULE
BM	BENCHMARK	HDPE	HIGH DENSITY POLYETHYLENE PIPE	SD	STORM DRAIN
BOT	BOTTOM	INV	INVERT	SDI	STORM DRAIN INLET
BP	BEGIN OF ALIGNMENT	IRIG	IRRIGATION	SF	SQUARE FEET
CFS	CUBIC FEET PER SECOND	KW	KILOWATT	SG	SUB-GRADE
CL	CENTERLINE	L	LENGTH	SHLDR	SHOULDER
CLR	CLEARANCE	MAX	MAXIMUM	SS	SANITARY SEWER
CMP	CORRUGATED METAL PIPE	MH	MANHOLE	STA	STATION
CONC	CONCRETE	MIN	MINIMUM	STD	STANDARD
COR	CORNER	MON	MONUMENT	TBD	TO BE DETERMINED
CP	CONTROL POINT	(N)	NEW	TYP	TYPICAL
Δ	DELTA OF CURVE	N	NORTH / NORTHING	TW	TOP OF WALL
DIA	DIAMETER	NG	NATURAL GROUND	UTIL	UTILITY VARIES
DWG	DRAWING	OC	ON CENTER	VL	VAULT
(E)	EXISTING	O/H	OVER HEAD	V	VERTICAL
E	ELECTRIC / ELECTRICAL	OHWM	ORDINARY HIGH WATER MARK	VSL	VEGETATED SOIL LIFT
EA	EACH	PI	POINT OF INFLECTION	W	WATER
EC	EDGE OF CONCRETE	PIP	PROTECT IN PLACE	W/	WITH
EL, ELEV	ELEVATION			WB	WATER BOX
EP	EDGE PAVEMENT			Z	ELEVATION
FD	FOUND				



	Attention:	1	5/31/2024	DISTRICT AND TOWN REVIEW	J.F.	Stetson Engineers Inc.	Designed: J.F. / G.T.		MARIN COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT 3501 CIVIC CENTER DR., ROOM 304 SAN RAFAEL CALIFORNIA 94903 PROJECT NUMBER: FZ9-12-005-P3	SAN ANSELMO FLOOD RISK REDUCTION PROJECT BUILDING BRIDGE No. 2 SAN ANSELMO, CA	DWG NO. G-1
						Checked: J.R.					
	If this scale bar does not measure 1" then drawing is not original scale.						Project Number: 2706 Date: September 15, 2023			Drawn: G.T. Approved:	PROJECT LOCATION, GENERAL NOTES AND LIST OF DRAWINGS



NOTES:

- THIS MAP IS BASED ON THE SURVEY PERFORMED BY MERIDIAN SURVEY ENGINEERING, INC., DATED JUNE 2017.
- PROPERTY BOUNDARY SURVEY PERFORMED BY OBERKAMPER, DATED MARCH 2019.
- TREES WERE LOCATED BY ESTIMATING THE CENTER OF THE TREE WHERE IT ENTERS THE GROUND AND IDENTIFYING THE DIAMETER AT BREAST HEIGHT. TREE TYPES MAY BE VERIFIED BY A CERTIFIED ARBORIST, IF NECESSARY.
- BASIS OF COORDINATES: (CCS83) CALIFORNIA COORDINATES SYSTEM 83 ZONE 3.
- BASIS OF ELEVATION: NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88) GEIOD12B BASED ON A OPUS SOLUTION.

- LEGEND**
- PROPERTY BOUNDARY (OBERKAMPER)
 - APPROXIMATE PROPERTY LINE (AVAILABLE RECORDS)
 - GRADE BREAK - TOP/TOE
 - FLOWLINE
 - FENCE
 - EDGE OF PAVEMENT
 - PAINT STRIPE
 - CONTOUR MAJOR 5' INTERVAL
 - CONTOUR MINOR 1' INTERVAL
 - BUILDING FOOTPRINT (AT GRADE)
 - CONTROL POINT
 - TREE DIAMETER (VARIES) (TYP)
 - STREET LIGHT
 - GAS VALVE

- SIGNAGE
- STORM DRAIN MANHOLE
- SANITARY SEWER MANHOLE
- CLEAN OUT
- FIRE HYDRANT
- WATER BOX
- WATER METER
- WATER VALVE

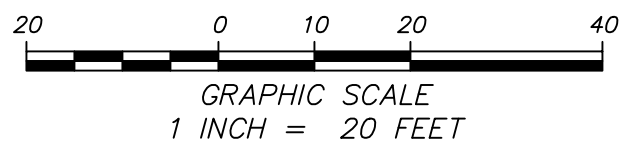
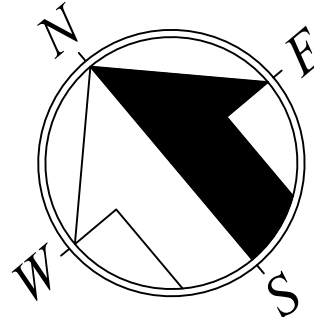
- STORM DRAIN INLET
- STORM DRAIN
- AT&T
- GAS
- ELECTRIC OVERHEAD
- SEWER SANITARY
- WATER

SET BENCHMARK POINT COORDINATES

POINT No.	EASTING	NORTHING	ELEV	DESCRIPTION
37	5967095.851'	2184436.820'	47.67'	SET PK IN AC
41	5966983.554'	2184654.093'	53.36'	SET PK IN S/W 7.8N NEWSSTAND

SET CONTROL POINT COORDINATES

POINT No.	EASTING	NORTHING	ELEV	DESCRIPTION
130	5967178.909'	2184370.379'	47.66'	SET PK AND WASHER
131	5967267.397'	2184433.761'	49.09'	SET RBR CAP CP
132	5967162.319'	2184537.666'	51.10'	SET CP RBR CAP



Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
1	5/31/2024	DISTRICT AND TOWN REVIEW	J.F.

Stetson Engineers Inc.

2171 E. Francisco Blvd., Suite K
San Rafael, CA. 94901
(415) 457-0701

Project Number: 2706

Date: September 15, 2023

Designed: J.F. / G.T.

Checked: J.R.

Drawn: G.T.

Approved:



MARIN COUNTY

FLOOD CONTROL & WATER CONSERVATION DISTRICT

3501 CIVIC CENTER DR., ROOM 304
SAN RAFAEL CALIFORNIA 94903

PROJECT NUMBER: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT

BUILDING BRIDGE No. 2

SAN ANSELMO, CA

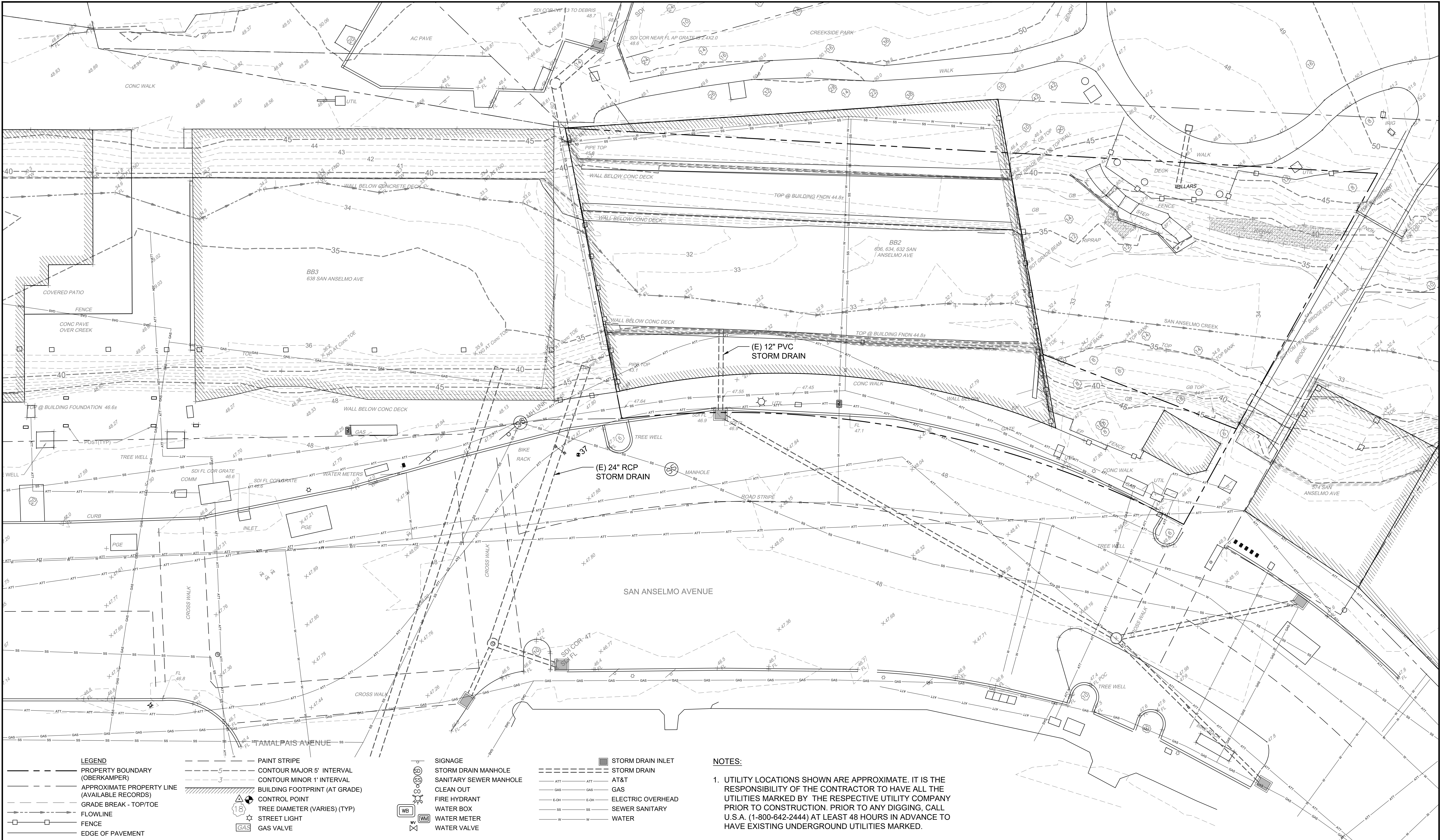
EXISTING TOPOGRAPHY AND SURVEY CONTROL SYSTEM

DWG NO.

G-2

SHEET NO.

2

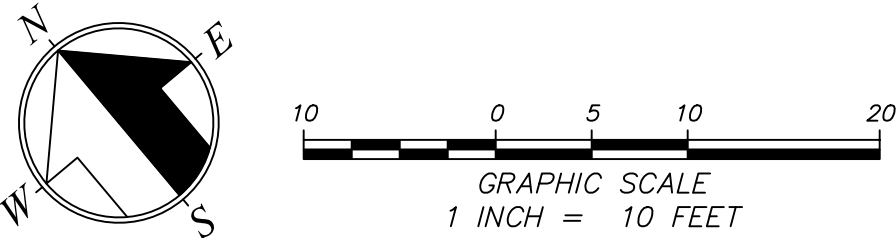





LEGEND

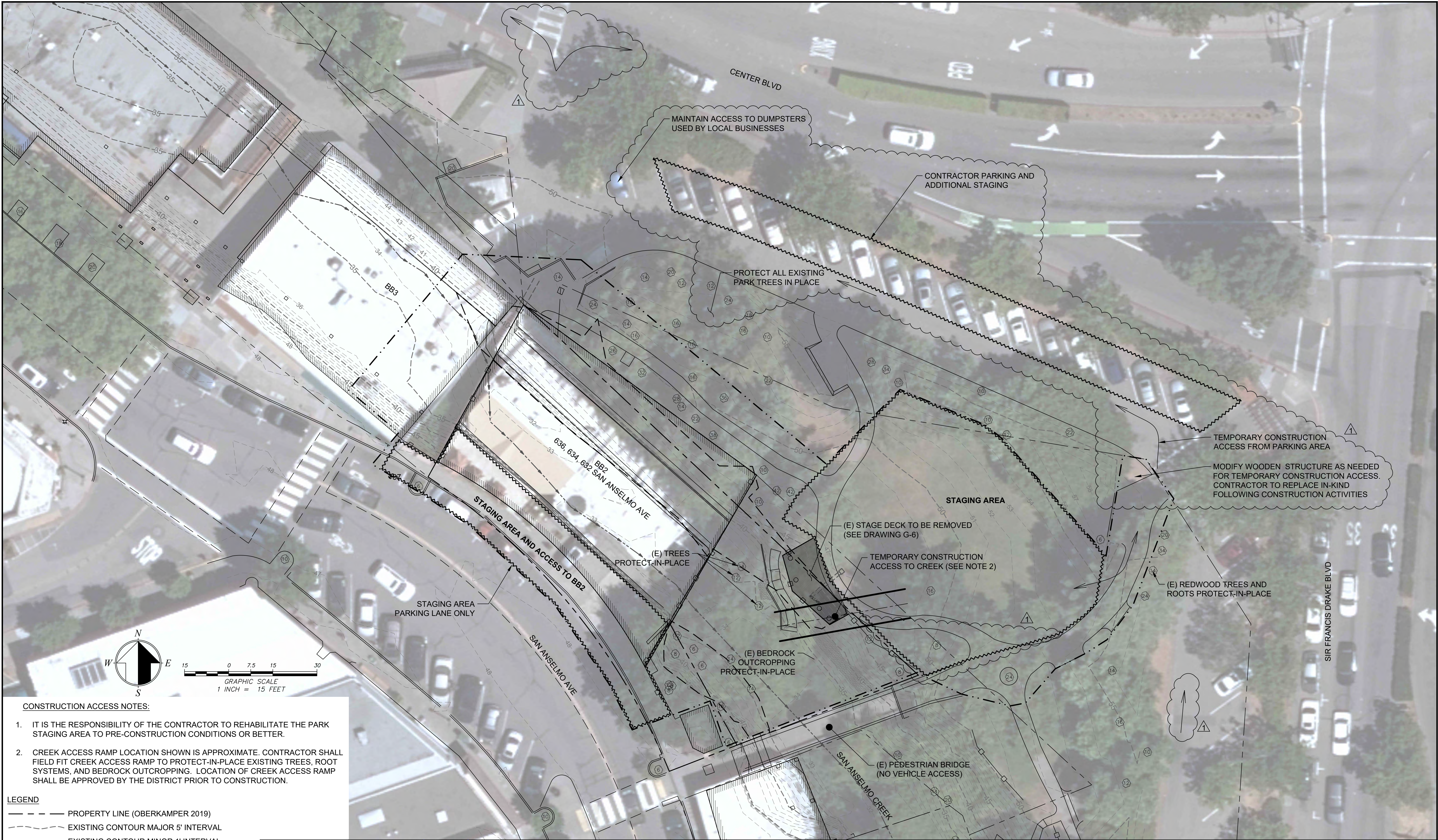
- PROPERTY BOUNDARY (OBERKAMPER)
- APPROXIMATE PROPERTY LINE (AVAILABLE RECORDS)
- GRADE BREAK - TOP/TOE
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- WATER METER
- WATER VALVE
- STORM DRAIN INLET
- STORM DRAIN
- AT&T
- GAS
- E-OH
- SS
- W
- ELECTRIC OVERHEAD
- SEWER SANITARY
- WATER

NOTES:

1. UTILITY LOCATIONS SHOWN ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL THE UTILITIES MARKED BY THE RESPECTIVE UTILITY COMPANY PRIOR TO CONSTRUCTION. PRIOR TO ANY DIGGING, CALL U.S.A. (1-800-642-2444) AT LEAST 48 HOURS IN ADVANCE TO HAVE EXISTING UNDERGROUND UTILITIES MARKED.



	Attention:	1	5/31/2024	DISTRICT AND TOWN REVIEW	J.F.	Stetson Engineers Inc.  2171 E. Francisco Blvd., Suite K San Rafael, CA. 94901 (415) 457-0701 Project Number: 2706 Date: September 15, 2023	Designed: J.F. / G.T.	 MARIN COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT 3501 CIVIC CENTER DR, ROOM 304 SAN RAFAEL CALIFORNIA 94903 PROJECT NUMBER: FZ9-12-005-P3	SAN ANSELMO FLOOD RISK REDUCTION PROJECT BUILDING BRIDGE No. 2 SAN ANSELMO, CA EXISTING UTILITIES	DWG NO. G-3
	If this scale bar does not measure 1" then drawing is not original scale.	NO.	DATE	ISSUE/REVISION	APP		Checked: J.R. Drawn: G.T. Approved:			SHEET NO. 3



CONSTRUCTION ACCESS NOTES:

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REHABILITATE THE PARK STAGING AREA TO PRE-CONSTRUCTION CONDITIONS OR BETTER.
- CREEK ACCESS RAMP LOCATION SHOWN IS APPROXIMATE. CONTRACTOR SHALL FIELD FIT CREEK ACCESS RAMP TO PROTECT-IN-PLACE EXISTING TREES, ROOT SYSTEMS, AND BEDROCK OUTCROPPING. LOCATION OF CREEK ACCESS RAMP SHALL BE APPROVED BY THE DISTRICT PRIOR TO CONSTRUCTION.

LEGEND

- PROPERTY LINE (OBERKAMPER 2019)
- EXISTING CONTOUR MAJOR 5' INTERVAL
- EXISTING CONTOUR MINOR 1' INTERVAL
- FINAL GRADING BOUNDARY
- TEMPORARY CONSTRUCTION ACCESS TO CREEK
- LIMIT OF WORK
- STAGING AREA



Attention:

0 1"

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1	5/31/2024	DISTRICT AND TOWN REVIEW	J.F.
NO.	DATE	ISSUE/REVISION	APP

Stetson Engineers Inc.

2171 E. Francisco Blvd., Suite K
San Rafael, CA. 94901
(415) 457-0701

Project Number: 2706

Date: September 15, 2023

Designed: J.F. / G.T.

Checked: J.R.

Drawn: G.T.

Approved:



MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT

3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL CALIFORNIA 94903

PROJECT NUMBER: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA

LIMIT OF WORK, CONSTRUCTION ACCESS
AND STAGING AREAS

DWG NO.
G-4

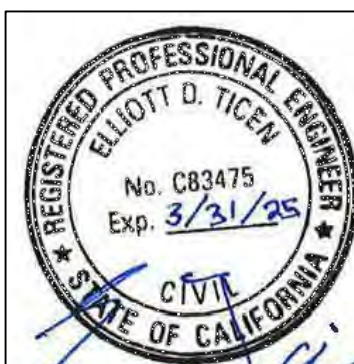
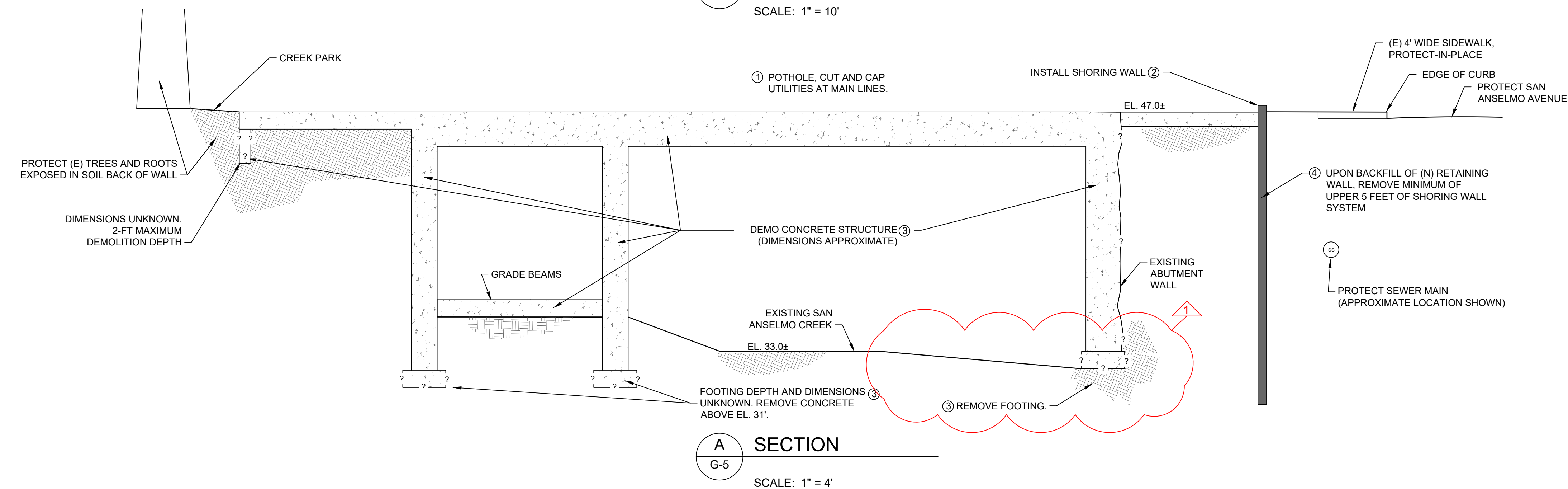
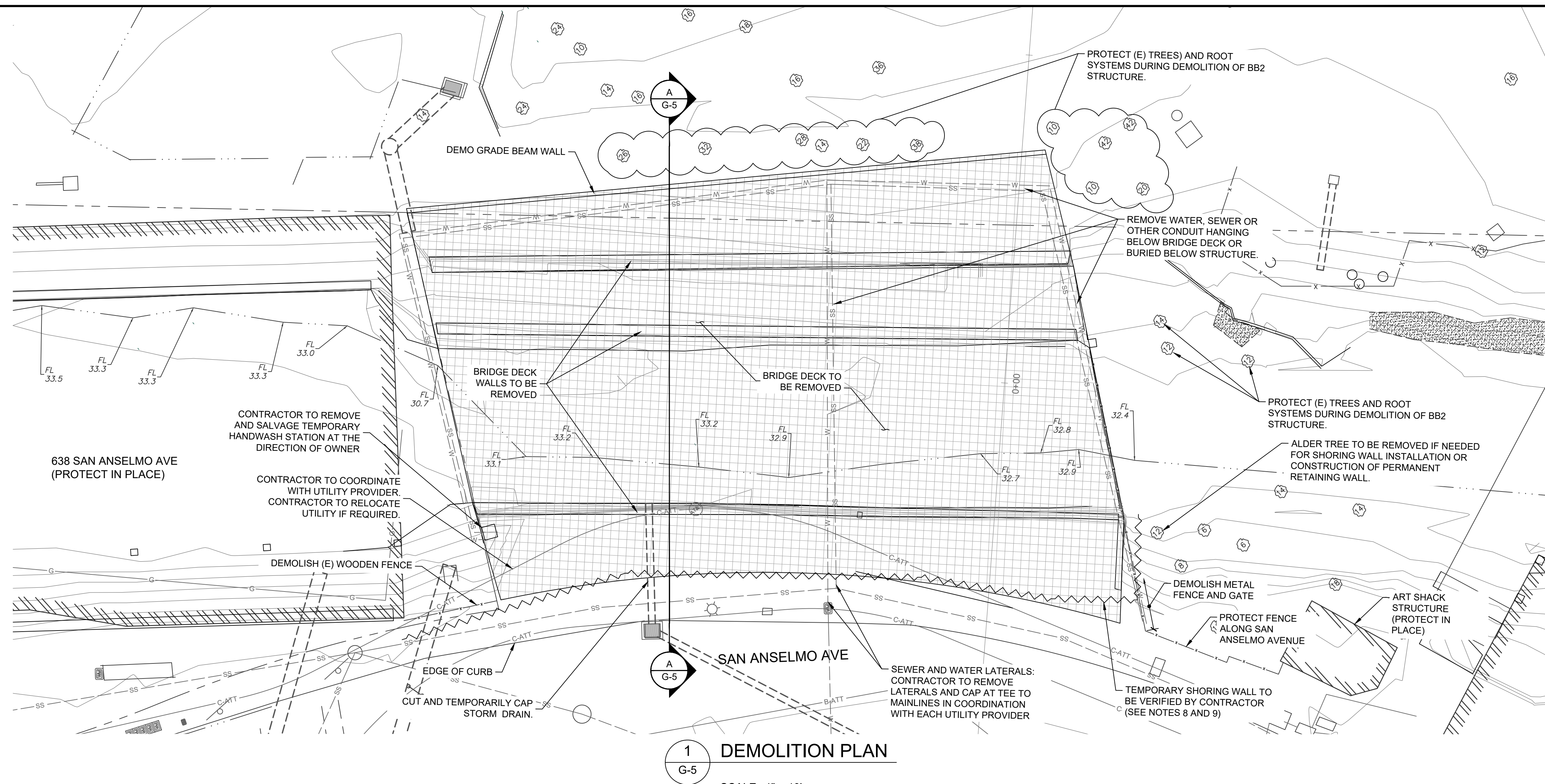
SHEET NO.
4

LEGEND

- PROPERTY LINE
- - - - - FLOW LINE
- x - x - x - x - FENCE
- ===== EDGE OF PAVEMENT
- ===== EXISTING CONTOUR MAJOR 5' INTERVAL
- ===== EXISTING CONTOUR MINOR 1' INTERVAL
- [Grid Pattern] APPROXIMATE LIMITS OF CONCRETE BRIDGE DECK
- ① CONSTRUCTION SEQUENCING

DEMOLITION NOTES:

1. CONSTRUCTION SEQUENCE ORDER FOR SECTION A. THE CONTRACTOR SHALL SUBMIT A DEMOLITION WORK PLAN DESCRIBING SEQUENCING, METHODS AND PROCEDURES FOR TEMPORARY SUPPORT OF SAN ANSELMO AVENUE PER SPECIFICATION SECTION 02 41 13.
 - POT HOLE, CUT, AND CAP UTILITIES AT MAIN LINES.
 - INSTALL SHORING WALL.
 - DEMO CONCRETE STRUCTURE. REMOVE CONCRETE ABOVE EL. 31'. REMOVE FOOTING.
 - UPON BACKFILL OF (N) RETAINING WALL, REMOVE MINIMUM OF UPPER 5 FEET OF SHORING WALL SYSTEM.
2. CONTRACTOR SHALL PROTECT ALL ITEMS IN PLACE SURROUNDING THE LIMITS OF DEMOLITION UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION AND EXISTENCE OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND TAKING THE NECESSARY PRECAUTIONS IN THE EXECUTION OF THE WORK TO AVOID DAMAGING SAID UTILITIES.
4. UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND MUST BE VERIFIED BY CONTRACTOR PRIOR TO BEGINNING DEMOLITION.
5. LOCATE EXISTING UTILITIES AND NOTIFY ENGINEER OF EXISTING UTILITIES OR SUBGRADE CONDITIONS WHICH INTERFERE WITH THE WORK.
6. EXISTING CONDITIONS
 - a. DRAWINGS HAVE BEEN PREPARED USING AVAILABLE DRAWINGS AND SITE OBSERVATIONS AS PERMITTED BY ACCESS RESTRICTIONS DURING DESIGN
 - b. PREPARE DIMENSIONAL DRAWINGS OF ALL DISCOVERED ITEMS.
 - c. CONTRACTOR SHALL VERIFY ALL EXISTING STRUCTURAL CONDITIONS PRIOR TO SUBMITTING SHOP DRAWINGS. AND/ OR FABRICATION OF THE WORK
 - d. DURING CONSTRUCTION, THE CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS WHICH ARE NOT KNOWN OR ARE AT VARIANCE WITH THE DRAWINGS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL CONDITIONS NOT REFLECTED ON THE DRAWINGS.
 - e. CONTRACTOR SHALL MAKE ALLOWANCE FOR THE RESOLUTION OF SUCH DISCOVERIES IN THE CONSTRUCTION SCHEDULE
7. ALL WORKING DIMENSIONS SHALL BE TAKEN FROM FIGURED DIMENSIONS OR BY ACTUAL MEASUREMENTS FROM THE WORK SITE. IN NO CASE SHALL THE DIMENSIONS BY DETERMINED BY SCALING FROM THE PLANS
8. THE CONTRACTOR SHALL SUBMIT A TEMPORARY SHORING PLAN WITH CALCULATIONS BASED ON ACTUAL FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR TEMPORARY SUPPORT PERFORMANCE AND SITE SAFETY DURING WORK. TEMPORARY SUPPORT DRAWINGS DO NOT ADDRESS ASPECTS OF SAFETY DURING WORK.



Attention:



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1	5/31/2024	DISTRICT AND TOWN REVIEW	LS
NO.	DATE	ISSUE/REVISION	APP

GEI  Consultant.

Project Number: 1900369

Date: September 15, 2023

Designed: RNG

Checked: ET/LS

Drawn: RNG

Approved: LS/MF



MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT

3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL, CALIFORNIA 94903

Project Number: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE NO. 2
SAN ANSELMO, CA

DEMOLITION PLAN
CONCRETE STRUCTURE

DWG NO.

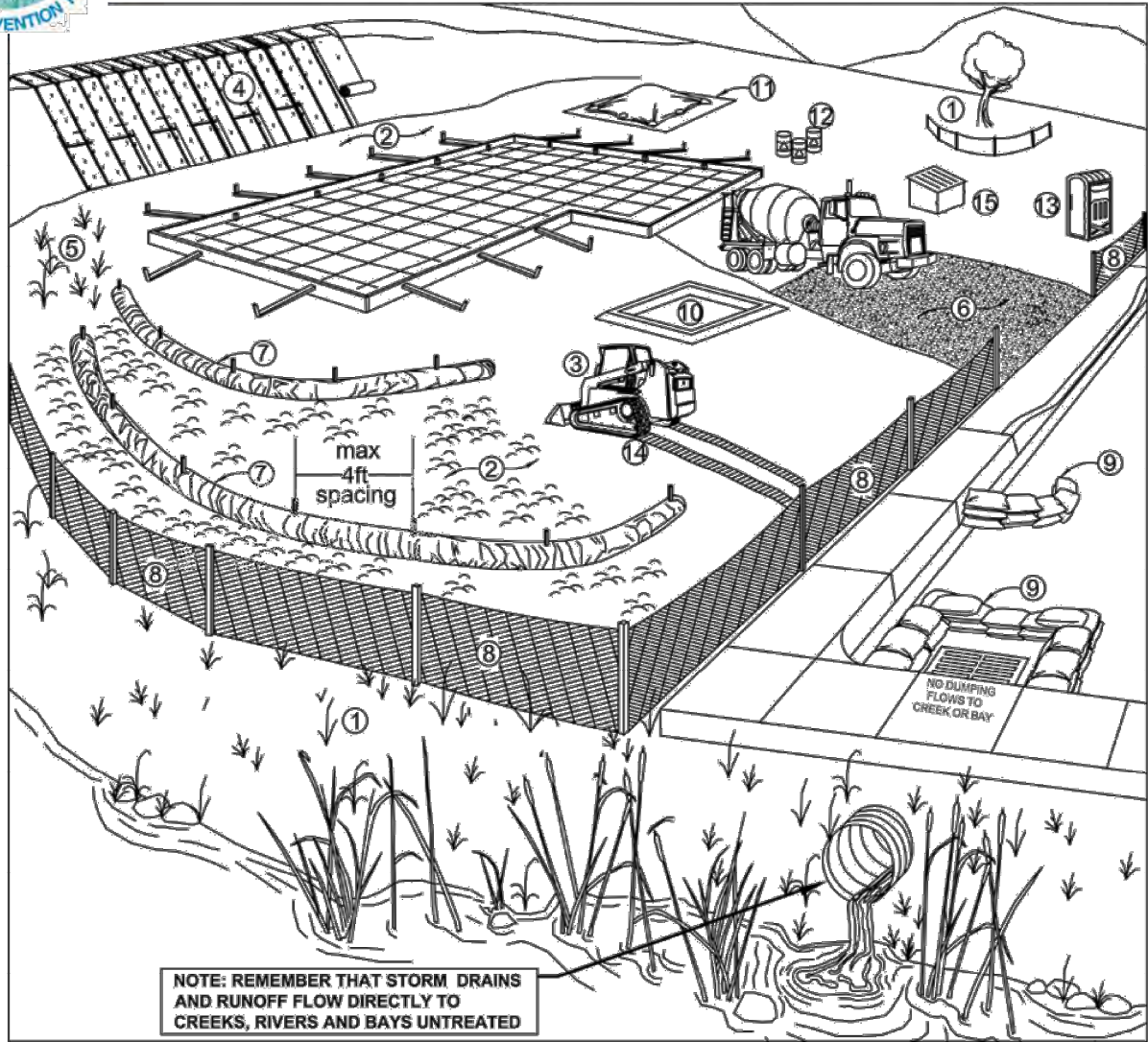
G-5

SHEET NO.

5



Marin County Stormwater Pollution Prevention Program
Minimum Control Measures
For Small Construction Projects

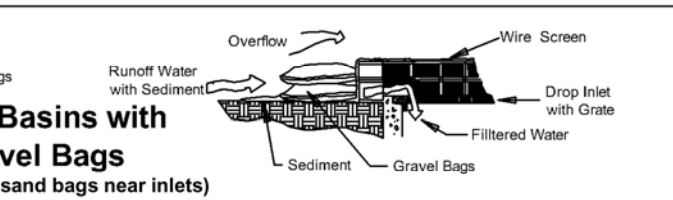
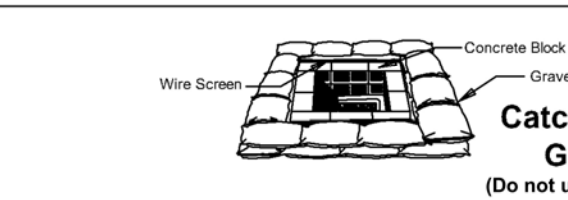
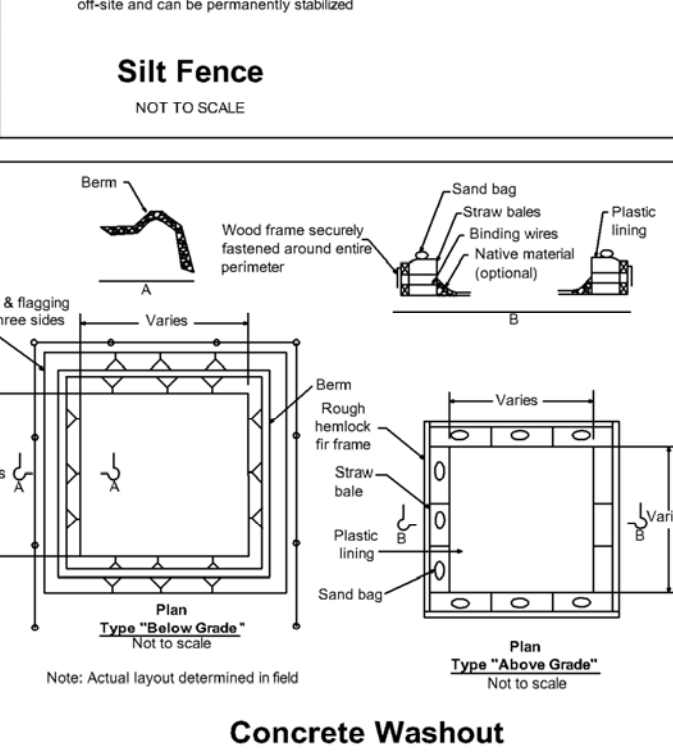
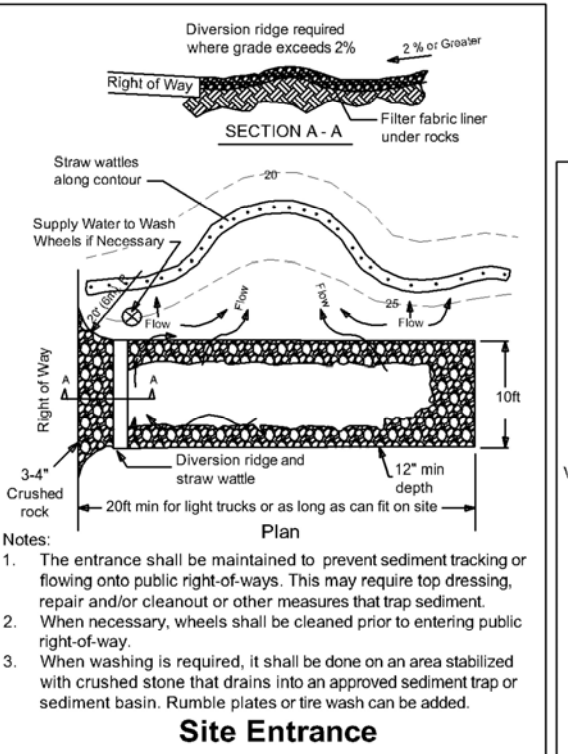
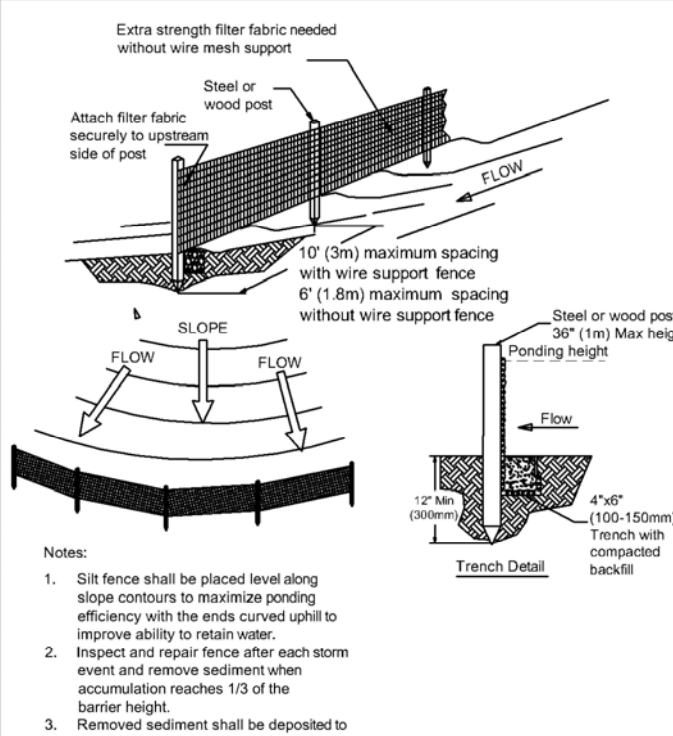
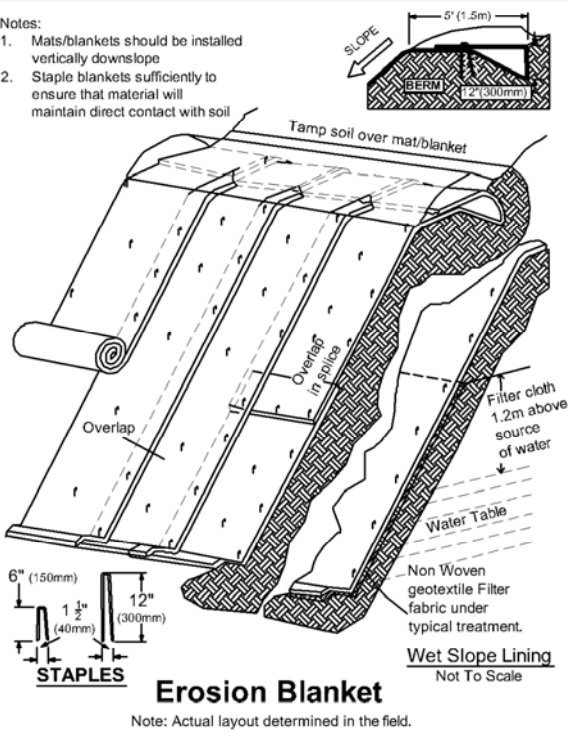


Erosion Controls	Sediment Controls	Good Housekeeping
NS Scheduling	6. Tracking Controls	10. Concrete Washout
1. Preserve Vegetation & Creek Set Backs	7. Fiber Rolls	11. Stockpile Management
2. Soil Cover	8. Silt Fence	12. Hazardous Material Management
3. Soil Preparation/ Roughening	9. Drain Inlet Protection	13. Sanitary Waste Management
4. Erosion Control Blankets	NS Trench Dewatering	14. Equipment and Vehicle Maintenance
5. Revegetation		15. Litter and Waste Management

Note: Select an effective combination of control measures from each category. Erosion Control, Sediment Control, and Good Housekeeping. Control measures shall be continually implemented and maintained throughout the project until activities are complete, disturbed areas are stabilized with permanent erosion controls, and the local agency has signed off on permits that may have been required for the project. **Inspect and maintain the control measures** before and after rain events, and as required by the local agency or state permit.

More detailed information on the BMPs can be found in the related California Stormwater Quality Association (CASQA) and California Department of Transportation (Caltrans) BMP Factsheets. CASQA factsheets are available by subscription in the *California Best Management Practices Handbook Portal: Construction* at <http://www.casqa.org>. Caltrans factsheets are available in the *Construction Site BMP Manual March 2003* at <http://www.dot.ca.gov/hq/constructormwater/manuals.htm>. Visit www.mcslopp.org for more information on construction site management and Erosion and Sediment Control Plans.

If you require materials in alternative formats, please contact:
415-473-4381 voice/TTY or disabilityaccess@co.marin.ca.us



CMP NOTES

- Erosion Control measures shall be implemented prior to commencement of work.
- All Erosion Control measures shall be installed in accordance with the best management practices (BMPs) and in compliance with the Marin County Stormwater Pollution Prevention Program.
- Install straw wattles along full length of the top of left creek bank within the limit of work.
- Install construction fencing along full perimeter of work as shown on the Drawings.
- All creek dewatering activities shall be in accordance with Specification Section 31 23 23 DEWATERING and the approved Dewatering Plan.
- Protect in place all tree and roots within the limits of work and as indicated on the Drawings. Excavations for the installation of the VSL on the left bank shall be conducted and modifies as needed to avoid damaging tree roots with arborist and engineer approval.
- Total Vegetation (planting and seeding) must be completed before a request for final inspection.
- All temporary construction facilities (i.e. portable toilet, debris bins, tool boxes, etc.) to be located in approved staging areas as indicated on this drawing.

CONSTRUCTION HOURS

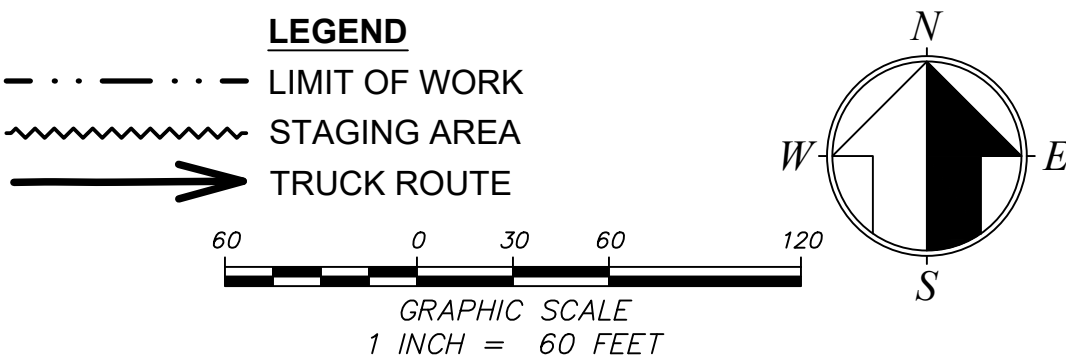
MONDAY THROUGH FRIDAY: 7 AM TO 7 PM (7 AM TO 8 AM QUIET WORK ONLY)
NO WEEKEND WORK ALLOWED
NO WORK ALLOWED ON FEDERAL, STATE, AND TOWN HOLIDAYS

CONSTRUCTION SCHEDULE

Activity	Duration	Start	Finish
Contractor NTP	1 day	Tue 5/7/24	Tue 5/7/24
Contractor Mobilization & Pre-Const. Submittals	3.5 wks	Wed 5/8/24	Fri 5/31/24
Temporary Shoring Wall	3 wks	Mon 6/3/24	Fri 6/21/24
Start Creek Work		Sat 6/15/24	
De-Watering System	5 days	Mon 6/17/24	Fri 6/21/24
Fish Relocation / Enviro Clearance	3 days	Mon 6/24/24	Wed 6/26/24
Demolition	2 wks	Thu 6/27/24	Wed 7/10/24
Excavation and Grading	2 wks	Thu 7/11/24	Wed 7/24/24
Construct RB Retaining Wall	1.5 mons	Thu 7/25/24	Wed 9/4/24
Construct Bridge Abutments	1.5 mons	Thu 7/25/24	Wed 9/4/24
Backfill Retaining Wall and Abutments and Remove Shoring Wall	2 wks	Thu 9/5/2024	Thu 9/19/24
Install Scour and Toe-Protection Rock	3 wks	Thu 9/5/24	Thu 9/26/24
Install Vegetated Soil Lifts	3 wks	Thu 9/5/24	Thu 10/23/24
Plantings, Seeding, and Irrigation	2 wks	Mon 9/23/24	Mon 10/7/24
In-channel Punch List and Remove De-Watering	1 wks	Thu 10/8/24	Tue 10/15/24
End Creek Work			Tue 10/15/24
Complete Storm Drain Improvements	1 wks	Wed 10/16/24	Wed 10/23/24
Out of Channel Final Grading, Site Restoration, Seeding	2 wks	Thu 10/24/24	Thu 11/7/24
Out of Channel Punch List, Demobilization and Closeout	2 wks	Fri 11/8/24/24	Fri 11/22/24

TRAFFIC CONTROL

- All primary and subcontractors shall use prescribed truck route and hours of operations as indicated on this sheet.
- Contractor parking shall occur in existing parking areas around Creek Park as indicated on this sheet.
- All open-bed trucks hauling loose materials shall be tarped.
- Take measures as necessary to protect public streets. If a track vehicle must access paved portion of a road, approved protection will be laid under the tracks.
- Contractor shall notify the District and Town at least 1-day in advance of any lane closures along San Anselmo Ave. Flagger controls is required for all lane closures.
- Contractor shall keep haul and access routes, parking areas, and staging areas clear of construction caused soiling, dust and debris. Contractor shall perform cleaning as frequency as necessary.



Attention:	1	5/31/2024	DISTRICT AND TOWN REVIEW	J.F.
NO.	DATE		ISSUE/REVISION	APP

Stetson Engineers Inc.
2171 E. Francisco Blvd., Suite K
San Rafael, CA. 94901
(415) 457-0701
Project Number: 2706
Date: September 15, 2023

Designed: J.F. / G.T.
Checked: J.R.
Drawn: G.T.
Approved:



MARIN COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
3501 CIVIC CENTER DR., ROOM 304
SAN RAFAEL CALIFORNIA 94903
PROJECT NUMBER: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA

CONSTRUCTION MANAGEMENT PLAN

DWG NO.
G-7
SHEET NO.
7



N

W

E

S

10

0

5

10

20

GRAPHIC SCALE

1 INCH = 10 FEET

LEGEND

PROPERTY LINE

FLOW LINE

EDGE OF PAVEMENT

EXISTING CONTOUR MAJOR 5' INTERVAL

EXISTING CONTOUR MINOR 1' INTERVAL

EXPLORATIONS BY GEI (2019)

EXPLORATORY BORING (HOLLOW STEM AUGER)

EXPLORATIONS BY OTHERS (MILLER-PACIFIC 2020)

EXPLORATORY BORING (HOLLOW STEM AUGER)

NOTES:

1. VERTICAL DATUM IS NAVD88.

2. TOPOGRAPHIC CONTOURS PROVIDED BY STETSON ENGINEERS ON 1/23/2019 AND BASED ON SURVEY PERFORMED BY MERIDIAN SURVEYING AND ENGINEERING, INC. IN AUGUST 2017.

3. PROPOSED FEATURES NOT SHOWN. REFER TO DWG C-1, SITE PLAN.

PLAN
1" = 10'

Attention:

0

1"

If this scale bar does not measure 1" then drawing is not original scale.

1

5/31/2024

DISTRICT AND TOWN REVIEW

LS

NO.

DATE

ISSUE/REVISION

APP

GEI

Consultants

Project Number: 1900369

Date: September 15, 2023

Designed: I.A.R.

Checked: E.T./L.S.

Drawn: I.A.R.

Approved: L.S./M.F.

MARIN COUNTY

FLOOD CONTROL & WATER CONSERVATION DISTRICT

3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL, CALIFORNIA 94903

Project Number: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT

BUILDING BRIDGE NO. 2

SAN ANSELMO, CA

GEOLOGIC EXPLORATION LOCATIONS

DWG NO.

B-1

SHEET NO.

8

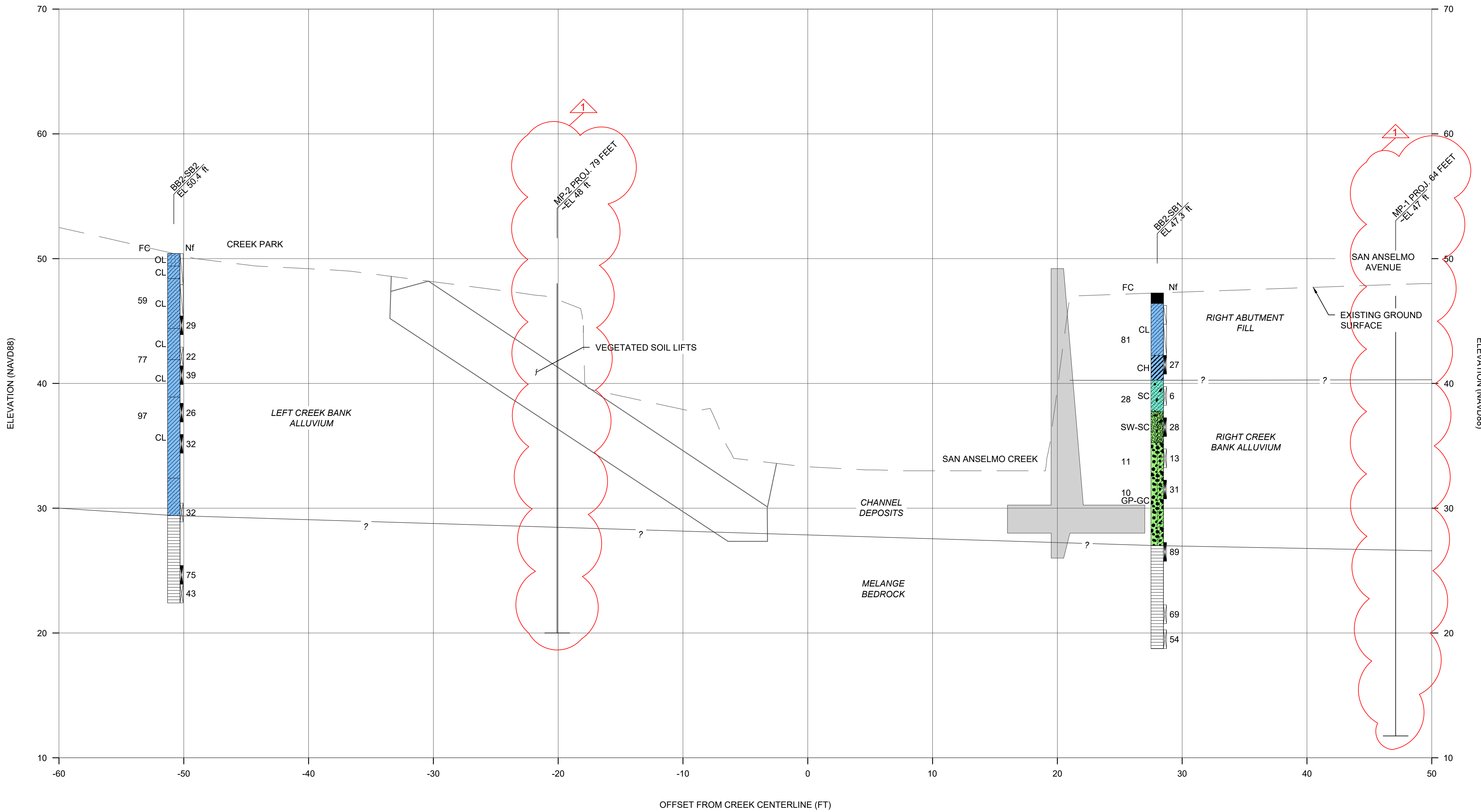
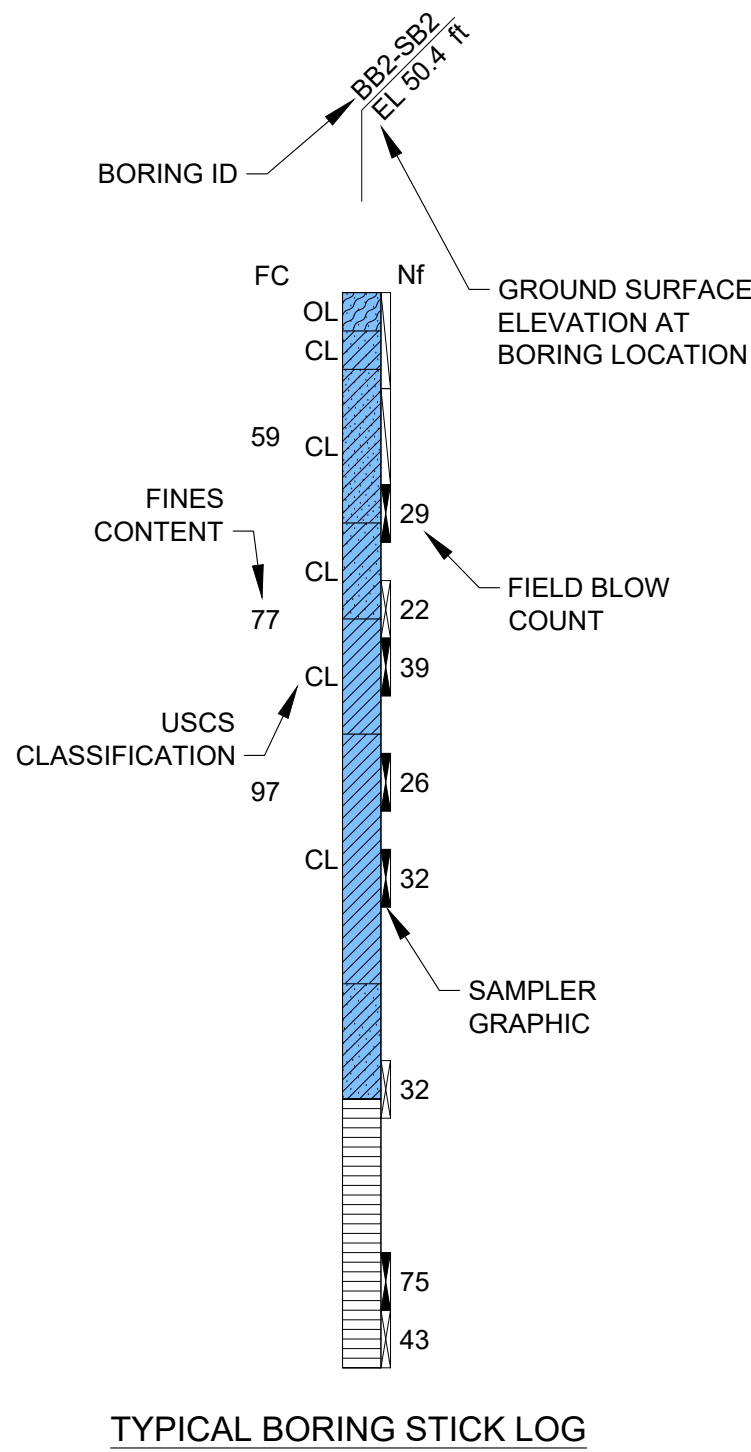
V:\geiconsulta B\Working\MARIN COUNTY FLOOD CONTROL AND WATER CONSERVATION\1900369 San Anselmo Flood Risk Reduction\00_zOBSOLETE\00_CAD\Design\Sheets\B-1_GEOLOGIC EXPLORATION LOCATIONS.dwg - 2/5/2024

EXPLORATION LEGEND

GROUP SYMBOLS AND NAMES

Graphic	Group Names
	Poorly Graded GRAVEL (GP)
	Clayey GRAVEL (GC)
	Well-Graded SAND (SW)
	Clayey SAND (SC)
	Silty SAND (SM)
	Silty, Clayey SAND (SC-SM)
	Lean CLAY (CL)
	Fat CLAY (CH)
	Lean SILT (ML)
	Organic SILT (OL)
	FRANCISCAN MELANGE

SAMPLER GRAPHIC SYMBOLS	
	Shelby Tube
	Grab Sample



NOTES:

- VERTICAL DATUM IS NAVD88.
- EXISTING GRADE BASED ON TOPOGRAPHIC CONTOURS PROVIDED BY STETSON ENGINEERS ON 1/23/2019 AND BASED ON SURVEY PERFORMED BY MERIDIAN SURVEYING AND ENGINEERING, INC. IN AUGUST 2017.
- Nf REPRESENTS FIELD BLOW COUNT.
- LOGS SHOWN REPRESENT GENERALIZED SUBSURFACE CONDITIONS. REFER TO GEOTECHNICAL DATA REPORT PREPARED BY GEI CONSULTANTS FOR SPECIFIC SUBSURFACE CONDITIONS ENCOUNTERED IN THE EXPLORATIONS.
- SUBSURFACE CONDITIONS SHOWN REPRESENT OBSERVATIONS AT THE SPECIFIC EXPLORATION LOCATIONS AT THE TIME THE EXPLORATIONS WERE COMPLETED. SUBSURFACE CONDITIONS BETWEEN EXPLORATIONS MAY VARY.

- BORINGS BY MILLER PACIFIC (MP), 2020.



Attention:



If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
1	5/31/2024	DISTRICT AND TOWN REVIEW	LS

GEI Consultants

Project Number: 1900369

Date: September 15, 2023

Designed: I.A.R.

Checked: E.T./L.S.

Drawn: I.A.R.

Approved: L.S./M.F.



MARIN COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL, CALIFORNIA 94903

Project Number: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE NO. 2
SAN ANSELMO, CA

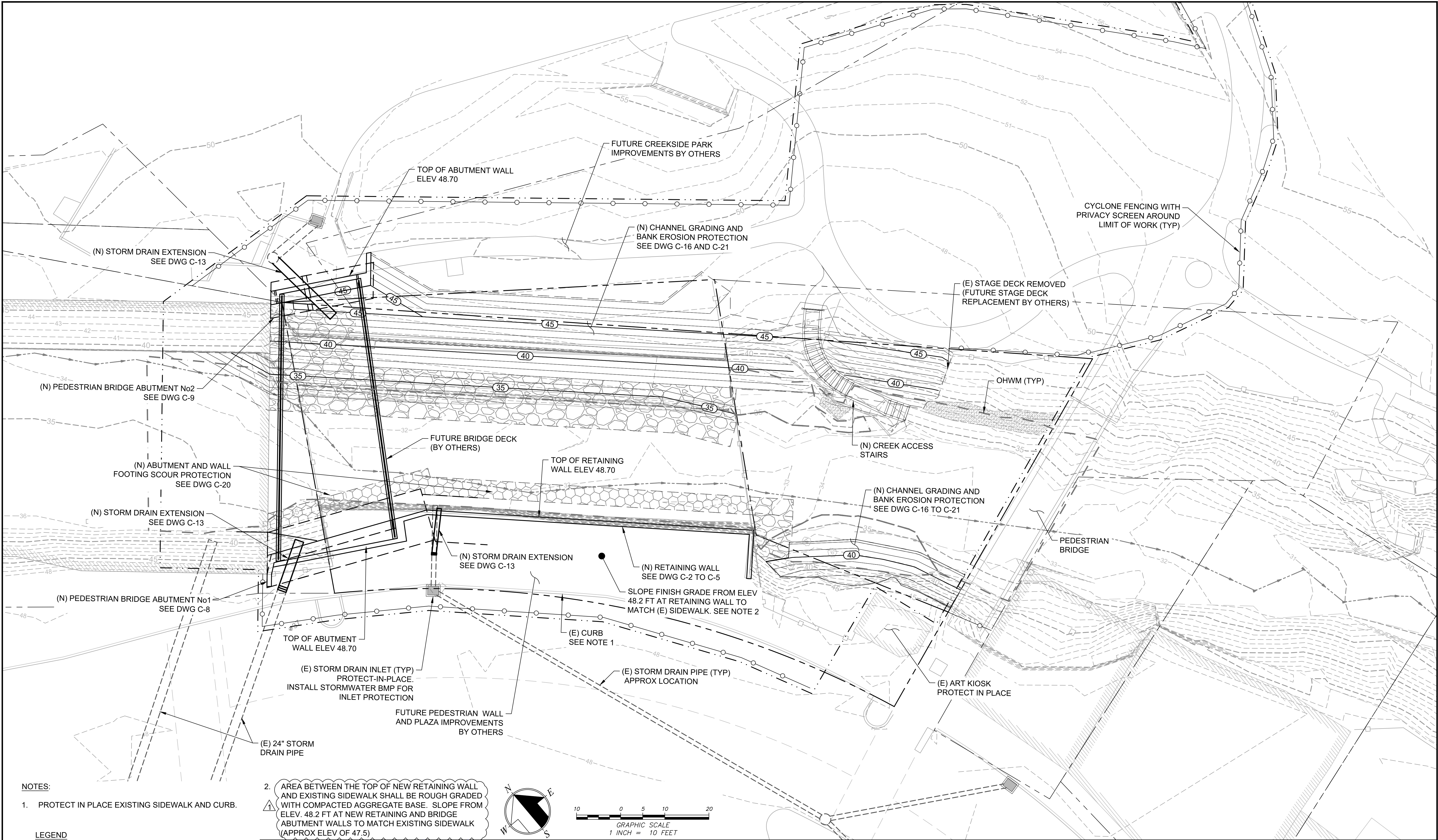
GEOLOGIC SECTION

DWG NO.

B-2

SHEET NO.

9



NOTES:

1. PROTECT IN PLACE EXISTING SIDEWALK AND CURB.

2. AREA BETWEEN THE TOP OF NEW RETAINING WALL AND EXISTING SIDEWALK SHALL BE ROUGH GRADED WITH COMPACTED AGGREGATE BASE. SLOPE FROM ELEV. 48.2 FT AT NEW RETAINING AND BRIDGE ABUTMENT WALLS TO MATCH EXISTING SIDEWALK (APPROX ELEV OF 47.5)

LEGEND

- PROPERTY LINE (OBERKAMPER 2019)
- - - (E) CONTOUR MAJOR 5' INTERVAL
- - - (E) CONTOUR MINOR 1' INTERVAL
- - - (N) CONTOUR MAJOR 5' INTERVAL
- - - (N) CONTOUR MINOR 1' INTERVAL
- - - LIMIT OF WORK



Attention:
0 1"
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1	5/31/2024	DISTRICT AND TOWN REVIEW	J.F.
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Stetson Engineers Inc.
2171 E. Francisco Blvd., Suite K
San Rafael, CA. 94901
(415) 457-0701
Project Number: 2706
Date: September 15, 2023

Designed: J.F. / G.T.
Checked: J.R.
Drawn: G.T.
Approved:



MARIN COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL CALIFORNIA 94903
PROJECT NUMBER: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA

FINISHED SITE PLAN

DWG NO.
C-1
SHEET NO.
10

GENERAL NOTES:

1. USE OF DRAWINGS
- 1.1. DO NOT SCALE DRAWINGS.
- 1.2. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN. DETAILS ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. DETAILS NOTED TYPICAL APPLY TO ALL SIMILAR CONDITIONS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ELSEWHERE ON THE PROJECT.
2. TEMPORARY CONDITIONS
- 2.1. THE PERMANENT RETAINING WALL "STRUCTURE" IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
- 2.2. CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.
- 2.3. WALLS SHALL NOT BE BACKFILLED UNTIL THEY REACH DESIGN STRENGTH UNLESS ADEQUATE BRACING IS PROVIDED. USE ONLY HAND OPERATED TOOLS FOR COMPACTION ADJACENT TO FOUNDATION AND WALLS.
3. OSHA STANDARDS:
- 3.1. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. NOTHING SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE CONSTRUED AS ELIMINATING THE NEED FOR THE CONTRACTOR TO COMPLY WITH ALL OSHA REQUIREMENTS.
- 3.2. THE CONTRACTOR SHALL ADD ALL NECESSARY BOLTS, ANCHOR BOLTS, PLATES, ETC.
- 3.3. WHERE THE STRUCTURAL DRAWINGS APPEAR TO CONFLICT WITH OSHA REQUIREMENTS, THE STRUCTURAL DRAWINGS REPRESENT FINAL CONDITIONS ONLY. THE CONTRACTOR SHALL ADD ALL NECESSARY SCAFFOLDING TO MAKE CONCRETE POURS TO ENSURE OSHA COMPLIANCE.
4. CONSTRUCTION ENGINEERING:
- 4.1. THE STRUCTURE DEFINED ON THE CONTRACT DOCUMENTS HAS BEEN DESIGNED ONLY FOR LOADS ANTICIPATED ON THE STRUCTURE DURING ITS SERVICE LIFE. PROVIDE ALL REQUIRED ENGINEERING AND OTHER MEASURES TO ACHIEVE THE MEANS, METHODS, AND SEQUENCES OF WORK. SUCH ENGINEERING MAY INCLUDE, BUT IS NOT LIMITED TO:
- 4.1.1. LAYOUT.
- 4.1.2. DESIGN FOR FORMWORK, SHORING, AND RESHORING.
- 4.1.3. DESIGN OF CONCRETE MIXES.
- 4.1.4. DESIGN OF TEMPORARY BRACING OF WALLS FOR WIND, SEISMIC, OR SOIL LOADS.
- 4.1.5. SURVEYING TO VERIFY CONSTRUCTION TOLERANCES.
- 4.1.6. EVALUATION OF TEMPORARY CONSTRUCTION LOADS ON STRUCTURE DUE TO EQUIPMENT AND MATERIALS, AND
- 4.1.7. STRUCTURAL ENGINEERING TO RESIST ANY OTHER LOADS NOT IDENTIFIED ON DESIGN DRAWINGS.
5. COORDINATION:
- 5.1. STRUCTURAL DRAWINGS ARE NOT STAND-ALONE DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH DRAWINGS FROM OTHER DISCIPLINES. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS INTO SHOP DRAWINGS AND WORK.
- 5.2. COORDINATE DIMENSIONS OF ALL TURNDOWNS, BLOCKOUTS, DEPRESSIONS, ETC., WITH DRAWINGS

DESIGN NOTES:

1. DESIGN CRITERIA
- 1.1. REINFORCED CONCRETE DESIGN PER REQUIREMENTS OF:
- 1.2.1. USACE, EM 1110-2-2100, STABILITY ANALYSIS OF CONCRETE STRUCTURES.
- 1.2.4. USACE, EM 1110-2-2104, STRENGTH DESIGN FOR REINFORCED-CONCRETE HYDRAULIC STRUCTURES.
- 1.2.5. AMERICAN CONCRETE INSTITUTE. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-19).
- 1.2.6. AMERICAN SOCIETY OF CIVIL ENGINEERS. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-16), AND
- 1.2.7. CALIFORNIA BUILDING CODE 2022.
2. DESIGN SOIL PROPERTIES
- 2.1. FILL
- 2.1.1. UNIT WEIGHT OF FILL = 120 PCF
- 2.1.2. FRICTION ANGLE USED IN DESIGN TO RESIST LATERAL LOADS = 34°
- 2.1.3. ACTIVE CONDITION $c = 34$ PCF
- 2.1.4. WALL DESIGN BASED ON COMPACTED FILL.
3. SURCHARGE USED IN DESIGN
- 3.1. PERMANENT WALL IS DESIGNED FOR A 175 PSF SURCHARGE SET BACK 3- FEET FROM THE FACE OF THE RETAINING WALL STEM.
- 3.2. SEISMIC EARTH PRESSURE: 26 PCF EQUIVALENT FLUID PRESSURE APPLIED AS AN INVERTED TRIANGLE.

CONCRETE GENERAL NOTES:

1. GENERAL:
- 1.1. ALL WORK SHALL CONFORM WITH ACI 301, LATEST EDITION, UNLESS NOTED OTHERWISE IN DRAWINGS OR PROJECT SPECIFICATIONS.
- 1.2. DETAIL BARS IN ACCORDANCE WITH THE LATEST EDITIONS OF PUBLICATION SP-66: "ACI DETAILING MANUAL" WITH ADDED REQUIREMENTS OF THE PROJECT SPECIFICATION AND ACI 318: "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
2. DIMENSIONS:
- 2.1. DIMENSIONS ARE TO THE CENTERLINES OF THE BARS UNLESS OTHERWISE SHOWN. ALL DIMENSIONS TO A JOINT ARE TO THE CENTERLINE OF THE JOINT.
- 2.2. THICKNESS SHOWN FOR WALLS AND SLABS ADJACENT TO UNDISTURBED SOIL OR ROCK ARE MINIMUM DIMENSIONS.
3. STRUCTURAL CONCRETE MIX REQUIREMENTS:
- 3.1. SEE SECTION 03 30 00, $F_c = 4,500$ PSI @ 28 DAYS
4. NON-SHRINK GROUT:
- 4.1. CONFORM TO ASTM C1107, GRADE C.
- 4.2. ACHIEVE 7000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
5. FINISHING AND CONCRETE TOLERANCES:
- 5.1. REFER TO SPECIFICATIONS FOR REQUIREMENTS AND CONSTRUCTION TOLERANCES FOR HYDRAULIC STRUCTURES.
- 5.2. FINISH SURFACES FOR ALL SLABS, WALLS, CONSTRUCTION AND CONTROL JOINTS SHALL BE PROVIDED IN ACCORDANCE WITH THE SPECIFICATIONS.
- 5.3. UNLESS OTHERWISE INDICATED, CHAMFER EDGES OF ALL PERMANENTLY EXPOSED CONCRETE SURFACES WITH A 45 DEGREE BEVEL, 3/4 INCH X 3/4 INCH. CHAMFER STRIP MAY NOT BE SHOWN ON THE DESIGN DRAWINGS.
6. CONSTRUCTION/CONTROL JOINTS:
- 6.1. SUBMIT DRAWINGS SHOWING CONSTRUCTION AND CONTROL JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS. CONSTRUCTION JOINT LOCATIONS AND CASTING SEQUENCE SHALL BE ARRANGED TO MINIMIZE THE EFFECTS OF ELASTIC AND LONG-TERM SHORTENING/SHRINKAGE. NO OTHER JOINTS SHALL BE INTRODUCED UNLESS APPROVED BY THE ENGINEER BEFORE CONCRETE IS PLACED.
7. DETAILING:
- 7.1. UNLESS OTHERWISE SHOWN, FOLLOW THE RECOMMENDATIONS OF ACI 315. NO CHANGES SHALL BE MADE WITHOUT PRIOR APPROVAL.
8. REINFORCING FABRICATION:
- 8.1. EMBEDMENT AND SPLICE LENGTHS:
- 8.1.1. NO SPLICING OF REINFORCEMENT PERMITTED EXCEPT AS NOTED ON DRAWINGS. MAKE BARS CONTINUOUS AROUND CORNERS. WHERE PERMITTED, SPLICES MAY BE MADE BY CONTACT LAPS OR MECHANICAL CONNECTORS.
- 8.1.2. SPLICES ARE TO BE MADE SO THAT GIVEN CLEAR DISTANCES TO THE FACE OF CONCRETE WILL BE MAINTAINED.
- 8.1.3. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE MINIMUM LENGTHS FOR EMBEDMENT AND LAP SPLICES FOR PARALLEL BARS SHALL BE AS GIVEN IN THE SCHEDULE.
- 8.1.4. SEE 'LAP SPLICE AND DEVELOPMENT LENGTH SCHEDULE' FOR LAP AND EMBEDMENT LENGTHS.
- 8.2. MISCELLANEOUS REINFORCING REQUIREMENTS:
- 8.2.1. PROVIDE ADDITIONAL BARS OR STIRRUPS REQUIRED TO SECURE REINFORCING IN PLACE DURING CONCRETE PLACEMENT.
- 8.2.2. MAKE ALL REINFORCING BAR BENDS IN THE FABRICATOR'S SHOP UNLESS NOTED.
- 8.2.3. NO WELDING OF REINFORCING PERMITTED UNLESS NOTED ON DRAWINGS. WHERE PERMITTED, PERFORM WELDING IN ACCORDANCE WITH AWS D1.4, LATEST EDITION.
- 8.2.4. PROVIDE ADDED REINFORCING TO TRIM ALL OPENINGS, NOTCHES, AND REENTRANT CORNERS AS NOTED IN TYPICAL DETAILS.
9. SPACING:
- 9.1. THE FIRST AND LAST BARS IN SLABS AND WALLS ARE TO START AND END AT A MAXIMUM OF ONE HALF THE ADJACENT BAR SPACING. ALL REINFORCING TO BE EQUALLY SPACED UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
10. REINFORCING MATERIALS:
- 10.1. SEE SECTION 03 30 00.
- 10.2. PLACE REINFORCEMENT IN ACCORDANCE WITH APPROVED REINFORCEMENT SHOP DRAWINGS. IN THE EVENT OF A CONFLICT BETWEEN THESE DRAWINGS AND THE APPROVED SHOP DRAWINGS, THE APPROVED SHOP DRAWINGS SHALL GOVERN.
- 10.3. REINFORCEMENT PROTECTION
- 10.3.1. SEE "STEEL REINFORCING COVER SCHEDULE" FOR REINFORCING COVER.
- 10.3.2. SEE ACI 318-19 6.6.2 AND ACI 301-16, SECTION 5.3 FOR REINFORCEMENT PLACING TOLERANCES AND ACI 117 FOR ADDITIONAL REQUIREMENTS.
- 10.4. PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING AND WELDED WIRE FABRIC AT POSITIONS SHOWN ON PLANS. THE RECOMMENDATIONS OF ACI 315 (DETAILING MANUAL) SHALL BE USED IN SELECTING ACCESSORIES.
- 10.5. ALL REINFORCING, DOWELS, BOLTS, AND EMBEDDED PLATES SHALL BE SET AND TIED IN PLACE BEFORE THE CONCRETE IS POURED. "STABBING" INTO PREVIOUSLY PLACED CONCRETE IS NOT PERMITTED.
- 10.6. BEFORE PLACING CONCRETE, CHECK ALL APPLICABLE DRAWINGS RELEASED AS SUITABLE FOR CONSTRUCTION INCLUDING MANUFACTURER'S DRAWINGS TO VERIFY THE PRESENCE OF ALL EMBEDDED MATERIAL REQUIRED IN THE PLACEMENT.
- 10.7. REINFORCEMENT MAY BE ADJUSTED IN THE FIELD TO CLEAR FORM TIES AND ANCHOR BARS. IN SUCH CASES, RELOCATION OF THE EMBEDDED MATERIALS MUST BE CONSIDERED. IN NO CASE SHALL BARS BE BENT IN THE FIELD.
- 10.8. WHERE POSSIBLE, REINFORCEMENT SHALL BE PLACED TO MAINTAIN A CLEAR DISTANCE OF AT LEAST 1-INCH BETWEEN OTHER REINFORCEMENT, ANCHOR BOLTS, FORM TIES, OR OTHER EMBEDDED METAL WORK. REINFORCEMENT PARALLEL TO ANCHOR BOLTS OR OTHER EMBEDDED METAL WORKS SHALL BE PLACED TO MAINTAIN A CLEAR DISTANCE OF AT LEAST 1-1/3 TIMES THE MAXIMUM SIZE AGGREGATE TO BE USED.

GENERAL NOTES:

1. 'TOP' BARS ARE HORIZONTAL BARS PLACED WITH MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE BAR.
2. UNLESS NOTED OTHERWISE, ALL HOOK BARS EXTEND TO THE FAR FACE (LESS COVER)
3. ALL SPLICES SHALL BE WIRED IN CONTACT AND STACKED VERTICALLY
4. ALL SPLICE ARE 'LTS' UNLESS NOTED OTHERWISE
5. SMALLER BAR LAP LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS
6. LAP LENGTHS SPECIFICALLY DETAILED ON DRAWINGS SHALL GOVERN IN LIEU OF LAP LENGTHS SCHEDULE
7. BUNDLED BAR SPLICES:
- 7.1. INDIVIDUAL BAR SPLICES WITHIN THE BUNDLE SHALL BE STAGGERED
- 7.2. INCREASE LAP LENGTH 20% FOR A 3 BAR BUNDLE
- 7.3. INCREASE LAP LENGTH 33% FOR A 4 BAR BUNDLE

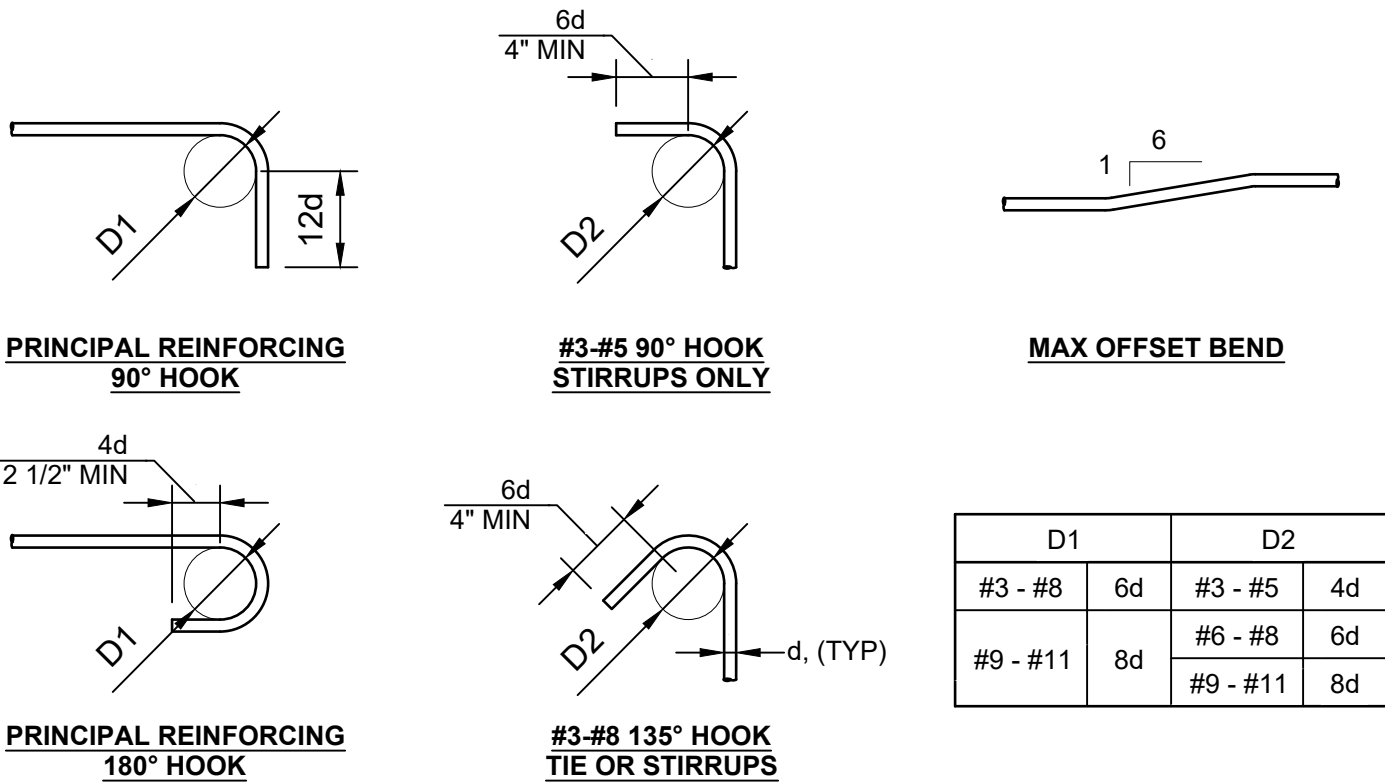
ADJUSTMENTS FOR GIVEN LAP LENGTHS:

1. IF REINFORCING IS SPECIFIED AS EPOXY COATED, INCREASE SCHEDULED LAP LENGTHS BY 50%
2. IF LIGHTWEIGHT AGGREGATE IS SPECIFIED, INCREASE SCHEDULED LAP LENGTHS BY 30%
3. SCHEDULED LAP LENGTHS ASSUME:
- 3.1. CLEAR COVER IS GREATER THAN BAR DIAMETER, AND NOT LESS THAN 3/4"
- 3.2. CLEAR SPACING BETWEEN BARS IS GREATER THAN 2 BAR DIAMETERS
- 3.3. IF EITHER CONDITION A OR B IS NOT MET FOR A GIVEN BAR, INCREASE LENGTHS BY 50%
4. SPLICE LENGTHS NOTED BASED ON $F_y = 60,000$ PSI. FOR OTHER YIELD STRENGTHS, MULTIPLY SPLICE LENGTHS NOTED BY $F_y/60,000$

HOOK EMBEDMENT NOTES:

1. SCHEDULED HOOK EMBEDMENT LENGTHS ASSUME:
- 1.1. AREA OF CONFINING REINFORCEMENT IS GREATER THAN 0.4 TIMES THE AREA OF THE HOOKED BARS OR CENTER TO CENTER SPACING OF HOOKED BARS IS 6 BAR DIAMETERS OR GREATER
- 1.2. SIDE COVER NORMAL TO THE PLANE OF THE HOOK INSIDE A COLUMN CORE IS 2 1/2 INCHES OR GREATER
- 1.3. SIDE COVER NORMAL TO THE PLANE OF THE HOOK FOR OTHER ELEMENTS IS 6 BAR DIAMETERS OR GREATER
2. IF REINFORCING IS SPECIFIED AS EPOXY COATED INCREASE SCHEDULED LAP LENGTHS BY 20%
3. IF AREA OF CONFINING REINFORCEMENT IS LESS THAN 0.4 TIMES THE AREA OF THE HOOKED BARS AND HOOKED BAR SPACING IS LESS THAN 6 BAR DIAMETERS OR GREATER, INCREASE LENGTHS BY 60%
4. IF SIDE COVER IS LESS THAN 2 1/2 INCHES, INCREASE LENGTHS BY 25%

STEEL REINFORCING COVER SCHEDULE	
CONCRETE SECTION	MINIMUM CLEAR COVER
UNIFORM SURFACE IN CONTACT WITH FOUNDATION	3 INCHES
FORMED SURFACES SUCH AS WALLS AND SLAB	
≥ 24 INCH THICKNESS	4 INCHES
> 12 INCHES AND < 24 INCHES IN THICKNESS	3 INCHES
≤ 12 INCHES IN THICKNESS CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3 INCHES
≤ 12 INCHES CONCRETE EXPOSED EARTH AND WEATHER	2 INCHES



TYPICAL REINFORCING BENDS

- NOTES:
1. ALL REINFORCEMENT SHALL BE BENT COLD AND IN THE SHOP.

ABBREVIATIONS

ALT	ALTERNATE
BF	BOTTOM OF FOUNDATION
BOT	BOTTOM
BW	BOTTOM OF WALL
CL	CENTER LINE
CNTR	CENTER
CONC	CONCRETE
DWG	DRAWING
E	EXISTING
EF	EACH FACE
EL	ELEVATION
EQ	EQUAL
EW	EACH WAY
FG	FINISHED GRADE
IN	INCH
LOH	HOOKED BAR EMBEDMENT LENGTH
LTE	TENSION EMBEDMENT LENGTH
LTS	TENSION LAP SPLICE LENGTH
MIN	MINIMUM
N	NEW
PC	POINT OF CURVE
PSI	POUNDS PER SQUARE IN
REIF	REINFORCEMENT
STA	STATION
STL	STEEL
TB	TOP AND BOTTOM
TF	TOP OF FOUNDATION
TW	TOP OF WALL
TYP	TYPICAL

LAP SPLICE AND DEVELOPMENT LENGTH SCHEDULE (INCHES)								
BAR SIZE (US)	BAR DIAMETER	F'c = 4500 PSI						
		TENSION						
		LDH	LTE	LTS	LTS	LTS	LTS	LTS
#3	0.375	6	17	13	23	17		
#4	0.500	6	23	18	30	23		
#5	0.625	7	29	22	38	29		
#6	0.750	10	35	27	45	35		
#7	0.875	12	51	39	66	51		
#8	1.000	15	58	45	76	58		
#9	1.128	18	66	50	85	66		
#10	1.270	21	74	57	96	74		
#11	1.410	25	82	63	107	82		



Attention:

0 1"

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1	5/31/2024	DISTRICT AND TOWN REVIEW	LS
NO.	DATE	ISSUE/REVISION	APP

GEI Consultants

Project Number: 1900369

Date: September 15, 2023

Designed:	M.L.P.
Checked:	E.T./K.C.A.
Drawn:	I.A.R.
Approved:	L.S./M.F.

MARIN COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

3501 CIVIC CENTER DR. ROOM 304 SAN RAFAEL, CALIFORNIA 94903

Project Number: FZ9-12-005-P3

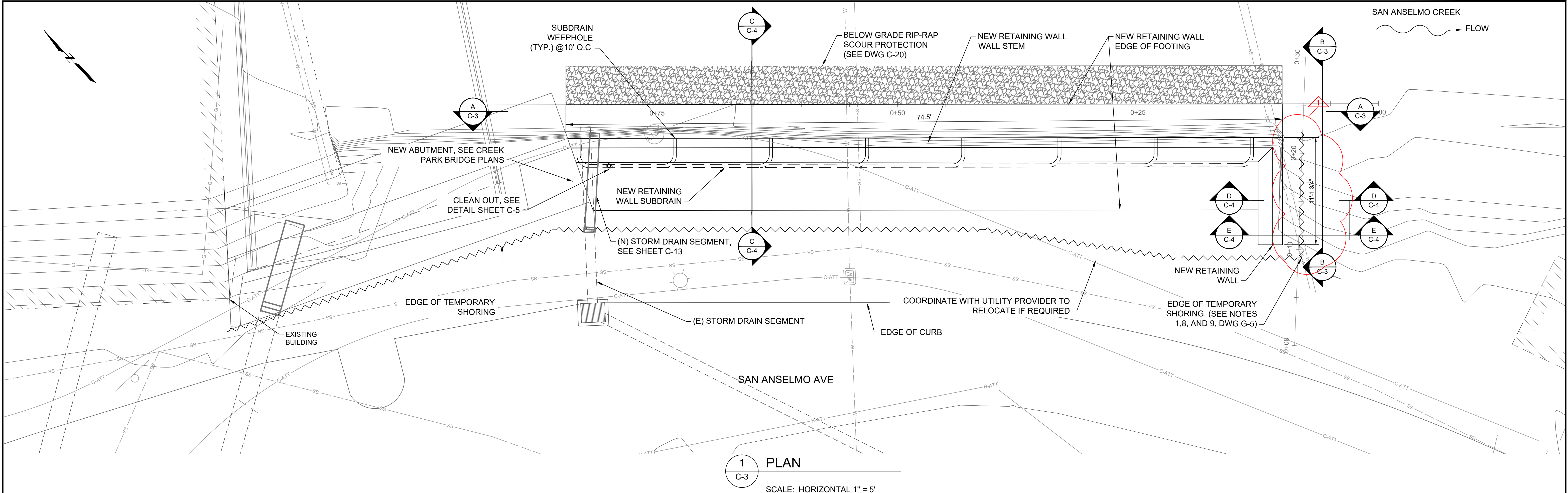
SAN ANSELMO FLOOD RISK REDUCTION PROJECT

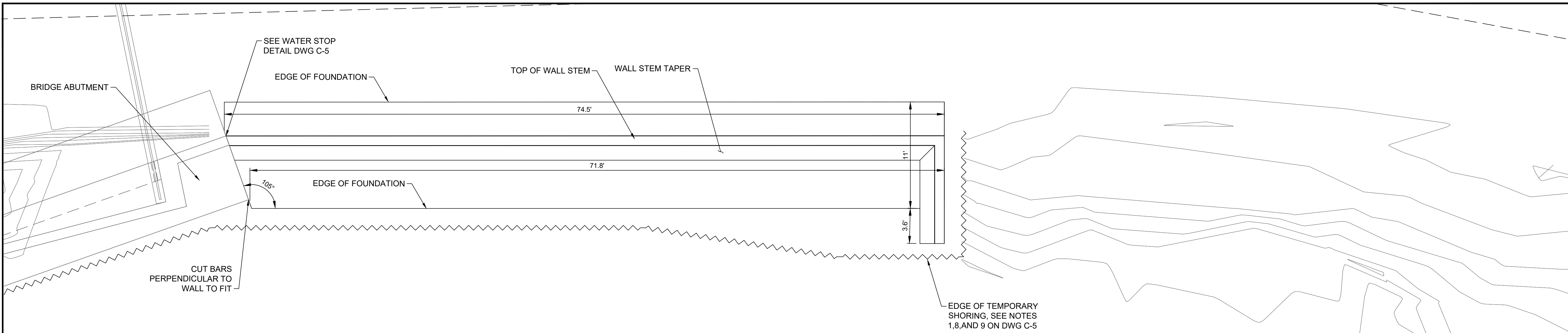
BUILDING BRIDGE NO. 2

SAN ANSELMO, CA

RETAINING WALL STRUCTURAL NOTES

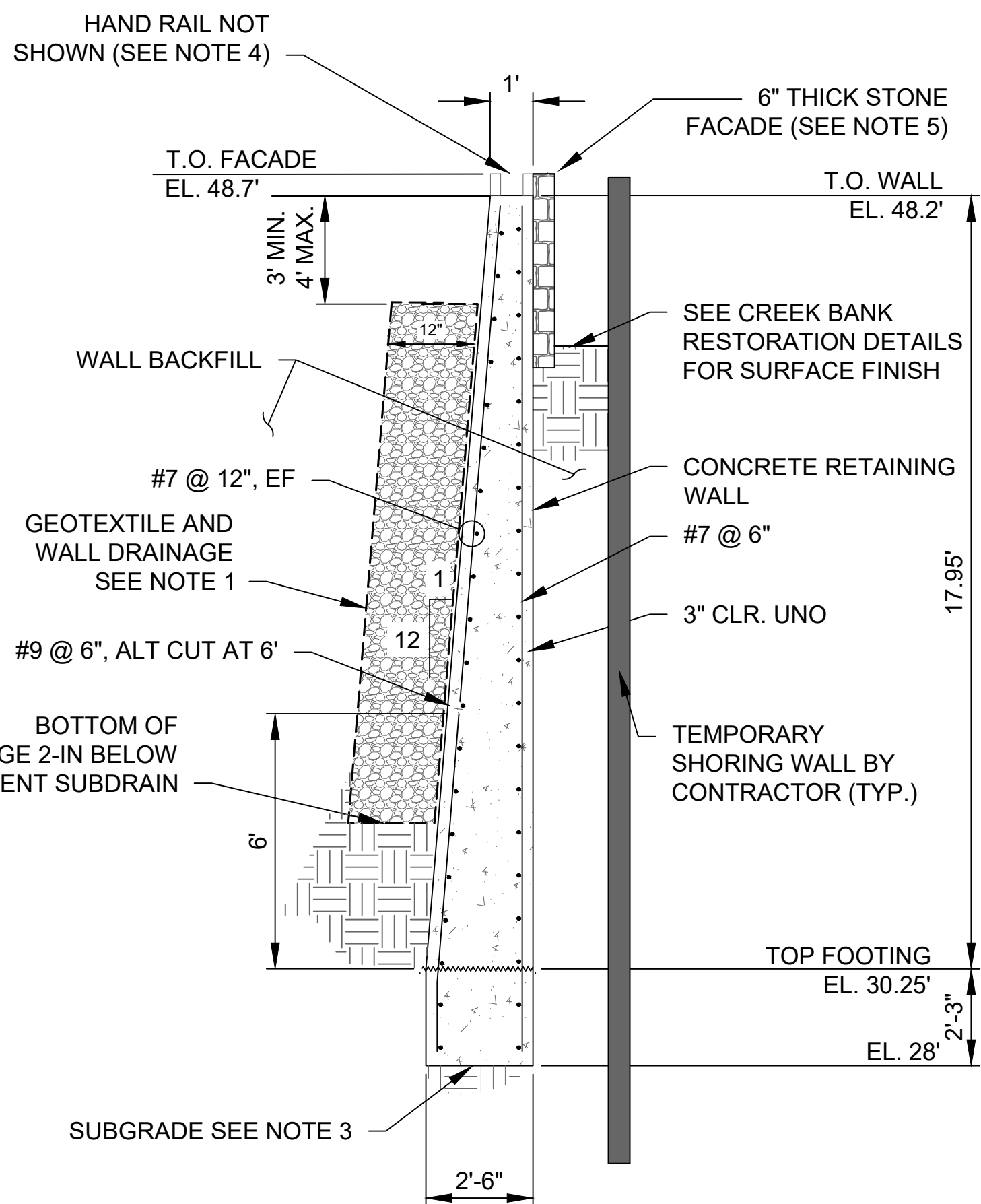
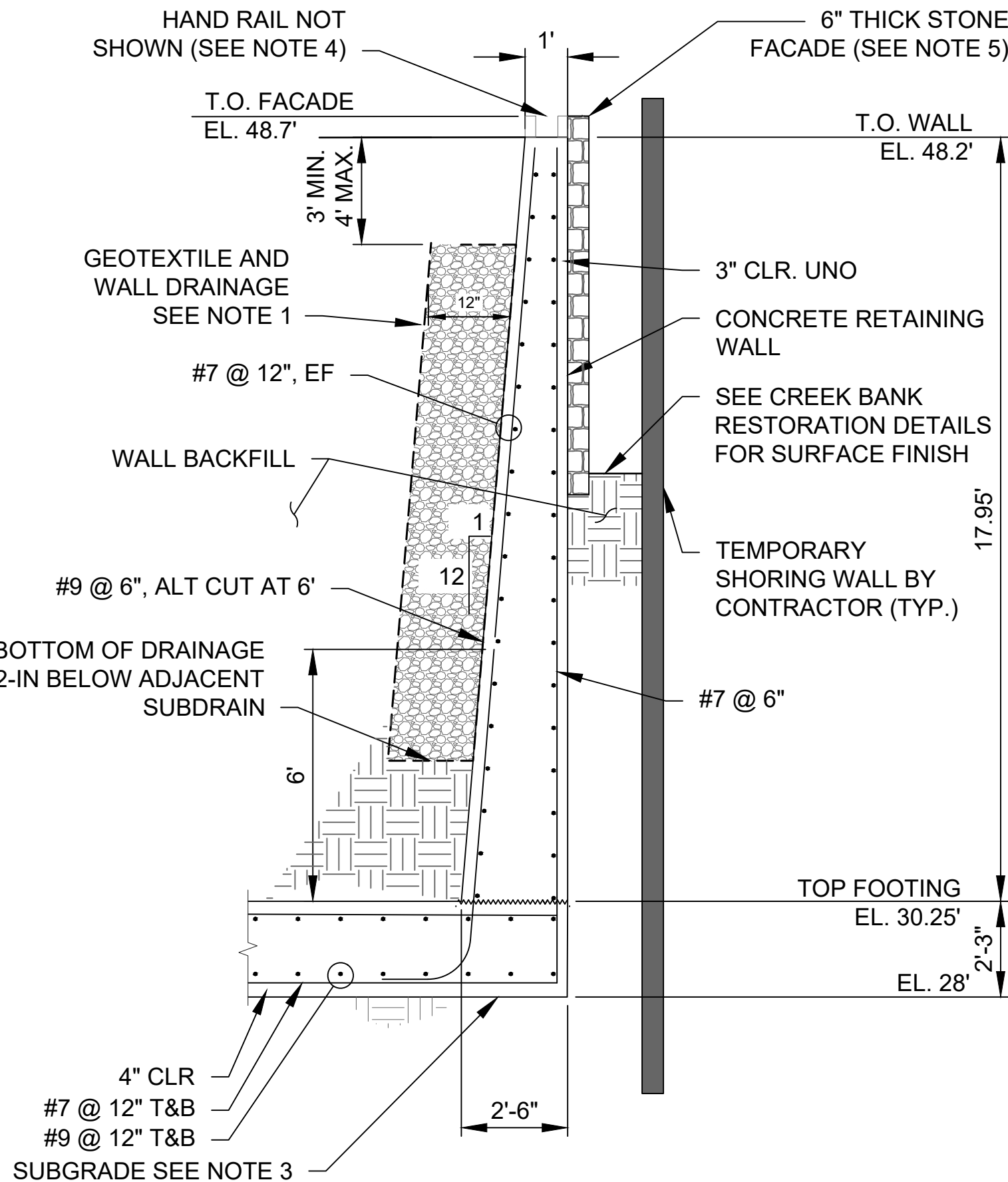
DWG NO.
C-2
SHEET NO.
11





1 FOUNDATION PLAN

SCALE: 1" = 5'



NOTES:

- WALL DRAINAGE SHOULD CONSIST OF CLEAN, FREE DRAINING 3/4 INCH DRAIN ROCK WRAPPED IN FILTER FABRIC (MIRAFI 140N OR EQUIVALENT), CLASS 2 PERMEABLE MATERIAL, OR ENGINEER APPROVED EQUAL.
- SCHEDULE 40, 4" PVC PIPES WITH HOLES FACING DOWNWARD. UNLESS NOTED OTHERWISE, ALL PIPE COUPLINGS SHALL BE LONG SWEEP ELBOWS.
- FOOTING SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- HAND RAIL ON TOP OF RETAINING WALL BY OTHERS NOT SHOWN. REFER TO LANDSCAPE DRAWINGS FOR DETAILS.
- REFER TO LANDSCAPE DRAWINGS FOR STONE FACADE AND CONNECTION DETAILS.

C SECTION

BB2 WALL
SCALE: 1" = 3'

D SECTION

BB2 RETURN WALL
SCALE: 1" = 3'

E SECTION

BB2 RETURN WALL
SCALE: 1" = 3'



Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
1	5/31/2024	DISTRICT AND TOWN REVIEW	LS



Project Number: 1900369

Date: September 15, 2023

Designed: MLP

Checked: KCA

Drawn: RNG

Approved: LS/MF

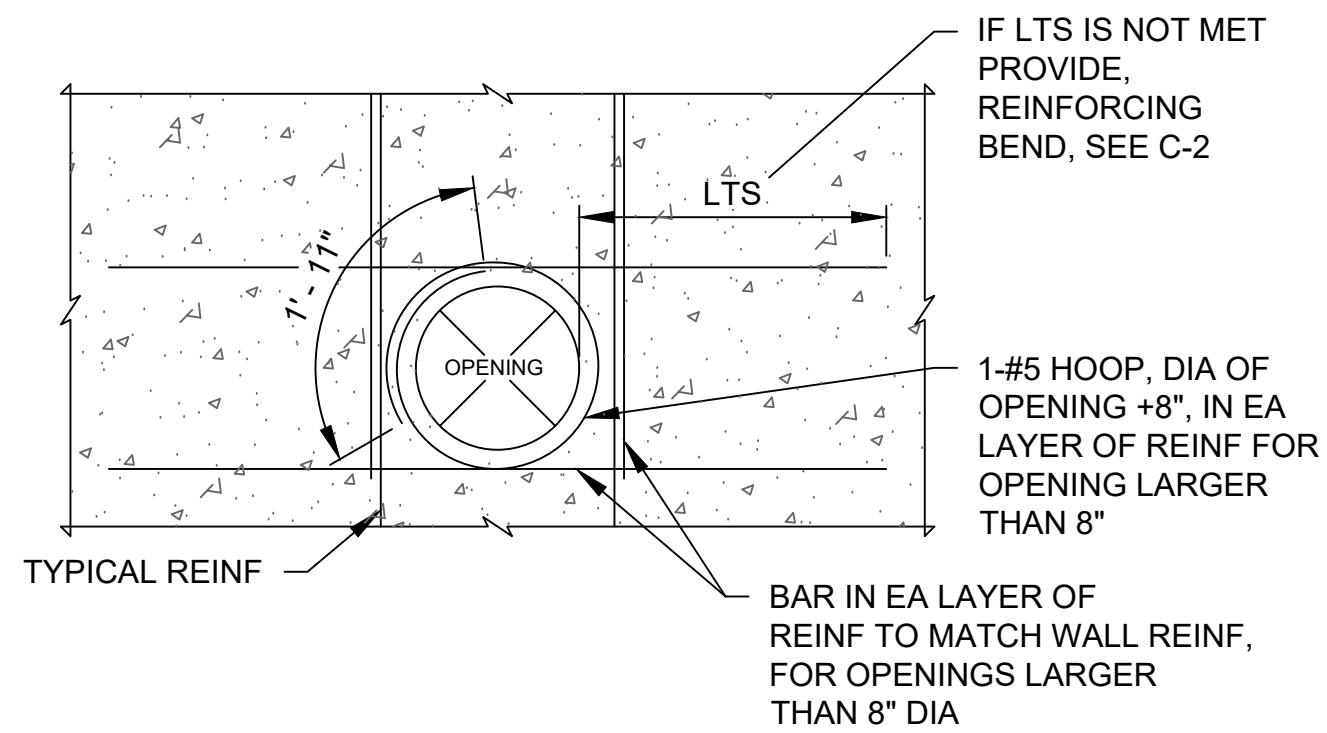


MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL, CALIFORNIA 94903
Project Number: FZ9-12-005-P3

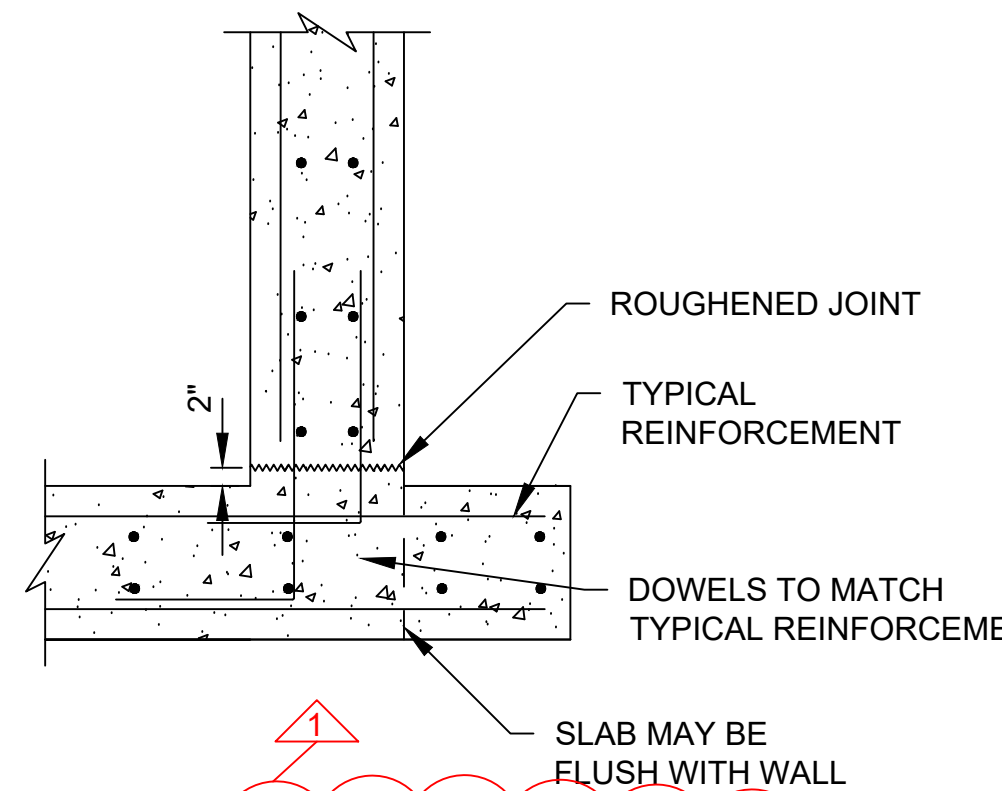
SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE NO. 2
SAN ANSELMO, CA
**RETAINING WALL
FOUNDATION PLAN AND SECTIONS**

DWG NO.
C-4

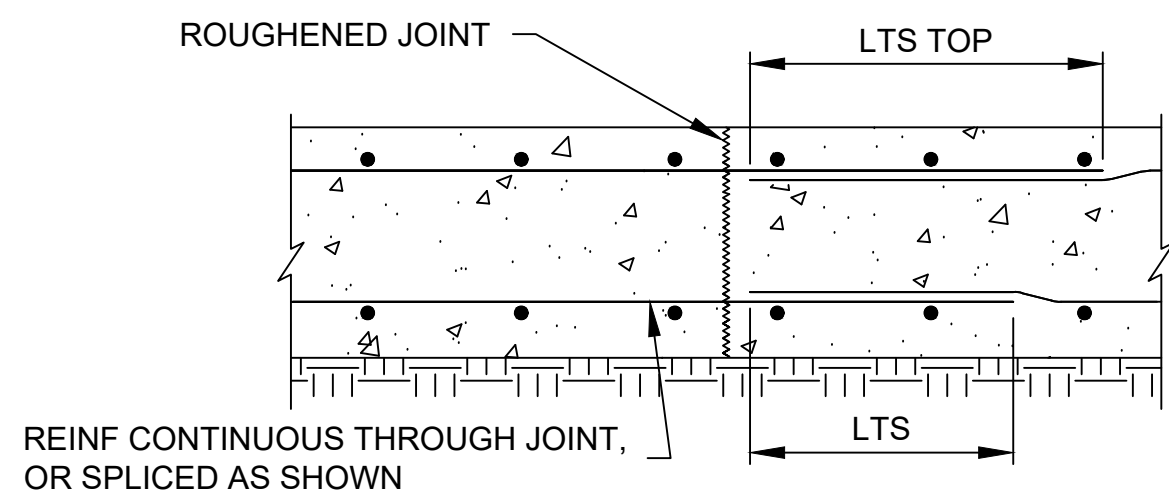
SHEET NO.
13



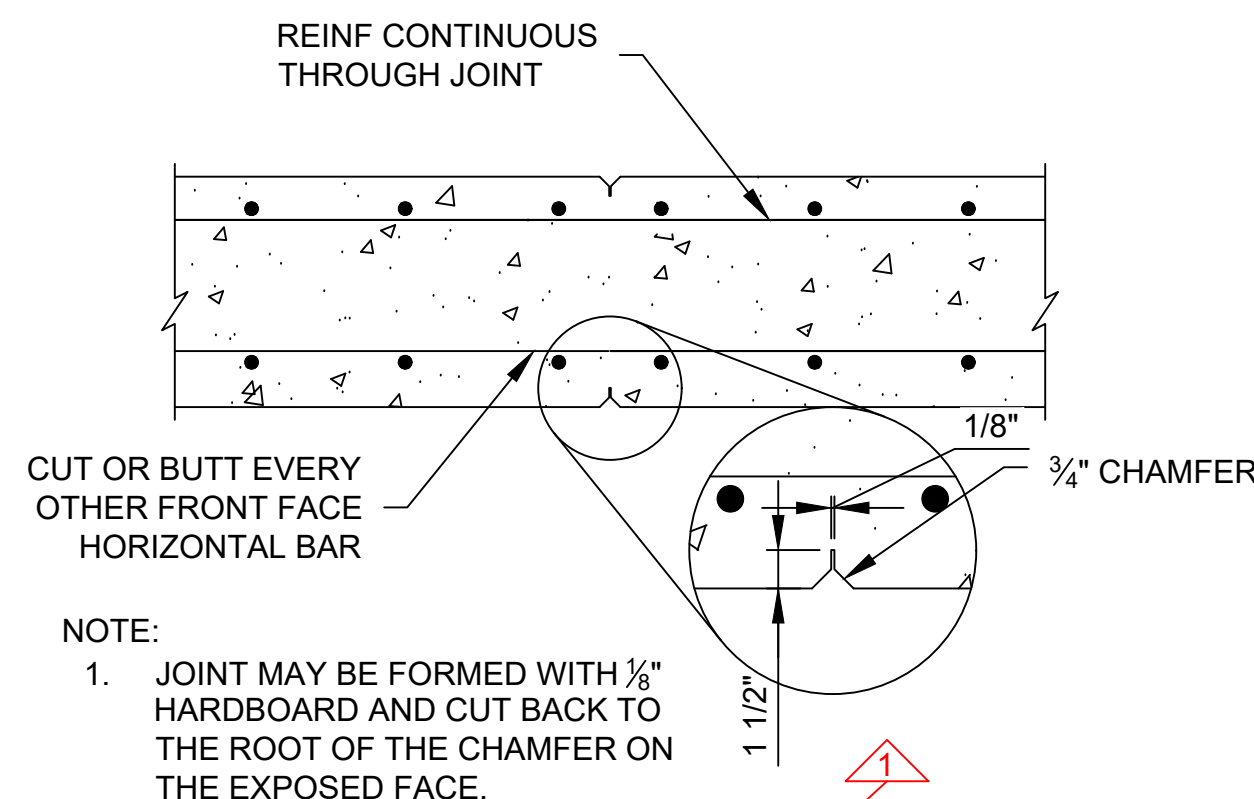
DETAIL - ELEVATION
WALL OPENING REINFORCING
NOT TO SCALE



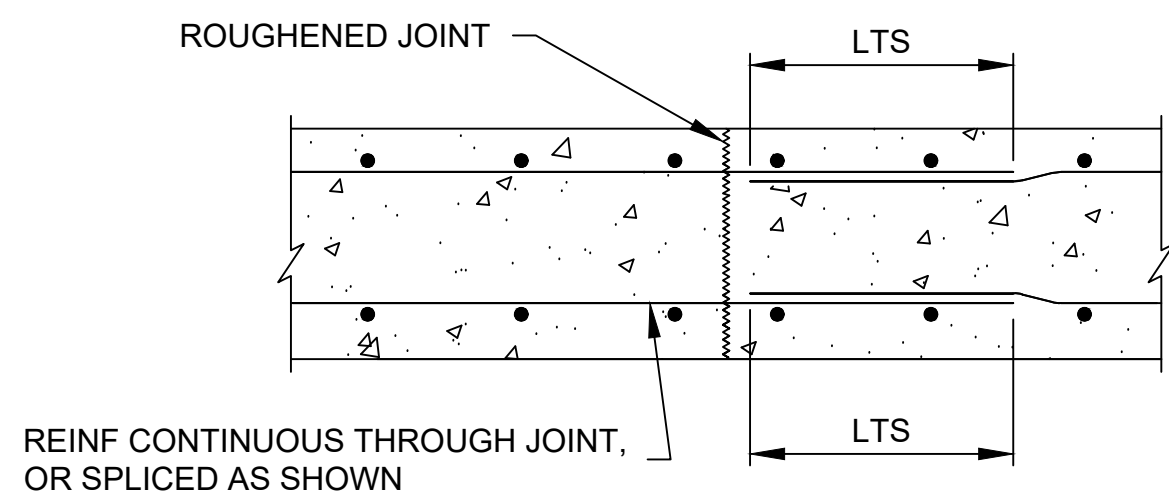
DETAIL - SECTION
TYPICAL WALL TO SLAB JOINT
NOT TO SCALE



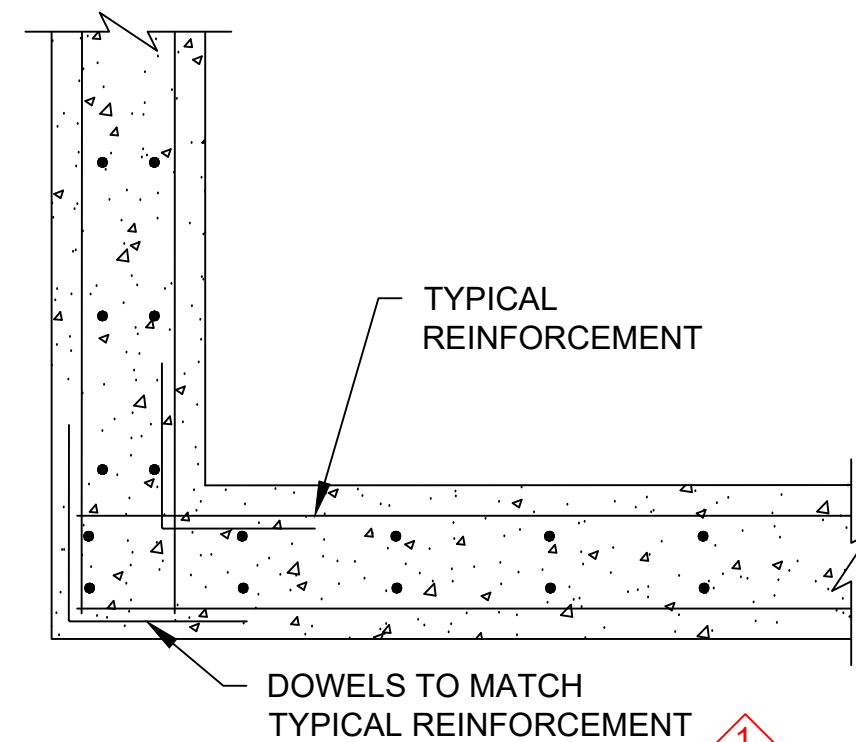
DETAIL - SECTION
TYPICAL SLAB CONSTRUCTION JOINT
NOT TO SCALE



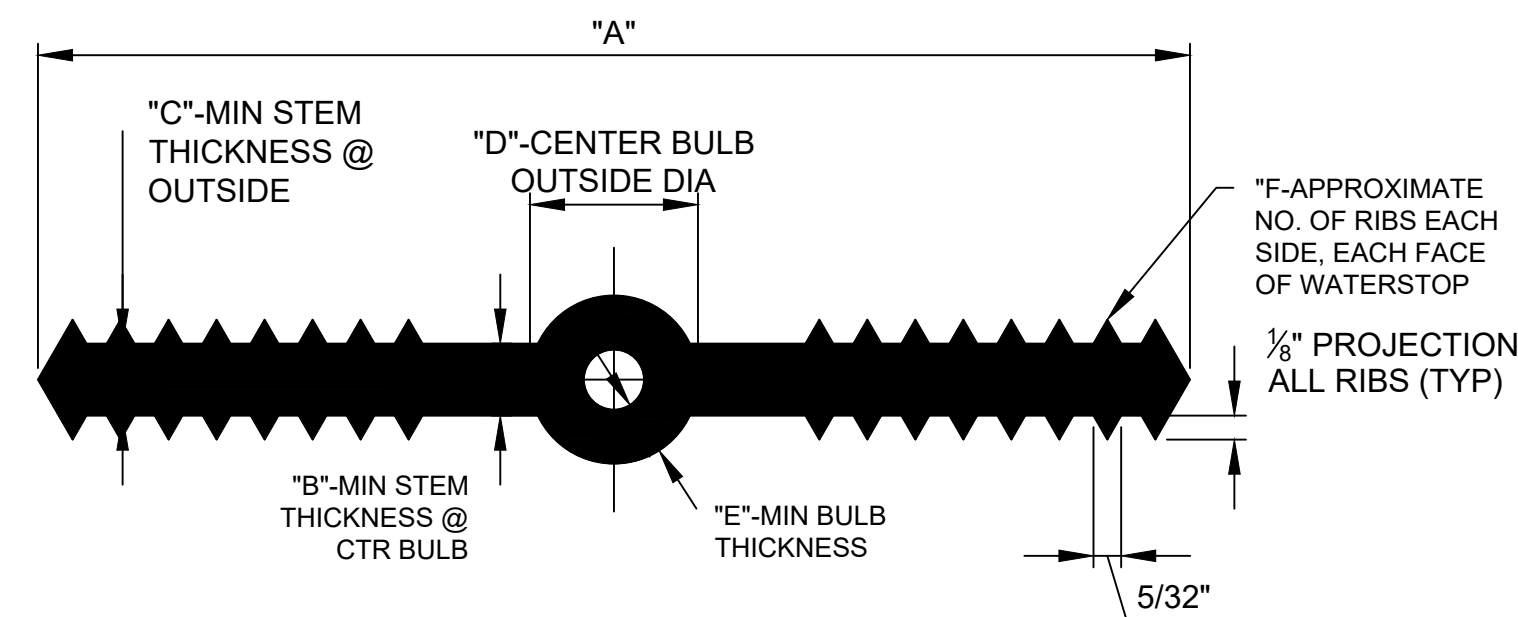
DETAIL - PLAN
TYPICAL CONTROL CONSTRUCTION JOINT
NOT TO SCALE



DETAIL - PLAN
TYPICAL WALL CONSTRUCTION JOINT
NOT TO SCALE



DETAIL - PLAN
TYPICAL CORNER REINFORCING
NOT TO SCALE

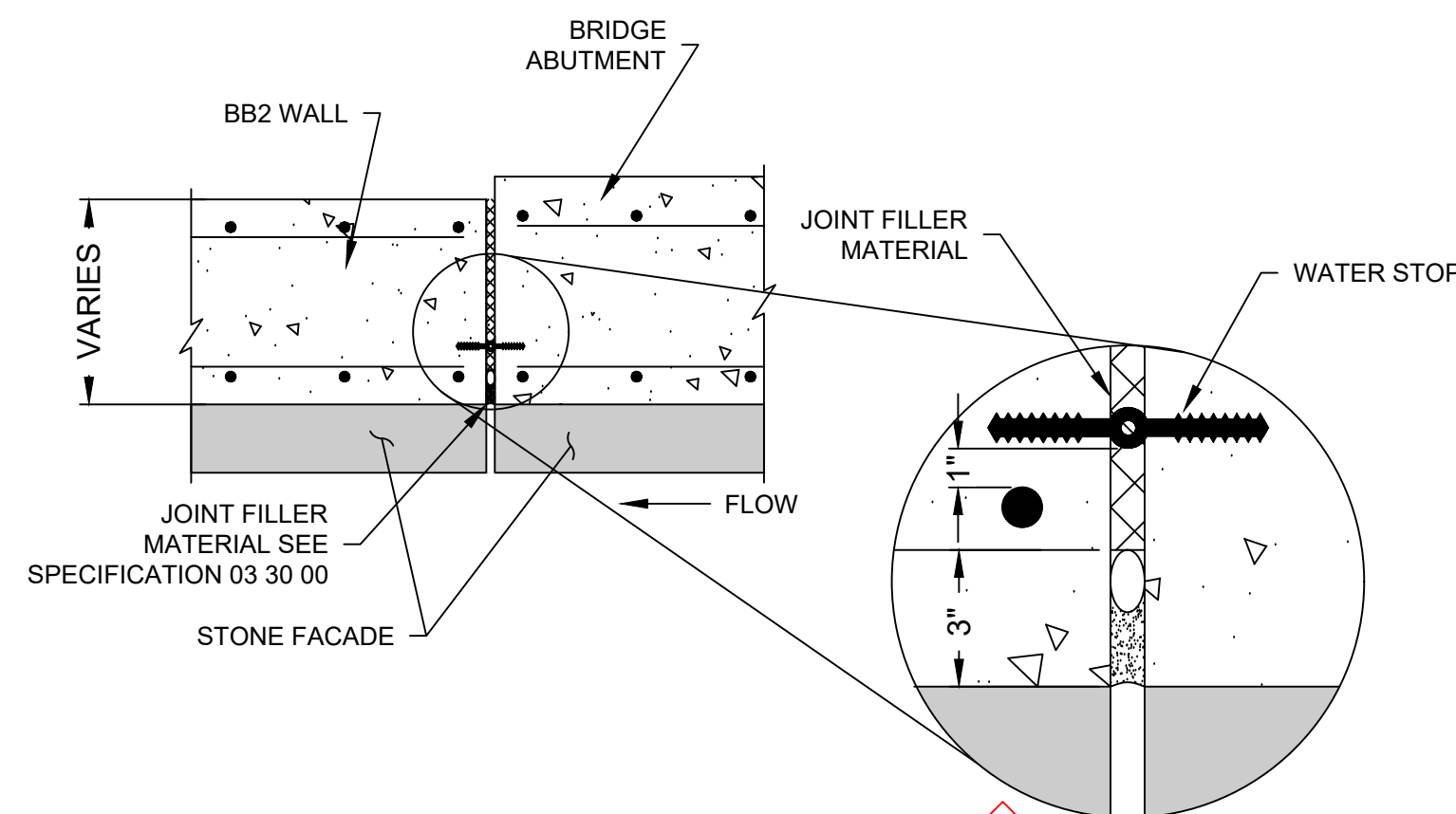


WATERSTOP 1						
SIZE	"A"	"B"	"C"	"D"	"E"	"F"
6"x3/8"	6"	3/8"	3/8"	1"	1/4"	8

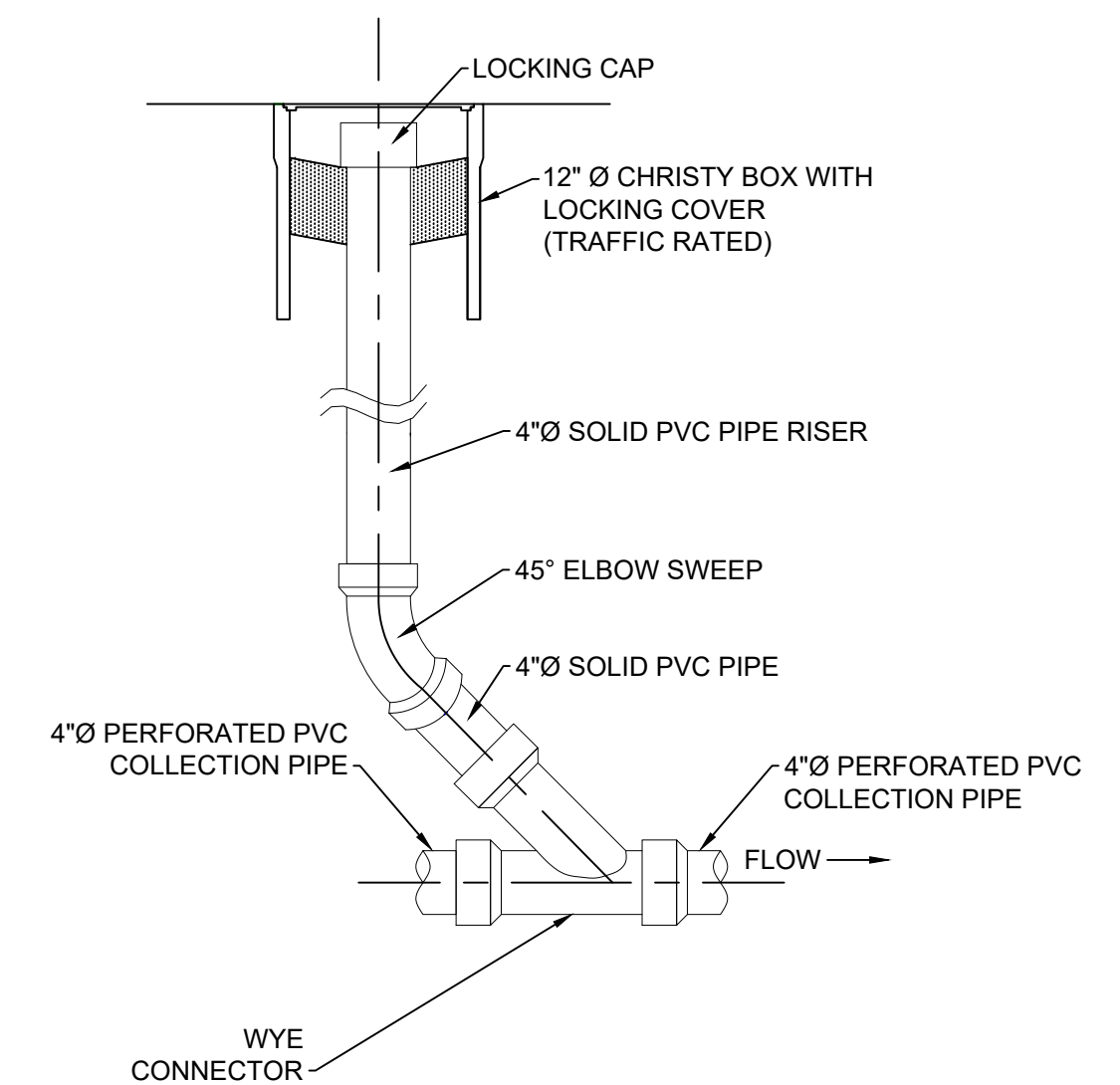
DETAIL - SECTION
WATERSTOP TYPE 1

WATERSTOP NOTES:

1. NON-ROUND CENTER BULBS SHALL HAVE A MINIMUM OUTSIDE DIMENSION OF 'D'.
2. BULB TYPE WATERSTOP SHOWN IS REQUIRED FOR EXPANSION JOINTS.
3. LOCATE WATERSTOP ON LIQUID FACE 1" CLEAR OF REINFORCEMENT.
4. PROTECT PVC WATERSTOPS FROM DAMAGE AND COVER TO AVOID PROLONGED DIRECT EXPOSURE TO SUNLIGHT.
5. CLEAN WATERSTOP PRIOR TO CONCRETE PLACEMENT TO REMOVE GREASE, DIRT, OR CONCRETE RESIDUE.
6. THOROUGHLY CONSOLIDATE AROUND WATERSTOP TO PREVENT VOIDS OR HONEYCOMBING.
7. USE GROMETS, "HOG RINGS", OR TIE WIRE TO SECURE WATERSTOP IN CORRECT POSITION.

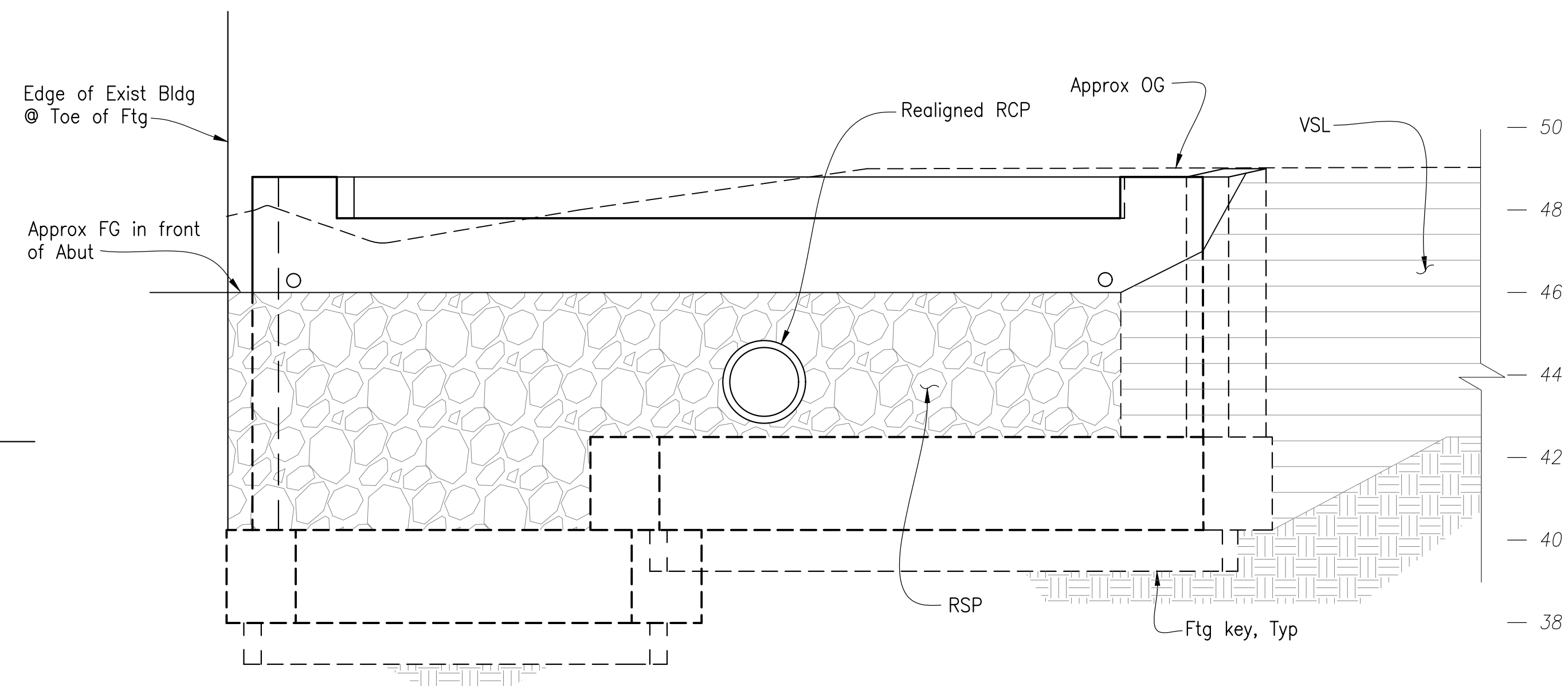


DETAIL - PLAN
WATER STOP LOCATION
NOT TO SCALE

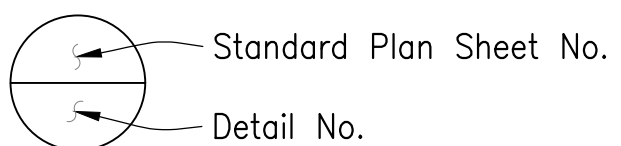


DETAIL - ELEVATION
CLEAN OUT
NOT TO SCALE

	Attention:		0 1"			Designed: RNG Checked: MLP/KCA Drawn: RNG Approved: LS/MF	 MARIN COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT 3501 CIVIC CENTER DR, ROOM 304 SAN RAFAEL, CALIFORNIA 94903 Project Number: FZ9-12-005-P3	SAN ANSELMO FLOOD RISK REDUCTION PROJECT BUILDING BRIDGE NO. 2 SAN ANSELMO, CA RETAINING WALL DETAILS	DWG NO. C-5 SHEET NO. 14
	1	5/31/2024	DISTRICT AND TOWN REVIEW	LS	Project Number: 1900369				
	NO.	DATE	ISSUE/REVISION	APP	Date: September 15, 2023				

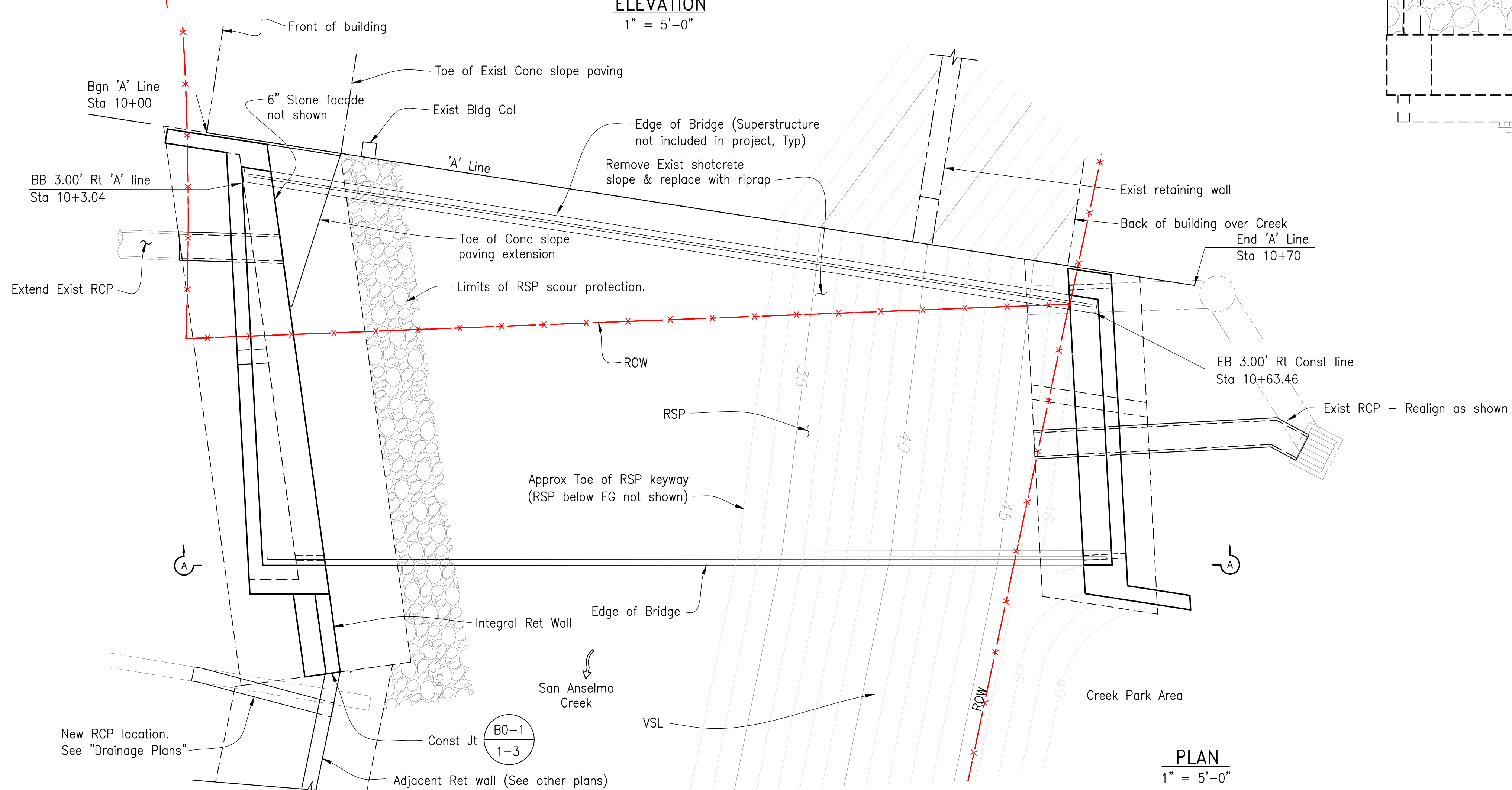


2022 Caltrans Standard Plans	
<u>Sheet No.</u>	<u>Title</u>
A3A, A3B, A3C	Abbreviations
A10A, A10B, A10C	Legend—Lines and Symbols
A10D, A10E	Legend—Lines and Symbols
A10F, A10G	Legend—Soil
A10H	Legend—Rock
A62C	Limits of Payment for Excavation & backfill – Bridge
BO–1	Bridge Details
BO–3	Bridge Details
B3–5	Retaining Wall Details No. 1
B9–6	Structure Approach Drainage Details



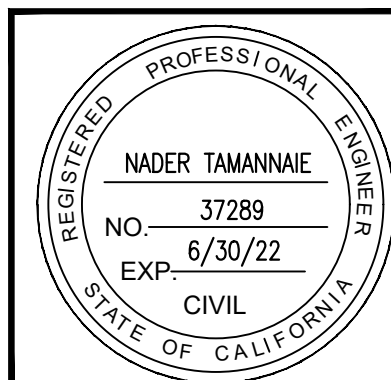
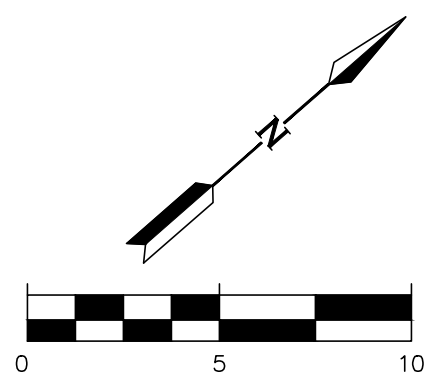
Notes:

1. These plans to be implemented with 2022 Caltrans Std Plans & Std Specification & revisions thereof, as well as additional special provisions.
2. The bridge superstructure will be designed to be raised (along with the profile grade of its approach walkways) to comply with future flood control needs.
3. For slope treatment at Abut 2 RSP @ Abut 1 and limits of RSP see sheets C-16 thru C-20.
4. Bridge superstructure to be determined separately.
5. VSL = Vegetated Soil Lift




PLAN

1" = 5'-0"



Attention:



If this scale bar does not measure "1" then drawing is not original scale.

0	6/10/2022	FEMA MT-2 APPLICATION	
NO.	DATE	ISSUE/REVISION	APP

MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CALIFORNIA 95831
(916) 421-1000

Project Number: 2706
Date: June 10, 2022

Designed: N.T.

Checked: N.T.

Drawn: J.C.

Approved:



MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL CALIFORNIA 94903

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA

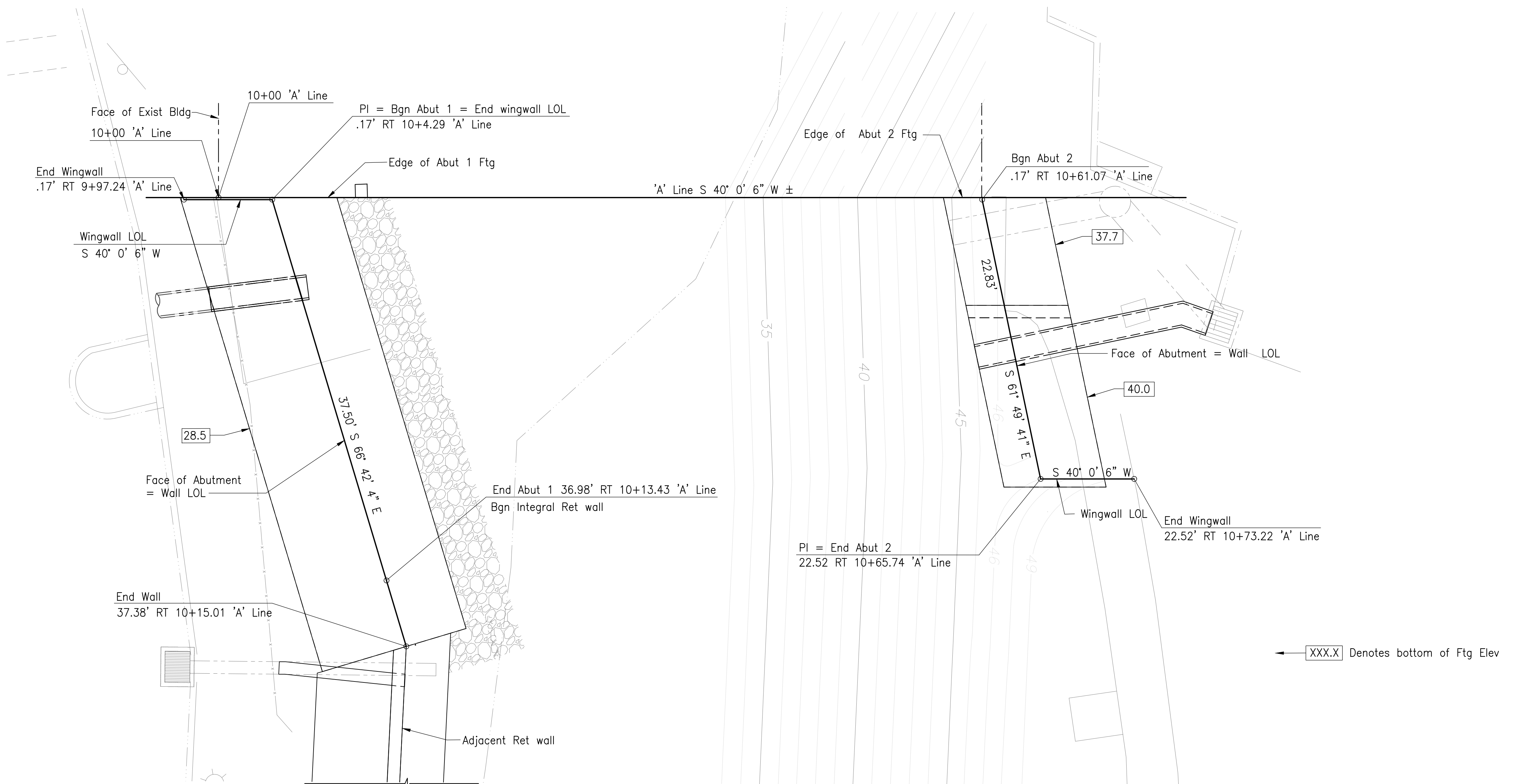
CREEK PARK BRIDGE GENERAL PLAN

DRAFT

DWG NO.

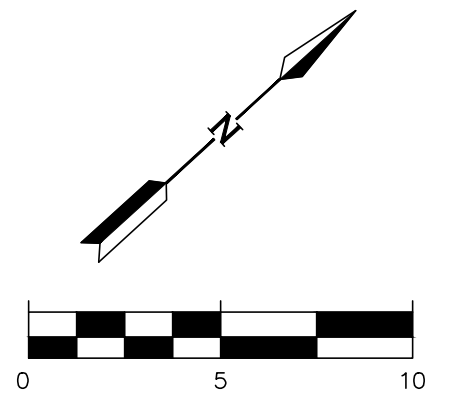
C-6

SHEET NO.
14




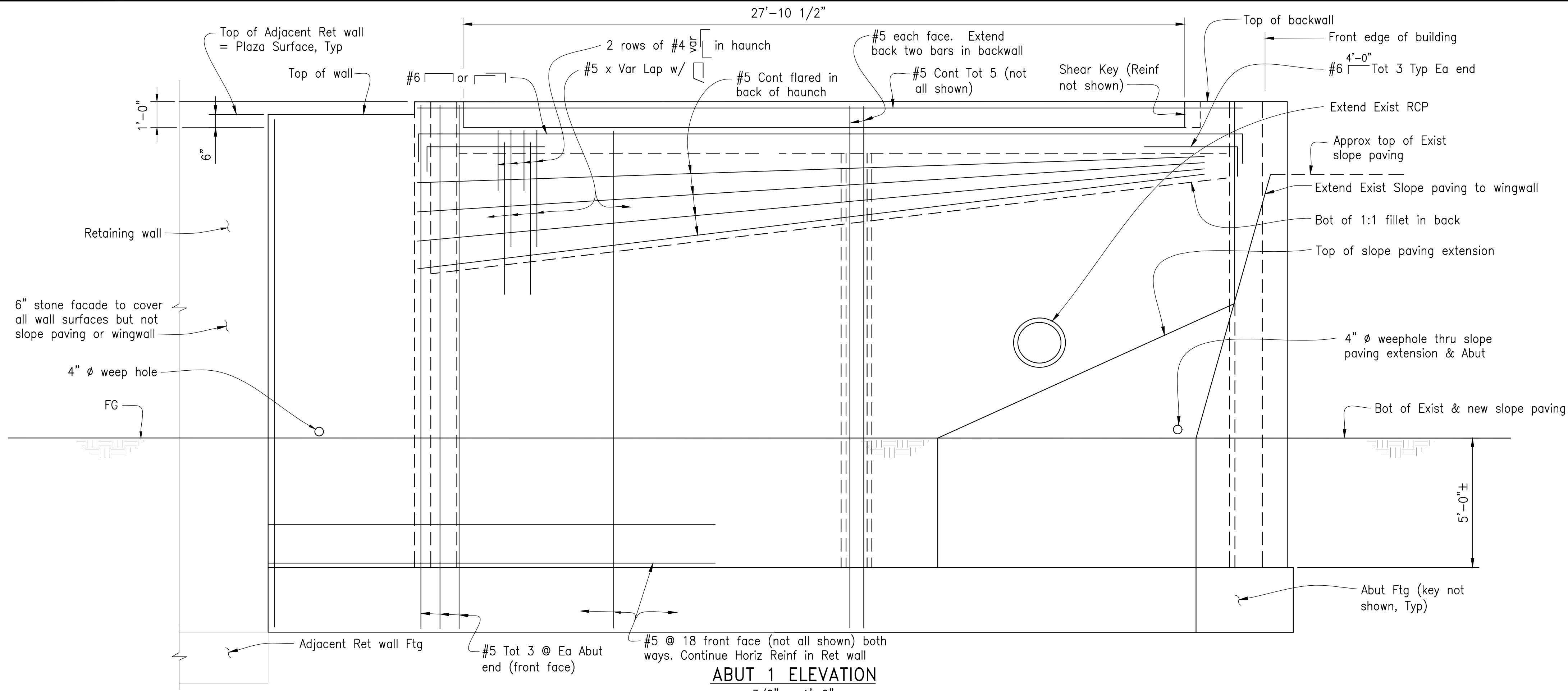
FOUNDATION PLAN
1" = 5'

Note: For new creek and creek bank elevations, see "Channel Grading Plans"

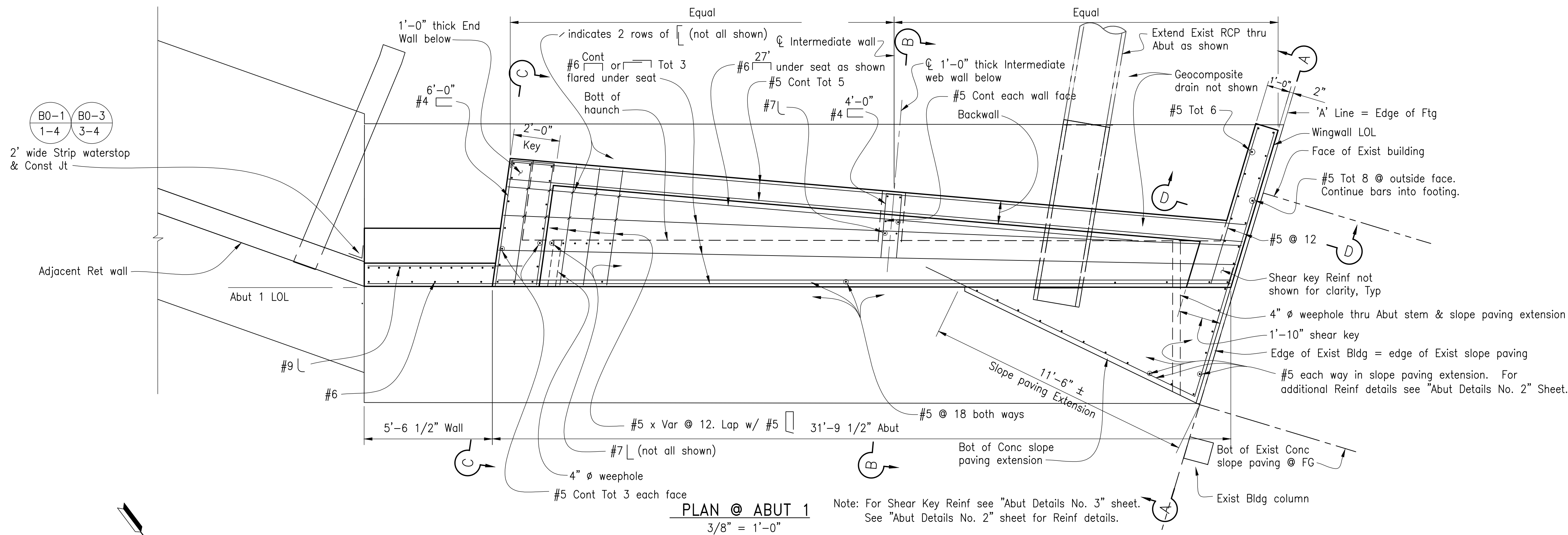


DRAFT

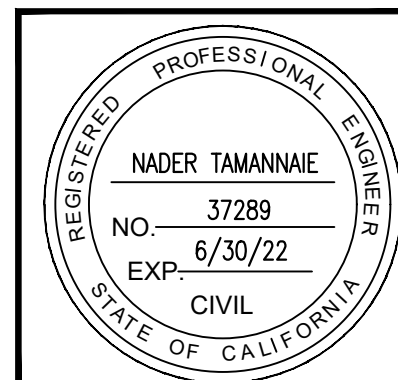
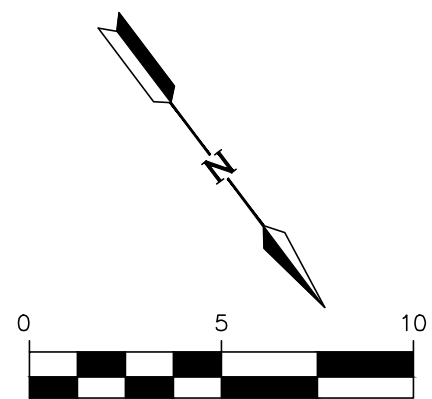
<div><div><div>REGISTERED PROFESSIONAL ENGINEER</div><div>NADER TAMANNIAE</div><div>NO. 37289</div><div>EXP. 6/30/22</div><div>CIVIL</div><div>STATE OF CALIFORNIA</div></div></div>	Attention:				<div><div><div>MGE ENGINEERING, INC.</div><div>2415 GREENHAVEN DRIVE, SUITE 100</div><div>SACRAMENTO, CALIFORNIA 95833</div><div>(916) 421-1000</div></div></div>	Designed:	N.T.	<div><div><div></div><div><div>MARIN COUNTY</div><div>FLOOD CONTROL & WATER CONSERVATION DISTRICT</div><div>3501 CIVIC CENTER DR., ROOM 304</div><div>SAN RAFAEL, CALIFORNIA 94903</div></div></div></div>	SAN ANSELMO FLOOD RISK REDUCTION PROJECT		DWG NO.	
	If this scale bar does not measure 1" then drawing is not original scale.					Checked:	N.T.		BUILDING BRIDGE No. 2		C-7	
	0	6/10/2022	FEMA MT-2 APPLICATION			Drawn:	J.C.		SAN ANSELMO, CA			
	NO.	DATE	ISSUE/REVISION	APP		Approved:			CREEK PARK BRIDGE FOUNDATION PLAN			SHEET NO.
						Project Number: 2706						15
				Date: June 10, 2022								



— 50
— 48
— 46
— 44
— 42
— 40
— 38
— 36
— 34
— 32
— 30
— 28



- Notes:
1. For "Extended Slope Paving", and Sections A-A Thru D-D see "Abutment Details No. 2" sheet.
 2. Abut shear key Reinf not all shown. See "Abutment Details No. 3" sheet.
 3. For additional abutment Reinf see "Abutment Details No. 1" sheet
 4. For full End wall & Intern web wall Reinf see "Abut Details No. 2" sheet.
 5. For full end wall & Intern web wall Reinf see "Abut Detail No. 2" sheet.
 6. For Drainage Details see B9-6 (No Structure Approach). Drain thru abutments, not sides, Typ @ both Abuts
 7. For excavation and backfill, riprap and site grading see other plans.



Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
0	6/10/2022	FEMA MT-2 APPLICATION	

MGE ENGINEERING, INC.
2415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CALIFORNIA 95833-1000
(916) 421-1000
Project Number: 2706
Date: June 10, 2022

Designed: N.T.
Checked: N.T.
Drawn: J.C.
Approved:

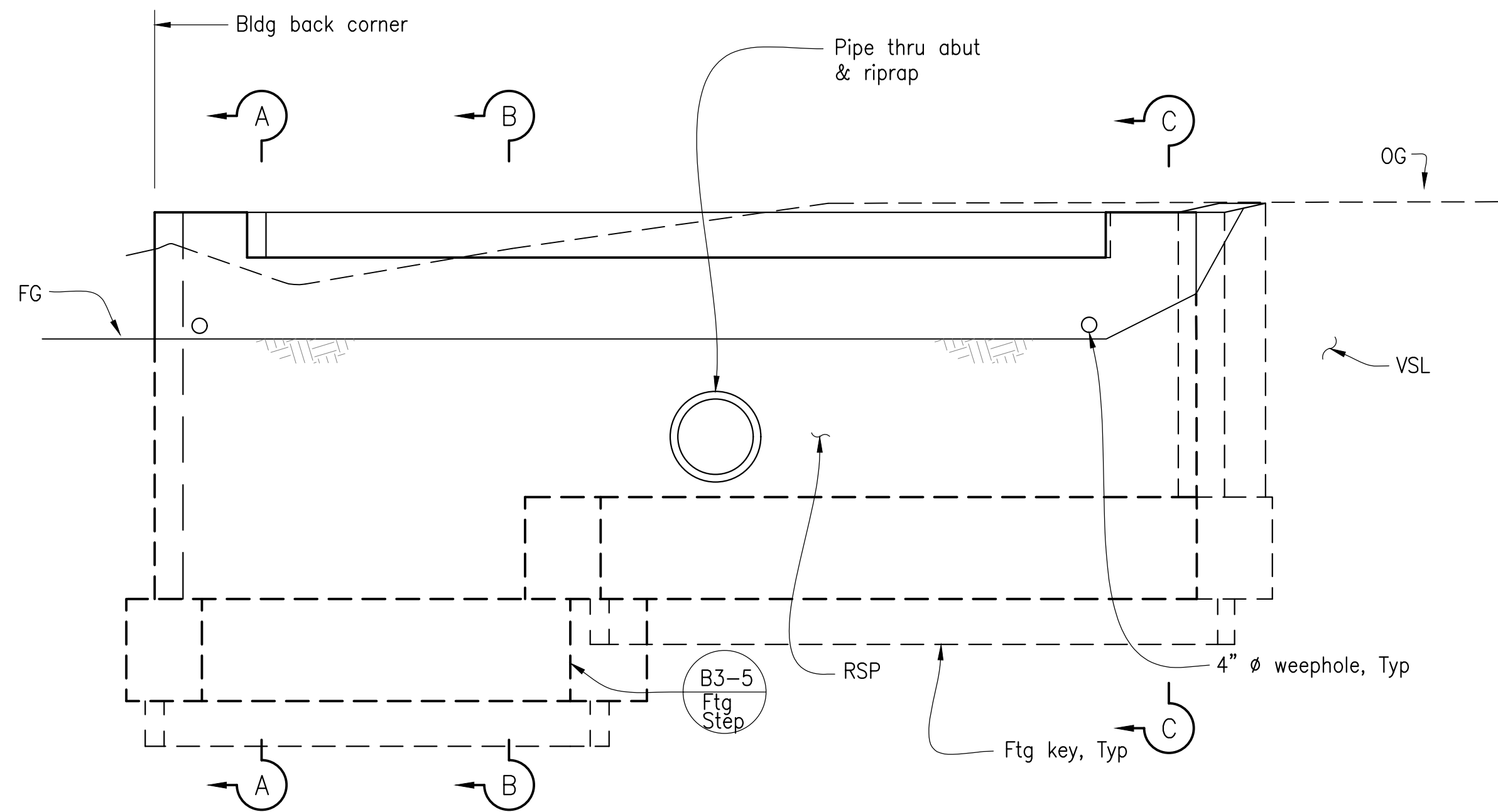


MARIN COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL CALIFORNIA 94903

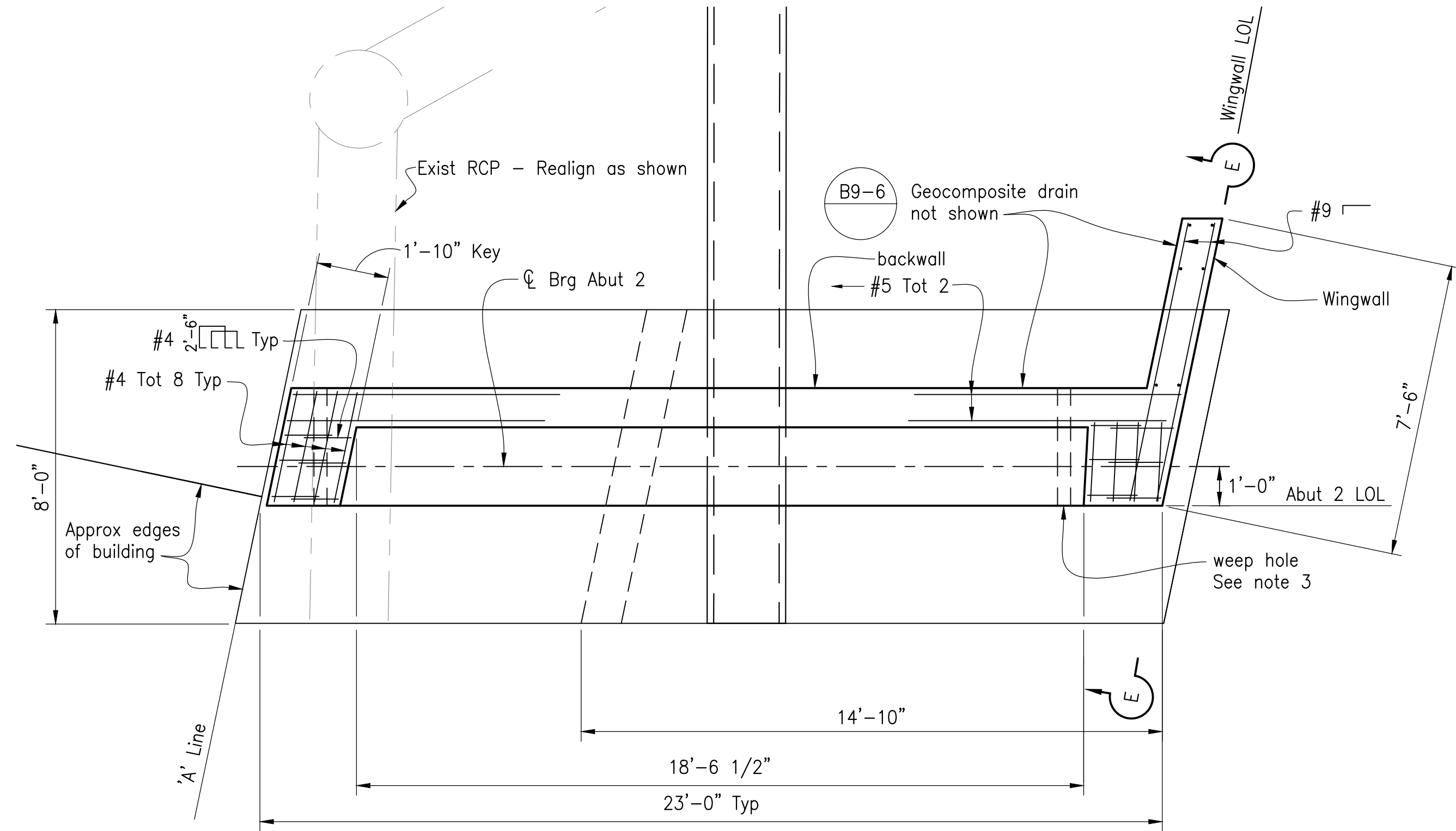
SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA
CREEK PARK BRIDGE
ABUT 1 PLAN AND ELEVATION

DWG NO.
C-8
SHEET NO.
16

DRAFT



ABUT 2 ELEVATION
3/8" = 1'-0"

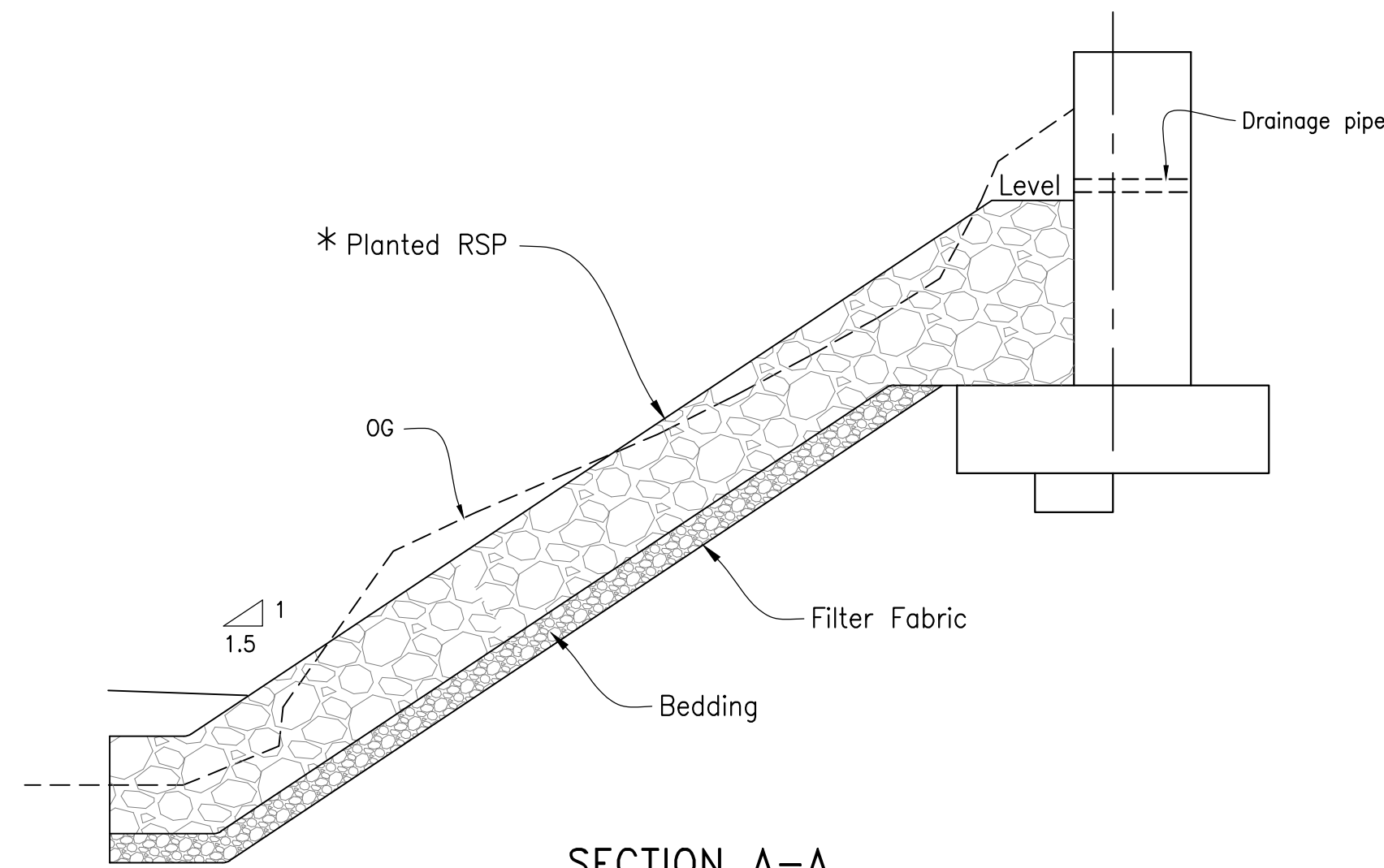


Note: See "Abut Details 2" sheet for more info.

PLAN @ ABUT 2
3/8" = 1'-0"

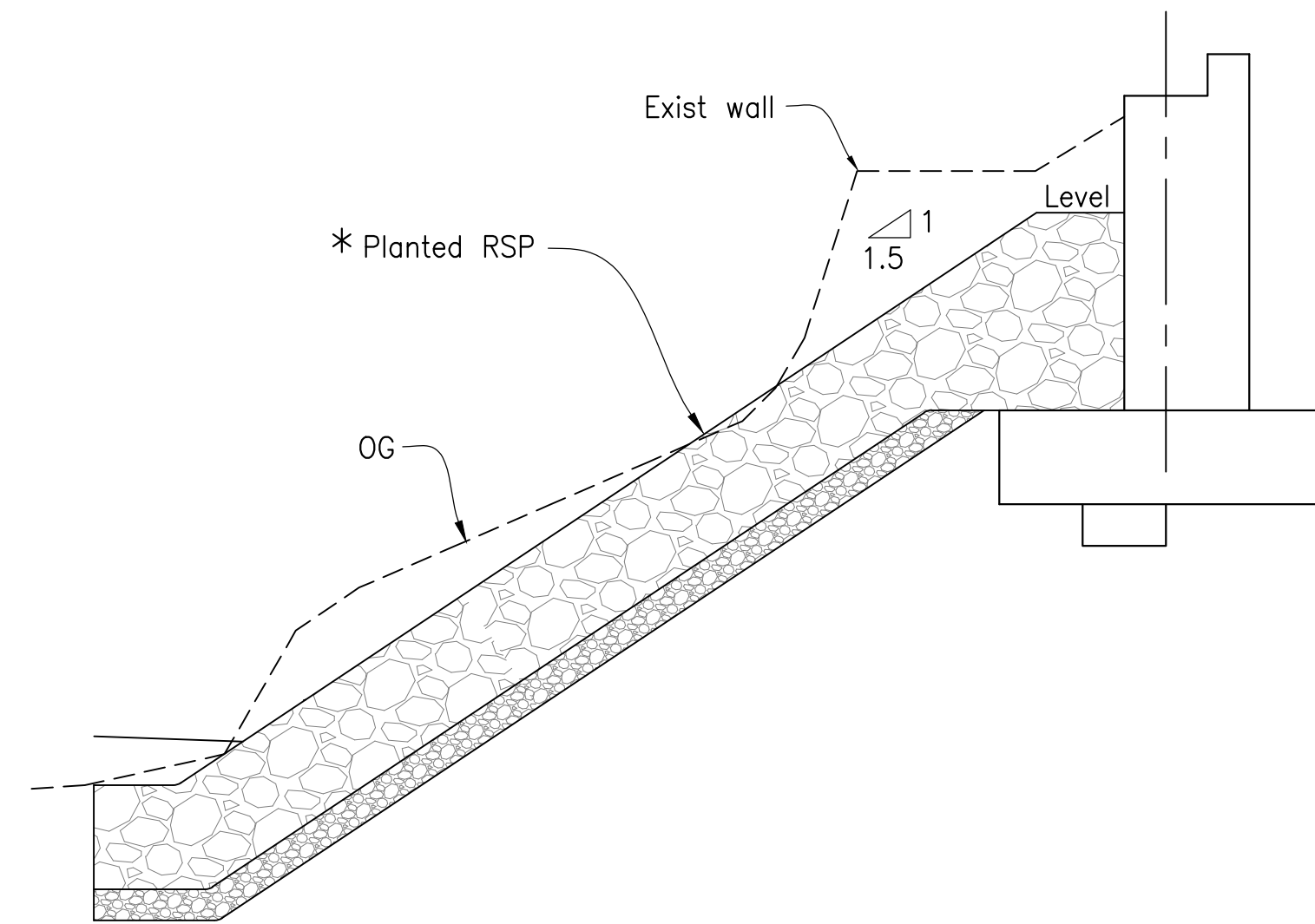
Notes:

1. For Section E-E See "Abutment Detail No. 3" Sheet
2. For Limits and details of Slope treatment in front of Abut 2. See other plans
3. Extend drainage pipe thru riprap or VSL area.
4. For additional Sher Key Reinf detail see "Abut Details No. 3" sheet

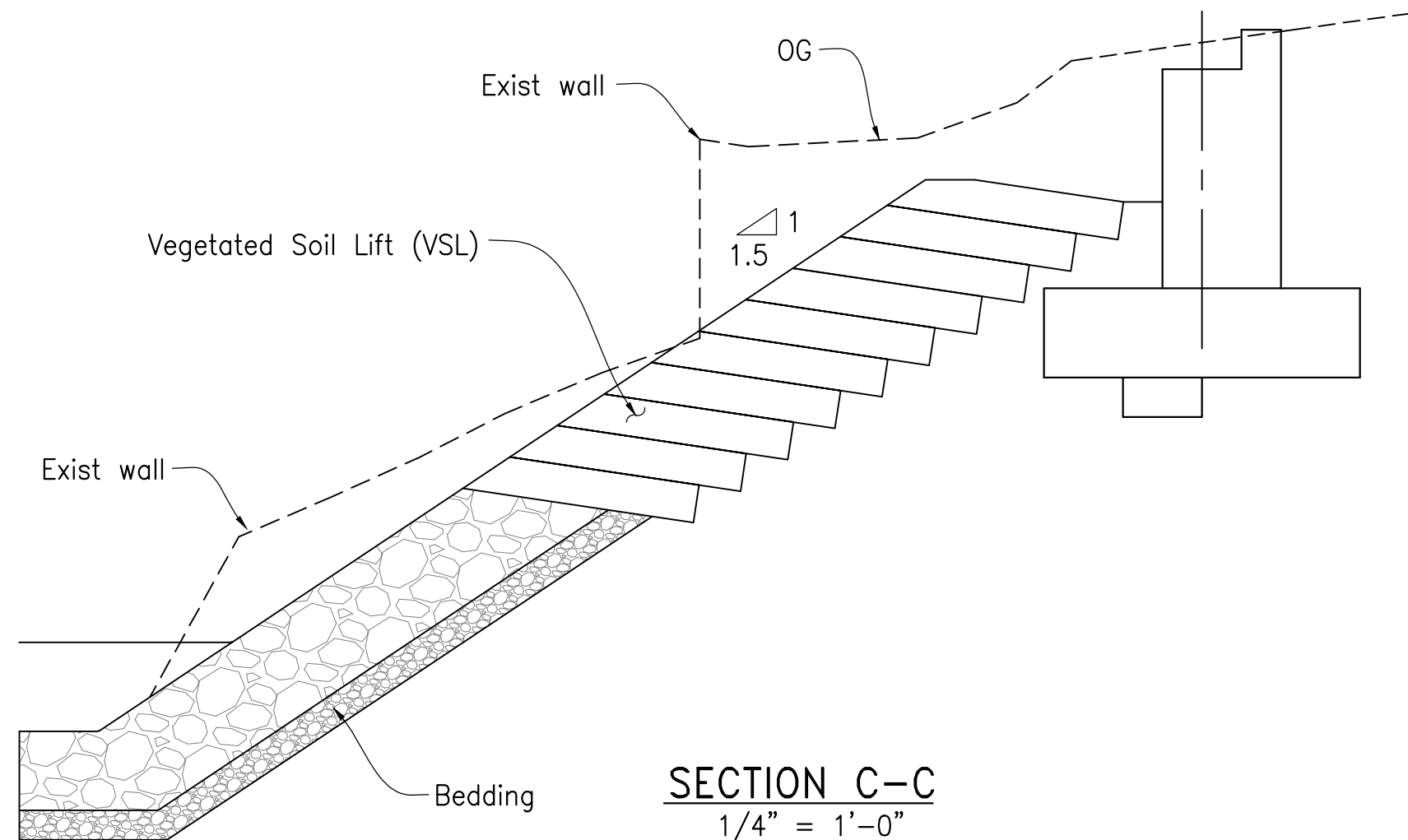


SECTION A-A
1/4" = 1'-0"

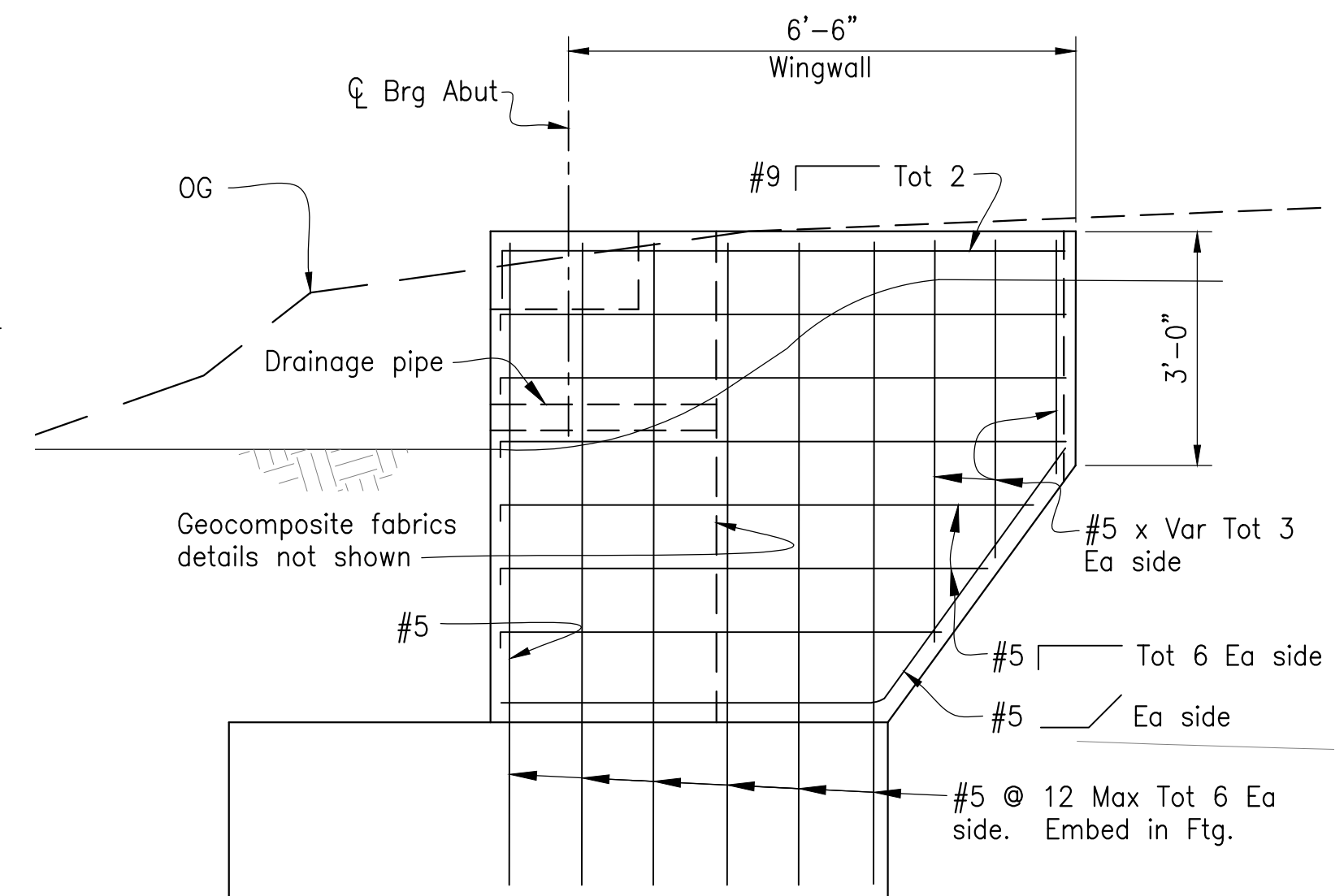
* Note: No planting on level bench. For RSP & VSL see C-16 thru C-20



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

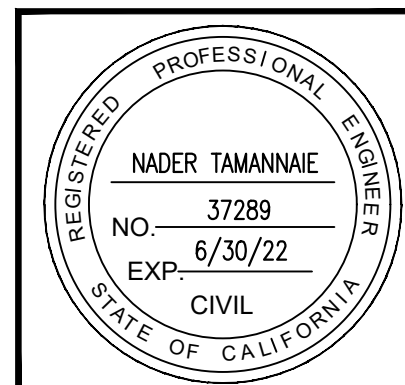
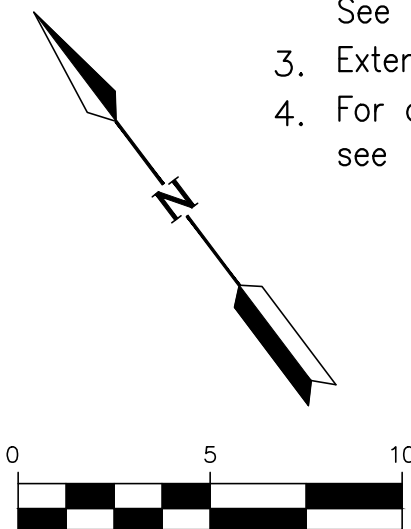


SECTION C-C
1/4" = 1'-0"



ABUT 2 SECTION E-E
1/2" = 1'-0"

DRAFT



Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
0	6/10/2022	FEMA MT-2 APPLICATION	

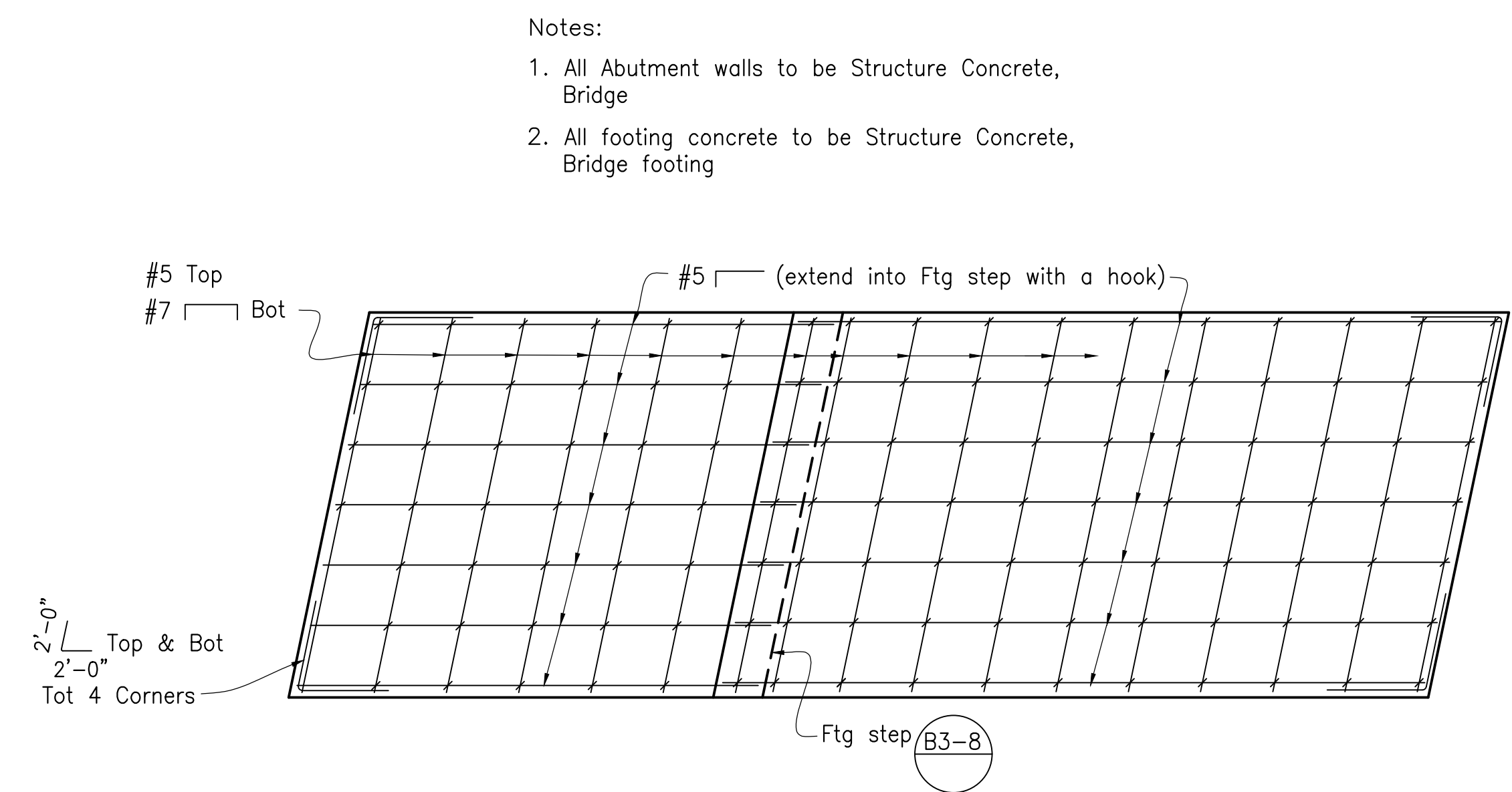
MGE ENGINEERING, INC.
2415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CALIFORNIA 95833-1000
Project Number: 2706
Date: June 10, 2022

Designed: N.T.
Checked: N.T.
Drawn: J.C.
Approved:

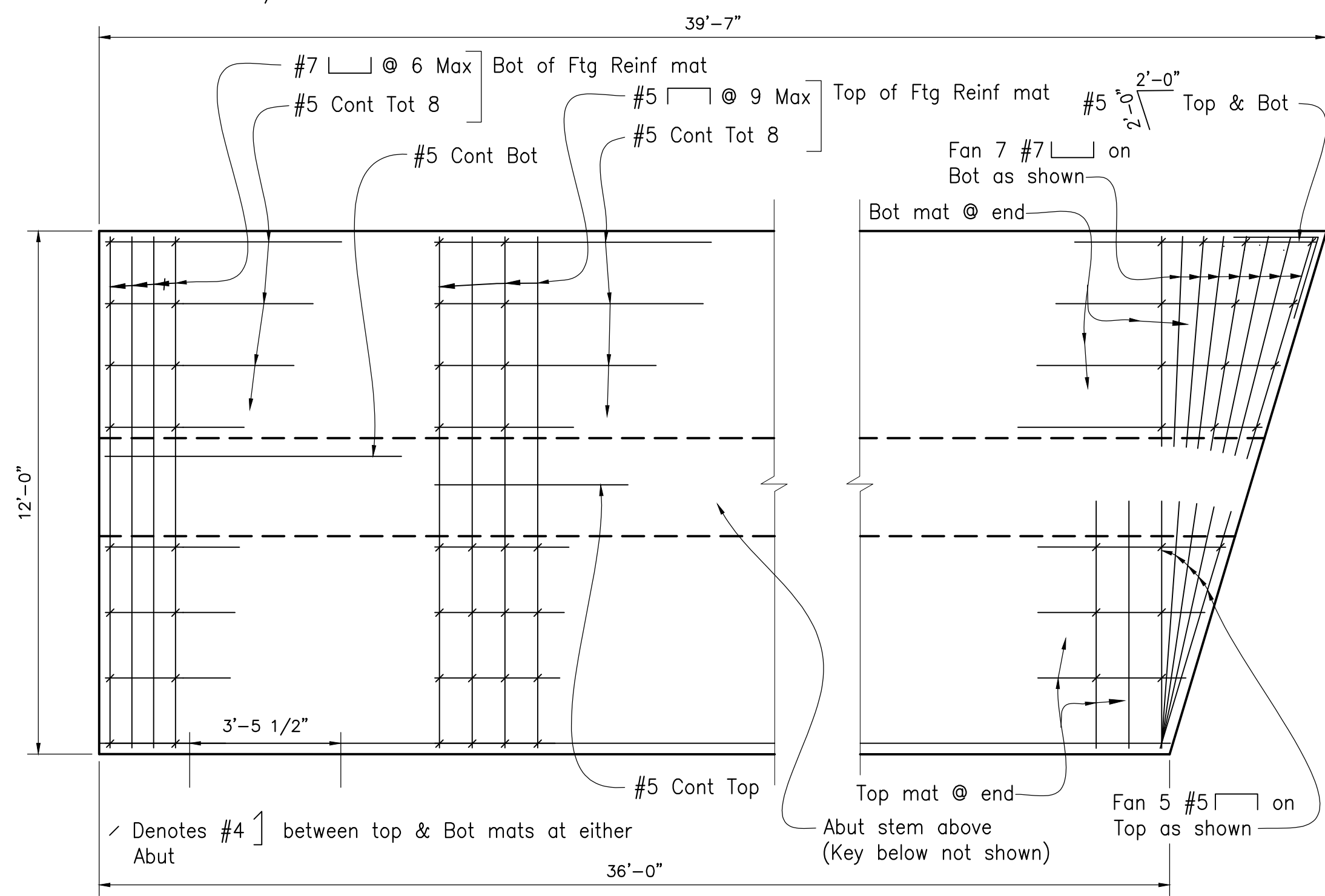
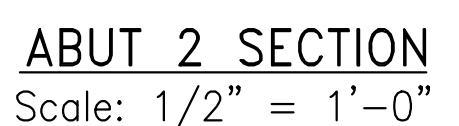
MARIN COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL CALIFORNIA 94903

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA
CREEK PARK BRIDGE
ABUT 2 PLAN, ELEVATION AND SECTION

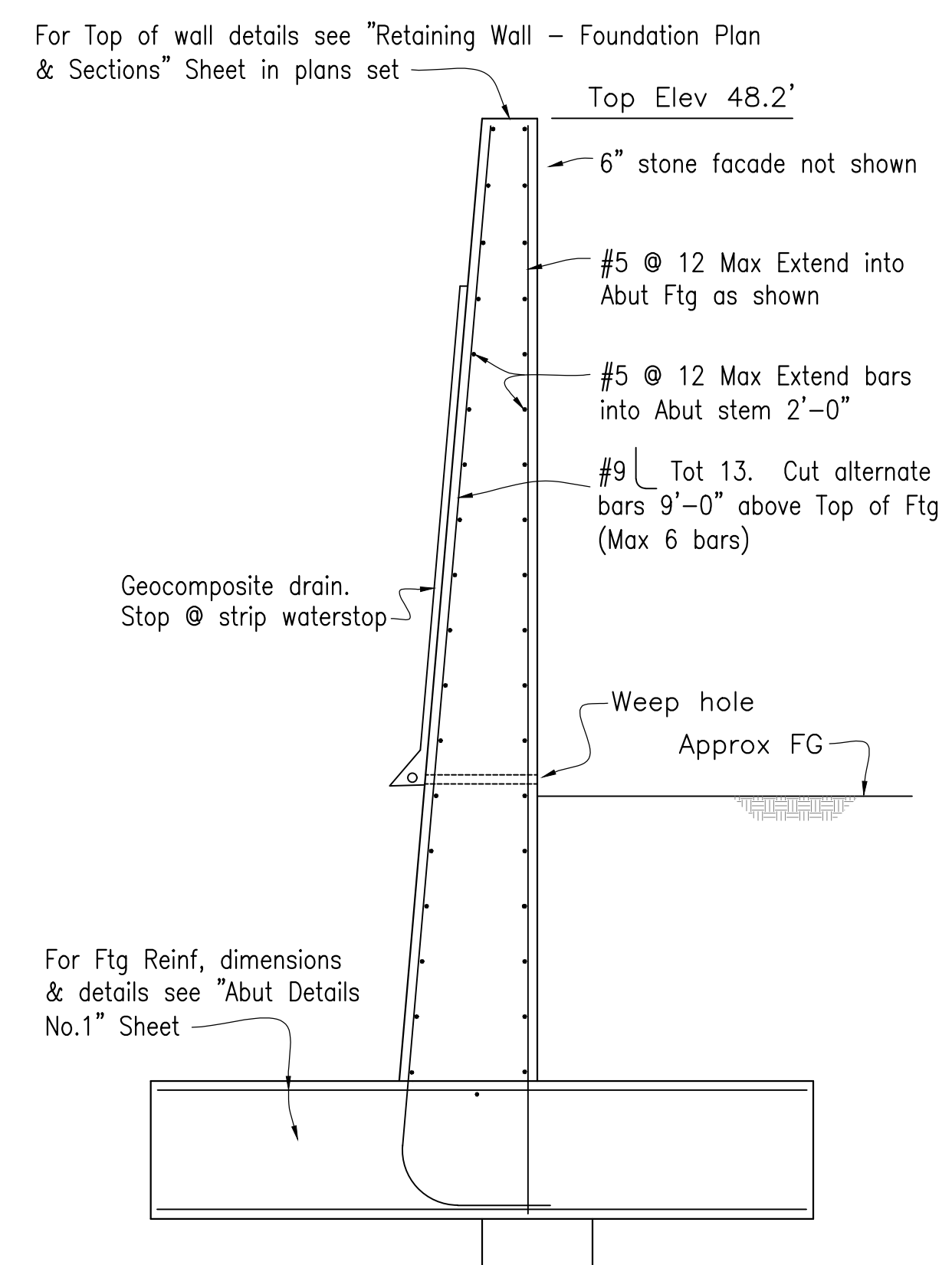
DWG NO.
C-9
SHEET NO.
17



Notes: Top mat rebar $3/8" = 1'-0"$ pattern shown, Bot mat similar.
 / denotes #4]







FOOTING REINFORCEMENT @ ABUT 1
3/8" = 1'-0"

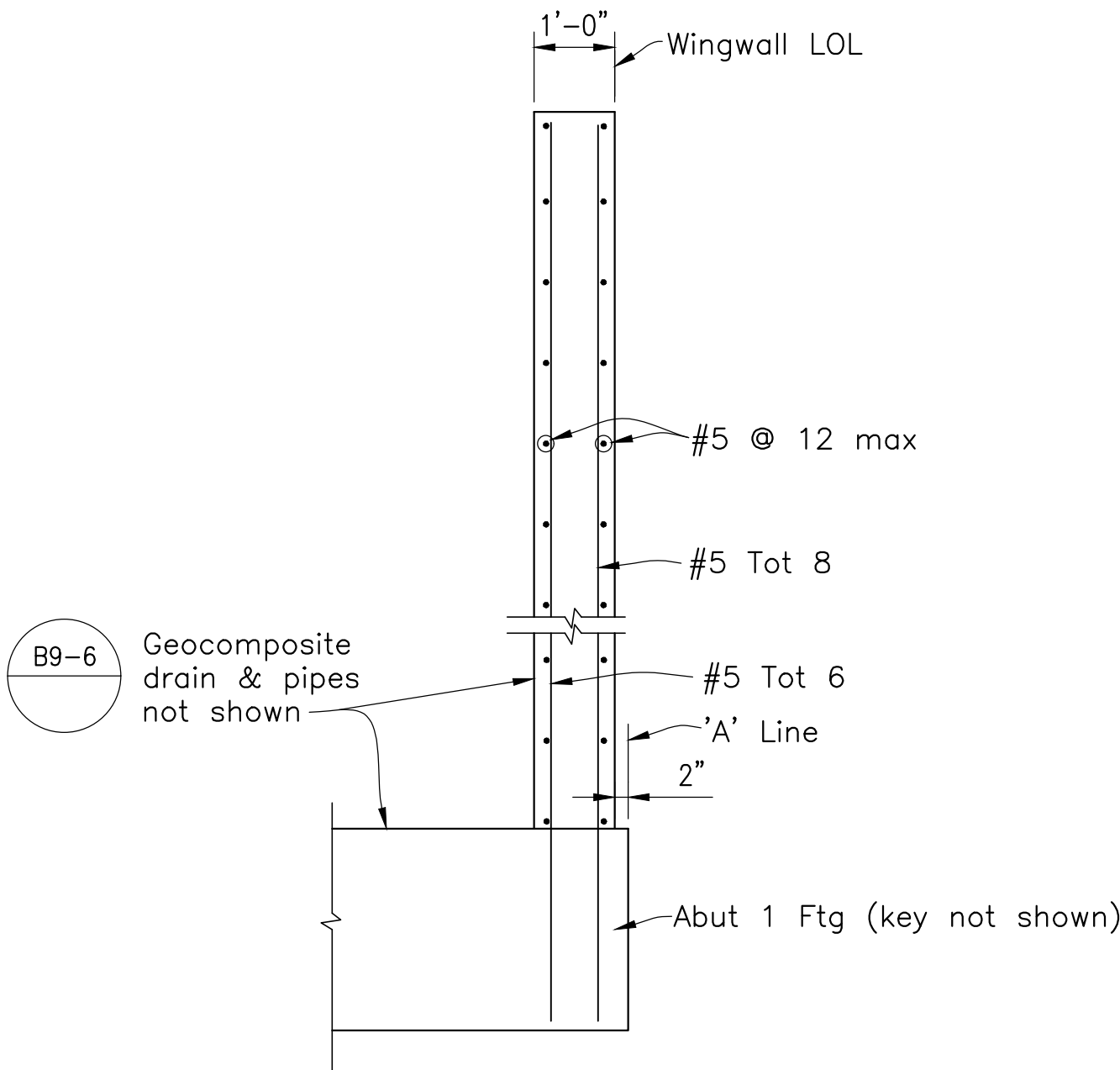


INTEGRAL RET WALL SECTION D-D
3/8" = 1'-0"

DRAFT

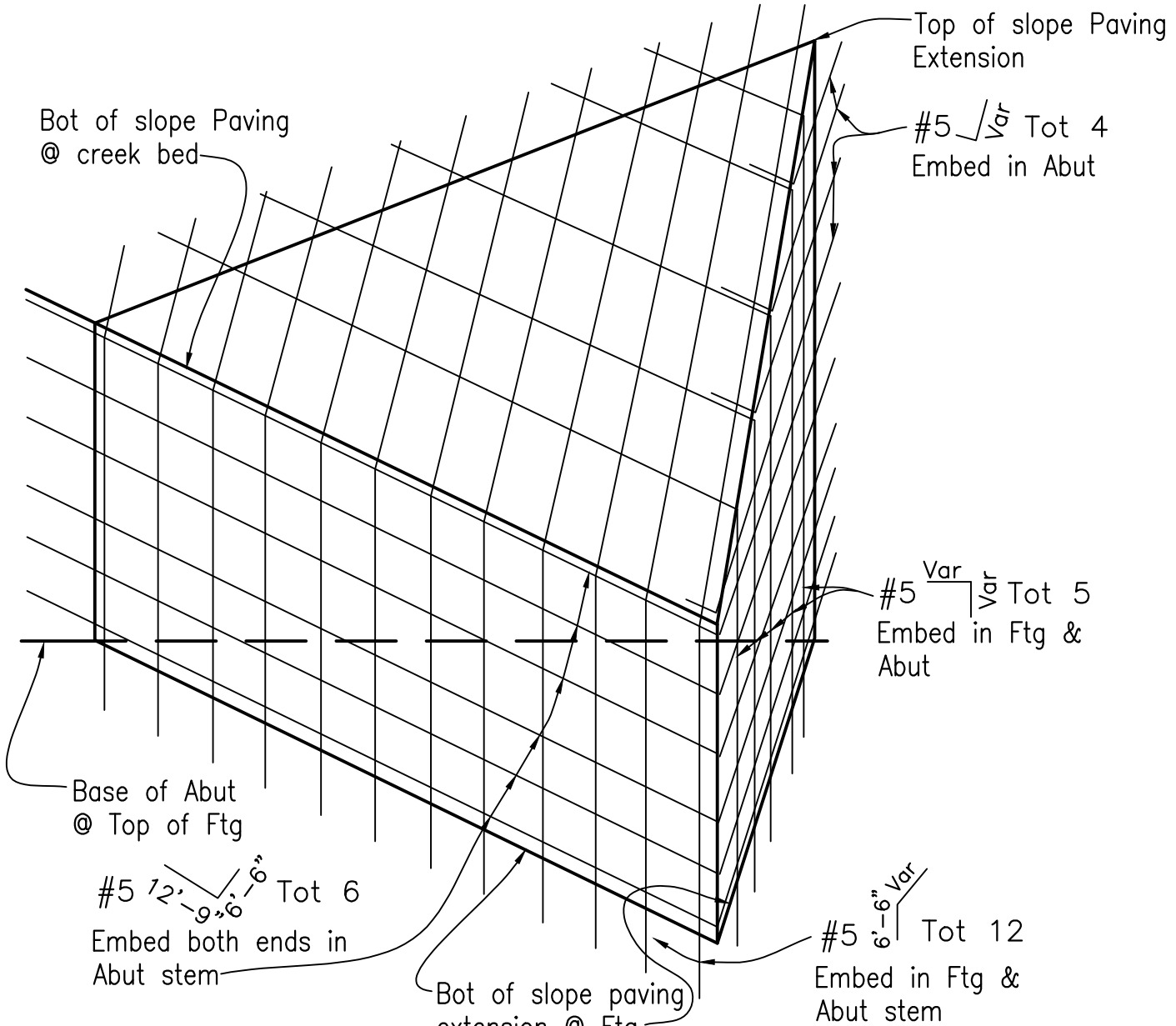
 <div>Attention:</div> <div></div> <div>If this scale bar does not measure 1" then drawing is not original scale.</div>					 <div>MGE ENGINEERING, INC. 2115 GILBERT AVENUE, SUITE 100 SAN ANSELMO, CALIFORNIA 94060 (916) 426-1000</div>	Designed: N.T.	 <div>MARIN COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT 3501 CIVIC CENTER DR, ROOM 304 SAN RAFAEL CALIFORNIA 94903</div>	SAN ANSELMO FLOOD RISK REDUCTION PROJECT BUILDING BRIDGE No. 2 SAN ANSELMO, CA	DWG NO.		
						Checked: N.T.			CREEK PARK BRIDGE ABUTMENT DETAILS NO. 1	C-10	
										Drawn: J.C.	SHEET NO.
										Approved:	
		0	6/10/2022	FEMA MT-2 APPLICATION				Project Number: 2706			
	NO.	DATE	ISSUE/REVISION	APP	Date: June 10, 2022						

- Notes:
1. For locations of Sections A-A Thru D-D see "Abut 1 Plan & Elev" Sheet.
 2. Reinf not all shown in Sections A-A thru E-E. For Add'l Reinf see "Abut details No. 1" & "Abut 1 Plan & Elevation" Sheets
 3. Shear key on downstream location shown on section C-C, upstream key similar.



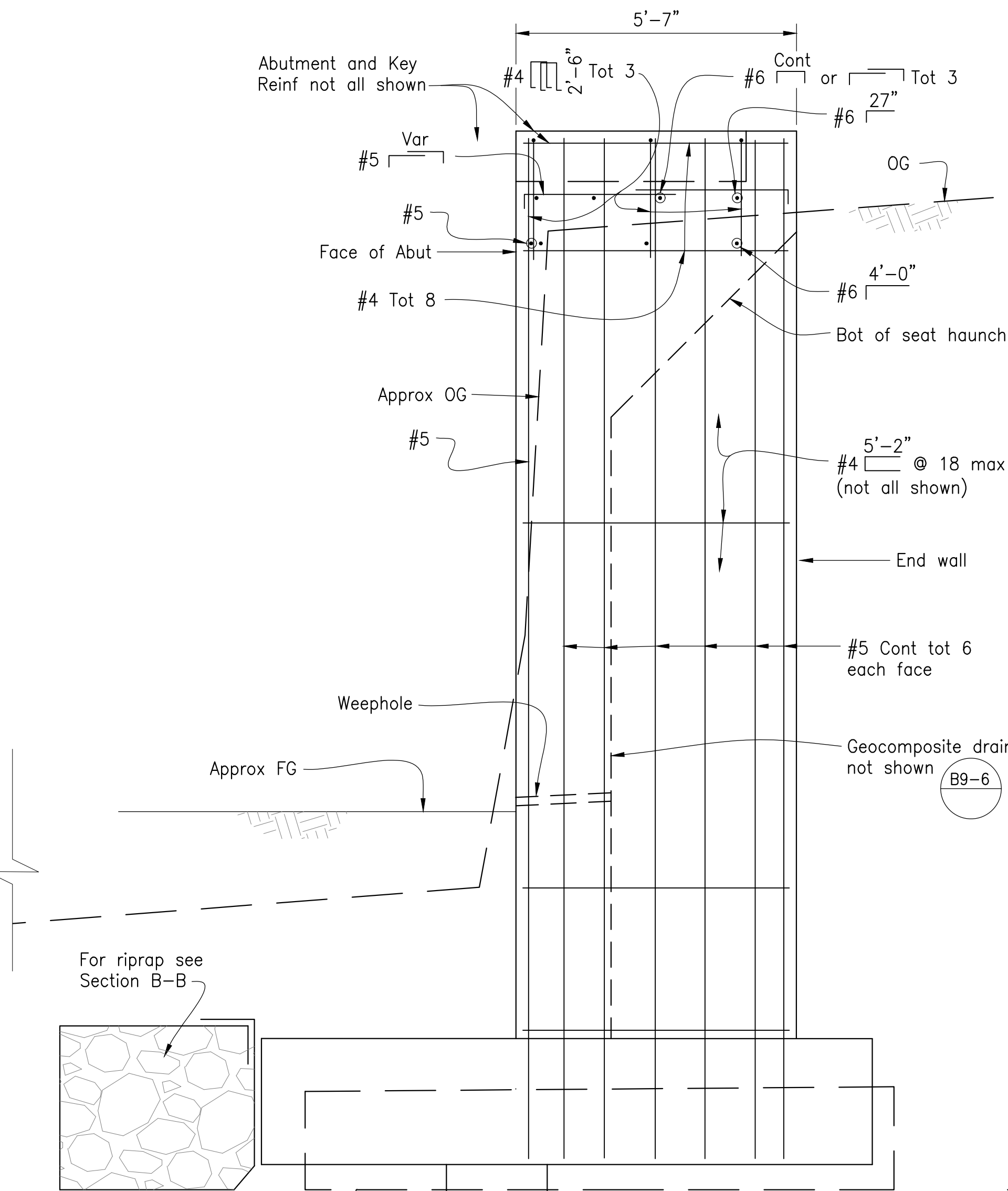
SECTION D-D
1/2" = 1'-0"

Note A:
Slope paving extension Reinf to be a grid of #5 each way at each exposed surface. Bars to be embedded 1'-3" in nearest concrete, as shown.

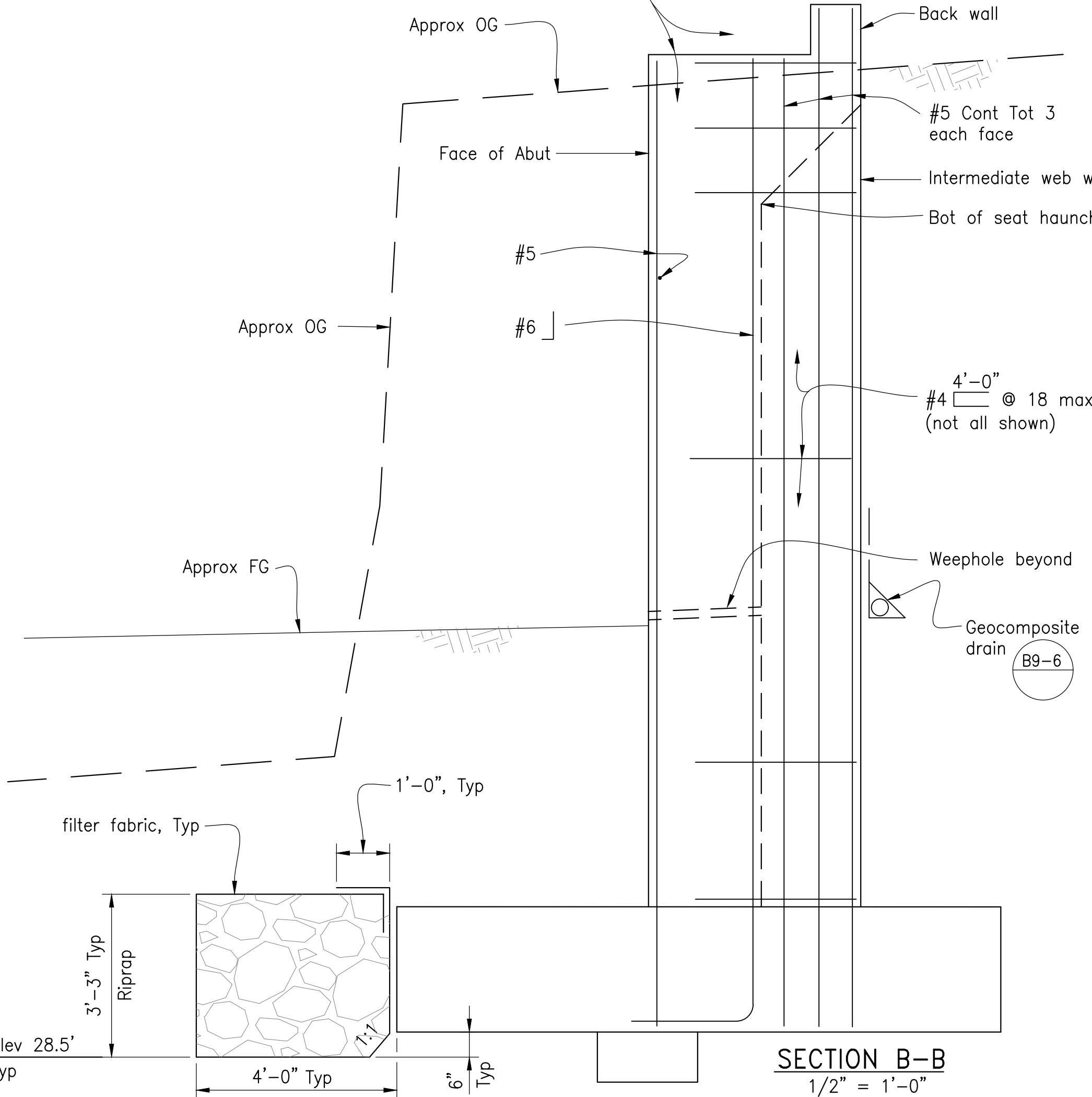


SLOPE PAVING EXTENSION & REINF PRISM
NOT TO SCALE

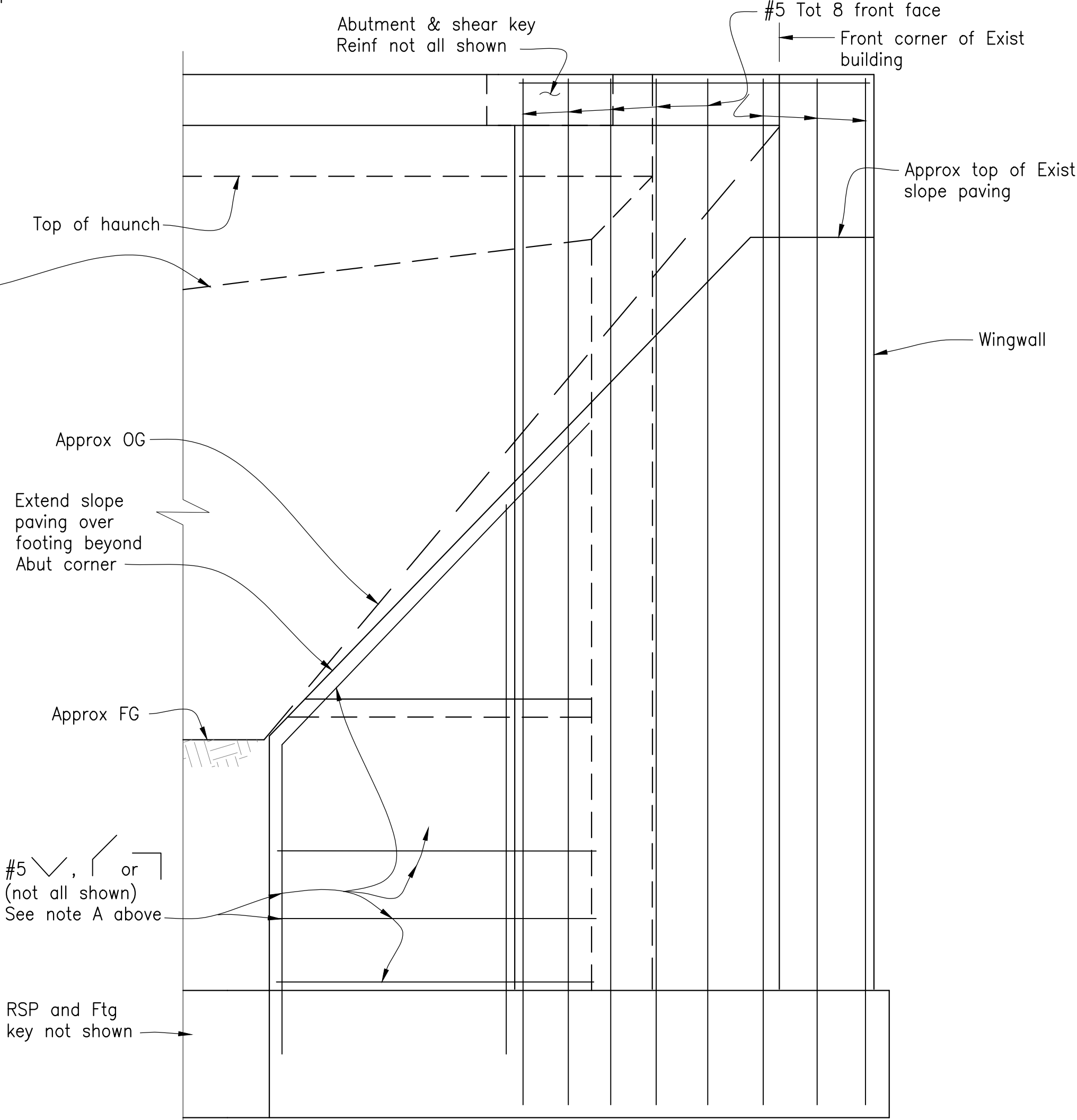
Note: For additional geocomposite drain see "Abut Details No. 3" Sheet.



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



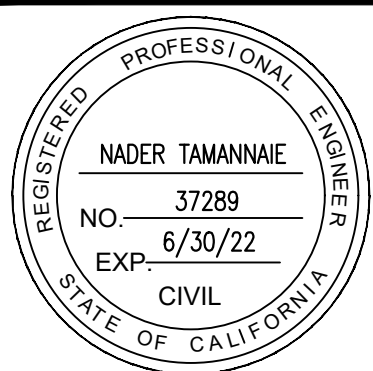
SECTION B-B
1/2" = 1'-0"



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

Adjacent wall Ftg beyond

Note:
Shear Key Reinf similar on both sides of Abut



Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
0	6/10/2022	FEMA MT-2 APPLICATION	

MGE ENGINEERING, INC.
2415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CALIFORNIA 95833-1000
(916) 421-1000

Project Number: 2706

Date: June 10, 2022

Designed: N.T.

Checked: N.T.

Drawn: J.C.

Approved:

MARIN COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL CALIFORNIA 94903

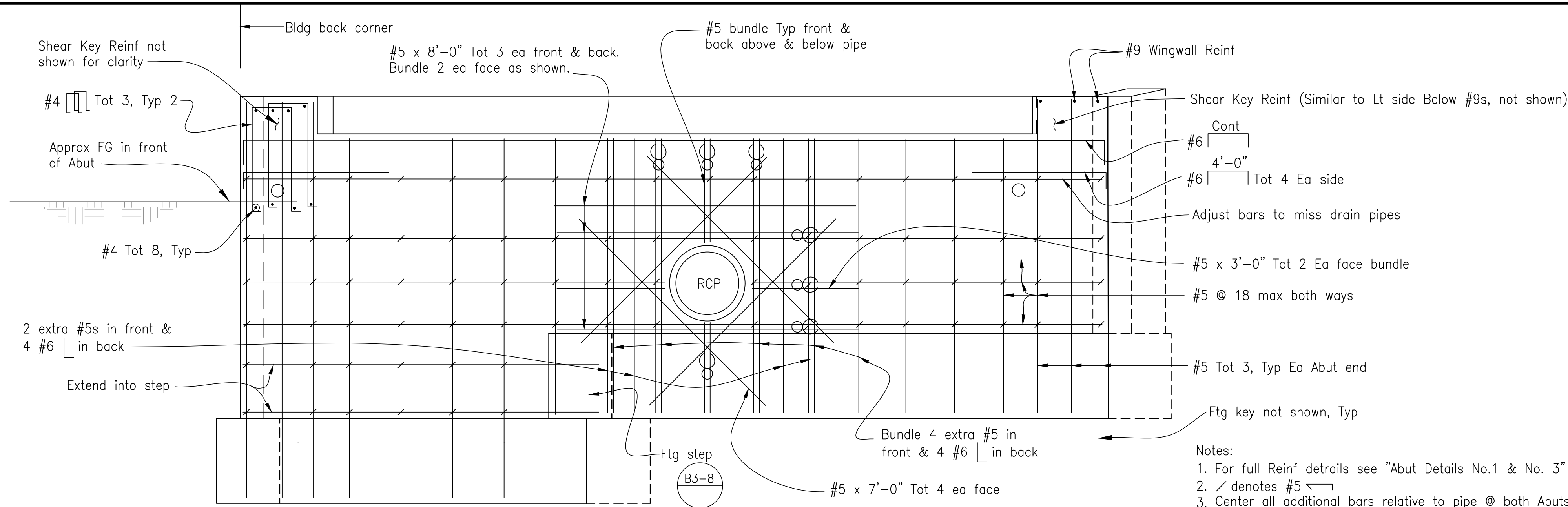
SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA

CREEK PARK BRIDGE
ABUTMENT DETAILS NO. 2

DRAFT

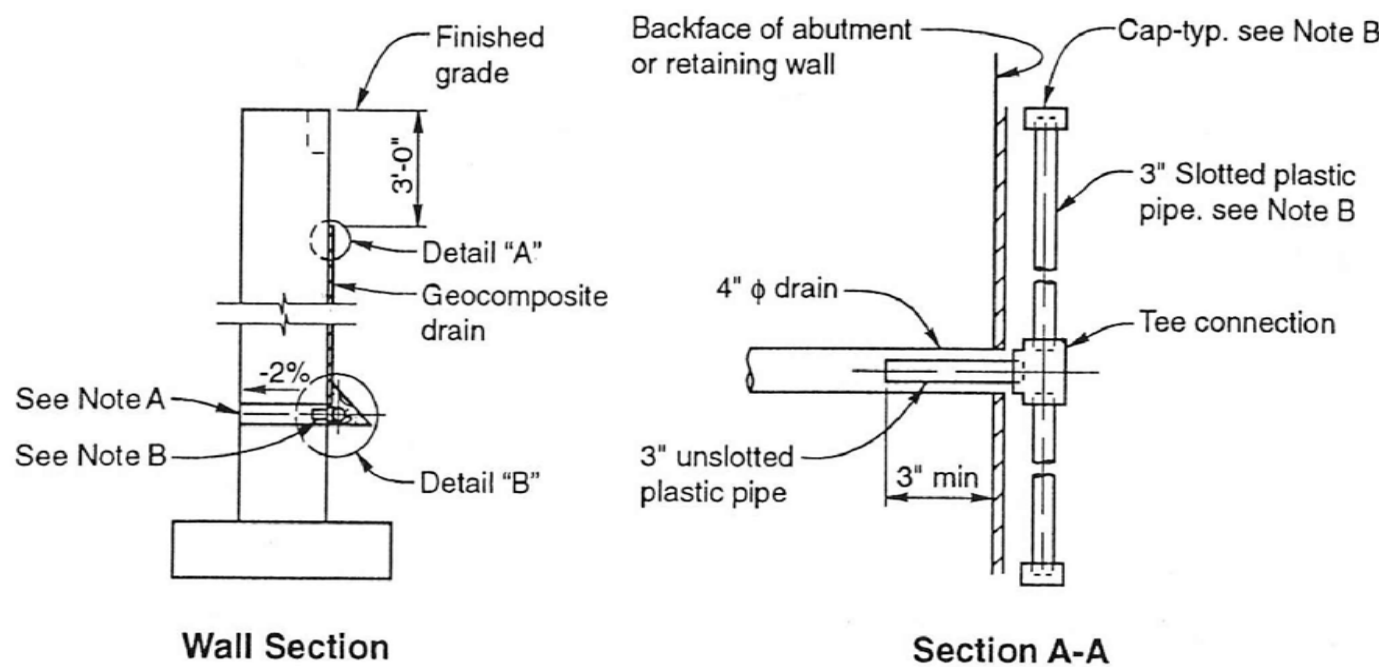
DWG NO.
C-11

SHEET NO.
19



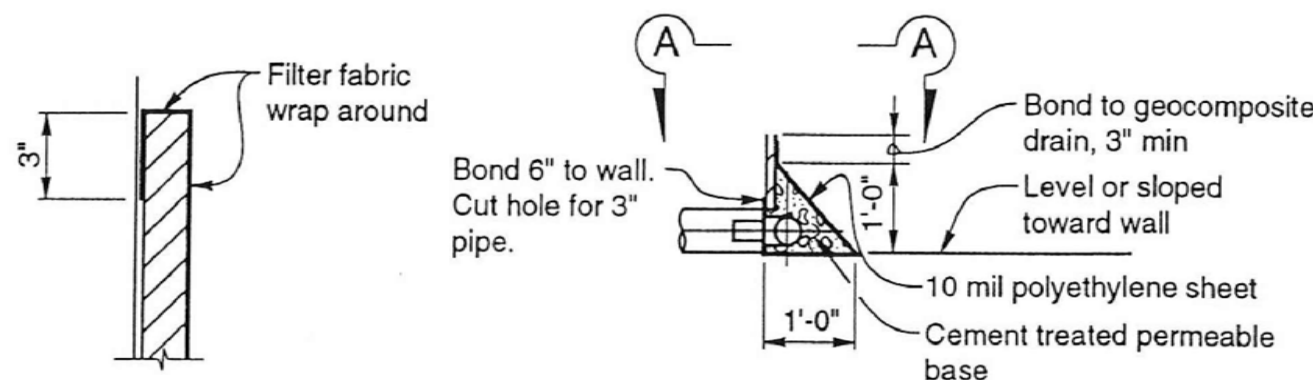
24"Ø PIPE OPENING REINFORCEMENT
1/2" = 1'-0"

- Notes:
1. For full Reinf details see "Abut Details No.1 & No. 3" sheets.
 2. / denotes #5
 3. Center all additional bars relative to pipe @ both Abuts.
 4. Denotes bundled bars.
 5. Front Reinf bundles shown. Back bundles similar in length but matching in size & shape to non-bundled back bars.



Wall Section

Section A-A

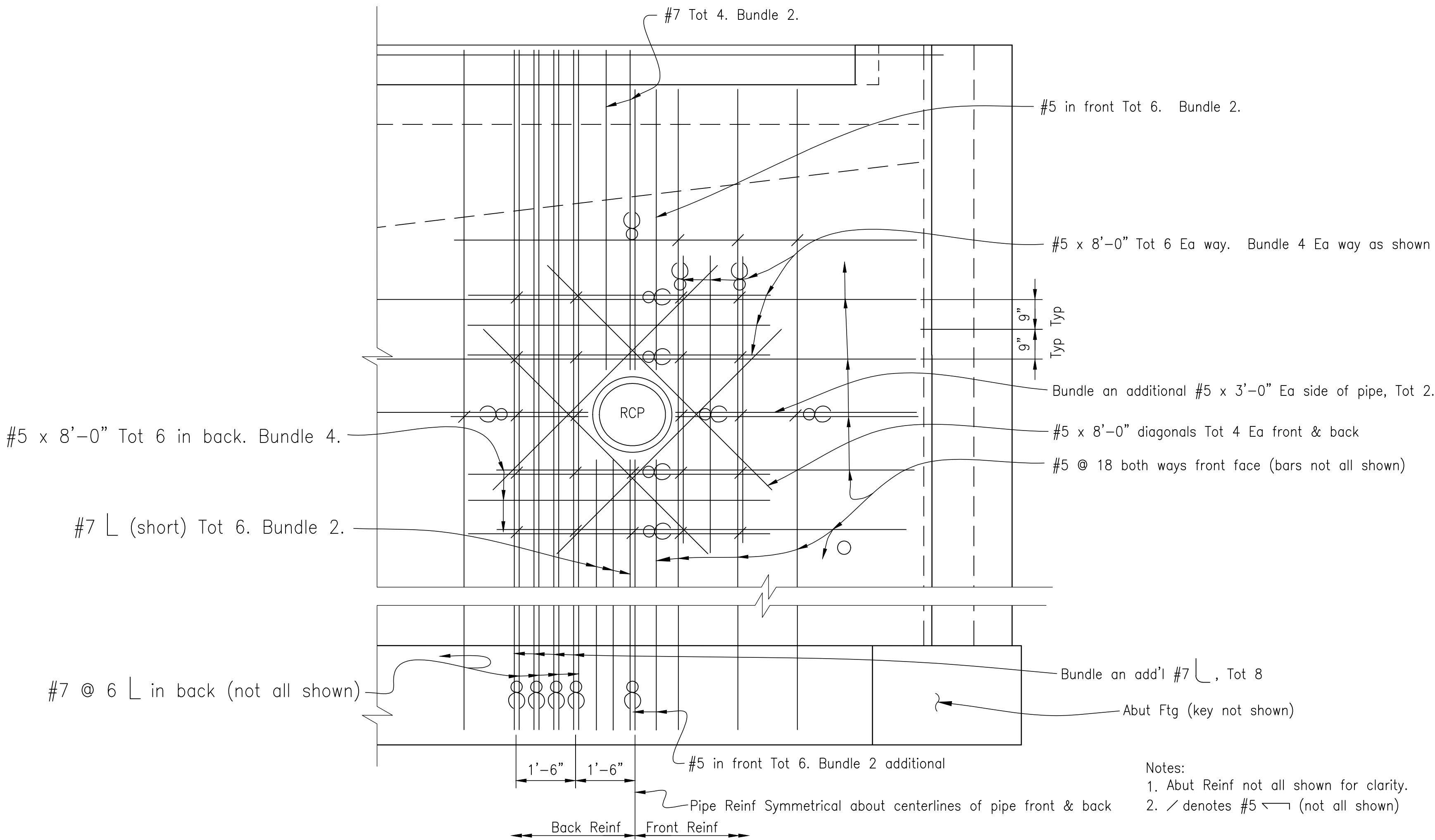


Detail "A"

Detail "B"

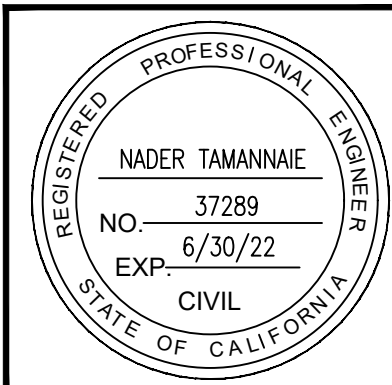
WEEP HOLE AND GEOCOMPOSITE DRAIN
NTS

- Notes:
- A. 4" drains thru Abuts as shown elsewhere on Abut details elsewhere. Exposed wall drains shall be located 3"± above finished grade at Abut 1 and 3 above footing at Abut 2.
 - B. Geocomposite drain, cement treated permeable base, and 3" Ø slotted plastic pipe continuous behind retaining wall of abutment. Cap ends of pipe. Provide "Tee" connection at each 4" Ø drain.
 - C. Connect the low end of plastic pipe to the main outlet pipe as applicable.



ABUT 1 SPECIAL REINFORCEMENT @ PIPE
1/2" = 1'-0"

- Notes:
1. Abut Reinf not all shown for clarity.
 2. / denotes #5 (not all shown)



Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
0	6/10/2022	FEMA MT-2 APPLICATION	

MGE ENGINEERING, INC.
2415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CALIFORNIA 95833-1000
(916) 421-1000

Project Number: 2706

Date: June 10, 2022

Designed: N.T.

Checked: N.T.

Drawn: J.C.

Approved:



MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL CALIFORNIA 94903

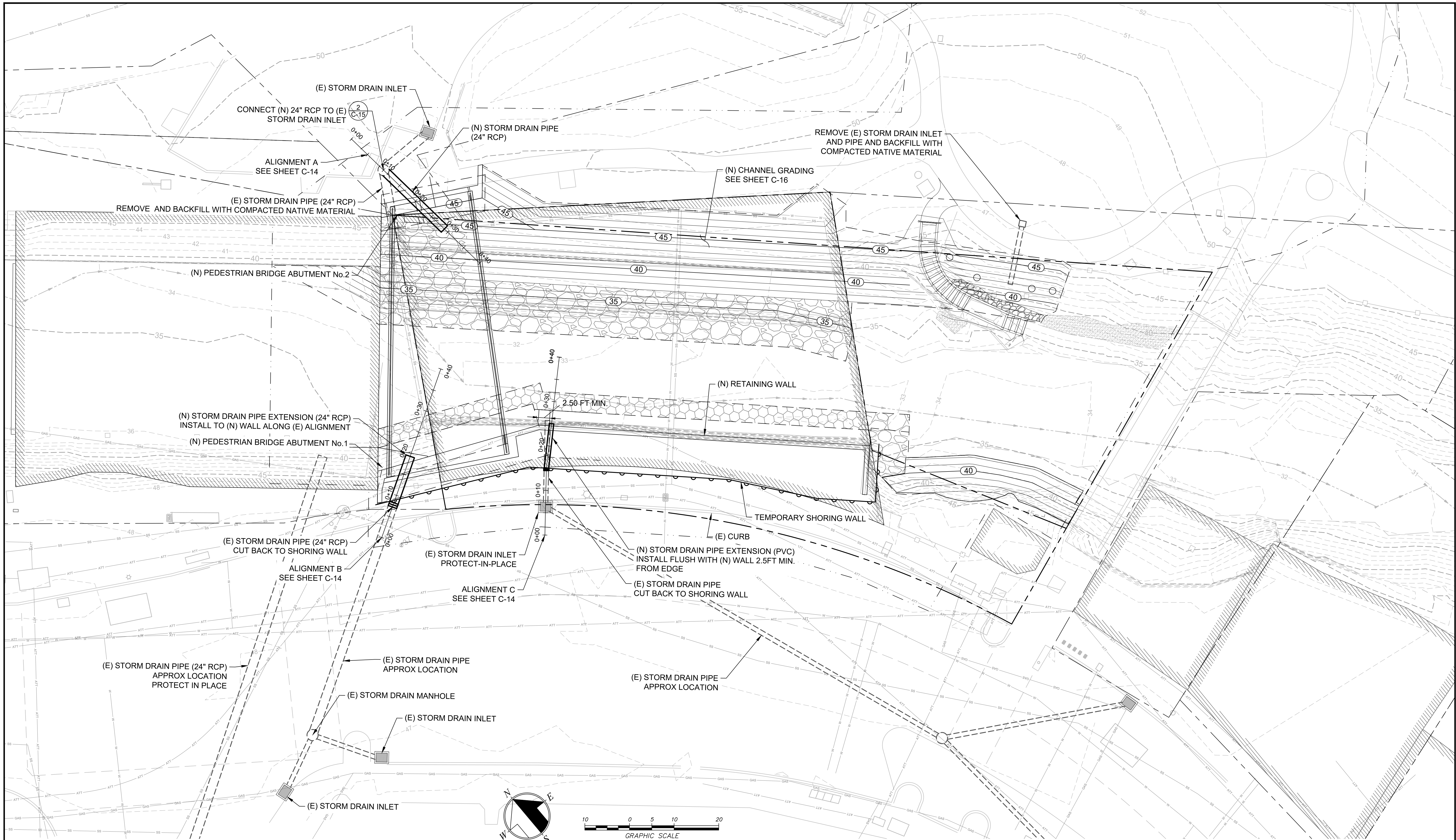
SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA

CREEK PARK BRIDGE
ABUTMENT DETAILS NO. 3

DRAFT

DWG NO.
C-12

SHEET NO.
20



LEGEND

- PROPERTY LINE (OBERKAMPER 2019)
- - - (E) CONTOUR MAJOR 5' INTERVAL
- - - (E) CONTOUR MINOR 1' INTERVAL
- - - (N) CONTOUR MAJOR 5' INTERVAL
- - - (N) CONTOUR MINOR 1' INTERVAL
- - - LIMIT OF WORK



Attention:
0 1"
If this scale bar
does not measure
1" then drawing is
not original scale.

1	5/31/2024	DISTRICT AND TOWN REVIEW	J.F.
NO.	DATE	ISSUE/REVISION	APP

Stetson Engineers Inc.
2171 E. Francisco
Blvd., Suite K
San Rafael, CA. 94901
(415) 457-0701
Project Number: 2706
Date: September 15, 2023

Designed: J.F. / G.T.
Checked: J.R.
Drawn: G.T.
Approved:



MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL CALIFORNIA 94903
PROJECT NUMBER: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA

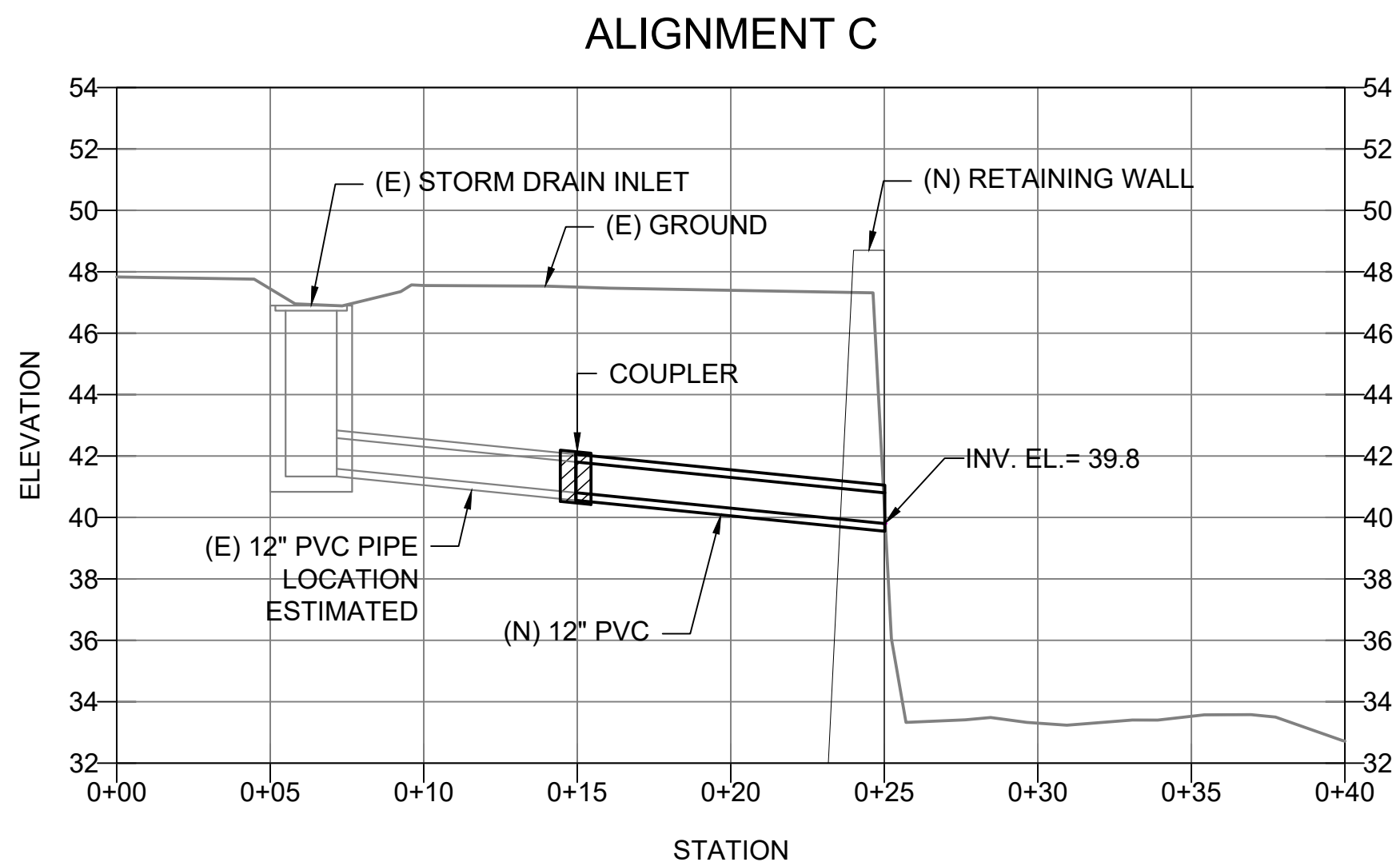
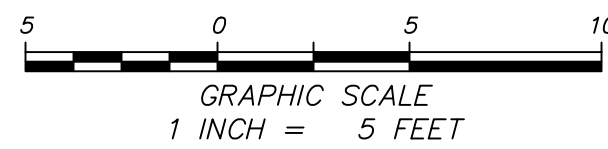
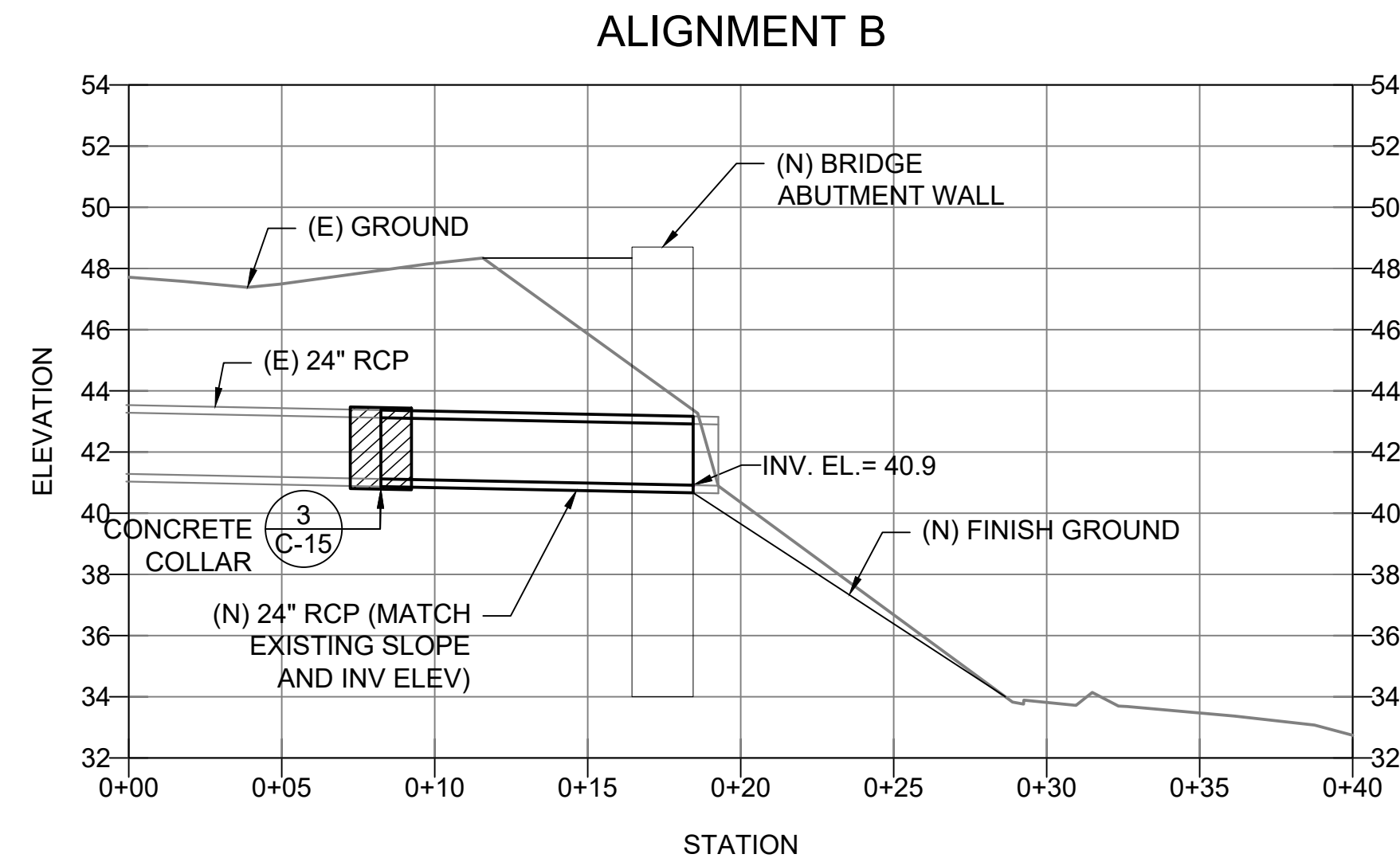
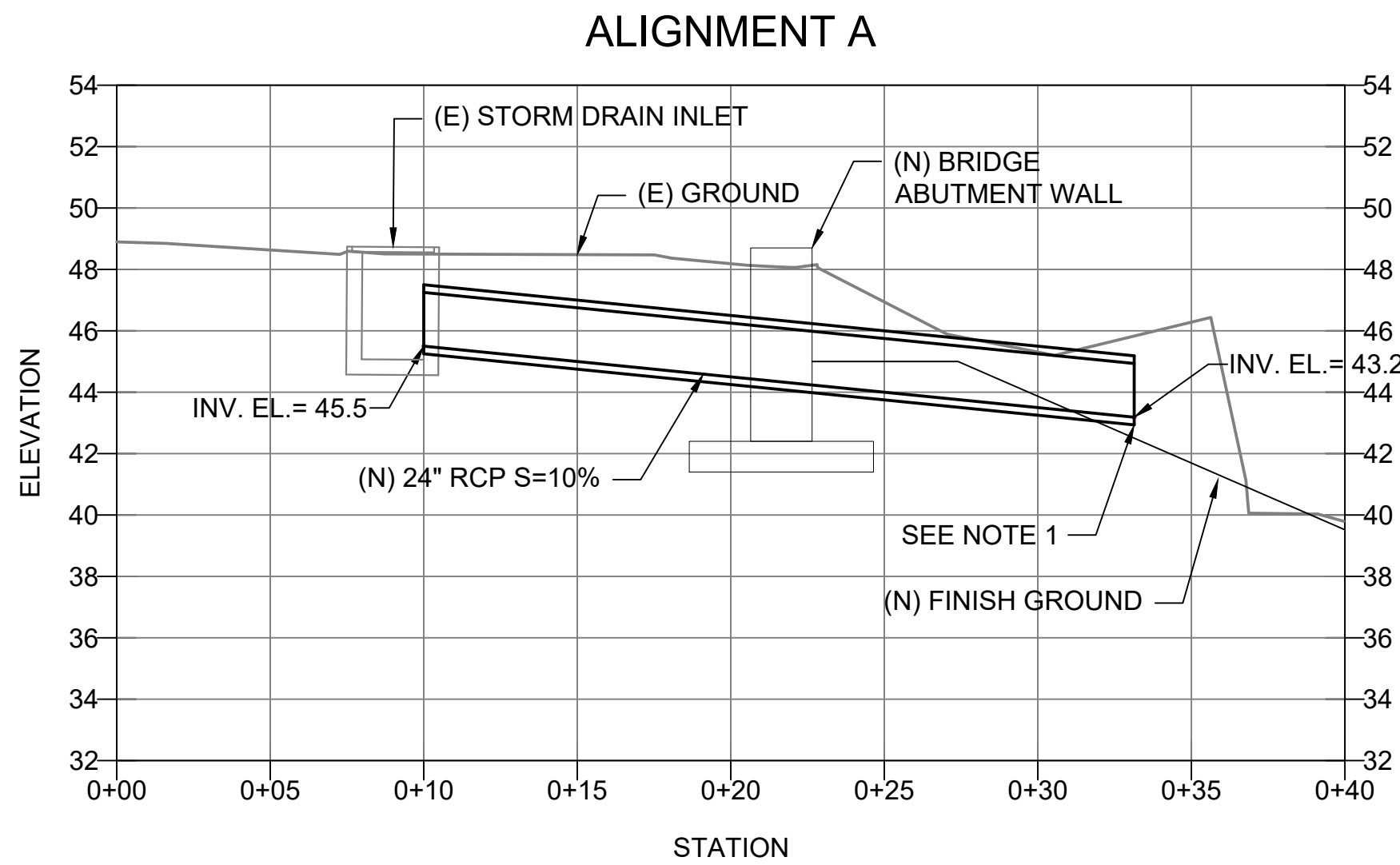
SITE DRAINAGE PLAN

DWG NO.

C-13

SHEET NO.

22



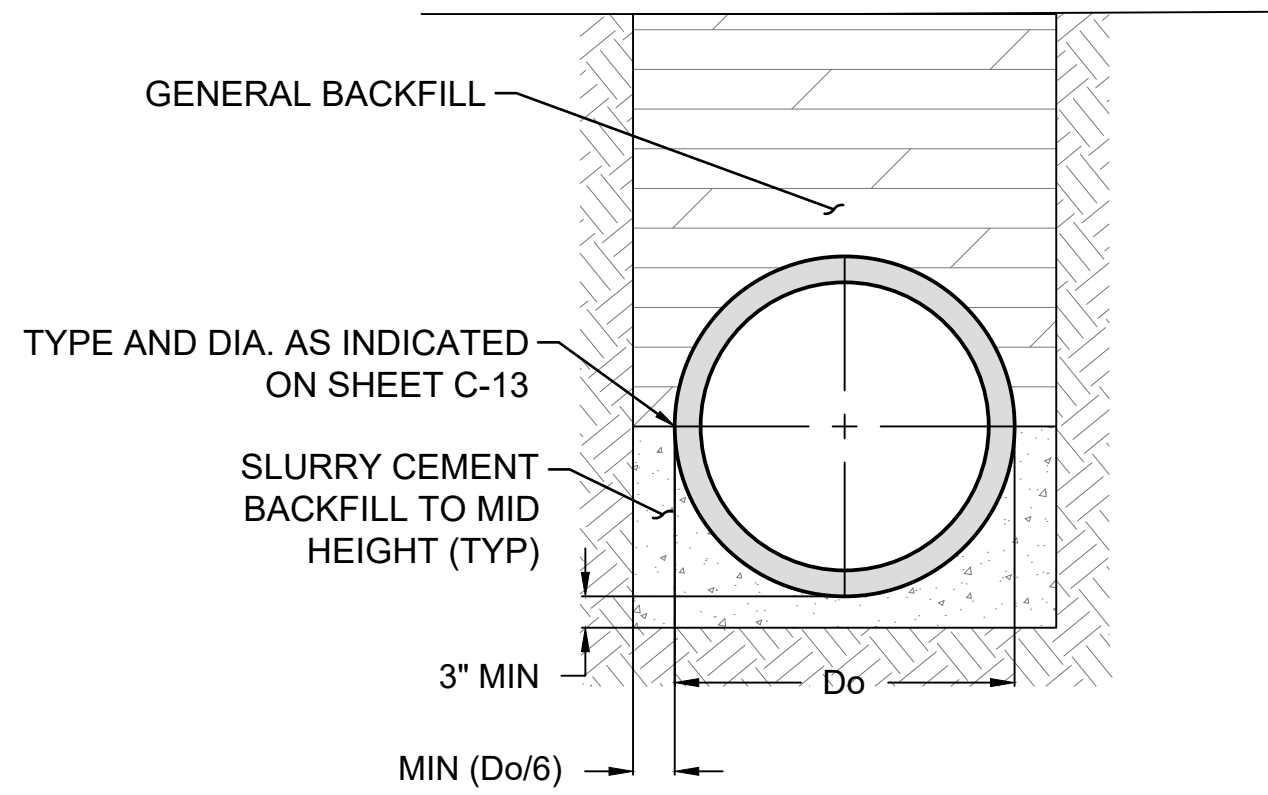
LEGEND

EXISTING GRADE (TYP)

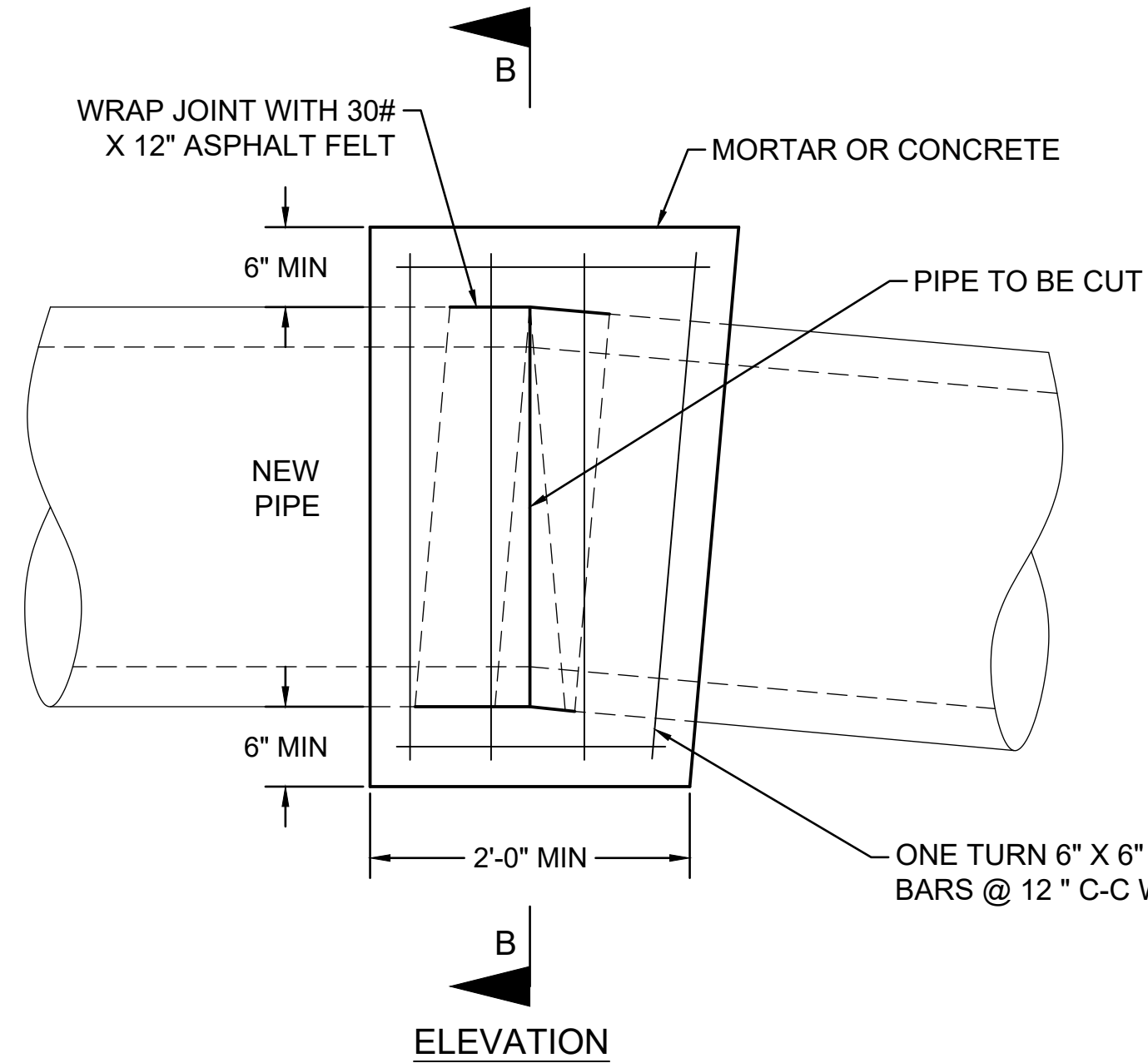
NOTES

- PLACE RSP AROUND PIPE UP TO ELEV. AS SHOWN ON BANK EROSION PROTECTION PLAN. EXTEND AND CUT (N) RCP TO MATCH (N) RSP GRADE.
- INVERT ELEVATIONS SHOWN FOR THE NEW DRAINAGE PIPES ARE APPROXIMATE ESTIMATED. CONTRACTOR MUST CHECK ACTUAL ELEVATIONS BASED ON EXISTING DRAINAGE PIPES AND EXISTING DRAIN INLET STRUCTURES.
- REFER TO DWG C-16 THROUGH C-21 FOR FINAL TREATMENT OF DRAIN PIPE OUTFALLS.

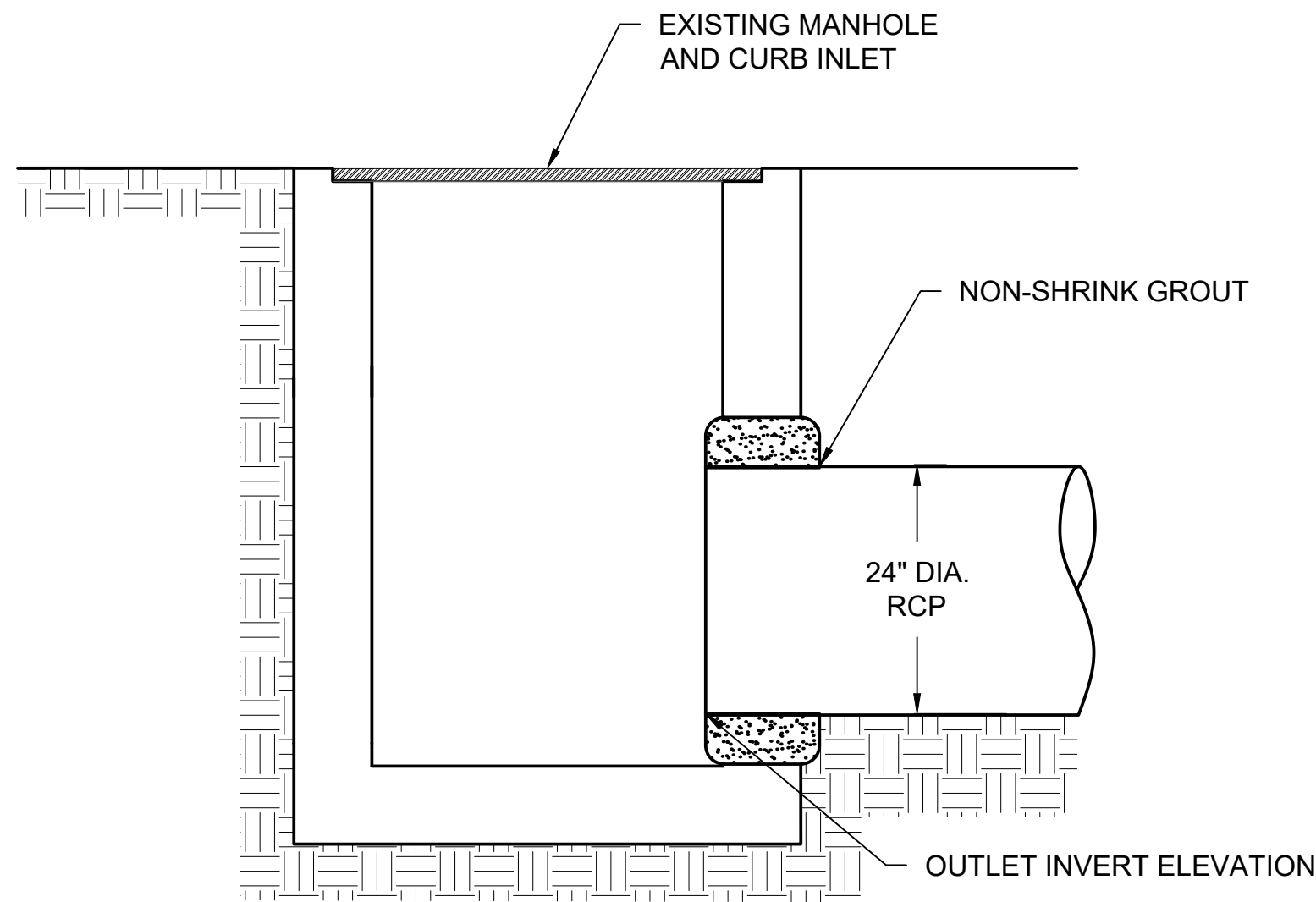
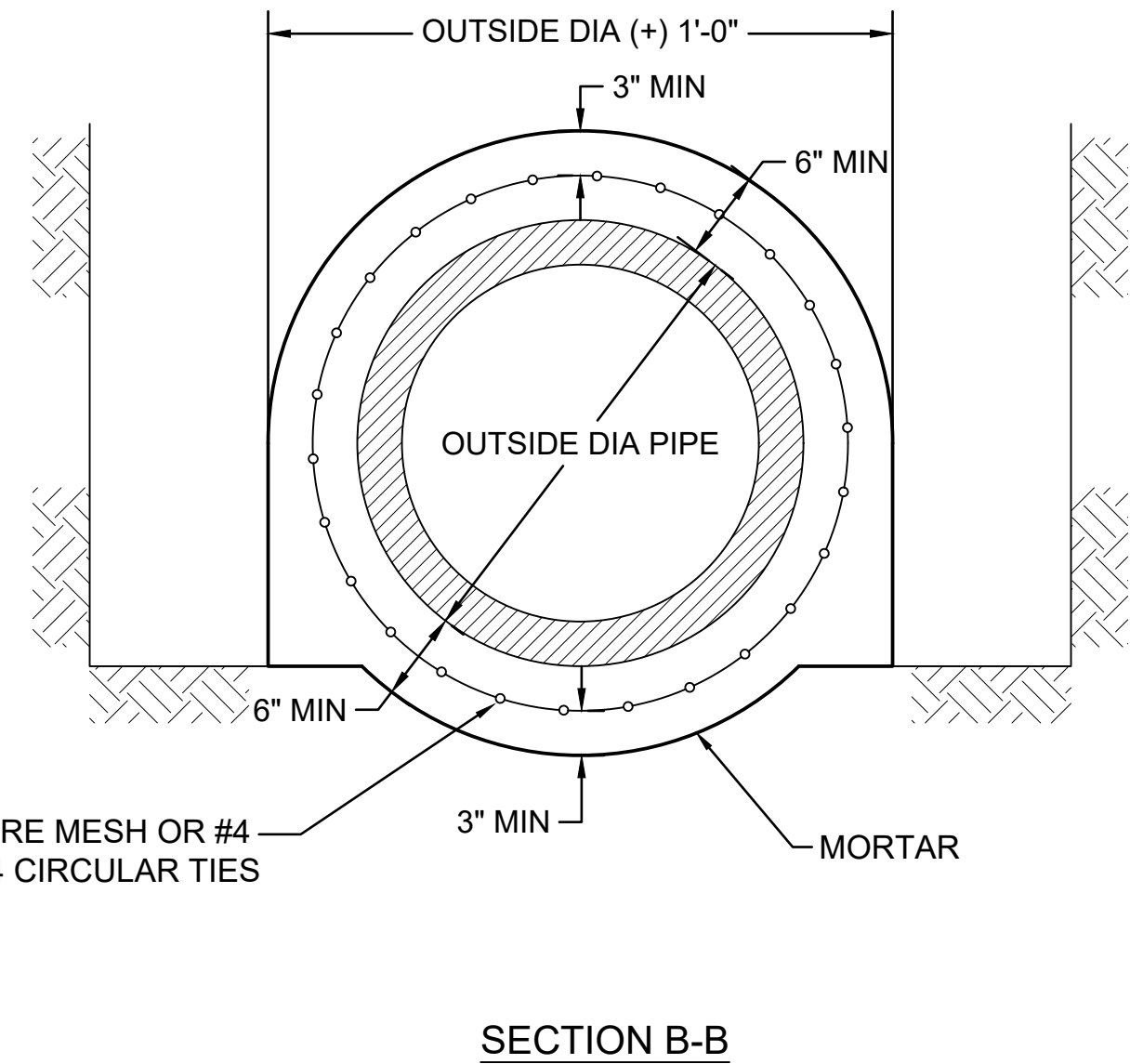
	Attention: If this scale bar does not measure 1" then drawing is not original scale.	1	5/31/2024	DISTRICT AND TOWN REVIEW	J.F.	 2171 E. Francisco Blvd., Suite K San Rafael, CA. 94901 (415) 457-0701 Project Number: 2706 Date: September 15, 2023	Designed: J.F. / G.T.	 MARIN COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT 3501 CIVIC CENTER DR, ROOM 304 SAN RAFAEL CALIFORNIA 94903 PROJECT NUMBER: FZ9-12-005-P3	SAN ANSELMO FLOOD RISK REDUCTION PROJECT BUILDING BRIDGE No. 2 SAN ANSELMO, CA	DWG NO. C-14
		NO.	DATE	ISSUE/REVISION	APP		Checked: J.R. Drawn: G.T. Approved:			SHEET NO. 23



1
C-15 TYPICAL STORM DRAIN TRENCH INSTALLATION
NTS



3
C-14 CONCRETE COLLAR
NTS



2
C-13 TYPICAL RCP INSTALLATION TO (E) STORM DRAIN INLET
NTS



Attention:
0 1"
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1	5/31/2024	DISTRICT AND TOWN REVIEW	J.F.
NO.	DATE	ISSUE/REVISION	APP

Stetson Engineers Inc.
2171 E. Francisco Blvd., Suite K
San Rafael, CA. 94901
(415) 457-0701
Project Number: 2706
Date: September 15, 2023

Designed: J.F. / G.T.
Checked: J.R.
Drawn: G.T.
Approved:



MARIN COUNTY
FLOOD CONTROL & WATER CONSERVATION DISTRICT
3501 CIVIC CENTER DR, ROOM 304
SAN RAFAEL CALIFORNIA 94903
PROJECT NUMBER: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE No. 2
SAN ANSELMO, CA
DRAINAGE DETAILS

DWG NO.
C-15
SHEET NO.
24





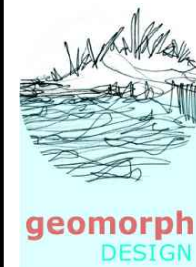
1. CONTRACTOR SHALL PLACE NATIVE ALLUVIUM SAND AND GRAVEL MIXTURE TO BACKFILL ROCK FOR FOOTING SCOUR PROTECTION, ROCK SLOPE PROTECTION, AND PLANTED ROCK TO RESTORE PRE-PROJECT CHANNEL BED ELEVATIONS.
2. FINISHED GRADES SHOWN. OVER-EXCAVATION REQUIRED FOR INSTALLING FOOTING SCOUR AND BANK EROSION PROTECTION TREATMENTS MEETING THESE FINAL GRADES (SEE DWGS C-17, C-18, C-19).
3. DEMOLITION AND EXCAVATION LIMITS NOT SHOWN THESE PLANS. ESTIMATING EXCAVATION QUANTITIES IS CONTRACTOR'S RESPONSIBILITY.
4. EXISTING BEDROCK OUTCROPS, SHALLOW BEDROCK ON CHANNEL BED, TREES AND EXPOSED TREE ROOTS TO BE PROTECTED IN PLACE WITH 12-INCH LIFTS OF GRAVELY NATIVE ALLUVIUM AND/OR IMPORTED RIVER RUN MATERIAL IN PLACES WHERE HEAVY EQUIPMENT TRACKS OVER CHANNEL BED AND BANK SURFACES AND TREE ROOTS TO BE PROTECTED.
5. DISTRICT SHALL BE NOTIFIED PRIOR TO REMOVAL OF 12" ALDER IN RETAINING WALL CONSTRUCTION ENVELOPE SO THAT DISTRICT MAY ARRANGE FOR LIVE CUTTINGS TO BE COLLECTED FROM THE REMOVED TREE FOR PROPAGATION OF ALDER CONTAINER PLANTS (SEE DWGS C-19, C-20, C-24).
6. CHANNEL GRADING SECTIONS ARE SHOWN ON DWG C-18.
7. CONTRACTOR SHALL CAREFULLY PERFORM EXCAVATION NEAR THE TOP OF SLOPE TO AVOID DAMAGING REDWOOD TREE ROOTS. UNDER SUPERVISION OF THE ARBORIST, AND ANY MODIFICATION TO THE EXCAVATION LIMITS AND BACKCUT SLOPES SHALL BE APPROVED BY THE ARBORIST AND THE ENGINEER.

Diagram illustrating the proposed contours and existing features for the site:

- EXISTING CONTOURS: Shown as dashed lines with elevations of 45 and 44.
- PROPOSED CONTOURS: Shown as solid lines with elevations of 45 and 44.
- EXISTING TREE: Represented by a tree symbol.
- EXISTING BUILDING LINE: Indicated by a hatched area.

(E)	EXISTING
(N)	NEW
PIP	PROTECT IN PLACE
TYP	TYPICAL

<p>Attention:</p>  <p>5/31/2024</p> <p>DISTRICT AND TOWN REVIEW</p> <p>MS</p>			
<p>0 1"</p>  <p>If this scale bar does not measure 1" then drawing is not original scale.</p>			
NO.	DATE	ISSUE/REVISION	APP



Geomorph DESIGN
2100 Fourth St, No.15
San Rafael, CA 94901
(510) 219-1064

Date: September 15, 2023

<i>Designed:</i>	MS
<i>Checked:</i>	MS
<i>Drawn:</i>	BR
<i>Approved By:</i>	M



MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR, ROOM 304 SA
RAFAEL CALIFORNIA 94903

Project Number: FZ9-12-005-P3

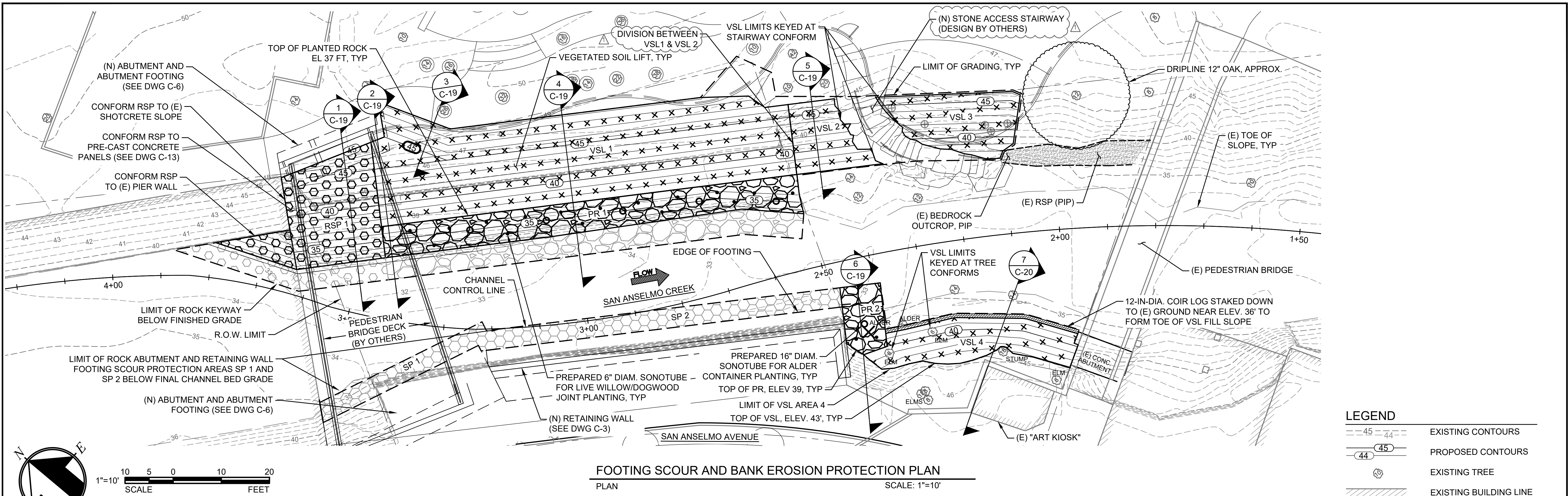
SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE NO.2
SAN ANSELMO, CA

CHANNEL GRADING PLAN

DWG. NO.
C-16

SHEET NO.
25





FOOTING SCOUR AND BANK EROSION PROTECTION PLAN
PLAN
SCALE: 1"=10'

LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING TREE
	EXISTING BUILDING LINE

BANK EROSION PROTECTION SCHEDULE - LEFT BANK					
AREA	BEGIN	END	LENGTH (LF)	AREA (SF)	RIP-RAP SIZE
PR 1	2+51	3+65	106	976	1/2-TON
RSP 1	3+47	3+87	36	658	1-TON
VSL 1	2+51	3+47	87	1,615	N/A
VSL 2	2+34	2+51	18	184	N/A
VSL 3	2+06	2+33	30	295	N/A

BANK EROSION PROTECTION SCHEDULE - RIGHT BANK					
AREA	BEGIN	END	LENGTH (LF)	AREA (SF)	RIP-RAP SIZE
PR 2	2+39	2+47	8	113	1-TON
VSL 4	1+98	2+46	46	318	N/A

FOOTING SCOUR PROTECTION SCHEDULE					
AREA	BEGIN	END	LENGTH (LF)	AREA (SF)	RIP-RAP SIZE
SP 1	3+21	3+51	37	160	2-TON
SP 2	2+47	3+21	74	292	2-TON

BANK EROSION PROTECTION LEGEND

PR		PLANTED ROCK
VSL		VEGETATED SOIL LIFT
RSP		ROCK SLOPE PROTECTION - NOT PLANTED
SP		CHANNEL BED AND FOOTING SCOUR PROTECTION

KEY	
APPROX	APPROXIMATE
(E)	EXISTING
EL	ELEVATION
FT	FEET
PR	PLANTED ROCK
RSP	ROCK SLOPE PROTECTION
TYP	TYPICAL
VSL	VEGETATED SOIL LIFT
SP	FOOTING SCOUR PROTECTION

- NOTES
1. ROCK SIZES AND VSL LIMITS AND DETAILS DESIGNED TO WITHSTAND VELOCITIES AND SHEAR STRESSES PRODUCED BY THE 1% ANNUAL CHANCE STORM EVENT.



Attention:		5/31/2024	DISTRICT AND TOWN REVIEW	MS
NO.	DATE	ISSUE/REVISION		APP

Geomorph DESIGN
2100 Fourth St, No 154
San Rafael, CA 94901
(910) 219-1084

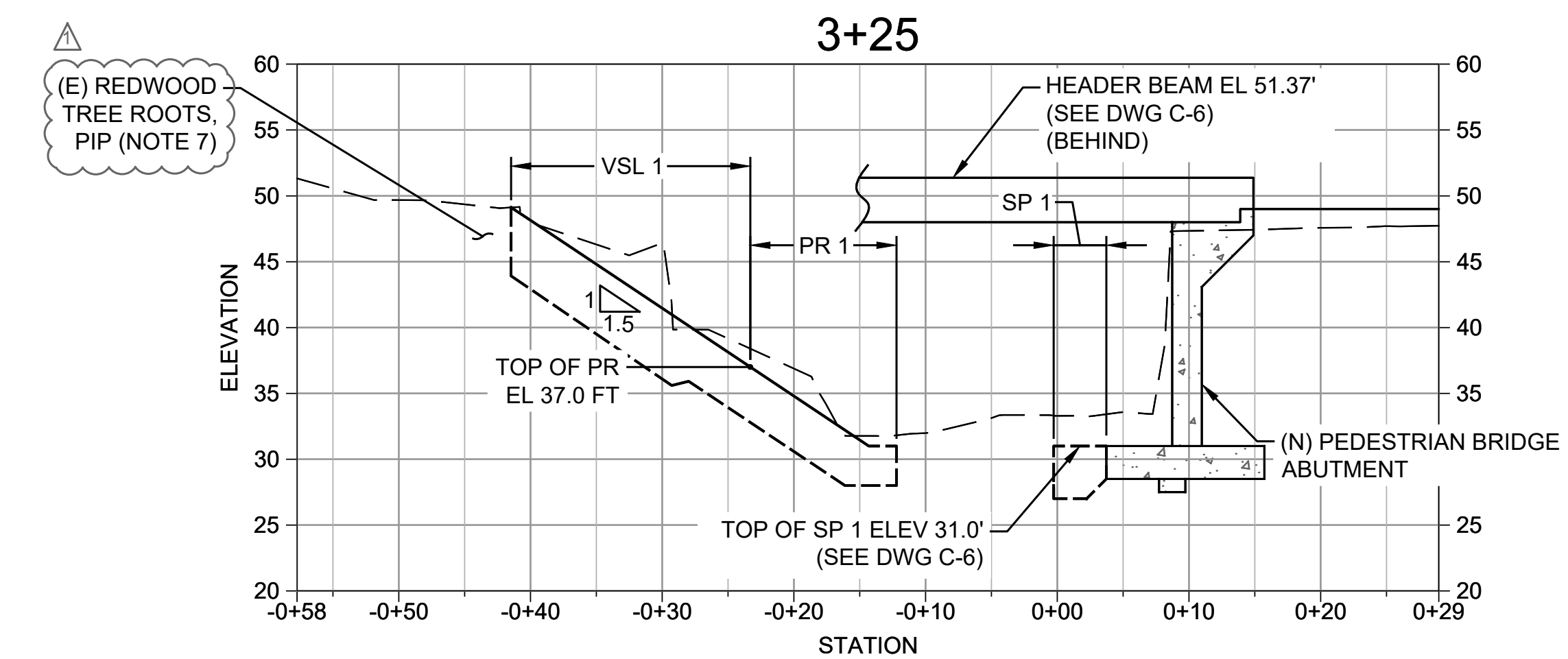
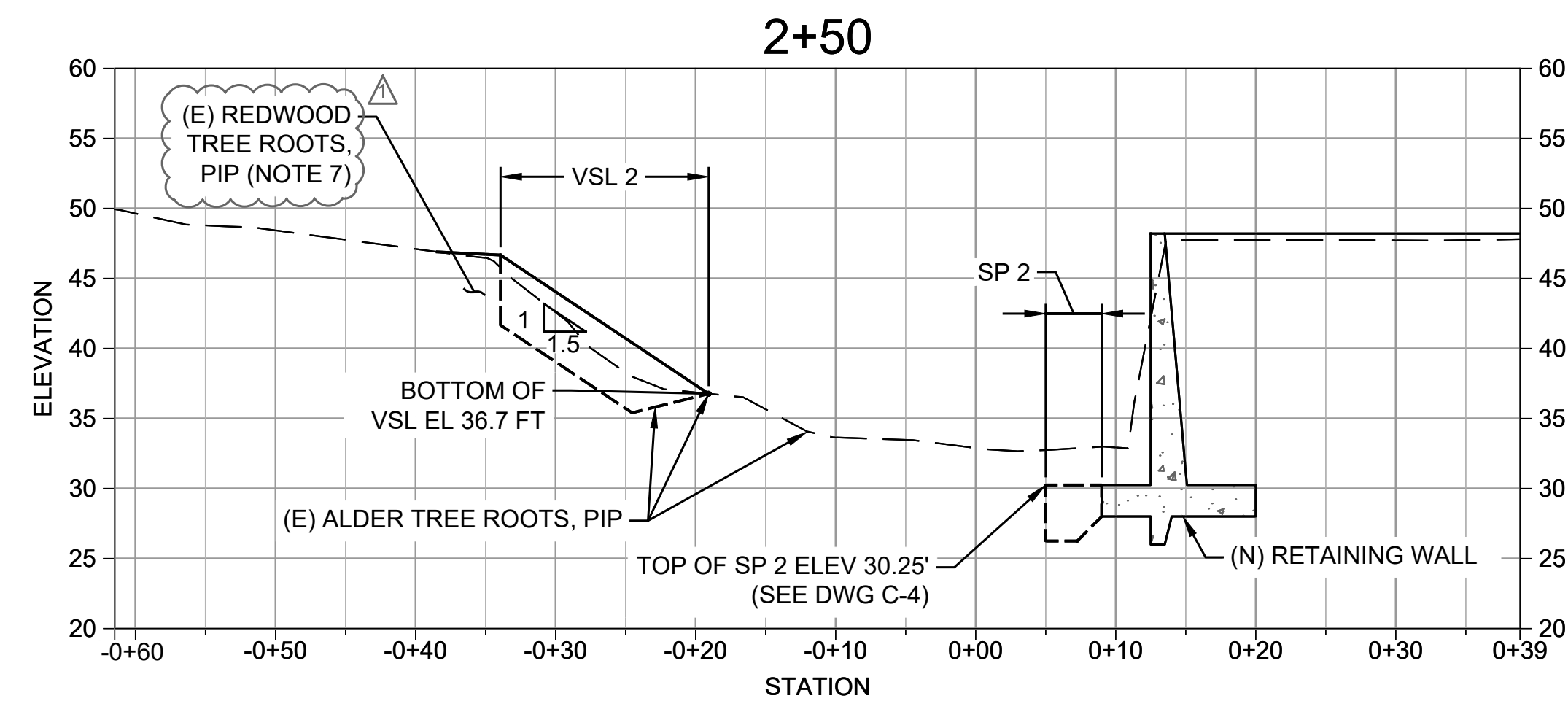
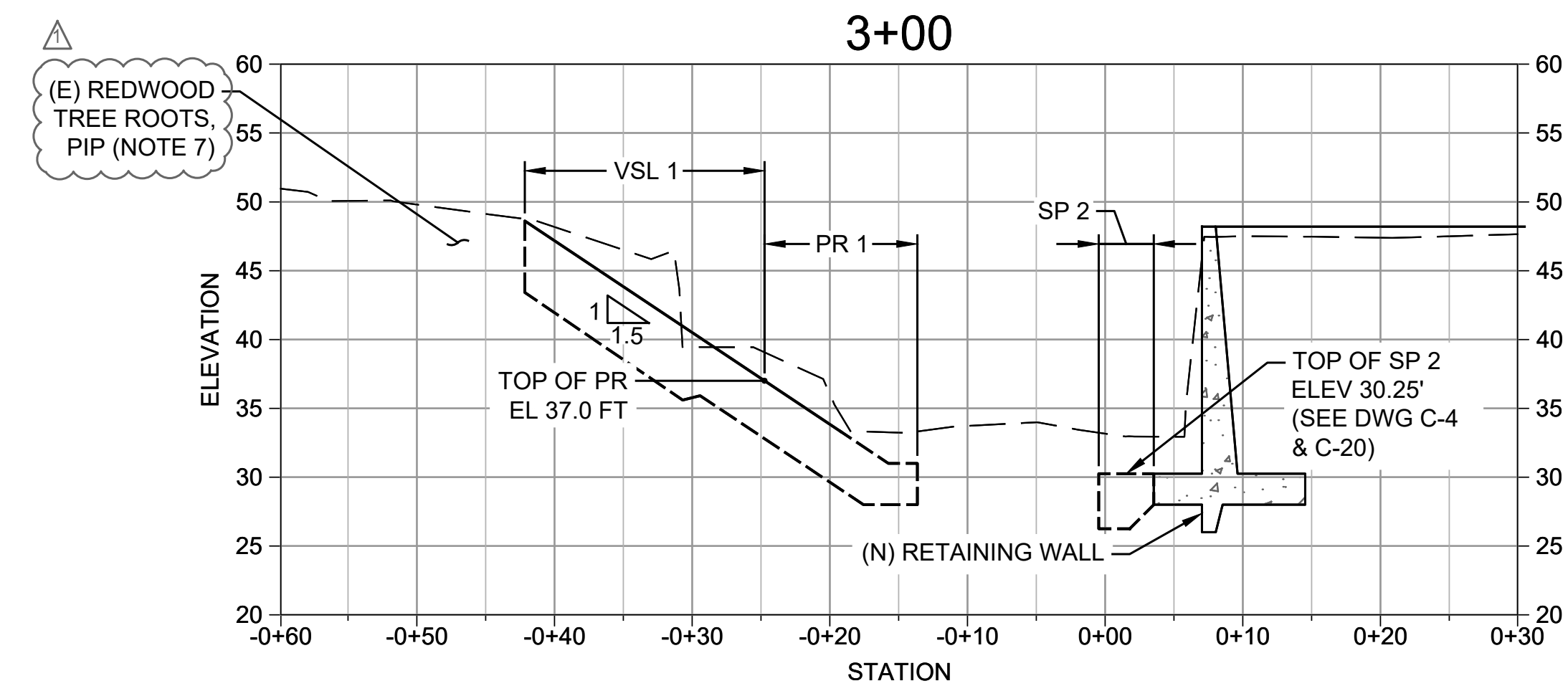
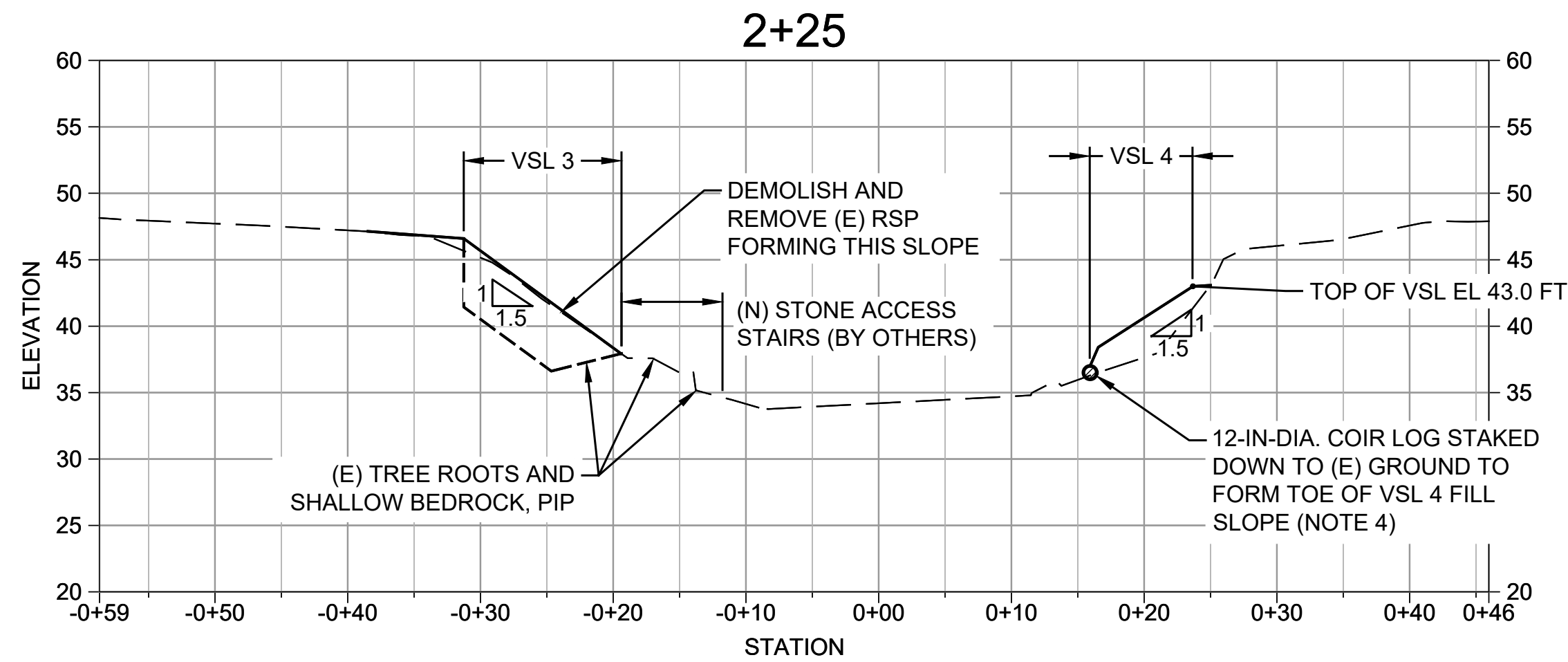
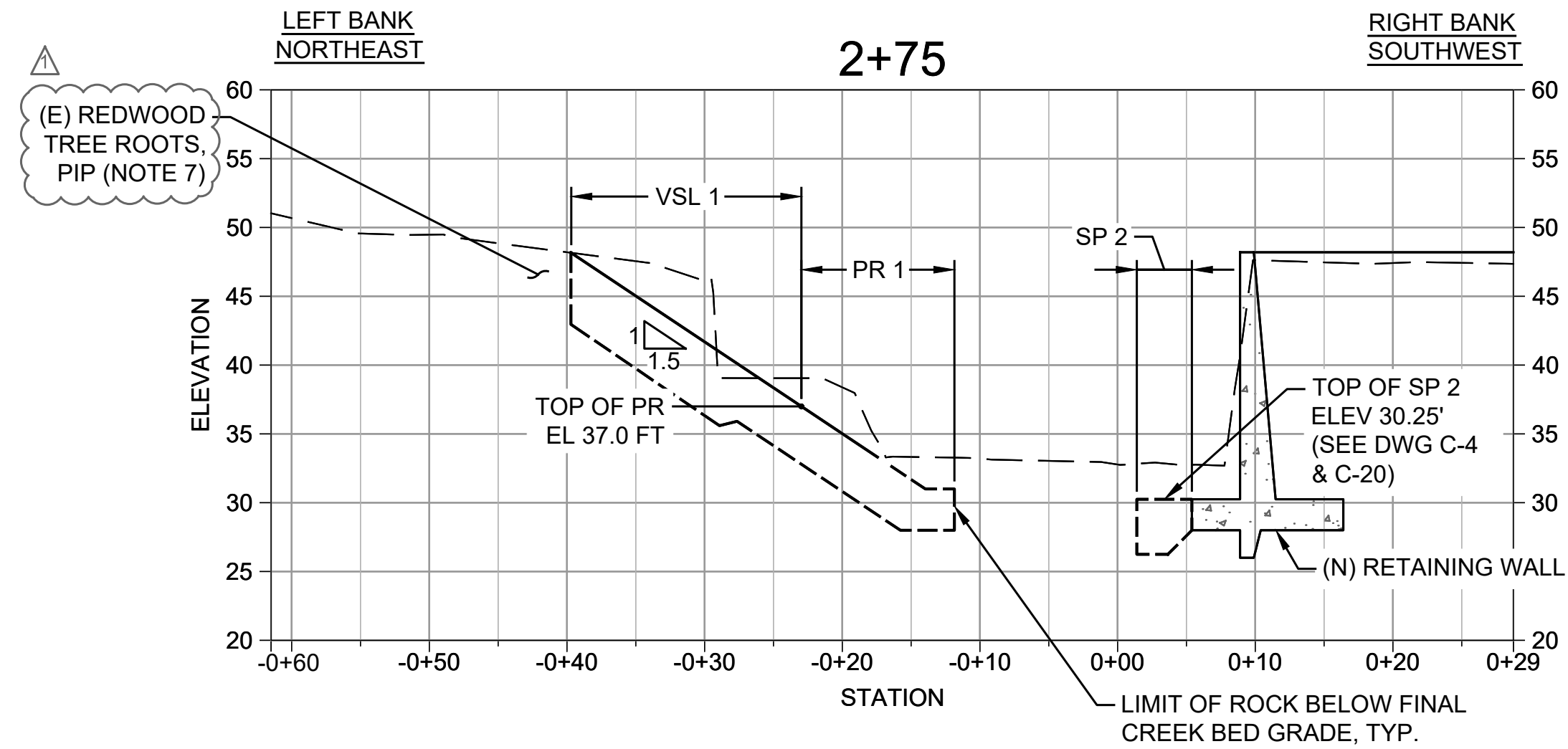
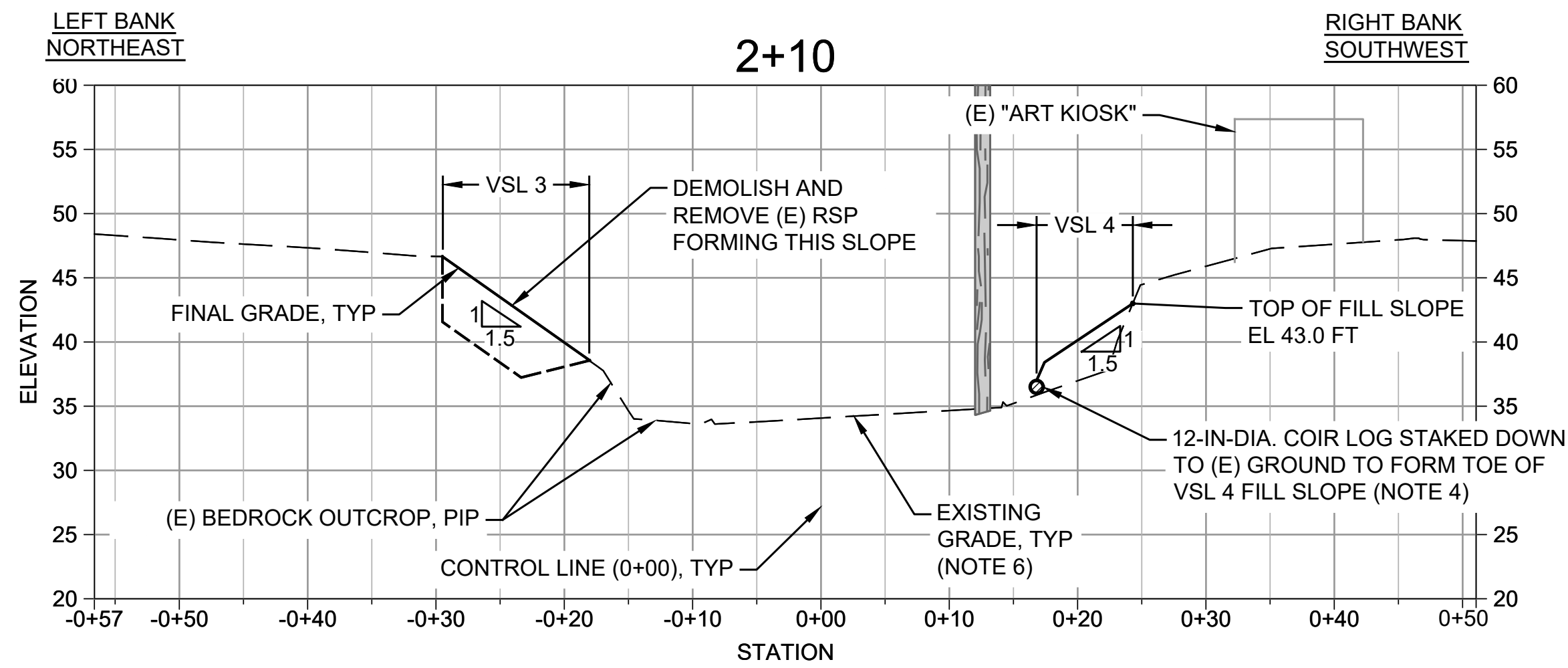
Date: September 15, 2023

Designed:	MS
Checked:	MS
Drawn:	BRS
Approved By:	MS

MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR, ROOM 304 SAN
RAFAEL CALIFORNIA 94903
Project Number: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT BUILDING BRIDGE NO.2 SAN ANSELMO, CA	
FOOTING SCOUR AND BANK EROSION PROTECTION PLAN	

DWG. NO.	C-17
SHEET NO.	26



NOTES

- CROSS SECTIONS ARE ORIENTED FACING DOWNSTREAM.
- CROSS-SECTION ALIGNMENTS INDICATED AT SHEET C-16.
- FOR CONSTRUCTION DETAILS SEE SHEET C-19 AND C-20.
- HAND-PLACE VSL 4 FILL SLOPE SURROUNDING EXPOSED ROOTS OF UNDERMINED ELM TREES AND AVOID TREE REMOVAL.
- BACKFILL ROCK KEYWAY AND SCOUR PROTECTION WITH NATIVE ALLUVIUM TO RESTORE PRE-PROJECT BED ELEVATION CONTOURS.
- FINAL GRADES ON CHANNEL BED TO MATCH EXISTING GRADES.
- CONTRACTOR SHALL CAREFULLY PERFORM EXCAVATION NEAR THE TOP OF SLOPE TO AVOID DAMAGING REDWOOD TREE ROOTS, UNDER SUPERVISION OF THE ARBORIST, AND ANY MODIFICATION TO THE EXCAVATION LIMITS AND BACKCUT SLOPES SHALL BE APPROVED BY THE ARBORIST AND THE ENGINEER.



Attention:

0 1"

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5/31/2024	DISTRICT AND TOWN REVIEW	MS
NO.	DATE	ISSUE/REVISION
		APP

CHANNEL GRADING SECTIONS

SCALE: HORIZ 1"=10'
VERT 1"=10'



Designed: MS

Checked: MS

Drawn: BRS

Approved By: MS



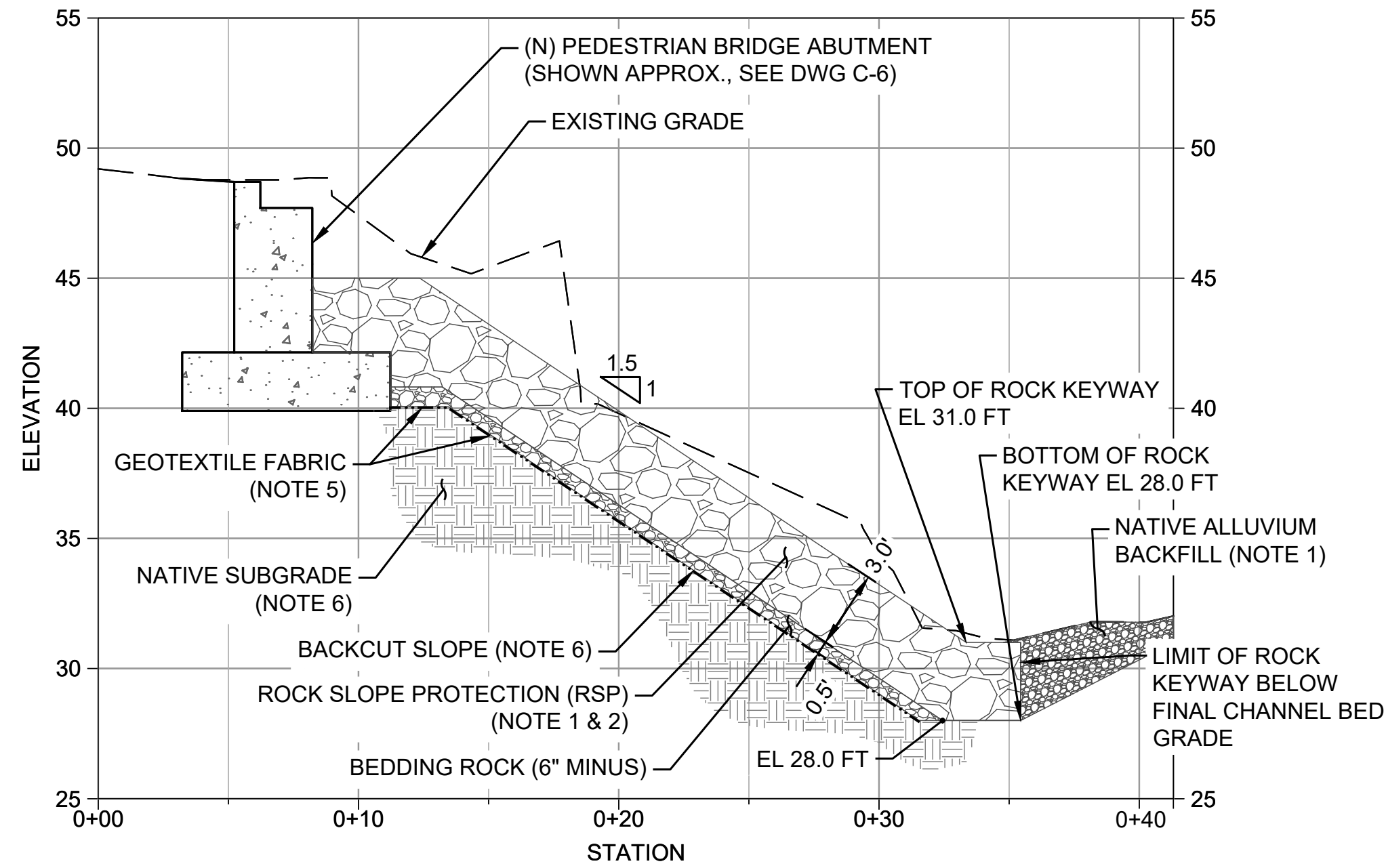
MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR. ROOM 304 SAN
RAFAEL CALIFORNIA 94903
Project Number: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE NO.2
SAN ANSELMO, CA

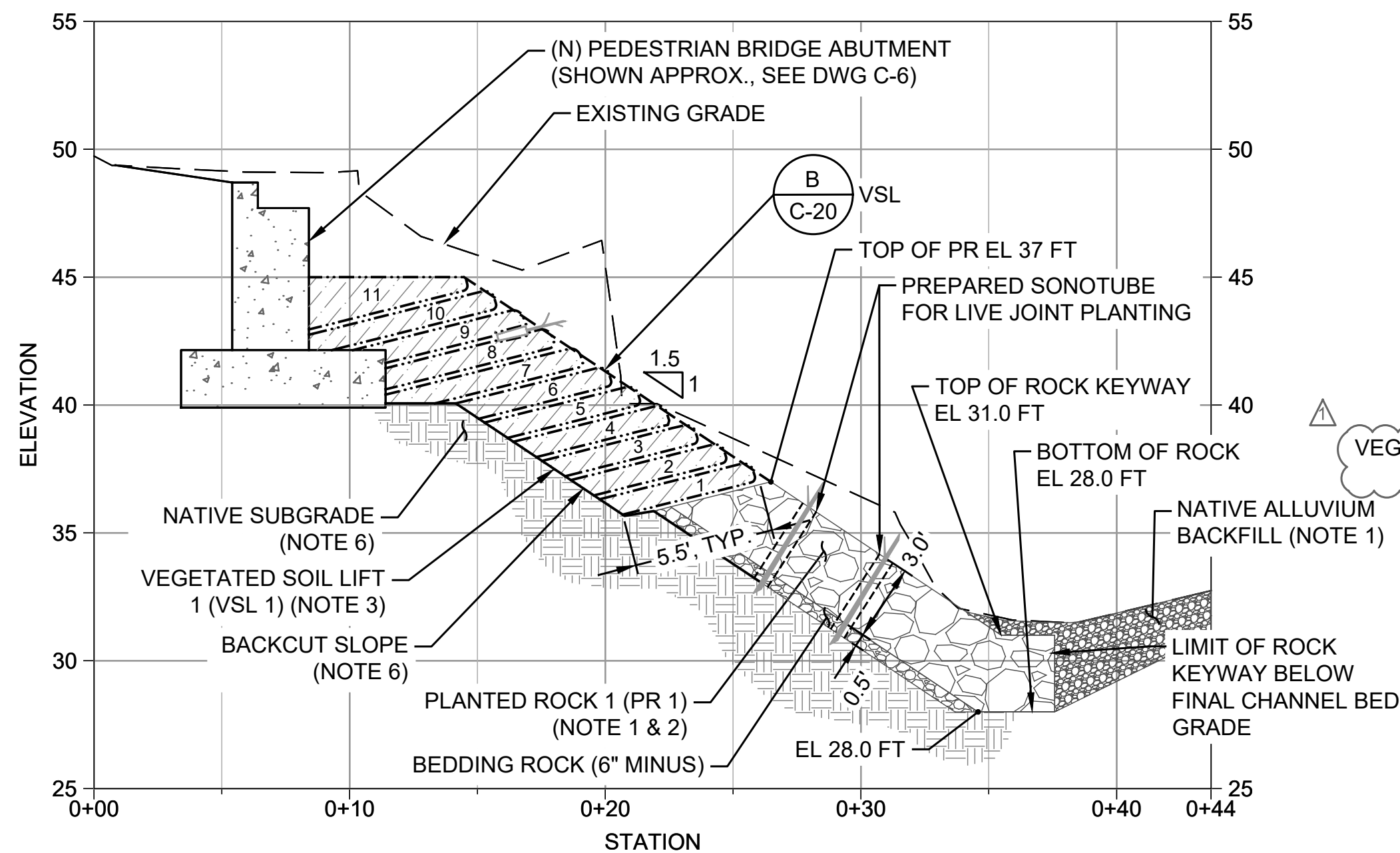
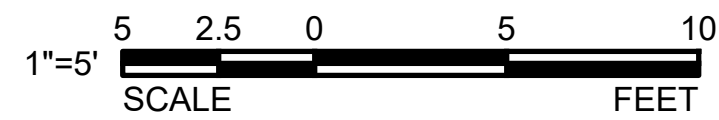
CHANNEL GRADING SECTIONS

DWG. NO.
C-18

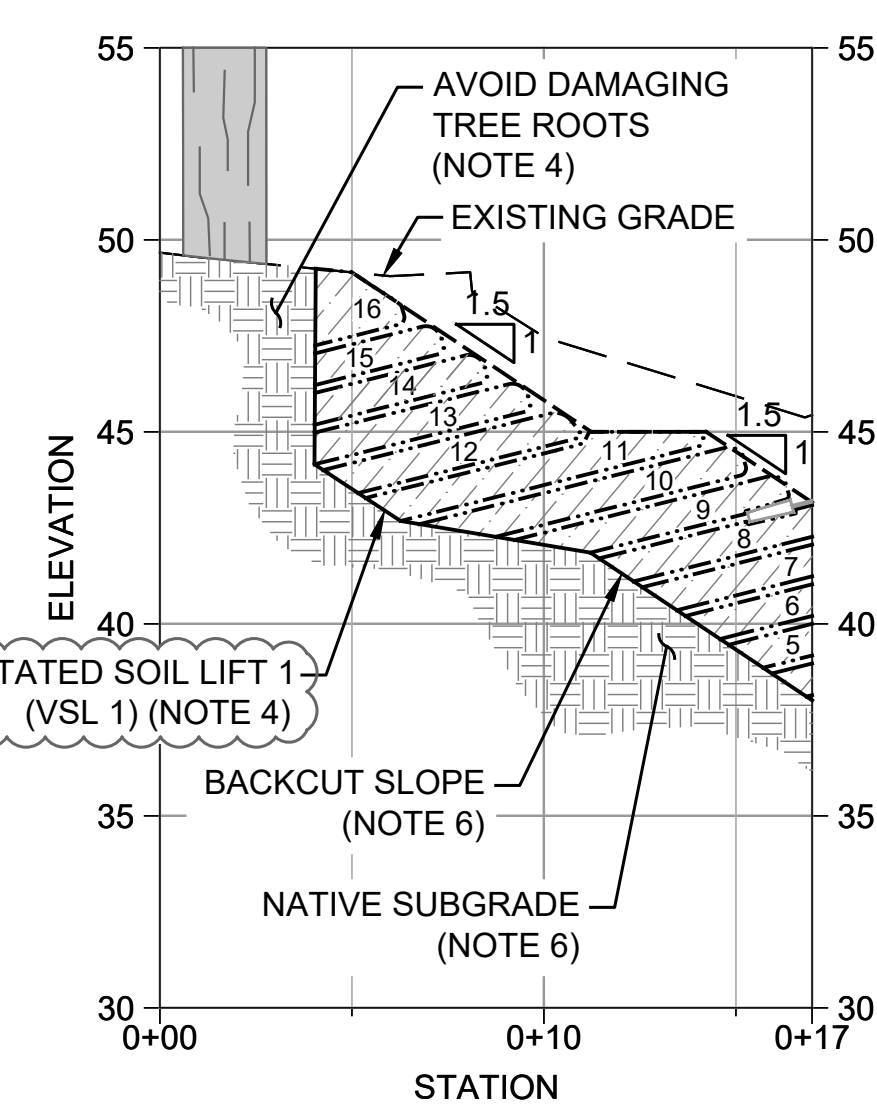
SHEET NO.
27



1 BANK EROSION PROTECTION AT PEDESTRIAN BRIDGE ABUTMENT
- TYPICAL SECTION SCALE: 1" = 5'



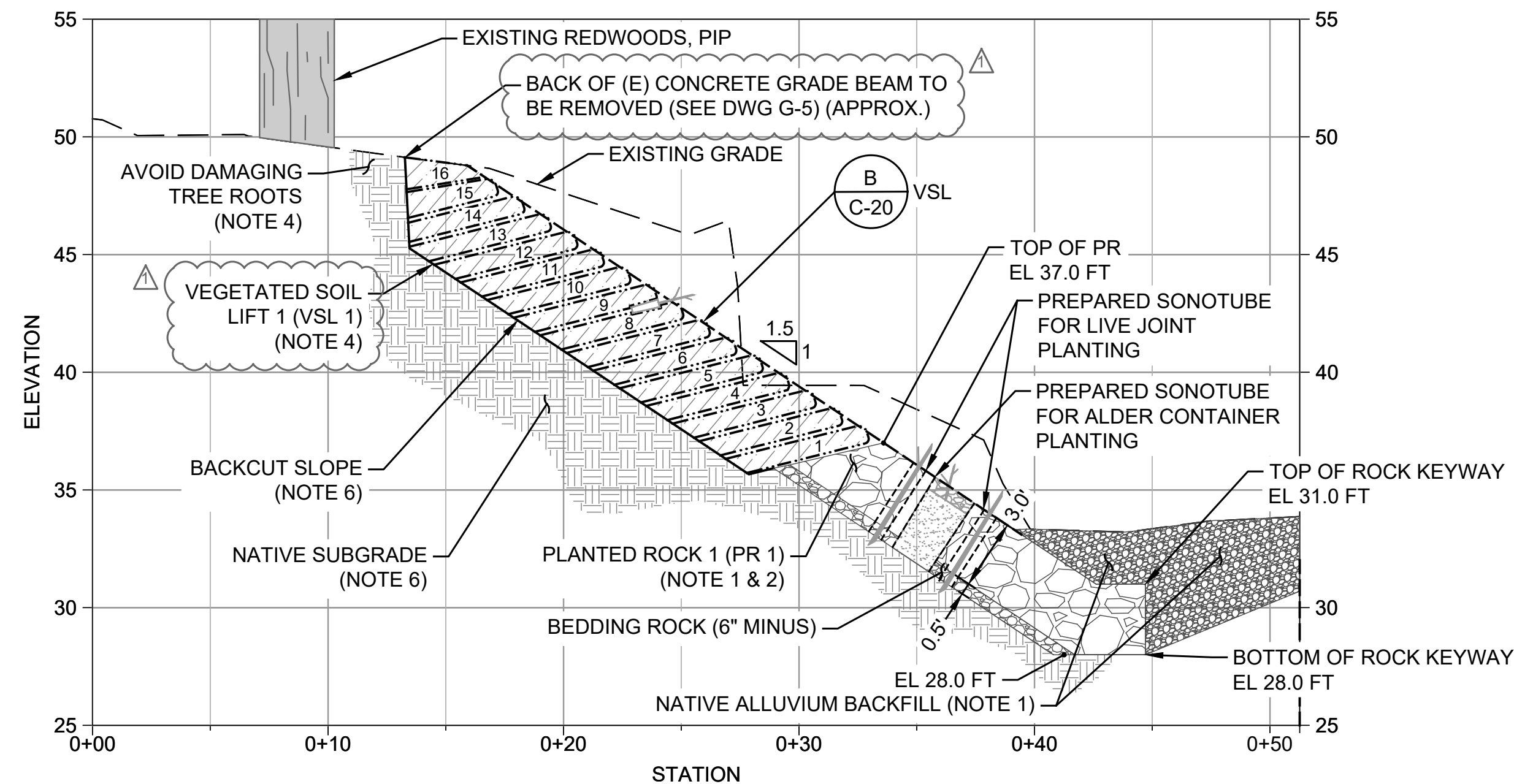
2 BANK EROSION PROTECTION AT PEDESTRIAN BRIDGE ABUTMENT
- TYPICAL SECTION SCALE: 1" = 5'



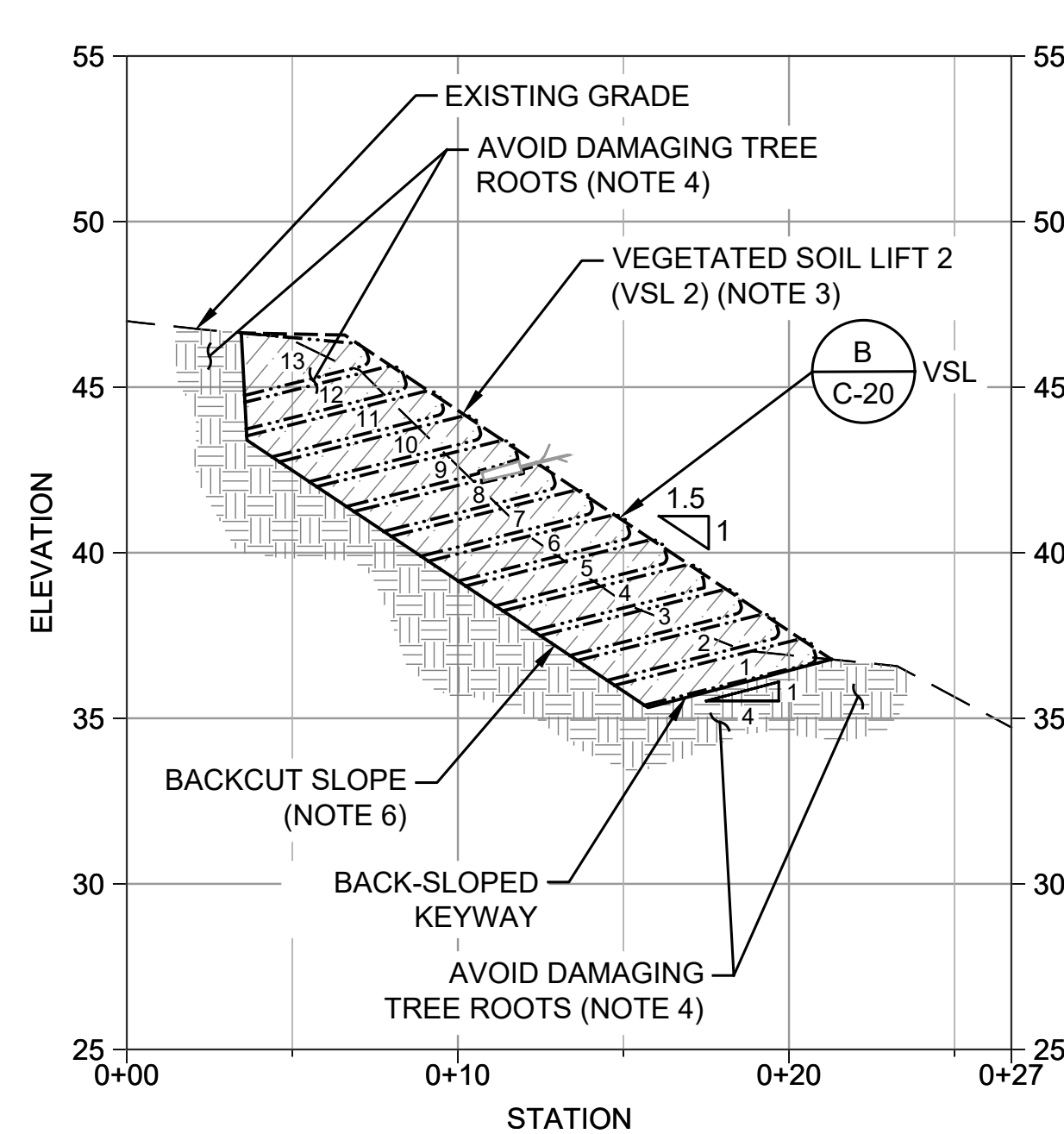
3 BANK EROSION PROTECTION AT PEDESTRIAN BRIDGE WINGWALL CONFORM
- TYPICAL SECTION SCALE: 1" = 5'

NOTES

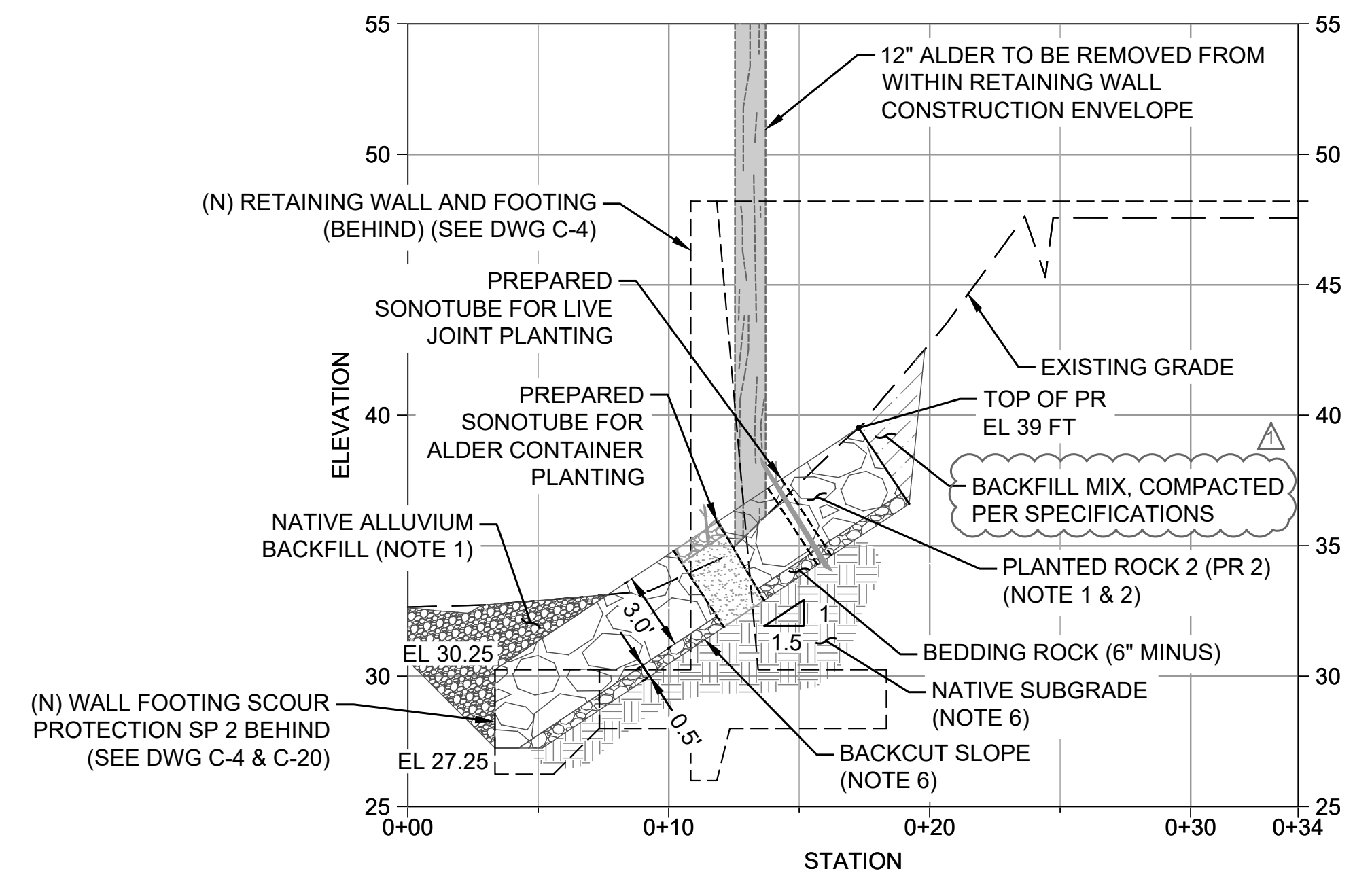
1. CONTRACTOR SHALL PLACE NATIVE ALLUVIUM SAND AND GRAVEL MIXTURE TO BACKFILL VOID SPACES IN THE BUILT-UP ROCK AND BACKFILL TRENCH EXCAVATIONS FOR FOOTING SCOUR PROTECTION, ROCK SLOPE PROTECTION, AND PLANTED ROCK TO RESTORE EXISTING (PRE-PROJECT) CHANNEL BED ELEVATION.
2. SEE DWG C-17 FOR ROCK RIP-RAP SIZE FOR RSP AND PLANTED ROCK AND FOOTING SCOUR PROTECTION.
3. PLACE BACKFILL MIX IN MAXIMUM 8" LOOSE THICKNESS LIFTS AND COMPACT TO 88 - 90% RELATIVE COMPACTION PER ASTM D1557 TO ACHIEVE TOTAL 12" FINISHED THICKNESS.
4. MODIFY VSL NUMBER, LIMITS, STAKING, AND TOP VSL HEIGHT TO CONFORM TO IRREGULAR NATIVE SUBGRADE LIMITS OR BACKCUT PROFILES DIFFERENT THAN SHOWN ON THESE DRAWINGS, AS NEEDED TO PROTECT REDWOOD AND ALDER TREE ROOTS UNDER SUPERVISION AND APPROVAL OF ARBORIST AND ENGINEER.
5. MIRAFI 500X, OR APPROVED EQUIVALENT. GEOTEXTILE FABRIC PLACED AS BACKING FOR ROCK SLOPE PROTECTION. NO GEOTEXTILE FABRIC SHALL BE PLACED AS BACKING FOR PLANTED ROCK, VEGETATED SOIL LIFTS, OR FOOTING SCOUR PROTECTION.
6. CONTRACTOR TO PERFORM EXCAVATION TO EXPOSE UNDISTURBED NATIVE SUBGRADE AT THE LIMITS SHOWN. ENGINEER SHALL INSPECT AND APPROVE THE EXPOSED SUBGRADE PRIOR TO FILL PLACEMENT OF BANK EROSION PROTECTION MATERIALS. WHERE NATIVE SUBGRADE IS ABSENT OR LOOSENEED BY CONSTRUCTION DISTURBANCE, ENGINEER MAY REQUIRE PLACEMENT OF A PREPARED SUBGRADE SUCH AS COMPACTED FILL.



4 BANK EROSION PROTECTION WITHIN BB2 FOOTPRINT - VSL 1
- TYPICAL SECTION SCALE: 1" = 5'



5 BANK EROSION PROTECTION DOWNSTREAM FROM BB2 FOOTPRINT - VSL 2
- TYPICAL SECTION SCALE: 1" = 5'

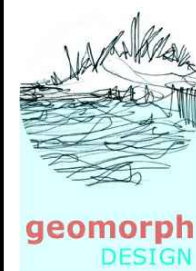


6 BANK EROSION PROTECTION DOWNSTREAM FROM NEW WALL - PR 2
- TYPICAL SECTION SCALE: 1" = 5'



Attention:
0 1" SCALE
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NO.	DATE	ISSUE/REVISION	APP
	5/31/2024	DISTRICT AND TOWN REVIEW	MS



Geomorph DESIGN
2100 Fourth St, No. 154
San Rafael, CA 94901
(910) 219-1084

Date: September 15, 2023

Designed:	MS
Checked:	MS
Drawn:	BRS
Approved By:	MS

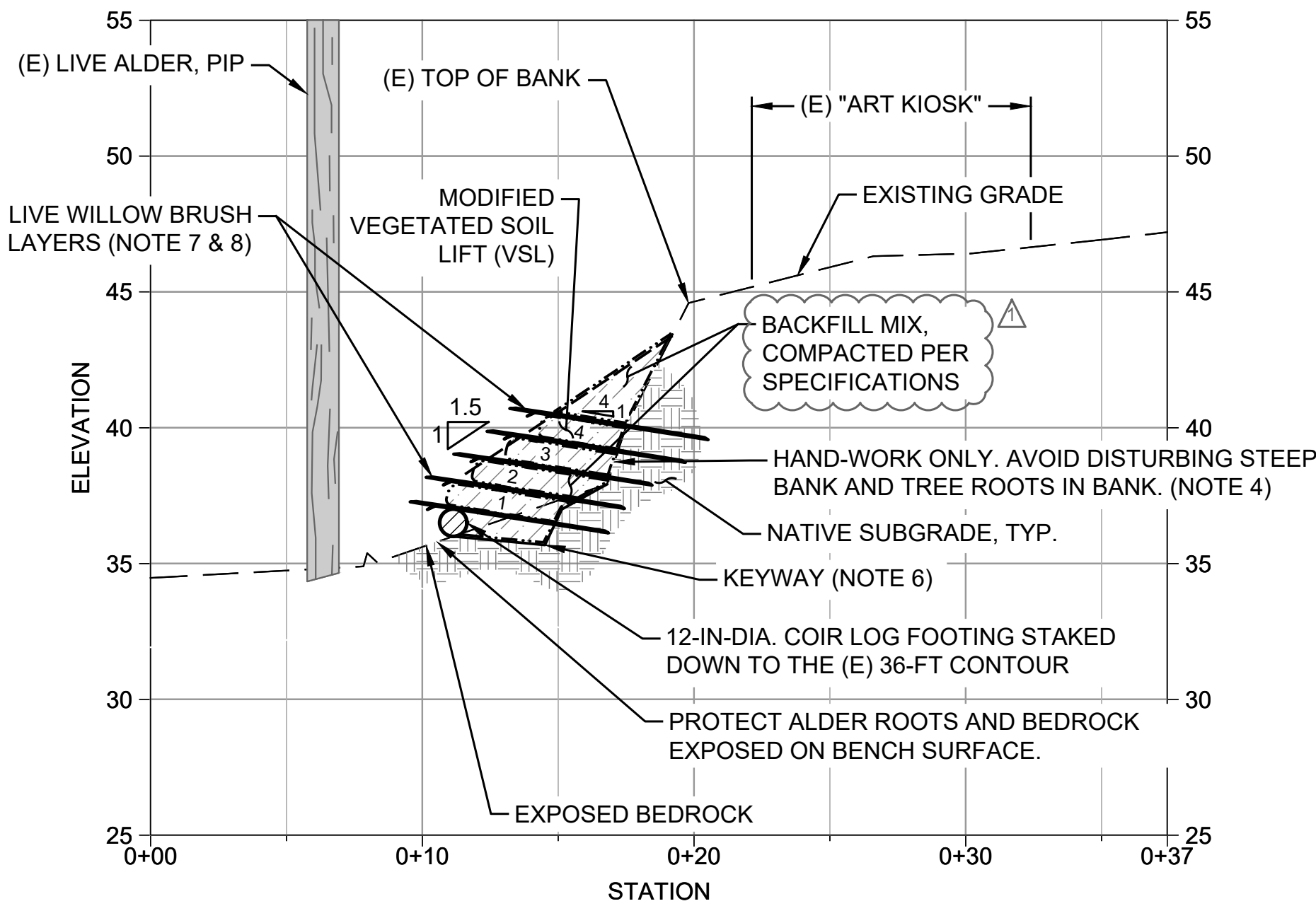


MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR. ROOM 304 SAN
RAFAEL, CALIFORNIA 94903
Project Number: FZ9-12-005-P3

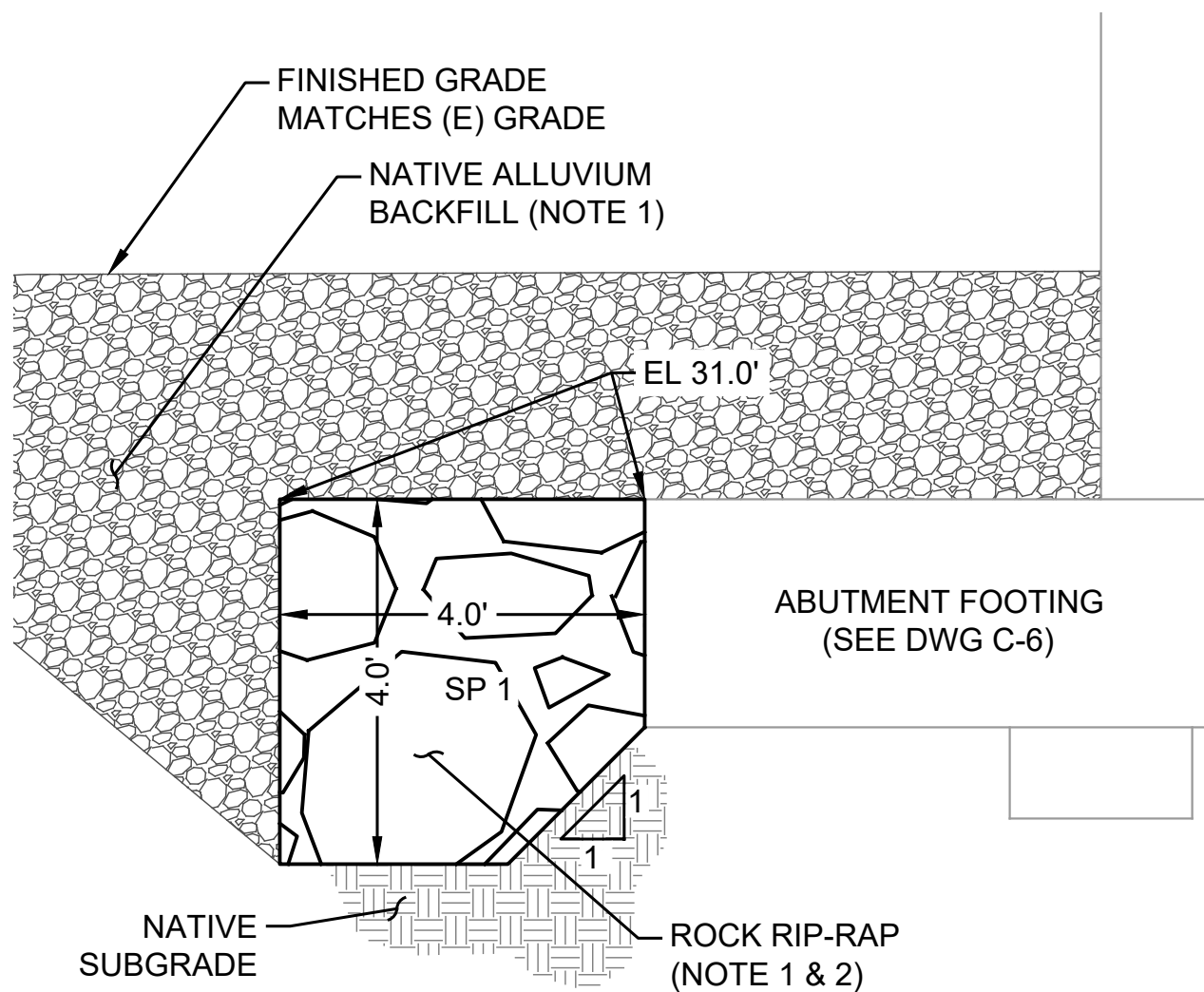
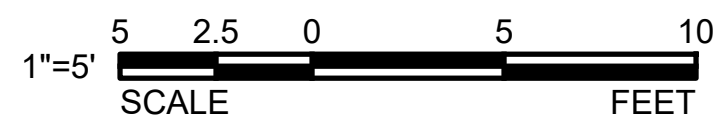
SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE NO.2
SAN ANSELMO, CA

CHANNEL CONSTRUCTION DETAILS (1 OF 2)

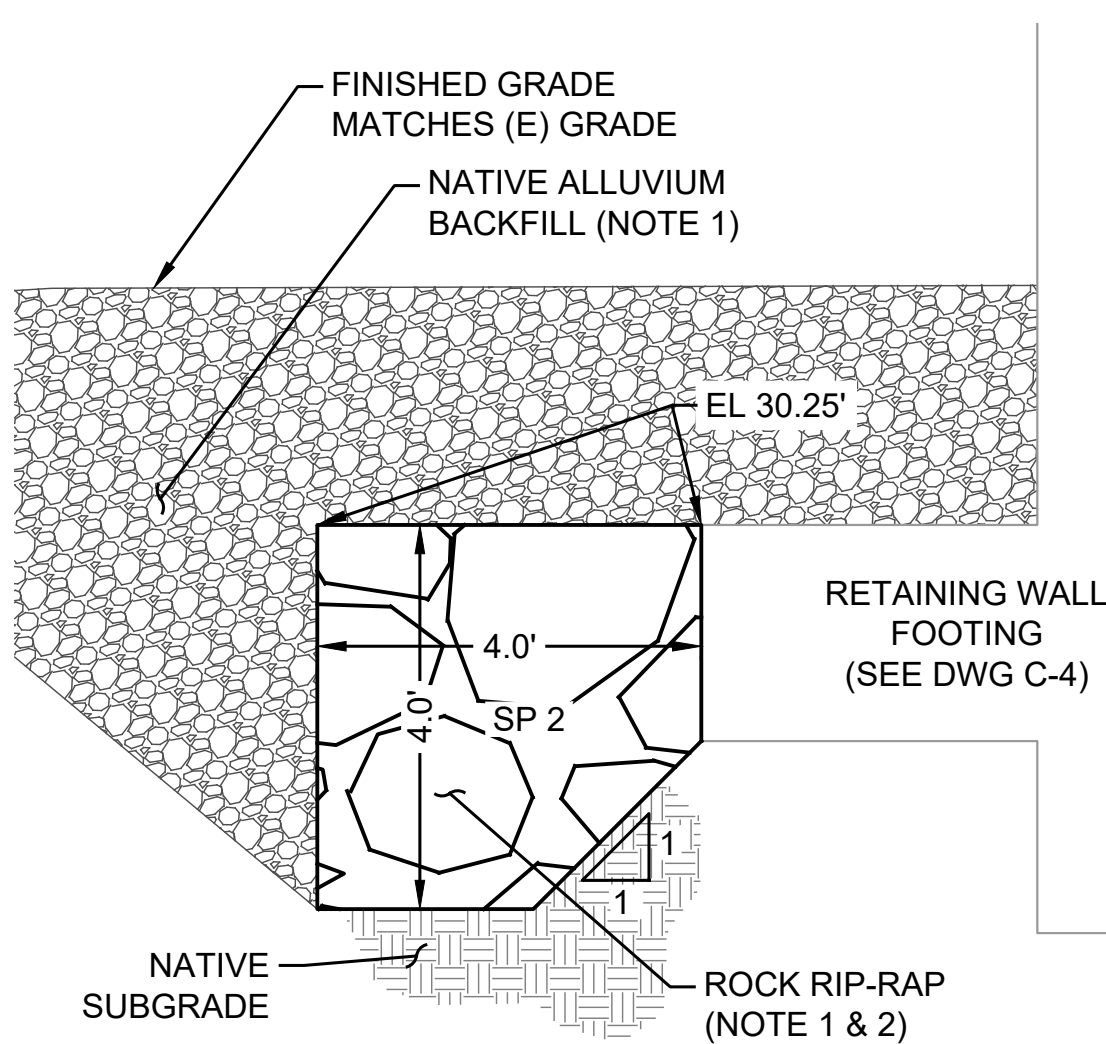
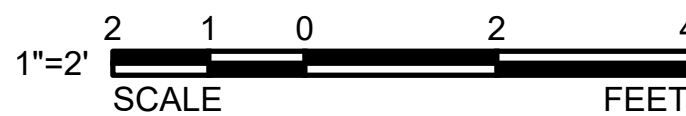
DWG. NO.
C-19
SHEET NO.
28



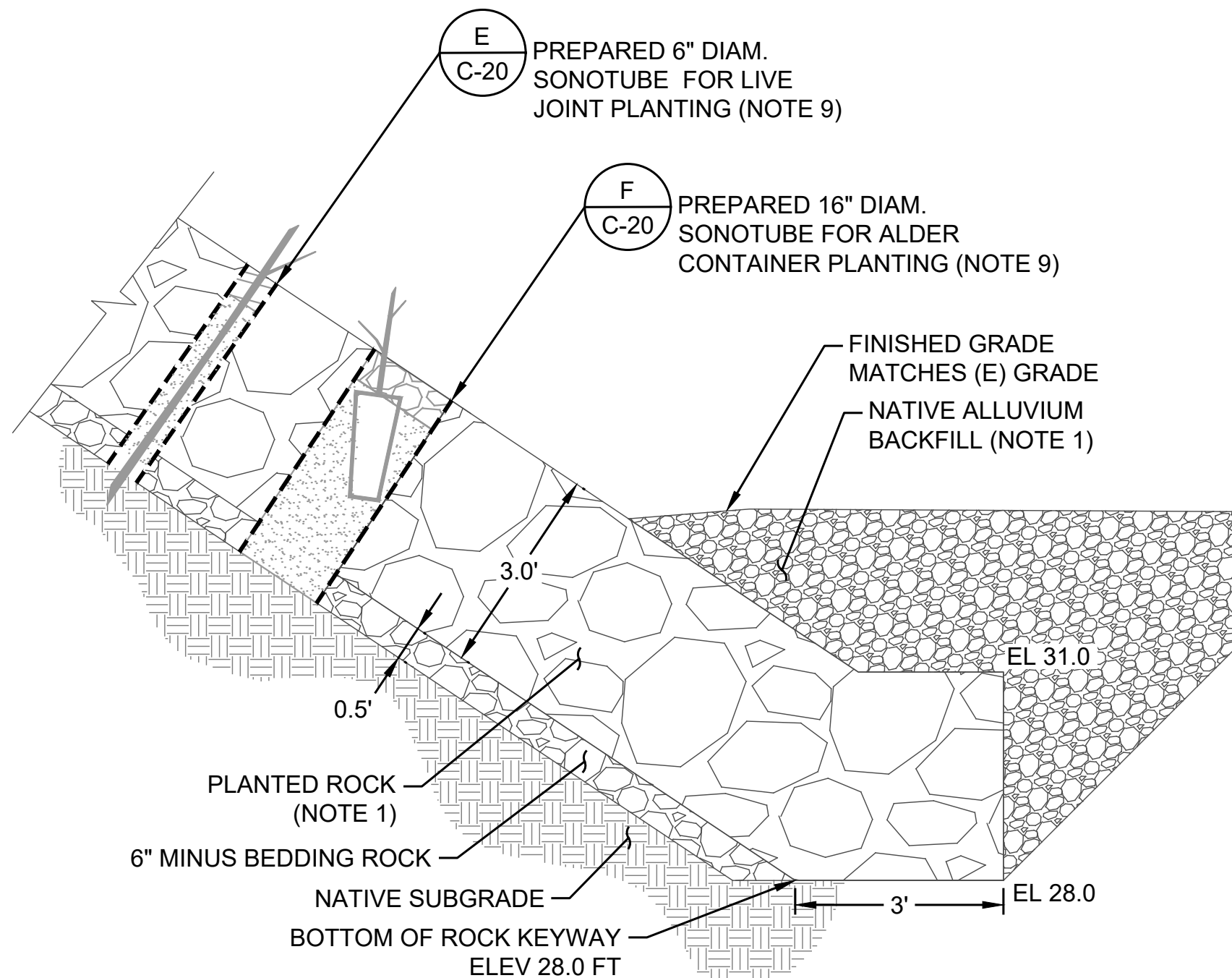
7 BANK EROSION PROTECTION BELOW ART KIOSK - VSL 4
TYPICAL SECTION SCALE: 1" = 5'



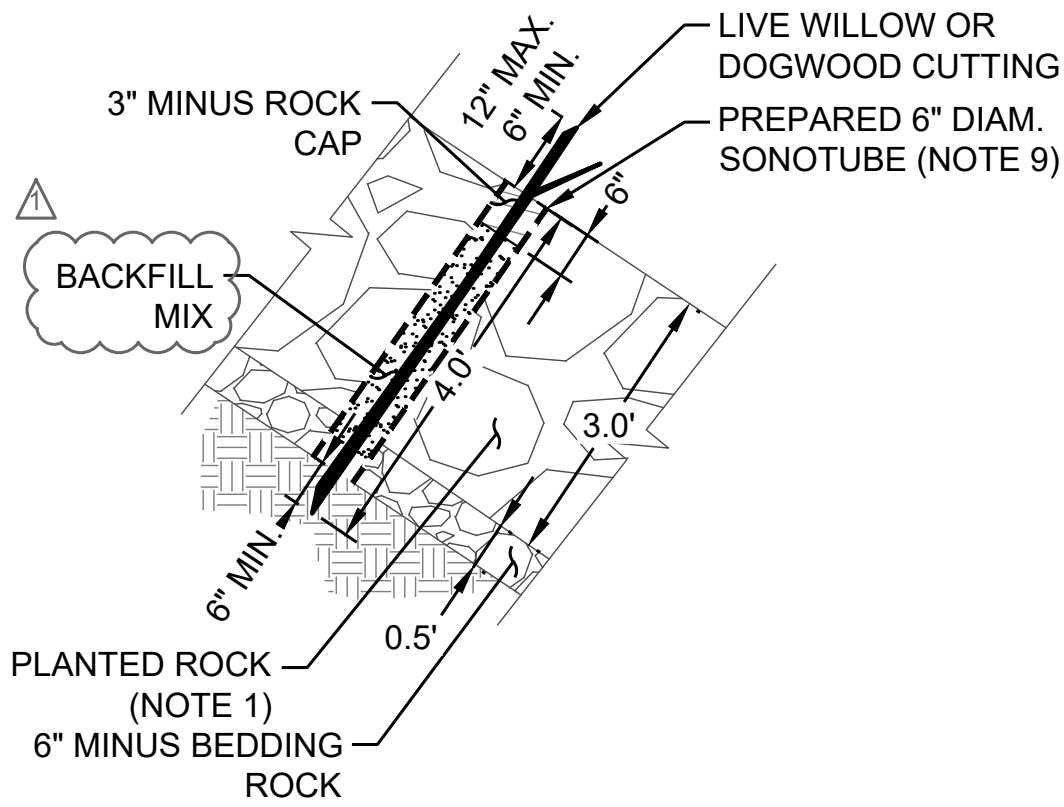
C ABUTMENT FOOTING SCOUR PROTECTION SP 1
DETAIL SCALE: 1" = 2'



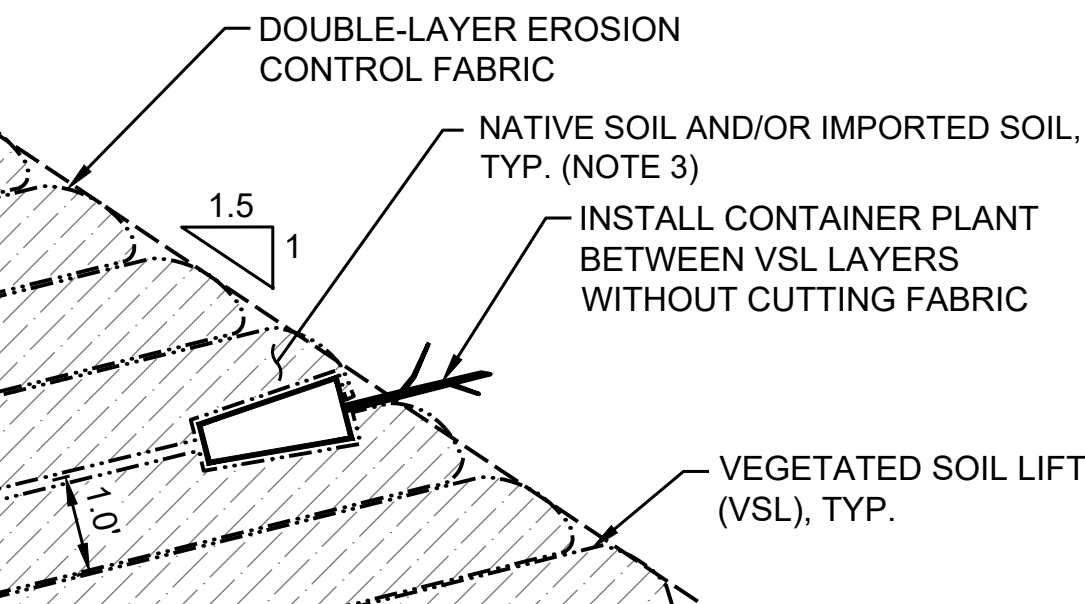
D WALL FOOTING SCOUR PROTECTION SP 2
DETAIL SCALE: 1" = 2'



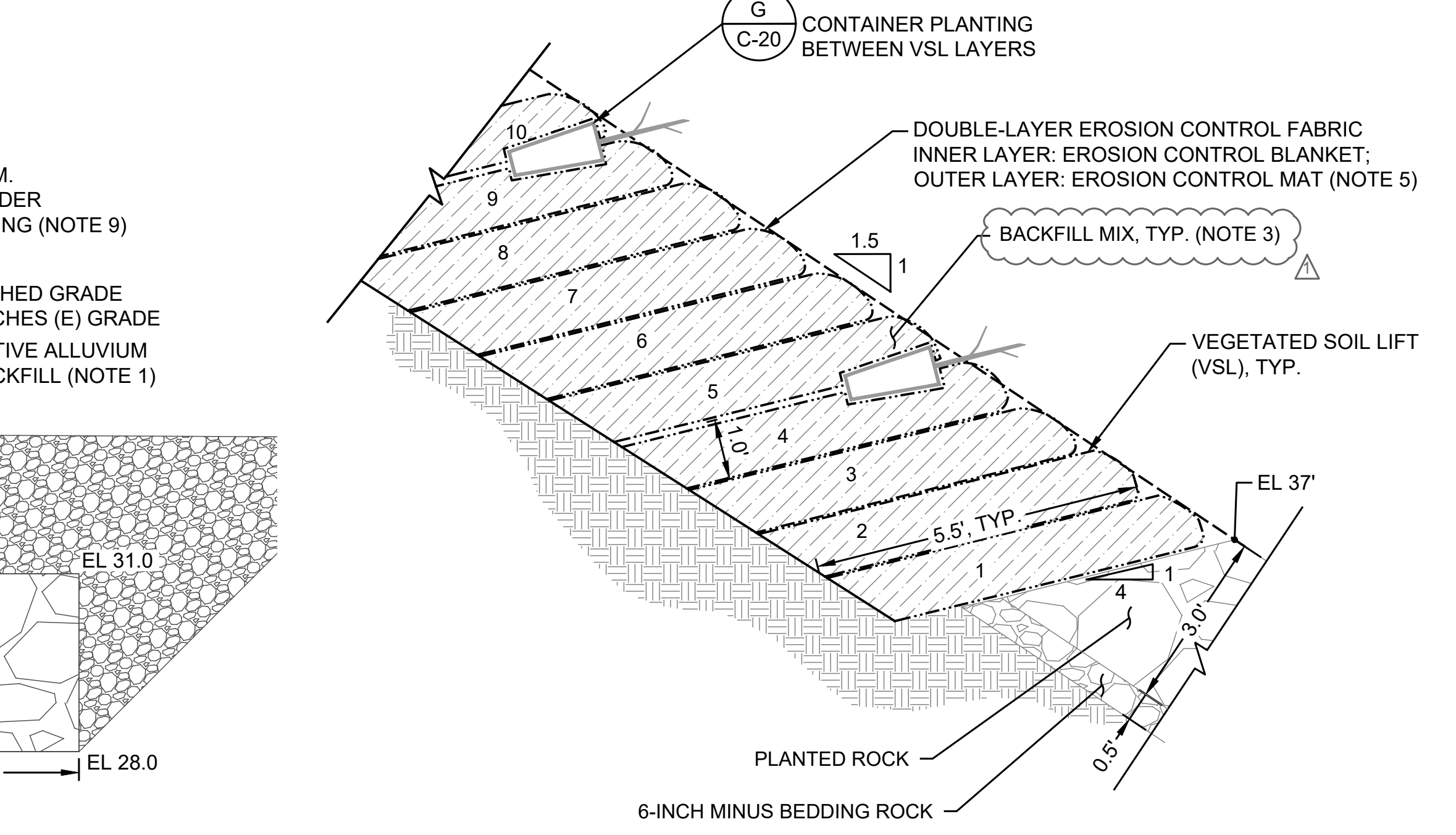
A PLANTED ROCK WITH PREPARED SONOTUBES
DETAIL SCALE: 1" = 2'



E LIVE JOINT PLANTING IN PREPARED SONOTUBE
DETAIL SCALE: 1" = 2'



G CONTAINER PLANTING BETWEEN VSL LAYERS
DETAIL SCALE: 1" = 2'



B VEGETATED SOIL LIFTS - VSL 1, VSL 2, VSL 3
DETAIL SCALE: 1" = 2'



NOTES

- CONTRACTOR SHALL PLACE NATIVE ALLUVIUM SAND AND GRAVEL MIXTURE TO BACKFILL VOID SPACES IN THE BUILT-UP ROCK AND BACKFILL TRENCH EXCAVATIONS FOR FOOTING SCOUR PROTECTION, ROCK SLOPE PROTECTION, AND PLANTED ROCK TO RESTORE EXISTING (PRE-PROJECT) CHANNEL BED ELEVATION.
- SEE DWG C-17 FOR ROCK RIP-RAP SIZE FOR RSP AND PLANTED ROCK AND FOOTING SCOUR PROTECTION AND FOOTING SCOUR PROTECTION.
- PLACE BACKFILL MIX IN MAXIMUM 8" HIGH LIFTS AND COMPACT TO 88% RELATIVE COMPACTION TO ACHIEVE TOTAL 12" VSL THICKNESS.
- MODIFY VSL DIMENSIONS AND STAKING AS NEEDED TO CONFORM TO IRREGULAR NATIVE SUBGRADE LIMITS AND AVOID DAMAGING TREE ROOTS WITH ARBORIST AND ENGINEER APPROVAL.
- SEED ALL FINISHED VSL FACE SLOPES WITH SEED MIX PLACED ON FINISHED SOIL FACE PRIOR TO WRAPPING WITH BOTTOM LAYER EROSION CONTROL BLANKET AND ON EROSION CONTROL BLANKET PRIOR TO WRAPPING WITH TOP LAYER EROSION CONTROL MAT.
- CONTRACTOR SHALL PREPARE A KEYWAY LANDWARD FROM THE 36" CONTOUR LINE EXPOSING FIRM NATIVE SUBGRADE WITH LIMITS DETERMINED IN CONSULTATION WITH THE ARBORIST AND ENGINEER FOR MINIMIZING DAMAGE TO EXISTING TREE ROOTS AND NATIVE BEDROCK.
- CONTRACTOR SHALL AUGER PILOT HOLES AS NEEDED TO INSERT LIVE BRUSH PIECES MINIMUM 16" INTO NATIVE SUBGRADE AT BACK OF EACH BRUSH LAYER. BRUSH PIECES SPACED 6" APART ALONG LENGTH OF LAYER.
- CONTRACTOR SHALL HAND-WATER LIVE BRUSH LAYERS DURING AND AFTER BUILT-UP INSTALLATION OF VSL 4 TO MAINTAIN MOIST BACKFILL MIX IN THE BRUSH LAYERS UNTIL CONTRACTOR INSTALLS AND MAINTAINS AN APPROPRIATE AUTOMATIC TIMER-CONTROLLED IRRIGATION SYSTEM COVERING THE COMPLETED LIMITS OF VSL 4.
- CONTRACTOR SHALL PREPARE SONOTUBES BY PERFORATING WITH 3/4" DIAMETER HOLES 8" ON CENTER. CONTRACTOR SHALL PROTECT SONOTUBES FROM DAMAGE DURING BUILT-UP ROCK INSTALLATION AND BACKFILL VOIDS IN ROCK ADJACENT TO SONOTUBES WITH NATIVE ALLUVIUM.



Attention:	5/31/2024	DISTRICT AND TOWN REVIEW	MS
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If this scale bar does not measure 1" then drawing is not original scale.			
NO.	DATE	ISSUE/REVISION	APP



Geomorph DESIGN
2100 Fourth St, No 154
San Rafael, CA 94901
(910) 219-1084

Date: September 15, 2023

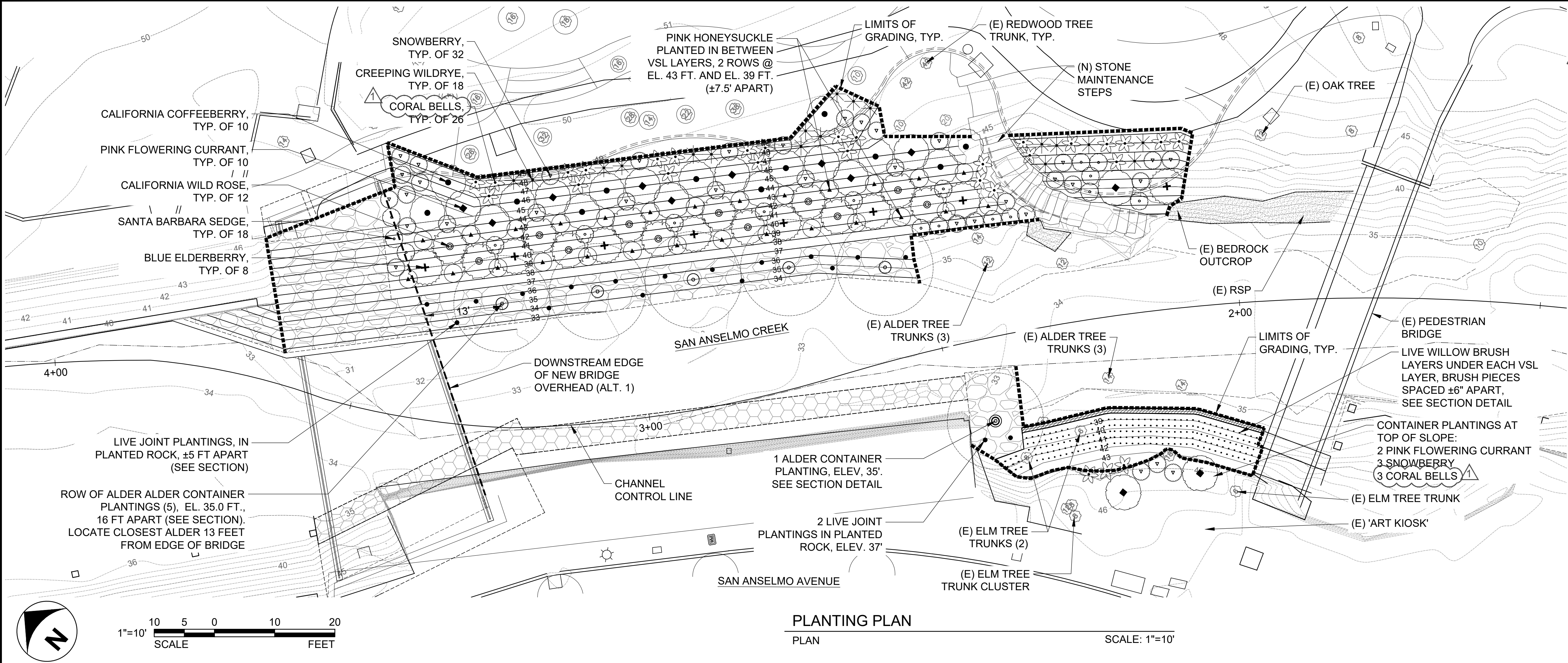
Designed:	MS
Checked:	MS
Drawn:	BRS
Approved By:	MS



MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR. ROOM 304 SAN
RAFAEL CALIFORNIA 94903
Project Number: FZ9-12-005-P3

SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE NO.2
SAN ANSELMO, CA
CHANNEL CONSTRUCTION DETAILS (2 OF 2)

DWG. NO.
C-20
SHEET NO.
29



SEEDING NOTES:

1. SEED MIX TO BE INSTALLED IN ALL VEGETATED SOIL LIFT AREAS, AND ALL AREAS WITHIN LIMITS OF GRADING (OUTSIDE OF ROCK SLOPE PROTECTION, PLANTED ROCK, AND CHANNEL BED). ESTIMATED SQUARE FOOTAGE IS GIVEN BELOW. SEEDING AREA IS NOT SHOWN ON THE PLAN FOR GRAPHIC CLARITY.

2. CONTRACTOR / SUPPLIER TO PROVIDE RECOMMENDED SEEDING RATES FOR SEED MIX BASED ON THE INDIVIDUAL SPECIES AND PERCENT COMPOSITION IN EACH LIST. DISTRICT TO REVIEW AND APPROVE BASED ON SUCCESS CRITERIA ESTABLISHED BY THE HABITAT MANAGEMENT PLAN AND OTHER PERMIT REQUIREMENTS. SEE SPECIFICATIONS SECTION 32 92 19 AND 32 97 00 FOR MORE INFORMATION.

Seed Mix List		
Total Seeded Area = 2,585 square feet		
See Notes for seeding rates (Pounds of Pure Live Seed (PLS) per acre)		
Botanical Name	Common Name	Percent Composition
Grasses		
<i>Bromus carinatus</i>	California Brome	20%
<i>Elymus triticoides</i>	Creeping Wildrye	20%
<i>Festuca microstachys</i>	Three Weeks Fescue	5%
<i>Festuca rubra</i>	Red Fescue	15%
<i>Hordeum brachyantherum</i>	Meadow Barley	10%
<i>Stipa pulchra</i>	Purple Needle Grass	5%
Herbaceous		
<i>Achillea millefolium</i>	Yarrow	5%
<i>Eschscholzia californica</i>	California Poppy	5%
<i>Lupinus bicolor</i>	Miniature Lupine	5%
<i>Trifolium wildenovii</i>	Tomcat Clover	10%

PLANTING NOTES:

1. PLANT MATERIAL SHALL BE PROPAGATED FROM LOCAL SOURCES WITHIN THE PROJECT WATERSHED AS MUCH AS POSSIBLE. SEE SPECIFICATION SECTION 32 90 00 - PLANTING. CONTRACTOR SHALL COORDINATE WITH DISTRICT TO DETERMINE PROCESS FOR PLANT PROCUREMENT & PROPAGATION.
2. SUBSTITUTIONS OF PLANT SPECIES, SIZE OR QUANTITY IS NOT PERMITTED WITHOUT PRIOR WRITTEN AUTHORIZATION OF THE DISTRICT REPRESENTATIVE, IN COMPLIANCE WITH THE HABITAT RESTORATION MANAGEMENT PLAN AND OTHER PERMIT REQUIREMENTS.
3. ALL WORK AROUND EXISTING TREES IS TO BE DONE CAREFULLY TO AVOID DAMAGE TO THE TRUNK, BRANCHES AND ROOTS AS DIRECTED BY AN ARBORIST. ADJUST NEW PLANTING LOCATIONS AS NEEDED TO AVOID CONFLICTS, SUBJECT TO DISTRICT APPROVAL.

CONTAINER ABBREVIATION KEY:
SC = SUPER CELL 1.5" DIA. X 8.25" DEEP

D16 = DEE POT 16 2" DIA. X 7" DEEP
D40 = DEE POT 40 2.5" DIA. X 10" DEEP
TB4 = TREE BAND 4 4" SQUARE X 10" DEEP
TP4 = TREE POT 4 4" SQUARE X 14" DEEP

OTHER ABBREVIATIONS:
VSL = VEGETATED SOIL LIFT

PR = PLANTED ROCK

PLANT LISTS:

LIVE CUTTINGS:

SYMBOL	BOTANICAL NAME	COMMON NAME	SPACING	QUANTITY	NOTES
TREES:					
•	<i>Cornus sericea</i>	Creek Dogwood	48" o.c.	8	Live Willow and Dogwood cuttings to be installed in 6" diam. sonotubes in planted rock areas, see Channel Construction Details
•	<i>Salix lasiolepis</i>	Arroyo Willow	48" o.c.	10	
⋮	<i>Cornus sericea</i>	Creek Dogwood	6" o.c.	200	Live brush layers with cuttings inserted in between each VSL layer in VSL 4, see Channel Construction Details
⋮	<i>Salix lasiolepis</i>	Arroyo Willow	6" o.c.	200	

CONTAINER PLANTINGS - TREES

SYMBOL	BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	QUANTITY	NOTES
TREES:					
⊙	<i>Alnus rhombifolia</i>	White Alder	4-gal TP	6	Alder container plantings to be installed in 16" diam. sonotubes in planted rock areas, see Channel Construction Details

CONTAINER PLANTINGS - SHRUBS IN BETWEEN VSL LAYERS:

SYMBOL	BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	QUANTITY	NOTES
⬤	<i>Lonicera hispidula</i>	Pink Honeysuckle	D40	27	To be installed in between some vegetated soil lifts as indicated on this plan, ±7.5' apart. See Channel Construction Details

CONTAINER PLANTINGS CONT'D:

SYMBOL	BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	QUANTITY	NOTES
SHRUBS:					
⬤	<i>Frangula californica ssp. californica</i>	California Coffeeberry	TB4	12	Space approximately 6 feet apart where applicable
◆	<i>Ribes sanguineum var. glutinosum</i>	Pink Flowering Currant	D40	12	Space approximately 6 feet apart where applicable
⊙	<i>Rosa californica</i>	California Wild Rose	D40	12	Space approximately 6 feet apart where applicable
+	<i>Sambucus nigra ssp. caerulea</i>	Blue Elderberry	TB4	8	Space approximately 6 feet apart where applicable
⊙	<i>Symphoricarpos albus</i>	Creeping Snowberry	D16	35	Space approximately 3 feet apart where applicable
HERBACEOUS:					
⊙	<i>Carex barbarae</i>	Santa Barbara Sedge	SC	18	Space approximately 3 feet apart where applicable
✱	<i>Elymus triticoides</i>	Creeping Wildrye	D16	18	Space approximately 3 feet apart where applicable
✱	<i>Heuchera micrantha</i>	Coral Bells	D16	29	Space approximately 3 feet apart where applicable




Attention:	5/31/24	DISTRICT AND TOWN REVIEW	
0 1"			
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Geomorph DESIGN
2100 Fourth St, No 154
San Rafael, CA 94901
(910) 219-1064

Date: September 15, 2023

Designed:	MS
Checked:	MS
Drawn:	BRS
Approved By:	MS



MARIN COUNTY
FLOOD CONTROL &
WATER CONSERVATION
DISTRICT
3501 CIVIC CENTER DR. ROOM 304 SAN
RAFAEL CALIFORNIA 94903
Project Number: FZ9-12-005-P3

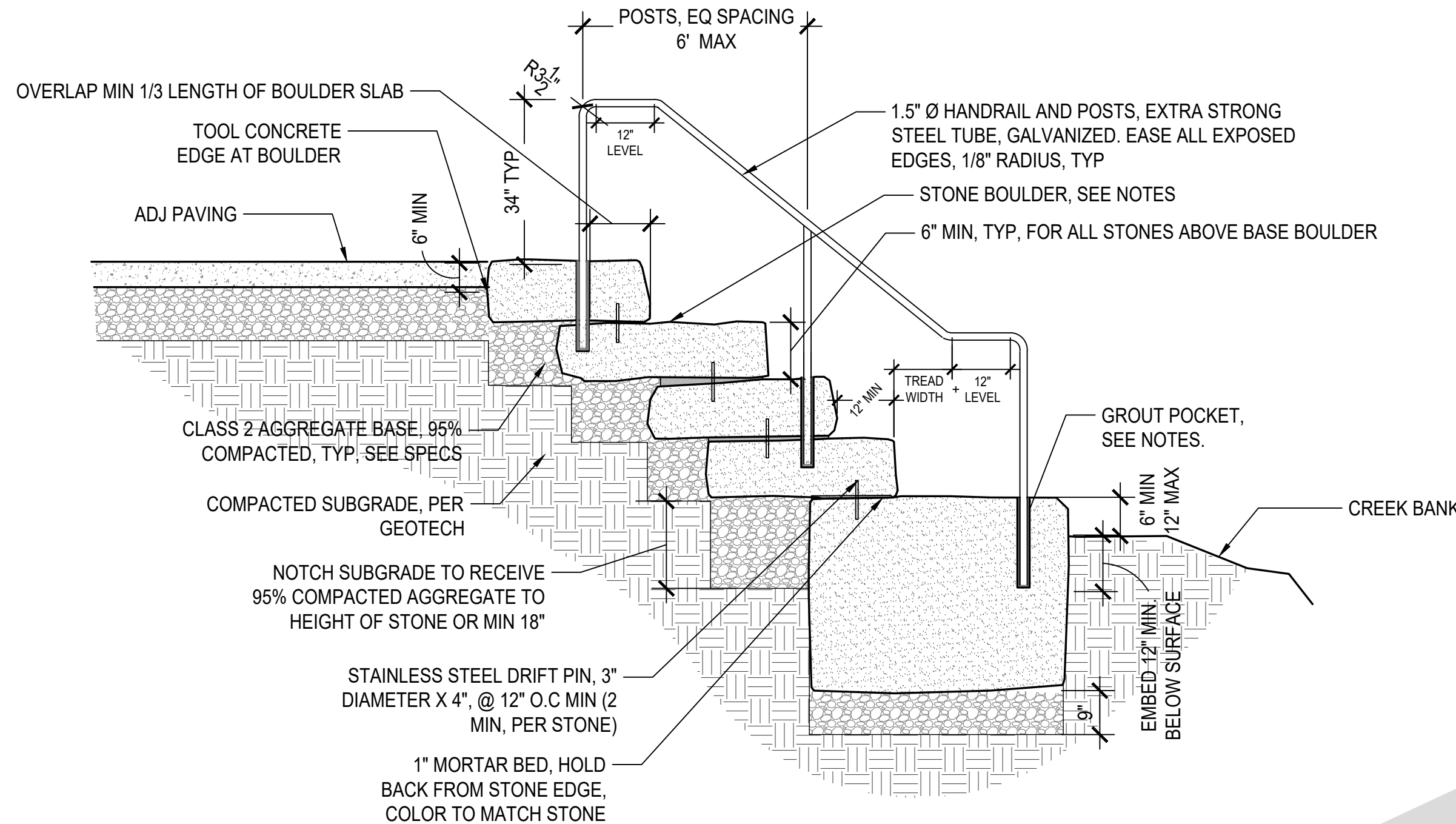
SAN ANSELMO FLOOD RISK REDUCTION PROJECT
BUILDING BRIDGE NO.2
SAN ANSELMO, CA

PLANTING PLAN

DWG. NO.
C-21

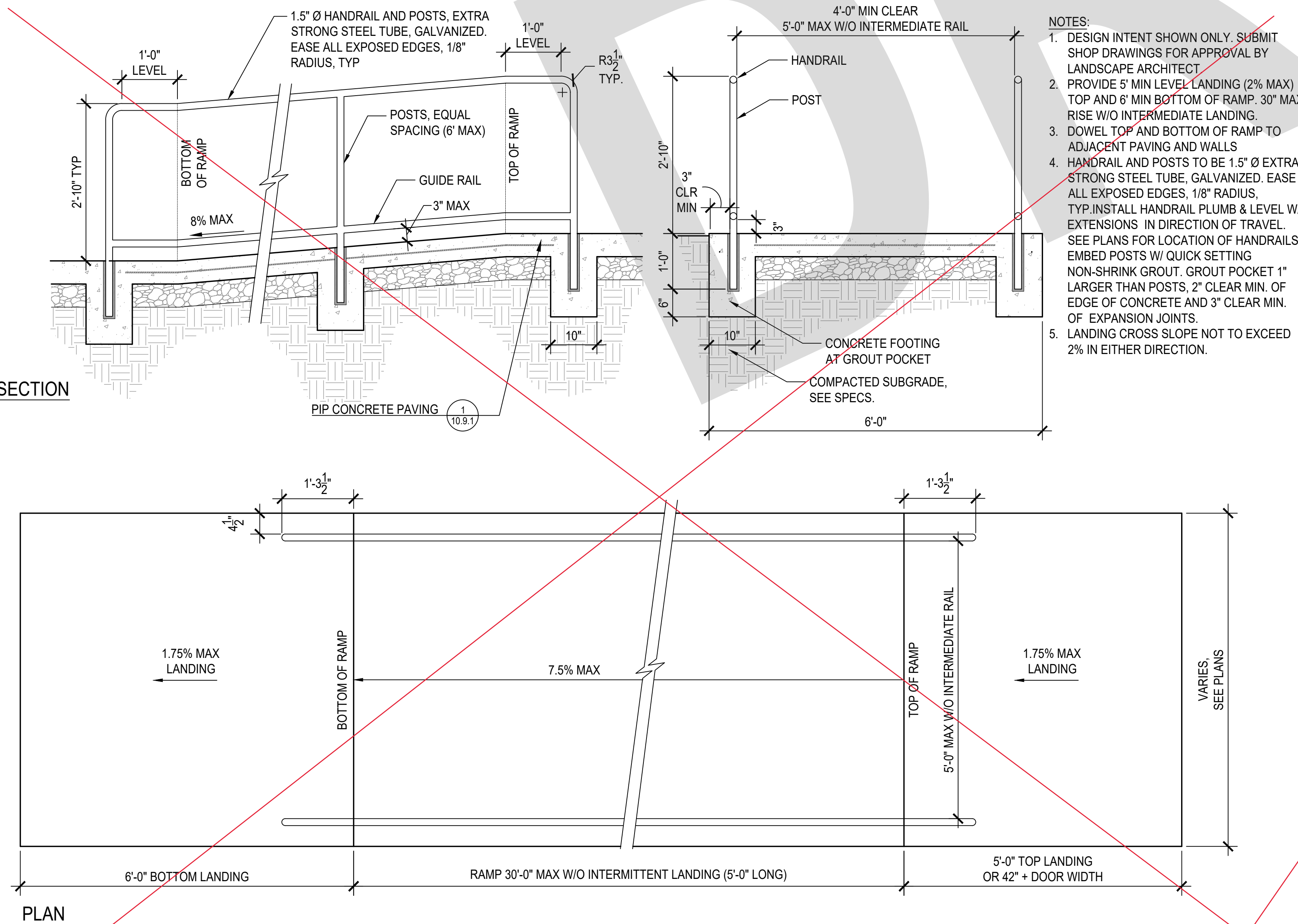
SHEET NO.
30

1. SEE CONSTRUCTION PLAN, MATERIAL SCHEDULE FOR STONE TYPE.
2. EXPOSED SIDES TO BE SPLIT FACE, EDGE AND CORNERS LIGHTLY WORKED, +/-1" RADIUS
3. TOP & BOTTOM FINISH TO BE BUFF GRIND. BOULDERS TO BE PROVIDED AS SLABS, WITH HORIZONTAL SLAB TOP & CLOSE TO VERTICAL EXPOSED FACES.



8 CREEK TRAIL (I.E. STONE STEPS)

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



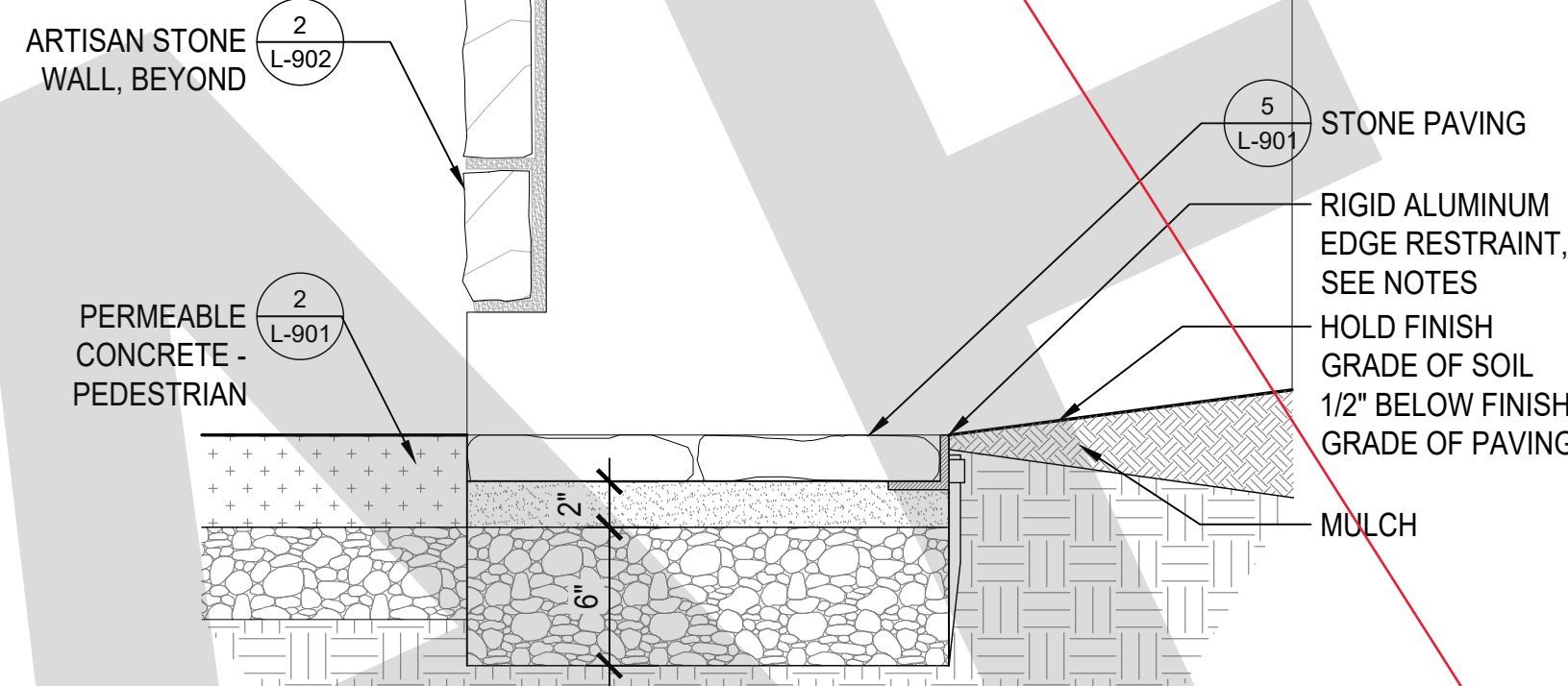
9 RAMP & HANDRAIL

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

5 STONE PAVING

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

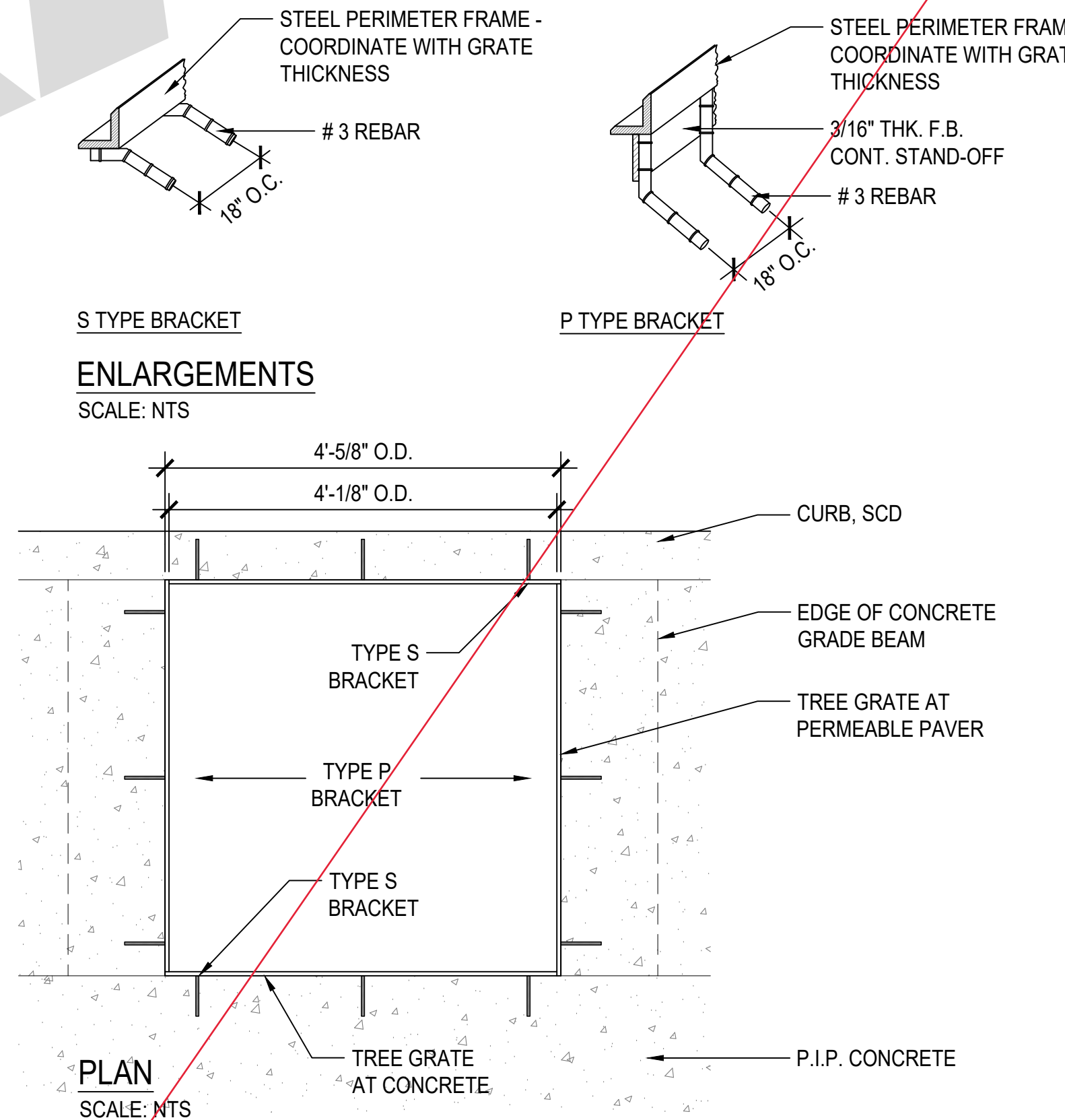
- NOTES:
1. METAL EDGE RESTRAINT, STRUCTURE EDGE BY PERMALOC OR EQUAL, BLACK COLOR.



6 PAVER EDGING

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

- NOTE:
1. SEE CONSTRUCTION PLAN FOR MATERIALS SCHEDULE INCLUDING TREE GRATES
 2. SEE CIVIL DRAWINGS FOR SUBGRADE PREPARATION AND DRAINAGE PLAN
 3. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION



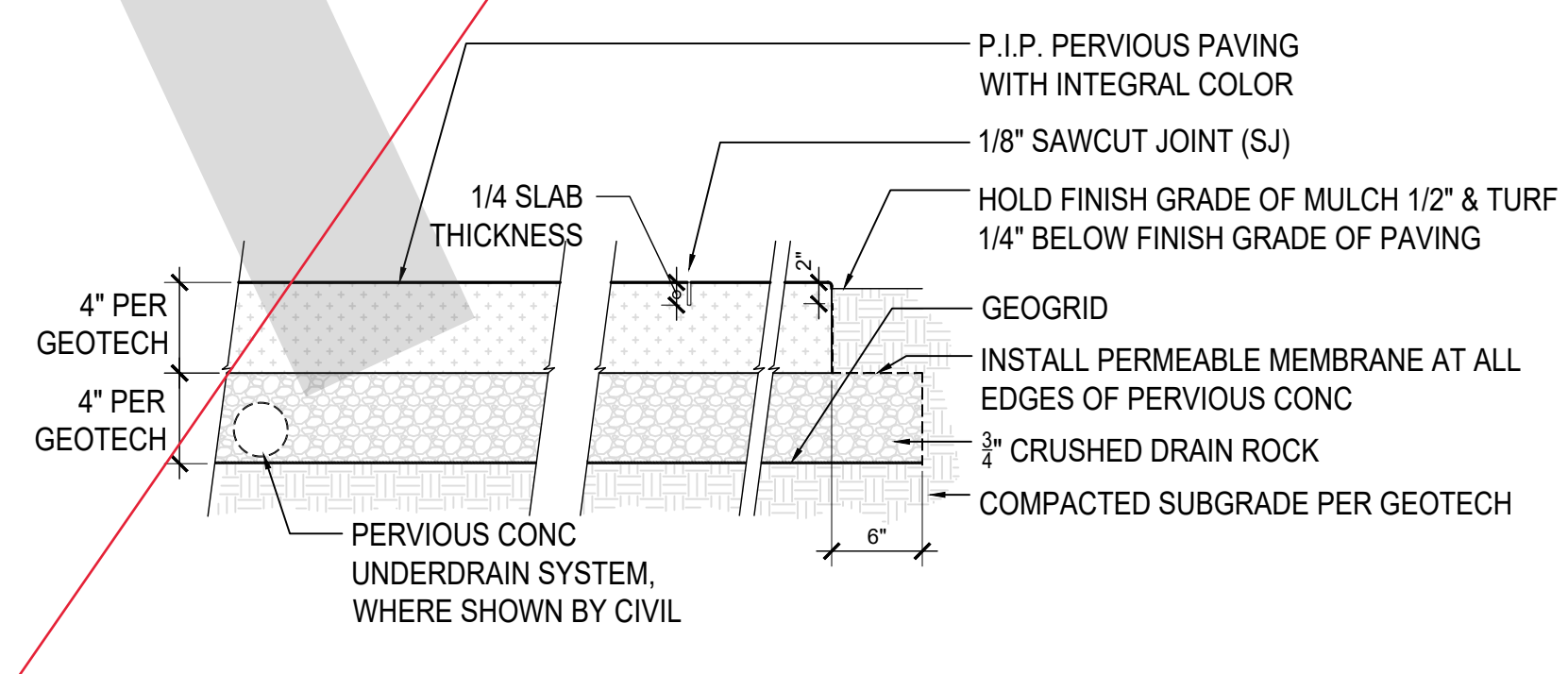
7 TREE GRATE AT CONCRETE PAVING

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

1 CONCRETE SIDEWALK - PER CITY STANDARD

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

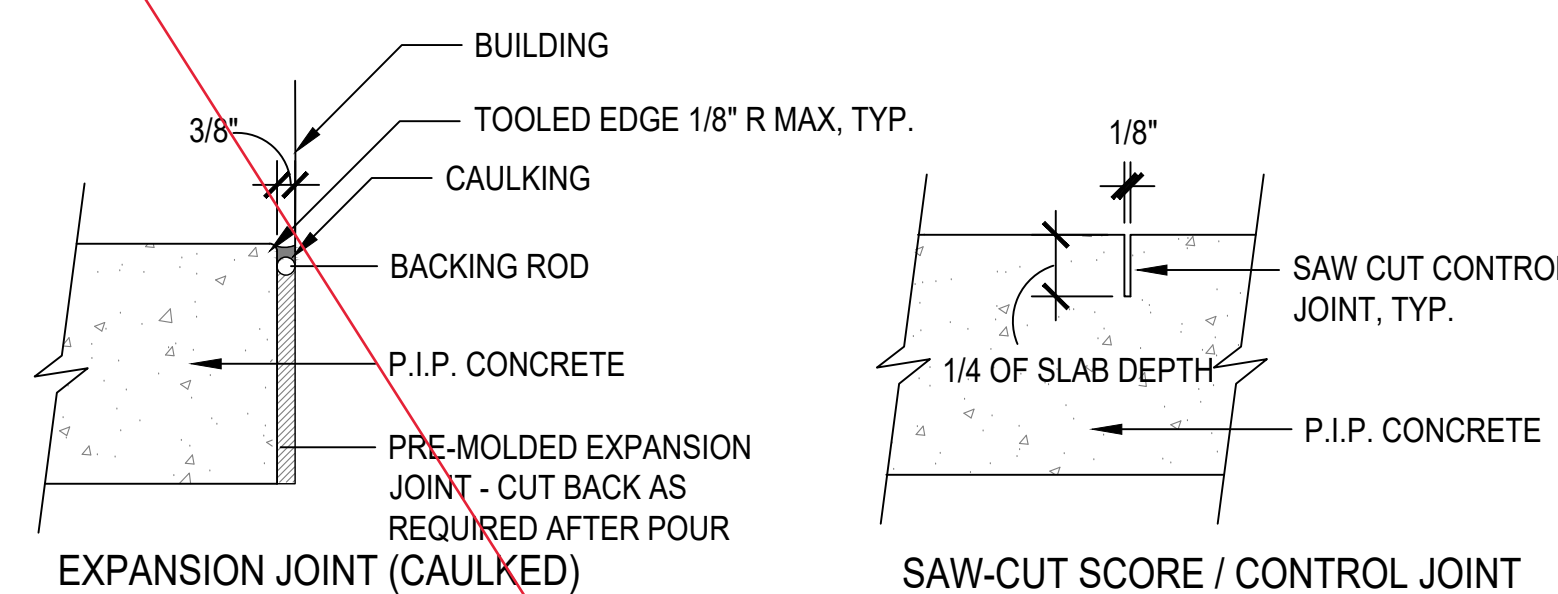
- NOTES:
1. SEE PAVING PLAN FOR COLOR & FINISH
 2. PVIOUS CONCRETE PROFILE TO BE APPROVED PER CIVIL RECOMMENDATIONS.
 3. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.



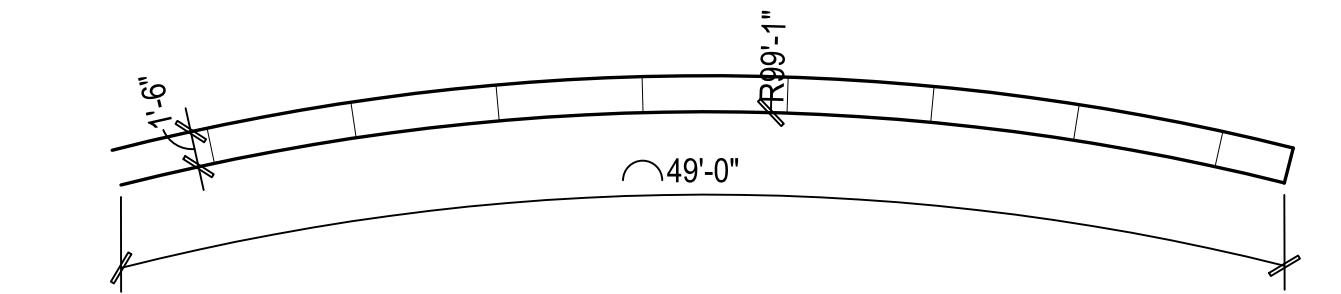
2 PERMEABLE CONCRETE - PEDESTRIAN

SCALE: 1" = 1'-0"

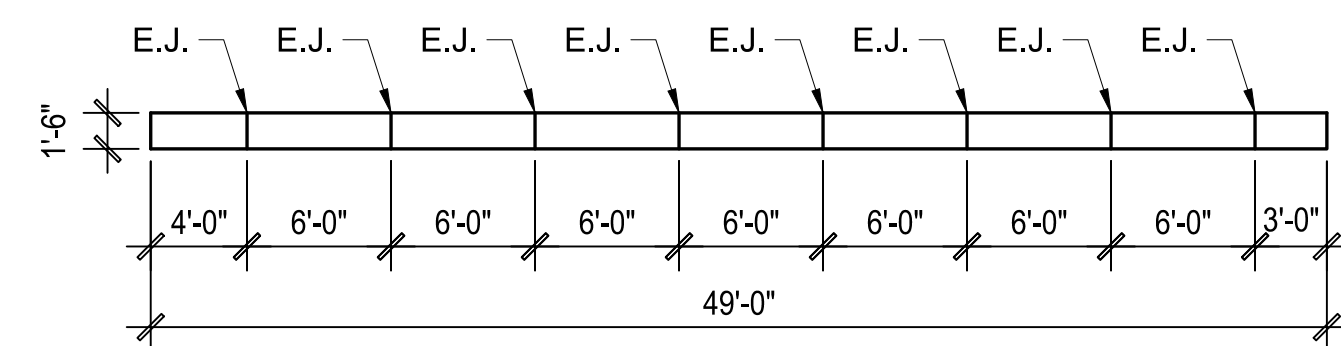
- NOTES:
1. SEE CIVIL DRAWINGS FOR PAVING SLAB DETAILS
 2. PROVIDE EJS AT ALL WALLS, COLUMNS AND SIMILAR VERTICAL STRUCTURES.
 3. EXPANSION JOINTS AS SHOWN ON PLAN.
 4. DOWEL IS TYPICAL AT ALL EJS EXCEPT AGAINST CURBS, WALLS, COLUMNS OR SIMILAR VERTICAL STRUCTURES, UNLESS OTHERWISE NOTED ON THE DRAWING.



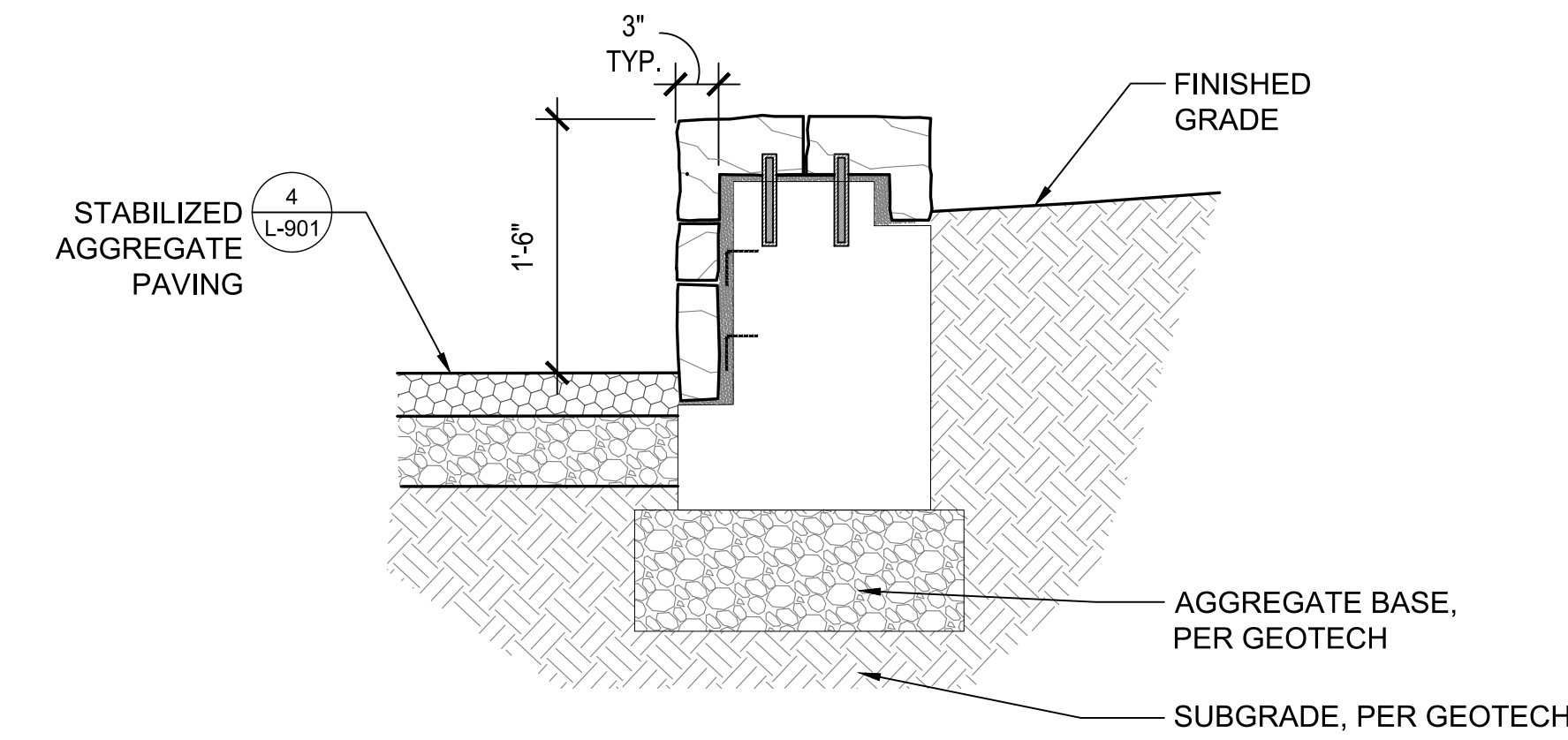
- NOTES:
- SEE CONSTRUCTION PLAN MATERIALS SCHEDULE FOR STONE TYPE, COLOR, FINISH, & SUPPLIER
 - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION



PLAN



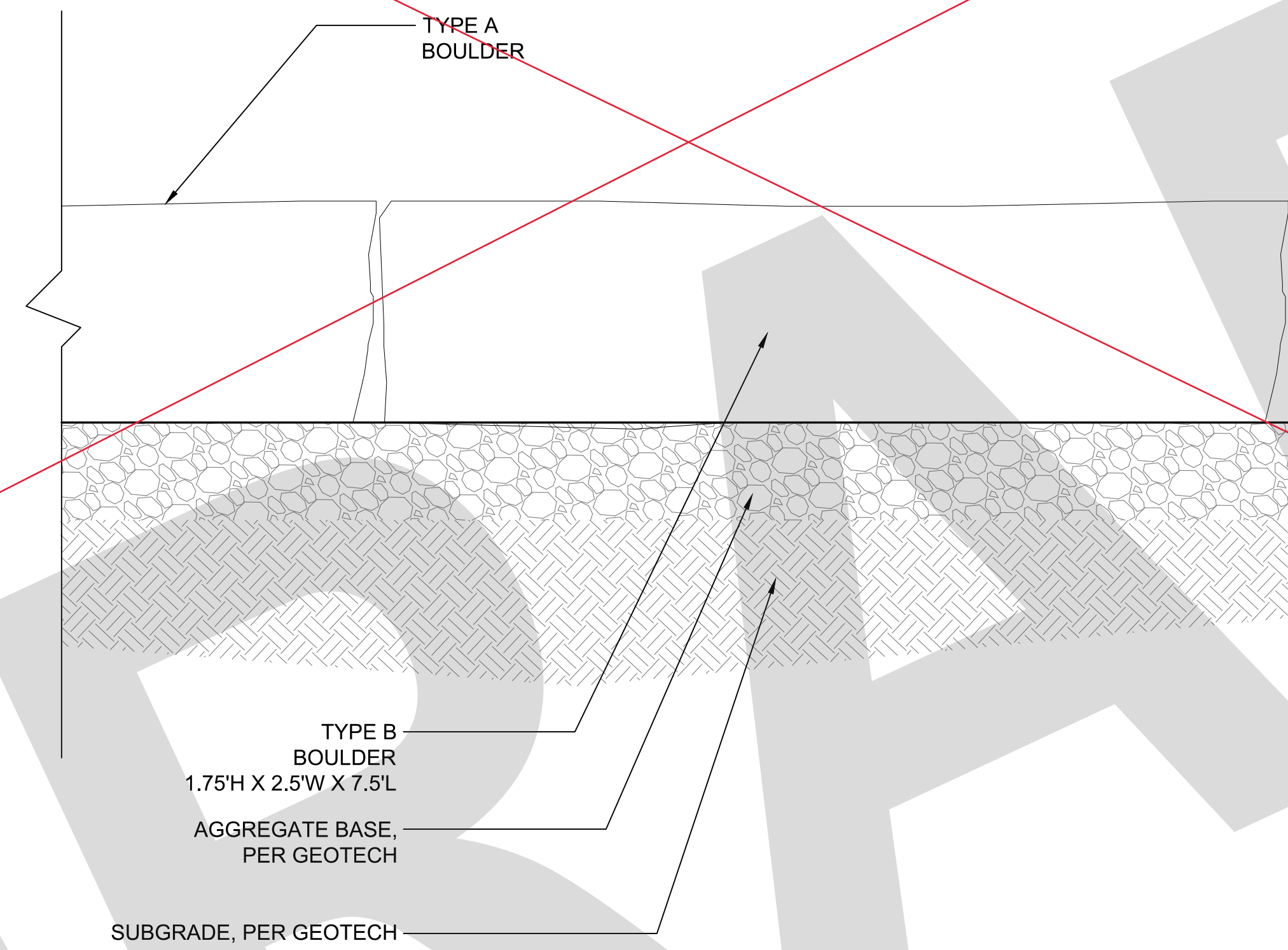
ELEVATION



SECTION - OPTION A
SCALE: 1" = 1'-0"



OPTION A DESIGN INTENT



SECTION - OPTION B
SCALE: 1" = 1'-0"

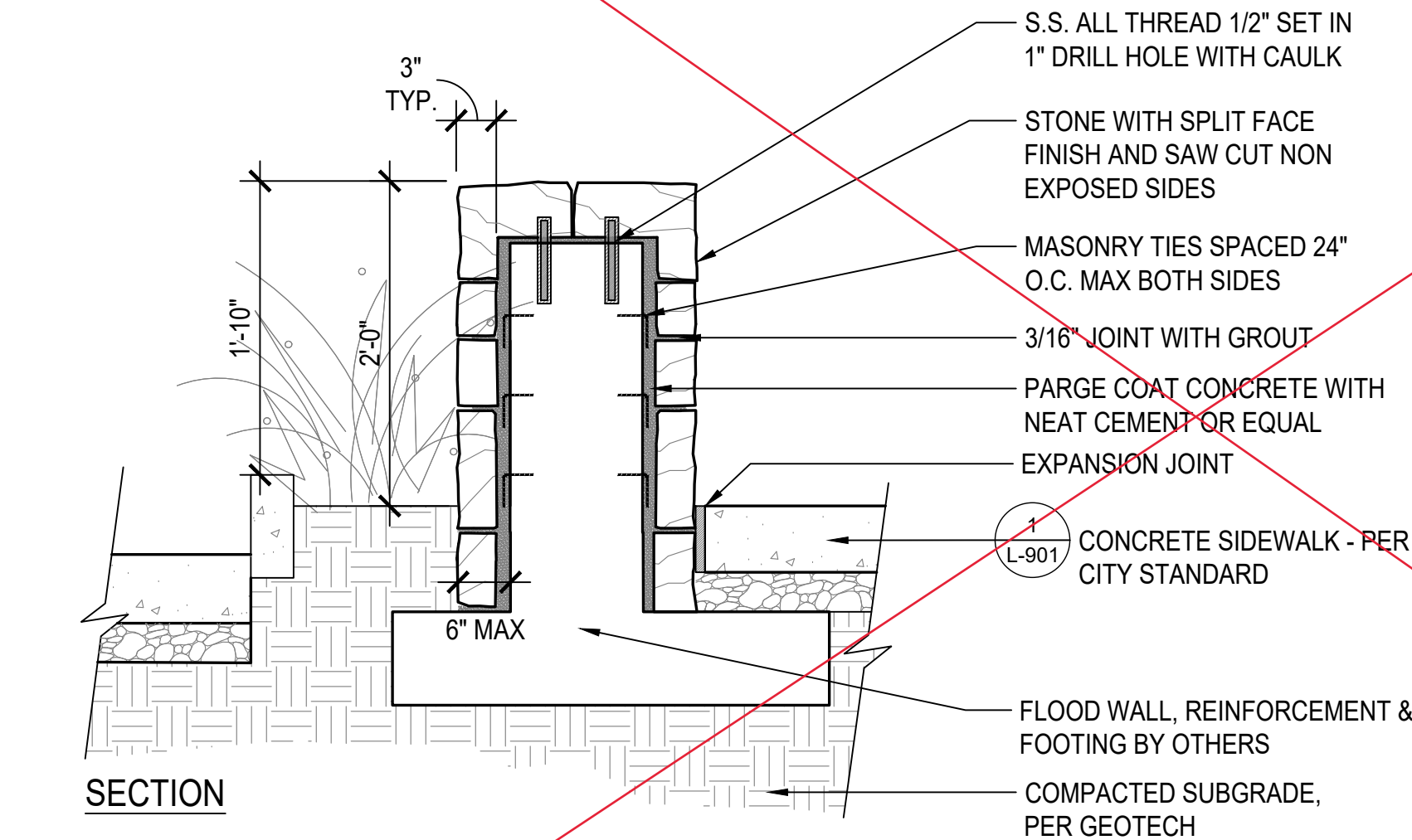


OPTION B DESIGN INTENT

1 ARTISAN WALL AT PLAY AREA

SCALE: 1/8" = 1'-0"

- NOTES:
- SEE CONSTRUCTION PLAN MATERIALS SCHEDULE FOR STONE TYPE, COLOR, FINISH, & SUPPLIER
 - SEE SPECIFICATION FOR ADDITIONAL INFORMATION



SECTION

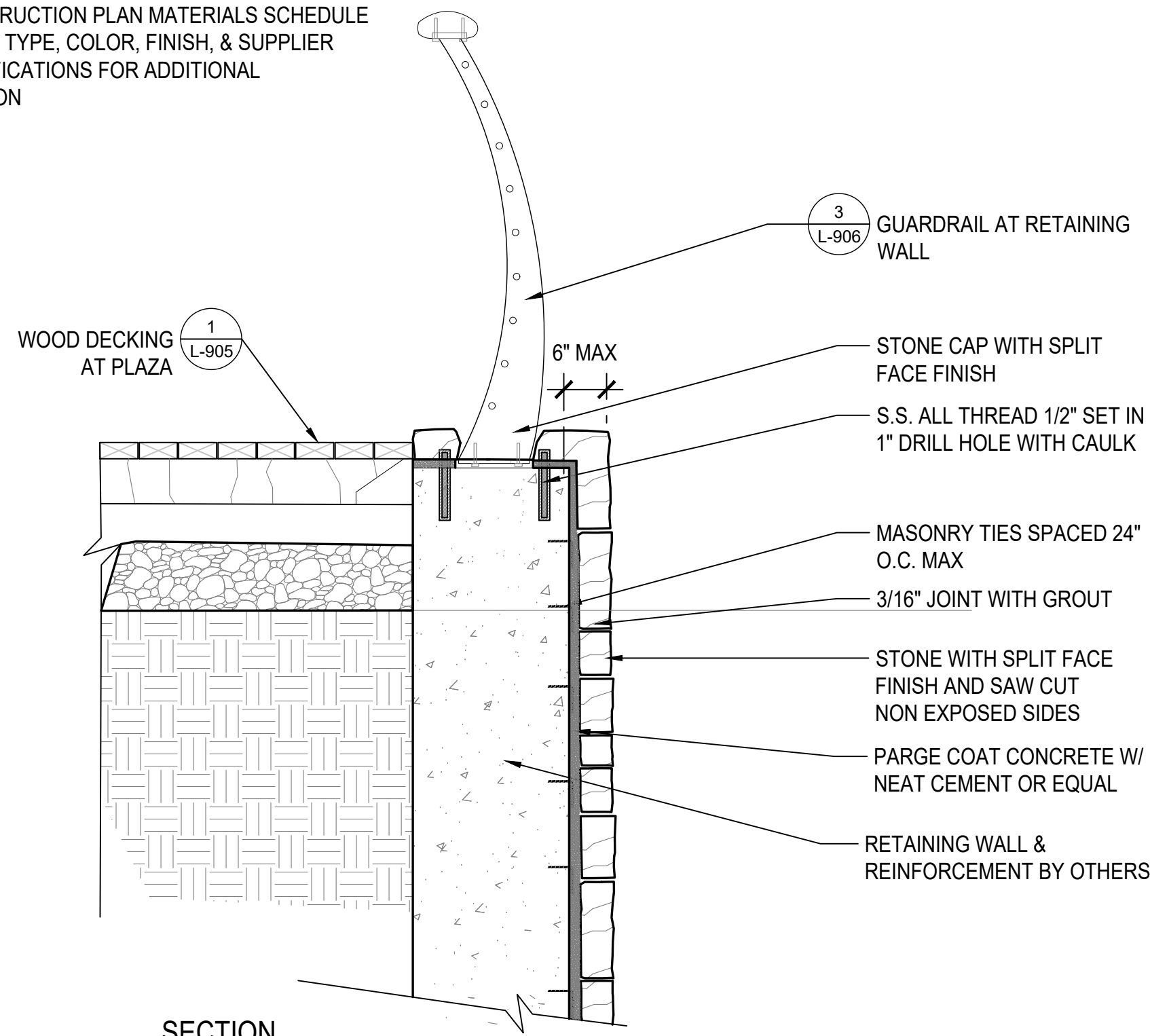


DESIGN INTENT

3 STONE VENEER ON FLOOD WALL

SCALE: 1" = 1'-0"

- NOTES:
- SEE CONSTRUCTION PLAN MATERIALS SCHEDULE FOR STONE TYPE, COLOR, FINISH, & SUPPLIER
 - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION



SECTION

2 STONE VENEER ON RETAINING WALL

SCALE: 1" = 1'-0"

PROJECT/CLIENT NAME

**San Anselmo
Creek Park**

525 San Anselmo Ave,
San Anselmo, CA 94960

PROJECT NUMBER

19026B

CONSULTANT

SUBMITTAL

**60% CONSTRUCTION
DOCUMENTS**

DATE

28 June 2023

REVISIONS

No.	Date	Description
-----	------	-------------

REGISTRATION AND SIGNATURE

**NOT FOR
CONSTRUCTION**

SCALE

SHEET TITLE

Details

DRAWN BY: KGM, CS CHECKED BY: MK, KGM

L-903

