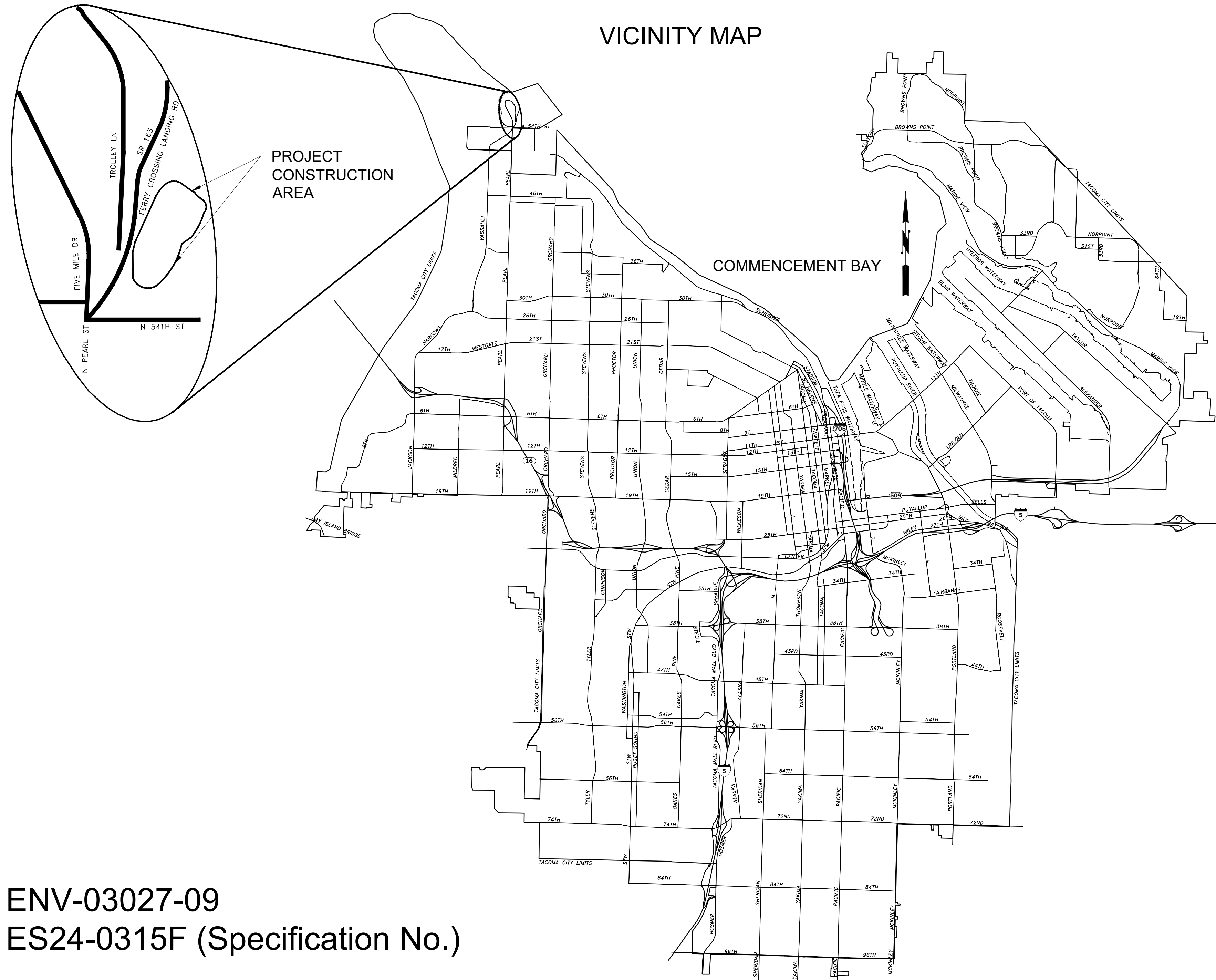


# Stormwater Facility Concrete Repairs

Environmental Services Department  
February 2025



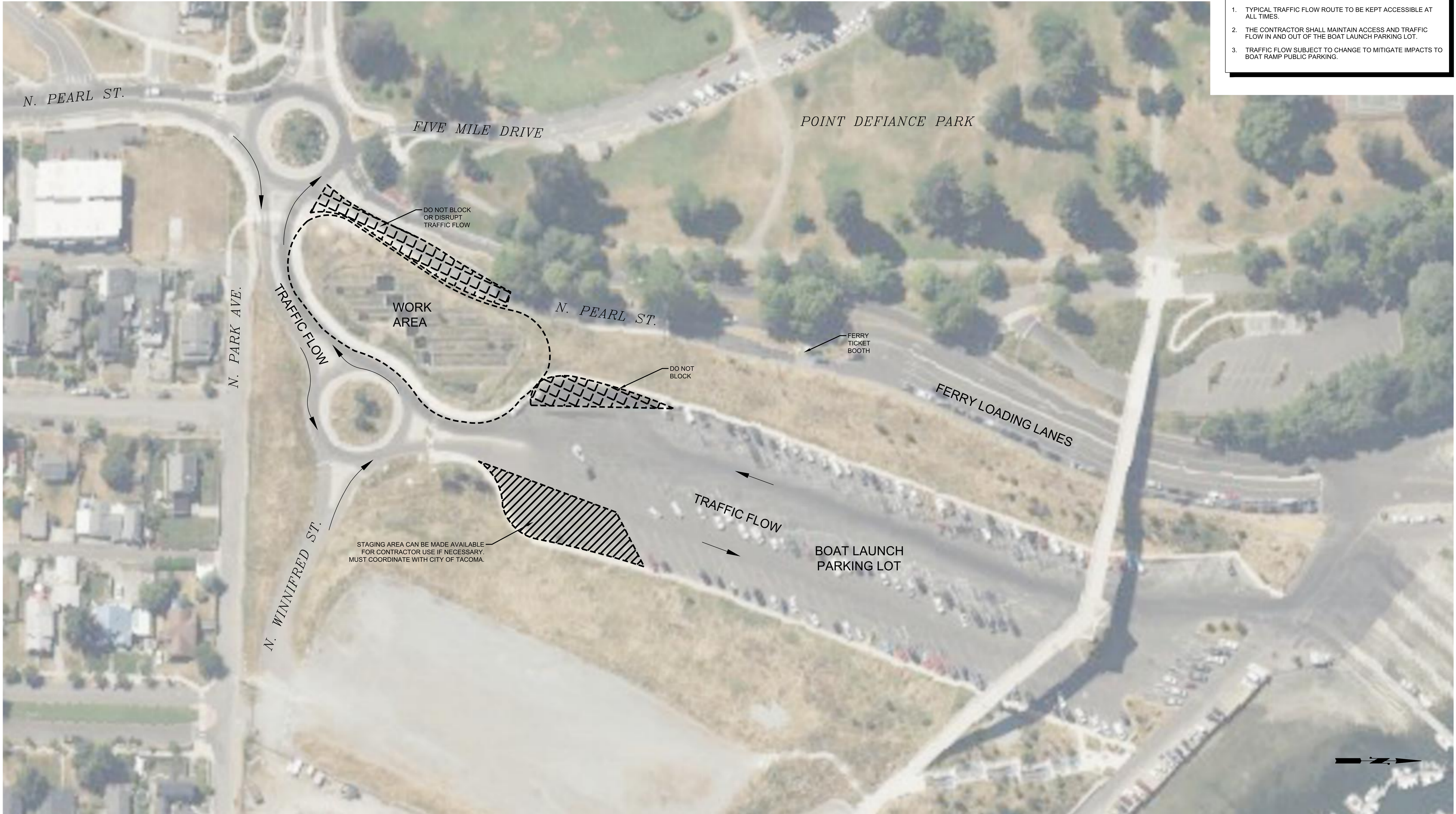
ENV-03027-09  
ES24-0315F (Specification No.)

**BID SET**

## INDEX OF DRAWINGS

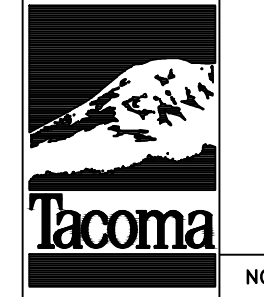
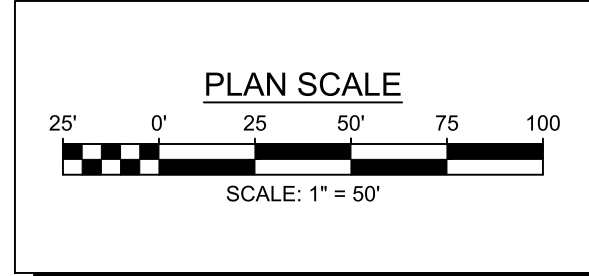
SHEET NUMBER	TITLE OF DRAWINGS
1	Cover Sheet
2	Site Plan - Plan
3	Facility Repair Locations - Plan
4	Pools & Cells - Plan
5	Facility Repair - Detail
6	Facility Photos - Figure
7	Joint Sealant Repair - Detail
8	Shallow Spall Repair Without Exposed Rebar - Detail
9	General Structural Notes and Symbols
10	Structural Plan
11	Structural Enlarged Plan
12	Structural Sections
13	Structural Details

- GENERAL NOTES:**
1. TYPICAL TRAFFIC FLOW ROUTE TO BE KEPT ACCESSIBLE AT ALL TIMES.
  2. THE CONTRACTOR SHALL MAINTAIN ACCESS AND TRAFFIC FLOW IN AND OUT OF THE BOAT LAUNCH PARKING LOT.
  3. TRAFFIC FLOW SUBJECT TO CHANGE TO MITIGATE IMPACTS TO BOAT RAMP PUBLIC PARKING.



DATE: 2/26/2025 11:07 AM PATH: W:\PROJECTS\ENV\03027-09 SW FACILITY CONCRETE REPAIRS\PRODUCTION SET FILE: ENV-03027-09 PS PLAN LAYOUT: SITE PLAN

**BID SET**

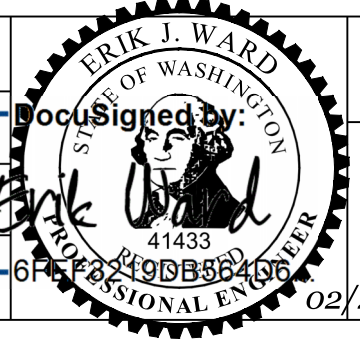


NO	REVISION	DATE	APPD

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FINAL CONSTRUCTION CHECKED	DATE	SCALE
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DESIGNED	CHECKED	
LMB	CHECKED	
DATE	DRAWN	PROJECT NAME
	ABW	
FIELD BOOKS	DRAWING NAME	
	ENV-03027-09 PS Plan.dwg	

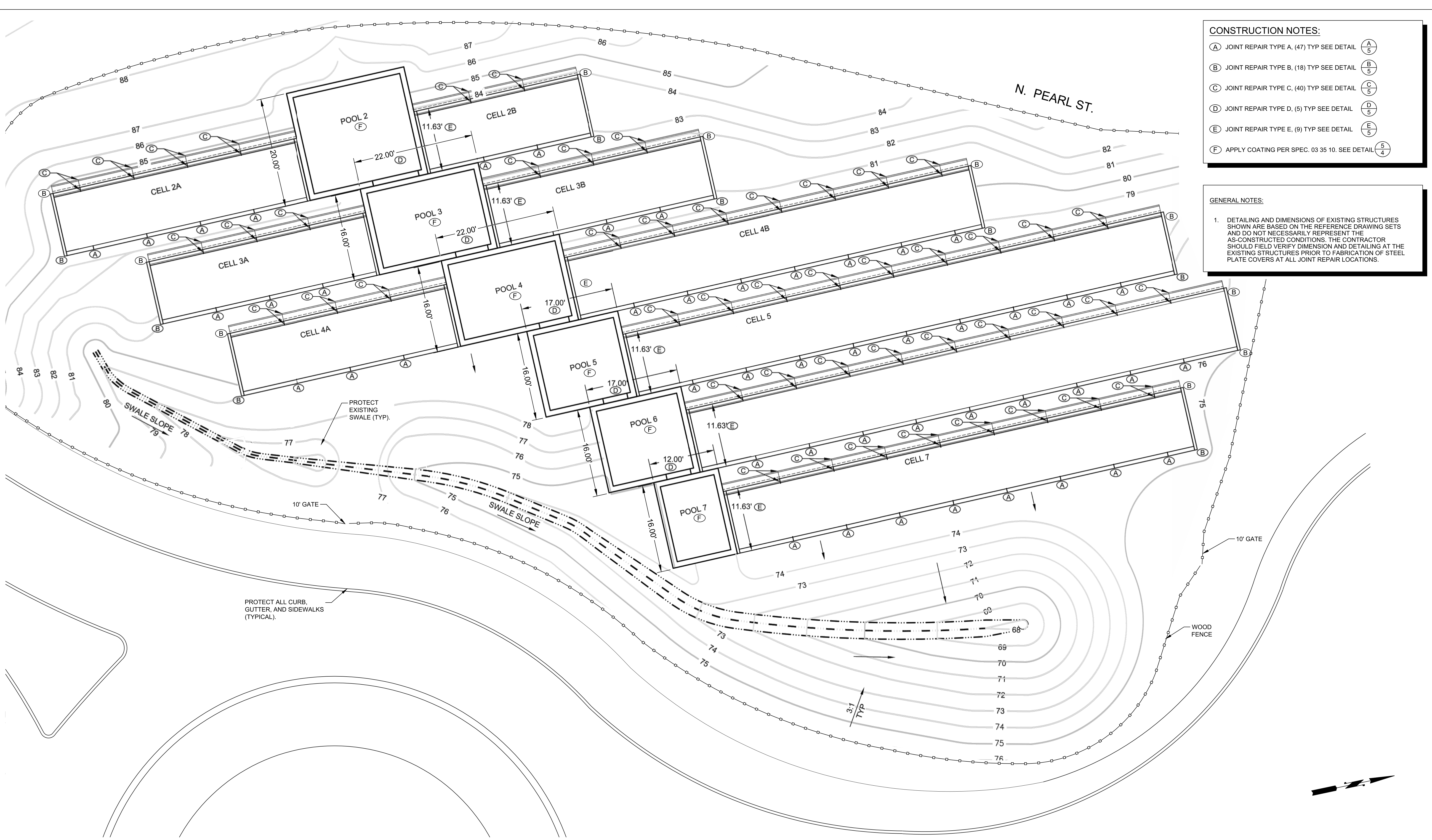
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CITY OF TACOMA  
ENVIRONMENTAL SERVICES DEPARTMENT  
Stormwater Facility Concrete Repairs  
Site Plan  
Plan

SPEC. NO.	ES24-0315F
WBS NO.	
SHEET NO.	ENV-03027-09
SHEET	2 OF 13

DATE: 2/26/2025 11:07 AM PATH: W:\PROJECTS\ENV\03027-09 SW FACILITY CONCRETE REPAIRS\PRODUCTION SET FILE: ENV-03027-09 PS PLAN LAYOUT: FACILITY REPAIR LOCATIONS

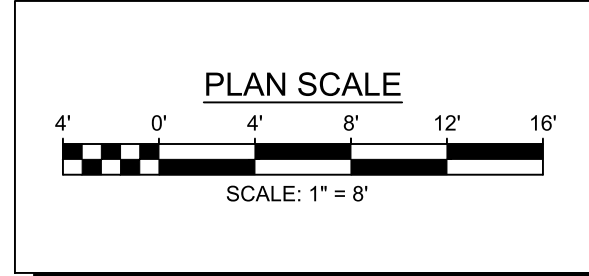


- CONSTRUCTION NOTES:**
- (A) JOINT REPAIR TYPE A, (47) TYP SEE DETAIL A  
5
  - (B) JOINT REPAIR TYPE B, (18) TYP SEE DETAIL B  
5
  - (C) JOINT REPAIR TYPE C, (40) TYP SEE DETAIL C  
5
  - (D) JOINT REPAIR TYPE D, (5) TYP SEE DETAIL D  
5
  - (E) JOINT REPAIR TYPE E, (9) TYP SEE DETAIL E  
5
  - (F) APPLY COATING PER SPEC. 03 35 10. SEE DETAIL 5  
4

- GENERAL NOTES:**
1. DETAILING AND DIMENSIONS OF EXISTING STRUCTURES SHOWN ARE BASED ON THE REFERENCE DRAWING SETS AND DO NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHOULD FIELD VERIFY DIMENSION AND DETAILING AT THE EXISTING STRUCTURES PRIOR TO FABRICATION OF STEEL PLATE COVERS AT ALL JOINT REPAIR LOCATIONS.

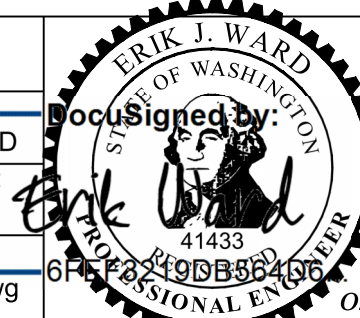
PROTECT ALL CURB, GUTTER, AND SIDEWALKS (TYPICAL).

PROTECT EXISTING SWALE (TYP).



NO	REVISION	DATE	APPD

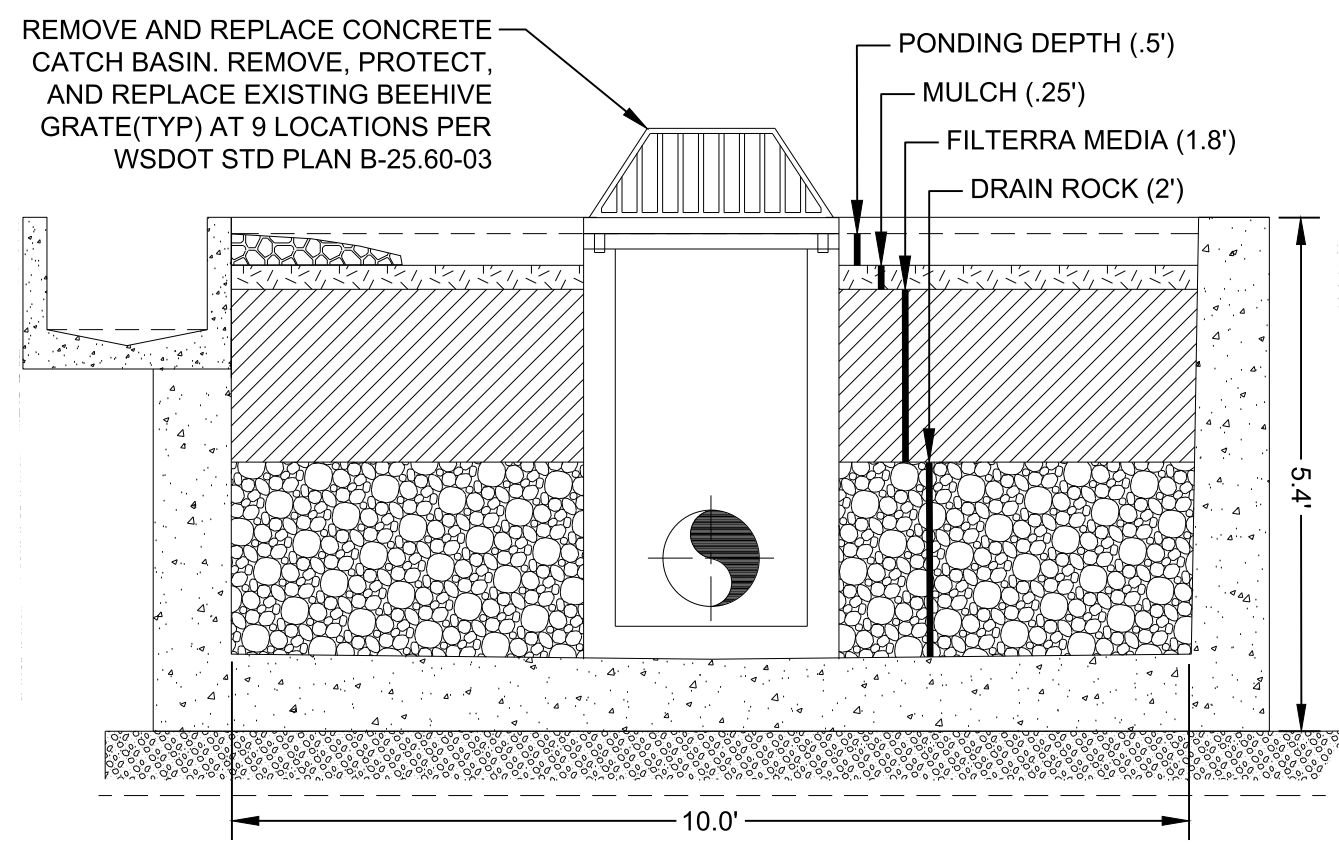
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	ABW	
FIELD BOOKS	DRAWING NAME	
	ENV-03027-09 PS Plan.dwg	



CITY OF TACOMA  
**ENVIRONMENTAL SERVICES DEPARTMENT**  
 Stormwater Facility Concrete Repairs  
 Facility Repair Locations  
 Plan

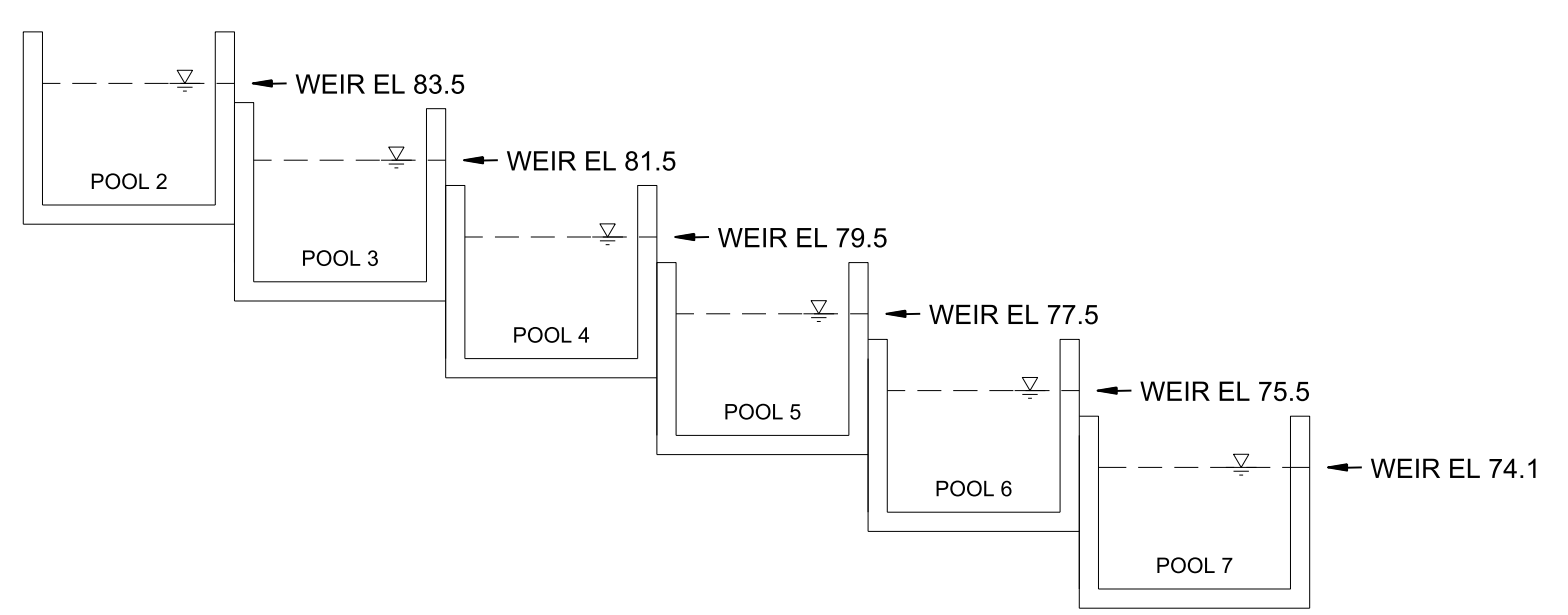
SPEC. NO.	ES24-0315F
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SHEET	3 OF 13

**BID SET**

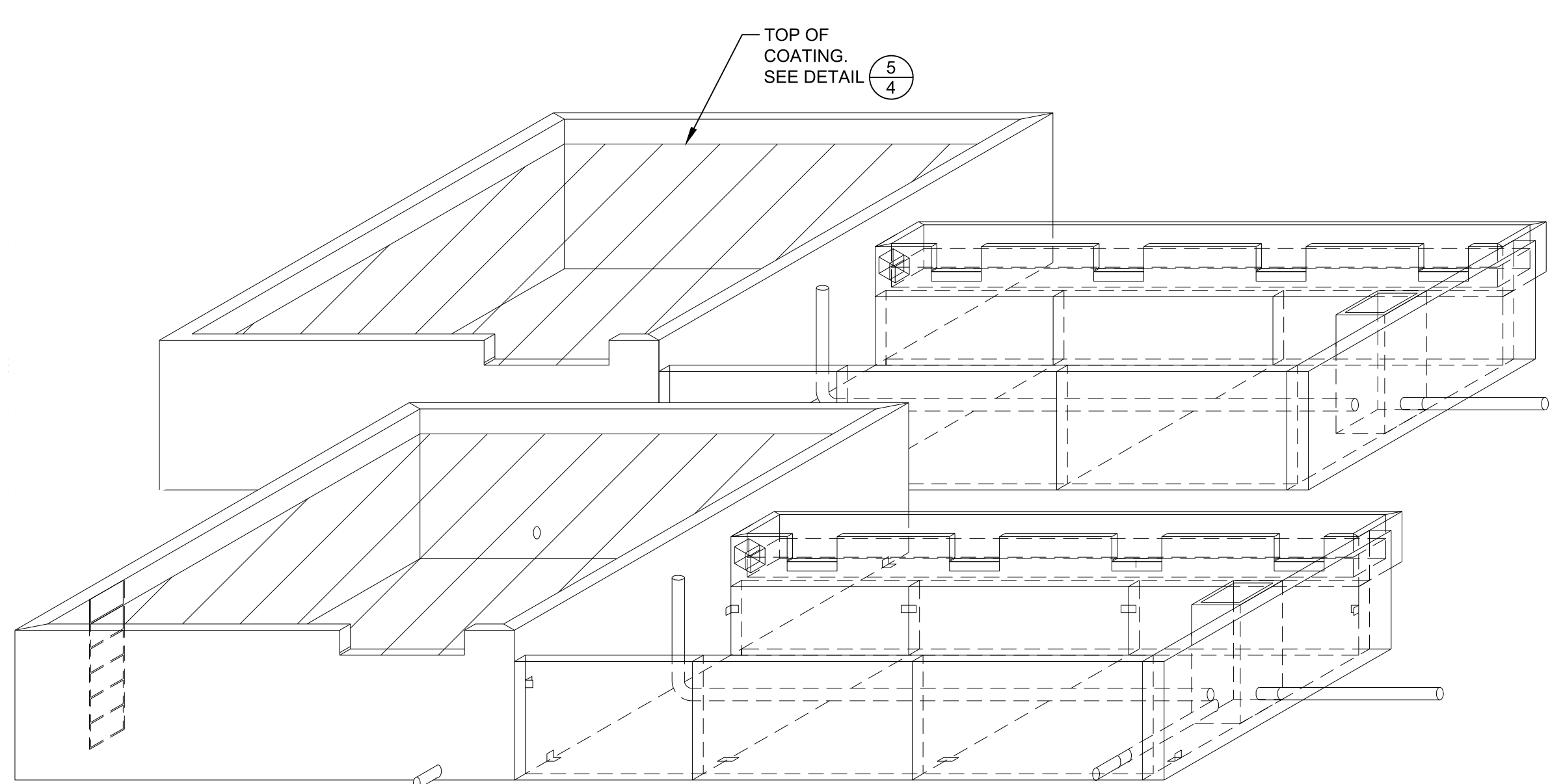


**CASCADe POOL AND CATCH BASIN  
DETAIL 1**  
NO SCALE

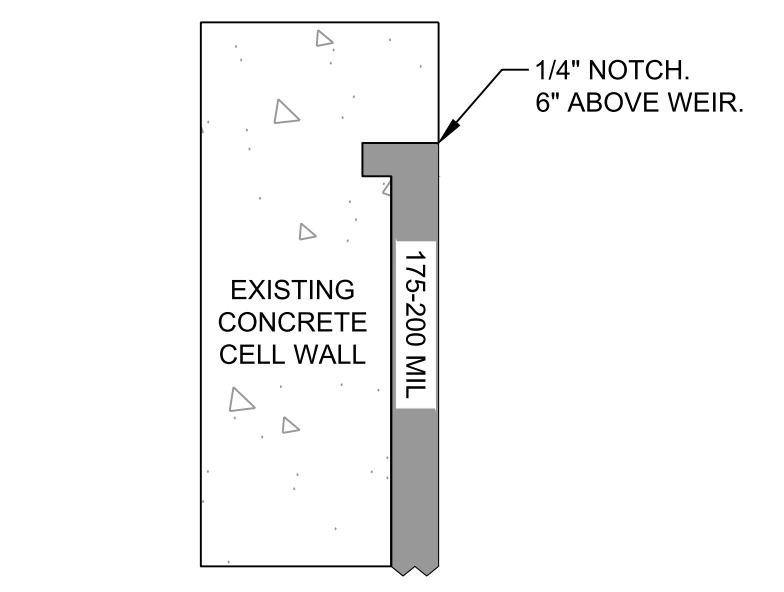
SIEVE SIZE	MULCH % PASSING	DRAIN ROCK % PASSING
8-INCH		100
6-INCH		50 - 70
4-INCH		40 - 60
3-INCH		30 - 50
2-INCH	95 - 100	
1-INCH	70 - 100	10 - 20
3/4-INCH		10 MAX.
5/8-INCH	0 - 50	
1/4-INCH	0 - 40	



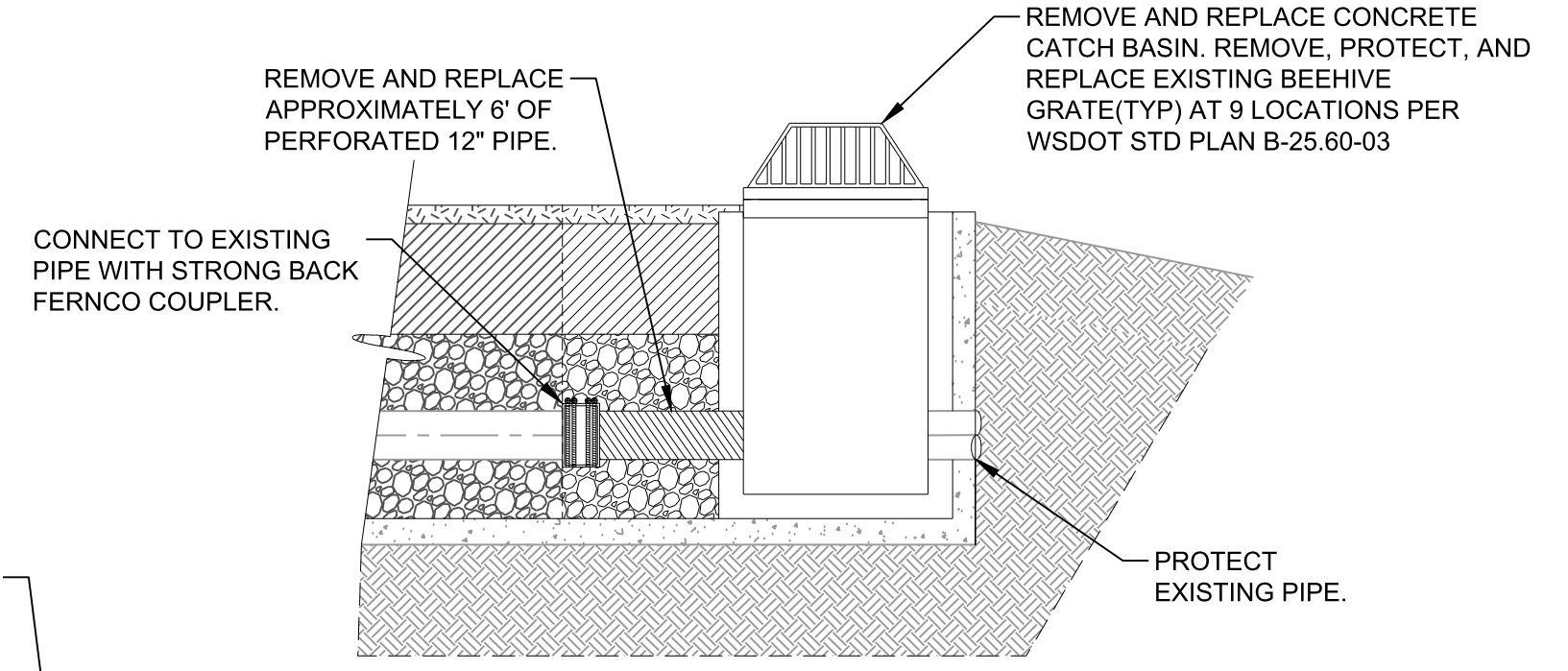
**CASCADe POOL WEIR WALL ELEVATIONS  
DETAIL 3**  
NO SCALE



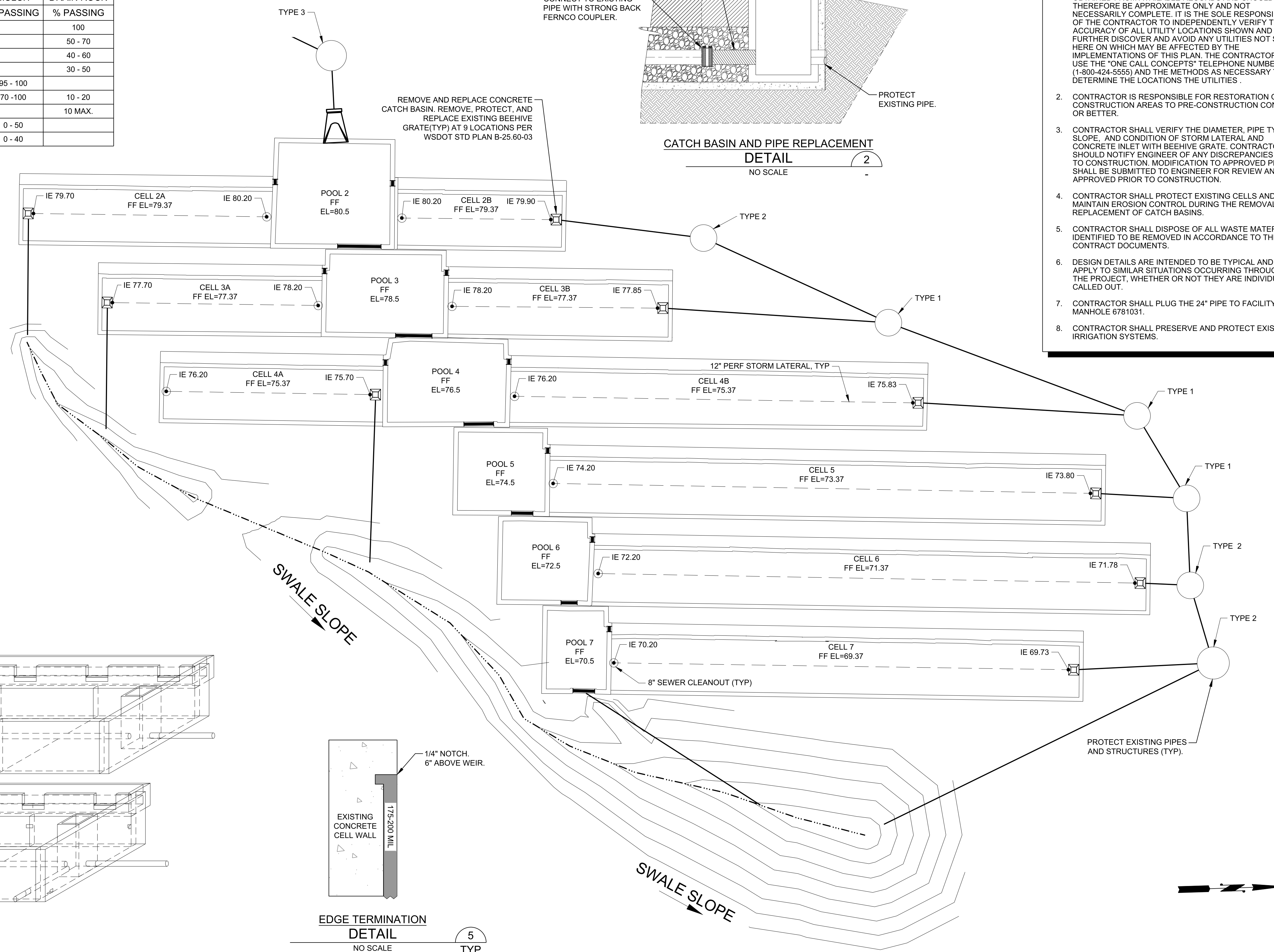
**PRECAST CASCADe POOL WITH TROUGH  
DETAIL 4**  
NO SCALE



**EDGE TERMINATION  
DETAIL 5**  
NO SCALE TYP



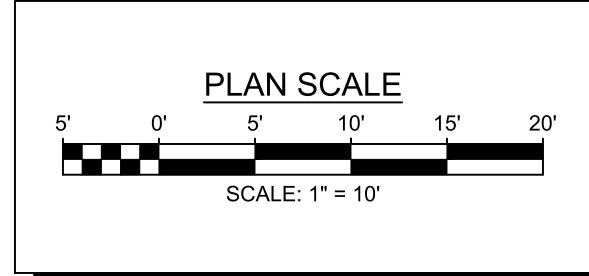
**CATCH BASIN AND PIPE REPLACEMENT  
DETAIL 2**  
NO SCALE



- GENERAL NOTES:**
- UTILITIES AND SURVEY ELEVATIONS ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. ALL LOCATIONS INCLUDING DEPTHS OF EXISTING LOCATIONS SHOWN HEREIN HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND TO FURTHER DISCOVER AND AVOID ANY UTILITIES NOT SHOWN HERE ON WHICH MAY BE AFFECTED BY THE IMPLEMENTATIONS OF THIS PLAN. THE CONTRACTOR SHALL USE THE "ONE CALL CONCEPTS" TELEPHONE NUMBER (1-800-424-5555) AND THE METHODS AS NECESSARY TO DETERMINE THE LOCATIONS THE UTILITIES.
  - CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF CONSTRUCTION AREAS TO PRE-CONSTRUCTION CONDITION OR BETTER.
  - CONTRACTOR SHALL VERIFY THE DIAMETER, PIPE TYPE, SLOPE, AND CONDITION OF STORM LATERAL AND CONCRETE INLET WITH BEEHIVE GRATE. CONTRACTOR SHOULD NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. MODIFICATION TO APPROVED PLANS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVED PRIOR TO CONSTRUCTION.
  - CONTRACTOR SHALL PROTECT EXISTING CELLS AND MAINTAIN EROSION CONTROL DURING THE REMOVAL AND REPLACEMENT OF CATCH BASINS.
  - CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIALS IDENTIFIED TO BE REMOVED IN ACCORDANCE TO THE CONTRACT DOCUMENTS.
  - DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
  - CONTRACTOR SHALL PLUG THE 24" PIPE TO FACILITY AT SW MANHOLE 6781031.
  - CONTRACTOR SHALL PRESERVE AND PROTECT EXISTING IRRIGATION SYSTEMS.

DATE: 2/26/2025 11:08 AM PATH: W:\PROJECTS\ENV\03027-09 SW FACILITY CONCRETE REPAIRS\PRODUCTION SET FILE: ENV-03027-09 PS PLAN LAYOUT: PLAN (2)

**BID SET**



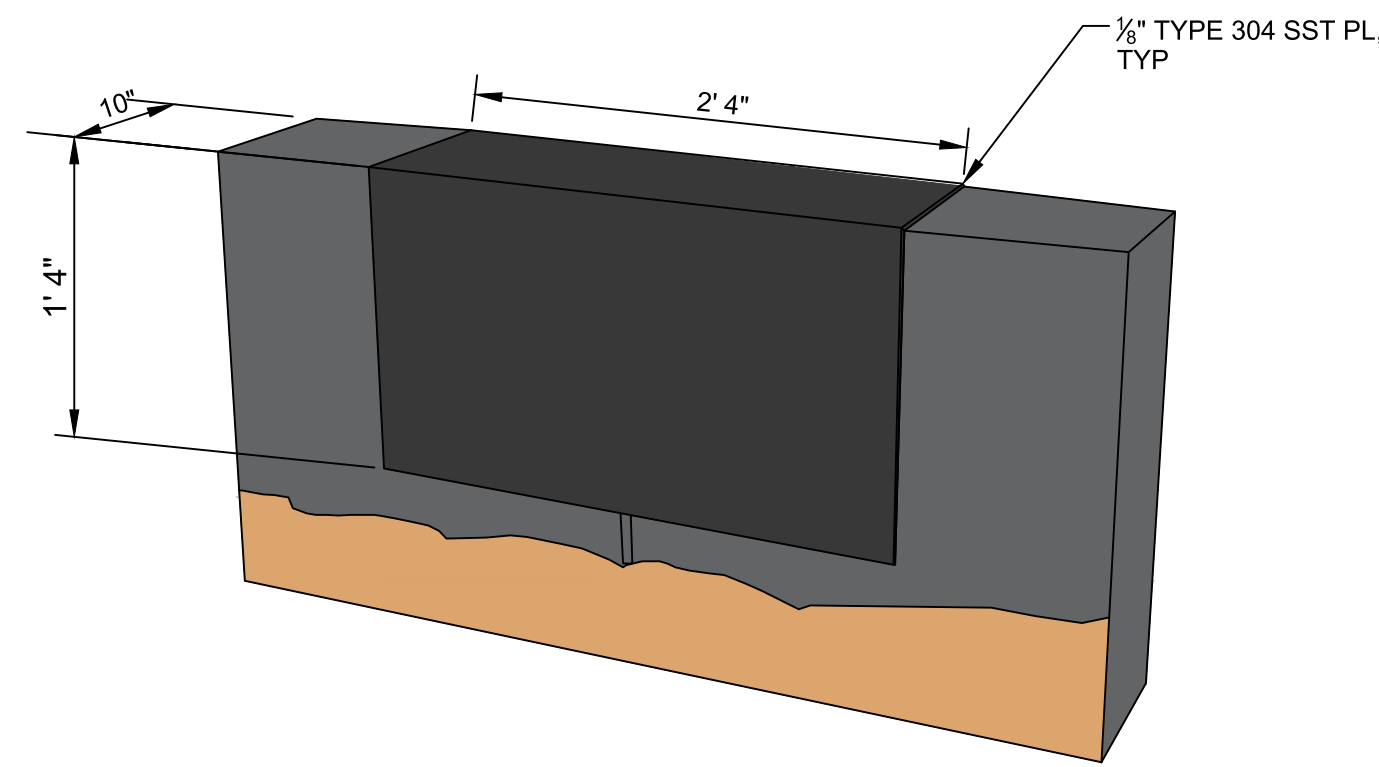
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				DRAWN	ABW	PROJECT NAME
				FIELD BOOKS		DRAWING NAME
						ENV-03027-09 PS Plan.dwg



CITY OF TACOMA  
ENVIRONMENTAL SERVICES DEPARTMENT  
Stormwater Facility Concrete Repairs  
Pools & Cells  
Plan

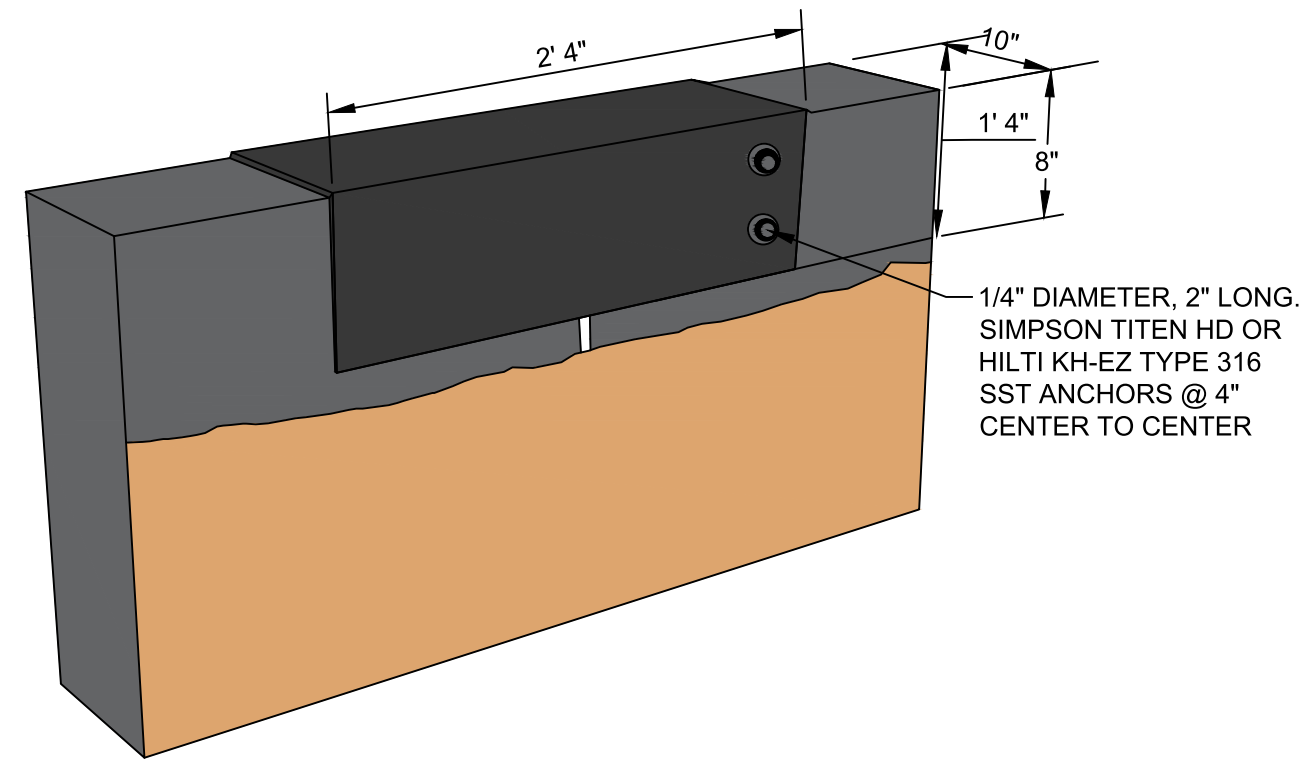
SPEC. NO.	ES24-0315F
WBS NO.	
SHEET NO.	ENV-03027-09
SHEET	4 OF 13

- GENERAL NOTES:**
1. CONTRACTOR SHALL CLEAN AND REMOVE OLD GROUT, LOOSE MATERIAL, FOREIGN MATERIAL, LAITANCE, CONCRETE DUST, DIRT, FROM RELEASE AGENTS, AND LOOSE CEMENT IS REMOVED FROM JOINT AND ALL SUBSTRATE HAS BEEN CLEANED TO OWNER'S SATISFACTION.
  2. CONTRACTOR SHALL CAPTURE AND DISPOSE OF ALL AGGREGATE, GROUT, AND MATERIAL FROM JOINT PREPARATION ACTIVITIES, AT CONTRACTOR'S EXPENSE.
  3. DETAILING AND DIMENSIONS OF EXISTING STRUCTURES SHOWN ARE BASED ON THE REFERENCE DRAWING SETS AND DO NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHOULD FIELD VERIFY DIMENSION AND DETAILING AT THE EXISTING STRUCTURES PRIOR TO FABRICATION OF STEEL PLATE COVERS AT ALL JOINT REPAIR LOCATIONS.
  4. FOR REPAIR LOCATIONS AND QUANTITY REFERENCE SEE SHEET 3.



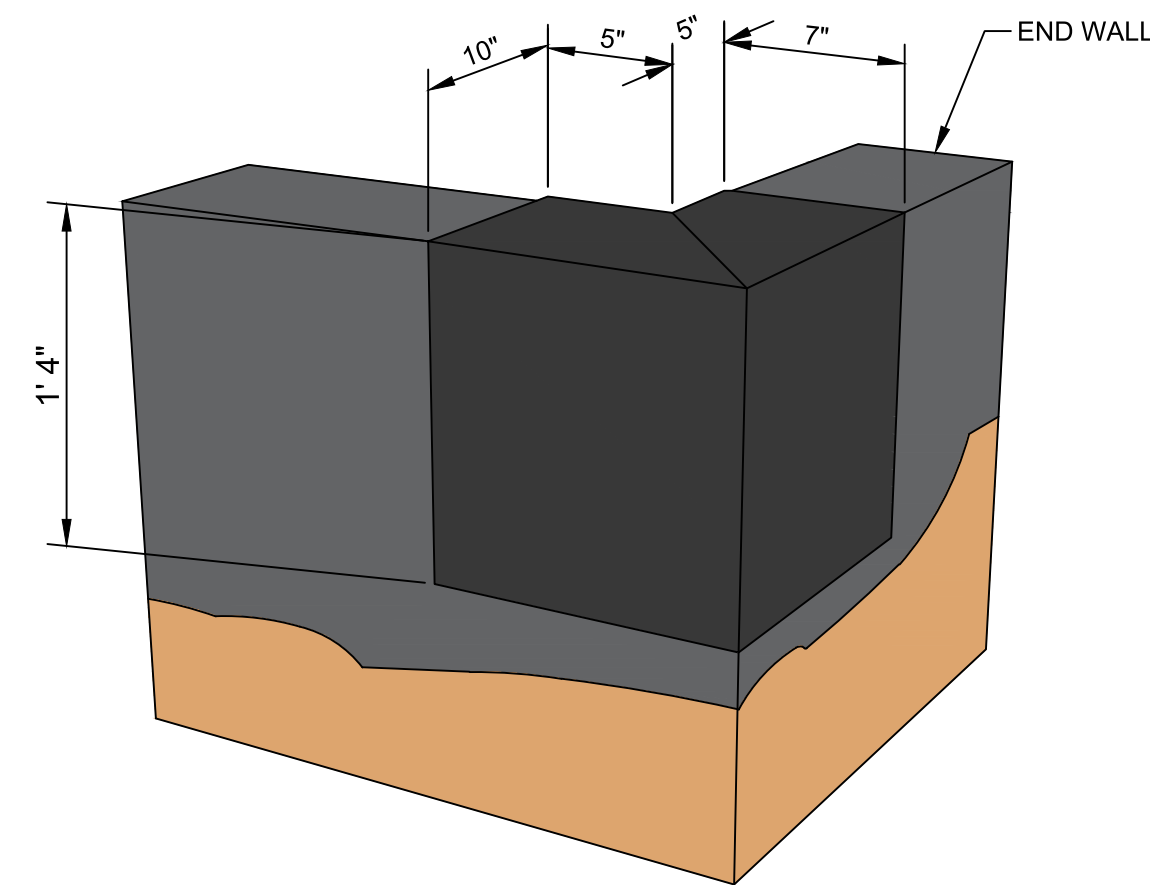
TYPICAL JOINT COVER  
DOWNHILL SIDE  
DETAIL  
NO SCALE

A  
3



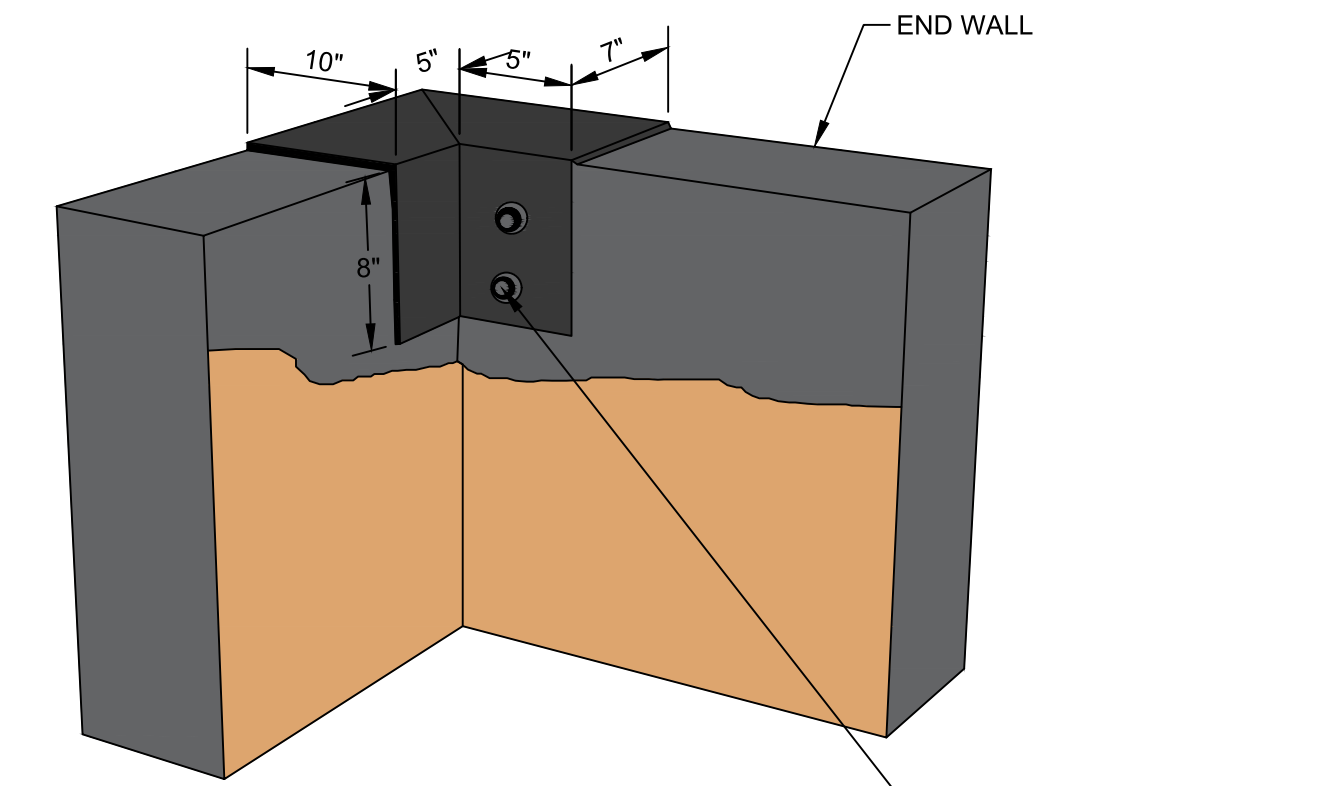
TYPICAL JOINT COVER  
UPHILL SIDE WITH ANCHORAGE  
DETAIL  
NO SCALE

A  
3



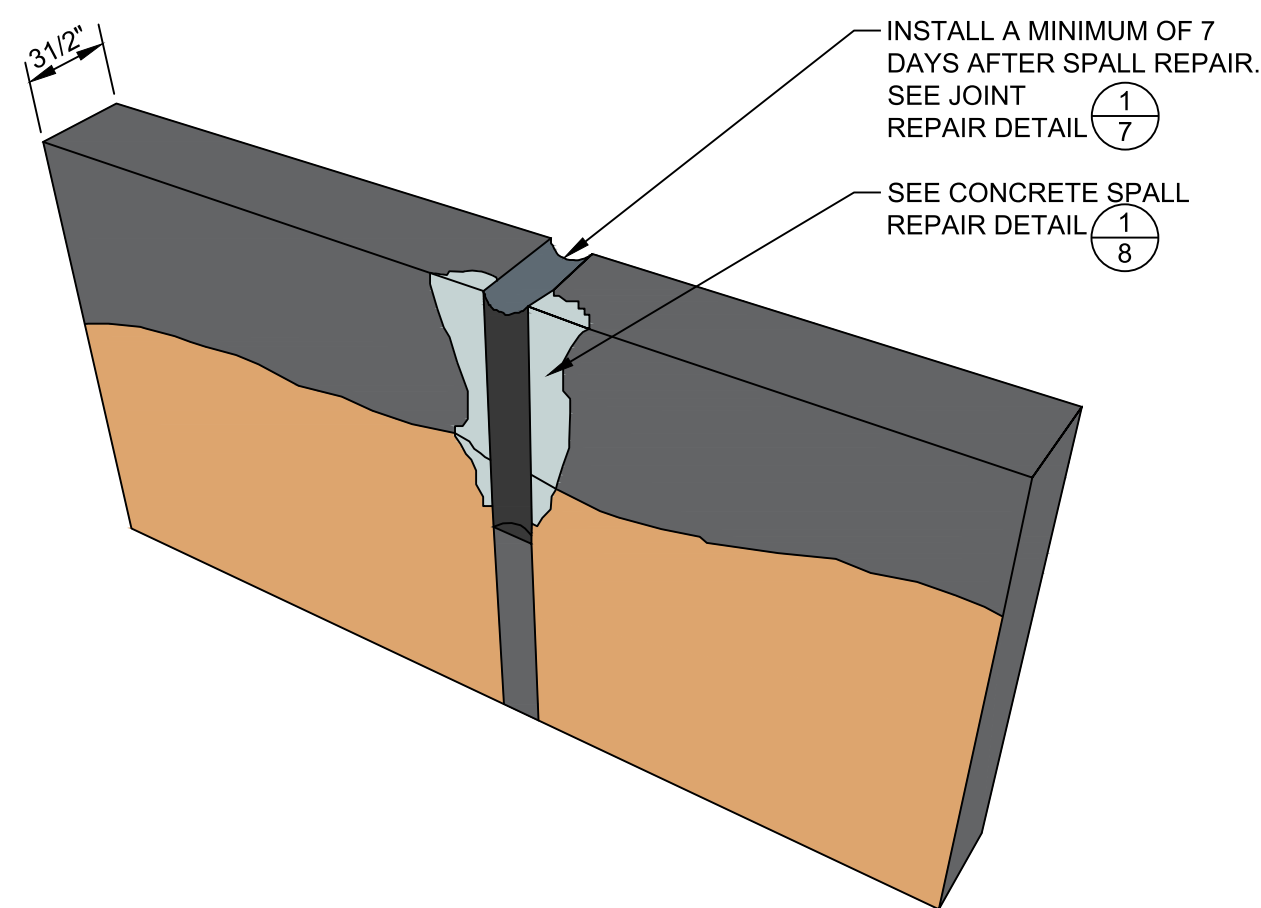
TYPICAL OUTSIDE CORNER JOINT COVER  
DOWNHILL SIDE  
DETAIL  
NO SCALE

B  
3



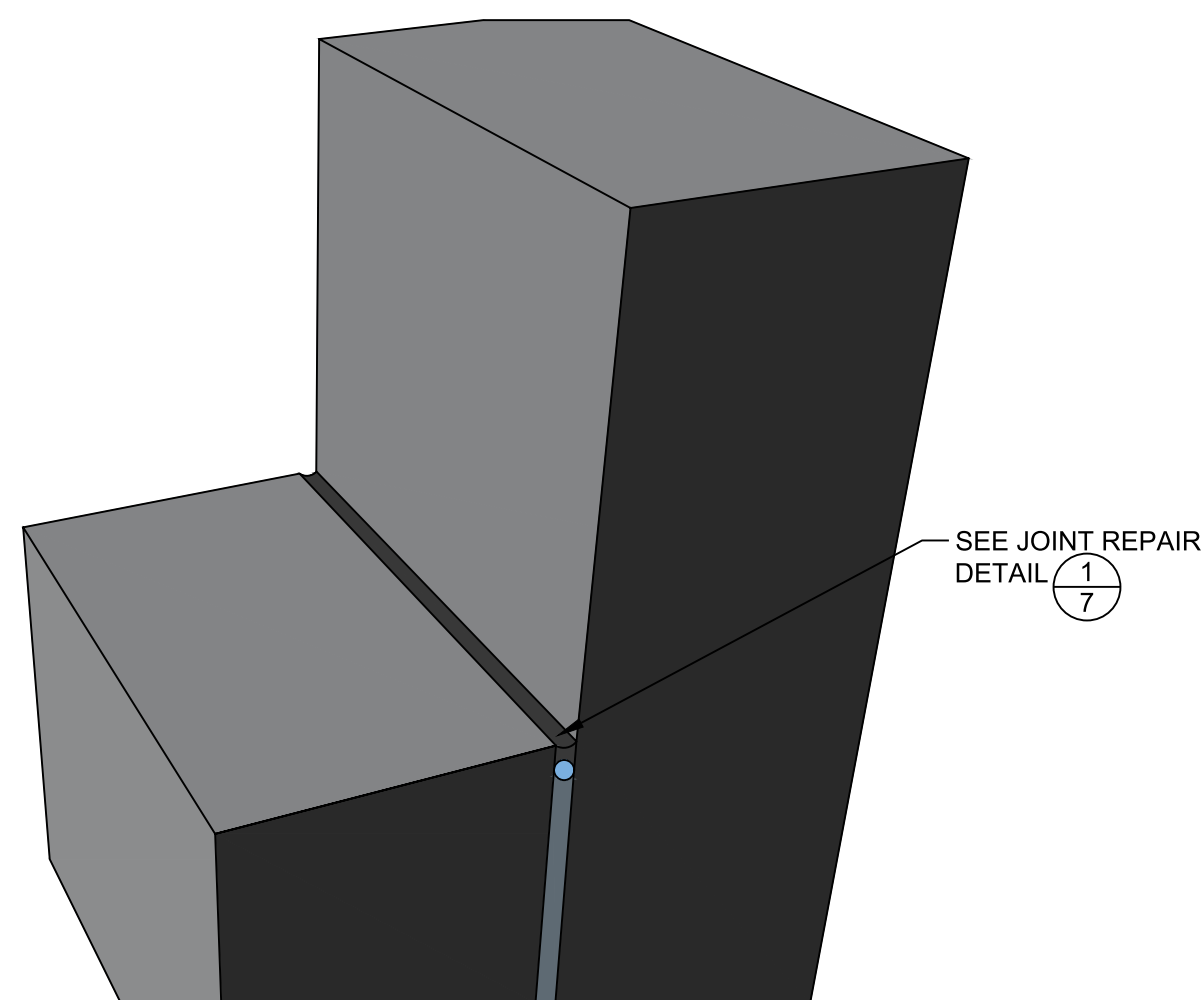
TYPICAL OUTSIDE CORNER  
UPHILL SIDE  
DETAIL  
NO SCALE

B  
3



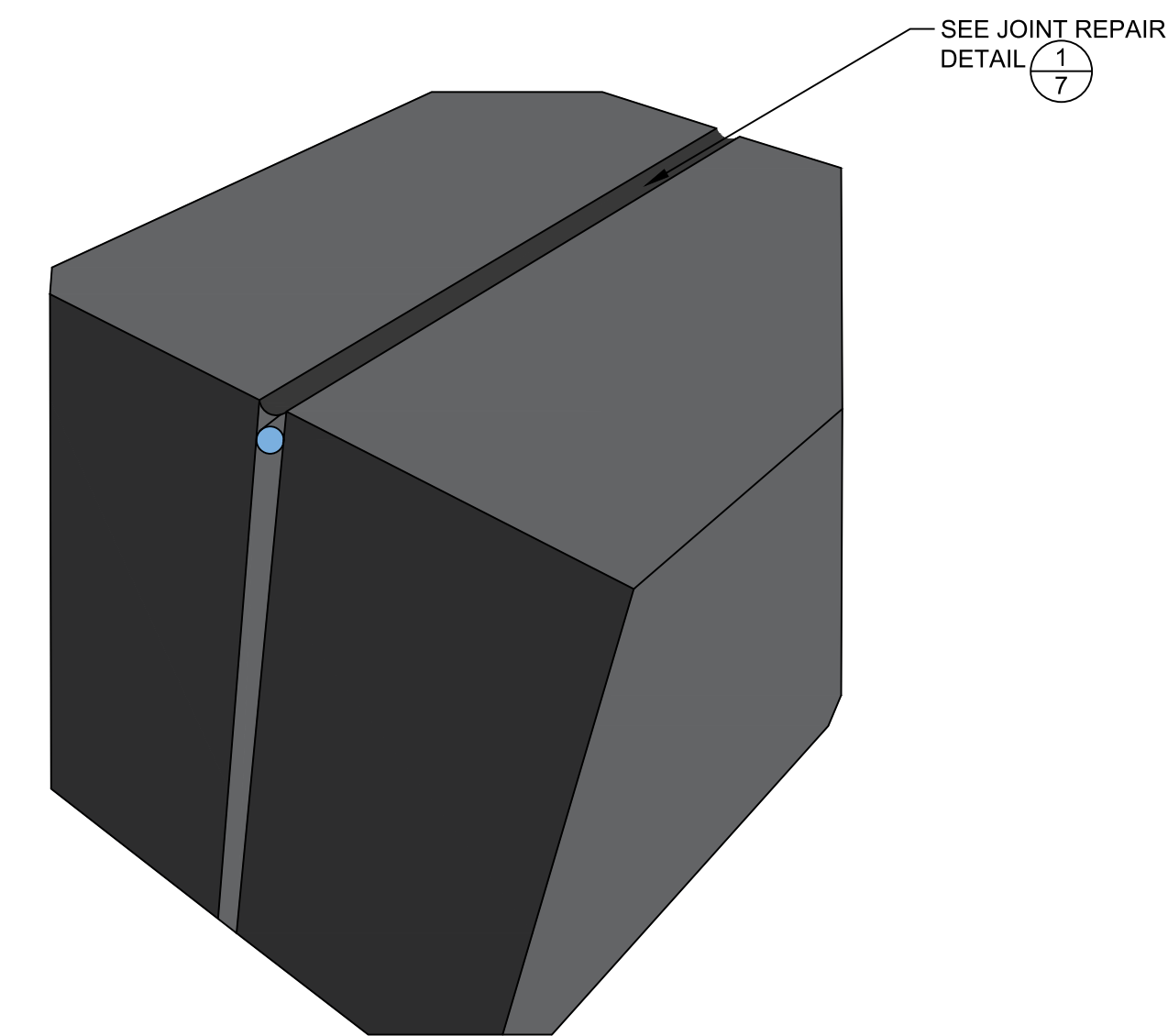
TYPICAL DISTRIBUTION  
TROUGH JOINT REPAIR  
DETAIL  
NO SCALE

C  
3



HOIZONTAL TO VERTICAL  
DETAIL  
NO SCALE

D  
3



HORIZONTAL TO HORIZONTAL  
DETAIL  
NO SCALE

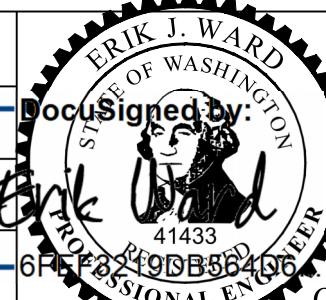
E  
3

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NO	REVISION	DATE	APPD

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DESIGNED	CHECKED	CHECKED
LMB		
DATE	DRAWN	PROJECT NAME
	ABW	
FIELD BOOKS	DRAWING NAME	
	ENV-03027-09 PS Plan.dwg	



CITY OF TACOMA  
ENVIRONMENTAL SERVICES DEPARTMENT  
Stormwater Facility Concrete Repairs  
Facility Repair  
Detail

SPEC. NO.	ES24-0315F
WBS NO.	
SHEET NO.	ENV-03027-09
SHEET	5 OF 13

GENERAL NOTES:

1. FIELD CONDITIONS SHOWN IN MAY AND JUNE 2022.
2. FIGURES SHOWN ON THIS SHEET ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING ON TREATMENT FACILITY WHETHER THEY ARE INDIVIDUALLY CALLED OUT.



Figure 1: Splash Pool



Figure 2: Typical Joint Spall



Figure 3: Corner Spall



Figure 4: Joint Waterstop



Figure 5: Survey Marks at Joint



Figure 6: Typical Horizontal Joint Failure



Figure 7: Splash Pool

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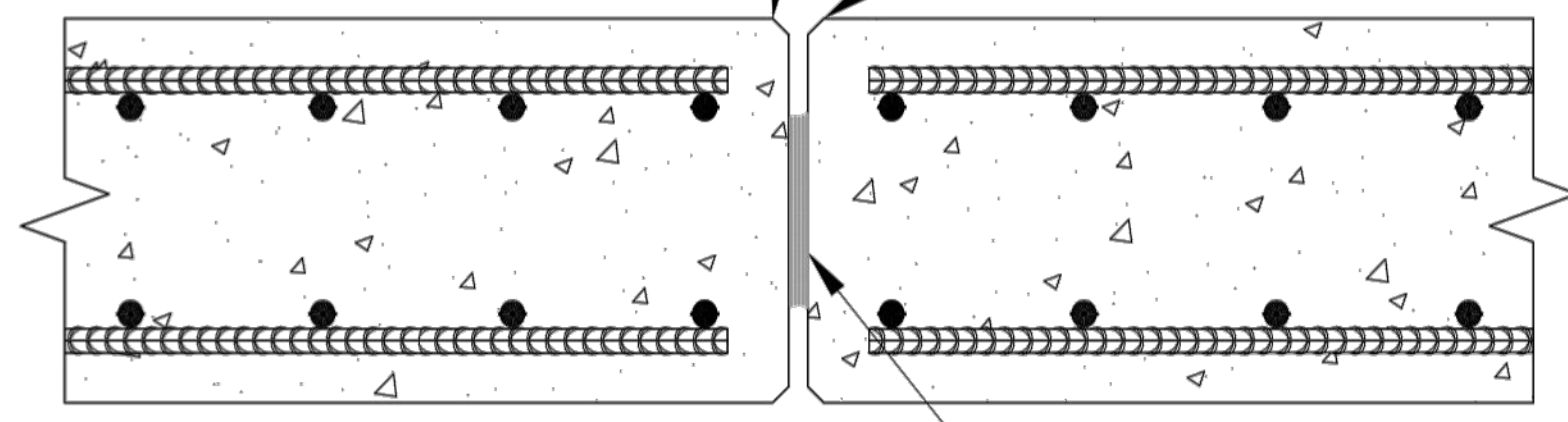
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					BY	DATE	PROJECT NAME			ENV-03027-09 PS Plan.dwg
									WBS NO.	
									ENV-03027-09	
									SHEET NO.	
									SHEET 6 OF 13	

**GENERAL NOTES:**

1. THE JOINT REPAIR SHALL BE APPLICABLE FOR ALL EXPOSED SURFACES PLUS 6" OR AS DIRECTED BY THE ENGINEER.

COMPLETELY REMOVE ALL PREVIOUS JOINT SEALANT AND BACKER ROD. ROUGHEN CONCRETE @ DEPTH OF NEW SEALANT TO ICRI CSP-5. THOROUGHLY CLEAN ALL DUST AND DEBRIS AND ALLOW TO DRY PRIOR TO INSTALLING NEW JOINT SEALANT.

REPAIR ALL DAMAGED CONCRETE TO MATCH THE ORIGINAL PROFILE. SEE SPALL REPAIR DETAIL  $\frac{1}{8}$  FOR FURTHER INFORMATION. ALLOW ALL SPALL REPAIR MATERIAL TO CURE 28 DAYS BEFORE PROCEEDING WITH THE JOINT SEALANT REPAIR.



JOINT PREPARATION

REMOVE PREMOLDED JOINT FILLER AS REQUIRED TO PERMIT THOROUGH JOINT PREPARATION

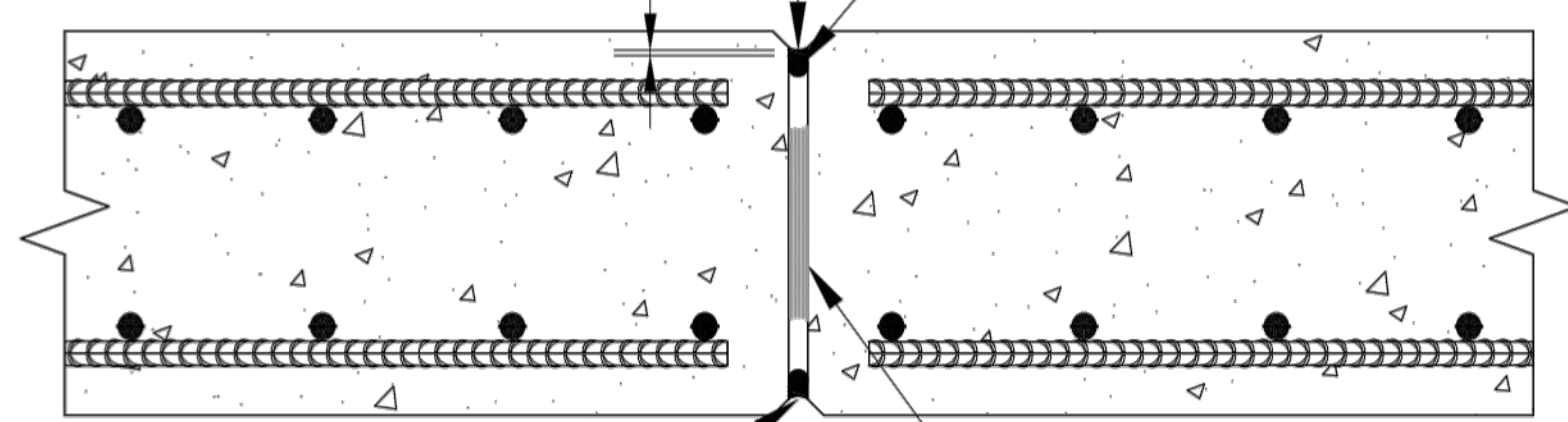
BACKER ROD DIAMETER	
JOINT WIDTH "W", INCHES	BACKER ROD DIAMETER, INCHES
1/4	3/8
1/2	5/8
3/4	1
1	1 1/4
1 1/4	1 5/8
1 1/2	1 7/8

POLYSPEC THIOKOL 2235SL SELF LEVELING POLYSULFIDE JOINT SEALANT AT HORIZONTAL JOINTS  
 POLYSPEC THIOKOL 2235M NONSAG POLYSULFIDE JOINT SEALANT AT VERTICAL JOINTS SEE NOTES ABOUT JOINT PREP AND SEALANT APPLICATION

CLOSED CELL POLYETHYLENE BACKER ROD  
 SEE TABLE FOR DIAMETER

**NOTES FOR JOINT PREP AND SEALANT APPLICATION:**

1. PRIME CONCRETE SURFACES WITH THIOKOL 5050 PRIMER (3-5 MILS DFT) IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
2. MIX AND PLACE JOINT SEALANT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. TOOL THE SEALANT TO A CONCAVE SHAPE USING A SEALANT SPATULA WITH A ROUNDED TIP (ALBION SERIES 258 OR SIMILAR). SPATULA SHALL BE SLIGHTLY WIDER THAN THE WIDTH OF THE EXPANSION JOINT.



JOINT SEALANT INSTALLATION

OMIT BACKER ROD AND SEALANT IF THIS SIDE IS NOT ACCESSIBLE

REMAINING JOINT FILLER AFTER JOINT CLEANING AND PREPARATION

**Joint Sealant Repair  
 DETAIL**

NO SCALE

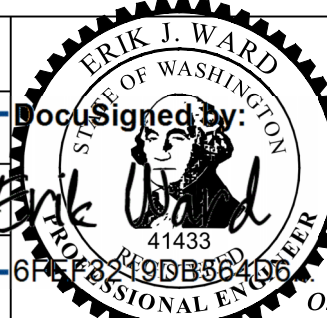
$\frac{1}{TYP}$

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NO	REVISION	DATE	APPD

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DESIGNED	CHECKED	
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DATE	DRAWN	PROJECT NAME
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FIELD BOOKS	DRAWING NAME	
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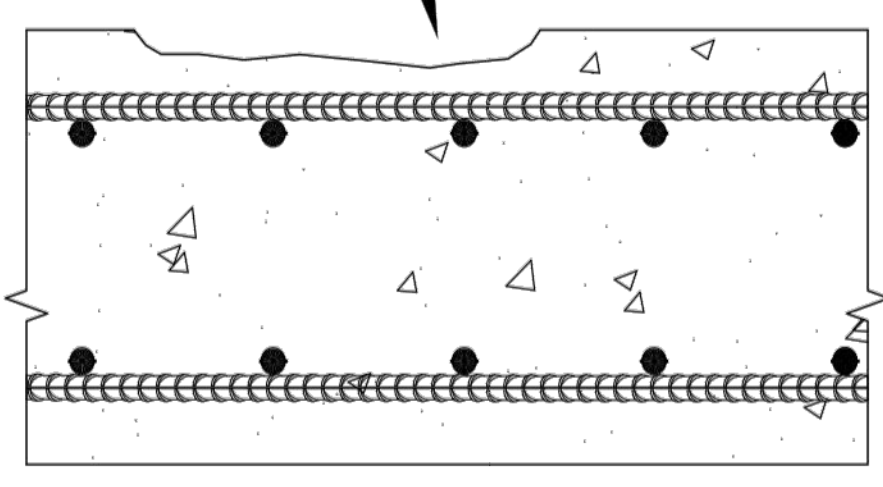


CITY OF TACOMA  
 ENVIRONMENTAL SERVICES DEPARTMENT  
 Stormwater Facility Concrete Repairs  
 Joint Sealant Repair  
 Detail

SPEC. NO.	ES24-0315F
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SHEET NO.	ENV-03027-09
SHEET	7 OF 13

**GENERAL NOTES:**  
 1. THE JOINT REPAIR SHALL BE APPLICABLE FOR ALL EXPOSED SURFACES PLUS 6" OR AS DIRECTED BY THE ENGINEER.

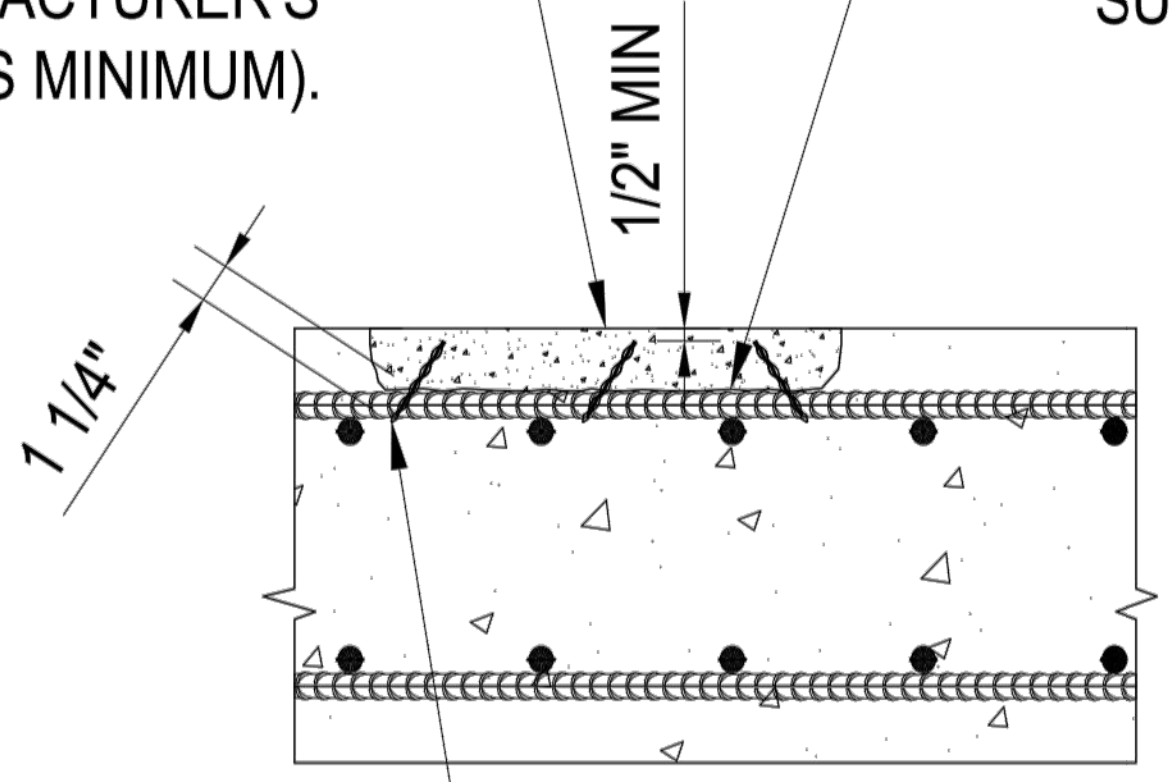
SHALLOW SPALL OR DELAMINATION THAT DOES NOT EXPOSE THE REINFORCING



SHALLOW SPALL OR DELAMINATION WHICH DOES NOT EXPOSE REINF

PATCH WITH SIKATOP-123 PLUS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. MOIST CURE WITH WET BURLAP PER MANUFACTURER'S RECOMMENDATIONS (72 HOURS MINIMUM).

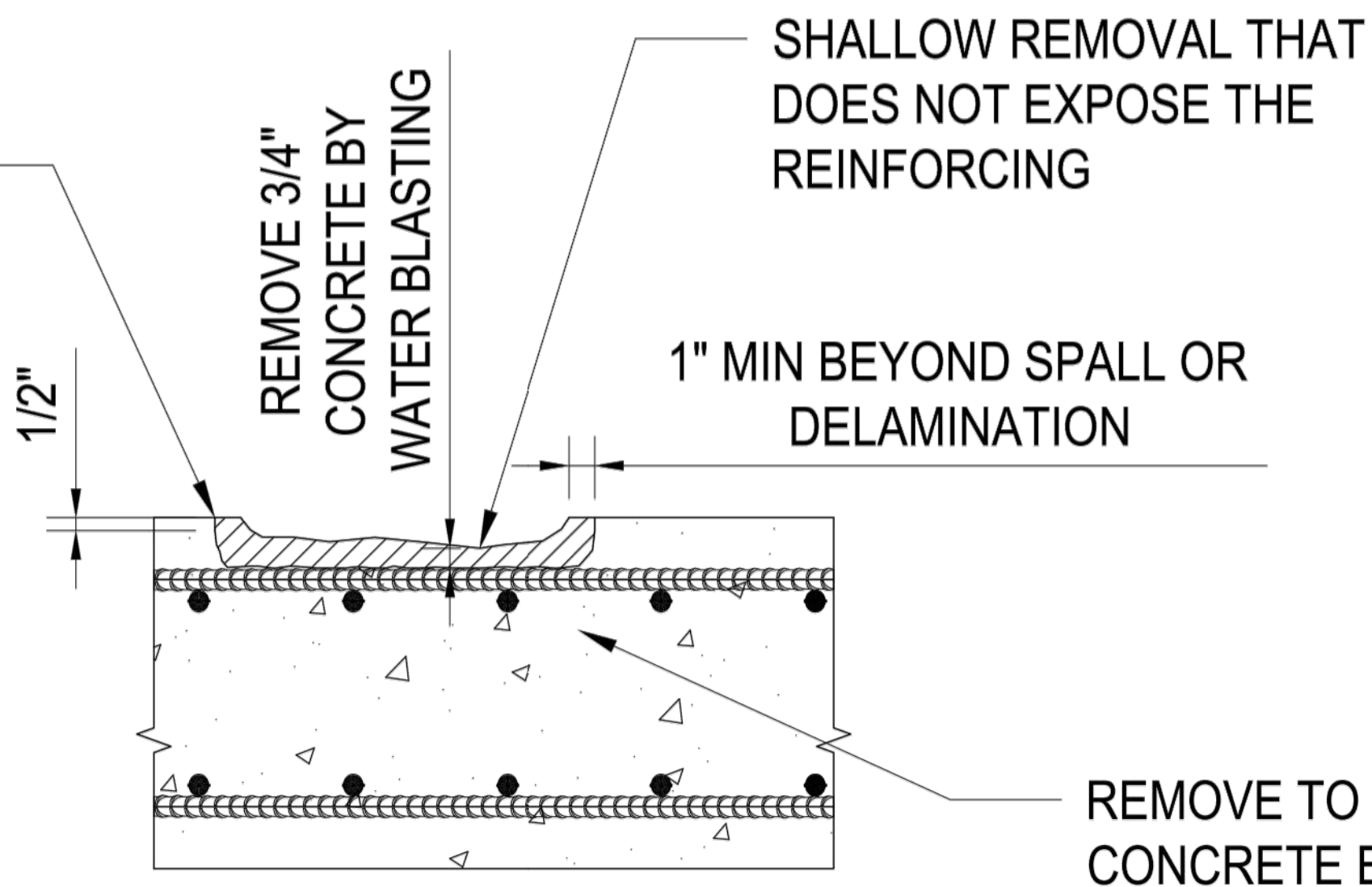
ROUGHEN SURFACE TO ICRI SURFACE PROFILE CSP-5. BRING TO A SATURATED SURFACE DRY CONDITION. PRIME EXPOSED SURFACE WITH SIKA ARMATEC 110 EPOCHEM.



8 MM x 3" LONG, PROSCO PATCH-TIE @ 6" MAX O.C. EACH WAY. INSERT @ ANGLE TO PROVIDE 1/2" MIN COVER. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

SHALLOW SPALL OR DELAMINATION REPAIR

SAWCUT 1/2" DEEP AROUND SPALL .



SHALLOW SPALL OR DELAMINATION REPAIR PREP

REMOVE TO SOUND CONCRETE BUT NOT LESS THAN LIMITS SHOWN.

Shallow Spall Repair  
**DETAIL**

NO SCALE

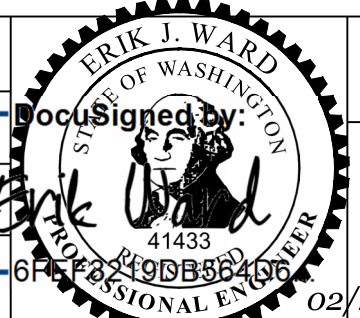
1  
 TYP

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NO	REVISION	DATE	APPD
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FINAL CONSTRUCTION CHECKED	DATE	SCALE
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CHECKED	LMB	CHECKED
DRAWN	ABW	PROJECT NAME
DATE	4/14/25	
FIELD BOOKS	DRAWING NAME	
	ENV-03027-09 PS Plan.dwg	



CITY OF TACOMA  
 ENVIRONMENTAL SERVICES DEPARTMENT  
 Stormwater Facility Concrete Repairs  
 Shallow Spall Repair Without Exposed Rebar  
 Detail

SPEC. NO.	ES24-0315F
WBS NO.	
SHEET NO.	ENV-03027-09
SHEET	8 OF 13



**STRUCTURAL NOTES - GENERAL:**

- SCOPE:** THE NOTES AND DETAILS ON THIS SHEET ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.
- SPECIFICATIONS AND BUILDING CODE:** ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC 2021) AND THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE/SEI) 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES. THE ABOVE SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.
- DIMENSIONS:** THE CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS, DIMENSIONS, AND EXISTING CONDITIONS THAT MAY AFFECT THE FABRICATION AND INSTALLATION OF NEW ELEMENTS BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL NOTIFY THE PROJECT REPRESENTATIVE OF ANY DISCREPANCIES PRIOR TO INSTALLATION OR FABRICATION. DO NOT SCALE THE DRAWINGS.
- CONSTRUCTION LOADS:** STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURES. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS IN A MANNER SUITABLE TO THE WORK SEQUENCE. TEMPORARY SHORING AND BRACING SHALL NOT BE REMOVED UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS AND UNTIL ALL THE MATERIALS HAVE ACHIEVED THEIR DESIGN STRENGTH. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY, STABILITY, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, REQUIRED TO PERFORM THE WORK. THE DESIGN OF THE BRACING SHALL BE PERFORMED BY AN ENGINEER LICENSED IN THE STATE OF WASHINGTON HIRED BY THE CONTRACTOR.
- POST INSTALLED ANCHORS:** INSTALL PER MANUFACTURER'S INSTRUCTIONS AND APPLICABLE ICC-ES REPORTS. NO REINFORCING BARS SHALL BE CUT TO PLACE POST-INSTALLED ANCHORS. ALL DEFECTIVE ANCHOR HOLES SHALL BE GROUTED WITH EPOXY ADHESIVE AND A NEW HOLE DRILLED A MINIMUM OF 3 BOLT DIAMETERS AWAY.

**STRUCTURAL DESIGN CRITERIA:**

**1. DESIGN CODE AND SPECIFICATIONS:**

- 2021 EDITION OF THE SEATTLE BUILDING CODE (SBC 2021)
- ASCE 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES.
- ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- ACI SP-66 ACI DETAILING MANUAL

**2. DESIGN LOADS:**

- DEAD LOADS:**  
SELF-WEIGHT OF STRUCTURAL AND NON-STRUCTURAL COMPONENTS
- LIVE LOADS:**  
UNIFORM LIVE LOAD ON GRATING: 60 PSF.
- SEISMIC LOADS:**  
THE BASIS FOR THE SEISMIC LOAD DESIGN VALUES IS SUMMARIZED AS FOLLOWING:  
IMPORTANCE FACTOR: I = 1.00 FOR RISK CATEGORY II  
SITE CLASS: D (DEFAULT)  
0.2 SECOND DESIGN SPECTRAL RESPONSE, SDS = 1.133 G

**STRUCTURAL NOTES - STEEL:**

- REFERENCE STANDARDS:** STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.
- STAINLESS STEEL MATERIAL:**

TYPE OF MEMBER	ASTM SPECIFICATION
SHAPES, BARS, AND SIMILAR	A479 TYPE 316L
BOLTS	F593, TYPE 316 CONDITION CW
NUTS	A194, TYPE 316
WASHERS	TYPE 316
THREADED ROD	A193 CLASS 2 (GRADE B8M)

**STRUCTURAL NOTES - ALUMINUM:**

- REFERENCE STANDARDS:** ALUMINUM SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE ALUMINUM ASSOCIATION ALUMINUM DESIGN MANUAL, CURRENT EDITION, AND CURRENT OSHA STANDARDS.
- ALUMINUM MATERIAL:**

TYPE OF MEMBER	ALLOY
SHEETS AND PLATES	6061-T6
SHAPES, BARS, AND SIMILAR	6061-T6
SQUARE TUBE	6061-T6

**STRUCTURAL NOTES - WELDS:**

- WELDING:** SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS):  
D1.2, STRUCTURAL WELDING CODE ALUMINUM

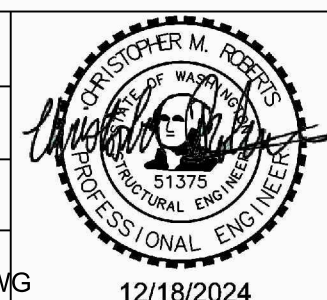
SYMBOL	LEGEND
	GRATING, SPAN DIRECTION INDICATED
	ROOFING AND INSULATION
	CHECKERED PLATE
	GROUT
	GRANULAR FILL
	EARTH OR FINISH GRADE
	CONCRETE
	METAL STUD WALL (PLAN)
	STEEL
	ALUMINUM
	DIRECTION OF SLOPE DOWN
	DOOR/HATCH SWING
	CONTROL JOINT
	CONSTRUCTION JOINT
	RAILINGS

BID SET



NO	REVISION	DATE	APPD

FINAL CONSTRUCTION CHECKED	DATE 11/15/2024	SCALE NO SCALE
BY	DESIGNED CMR	CHECKED RMR
DATE	DRAWN CMR	PROJECT NAME
FIELD BOOKS	DRAWING NAME GS01 STRUCTURAL NOTES.DWG	DATE 12/18/2024

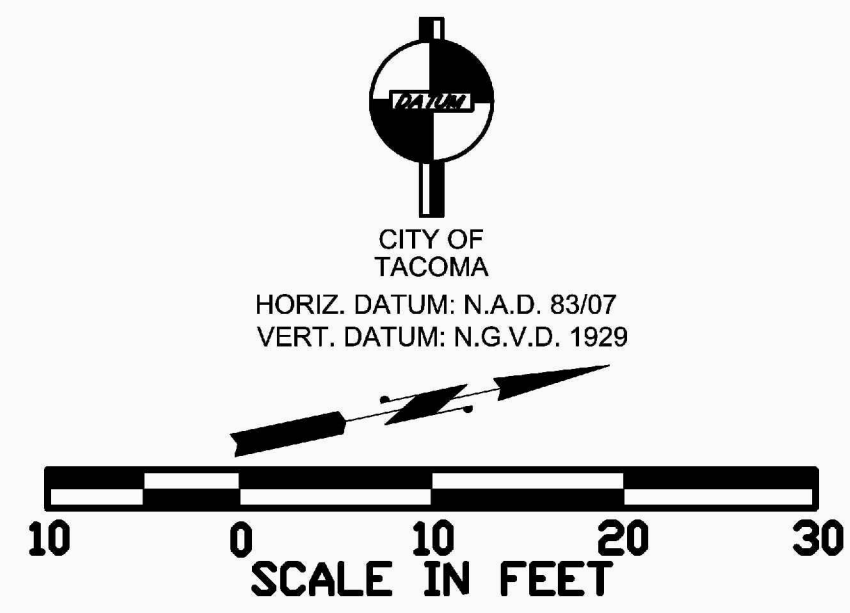


CITY OF TACOMA  
ENVIRONMENTAL SERVICES DEPARTMENT

**Stormwater Facility Concrete Repairs  
GENERAL STRUCTURAL NOTES AND SYMBOLS**


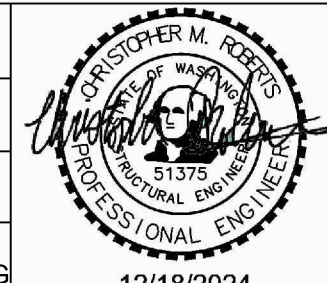
SPEC. NO.	ES24-0315F
WBS NO.	GS01
SHEET NO.	ENV-03027-09
SHEET	9 OF 13

DATE: 11/16/2024 3:06 PM PATH: D:\PROJ\ACTIVE PROJECTS\CITY OF TACOMA\2019 ON CALL CONTRACTOR\RAIN GARDEN GRATING\DWGS\FINALSHEETS FILE: S11 STRUCTURAL PLAN\_LAYOUT.S11

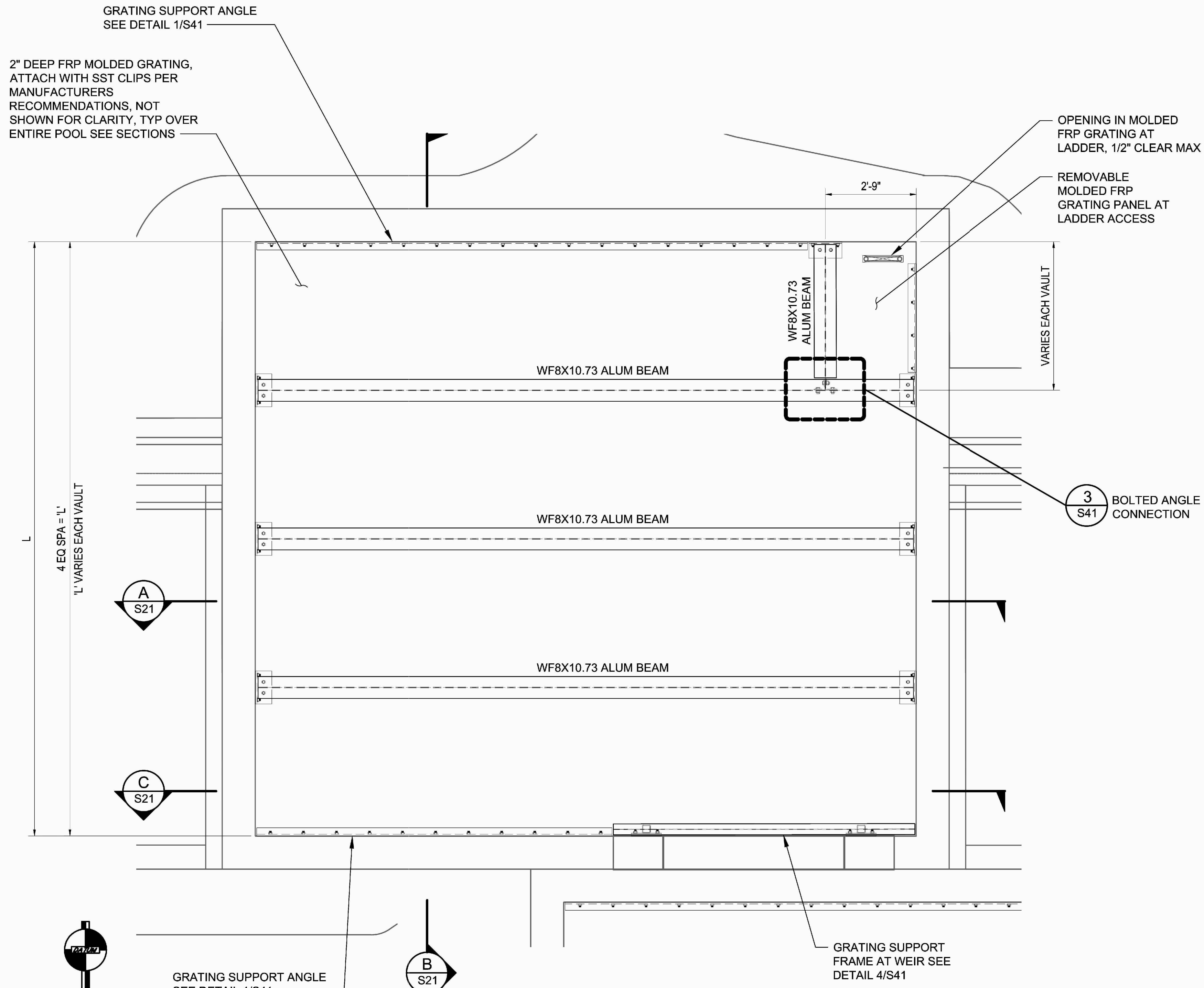


CITY OF TACOMA  
 HORIZ. DATUM: N.A.D. 83/07  
 VERT. DATUM: N.G.V.D. 1929

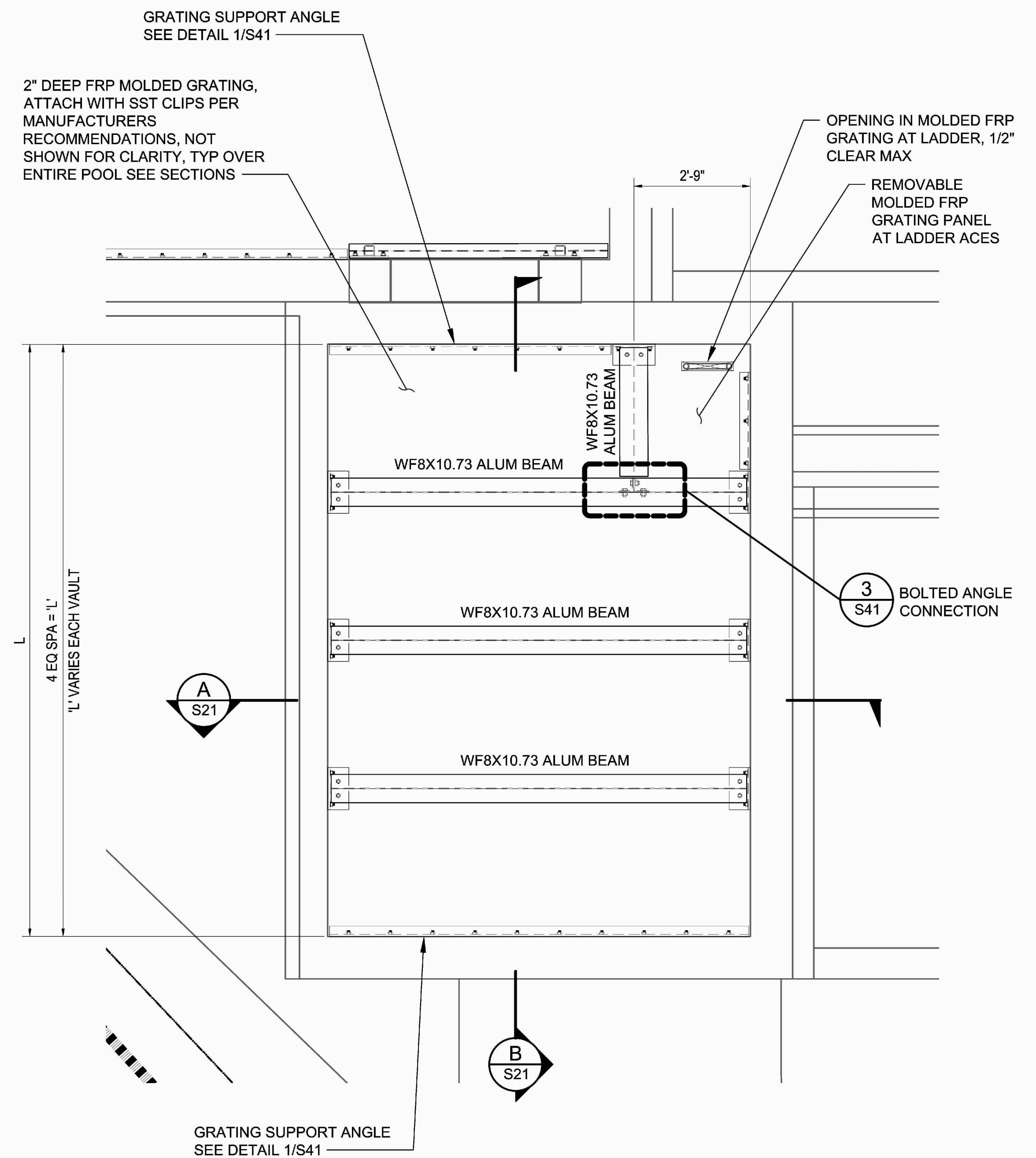
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	NO	REVISION	DATE	APPD	FINAL CONSTRUCTION CHECKED BY DATE FIELD BOOKS	DATE 11/15/2024 DESIGNED CMR DRAWN CMR DRAWING NAME S11 STRUCTURAL PLAN.DWG	SCALE 1"=10' CHECKED RMR PROJECT NAME		CITY OF TACOMA ENVIRONMENTAL SERVICES DEPARTMENT Stormwater Facility Concrete Repairs STRUCTURAL PLAN	SPEC. NO. ES24-0315F
										WBS NO. S11 ENV-03027-09 SHEET NO. SHEET 10 OF 13

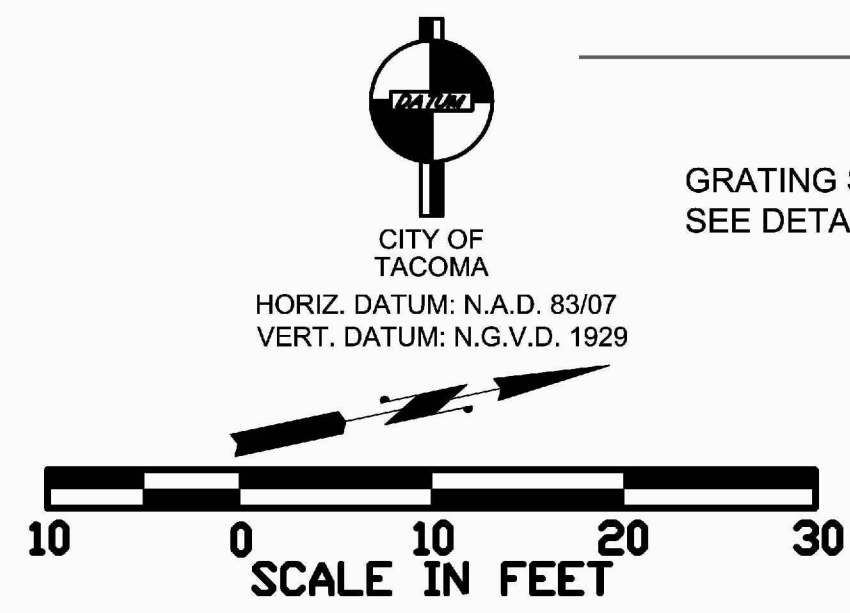
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**ENLARGED PLAN 1**  
SCALE: 1/2" = 1'-0" S11



**ENLARGED PLAN 2**  
SCALE: 1/2" = 1'-0" S11



BID SET

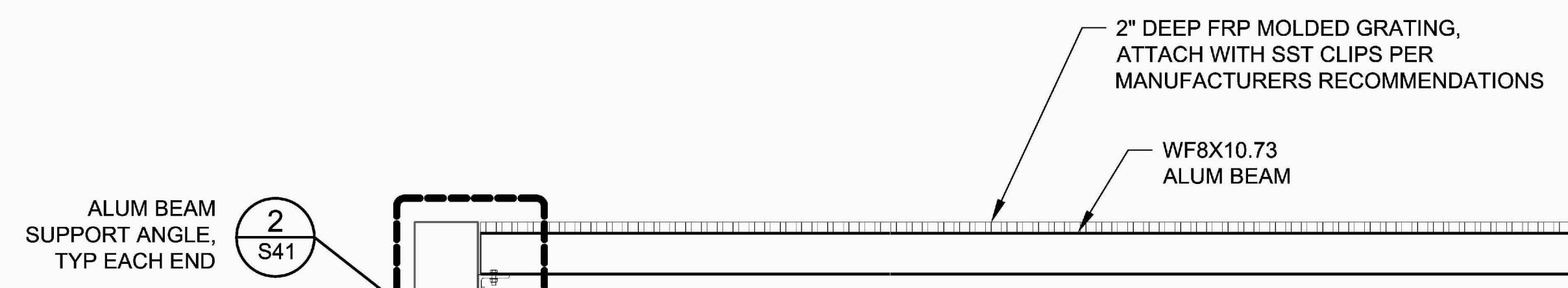


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				DATE	DRAWN CMR	PROJECT NAME	
				FIELD BOOKS	DRAWING NAME		
				S12 STRUCTURAL ENLARGED PLAN.DWG			

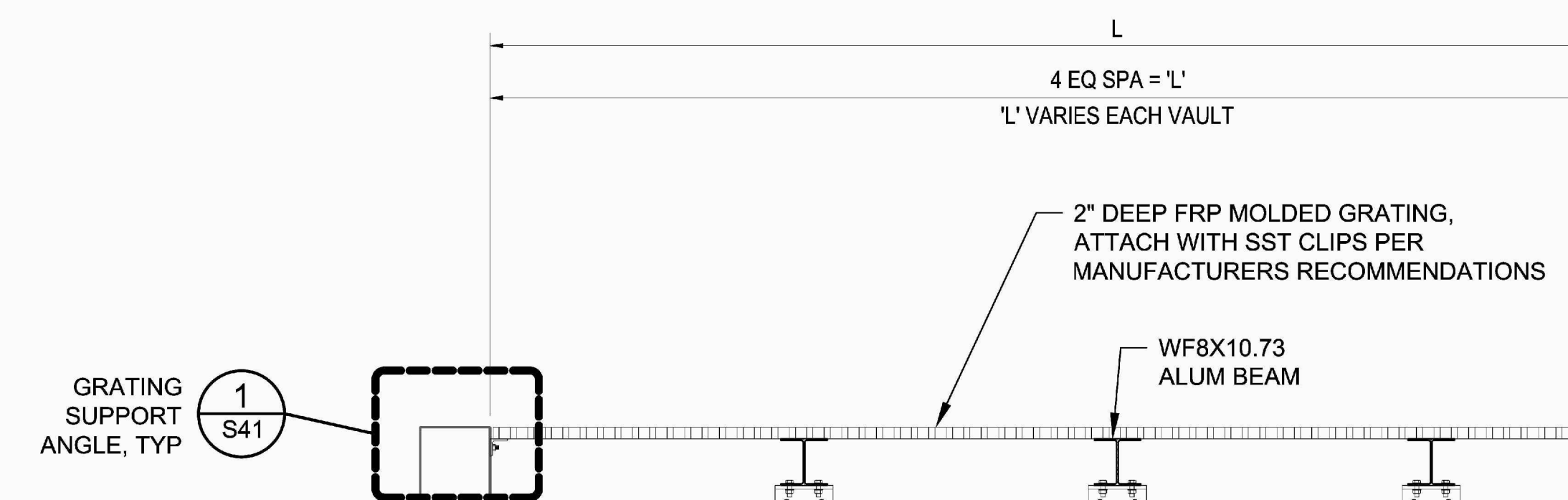
CITY OF TACOMA  
ENVIRONMENTAL SERVICES DEPARTMENT

**Stormwater Facility Concrete Repairs**  
STRUCTURAL ENLARGED PLAN

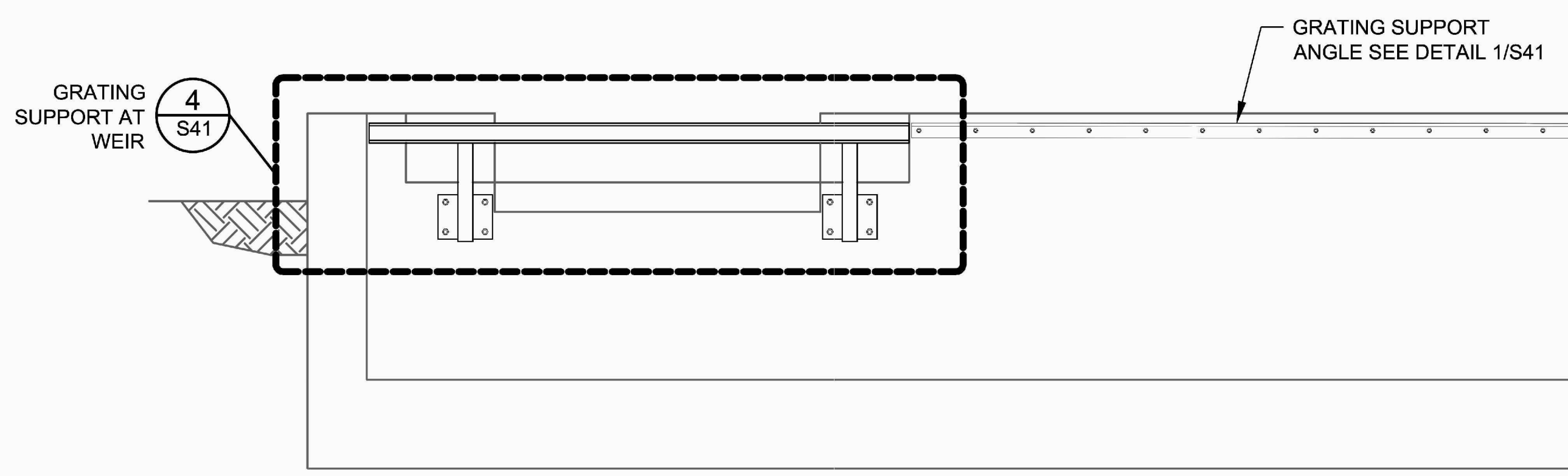
SPEC. NO.	ES24-0315F
WBS NO.	S12
SHEET NO.	ENV-03027-09
SHEET	11 OF 13



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



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



NOTE:  
FRP GRATING NOT SHOW FOR CLARITY.

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

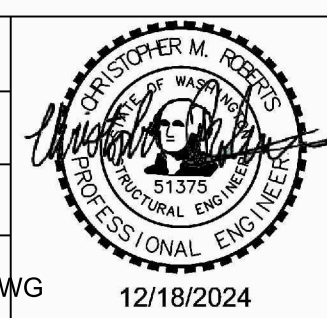
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BID SET



NO	REVISION	DATE	APPD

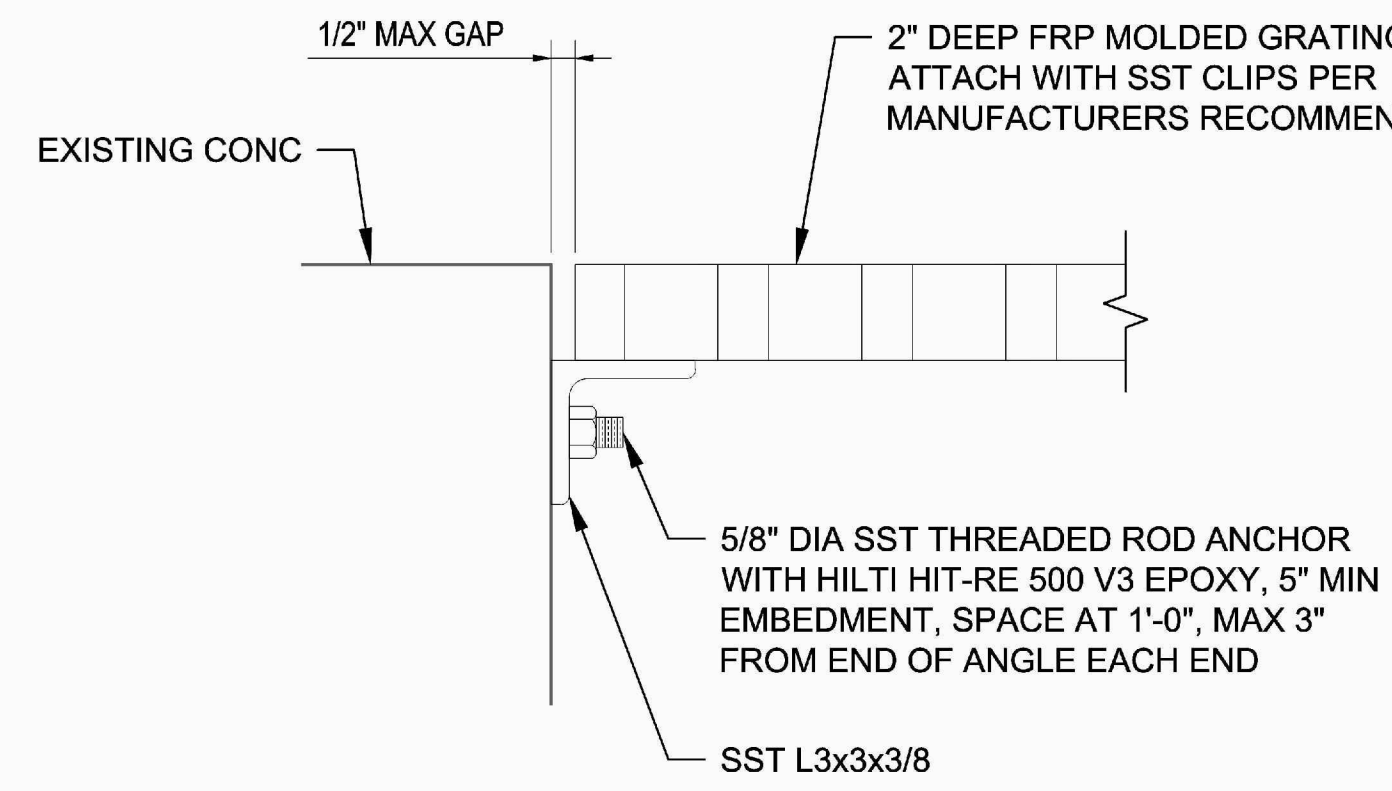
FINAL CONSTRUCTION CHECKED	DATE	SCALE
	11/15/2024	AS NOTED
BY	DESIGNED	CHECKED
	CMR	RMR
DATE	DRAWN	PROJECT NAME
	CMR	
FIELD BOOKS	DRAWING NAME	
	S21 STRUCTURAL SECTIONS.DWG	



CITY OF TACOMA  
ENVIRONMENTAL SERVICES DEPARTMENT

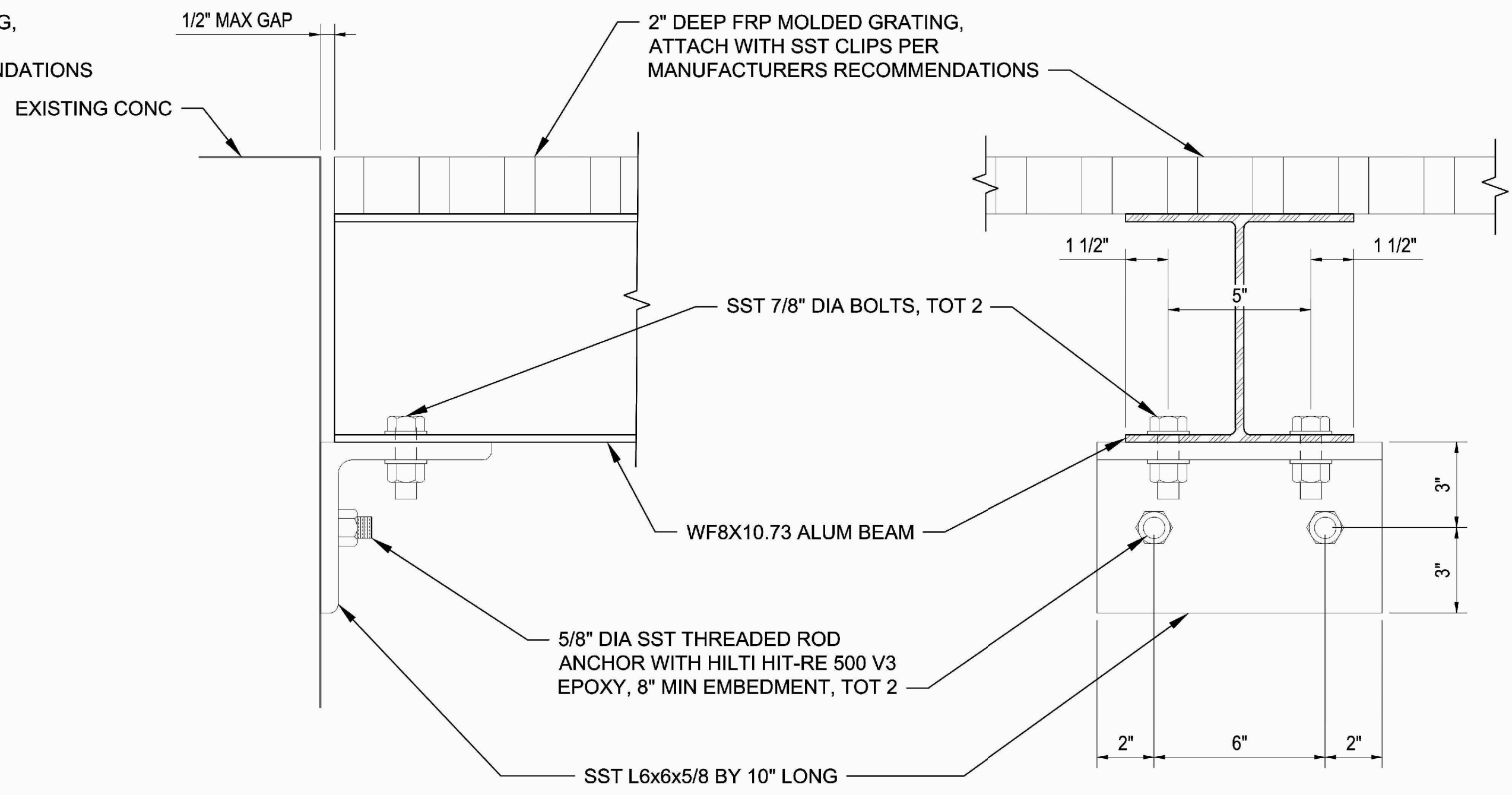
Stormwater Facility Concrete Repairs  
STRUCTURAL SECTIONS

SPEC. NO.	ES24-0315F
WBS NO.	S21
SHEET NO.	ENV-03027-09
SHEET	12 OF 13



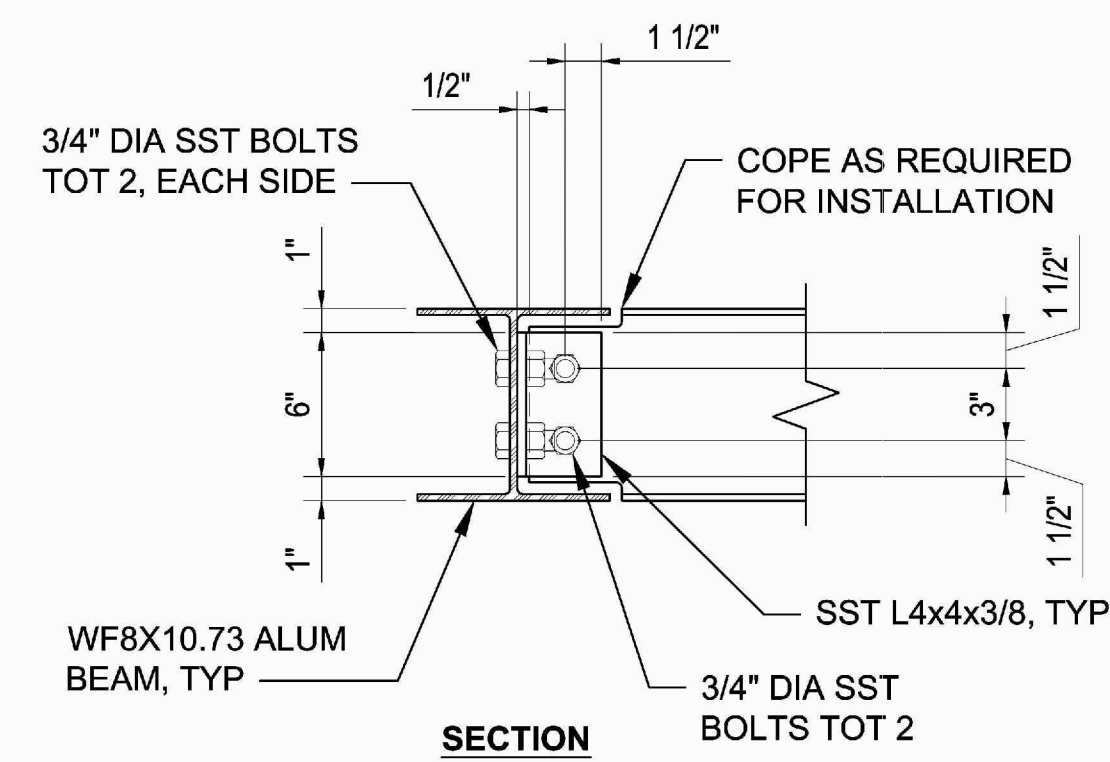
**GRATING SUPPORT ANGLE**

**DETAIL 1**  
SCALE: 3" = 1'-0"  
S12  
S21

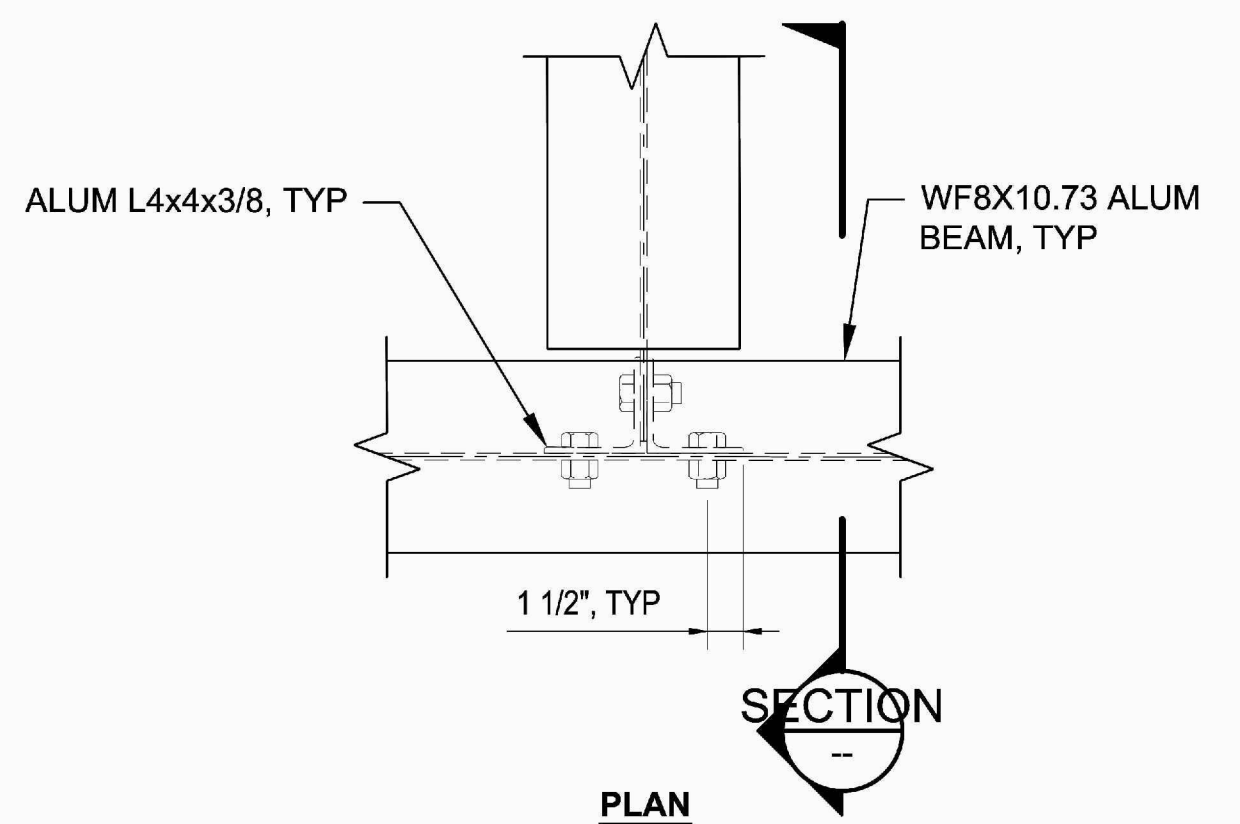


**ALUM BEAM SUPPORT ANGLE**

**DETAIL 2**  
SCALE: 3" = 1'-0"  
S12  
S21



**SECTION**

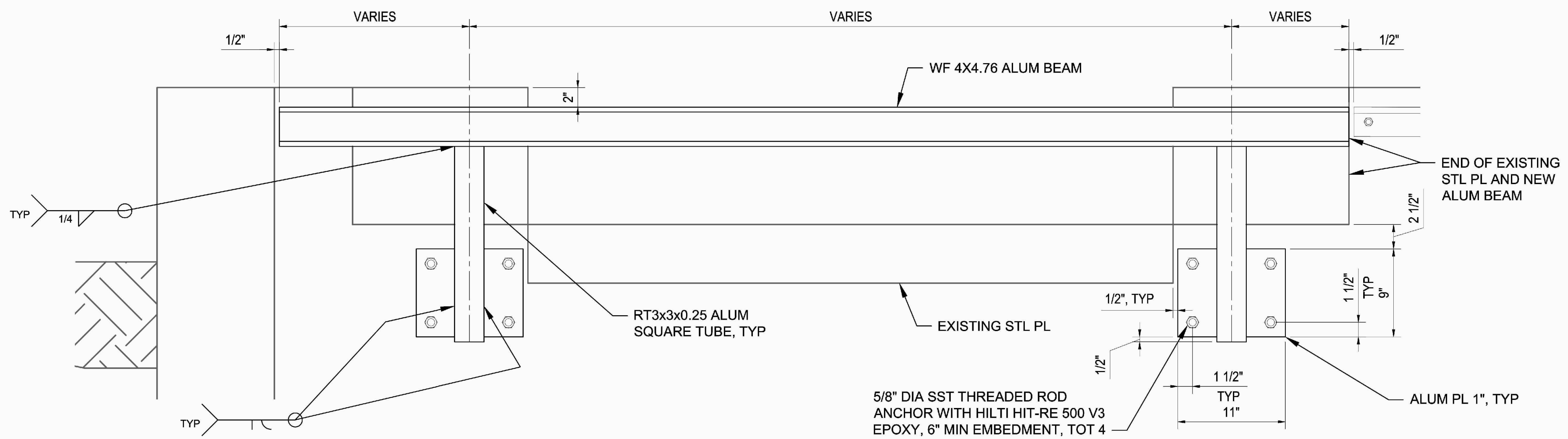


**PLAN**

NOTE:  
FRP GRATING NOT SHOW FOR CLARITY.

**ALUM BEAM TO ALUM BEAM**

**DETAIL 3**  
SCALE: 1 1/2" = 1'-0"  
S12  
S21



NOTE:  
FRP GRATING NOT SHOW FOR CLARITY.

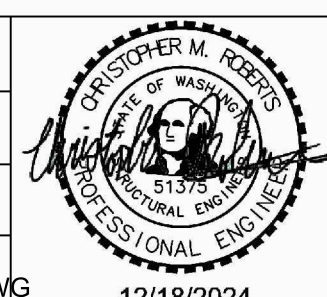
**GRATING SUPPORT FRAME**

**DETAIL 4**  
SCALE: 1 1/2" = 1'-0"  
S12  
S21

BID SET



NO	REVISION	DATE	APPD	FINAL CONSTRUCTION CHECKED	DATE	SCALE
					11/15/2024	AS NOTED
				BY	DESIGNED	CHECKED
					CMR	RMR
				DATE	DRAWN	PROJECT NAME
					CMR	
				FIELD BOOKS	DRAWING NAME	
					S41 STRUCTURAL DETAILS.DWG	



CITY OF TACOMA  
ENVIRONMENTAL SERVICES DEPARTMENT  
Stormwater Facility Concrete Repairs  
STRUCTURAL DETAILS

SPEC. NO.	ES24-0315F
WBS NO.	S41
SHEET NO.	ENV-03027-09
SHEET	13 OF 13

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