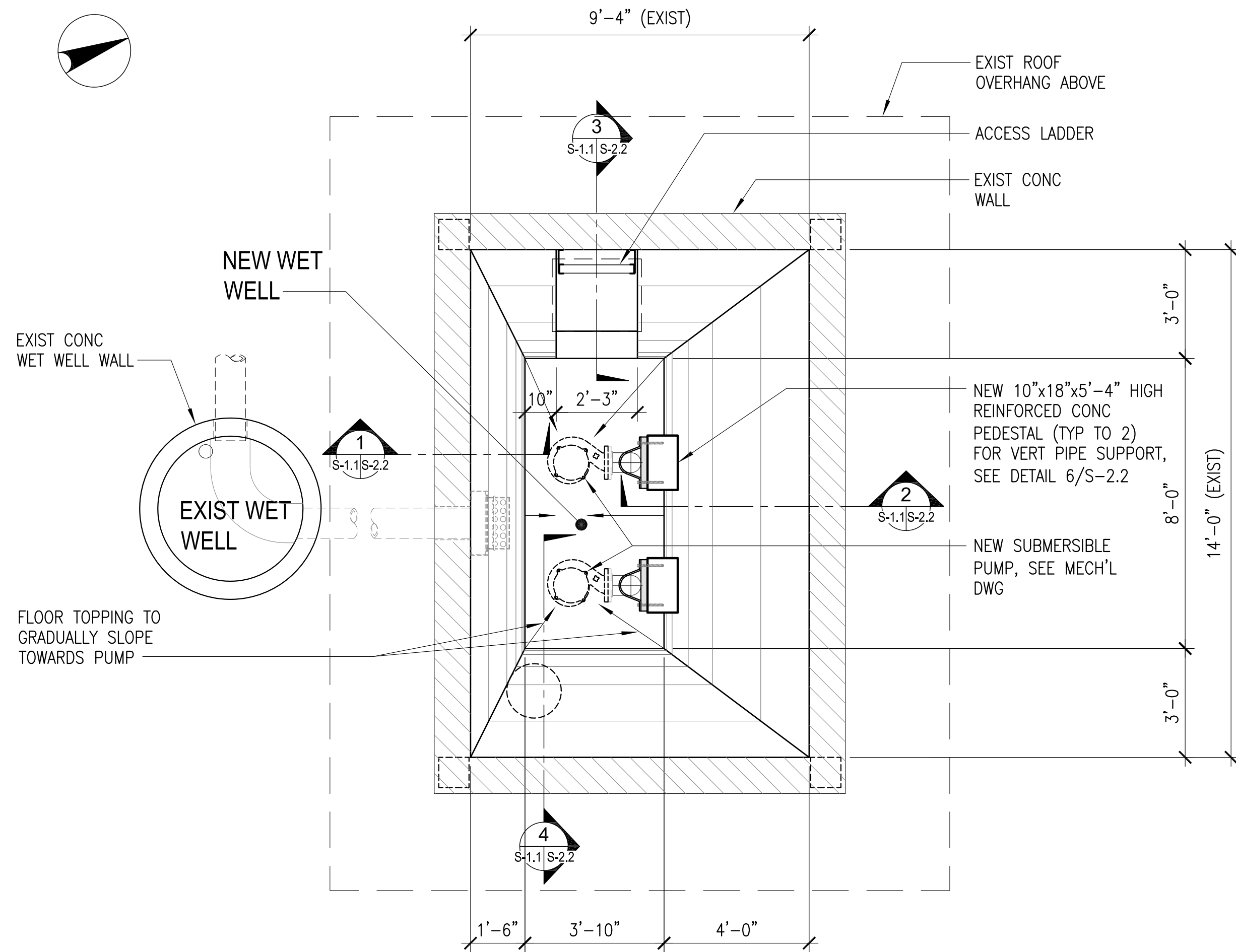
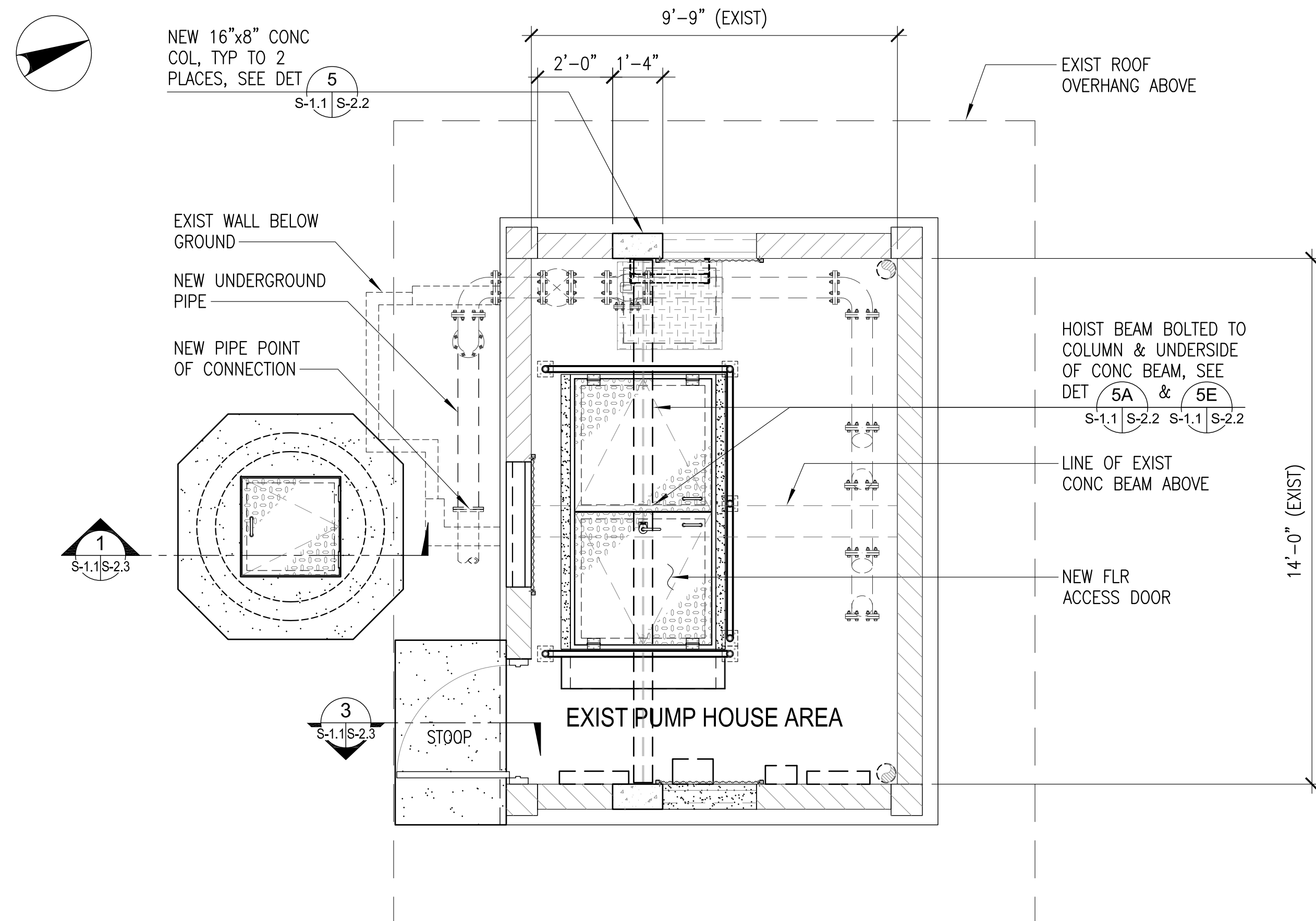
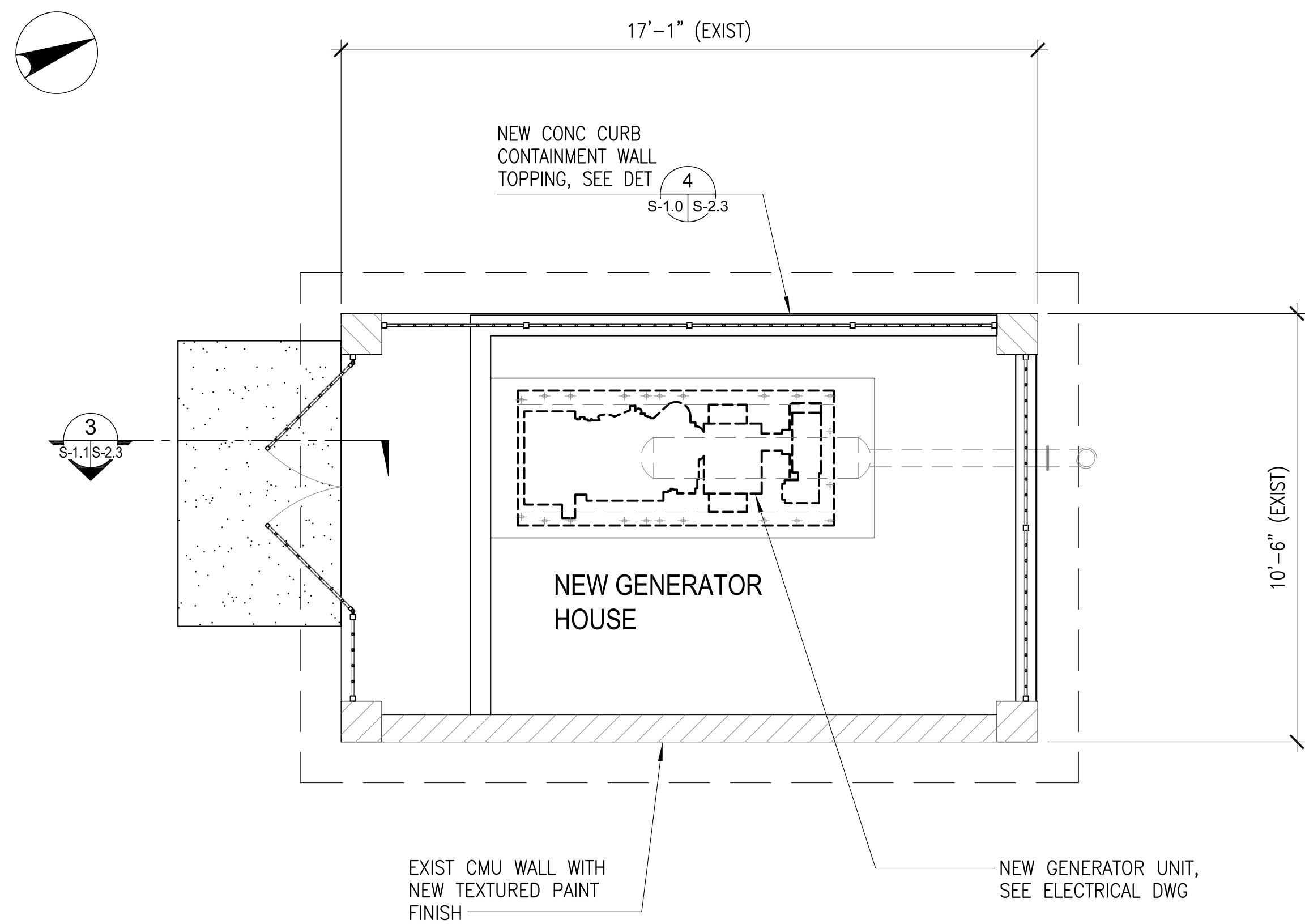




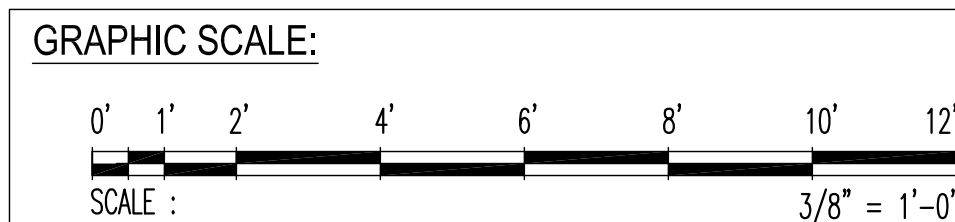
1 CONCRETE TOPPING PLAN - PUMP HOUSE WET WELL
SCALE: 3/8" = 1'-0"



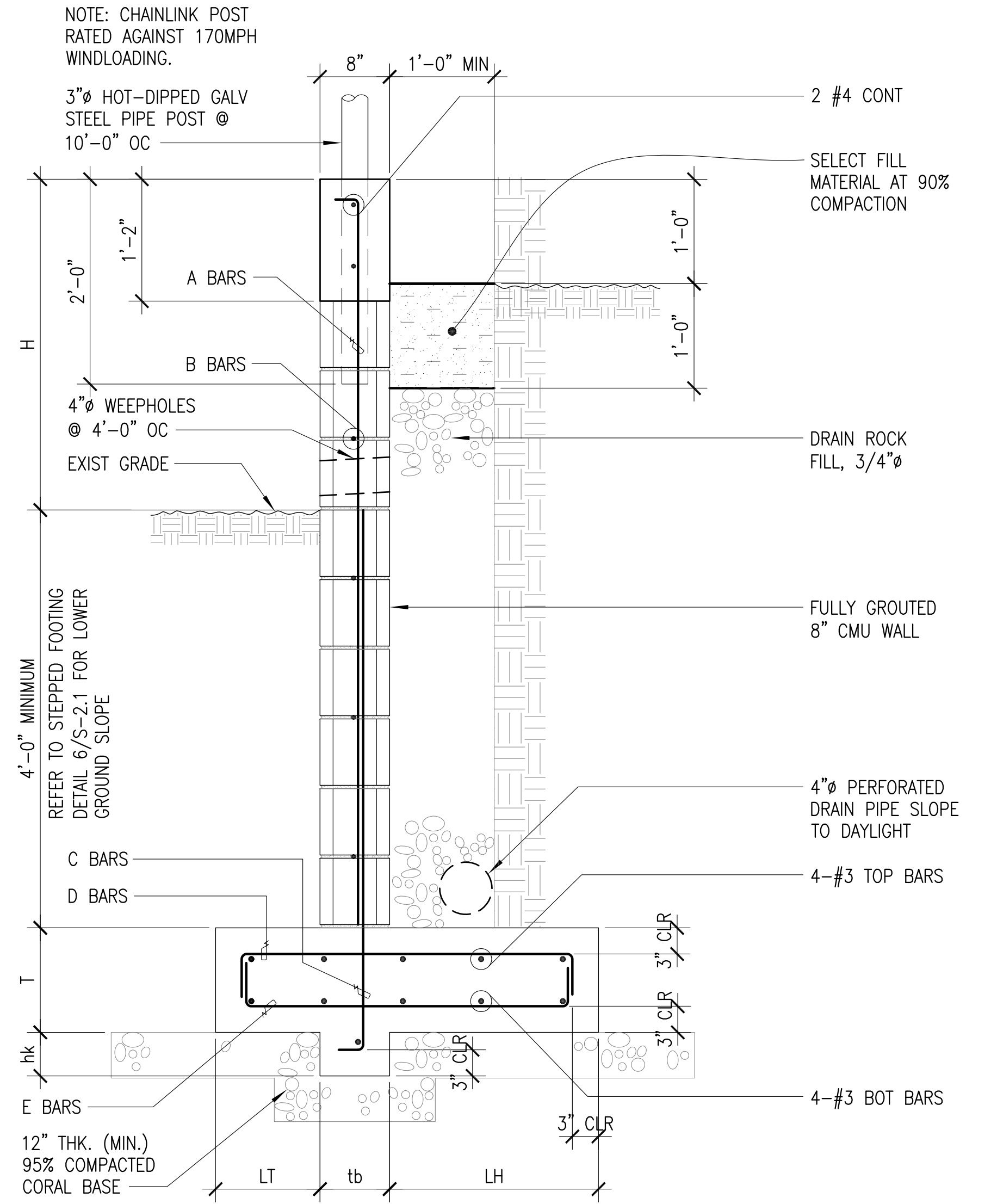
2 NEW CONCRETE COLUMN PLAN FOR HOIST BEAM - PUMP ROOM
SCALE: 3/8" = 1'-0"



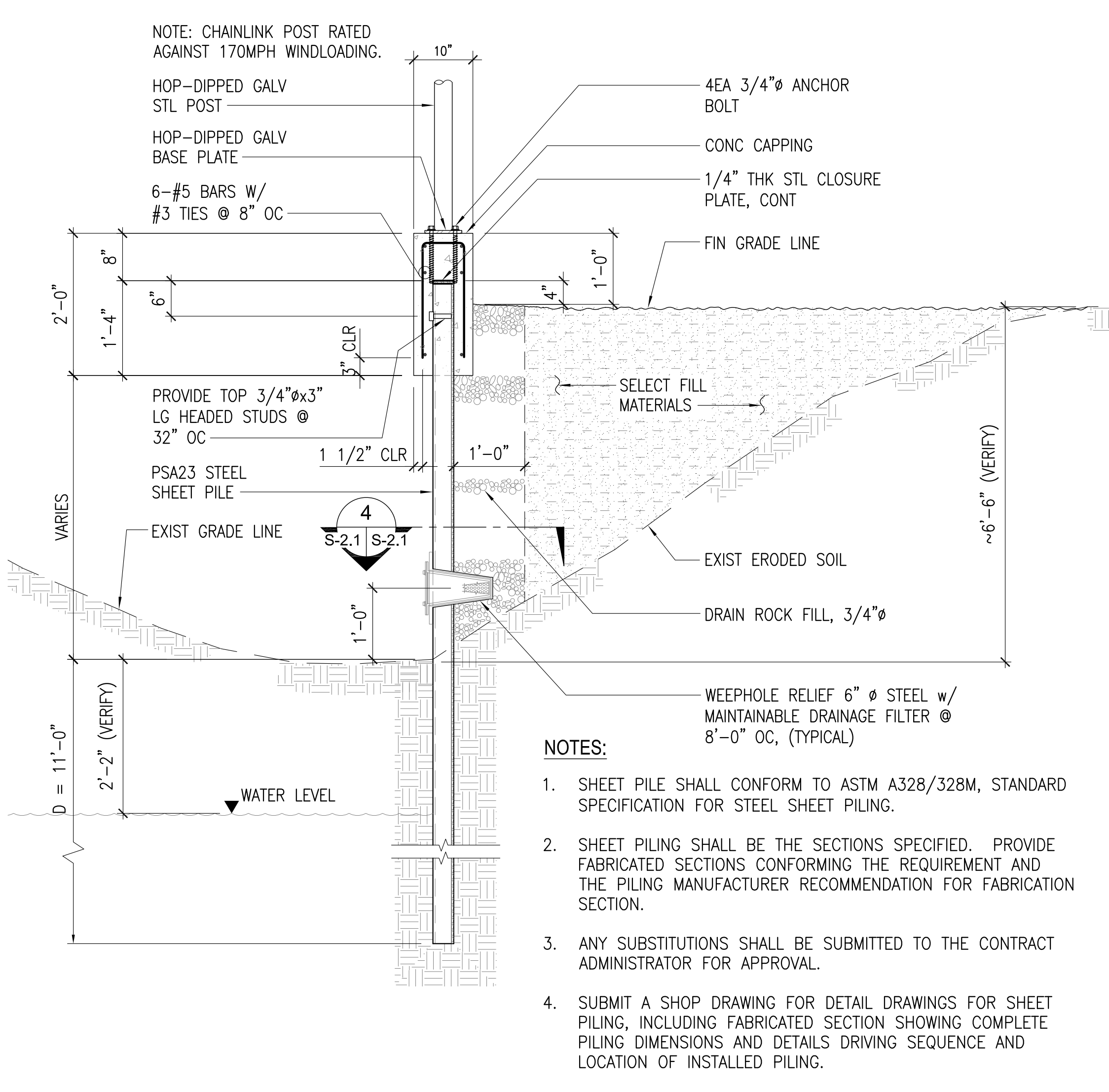
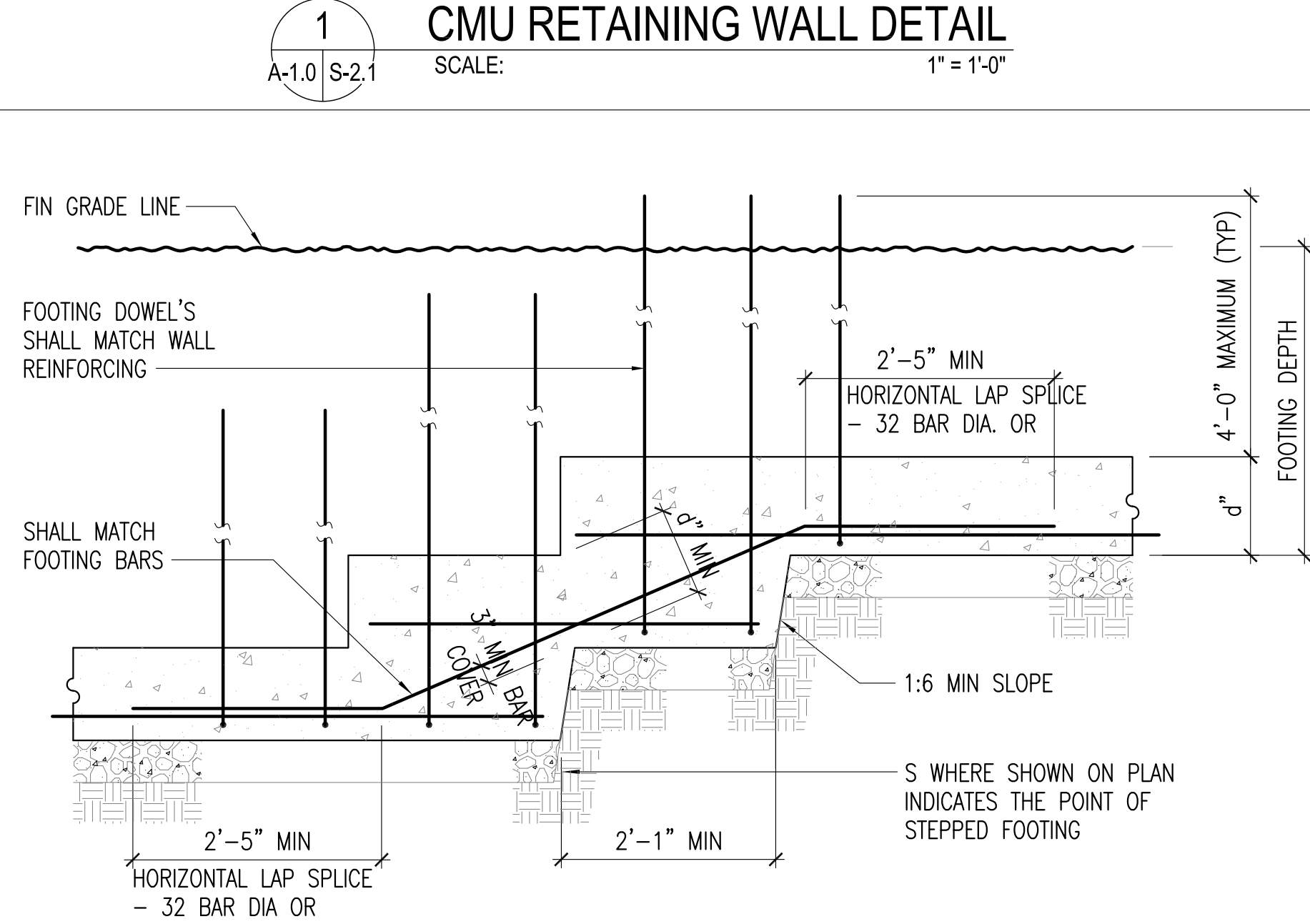
3 CONCRETE CONTAINMENT PLAN - GENERATOR HOUSE
SCALE: 3/8" = 1'-0"



 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION DATE: 05-17-2017	REV	DATE	BY	DESCRIPTION	APPROVED BY
	GWA NO.				
	GRANT ID NO.				
	CONTRACT NO.				
	PROJECT NO.				
DES. BY: tdg	CHIEF ENGR: .	 GUAM WATERWORKS AUTHORITY GOVERNMENT OF GUAM ENGINEERING DIVISION PROJECT: BAYSIDE PUMP STATION REHABILITATION TAN MARIAN COATLA LP, TAMUNING, GUAM			
DRN. BY: jl	ENGR. SUP: .				
CHK. BY: rmca	PROJ. ENGR: .				
CONTENTS:					DRAWING NO.
CONCRETE TOPPING PLAN - PUMP HOUSE WET WELL, NEW CONCRETE COLUMN PLAN for HOIST BEAM - PUMP RM, & CONCRETE CONTAINMENT PLAN - GENERATOR HOUSE					S-1.1
					SHT. 17 OF 27

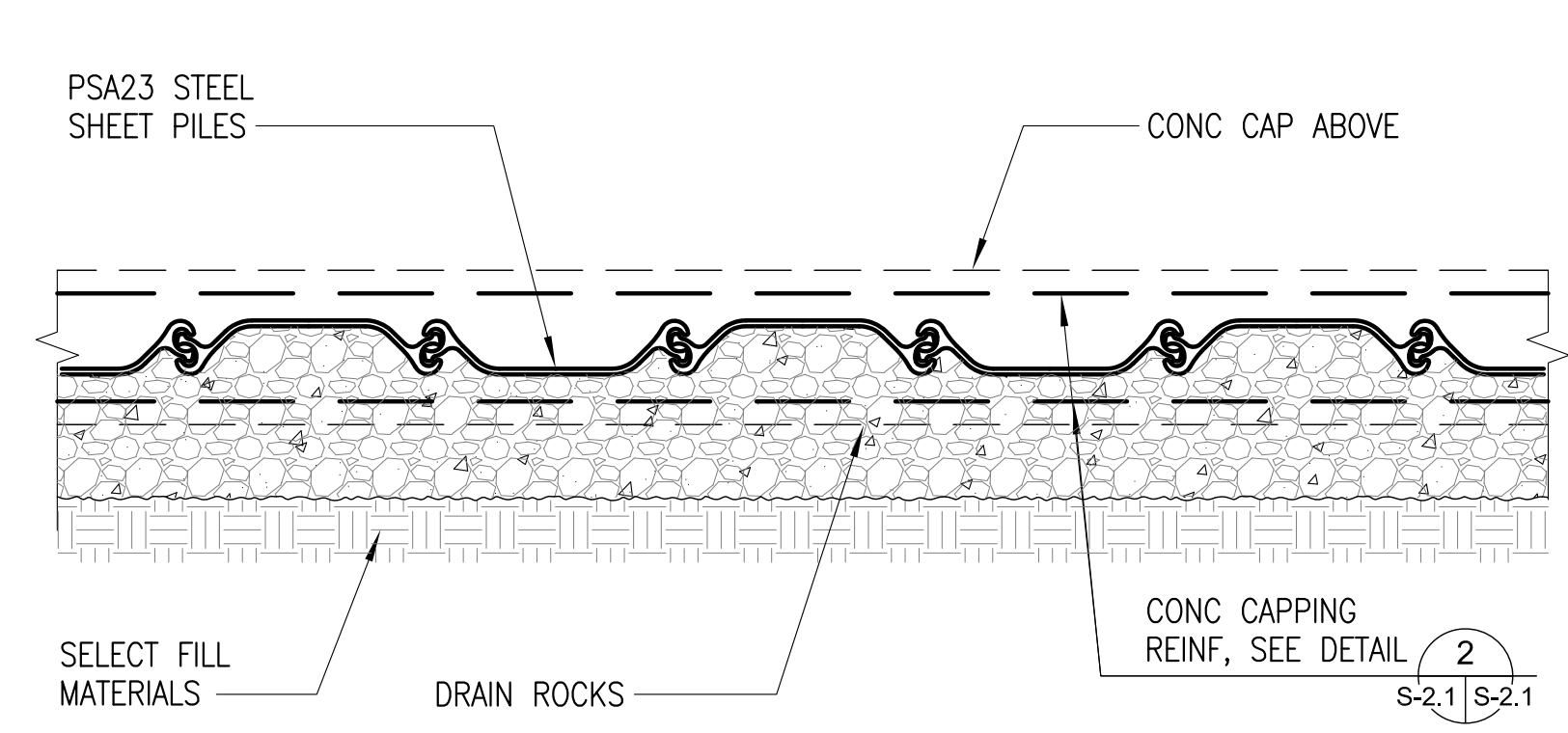


RETAINING WALL SCHEDULE										
H (FT.)	T	hk	tb	LT	LH	A BAR (VERT)	B BAR (HORIZ)	C BAR (VERT)	D BAR (TOP)	E BAR (BOT)
3	12"	5"	8"	1'-0"	1'-7"	#4 @ 12" OC	#3 @ 16" OC	2-#4 @ 12" OC	#4 @ 12" OC	#3 @ 12" OC
2	12"	0	8"	1'-0"	1'-2"	#4 @ 16" OC	#3 @ 16" OC	#4 @ 16" OC	#4 @ 12" OC	#3 @ 12" OC



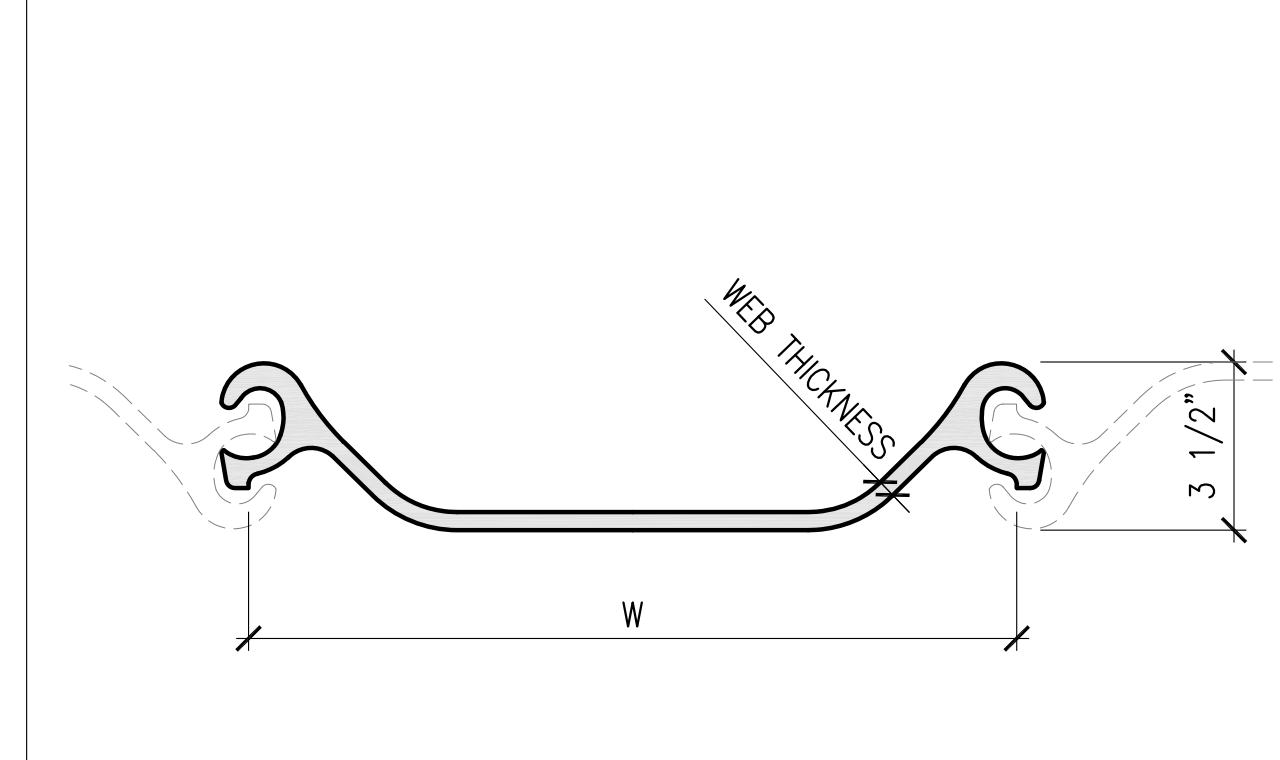
2 CANTILEVERED STEEL SHEET PILE RETAINING WALL DETAIL

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



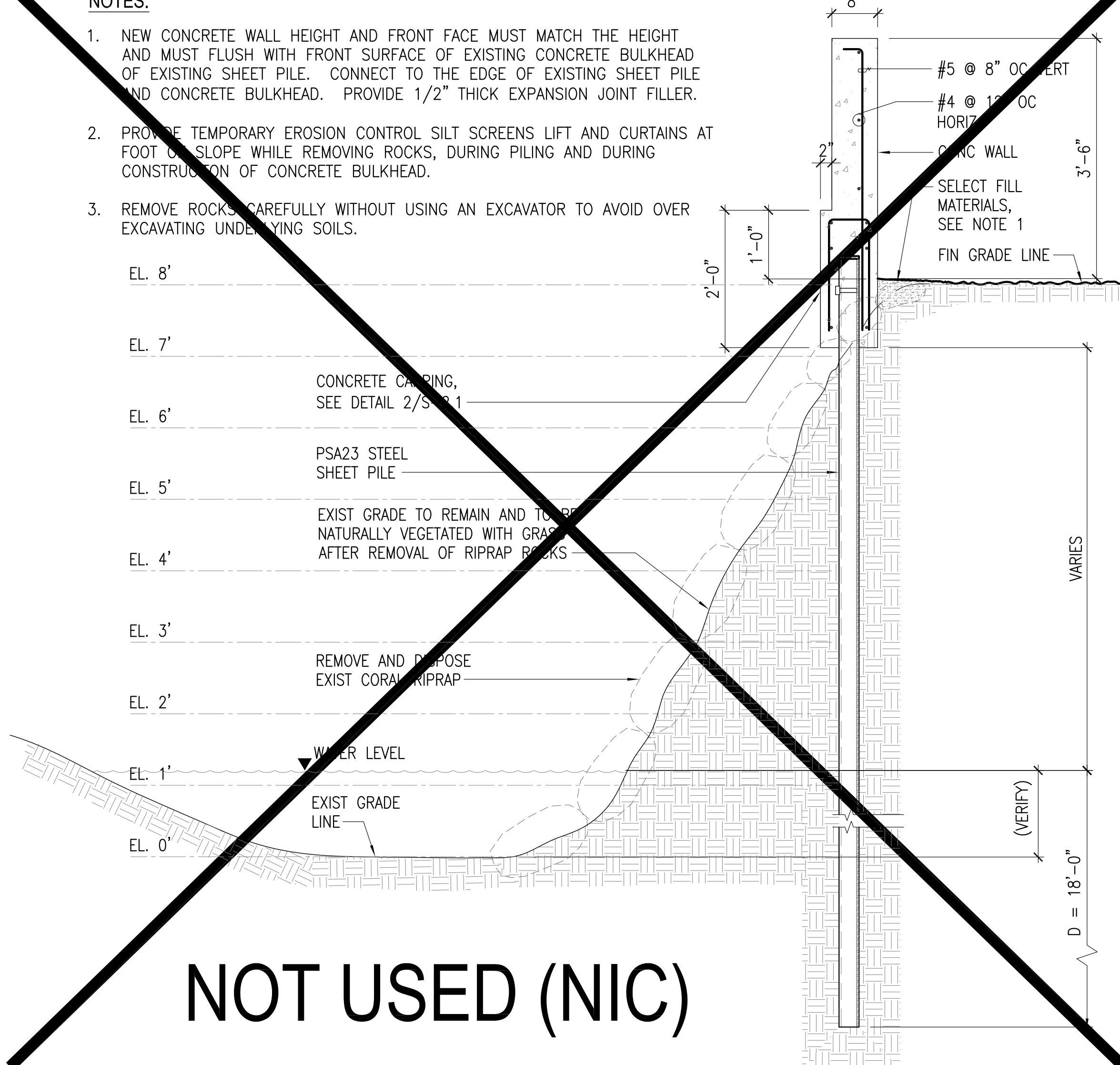
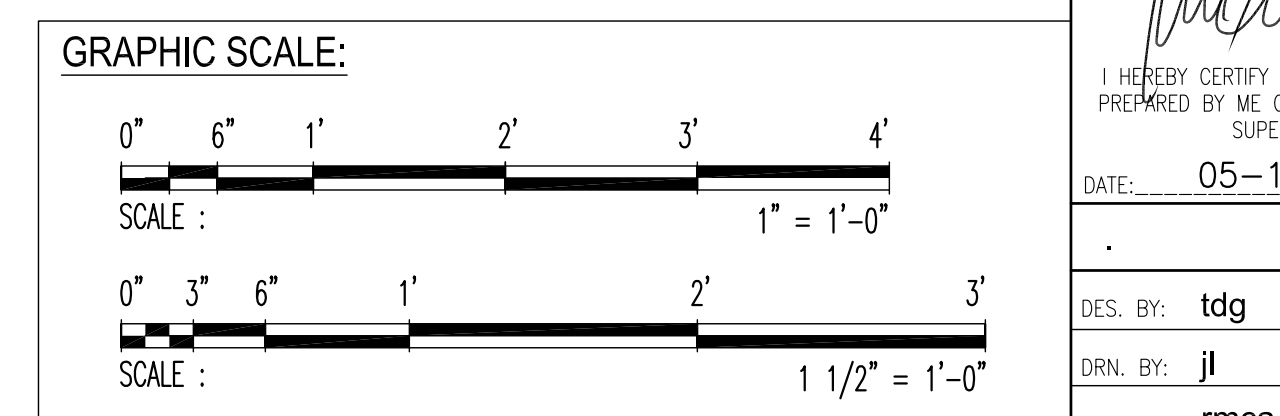
4 STEEL SHEET PILE PLAN

SCALE: 1" = 1'-0"



5 STEEL SHEET PILE SECTION

SCALE: NTS



3 STEEL SHEET PILE RETAINING WALL DETAIL

SCALE: 1" = 1'-0"

STEEL SHEET PILE SECTION												
SECTION INDEX		AREA PER PILE	NOMINAL WIDTH	WEIGHT		WEB THICKNESS	MOMENT OF INERTIA		SECTION MODULUS		SURFACE AREA SQ FT PER LIN FT OF BAR	
				PER FOOT	PER SQ FT OF WALL		PER PILE	PER PILE	PER FOOT OF WALL	TOTAL AREA	NOMINAL COATING AREA*	
				IN. ²	W IN.		LBS.	LBS.	IN.	IN. ⁴	IN. ³	IN. ³
INTERLOCK WITH EACH OTHER	PSA23	8.99	16	30.7	23.0	3/8	5.5	3.2	2.4	3.76	3.08	

5 STEEL SHEET PILE SECTION

SCALE: NTS

Engineering Management & Planning Services Corporation

1988 MARINE DRIVE, SUITE 200, HONOLULU, HAWAII 96813

PHONE: (808) 521-1111 FAX: (808) 521-1112

REV DATE BY DESCRIPTION APPROVED BY

GWA NO. .

GRANT ID NO. .

CONTRACT NO. .

PROJECT NO. .

DES. BY: **tdg** CHIEF ENGR: .

DRN. BY: **jl** ENGR. SUP: .

CHK. BY: **rmca** PROJ. ENGR: .

GUAM WATERWORKS AUTHORITY

GOVERNMENT OF GUAM

ENGINEERING DIVISION

PROJECT: **BAYSIDE PUMP STATION REHABILITATION**

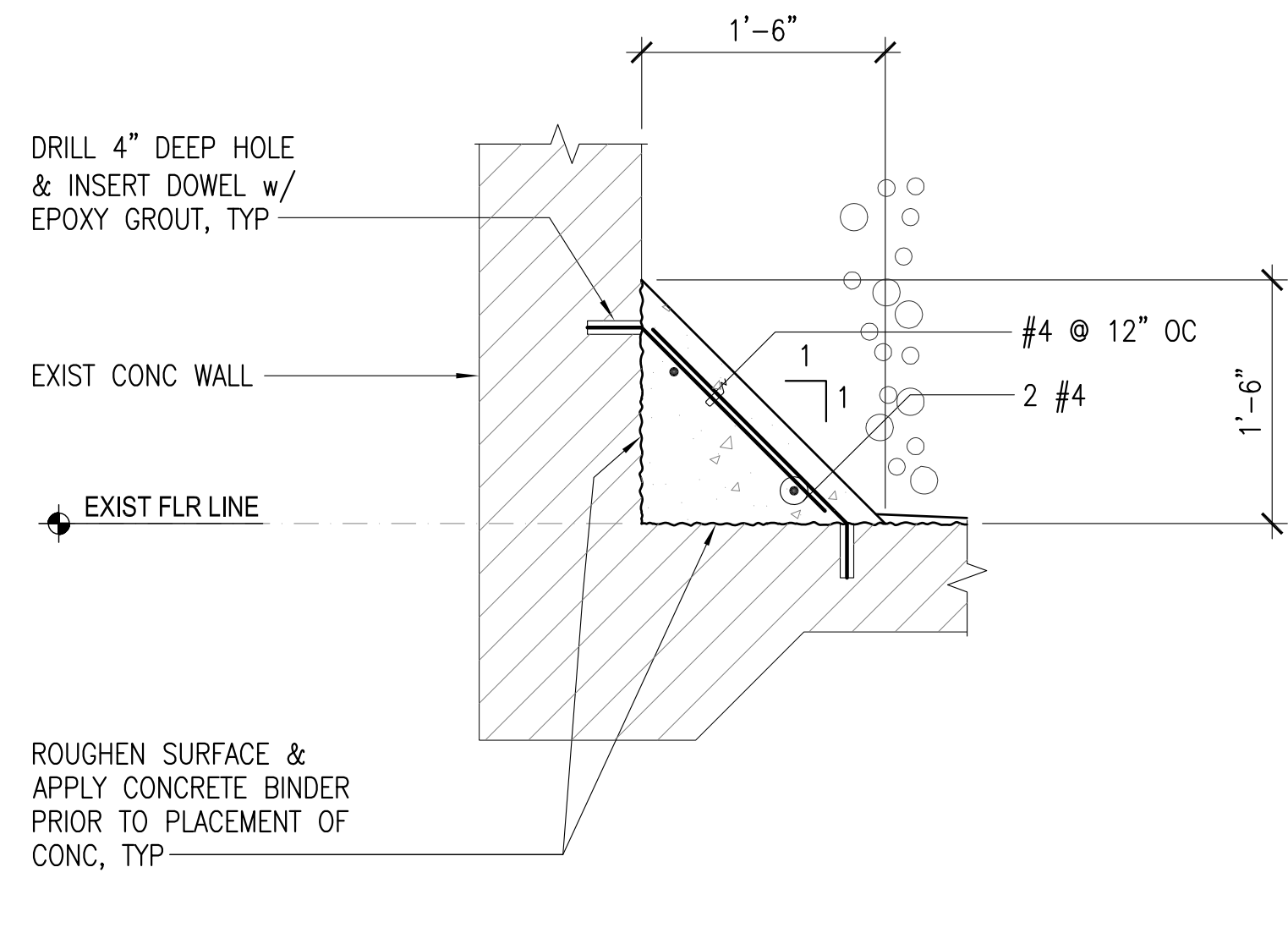
TAN MARIAN COATLA LP, TAMUNING, GUAM

CONTENTS: CMU RETAINING WALL DETAIL, CANTILIVER SHEET PILE RETAINING WALL DET, STEEL SHEET PILE RETAINING WALL DET, STL SHT PILE PLAN & STEELSHEET PILE SECTION

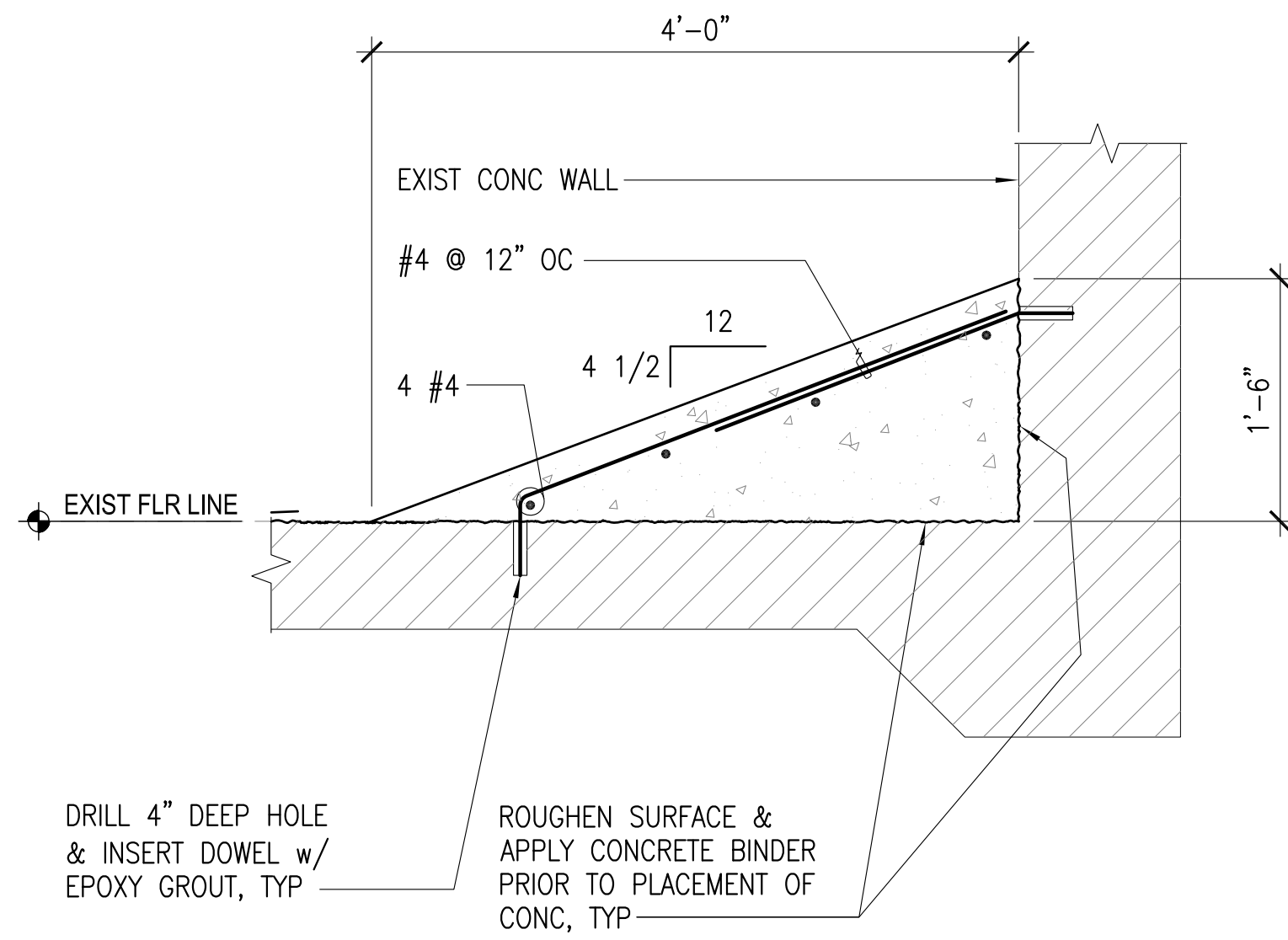
DRAWING NO. **S-2.1**

SHT. 18 OF 27

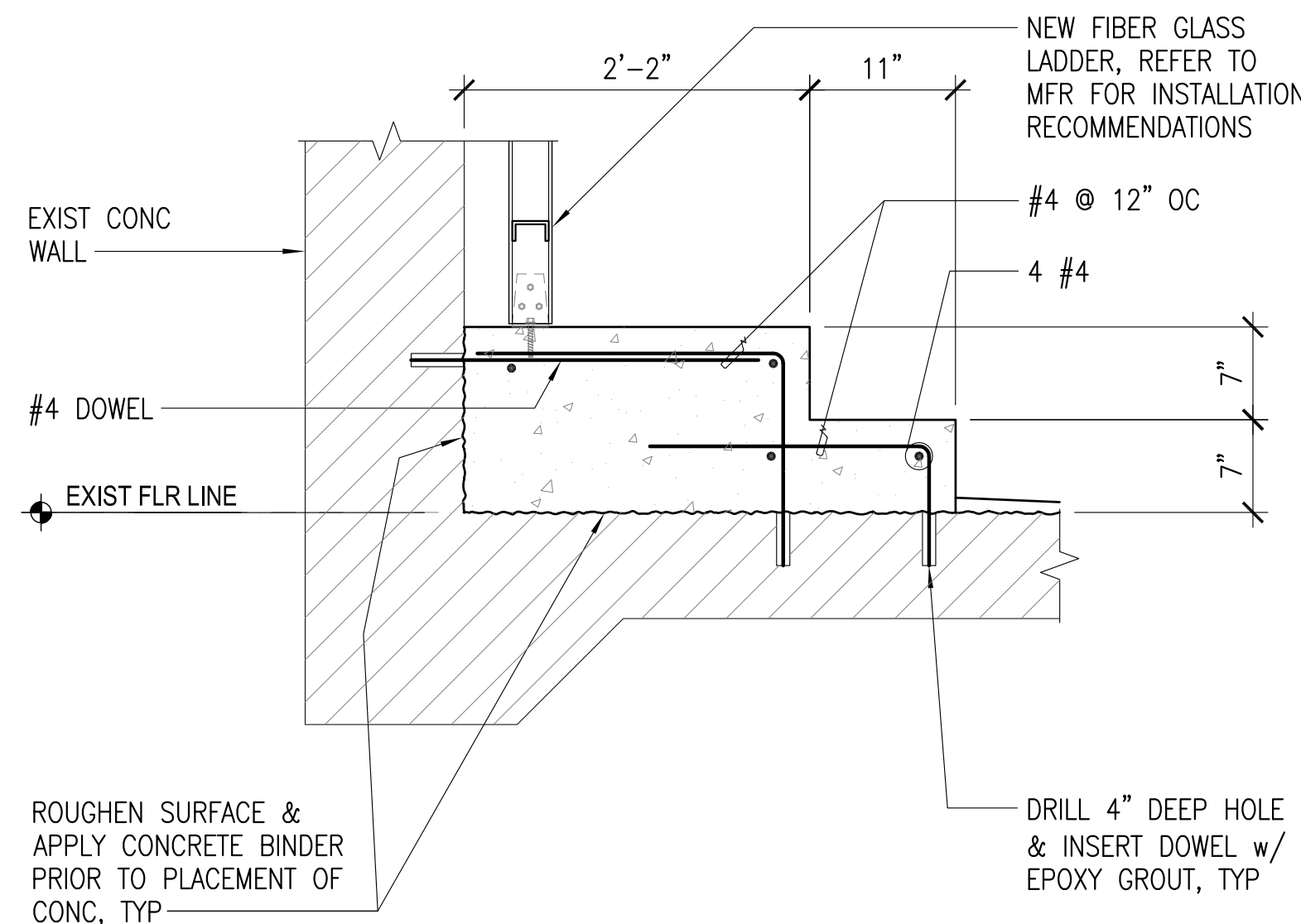
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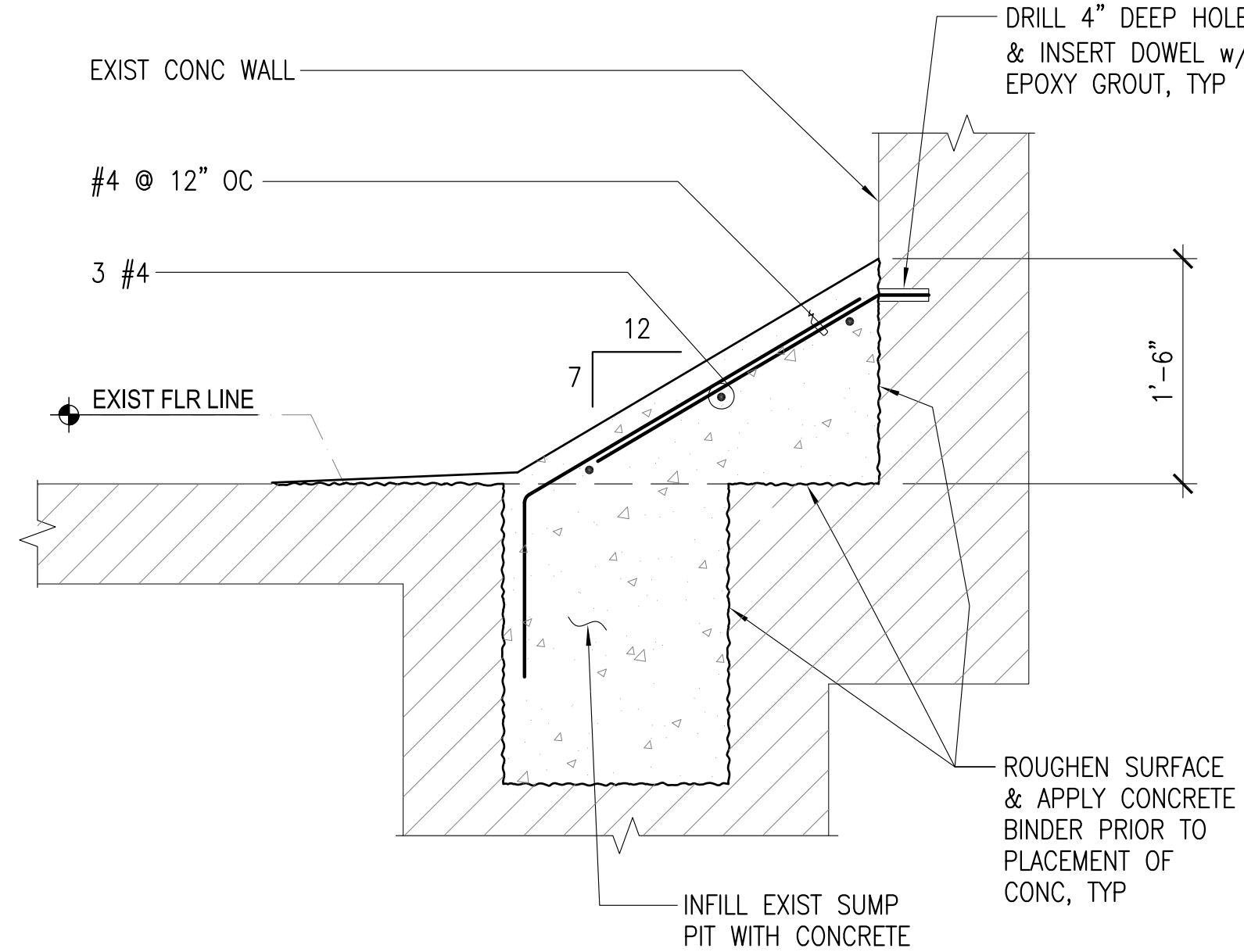
1
S-1.1 S-2.2
DETAIL
SCALE: 1" = 1'-0"



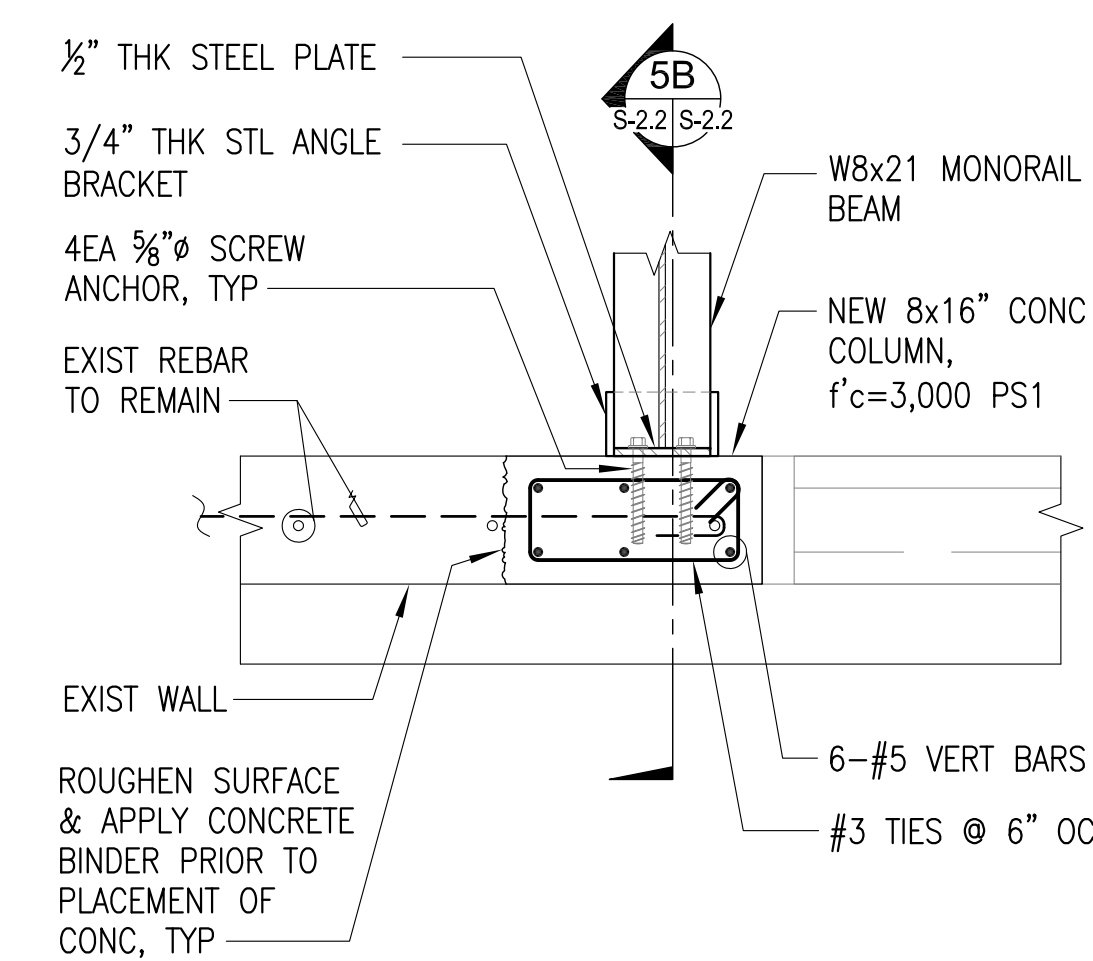
2
S-1.1 S-2.2
DETAIL
SCALE: 1" = 1'-0"



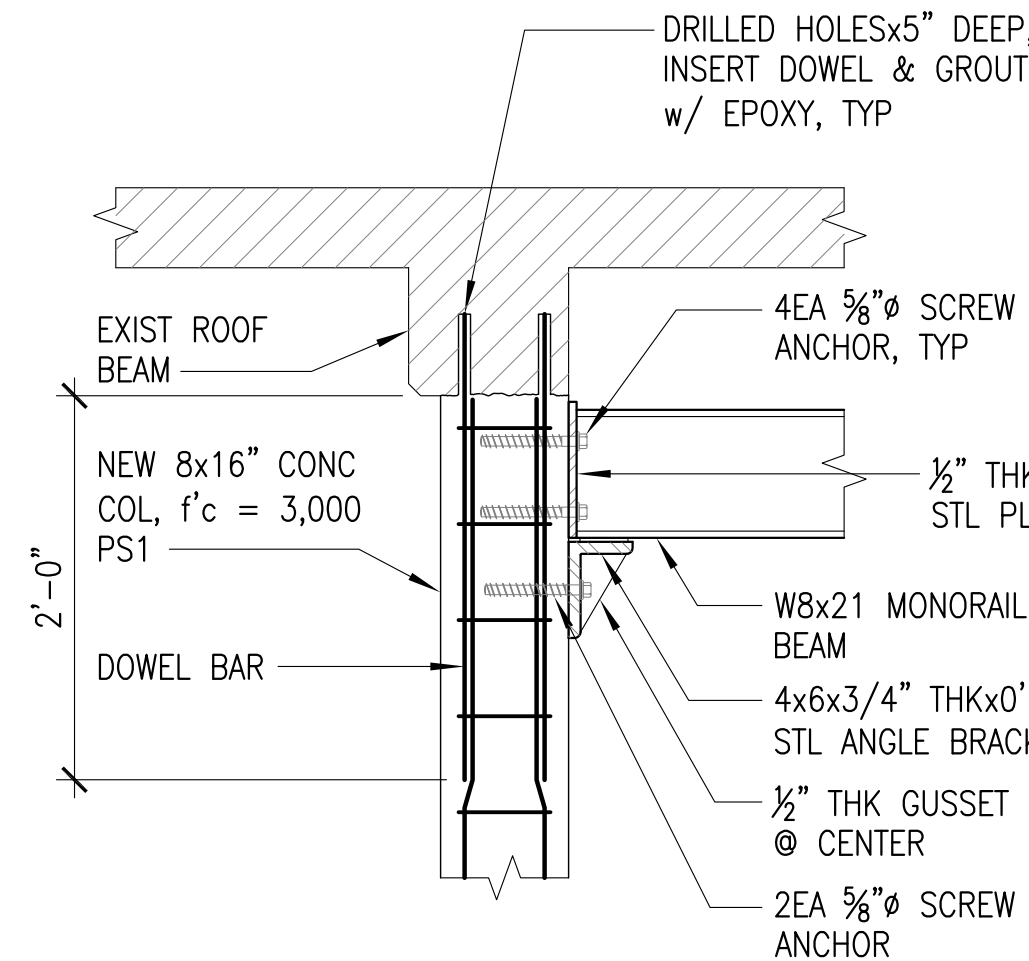
3
S-1.1 S-2.2
CONC STEP DETAIL
SCALE: 1" = 1'-0"



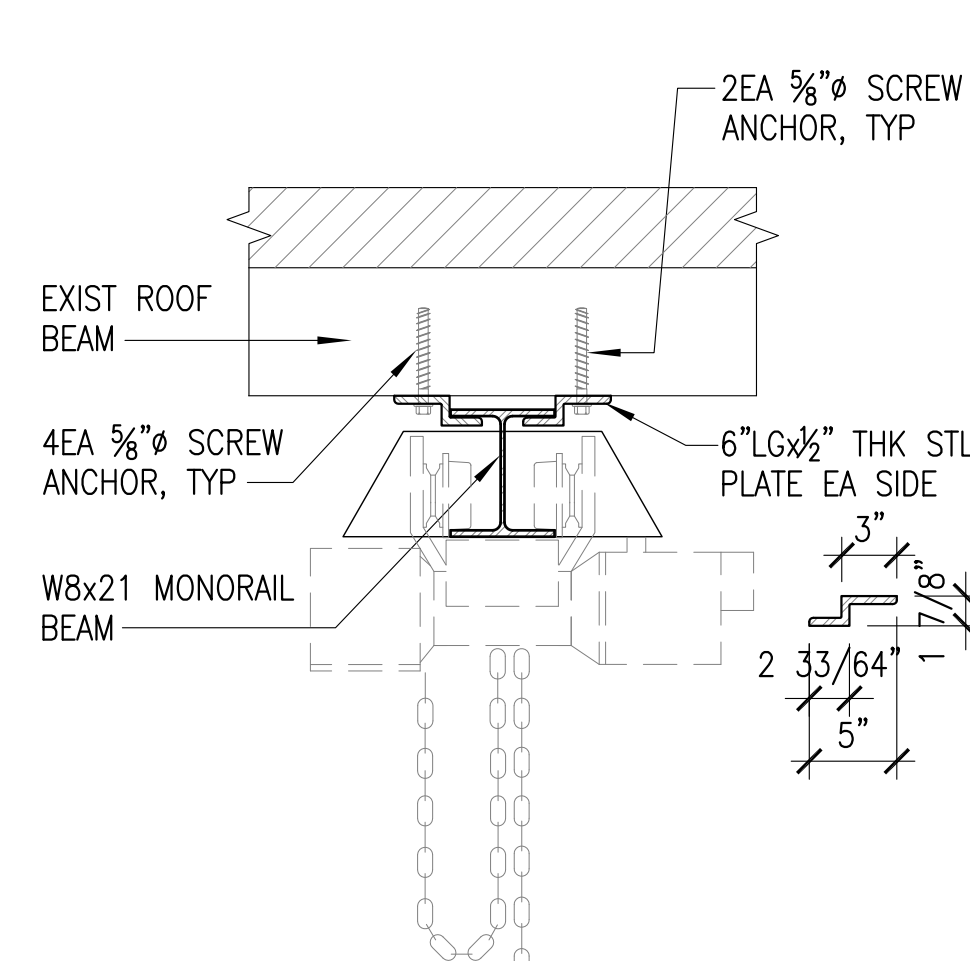
4
S-1.1 S-2.2
DETAIL
SCALE: 1" = 1'-0"



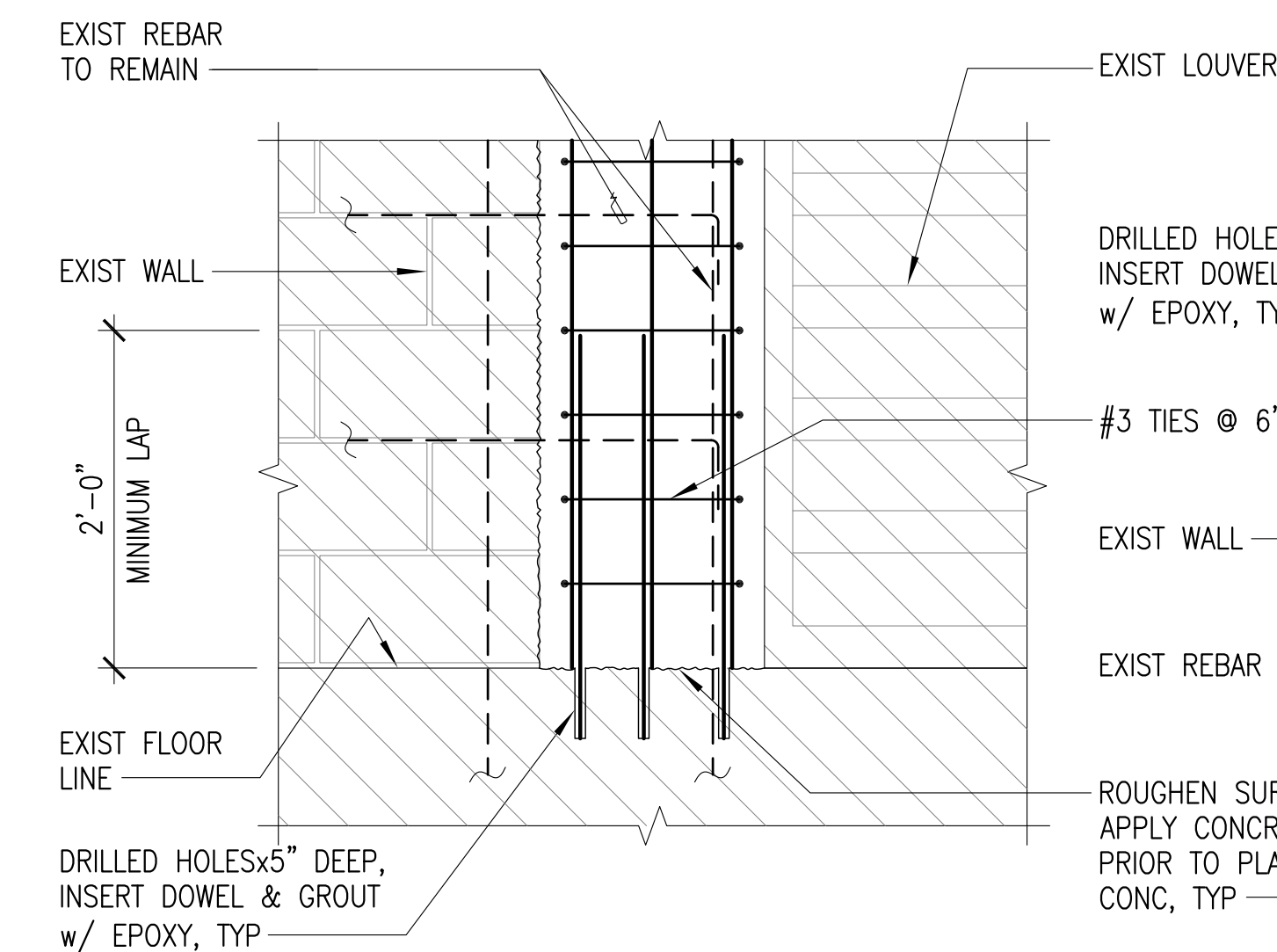
5A
S-1.1 S-2.2
PLAN DETAIL
SCALE: 1" = 1'-0"



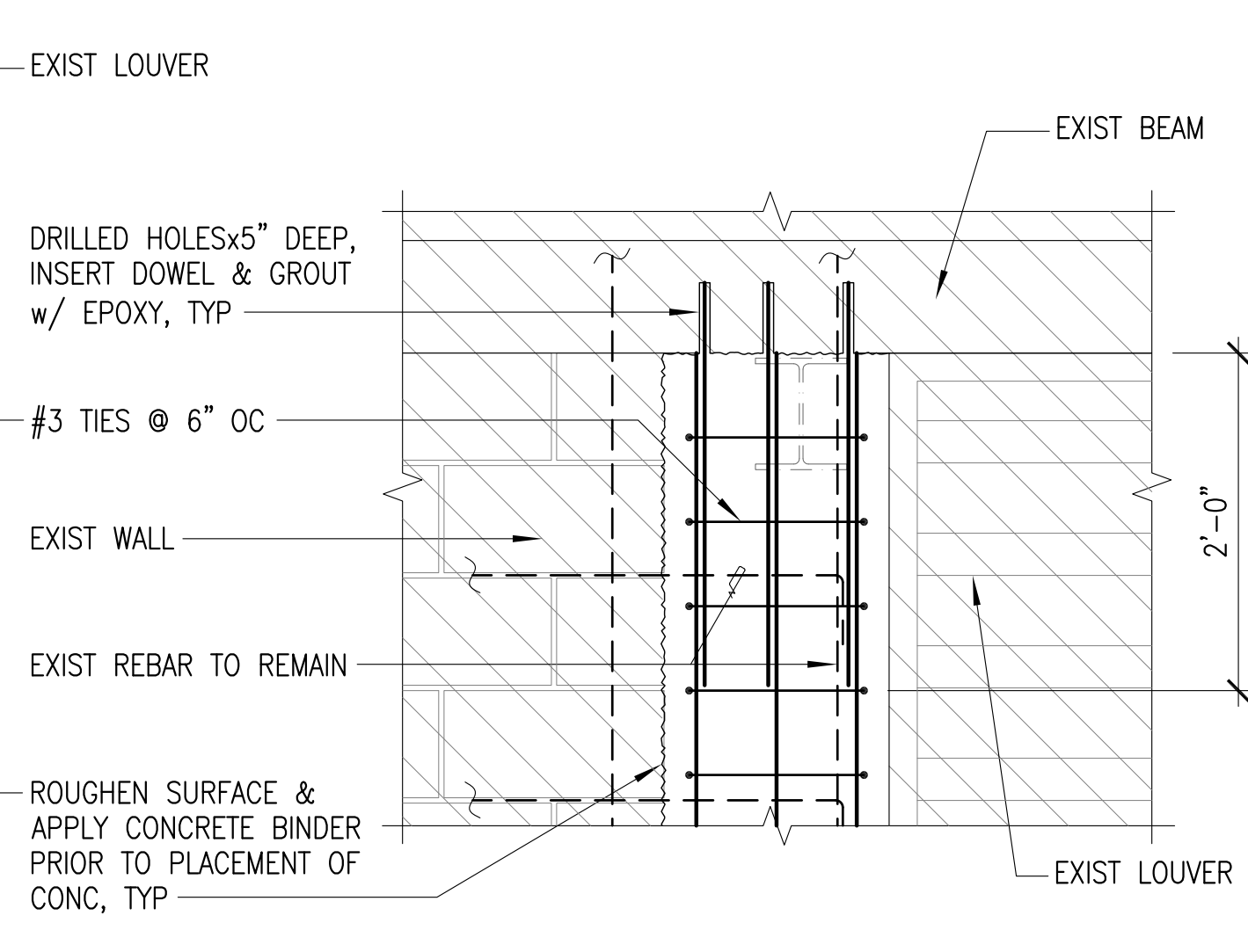
5B
S-1.1 S-2.2
SECTION
SCALE: 1" = 1'-0"



5E
S-1.1 S-2.2
SECTION
SCALE: 1" = 1'-0"

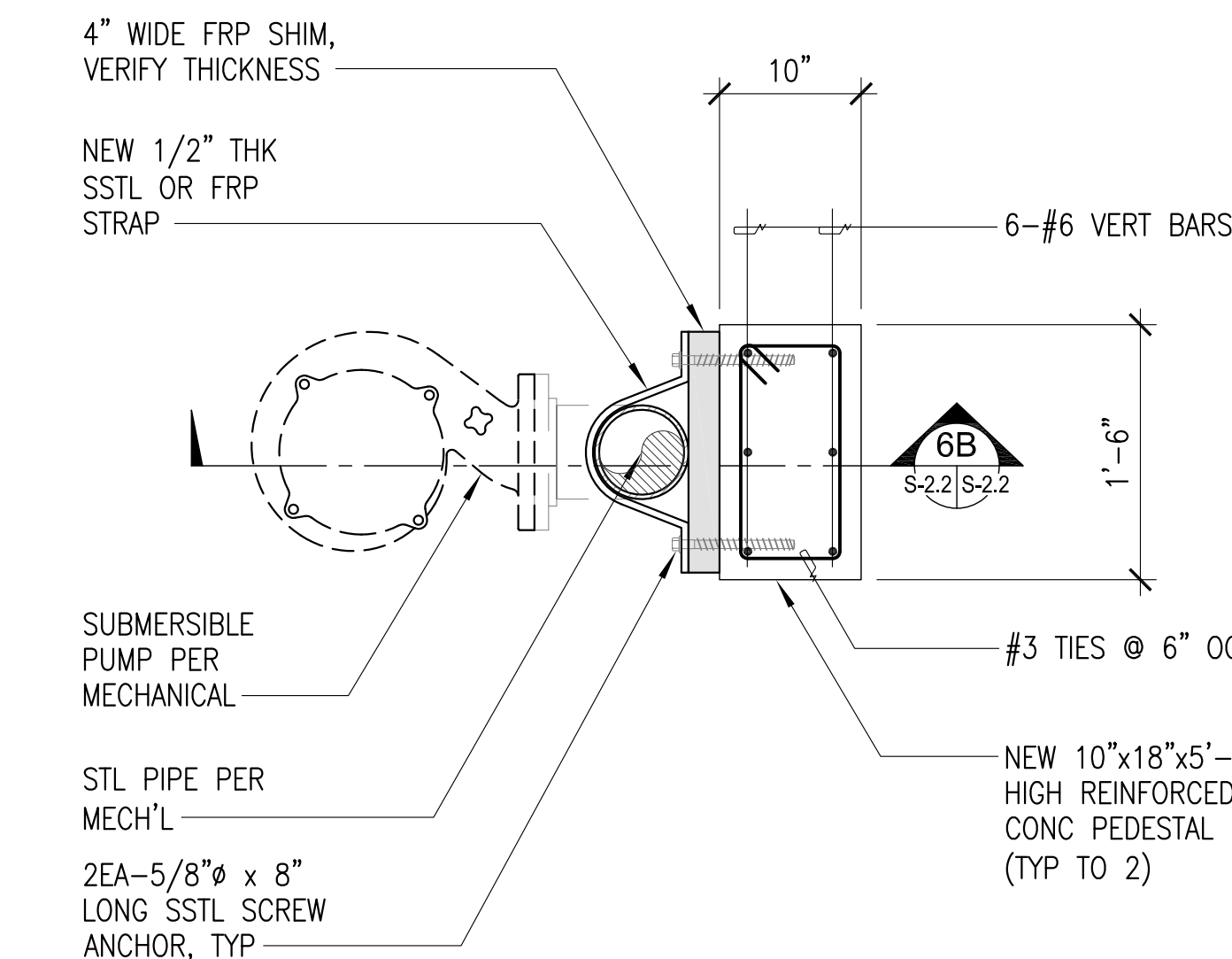


5C
S-1.1 S-2.2
DETAIL AT FLOOR
SCALE: 1" = 1'-0"

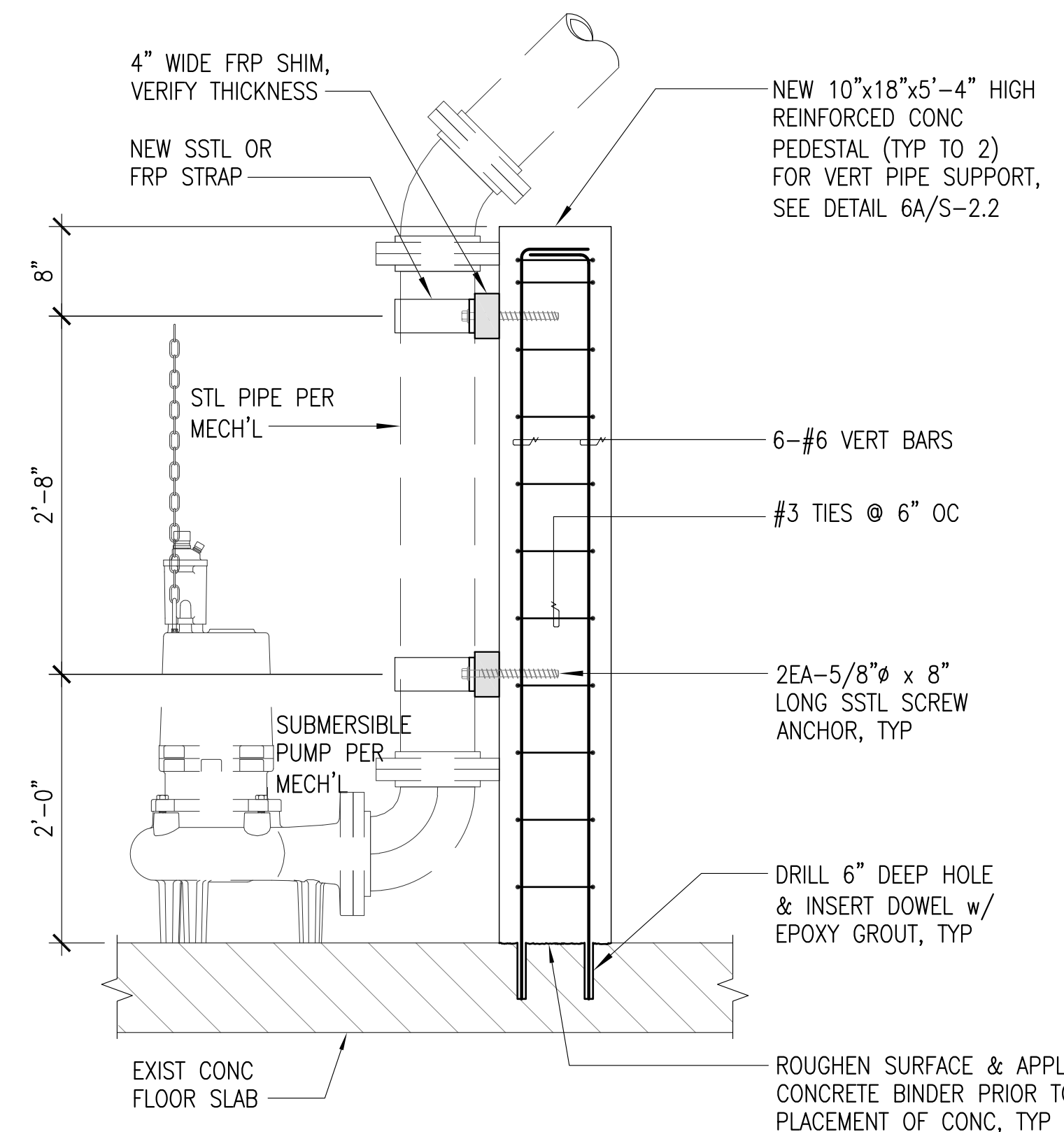


5D
S-1.1 S-2.2
DETAIL AT BEAM
SCALE: 1" = 1'-0"

5
S-1.1 S-2.2
CONCRETE COLUMN DETAILS
SCALE: 1" = 1'-0"



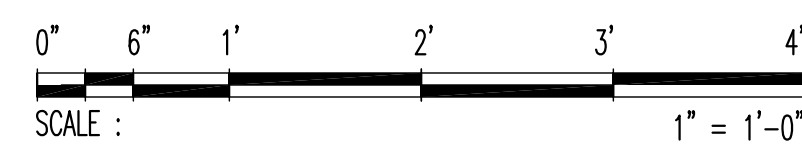
6A
S-1.1 S-2.2
PLAN DETAIL
SCALE: 1" = 1'-0"

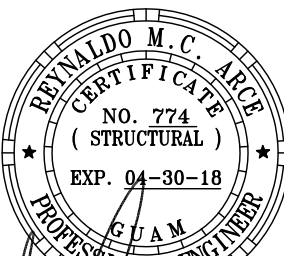


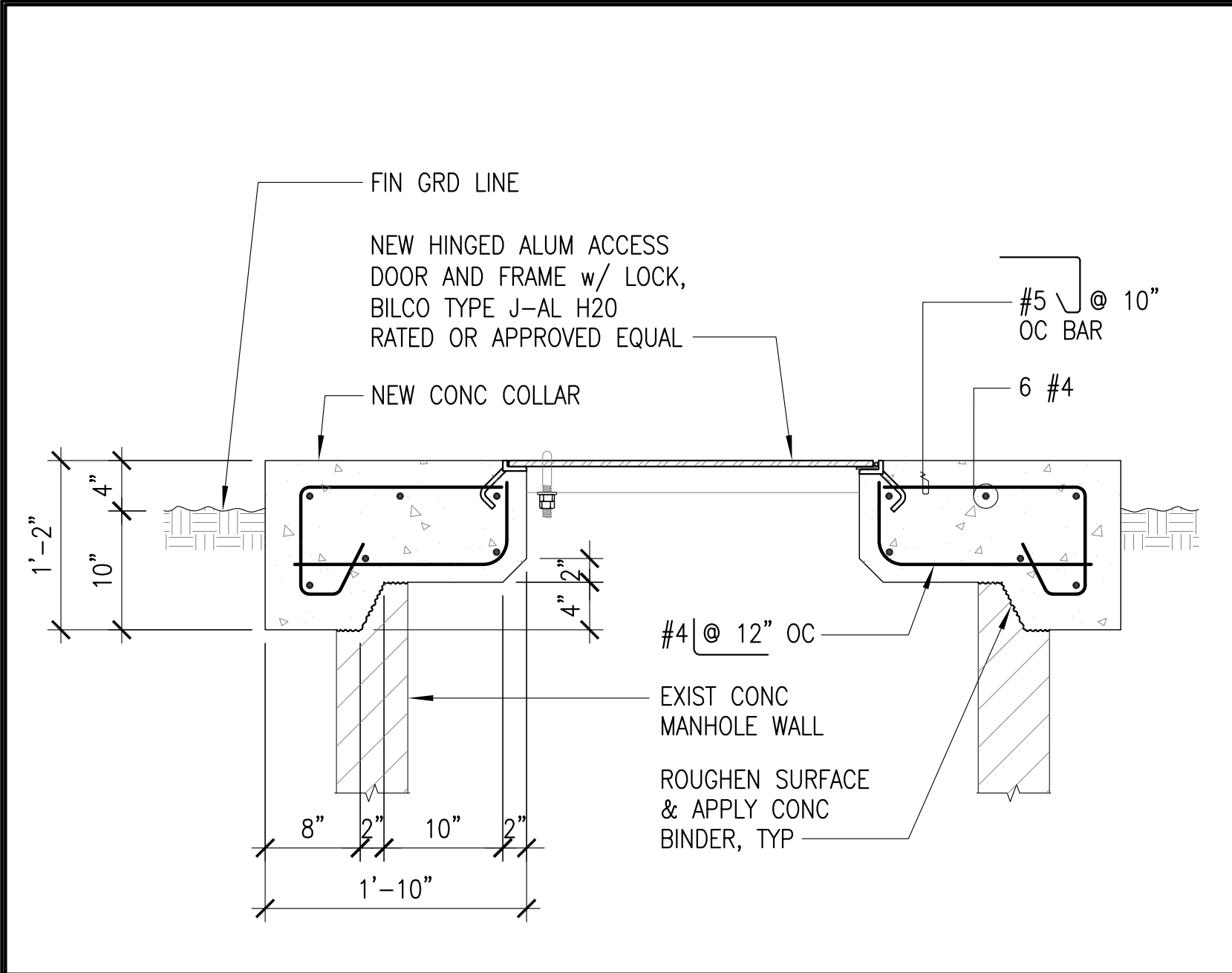
6B
S-1.1 S-2.2
SECTION
SCALE: 1" = 1'-0"

6
S-1.1 S-2.2
CONCRETE PEDESTAL & PIPE STRAP DETAILS
SCALE: 1" = 1'-0"

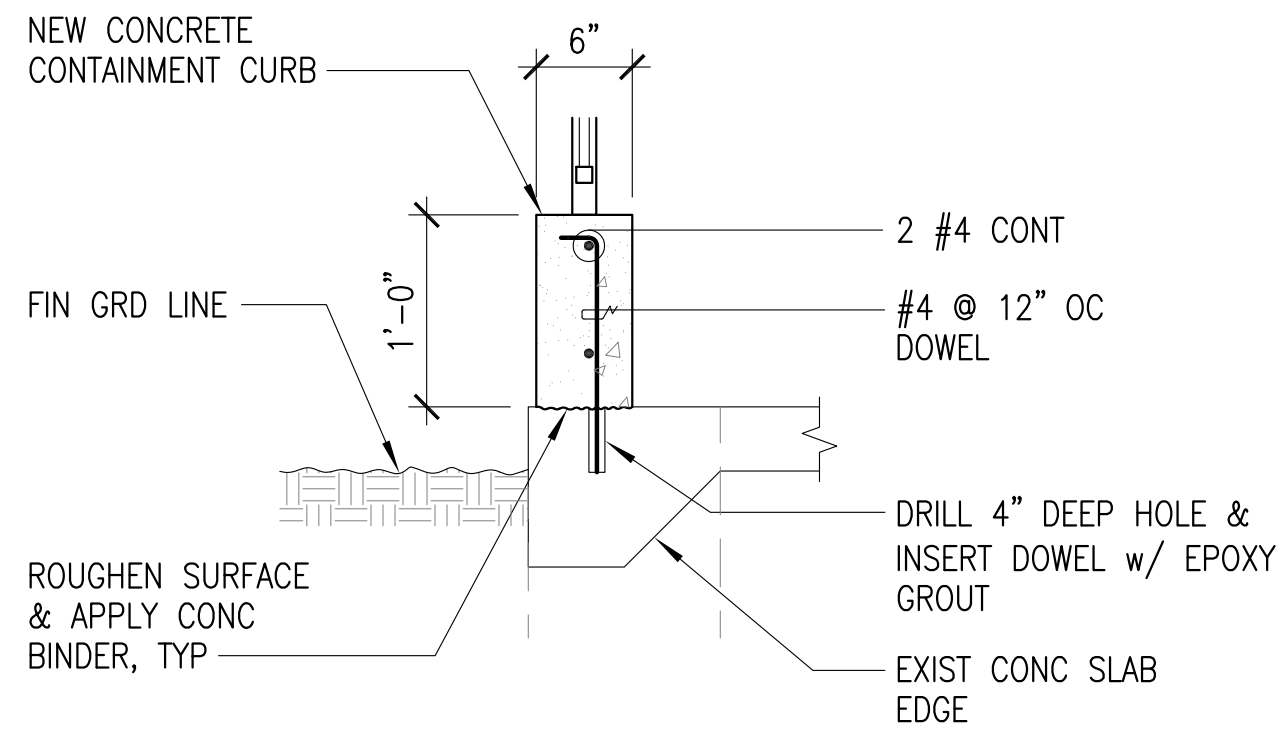
GRAPHIC SCALE:



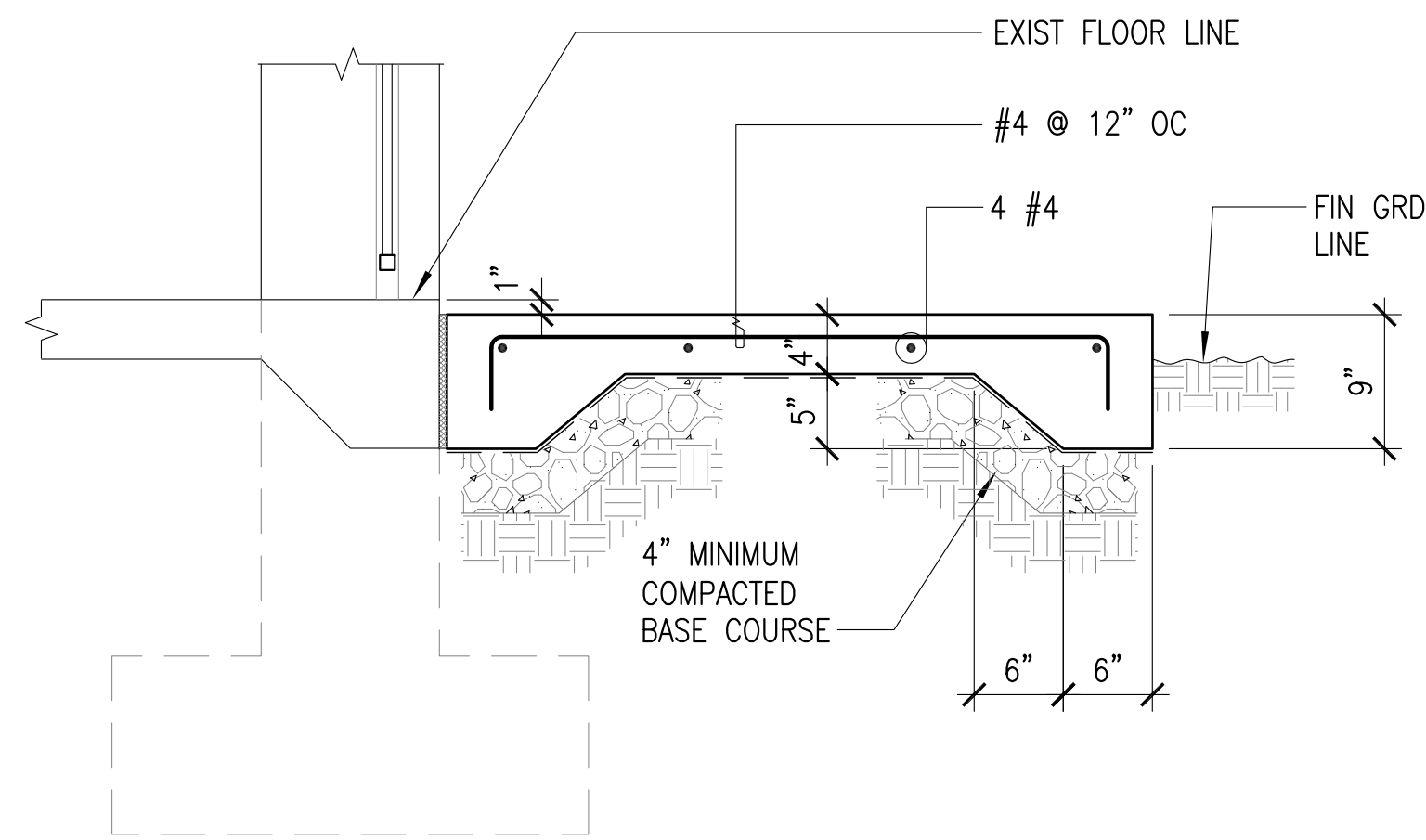
 EMPSCO Engineering Management & Planning Services Corporation 1988 ANAHU DRIVE, SUITE 200, BAYVIEW PO BOX 14, GUAM, GUAM 96909 TEL: (671) 438-0716 / 438-0718 FAX: (671) 438-0719						
		REV	DATE	BY	DESCRIPTION	APPROVED BY
 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION DATE: 05-17-2017	GWA NO.		 GUAM WATERWORKS AUTHORITY GOVERNMENT OF GUAM ENGINEERING DIVISION BAYSIDE PUMP STATION REHABILITATION TAN MARIAN COATLA LP, TAMUNING, GUAM			
	GRANT ID NO.					
	CONTRACT NO.					
	PROJECT NO.					
DES. BY: tdg		CHIEF ENGR. :	CONTENTS: MISCELLANEOUS DETAILS and CONCRETE COLUMN DETAILS			
DRN. BY: jl		ENGR. SUP. :				
CHK. BY: rmca		PROJ. ENGR. :				
		DRAWING NO. S-2.2 SHT. 19 OF 27				



1 CONCRETE COLLAR DETAIL
S-1.1 S-2.3 SCALE: 1" = 1'-0"

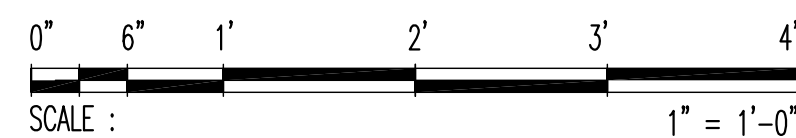


2 TYPICAL CONCRETE CONTAINMENT CURB DETAIL
S-1.1 S-2.3 SCALE: 1" = 1'-0"



3 CONCRETE STOOP DETAIL
S-1.1 S-2.3 SCALE: 1" = 1'-0"

GRAPHIC SCALE:



					
		I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION DATE: 05-17-2017			
DES. BY: tdg		CHIEF ENGR: .		 ENGINEERING DIVISION	
DRN. BY: jl		ENGR. SUP: .			
CHK. BY: rmca		PROJ. ENGR: .			
GWA NO. .		GRANT ID NO. .		PROJECT: BAYSIDE PUMP STATION REHABILITATION TAN MARIAN COATLA LP, TAMUNING, GUAM	
CONTRACT NO. .		PROJECT NO. .		CONTENTS: CONCRETE COLLAR DETAIL, VALVE BOX TOPPING DETAIL, CONCRETE STOOP DETAIL & TYPICAL CONCRETE CONTAINMENT CURB DETAIL	
REV		DATE		APPROVED BY	
SHT. 20		OF 27		DRAWING NO. S-2.3	

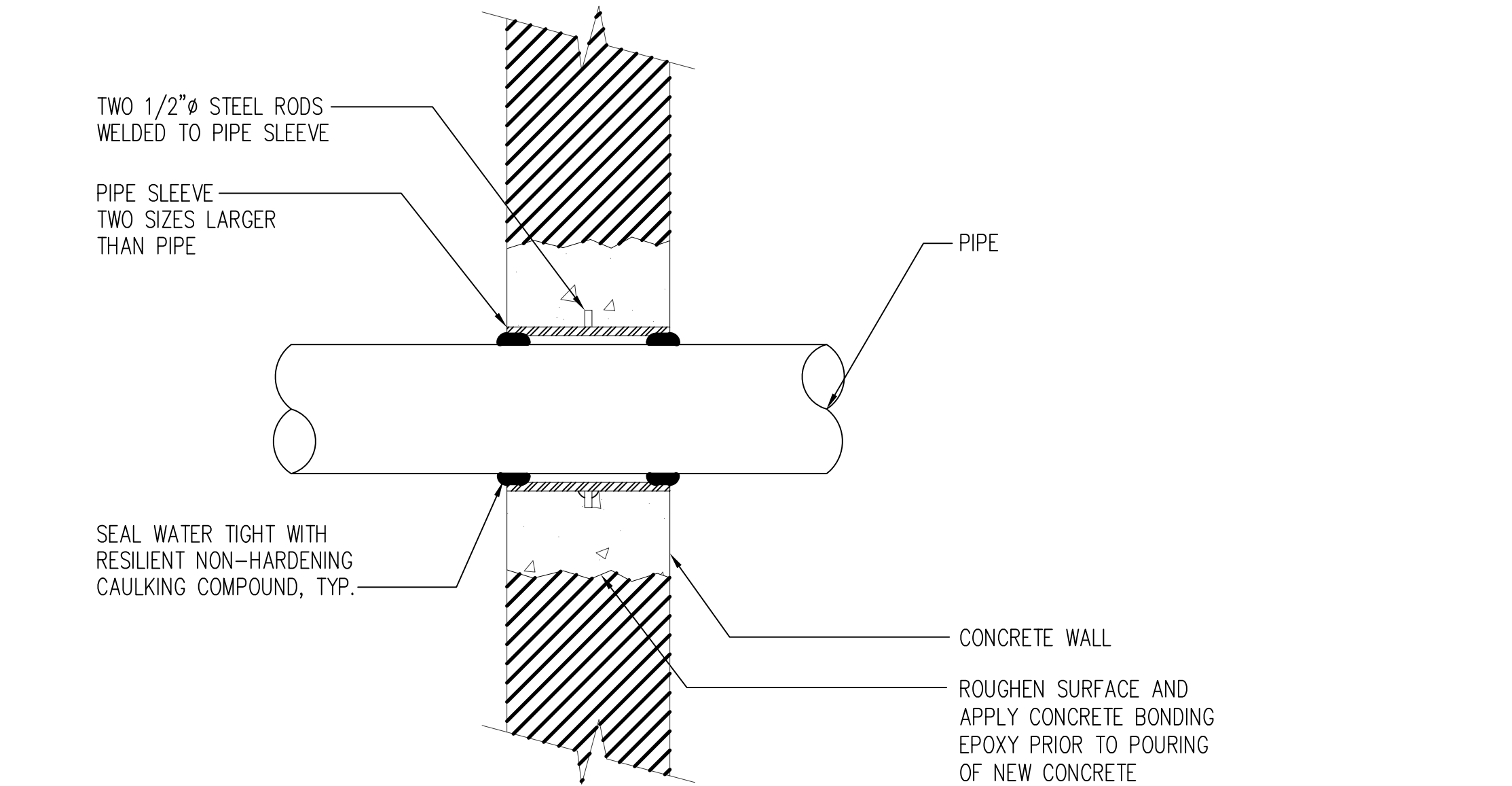
5/19/2017 6:47:59 AM

LEGEND AND ABBREVIATIONS

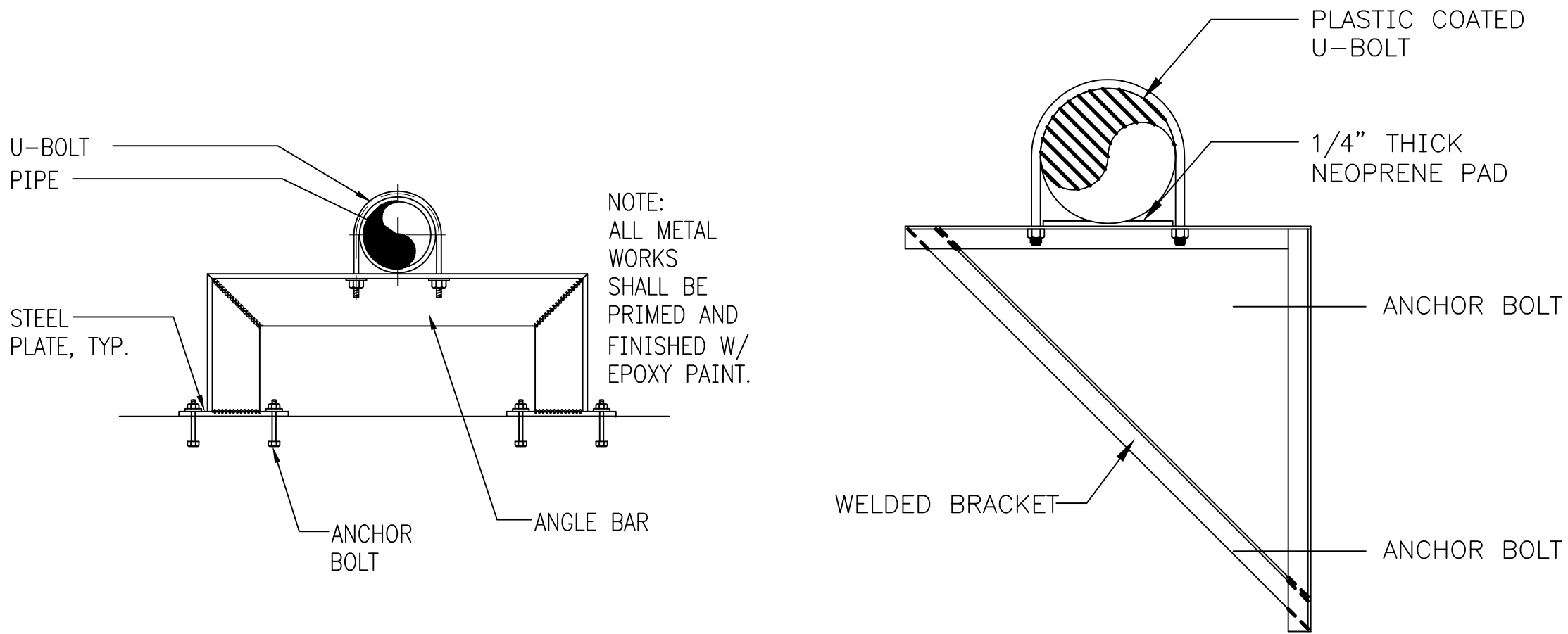
SYMBOL	ABBR	DESCRIPTION
		RECTANGULAR DUCTWORK (WIDTH X DEPTH)
		FLAT OVAL DUCTWORK
		SQUARE ELBOW W/ TURNING VANES
		RADIUS ELBOW
		SQUARE-THROATED TEE
		CHANGE IN ELEVATION (R=RISE, D=DOWN)
		TRANSITION WITH FLAT SIDE
		TRANSITION ON CENTER
		DUCT TRANSITION (SQUARE TO ROUND)
		ACCESS DOOR (SIDE OR BOTTOM LOCATION)
		SUPPLY AIR DUCT UP/DOWN
		RETURN/EXHAUST AIR DUCT UP/DOWN
		OUTDOOR AIR DUCT UP/DOWN
		EXIST PIPE (RL/RS, CHWS/R, ACD) TO BE REMOVED
		EXIST PIPE (RS/RL, CHWS/R, ACD) TO REMAIN
		NEW PIPE (RS/RL, CHWS/R, ACD)
		ELBOW, TURNED UP
		ELBOW, TURNED DOWN
		PIPE TEE, TURNED UP
		PIPE TEE, TURNED DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		PIPE CAP
		FLANGED CONNECTION
		UNION CONNECTION
		EXPANSION JOINT
		FLEXIBLE PIPING

MECHANICAL GENERAL NOTES:

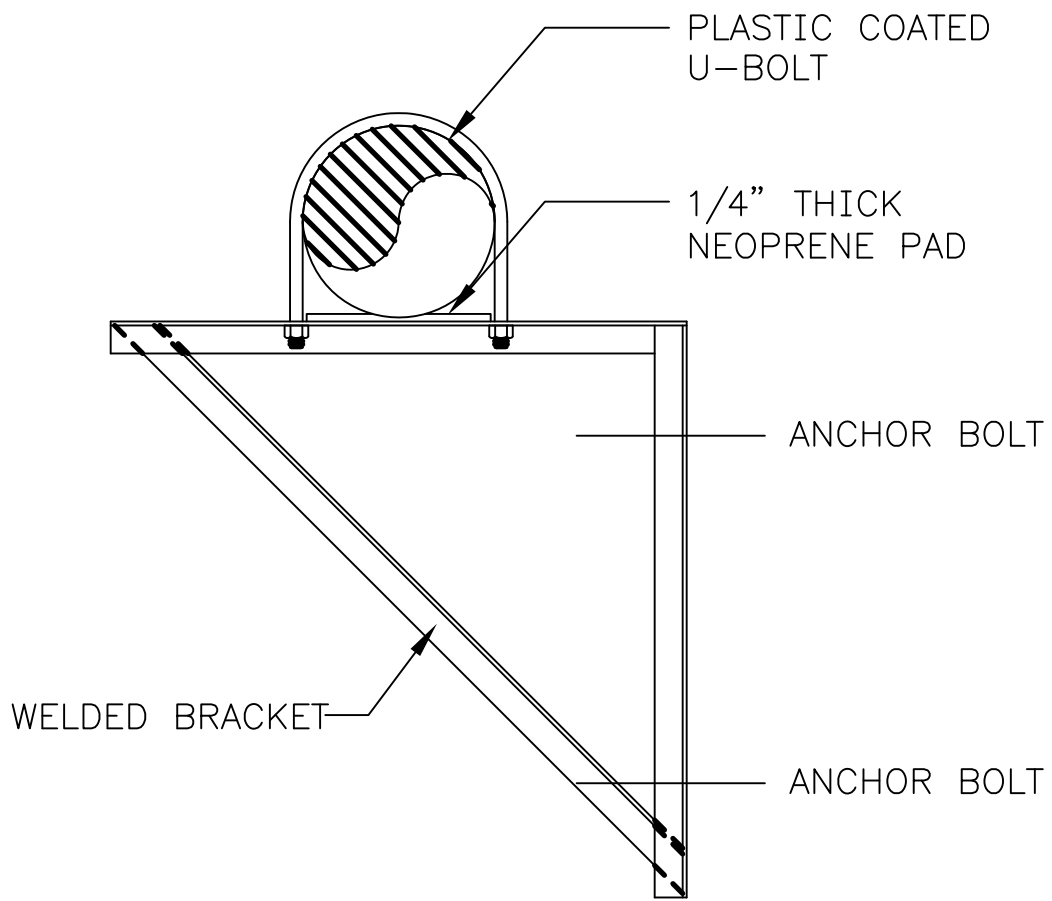
- ALL MECHANICAL WORKS SHALL CONFORM TO THE 2009 EDITION OF THE INTERNATIONAL BUILDING CODE, 2009 EDITION OF THE INTERNATIONAL MECHANICAL CODE, THE CONTRACT DOCUMENTS AND THE RULES AND REGULATIONS OF THE GOVERNMENT OF GUAM AUTHORITIES HAVING JURISDICTIONS.
- THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND COORDINATE THE WORK AMONG VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO ENSURE THE PROPER INSTALLATION OF THE WORK WITHIN THE AVAILABLE SPACE.
- THOUGH SOME OFFSETS AND TRANSITIONS ARE SHOWN IN PIPING AND DUCTWORKS TO HELP INDICATE THE PHYSICAL RELATIONSHIP BETWEEN THEM, IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW ALL PIPING AND DUCTWORKS' OFFSETS AND TRANSITIONS REQUIRED. THE CONTRACTOR SHALL COORDINATE THE MECHANICAL WORK WITHIN ITSELF AND THE WORK OF ALL TRADES TO PROVIDE COMPLETE AND OPERABLE SYSTEM WITHOUT INTERFERENCES.
- LOCATION OF AIR INLETS AND OUTLETS ARE APPROXIMATE. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS. WHEN MECHANICAL AND ARCHITECTURAL DRAWINGS SHOW CONFLICTING LOCATIONS, CONSULT WITH ARCHITECT.
- DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLAN ARE NECK SIZES.
- COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITION REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
- PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.
- CONTRACTOR SHALL ENSURE THAT MECHANICAL EQUIPMENT IS INSTALLED WITH MANUFACTURER'S RECOMMENDED ACCESS SPACE AND TO MEET THE NATIONAL ELECTRIC CODE CLEARANCES.
- SUBMIT LEVEL CONTROL AND ALARM SEQUENCE PLAN FOR GWA REVIEW AND APPROVAL PRIOR TO INSTALLATION AND PROGRAMMING INTO CONTROLLER. PROVIDE POSTED INFORMATION AND INSTRUCTIONS AT THE STATION AT COMPLETION OF THE PROJECT.
- CONTRACTOR TO FIELD VERIFY PRIOR PROGRAMMING THE ELEVATIONS, ADJUST AS NEEDED AND TO DEMONSTRATE TO GWA THE EFFECTIVENESS OF THE PROPOSED ELEVATIONS USING LEVEL CONTROLS PRIOR TO TURN-OVER.
- NEW CONTROLLER SHALL HAVE SPRING-LOADED "M-O-A" (MANUAL-OFF-AUTO) SWITCH FOR ALL PUMPS TO ALLOW MANUAL STARTING AND SHUTTING DOWN OF EACH PUMP. THE SPRING MECHANISM SHALL PREVENT THE OPERATOR FROM INADVERTENTLY LEAVING THE PUMP ON MANUAL.
- PROVIDE ENOUGH SLACK FOR LEVEL TRANSMITTER AND FLOAT LEVEL SWITCH CABLES. INSTALL FLOAT LEVEL SWITCH HANG IMMERSED IN THE LIQUID.
- SET HEIGHT OF FLOAT LEVEL SWITCHES AND TRANSDUCER AT WET WELL DURING COMMISSIONING OF THE PUMP CONTROLLER.
- SET ELEVATION CONTROL POINTS AS SHOWN IN SEWAGE PUMP SEQUENCE OF OPERATION.



PIPE THRU WALL DETAIL



PIPE SUPPORT DETAIL



PIPE SUPPORT DETAIL

1

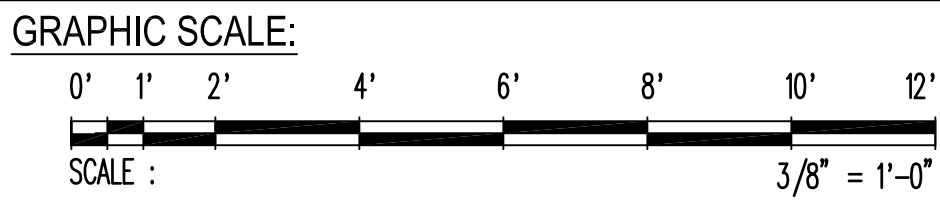
M-0.1

MISCELLANEOUS DETAILS

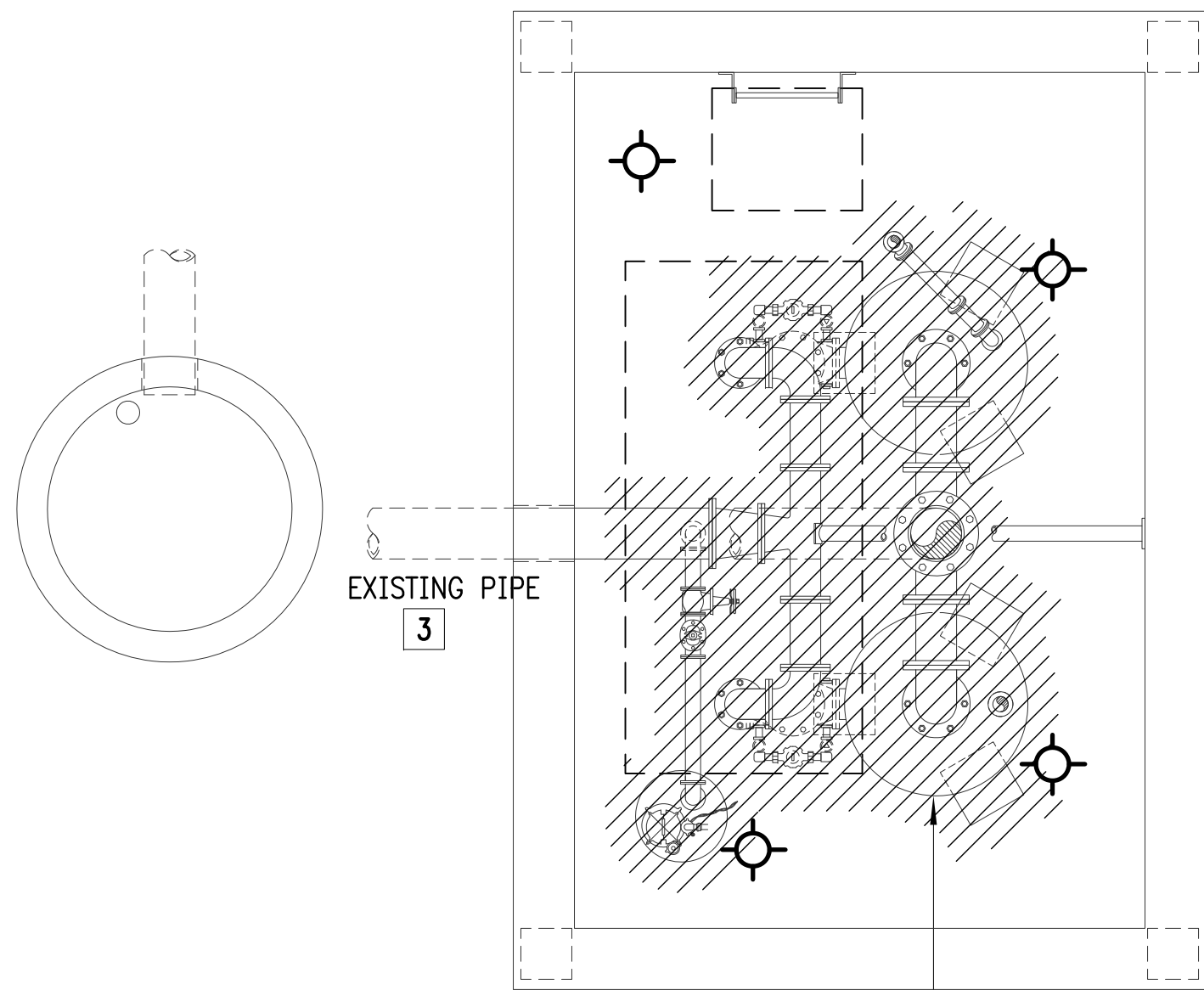
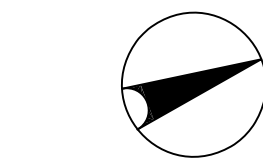
SCALE: NOT TO SCALE

EXHAUST FAN SCHEDULE												
MARK NO.	SERVICE	CAPACITY (CFM)	E.S.P. (IN H ₂ O)	TYPE	CLASS	DRIVE	MOTOR					REMARKS
							HP	RPM	VOLTS	PHASE	HERTZ	
	PUMP HOUSE-LOWER FLOOR	900	0.5	BACKWARD INCLINED	-	BELT	1/4	1,750	115	1	60	SPARK RESISTANT WITH MANUAL CONTROL.

PUMP SCHEDULE										
MARK NO.	LOCATION	TYPE	CAPACITY (GPM)	TDH (FT H ₂ O)	MOTOR					REMARKS
					HP	RPM	VOLTS	PHASE	HERTZ	
	WELL	SUBMERSIBLE NON-CLOG SEWAGE PUMP	350	60	10	1,750	460	3	60	- - -



 Engineering Management & Planning Services Corporation 1988 ADAM DRIVE, 2/F BUREAU BUILDING ROUTE 16, DEDDICK GUAM 96939 TEL: (671) 438-5716 / 438-4714 FAX: (671) 438-2150	REV	DATE	BY	DESCRIPTION	APPROVED BY	
	GWA NO.					 GOVERNMENT OF GUAM ENGINEERING DIVISION
	GRANT ID NO.					
	CONTRACT NO.					
	PROJECT NO.					PROJECT: BAYSIDE PUMP STATION REHABILITATION CAMP WATKINS ROAD, TAMUNING, GUAM
DATE: _____					CONTENTS: NOTES, DETAILS, SCHEDULES, LEGENDS AND ABBREVIATIONS	
DES. BY: JBE	CHIEF ENGR:				DRAWING NO: M-0.1	
DRN. BY: JBE	ENGR. SUP:				SHT. 21 OF 27	
CHK. BY: JBE	PROJ. ENGR:					

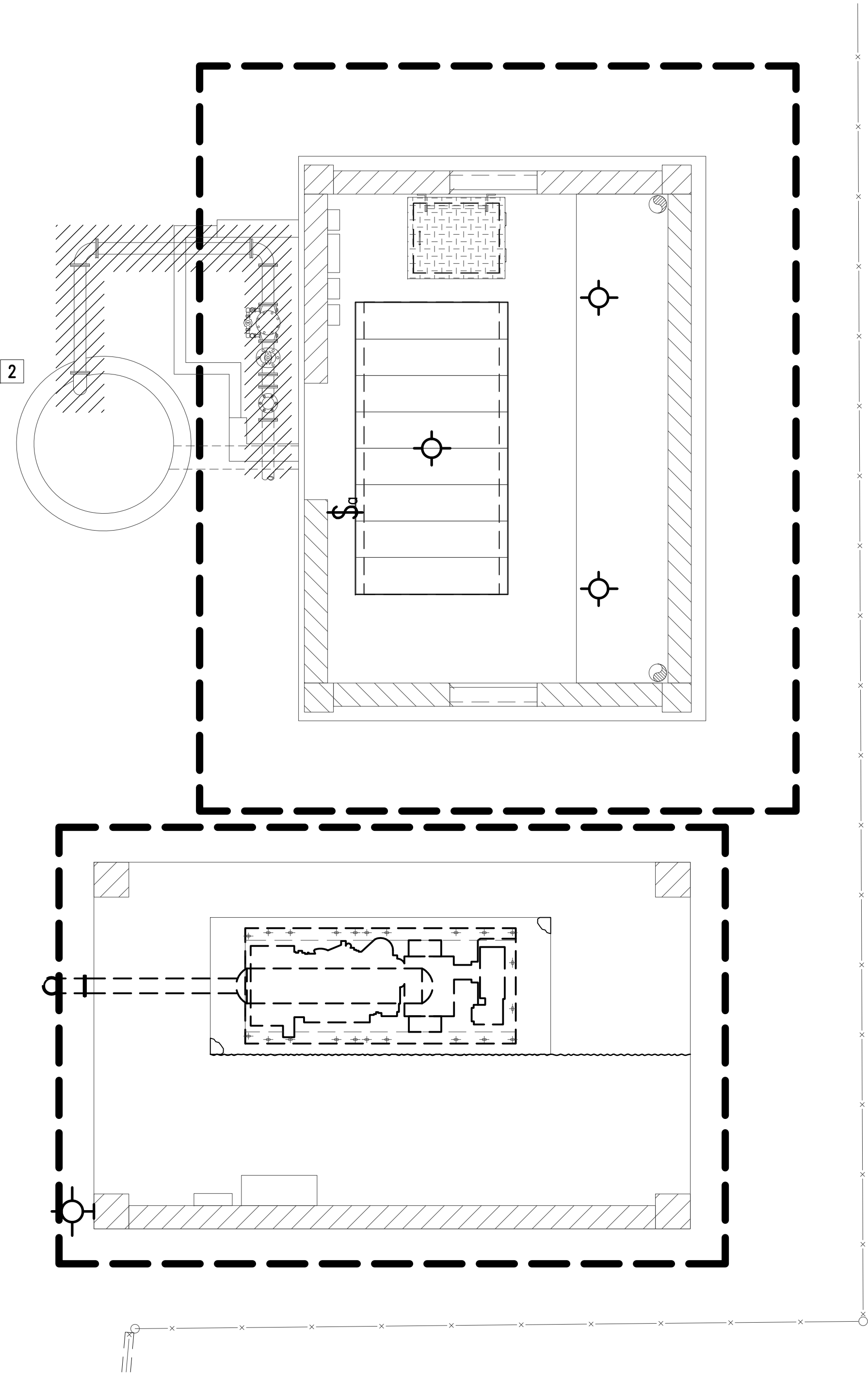
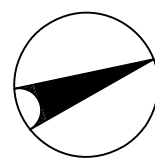


1
M-1.1 M-1.1

DEMOLITION PLAN

SCALE:

3/8" = 1'-0"



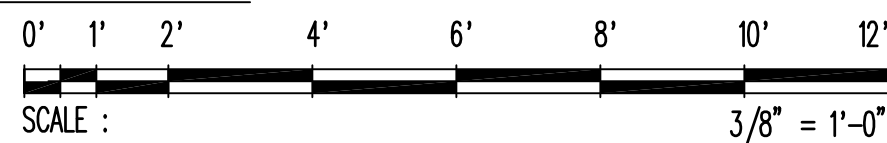
2
M-1.1 M-1.1

DEMOLITION PLAN

SCALE:

3/8" = 1'-0"

GRAPHIC SCALE:



DEMOLITION KEYED NOTES:

- 1 REMOVE AND DISPOSE EXISTING PUMP INCLUDING ASSOCIATED PIPES AND FITTINGS.
- 2 REMOVE EXISTING SUBMERSIBLE PUMP, BY-PASS PIPING, VALVES AND FITTINGS. REMOVAL SHALL BE DONE AFTER THE NEW SEWAGE PUMPS, PIPES AND FITTINGS HAVE BEEN ACCEPTED BY GWA. TURN OVER PUMP, PIPES, VALVES AND FITTINGS TO AGANA MAINTENANCE YARD OR AS DIRECTED BY GWA.
- 3 EXISTING EMBEDDED SECTION OF PIPE TO REMAIN; CLEAN INTERNAL DIRT AND DEBRIS, PROVIDE CCTV INSPECTION/DATA FOR GWA REVIEW. PROVIDE CIPP LINING INTO ENTIRE PIPE AFTER CLEANING.



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION

DATE: _____

DES. BY: **JBE**
DRN. BY: **JBE**
CHK. BY: **JBE**

REV	DATE	BY

GWA NO. _____
GRANT ID. NO. _____
CONTRACT NO. _____
PROJECT NO. _____

CHIEF ENGR. _____
ENGR. SUP. _____
PROJ. ENGR. _____



ENGINEERING DIVISION

PROJECT:
BAYSIDE PUMP STATION REHABILITATION
CAMP WATKINS ROAD, TAMUNING, GUAM

CONTENTS:	DRAWING NO.
DEMOLITION PLAN	M-1.1
SHT. 22 OF 27	