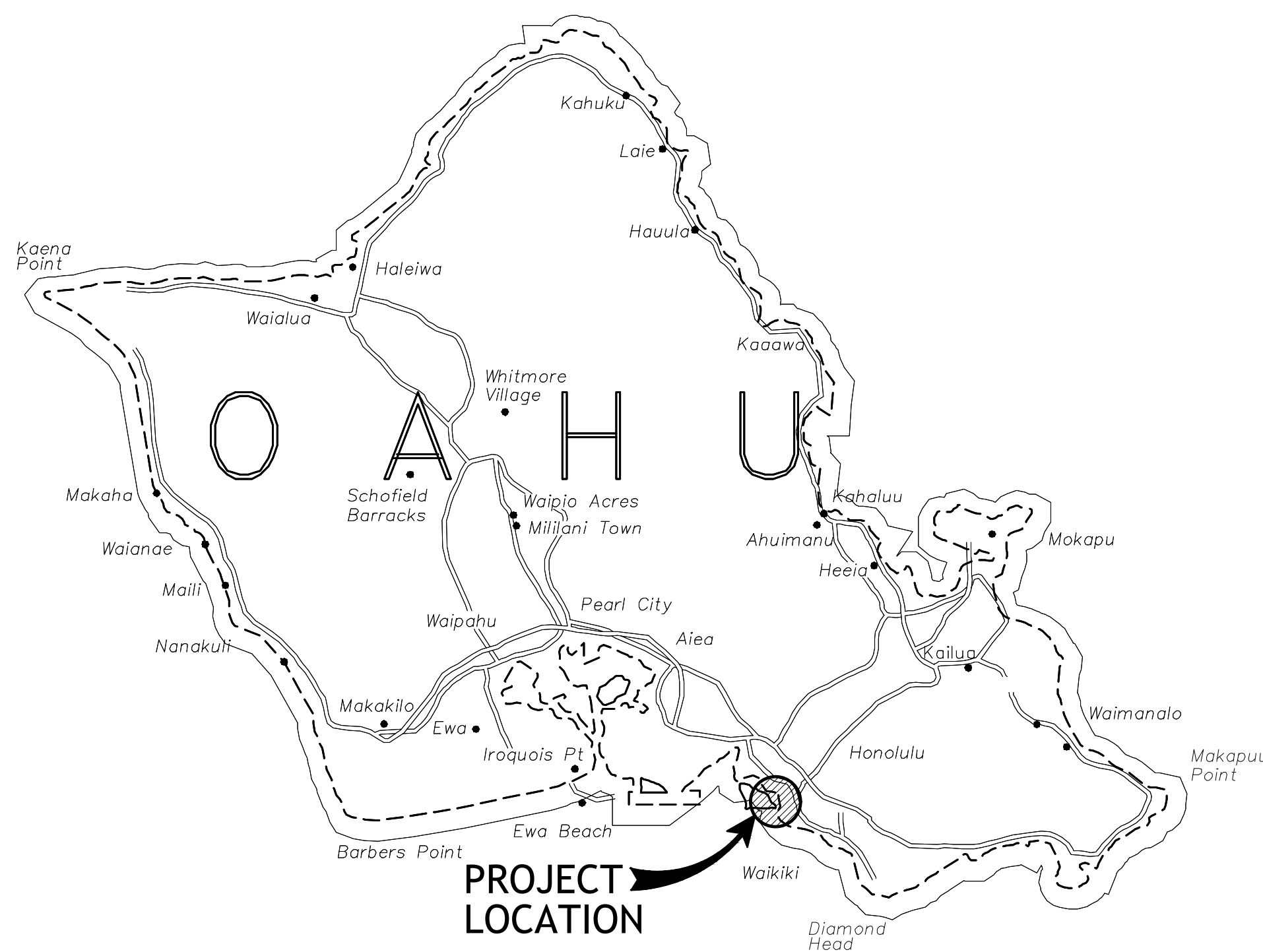


REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII

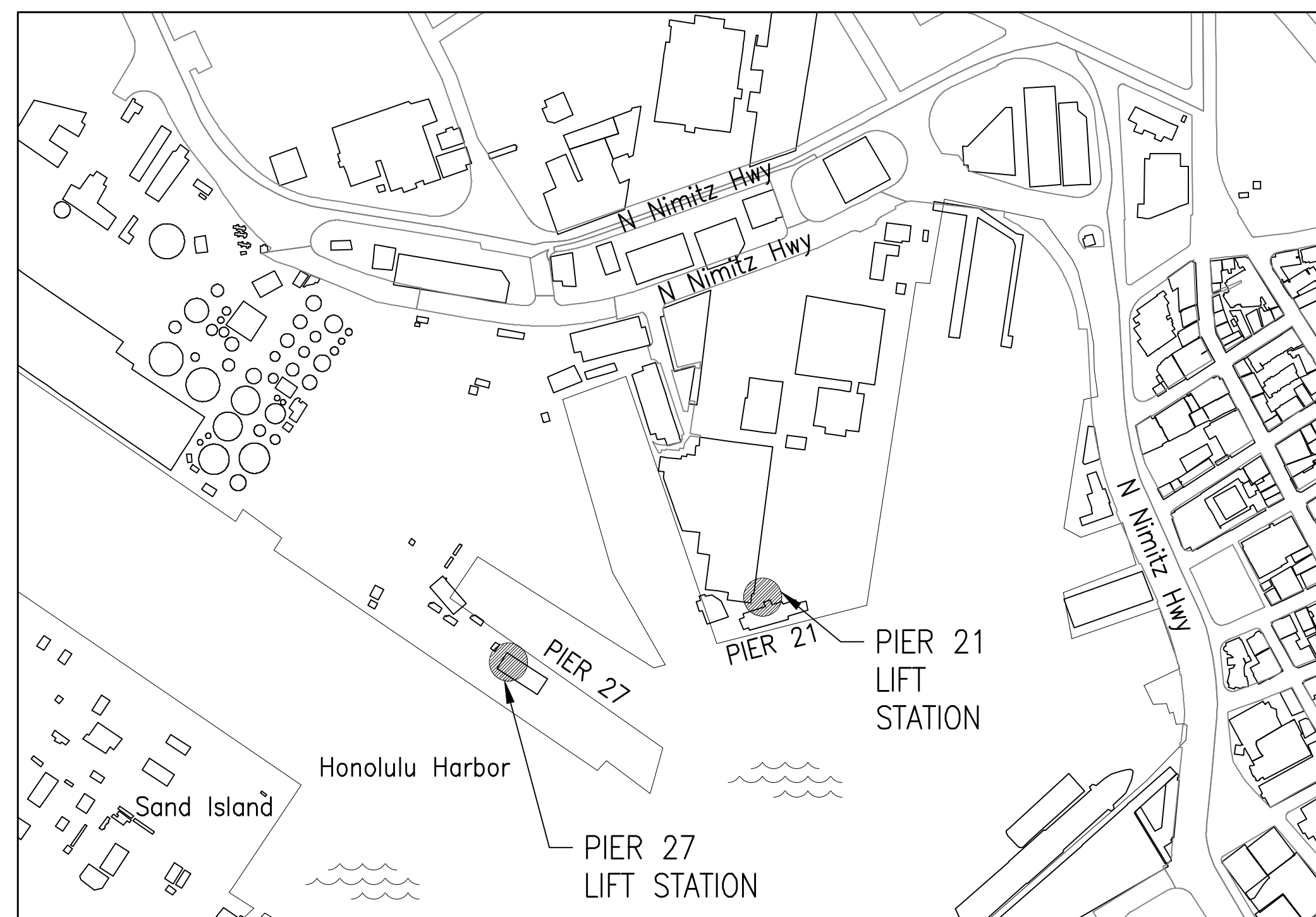
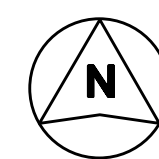
FOR THE
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS
S10849



ISLAND OF OAHU

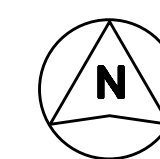
LOCATION MAP

NOT TO SCALE



VICINITY MAP

NOT TO SCALE



CONSULTANT:

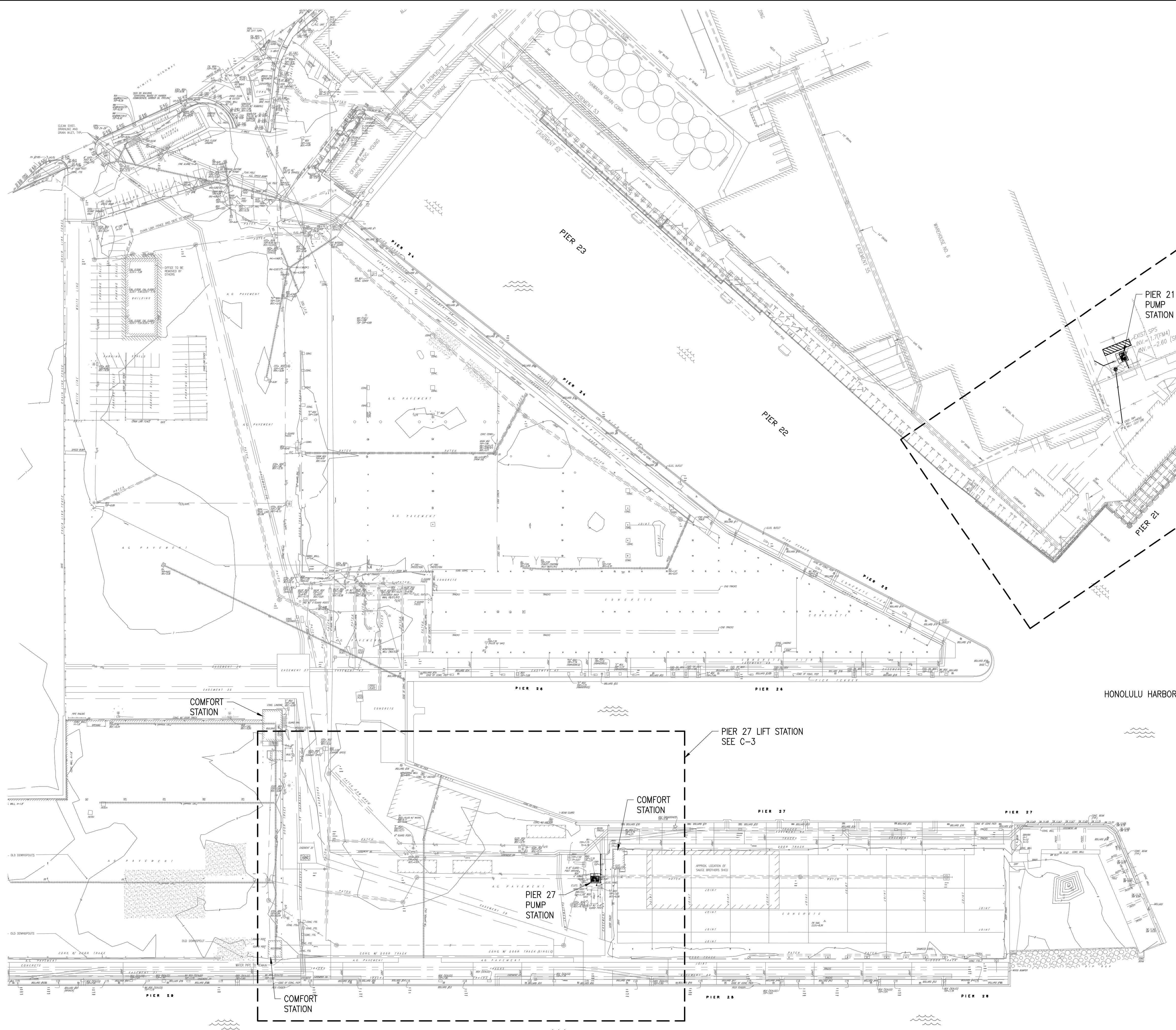
WILSON OKAMOTO CORPORATION
CIVIL ENGINEER

MKE ASSOCIATES LLC
STRUCTURAL ENGINEER

MECHANICAL ENTERPRISES, INC.
MECHANICAL ENGINEER

ECS, INC.
ELECTRICAL ENGINEER

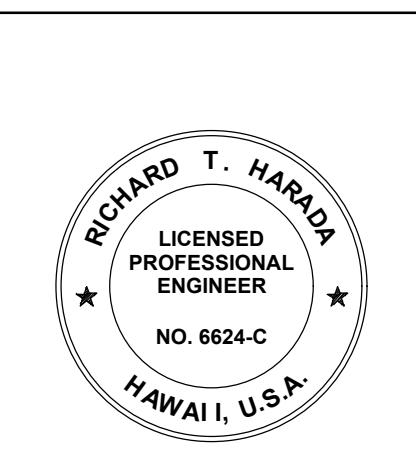
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII		SHEET T-1
APPROVED BY:		Sep 10, 2024
FOR DIRECTOR OF TRANSPORTATION		DATE 1 of 27 SHS.



SCALE: TRUE NORTH
1" = 60' FT.

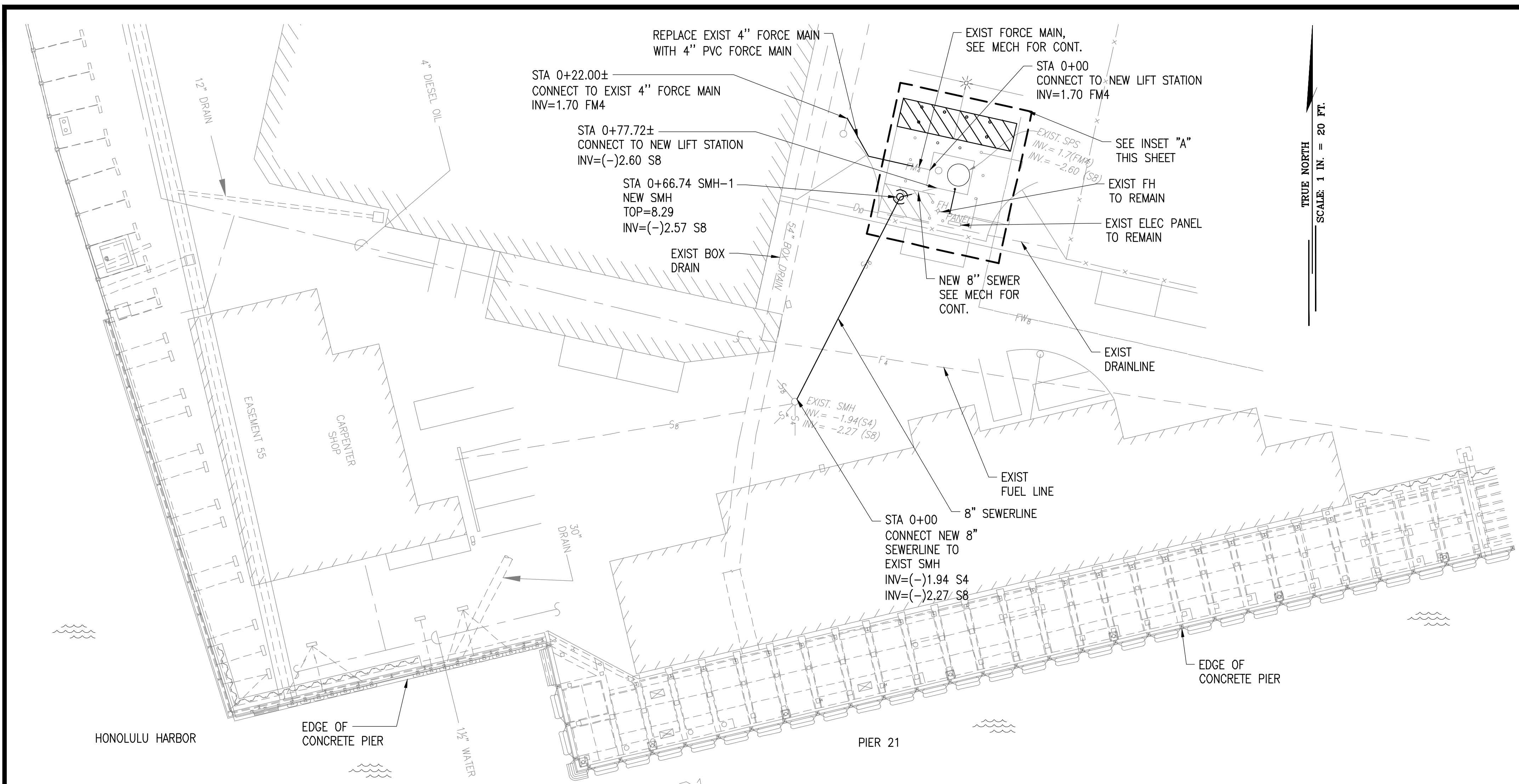
GRAPHIC SCALE:
30 15 0 30 60
SCALE: 1" = 60'

GENERAL SITE PLAN
SCALE: 1" = 60'

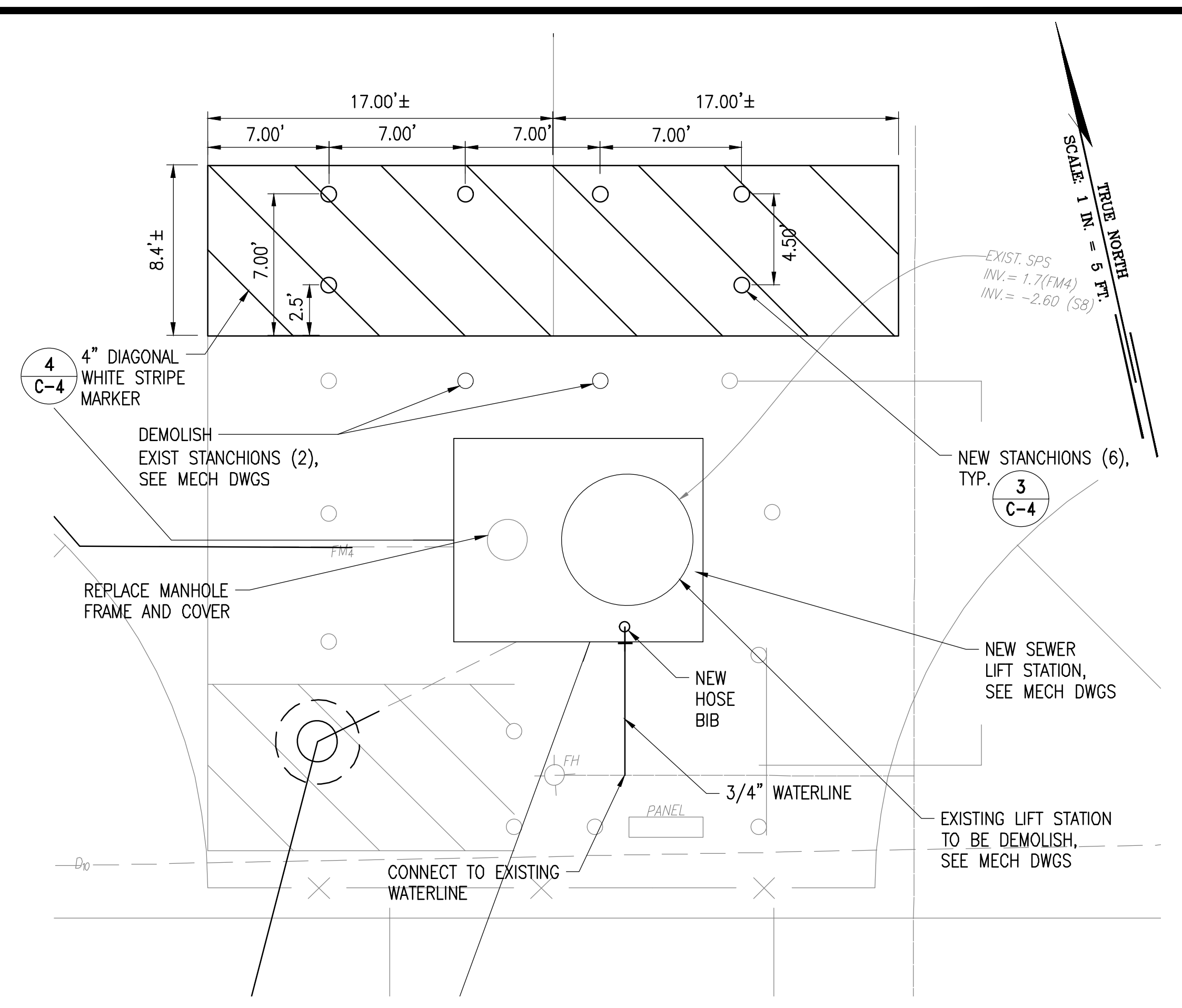


THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
EXP 4-30-26
Richard T. Harada
WILSON OKAMOTO CORPORATION

REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE GENERAL SITE PLAN				
DESIGNED BY: RH	JOB NUMBER		SHEET	
DRAWN BY: RCC	S10849		C-1	
CHECKED BY: RH	DATE: 08/2024		3 OF 27 SHTS.	
SCALE: AS SHOWN				



SEWER PLAN (PIER 21)
SCALE: 1" = 20'

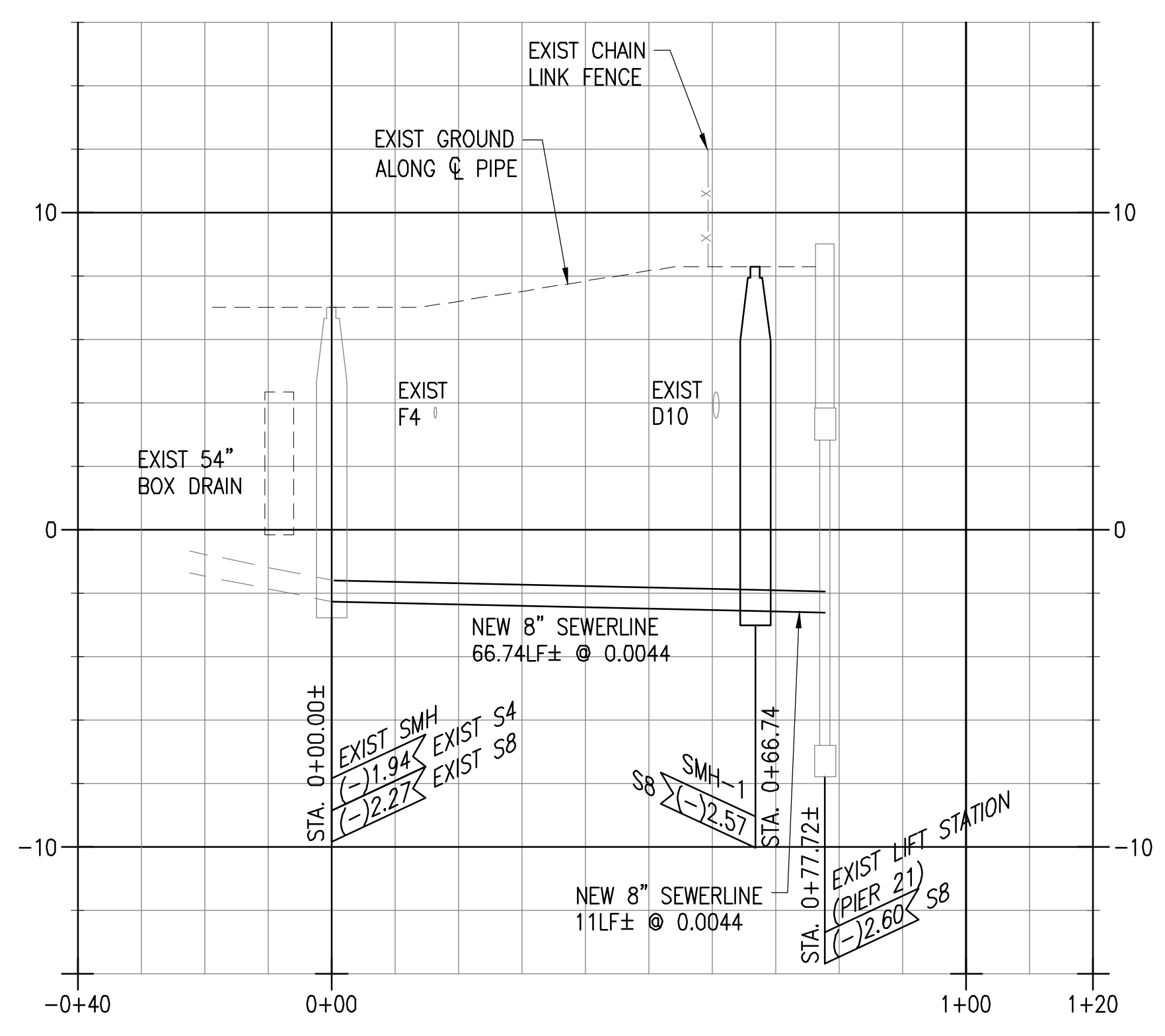


INSET A
SCALE: 1" = 5'

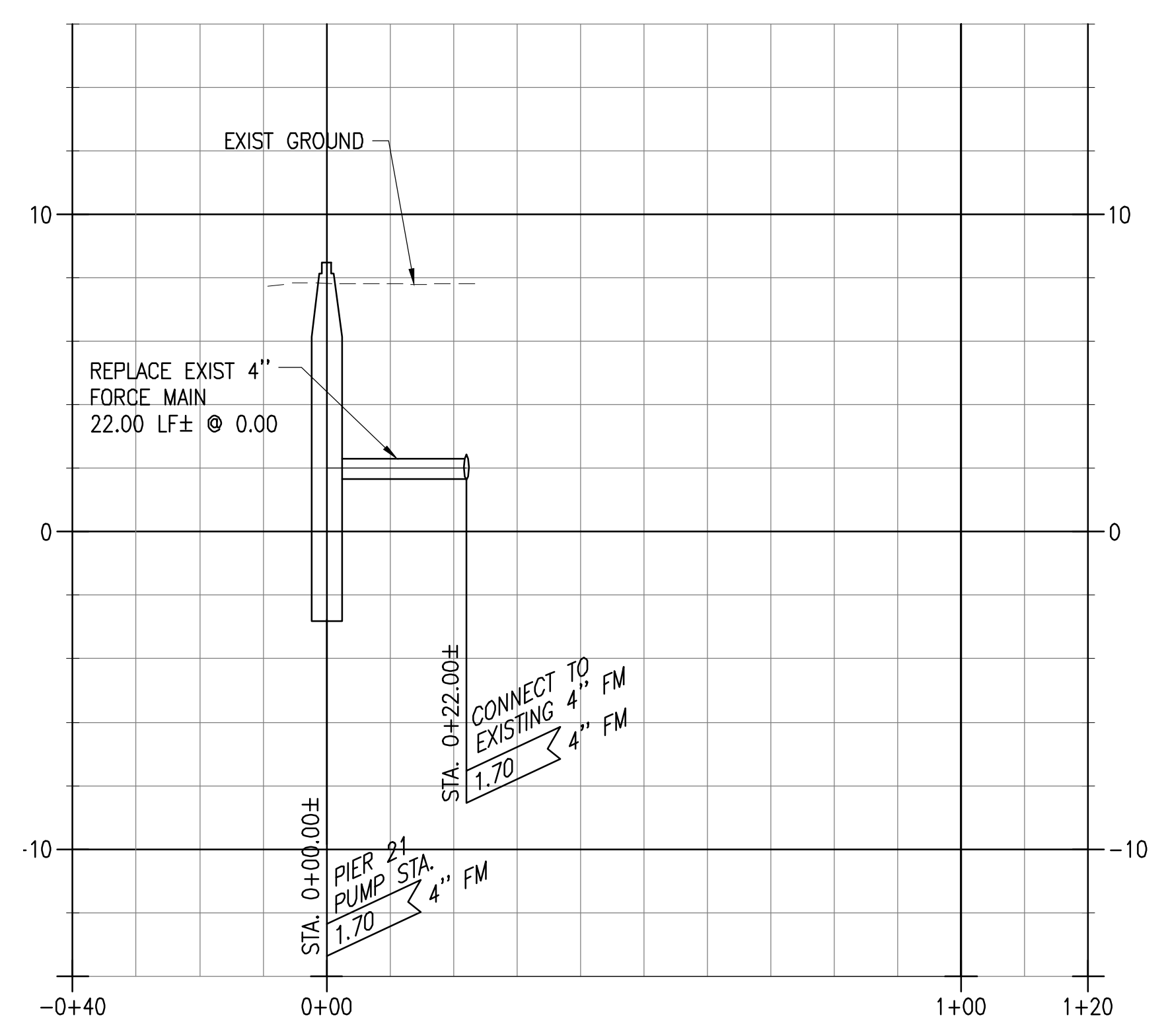
NOTE:

- CONTRACTOR SHALL PROVIDE 2 SETS OF PORTABLE ADA TOILETS AND HAND WASHING STATIONS FOR TENANT USE. COORDINATE WITH DOT ON LOCATION.

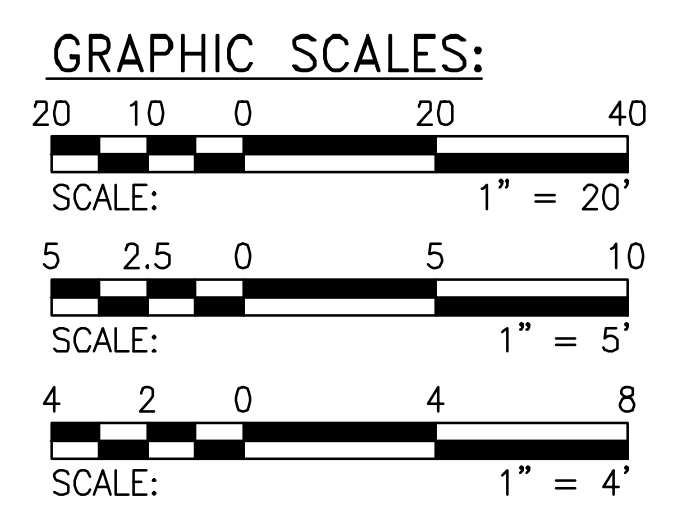
CONTRACTOR SHALL EMPTY, CLEAN AND RESTOCK THE TOILETS AND HAND WASHING STATIONS TWICE PER WEEK.



SEWER LINE PROFILE
SCALE: 1" = 20' (HORIZ.)
1" = 4' (VERT.)

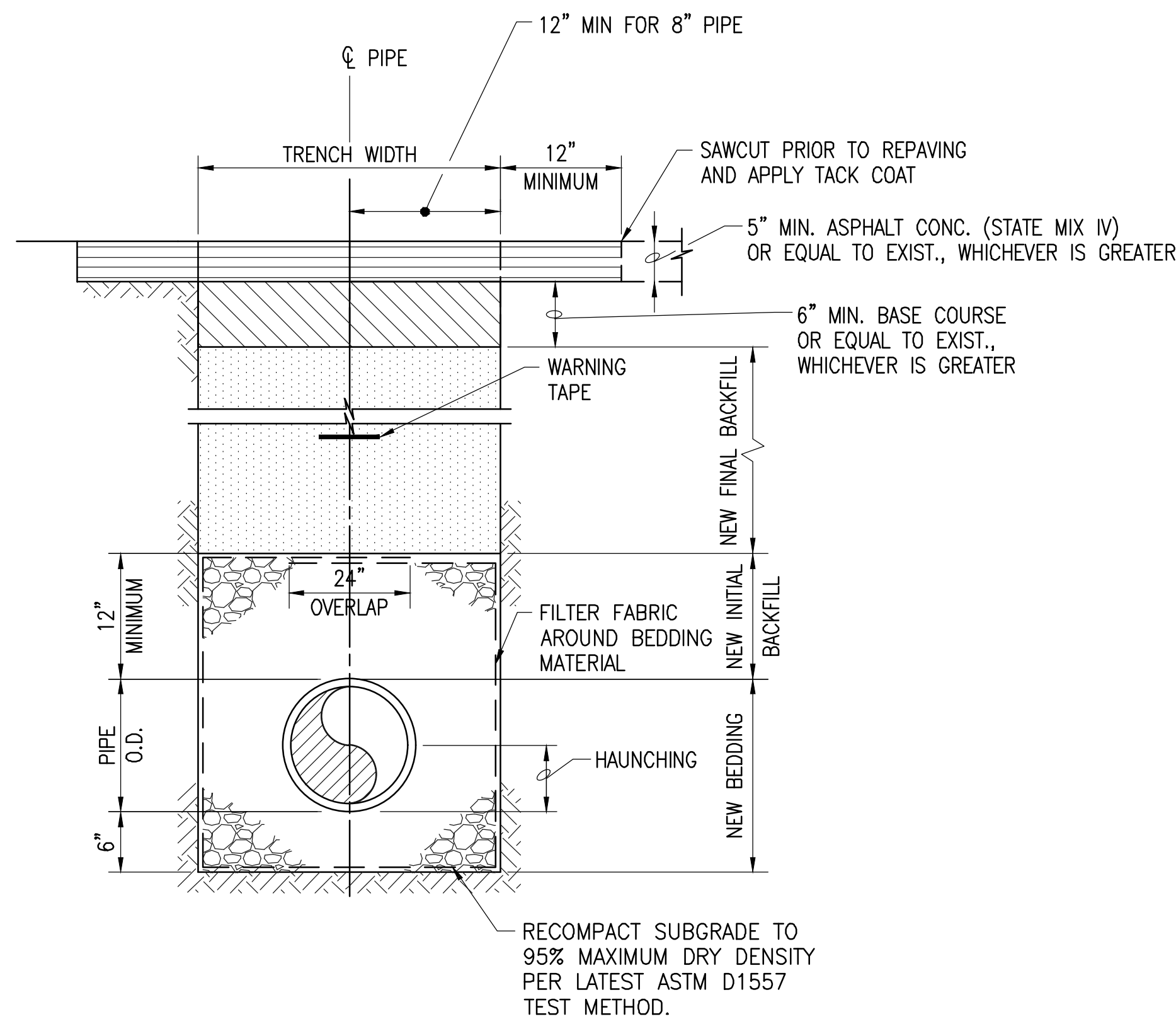


FORCE MAIN PROFILE
SCALE: 1" = 20' (HORIZ.)
1" = 4' (VERT.)

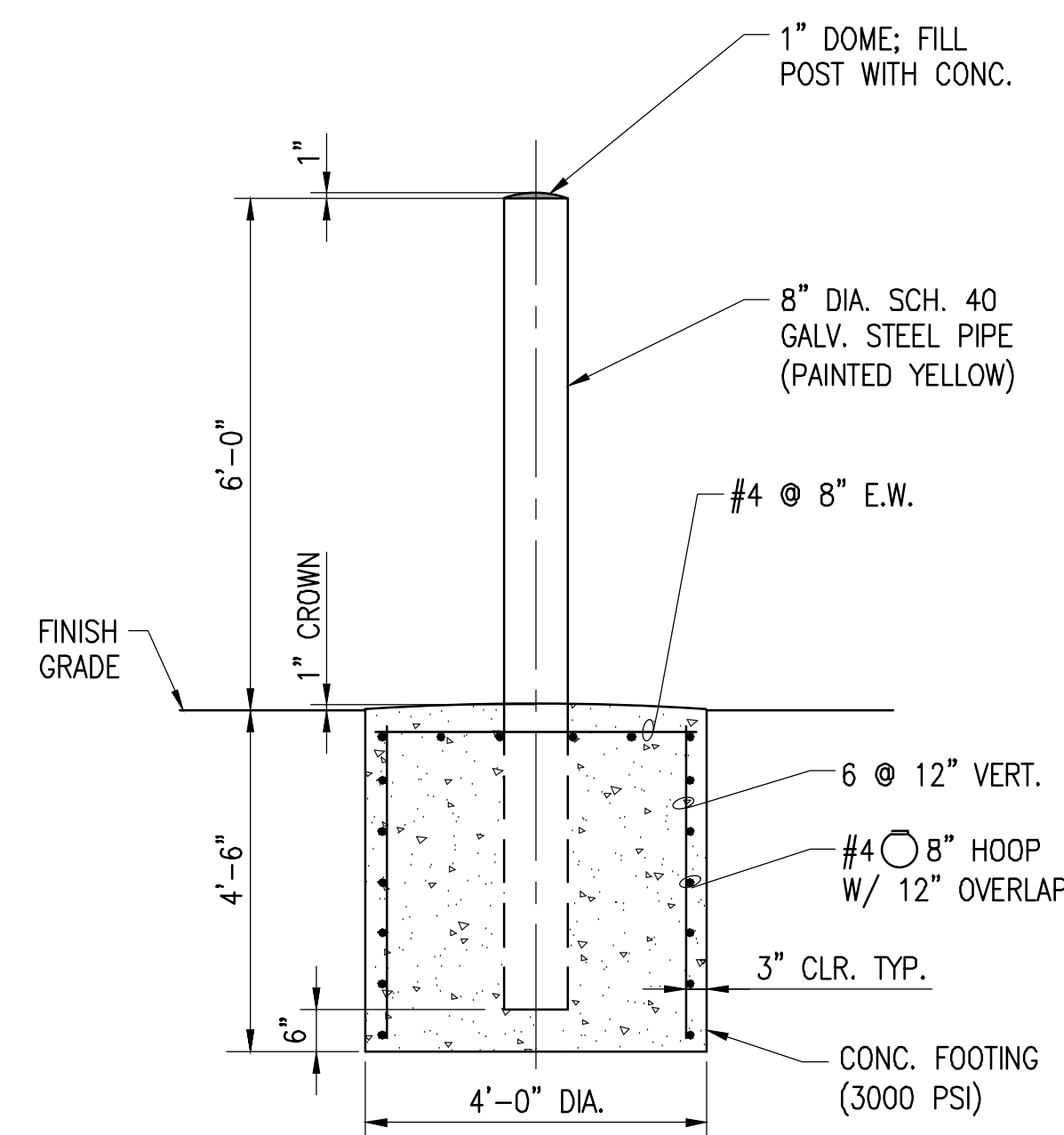


	REVISION	DATE	DESCRIPTION	BY	APPROVED
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
	JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
	SHEET TITLE SEWER PLAN AND PROFILE - PIER 21				
DESIGNED BY: RH		DRAWN BY: RCC		SHEET	
CHECKED BY: RH		DATE: 08/2024		JOB NUMBER	
SCALE: AS SHOWN		S10849		C-2	
					4 of 27 SHTS.

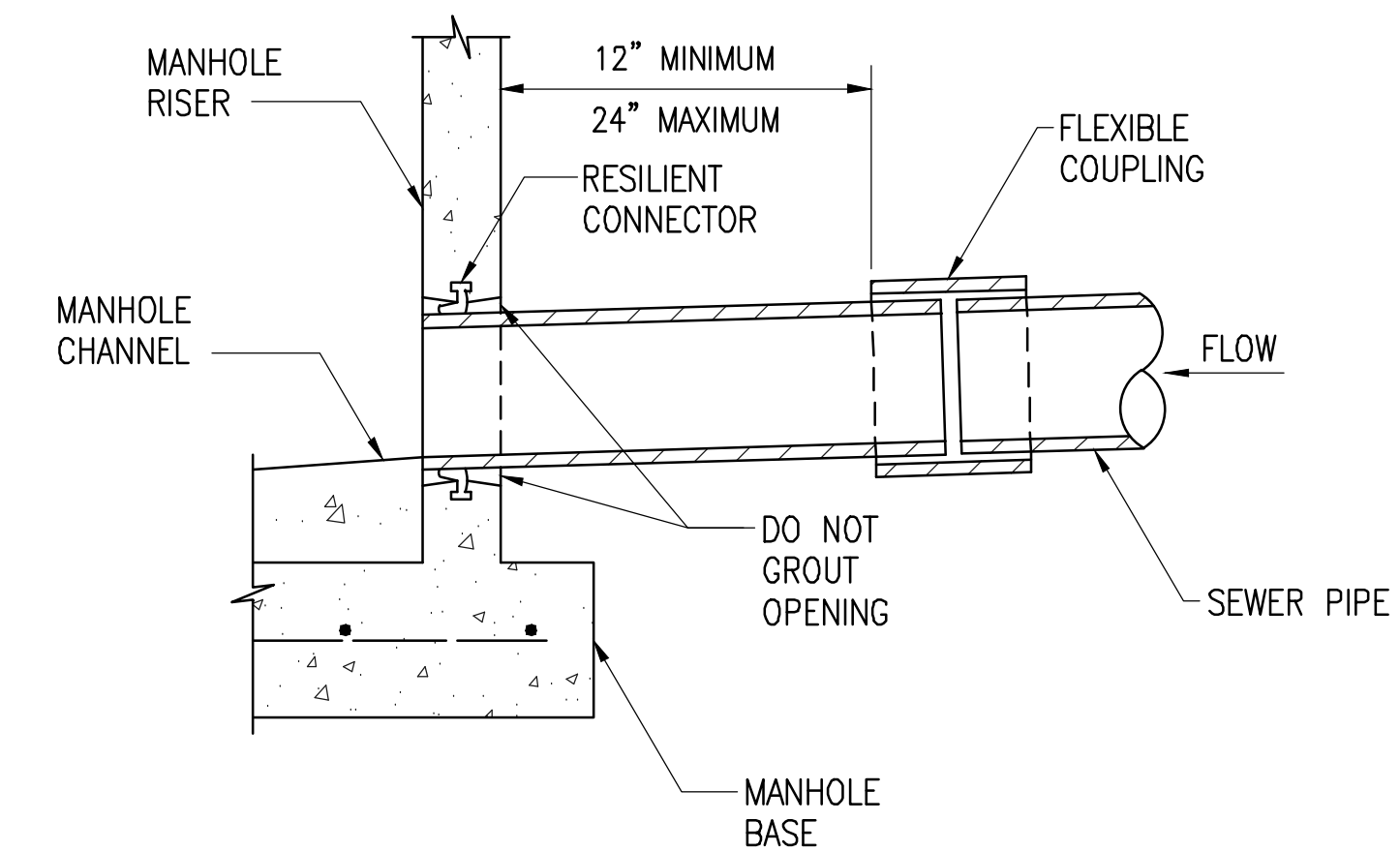
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
EXP 4-30-26
WILSON OKAMOTO CORPORATION



1 TRENCH DETAIL
C-4 NOT TO SCALE



3 PIPE STANCHION DETAIL
C-4 NOT TO SCALE

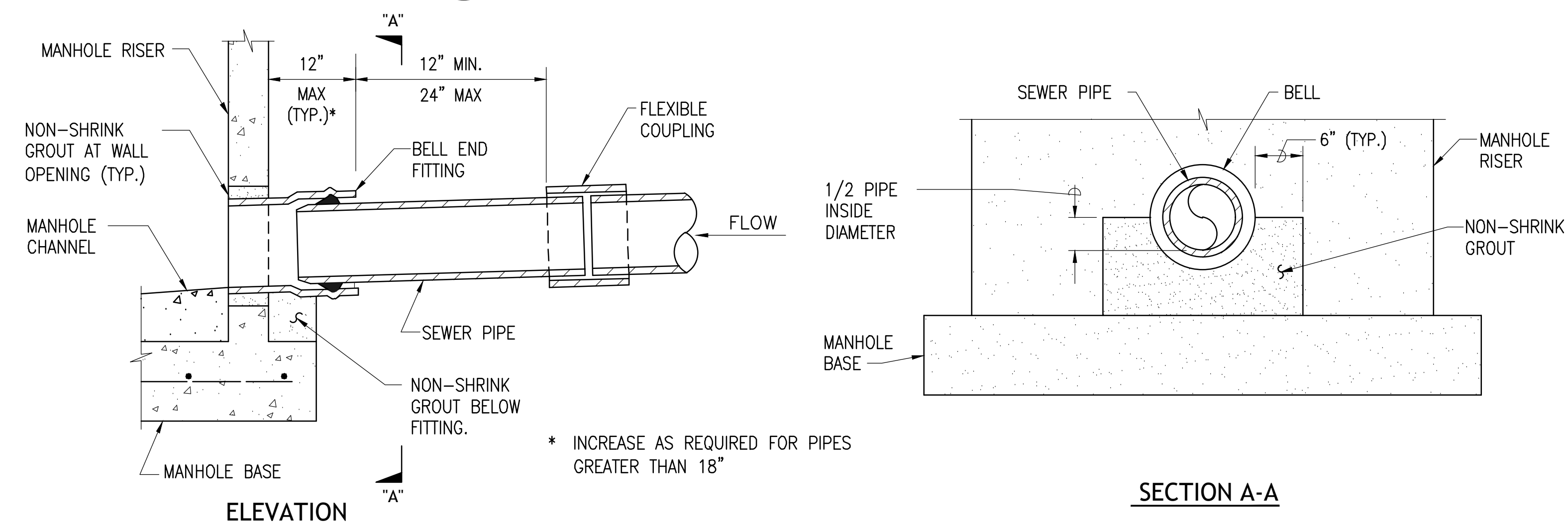


NOTES:

1. RESILIENT CONNECTOR SHALL CONFORM WITH ASTM C923.
2. RESILIENT CONNECTOR SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. FOR PIPE CONNECTIONS AT EXISTING MANHOLES, THE CONTRACTOR MAY CORE OR DRILL AN OPENING IN THE MANHOLE WALL AND GROUT IN THE RESILIENT CONNECTOR PER THE RESILIENT CONNECTOR MANUFACTURER'S RECOMMENDATIONS.

MANHOLE PIPE CONNECTION - RESILIENT CONNECTOR

5
C-4 NOT TO SCALE

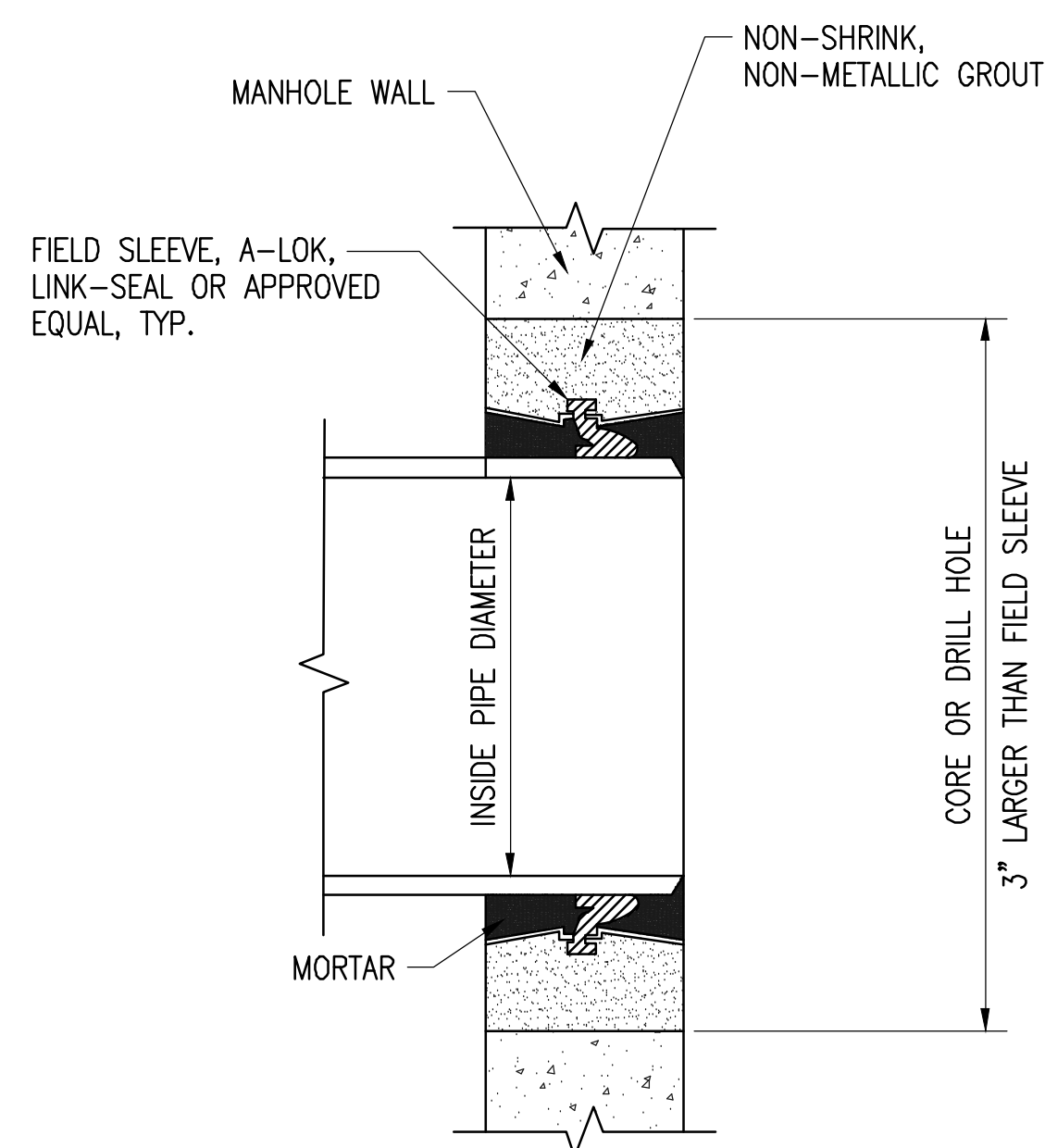


NOTES:

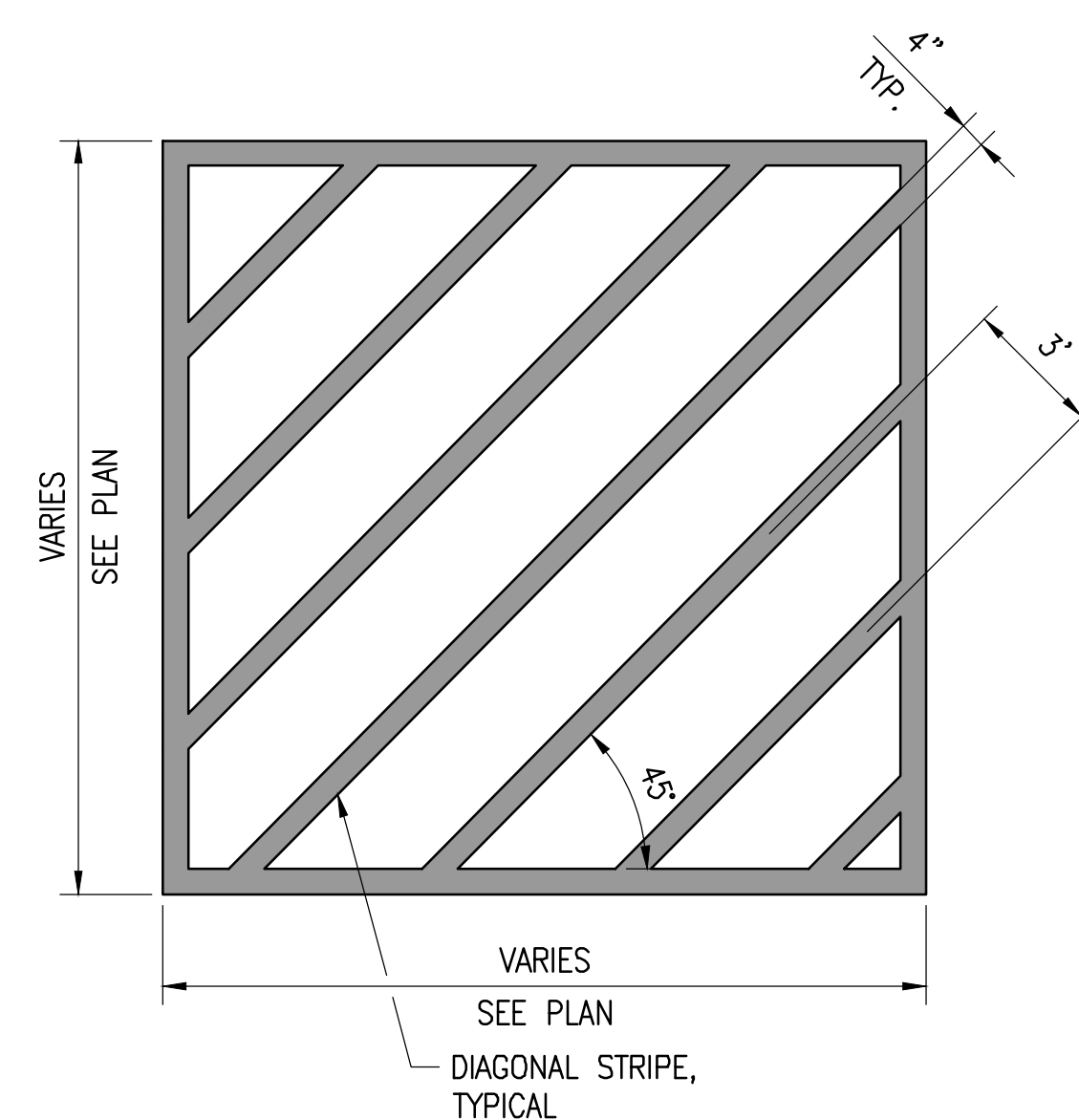
1. FOR PVC PIPE, PROVIDE PRE-MANUFACTURED, APPROVED PVC SANDED MANHOLE ADAPTER WITH GASKETED BELL END. FOR VCP, PROVIDE GASKETED BELL END.
2. A GASKETED FLEXIBLE BELL END MAY BE USED IN LIEU OF A FLEXIBLE COUPLING.
3. BELL END FITTING USED ON INFLUENT SEWER PIPE. PLAIN END USED ON EFFLUENT PIPE

MANHOLE PIPE CONNECTION - WALL PIPE FITTING

6
C-4 NOT TO SCALE



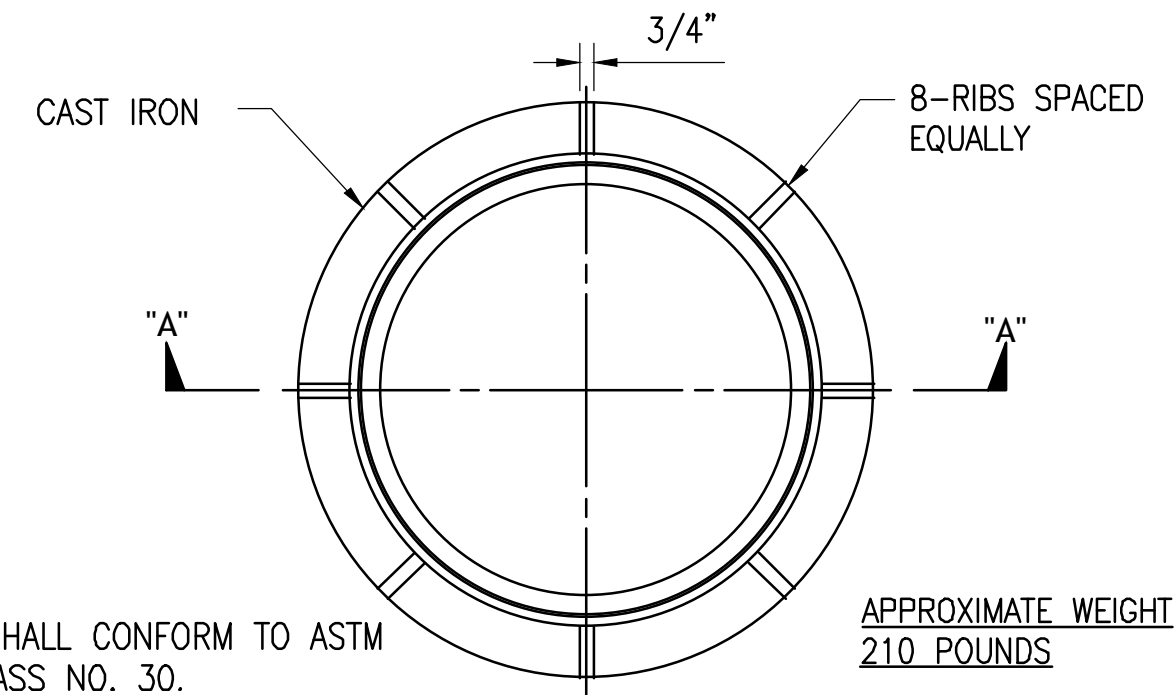
2 PIPE CONNECTION TO MANHOLE DETAIL
C-4 NOT TO SCALE



4 4\"/>

	REVISION	DATE	DESCRIPTION	BY	APPROVED
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
	JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
	SHEET TITLE DETAILS				
DESIGNED BY: RH		DRAWN BY: RCC		SHEET C-4	
CHECKED BY: RH		DATE: 08/2024		JOB NUMBER S10849	
SCALE: AS SHOWN				6 OF 27 SHTS.	

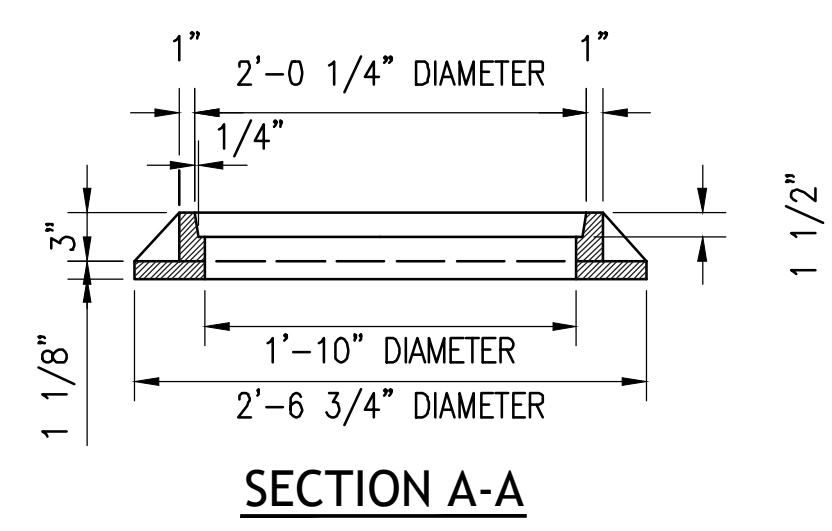
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
EXP 4-30-26
Richard T. Harada
WILSON OKAMOTO CORPORATION



NOTE:
FRAME SHALL CONFORM TO ASTM A48, CLASS NO. 30.

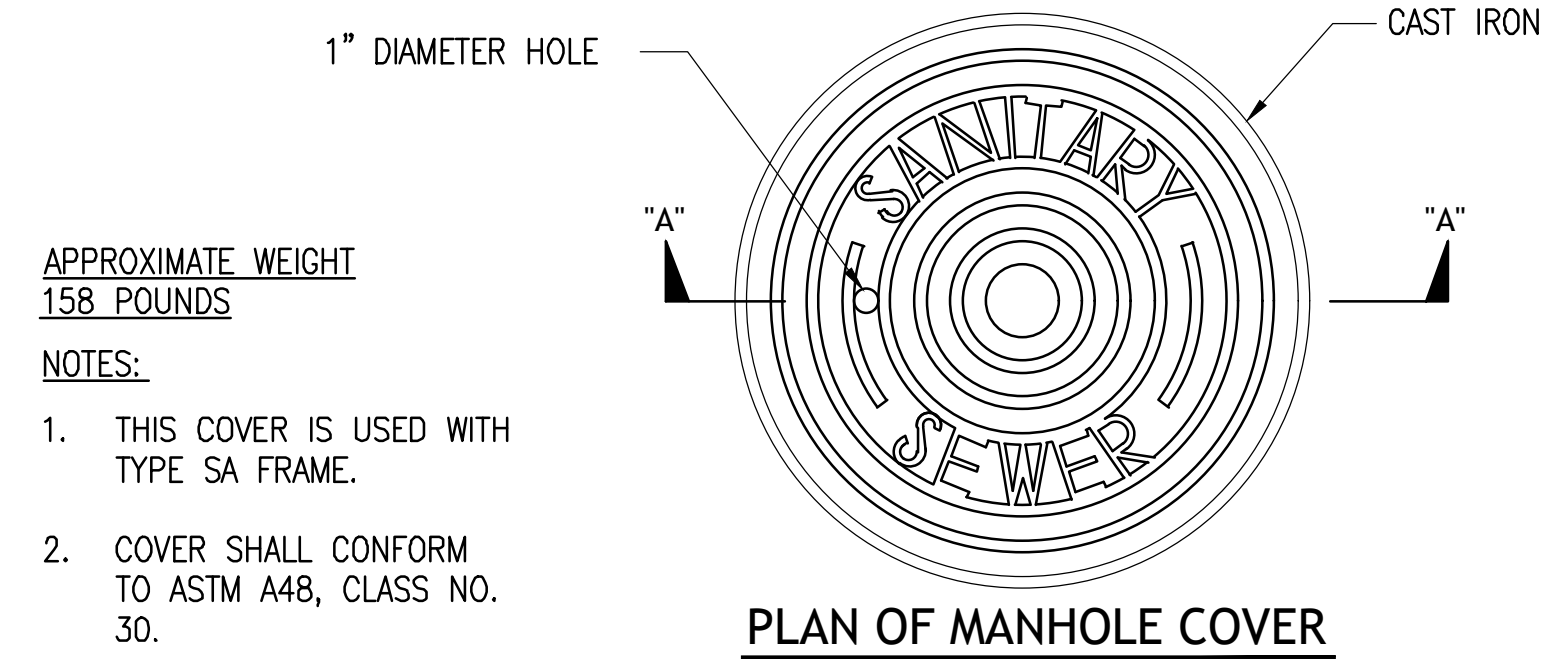
APPROXIMATE WEIGHT
210 POUNDS

PLAN OF MANHOLE FRAME



SECTION A-A

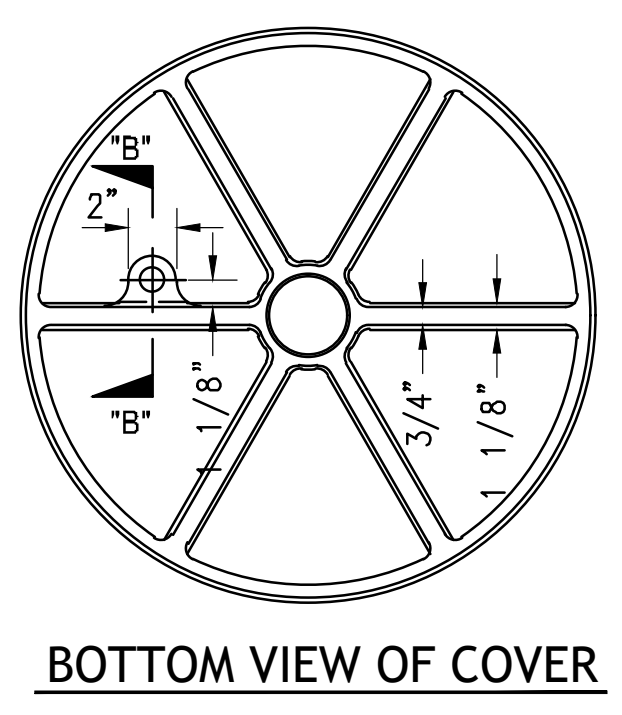
1 MANHOLE FRAME - TYPE SA
C-5 NOT TO SCALE



APPROXIMATE WEIGHT
158 POUNDS

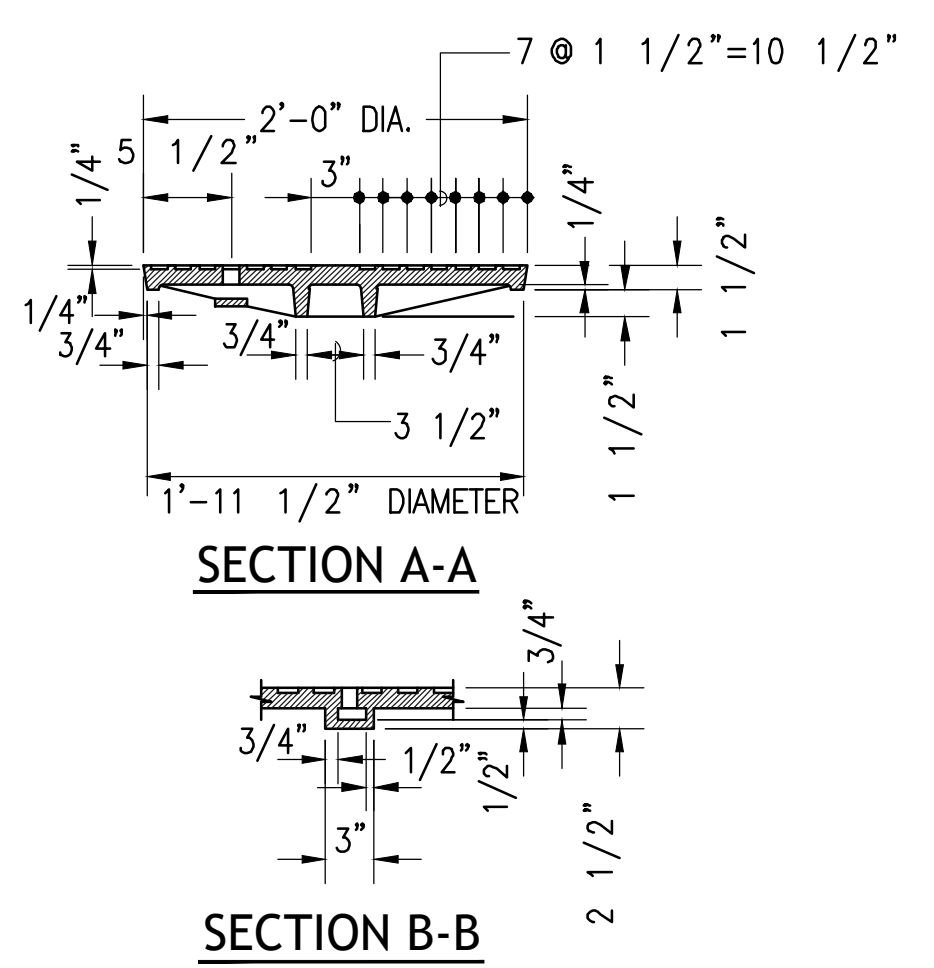
NOTES:
1. THIS COVER IS USED WITH TYPE SA FRAME.
2. COVER SHALL CONFORM TO ASTM A48, CLASS NO. 30.

PLAN OF MANHOLE COVER



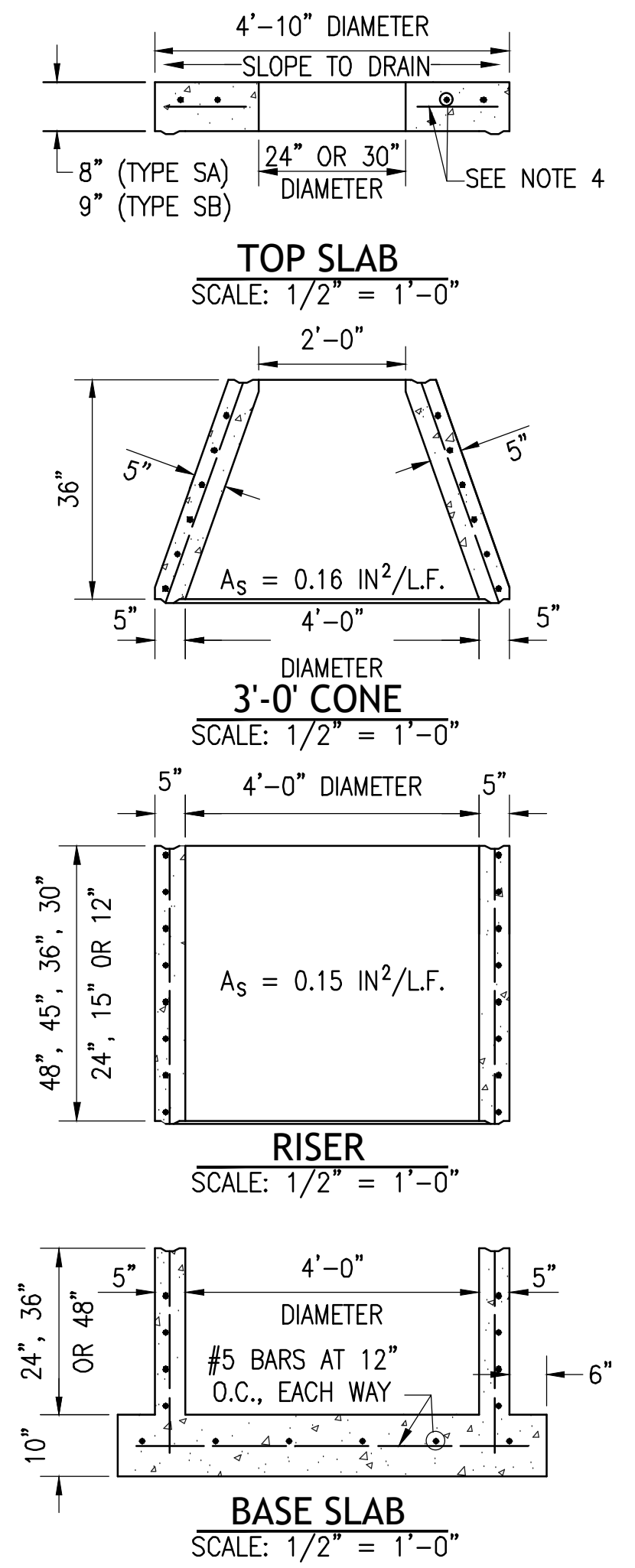
BOTTOM VIEW OF COVER

2 MANHOLE COVER - TYPE SA
C-5 NOT TO SCALE



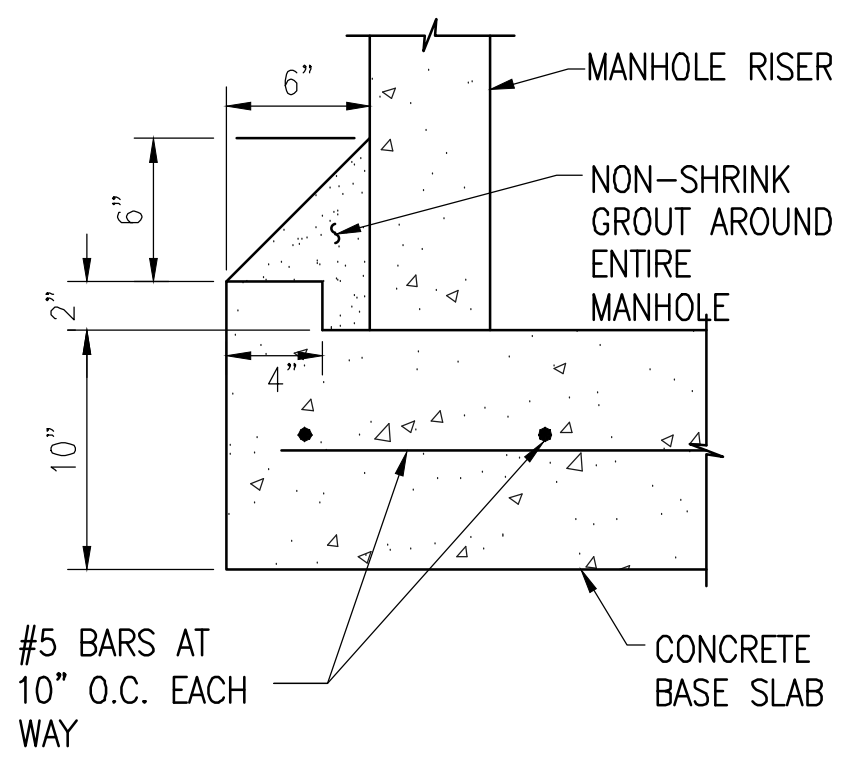
SECTION A-A

SECTION B-B

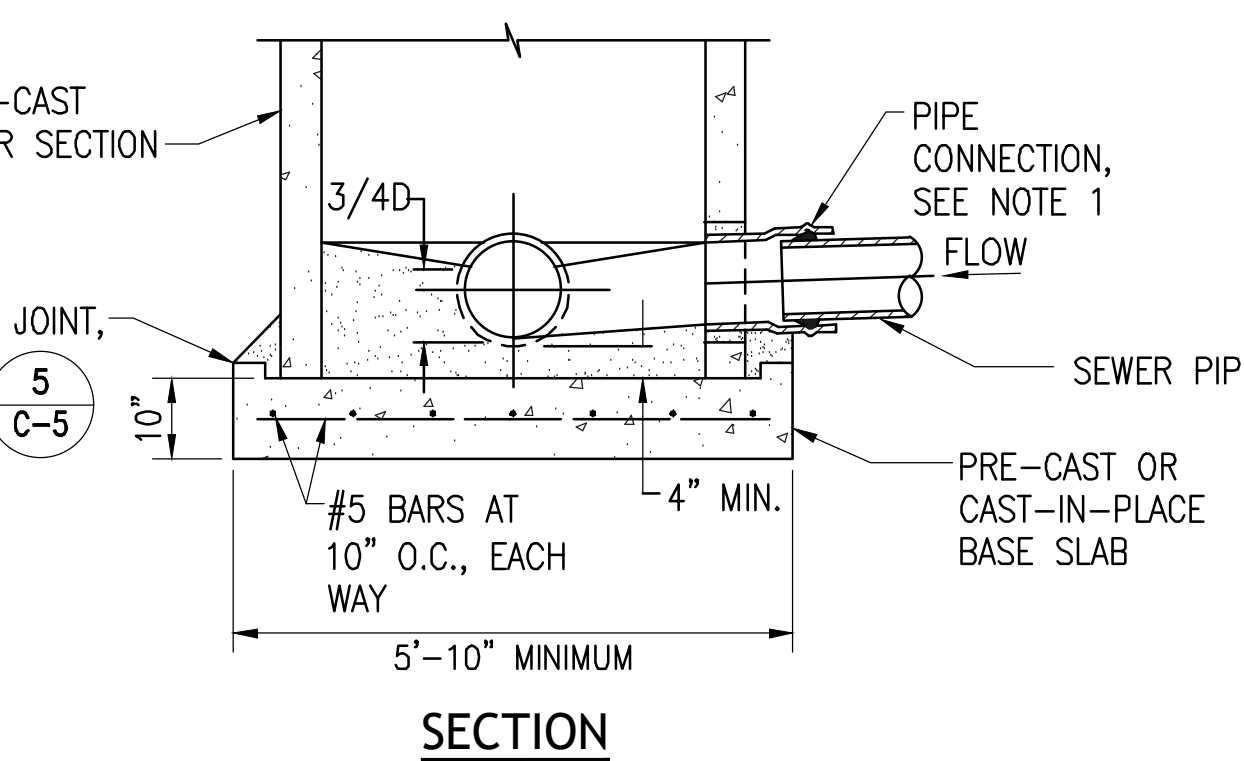
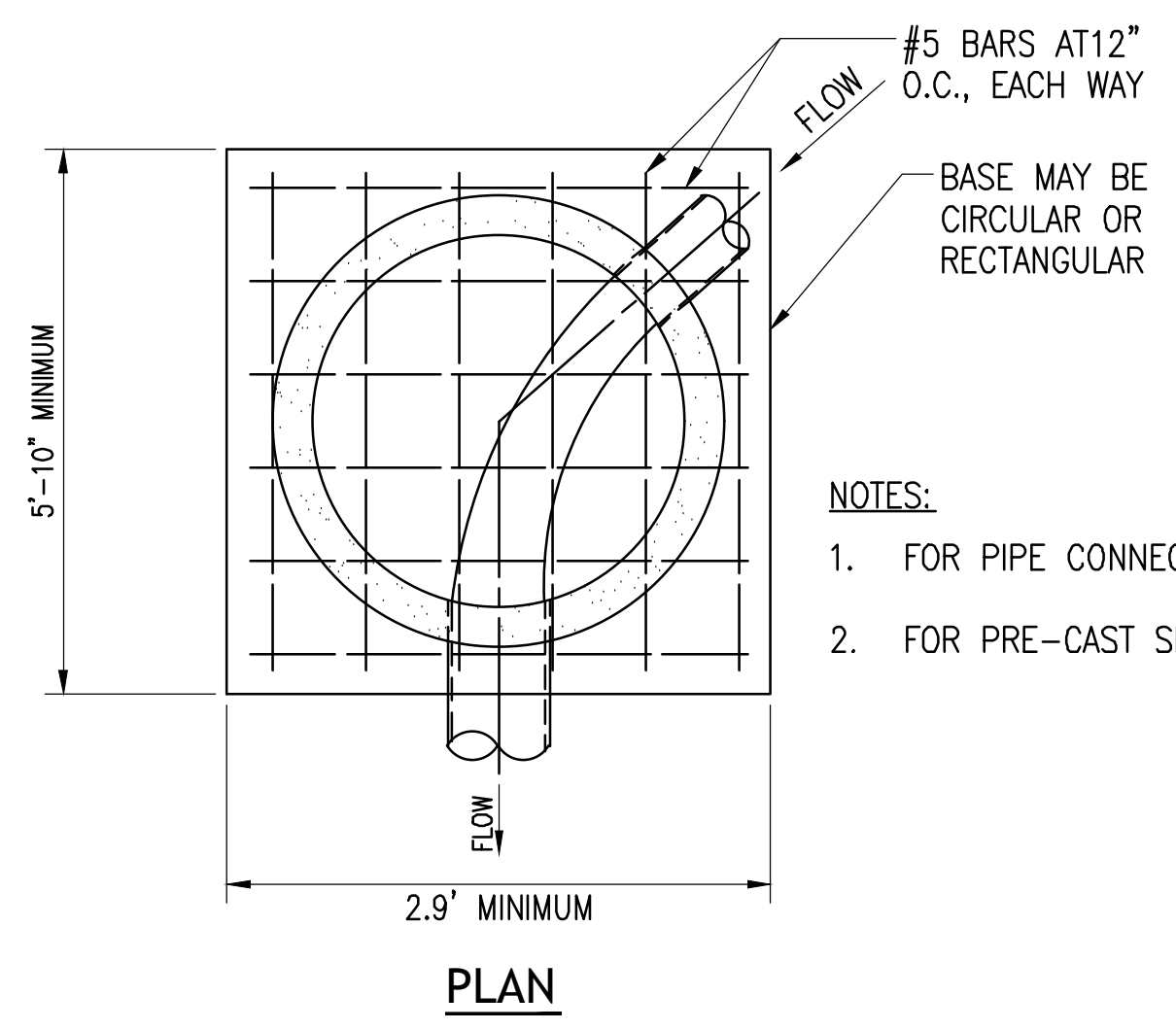


NOTES:
1. PRE-CAST SECTIONS SHALL CONFORM TO ASTM C478 AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
2. PRIOR TO MANUFACTURING, DESIGNS OTHER THAN THOSE SHOWN ON THIS SHEET SHALL BE SUBMITTED TO THE CITY FOR APPROVAL.
3. INSTALL PRE-CAST FLEXIBLE SEALING GASKET CONFORMING TO ASTM C990 AT ALL MANHOLE JOINTS.
4. TOP SLAB SHALL BE DESIGNED FOR AASHTO HS-20 WHEEL LOADING.
5. STEEL INDICATED (A_s) IS MINIMUM REQUIRED.

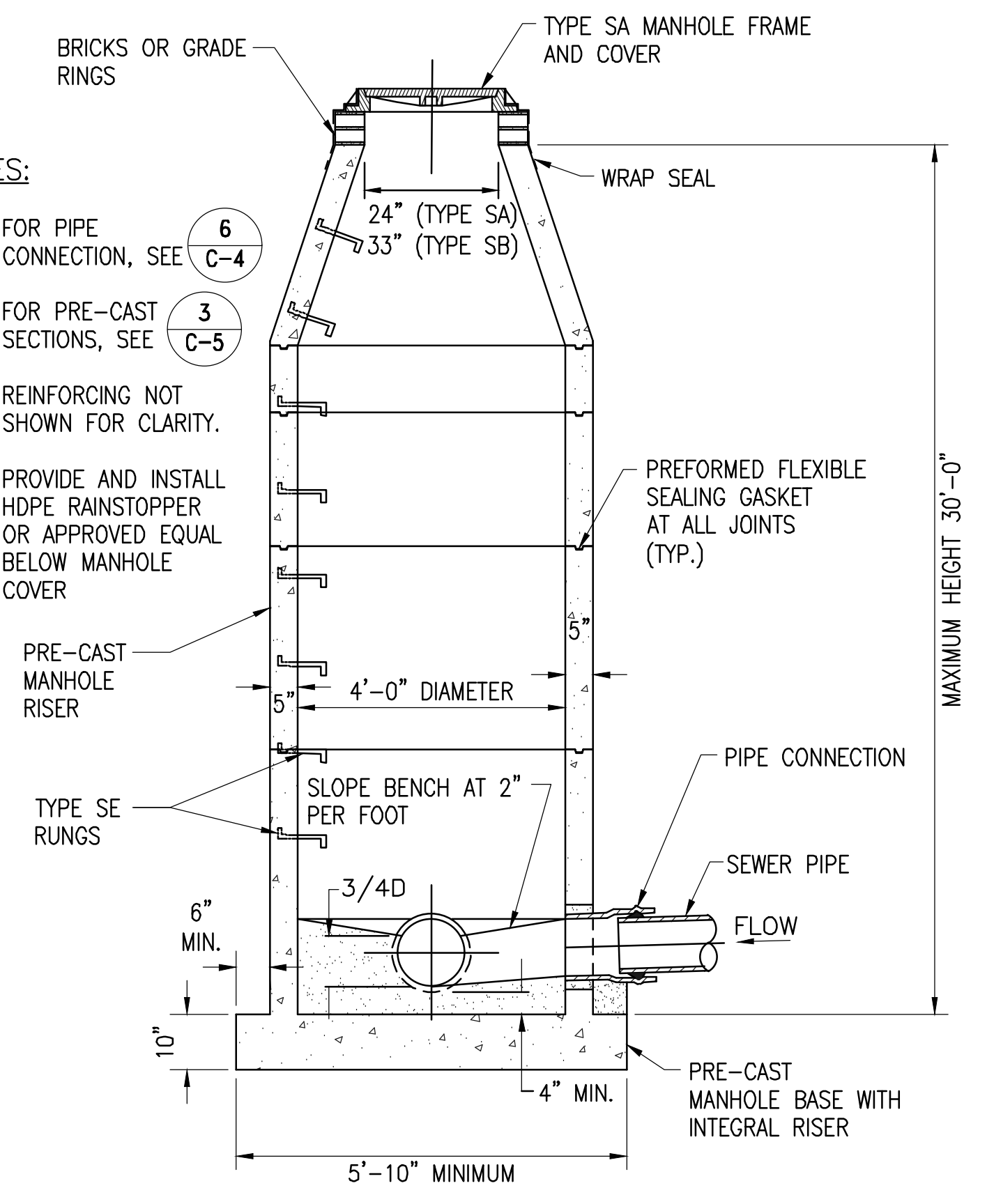
3 4-FOOT DIAMETER PIPE - CAST CONCRETE MANHOLE SECTIONS
C-5 NOT TO SCALE



5 CAST-IN-PLACE MANHOLE BASE JOINT
C-5 NOT TO SCALE

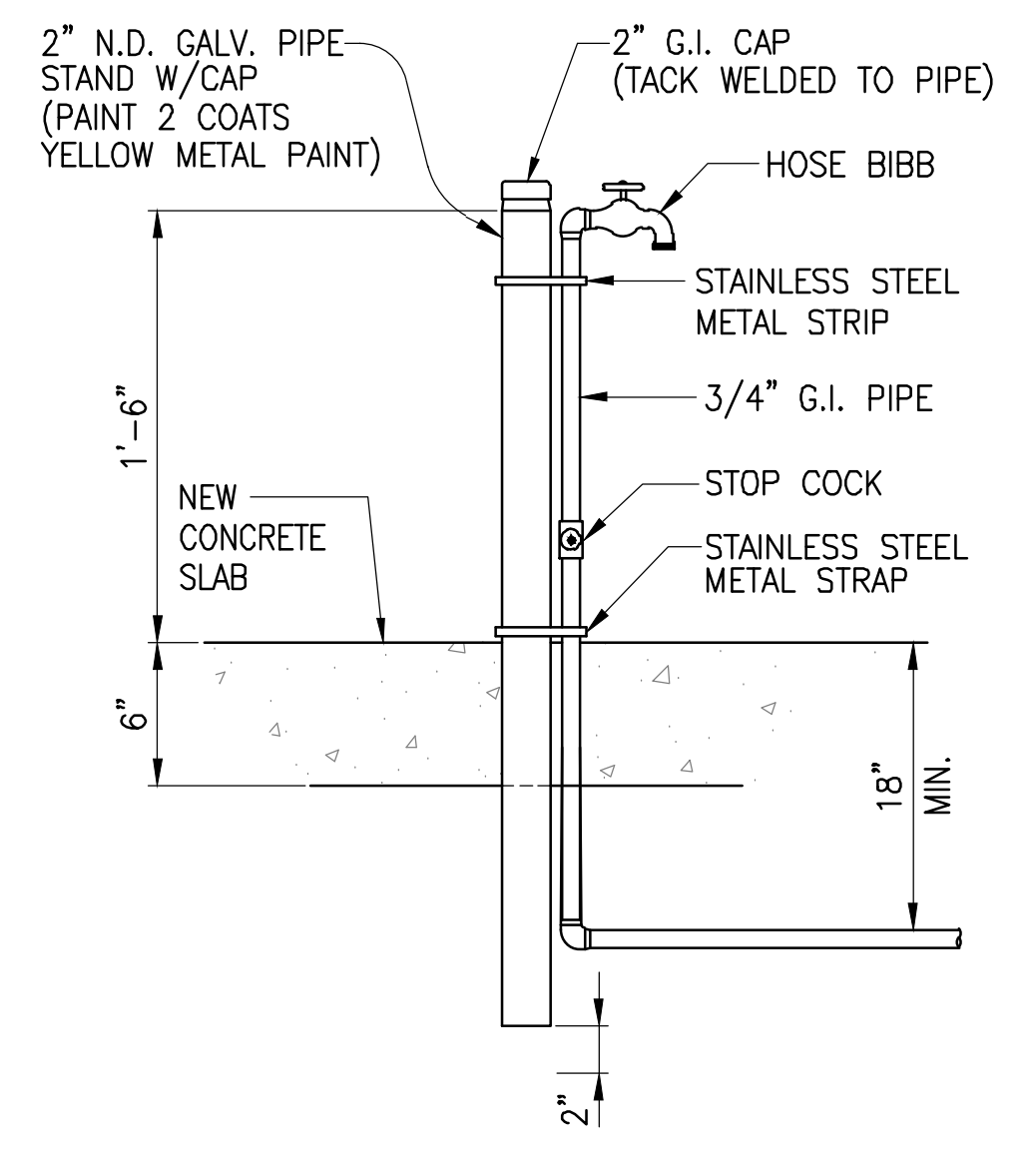


6 PRE-CAST CONCRETE MANHOLE - ALTERNATE BASE AND SECTION
C-5 NOT TO SCALE



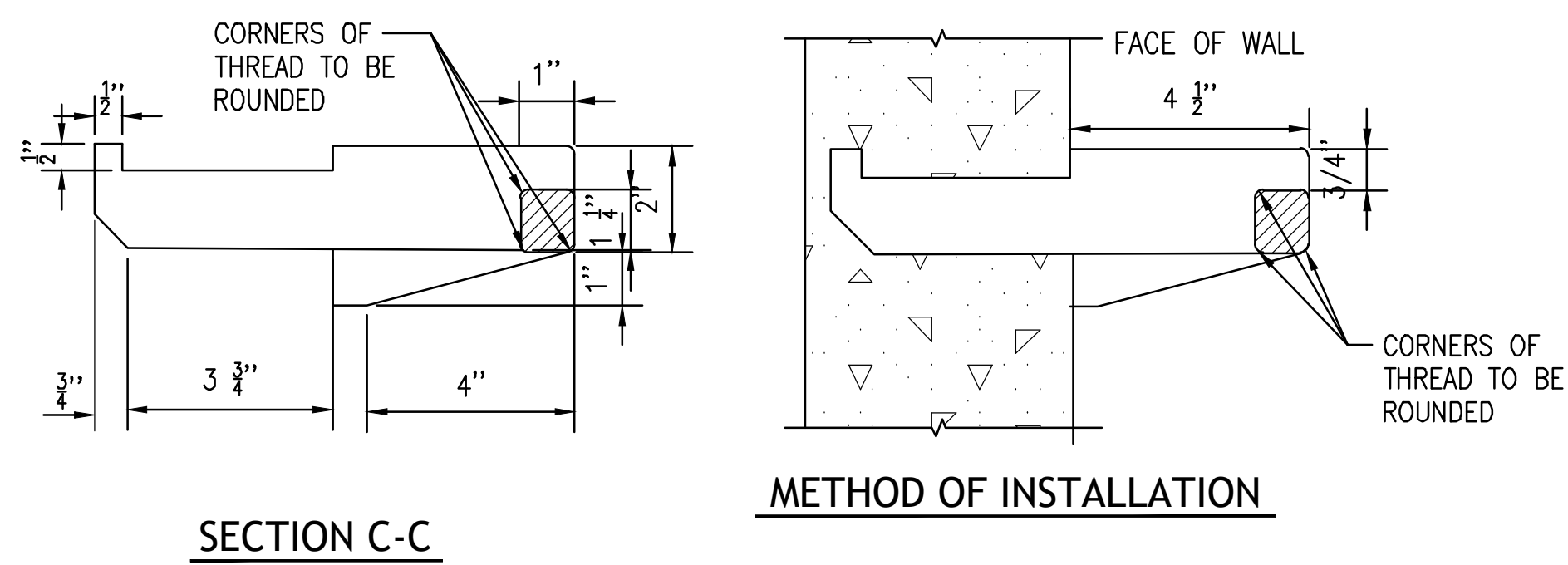
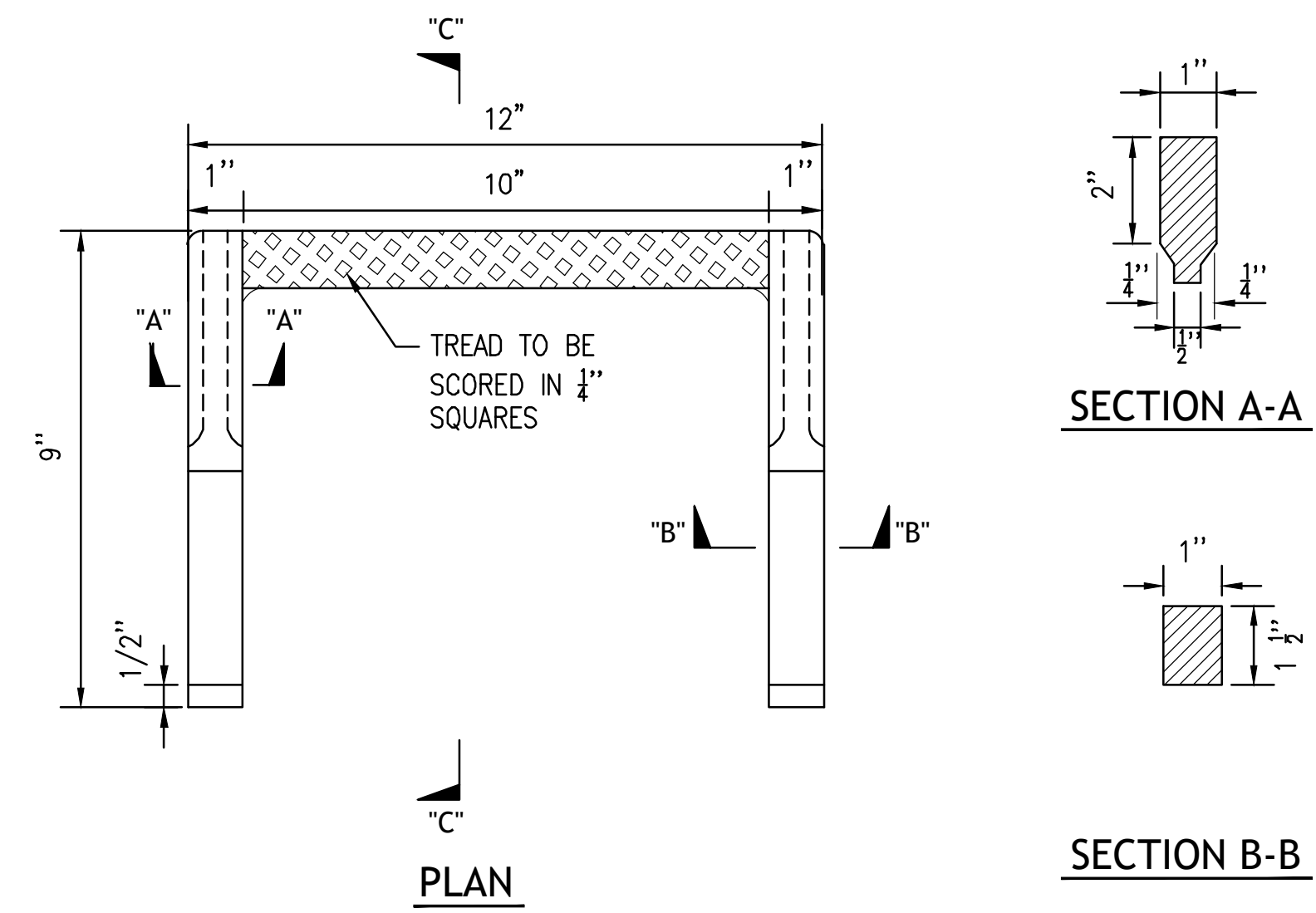
NOTES:
1. FOR PIPE CONNECTION, SEE C-4
2. FOR PRE-CAST SECTIONS, SEE C-5
3. REINFORCING NOT SHOWN FOR CLARITY.
4. PROVIDE AND INSTALL HDPE RAINSTOPPER OR APPROVED EQUAL BELOW MANHOLE COVER

4 4-FOOT DIAMETER PIPE - PRE-CAST CONCRETE MANHOLE
C-5 NOT TO SCALE



7 HOSE BIB DETAIL
C-5 NOT TO SCALE

	REVISION	DATE	DESCRIPTION	BY	APPROVED
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
	JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
	SHEET TITLE DETAILS				
DESIGNED BY: RCH		DRAWN BY: RCC		SHEET C-5	
CHECKED BY: RCH		DATE: 08/2024		JOB NUMBER S10849	
SCALE: AS SHOWN				7 of 27 SHTS.	

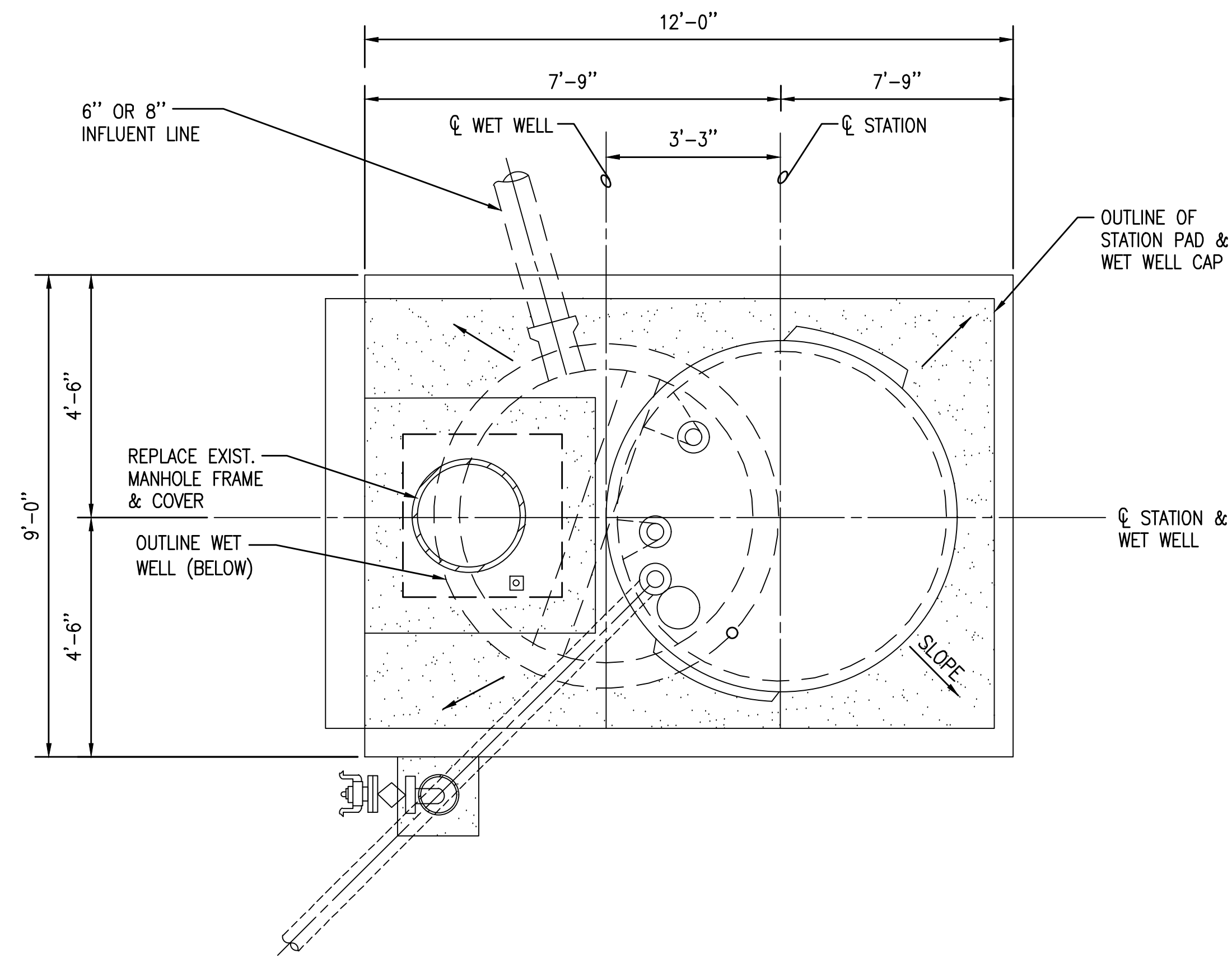


1 TYPE SE MANGHOLE RUNGS
 C-6 CAST IRON OR DUCTILE IRON
 NOT TO SCALE

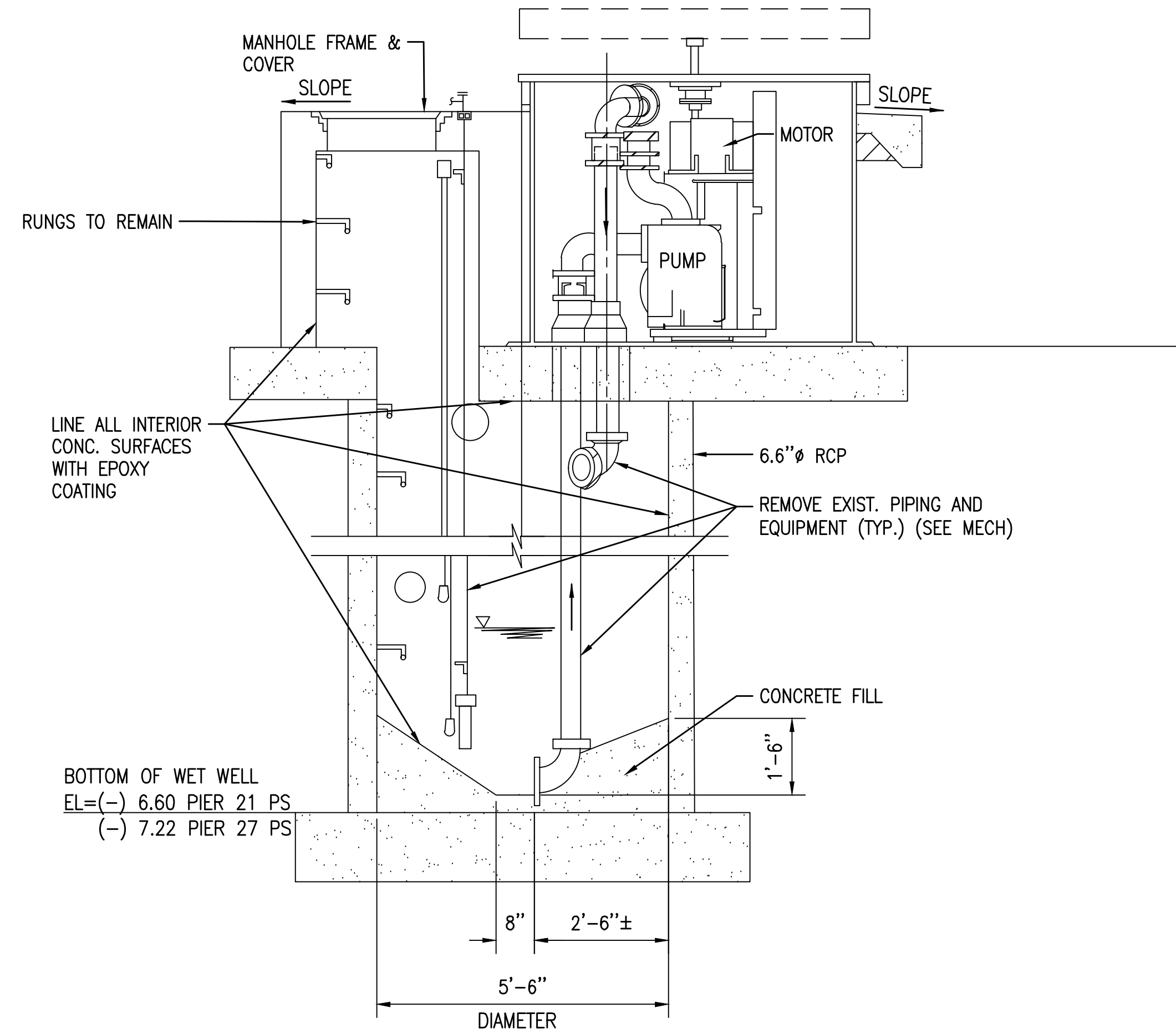
	REVISION	DATE	DESCRIPTION	BY	APPROVED
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
	JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
	SHEET TITLE DETAILS				
	DESIGNED BY: RH DRAWN BY: RCC CHECKED BY: RH DATE: 08/2024 SCALE: AS SHOWN		JOB NUMBER S10849		SHEET C-6 8 OF 27 SHTS.

THIS WORK WAS PREPARED BY ME
 OR UNDER MY SUPERVISION
 EXP 4-30-26

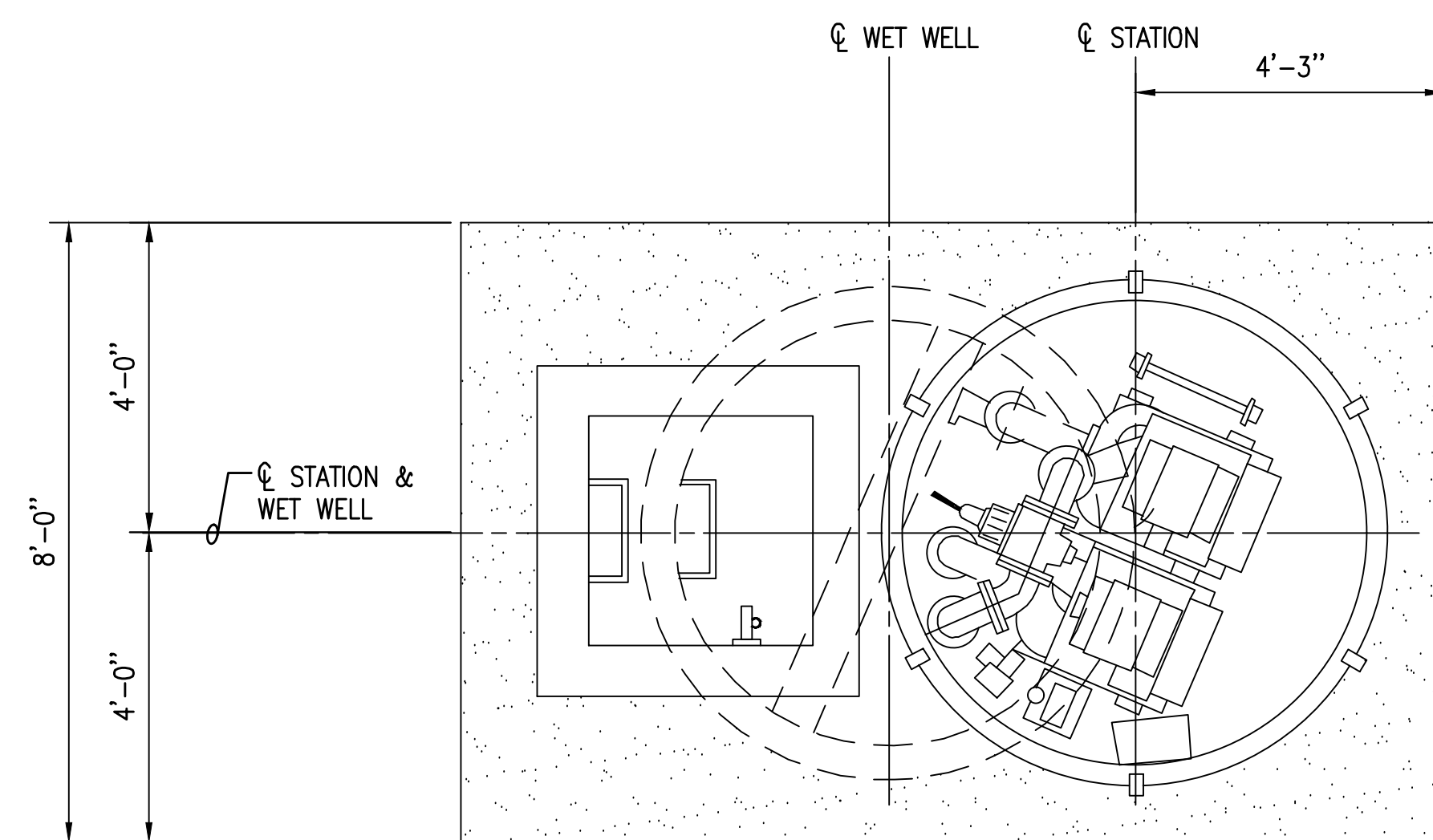
 WILSON OKAMOTO CORPORATION



1 PLAN-TYP EXISTING SEWAGE PUMP STATION
C-7 NOT TO SCALE



3 SECTIONAL ELEVATION
C-7 NOT TO SCALE



2 PLAN-SECTION
C-7 NOT TO SCALE

	REVISION	DATE	DESCRIPTION	BY	APPROVED
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
	JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
	SHEET TITLE DETAILS				
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION EXP 4-30-26 <i>Richard T. Harada</i> WILSON OKAMOTO CORPORATION		DESIGNED BY: RH	DRAWN BY: RCC	CHECKED BY: RH	DATE: 08/2024
			SCALE: AS SHOWN	JOB NUMBER S10849	SHEET C-7 9 of 27 SHTS.

STRUCTURAL NOTES:

GENERAL:

- WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE HAWAII STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2005, FOR THE STATE OF HAWAII, UNLESS OTHERWISE INDICATED. HOWEVER, WHERE REFERENCE IS MADE TO PERFORMANCE CONFORMING TO OTHER STANDARDS THE MORE STRINGENT SHALL APPLY.
- THE CONTRACTOR SHALL COMPARE STRUCTURAL DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS WITH EACH OTHER AND REPORT IN WRITING TO THE HARBORS CONSTRUCTION ENGINEER ALL INCONSISTENCIES AND OMISSIONS.
- THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS WITH THE STRUCTURAL DRAWINGS BEFORE COMMENCING WORK. REPORT IN WRITING TO THE HARBORS CONSTRUCTION ENGINEER ALL INCONSISTENCIES AND OMISSIONS.
- CONTRACTOR SHALL RESOLVE ANY DISCREPANCIES AND QUESTIONS PRIOR TO THE START OF WORK. NO EXTRA PAYMENT SHALL BE ALLOWED ON ACCOUNT OF WORK MADE NECESSARY BY CONTRACTORS FAILURE TO VISIT THE SITE AND/OR FAILURE TO RESOLVE DISCREPANCIES AND QUESTIONS.
- THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND STRUCTURES IN AND ADJACENT TO THE PROJECT SITE. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE HARBORS CONSTRUCTION ENGINEER AND PAID FOR BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR STABILITY OF STRUCTURAL MEMBERS AND SYSTEMS.
- ALL WORK SPECIFIED IN THE CONTRACT BUT NOT LISTED SEPARATELY SHALL BE CONSIDERED INCIDENTAL AND WILL NOT BE PAID FOR SEPARATELY.
- STRUCTURAL NOTES AND DETAILS ON THE PLANS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. SHOULD THERE BE CONFLICTS BETWEEN THE REQUIREMENTS OF THE PLANS OR SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY.

FOUNDATION:

- FOUNDATION DESIGN IS BASED ON CHAPTER 18 OF THE INTERNATIONAL BUILDING CODE.
- CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATION FROM SURFACE WATER, GROUND WATER OR SEEPAGE.
- CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL UNDERPINNING, CRIBBING, SHEETING, AND SHORING NECESSARY TO PRESERVE EXCAVATIONS AND EARTH BANKS.
- EXCAVATIONS SHALL BE PROPERLY BACKFILLED.
 - BACKFILL MATERIAL SHALL CONSIST OF SOIL WHICH IS FREE OF ORGANICS, EXPANSIVE CLAY AND DEBRIS. BACKFILL MATERIAL SHALL BE LESS THAN 3 INCHES IN GREATEST DIMENSION.
 - BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS.
 - EACH LAYER OF BACKFILL MATERIAL SHALL BE THOROUGHLY COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE ASTM D1557 TEST PROCEDURE.
- DURING CONSTRUCTION, DRAINAGE SHALL BE PROVIDED TO MINIMIZE PONDING OF WATER ADJACENT TO OR ON FOUNDATION AND PAVEMENT AREAS. PONDED AREAS SHALL BE DRAINED IMMEDIATELY. ANY SUBGRADE SOIL THAT HAS BECOME SOFT DUE TO PONDING SHALL BE REMOVED TO FIRM MATERIAL AND REPLACED WITH COMPACTED STRUCTURAL FILL.
- CONTRACTOR SHALL BRACE OR PROTECT ALL WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING TOP SLAB IS COMPLETELY IN PLACE AND HAS ATTAINED ITS FULL DESIGN STRENGTH.

CONCRETE:

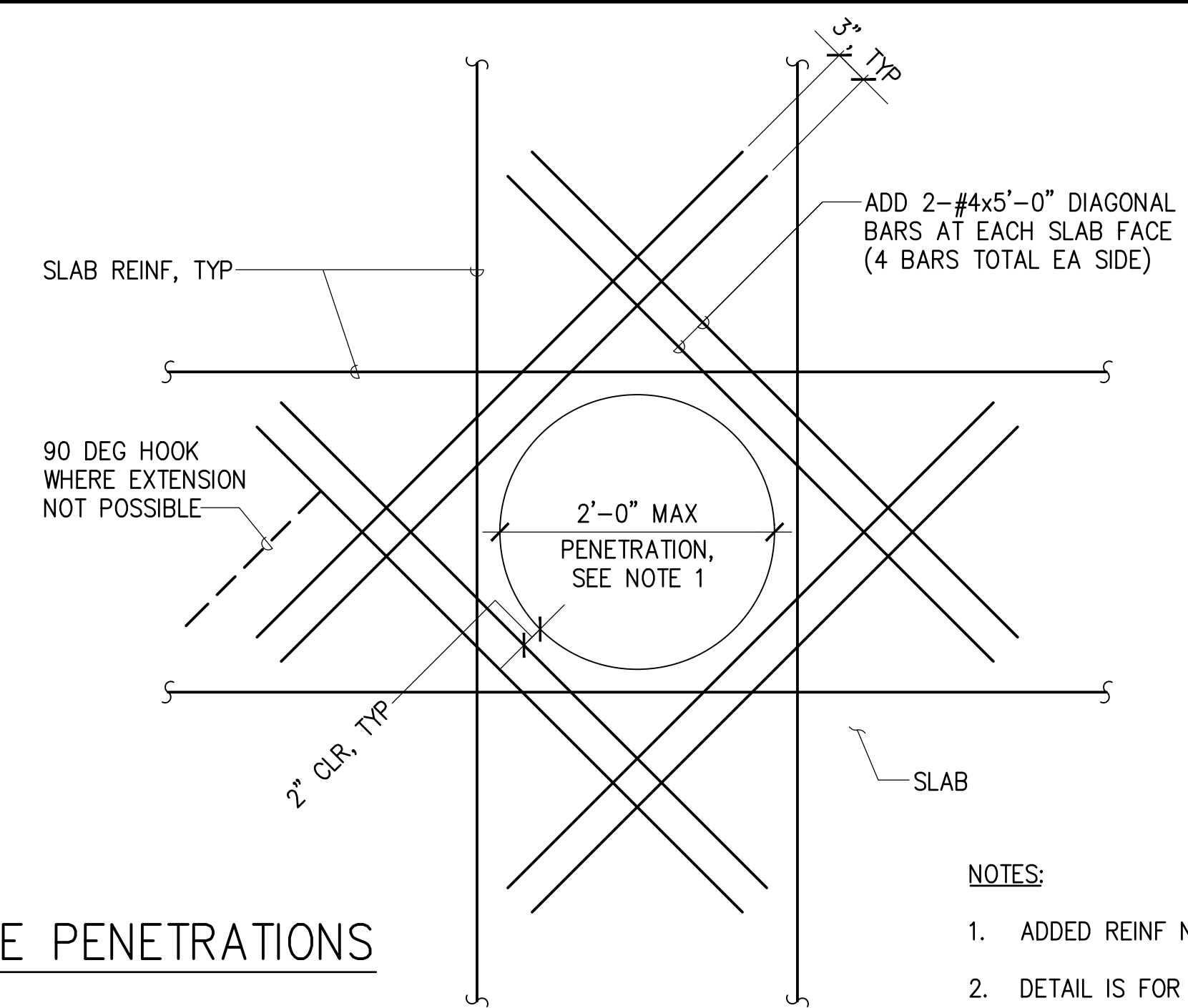
- CONCRETE CONSTRUCTION SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE ACI 318-14.
- CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK CONCRETE AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- MAXIMUM WATER TO CEMENTITIOUS MATERIALS RATIO SHALL BE 0.40.
- CONCRETE DELIVERY TICKETS SHALL RECORD ALL FREE WATER IN THE MIX: AT BATCHING BY PLANT, FOR CONSISTENCY BY DRIVER, AND ANY ADDITIONAL REQUEST BY CONTRACTOR IF PERMITTED BY THE MIX DESIGN.
- ALL INSERTS, ANCHOR BOLTS, PLATES, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE PLASTIC OR STAINLESS STEEL UNLESS OTHERWISE NOTED.
- REINFORCING BARS, ANCHOR BOLTS, INSERTS, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE SECURED IN POSITION PRIOR TO PLACEMENT OF CONCRETE.
- CONCRETE SHALL BE VIBRATED, RODDED OR TAMPED DURING PLACEMENT TO CONSOLIDATE THE POUR AND FILL ALL CORNERS OF THE PATCH AND BENEATH THE REINFORCING.
- THERE SHALL BE NO COLD JOINTS IN THE FIELD OF THE REPAIR.
- CONCRETE SURFACE FINISH SHALL MATCH THE ORIGINAL SURFACE FINISH.
- CONCRETE SHALL BE CURED BY COVERING THE SURFACE WITH A CURING COMPOUND.
- PATCHING COMPOUND FOR REPAIRING EXISTING ANCHORS ON HORIZONTAL SURFACES SHALL BE SIKAREPAIR 222 BY SIKA CORP, OR APPROVED EQUAL.

REINFORCING STEEL:

- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
- CLEAR CONCRETE COVER FOR SLAB REINFORCING BARS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
 - CAST AGAINST EARTH 3"
 - FORMED AND EXPOSED TO EARTH OR WEATHER 1-1/2"
- BAR BENDS AND HOOKS SHALL BE "STANDARD HOOKS" IN ACCORDANCE WITH ACI 318.
- REINFORCING STEEL SHALL BE SPLICED IN ACCORDANCE WITH ACI 318.

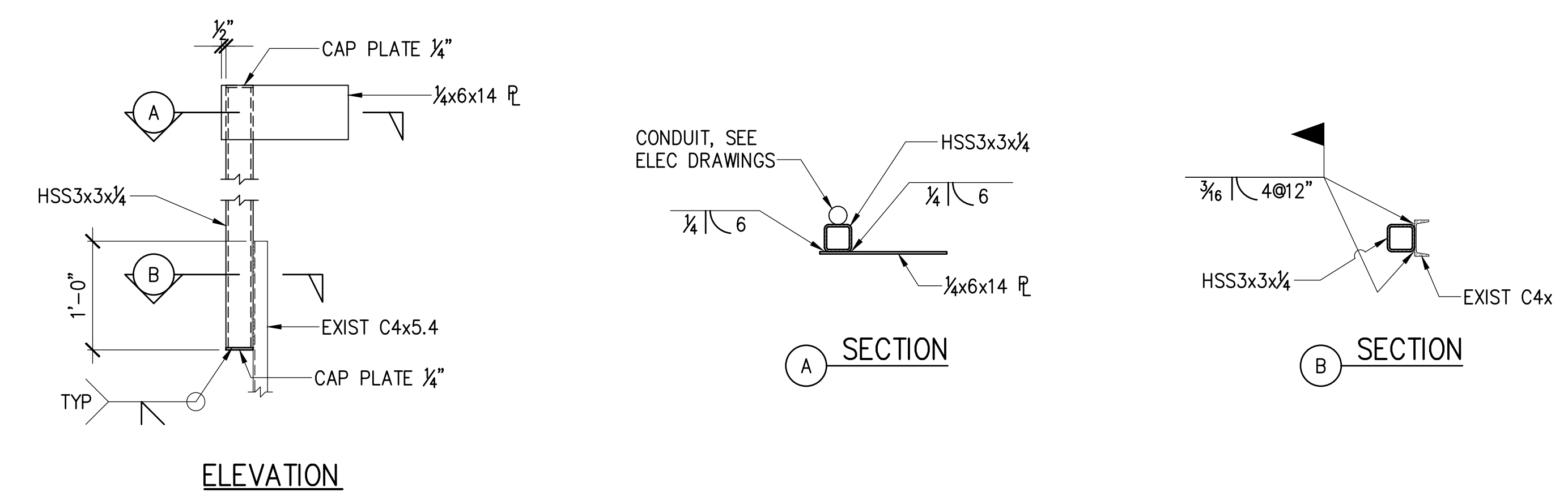
STRUCTURAL STEEL:

- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL OF STEEL CONSTRUCTION, FIFTEENTH EDITION.
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A36/A36M UNLESS OTHERWISE NOTED.
- COLD-FORMED HOLLOW STRUCTURAL SECTIONS SHALL CONFORM TO ASTM A500/A500M, GRADE C.
- WELDS AND WELDING PROCEDURES SHALL CONFORM TO THE STRUCTURAL WELDING CODE AWS D1.1 OF THE AMERICAN WELDING SOCIETY.
- WELDING SHALL BE PERFORMED BY WELDERS PREQUALIFIED FOR WELDING PROCEDURES TO BE USED.
- WELDING ELECTRODES SHALL BE E70XX.
- ALL STEEL SHALL BE HOT-DIPPED GALVANIZED.
- GALVANIZING REPAIR PAINT SHALL CONFORM WITH ASTM A780.



1 TYP REINF AT PIPE PENETRATIONS
S-1 NOT TO SCALE

- NOTES:**
- ADDED REINF NOT REQUIRED FOR PENETRATIONS LESS THAN 4".
 - DETAIL IS FOR PENETRATIONS THROUGH THE NEW CONCRETE SLAB.



ELEVATION

- NOTES:**
- SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - COAT FIELD WELDS WITH GALVANIZING REPAIR PAINT.

2 POST EXTENSION DETAIL
S-1 SCALE: 1" = 1'-0"

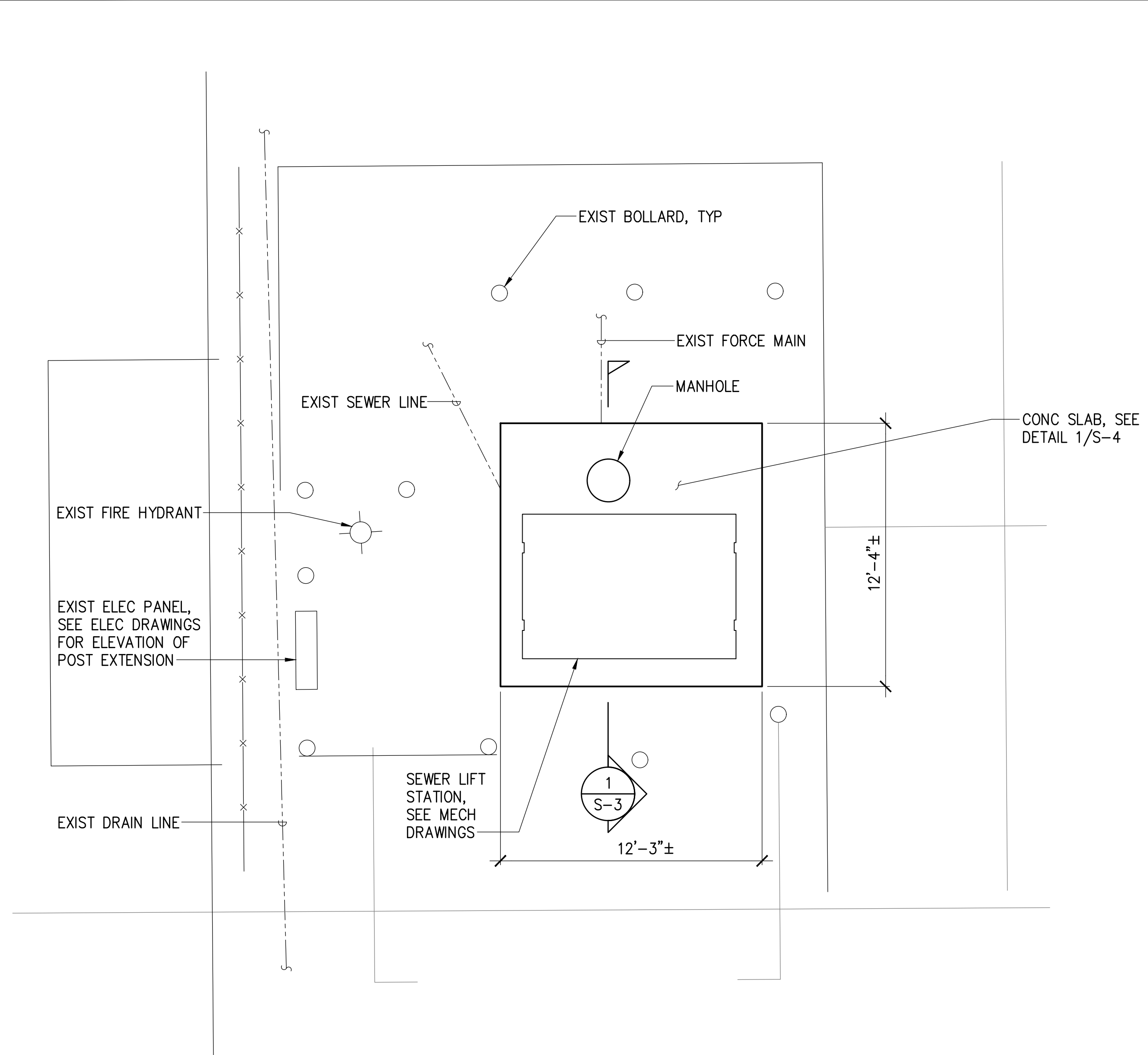


EXIST CONDITION

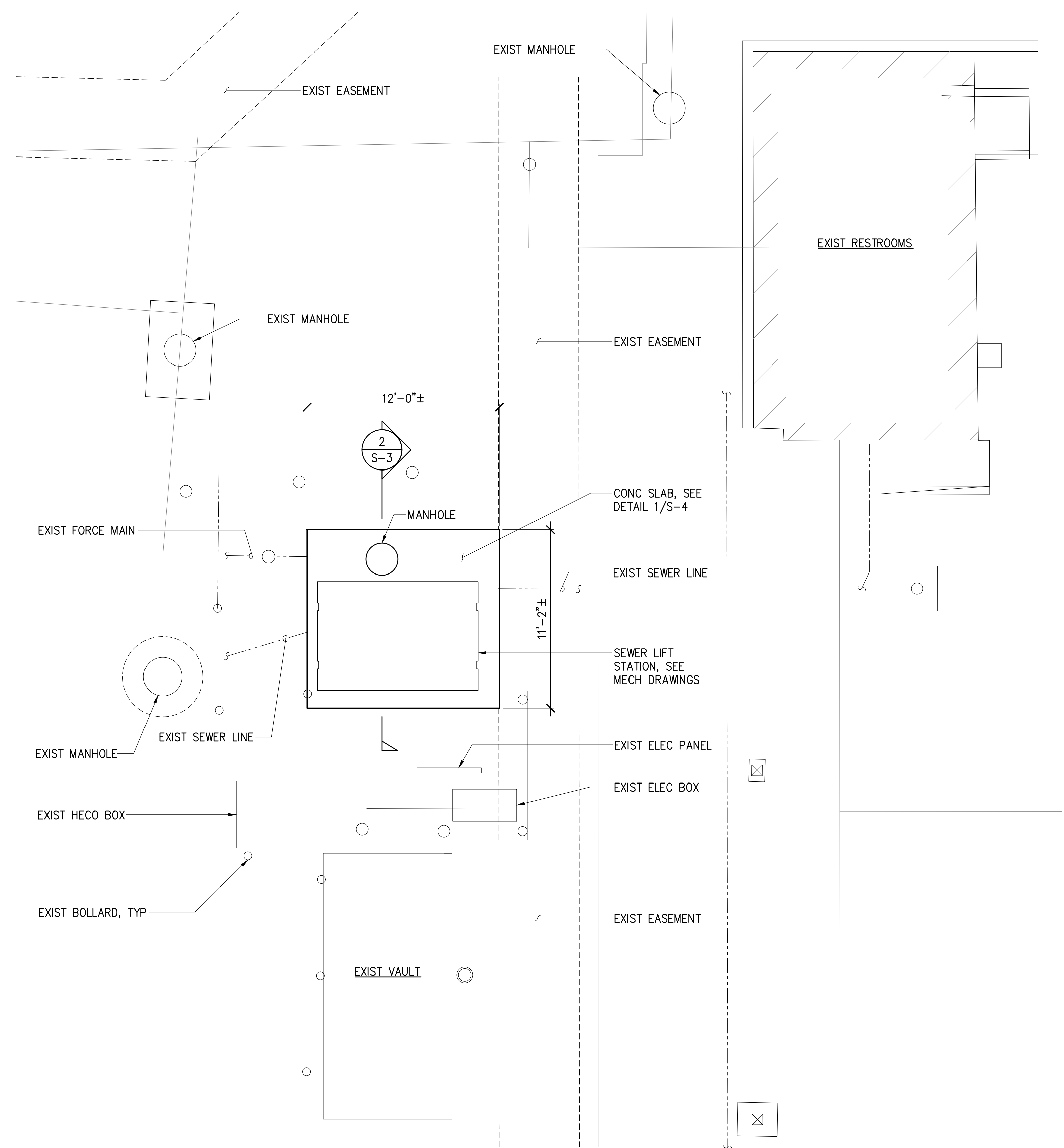
REPAIRED CONDITION

3 EXPOSED ANCHOR BOLT REPAIR
S-1 NOT TO SCALE

		REVISION DATE DESCRIPTION BY APPROVED	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS			
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII			
SHEET TITLE STRUCTURAL NOTES AND DETAILS			
DESIGNED BY: GO	CHECKED BY: GM	DATE: 08/2024	SCALE: AS SHOWN
DRAWN BY: DL	JOB NUMBER: S10849		SHEET: S-1
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION EXP. 4-30-26 MKE ASSOCIATES LLC			10 of 27 SHTS.



PLAN - PIER 21
SCALE: 1/4" = 1'-0"

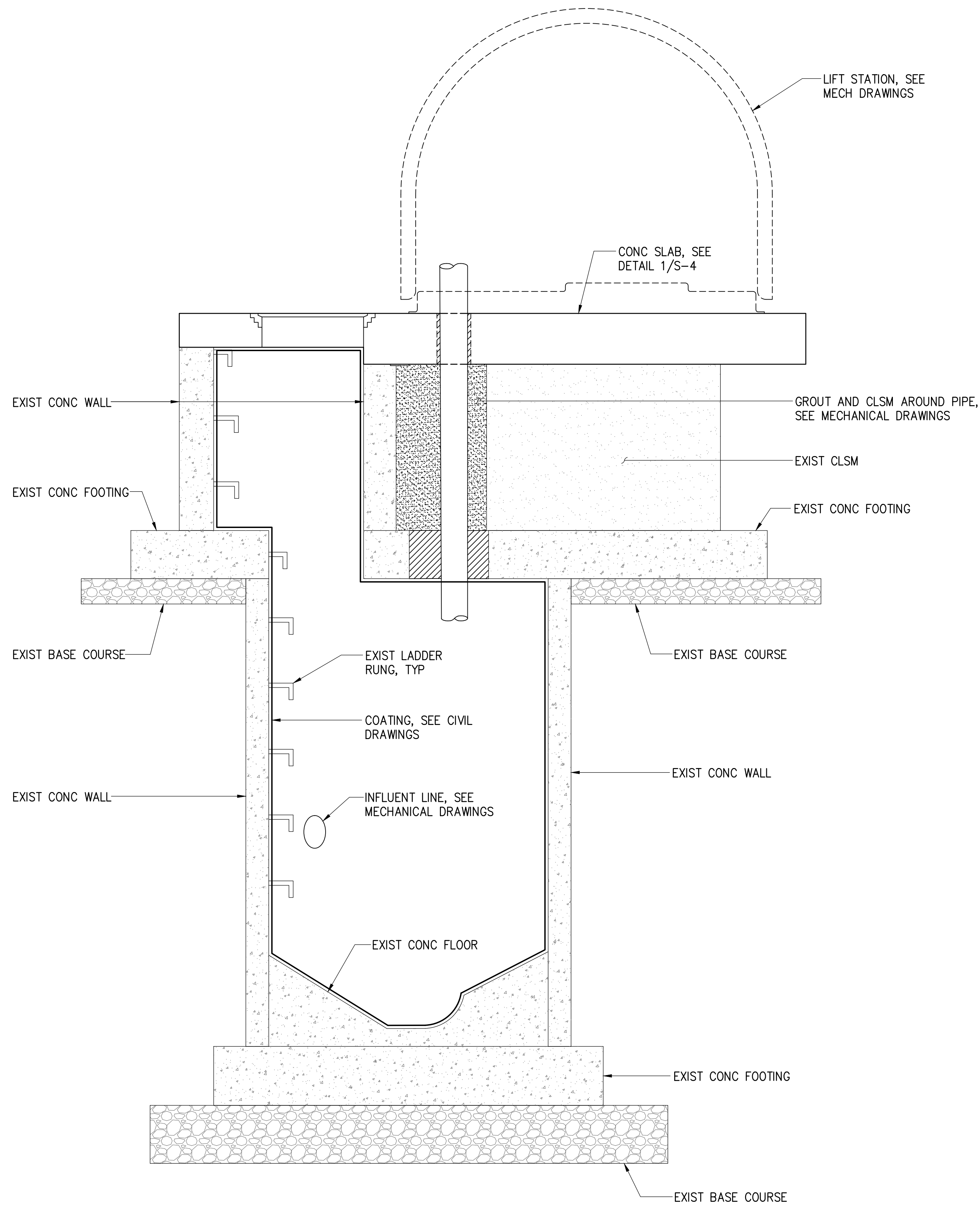


PLAN - PIER 27
SCALE: 1/4" = 1'-0"

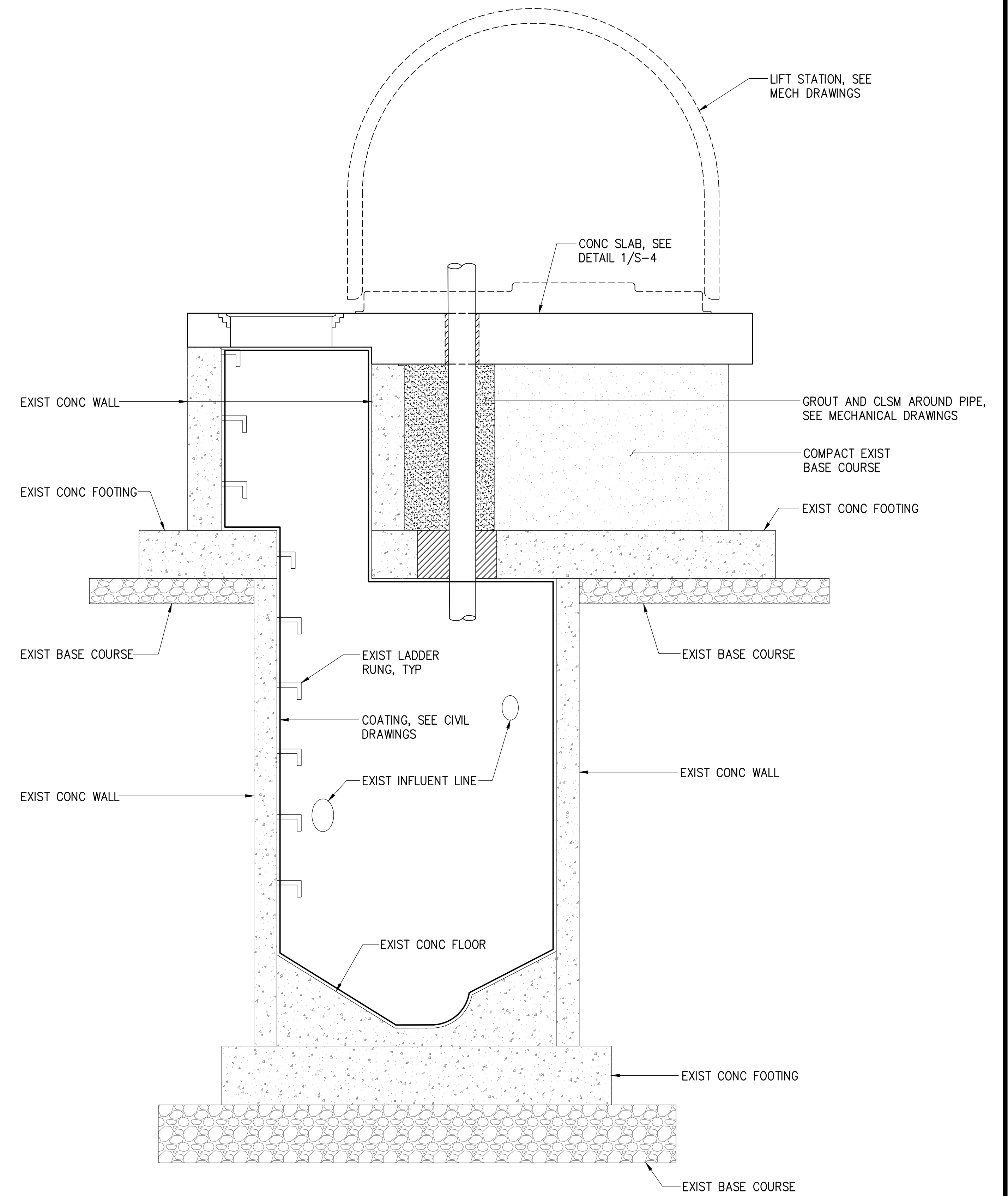


		REVISION DATE DESCRIPTION BY APPROVED	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS			
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII			
SHEET TITLE STRUCTURAL PLANS			
DESIGNED BY: GO DRAWN BY: DL CHECKED BY: GM DATE: 08/2024 SCALE: AS SHOWN	JOB NUMBER S10849		SHEET S-2 11 of 27 SHTS.

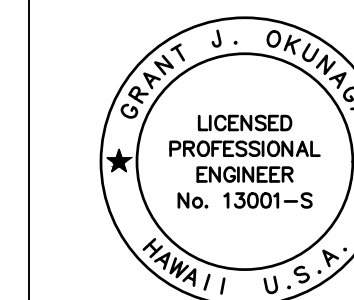
2024/08/10 10:20AM 1:32PM



1 SECTION - PIER 21
S-3 SCALE: 1" = 1'-0"

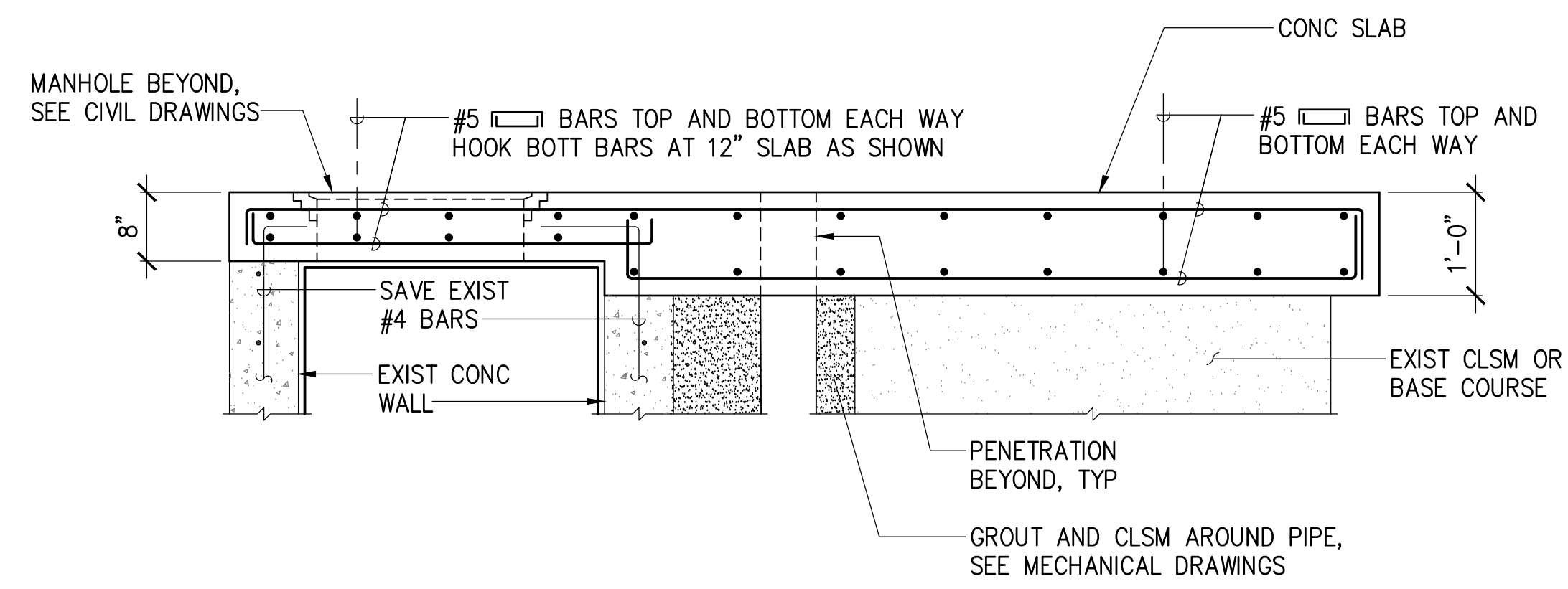
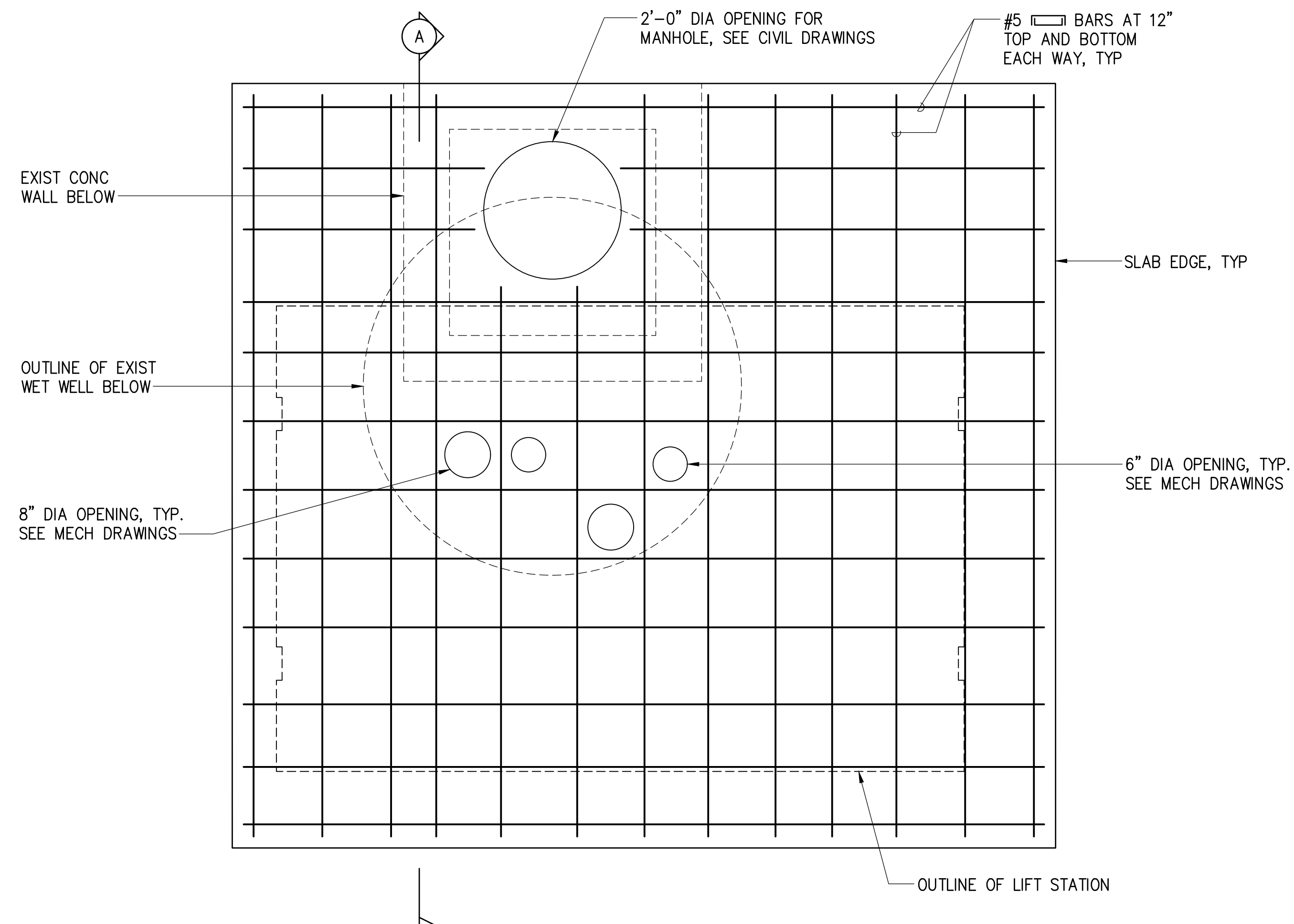


2 SECTION - PIER 27
S-3 SCALE: 1" = 1'-0"



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
EXP. 4-30-26
Grant J. Okuniga
MKE ASSOCIATES LLC

REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE SECTIONS				
DESIGNED BY: GO	JOB NUMBER			SHEET
DRAWN BY: DL	S10849			S-3
CHECKED BY: GM	DATE: 08/2024			12 of 27 SHTS.
DATE: 08/2024	SCALE: AS SHOWN			

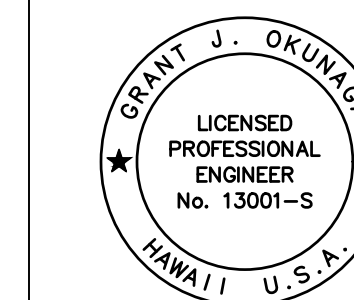


(A) SECTION

NOTE:
DIAGONAL REINFORCING AT OPENINGS NOT SHOWN FOR CLARITY, SEE DETAIL 1/S-1.

PLAN

1
S-4 CONCRETE SLAB DETAILS
SCALE: 3/4" = 1'-0"



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
EXP. 4-30-26
Grant J. Okuniga
MKE ASSOCIATES LLC

REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE CONCRETE SLAB DETAILS				
DESIGNED BY: GO				SHEET S-4
DRAWN BY: DL				JOB NUMBER S10849
CHECKED BY: GM				
DATE: 08/2024				
SCALE: AS SHOWN				13 of 27 SHTS.

GENERAL NOTES:

- CONFORM TO ALL REQUIREMENTS OF THE 2021 IBC, 2021 UPC, 2021 IECC, AND 2021 NFPA 1 CODES OF THE CITY AND COUNTY OF HONOLULU, STATE OF HAWAII HEALTH REGULATIONS, FIRE DEPARTMENT REGULATIONS, MANUFACTURER'S RECOMMENDATIONS, AND OTHER APPLICABLE REGULATIONS.
- EXAMINE ALL PROJECT PLANS AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS AND THE EXTENT OF REMOVAL, RELOCATION, AND/OR NEW WORK PRIOR TO BIDDING. NOTIFY AND COORDINATE WITH THE CONTRACTING OFFICER FOR ANY MAJOR DEVIATIONS OR DISCREPANCIES DISCOVERED IN THE PLANS AND SPECIFICATIONS DUE TO UNFORESEEN OR VARYING FIELD CONDITIONS.
- INSTALLATION SHALL BE GUARANTEED TO BE FREE FROM DEFECTS FOR ONE YEAR FROM FINAL DATE OF ACCEPTANCE OF THE PROJECT AS A WHOLE.
- CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO BID AND CONSTRUCTION.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING LINE SIZES, CONDITIONS, AND INVERTS PRIOR TO BID AND CONSTRUCTION.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO COVER THE COMPLETE INSTALLATION OF SYSTEMS TO FUNCTION AS DESCRIBED AND SPECIFIED. THE OMISSION OF REFERENCE TO ANY NECESSARY ITEM OF LABOR OR MATERIAL SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SUCH LABOR AND MATERIAL AT NO ADDITIONAL COST TO THE STATE.
- DRAWING FILES WILL NOT BE AVAILABLE TO CONTRACTORS FOR SHOP DRAWINGS OR ANY OTHER PURPOSE.
- CAULK ALL PENETRATIONS WATERTIGHT. PROVIDE ALL CUTTING, PATCHING, AND RESTORING OF EXISTING SURFACES TO MATCH ORIGINAL SURFACE FINISHES. SPOT PAINT TO MATCH EXISTING SURFACES/COLOR.
- PREPARE SHOP DRAWINGS, QUANTITY AS PER SPECS, SUBMITTED TO THE CONTRACTING OFFICER FOR APPROVAL PRIOR TO THE START OF WORK. NO REPRODUCTIONS OF ANY KIND OF THE CONTRACT DOCUMENTS SHALL BE ACCEPTABLE AS SHOP DRAWINGS. PROVIDE ONE SET OF REPRODUCIBLE AS-BUILT DRAWINGS SHOWING THE ACTUAL INSTALLED CONDITIONS AND SUBMIT TO THE STATE UPON COMPLETION OF WORK.
- ALL EQUIPMENT SHALL BE CAPABLE OF FITTING INTO THE SPACES ALLOTTED WHILE MEETING THE MANUFACTURER'S RECOMMENDED ACCESS REQUIREMENTS. REVIEW ALL SPACES WHERE EQUIPMENT AND FIXTURES ARE TO BE INSTALLED PRIOR TO ORDERING OF ITEMS AND NOTIFY THE CONTRACTING OFFICER OF ANY INADEQUATE CLEARANCES OR CONDITIONS THAT WILL PREVENT THE PROPER INSTALLATION, MAINTENANCE, AND OPERATION OF THE EQUIPMENT AND FIXTURES.
- DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT SHOW EVERY EXACT DETAIL OF PIPING. PROVIDE OFFSETS AS NECESSARY TO AVOID LOCAL OBSTRUCTIONS OR INTERFERENCES WITH OTHER TRADES. REVIEW ALL PIPING RUNS PRIOR TO FABRICATION AND IMMEDIATELY NOTIFY THE CONTRACTING OFFICER OF ANY INTERFERENCES AND/OR LACK OF ADEQUATE CLEARANCES.
- SHOULD PROJECT CONDITIONS REQUIRE REARRANGEMENT OF WORK, MARK SUCH CHANGES ON THE AS-BUILT DRAWINGS. IF THESE CHANGES REQUIRE ALTERNATE METHODS TO THOSE APPROVED BY THE CONTRACT DOCUMENTS, SUBMIT SHOP DRAWINGS SHOWING THE PROPOSED ALTERNATE METHODS TO THE CONTRACTING OFFICER FOR REVIEW/APPROVAL PRIOR TO PROCEEDING WITH WORK.
- CONTRACTOR SUBMITTALS ARE TO BE PROVIDED AS A COMPLETE PACKAGE. PIECEMEAL SUBMITTALS WILL NOT BE REVIEWED AND RETURNED.
- COORDINATE ALL WORK WHICH WILL AFFECT AREAS NOT IN CONTRACT WITH THE CONTRACTING OFFICER AND HARBOR OFFICE. SCHEDULE OFF-HOUR WORK WHEN REQUIRED TO MINIMIZE DISRUPTIONS.
- ALL STEEL SHALL BE HOT DIPPED GALVANIZED. GALVANIZED STEEL EXPOSED TO WEATHER SHALL HAVE WEATHER PROOF PAINT TO MATCH SURFACES. PROVIDE TWO EXTRA COATS OF EPOXY PAINT.
- ALL ELECTRICAL AND CONTROL WIRING SHALL BE IN CONDUIT. PROVIDE GALVANIZED STEEL PIPE CONDUIT FOR EXPOSED TO WEATHER CONDUIT.
- COORDINATE ALL WORK WITH OTHER TRADES TO AVOID INTERFERENCES AND DELAYS.
- SEISMICALLY BRACE ALL EQUIPMENT AND PIPING IN ACCORDANCE WITH THE CURRENT BUILDING CODE AND THEIR RESPECTIVE SEISMIC ZONE LOCATIONS.
- LOCATE ALL UTILITY LINES OR OTHER INTERFERENCES IN AREAS OF PROPOSED WORK PRIOR TO START OF WORK. REPAIR OR PAY FOR ALL DAMAGES TO EXISTING UTILITIES.
- PROVIDE DIELECTRIC UNIONS OR SEPARATIONS AT ALL DISSIMILAR METALS. PROVIDE UNIONS AFTER ALL SHUTOFF VALVES.
- ALL SWITCHES ND CONTROL ITEMS SHALL BE ADA ACCESSIBLE AND SHALL BE MOUNTED AT 44" AFF AS PER ADA REQUIREMENTS OR ACCORDING TO HARBOR OFFICE STAFF INSTRUCTIONS.
- COORDINATE ALL SWITH LOCATIONS WITH HARBOR OFFICE STAFF PRIOR TO INSTALLATION TO AVOID INTERFERENCES WITH PAINTING, BULLEIN BOARDS, FURNITURE, ETC. ANY ITEM NOT PROPERLY COORDINATED SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE STATE.
- CONTRACTOR SHALL SCHEDULE, TAG, AND LABEL ALL VALVES AND PIPING. ALL PIPING SHALL ALSO BE LABELED WITH DIRECTION OF FLOW.
- ALL EXTERIOR NUTS, BOLTS, SCREWS, WASHERS, FASTENERS, SUPPORTS STRAPS, ETC. SHALL BE TYP 304 STAINLESS STEEL.

LEGEND		
SYMBOL	ABBRV	DESCRIPTION
	AFF	ABOVE FINISHED FLOOR
	BLW	BELOW
⊕		CENTER LINE
⊕	COTG	CLEANOUT TO GRADE
	CLSM	CONTROLLED LOW-STRENGTH MATERIAL
∅	DIA	DIAMETER
	DN	DOWN
	ELEV	ELEVATION
	(E)	EXISTING
	GND	GROUND
	HB	HOSE BIBB
	HHWL	HIGH HIGH WET WELL LEVEL
	HWL	HIGH WET WELL LEVEL
	INV	INVERT
	LLWL	LOW LOW WET WELL LEVEL
	LWL	LOW WET WELL LEVEL
	MAX	MAXIMUM
	MIN	MINIMUM
	(N)	NEW
	POC	POINT OF CONNECTION
	POR	POINT OF REMOVAL
	(R)	REMOVE
—	S	SANITARY
	SMH	SEWER MANHOLE
	TERM	TERMINATE
	TYP	TYPICAL
	W/	WITH
	WMH	WATER MANHOLE

MECHANICAL EQUIPMENT SCHEDULE

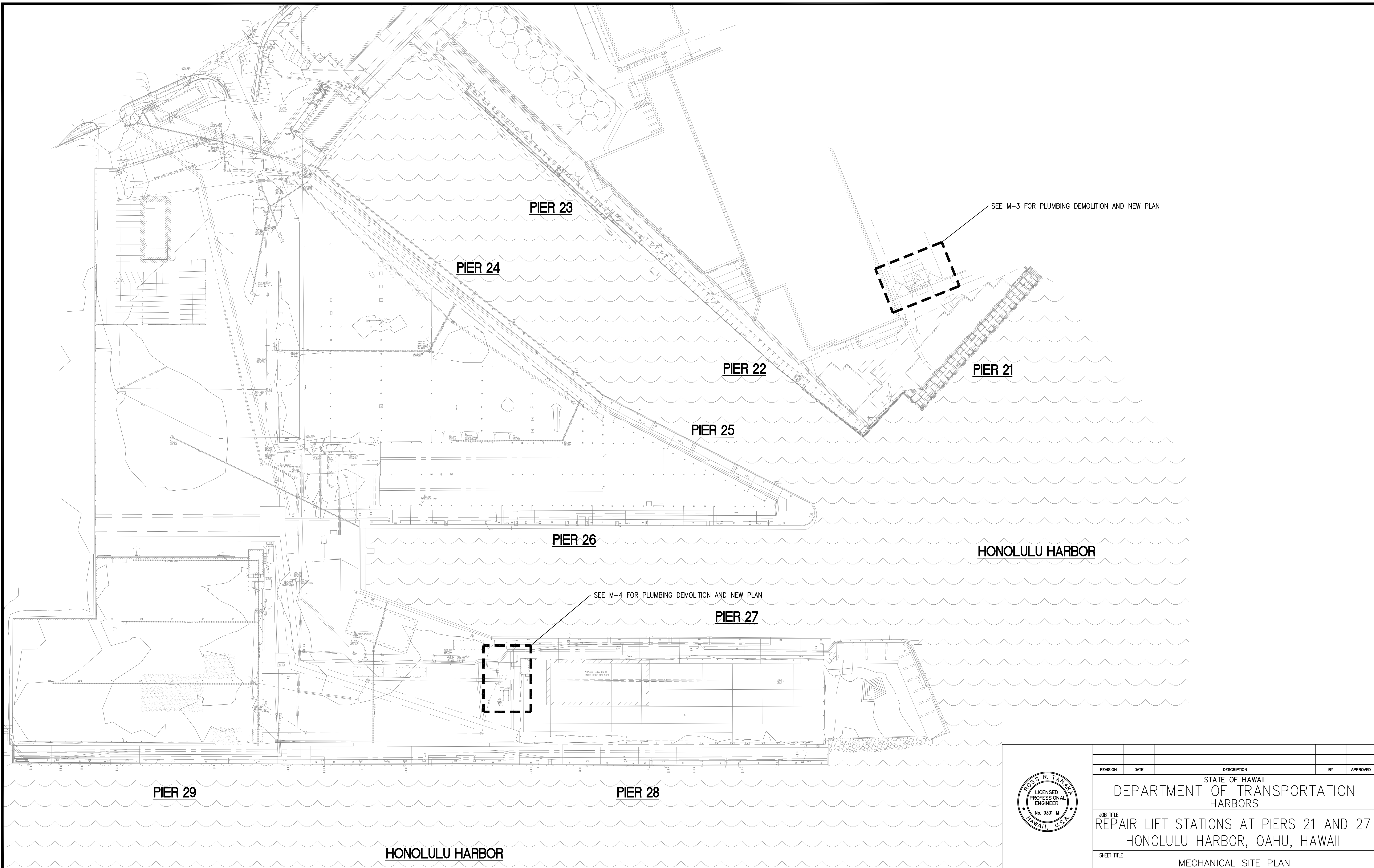
ALL OUTDOOR EQUIPMENT SHALL HAVE FACTORY APPLIED CORROSION INHIBITOR COATING ON CASING
 PROVIDE PHASE FAILURE/PHASE REVERSAL/OVER VOLTAGE/UNDER VOLTAGE
 ELECTRICAL PROTECTION PROVIDE CONTROL VOLTAGE TRANSFORMERS.
 PROVIDE NEMA 4, S.S ENCLOSURE FOR PUMP CONTROLLER.

SEWER LIFT STATION SCHEDULE												
UNIT NO.	AREA SERVED	TYPE	GPM	TOTAL HEAD (FT.)	RPM	ELECTRICAL				MAKE & MODEL OR APPROVED EQUAL	SINGLE OR DUPLEX	REMARKS
						HP	V	PH	HZ			
GP 2A	PIER 21 SEWAGE WETWELL	SEWAGE LIFT STATION	180	26.5	1150	5	240	3	60	GORMAN-RUPP PUMPS SELF PRIMING CENTRIFUGAL PUMP MODEL T3A-B SIZE 4"X4"	DUPLEX	PROVIDE CONTROL PANEL W/ ALARM PACKAGE AND REMOTE ALARM STROBE AND HORN, ERADICATOR (SOLIDS HANDLING) SYSTEM, MOTOR CONTRACTORS, DISCONNECTS, THE LEVEL CONTROL SYSTEM AND OTHER ACCESSORIES AS REQUIRED FOR A COMPLETE PUMP STATION. PROVIDE W/ ALL 316 STAINLESS STEEL METAL PARTS.
GP 2B	PIER 21 SEWAGE WETWELL	SEWAGE LIFT STATION	180	26.5	1150	5	240	3	60			
GP 4A	PIER 27 SEWAGE WETWELL	SEWAGE LIFT STATION	180	54.7	1324	10	208	3	60	GORMAN-RUPP PUMPS SELF PRIMING CENTRIFUGAL PUMP MODEL T4A-B SIZE 4"X4"	DUPLEX	PROVIDE CONTROL PANEL W/ ALARM PACKAGE AND REMOTE ALARM STROBE AND HORN, ERADICATOR (SOLIDS HANDLING) SYSTEM, MOTOR CONTRACTORS, DISCONNECTS, THE LEVEL CONTROL SYSTEM AND OTHER ACCESSORIES AS REQUIRED FOR A COMPLETE PUMP STATION. PROVIDE W/ ALL 316 STAINLESS STEEL METAL PARTS.
GP 4B	PIER 27 SEWAGE WETWELL	SEWAGE LIFT STATION	180	54.7	1324	10	208	3	60			

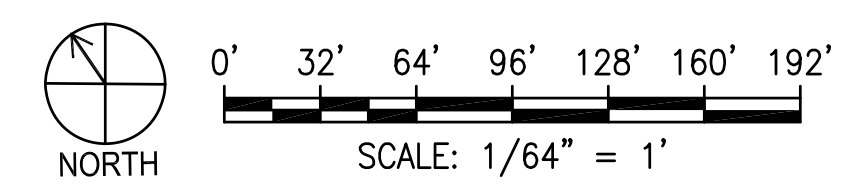


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 EXP 4-30-26
 MECHANICAL ENTERPRISES, INC.

REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE GENERAL NOTES, LEGEND				
DESIGNED BY: MEI				SHEET M-1
DRAWN BY: MEI				JOB NUMBER S10849
CHECKED BY: RRT				
DATE: 08/2024				
SCALE: AS SHOWN				14 of 27 SHTS.



1
M-2
MECHANICAL SITE PLAN
SCALE: 1/64" = 1'-0"



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
EXP 4-30-26
Ross R. Tanaka
MECHANICAL ENTERPRISES, INC.

REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE MECHANICAL SITE PLAN				
DESIGNED BY: MEI				SHEET M-2
DRAWN BY: MEI				JOB NUMBER S10849
CHECKED BY: RRT				
DATE: 08/2024				
SCALE: AS SHOWN				15 of 27 SHTS.

GENERAL NOTES:

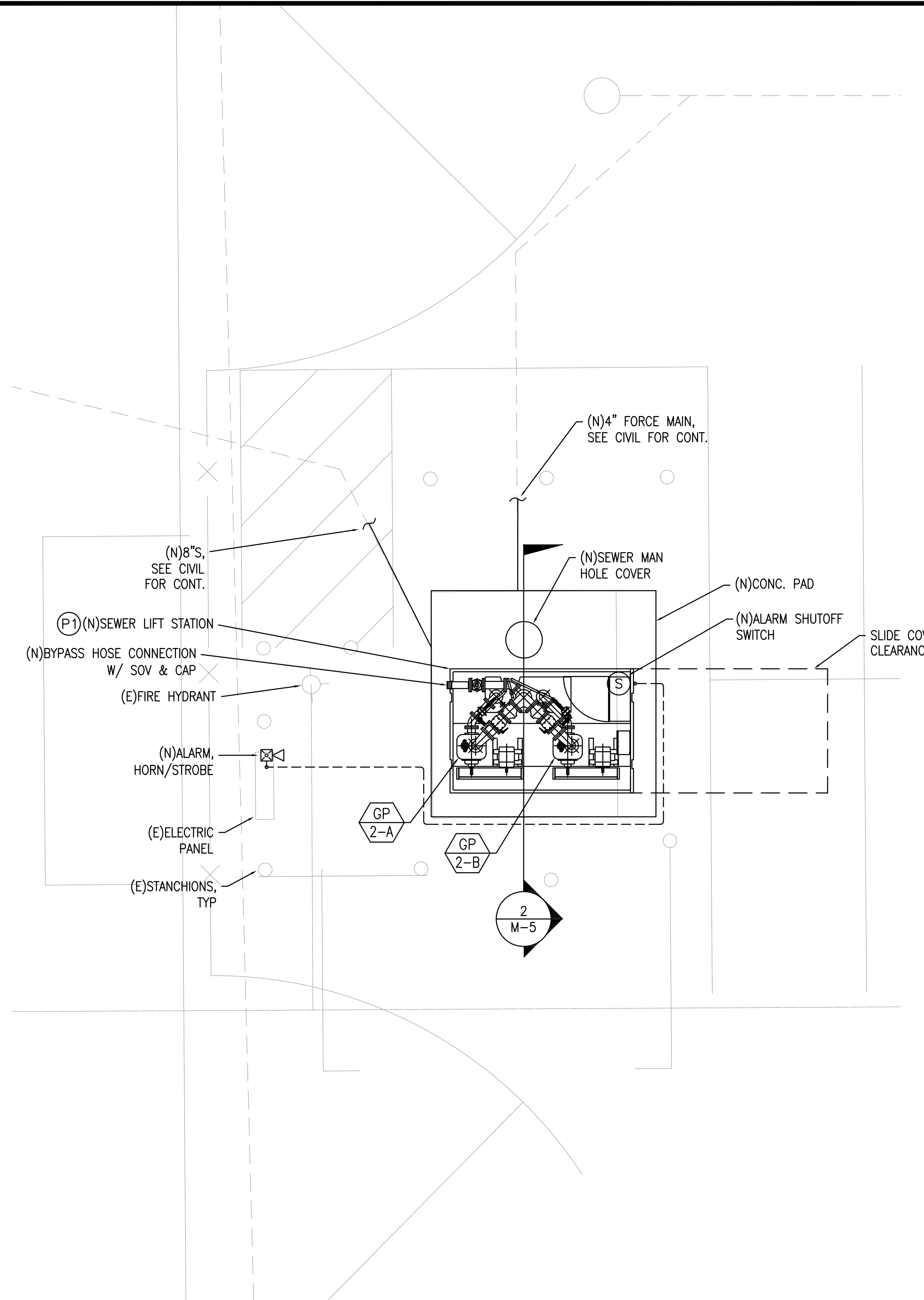
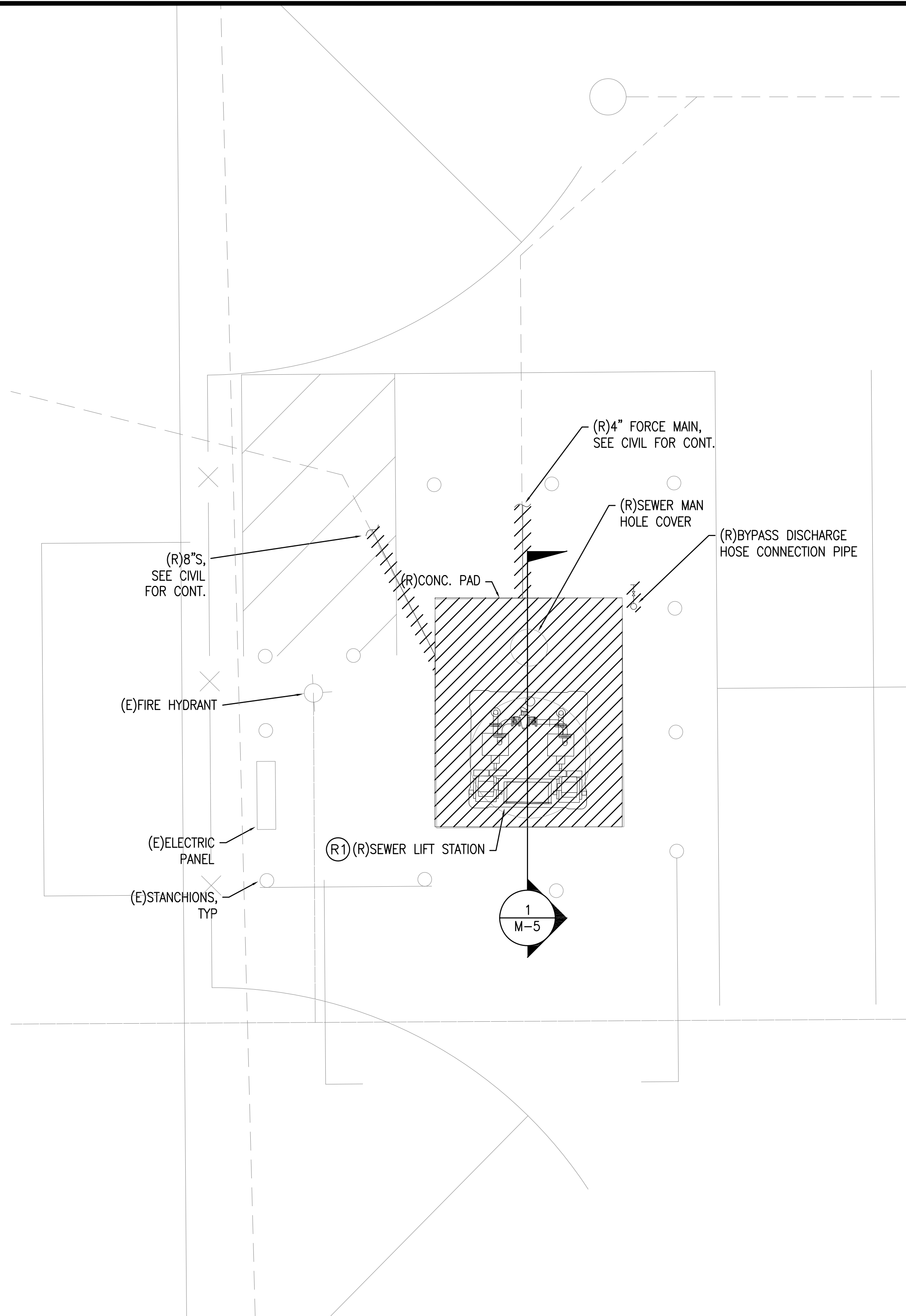
1. CONTRACTOR TO PROVIDE CONTROL WIRING AS PER MANUFACTURER'S RECOMMENDATIONS. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) 2020. CONTRACTOR SHALL BE RESPONSIBLE FOR WIRE SIZING.
2. REFER TO CIVIL SHEETS FOR SITE PIPING FURTHER THAN 5' FROM THE LIFT STATION.

DEMOLITON WORK NOTES

- (R1) EXISTING SEWER LIFT STATION TO BE REMOVED COMPLETELY AND REPLACED WITH NEW ABOVE GROUND SEWER LIFT STATION INCLUDING BUT NOT LIMITED TO FIBERGLASS HOOD, STEEL PLATE, PUMPS, DISCHARGE PIPING IN THE WELL, WIRING AND CONTROL PANELS. PATCH AND REPAIR TO MATCH EXISTING. CONTRACTOR TO FIELD VERIFY.

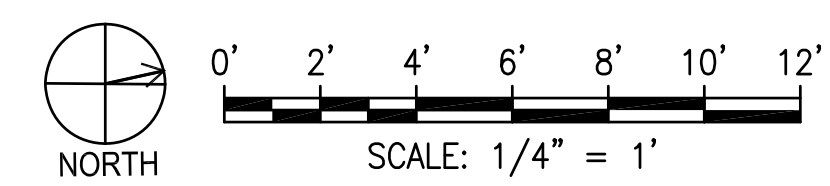
NEW PLUMBING WORK NOTES

- (P1) PROVIDE AND INSTALL NEW SEWER LIFT STATION. PROVIDE AND INSTALL NEW SEWER LIFT STATION WITH SOLIDS HANDLING SYSTEM, NEW CONTROL PANEL, AND NEW SUCTION AND DISCHARGE PIPING AS REQUIRED TO CONNECT TO EXISTING PIPING. PATCH AND REPAIR TO MATCH ADJACENT SURFACES. CONTRACTOR TO FIELD VERIFY.

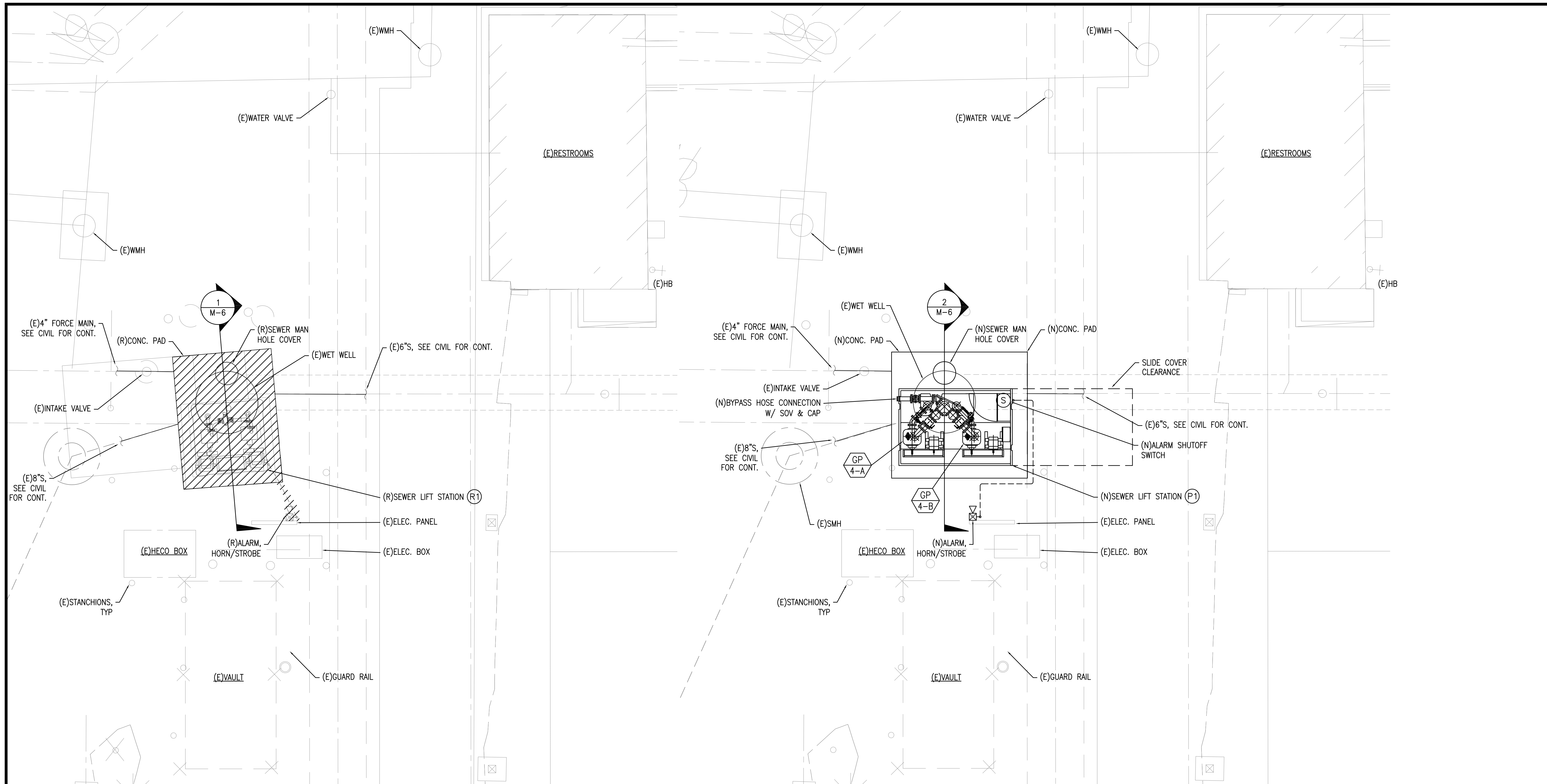


1 PLUMBING DEMOLITION PLAN - PIER 21
M-3 SCALE: 1/4" = 1'-0"

2 PLUMBING PLAN - PIER 21
M-3 SCALE: 1/4" = 1'-0"



	THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION EXP 4-30-26 MECHANICAL ENTERPRISES, INC.		REVISION DATE DESCRIPTION BY APPROVED	
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS			
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE PLUMBING DEMOLITION AND NEW PLAN - PIER 21				
DESIGNED BY: MEI DRAWN BY: MEI CHECKED BY: RRT DATE: 08/2024 SCALE: AS SHOWN	JOB NUMBER S10849		SHEET M-3 16 OF 27 SHEETS	



1
M-4 **PLUMBING DEMOLITION PLAN - PIER 27**
SCALE: 1/4" = 1'-0"

2
M-4 **PLUMBING PLAN - PIER 27**
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

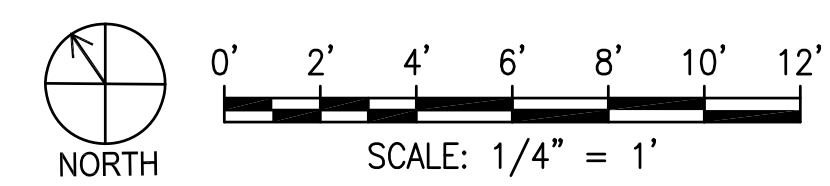
- CONTRACTOR TO PROVIDE CONTROL WIRING AS PER MANUFACTURER'S RECOMMENDATIONS. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) 2020. CONTRACTOR SHALL BE RESPONSIBLE FOR WIRE SIZING.
- REFER TO CIVIL SHEETS FOR SITE PIPING FURTHER THAN 5' FROM THE LIFT STATION.

DEMOLITON WORK NOTES

- (R1) EXISTING SEWER LIFT STATION TO BE REMOVED COMPLETELY AND REPLACED WITH NEW ABOVE GROUND SEWER LIFT STATION INCLUDING BUT NOT LIMITED TO FIBERGLASS HOOD, STEEL PLATE, PUMPS, DISCHARGE PIPING IN THE WELL, WIRING AND CONTROL PANELS. PATCH AND REPAIR TO MATCH EXISTING. CONTRACTOR TO FIELD VERIFY.

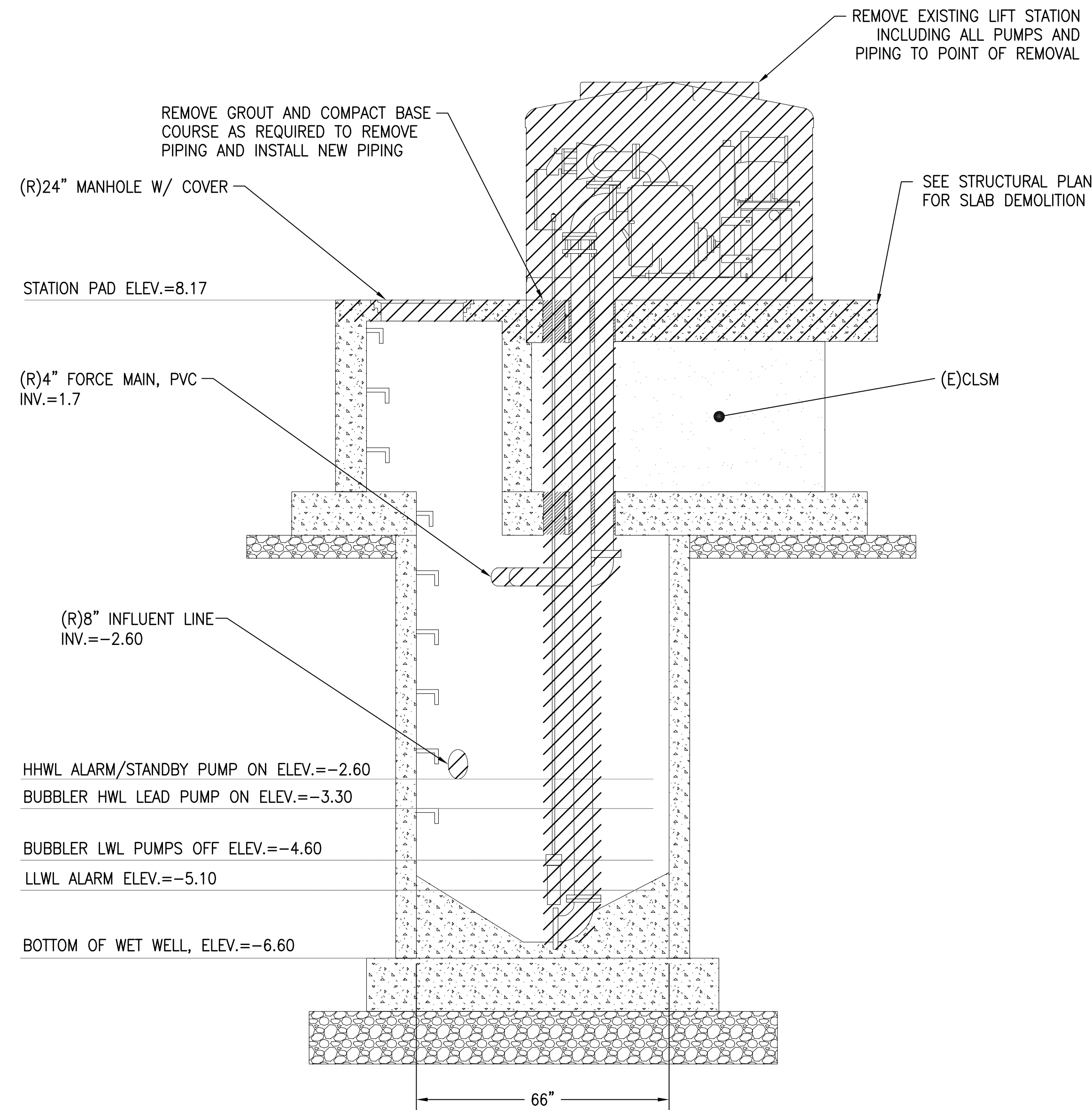
NEW PLUMBING WORK NOTES

- (P1) PROVIDE AND INSTALL NEW SEWER LIFT STATION. PROVIDE AND INSTALL NEW SEWER LIFT STATION WITH SOLIDS HANDLING SYSTEM, NEW CONTROL PANEL, AND NEW SUCTION AND DISCHARGE PIPING AS REQUIRED TO CONNECT TO EXISTING PIPING. PATCH AND REPAIR TO MATCH ADJACENT SURFACES. CONTRACTOR TO FIELD VERIFY.

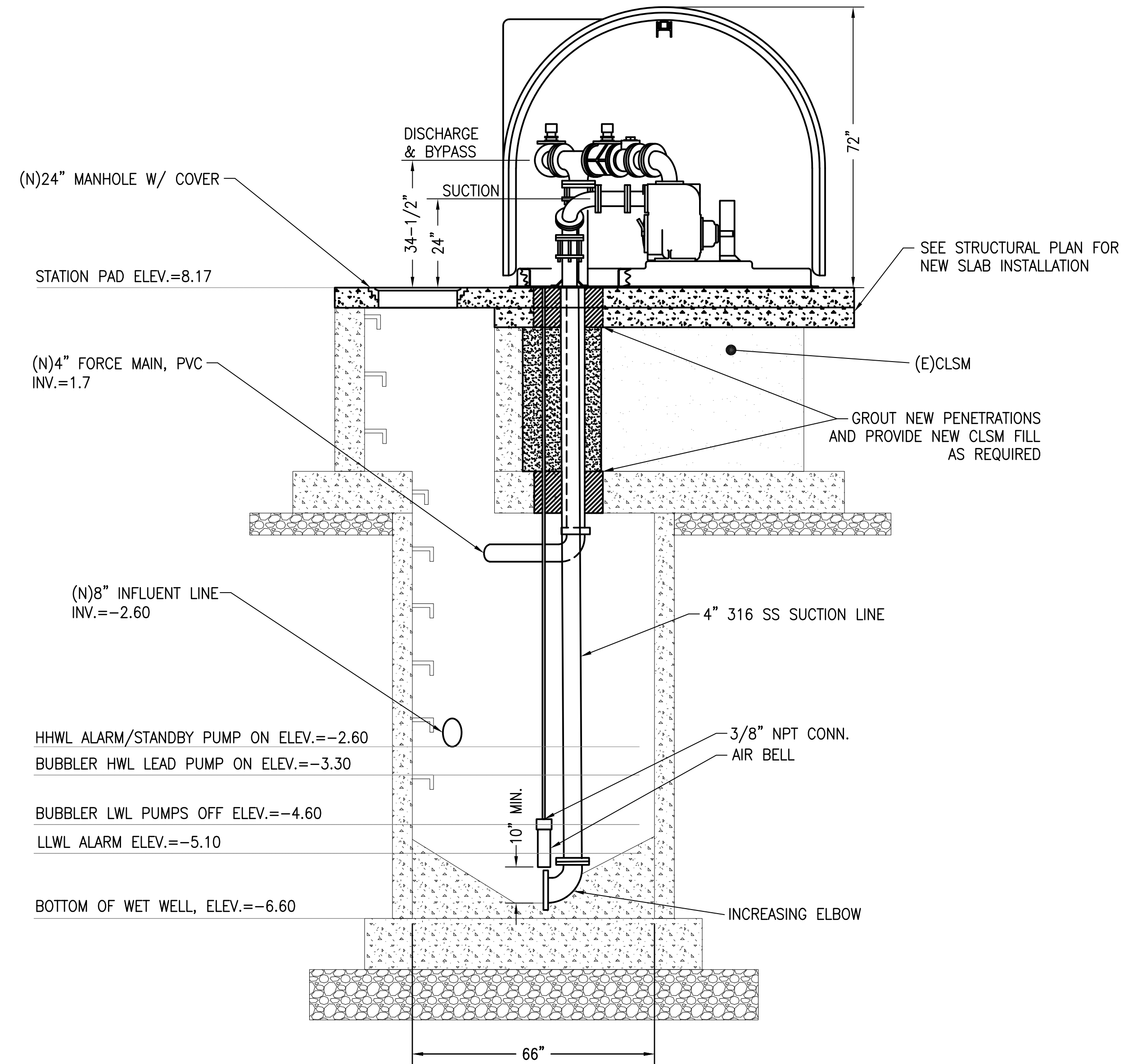


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
EXP 4-30-26
Ross R. Tanaka
MECHANICAL ENTERPRISES, INC.

REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE PLUMBING DEMOLITION AND NEW PLAN - PIER 27				
DESIGNED BY: MEI				SHEET M-4
DRAWN BY: MEI				JOB NUMBER S10849
CHECKED BY: RRT				
DATE: 08/2024				
SCALE: AS SHOWN				17 OF 27 SHEETS

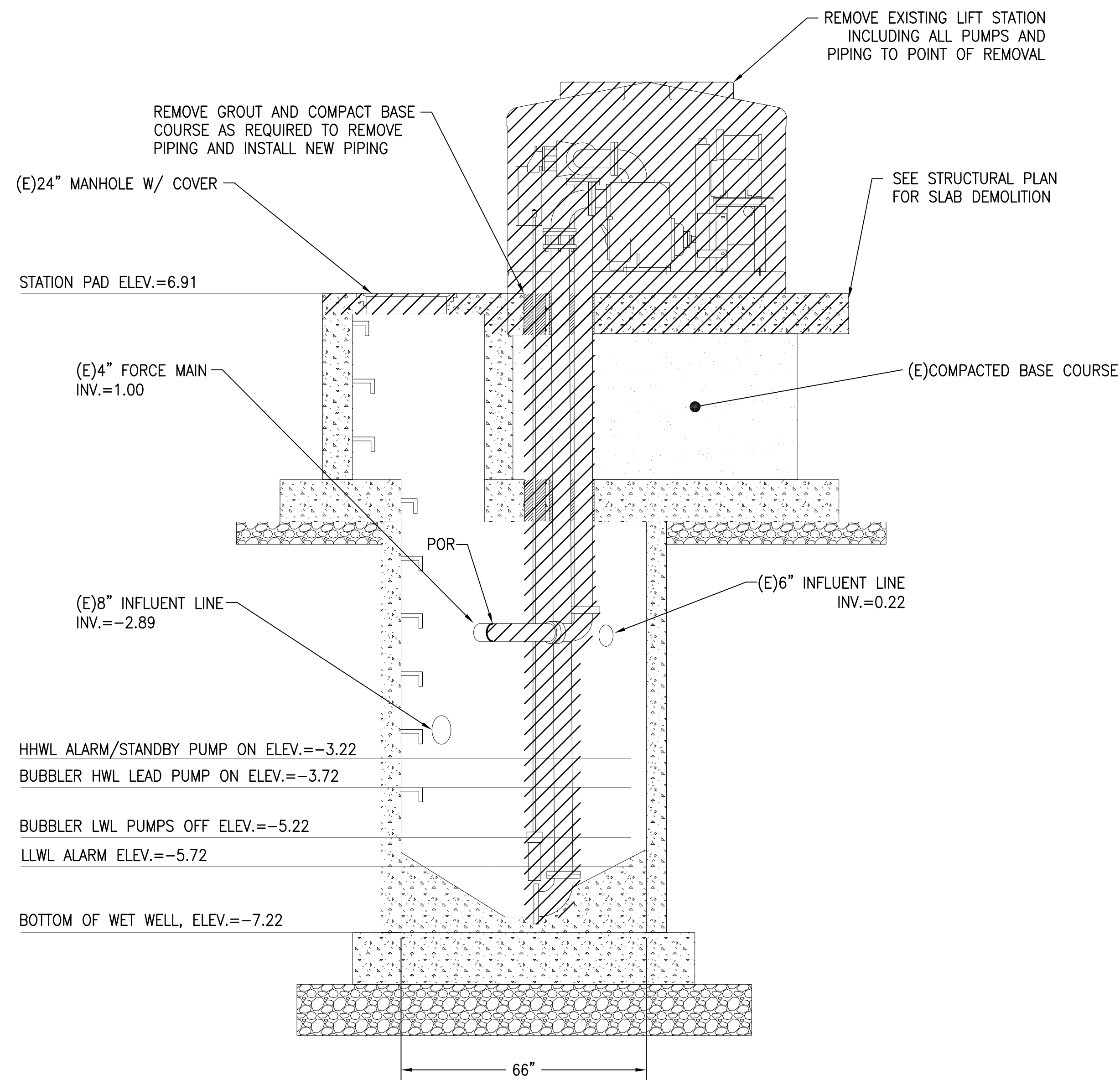


1
M-5
PLUMBING DEMOLITION SECTION - PIER 21
SCALE: NTS

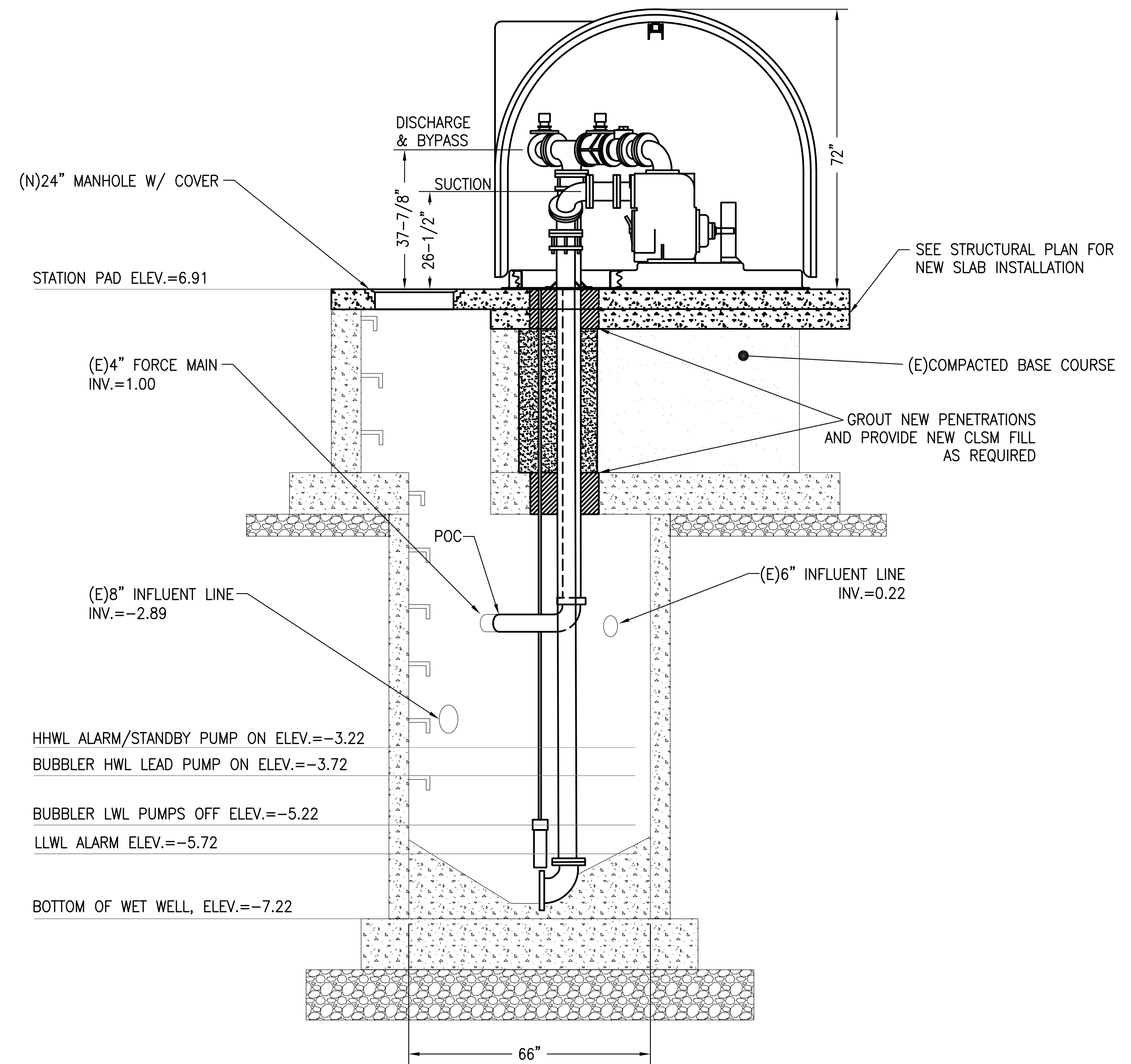


2
M-5
PLUMBING SECTION - PIER 21
SCALE: NTS

	THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION EXP 4-30-26 <i>Ross R. Tanaka</i> MECHANICAL ENTERPRISES, INC.		REVISION DATE DESCRIPTION BY APPROVED	
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS			
	JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII			
	SHEET TITLE PIER 21 SECTIONS			
DESIGNED BY: MEI DRAWN BY: MEI CHECKED BY: RRT DATE: 08/2024 SCALE: AS SHOWN	JOB NUMBER S10849		SHEET M-5 18 of 27 SHTS.	

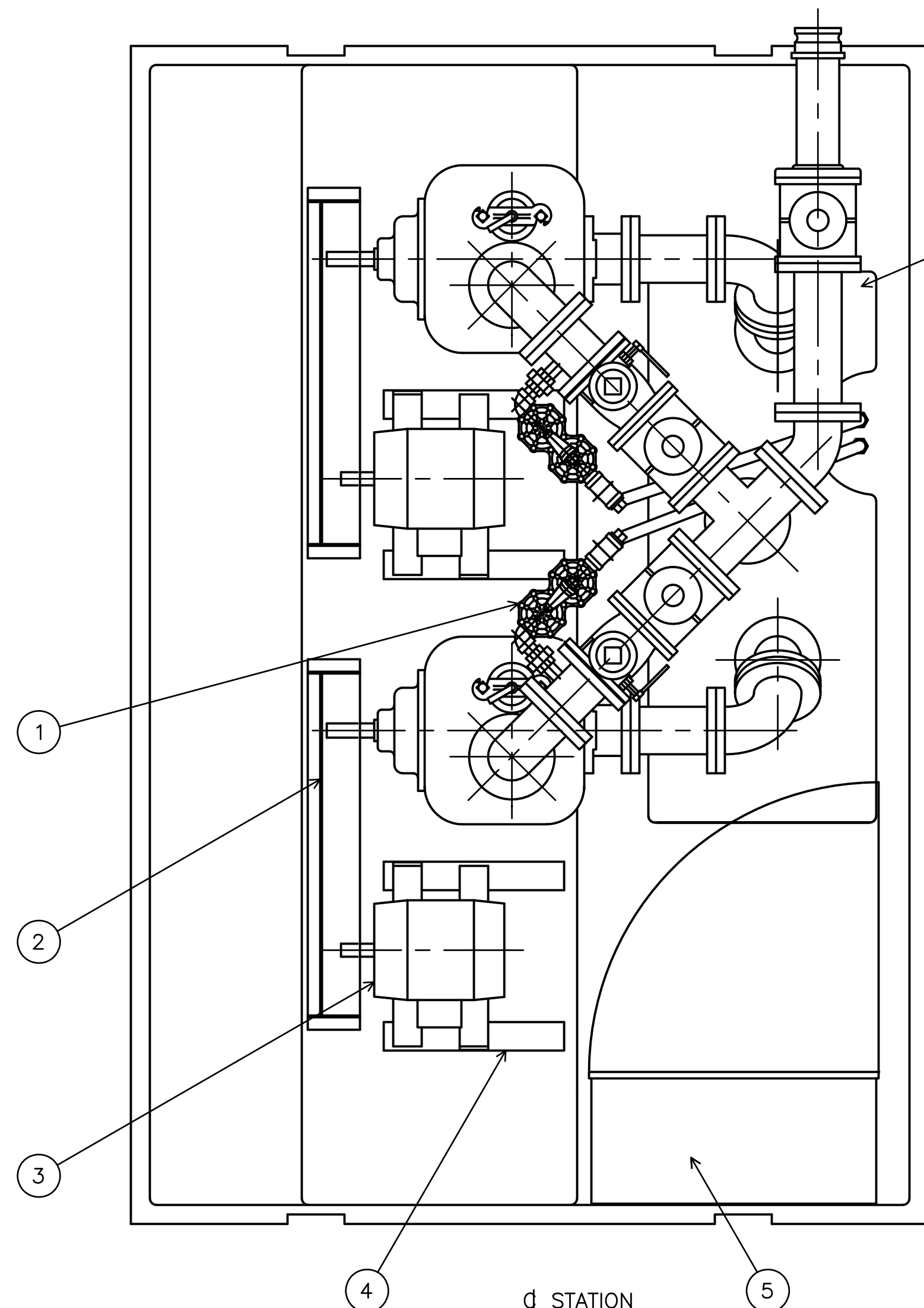


1
M-6
PLUMBING DEMOLITION SECTION - PIER 27
SCALE: NTS



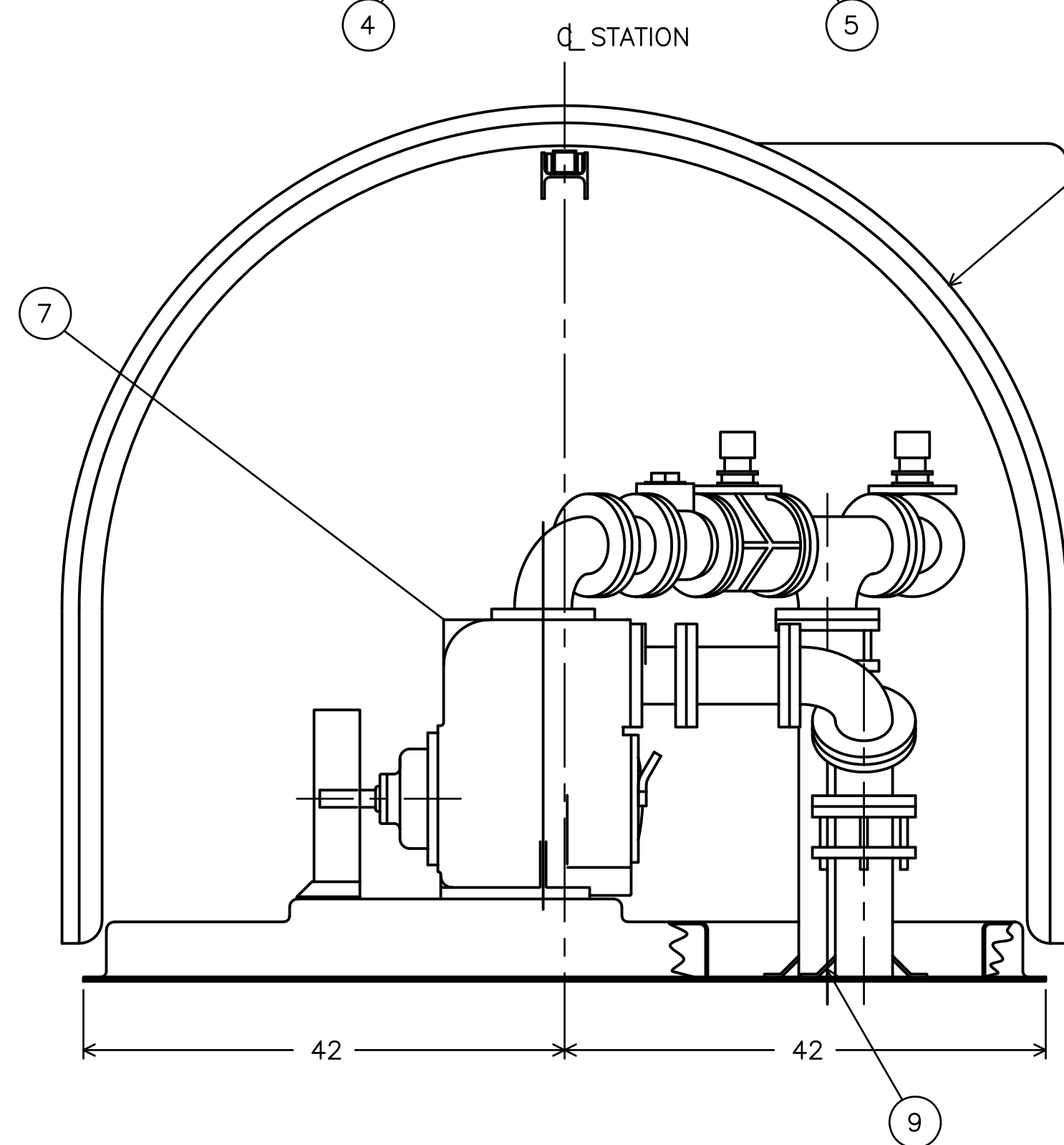
2
M-6
PLUMBING SECTION - PIER 27
SCALE: NTS

	THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION EXP 4-30-26 MECHANICAL ENTERPRISES, INC.		REVISION DATE DESCRIPTION BY APPROVED	
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS			
	JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII			
	SHEET TITLE PIER 27 SECTIONS			
DESIGNED BY: MEI DRAWN BY: MEI CHECKED BY: RRT DATE: 08/2024 SCALE: AS SHOWN	JOB NUMBER S10849		SHEET M-6 19 of 27 SHTS.	



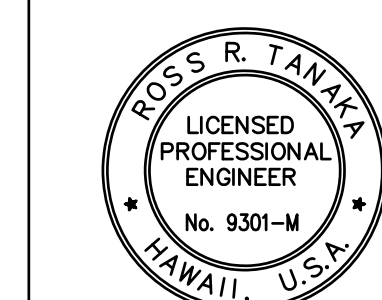
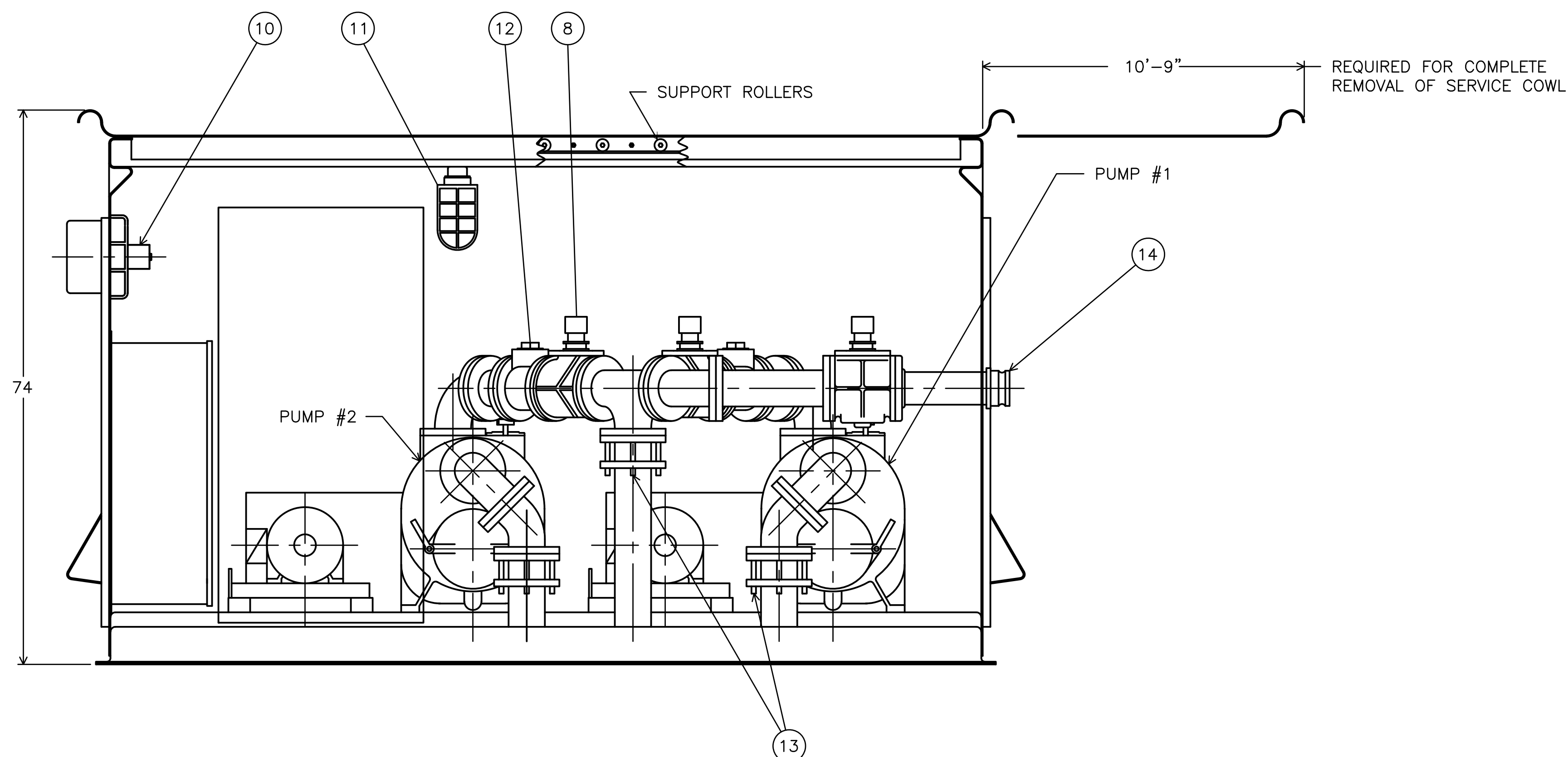
FILL CAVITY WITH EMBECO GROUT (OR EQUIVALENT) AFTER INSTALLATION

ITEM	DESCRIPTION
1	AIR RELEASE VALVE
2	BELT GUARD ASSY
3	MOTOR
4	MOTOR BASE ASSY
5	CONTROL PANEL
6	AIR RELEASE LINE
7	PUMP
8	DISCHARGE PLUG VALVE
9	GROUT DAM
10	EXHAUST FAN
11	VAPOR TIGHT LIGHT
12	DISCHARGE CHECK VALVE
13	ADAPTOR COUPLING
14	OPW ADAPTER



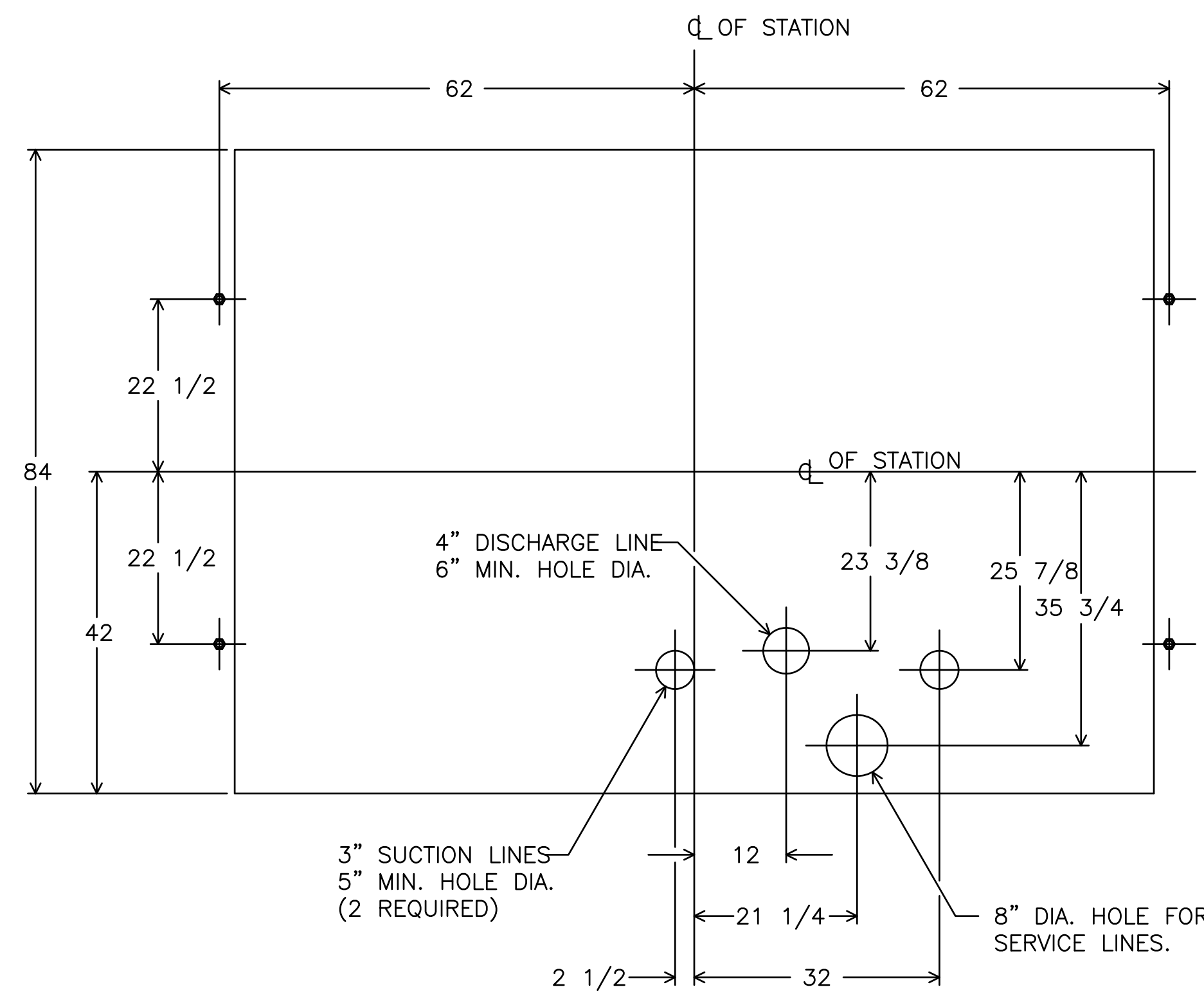
FIBERGLASS REINFORCED PLASTIC ENCLOSURE TO SLIDE IN EITHER DIRECTION TO PROVIDE ACCESS TO EQUIPMENT. DOOR PROVIDED FOR GENERAL SERVICE.

1 TYPICAL LIFT STATION DETAILS
M-7 SCALE: NTS

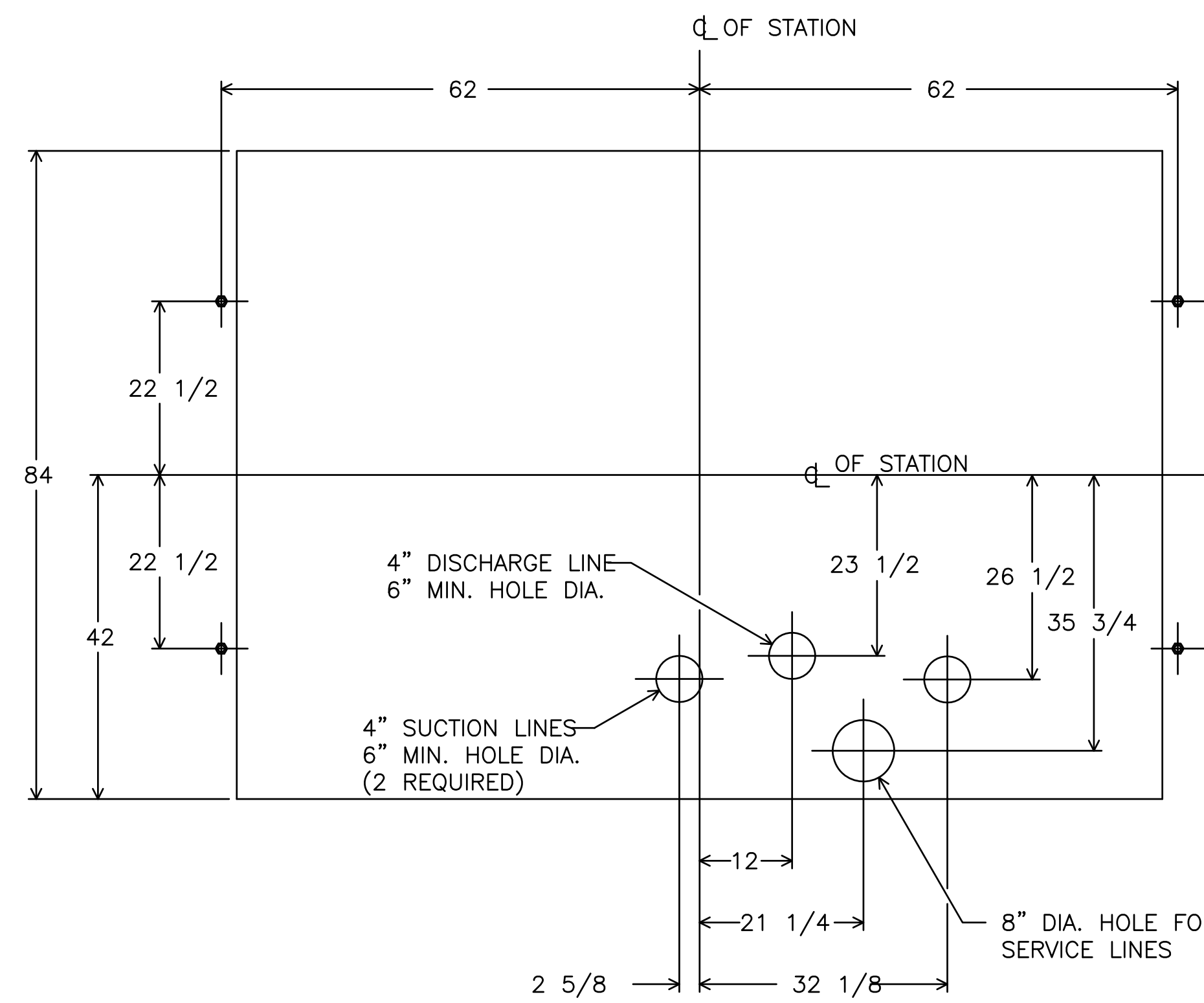


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
EXP 4-30-26
MECHANICAL ENTERPRISES, INC.

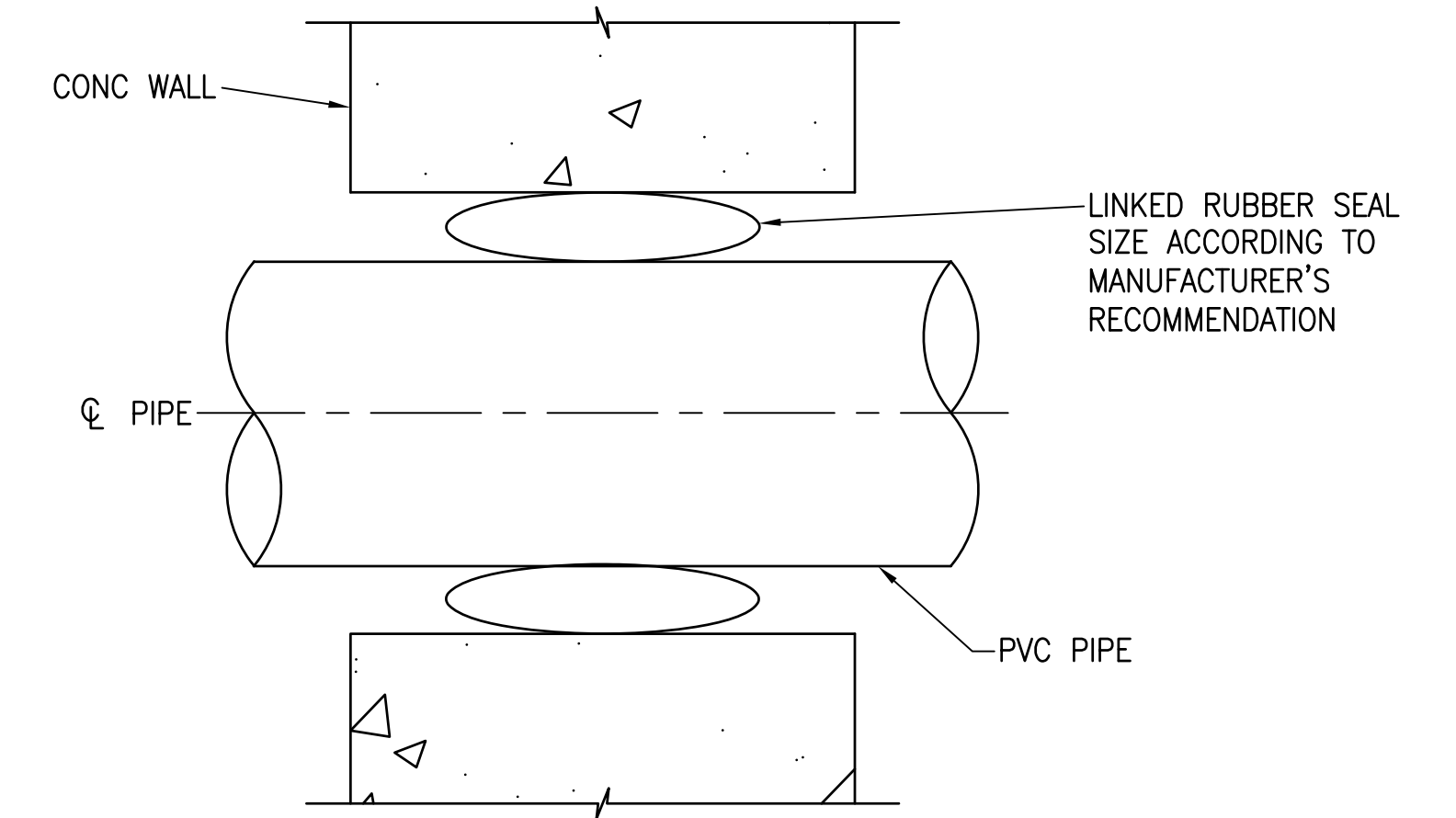
REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE LIFT STATION DETAILS				
DESIGNED BY: MEI				SHEET M-7
DRAWN BY: MEI				JOB NUMBER S10849
CHECKED BY: RRT				
DATE: 08/2024				
SCALE: AS SHOWN				20 OF 27 SHTS.



1 PIER 21 LIFT STATION ANCHOR AND PENETRATION DIMENSIONS
SCALE: NTS

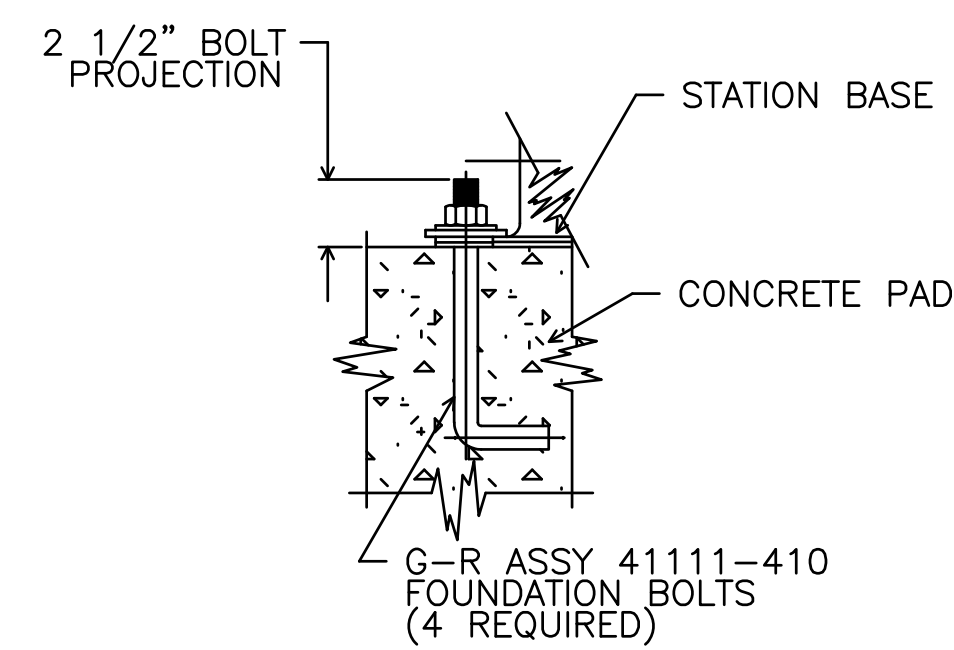


2 PIER 27 LIFT STATION ANCHOR AND PENETRATION DIMENSIONS
SCALE: NTS

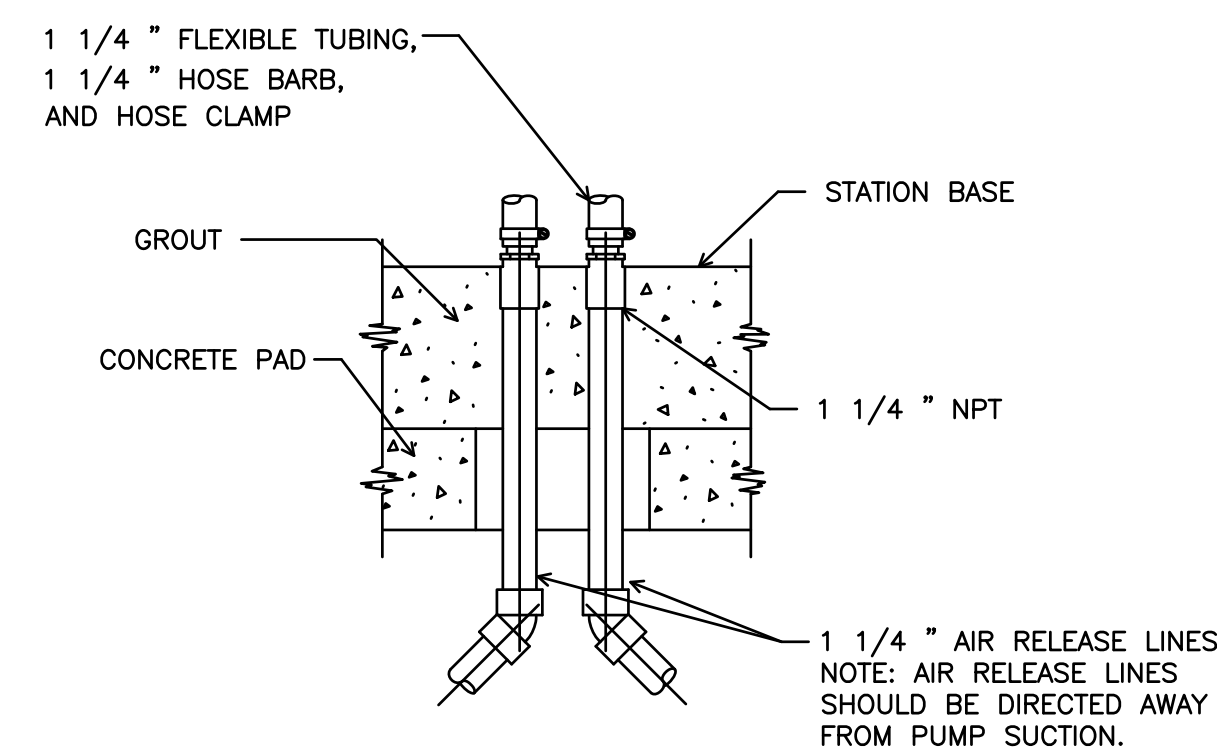


- NOTES:**
1. DRILL THROUGH EXISTING CONC WALL. COORDINATE DIAMETER OF CORE DRILL WITH LINKED RUBBER SEAL MANUFACTURER SPECIFICATIONS.
 2. FOR PENETRATIONS THROUGH WET WELL WALL, PROVIDE WET WELL PROTECTIVE COATING ON INTERIOR OF CORED HOLE.

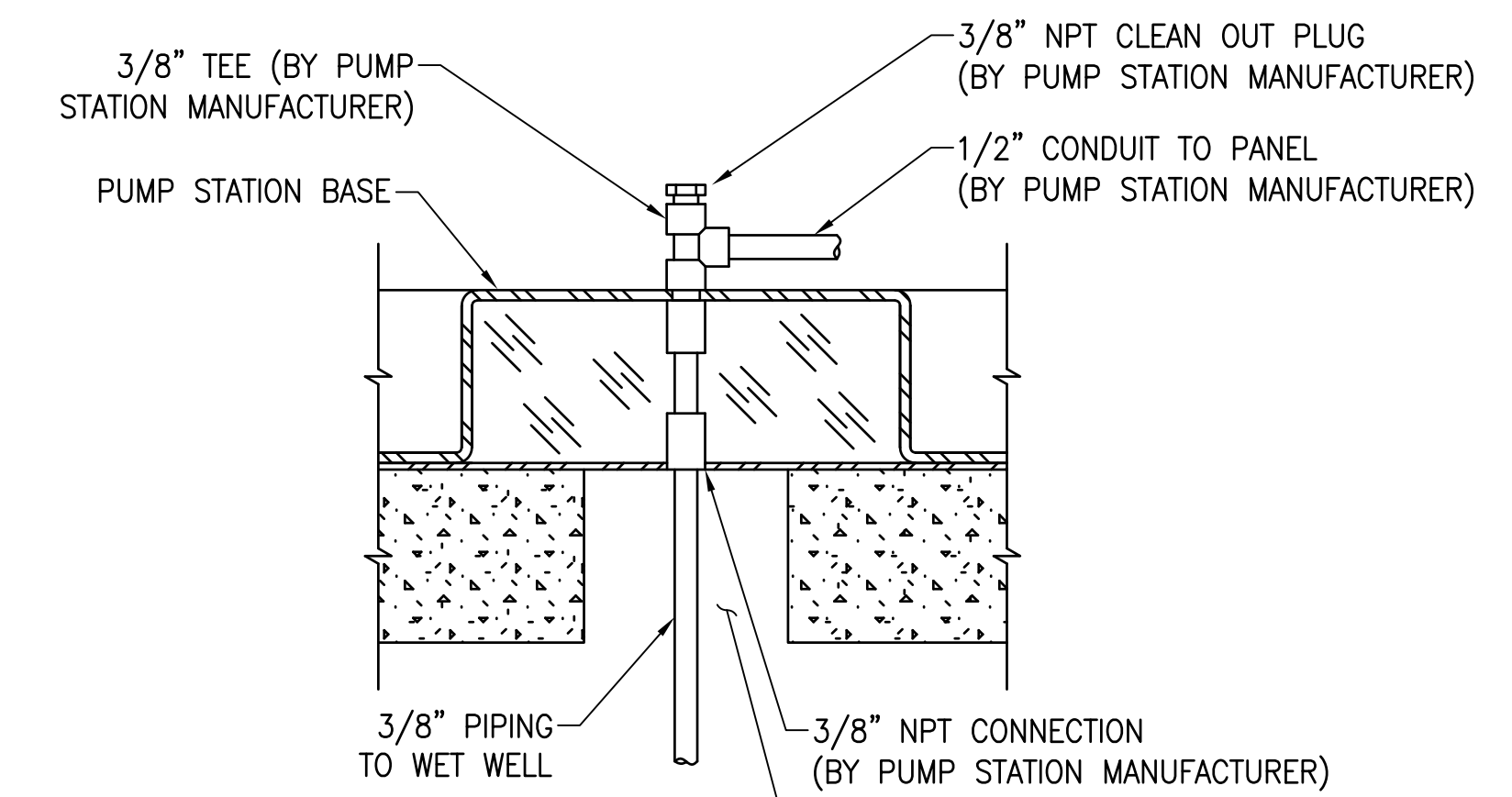
3 WET WELL PIPE PENETRATION
SCALE: NTS



4 TYPICAL STATION ANCHOR DETAIL
SCALE: NTS

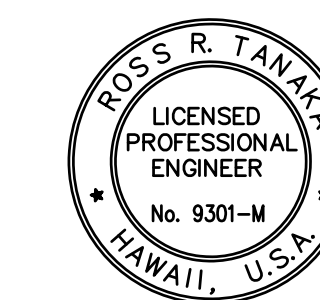


5 STATION SERVICE LINE DETAIL
SCALE: NTS



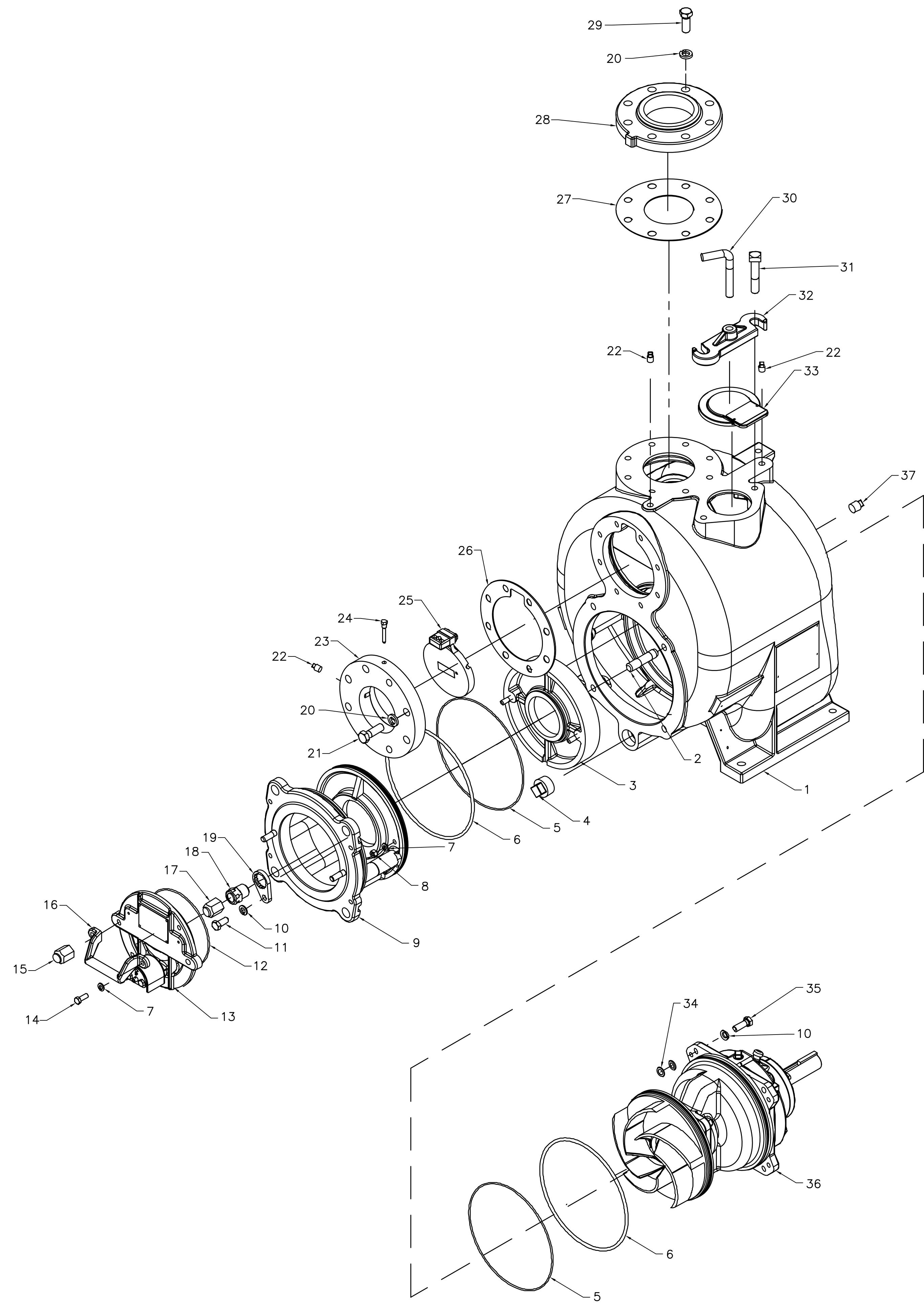
- NOTES:**
1. AIR BUBBLER LINE SHALL BE AIR TIGHT.

6 BUBBLER LINE STATION PENETRATION DETAIL
SCALE: NTS



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
EXP 4-30-26
Ross R. Tanaka
MECHANICAL ENTERPRISES, INC.

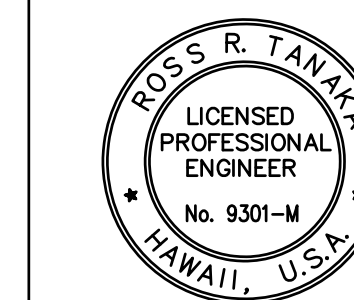
REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE LIFT STATION DETAILS				
DESIGNED BY: MEI				SHEET M-8
DRAWN BY: MEI				JOB NUMBER S10849
CHECKED BY: RRT				
DATE: 08/2024				
SCALE: AS SHOWN				21 of 27 SHTS.



1 PUMP ASSEMBLY DETAIL
M-9 SCALE: NTS

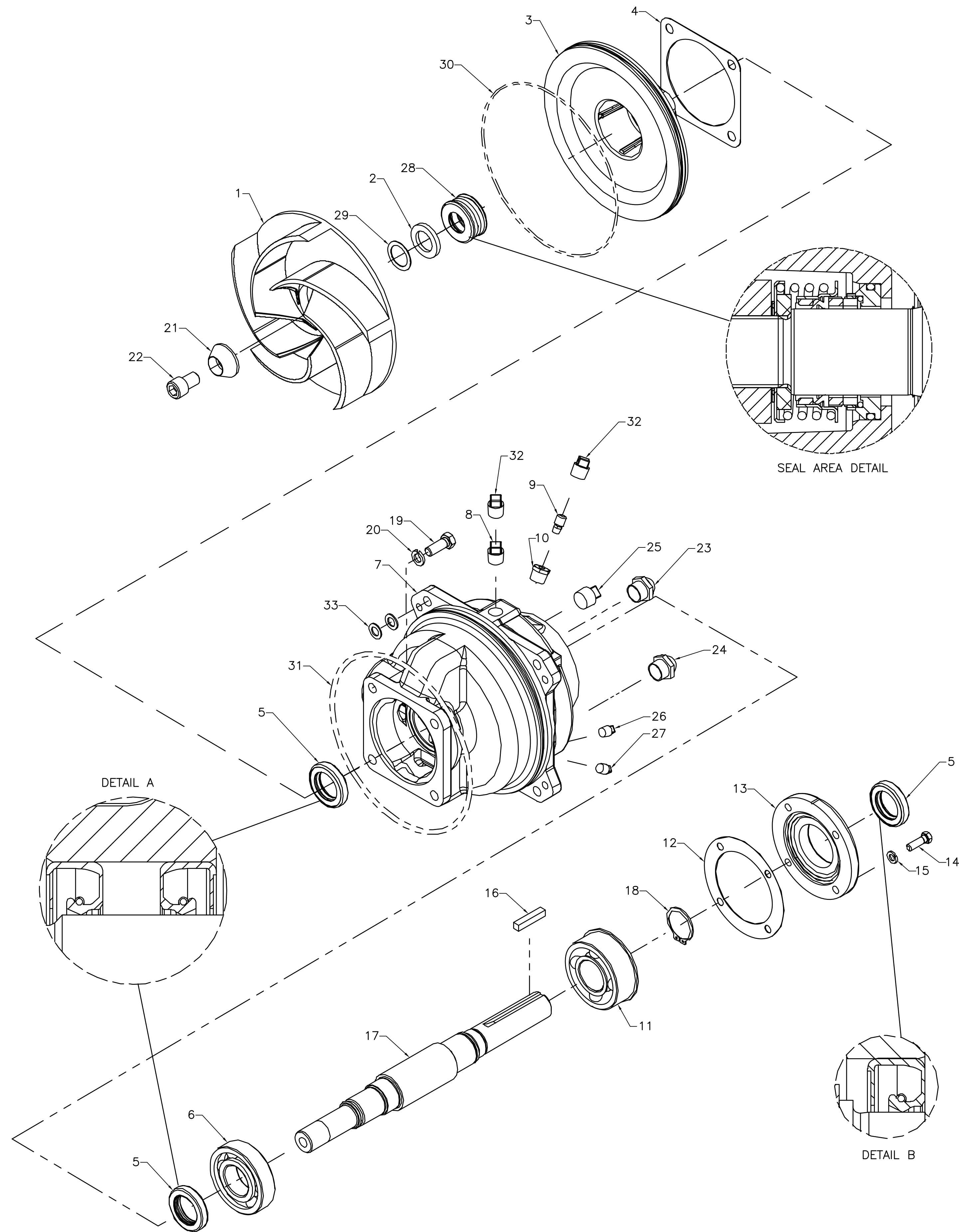
ITEM	DESCRIPTION
1	PUMP CASING
2	STUD
3	*WEAR PLATE ASSEMBLY
4	PIPE PLUG
5	*O-RING
6	*O-RING
7	LOCKER WASHER
8	HEX NUT
9	BACK COVER ASSEMBLY
10	LOCK WASHER
11	HEX HEAD CAP SCREW
12	*O-RING
13	INSPECT COVER ASSEMBLY(WARNING PLATE, DRIVE SCREW, AND *PRESS RELIEF VALVE)
14	HEX HEAD CAP SCREW
15	BACK COVER NUT
16	HANDLE
17	BACK COVER NUT
18	ADJUSTING SCREW
19	LOCK COLLAR
20	LOCK WASHER
21	HEX HEAD CAP SCREW
22	PIPE PLUG
23	SUCTION FLANGE
24	CHECK VALVE PIN
25	*4" FLAP VALVE ASSEMBLY
26	*SUCT FLANGE GASKET
27	*GASKET
28	DISCHARGE FLANGE
29	HEX HEAD CAP SCREW
30	SCREW - CLAMP BAR
31	MACHINE BOLT
32	CLAMP BAR
33	COVER PLATE ASSEMBLY(WARNING PLATE, DRIVE SCREW, AND *COVER GASKET)
34	ADJ SHIM
35	HEX HEAD CAP SCREW
36	REPAIR ROTATING ASSEMBLY(SEE DETAIL 1/M-10)
37	PIPE PLUG

NOTE: * INDICATES PARTS RECOMMENDED FOR STOCK



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
EXP 4-30-26
Ross R. Tanaka
MECHANICAL ENTERPRISES, INC.

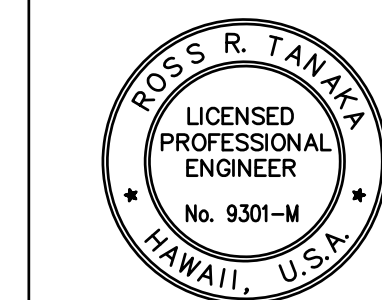
REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE PUMP ASSEMBLY DETAIL				
DESIGNED BY: MEI				SHEET
DRAWN BY: MEI				M-9
CHECKED BY: RRT	JOB NUMBER			
DATE: 08/2024	S10849			
SCALE: AS SHOWN				22 of 27 SHTS.



ITEM	DESCRIPTION
1	*IMPELLER
2	*MECH SEAL ASSEMBLY
3	SEAL PLATE
4	*GASKET
5	*OIL SEAL
6	*BALL BEARING
7	BEARING HOUSING
8	VENTED PIPE PLUG
9	VENT
10	RED PIPE BUSHING
11	*BALL BEARING
12	*GASKET
13	BEARING CAP
14	HEX HEAD CAP SCREW
15	LOCK WASHER
16	*KEY
17	*IMPELLER SHAFT
18	RETAINING RING
19	HEX HEAD CAP SCREW
20	LOCK WASHER
21	*IMPELLER WASHER
22	*FLAT HD SOC SCREW
23	SEAL CVTY SIGHT GAUGE
24	BRG CVTY SIGHT GAUGE
25	PIPE PLUG
26	BRG CVTY DRAIN PLUG
27	SEAL CVTY DRAIN PLUG
28	SEAL SPACER WASHER
29	IMP ADJ SHIM SET
30	*O-RING
31	*O-RING
32	SHIPPING PLUG
33	ROT ASSEMBLY ADJ SHIM

NOTE: * INDICATES PARTS RECOMMENDED FOR STOCK

1
M-10
REPAIR ROTATING ASSEMBLY DETAIL
SCALE: NTS



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
EXP 4-30-26
Ross R. Tanaka
MECHANICAL ENTERPRISES, INC.

REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE REPAIR ROTATING ASSEMBLY DETAIL				
DESIGNED BY: MEI				SHEET M-10
DRAWN BY: MEI				
CHECKED BY: RRT				JOB NUMBER S10849
DATE: 08/2024				
SCALE: AS SHOWN				
				23 of 27 SHTS.

ELECTRICAL SYMBOL LIST

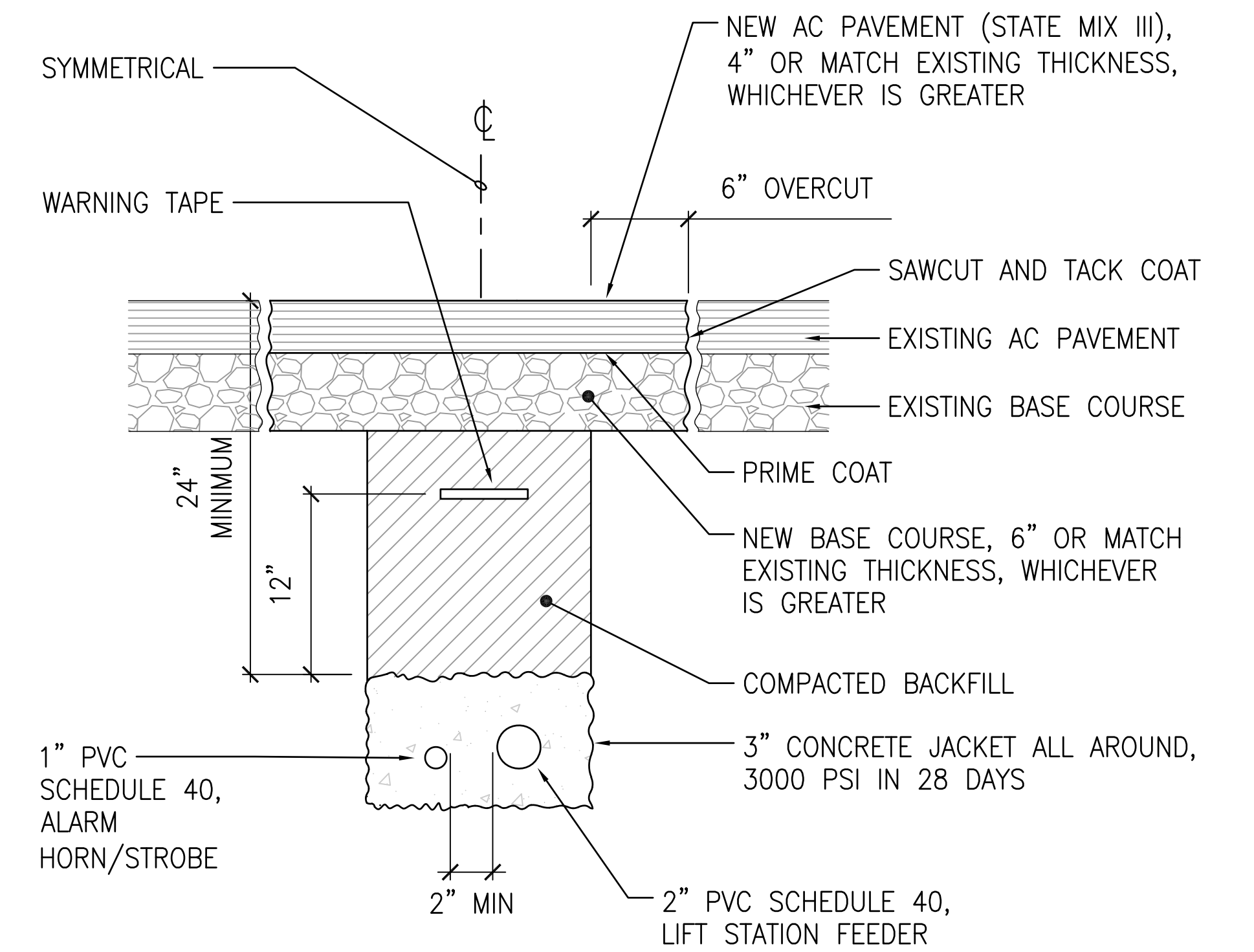
EXISTING	NEW	DESCRIPTION
(M)		METER SOCKET
	(1)	LUMINAIRE, WALL MOUNTED, SEE LUMINAIRE SCHEDULE, NUMERAL IN CIRCLE DENOTES LUMINAIRE TYPE
□	□	ELECTRICAL EQUIPMENT
[T]		PAD MOUNTED HECO TRANSFORMER
—e—	—e—	UNDERGROUND CONDUIT
—e—		SURFACE MOUNTED CONDUIT
—eOH—		OVERHEAD CONDUCTORS
—S—	—S—	CIRCUIT BREAKER
—•—		SPLICE
—X—		POWER TRANSFORMER
⏏		GROUND
○ JP3		JOINT UTILITY POLE, POLE 3 INDICATED
□		HANDHOLE, TYPE AS INDICATED
	X	DENOTES DEMOLITION/REMOVAL
	①	NOTE INDICATOR
	(1/E-2)	DETAIL INDICATOR: TOP HALF DENOTES DETAIL NUMBER, BOTTOM HALF DENOTES SHEET NUMBER
	+42"	DENOTES 42" ABOVE FINISHED FLOOR OR GRADE
	GND	GROUND
	GRS	GALVANIZED RIGID STEEL
	HECO	HAWAIIAN ELECTRIC
	KVA	KILOVOLT-AMPERE
	SS	STAINLESS STEEL
	WP	WEATHERPROOF
	XFMR	TRANSFORMER

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION
(1)	LED WALL PACK, 3G VIBRATION RATED DIE-CAST ALUMINUM ENCLOSURE WITH INTEGRAL HEAT SINK, IMPACT RESISANT TEMPERED GLASS LENS, FULLY SHIELDED OPTICS, CORROSION RESISTANT POLYESTER POWDER COAT DARK BRONZE COASTAL FINISH, TYPE IV FORWARD THROW DISTRIBUTION, SURFACE MOUNT CONDUIT ENTRIES, INTEGRAL PHOTOCCELL, WET LOCATION LISTED, 10,000 INITIAL LUMENS, VOLTAGE AS INDICATED, 77W, 4000K GE/CURRENT LIGHTING #EWAS-01-X-DX-AF-70-40-3-FM-DKBZ-Y OR APPROVED EQUIVALENT

GENERAL NOTES:

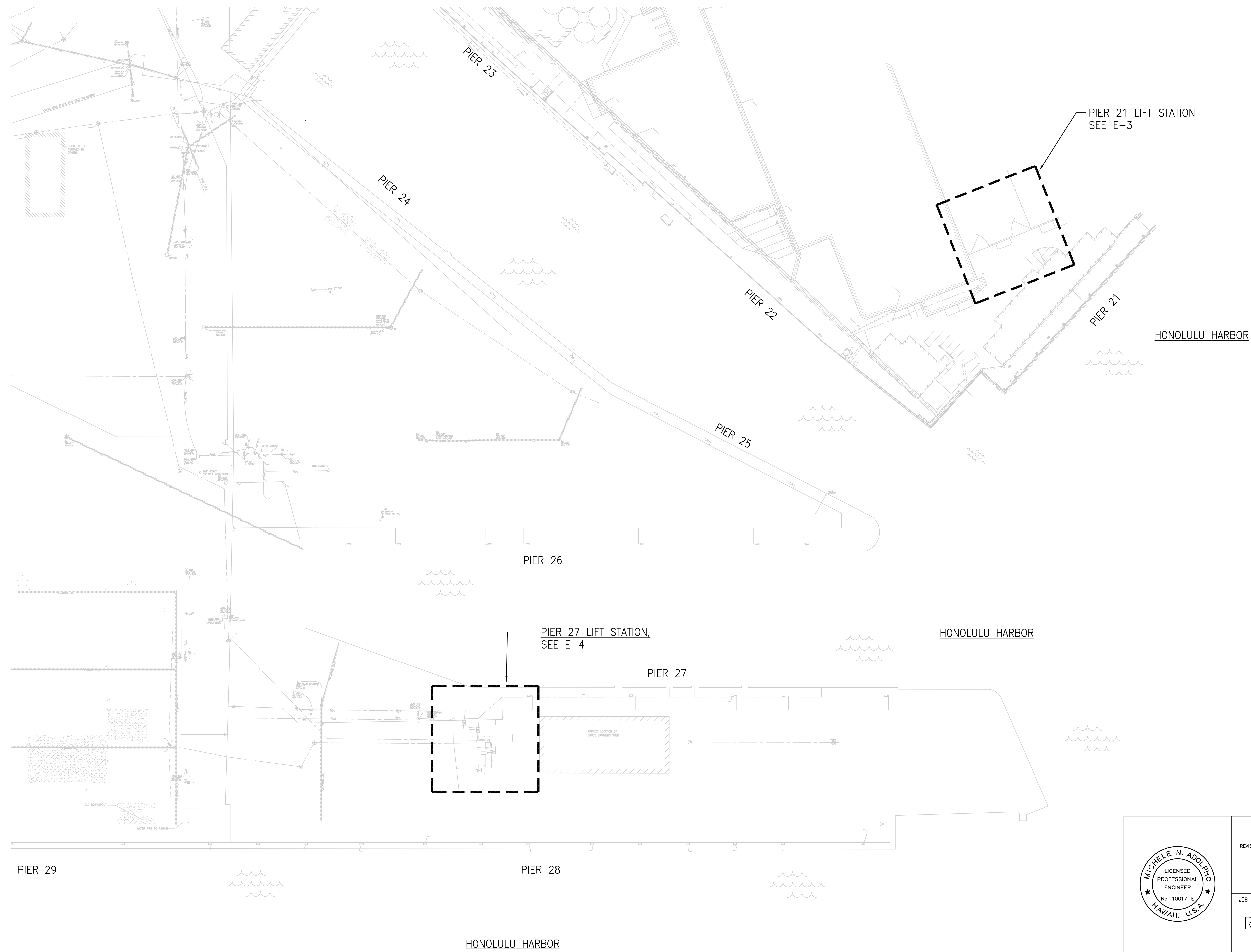
- ALL WORK SHOWN ON ELECTRICAL DRAWINGS IS NEW UNLESS OTHERWISE NOTED.
- CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO COMMENCEMENT OF NEW WORK.
- EXISTING CONDITIONS: ALL EXISTING UNDERGROUND UTILITIES INDICATED ON THE DRAWINGS ARE APPROXIMATE LOCATIONS BASED ON INFORMATION CONTAINED IN AVAILABLE "AS-BUILT" DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR TONING THE ROUTES OF ANY GROUND DISTURBING WORK/EXCAVATIONS TO IDENTIFY ANY POTENTIAL CONFLICTS PRIOR TO EXCAVATION. DAMAGE TO EXISTING UTILITIES CAUSED BY THE CONTRACTOR AS A RESULT OF THE FAILURE TO TONE THE ROUTES PRIOR TO EXCAVATION WORK, WILL REQUIRE THE CONTRACTOR TO REPAIR THE DAMAGE AT NO ADDITIONAL COST TO THE STATE.
- THE WORK SCHEDULE SHALL BE COORDINATED WITH USERS, THE HARBORS ENGINEER AND THE HARBORS OAHU DISTRICT MANAGER.
- THE CONTRACTOR SHALL SCHEDULE ALL WORK TO MINIMIZE DISRUPTION OF USERS' OPERATIONS.
- ALL EXISTING ELECTRICAL EQUIPMENT AND FACILITIES NOT SCHEDULED FOR DEMOLITION SHALL REMAIN OPERATIONAL DURING CONSTRUCTION. PROVIDE TEMPORARY POWER SOURCE(S) SUCH AS PORTABLE GENERATOR, TEMPORARY WIRING, ETC. AS REQUIRED. CONTRACTOR TO MINIMIZE OUTAGES AND COORDINATE WITH THE HARBORS ENGINEER, HARBORS OAHU DISTRICT, AND ALL USERS AND TENANTS AT LEAST TWO WEEKS PRIOR TO ANY OUTAGES.
- CONTRACTOR SHALL SCHEDULE IN WRITING ALL DEMOLITION WORK WITH USERS AND HARBORS CONSTRUCTION ENGINEER. MINIMUM OF 14 CALENDAR DAYS ADVANCE NOTICE SHALL BE GIVEN.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER TRADES TO AVOID CONFLICTS WITH CIVIL, MECHANICAL AND STRUCTURAL ELEMENTS OF THE PROJECT.
- REMOVE AND DISPOSE OF ALL ELECTRICAL EQUIPMENT AND CONDUCTORS INDICATED FOR DEMOLITION. UNDERGROUND CONDUIT SHALL BE ABANDONED IN-PLACE UNLESS OTHERWISE INDICATED.
- SAWCUT AND PATCH EXISTING SURFACES AS REQUIRED. RESTORE EXISTING PAVEMENT MARKINGS TO ORIGINAL OR BETTER CONDITION.



1 DUCT DETAIL
E-1 NOT TO SCALE

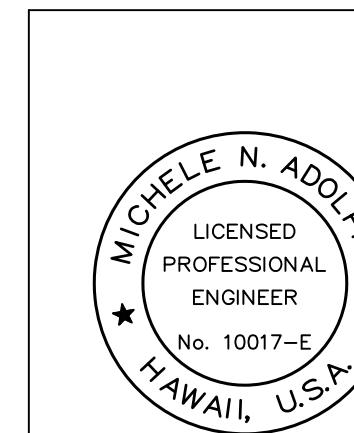
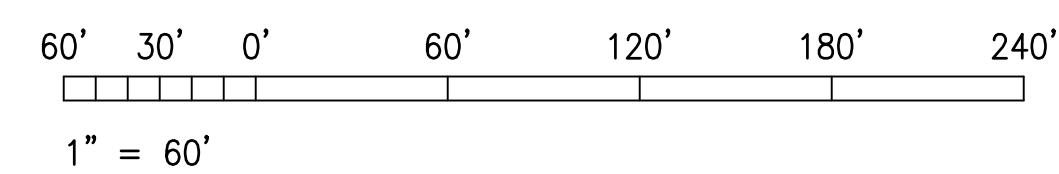
<p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION EXP 4-30-26</p> <p><i>Michele N. Adolp</i> ECS, INC.</p>	REVISION	DATE	DESCRIPTION	BY	APPROVED
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
	JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
	SHEET TITLE ELECTRICAL SYMBOL LIST				
DESIGNED BY: ECS	DRAWN BY: CAD			SHEET E-1	
CHECKED BY: M.A.	DATE: 08/2024			JOB NUMBER S10849	
SCALE: AS SHOWN				24 of 27 SHTS.	

8/23/24-16-09 P:\Work\2\Jobs\248141 Repr Stms Pier 21-27-04-096-001\0.0 DWS\044.096 E2-S01.dwg



1 OVERALL ELECTRICAL SITE PLAN
E-2 SCALE: 1" = 60'-0"

GRAPHIC SCALE



THIS WORK WAS PREPARED BY ME
 OR UNDER MY SUPERVISION
 EXP 4-30-26

Michele N. Adolp
 ECS, INC.

REVISION	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS				
JOB TITLE REPAIR LIFT STATIONS AT PIERS 21 AND 27 HONOLULU HARBOR, OAHU, HAWAII				
SHEET TITLE OVERALL ELECTRICAL SITE PLAN				
DESIGNED BY: ECS				SHEET
DRAWN BY: CAD				E-2
CHECKED BY: MA	JOB NUMBER			25 of 27 SHTS.
DATE: 08/2024	S10849			
SCALE: AS SHOWN				

