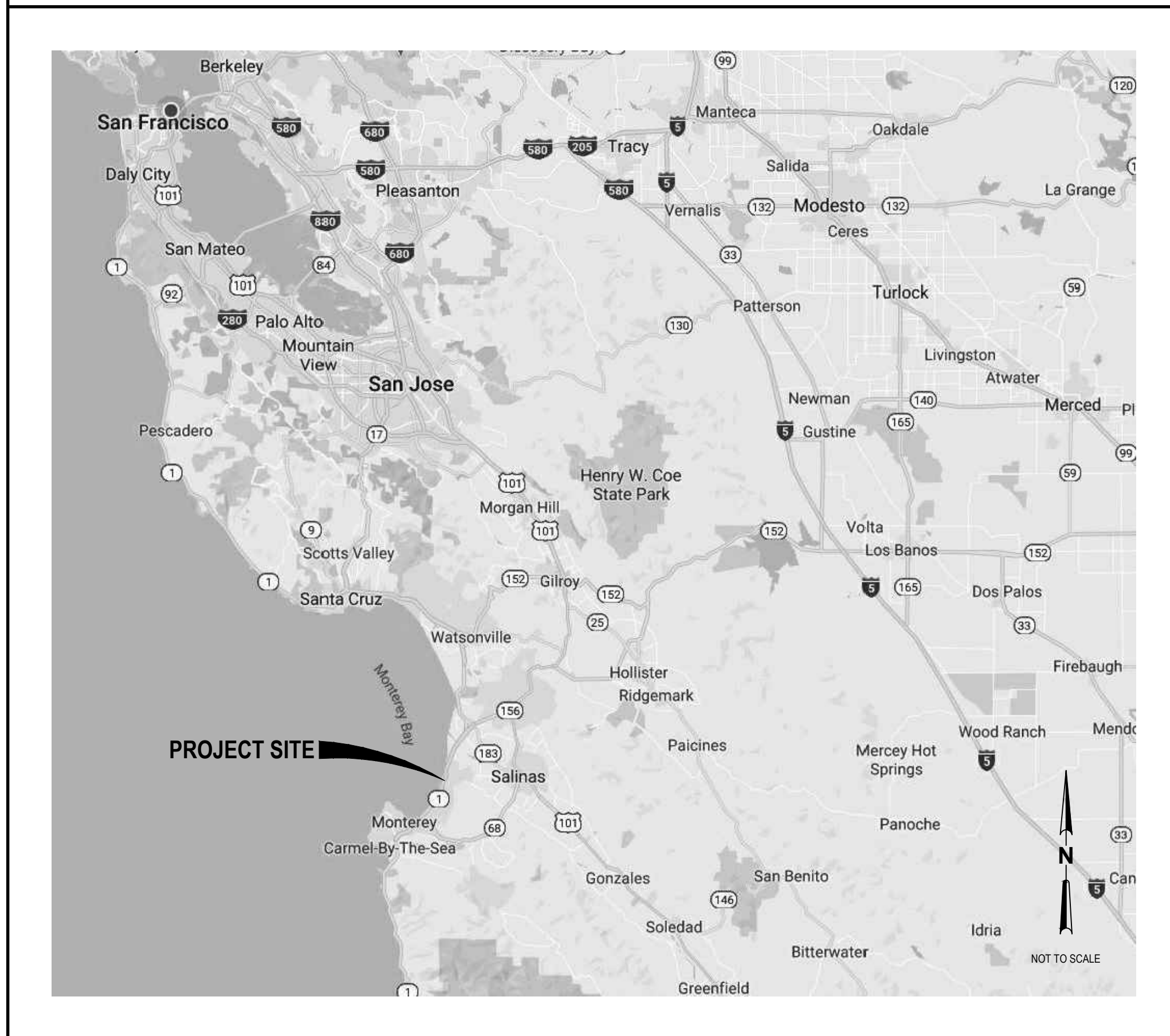




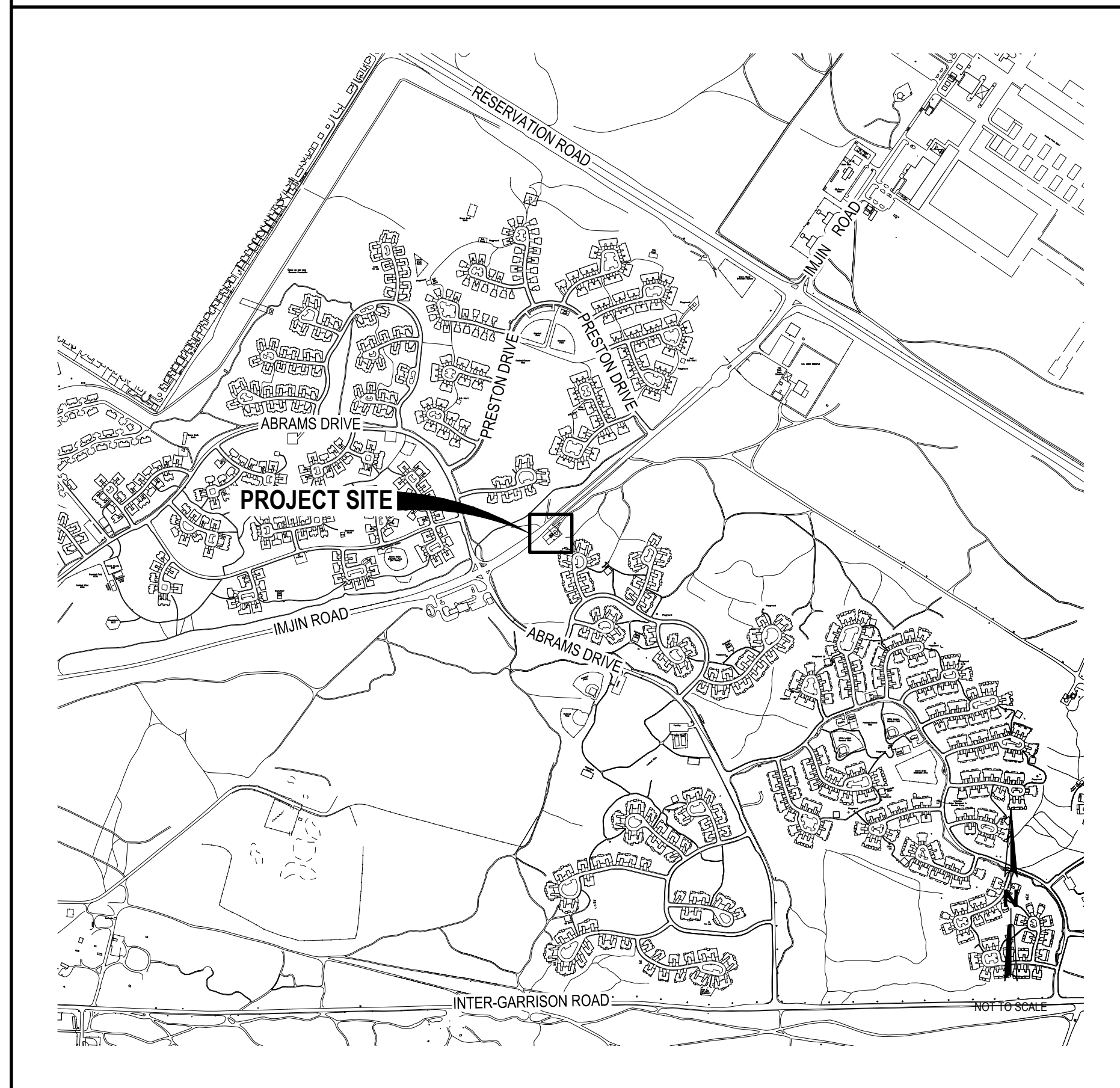
MARINA COAST WATER DISTRICT CIP OS-0205 IMJIN LIFT STATION IMPROVEMENTS PROJECT

SEPTEMBER 2019

AREA MAP



LOCATION MAP



SHEET INDEX

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3	C-101	SITE EXISTING CONDITION AND DEMOLITION PLAN
4	C-110	SITE IMPROVEMENTS PLAN
5	C-501	CIVIL DETAILS
6	C-502	CIVIL DETAILS
7	C-503	CIVIL DETAILS
STRUCTURAL		
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MECHANICAL		
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ELECTRICAL		
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19	I-001	PROCESS AND INSTRUMENTATION DIAGRAM ABBREVIATIONS AND LEGEND
20	I-601	PROCESS AND INSTRUMENTATION DIAGRAM

				Bar is one inch on original size sheet 0 1"				Drawn: PJS Designer: PAS Drafting Check: PJS Design Check: PAS Project Manager: P SULLIVAN	Date: OCT 1 2019 Scale: AS SHOWN	Client: MARINA COAST WATER DISTRICT Project: IMJIN LIFT STATION IMPROVEMENTS PROJECT Title: COVER SHEET, AREA MAP, VICINITY MAP, SHEET INDEX Project No.: 11184901 Original Size: ANSI D Sheet No.: G-001	Sheet 1 of 20
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ABBREVIATIONS

AB	ANCHOR BOLT, AGGREGATE BASE	OFCI	OWNER FURNISHED - CONTRACTOR INSTALLED
AC	ASPHALTIC CONCRETE	OG	ORIGINAL GROUND
ACI	AMERICAN CONCRETE INSTITUTE	OZ	OUNCE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE		
APN	ASSESSOR'S PARCEL NUMBER	PL	PROPERTY LINE
APPROX	APPROXIMATE	POC	POINT OF CONNECTION
ARCH	ARCHITECTURAL	PREFAB	PREFABRICATED
ARV	AIR RELEASE VALVE	PRESS	PRESSURE
AWWA	AMERICAN WATER WORKS ASSOCIATION	PROP	PROPERTY
		PSF	POUNDS PER SQUARE FOOT
		PS	PUMP STATION
BF	BLIND FLANGE	PSI	POUNDS PER SQUARE INCH
BFV	BUTTERFLY VALVE	PT	POINT
BLDG	BUILDING	PVC	POLYVINYL CHLORIDE PLASTIC
BM	BENCH MARK, BEAM	PVMT	PAVEMENT
BO	BLOW OFF		
BSW	BACK OF SIDEWALK	R, RAD	RADIUS
BV	BALL VALVE	RC	REINFORCED CONCRETE
		RCP	REINFORCED CONCRETE PIPE
C	COMPACT	RDCR	REDUCER
CA	COMPRESSED AIR	REF	REFER, REFERENCE
CB	CATCH BASIN	REINF	REINFORCED, REINFORCING, REINFORCE
CI	CAST IRON	REQD	REQUIRED
CIP	CAST IRON PIPE	RFCA	RESTRAINED FLANGED COUPLING ADAPTER
CJ	CONSTRUCTION JOINT	ROW	RIGHT OF WAY
CLSM	CONTROLLED LOW STRENGTH MATERIAL	RW	RAW WATER, RECLAIMED WATER, RECYCLED WATER
CMU	CONCRETE MASONRY UNIT		
CO	CLEANOUT	S	SOUTH, SLOPE
COMM	COMMUNICATION	SCH	SCHEDULE
COL	COLUMN	SD	STORM DRAIN
CPLG	COUPLING	SDDI	STORM DRAIN DROP INLET
CU FT	CUBIC FOOT	SECT	SECTION
CU IN	CUBIC INCH	SIM	SIMILAR
CU YD	CUBIC YARD	SPEC	SPECIFICATIONS
CV	CHECK VALVE	SQ	SQUARE
		SQ FT	SQUARE FOOT
DI	DROP INLET, DUCTILE IRON	SO IN	SQUARE INCH
DIA	DIAMETER	SS	SANITARY SEWER
DW	DOMESTIC WATER	SST	STAINLESS STEEL
DWG	DRAWING	SSF	SANITARY SEWER FORCEMAIN
		STA	STATION
E	EAST	STD	STANDARD
EA	EACH	STRUCT	STRUCTURE
EL	ELEVATION		
ELB, EL	ELBOW	T	TANGENT
ELEC	ELECTRIC, ELECTRICAL	TC	TOP OF CURB
ENGR	ENGINEER	TECH	TECHNICAL
EQPT	EQUIPMENT	TEL	TELEPHONE
ESMT	EASEMENT	TF	TOP FACE
EXP JT	EXPANSION JOINT	TP	TURNING POINT
		TT	THRUST TIE
		TW	TOP OF WALL
		TYP	TYPICAL
FC	FLEXIBLE COUPLING, FACE OF CURB	UBC	UNIFORM BUILDING CODE
FCA	FLANGED COUPLING ADAPTER	UNK	UNKNOWN
FDN	FOUNDATION		
FF	FINISH FLOOR	V	VENT, VOLT, VALVE
FG	FINISH GRADE	VERT	VERTICAL
FIG	FIGURE		
FL	FLOOR, FLOW LINE	W	WATER, WEST
FOC	FACE OF CONCRETE	WI	WITH
FPVC	FLEXIBLE POLYVINYL CHLORIDE	WM	WATER METER
FT	FOOT OR FEET	WS	WATER SURFACE, WATER STOP
FW	FIRE WATER	WSP	WELDED STEEL PIPE
		WTR	WATER
		WWF	WELDED WIRE FABRIC
GAL	GALLON	XFMR	TRANSFORMER
GALV	GALVANIZED		
GB	GRADE BREAK	YD	YARD
GPM	GALLONS PER MINUTE		
GSP	GALVANIZED STEEL PIPE	&	AND
GV	GATE VALVE	@	AT
		°F	DEGREES FAHRENHEIT
HDPPE	HIGH DENSITY POLYETHYLENE	Ø	DIAMETER
HORIZ	HORIZONTAL	¢	CENTER LINE
HP	HORSEPOWER, HIGH POINT	ℙ	PROPERTY LINE, PLATE
		(E)	EXISTING
I&C	INSTRUMENTATION & CONTROL	(N)	NEW
ID	INSIDE DIAMETER		
IN	INCH		
INV	INVERT		
JT	JOINT, JOINT TRENCH		
KIP	THOUSAND POUNDS		
KW	KILOWATT		
L	LEFT, LENGTH		
LB	POUNDS		
LF	LINEAR FEET		
MAX	MAXIMUM		
MECH	MECHANICAL		
MFR	MANUFACTURER		
MGD	MILLION GALLONS PER DAY		
MH	MANHOLE		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MJ	MECHANICAL JOINT		
MSNRY	MASONRY		
N	NORTH		
NIC	NOT IN CONTRACT		
NO	NUMBER, NUMBERING		
NTS	NOT TO SCALE		
OC	ON CENTER		
OD	OUTSIDE DIAMETER, OVERFLOW DRAIN		
OF	OUTSIDE FACE, OVERFLOW		

SYMBOLS LEGEND

NEW	EXISTING	
		ROCK SLOPE PROTECTION
		LAWN
		DECOMPOSED GRANITE
		CONCRETE SURFACE
		BOLLARD
		BENCH
		SPOT ELEVATION
		DOWN GUY
		STREET LIGHT
		UTILITY POLE
		ELECTRICAL HANDHOLE
		STORM DRAIN DROP INLET
		STORM DRAIN CATCH BASIN
		GAS VALVE
		STORM DRAIN MANHOLE
		SANITARY SEWER MANHOLE
		ELECTRICAL MANHOLE
		FIRE HYDRANT
		WATER VALVE
		IRRIGATION HANDHOLE
		STREET LIGHT HANDHOLE
		TREE TRUNK AND DIAMETER
		SURVEY CONTROL MONUMENT
		CURB AND GUTTER
		ASPHALT EDGE
		BUILDING FACE
		FENCE
		GUARD RAIL
		HAND RAIL
		MAJOR CONTOUR
		MINOR CONTOUR
		TREE DRIPLINE
		COMMUNICATION OVERHEAD (AT&T)
		COMMUNICATION UNDERGROUND (AT&T)
		CATV DATA OVERHEAD (COMCAST)
		CATV DATA UNDERGROUND (COMCAST)
		ELECTRICAL OVERHEAD (PG&E)
		ELECTRICAL UNDERGROUND (PG&E)
		JOINT TRENCH (ELECTRICAL & COMMUNICATION)
		NATURAL GAS UNDERGROUND (PG&E)
		SANITARY SEWER
		STREET LIGHT POWER UNDERGROUND
		STORM DRAIN UNDERGROUND
		WATER LINE UNDERGROUND
		NON-POTABLE WATER LINE UNDERGROUND
		RETAINING WALL
		WATER EDGE
		COUNTY PARCEL LINE

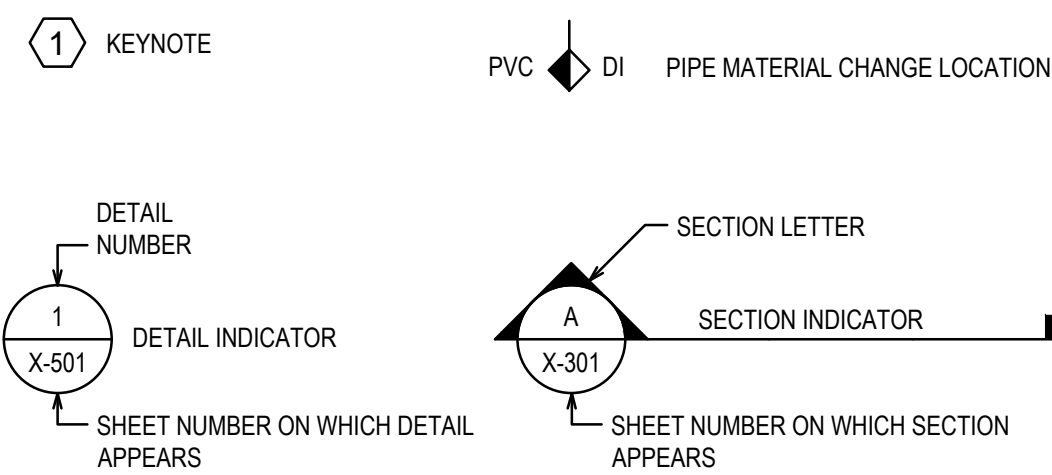
GENERAL SHEET NOTES

- ABBREVIATIONS ON THIS SHEET APPLY ONLY TO THE CIVIL DRAWINGS, REFER TO OTHER DISCIPLINES FOR APPLICABLE SYMBOLS NOT PROVIDED HERE.
- THIS IS A STANDARD ABBREVIATION AND LEGEND SHEET, THEREFORE, SOME ABBREVIATIONS AND LEGEND SYMBOLS MAY APPEAR ON THIS SHEET AND MAY NOT BE UTILIZED ON THIS PROJECT.
- DO NOT SCALE DRAWINGS.

CIVIL GENERAL NOTES

- SITE SOILS AND GROUNDWATER MAY BE CONTAMINATED. MANAGE SOILS AND GROUNDWATER IN ACCORDANCE WITH APPROVED CONTRACTOR-PREPARED SITE SPECIFIC WORKPLAN.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- IN THE EVENT OF ANY CONFLICT OF INFORMATION SHOWN IN THESE PLANS, OR ANY CONFLICT BETWEEN THESE PLANS AND THE INTENT OF CONSISTENT AND FUNCTIONAL FACILITIES, OR SHOULD THERE BE ANY AMBIGUITIES, THE CONTRACTOR SHALL SO NOTIFY THE ENGINEER IN WRITING, UPON WHICH NOTICE THE ENGINEER SHALL RESOLVE THE CONFLICT OR CLARIFY THE AMBIGUITY BY THE ISSUANCE OF A WRITTEN ORDER, REVISED PLANS OR BOTH.
- THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT LEAST TWO WORKING DAYS IN ADVANCE OF ANY EXCAVATION BY CALLING 811.
- UNLESS OTHERWISE NOTED, CONTRACTOR SHALL EXERCISE ALL NECESSARY CAUTION TO AVOID DAMAGE TO ANY EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO, SURVEY MONUMENTS, TREES, FOUNDATIONS, LANDSCAPING, LANDSCAPE IRRIGATION SYSTEM, FENCES, SIDEWALKS, BOLLARDS, OR SURFACE IMPROVEMENTS, OR TO ANY EXISTING BUILDINGS, DRAINAGE STRUCTURES, WATER STRUCTURES, SEWER CLEANOUTS, OR JUNCTION BOXES FOR UNDERGROUND ELECTRIC, TELEPHONE, OR CABLE TV, OR STORM SEWER, SANITARY SEWER, WATER LINE, AND UNDERGROUND UTILITIES, WHICH ARE TO REMAIN IN PLACE, AT NO ADDITIONAL COST TO THE OWNER. ANY DAMAGE TO ITEMS LISTED ABOVE SHALL BE RESTORED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- EXISTING UTILITY LINES THAT ARE KNOWN ARE SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL POT HOLE AND VERIFY DEPTH OF EXISTING UTILITIES THAT MAY AFFECT PIPELINE VERTICAL AND HORIZONTAL ALIGNMENT PRIOR TO SUBMITTING SHOP DRAWINGS. CONTRACTOR SHALL EXERCISE ALL NECESSARY CAUTION TO AVOID DAMAGE TO ANY EXISTING UTILITY LINE OR FACILITIES TO REMAIN IN PLACE, WHETHER OR NOT SUCH LINES OR FACILITIES ARE SHOWN ON THESE PLANS. NO WARRANTY IS GIVEN AS TO THE ACCURACY OF EXISTING UTILITY INFORMATION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE RESTORED OR REPLACED.
- CONTRACTOR SHALL PROVIDE CONSTRUCTION STAKING TO COMPLETE THE GRADING TO THE LINES AND GRADES SHOWN.
- CONTRACTOR SHALL RESTORE OR REPLACE ANY DAMAGED SURVEY MONUMENTS RESULTING FROM HIS OPERATION AND SHALL BEAR ALL COSTS OF SUCH REPLACEMENT, INCLUDING COST OF FILING A RECORD OF SURVEY WITH THE GOVERNING JURISDICTION. REPLACEMENT SHALL BE COMPLETED BY A LAND SURVEYOR REGISTERED BY THE STATE OF CALIFORNIA.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL NECESSARY UTILITY RELOCATIONS WITH THE APPROPRIATE UTILITY COMPANIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL PROPERTY LINES, EASEMENTS, AND STRUCTURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SATISFY ITSELF THAT ALL EXISTING PROPERTY LINES, EASEMENTS AND FEATURES, WHETHER SHOWN ON THESE DRAWINGS OR NOT, HAVE BEEN PROPERLY LOCATED.
- IF ARCHAEOLOGIC MATERIALS ARE UNCOVERED DURING GRADING, TRENCHING OR OTHER EXCAVATION, EARTHWORK WITHIN 100 FEET OF THESE MATERIALS SHALL CEASE. IMMEDIATELY INFORM THE ENGINEER AND REQUEST DIRECTION.
- CONTRACTOR SHALL KEEP TRAVEL LANES OF ALL STREETS FREE FROM DIRT AND DEBRIS DURING ALL PHASES OF CONSTRUCTION.
- STORAGE OF EQUIPMENT AND MATERIALS IN LANDSCAPED AREAS WILL NOT BE PERMITTED.
- ALL FITTINGS AND BENDS SHALL BE ANCHORED WITH THRUST BLOCKS OR RESTRAINED BY OTHER MEANS AS APPROVED BY THE ENGINEER.
- CONTRACTOR IS ADVISED THAT EXISTING UTILITIES ARE PRESENT IN THE WORK AREA AND MAY CONFLICT WITH THE NEW DISTRIBUTION PIPING. CONTRACTOR IS TO SUPPORT AND PROTECT THESE UTILITIES DURING CONSTRUCTION. ANY REQUIRED OR SPECIAL CONSTRUCTION TECHNIQUES PERFORMED BY CONTRACTOR TO SUPPORT THE UTILITIES SHALL BE AT NO EXTRA COST TO THE CLIENT. COMPENSATION FOR THIS WORK SHALL BE INCLUDED IN THE BID PRICE. ANY DAMAGE TO THE OWNER'S OR OTHER UTILITIES CAUSED BY PROJECT OPERATIONS SHALL BE CONTRACTOR'S RESPONSIBILITY.
- AN ENCROACHMENT PERMIT FROM THE CITY OR AGENCY HAVING JURISDICTION IS REQUIRED PRIOR TO ANY WORK WITHIN PUBLIC RIGHT-OF-WAY. ALL TRAFFIC CONTROL AND PAVEMENT REPLACEMENT WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT AND THE AGENCY INSPECTOR. A PERMIT FROM OSHA IS REQUIRED FOR ANY EXCAVATION EXCEEDING 5 FEET. FOLLOW ALL RESTRICTIONS OF THE REQUIRED PERMITS FROM OTHER AGENCIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER OFF-SITE DISPOSAL OF ALL REMOVED OR DEMOLISHED BITUMINOUS PAVEMENT, CONCRETE, REINFORCEMENT, AND SPOILS PER SPECIFICATIONS AND APPROVED CONTRACTOR-PREPARED SITE-SPECIFIC WORK PLAN.
- THE CONTRACTOR SHALL MAINTAIN REASONABLE ACCESS TO ALL DRIVEWAYS DURING CONSTRUCTION.
- ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF MARINA'S PUBLIC WORKS STANDARD SPECIFICATIONS. ALL SIGNS SHALL BE APPROPRIATELY CONSTRUCTED WITH REFLECTIVE MATERIAL AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION TO PROVIDE PROPER VISIBILITY.
- FOR CLARITY, EXISTING PAVEMENT MARKINGS ARE NOT SHOWN ON THE PLANS. ALL MARKINGS DAMAGED DUE TO CONSTRUCTION SHALL BE REPLACED PER CITY OF MARINA'S STANDARD SPECIFICATIONS. PATCHING OF DAMAGED MARKINGS WILL NOT BE ALLOWED.
- THE CONTRACTOR SHALL COLLECT STORM WATER RUNOFF AND GROUNDWATER PER SPECIFICATIONS AND APPROVED CONTRACTOR-PREPARED SITE-SPECIFIC WORK PLAN.

SHEET ANNOTATION



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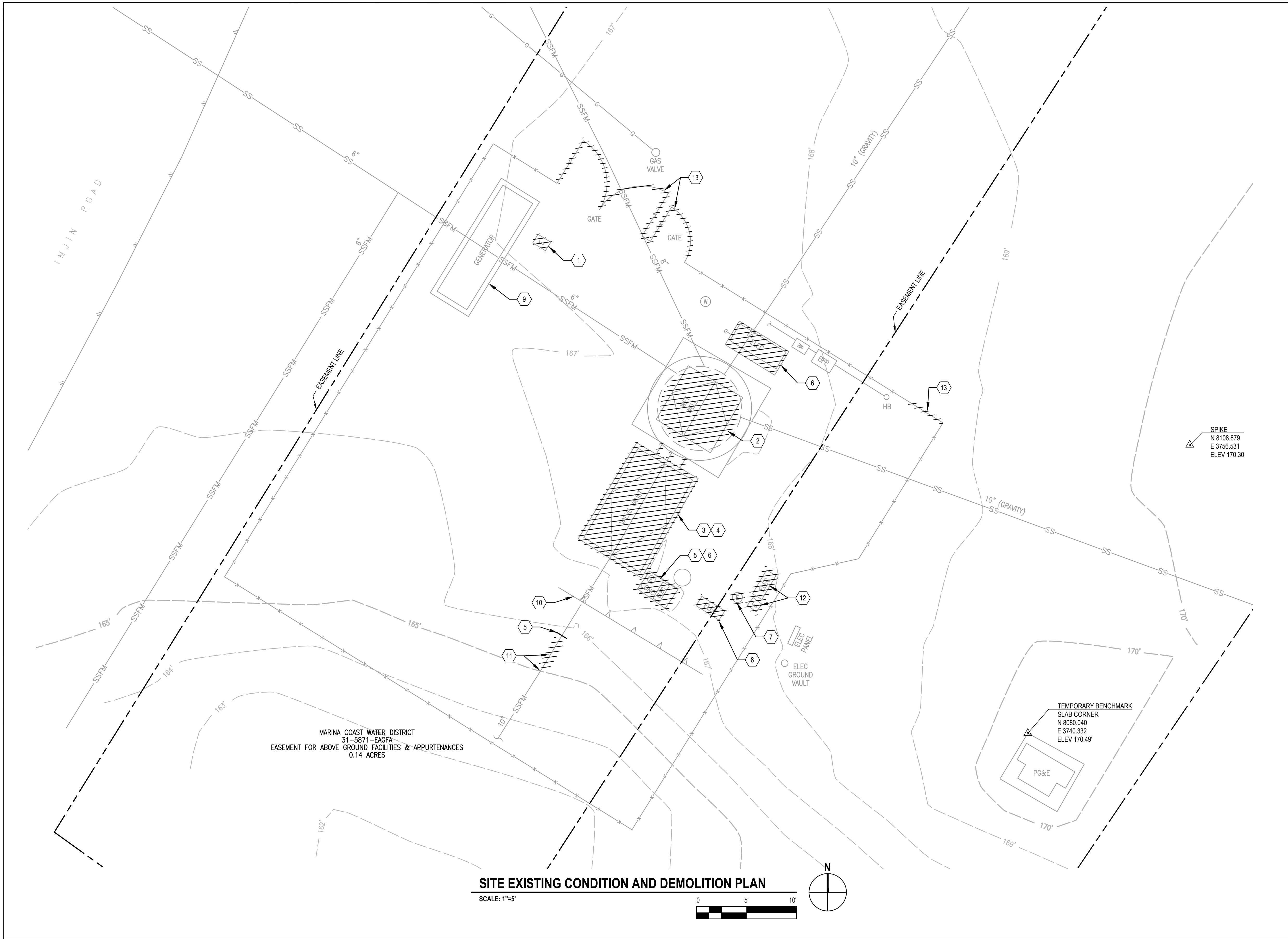
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Client	MARINA COAST WATER DISTRICT
Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT
Title	CIVIL LEGEND, ABBREVIATIONS, AND GENERAL NOTES
Project No.	11184901
Original Size	ANSI D
Sheet No.	C-001



SHEET SURVEY NOTES

- EASEMENT LINES AS SHOWN ARE APPROXIMATE. INFORMATION FOR EASEMENT LINES PROVIDED BY MCWD, PUBLIC BENEFIT CONVEYANCE APPLICATION FEE TITLE / EASEMENT REQUESTS, IMJIN LIFT STATION SHEET WW12, DATED APRIL 1999.
- SOURCE OF EXISTING SITE CONDITION TOPOGRAPHIC SURVEY IS UNKNOWN. DATE PERFORMED IS UNKNOWN.
- ALL UNITS SHOWN ARE U.S. SURVEY FEET OR DECIMALS THEREOF.
- HORIZONTAL DATUM: LOCAL, ASSUMED.
- VERTICAL DATUM: LOCAL, ASSUMED.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES PRIOR TO START OF WORK.
- THE LOCATIONS AND SIZES OF BURIED AND OVERHEAD UTILITIES SHOWN ON THESE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION FROM THE UTILITY OWNERS, AND SHOULD BE CONSIDERED APPROXIMATE. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITIES PRIOR TO ANY EXCAVATION.
- THE EXISTING UTILITIES STRUCTURES LOCATIONS AT SURFACE SHOWN ARE BASED ON GROUND SURVEY AND BEST AVAILABLE INFORMATION FROM THE UTILITY OWNERS. EXACT IDENTIFICATION OF THE UTILITY STRUCTURE IS NOT GUARANTEED.

SHEET GENERAL NOTES

- SEWAGE FLOW MUST REMAIN IN OPERATION DURING CONSTRUCTION.
- COMPLETE RECORD DRAWINGS OF THE EXISTING SITE UTILITIES ARE UNAVAILABLE. UNDERGROUND UTILITY LOCATIONS SHOULD BE VERIFIED BY CONTRACTOR.
- PROTECT EXISTING STRUCTURES AND UTILITIES ADJACENT TO SITE TO REMAIN IN PLACE PRIOR TO START OF DEMOLITION.
- NEW UNDERGROUND UTILITIES REQUIRE MINIMUM 12-INCH VERTICAL SEPARATION AND 12-INCH HORIZONTAL SEPARATION FROM EXISTING UNDERGROUND UTILITIES AND STRUCTURES.

DEMOLITION KEYNOTES

- PULL BOX TO BE REMOVED AND REPLACED PER ELECTRICAL SHEETS. SEE DETAIL 6/E-501.
- EXISTING PUMPS TO BE REMOVED AND REINSTALLED IN NEW WET WELL. SEE MECHANICAL SHEETS.
- EXISTING VALVE VAULT, PIPING AND APPURTENANCES TO BE REMOVED AND DISPOSED.
- EXISTING VALVE VAULT EXCAVATION TO BE BACKFILLED WITH NATIVE FILL AND COMPACTED TO 90% COMPACTION.
- EXISTING 10" FORCE MAIN TO BE CUT AND PLUGGED. SEE DETAIL 5/C-501.
- DISCONNECT, DEMOLISH, AND REMOVE EXISTING PAD MOUNTER ELECTRICAL AND CONTROL CABINET AND CONCRETE PAD. PULL ALL CONDUCTORS BACK TO SOURCE. EXISTING UNDERGROUND CONDUITS TO BE ABANDONED-IN-PLACE.
- DISCONNECT, DEMOLISH, AND REMOVE EXISTING UNDERGROUND ELECTRICAL PULL BOX. PULL ALL CONDUCTORS BACK TO SOURCE. EXISTING UNDERGROUND CONDUITS TO BE ABANDONED-IN-PLACE.
- EXISTING SCADA EQUIPMENT TO BE RELOCATED PER ELECTRICAL SHEETS. EXISTING CABINET, POSTS, AND FOOTINGS TO BE DEMOLISHED. EXISTING UNDERGROUND CONDUITS TO BE ABANDONED-IN-PLACE. CUT AND REMOVE PORTION OF ABOVE GROUND CONDUITS.
- EXISTING GENERATOR TO REMAIN. PROTECT-IN-PLACE.
- EXISTING RETAINING WALL TO REMAIN. PROTECT-IN-PLACE.
- EXISTING 10" FORCE MAIN TO BE CUT AND PORTION REMOVED BETWEEN CUTS.
- DISCONNECT, DEMOLISH, AND REMOVE EQUIPMENT SUPPORT STRUCTURE, AUTOMATIC TRANSFER SWITCH AND TRANSFORMER LOAD CENTER. PULL ALL CONDUCTORS BACK TO SOURCE. EXISTING UNDERGROUND CONDUITS TO BE ABANDONED-IN-PLACE.
- DEMOLISH AND REMOVE EXISTING SWING GATES, PORTION OF CHAIN LINK FENCE, POSTS, AND CONCRETE FOOTINGS AS REQUIRED FOR INSTALLATION OF NEW GATES AS SHOWN ON SHEET C-110.

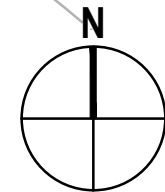
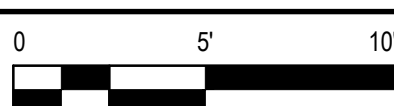
DEMOLITION LEGEND

DEMOLISH AND REMOVE OR ABANDON-IN-PLACE EXISTING UTILITY LINE AS NOTED

MARINA COAST WATER DISTRICT
31-5871-EACFA
EASEMENT FOR ABOVE GROUND FACILITIES & APPURTENANCES
0.14 ACRES

SITE EXISTING CONDITION AND DEMOLITION PLAN

SCALE: 1"=5'



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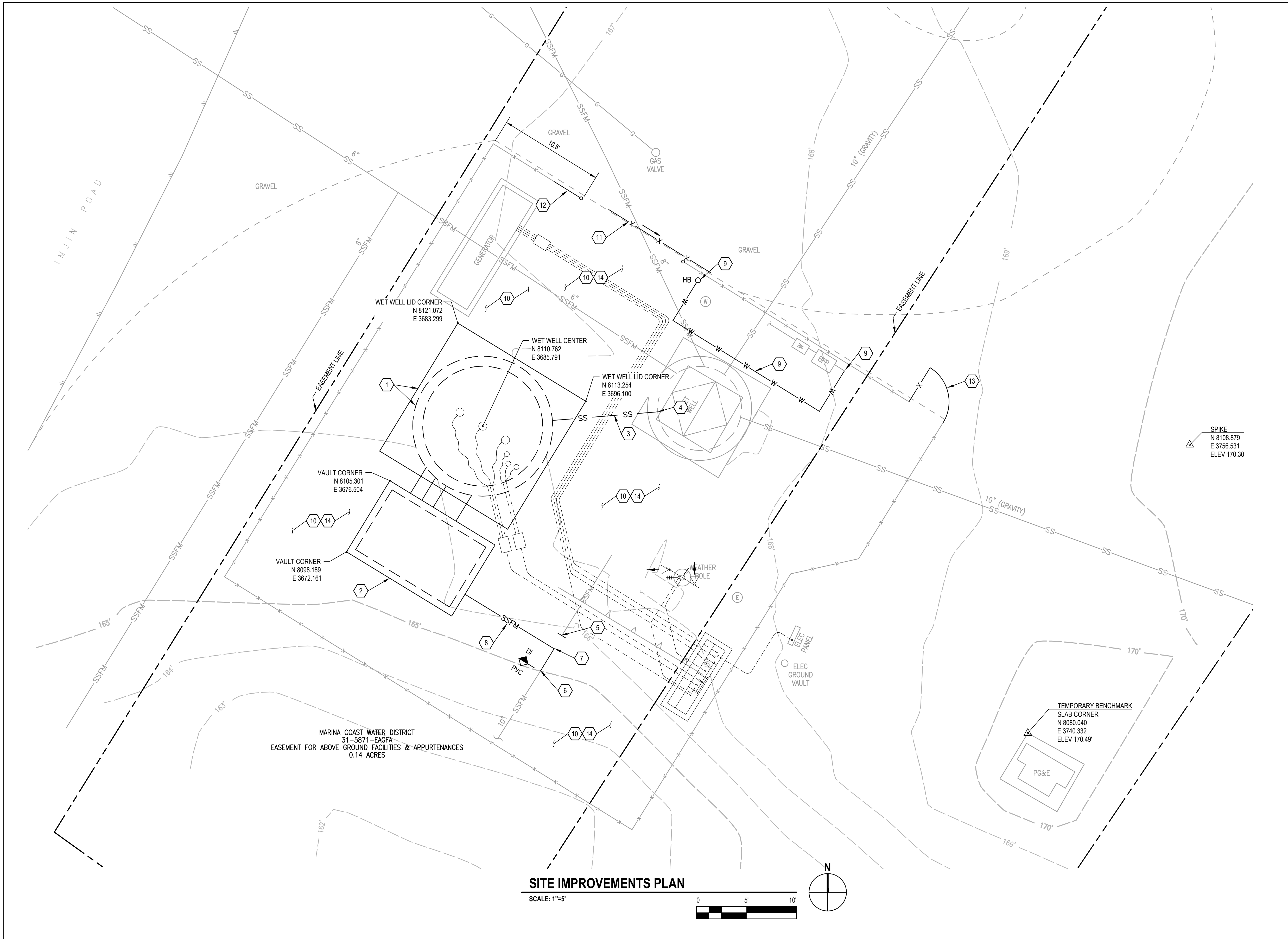
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Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT		
Title	SITE EXISTING CONDITION AND DEMOLITION PLAN		
Project No.	11184901		
Original Size	ANSI D	Sheet No.	C-101
Sheet	3	of	20



- ### SHEET GENERAL NOTES
- SEWAGE FLOW MUST REMAIN IN OPERATION DURING CONSTRUCTION.
 - PRECISE LOCATIONS OF EXISTING 10" Ø SSFM ON THIS SITE IN UNKNOWN. CONTRACTOR TO IDENTIFY AND CONFIRM LOCATION OF NEW SSFM TIE-IN.
 - CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES PRIOR TO START OF WORK.
 - THE LOCATIONS AND SIZES OF BURIED AND OVERHEAD UTILITIES SHOWN ON THESE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION FROM THE UTILITY OWNERS, AND SHOULD BE CONSIDERED APPROXIMATE. EXACT LOCATION AND COMPLETENESS ARE NOT GUARANTEED.
 - THE EXISTING UTILITIES STRUCTURES LOCATIONS AT SURFACE SHOWN ARE BASED ON GROUND SURVEY AND BEST AVAILABLE INFORMATION FROM THE UTILITY OWNERS. EXACT IDENTIFICATION OF THE UTILITY STRUCTURE IS NOT GUARANTEED.

- ### KEYNOTES
- NEW WET WELL. SEE STRUCTURAL SHEETS AND MECHANICAL SHEETS FOR DETAILS.
 - NEW VALVE VAULT. SEE STRUCTURAL SHEETS AND MECHANICAL SHEETS FOR DETAILS.
 - NEW 16" Ø SANITARY SEWER DRAIN PIPE. SEE SHEET M-101 FOR DETAILS.
 - CORE DRILL FOR DRAIN PIPE PENETRATION IN EXISTING WET WELL. PROVIDE PIPE SPOOL AT EACH DRILLED LOCATION. PROVIDE MECHANICAL SEAL FOR EACH WET WELL PENETRATION. SEE STRUCTURAL SHEETS FOR DETAILS.
 - CUT AND PLUG EXISTING PIPE PER DEMOLITION SHEET C-101.
 - CONNECT NEW 10" Ø SSFM TO EXISTING 10" Ø SSFM WITH SLEEVE TYPE COUPLING AND PIPE RESTRAINERS. SEE DETAIL 6/C-501. MAKE TIE-IN ONE PIPE LENGTH DOWN STREAM OF NEW 90° ELBOW.
 - 10" 90° ELBOW. USE RESTRAINED JOINTS.
 - NEW 10" Ø SSFM. USE RESTRAINED JOINTS.
 - NEW 1" Ø BURIED WATER SERVICE, APPROXIMATELY 26 LF. MATCH EXISTING PIPE MATERIAL. TIE INTO EXISTING WATER LINE AT APPROXIMATE LOCATION AS SHOWN. PROVIDE HOSE BIBB PER DETAIL 2/C-501.
 - RESTORE FINISH GRADE INSIDE FENCED ENCLOSURE TO ORIGINAL CONDITION AFTER ALL UNDERGROUND WORK HAS BEEN COMPLETED. SURFACE GRADING IS REQUIRED THAT SURFACE DRAINS TO THE EXTERIOR OF FENCE ENCLOSURE.
 - NEW 12-FOOT WIDE CANTILEVERED SLIDING GATE. SEE DETAIL 1/C-503. ADJUST EXISTING GRADE AT GATE OPENING AS REQUIRED FOR GATE OPERATION.
 - NEW SEGMENT OF CHAIN LINK FENCE AND POST(S) AS REQUIRED. CONFORM TO EXISTING CHAIN LINK FENCE. SEE DETAIL 1/C-502.
 - NEW 4-FOOT WIDE PERSONNEL GATE AND POST(S) AS REQUIRED. CONFORM TO EXISTING CHAIN LINK FENCE. SEE DETAIL 3/C-502. ADJUST EXISTING GRADE AT GATE OPENING AS REQUIRED FOR GATE OPERATION.
 - ALL AREAS WITHIN THE FENCE ARE TO BE COVERED WITH A MINIMUM OF 3" DEEP, 3/4" MINUS WELL GRADED CRUSHED ROCK WITH LESS THAN 5% OF FINES PASSING THROUGH A #200 SIEVE.

SPIKE
N 8108.879
E 3756.531
ELEV 170.30

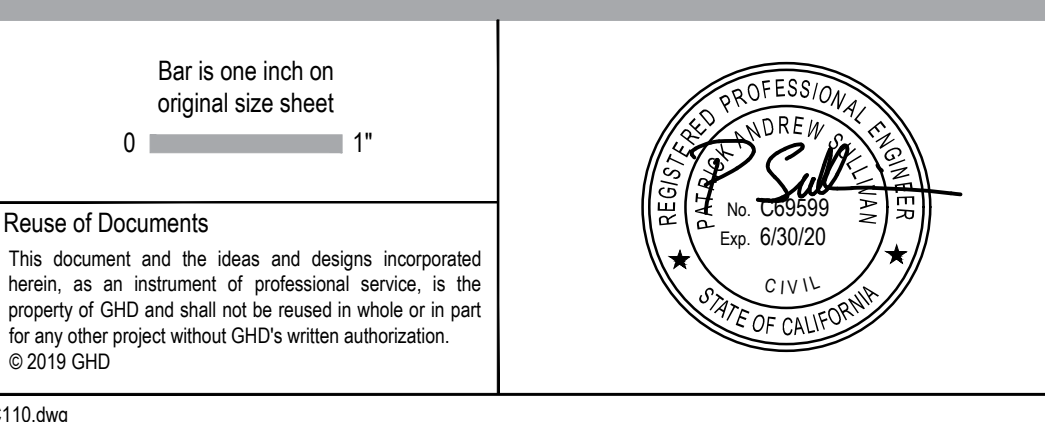
TEMPORARY BENCHMARK
SLAB CORNER
N 8080.040
E 3740.332
ELEV 170.49'

SITE IMPROVEMENTS PLAN
SCALE: 1"=5'

No.	Issue	Drawn	Approved	Date

Bar is one inch on original size sheet
0 1"

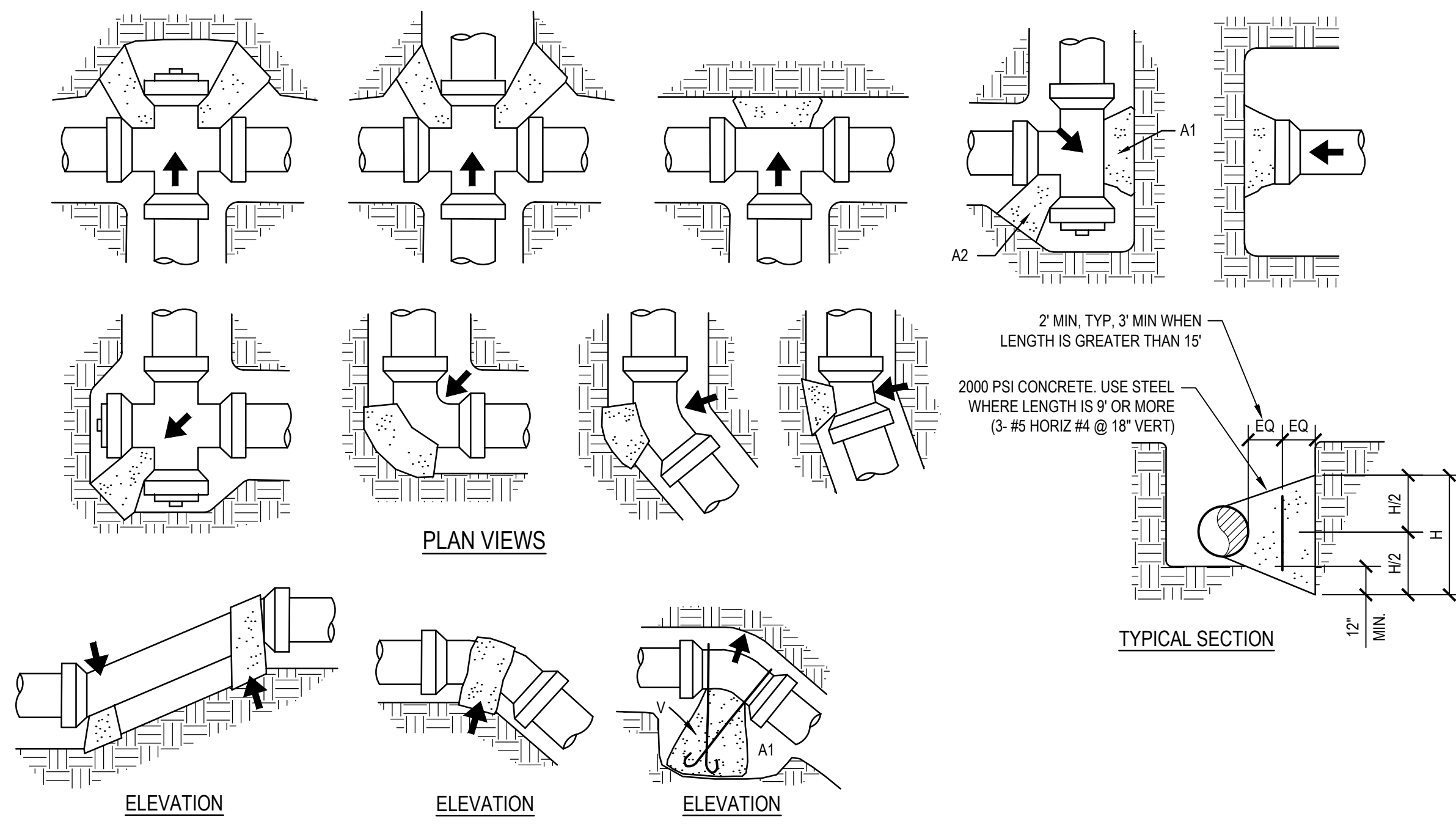
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Drawn	PJS	Designer	PAS
Drafting Check	PJS	Design Check	PAS
Project Manager	P SULLIVAN	Date	OCT 1 2019
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Client	MARINA COAST WATER DISTRICT		
Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT		
Title	SITE IMPROVEMENTS PLAN		
Project No.	11184901		
Original Size	ANSI D	Sheet No.	C-110
		Sheet	4 of 20



- NOTES:**
- CONCRETE THRUST BLOCKS ARE TO BE POURED AGAINST UNDISTURBED EARTH OR STRUCTURAL BACKFILL.
 - KEEP CONCRETE CLEAR OF JOINTS AND ACCESSORIES.
 - VOLUMES AND SPECIAL BLOCKING DETAILS SHOWN ON THE PLANS TAKE PRECEDENCE OVER VOLUMES AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.
 - ALL BURIED PIPE EXCEPT FLANGED, SCREWED, SOLVENT WELDED PVC OR WELDED STEEL PIPE SPECIFIED TO BE PRESSURE TESTED SHALL BE PROVIDED WITH CONCRETE THRUST BLOCKS AT ALL DIRECTIONAL CHANGES UNLESS OTHERWISE NOTED.
 - THRUST BLOCKS SHALL NOT BE LOCATED OR SIZED TO ENCASE ADJACENT PIPES OR FITTINGS.
 - THE SIZE AND WEIGHT OF ALL UPLIFT THRUST BLOCKS SHALL BE AS DETERMINED BY ENGINEER.
 - A FRICTION COEFFICIENT OF 0.20 SHALL BE USED BETWEEN THE BEDDING MATERIAL AND PIPE.
 - THE BEARING AREAS SHOWN IN THE TABLE ARE BASED ON TEST PRESSURE OF 200 PSI AND ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR SPECIFIC TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:

BEARING AREA = (TEST PRESSURE / 200) X (2000/SOIL BEARING STRESS) X (TABLE VALUE)

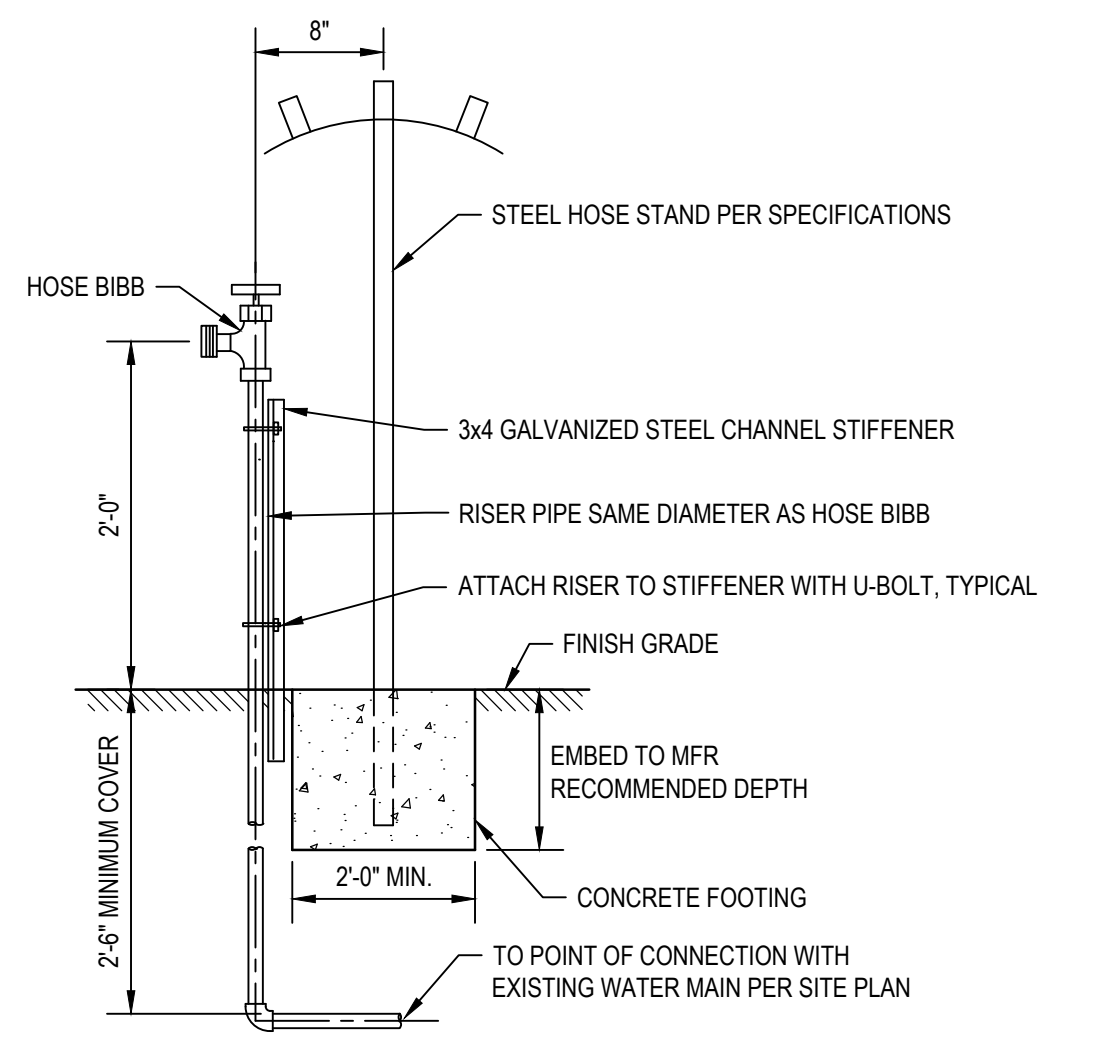
FITTING SIZE	ROD SIZE	EMBEDMENT
12" AND LESS	#6	30"
14" TO 16"	#8	36"

BEARING AREA OF THRUST BLOCK IN SQ FT (HORIZONTAL BENDS)

FITTING SIZE	TEE, WYE, PLUG, CAP OR VALVE	90° BEND, PLUGGED CROSS	TEE PLUGGED		45° BEND	22 1/2° BEND	11 1/4° BEND
			A1	A2			
4	1.5	2	2	1.5	1.5	1	1
6	3	4.5	4.5	3	2.5	1.5	1
8	5	7	7	5	4	2	1
10	8	12	12	8	7	3	2
12	12	17	17	12	10	5	3
14	17	24	17	24	13	6.8	3.4

VOLUME OF THRUST BLOCK IN CUBIC YARDS (VERTICAL BENDS)

FITTING SIZE	BEND ANGLE					
	45°		220°		110°	
	V (CY)	A1 (SF)	V (CY)	A1 (SF)	V (CY)	A1 (SF)
4	0.5	1.0	0.3	1.0	0.1	1.0
6	1.1	1.0	0.6	1.0	0.3	1.0
8	2.0	1.7	1.1	1.0	0.5	1.0
10	3.1	2.6	1.7	1.0	0.9	1.0
12	4.4	3.7	2.4	1.0	1.2	1.0

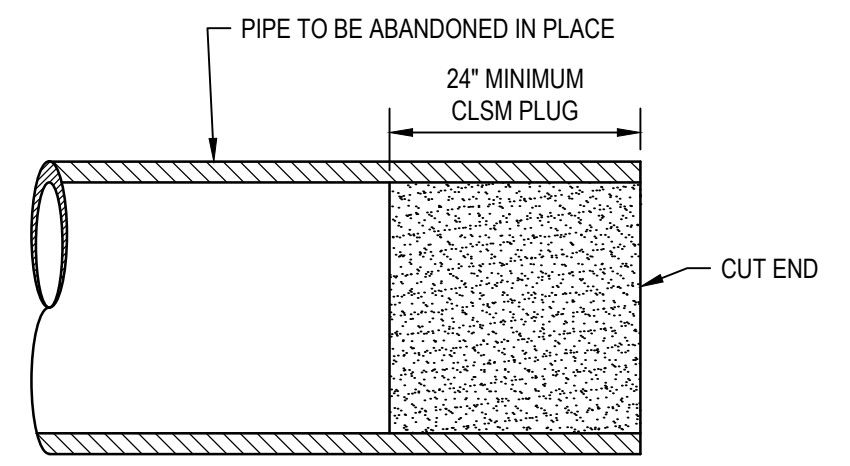


1 THRUST BLOCK DETAILS
NOT TO SCALE

2 FREE STANDING HOSE BIBB
NOT TO SCALE

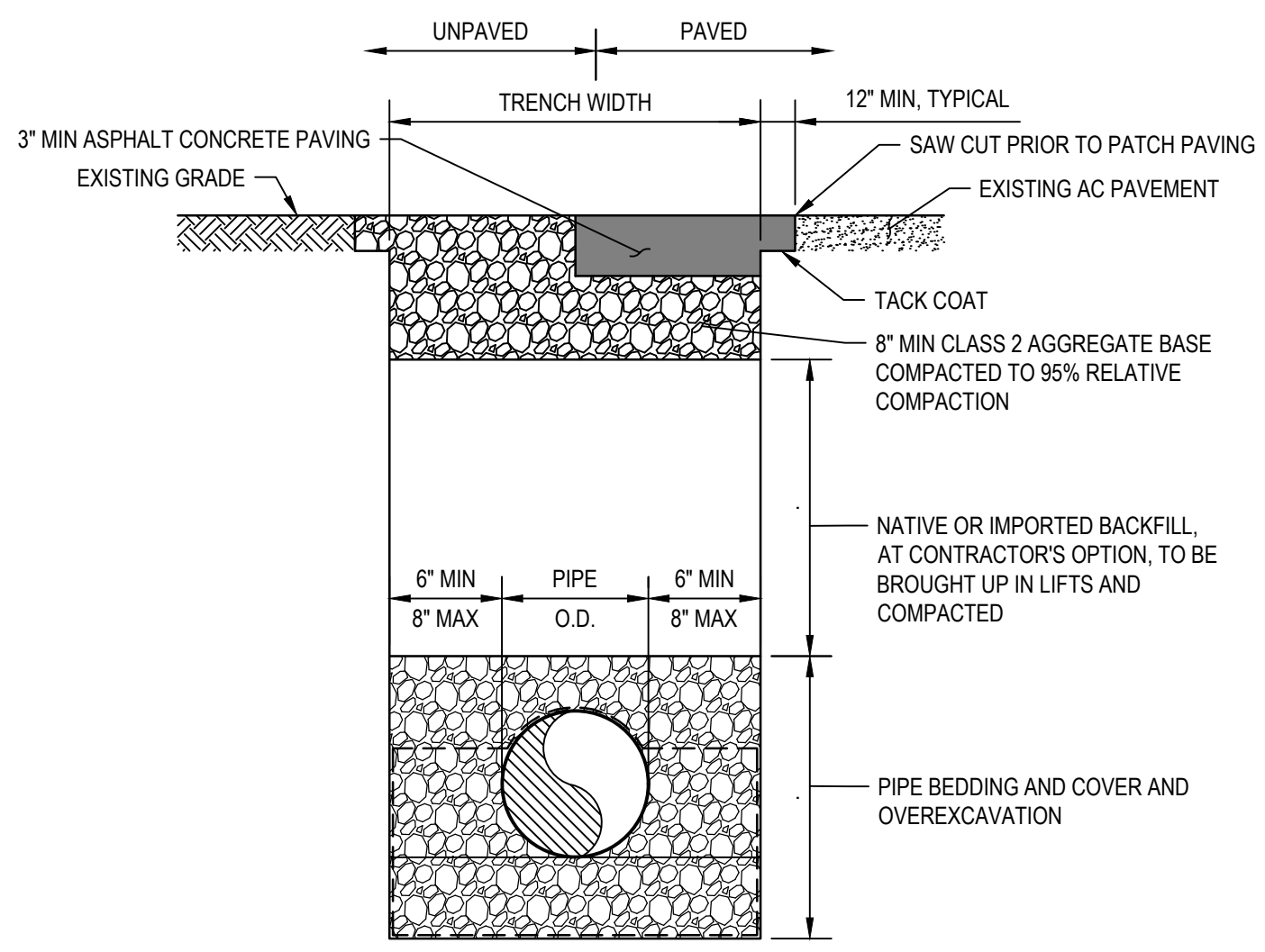
TRENCH DIMENSION CHART

PIPE SIZE	(X) TRENCH WIDTH		(Y) BEDDING (MIN.)	(Z) COVER (MIN.)
	MIN.	MAX.		
2", 4", 6"	18"	24"	6"	6"
8"	20"	26"	6"	6"
10"	22"	28"	6"	8"
12"	24"	30"	6"	12"
18"	30"	36"	6"	12"



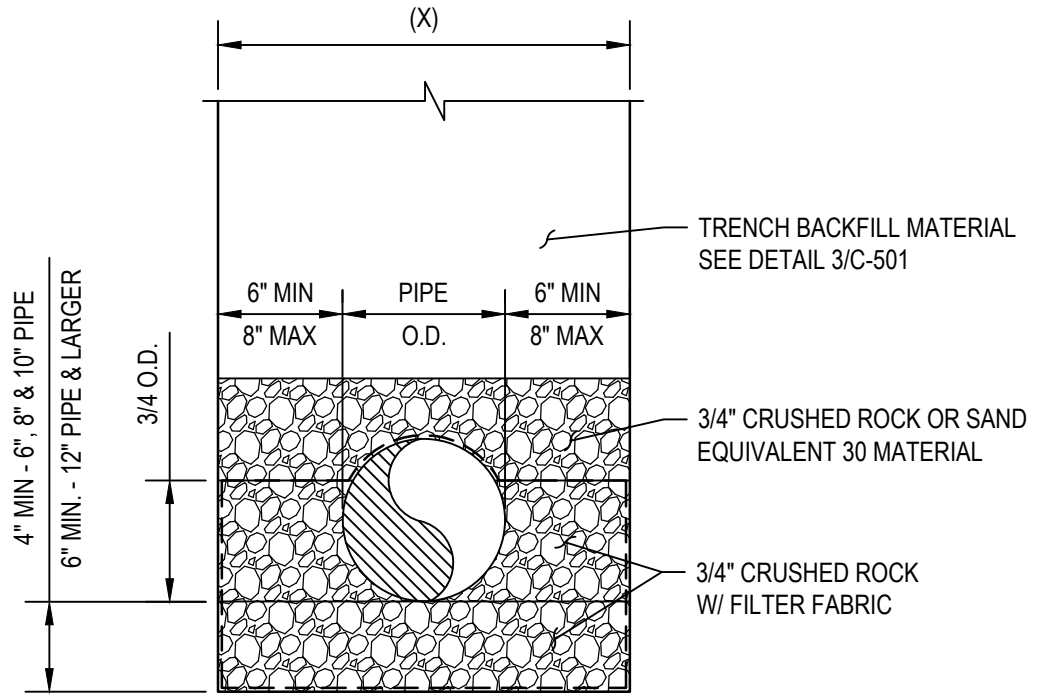
- NOTE:**
- PLUG REQUIRED ONLY AT OPEN END(S) OF PIPE.
 - CONTRACTOR MAY USE WOOD BLOCKING OR SANDBAGS AT BACKERS WHEN PLACING CLSM.

5 PLUG ABANDONED PIPE
NOT TO SCALE



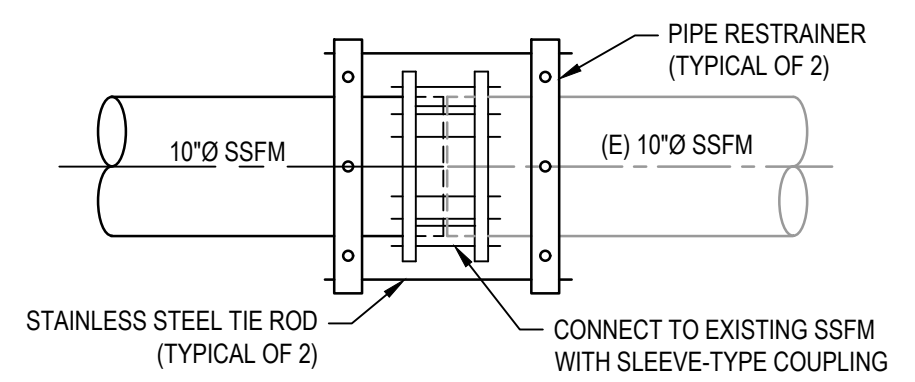
- NOTES:**
- 6" MIN AC OR MATCH EXISTING, WHICHEVER IS GREATER, AND 18" MIN AB.
 - NEW PAVEMENT WIDTH SHALL BE 8" CENTERED OVER CENTERLINE OF PIPE. CONTRACTOR TO GRIND EXISTING PAVEMENT DOWN A MINIMUM OF 2" AND INSTALL OVERLAY.

3 PIPE BEDDING, TRENCH, AND RESURFACING
NOT TO SCALE



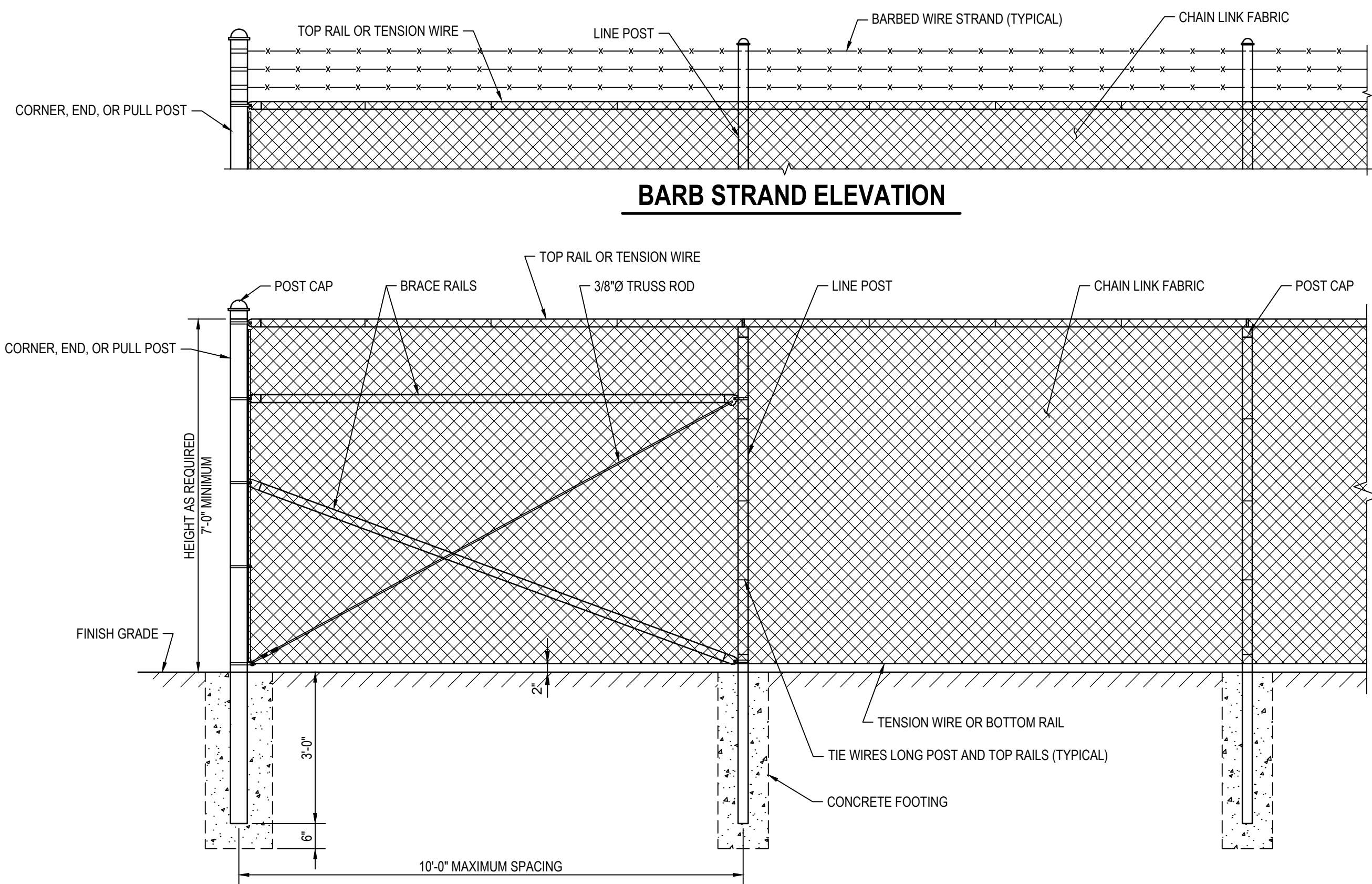
- NOTES:**
- CONCRETE ENCASEMENT PER MCWD STANDARD PLAN S-9 SHALL BE USED WHERE THE TRENCH WIDTH AT THE UPPER ZONE EXCEEDS THE MAXIMUM SPECIFIED ABOVE. OVERWIDTH BEDDING SHALL BE USED WHERE THE TRENCH WIDTH AT THE UPPER LIMITS OF THE PIPE ZONE EXCEEDS THE MAXIMUM SPECIFIED ABOVE. MAXIMUM OVERWIDTH BEDDING TO BE DETERMINED IN THE FIELD BY THE DISTRICT REPRESENTATIVE ON THE BASIS OF OVERWIDTH EXCAVATED.
 - IF UNSTABLE SOIL IS ENCOUNTERED, DISTRICT REPRESENTATIVE SHALL DETERMINE THE DEPTH OF REMOVAL AND SIZE OF FOUNDATION ROCK REFILL MATERIAL.
 - 95% COMPACTION MINIMUM REQUIRED FROM BOTTOM OF PIPE FOUNDATION TO GRADE OR AS APPROVED BY THE ENGINEER.

4 PIPE BEDDING AND COVER
NOT TO SCALE

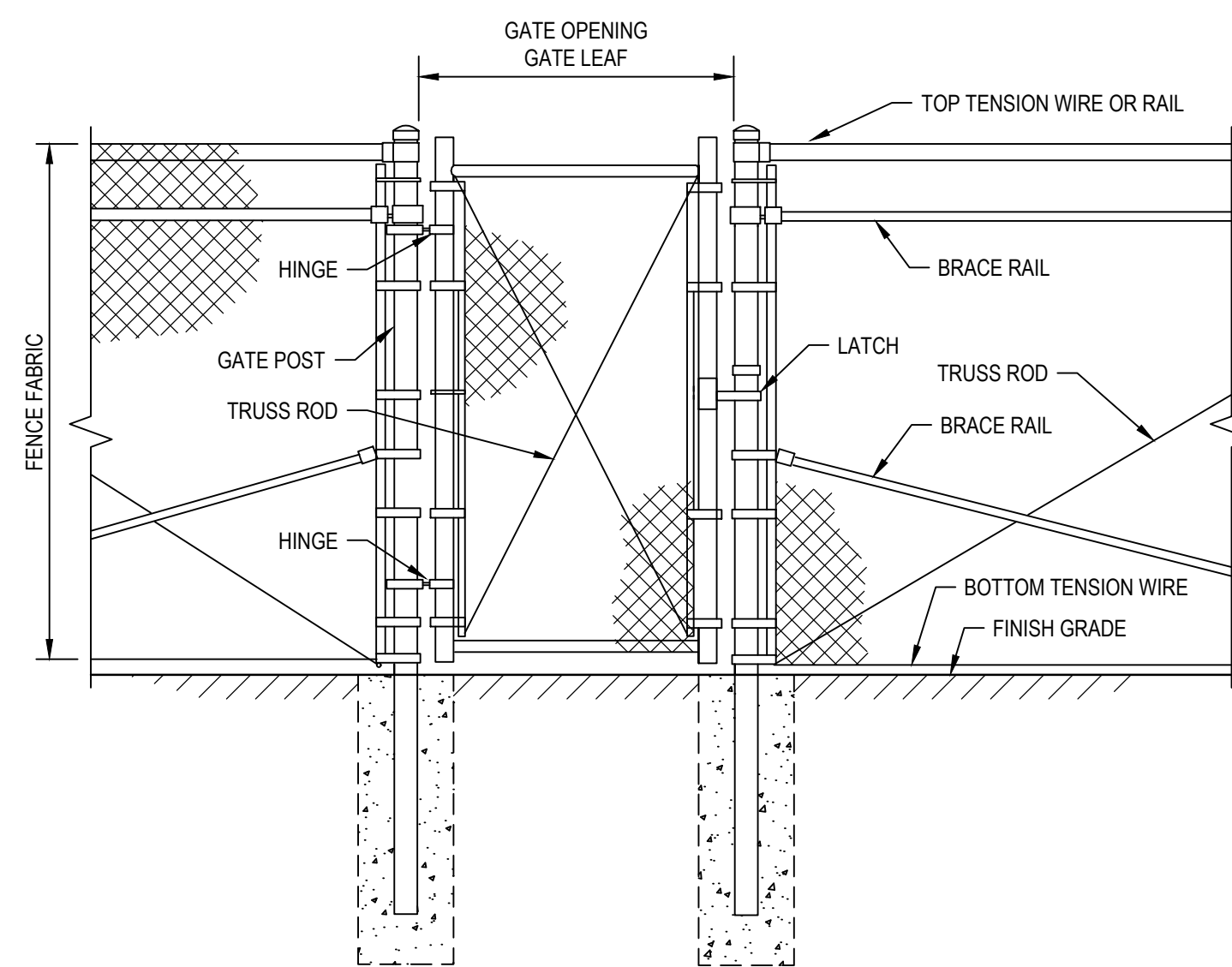


6 10" SSFM CONNECTION
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No.	Issue	Drawn	Approved	Date										

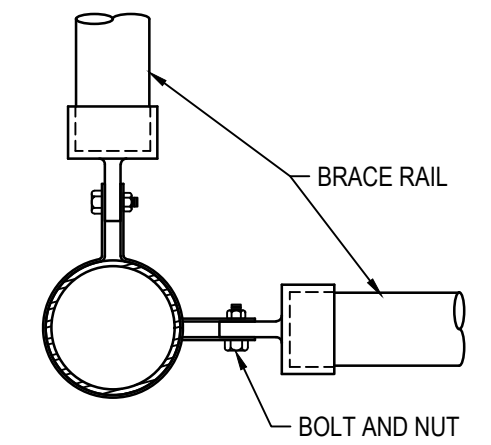


1 BARBED WIRE CHAIN LINK FENCE
NOT TO SCALE

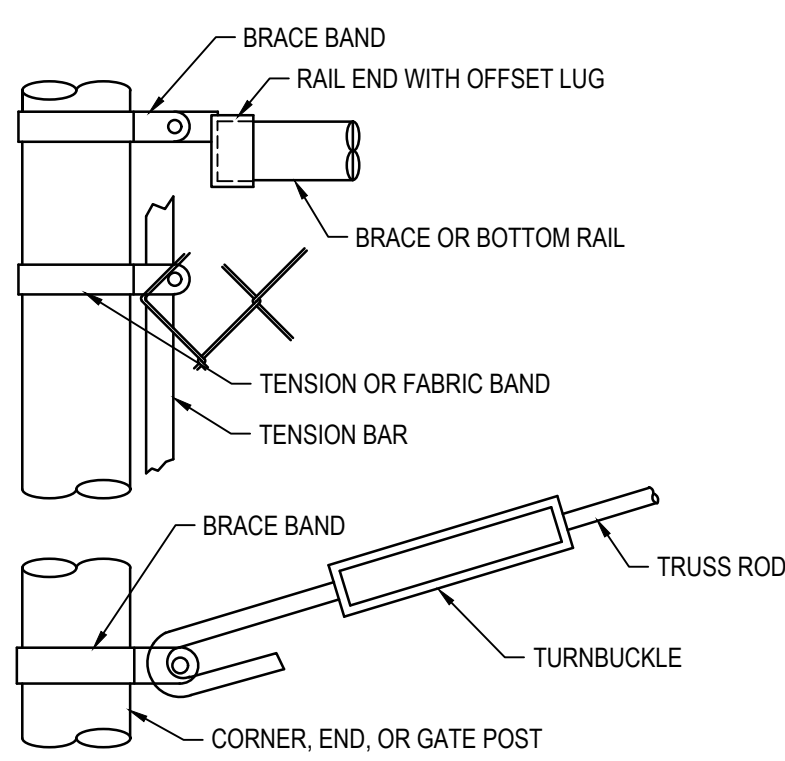


3 PERSONNEL GATE
NOT TO SCALE

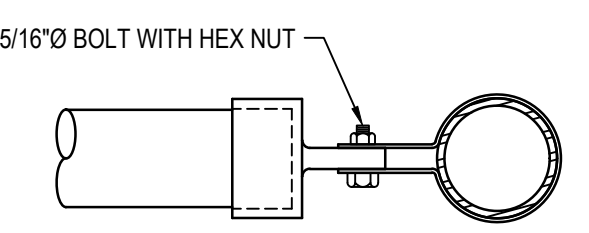
- SHEET NOTES**
- BOTTOM RAIL: MAY BE ADDED FOR SECURITY. IT SHALL BE INSTALLED APPROXIMATELY 3-INCHES ABOVE FINISH GRADE (A MINIMUM OF 2-INCHES AND A MAXIMUM OF 4-INCHES). HARDWARE SHALL BE WELDED OR SHOT NAILED TO POSTS AND RAILS IN ORDER TO SECURE IN PLACE. ATTACH FABRIC TO NEW BOTTOM RAIL TO ELIMINATE POSSIBILITY OF PEELING UP FABRIC.
 - FABRIC: SOME LOCATIONS MAY REQUIRE 8 FEET OF FABRIC. THE STANDARD FENCE FABRIC SHALL BE VINYL, ZINC OR ALUMINUM-COATED STEEL WIRE CHAIN LINK WITH MESH OPENINGS NOT LARGER THAN TWO INCHES PER SIDE AND A TWISTED AND BARBED SELVAGE AT TOP AND BOTTOM IN ACCORDANCE WITH THE SPECIFICATIONS. UTILIZE 6-GAUGE FOR BASE PERIMETER OR HEIGHTENED SECURITY ZONES AND 9-GAUGE FOR BASE INTERIOR OR WHEN JOINING AN EXISTING FENCE WHICH IS ALREADY 9-GAUGE.
 - FABRIC TIES: ONLY 12-GAUGE STEEL TIES SHALL BE USED. COATING OR PLATING WILL BE ELECTROLYTICALLY COMPATIBLE WITH THE FENCE FABRIC TO INHIBIT CORROSION.
 - REINFORCEMENT: TENSION WIRES SHALL BE INSTALLED AND INTERWOVEN (OR AFFIXED WITH FABRIC TIES) ALONG THE TOP AND BOTTOM OF THE FENCE FOR STABILIZATION OF THE FENCE FABRIC.
 - FENCE HEIGHT: CHAIN LINK FABRIC SHALL BE 7-FOOT HIGH WITH AN ADDITIONAL 1-FOOT IN HEIGHT COMPOSED OF 3 STRANDS OF BARBED WIRE AS REQUIRED. THE TOTAL FENCE HEIGHT SHALL BE 8-FOOT OR MATCH EXISTING.
 - GROUND CLEARANCE: BOTTOM OF THE FENCE FABRIC SHALL BE WITHIN TWO-INCHES OF FIRM SOIL.
 - TOP GUARDS: A TOP GUARD IS AN OVERHANG OF BARBED WIRE ALONG THE TOP OF A FENCE, FACING OUTWARD (AWAY FROM PROTECTED SITE) AND UPWARD AT APPROXIMATELY 45-DEGREE ANGLE. TOP GUARD SUPPORTING ARMS WILL BE PERMANENTLY AFFIXED TO THE TOP OF FENCE POSTS TO INCREASE THE OVERALL HEIGHT OF THE FENCE AT LEAST 1-FOOT. THREE STRANDS OF 12-GAUGE BARBED WIRE, EQUALLY SPACED, SHALL BE INSTALLED ON THE SUPPORTING ARMS.
 - FENCE POSTS AND FOUNDATIONS: SHALL BE ASTM F1043 OR F1083 ROUND PIPE OR SQUARE TUBE AND SHALL BE GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS. FENCE POST SPACING AND SIZE (DIAMETER) SHALL BE DETERMINED IN ACCORDANCE WITH CHAIN LINK FENCE MANUFACTURERS' INSTITUTE (WLG 2445). SPACING SHALL NOT EXCEED 10'-0" OC. SIZE (DIAMETER) SHALL NOT BE LESS THAN THAT SPECIFIED. MINIMUM FOOTING DIAMETERS (TO BE FILLED W/4000 PSI CONCRETE): 4" Ø FOR 8" POST; 36" Ø FOR 6" POST; 24" Ø FOR 4" POST; OTHER SIZES TO BE DESIGNED BY MANUFACTURER. NO FOOTING WIDTH SHALL BE LESS THAN 4(X) THE POST WIDTH.



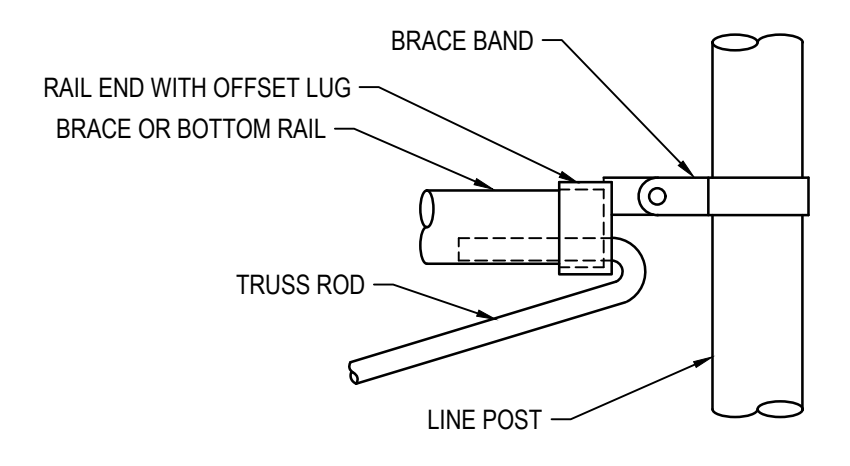
PLAN



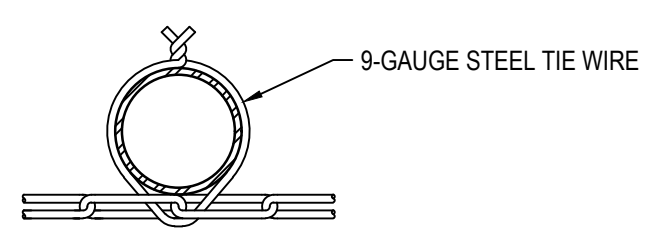
ELEVATION



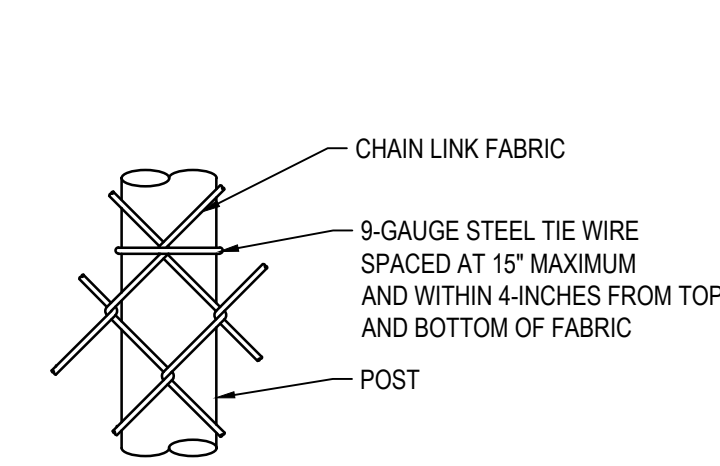
PLAN - ROUND POST



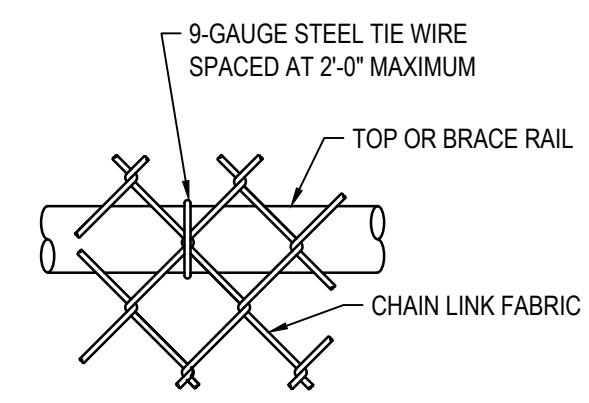
ELEVATION - ROUND POST



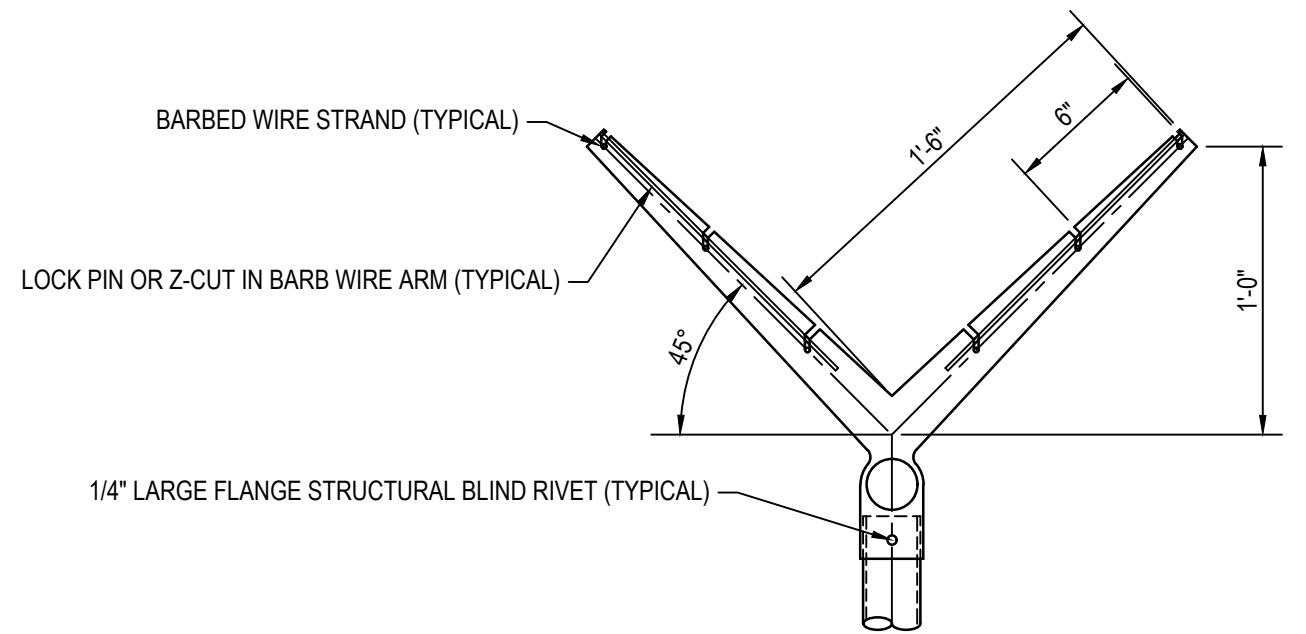
PLAN - ROUND POST



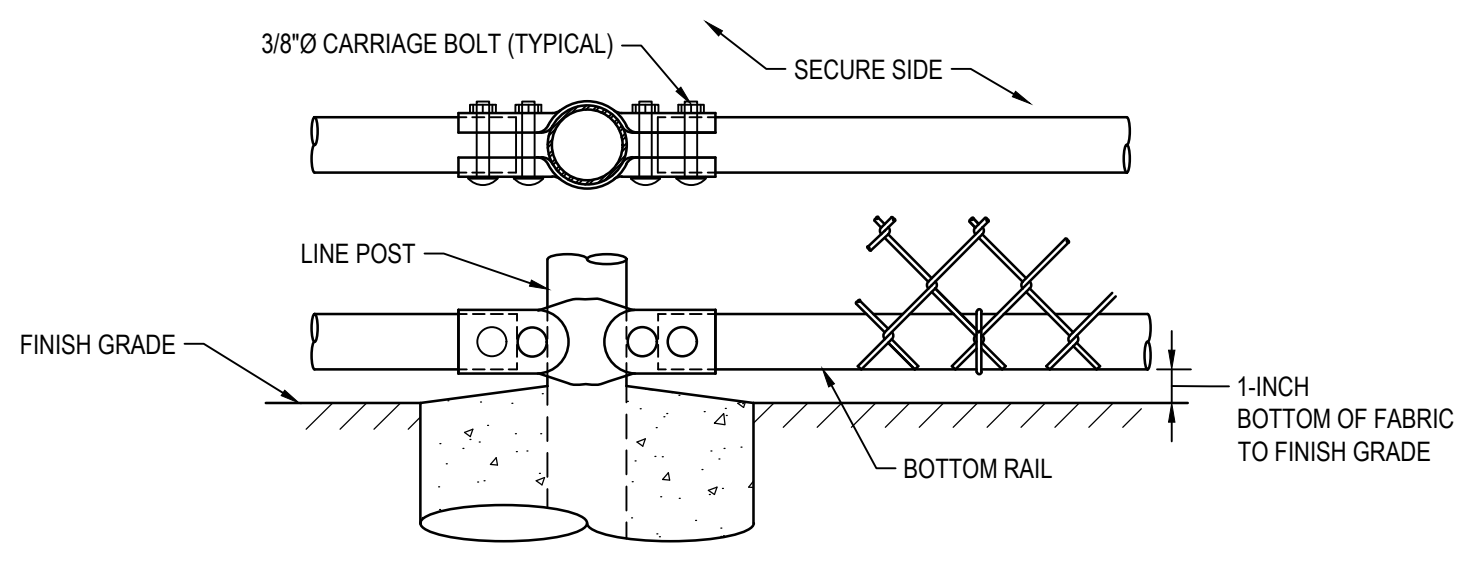
ELEVATION - ROUND POST



TOP OR BRACE BRACE RAIL ATTACHMENT



LINE POST OPTION



BOTTOM RAIL OPTION

2 CHAIN LINK FENCE DETAILS
NOT TO SCALE

No.	Issue	Drawn	Approved	Date

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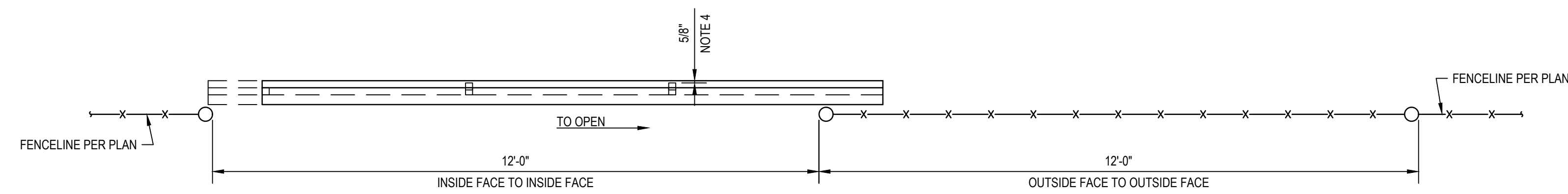
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Project Manager	P SULLIVAN	Date	OCT 1 2019
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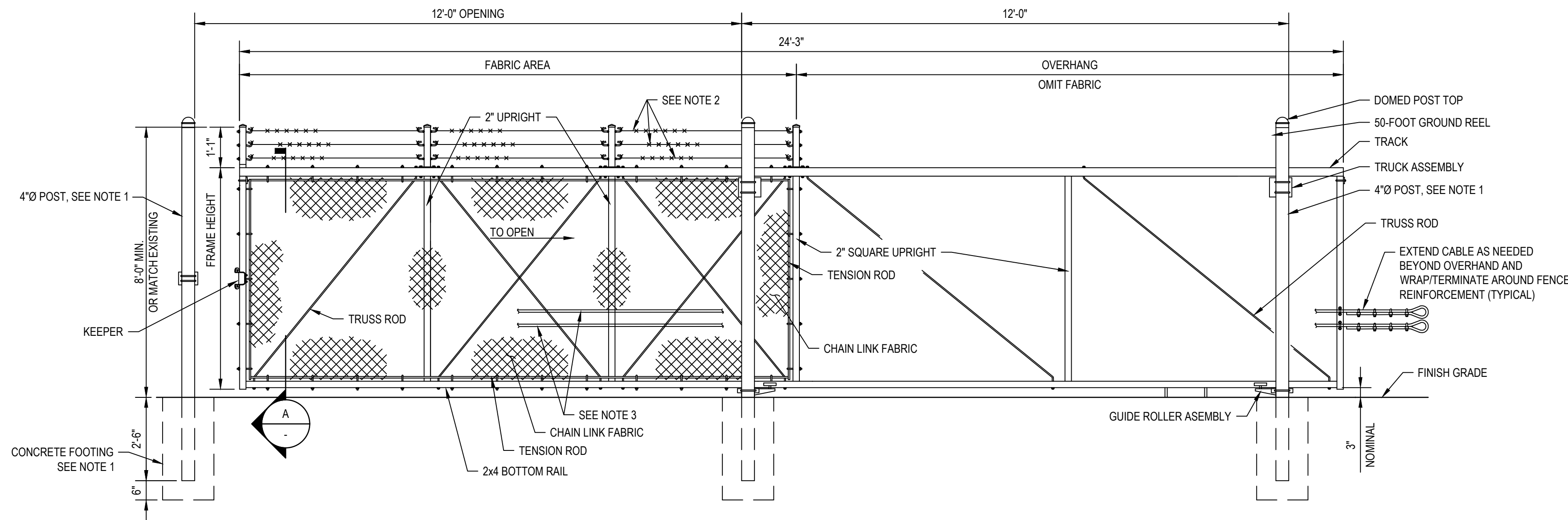
Client	MARINA COAST WATER DISTRICT
Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT
Title	CIVIL DETAILS
Project No.	11184901
Original Size	ANSI D
Sheet No.	C-502

SHEET NOTES

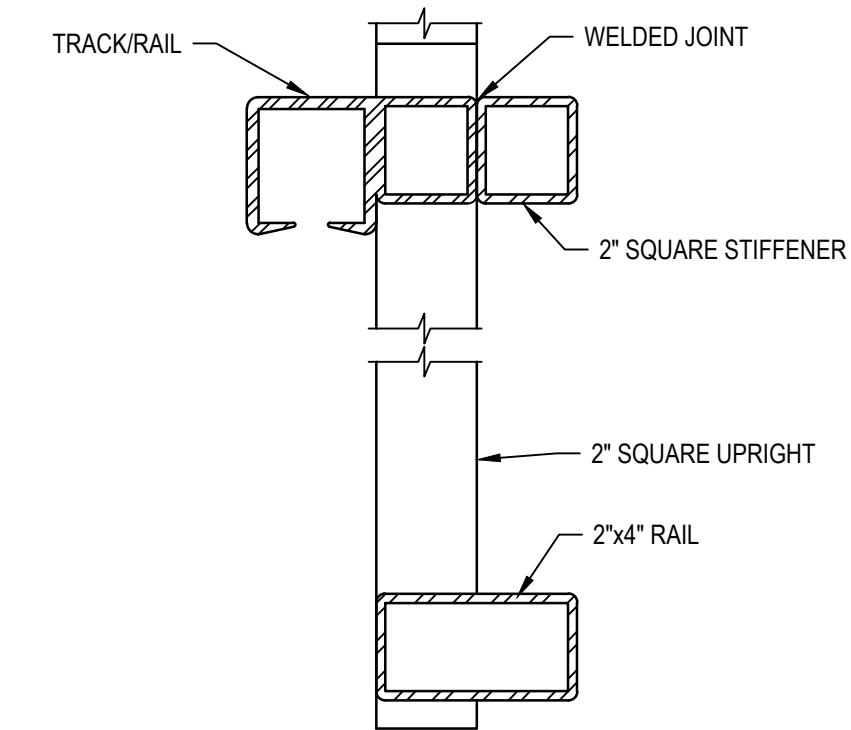
1. POST SIZE AND ASSOCIATED FOOTING DIAMETER TO BE DETERMINED BY MANUFACTURER, BASED ON LEAF WEIGHT & DIMENSION. MINIMUM FOOTING DIAMETERS (TO BE FILLED W/4000 PSI CONC): 40" Ø FOR 6" POST; 36" Ø FOR 6" POST; 24" Ø FOR 4" POST; OTHER SIZES TO BE DESIGNED BY MANUFACTURER. NO FOOTING WIDTH SHALL BE LESS THAN 4(X) THE POST WIDTH.
2. (3) STRANDS OF BARBED WIRE EACH CONSISTING OF TWO-STRAND LINE WIRE WITH 4 POINT BARBS.
3. CABLE REINFORCING (IF REQUIRED), PROVIDE TWIST-OFF METAL TIES TO SECURE CABLE TO FABRIC @ 24" ON CENTER AND U-BOLTS TO SECURE TO UPRIGHTS.
4. OFFSET DIMENSION FOR LOWER INTERIOR UPRIGHTS ONLY.



PLAN VIEW



ELEVATION VIEW



A SECTION
NOT TO SCALE

1 CANTILEVERED SLIDING GATE
NOT TO SCALE

No.	Issue	Drawn	Approved	Date

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Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT		
Title	CIVIL DETAILS		
Project No.	11184901		
Original Size	ANSI D	Sheet No.	C-503

ABBREVIATIONS

AB	ANCHOR BOLT	HAS	HEADED ANCHOR STUDS	UNO	UNLESS NOTED OTHERWISE
ABC	AGGREGATE BASE COURSE	HD	HAND	UON	UNLESS OTHERWISE NOTED
ABV	ABOVE	HOG	HOT DIP GALVANIZED		
ACI	AMERICAN CONCRETE INSTITUTE	HEF	HORIZONTAL EACH FACE	VEF	VERTICAL EACH FACE
ADD'L	ADDITIONAL	HIF	HORIZONTAL INSIDE FACE	VERT	VERTICAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	HK	HOOK	VIF	VERTICAL INSIDE FACE
AISI	AMERICAN IRON AND STEEL INSTITUTE	HM	HOLLOW METAL	VOF	VERTICAL OUTSIDE FACE
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION	HOF	HORIZONTAL OUTSIDE FACE		
ALT	ALTERNATE	HORIZ	HORIZONTAL	W/	WITH
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	HP	HIGH POINT	W OR WF	WIDE FLANGE (BEAM)
APA	AMERICAN PLYWOOD ASSOCIATION	HSS	HOLLOW STRUCTURAL SECTION	W/O	WITHOUT
ARCH	ARCHITECT/ARCHITECTURAL	HT	HEIGHT	WP	WORK POINT
ASNT	AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING			WS	WATERSTOP
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	IBC	INTERNATIONAL BUILDING CODE	WT	WEIGHT
AWS	AMERICAN WELDING SOCIETY	ID	INSIDE DIAMETER		
&	AND	IE	THAT IS		
@	AT	INFO	INFORMATION		
		INT	INTERIOR		
B	BOTTOM	INTERMED	INTERMEDIATE		
B/	BOTTOM OF	INTERSECT	INTERSECTION		
BB	BOTTOM BARS	INV	INVERT		
BLDG	BUILDING				
BLKG	BLOCKING	JST	JOIST		
BM	BEAM	JT	JOINT		
BN	BOUNDARY NAIL				
BO	BOND	L	ANGLE		
BRG	BEARING	LG	LONG		
BS	BOTH SIDES	LL	LIVE LOAD		
BTWN	BETWEEN	LLH	LONG LEG HORIZONTAL		
		LLV	LONG LEG VERTICAL		
C	CHANNEL	LOC	LOCATION		
C/C	CENTER TO CENTER	LONGIT	LONGITUDINAL		
CANT	CANTILEVER	LP	LOW POINT		
CAP	CAPACITY	LT	LEFT		
CBC	CALIFORNIA BUILDING CODE				
CF	CONTRACTOR FURNISHED	MACH	MACHINE		
CI	CONTRACTOR INSTALLED	MAINT	MAINTENANCE		
CJ	CONTRACTION/CONTROL JOINT	MAS	MASONRY		
CL	CENTERLINE	MAX	MAXIMUM		
CLR	CLEAR	MB	MACHINE BELT		
CLG	CEILING	MC	CHANNEL		
CMU	CONCRETE MASONRY UNIT	MCJT	MASONRY CONTROL JOINT		
COL	COLUMN	MECH	MECHANICAL		
CONC	CONCRETE	MFR	MANUFACTURER		
CONN	CONNECTION	MIN	MINIMUM		
CONSTR	CONSTRUCTION	MMTG	MOUNTING		
CONT	CONTINUOUS	MO	MASONRY OPENING		
COORD	COORDINATE	MOD	MODIFIED		
CRSI	CONCRETE REINFORCING STEEL INSTITUTE	MTL	METAL		
CTR/CTRD	CENTER/CENTERED	N	NEW		
		NIC	NOT IN CONTRACT		
d	PENNY (NAIL SIZE)	NOM	NOMINAL		
DBL	DOUBLE	NS	NEAR SIDE		
DET	DETAIL	NTS	NOT TO SCALE		
DF	DOUGLAS FIR	#	NUMBER		
DIA	DIAMETER	OC	ON CENTER		
DIAG	DIAGONAL	OD	OUTSIDE DIAMETER		
DIM	DIMENSION	OF	OUTSIDE FACE		
DISCONT	DISCONTINUE	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED		
DL	DEAD LOAD	OPG	OPENING		
DN	DOWN	OPP	OPPOSITE		
D _o	DITTO				
DP	DEEP	PEB	PRE ENGINEERED BUILDING		
DWG	DRAWING	PEMB	PRE ENGINEERED METAL BLDG		
DWL	DOWEL	PL	PLATE		
		PLCS	PLACES		
E	EXISTING	PLYWD	PLYWOOD		
EA	EACH	PNL	PANEL		
EF	EACH FACE	PREFAB	PREFABRICATED		
EG	EXAMPLE	PT	POINT, PRESSURE TREATED		
EL	ELEVATION	PVMT	PAVEMENT		
EMBED	EMBEDMENT				
EN	EDGE NAIL	QTY	QUANTITY		
ENGR	ENGINEER				
EQ	EQUAL	R	RADIUS		
EQUIP	EQUIPMENT	REF	REFERENCE		
ETC	ET CETERA	REINF	REINFORCING		
EW	EACH WAY	REQD	REQUIRED		
EWEF	EACH WAY EACH FACE	RM	ROOM		
EXIST	EXISTING	SCHED	SCHEDULE		
EXP	EXPANSION	SHT	SHEET		
EXT	EXTERIOR	SIM	SIMILAR		
		SP	SPACE/SPACES		
FF	FINISHED FLOOR	SPC'G	SPACING		
FG	FINISHED GRADE	SPEC	SPECIFICATIONS		
FH	FULL HEIGHT	SST	STAINLESS STEEL		
FIN	FINISH	STD	STANDARD		
FL	FLOOR	STIFF	STIFFENER		
FLG	FLANGE	STL	STEEL		
FN	FACE NAIL	STRUCT	STRUCTURAL		
FND	FOUNDATION	SYMM	SYMMETRICAL		
FO	FACE OF	T	TOP		
FOM	FACE OF MASONRY	T/	TOP OF		
FOW	FACE OF WALL	T & B	TOP AND BOTTOM		
FRMG	FRAMING	TB	TOP OF BAR		
FS	FAR SIDE	THK	THICK		
FTG	FOOTING	THK	TOP OF CONCRETE		
		TOW	TOP OF WALL		
GA	GAUGE	TYP	TYPICAL		
GALV	GALVANIZED				
GF	GOVERNMENT FURNISHED				
GRT	GROUT				
GSN	GENERAL STRUCTURAL NOTES				
GYP	GYPSUM				

SYMBOLS LEGEND

MATERIALS

	CONCRETE IN SECTION
	EARTH IN SECTION
	GROUT IN SECTION
	STEEL IN SECTION

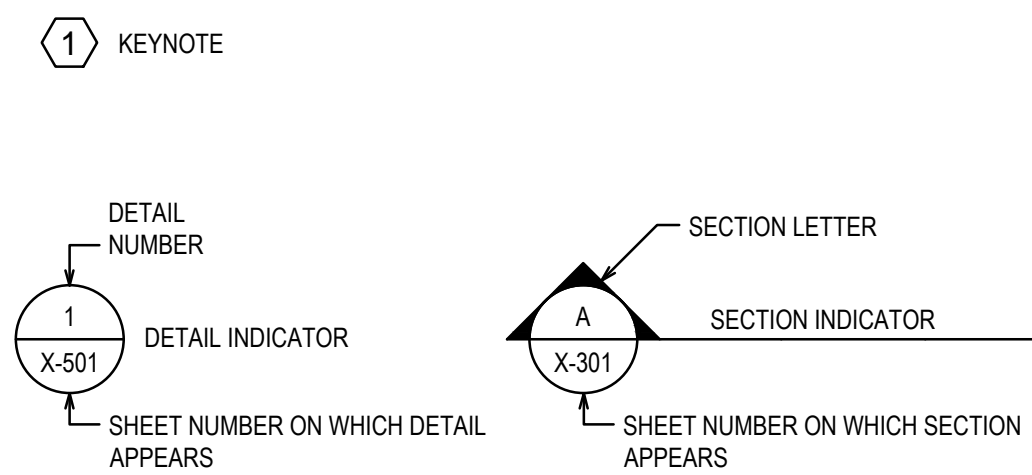
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- ABBREVIATIONS ON THIS SHEET APPLY ONLY TO THE CIVIL DRAWINGS, REFER TO OTHER DISCIPLINES FOR APPLICABLE SYMBOLS NOT PROVIDED HERE.
- THIS IS A STANDARD ABBREVIATION AND LEGEND SHEET, THEREFORE, SOME ABBREVIATIONS AND LEGEND SYMBOLS MAY APPEAR ON THIS SHEET AND MAY NOT BE UTILIZED ON THIS PROJECT.
- DO NOT SCALE DRAWINGS.

STRUCTURAL GENERAL NOTES

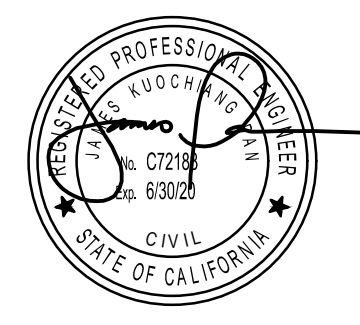
- GENERAL**
- DESIGN CRITERIA: 2001 CALIFORNIA BUILDING CODE (2001 CBC)
 - CONTRACTOR TO COORDINATE ALL STRUCTURAL DOCUMENTS WITH ALL OTHER DISCIPLINES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO THE START OF ANY FABRICATION OR CONSTRUCTION.
 - CONTRACTOR TO COORDINATE ALL NEW WORK WITH EXISTING SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
 - UNLESS NOTED OTHERWISE, REFER TO DRAWINGS OTHER THAN STRUCTURAL FOR FINISHES, SLOPES, EQUIPMENT AND LOCATIONS AND EXTENT OF SUCH CONDITIONS.
- SPECIAL INSPECTION**
- SPECIAL INSPECTION IN ACCORDANCE WITH 2001 CALIFORNIA BUILDING CODE SECTION 1701 IS REQUIRED ON THE FOLLOWING PORTIONS OF THE WORK:
- CONCRETE
CONCRETE ANCHORS
REINFORCING STEEL
- CONCRETE**
- ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
 - CONCRETE REINFORCING COVER SHALL BE AS FOLLOWS UNLESS SHOWN OTHERWISE:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH...3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER:
NO. 6 OR LARGER BARS 2 INCHES
NO. 5 OR SMALLER BARS...1.5 INCHES
 - ALL CONCRETE DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS. CONTRACTOR TO REVIEW FORMING, REINFORCING DETAILS AND ANY EMBEDDED ITEMS AND DETERMINE PRIOR TO FABRICATION OF ANY REINFORCING, PLACEMENT REQUIREMENTS AND CLEARANCES.
- REINFORCING**
- ALL CONCRETE REINFORCING SHALL BE ASTM A615 GRADE 60, FY = 60 KSI.
 - REINFORCING SHALL EXTEND CONTINUOUS FOR THE DIMENSION SHOWN.
 - NO WELDING OF ANY REINFORCING IS PERMITTED.
 - LOCATE ALL REINFORCING AS SHOWN ON DRAWINGS AND FASTEN SECURELY.
 - ALL REINFORCING TO TERMINATE WITH STANDARD HOOKS AS SHOWN ON PLANS. ALL STIRRUPS AND TIES TO BE CLOSED WITH 135 DEGREE BENDS.
- LOADING**
- LATERAL SOIL PRESSURES AS PER CATRANS BRIDGE DESIGN PRACTICE, SECTION 6 - UNDERGROUND STRUCTURES.
 - LIVE LOAD AS PER HS20 TRAFFIC RATING MINIMUM.

SHEET ANNOTATION



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0 1"

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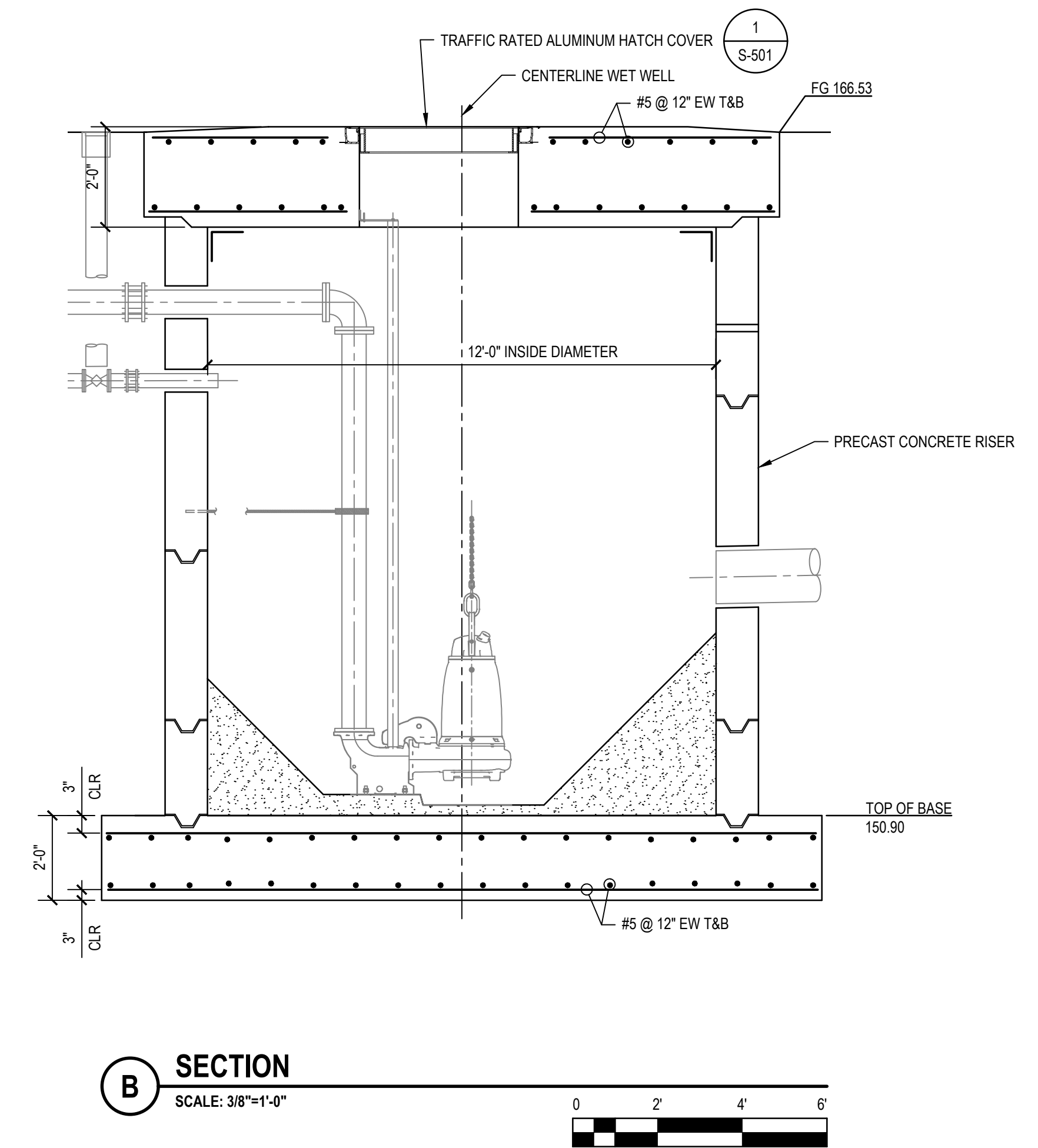
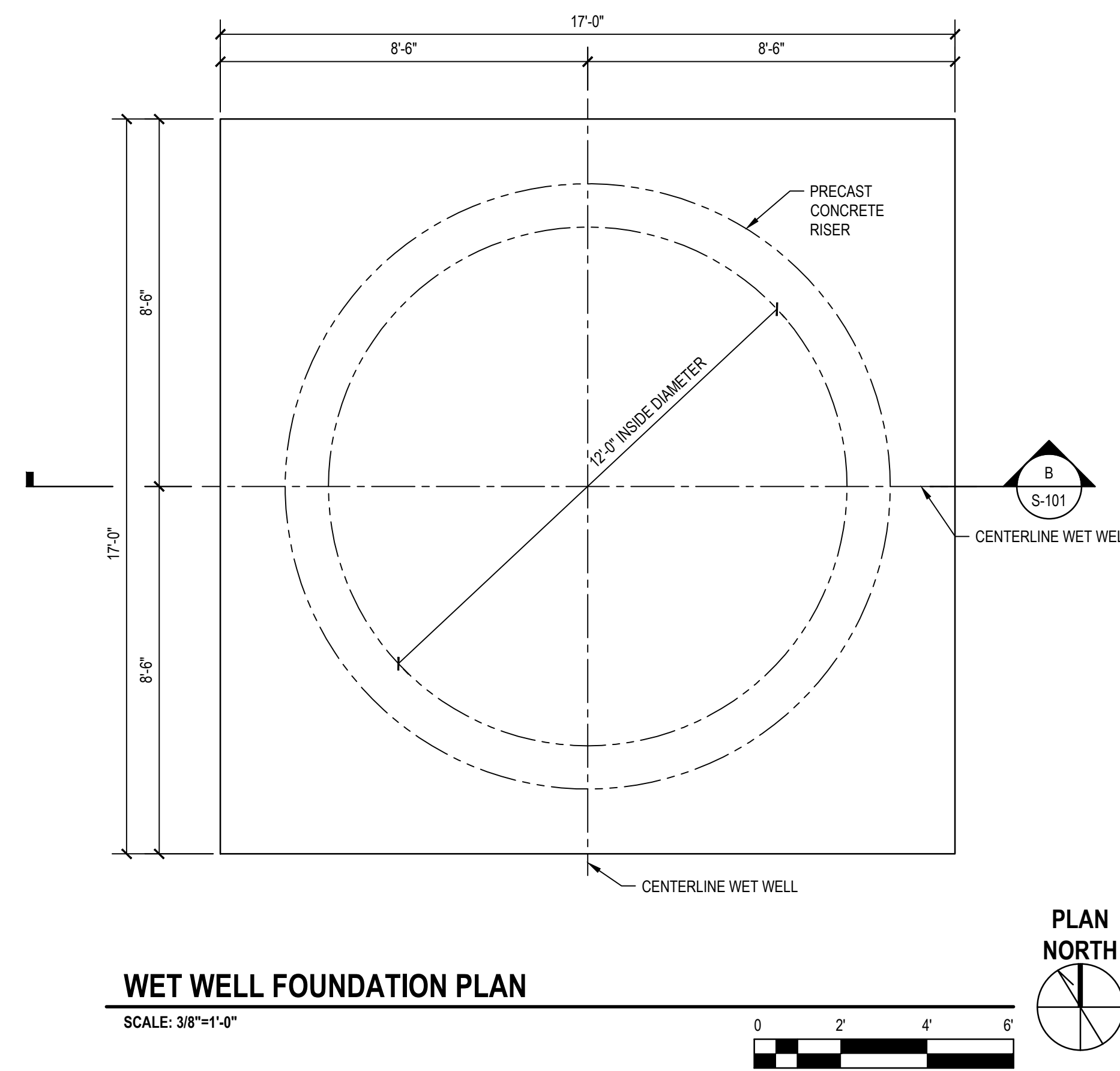
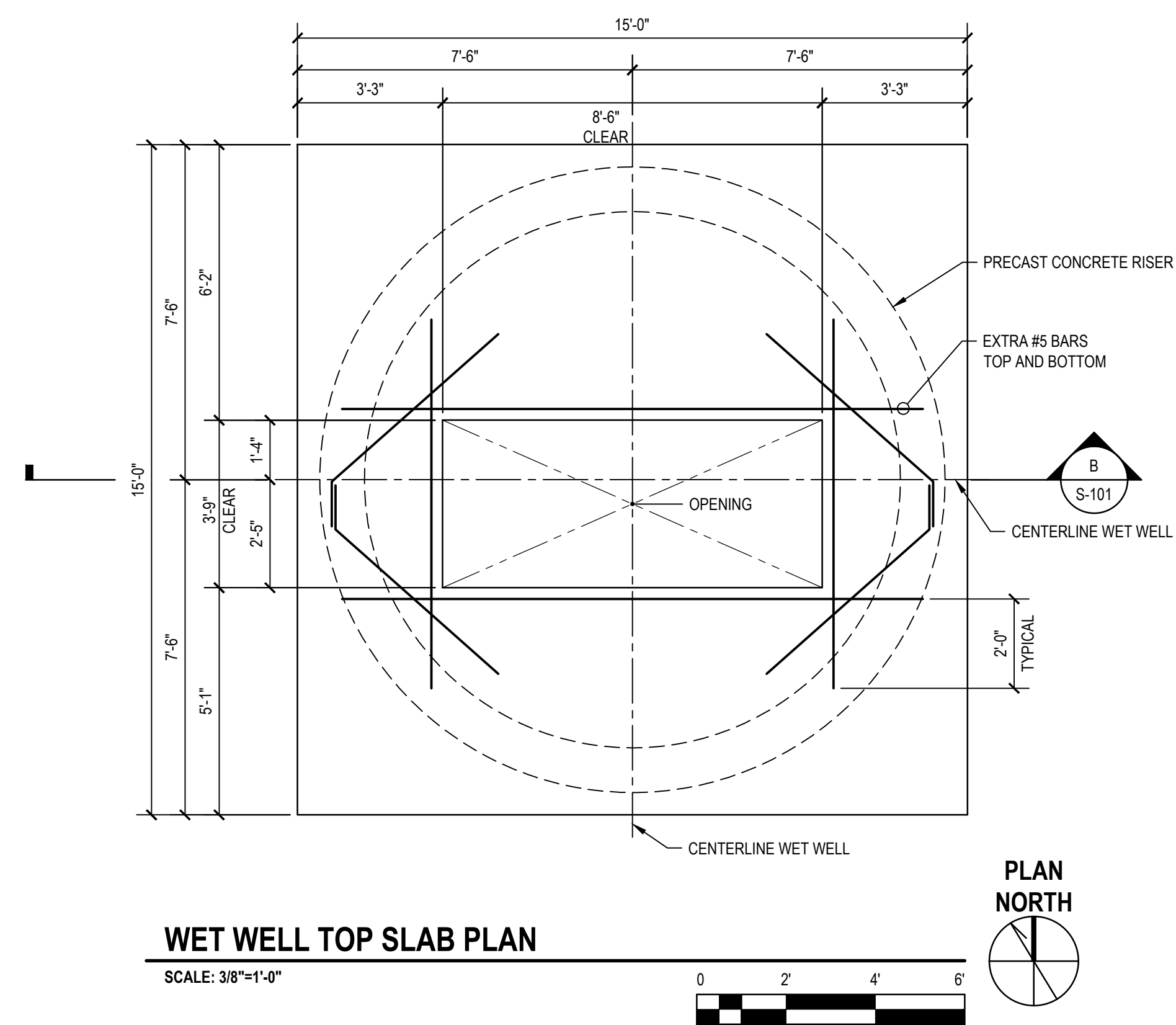
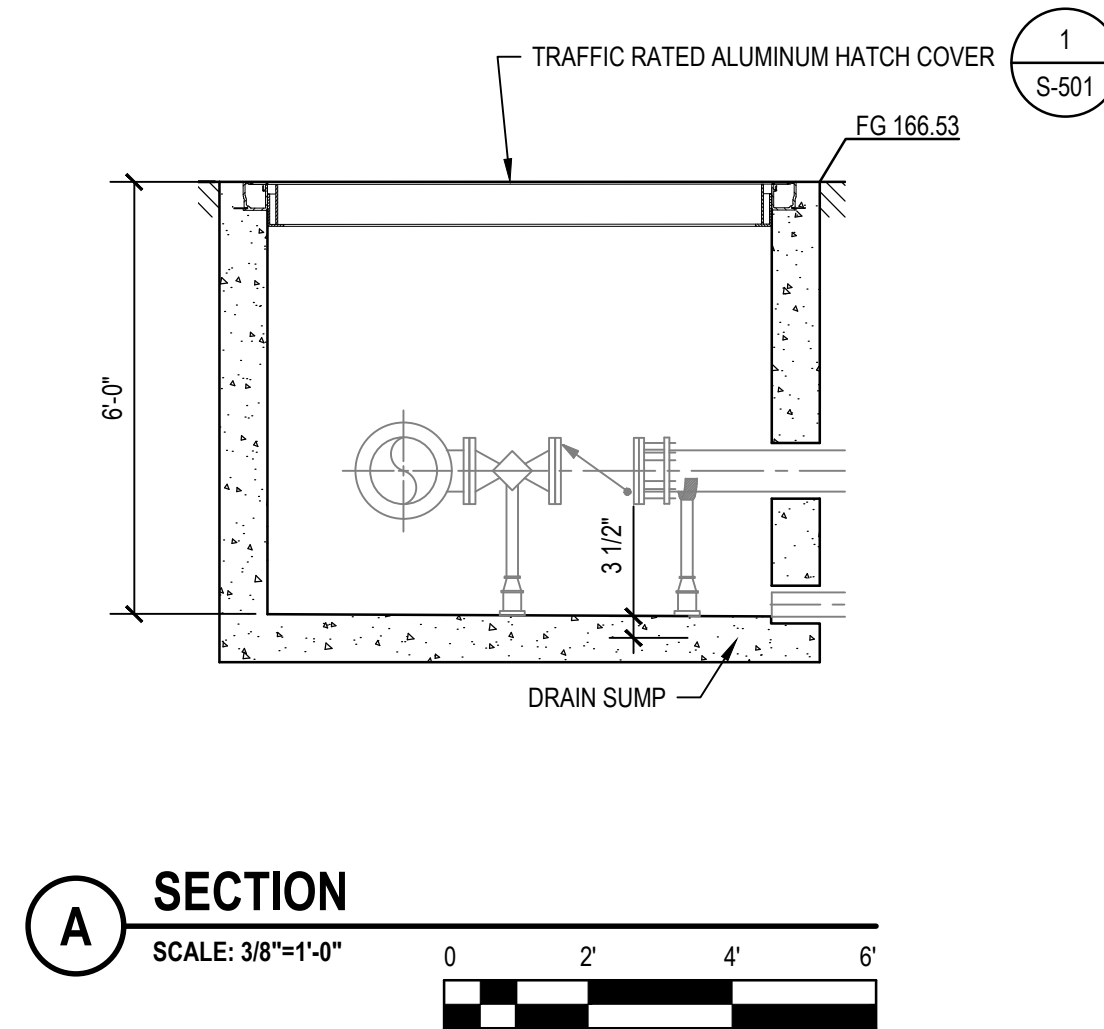
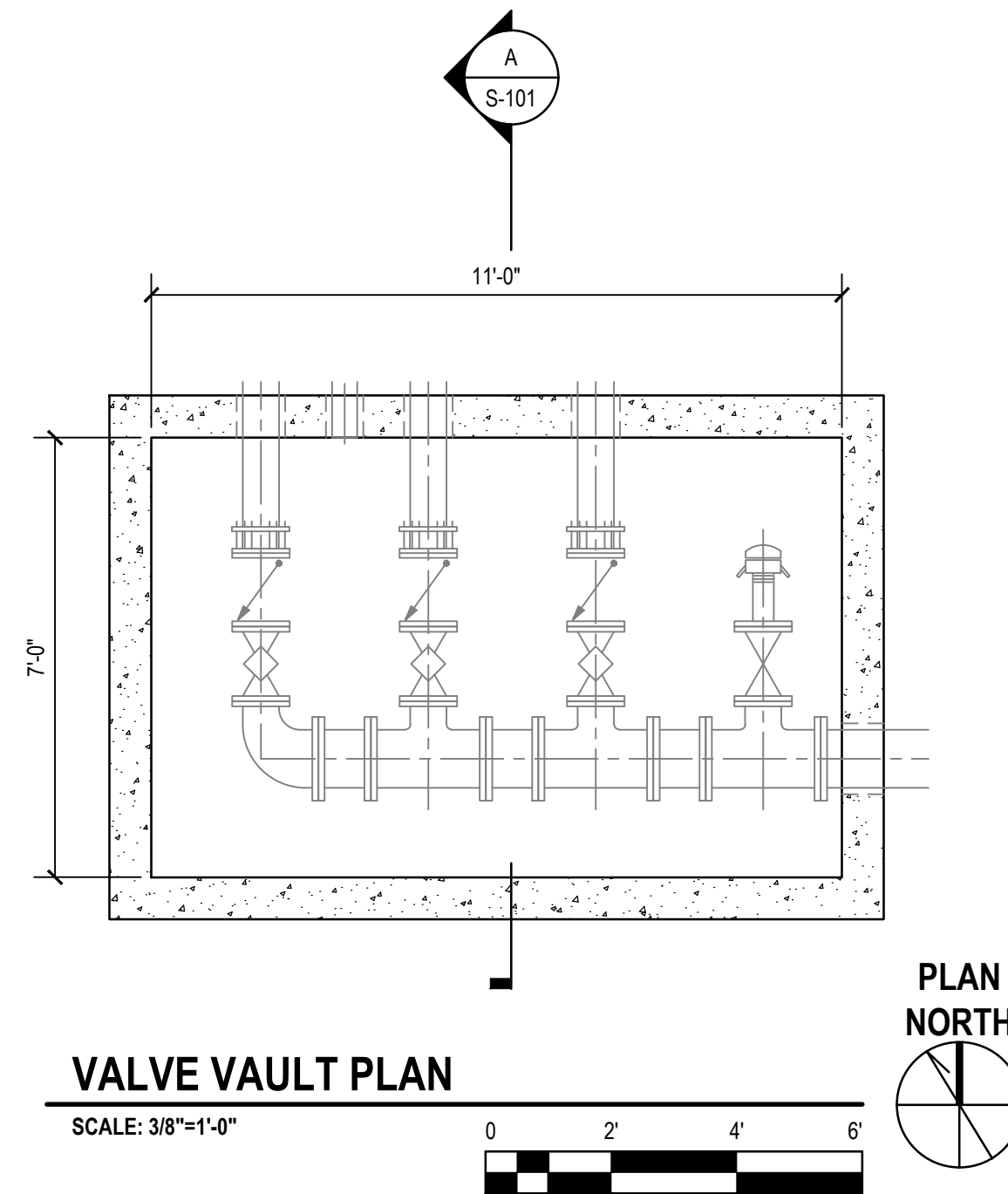
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Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT		
Title	STRUCTURAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES		
Project No.	11184901		
Original Size	ANSI D	Sheet No.	S-001
Scale	AS SHOWN	Sheet	8 of 20

SHEET GENERAL NOTES

1. THE DESIGN OF WET WELL AND ACCESS HATCHES ARE BASED ON THE FUTURE INSTALLATION OF THREE FLYGT NP 3202.462 PUMPS.
2. PRECAST CONCRETE STRUCTURES PENETRATIONS SHALL BE CORE DRILLED AND PIPE SLEEVE WILL NOT BE REQUIRED.
3. FOUNDATION DESIGN IS BASED ON AN ASSUMED ALLOWABLE SOIL BEARING CAPACITY OF 1500 PSF.



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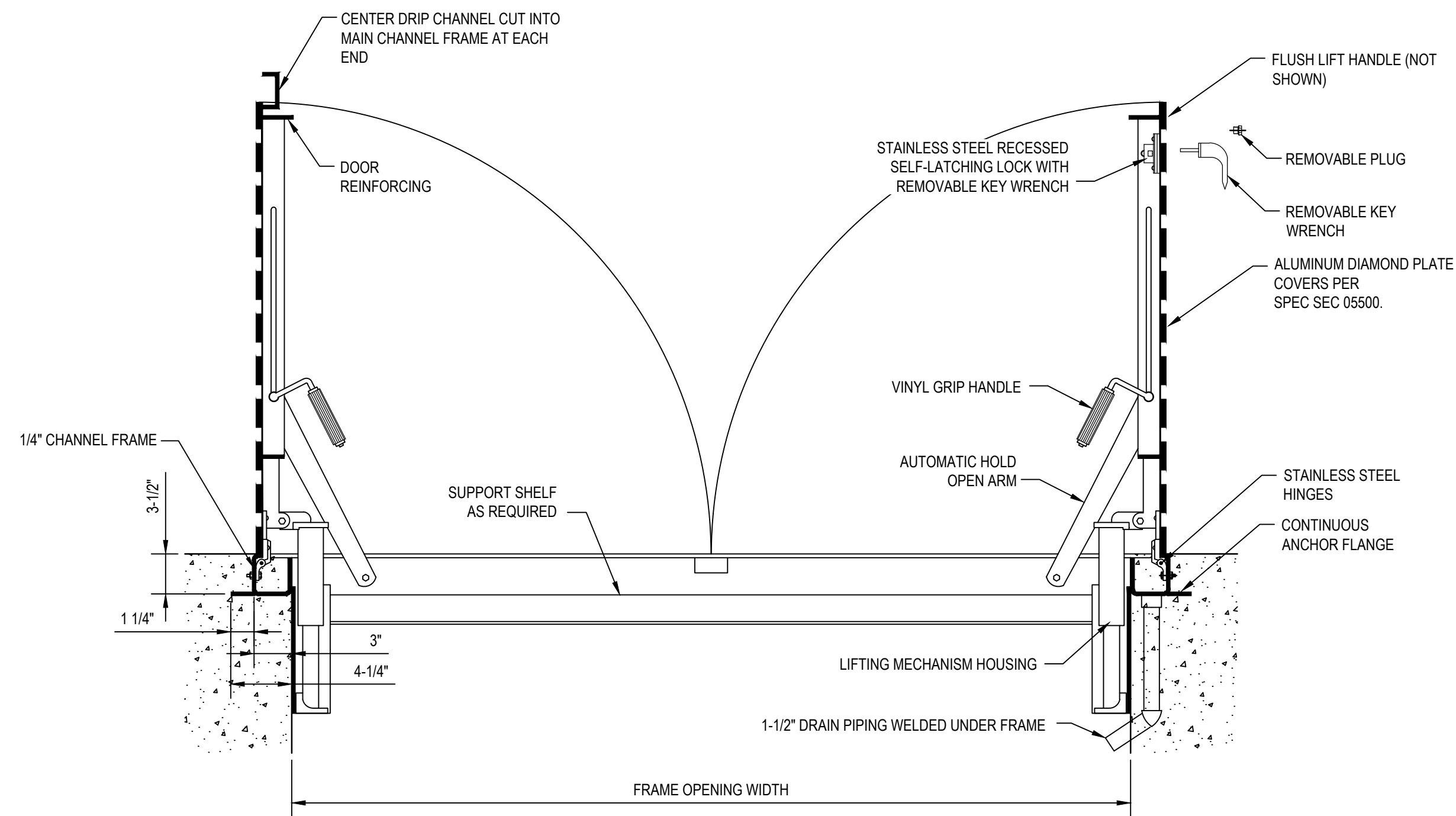
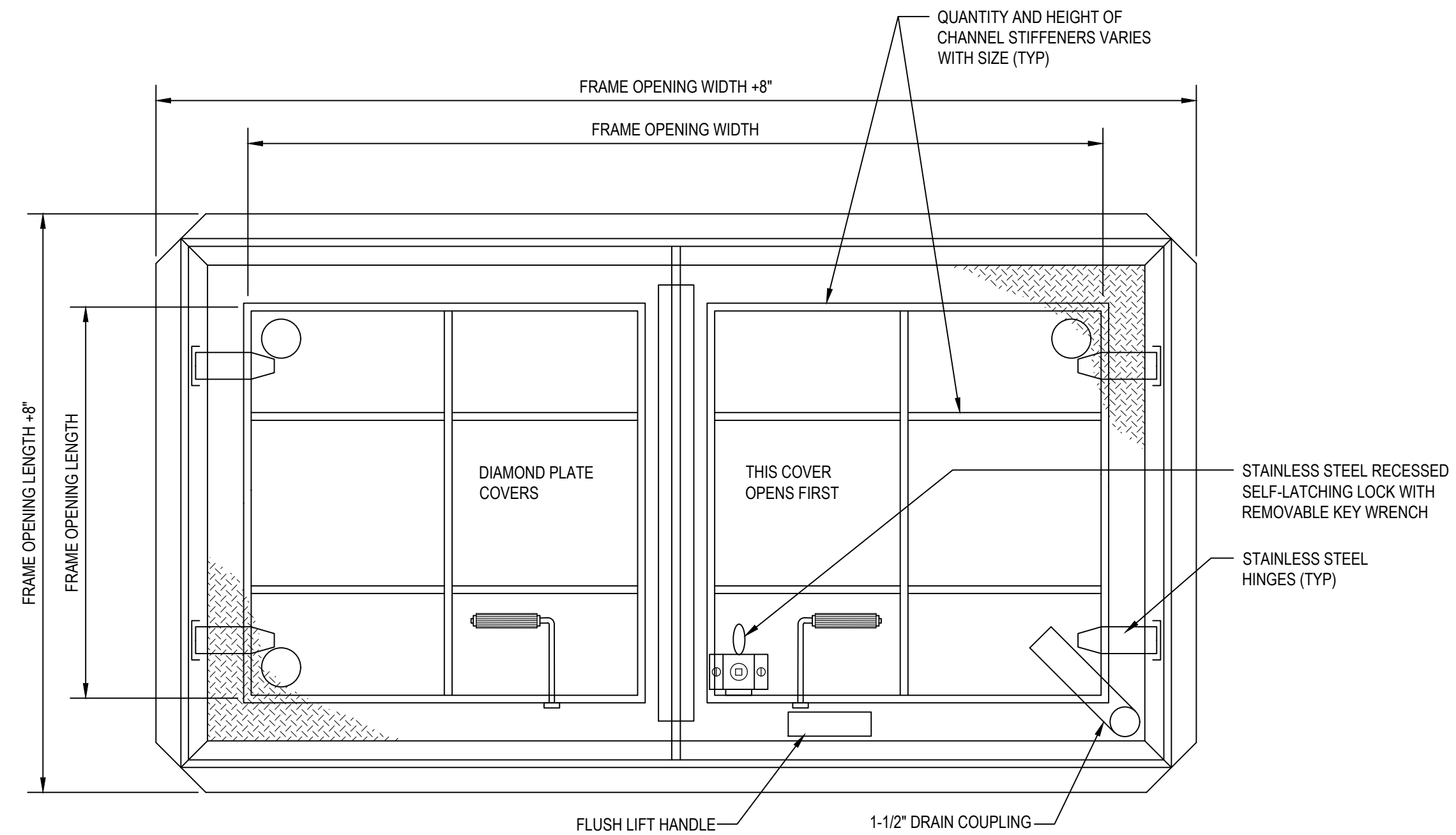
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Title	WET WELL PLANS AND SECTIONS		
Project No.	11184901		
Original Size	ANSI D	Sheet No.	S-101



NOTES:

- DOUBLE DOOR ACCESS HATCHES SHALL INCLUDE FALL THROUGH SAFETY GRATES (NOT SHOWN) AND FALL PROTECTION CHAINS (NOT SHOWN).
- ALL DOOR HARDWARE SHALL BE 316 STAINLESS STEEL.
- ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL BE COATED WITH ISOLATION MATERIAL.
- HATCH CLEAR OPENING TO MATCH CONCRETE CLEAR OPENING.

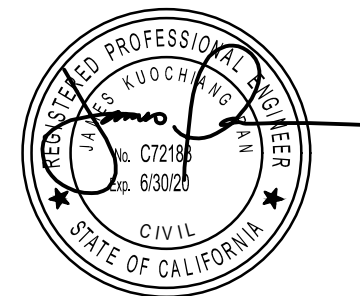
HATCH LOADING DATA	
TYPE	LOAD
VEHICULAR	HS-20

1 DOUBLE DOOR ACCESS HATCH
NOT TO SCALE

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Title	STRUCTURAL DETAILS		
Project No.	11184901		
Original Size	ANSI D	Sheet No.	S-501

ABBREVIATIONS

A	AMPERES, AREA	LPG	LIQUID PETROLEUM GAS
ABS	ACRYLONITRILE-BUTADIENE-STYRENE	LTG	LIGHTING
AD	AREA DRAIN	LVG	LEAVING
AFF	ABOVE FINISHED FLOOR	LWT	LEAVING WATER TEMPERATURE
AG	ABOVE GRADE	MAX	MAXIMUM
APPROX	APPROXIMATE	MBH	1,000 BTUH
AS	AIR SEPARATOR	MCC	MOTOR CONTROL CENTER
AVG	AVERAGE	MD	MOTORIZED DAMPER
BD	BALANCE DAMPER	MFR	MANUFACTURER
BDD	BACK DRAFT DAMPER	MIN	MINIMUM, MINUTE
BFP	BACK FLOW PREVENTER	MTD	MOUNTED
BG	BELOW GRADE	MUA	MAKE UP AIR
BHP	BRAKE HORSEPOWER	(N)	NEW
BOD	BOTTOM OF DUCT	NC	NORMALLY CLOSED, NOISE CRITERIA
BTU	BRITISH THERMAL UNIT	NIC	NOT IN CONTRACT
BTUH	BRITISH THERMAL UNIT PER HOUR	NO	NORMALLY OPEN, NUMBER
		NTS	NOT TO SCALE
C	CELSIUS	OA	OUTSIDE AIR
CL	CENTERLINE	OBD	OPPOSED BLADE DAMPER
CCW	COUNTER CLOCKWISE	OC	ON CENTER
CD	CEILING DIFFUSER, CONDENSATE DRAIN	OD	OUTSIDE DIAMETER
CFM	CUBIC FEET PER MINUTE	ORD	OVERFLOW ROOF DRAIN
CH	CHILLER	PB	POLYBUTYLENE
CHWP	CHILLED WATER PUMP	PE	POLYETHYLENE
CHWR	CHILLED WATER RETURN	PPM	PARTS PER MILLION
CHWS	CHILLED WATER SUPPLY	POC	POINT OF CONNECTION
CI	CAST IRON	PSF	POUNDS PER SQUARE FOOT
CMPR	COMPRESSOR	PSI	POUNDS PER SQUARE INCH
CONT	CONTINUED	PSIA	POUNDS PER SQUARE INCH, ABSOLUTE
CT	COOLING TOWER	PSIG	POUNDS PER SQUARE INCH, GAGE
CU	COPPER	PVC	POLYVINYL CHLORIDE
CU FT	CUBIC FEET	RA	RETURN AIR
CU IN	CUBIC INCHES	RD	ROOF DRAIN
CW	COLD WATER, CLOCKWISE	REQ	REQUIRED
CWP	CONDENSER WATER PUMP	RG	RETURN GRILLE
CWR	CONDENSER WATER RETURN	RH	RELATIVE HUMIDITY
CWS	CONDENSER WATER SUPPLY	RPM	REVOLUTIONS PER MINUTE
CWV	COMBINATION WASTE & VENT	RPS	REVOLUTIONS PER SECOND
D	DEPTH	SAD	SEE ARCHITECTURAL DRAWINGS
DB	DECIBEL, DRY BULB	STD	STANDARD
DEG	DEGREE(S)	SOV	SHUT OFF VALVE
DIA	DIAMETER	SD	SUPPLY DIFFUSER, STORM DRAIN
DN	DOWN	SS	SANITARY SEWER, STAINLESS STEEL
DPT	DIFFERENTIAL PRESSURE TRANSMITTER	TD	TEMPERATURE DIFFERENTIAL
DS	DOWN SPOUT	TEMP	TEMPERATURE
DWG	DRAWING	TOD	TOP OF DUCT
(E)	EXISTING	TP	TOTAL STATIC PRESSURE
EA	EACH	TYP	TYPICAL
EAT	ENTERING AIR TEMPERATURE	UON	UNLESS OTHERWISE NOTED
EF	EXHAUST FAN	V	VENT, VOLT
EFF	EFFICIENCY	VEL	VELOCITY
EG	EXHAUST GRILLE	VFD	VARIABLE FREQUENCY DRIVE
ELEV	ELEVATION	VOL	VOLUME
ENT	ENTERING	VP	VELOCITY PRESSURE
ESP	EXTERNAL STATIC PRESSURE	VTR	VENT THROUGH ROOF
F	FLOW	W	WIDTH
FACP	FIRE ALARM CONTROL PANEL	WI	WITH
FCO	FLOOR CLEAN OUT	WB	WET BULB
FD	FLOOR DRAIN, FIRE DAMPER	WG	WATER GAGE
FDC	FIRE DEPARTMENT CONNECTION	W/O	WITHOUT
FM	FLOW METER, FORCE MAIN	WRG	WALL RETURN GRILLE
FP	FIRE PROTECTION	WSR	WALL SUPPLY REGISTER
FPI	FINS PER INCH	WH	WATER HEATER
FPM	FEET PER MINUTE	WHA	WATER HAMMER ARRESTOR
FPS	FEET PER SECOND	XFMR	TRANSFORMER
FS	FLOW SWITCH	YR	YEAR
FSD	FIRE/SMOKE DAMPER	Z	ZONE
FSP	FIRE SPRINKLER		
FT	FOOT, FEET		
G	GAS		
GA	GAUGE		
GALV	GALVANIZED		
GPD	GALLONS PER DAY		
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE		
GPS	GALLONS PER SECOND		
HD	HEAD		
HG	MERCURY		
HWR	HEATING WATER RETURN		
HWS	HEATING WATER SUPPLY		
HP	HORSEPOWER		
HR	HOSE REEL, HOUR		
HT	HEIGHT		
HVAC	HEATING, VENTILATION & AIR CONDITIONING		
HW	HOT WATER		
HMR	HOT WATER RETURN		
HZ	FREQUENCY (HERTZ)		
ID	INSIDE DIAMETER		
INVERT	INVERT ELEVATION		
IW	INDIRECT WASTE		
KW	KILOWATTS		
KWH	KILOWATTS PER HOUR		
L	LENGTH		
LAT	LEAVING AIR TEMPERATURE		
LBS	POUNDS		
LF	LINEAR FEET		

MECHANICAL LEGEND

PIPE AND FITTING SYMBOLS		MISCELLANEOUS PIPING SYMBOLS		PIPING DESIGNATION	
DOUBLE LINE	SINGLE LINE				
			STRAINER		10" SSFM
			GAUGE WITH COCK		SSFM
			THERMOMETER		10" SSFM
			TEMPERATURE SWITCH		10" SSFM
			AIR GAP		10" SSFM
			TYPICAL INSTRUMENT CALLOUT (SEE I&C LEGEND)		10" SSFM
					10" SSFM
					10" SSFM
					10" SSFM
					10" SSFM
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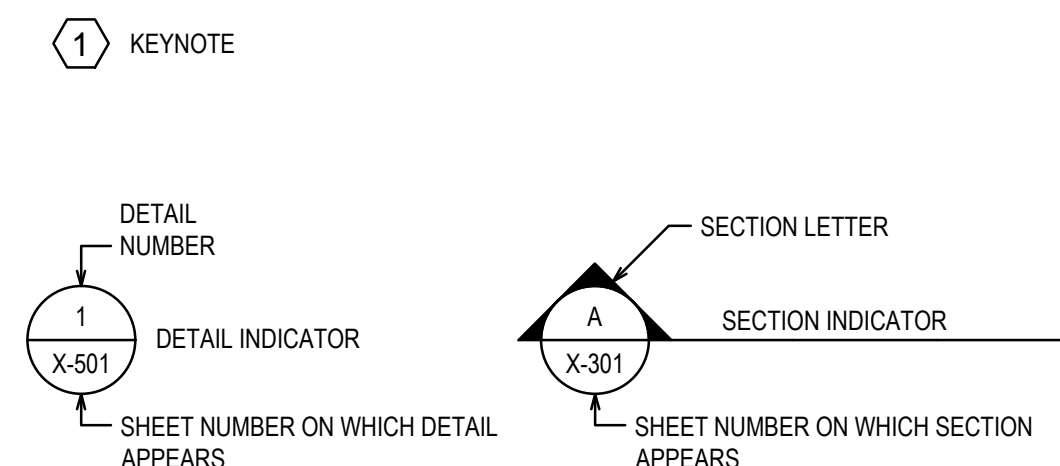
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- THIS IS A STANDARD ABBREVIATION AND LEGEND SHEET, THEREFORE, SOME ABBREVIATIONS AND LEGEND SYMBOLS MAY APPEAR ON THIS SHEET AND MAY NOT BE UTILIZED ON THIS PROJECT.
- DO NOT SCALE DRAWINGS.

MECHANICAL GENERAL NOTES

- THESE DRAWINGS ARE BASED UPON AVAILABLE DOCUMENTS, WHICH MAY NOT ACCURATELY PORTRAY AS-BUILT CONDITIONS. EXISTING EQUIPMENT AND PIPING SIZES, LOCATIONS, AND DIMENSIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO DEMOLITION AND CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY OF ALL DISCREPANCIES AFFECTING THE REMOVAL OF EXISTING EQUIPMENT AND PIPING, AND THE INSTALLATION OF NEW EQUIPMENT AND PIPING.
- INSTALL PIPING TO BEST SUIT FIELD CONDITIONS AND COORDINATE WITH THE INSTALLATION WORK OF OTHER TRADES. THESE DRAWINGS ARE DIAGRAMMATIC, DO NOT SCALE TO DETERMINE EXACT LOCATION OF PIPING.
- PROTECT ALL EXISTING EQUIPMENT THAT IS TO REMAIN. VERIFY WITH OWNER WHAT SYSTEMS WILL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. THE APPROVAL OF CITY REPRESENTATIVE IS REQUIRED PRIOR TO SHUTTING DOWN ANCILLARY SYSTEMS OR EQUIPMENT.
- REPAIR AND/OR REPLACE ALL EXISTING UTILITIES, STRUCTURAL ELEMENTS, EQUIPMENT, PIPING, CONDUIT, DUCTWORK, ETC. THAT IS DAMAGED OR BECOMES INOPERABLE AS A RESULT OF THIS WORK.
- COORDINATE MODIFICATIONS TO EXISTING SYSTEMS WITH OWNER TO MINIMIZE SHUTDOWN TIME OF ANY SYSTEMS.
- FOR ALL MECHANICAL SYSTEMS CONTROLS, PROVIDE CONDUIT AND WIRING IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS AND MANUFACTURER'S REQUIREMENTS.

SHEET ANNOTATION



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Title	MECHANICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES		
Project No.	11184901		
Original Size	ANSI D		
Sheet No.	M-001		
Sheet	11 of 20		

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SHEET KEYNOTES

1. ULTRA SONIC LEVEL ELEMENT. ATTACH TO WET WELL WALL WITH STAINLESS STEEL BRACKET.
2. PUMP (EXISTING, OWNER FURNISHED) RELOCATED FROM EXISTING WET WELL WITH NEW MOUNTING ELBOW COMPATIBLE WITH NEW MOUNTING, TYPICAL OF 2.
3. PUMP (NEW) SEE SPECIFICATIONS.
4. WET WELL GROUT SURFACE. SIDE SLOPES TO BE 1:1.
5. 3" GUIDE BAR FOR ALL PUMPS, TYPICAL OF 3 PAIRS.
6. 16" Ø SANITARY SEWER.
7. 6" Ø D.I. SSFM PUMP DISCHARGE PIPE.
8. 10" D.I. BLIND FLANGE.
9. 4" Ø PVC DRAIN PIPE. SLOPE 2% MINIMUM.
10. 12'-0" I.D. PRE-CAST CONCRETE WET WELL. LINE INTERIOR WALL, FLOOR, AND TOP WITH EPOXY COATING. SEE SHEET S-101.
11. EXISTING CONCRETE WET WELL TO REMAIN.
12. 7'x11'6" DEEP PRE-CAST CONCRETE VALVE VAULT. SEE STRUCTURAL SHEETS.
13. 6" FLANGE COUPLING ADAPTER.
14. 6" 45° ELBOW.
15. 6" PLUG VALVE.
16. 6" CHECK VALVE.
17. 4" FLANGE COUPLING ADAPTER.
18. 10"x6" 90° ELBOW.
19. 10" Ø D.I. SPOOL.
20. 10"x6" TEE.
21. PIPE WALL PENETRATION SLEEVE AND MECHANICAL SEAL. SEE DETAILS 4/M-501 AND 5/M-501.
22. 10" FLANGE COUPLING ADAPTER.
23. 10" Ø D.I. SSFM PIPE.
24. CORE DRILL EXISTING WET WELL WALL. PROVIDE MECHANICAL SEAL FOR PIPE PENETRATION. SEE DETAIL 7/M-501.
25. 3" GUIDE BAR FOR PUMP NEW REMOVAL, TYPICAL OF 1 PAIR.
26. 6" GATE VALVE.
27. DEMOLISH AND REMOVE EXISTING PIPE AND SEAL WET WELL PENETRATION WITH CONCRETE GROUT.
28. EXISTING PUMPS TO BE REMOVED AND RE-INSTALLED IN NEW WET WELL, TYPICAL OF 2.
29. DEMOLISH AND REMOVE EXISTING DISCHARGE PIPING, SUPPORTS, AND PUMP GUIDE RAILS.
30. EXISTING INFLUENT PIPING TO REMAIN.
31. INSTALL GROUT FLOOR IN BOTTOM OF EXISTING WET WELL. SLOPE AT 2% TOWARDS NEW 16" Ø SANITARY SEWER OUTLET.
32. PENETRATION FOR ULTRASONIC LEVEL TRANSDUCER.
33. PIPE SUPPORT. SEE DETAIL 1/M-501.
34. PIPE SUPPORT. SEE DETAIL 2/M-501.
35. 6"x4" REDUCING FLANGE ADAPTER.
36. 4" PVC PLUG VALVE AND RISER STEM. SEE DETAIL 8/M-501.
37. 4" NIPPLE.
38. UPPER GUIDE BAR BRACKET. SEE DETAIL 6/M-501.
39. WALL MOUNTED PIPE BRACE. SEE DETAIL 6/M-501.
40. 3/4" ANCHOR BOLT WITH 2" MINIMUM EMBEDMENT.
41. WET WELL ALUMINUM ACCESS HATCH COVER, TRAFFIC RATED. SEE S-101 FOR SIZE AND ORIENTATION.
42. CAST-IN-PLACE REINFORCED CONCRETE TOP SLAB. SEE SHEET S-101.
43. REINFORCED CONCRETE FOUNDATION. SEE SHEET S-101.
44. VALVE VAULT ALUMINUM ACCESS HATCH COVER. SEE SHEET S-101 FOR SIZE AND ORIENTATION.
45. 4" CAM LOCK CONNECTOR W/ DUST CAP.

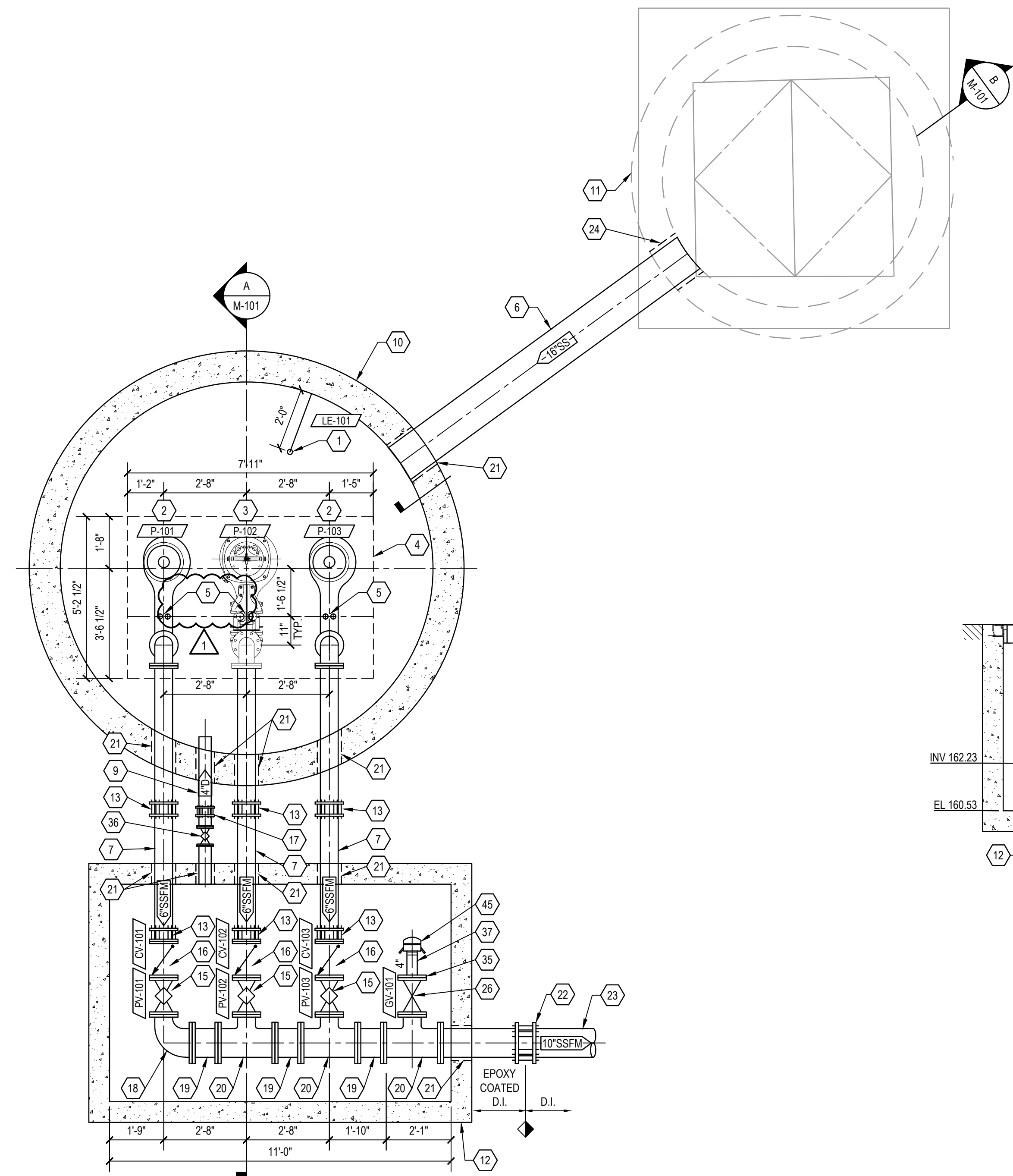
SHEET GENERAL NOTES

1. ALL NEW SSFM PIPING SHALL BE EPOXY COATED DUCTILE IRON UNLESS NOTED OTHERWISE.
2. WRAP ALL DUCTILE IRON PIPING AND FITTING OUTSIDE WET WELL AND VALVE VAULT IN HOPE SHEETING. SEE SPECIFICATIONS.
3. ALL BURIED FITTINGS TO HAVE STAINLESS STEEL HARDWARE.
4. ALL PIPE PENETRATIONS IN WET WELLS AND VALVE VAULT SHALL USE WALL SLEEVES AND MECHANICAL SEALS.
5. NEW WET WELL DESIGNED TO ACCOMMODATE THREE (3) FLYGHT NP 3201 HT 462 44 HP PUMPS.

DEMOLITION LEGEND

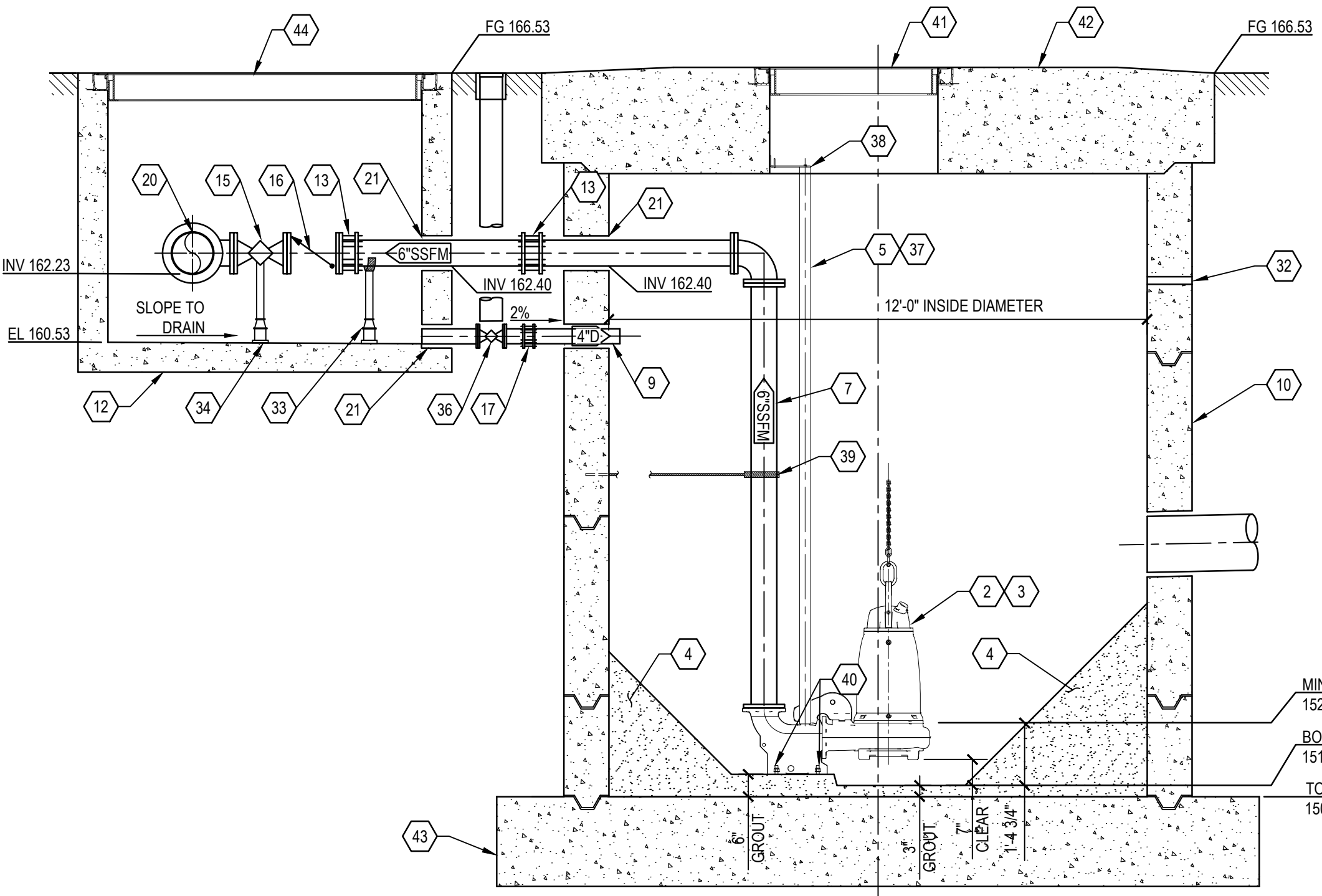
DEMOLISH AND REMOVE OR ABANDON-IN-PLACE EXISTING AS NOTED

PUMP CONTROL ELEVATIONS	
CONTROL	ELEVATION
HIGH HIGH ALARM	161.50
HIGH ALARM	160.00
LAG ON	159.50
LEAD ON	154.00
PUMPS ON	159.75
LAG OFF	153.75
LEAD OFF	153.25
PUMPS OFF	153.75



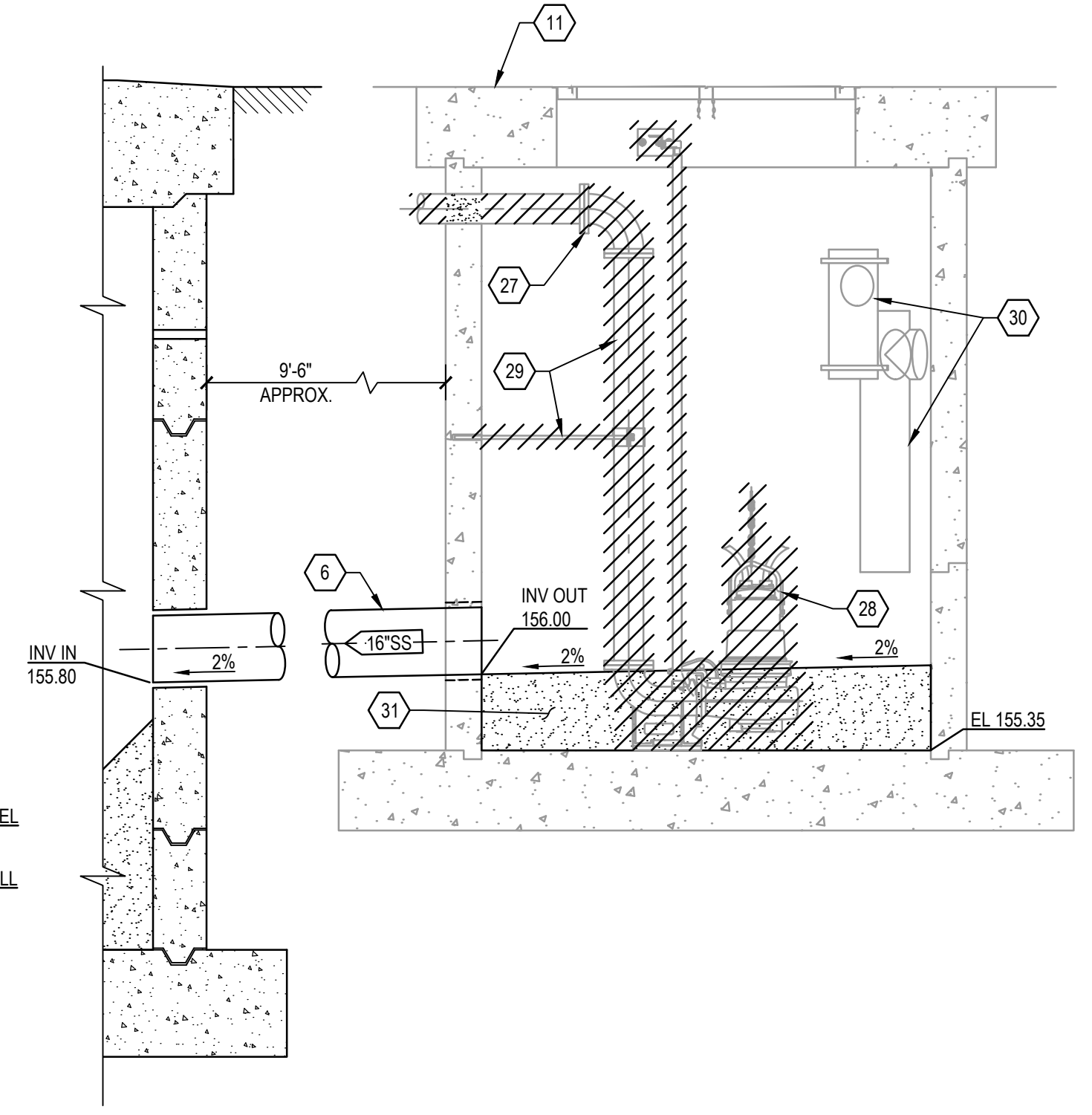
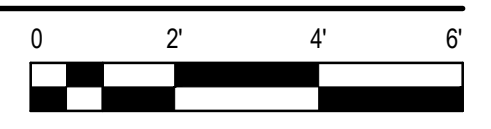
WET WELL AND VALVE VAULT PLAN

SCALE: 3/8"=1'-0"



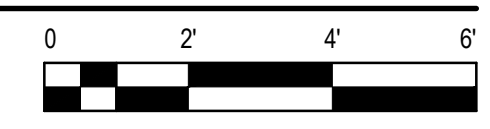
A SECTION

SCALE: 3/8"=1'-0"



B SECTION

SCALE: 3/8"=1'-0"



No.	Issue	Drawn	Approved	Date
1	PUMP MOUNTING AND GUIDE BARS	PJS	PAS	11/19/19

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0 1"

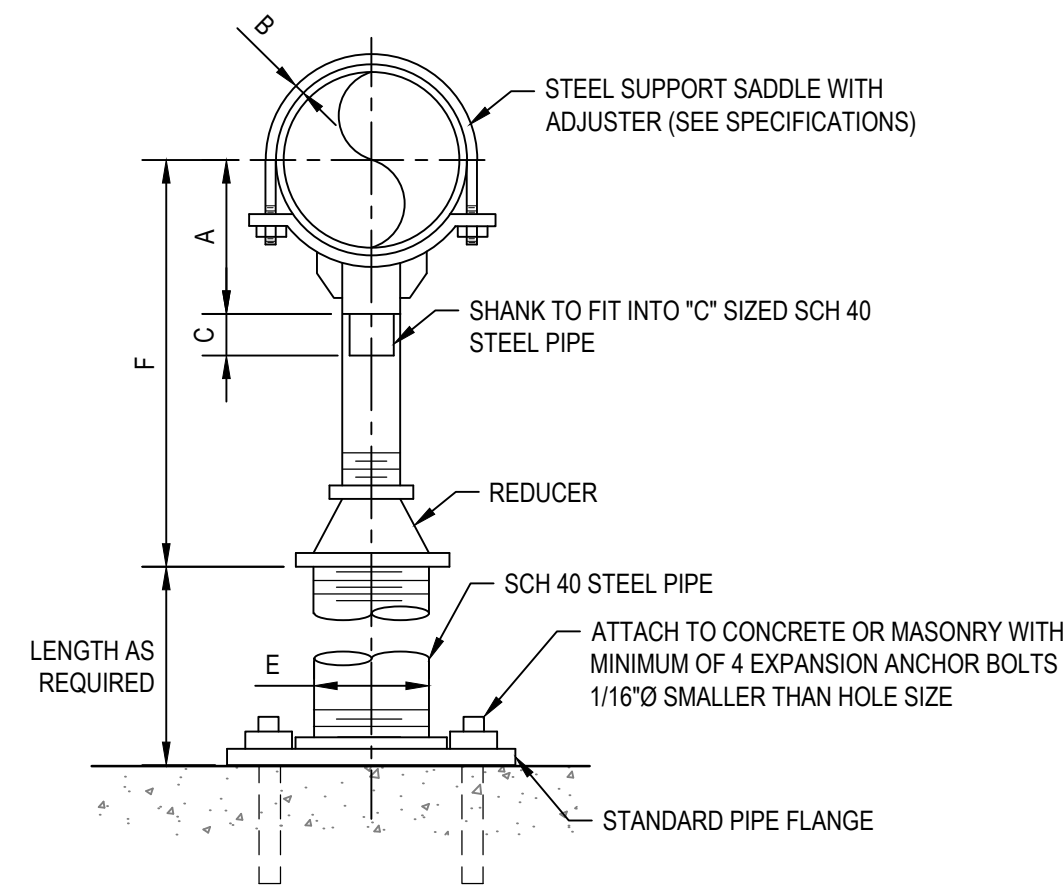
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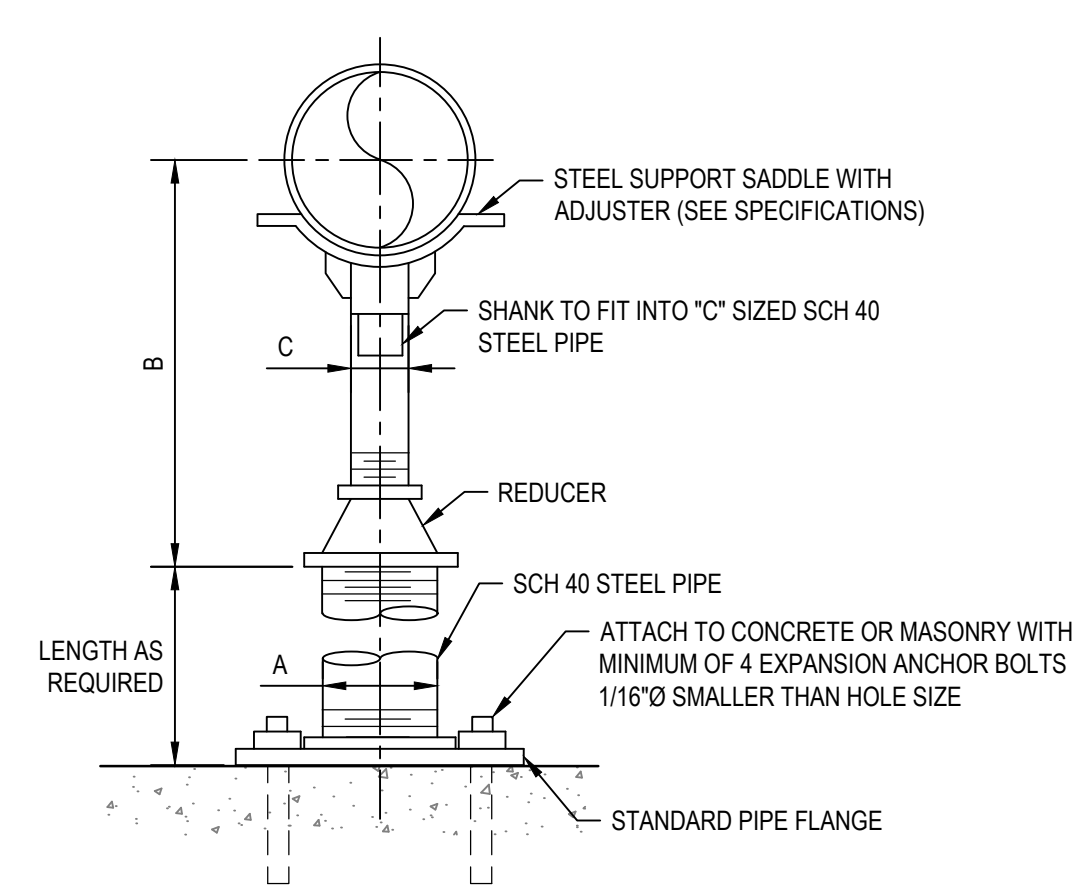
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Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT		
Title	WET WELL AND VALVE VAULT PLAN AND SECTIONS		
Project No.	11184901		
Original Size	ANSI D	Sheet No.	M-101
Sheet	12	of	20



SUPPORTED PIPE SIZE	A	B	C	D	MAX. O.D. OF PIPE	E PIPE SIZE	F	
							MIN.	MAX.
6	5-1/4	5/8	5	2-1/2	7	3	11-9/16	16-1/16
10	8	3/4	6	2-1/2	11-1/8	3	14-5/8	19-1/8
12	9-1/16	7/8	6	2-1/2	13-1/3	3	15-5/8	20-1/8

NOTE:
1. PAINT PER COATING SCHEDULE.

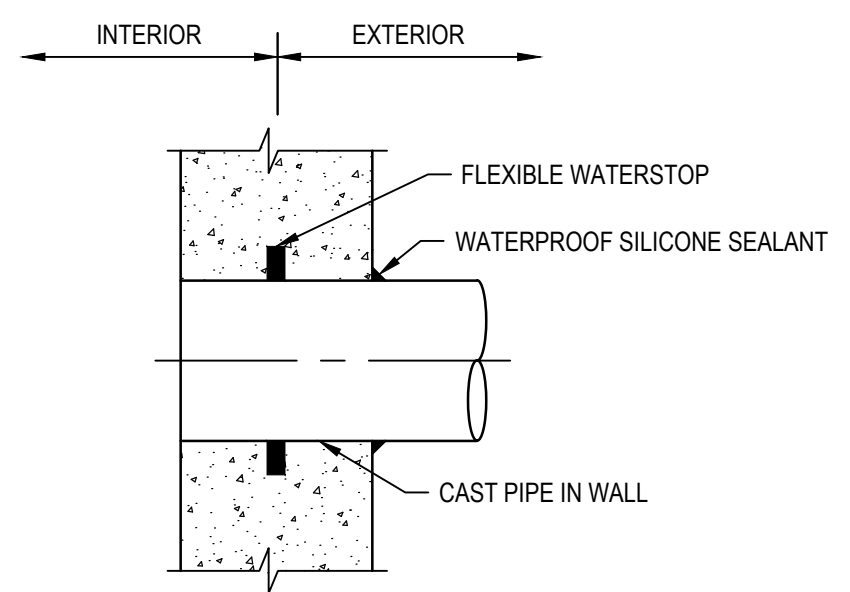
1 PIPE SUPPORT TYPE A
NOT TO SCALE



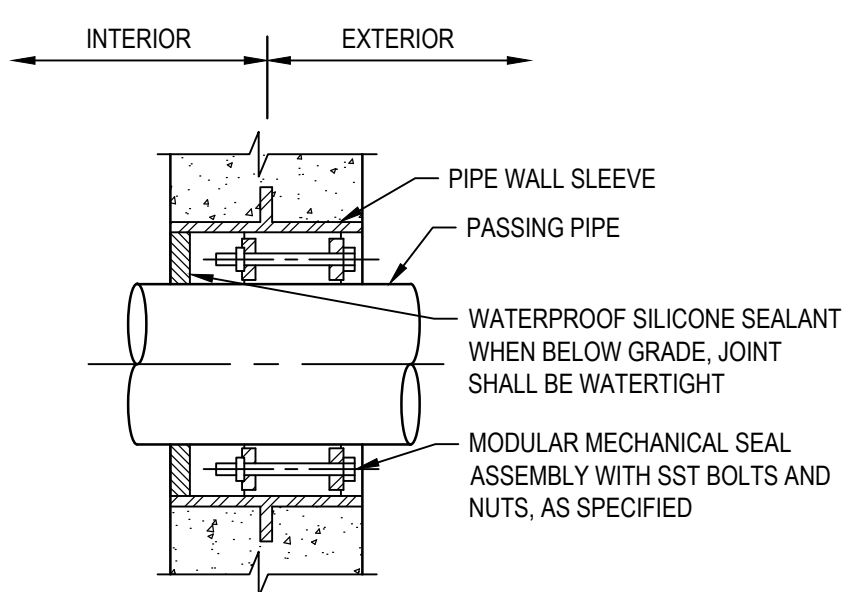
SUPPORTED PIPE SIZE	A	B		C	MAX. O.D. OF PIPE
		MIN.	MAX.		
6	3	11-9/16	16-1/16	2-1/2	7
10	3	14-5/8	19-1/8	2-1/2	11-1/8
12	4	15-5/8	20-1/8	2-1/2	15-1/8

NOTE:
1. PAINT PER COATING SCHEDULE.

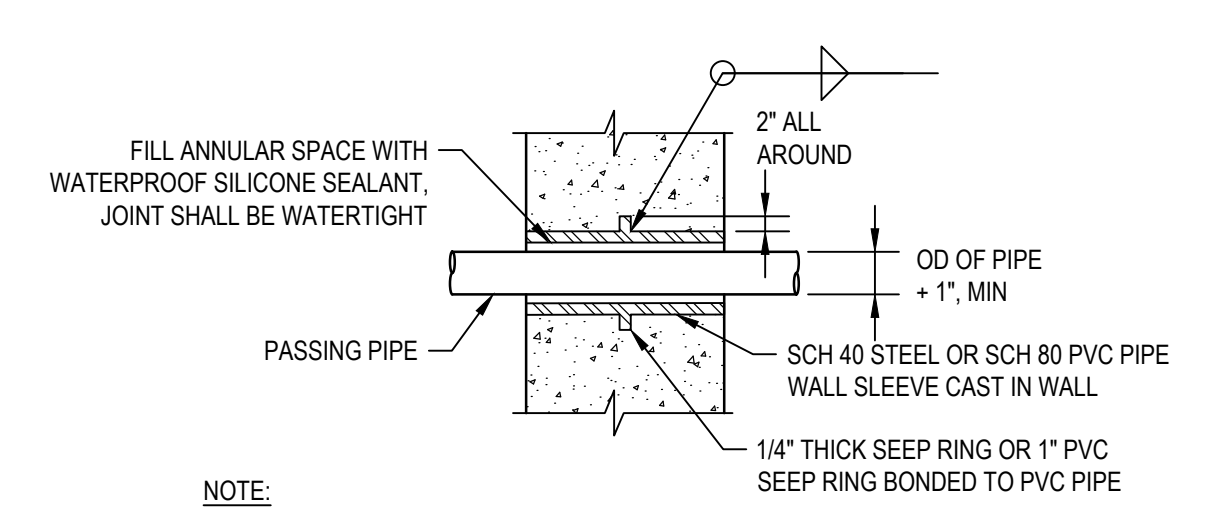
2 PIPE SUPPORT TYPE B
NOT TO SCALE



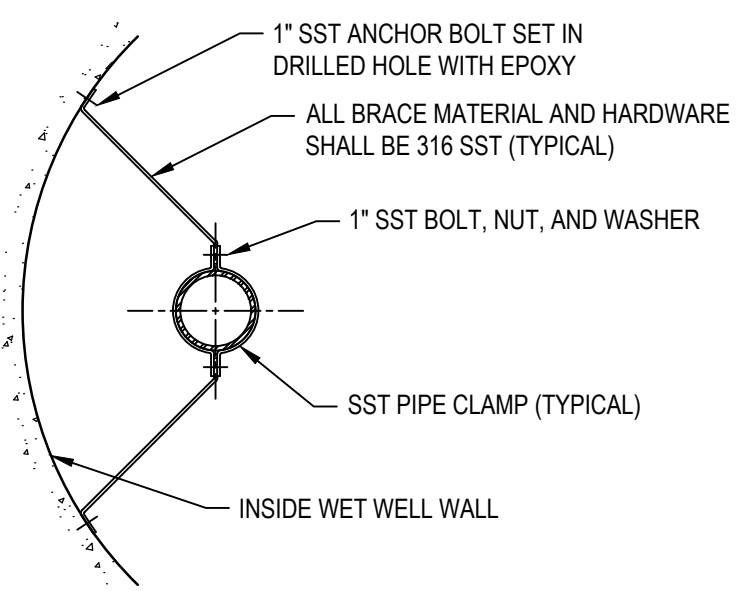
3 FLEXIBLE WATERSTOP
NOT TO SCALE



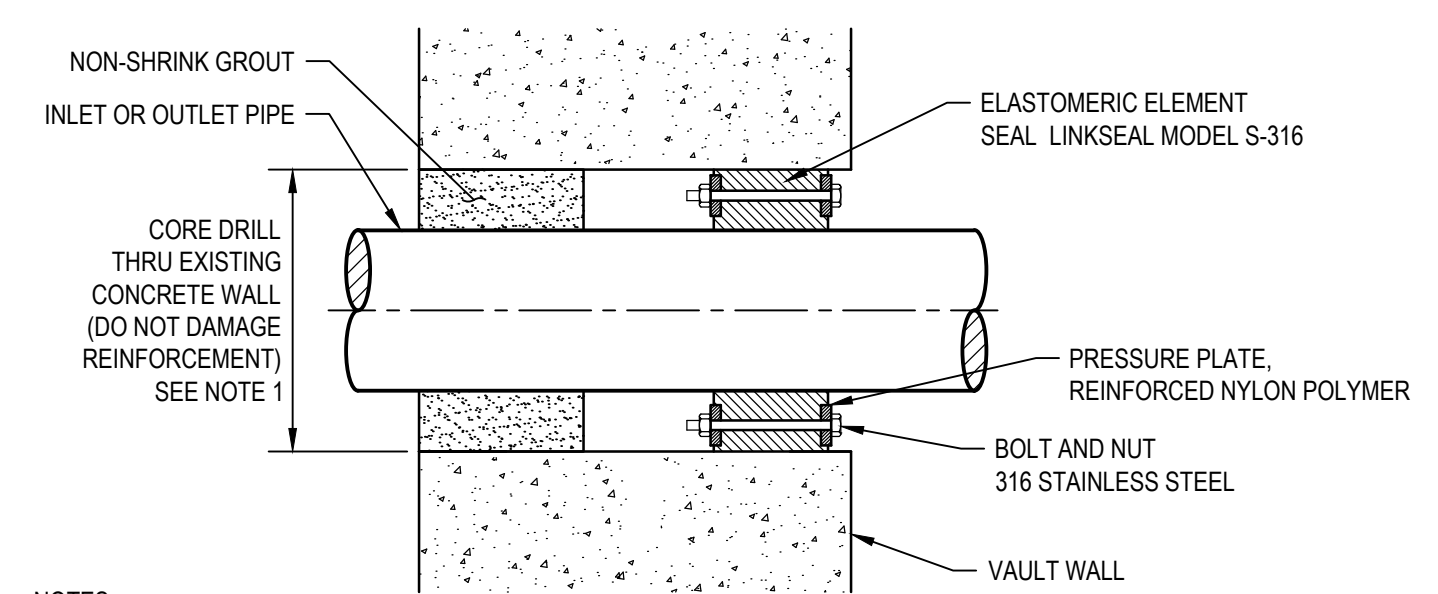
4 MODULAR MECHANICAL SEAL
NOT TO SCALE



5 PIPE WALL SLEEVE
NOT TO SCALE

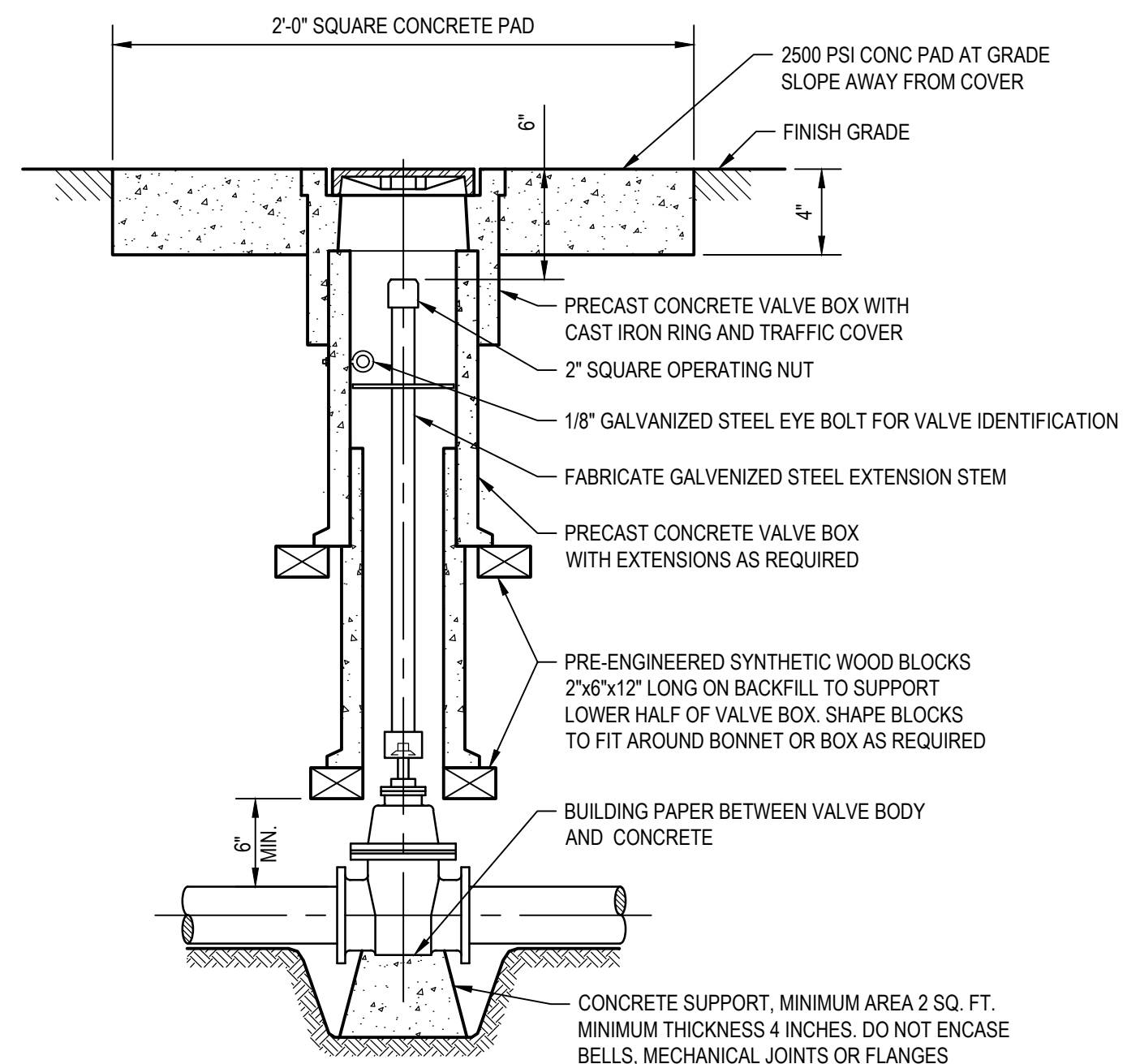


6 PIPE BRACE
NOT TO SCALE



NOTES:
1. INSIDE DIAMETER OF EACH WALL OPENING SHALL BE OF THE SIZE RECOMMENDED BY THE SEAL MANUFACTURER TO FIT THE PIPE OR CONDUIT AND TO ENSURE A WATER-TIGHT JOINT.
2. WALL SEAL ASSEMBLY SHALL BE OF THE MODULAR MECHANICAL TYPE, CONSISTING OF INTERLOCKING SYNTHETIC RUBBER LINKS SHAPED TO FILL THE ANNULAR SPACE BETWEEN THE PIPE AND THE WALL OPENING. A PRESSURE PLATE SHALL BE PROVIDED UNDER EACH BOLT HEAD AND NUT, WITH THE SEAL CONSTRUCTED TO PROVIDE ELECTRICAL INSULATION BETWEEN WALL AND PIPE. WALL SEAL ASSEMBLY SHALL BE LINK SEAL AS MANUFACTURED BY THUNDERLINE CORP, WAY MICHIGAN, CALIPCO PIPE LINX, OR EQUAL.

7 CORE-DRILLED PENETRATION MODULAR MECHANICAL SEAL
NOT TO SCALE



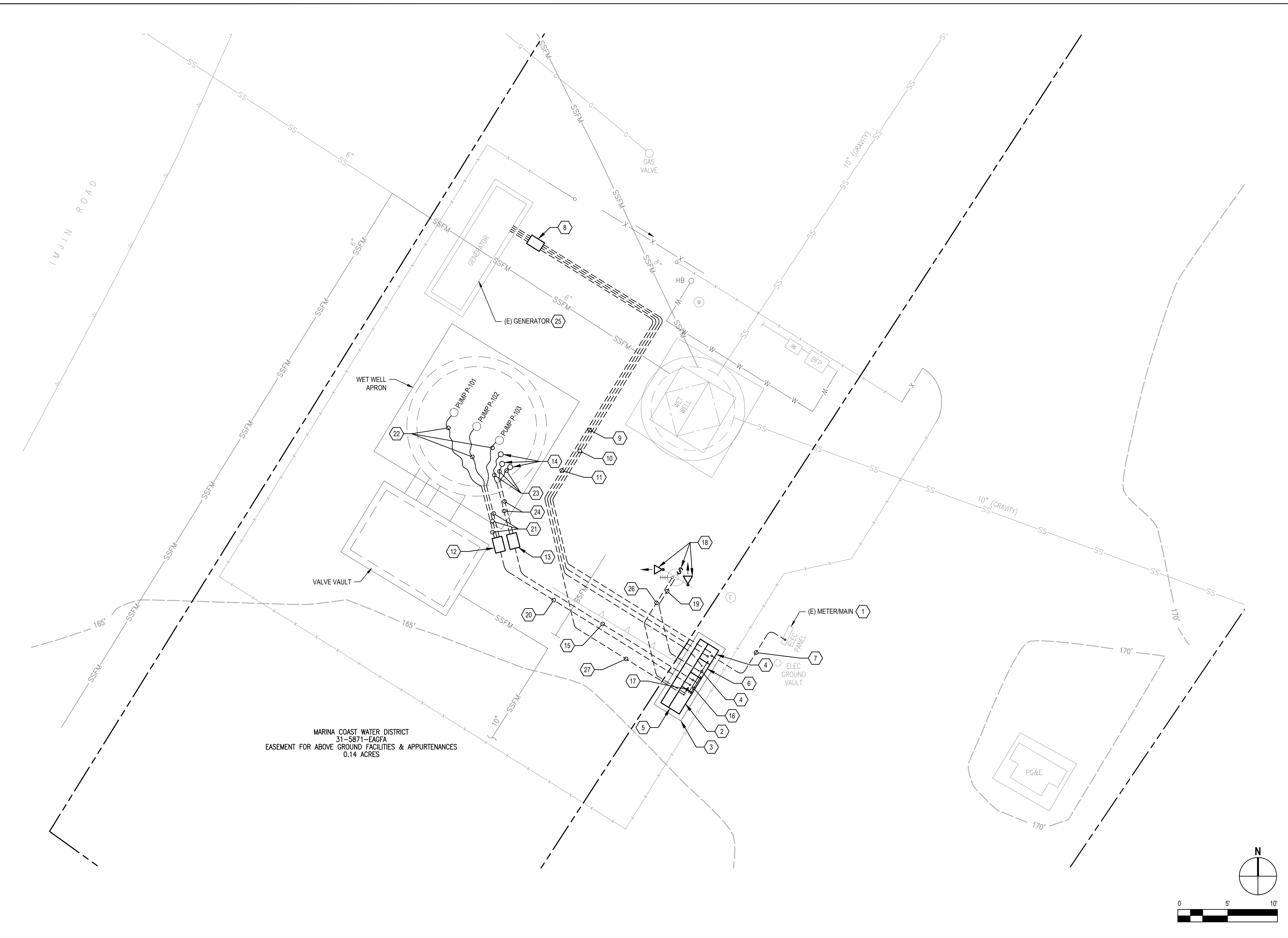
NOTES:
1. PRECAST CONCRETE VALVE BOX SHALL BE RATED FOR H20 LOADING.

8 PLUG VALVE AND RISER STEM
NOT TO SCALE

<p>Bar is one inch on original size sheet 0 1"</p>						<p>GHD Inc. 655 Montgomery Street Suite 1010 San Francisco California 94111 USA T 1 415 283 4970 F 1 415 283 4980 W www.ghd.com</p>	<p>Drawn PJS</p>	<p>Designer PAS</p>	<p>Client MARINA COAST WATER DISTRICT Project IMJIN LIFT STATION IMPROVEMENTS PROJECT Title MECHANICAL DETAILS</p>		
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No.	Issue	Drawn	Approved	Date	<p>Scale AS SHOWN</p>			<p>Project No. 11184901</p>	<p>Original Size ANSI D</p>	<p>Sheet No. M-501</p>	<p>Sheet 13 of 20</p>

ABBREVIATIONS					ELECTRICAL SYMBOLS LEGEND					GENERAL ELECTRICAL NOTES																						
(D) DEMOLISH (E) EXISTING (F) FUTURE (N) NEW	A AMPERES AC ALTERNATING CURRENT AF AMP FRAME AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AHU AIR HANDLING UNIT AIC AMPS INTERRUPTING CAPACITY ANN ANNUNCIATOR AWG AMERICAN WIRE GAUGE	BAT BATTERY BFG BELOW FINISH GRADE	CATV CABLE TELEVISION C CONDUIT CB CIRCUIT BREAKER CCTV CLOSED CIRCUIT TELEVISION CO CONDUIT ONLY CP CONTROL PANEL CPT CONTROL POWER TRANSFORMER CT CURRENT TRANSFORMER CU COPPER	DC DIRECT CURRENT	EF EXHAUST FAN EMT ELECTRICAL METALLIC TUBING ENT ELECTRICAL NON-METALLIC TUBING EP EXPLOSION PROOF	FU FUSE	GND GROUND GFCI GROUND FAULT CIRCUIT INTERRUPTER GFI GROUND FAULT INTERRUPTER GFR GROUND FAULT RELAY	HID HIGH INTENSITY DISCHARGE HOA "HAND-OFF-AUTO" SWITCH HP HORSEPOWER HPS HIGH PRESSURE SODIUM HVAC HEATING, VENTILATION & AIR-CONDITIONING	IG ISOLATED GROUND	JB JUNCTION BOX	KAIC KILO-AMPS INTERRUPTING CAPACITY KV KILOVOLT KVA KILOVOLT-AMP KW KILOWATT KWH KILOWATT-HOUR	LPS LOW PRESSURE SODIUM LV LOW VOLTAGE	MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MCP MOTOR CIRCUIT PROTECTOR MFR MANUFACTURER MH METAL HALIDE MLO MAIN LUGS ONLY MV MEDIUM VOLTAGE	NF NON FUSED NIC NOT IN CONTRACT NTS NOT TO SCALE	OC ON CENTER	PA PUBLIC ADDRESS PT POTENTIAL TRANSFORMER PVC POLYVINYL CHLORIDE PB PULL BOX, ELECTRICAL	RECPT RECEPTACLE, OUTLET RGS RIGID GALVANIZED STEEL (CONDUIT) RVSS REDUCED VOLTAGE SOFT START RTU REMOTE TERMINAL UNIT	TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR	UG UNDERGROUND UON UNLESS OTHERWISE NOTED UPS UNINTERRUPTIBLE POWER SUPPLY	V VOLT VA VOLT-AMP VFD VARIABLE FREQUENCY DRIVE	WP WEATHERPROOF WPI WEATHERPROOF IN USE	XFMR TRANSFORMER	<p>DIAGRAM</p> <p>EQUIPMENT</p> <p>CONDUIT</p> <p>OBJECT LINES</p> <p>ANNOTATION</p> <p>LIGHTING</p> <p>SWITCHING</p> <p>SCHEMATIC</p>					<p>GENERAL ELECTRICAL NOTES</p> <ol style="list-style-type: none"> ALL WORK SHALL CONFORM TO THE LATEST ADOPTED VERSION OF THE CALIFORNIA ELECTRICAL CODE (CEC). THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORK PERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED TO MAINTAIN SAFETY. PRIOR TO COMMENCING WORK ON EXISTING SYSTEMS OR WHERE EXISTING SYSTEMS REQUIRE TEMPORARY SHUT DOWNS, COORDINATE WITH OWNERS REPRESENTATIVE. WHERE DISCONNECTING, MODIFYING OR WORKING ON EXISTING EQUIPMENT OR SYSTEMS, PROVIDE A WRITTEN METHOD OF PROCEDURE OUTLINING DATES, TIMES, DURATION AND DESCRIPTION OF PROPOSED WORK FOR APPROVAL PRIOR TO COMMENCING WORK. WORK ON EXISTING EQUIPMENT SHALL NOT COMMENCE UNTIL WRITTEN AUTHORIZATION IS GIVEN BY THE OWNERS REPRESENTATIVE. ALL EQUIPMENT SHALL BE LISTED AND LABELED PER RECOGNIZED ELECTRICAL TESTING LABORATORY AND INSTALLED PER THE LISTING REQUIREMENTS AND THE MANUFACTURERS INSTRUCTIONS. ALL EQUIPMENT SHALL BE GROUNDED PER THE REQUIREMENTS OF CEC ARTICLES 250. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL POWER SYSTEM RACEWAYS. APPROVED CONDUIT FOR THIS PROJECT SHALL BE AS FOLLOWS: (A) PVC SCHEDULE 40 - UNDERGROUND AND BELOW / IN SLAB. (B) PVC COATED RIGID GALVANIZED STEEL (RGS) - UNDERGROUND ELBOW / RISER TO ABOVE GRADE AND WHERE CONDUIT IS EXPOSED. (C) ELBOW TRANSITION FROM UNDERGROUND - RIGID GALVANIZED STEEL (RGS). (D) MINIMUM CONDUIT SIZE: 3/4" PULLROPES: ALL RACEWAYS WITHOUT CONDUCTORS SHALL BE INSTALLED WITH MINIMUM 200 POUND TEST PULL LINE. 				

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SHEET GENERAL NOTES

1. THE WET WELL IS A CLASS I/DIVISION 2 HAZARDOUS AREA PER NFPA 820. PROVIDE CONDUIT SEALS AND WIRING METHODS COMPLIANT WITH NEC ARTICLE 501.
2. THE PUMP CONTROL PANEL AND WIRING TO THE WET WELL PUMPS IS DESIGNED TO ACCOMMODATE FUTURE UPGRADE OF ALL THREE PUMPS TO 44 HORSEPOWER. ADJUST THE MOTOR STARTER OVERLOAD SIZE/SETTINGS TO MATCH THE INSTALLED MOTORS.
3. COORDINATE CUTOVER FROM EXISTING ELECTRICAL DISTRIBUTION SYSTEM TO NEW TO ENSURE CONTINUOUS ABILITY TO PUMP SEWAGE.
4. SEE SHEET C-101 FOR ELECTRICAL DEMOLITION.

SHEET KEYNOTES

1. EXISTING UTILITY METER/MAIN PANEL TO REMAIN. PROTECT IN PLACE.
2. RELOCATE EXISTING SCADA EQUIPMENT TO MCC PER MCC ELEVATION ON SHEET 2/E-601.
3. PROVIDE CONCRETE PAD FOR MOUNTING MCC PER DETAIL 7/E-501.
4. PROVIDE AUTOMATIC TRANSFER SWITCH. MAKE CONNECTIONS PER SINGLE-LINE DIAGRAM. PROVIDE (2) #14 AWG IN 1" CONDUIT FOR ALARM SIGNAL BETWEEN ATS AND PLC.
5. PROVIDE MOTOR CONTROL CENTER (MCC) COMPLETE WITH MAIN BREAKER, ATS, MOTOR STARTERS, MOTOR PROTECTION RELAYS, FLYGT MINICAS, AND LEVEL CONTROLLER. SEE MCC ELEVATION ON SHEET 2/E-601.
6. PROVIDE PANEL "A". CONNECT POWER CIRCUITS PER SINGLE LINE DIAGRAM ON SHEET E-601 AND PANEL SCHEDULE.
7. PROVIDE FEEDER PER SINGLE LINE DIAGRAM FROM (E) METERMAIN TO AUTOMATIC TRANSFER SWITCH.
8. REMOVE EXISTING PULLBOX. PROVIDE NEW TRAFFIC-RATED PULLBOX. INSTALL FLUSH WITH GRADE. ADJUST HEIGHT OF EXISTING CONDUIT STUB-UPS INSIDE BOX TO ACCOMMODATE HEIGHT OF NEW BOX. SEE DETAIL 6/E-501.
9. REROUTE GENERATOR POWER FEEDER. PROVIDE CONDUIT FROM (N) PULLBOX TO NEW AUTOMATIC TRANSFER SWITCH. PROVIDE WIRE FROM GENERATOR TO AUTOMATIC TRANSFER SWITCH PER SINGLE LINE DIAGRAM.
10. REROUTE GENERATOR START CIRCUIT. PROVIDE 1" CONDUIT FROM (N) PULLBOX TO NEW AUTOMATIC TRANSFER SWITCH. PROVIDE (2) #12 AWG FROM GENERATOR TO AUTOMATIC TRANSFER SWITCH.
11. REROUTE CIRCUITS FOR GENERATOR BLOCK HEATER AND BATTERY CHARGER. PROVIDE CONDUIT FROM (N) PULLBOX TO NEW PANEL "A". PROVIDE WIRE FROM GENERATOR TO NEW PANEL "A".
12. PROVIDE POWER PULLBOX ADJACENT TO WET WELL FOR CONNECTING WIRING FROM PUMP CONTROL PANEL TO PUMP MANUFACTURER'S CABLES. MAKE CONNECTIONS WATERPROOF SPLICE. SEE DETAIL 6/E-501.
13. PROVIDE CONTROL PULLBOX ADJACENT TO WET WELL FOR ROUTING OF FLOAT AND TRANSDUCER CABLES FROM THE WET WELL. SEE DETAIL 6/E-501.
14. PROVIDE ULTRASONIC TRANSDUCER AND TWO LEVEL FLOATS IN THE WETWELL.
15. PROVIDE (2) 1" CONDUIT FOR ULTRASONIC TRANSDUCER AND FLOAT CABLES BETWEEN PULLBOX AND PUMP CONTROL PANEL.
16. PROVIDE FEEDER ((2) #12AWG, (1) #12 GND IN 1"C) BETWEEN NEW PANEL "A" AND (E) SCADA PANEL.
17. PROVIDE (20) #14 AWG IN 1-1/2" CONDUIT FOR CONTROL AND ALARM SIGNALS BETWEEN PUMP CONTROL PANEL AND (E) SCADA PANEL.
18. PROVIDE NEW FLOODLIGHTS ON EXISTING POLE AND CROSSARM. AIM FIXTURES PER DIRECTION OF MCWD. PROVIDE NEW LIGHT SWITCH IN CAST BACKBOX WITH WEATHERPROOF COVER TO REPLACE EXISTING. SEE LIGHTING FIXTURE SCHEDULE ON SHEET E-601.
19. PROVIDE 3/4" CONDUIT AND ((2) #12AWG, (1) #12 GND IN 1"C) WIRE TO REROUTE POWER FOR LIGHTS TO NEW PANEL "A".
20. PROVIDE (3) 1" CONDUIT AND WIRE ((3) #4 AWG AND (1) #8 GND IN EACH CONDUIT) BETWEEN PUMP CONTROL PANEL AND PULLBOX. PROVIDE (2) #12 AWG IN EACH CONDUIT BETWEEN FLYGT MINI CAS IN PUMP CONTROL PANEL AND PULLBOX.
21. PROVIDE (3) 2" CONDUIT BETWEEN WETWELL AND PULLBOX.
22. PROVIDE MANUFACTURER'S CABLE BETWEEN PUMP AND PULLBOX.
23. PROVIDE MANUFACTURER'S CABLE BETWEEN ULTRASONIC TRANSDUCER, FLOAT SWITCHES AND PUMP CONTROL PANEL.
24. PROVIDE (2) 1" CONDUIT BETWEEN WETWELL AND PULLBOX.
25. EXISTING GENERATOR TO REMAIN. PROTECT IN PLACE.
26. PROVIDE 2" CONDUIT W/ COAXIAL CABLE BETWEEN PLC AND (E) DIRECTIONAL ANTENNA.
27. PROVIDE GENERATOR STATUS SIGNAL. PROVIDE 1" CONDUIT W/ (4) #14 AWG FROM GENERATOR CONTROL PANEL TO PLC.

MARINA COAST WATER DISTRICT
31-5871-EACFA
EASEMENT FOR ABOVE GROUND FACILITIES & APPURTENANCES
0.14 ACRES

No.	Issue	Drawn	Approved	Date

Bar is one inch on original size sheet
0 1"

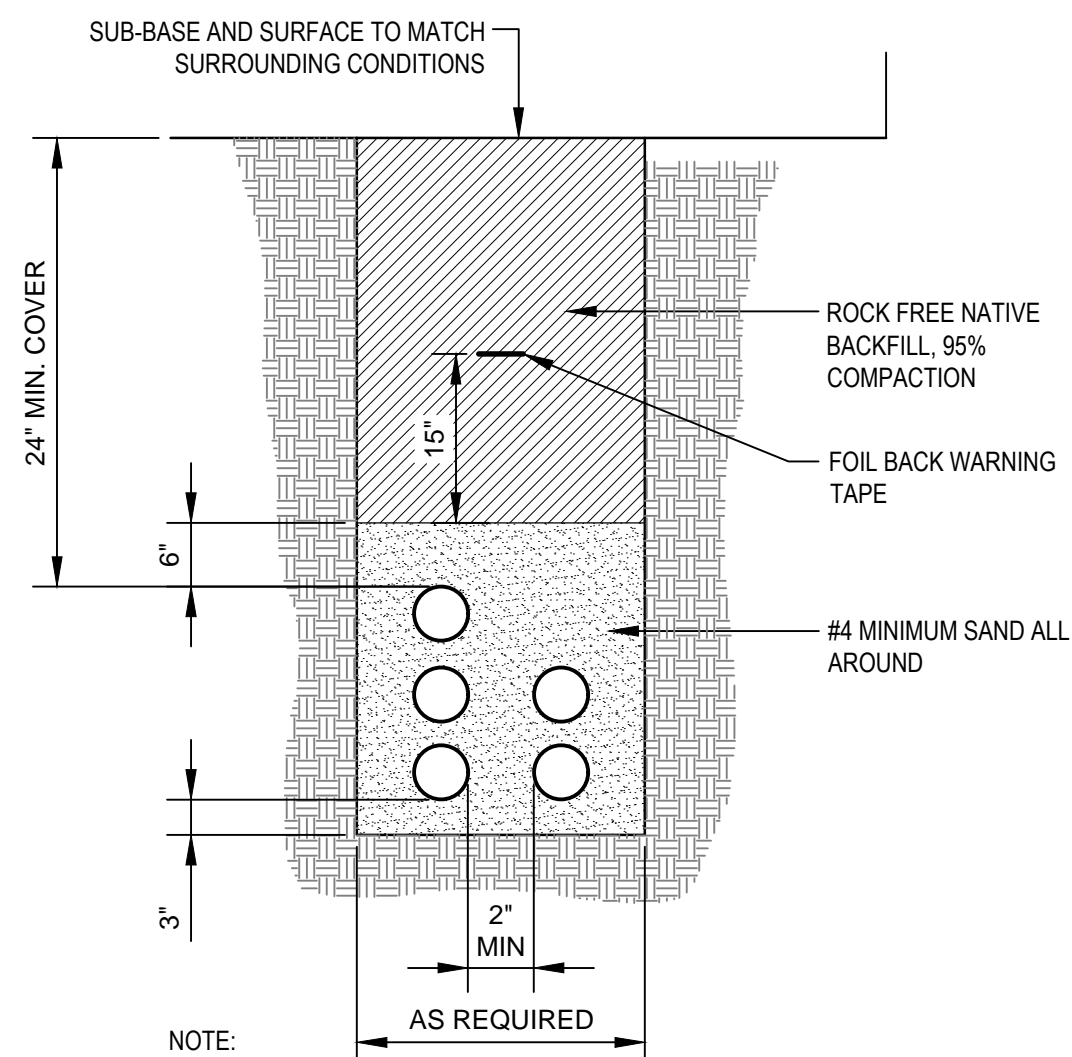
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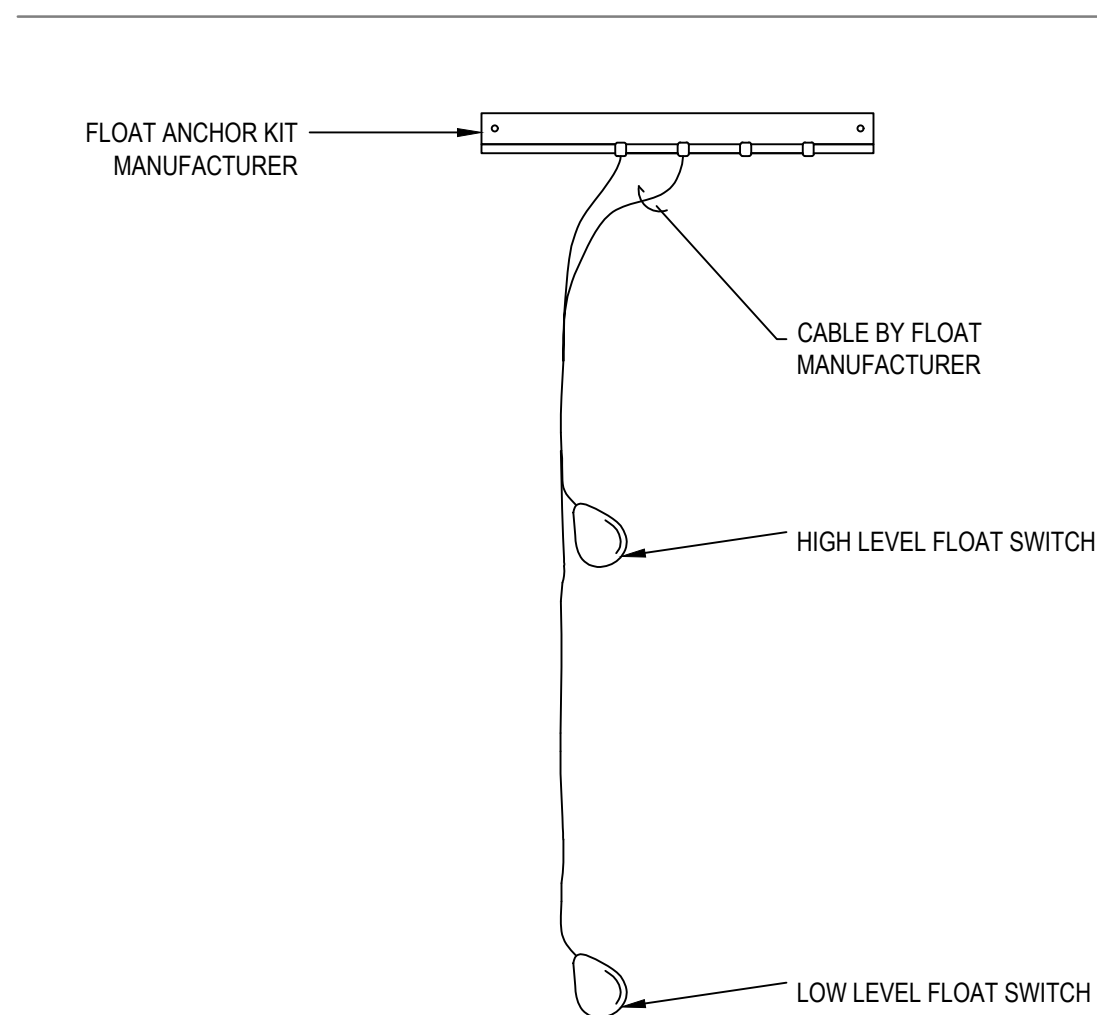
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Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT		
Title	ELECTRICAL SITE PLAN		
Project No.	11184901		
Original Size	ANSI D	Sheet No.	E-101
		Sheet	15 of 20



- NOTE:
1. MAINTAIN A MINIMUM VERTICAL SEPARATION OF 12" WHEN CROSSING UTILITIES. ROUTE CONDUIT EITHER ABOVE OR BELOW OTHER UTILITIES AS NECESSARY TO ACHIEVE THIS SEPARATION WHILE MAINTAINING THE MINIMUM BACKFILL COVERAGE.
 2. PROVIDE BASE AND INTERMEDIATE CONDUIT SPACERS.

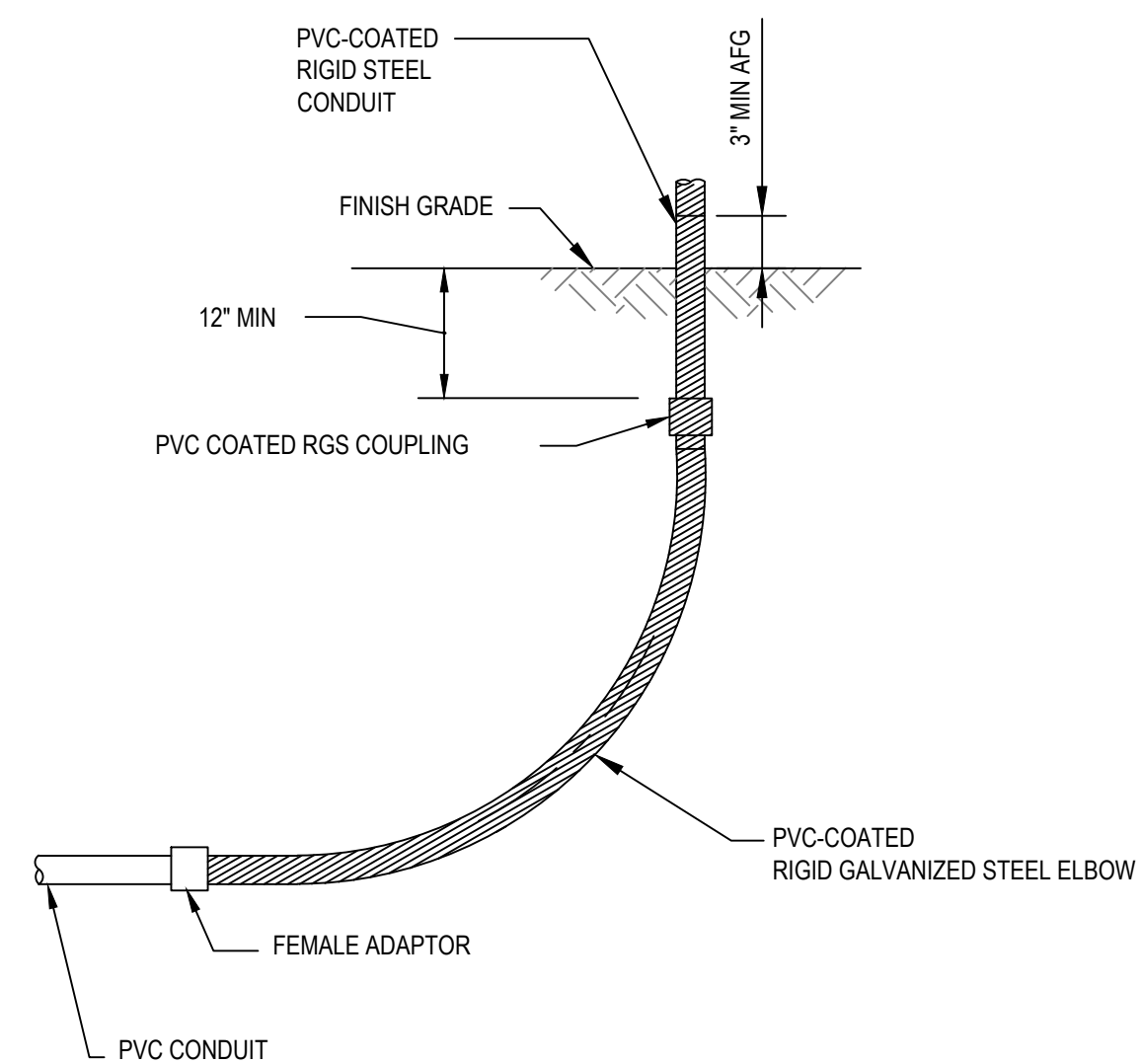
1 TYPICAL ELECTRICAL TRENCH

NOT TO SCALE



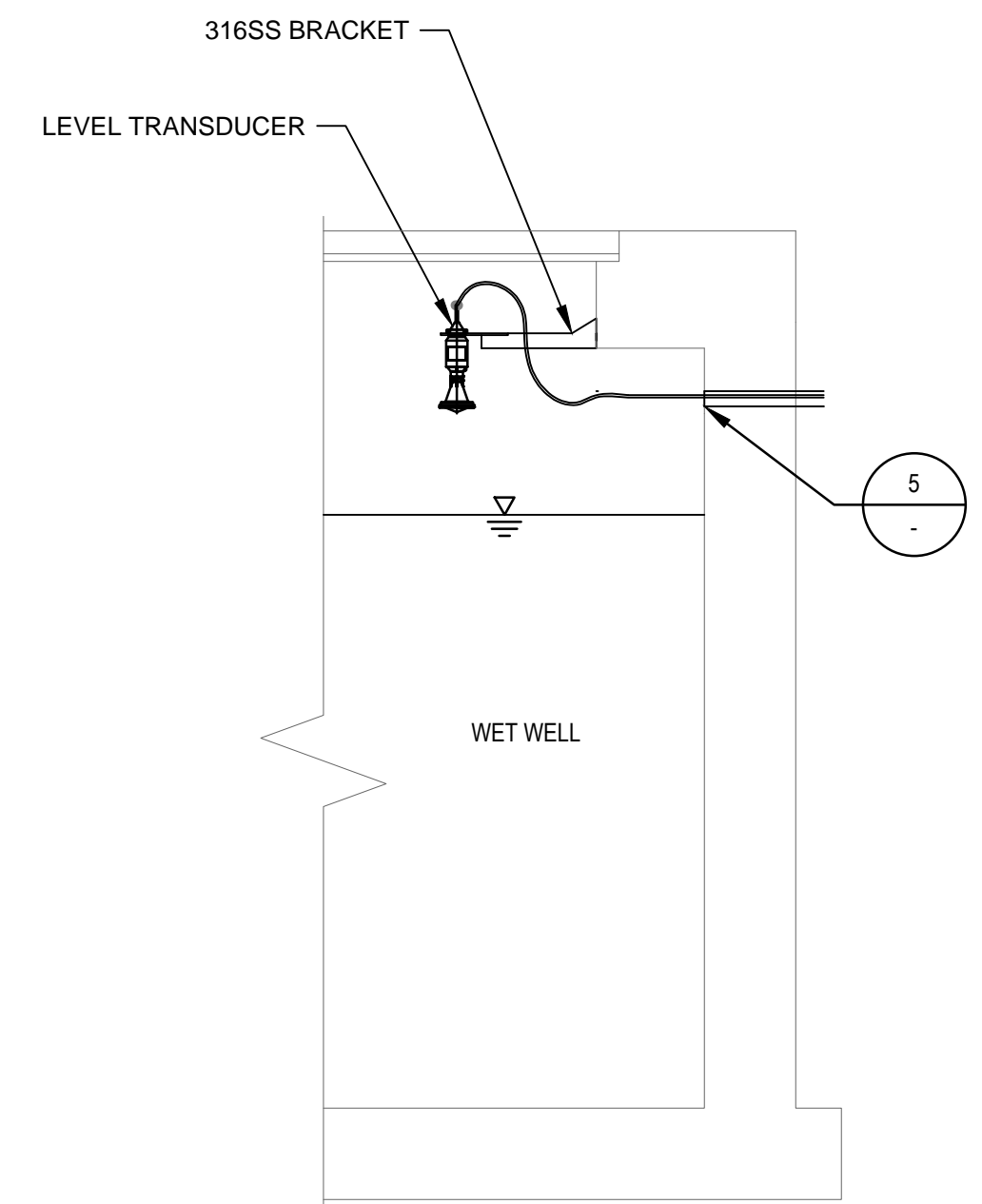
2 FLOAT SWITCH MOUNTING

NOT TO SCALE



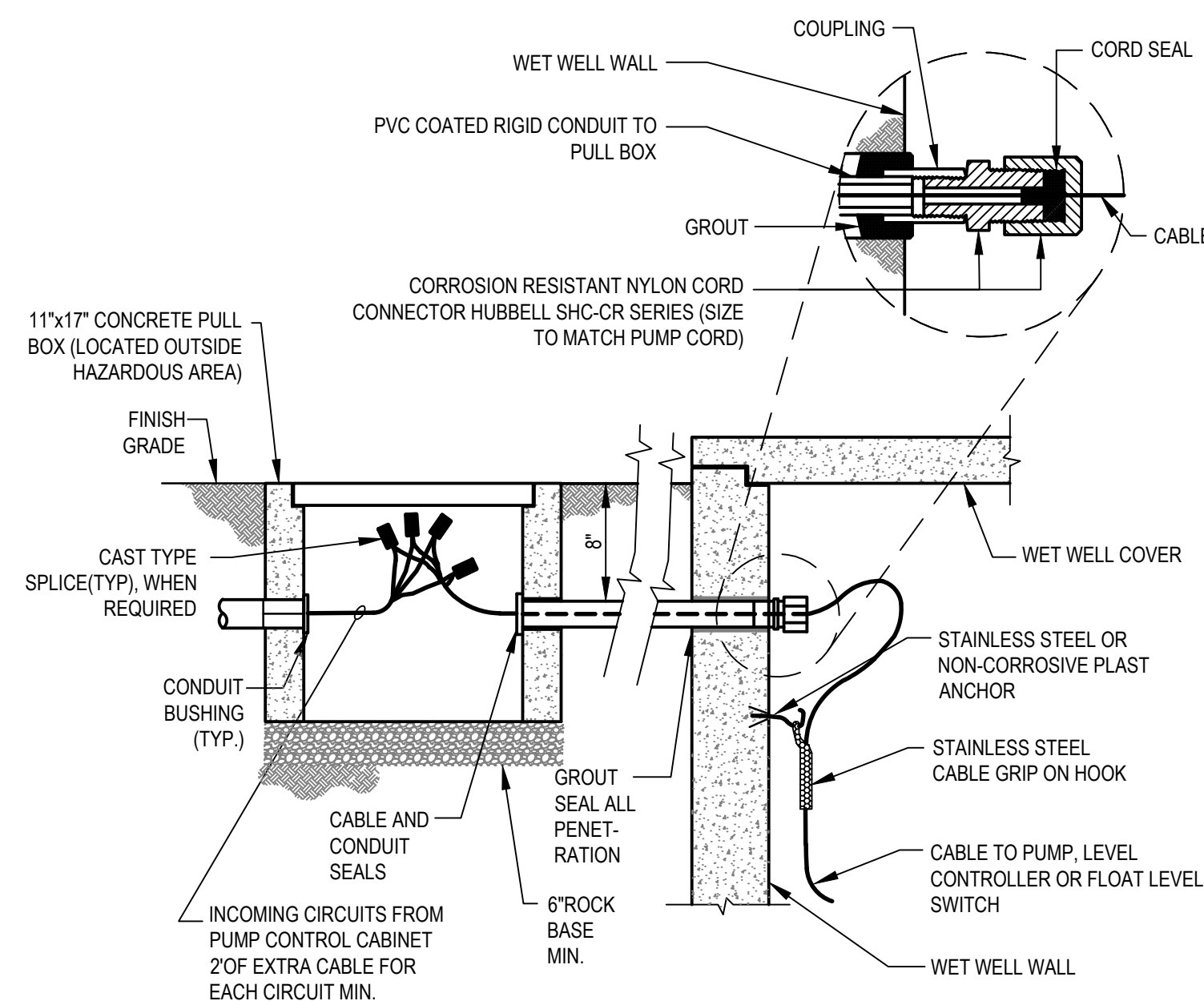
3 TYPICAL CONDUIT STUB-UP

NOT TO SCALE



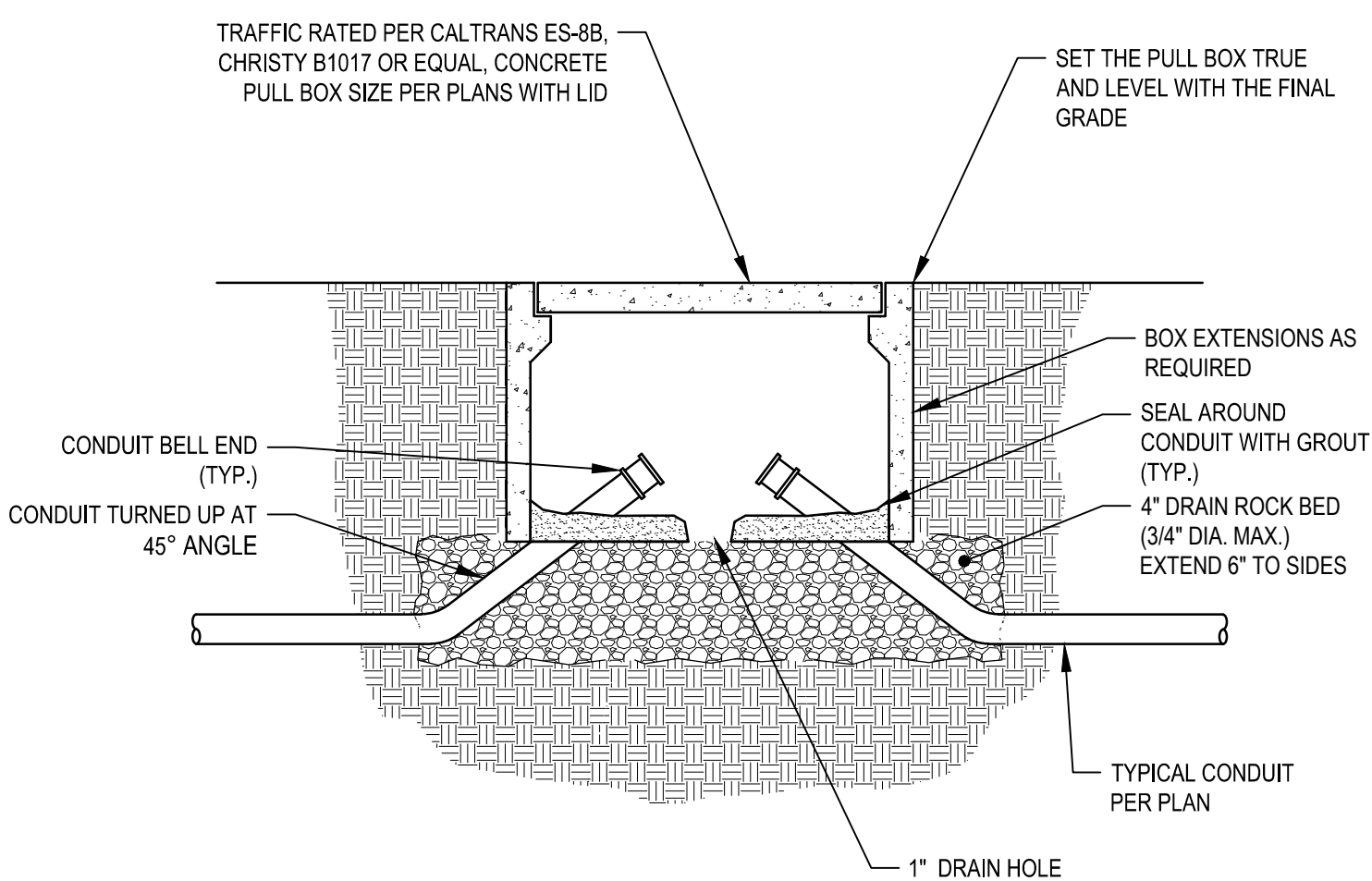
4 LEVEL TRANSDUCER MOUNTING

NOT TO SCALE



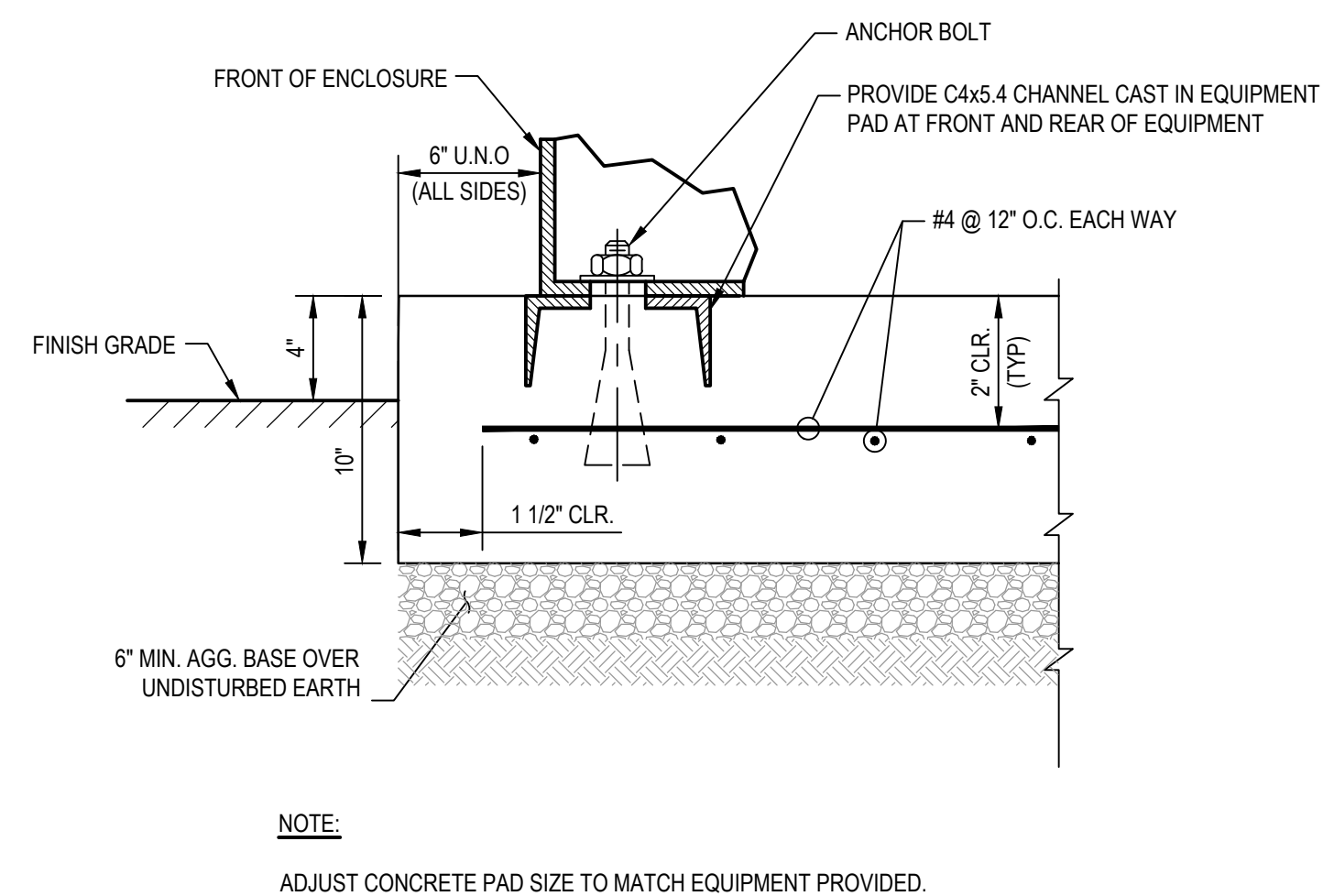
5 TYPICAL CONDUIT WALL PENETRATION

NOT TO SCALE



6 TYPICAL PULL BOX - SIGNAL OR POWER

NOT TO SCALE



7 EQUIPMENT PAD

NOT TO SCALE

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0 1"



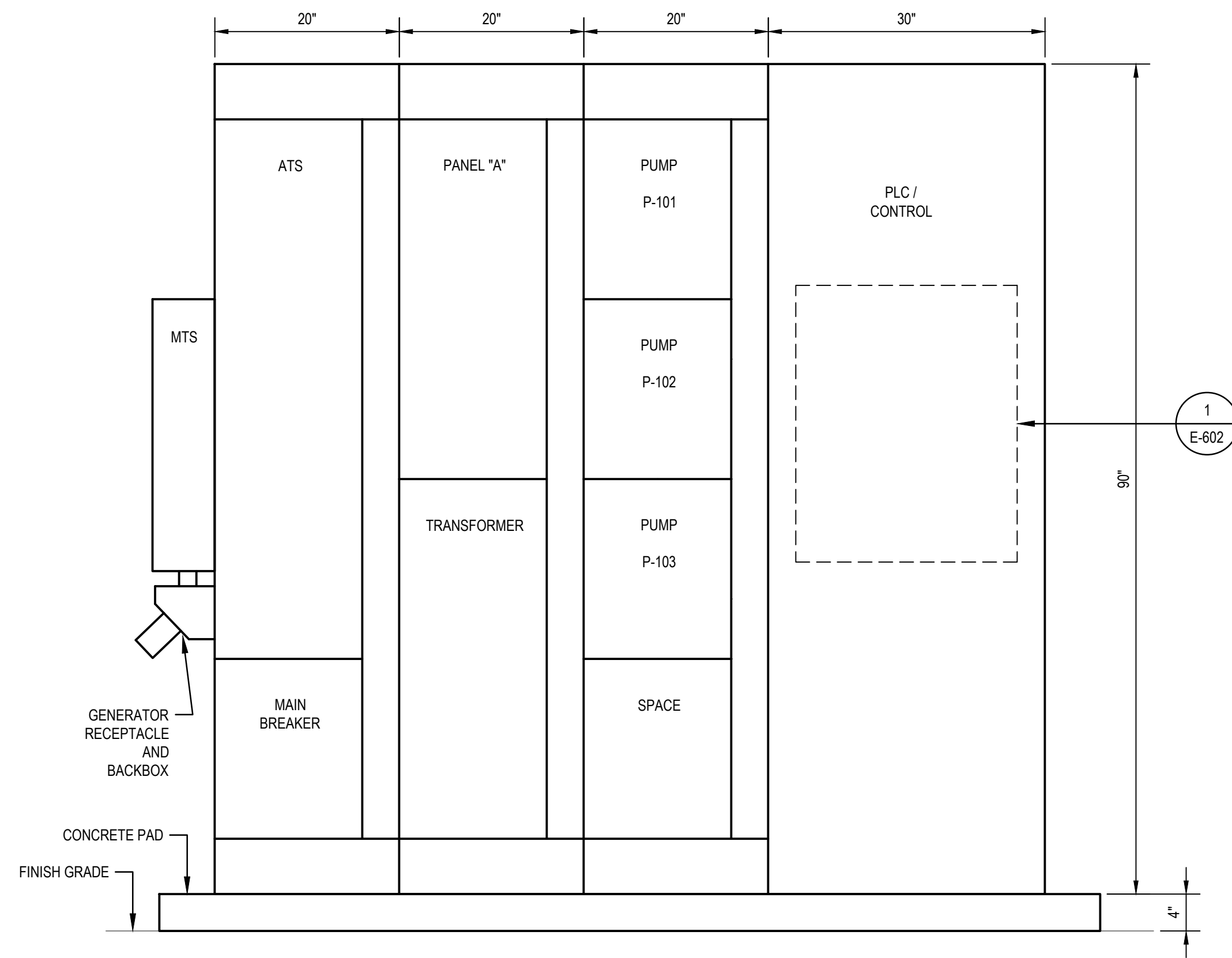
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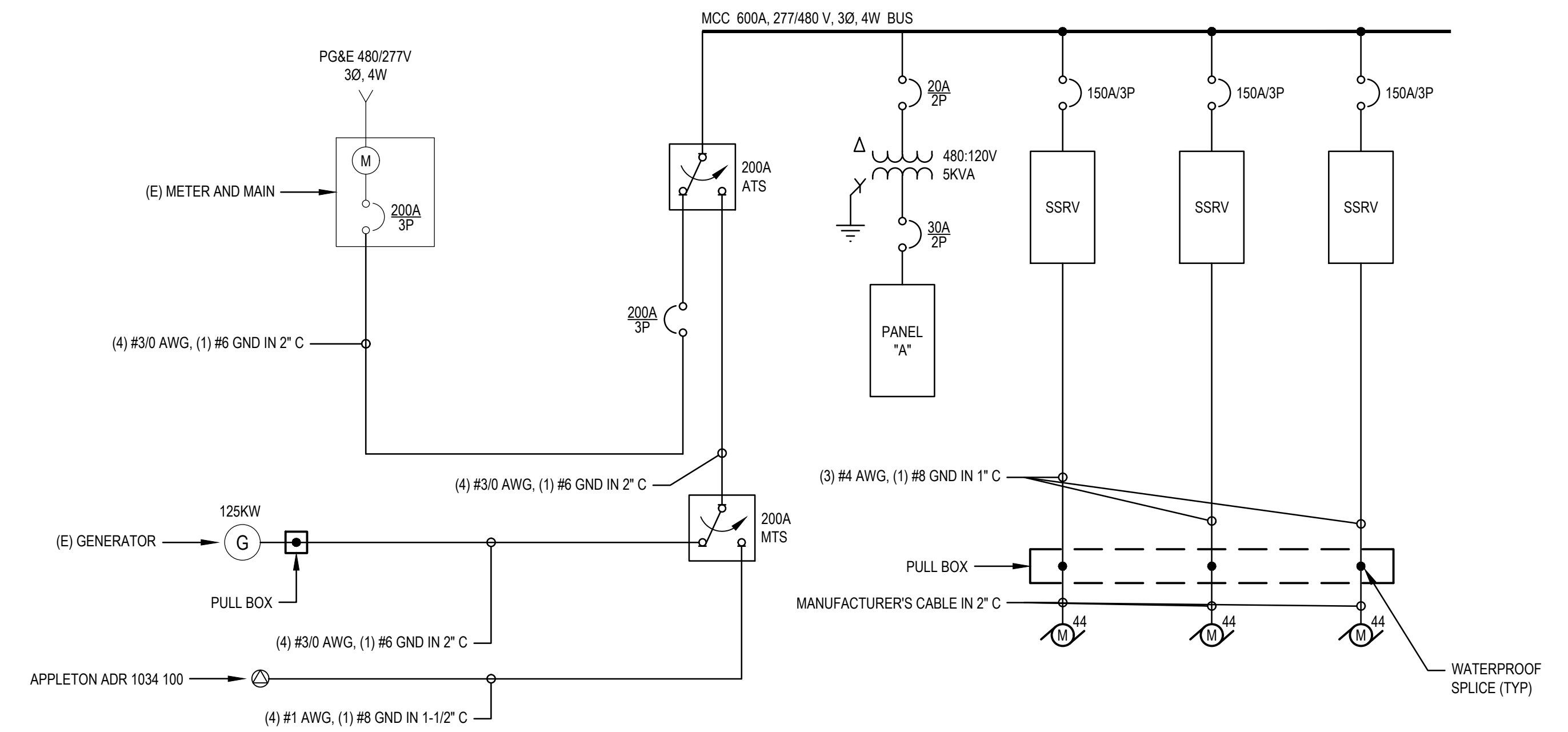
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Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT		
Title	ELECTRICAL DETAILS		
Project No.	11184901		
Original Size	ANSI D	Sheet No.	E-501

PANEL SCHEDULE																		
PANEL NAME: A				VOLTAGE: 240/120				NEMA RATING:				MOUNTING:				NOTES:		
MAINS RATING: 30				PHASE: 1				AIC RATING:				LOCATION:						
BUS RATING: 125				WIRE: 3				DEMAND FACTOR: STD										
CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1	O	SCADA	20/1	0.20	1.67	12	5	0.02	A	0.03	10	12	1.20	0.36	20/1	RECEPTACLE	R	2
3	L	LIGHTING	20/1	0.15	1.25	12	40	0.14	B	0.23	75	12	1.10	0.36	20/1	BLOCK HEATER	R	4
5		SPACE	20/1						A	0.04	75	12	0.20	0.36	20/1	BATTERY CHARGER	R	6
7		SPACE							B						20/1	SPACE	R	8
9		SPACE							A							SPACE		10
11		SPACE							B							SPACE		12
CONNECTED KVA			DEMAND KVA			DEMAND AMPS			USE LEGEND			VOLTAGE DROP CALCULATION						
PHASE A: 0.9			0.9			7.7			ID LOAD TYPE ASSUMED PF			VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2011 NEC CHAPTER 9 TABLE 9 FORMULA:			ASSUMPTIONS:			
PHASE B: 0.5			0.5			4.6			H HVAC 0.85			VD = 1 * (R * PF + X * SIN(ACOS(PF))) * L			POWER FACTOR VARIES BY LOAD TYPE			
									L LIGHTING 0.80			WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS			CONDUIT TYPE RGS			
									M MOTOR 0.85			R AND X VALUES ARE TAKEN FROM 2011 NEC CHAPTER 9 TABLE 9.			WIRE MATERIAL CU			
									R RECEPTACLE 0.80			LENGTH IS IN 1000FT INCREMENTS						
									P PANEL 0.85									
									O OTHER 0.85									
STD DEMAND LOAD BASED ON 125% OF THE LARGEST MOTOR AND 100% OF THE REMAINING MOTORS, 125% OF CONTINUOUS LOADS, 100% OF NONCONTINUOUS LOADS, AND 50% OF RECEPTACLE LOADS BEYOND THE FIRST 10KVA																		

LIGHTING FIXTURE SCHEDULE								
TYPE MARK	FIXTURE DESCRIPTION	MFR	MODEL	LAMP STYLE	COLOR TEMP	WATTAGE	MOUNTING	NOTES
A	LED FLOOD LUMINAIRE	LITHONIA	DSXF2-P2-WFR	LED	4000K	78	POLE MOUNTED	

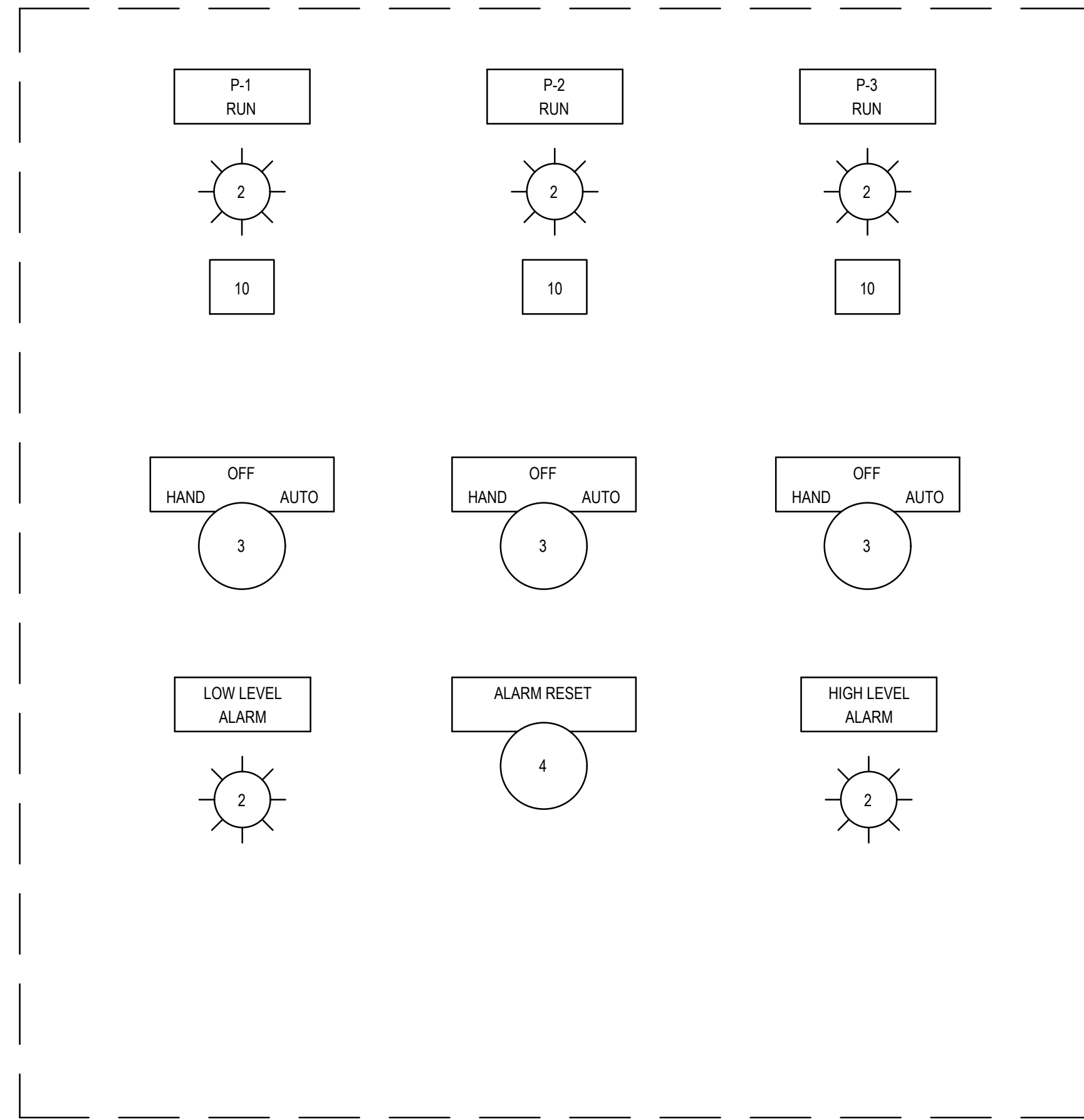


2 MCC ELEVATION SCALE



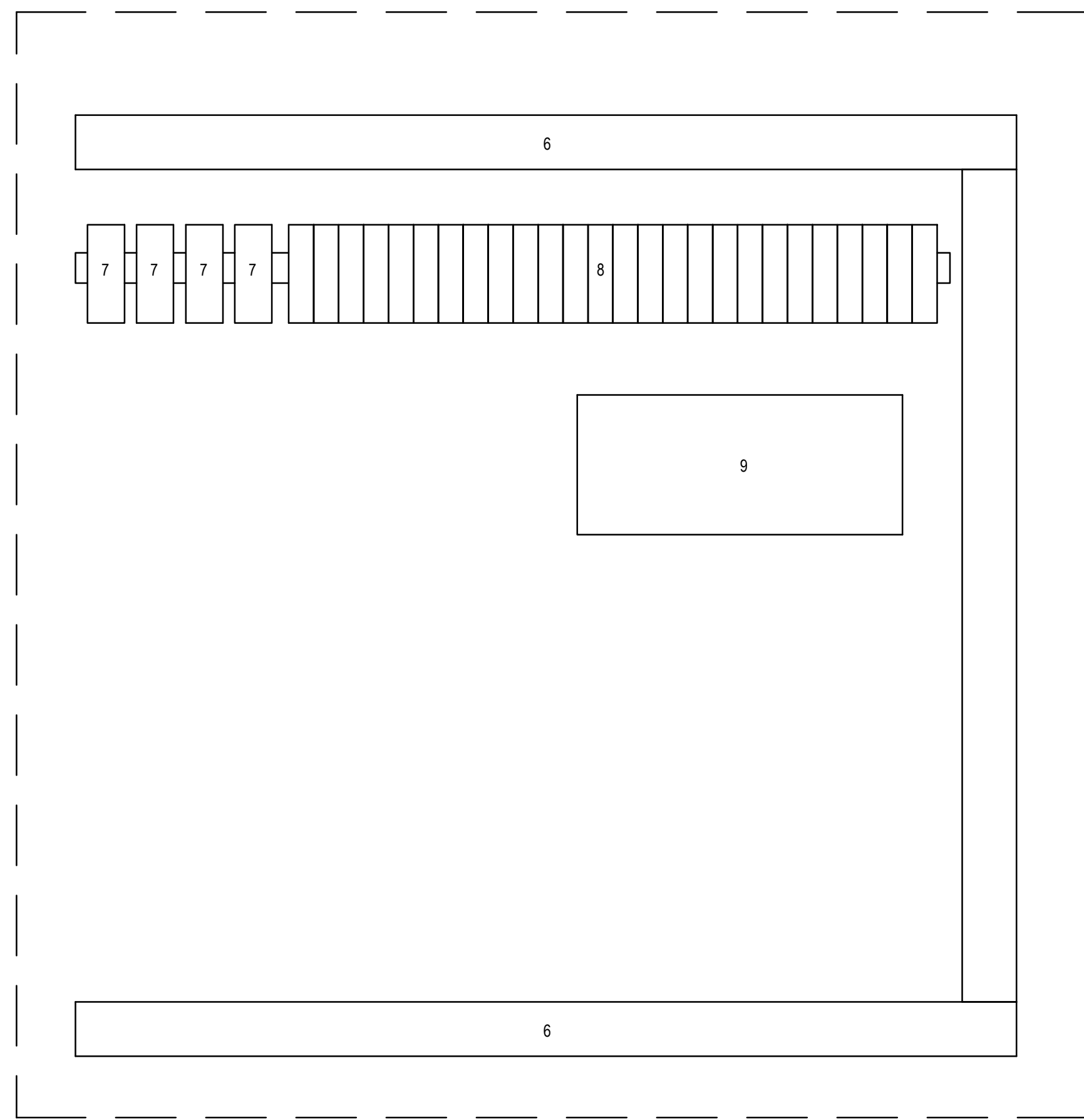
1 SINGLE LINE DIAGRAM SCALE

				Bar is one inch on original size sheet 0 1"						Drawn: JJVL Designer: RPG Drafting Check: JJVL Design Check: RPG Project Manager: P SULLIVAN Date: OCT 1 2019		Client: MARINA COAST WATER DISTRICT Project: IMJIN LIFT STATION IMPROVEMENTS PROJECT Title: SINGLE LINE DIAGRAM AND SCHEDULES Project No.: 11184901 Original Size: ANSI D Sheet No.: E-601	
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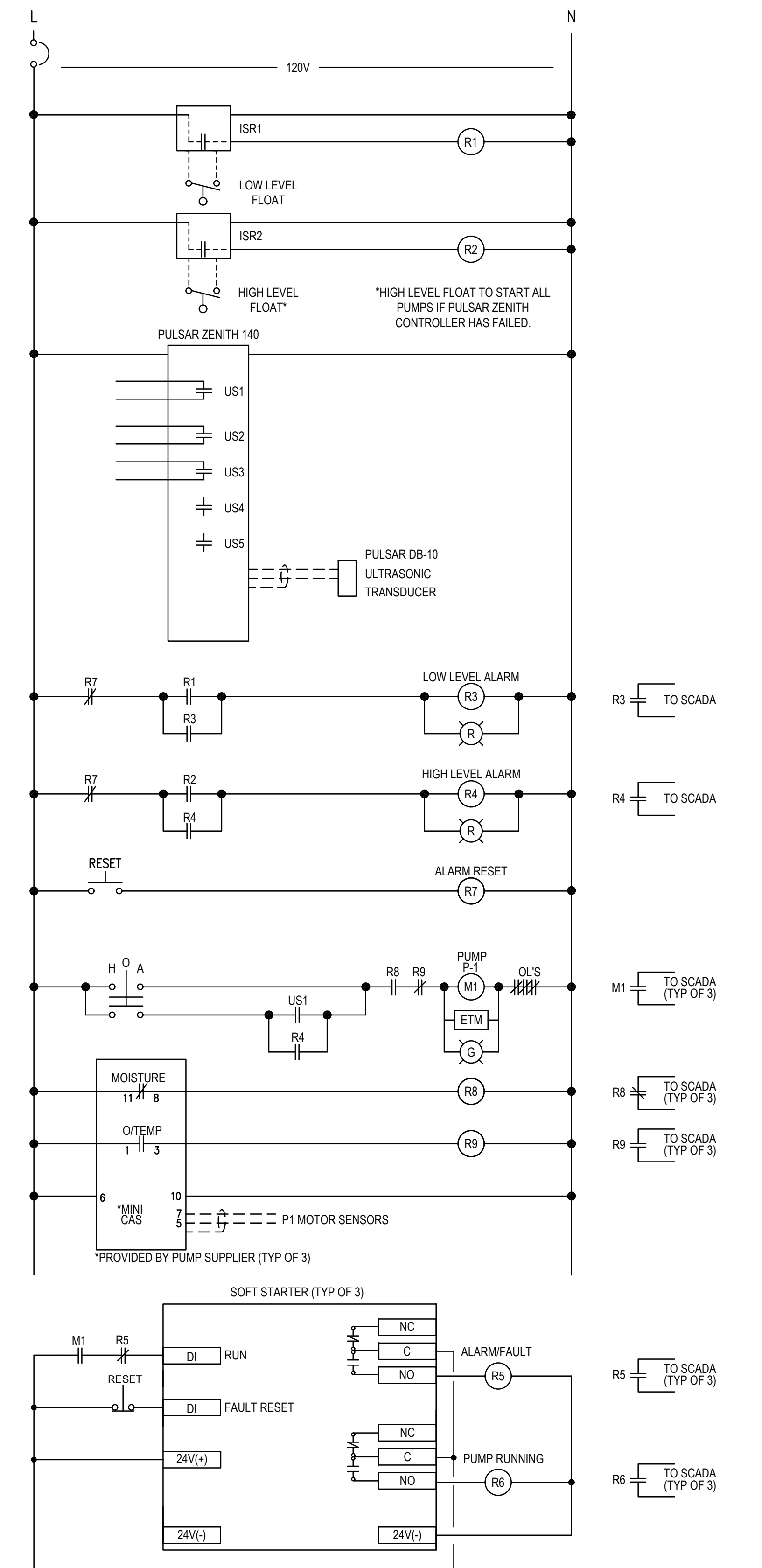


EQUIPMENT LIST INDEX	
KEY	DESCRIPTION
1	THRU-DOOR OPERATOR
2	PILOT LIGHT
3	SELECTOR SWITCH
4	"RESET" PUSH BUTTON
5	STARTER/DISCONNECT/OVERLOAD
6	WIRE DUCT
7	RELAY
8	TERMINALS
9	PULSAR LEVEL CONTROLLER
10	ELAPSED TIME METER
11	MAIN DISCONNECT

1 CONTROL PANEL INTERIOR DEADFRONT
SCALE: NONE



2 CONTROL PANEL INTERNAL EQUIPMENT
SCALE: NONE



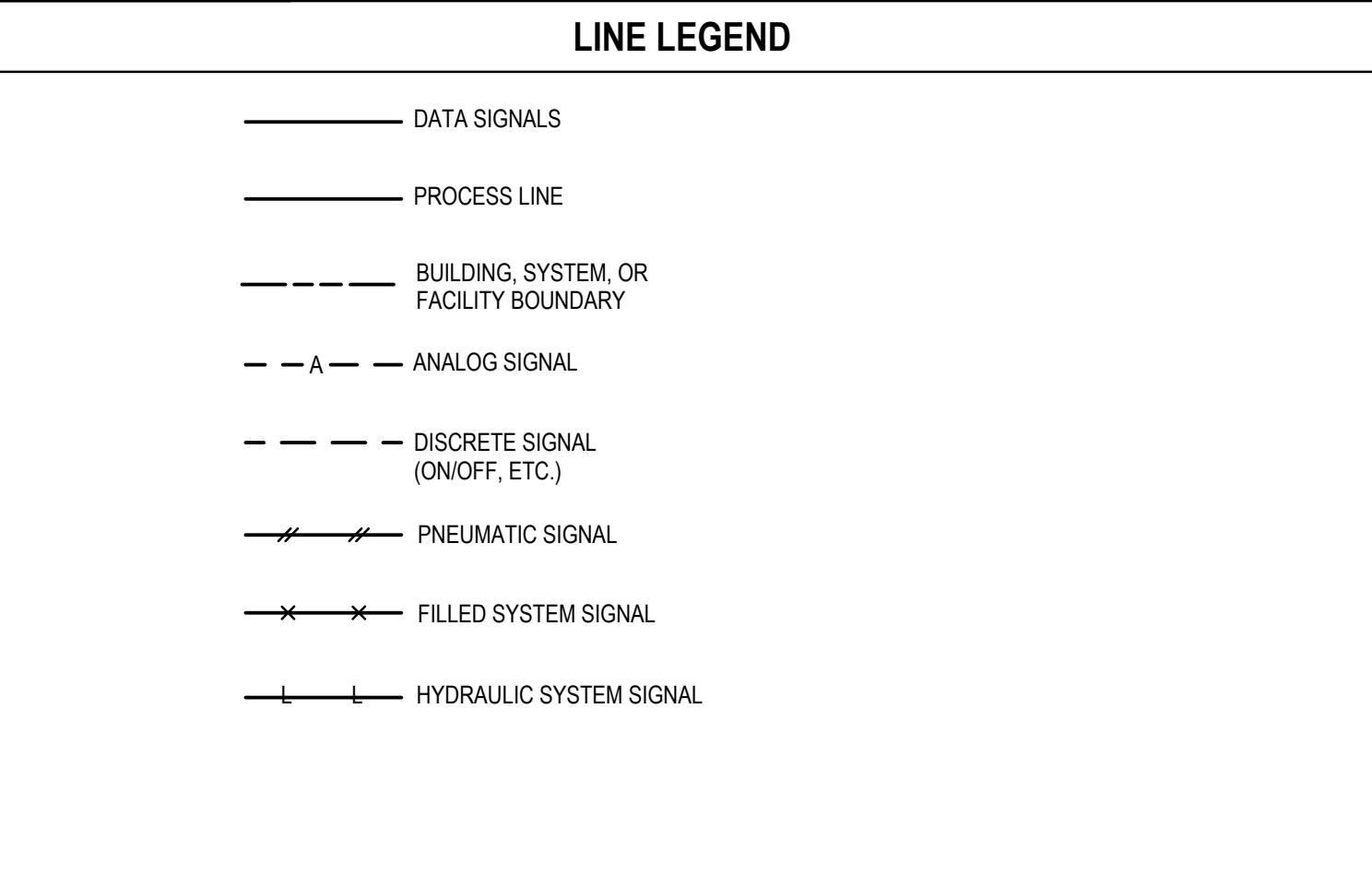
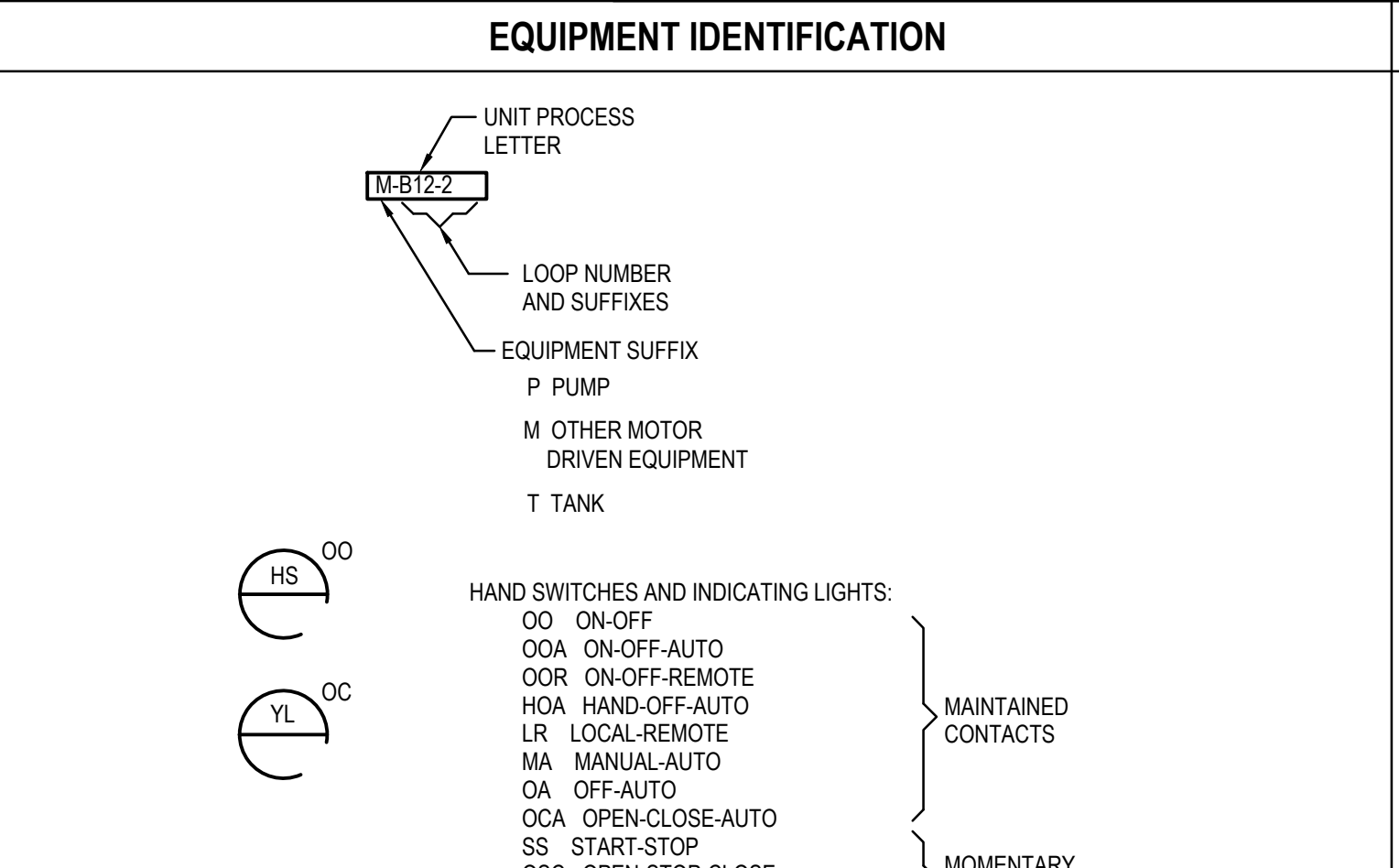
3 PANEL CONTROL DIAGRAM
SCALE: NONE

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No.	Issue	Drawn	Approved	Date																

PROCESS AND INSTRUMENTATION DIAGRAM

ABBREVIATIONS

ANN	ANNUNCIATOR
AS	ADJUSTABLE SPEED
ATM	ATMOSPHERE
CP	CONTROL PANEL
CS	CONTROL STATION
(E)	EXISTING
FC	FAIL CLOSED
FO	FAIL OPEN
HBS	HARDWIRED BACKUP SYSTEM
LP	LOCAL PANEL
MCC	MOTOR CONTROL CENTER
OIP	OPERATOR INTERFACE PANEL
TYP	TYPICAL

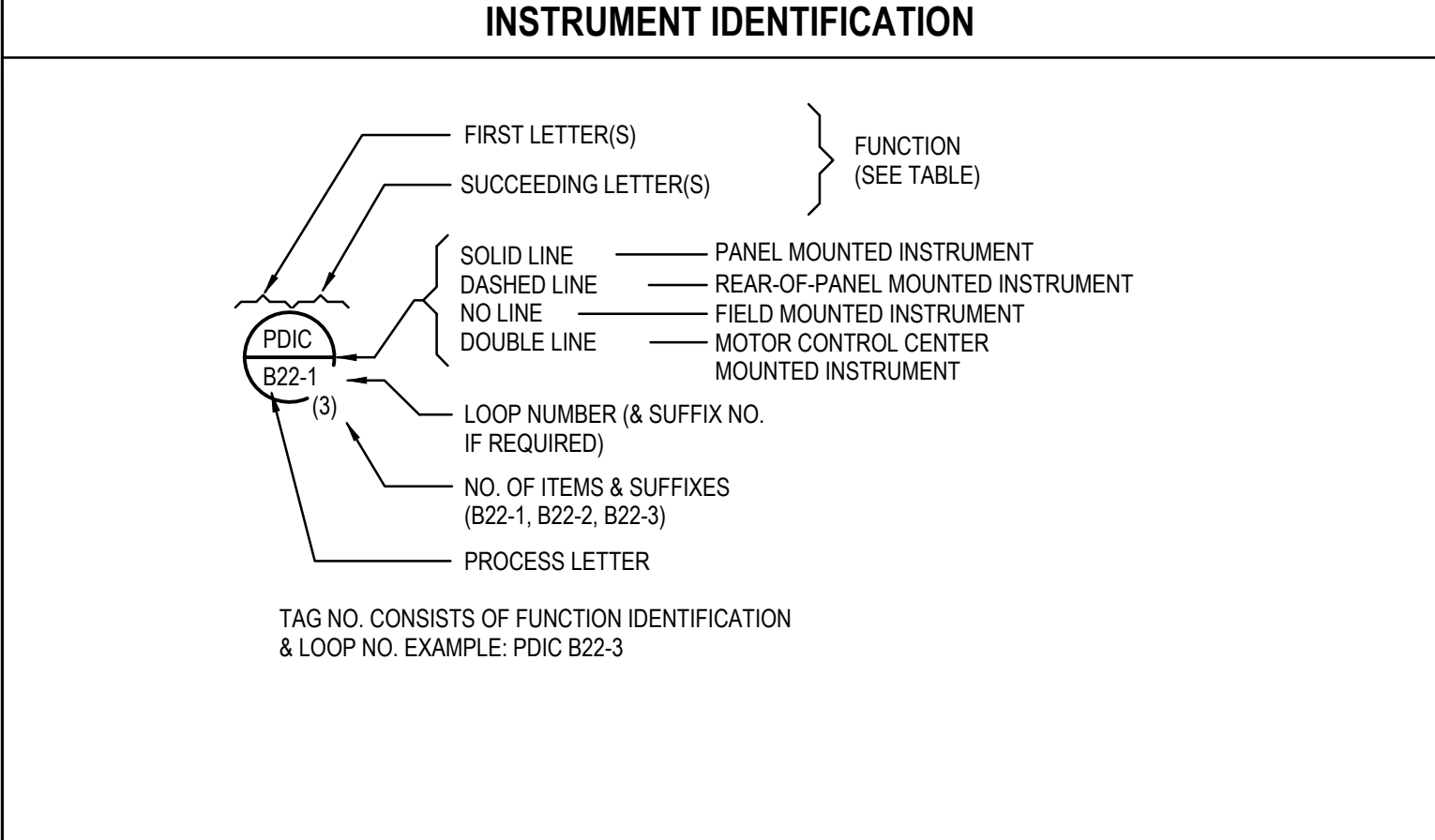
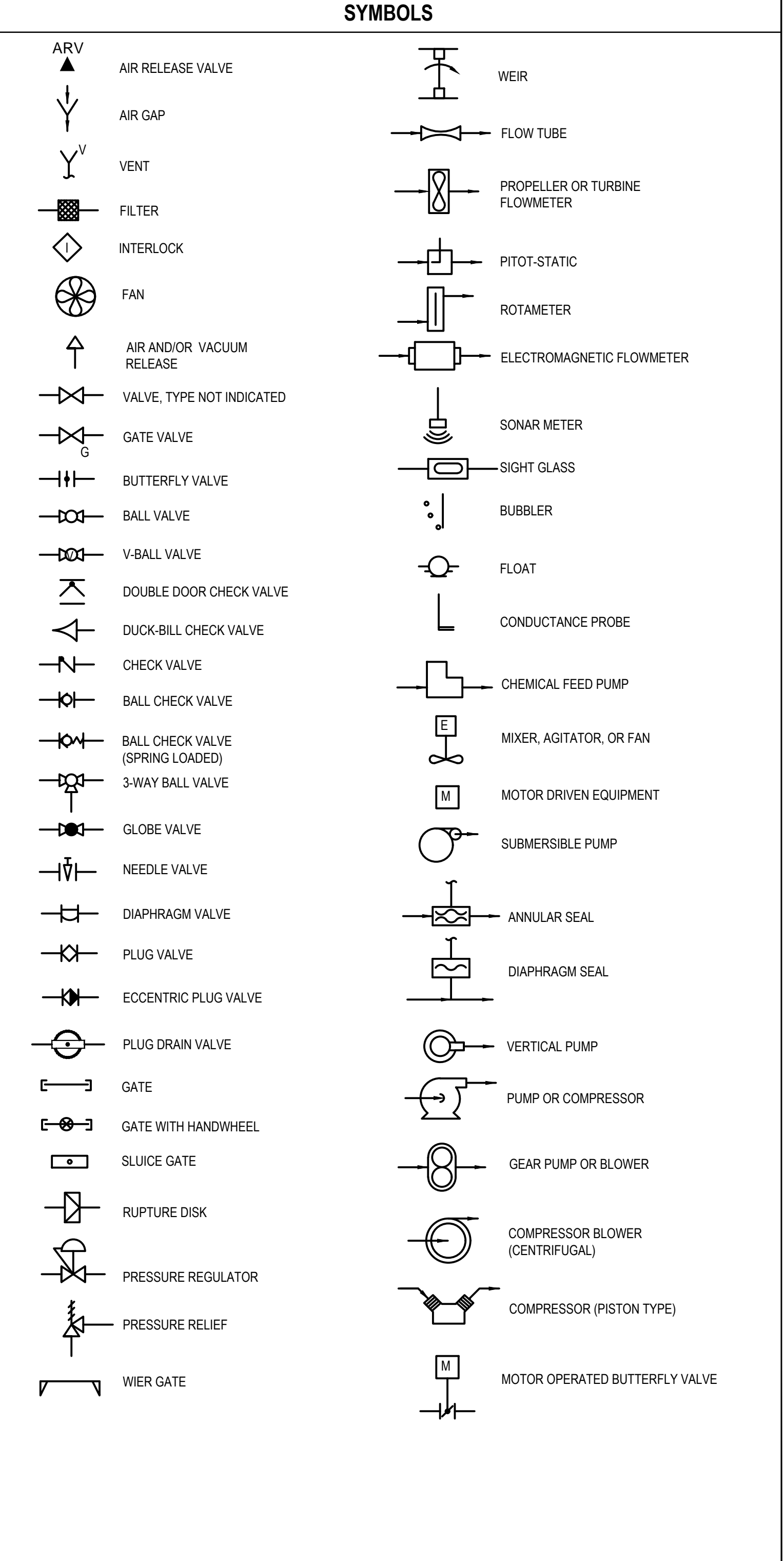
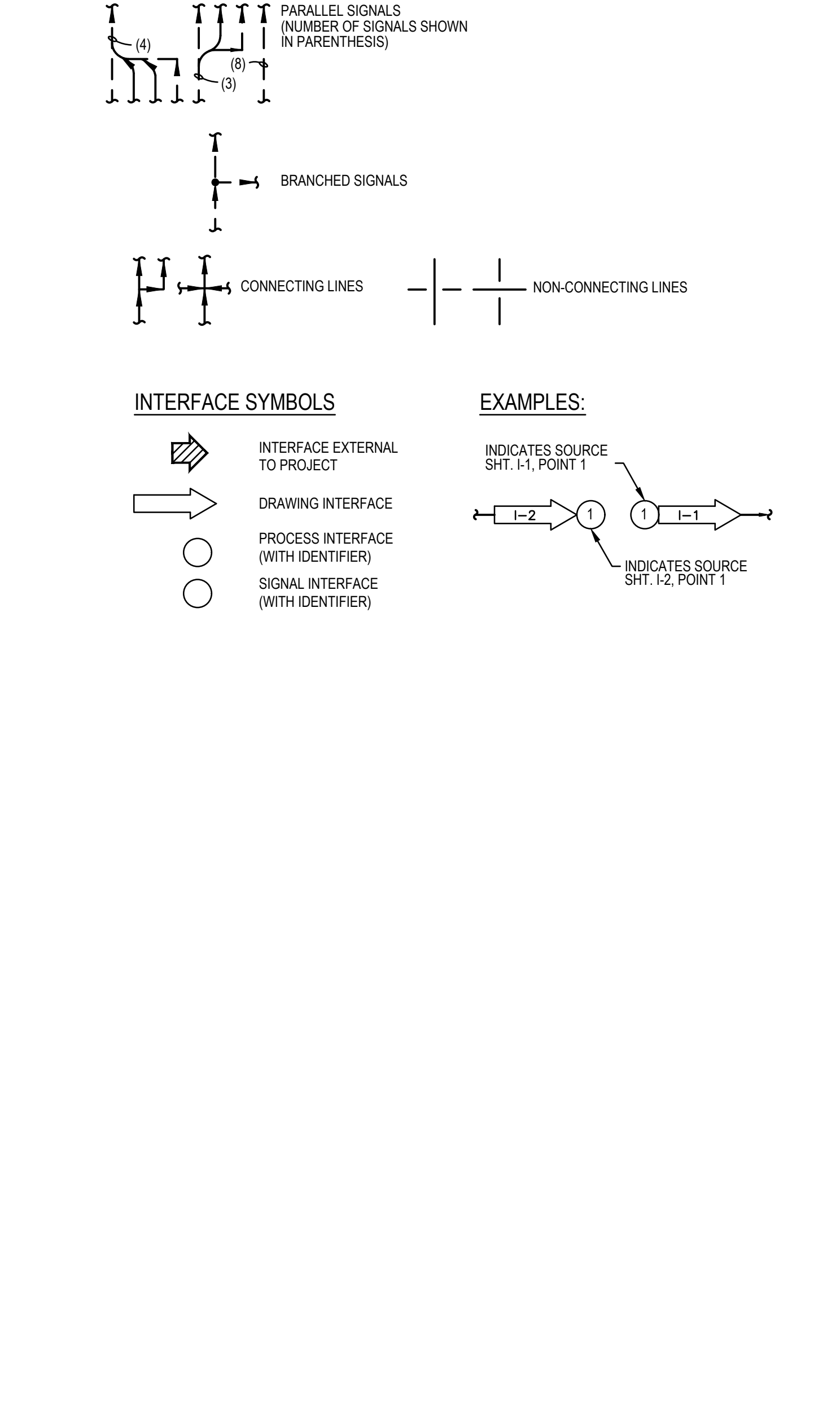
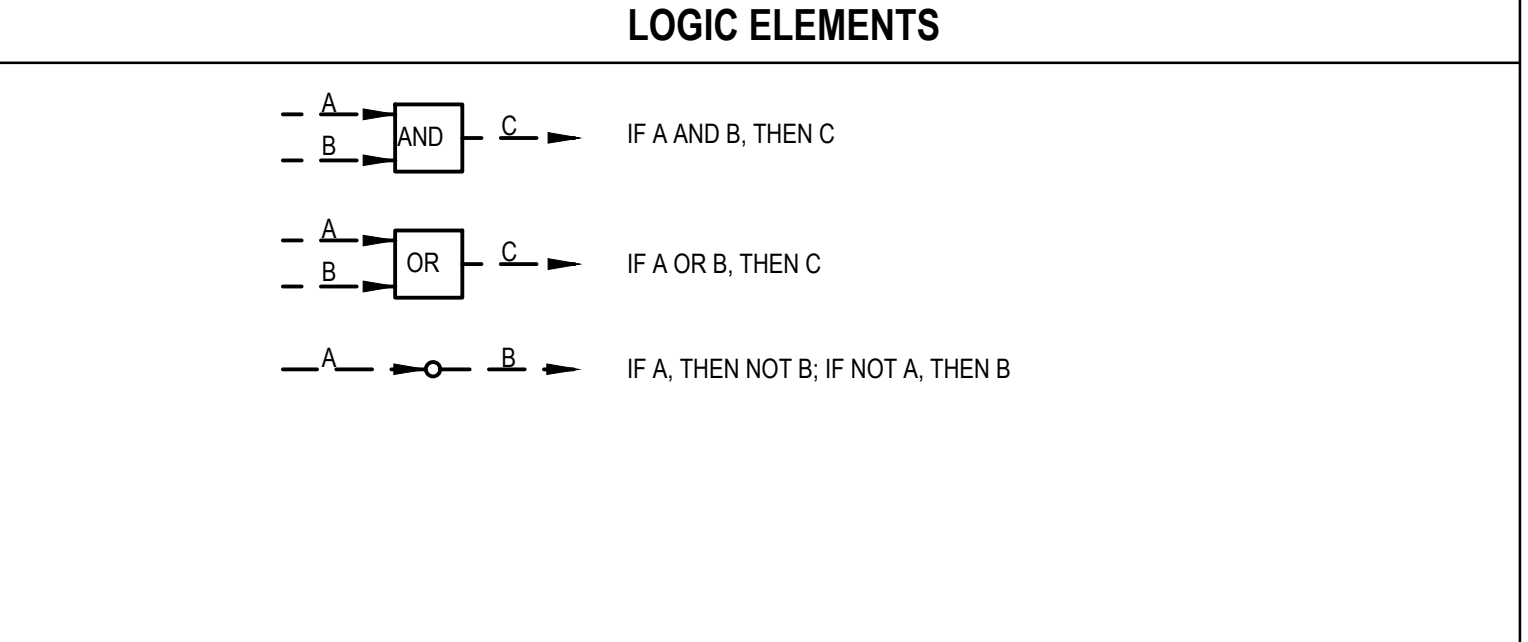
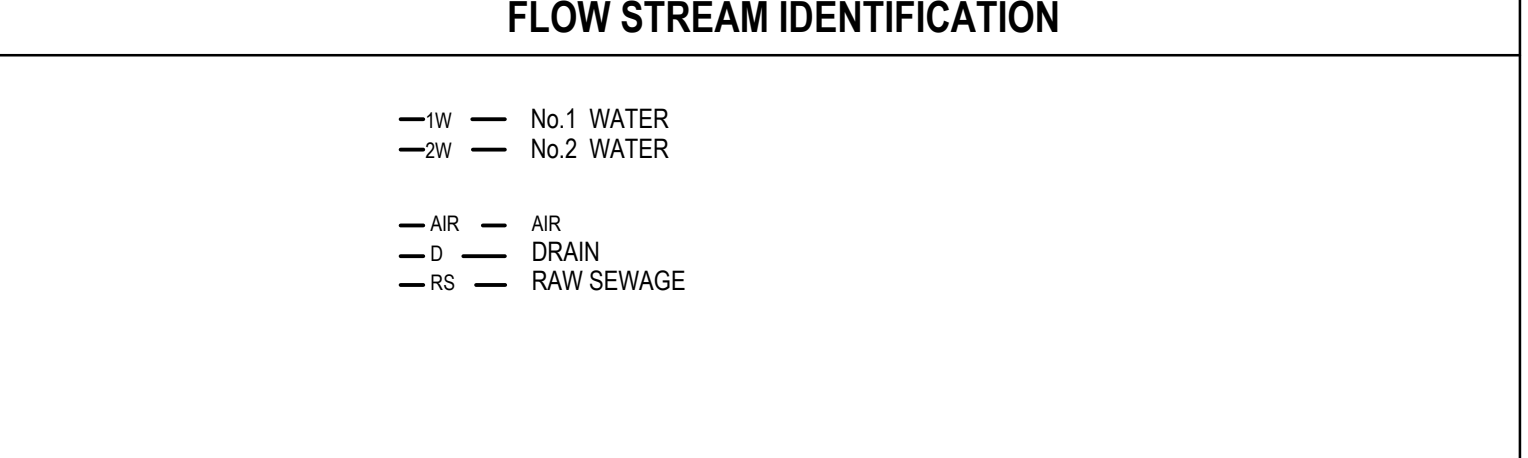
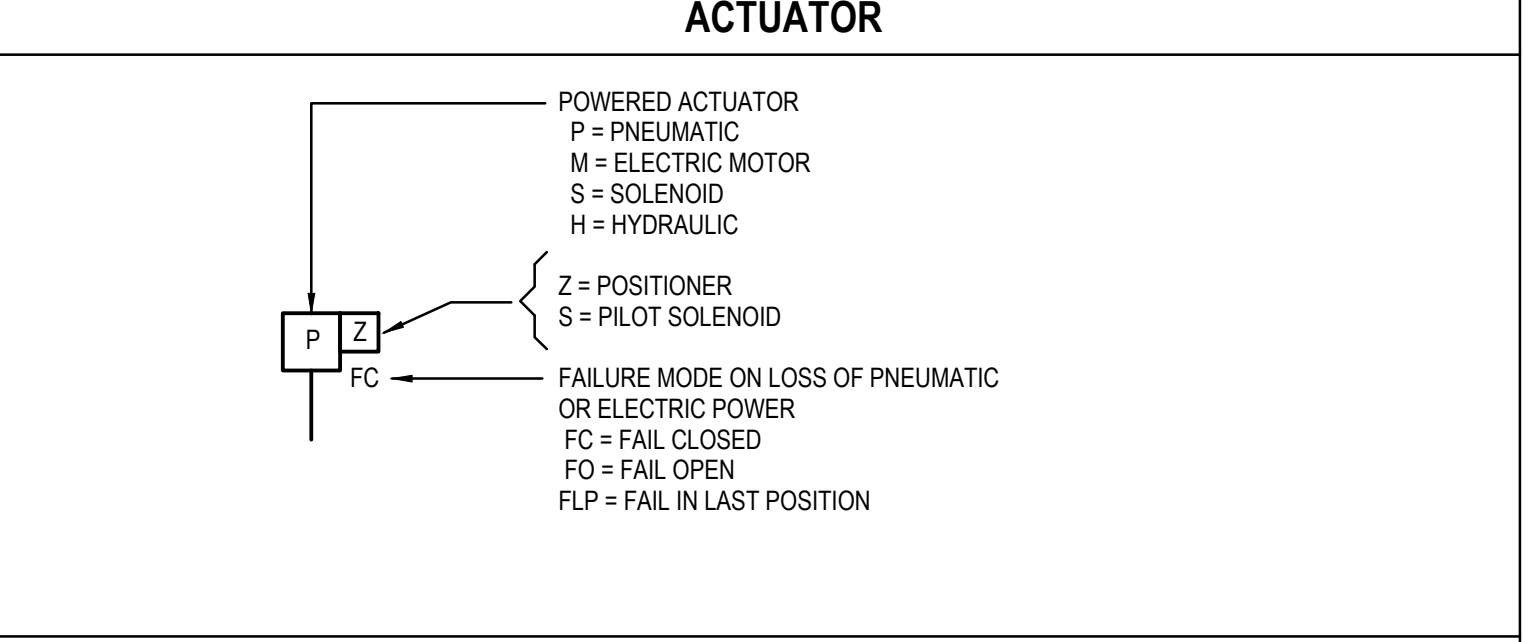
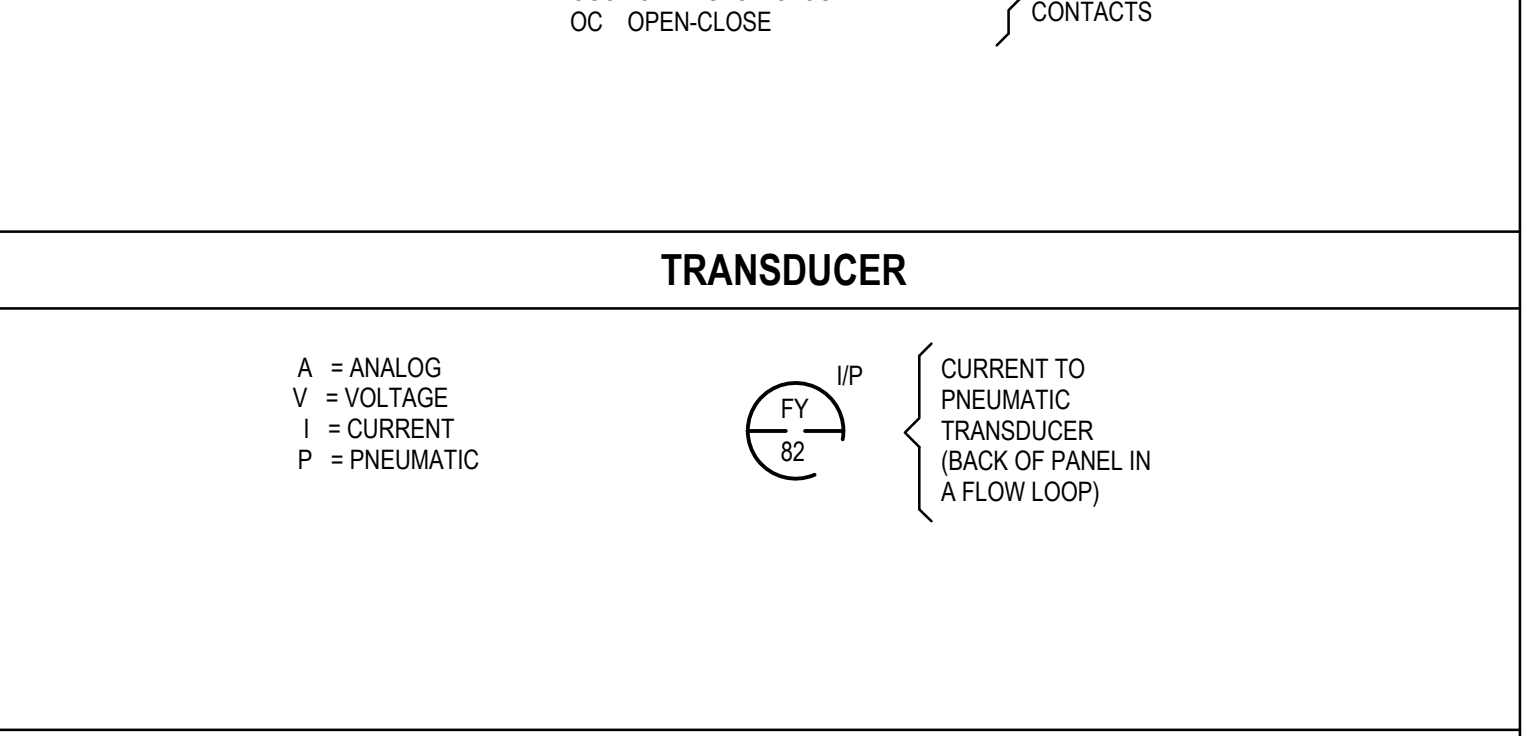


GENERAL NOTES

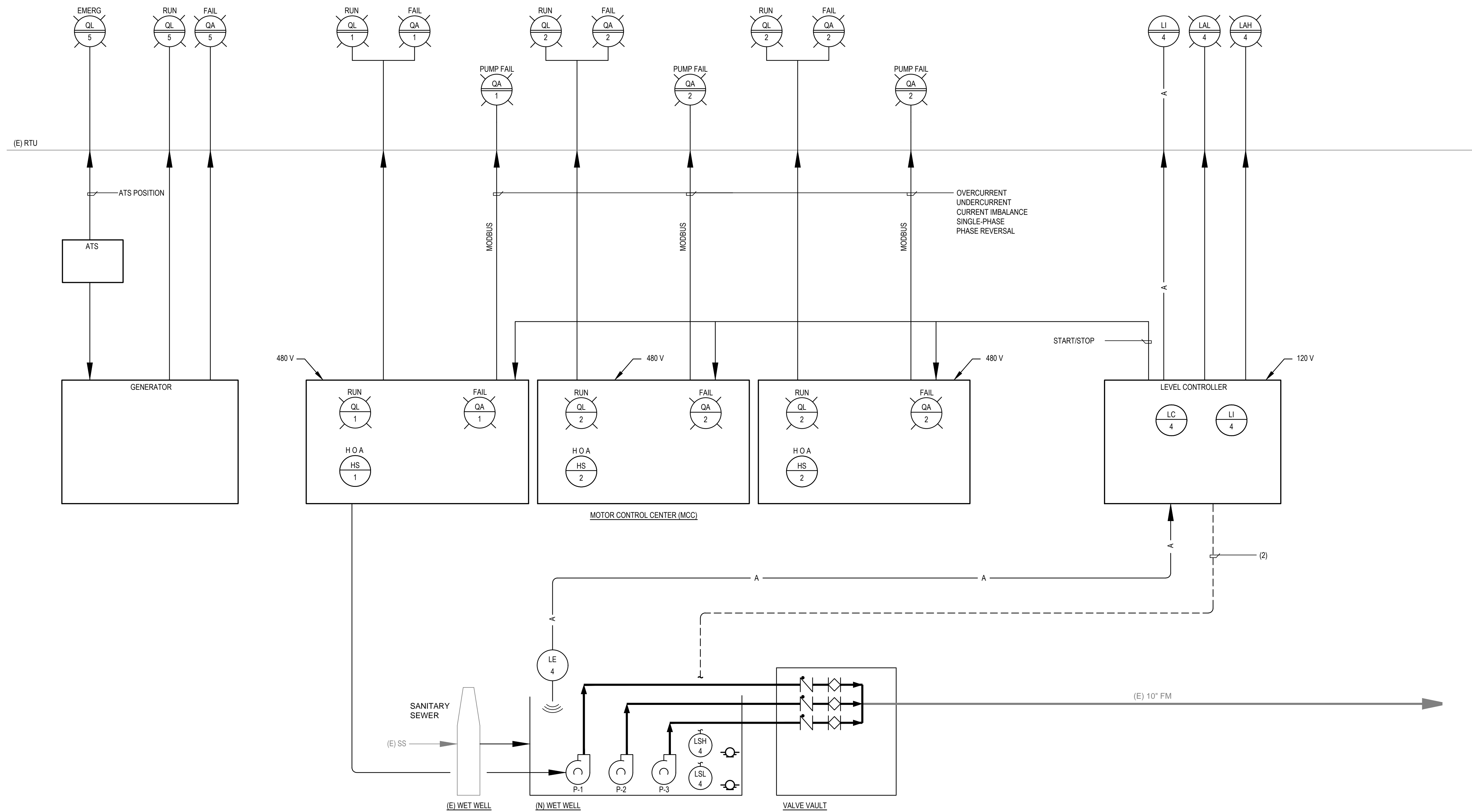
1. THIS IS A STANDARD LEGEND. THEREFORE, SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS.

INSTRUMENT SOCIETY OF AMERICA TABLE

LETTER	FIRST LETTER(S)		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USERS CHOICE	USERS CHOICE	USERS CHOICE
C	CONDUCTIVITY			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRAC)			
G	GAUGE (DIMENSION)		GLASS VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH, OPEN
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		INDICATING LIGHT		LOW, CLOSED
M	MOISTURE OR HUMIDITY	MOMENTARY			MIDDLE, INTERMEDIATE
N	USERS CHOICE		USERS CHOICE	USERS CHOICE	USERS CHOICE
O	USERS CHOICE		ORIFICE (RESTRICTION)		
P	PRESSURE (OR VACUUM)		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS		VALVE, DAMPER, LOUVER		
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED		UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE		RELAY, COMPUTE CONVERT		
Z	POSITION, DIMENSION			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	



No.	Issue	Drawn	Approved	Date	Bar is one inch on original size sheet 0 1"		GHD Inc. 655 Montgomery Street Suite 1010 San Francisco California 94111 USA T 1 415 283 4970 F 1 415 283 4980 W www.ghd.com	Drawn JJVL	Designer RPG	Client MARINA COAST WATER DISTRICT Project IMJIN LIFT STATION IMPROVEMENTS PROJECT Title PROCESS AND INSTRUMENTATION DIAGRAM ABBREVIATIONS AND LEGEND Project No. 11184901 Original Size ANSI D Sheet No. I-001	Sheet 19 of 20	
								Drafting Check PS	Design Check RPG			Date OCT 1 2019 Scale NONE
								Project Manager P SULLIVAN				
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Project Manager	P SULLIVAN	Date	OCT 1 2019
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Client	MARINA COAST WATER DISTRICT		
Project	IMJIN LIFT STATION IMPROVEMENTS PROJECT		
Title	PROCESS AND INSTRUMENTATION DIAGRAM		
Project No.	11184901		
Original Size	ANSI D		
Sheet No.	I-601		