

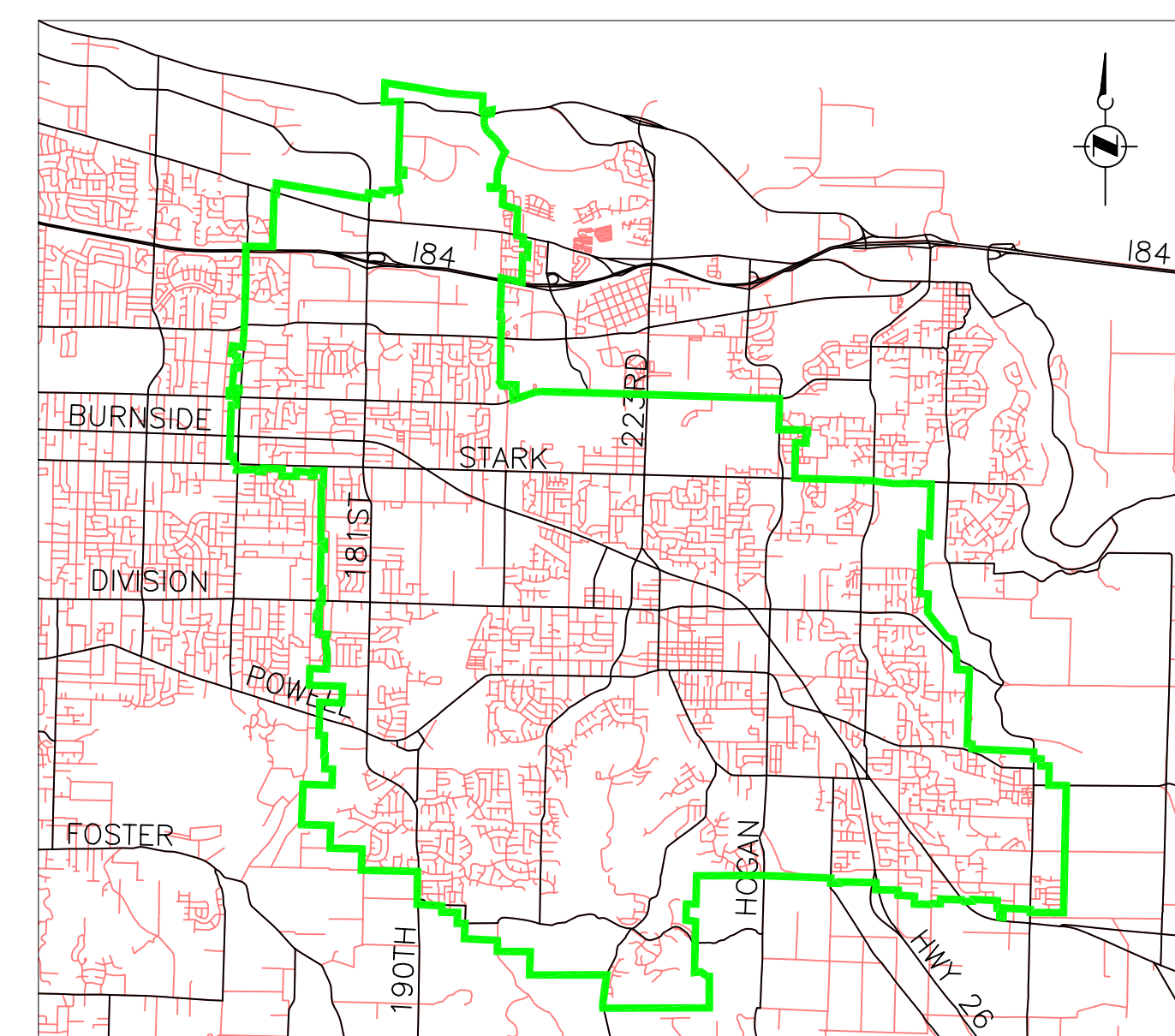
LOCATION MAP

NO SCALE

CONSTRUCTION DRAWINGS STANDARDS FOR SUBMERSIBLE SEWAGE PUMP STATIONS

FOR THE CITY OF GRESHAM, OREGON

PROJECT



VICINITY MAP

NO SCALE

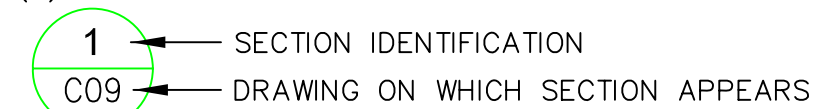
DRAWING REFERENCE

NOTE:

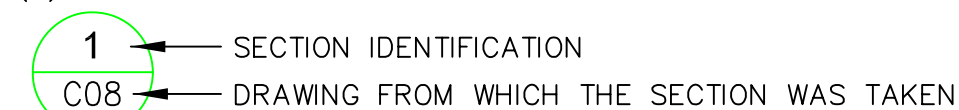
THE SYMBOLS LISTED ON THIS SHEET ARE TYPICAL SYMBOLS THAT MAY OR MAY NOT BE USED IN THIS SET OF PLANS. SPECIAL SYMBOLS WILL BE NOTED ON THE SHEETS THAT THEY APPLY TO.

1. DRAWINGS ARE CROSS REFERENCED IN THE FOLLOWING MANNER:

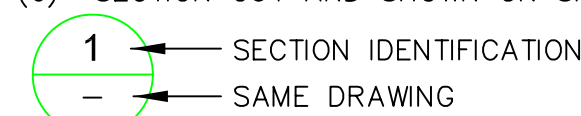
(a) SECTION CUT ON DRAWING C08:



(b) ON DRAWING C09 THE SECTION IS IDENTIFIED AS:



(c) SECTION CUT AND SHOWN ON SAME DRAWING:



2. PLANS, DETAILS AND ELEVATIONS ARE CROSS REFERENCED IN A SIMILAR MANNER.

3. SECTION REFERENCED IN TEXT, "SEE 5/C06" MEANS SEE SECTION 5 OR DETAIL 5 ON DRAWING NUMBER C06.

ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITIES NOTIFICATION CENTER IS 1-800-332-2344).

UTILTY CONTACTS	CONTACT	PHONE #
PGE	Ralph Goen	669-5278
General Telephone	Doug Wellman	667-9787
Paragon Cable	Tow Howe	667-9390 X-224
Gresham Water	Marty Wegner	618-2382
N.W. Natural Gas	Scott Palmer	226-4211
Mult. Co. Transportation Development		248-5050
On Call Locating		246-6699
Sewer(City of Gresham)	Art Hardie	618-2668
Storm(City of Gresham)	Clint Moshofsky	618-2637

GENERAL NOTES

- THESE ARE CONCEPTUAL SUBMERSIBLE PUMP STATION DRAWINGS INTENDED TO DEFINE THE CITY OF GRESHAM'S PREFERRED APPROACH TO DESIGN AND CONSTRUCTION. THE DRAWINGS ARE NOT DIRECTLY APPLICABLE TO ANY SPECIFIC PROJECT. THESE PLANS ARE INTENDED AS GUIDANCE TO A PROFESSIONAL ENGINEER WHO WILL BE RESPONSIBLE FOR THE DESIGN OF THE SPECIFIC PROJECT.
- DESIGN SHALL BE IN CONFORMANCE WITH THE CITY OF GRESHAM PUBLIC WORKS DESIGN STANDARDS AND THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY "OREGON STANDARDS FOR THE DESIGN AND CONSTRUCTION OF WASTEWATER PUMP STATIONS"
- THESE PLANS ARE GENERALLY APPLICABLE TO PUMP STATIONS WITH DESIGN FLOWS IN THE RANGE OF 200 GPM TO 1,500 GPM.
- CONTRACTOR SHALL PROTECT EXISTING MONUMENTS, BENCH MARKS, PROPERTY CORNERS, AND GOVERNMENT MONUMENTS.
- A GRADING AND DRAINAGE PERMIT IS REQUIRED FROM THE BUILDING DEPARTMENT PRIOR TO CONSTRUCTION PLAN APPROVAL.
- EROSION CONTROL MEASURES ARE REQUIRED OF THIS PROJECT. ALL WORK MUST COMPLY WITH CITY OF GRESHAM EROSION CONTROL PLANS TECHNICAL GUIDANCE HANDBOOK AND STORM WATER CONSERVATION ACTIVITIES PERMIT FROM DEQ.
- CONTRACTOR SHALL OBTAIN ALL PERMITS AND LICENSES PRIOR TO BEGINNING CONSTRUCTION.
- CONNECT ALL DRAIN TILE ENCOUNTERED DURING CONSTRUCTION TO PUBLIC STORM DRAIN.

ABBREVIATIONS

AC	ASPHALTIC CONCRETE	PL	PROPERTY LINE
AGG	AGGREGATE	PSI	POUNDS PER SQUARE INCH
CB	CATCHBASIN	PVC	POLYVINYL CHLORIDE
CL OR C	CENTERLINE	ROW	RIGHT OF WAY
CL V	CLASS V CONCRETE PIPE	RT	RIGHT
DI	DUCTILE IRON	SD	STORM DRAIN
DIA	DIAMETER	ST	STREET
DWG	DRAWING	STA	STATION
EL OR ELEV	ELEVATION	T	TELEPHONE
EOP	EDGE OF PAVEMENT	TC	TOP OF CURB
EXIST	EXISTING	TYP	TYPICAL
FH	FIRE HYDRANT	W/	WITH
IE	INVERT ELEVATION	W	WATER
L	LENGTH		
LT	LEFT		
LF	LINEAL FEET		
MAX	MAXIMUM		
MH	MANHOLE		
MIN	MINIMUM		
PNT	POINT		

DRAWING INDEX

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE
1	G01	COVER SHEET
2	C01	CIVIL SITE PLAN AND DETAILS
3	C02	CIVIL AND STRUCTURAL DETAILS
4	S01	STRUCTURAL PLANS AND SECTIONS
5	M01	MECHANICAL PLANS AND SECTIONS
6	M02	MECHANICAL DETAILS
7	E01	ELECTRICAL SITE PLAN AND DETAILS
8	E02	ELECTRICAL PLAN, SECTION AND DETAILS
9	E03	ELECTRICAL CONTROL SCHEMATIC
10	E04	ELECTRICAL CONTROL SCHEMATIC
11	E05	ELECTRICAL CONTROL SCHEMATIC

CHECKED BY: _____

PROJECT COORDINATOR _____ DATE: _____

APPROVED BY: _____

DEVELOPMENT ENGINEER _____ DATE: _____

These plans are approved for construction to the revisions as noted. All work must be in conformance with City of Gresham Standards. Approval is only for conformance to City of Gresham Standards and does not relieve the Engineer of record of responsibility for the design.

Tetra Tech/KCM, Inc.
7080 SW Fir Loop
Portland, Oregon 97223
503-684-9097 Fax: 503-598-0583

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PROJECT NAME: **STANDARD SEWAGE PUMP STATION COVER SHEET**

SHEET NAME: _____
 LOCATION: _____

DATE	NO.	REVISION	BY

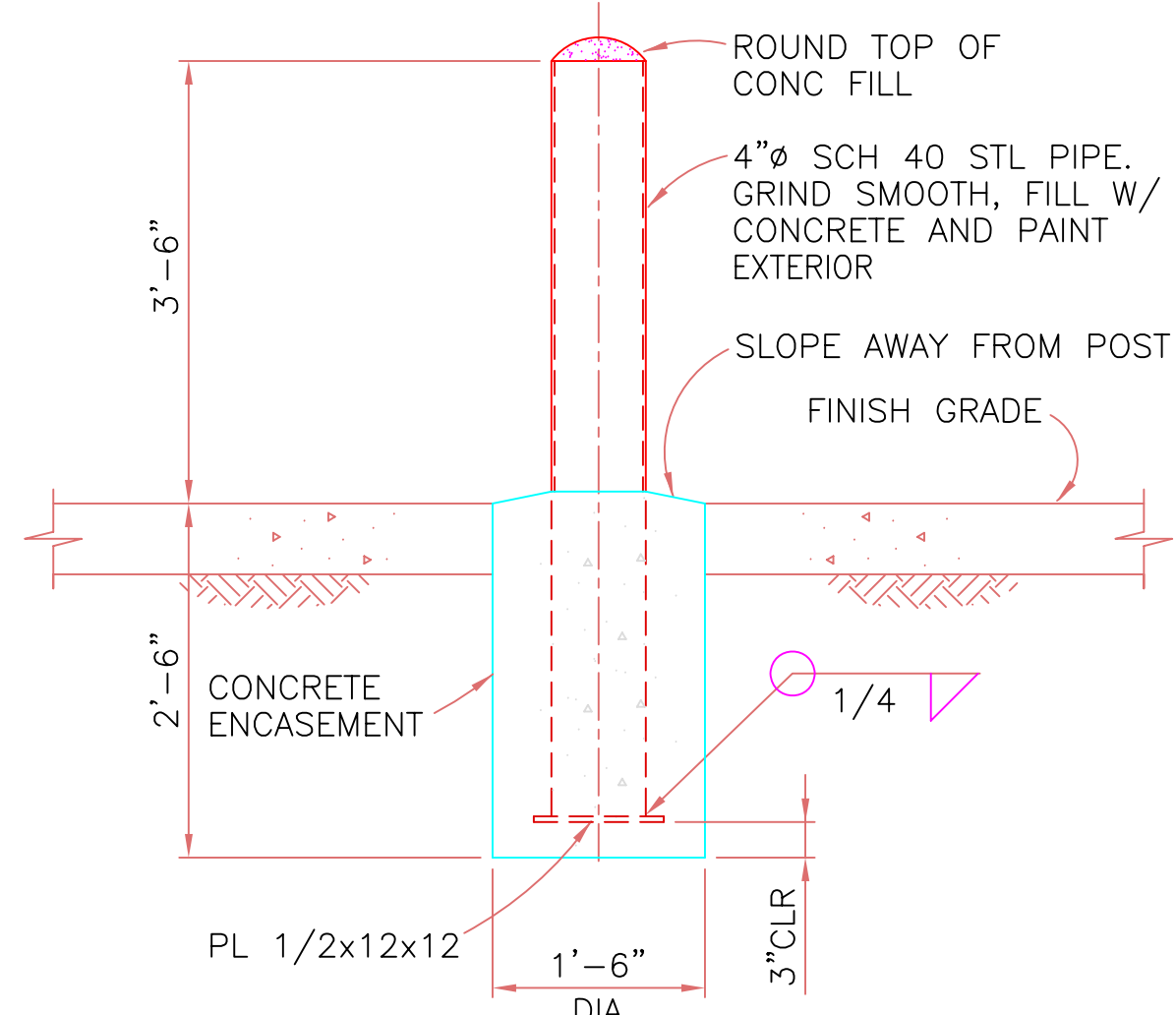
VERT. SCALE: _____
 HORIZ. SCALE: _____
 DATE: AUGUST 2005
 FILE: G01.dwg
 LEGAL RANGE: _____
 SECTION TWP. RANGE: _____

DESIGNED: _____
 DRAWN: _____
 CHECKED: _____
 APPROVED: _____
 SHEET OF: 1/11
 GO1

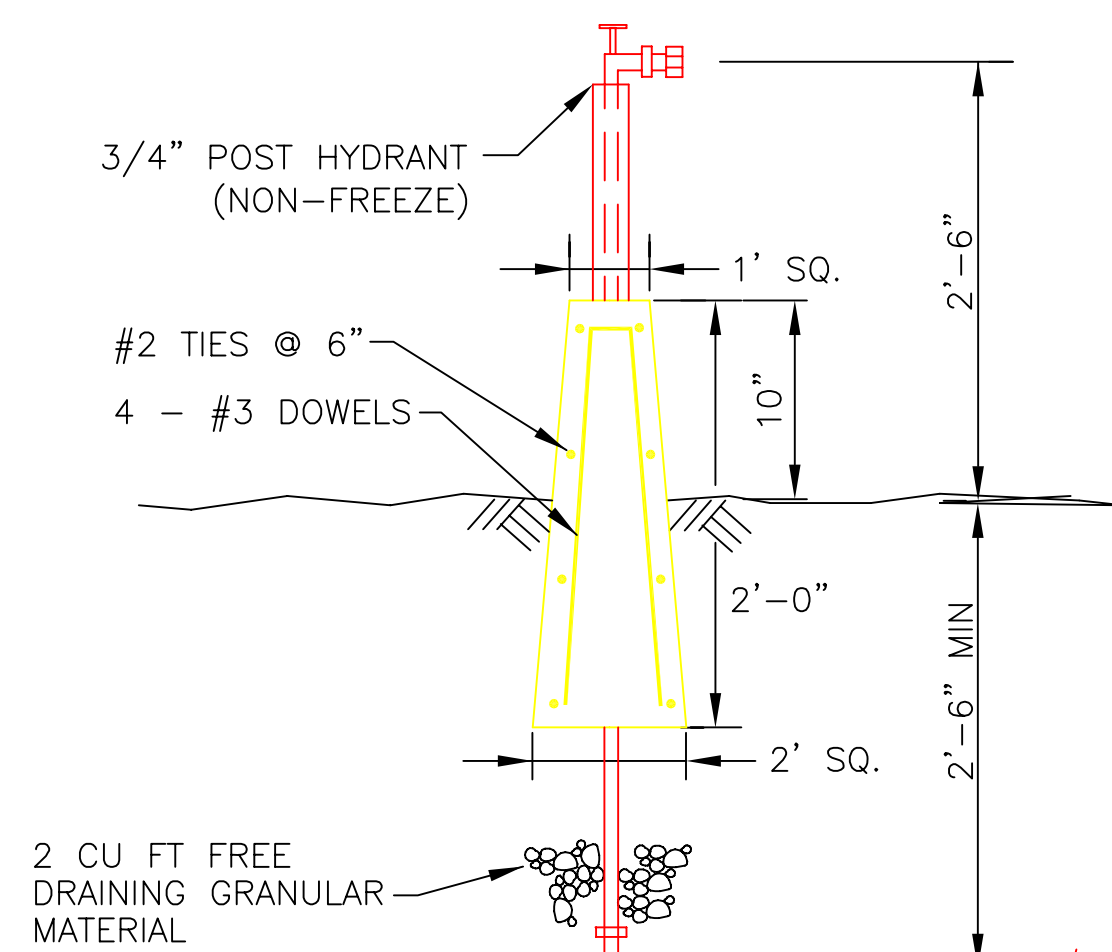
PROJECT NUMBER: _____
 DATE/TIME/FILENAME: 08/08/05 14:30 G01.dwg

PROJECT NAME: _____

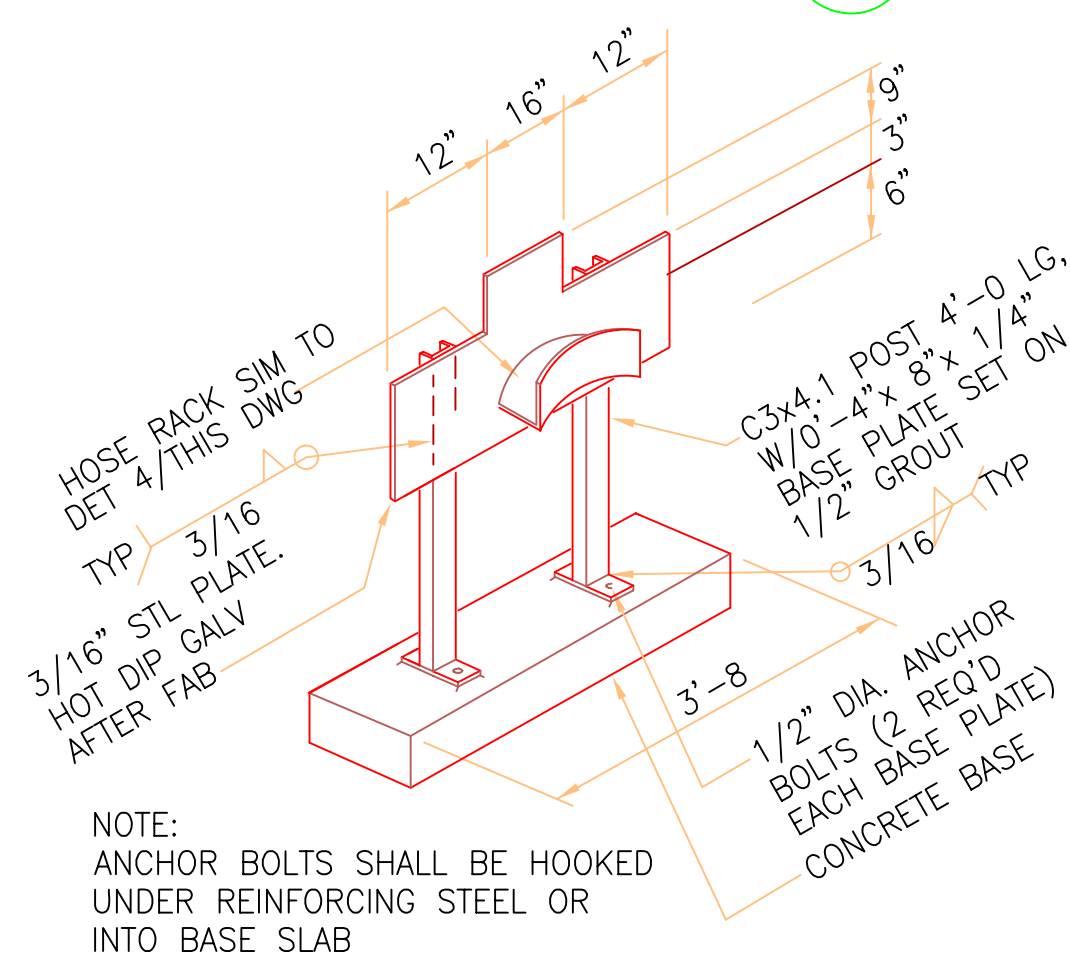
CITY OF GRESHAM
 DEPARTMENT OF ENVIRONMENTAL SERVICES
 1333 N.W. EASTMAN PARKWAY
 GRESHAM, OREGON 97030-3813
 (503) 618-2525



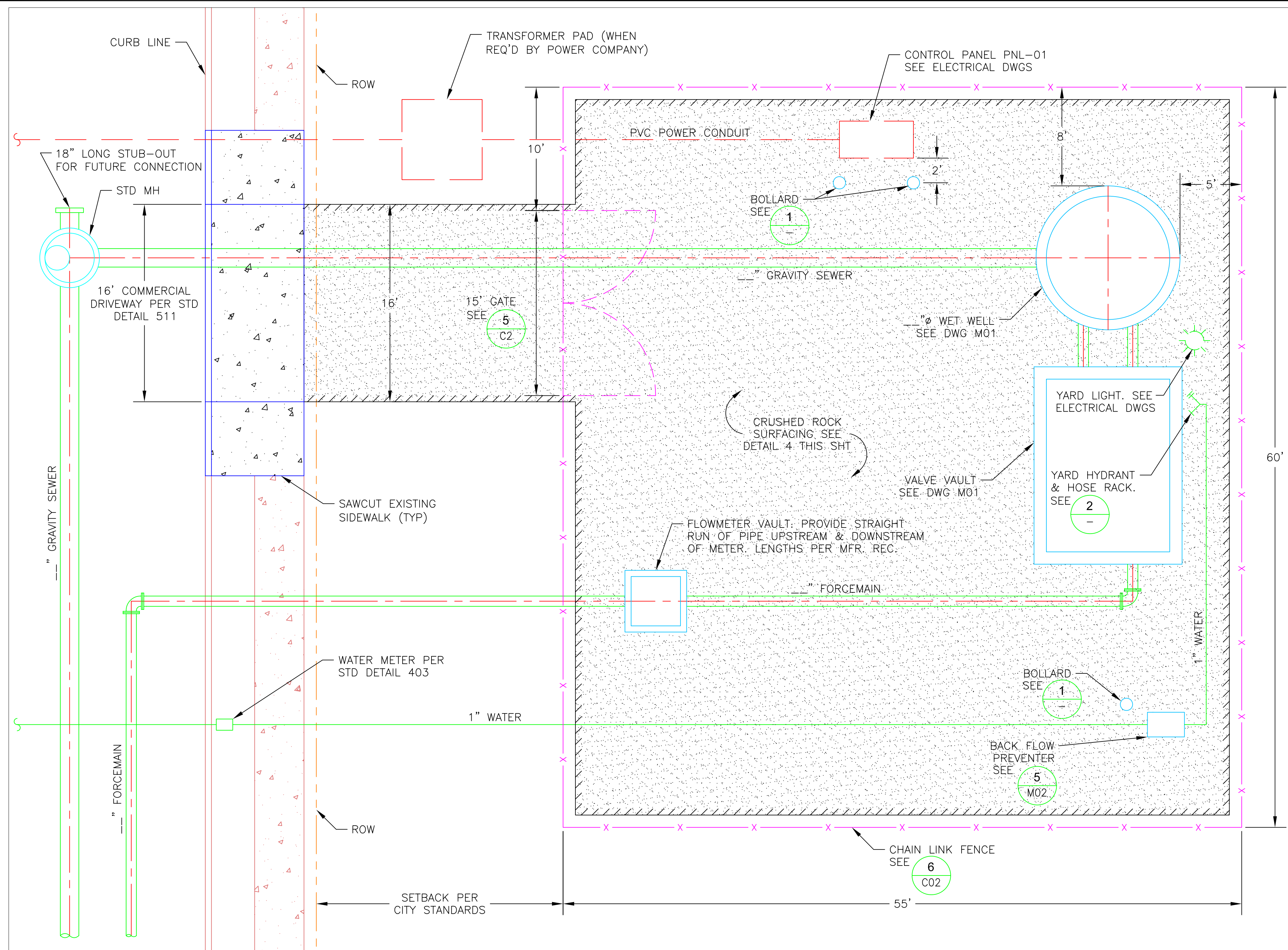
TYP BOLLARD DETAIL
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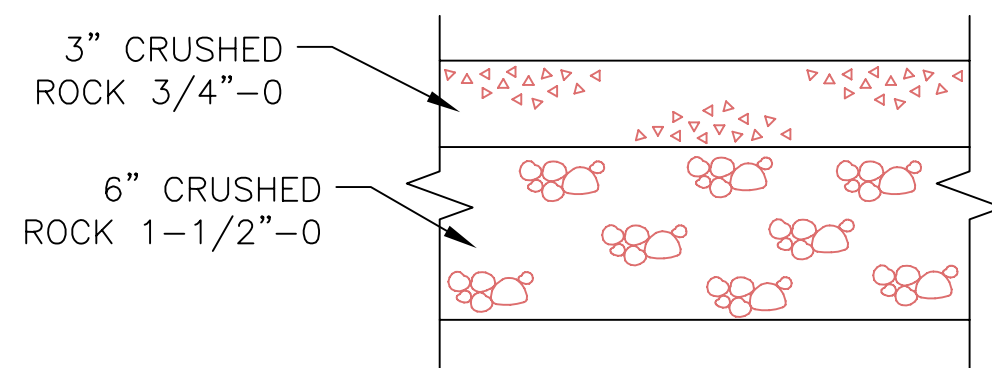
OUTDOOR HOSE BIBB DETAIL
NO SCALE



POST MOUNTED HOSE RACK DETAIL
NO SCALE



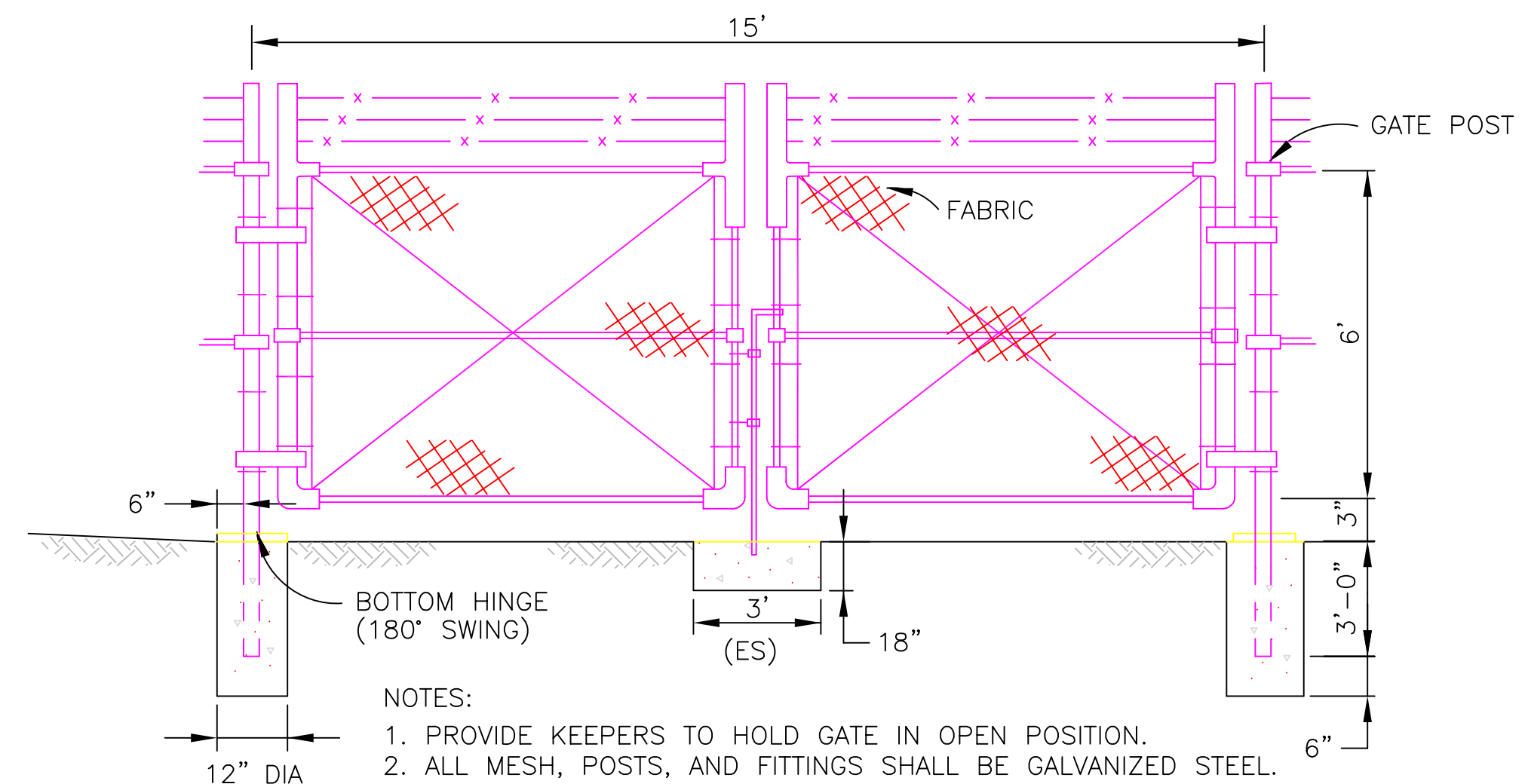
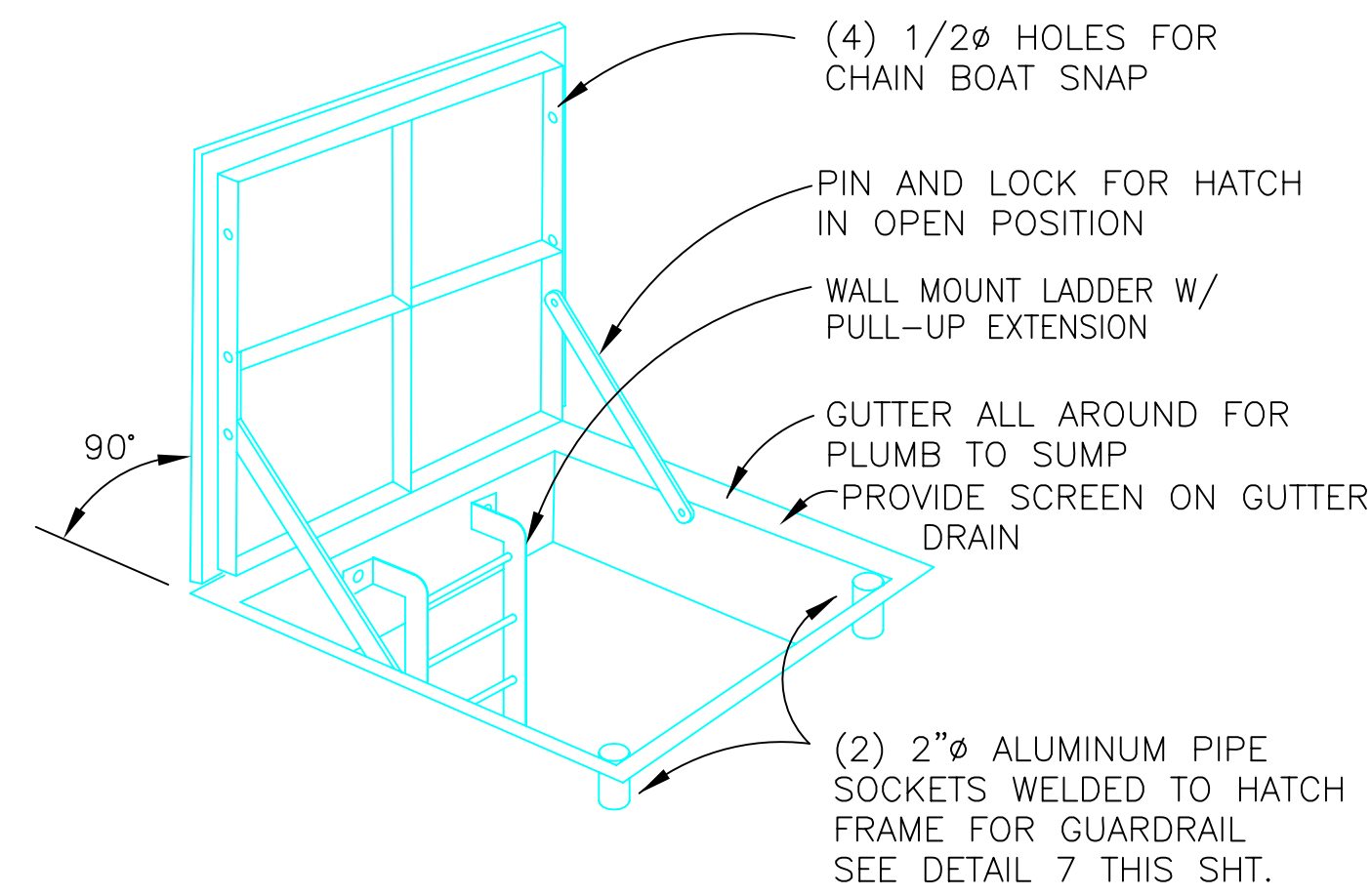
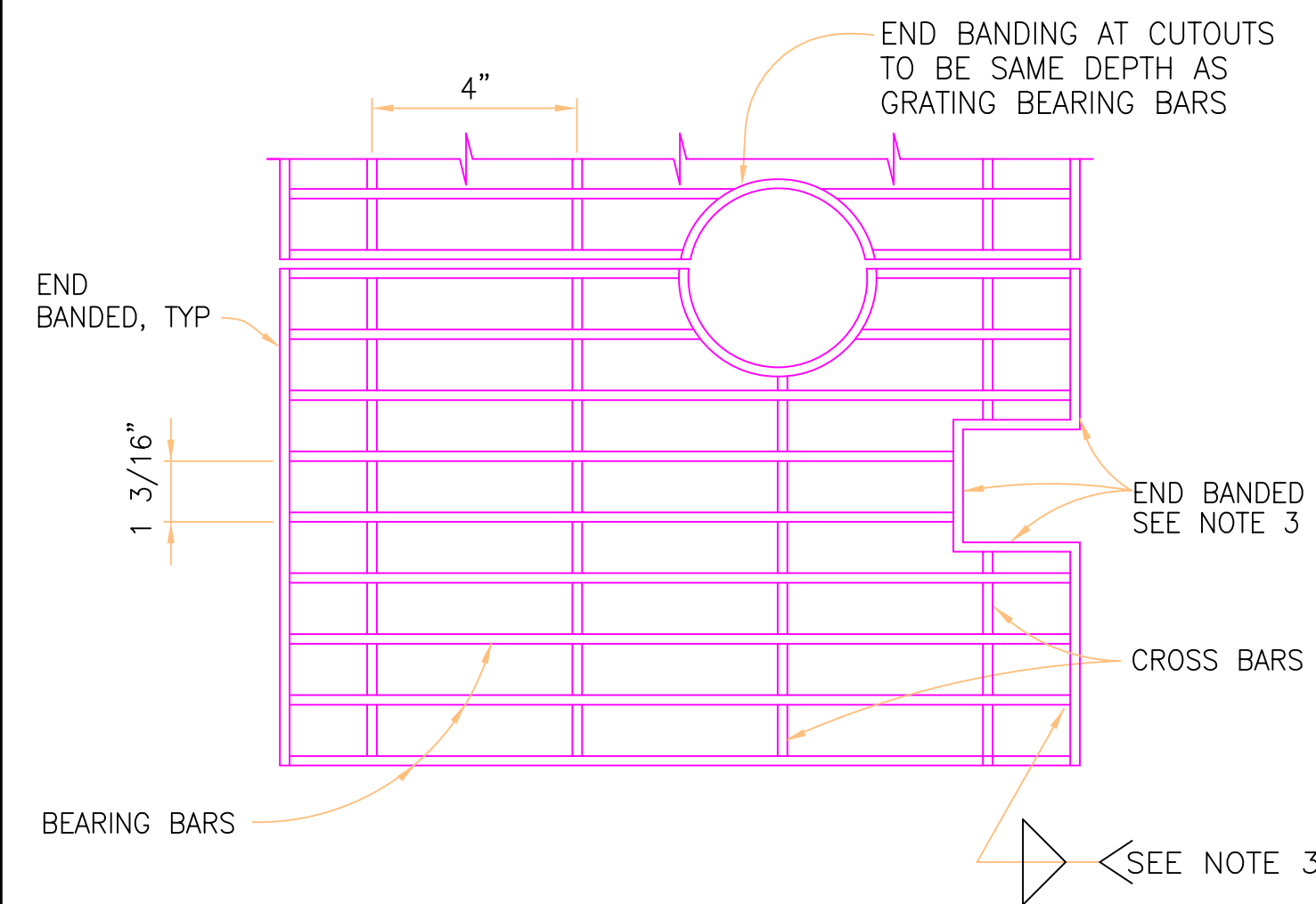
TYPICAL SITE PLAN
1"=5'



ACCESS ROAD AND SITE SURFACING SECTION
NO SCALE

BY	REVISION	DATE	NO.
DESIGNED:	DRAWN:	CHECKED:	APPROVED:
SCALE:	DATE:	FILE:	LEGAL:
HORIZ:	AUGUST 2005	C01.dwg	TWP. RANGE
VERT:			SECTION
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PROJECT NAME: STANDARD SEWAGE PUMP STATION			
CIVIL SITE PLAN AND DETAILS			
SHEET NAME:			
LOCATION:			
PROJECT NUMBER:			

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DEPARTMENT OF ENVIRONMENTAL SERVICES
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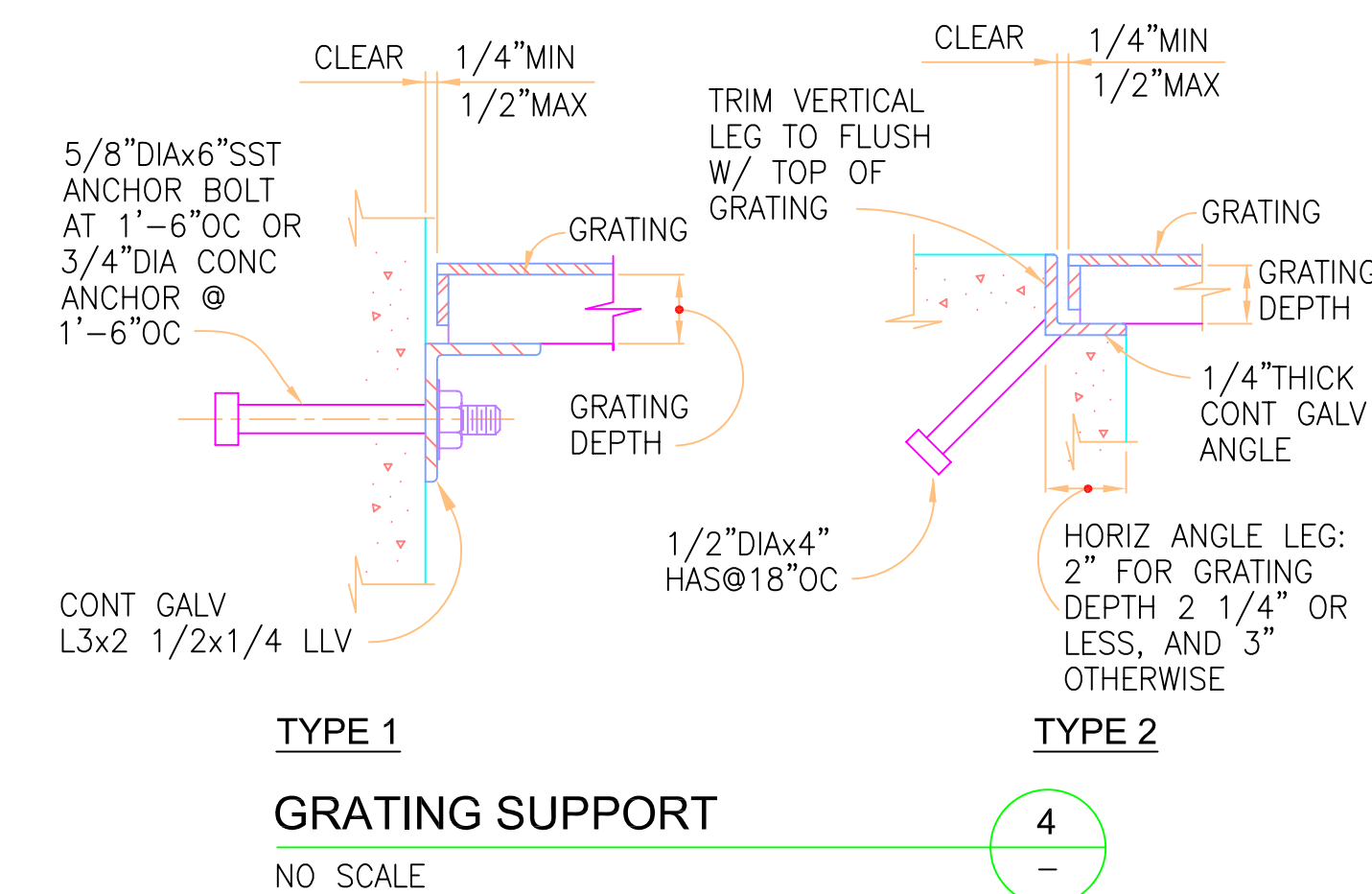


GRATING SCHEDULE (100 PSF)			
MAXIMUM SPAN	BEARING BAR SIZE	MAXIMUM SPAN	BEARING BAR SIZE
2'-0"	3/4"x3/16"	5'-0"	1 3/4"x3/16"
3'-0"	1"x3/16"	5'-6"	2"x3/16"
3'-6"	1 1/4"x3/16"	6'-6"	2 1/4"x3/16"
4'-6"	1 1/2"x3/16"	7'-0"	2 1/2"x3/16"

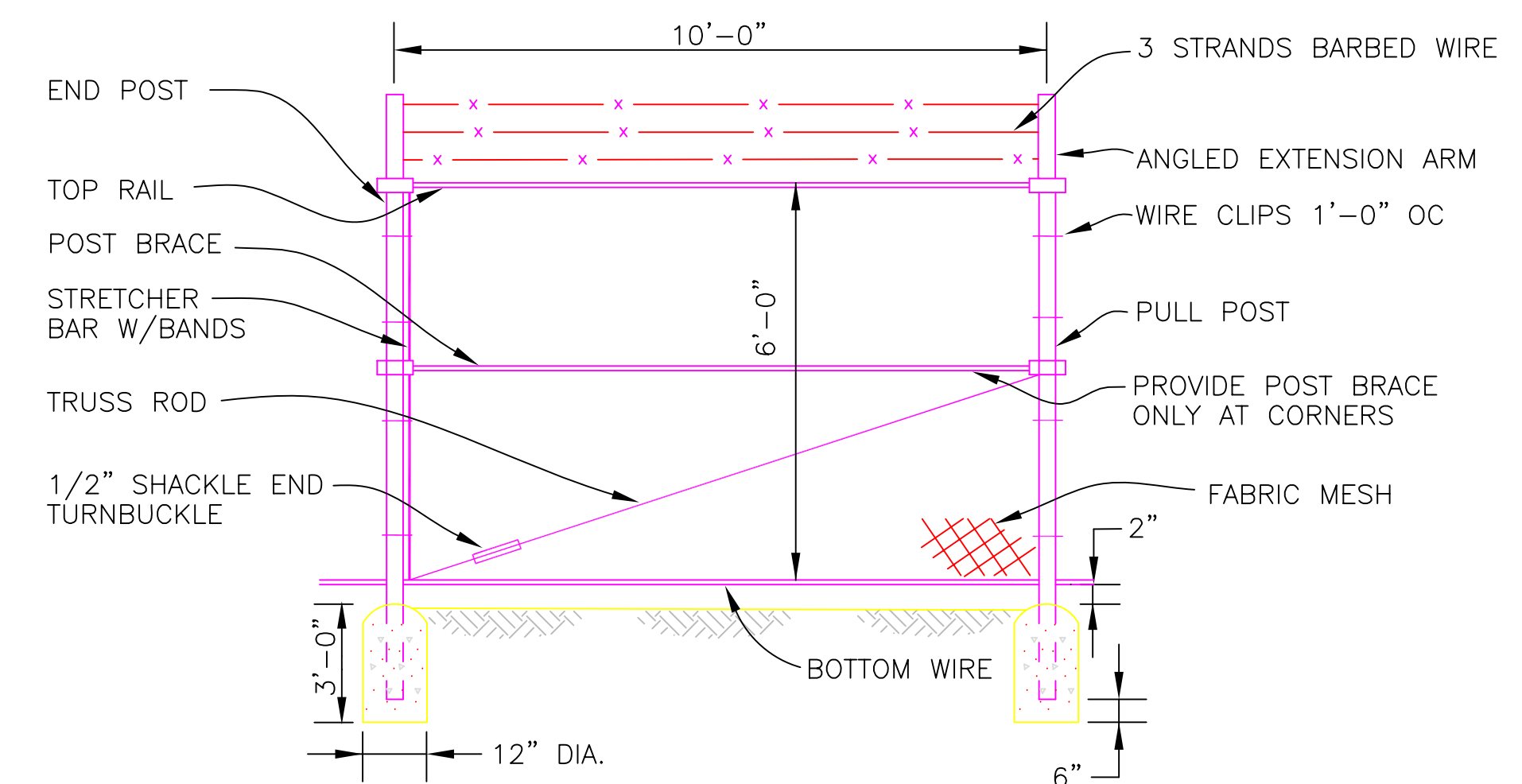
- NOTE:
- GRATING SHALL CONFORM TO METAL BAR GRATING MANUAL OF N.A.A.M.M. MARK P-19-4.
 - GRATING SHALL BE SWAGE LOCKED ALUMINUM.
 - END BAND SHALL BE 1/4" LESS THAN GRATING DEPTH AND FLUSH WITH TOP OF GRATING. WELD ALL BEARING AND CROSS BARS TO END BANDS.
 - PROVIDE 4 SS GRATING HOLD DOWN CLIPS AT EACH CORNER, TYPICAL EACH PIECE.

ALUMINUM GRATING 1
NO SCALE

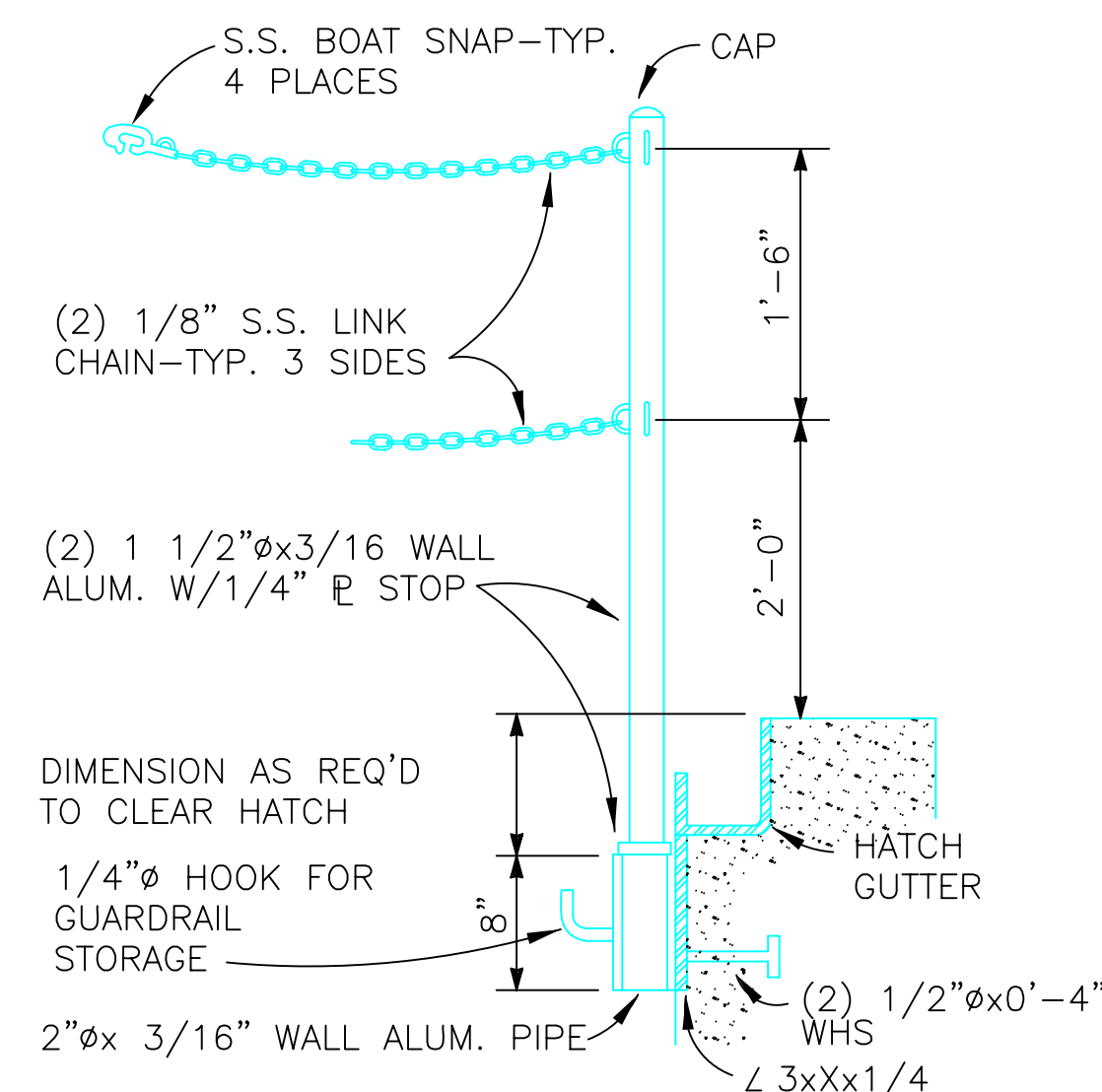
HATCH DETAIL 3
NO SCALE



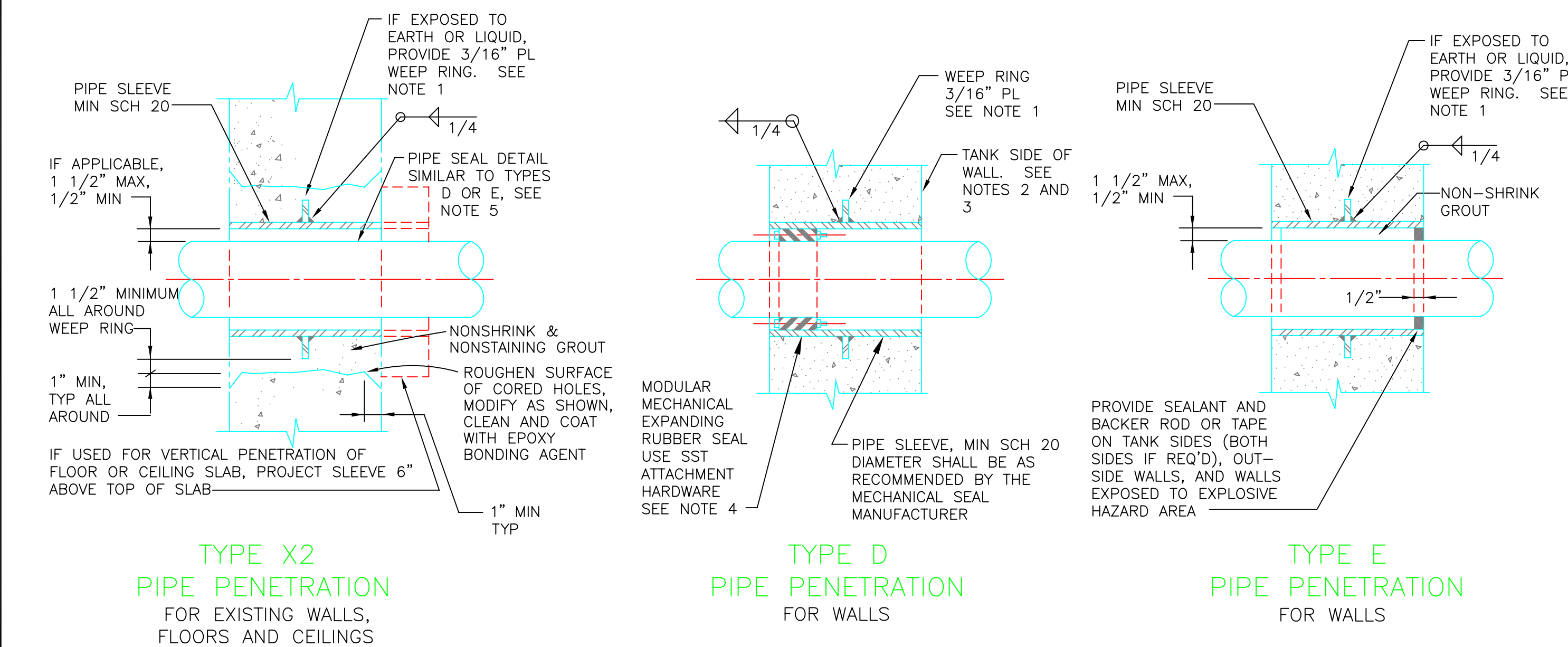
SWING GATE DETAIL 5
NO SCALE



TYP FENCING DETAIL 6
NO SCALE



GUARDRAIL DETAIL 7
NO SCALE



- WEEP RINGS SHALL HAVE A MINIMUM DIAMETER 3 INCHES GREATER THAN THE OUTSIDE PIPE DIAMETER.
- "TANK SIDE OF WALL" SHALL MEAN SIDE OF WALL NORMALLY EXPOSED TO LIQUID, EARTH, OR OUTSIDE ATMOSPHERE.
- SEAL WITH MASTIC SEALANT WHERE WALL IS EXPOSED TO LIQUID, EARTH OR AN EXPLOSIVE HAZARD AREA.
- WHEN MODULAR MECHANICAL EXPANDING RUBBER SEAL IS USED ON COPPER PIPE, PROVIDE GLASS REINFORCED NYLON PRESSURE PLATES IN PLACE OF STANDARD STEEL UNITS.
- TYPE X2 PENETRATION FOR EXISTING STRUCTURES SHOWS SLEEVE INSTALLATION DETAIL ONLY. USE TYPE D OR E DETAILS FOR ACTUAL PENETRATION.

PIPE PENETRATIONS 2
NO SCALE

DATE	REVISION	BY

SCALE	DATE	FILE	SECTION	TWP.	RANGE
	AUGUST 2005	C02.dwg			

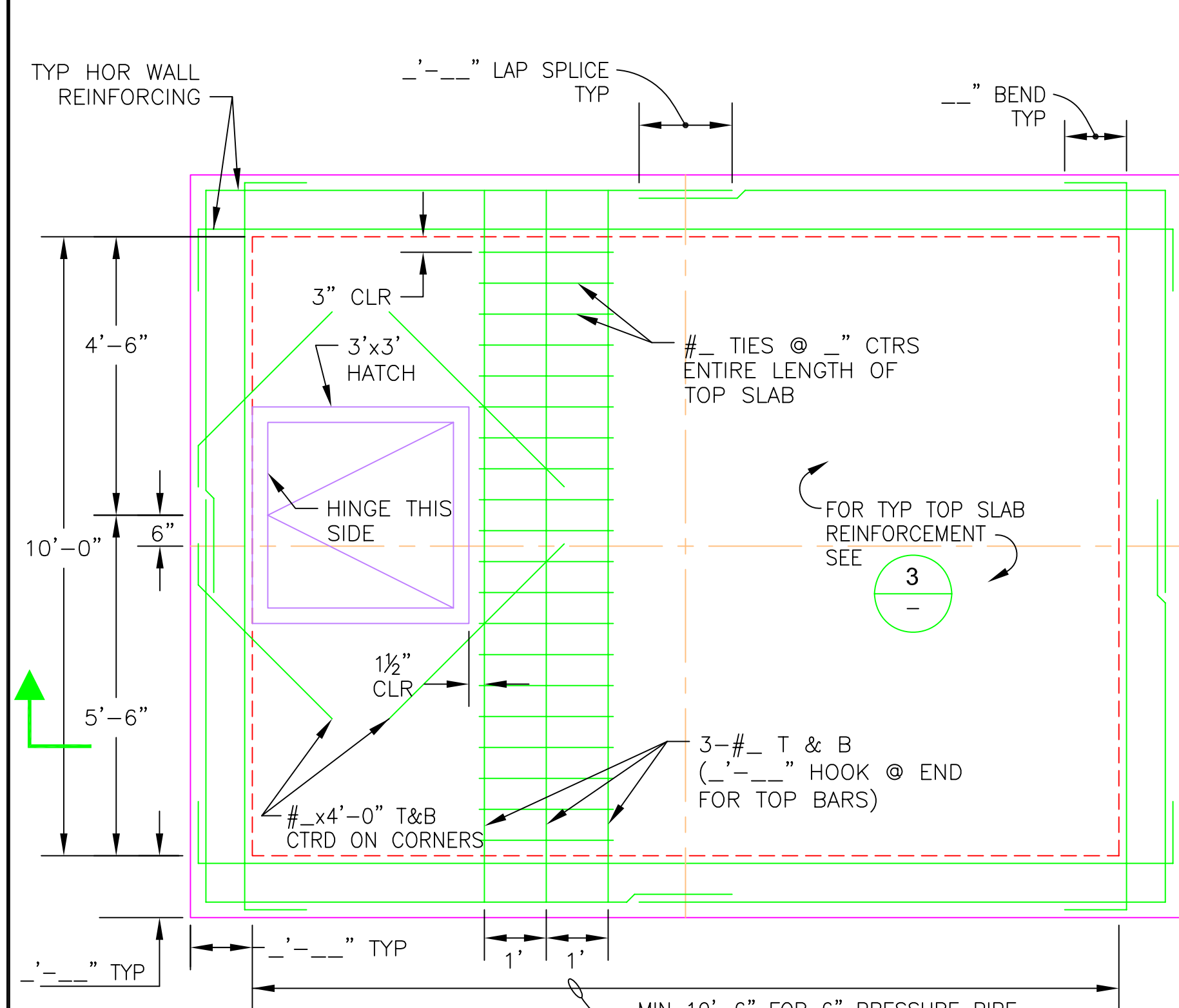
VER: HORIZ: SCALE: DATE: FILE: SECTION: TWP: RANGE: LEGAL: PROJECT NAME: STANDARD SEWAGE PUMP STATION CIVIL AND STRUCTURAL DETAILS SHEET NAME: LOCATION: PROJECT NUMBER: PROJECT NAME: 08/08/05 10:20 C02.dwg

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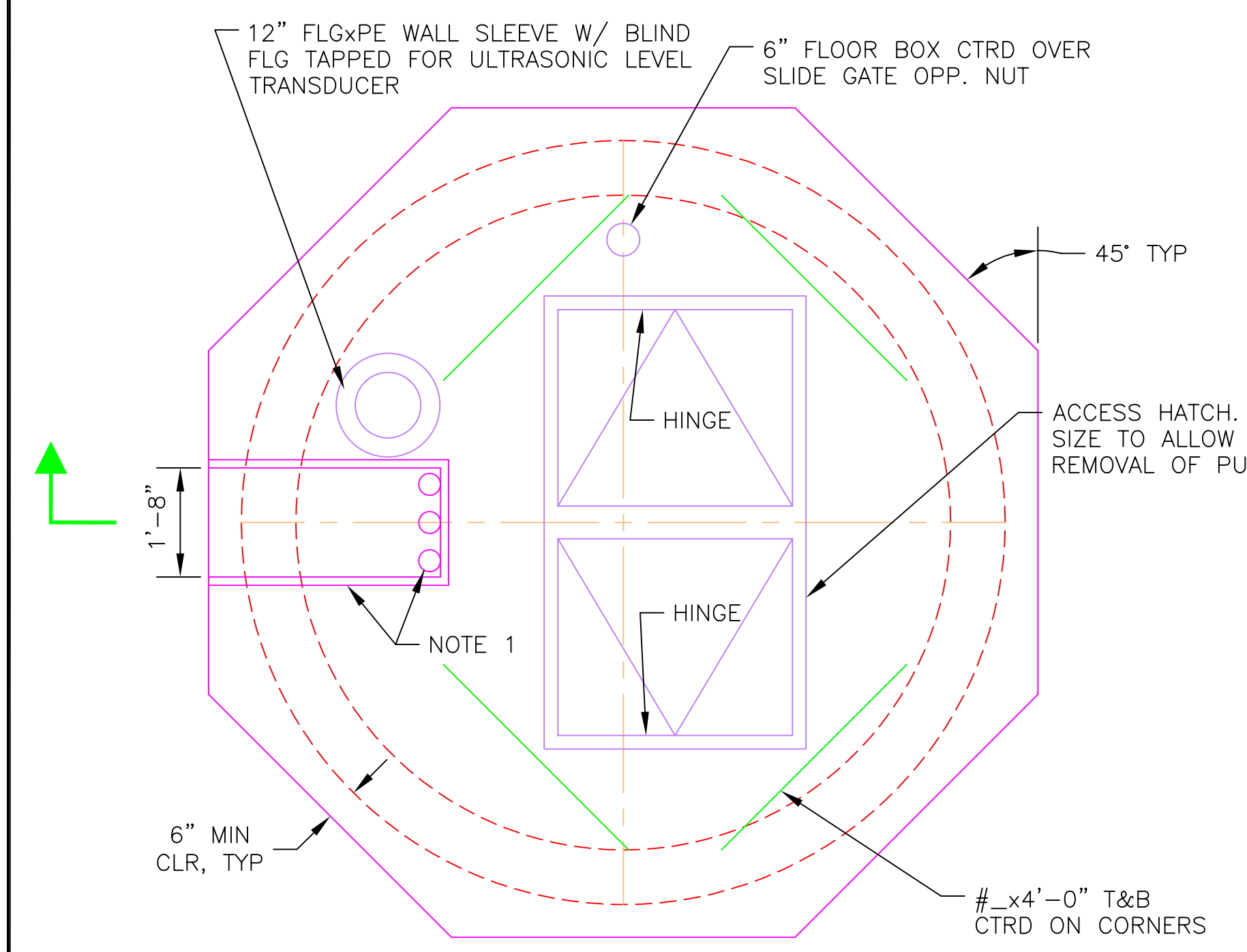
Tetra Tech/KCM, Inc.
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Portland, Oregon 97223
503-684-9097 Fax: 503-598-0583





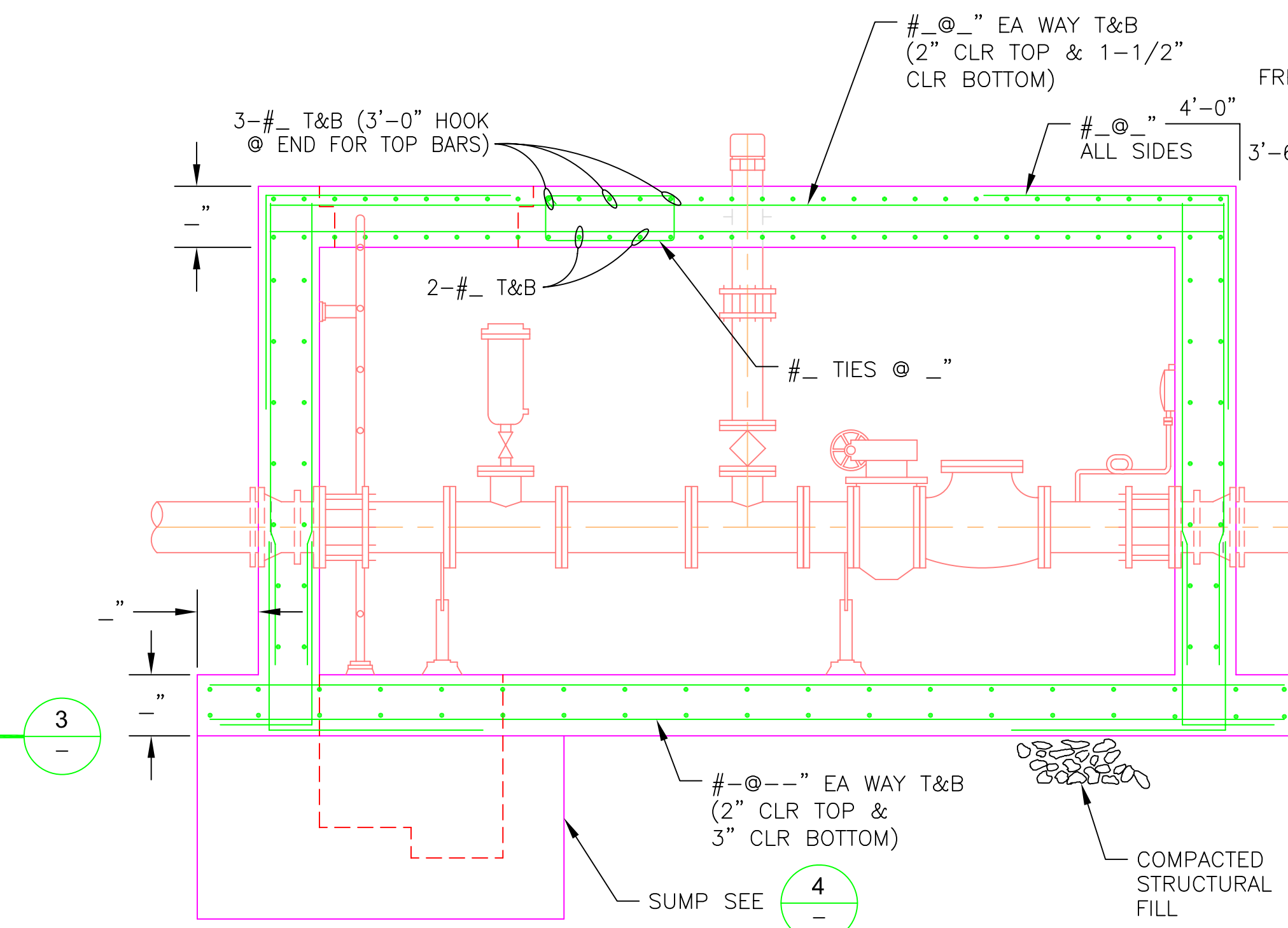
**TOP PLAN:
VALVE VAULT**
1/2" = 1'-0"

1



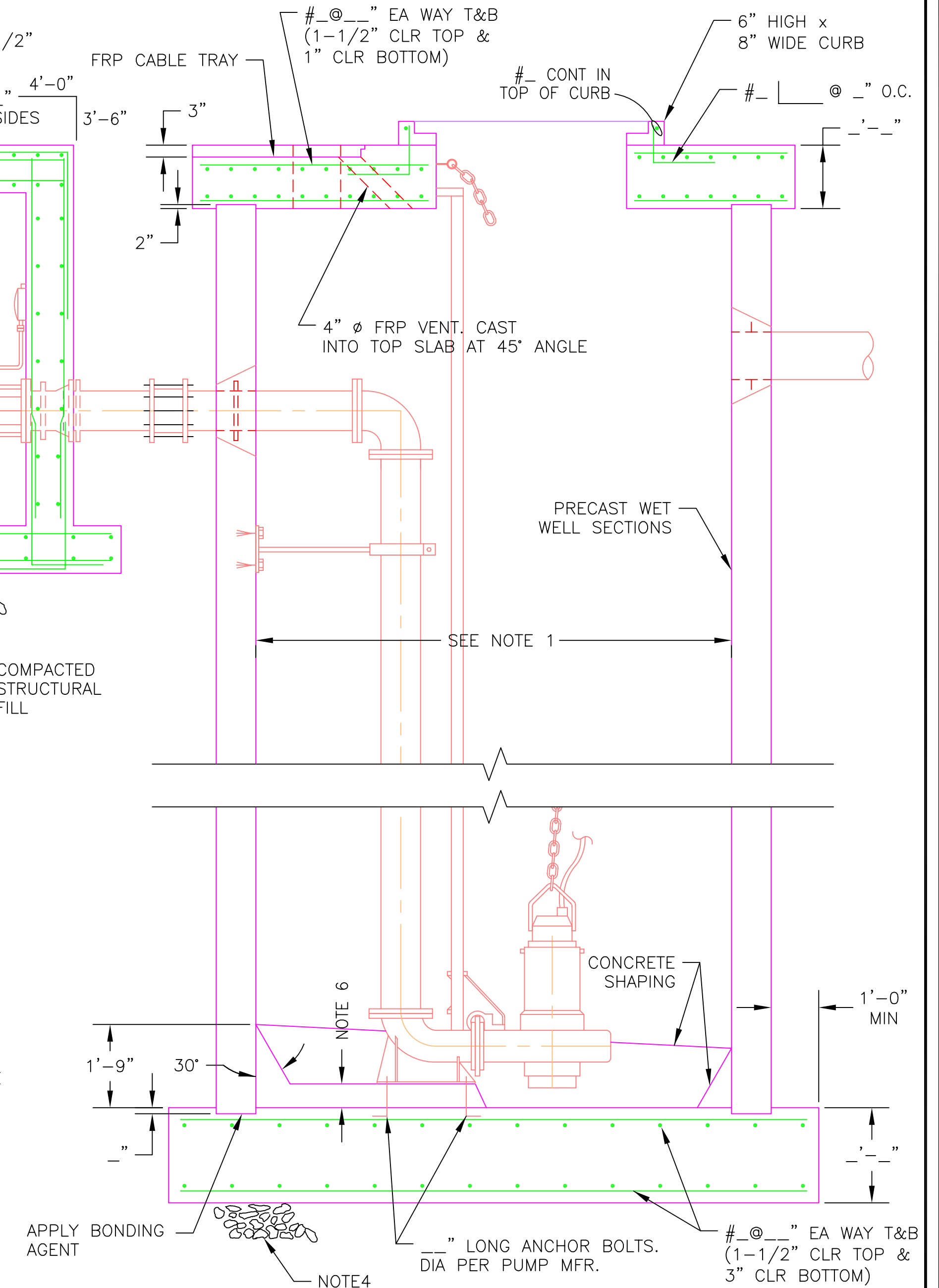
**TOP PLAN:
WET WELL**
1/2" = 1'-0"

2



**SECTION:
WET WELL AND VALVE VAULT**
1/2" = 1'-0"

3



**SECTION:
VALVE VAULT SUMP**
1/2" = 1'-0"

4

NOTES:

1. SIZE WET WELL SO MAXIMUM PUMP STARTS PER HOUR ARE PER MFR RECOMMENDATION. HOWEVER, IN NO CASE SHALL THE PUMP STARTS EXCEED 10 TIMES PER HOUR, REGARDLESS OF MFR RECOMMENDATION.
2. UNTIL BACKFILL IS PLACED AROUND THE WET WELL, THE GROUND WATER ELEVATION SHALL BE MAINTAINED BELOW AN ELEVATION 15 FEET ABOVE THE BOTTOM SLAB, OR WATER SHALL BE PUMPED INTO THE WET WELL.
3. WET WELL TOP AND BOTTOM SLABS ARE DESIGNED FOR A MAXIMUM WET WELL DIAMETER OF 10'-0" AND MAXIMUM DEPTH OF 30'-0"
4. FILL UNDER WET WELL STRUCTURE SHALL DEPEND ON BASE CONDITIONS ENCOUNTERED DURING EXCAVATION. AT A MINIMUM, PROVIDE 24" OF COMPACTED ROUND DRAIN ROCK.
5. MINIMUM INTERIOR HEIGHT OF VALVE VAULT IS 7'-0"
6. DEPTH OF CONCRETE PAD PER MFR RECOMMENDATION.
7. DIMENSIONS LEFT BLANK TO BE DETERMINED BY DESIGN ENGINEER BASED ON SITE SPECIFIC LOADING CONDITIONS.

DATE	REVISION	BY

DESIGNED:	DRAWN:	CHECKED:	APPROVED:

SCALE:	DATE:	FILE:

SECTION:	TWP.	RANGE:

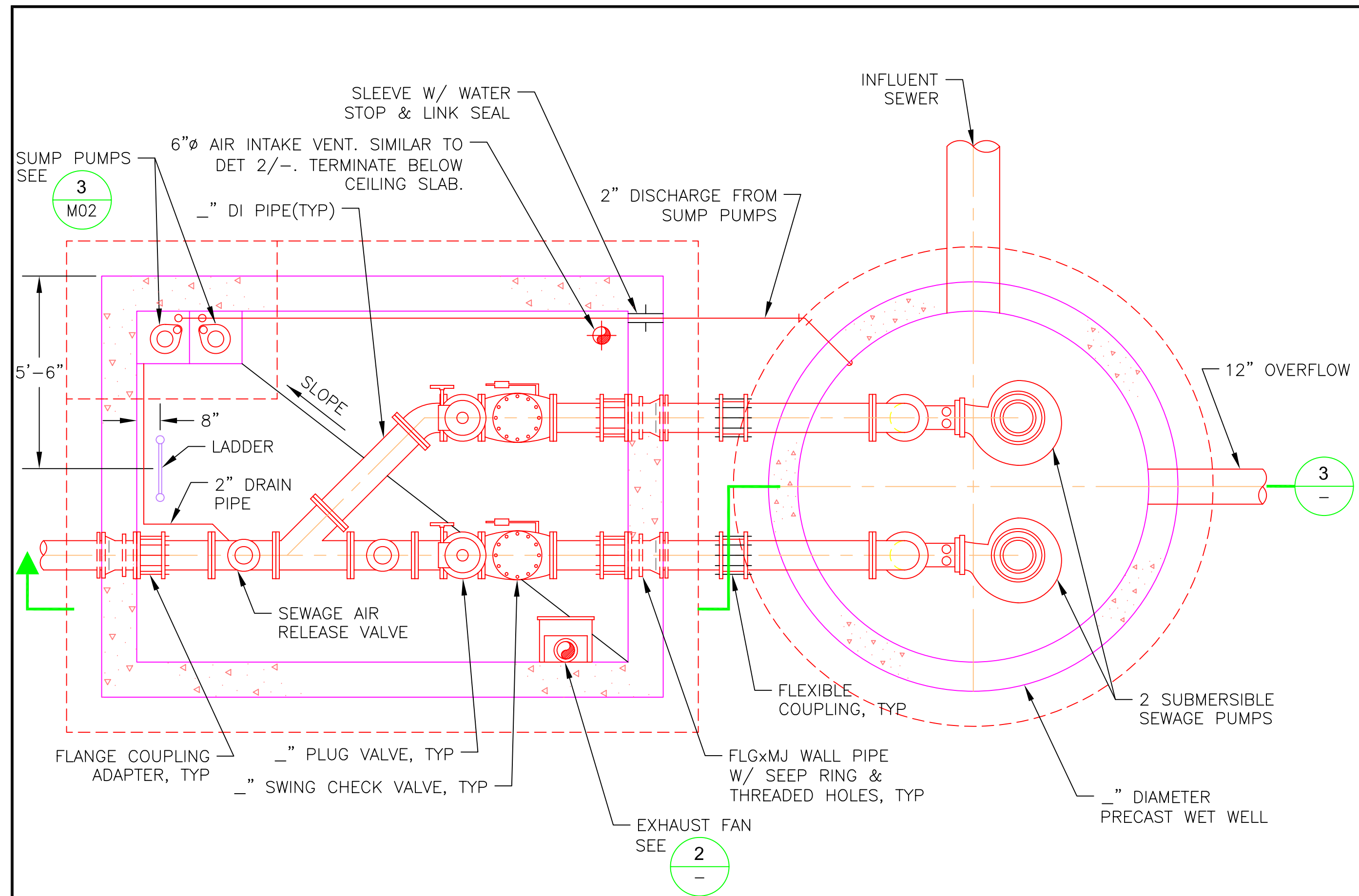
PROJECT NAME: STANDARD SEWAGE PUMP STATION
 SHEET NAME: STRUCTURAL PLANS AND SECTIONS
 LOCATION:

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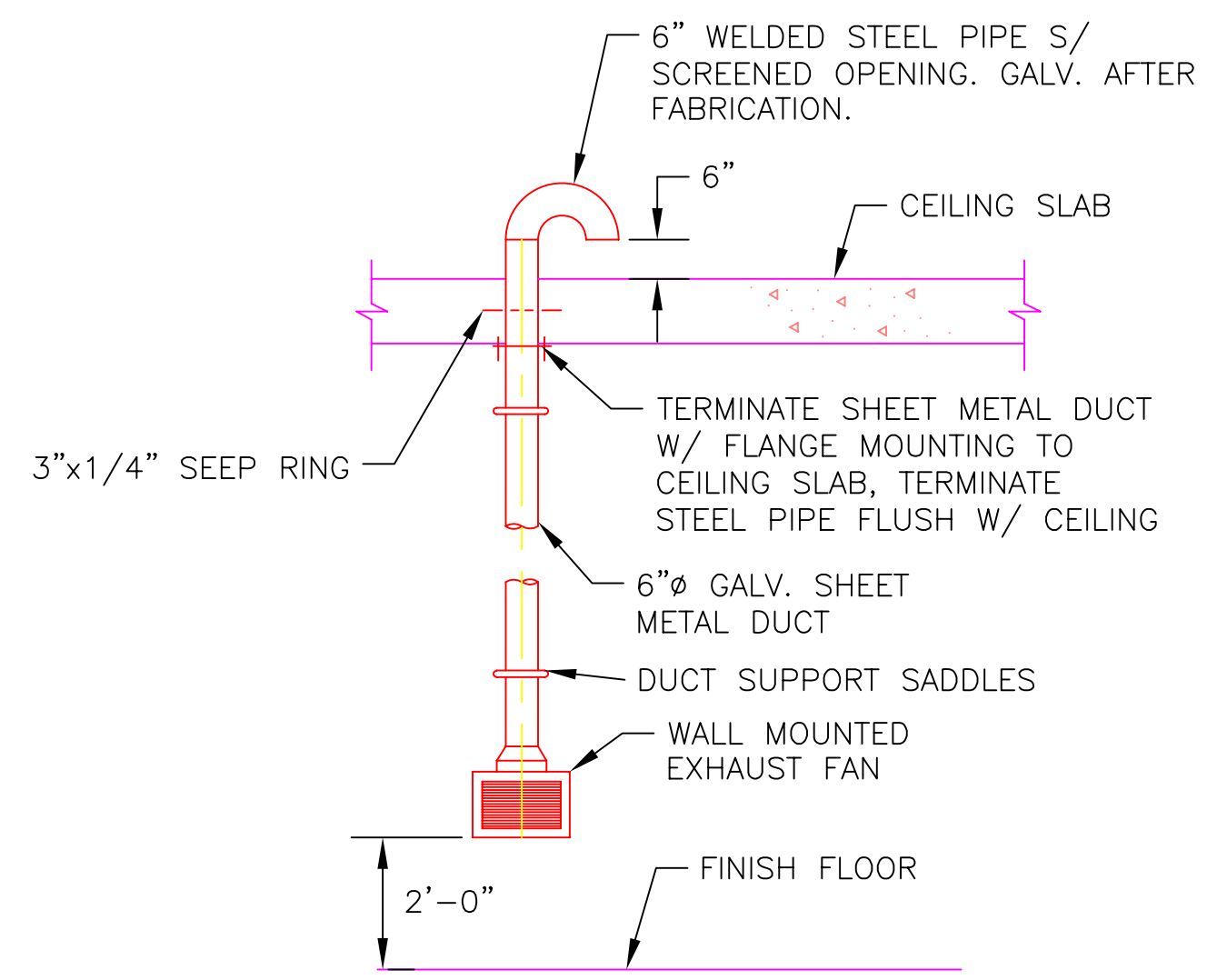
Tetra Tech/KCM, Inc.
 7080 SW Fir Loop
 Portland, Oregon 97223
 503-684-9097 Fax: 503-598-0583

PROJECT NUMBER:

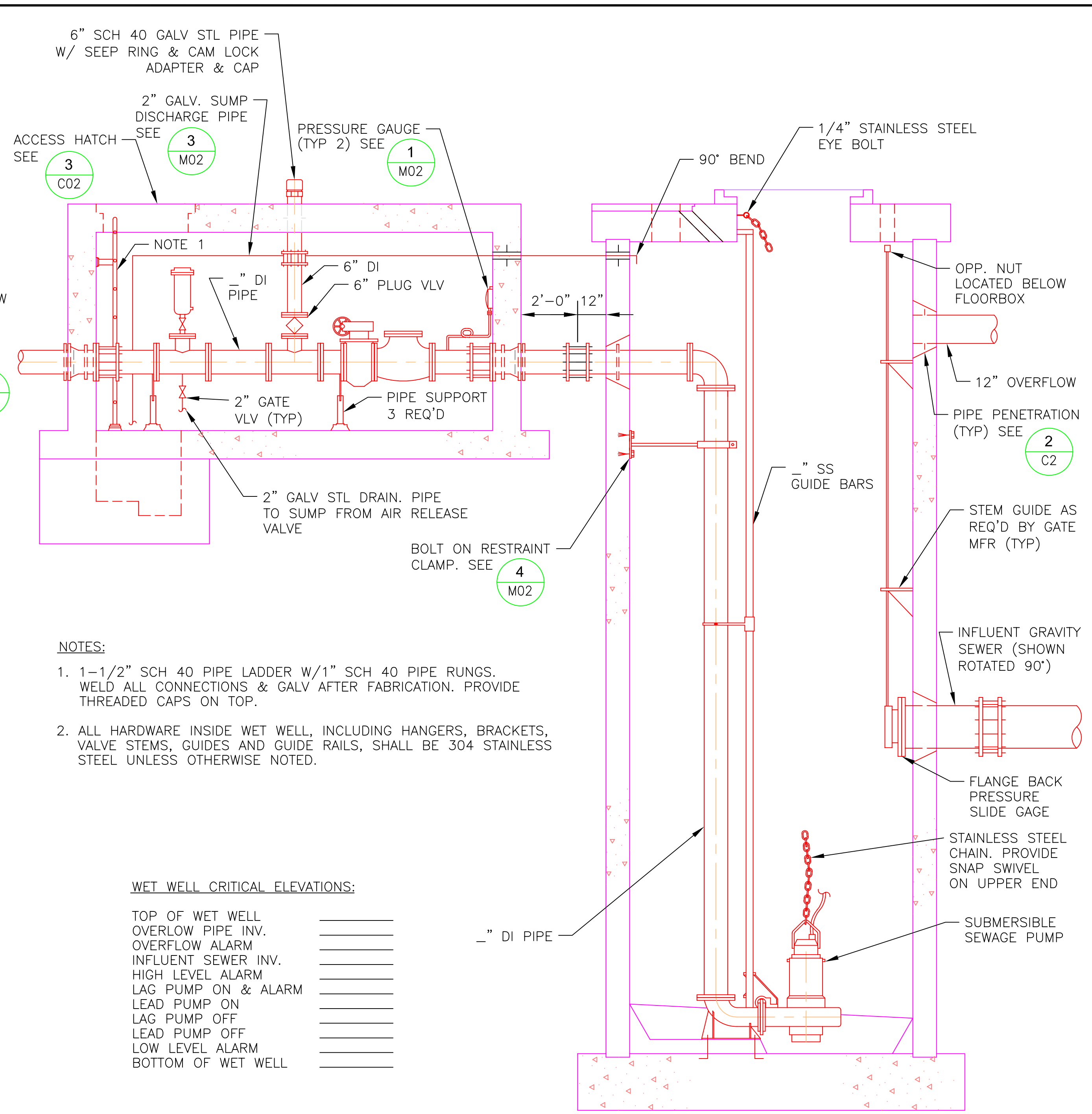
DATE/TIME/FILENAME: 08/08/05 11:00 S01.dwg



**PLAN:
WET WELL AND VALVE VAULT** 1
3/8" = 1'-0"



EXHAUST PIPE DETAIL 2
NO SCALE




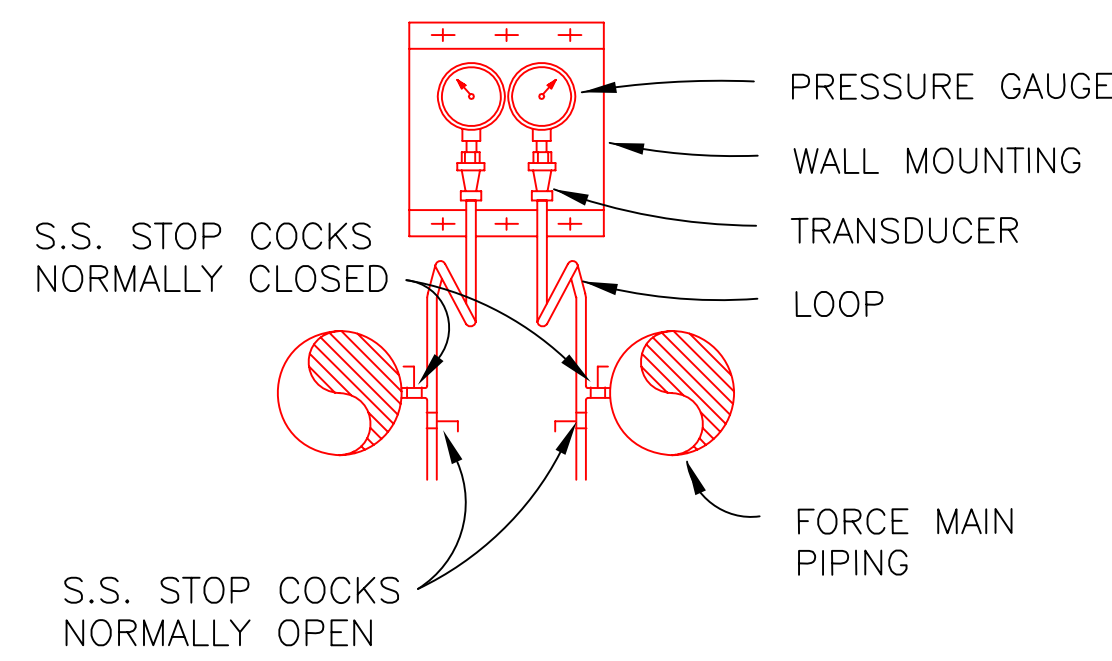
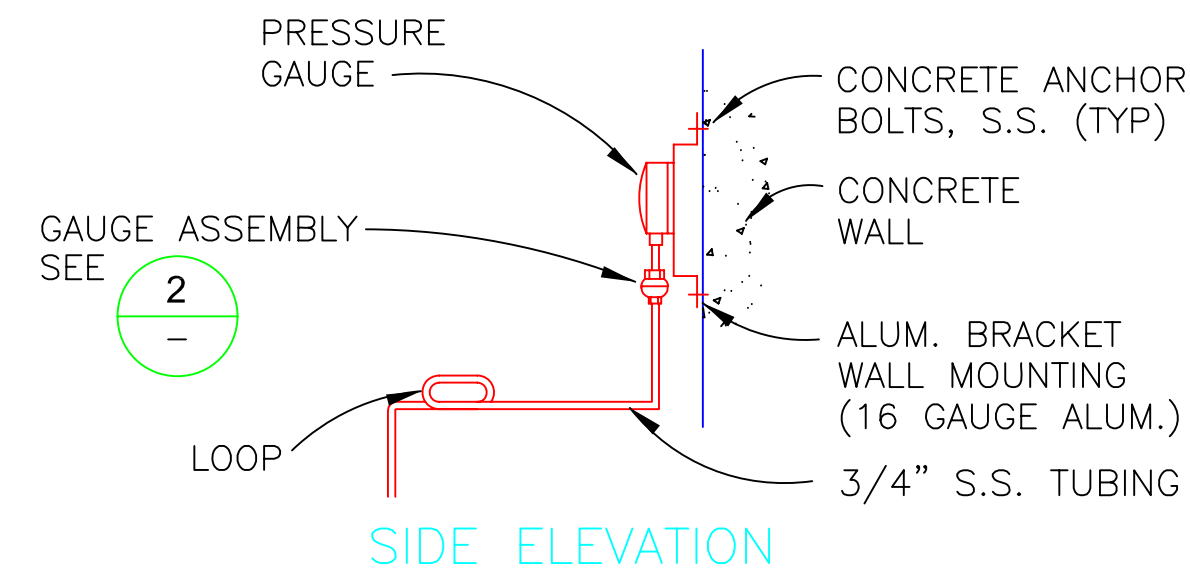
- NOTES:**
- 1-1/2" SCH 40 PIPE LADDER W/1" SCH 40 PIPE RUNGS. WELD ALL CONNECTIONS & GALV AFTER FABRICATION. PROVIDE THREADED CAPS ON TOP.
 - ALL HARDWARE INSIDE WET WELL, INCLUDING HANGERS, BRACKETS, VALVE STEMS, GUIDES AND GUIDE RAILS, SHALL BE 304 STAINLESS STEEL UNLESS OTHERWISE NOTED.

WET WELL CRITICAL ELEVATIONS:

TOP OF WET WELL	_____
OVERFLOW PIPE INV.	_____
OVERFLOW ALARM	_____
INFLUENT SEWER INV.	_____
HIGH LEVEL ALARM	_____
LAG PUMP ON & ALARM	_____
LEAD PUMP ON	_____
LAG PUMP OFF	_____
LEAD PUMP OFF	_____
LOW LEVEL ALARM	_____
BOTTOM OF WET WELL	_____

**SECTION:
WET WELL AND VALVE VAULT** 3
3/8" = 1'-0"

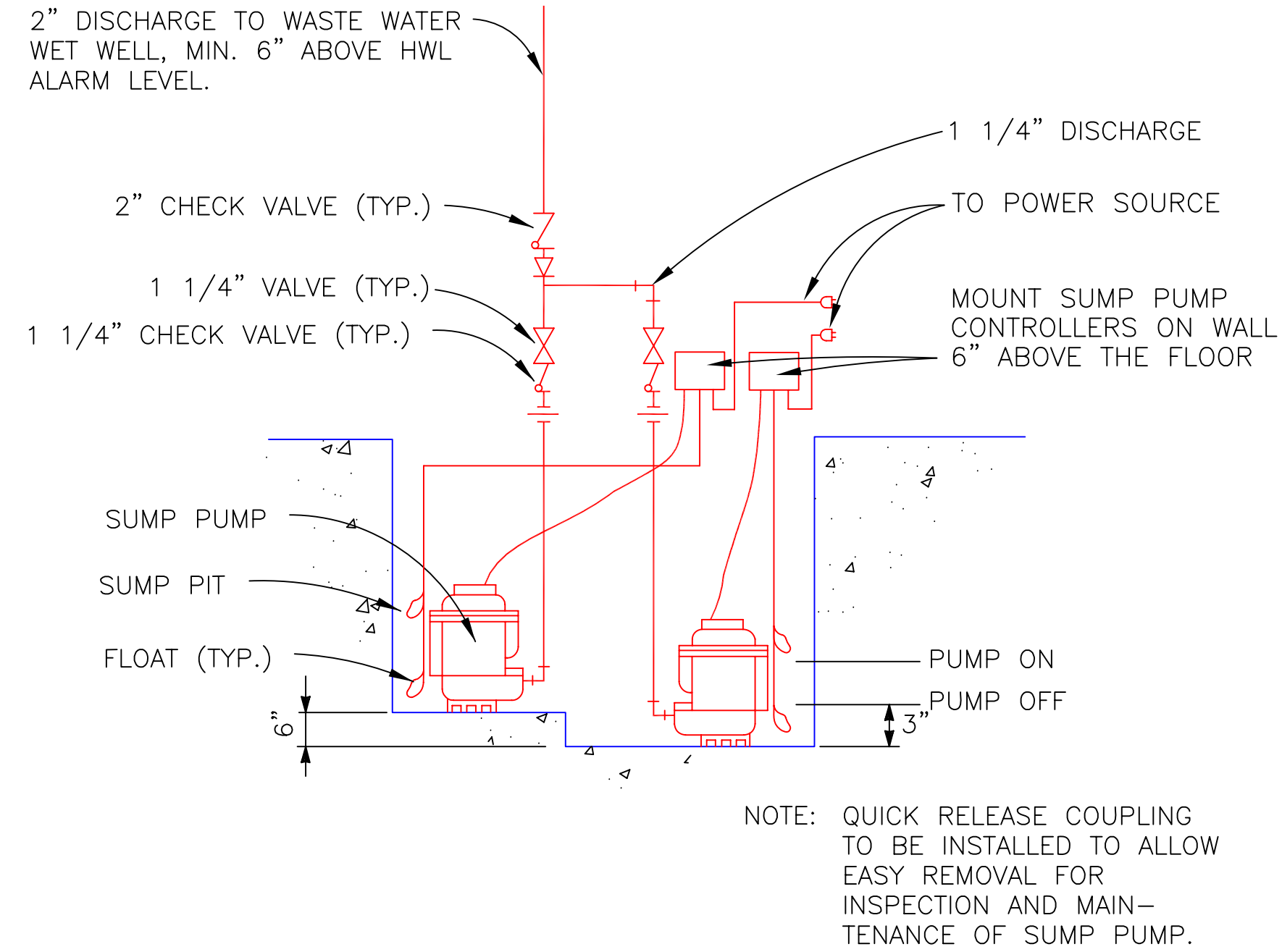
DATE	REVISION	BY
DESIGNED: _____	CHECKED: _____	APPROVED: _____
DATE: AUGUST 2005	FILE: M01.dwg	SHEET OF: 5/11
SCALE: _____	LEGAL: _____	PROJECT NUMBER: _____
STANDARD SEWAGE PUMP STATION MECHANICAL PLANS AND SECTIONS		
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PROJECT NAME: _____	SHEET NAME: _____	LOCATION: _____
CITY OF GRESHAM DEPARTMENT OF ENVIRONMENTAL SERVICES 1333 N.W. EASTMAN PARKWAY GRESHAM, OREGON 97030-3813 (503) 618-2525		
		
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GAUGE MOUNTING DETAIL

NO SCALE

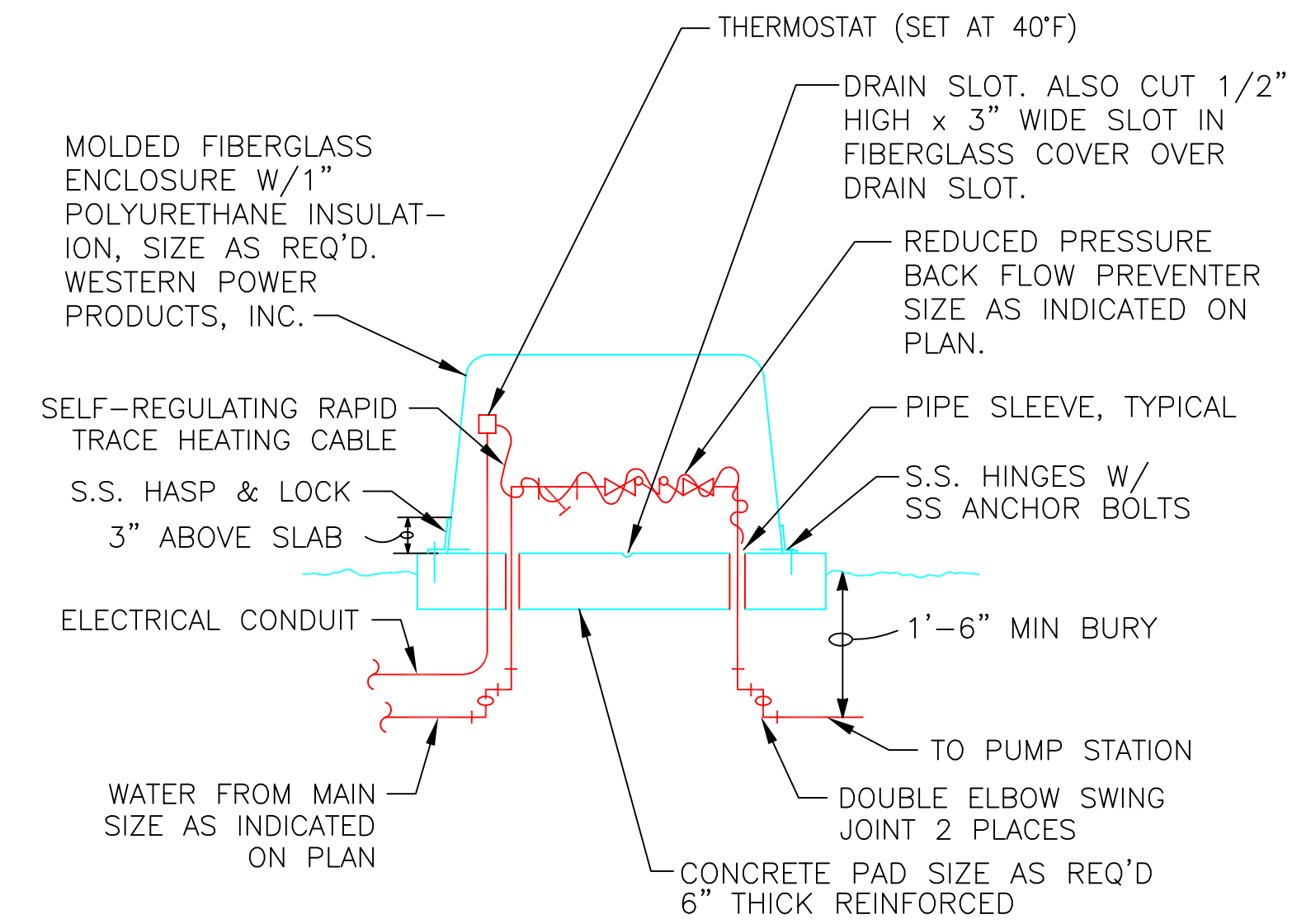
1
M1



DUPLEX SUMP PUMP PIPING DIAGRAM

NO SCALE

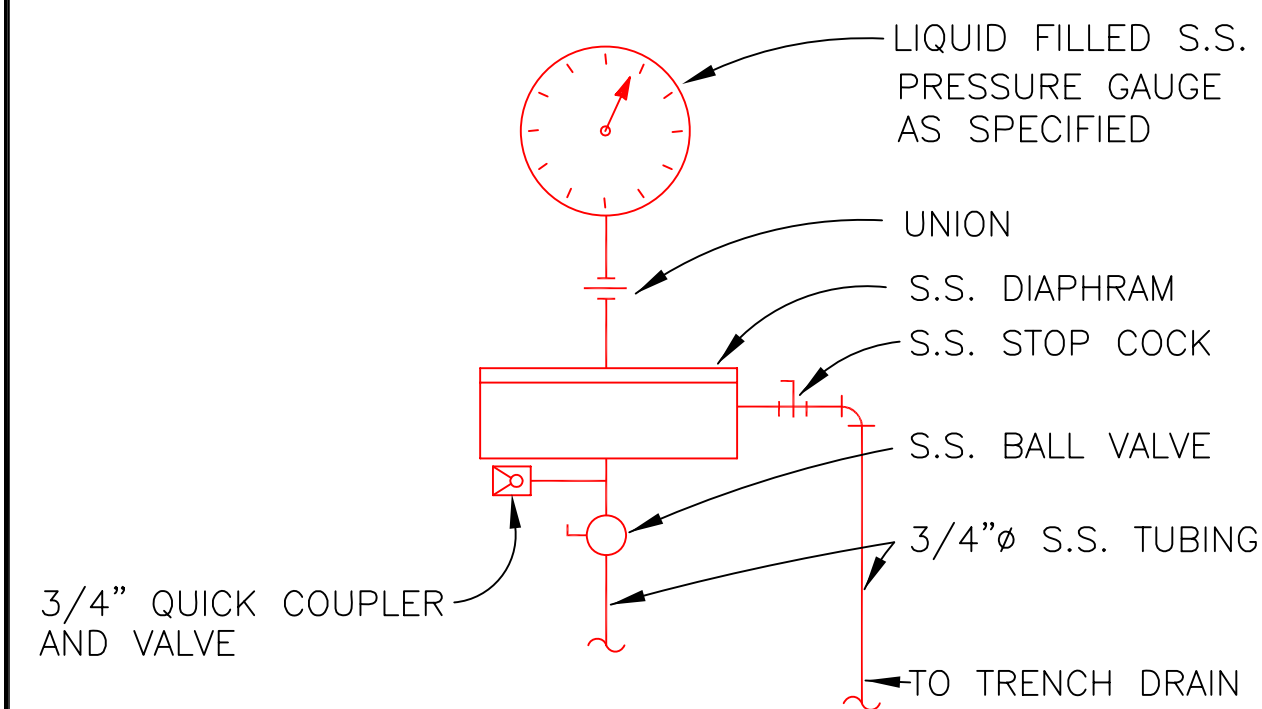
3
M1



BACKFLOW PREVENTER

NO SCALE

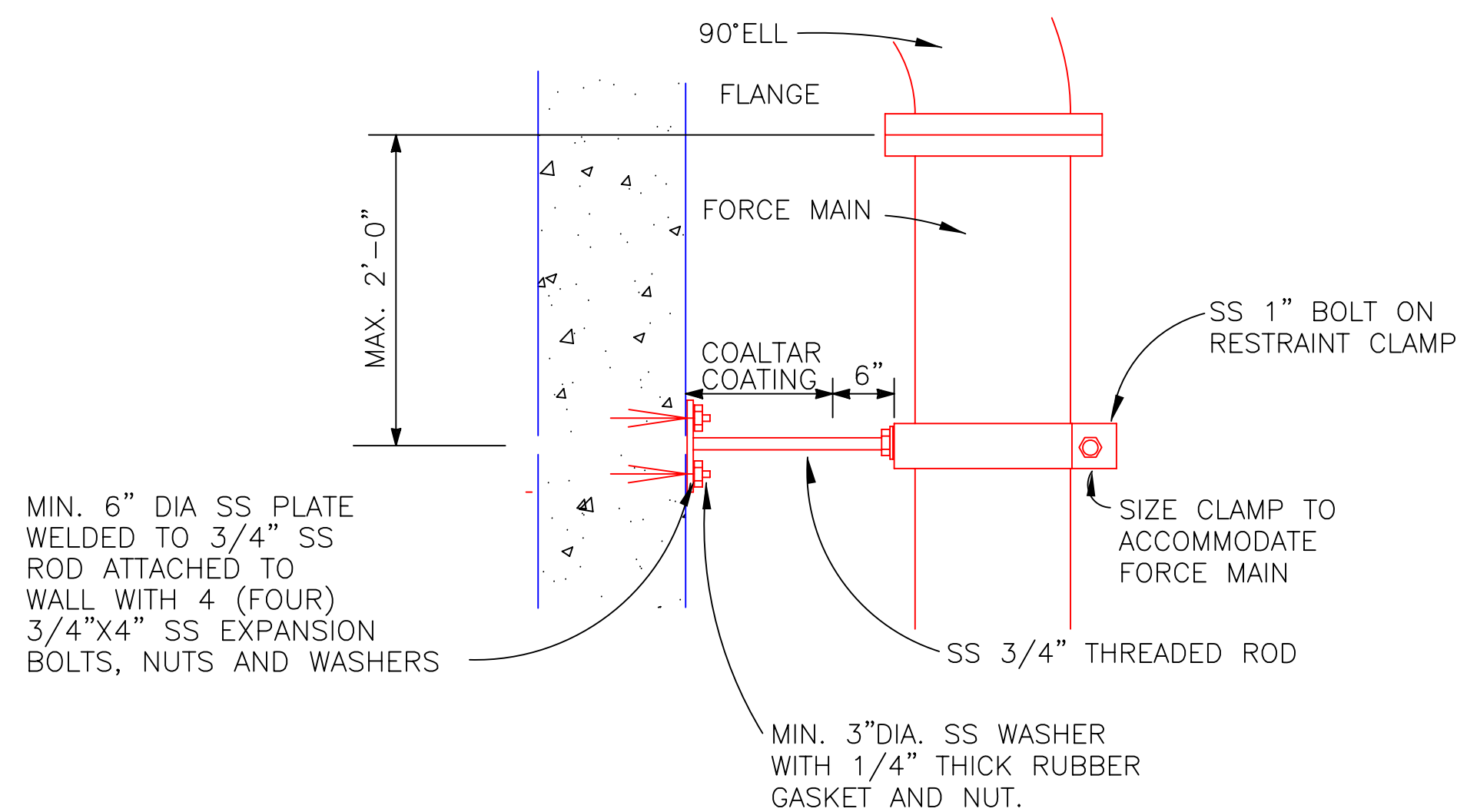
5
C1



PRESSURE GAUGE ASSEMBLY

NO SCALE

2
-



NOTE: ONCE ASSEMBLED AND TESTED LEAK PROOF, COAT THE INSIDE WASHER, NUT, AND THREADED ROD WITH COAL TAR UP TO 6 INCHES FROM THE RESTRAINT CLAMP. THIS RESTRAINT SUITABLE FOR PIPELINE PRESSURES UP TO 100 PSI.

RESTRAINT CLAMP DETAIL

NO SCALE

4
M1

DATE	NO.	REVISION	BY

DESIGNED	DRAWN	CHECKED	APPROVED

SCALE	VER:	DATE	FILE	SECTION	TWP.	RANGE
		AUGUST 2005	M02.dwg			

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PROJECT NAME: **STANDARD SEWAGE PUMP STATION MECHANICAL DETAILS**

SHEET NAME: _____
LOCATION: _____

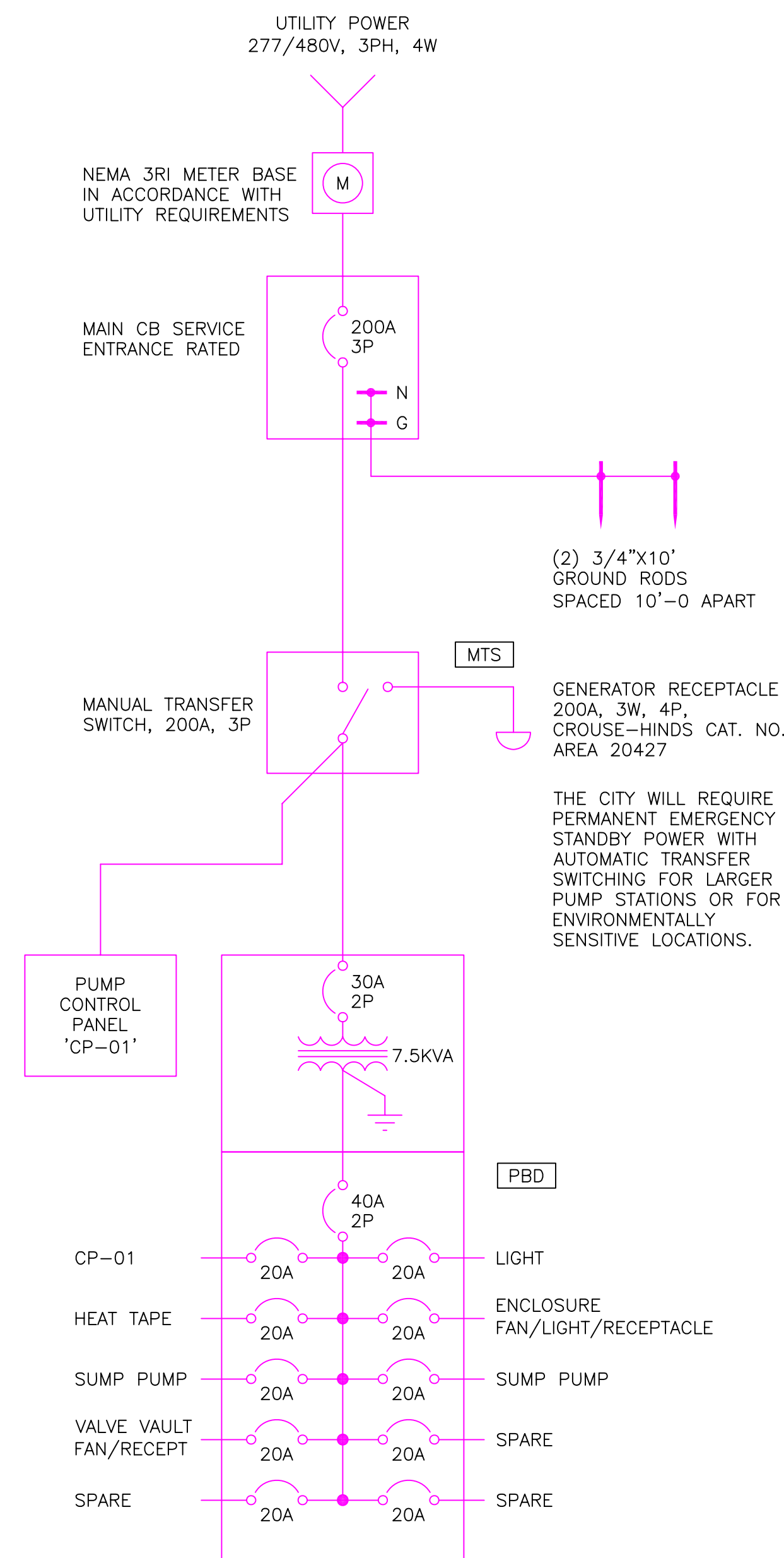
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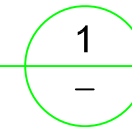


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DATE/TIME/FILENAME: 08/08/05 12:00 M02.dwg



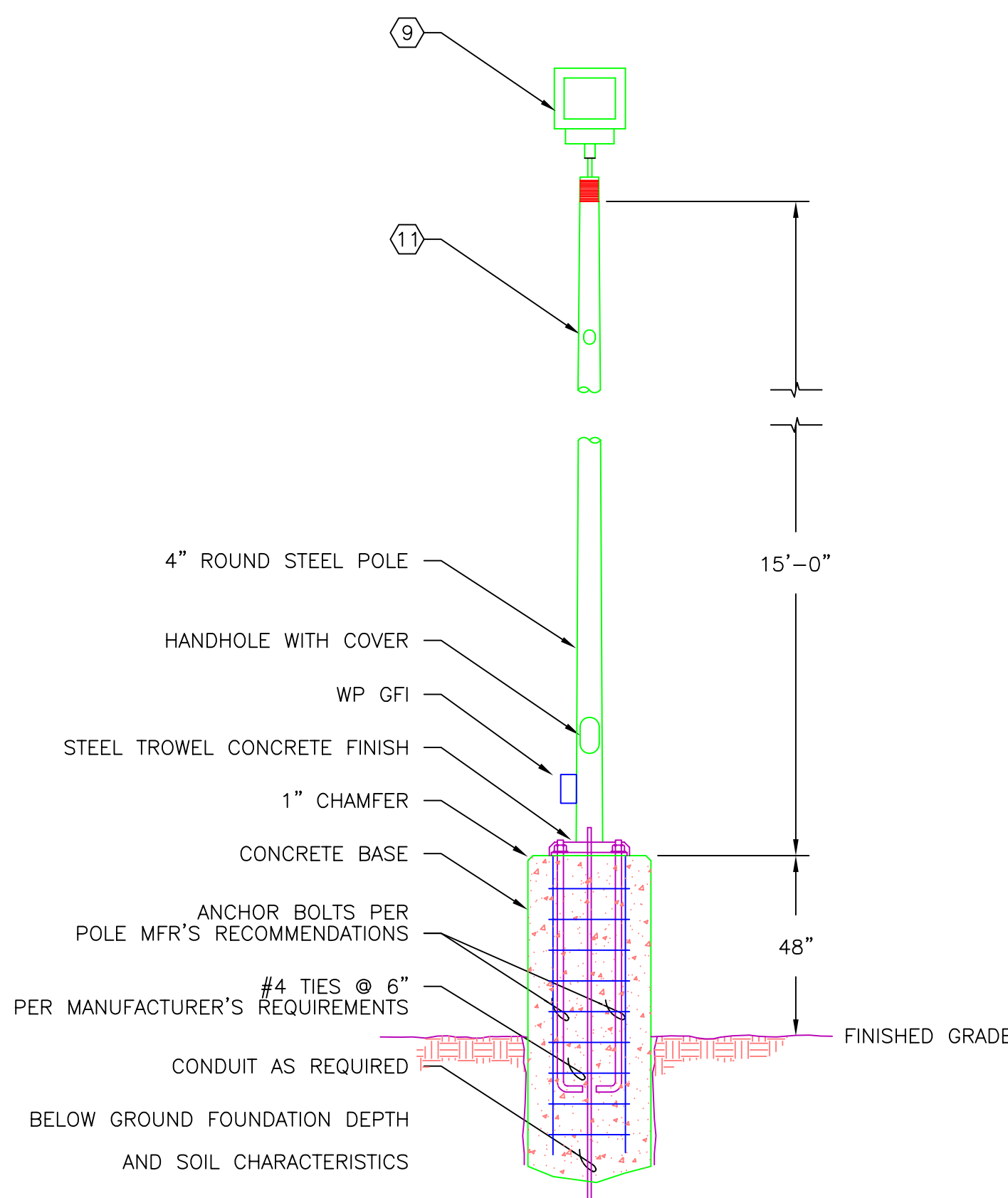
ONE-LINE DIAGRAM

NOT TO SCALE



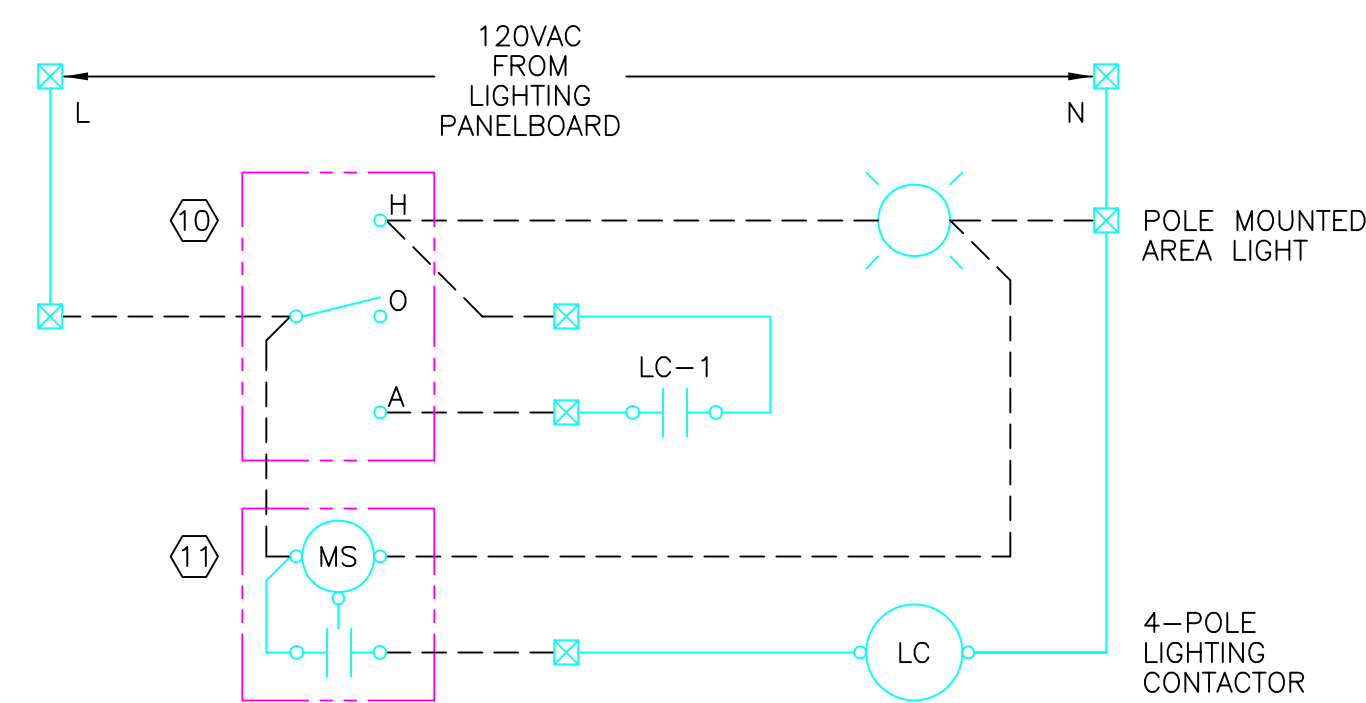
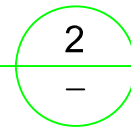
LEGEND:

- CONVENIENCE RECEPTACLE - UNLESS SPECIFIED OTHERWISE WP - WEATHERPROOF
- SPECIAL CONNECTION
- GENERAL ELECTRICAL CONTROL OR WIRING DEVICE, NEMA 1, UNLESS INDICATED OTHERWISE. LETTER SYMBOL OR ABBREVIATIONS INDICATE TYPE OF DEVICE.
- METERING FACILITIES
- CIRCUIT BREAKER, RATING SHOWN 3-POLE UNLESS INDICATED OTHERWISE.
- GROUND
- TRANSFORMER, SECONDARY VOLTAGES, PHASE AND RATING INDICATED AS APPLICABLE.
- GROUND ROD TEST WELL



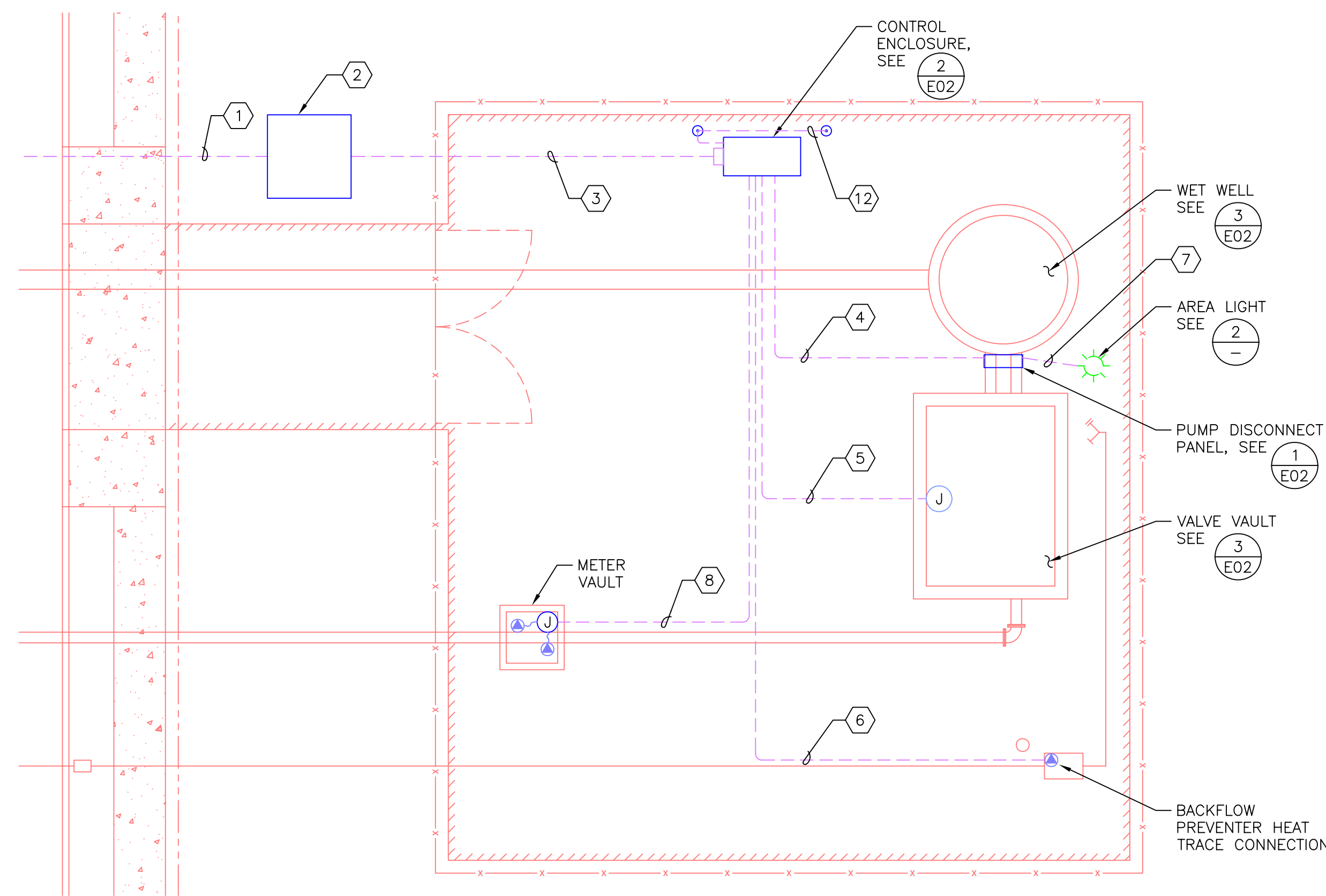
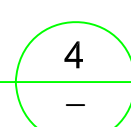
AREA LIGHT DETAIL

NOT TO SCALE



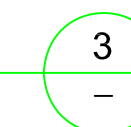
AREA LIGHT SCHEMATIC

NOT TO SCALE



SITE PLAN

1/8" = 1'-0"



KEYED NOTES:

- 1 THE CONTRACTOR SHALL PROVIDE ALL TRENCH, CONDUIT, VAULTS, PADS, ROAD CROSSINGS FOR THE POWER COMPANY UNDERGROUND PRIMARY LINE EXTENSION. REFER TO THE CONTRACT DOCUMENT SPECIFICATIONS AND THE PGE OREGON ELECTRIC SERVICE REQUIREMENTS BOOKLET FOR SPECIFIC REQUIREMENTS. THE CONTRACTOR SHALL ARRANGE AN ON-SITE COORDINATION MEETING WITH THE POWER COMPANY FIELD CONSTRUCTION COORDINATOR PRIOR TO EXCAVATION. CONTACT _____ AT PGE, (503) _____
- 2 THE CONTRACTOR SHALL PROVIDE TRANSFORMER PAD OR PADVAULT AS REQUIRED BY THE POWER COMPANY.
- 3 THE CONTRACTOR SHALL PROVIDE TRENCHING CONDUIT AND BACKFILL FOR THE SERVICE ENTRANCE AS REQUIRED BY THE POWER COMPANY. THE POWER COMPANY WILL INSTALL AND MAKE FINAL TERMINATIONS OF THE SECONDARY CONDUCTORS.
- 4 THE CONTRACTOR SHALL PROVIDE THE FOLLOWING CIRCUITS AND RACEWAYS BETWEEN THE CONTROL ENCLOSURE AND THE PUMP DISCONNECT PANEL:
PUMP No.1 FEEDER: ---"C, 3#---, 1#--- GND.
PUMP No.2 FEEDER: ---"C, 3#---, 1#--- GND.
120-VOLT CONTROL (PUMP TEMPERATURE, MOISTURE, 4 SPARES): 1"C, 8#14, 1#12 GND.
120-VAC INTRINSICALLY SAFE CIRCUITS (LEVEL SWITCHES, 4-SPARES): 1"C, 8#14, 1#12 GND.
INTRINSICALLY SAFE LEVEL TRANSDUCER EXTENSION CABLE: 1"PVC-RGS, RG-62 A/U COAX, 1#12 GND.
120-VAC PUMP DISCONNECT HEAT, AREA LIGHT, RECEPTACLE CIRCUIT: 1"C, 1#12 PHASE, 1#12 NEUTRAL, 1#12 GND.
- 5 PROVIDE SUMP PUMP, FAN, RECEPTACLE CIRCUITS IF REQUIRED. 1"C, 3#12 PHASE, 2#12 NEUTRAL, 1#12 GND. PROVIDE SEAL OFF AT VALVE VAULT.
- 6 PROVIDE BACKFLOW PREVENTER HEAT TRACE CIRCUIT IF REQUIRED. 1"C, 1#12 PHASE, 1#12 NEUTRAL, 1#12 GND.
- 7 PROVIDE AREA LIGHT POWER AND CONTROL CIRCUIT. 3/4"C, 3#12 PHASE, 1#12 NEUTRAL, 1#12 GND.
- 8 PROVIDE FLOW METER CABLE IN 1" PVC-RGS CONDUIT. PROVIDE SEAL OFF AT METER VAULT.
- 9 POLE MOUNTED INDUCTIVELY COUPLED ELECTRODELESS LIGHT, UL LISTED OUTDOOR, 120 VOLT HIGH POWER FACTOR BALLAST, 150 WATT INDUCTION LAMP, REDUCED SPILL FLOOD LIGHT DISTRIBUTION, SYLVANIA ICIETRON OR APPROVED EQUAL. MOUNTED ON 15' POLE. PROVIDE MOUNTING POLE, TRUNNION SLIP FITTER AND YOKE FOR FULLY ADJUSTABLE AIMING. PROVIDE MOTION SENSOR MOUNTED AT 12'-0".
- 10 KEYED, MAINTAINED CONTACT, INDUSTRIAL GRADED DOUBLE POLE, DOUBLE THROW, CENTER OFF 20 AMP SWITCH MOUNTED IN CAST OUTLET BOX. HUBBELL HBL 1386L WITH (3) SPARE KEYS HUBBELL HBL 1209.
- 11 WEATHERPROOF MOTION SENSOR
- 12 GROUND ELECTRODE CONDUCTOR: #4 BARE CU.

GENERAL NOTES:

- A. THE CONTRACTOR SHALL REQUEST UTILITY LOCATION 48 HOURS PRIOR TO EXCAVATION. CONTACT THE OREGON UTILITY NOTIFICATION CENTER.
- B. UNLESS OTHERWISE NOTED, ALL UNDERGROUND CONDUITS SHALL BE RIGID PVC, SCH. 40.
- C. ALL CONDUITS ABOVE GROUND SHALL BE PVC COATED RIGID STEEL.
- D. THESE ARE CONCEPTUAL SUBMERSIBLE PUMP STATION DRAWINGS INTENDED TO DEFINE THE CITY OF GRESHAM'S PREFERRED APPROACH. THE DRAWINGS ARE NOT DIRECTLY APPLICABLE TO ANY SITUATION. THESE PLANS ARE INTENDED MERELY AS GUIDANCE TO A PROFESSIONAL ENGINEER WHO WILL BE RESPONSIBLE FOR THE DESIGN OF SPECIFIC PROJECTS.

NEC AREA CLASSIFICATIONS:

PROVIDE CONDUIT SEAL-OFFS ON ALL CONDUITS TERMINATING IN THE HAZARDOUS AREAS.

PROCESS/ PUMPING AREA	NEC-AREA CLASSIFICATION	NFPA 820 REFERENCE
WET WELL	DIVISION 1	TABLE 2-2-16a
VALVE VAULT	DIVISION 2	TABLE 2-2-31a
METER VAULT	DIVISION 2	TABLE 2-2-36a
	ALL CLASS 1, GROUP D	

DATE	REVISION	BY

DESIGNED:	DRAWN:	CHECKED:	APPROVED:

SCALE:	DATE:	FILE:	LEGAL	TWP.	RANGE
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PROJECT NAME: **STANDARD SEWAGE PUMP STATION ELECTRICAL SITE PLAN & DETAILS**

SHEET NAME: _____

LOCATION: _____

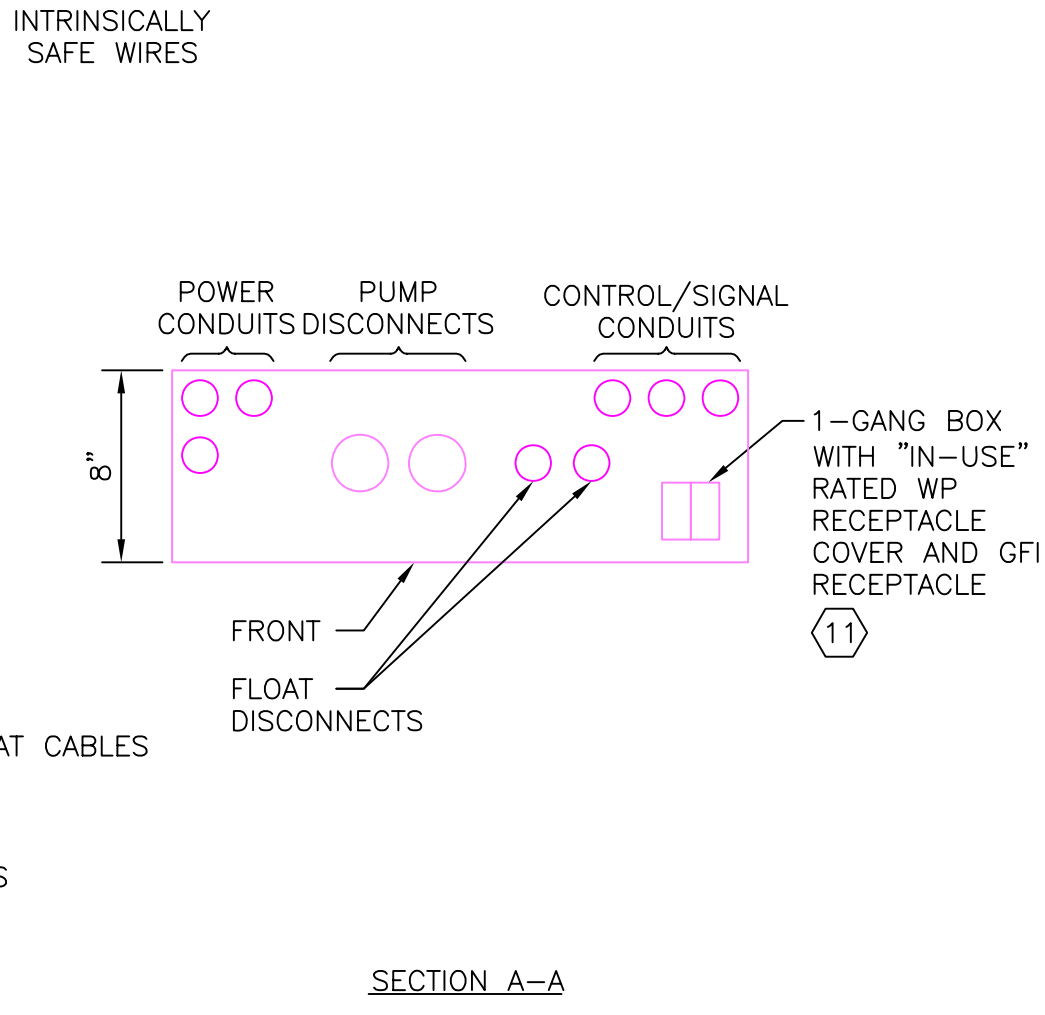
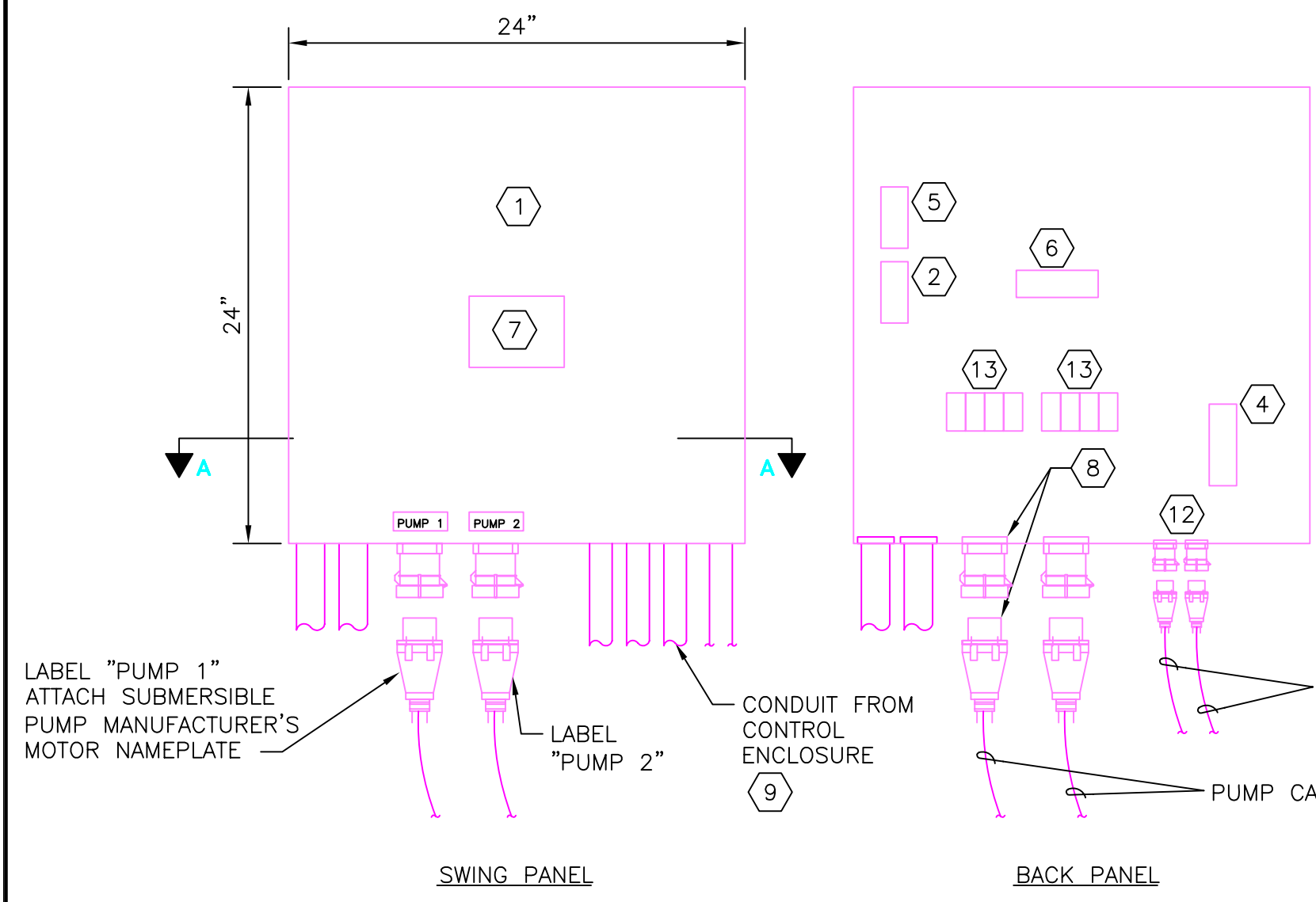
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GRESHAM, OREGON 97030-3813
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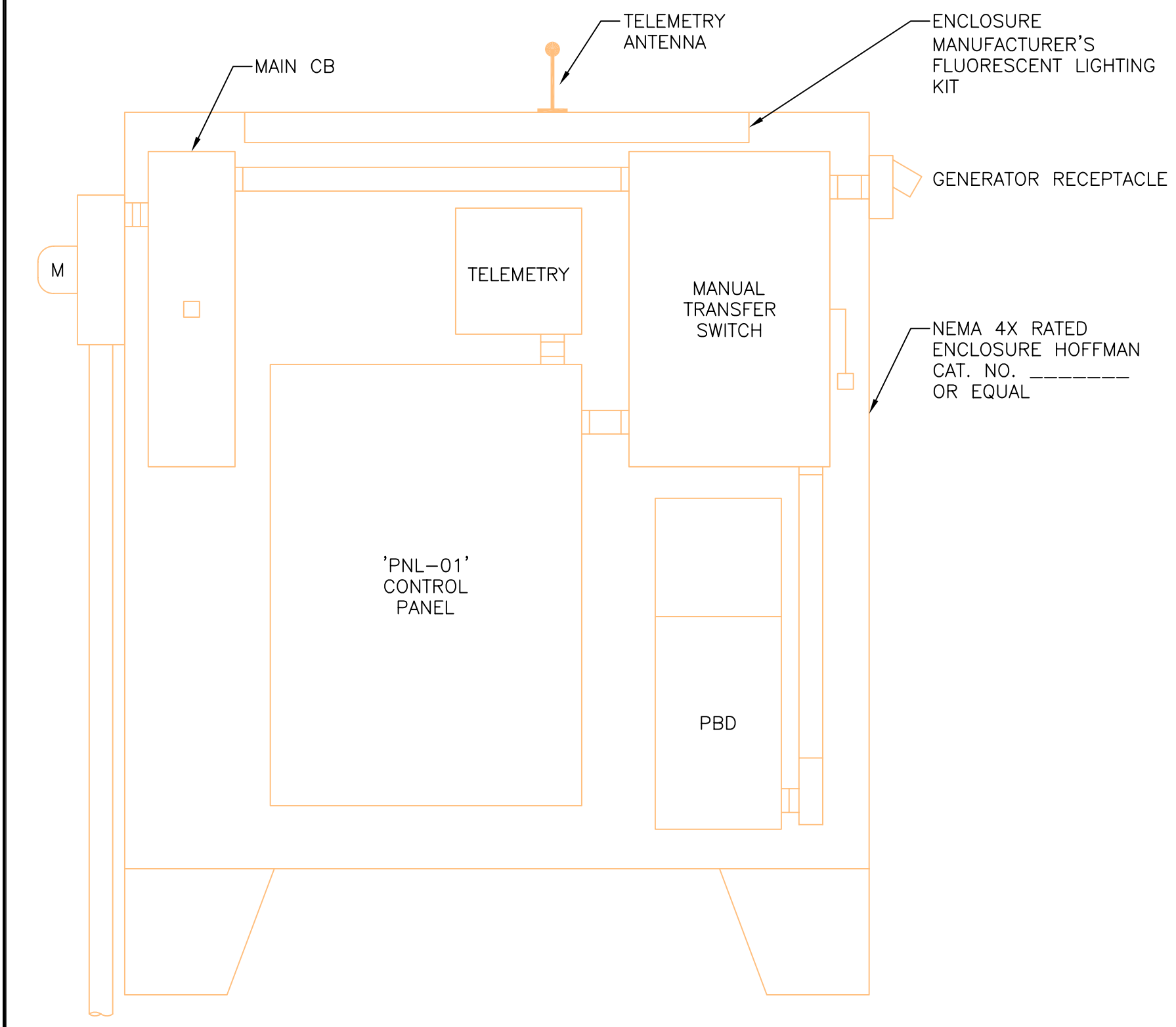
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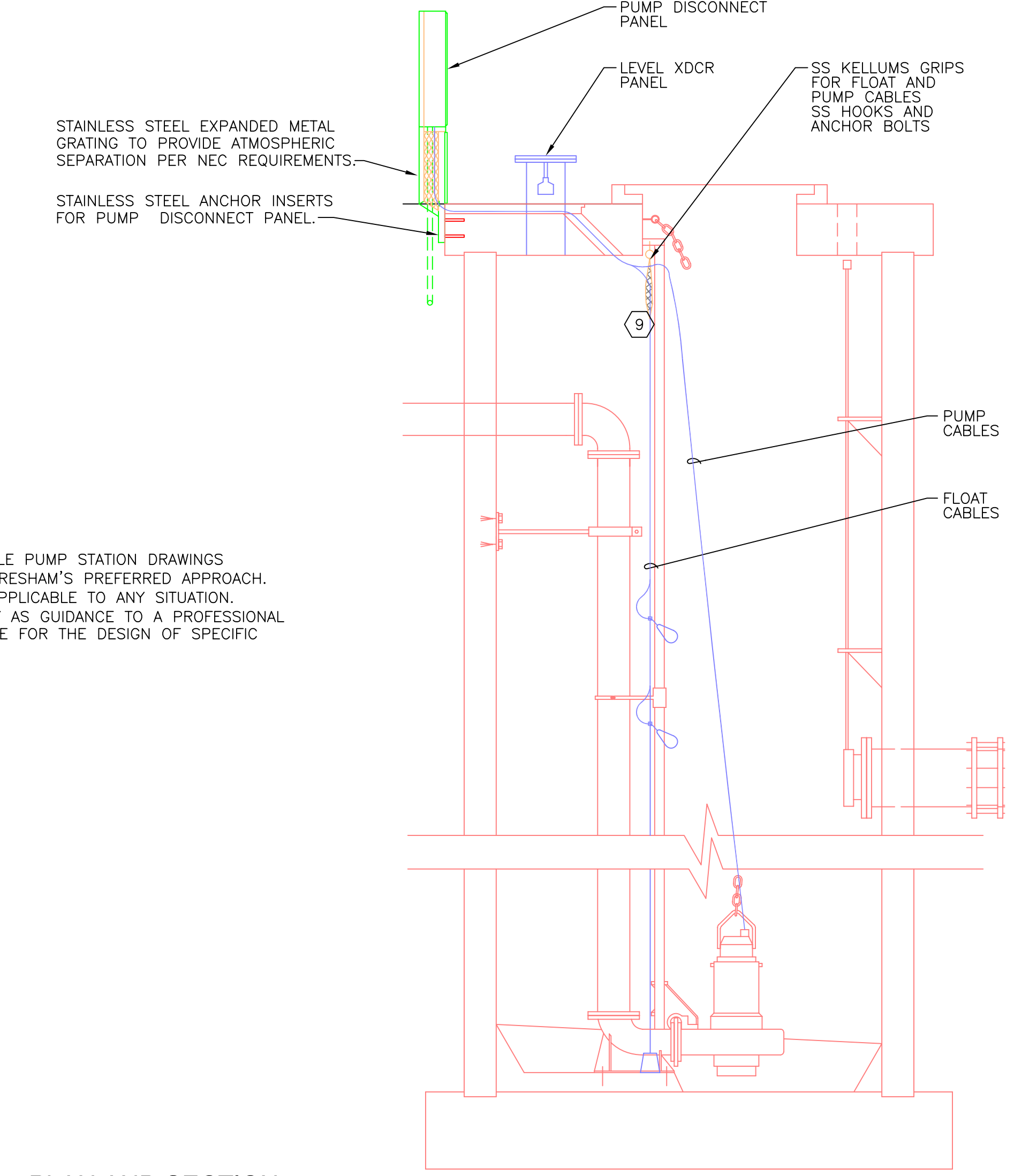
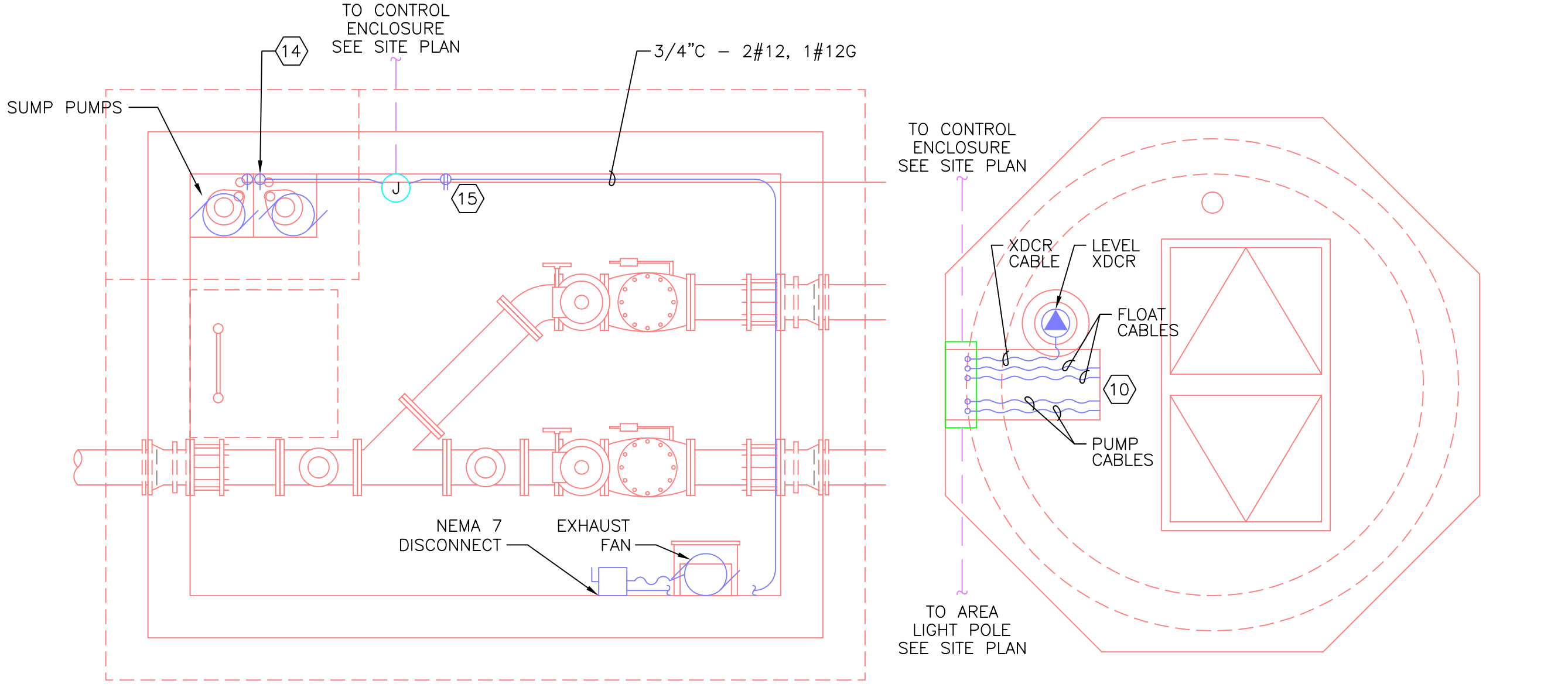


**DETAIL:
PUMP DISCONNECT PANEL**
1/2" = 1'-0"
1
E02



**DETAIL:
CONTROL ENCLOSURE**
NOT TO SCALE
2
E02

- KEYED NOTES:**
- 1 NEMA 4X STAINLESS STEEL ENCLOSURE WITH LOCKABLE BLANK FRONT.
 - 2 T-STAT FOR STRIP HEATER.
 - 3 STRIP HEATER.
 - 4 INTRINSICALLY SAFE TERMINAL BLOCKS.
 - 5 STRIP HEATER.
 - 6 CONTROL TERMINAL BLOCKS.
 - 7 NAMEPLATE - "PUMP DISCONNECT PANEL". PROVIDE ALL MARKINGS REQUIRED BY UL 508.
 - 8 ____A RATED, 3-POLE, 4-WIRE PIN AND SLEEVE RECEPTACLE (FEMALE: MOUNTED ON PANEL) AND MATCHING PLUG (MALE: CONNECTED TO PUMP CABLE), WITH 2-PILOT CONTACTS. PLUG AND RECEPTACLE SHALL BE UL LISTED AS A MOTOR RATED DISCONNECT SWITCH, MELTRIC DB SERIES, OR EQUAL.
 - 9 INSTALL CIRCUITS TO DISCONNECT PANEL USING CONTINUOUS SECTION OF PVC-RGS CONDUIT FROM PDP TO TRANSITION UNDERGROUND AT CONDUIT BURIAL DEPTH SPECIFIED.
 - 10 INSTALL METAL DIVIDER IN TRENCH TO SEPARATE INTRINSICALLY SAFE WIRING FROM OTHER WIRING.
 - 11 MOUNT BOX TO BOTTOM OF PANEL, INSIDE EXPANDED METAL STAND. ROUTE CKT INSIDE PANEL, AWAY FROM CONTROL WIRING AS MUCH AS PRACTICAL. USE CORROSION RESISTANT RECEPTACLE. BOX SHALL BE COPPER-FREE CAST ALUMINUM, MARINE GRADE POLYCARBONATE, OR PVC COATED CAST STEEL.
 - 12 FLOAT SWITCH CABLE DISCONNECTS. RECEPTACLE (FEMALE: MOUNTED ON PANEL) AND MATCHING PLUG (MALE: CONNECTED TO FLOAT CABLE). MELTRIC PN SERIES, OR EQUAL.
 - 13 PUMP MOTOR FEEDER POWER DISTRIBUTION TERMINAL BLOCKS. PROVIDE FOUR-POLE (THREE PHASE AND GROUND) POWER DISTRIBUTION BLOCKS WITH CLEAR PLASTIC GUARD. SQUARE D CLASS 9080 TYPE LB OR EQUAL.
 - 14 SUMP PUMP RECEPTACLES: PROVIDE TWO-GANG RECEPTACLE ASSEMBLY, UL LISTED FOR CLASS I, DIVISION 2, GROUP D LOCATION. PROVIDE MATCHING PLUG FOR THESE DEVICES TO MAINTAIN HAZARDOUS AREA LISTING. CROUSE-HINDS ENR SERIES OR EQUAL.
 - 15 VALVE VAULT RECEPTACLE: PROVIDE RECEPTACLE ASSEMBLY, UL LISTED FOR CLASS I, DIVISION 2, GROUP D LOCATION. PROVIDE MATCHING PLUG FOR THIS DEVICE TO MAINTAIN HAZARDOUS AREA LISTING. CROUSE-HINDS ENR SERIES OR EQUAL.



- GENERAL NOTES:**
- A. THESE ARE CONCEPTUAL SUBMERSIBLE PUMP STATION DRAWINGS INTENDED TO DEFINE THE CITY OF GRESHAM'S PREFERRED APPROACH. THE DRAWINGS ARE NOT DIRECTLY APPLICABLE TO ANY SITUATION. THESE PLANS ARE INTENDED MERELY AS GUIDANCE TO A PROFESSIONAL ENGINEER WHO WILL BE RESPONSIBLE FOR THE DESIGN OF SPECIFIC PROJECTS.

**PLAN AND SECTION:
WET WELL AND VALVE VAULT**
NOT TO SCALE
3
E02

DATE	NO.	REVISION	BY

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SCALE:	DATE:	FILE:	SECTION:	TWP.	RANGE:
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PROJECT NAME: STANDARD SEWAGE PUMP STATION

SHEET NAME: ELECTRICAL PLAN, SECTION AND DETAILS

LOCATION:

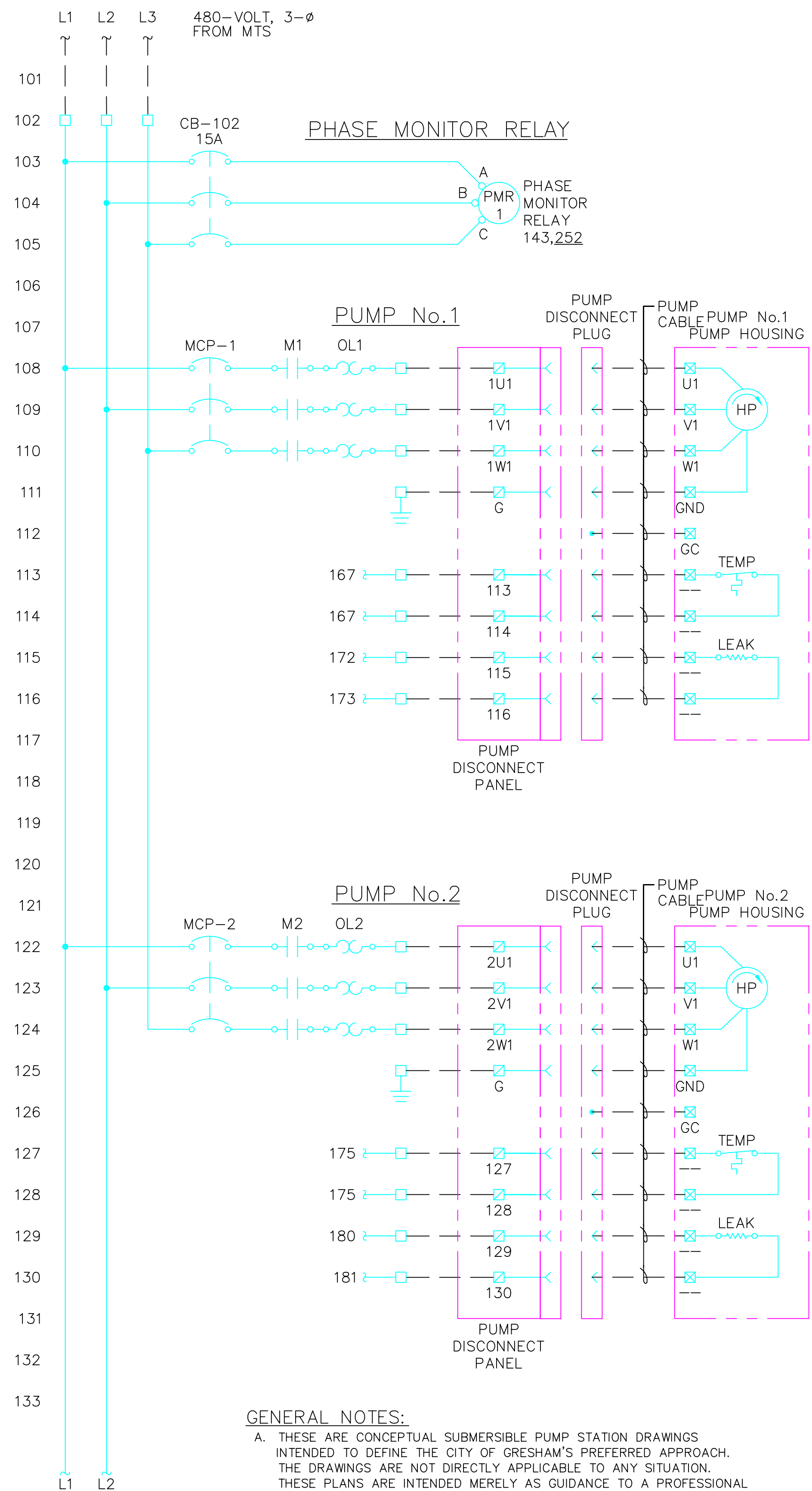
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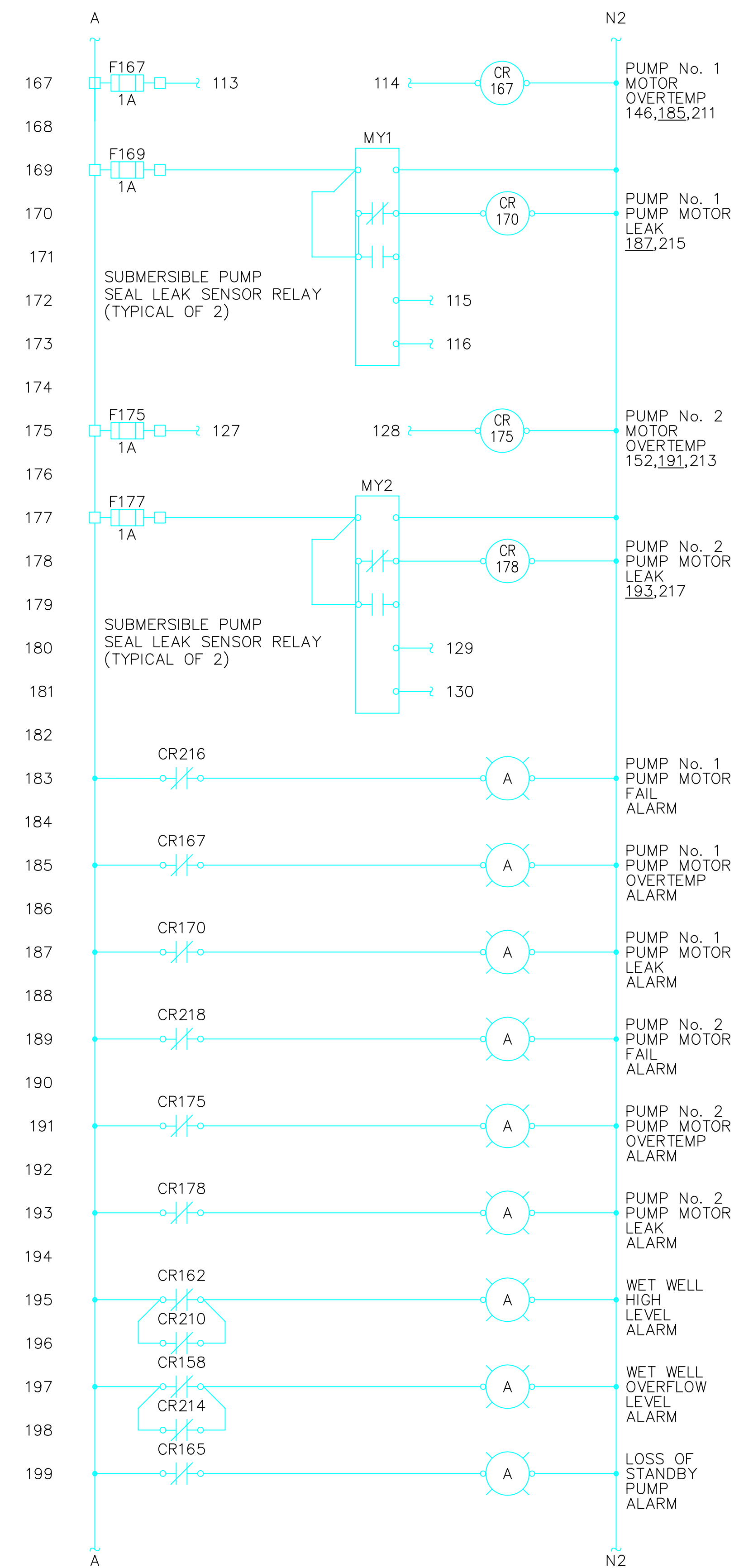
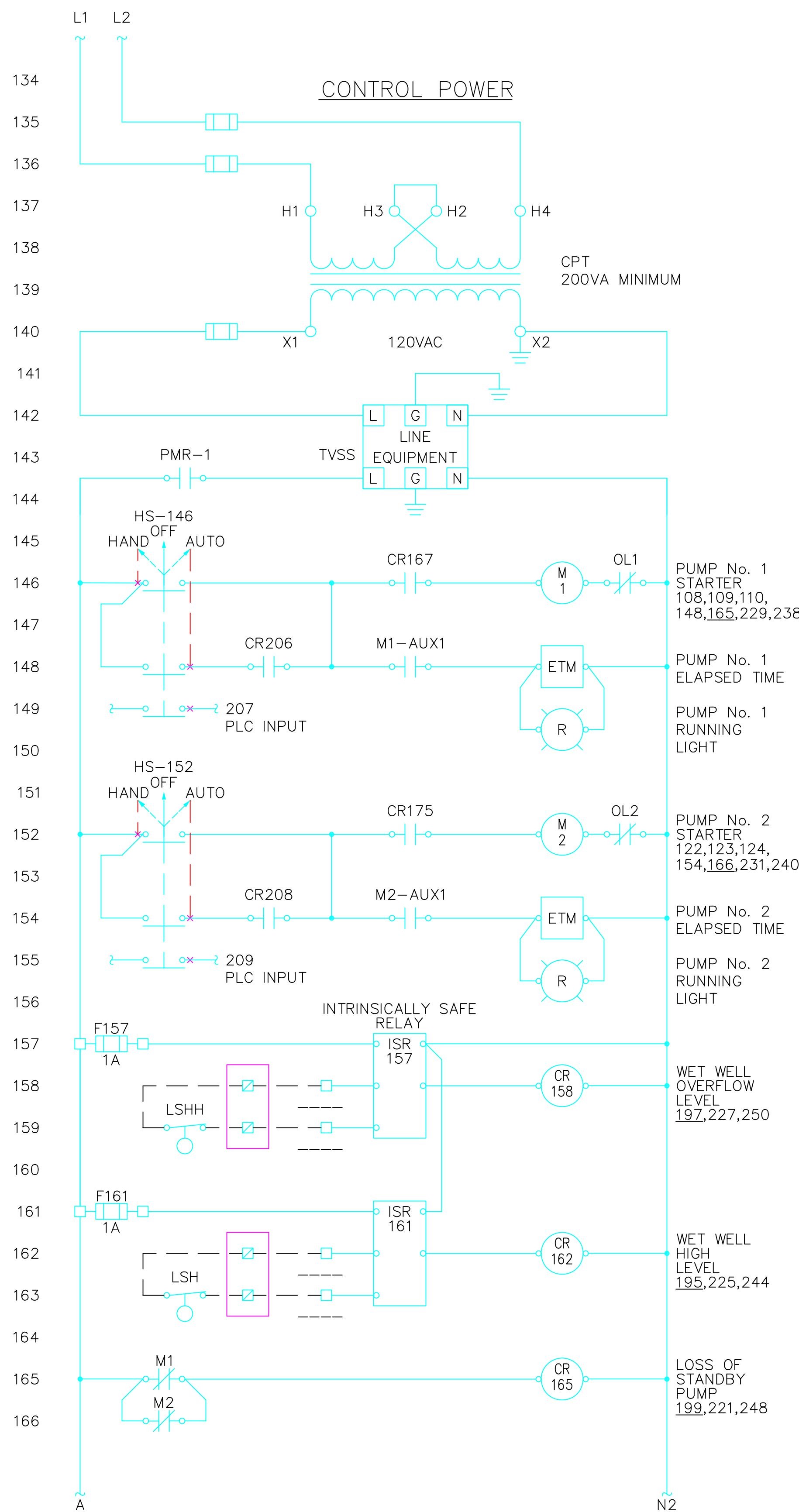
R&W ENGINEERING, INC.
"Engineering Integrated Solutions"
9400 SW Beaverton-Hillsdale Highway, Suite 250
Beaverton, Oregon 97005
Phone: (503) 292-6000
FAX: (503) 292-1422
E-mail: rweg@rweg.com

Project No.:
Contact:

PROJECT NUMBER: 08/08/05 09:50 E02.dwg



GENERAL NOTES:
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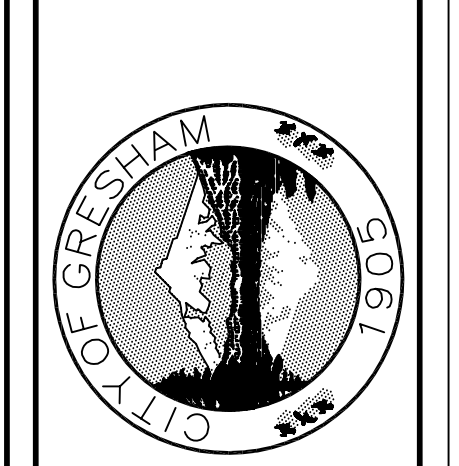
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PROJECT NAME: **STANDARD SEWAGE PUMP STATION**
 ELECTRICAL CONTROL SCHEMATIC

SHEET NAME: **ELECTRICAL CONTROL SCHEMATIC**
 LOCATION:

CITY OF GRESHAM
 DEPARTMENT OF ENVIRONMENTAL SERVICES
 1333 N.W. EASTMAN PARKWAY
 GRESHAM, OREGON 97030-3813
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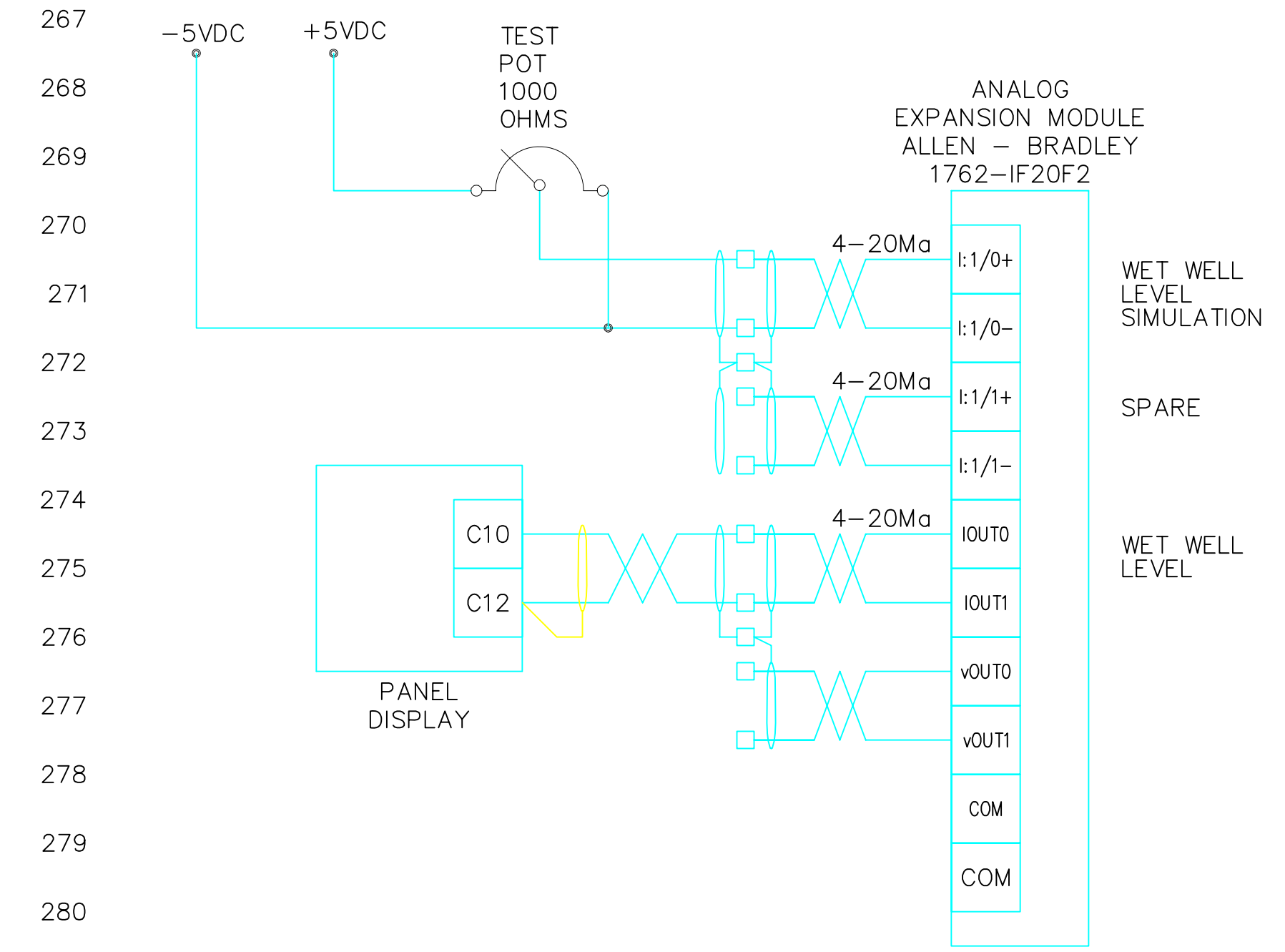
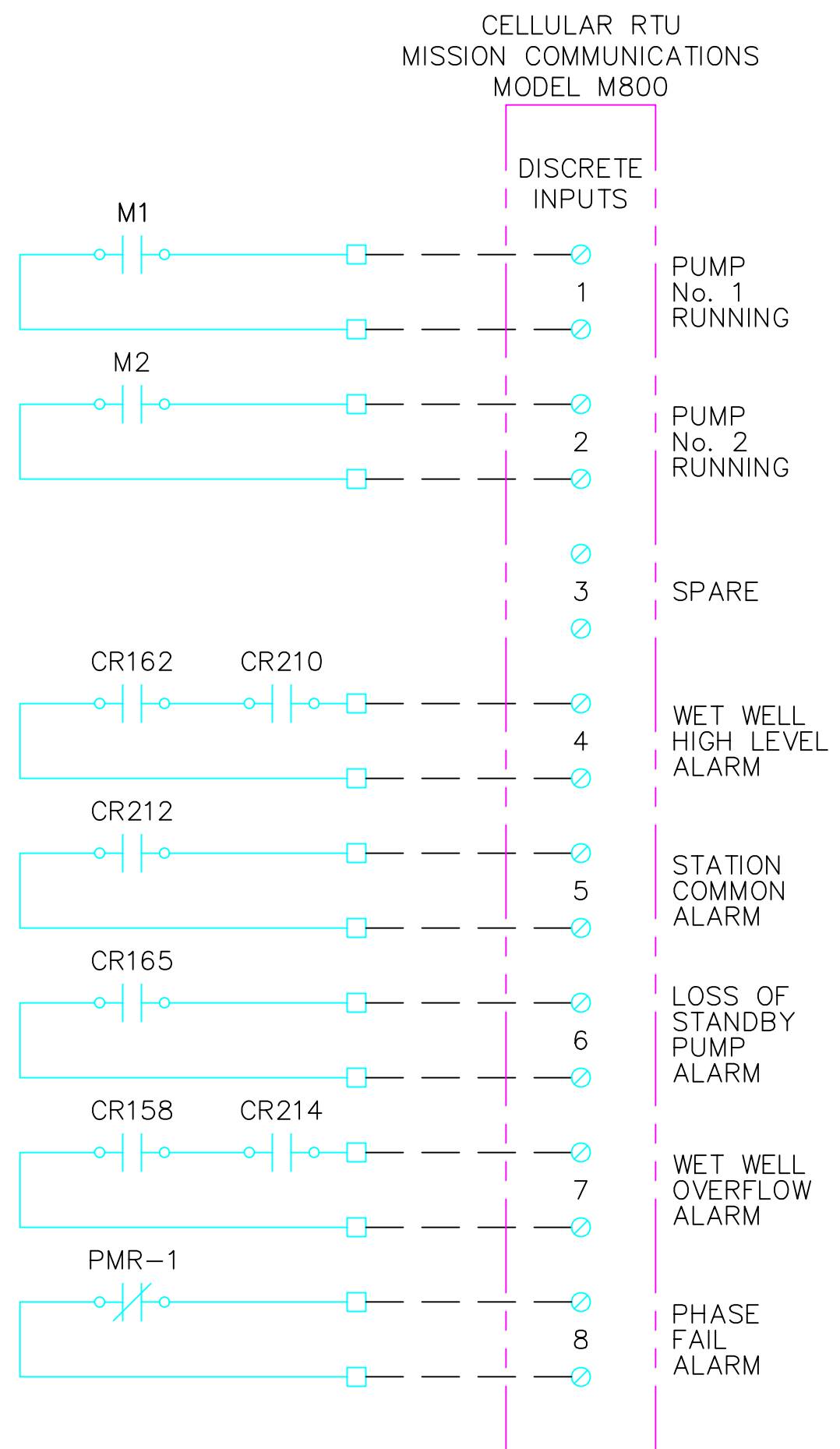
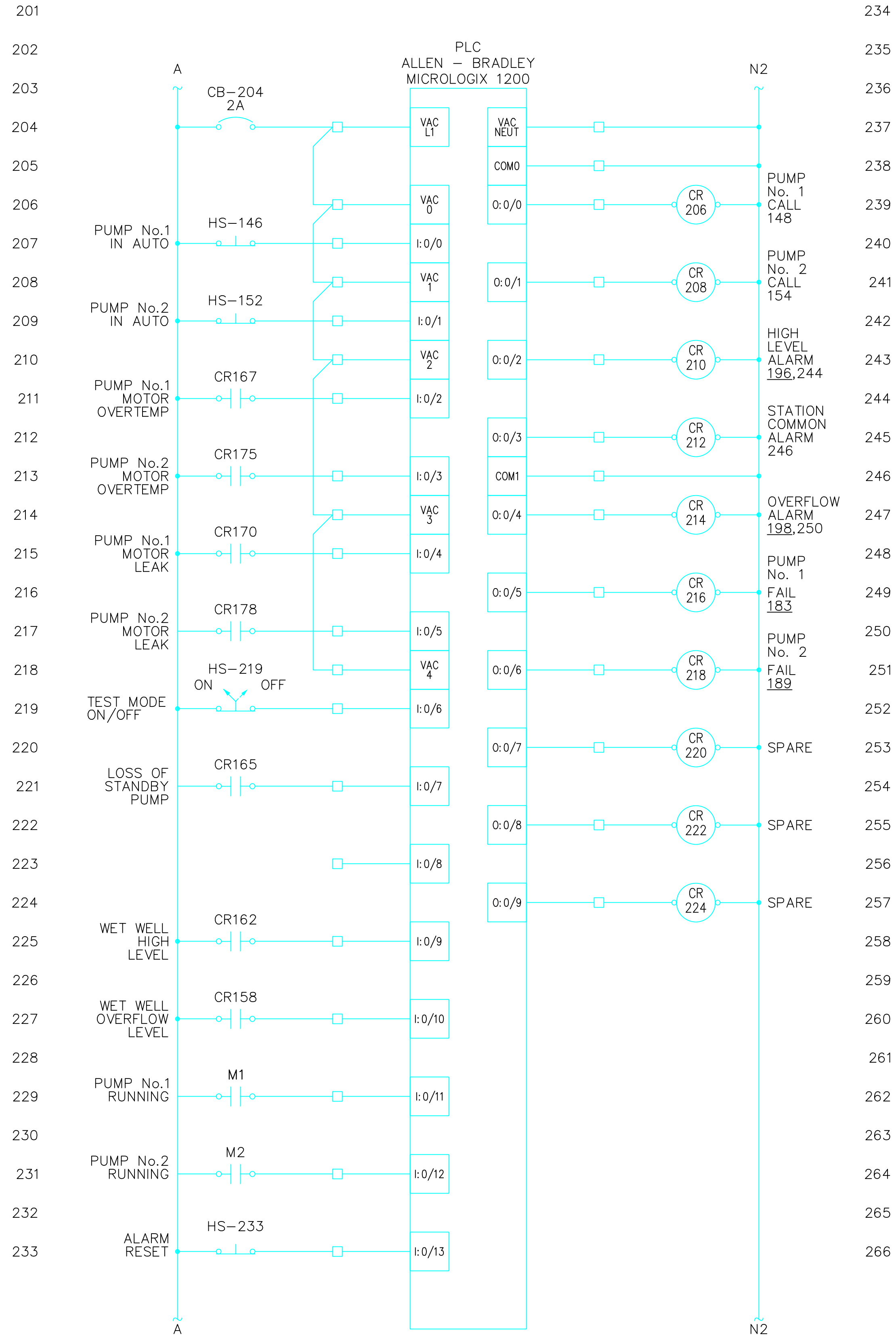


R&W ENGINEERING, INC.
 "Engineering Integrated Solutions"
 9400 SW Beaverton-Hillsdale Highway, Suite 250
 Beaverton, Oregon 97005
 Phone: (503) 292-6000
 FAX: (503) 292-1422
 E-mail: rweg@rweg.com
 Project No.:
 Contact:

DATE/TIME/FILENAME: 08/08/05 10:00 E03.dwg

PROJECT NUMBER:

PROJECT NAME:



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DATE	NO.	REVISION	BY

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		AUGUST 2005	E04.dwg			

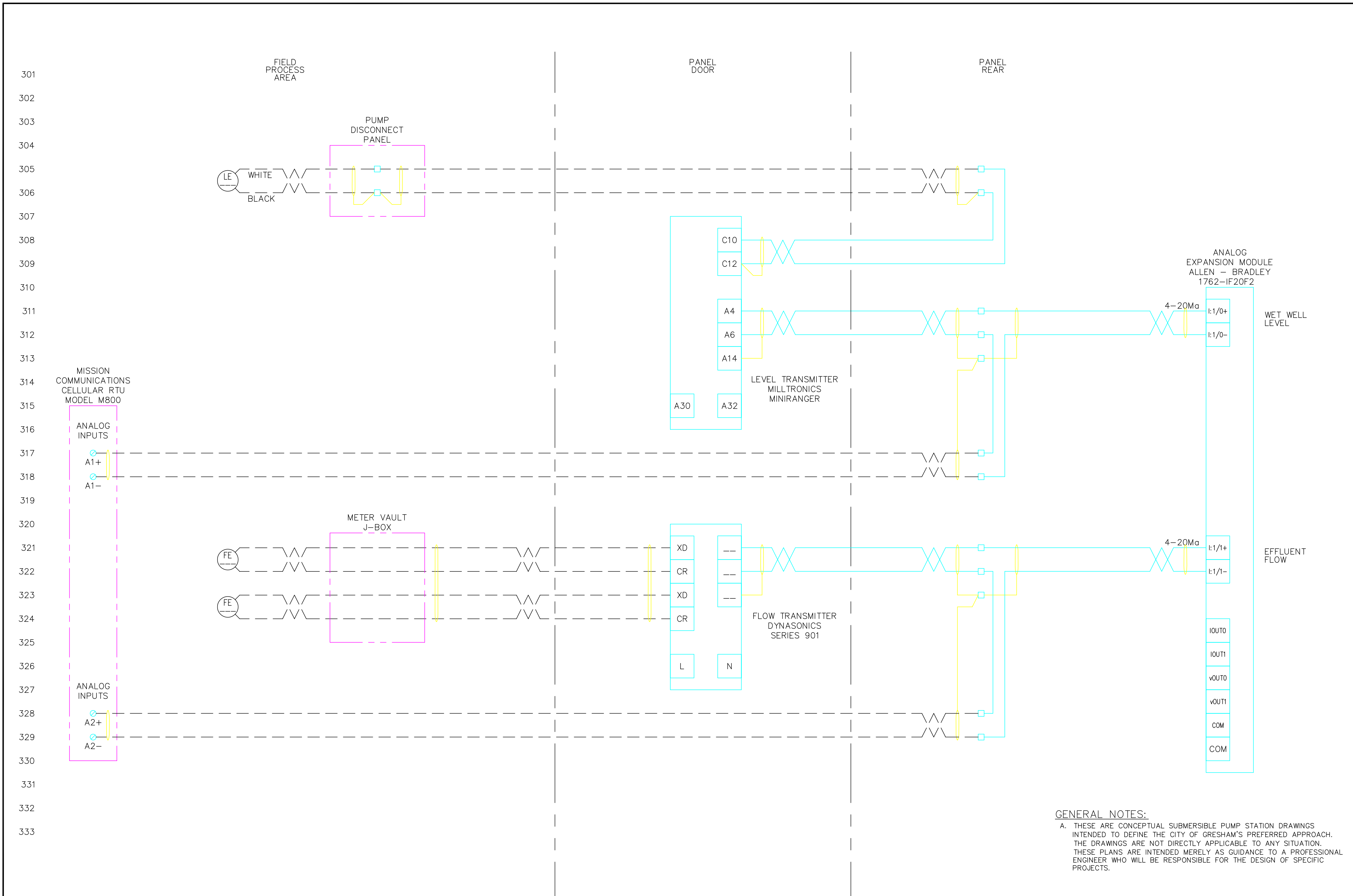
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PROJECT NAME: **STANDARD SEWAGE PUMP STATION**
 SHEET NAME: **ELECTRICAL CONTROL SCHEMATIC**
 LOCATION:

CITY OF GRESHAM
 DEPARTMENT OF ENVIRONMENTAL SERVICES
 1333 N.W. EASTMAN PARKWAY
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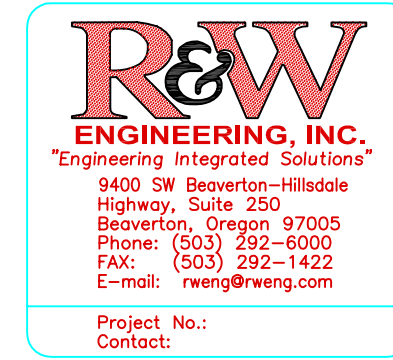
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PROJECT NAME: STANDARD SEWAGE PUMP STATION		DATE: AUGUST 2005		FILE: E05.dwg	DESIGNED: -	DRAWN: -	CHECKED: -	APPROVED: -	REVISION: -	BY: -	
SHEET NAME: ELECTRICAL CONTROL SCHEMATIC		DATE: AUGUST 2005		FILE: E05.dwg	DESIGNED: -	DRAWN: -	CHECKED: -	APPROVED: -	REVISION: -	BY: -	
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DATE/TIME/FILENAME: 08/08/05 10:15 E05.dwg		PROJECT NUMBER:		SHEET OF: E05 / 11		PROJECT NAME:		PROJECT NUMBER:		PROJECT NAME:	

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