

**SECTION 17280
PRESSURE GAUGES**

1. GENERAL

- A. This section specifies pressure gauge assemblies shown in the drawings and specified here within.
- B. Manufacturer's product information shall be provided in accordance with Section 01300 of these specifications.
- C. All pump stations and pumps shall be equipped with Type 1 Pressure Gauges on the outlet pipes unless otherwise specified.
- D. All positive displacement pumps (sludge transfer pump and screw press feed pump) shall be equipped with pressure gauges on the suction and outlet pipes.
- E. Wafer style pressure gauges with electronic pressure sensors shall be used as shown on the plans.

2. MATERIALS

- A. Type 1 Pressure Gauge
 - 1. Ball valves for pressure gauge assemblies shall be Apollo or Neles-Jamesbury with 316 stainless steel body, or approved equal.
 - 2. Pressure Gauge
 - a. Unless otherwise specified, pressure gauge scales shall be selected so that the normal operating pressure falls between 50 and 80 percent of full scale, shall be 4½-inch, 270 degree movement, ½ percent accuracy, full scale, and suitable for bottom stem mounting. Gauges shall have a 316-SS bourdon tube. All gauges shall have a 300 series stainless steel case, shatterproof glass, and a ½-inch NPT bottom connection.
 - b. Pressure gauges for air shall be premium grade, heavy-duty bourdon-tube units (bellow type for vacuum) with Delrin bushings and pinion, and stainless-steel sector.
 - c. Gauges on liquid service shall be as noted above, except they shall be provided with an internal pulsation dampening system consisting of either a glycerin fill or a silicone fluid fill. Snubbers or orifices shall not be utilized. Gauges shall be Ashcroft Duragauge Fig. 1279, Ametck 1981L, or approved equal.
 - d. Unless otherwise specified, seals shall be diaphragm type, Type 316 stainless steel body and Type 316L diaphragm. Fill fluid shall be Silicone DC200 unless otherwise specified. Seal shall be Ashcroft Type 100, or approved equal.

- B. Type 2 Wafer Style Pressure Gauge
 - 1. Wafer style pressure sensor shall have a carbon steel body, non-wetted ANSI B 16.5 class 150 flanges, Buna-N sleeve, filled with Fluid Ethylene Glycol and Water 200 degrees F. Size the wafer pressure sensors to match pipe diameters as shown on the plans.
 - 2. Basis of design is the Red Valve Series 48W Wafer Style Pressure Gauge. Candidate manufacturers include Red Valve, Cla-Val modified to meet specifications, or approved equal. The electronic sensor shall be capable of relaying pressures from zero to 150 psi and.
 - 3. Unless otherwise specified, the Wafer Style Pressure Gauge shall be equipped with a Type 1 Pressure Gauge, mounted to the body of the wafer housing.
- C. Pressure Sensor
 - 1. Electronic pressure sensors are required for all wafer style pressure gauge in addition to the Type 1 Standard Pressure Gauge assembly. The Type 2 Wafer Style Pressure gauges shall be equipped with electronic pressure sensors that will relay pressure data to the control panels and ultimately the SCADA system.

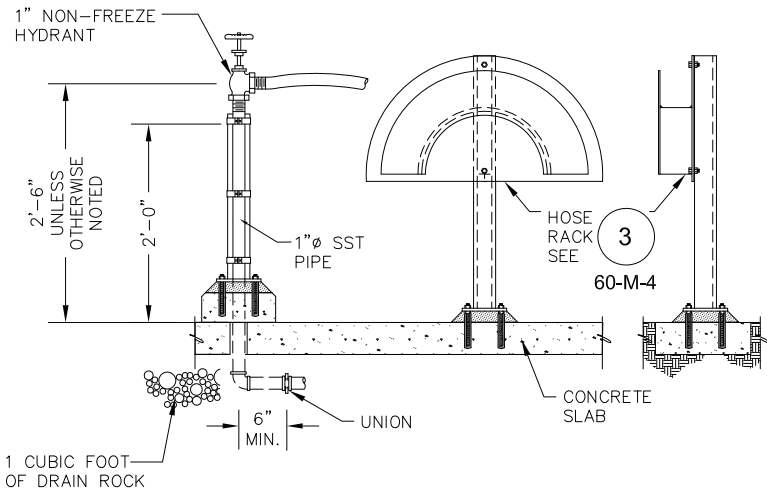
3. WORKMANSHIP

- A. Installation of piping appurtenances shall be in accordance with the manufacturer's installation instructions.

END OF SECTION

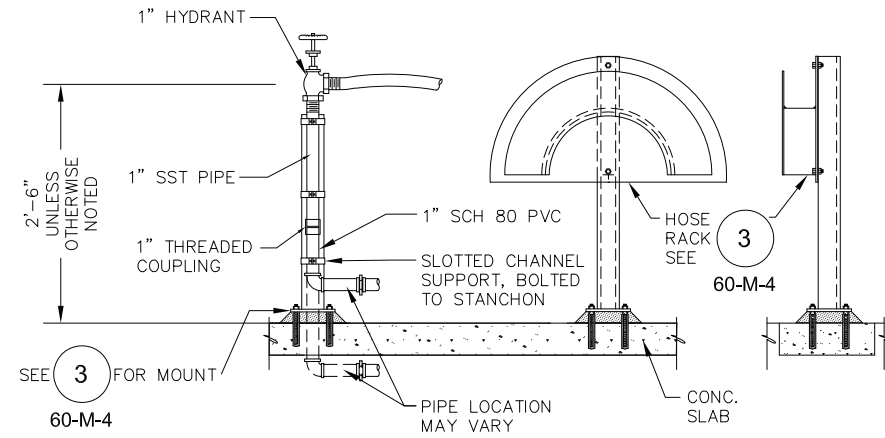
PLOT DATE February 14, 2024

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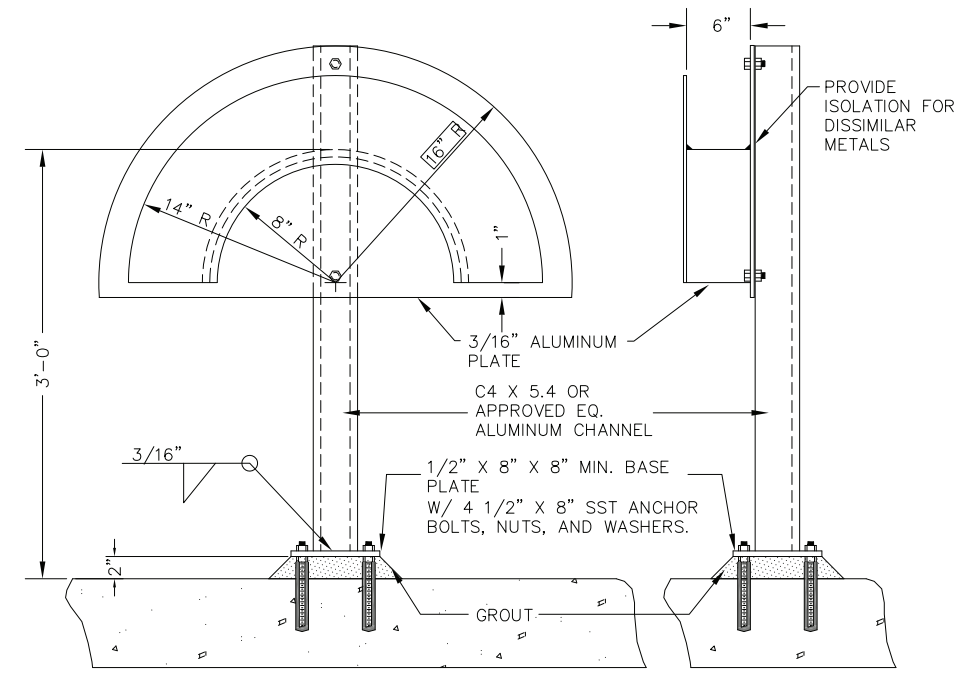
NON-POTABLE WATER SIGNS NOT SHOWN FOR CLARITY. MOUNT TO EXTERIOR FACE OF HOSE RACK.

UTILITY STATIONS FOR SLABS ON GRADE
NOT TO SCALE **1**
60-M-4



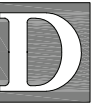
NOTES:
1. HOSE RACK MAY BE ATTACHED TO HANDRAILS W/ S.S. HARDWARE.
2. PROVIDE DRAIN ISOLATION VALVE WITHIN 5' OF ALL ABOVE GROUND STATIONS.
3. NON-POTABLE WATER SIGNS NOT SHOWN FOR CLARITY. MOUNT TO EXTERIOR FACE OF HOSE RACK.

UTILITY STATIONS FOR ABOVE GRADE SLABS
NOT TO SCALE **2**
60-M-4



NOTE:
NON-POTABLE WATER SIGNS NOT SHOWN FOR CLARITY. MOUNT TO EXTERIOR FACE OF HOSE RACK.

HOSE RACK DETAIL
NOT TO SCALE **3**
60-M-4



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WASTEWATER TREATMENT PLANT UPGRADES
CITY OF MOLALLA

MECHANICAL
STANDARD DETAILS

DESIGNED: _____ DRAWING: _____
CGP CGP

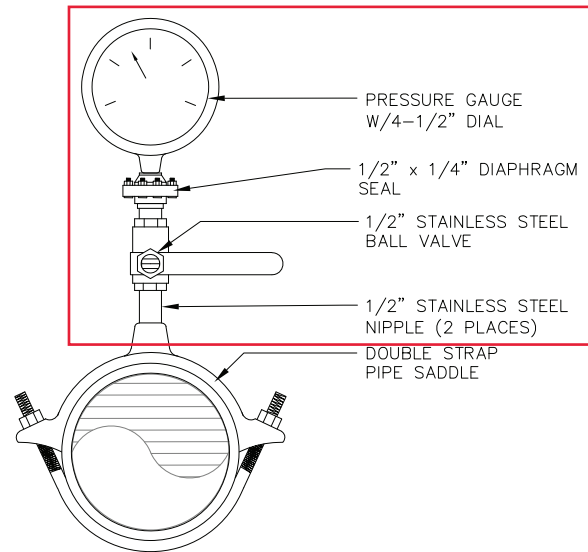
APPROVED BY: _____ DATE: _____

REVISIONS			
REVISED	DESCRIPTION	APPR'D.	DATE

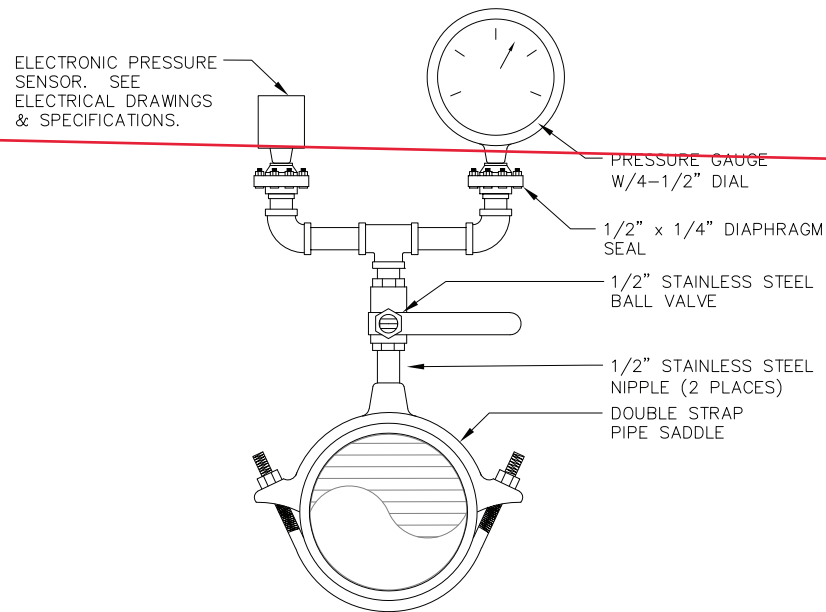
1" LINE IS 1" INCH
AT FULL SCALE
IF NOT 1" INCH - SCALE ACCORDINGLY

PROJECT NO. 198.28 DRAWING NO. 60-M-4

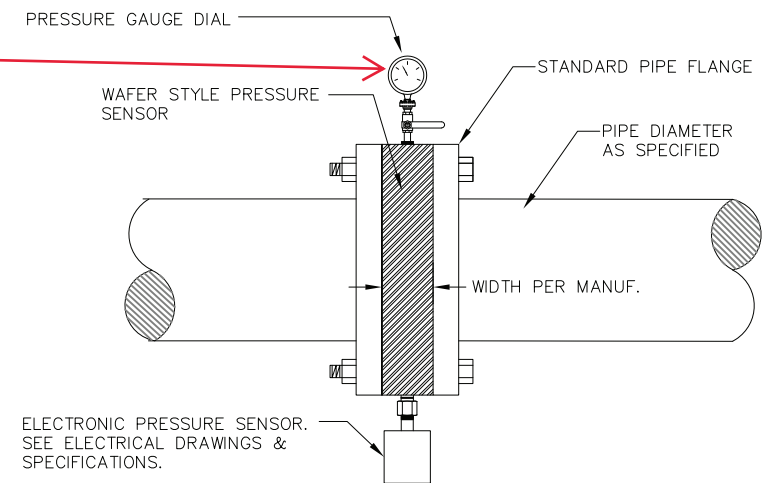
DATE FEB. 2024 SHEET NO. 55 OF 244



TYPE 1 PRESSURE GAUGE ASSEMBLY
NOT TO SCALE **4**
60-M-4

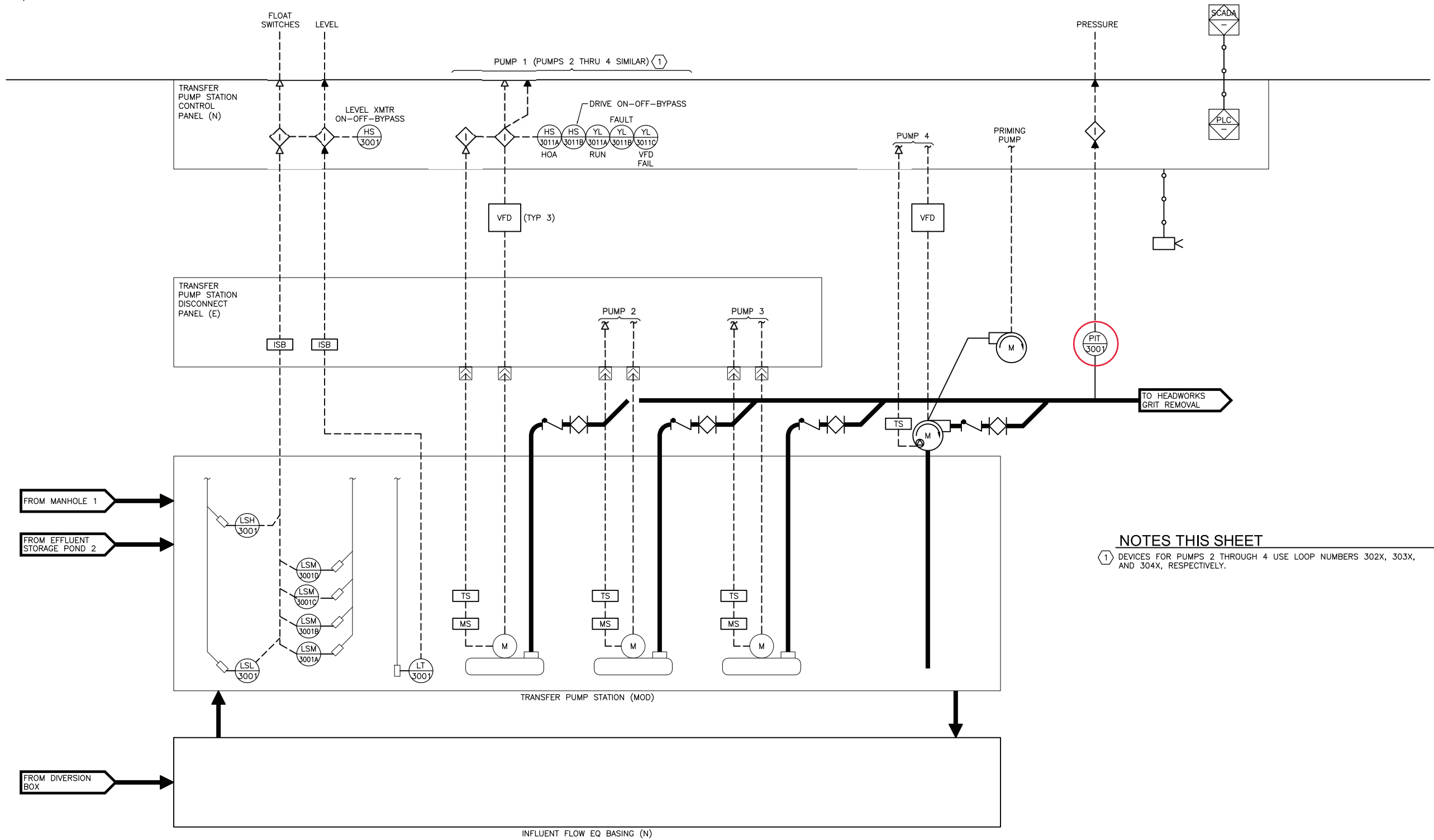


TYPE A PRESSURE GAUGE ASSEMBLY
NOT TO SCALE **5**
60-M-4



TYPE 2 PRESSURE GAUGE ASSEMBLY
NOT TO SCALE **6**
60-M-4

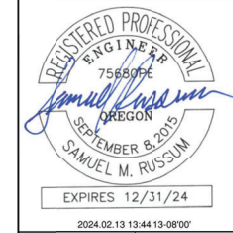
SBR/SCADA



NOTES THIS SHEET
 ① DEVICES FOR PUMPS 2 THROUGH 4 USE LOOP NUMBERS 302X, 303X, AND 304X, RESPECTIVELY.



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WASTEWATER TREATMENT PLANT UPGRADES
CITY OF MOLALLA
TRANSFER PUMP STATION
PROCESS & INSTRUMENTATION DIAGRAM

DESIGNED: MICHAEL FOSTER
DRAWN: R&W

APPROVED BY: _____
DATE: _____

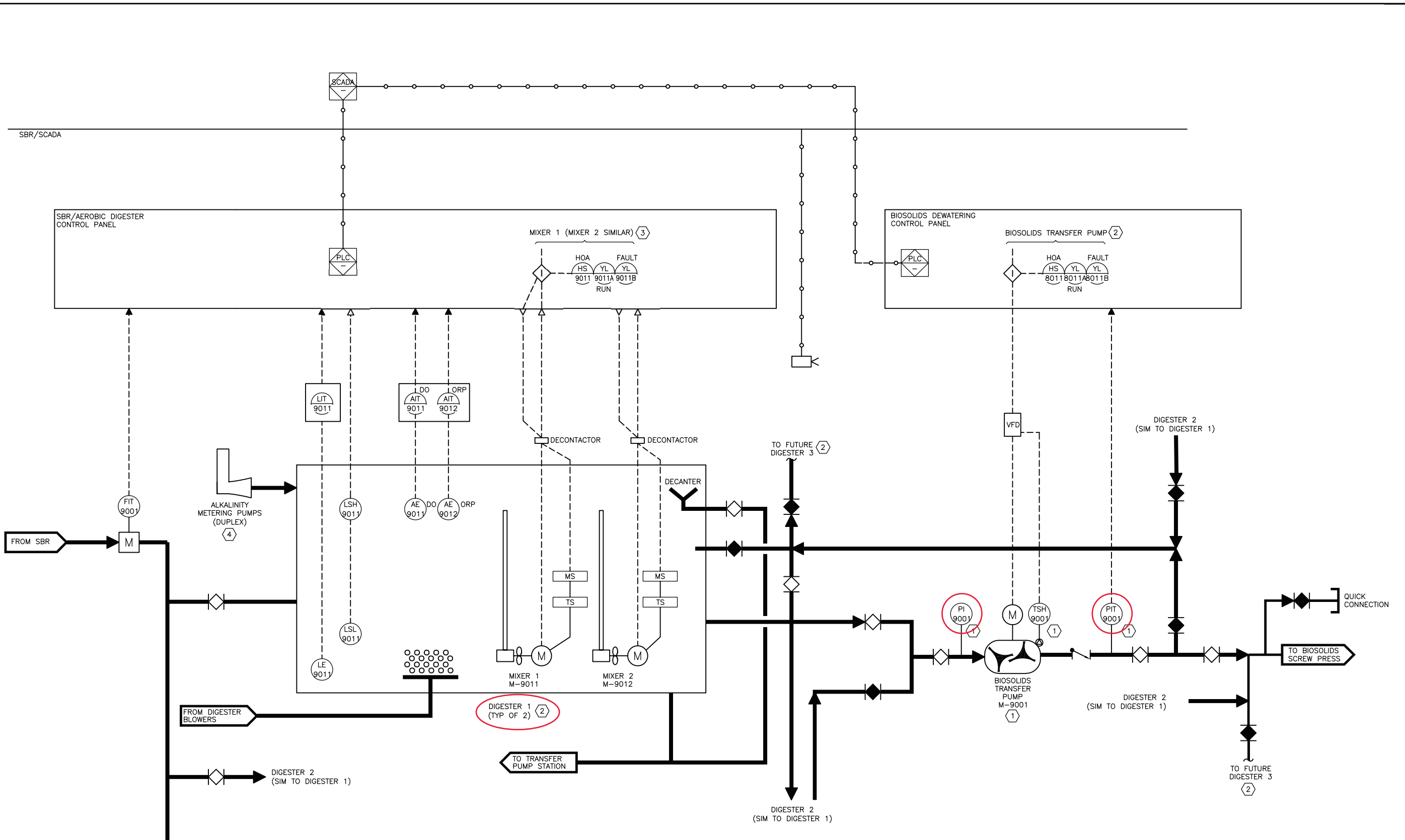
REVISIONS			
REVISED	DESCRIPTION	APPR'D.	DATE

LINE IS 1 INCH
AT FULL SCALE
IF NOT 1 INCH - SCALE ACCORDINGLY

PROJECT NO. 198.28
DRAWING NO. 80-1-300
DATE FEB. 2024
SHEET NO. 81 OF 244



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GENERAL NOTES

A. LOOP NUMBERS FOR AEROBIC DIGESTER NO 2 ARE 902X.

NOTES THIS SHEET

- ① PUMP COMING OFF DIGESTER 2 IS CALLED "SCREW PRESS FEED PUMP" AND ALL ELEMENTS ASSOCIATED WITH IT USE LOOP NUMBER 9002.
- ② PROVISIONS FOR FUTURE AEROBIC DIGESTER NO. 3 (NOT SHOWN).
- ③ LOOP NUMBERS FOR MIXER 2 ARE 9012 (9022 FOR DIGESTER 2).
- ④ SAME SYSTEM AS SBR BASINS, REFER TO SHEET 80-I-500.



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WASTEWATER TREATMENT PLANT UPGRADES
CITY OF MOLALLA
AEROBIC DIGESTERS
PROCESS & INSTRUMENTATION DIAGRAM

DESIGNED:	DRAWN:
MICHAEL FOSTER	R&W
APPROVED BY:	DATE:

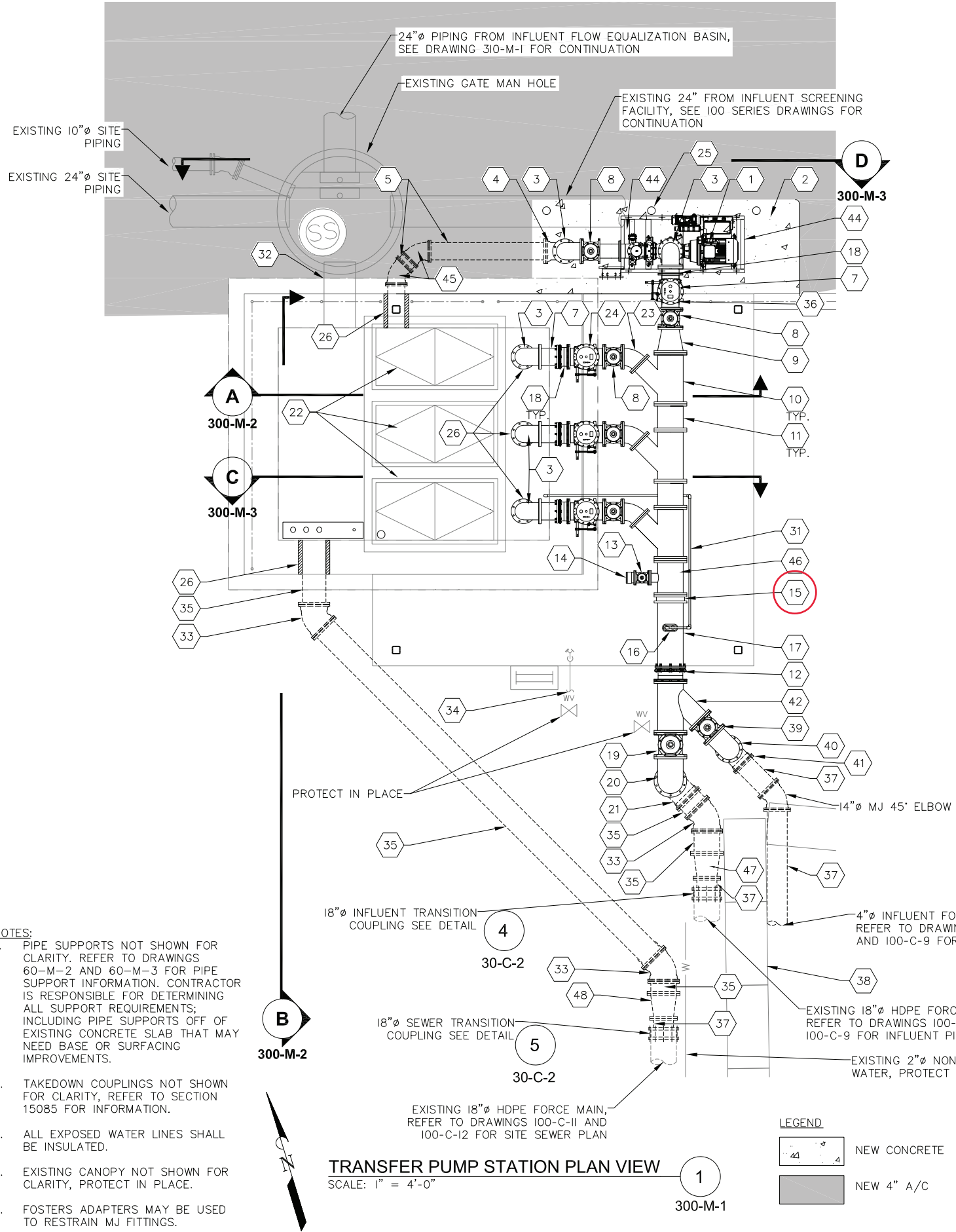
REVISED	DESCRIPTION	APPRD.	DATE

LINE IS 1 INCH AT FULL SCALE IF NOT INCH - SCALE ACCORDINGLY

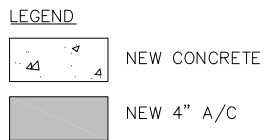
PROJECT NO.	DRAWING NO.
198.28	80-I-900
DATE	SHEET NO.
FEB. 2024	89 OF 244

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 E-mail: rwen@rwen.com
 Project No.: 1384.011.001 Contact: MICHAEL FOSTER

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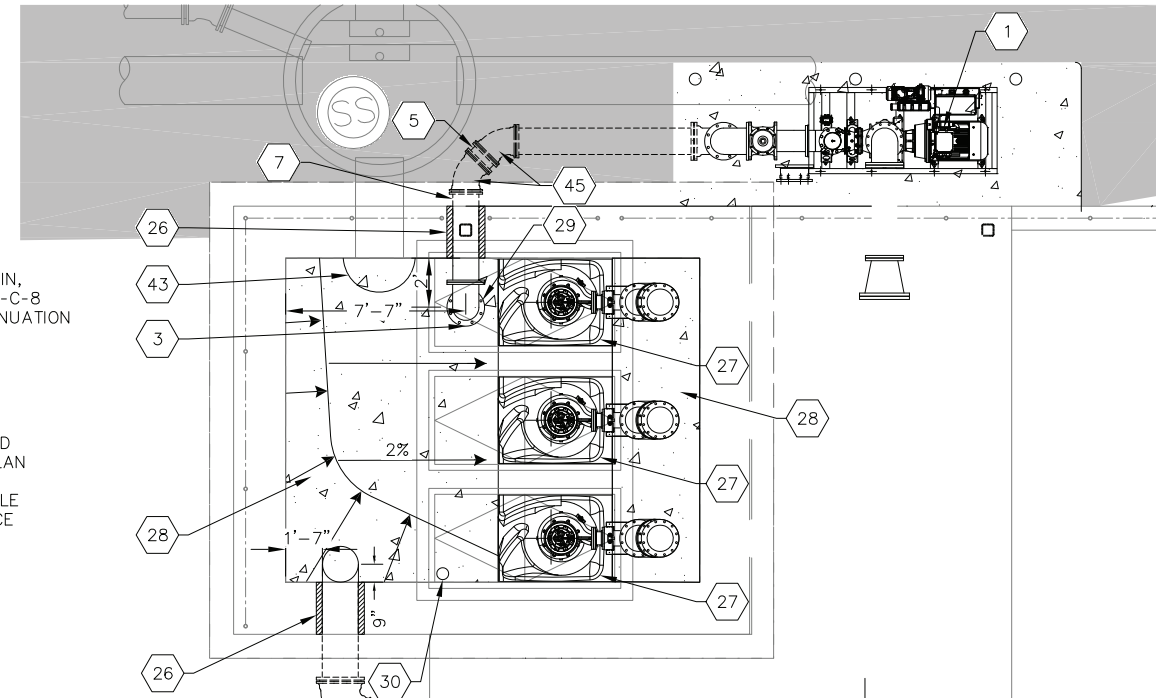


TRANSFER PUMP STATION PLAN VIEW
SCALE: 1" = 4'-0"



KEY NOTES

- 1 PEDESTAL MOUNTED STAND-BY PUMP, INSTALL PER MANUFACTURER RECOMMENDATIONS, SEE DETAILS
- 2 8" THICK CONCRETE PAD, PROVIDE #5 @ 12" O.C. EACH WAY ON 6" COMPACTED AGG BASE.
- 3 12"Ø FLG 90° ELBOW, TYP.
- 4 12"Ø MJ 90° ELBOW
- 5 12"Ø PIPE SPOOL, LENGTH AS REQUIRED
- 6 12"Ø FCA, TYP.
- 7 12"Ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
- 8 12"Ø FLG PLUG VALVE, TYP.
- 9 18"Ø X 12"Ø FLG CONCENTRIC REDUCER
- 10 18"Ø X 12"Ø FLG WYE, TYP. OF 3
- 11 18"Ø FLG PIPE SPOOL, LENGTH AS REQUIRED
- 12 18"Ø DISMANTLING JOINT
- 13 6"Ø FLG PLUG VALVE
- 14 ~~6"Ø QUICK-DISCONNECT, FLG~~
- 15 18"Ø TYPE 2 PRESSURE GAUGE ASSEMBLY, SEE DETAIL
- 16 ~~COMBO AIR/VAC RELIEF VALVE, W/SST DBL STRAP SADDLE, PROVIDE 2" SST NIPPLES AND SST ISOLATION BALL VALVE~~
- 17 18"Ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
- 18 12"Ø RFCA
- 19 18"Ø FLG PLUG VALVE
- 20 18"Ø FLG 90° ELBOW
- 21 18"Ø MJ 90° ELBOW
- 22 SAFETY GRATES IN EXISTING 44" by 90" PUMP HATCHES
- 23 12"Ø FLG 45° ELBOW, TYP. OF 3
- 24 12"Ø FLG CHECK VALVE
- 25 REMOVABLE BOLLARDS, SEE DETAIL TYP. OF 3
- 26 PIPE PENETRATION, SEE DETAIL
- 27 PREROTATION BASIN, INSTALL PER MANUFACTURER RECOMMENDATIONS
- 28 CONCRETE BASE AND FILLET
- 29 12"Ø SUCTION INLET
- 30 LEVEL TRANSDUCER STILLING WELL, SEE DETAIL
- 31 1"Ø AIR RELEASE DRAIN LINE TO WELL
- 32 EXISTING 24"Ø INLET, PROTECT IN PLACE
- 33 18"Ø MJ 45° ELBOW
- 34 EXISTING NPW HOSE BIB AND NON-POTABLE WATER LINE, PROTECT IN PLACE
- 35 18"Ø PIPE SPOOL, LENGTH AS REQUIRED
- 36 MODIFY EXISTING HANDRAILS AS REQUIRED FOR INSTALLATION OF PIPING, SEE DRAWING 300-M-3
- 37 14"Ø PIPE SPOOL, LENGTH AS REQUIRED
- 38 EXISTING ECO-BLOCK WALL. REMOVE AND REINSTALL AS REQUIRED FOR INSTALLATION OF FORCE MAIN.
- 39 14"Ø FLG PLUG VALVE
- 40 14"Ø FLG 90° ELBOW
- 41 14"Ø MJ 90° ELBOW
- 42 18"Ø X 14"Ø WYE
- 43 INFLUENT FLOW DEFLECTOR, SEE DETAIL
- 44 EQUIPMENT PAD, SEE DETAIL
- 45 12"Ø MJ 45° ELBOW
- 46 18"Ø X 18"Ø X 6"Ø TEE
- 47 18"Ø TO 14"Ø CONCENTRIC REDUCER MJ
- 48 18"Ø TO 14"Ø ECCENTRIC REDUCER MJ



TRANSFER PUMP STATION BASE PLAN VIEW
SCALE: 1" = 4'-0"

- NOTES:**
1. PIPE SUPPORTS NOT SHOWN FOR CLARITY. REFER TO DRAWINGS 60-M-2 AND 60-M-3 FOR PIPE SUPPORT INFORMATION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL SUPPORT REQUIREMENTS; INCLUDING PIPE SUPPORTS OFF OF EXISTING CONCRETE SLAB THAT MAY NEED BASE OR SURFACING IMPROVEMENTS.
 2. TAKEDOWN COUPLINGS NOT SHOWN FOR CLARITY, REFER TO SECTION 15085 FOR INFORMATION.
 3. ALL EXPOSED WATER LINES SHALL BE INSULATED.
 4. EXISTING CANOPY NOT SHOWN FOR CLARITY, PROTECT IN PLACE.
 5. FOSTERS ADAPTERS MAY BE USED TO RESTRAIN MJ FITTINGS.



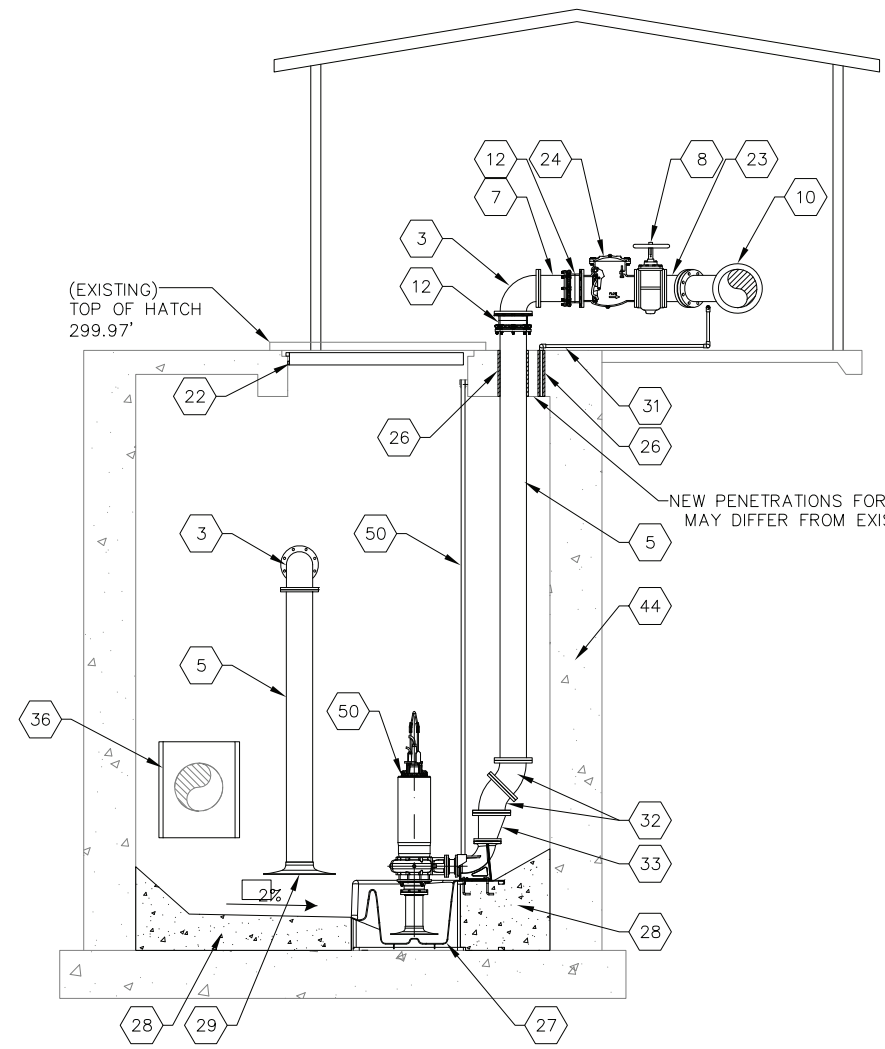
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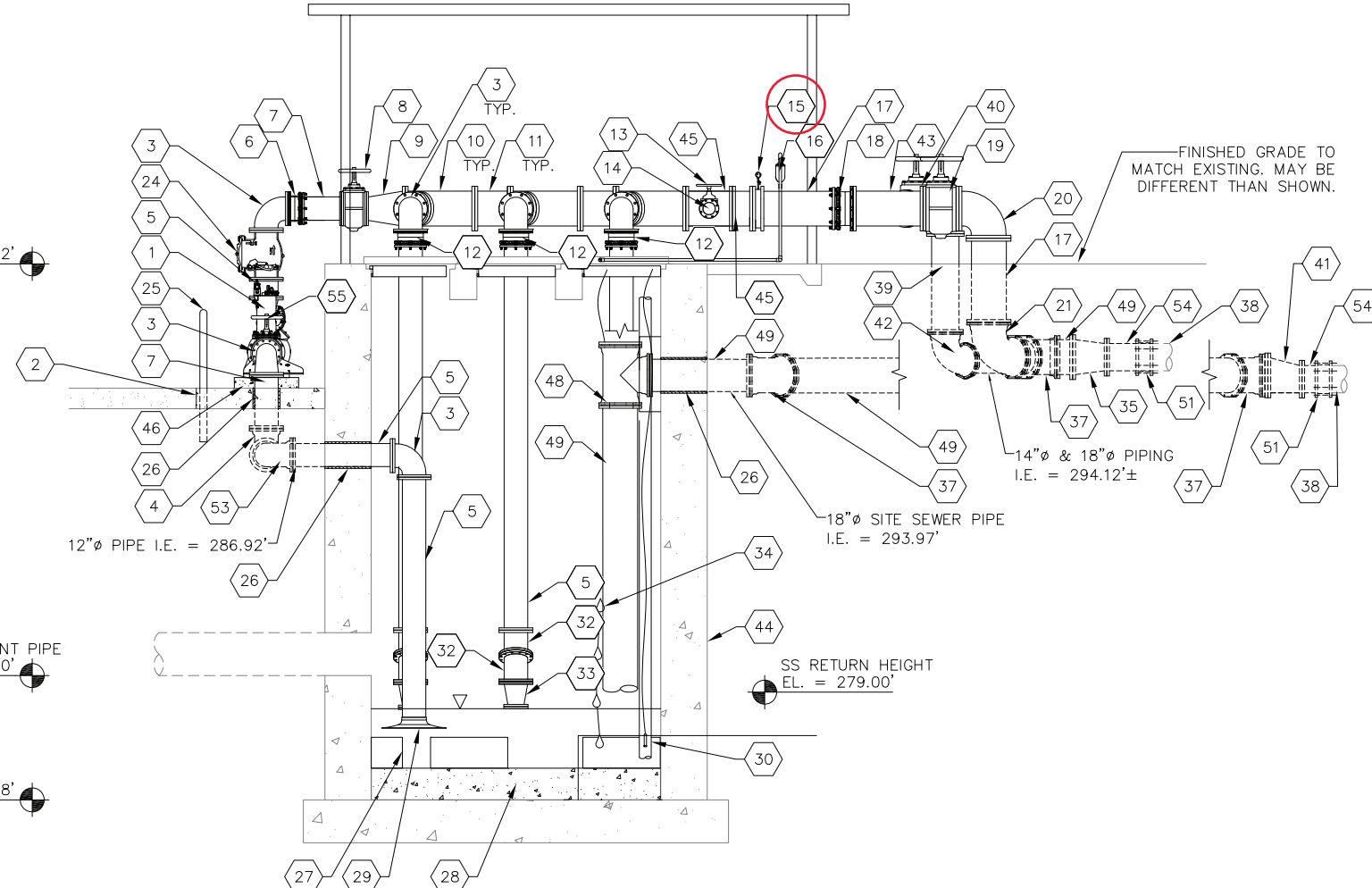
WASTEWATER TREATMENT PLANT UPGRADES
CITY OF MOLALLA
TRANSFER PUMP STATION IMPROVEMENTS
PLAN AND SECTION VIEWS

DESIGNED BY:	DRAWING NO.:		
APPROVED BY:	DRAWING NO.:		
DATE:	DATE:		
REVISIONS			
REVISED	DESCRIPTION	APPROD.	DATE
PROJECT NO. 198.28		DRAWING NO. 300-M-1	
DATE FEB. 2024		SHEET NO. 161 OF 244	

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SECTION A
SCALE: 1" = 4'-0"
300-M-1



SECTION B
SCALE: 1" = 4'-0"
300-M-1

KEY NOTES

- 1 PEDESTAL MOUNTED STAND-BY PUMP, INSTALL PER MANUFACTURER RECOMMENDATIONS, SEE DETAILS
- 2 8" THICK CONCRETE PAD, PROVIDE #5 @ 12" O.C. EACH WAY OVER 24" AGGREGATE BASE, OVER GEOTEXTILE FABRIC. 60-M-6 60-M-6
- 3 12"Ø FLG 90° ELBOW
- 4 12"Ø MJ 90° ELBOW
- 5 12"Ø FLG PIPE SPOOL, LENGTH AS REQUIRED
- 6 12"Ø FCA
- 7 12"Ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
- 8 12"Ø FLG PLUG VALVE
- 9 18"Ø X 12"Ø FLG REDUCER
- 10 18"Ø X 12"Ø FLG WYE, TYP. OF 3
- 11 18"Ø FLG PIPE SPOOL, LENGTH AS REQUIRED
- 12 12"Ø RFCA
- 13 6"Ø FLG PLUG VALVE
- ~~14 6"Ø QUICK DISCONNECT~~
- 15 18"Ø TYPE 2 PRESSURE GAUGE ASSEMBLY, SEE DETAIL 60-M-4

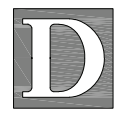
- 16 COMBO AIR/VAC RELIEF VALVE. W/SST DBL STRAP SADDLE. PROVIDE 2" SST NIPPLES AND SST ISOLATION BALL VALVE
- 17 18"Ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
- 18 18"Ø DISMANTLING JOINT
- 19 18"Ø FLG PLUG VALVE
- 20 18"Ø FLG 90° ELBOW
- 21 18"Ø MJ 90° ELBOW
- 22 SAFETY GRATES (NEW) IN EXISTING PUMP HATCHES
- 23 12"Ø FLG 45° ELBOW, TYP. OF 3
- 24 12" FLG CHECK VALVE
- 25 REMOVABLE BOLLARDS, SEE 4 TYP. OF 5 30-C-5
- 26 PIPE PENETRATION, SEE DETAIL 2 60-M-1
- 27 PREROTATION BASIN, INSTALL PER MANUFACTURER RECOMMENDATIONS
- 28 CONCRETE BASE AND FILLET

- 29 12" FLG BELLMOUTH SUCTION INLET I.E. TO BE 0.3' ABOVE PREROTATION BASIN
- 30 LEVEL TRANSDUCER STILLING WELL, SEE DETAIL 5 60-M-8
- 31 1"Ø DRAIN LINE
- 32 12"Ø FLG 22.5' ELBOW
- 33 12"Ø X 8"Ø FLG ECCENTRIC REDUCER
- 34 BACK-UP FLOATS
- 35 18"Ø X 14"Ø CONCENTRIC MJ REDUCER
- 36 DEFLECTOR PLATE, SEE 1
- 37 18"Ø MJ 45° ELBOW 60-M-7
- 38 EXISTING 18" PIPING CONTRACTOR TO POT HOLE AND VERIFY LOCATION AND DEPTH.
- 39 14"Ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
- 40 14"Ø FLG PLUG VALVE
- 41 18"Ø X 14"Ø ECCENTRIC MJ REDUCER

- 42 14"Ø MJ 90° ELBOW
- 43 18"Ø X 14"Ø FLG WYE
- 44 EXISTING WET WELL, PROTECT IN PLACE. MODIFY AS SHOWN
- 45 18"Ø X 18"Ø X 6"Ø TEE
- 46 EQUIPMENT PAD, 8" THICK WITH #5@12" O.C.E.W.
- 47 18"Ø INFLUENT TRANS. COUPLING SEE DETAIL 4 30-C-2
- 48 18"Ø X 18"Ø X 18"Ø MJ TEE
- 49 18"Ø PIPE SPOOL, LENGTH AS REQUIRED
- 50 SUBMERSIBLE PUMPS. QTY (3), INSTALL PUMP AND APPURTENANCES PER MANUFACTURER RECOMMENDATIONS
- 51 14"Ø FCA
- 52 18"Ø SEWER TRANSITION COUPLING SEE DETAIL 5 30-C-2
- 53 18"Ø MJ 45° ELBOW
- 54 14"Ø PIPE SPOOL, LENGTH AS REQUIRED
- 55 10"Ø FLG. PLUG VALVE

NOTES:

1. PIPE SUPPORTS NOT SHOWN FOR CLARITY. REFER TO DRAWINGS 60-M-2 AND 60-M-3 FOR PIPE SUPPORT INFORMATION.
2. TAKEDOWN COUPLINGS NOT SHOWN FOR CLARITY, REFER TO SECTION 15085 FOR INFORMATION.
3. ALL EXPOSED WATER LINES SHALL BE INSULATED.

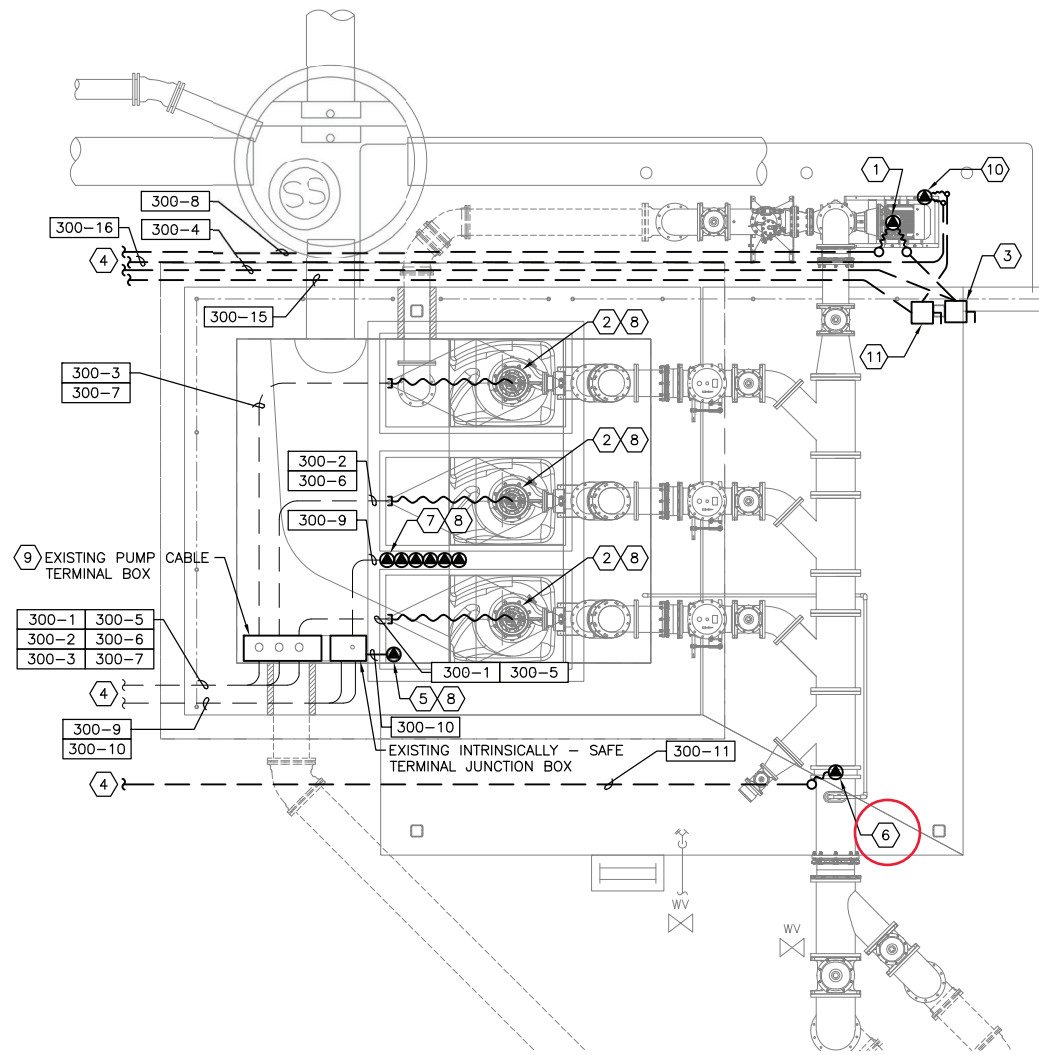


THE DYER PARTNERSHIP ENGINEERS & PLANNERS, INC.



WASTEWATER TREATMENT PLANT UPGRADES
CITY OF MOLALLA
TRANSFER PUMP STATION IMPROVEMENTS
SECTION VIEWS

DESIGNED:	DRAWN:		
COP:	COP:		
APPROVED BY:	DATE:		
REVISIONS			
REVISED	DESCRIPTION	APPRD.	DATE
LINE IS 1 INCH AT FULL SCALE IF NOT 1/4 INCH - SCALE ACCORDINGLY			
PROJECT NO.	DRAWING NO.		
198.28	300-M-2		
DATE	SHEET NO.		
FEB. 2024	162 OF 244		



1 TRANSFER PUMP STATION - POWER & SIGNAL
 300-E-1 SCALE: 1/4" = 1'-0"

GENERAL NOTES

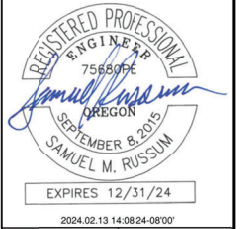
- A. SEE SHEETS 70-E-2 AND 70-E-3 FOR EXISTING ELECTRICAL ONE-LINE DIAGRAM.
- B. SEE SHEETS 70-E-9 THROUGH 70-E-14 FOR ELECTRICAL CIRCUIT SCHEDULES.
- C. THE TRANSFER PUMP STATION IS A CLASS 1, DIVISION 1 HAZARDOUS LOCATION BELOW GRADE INSIDE OF THE WET WELL AND A CLASS 1, DIVISION 2 HAZARDOUS AREA ABOVE GRADE THAT EXTENDS 18" HIGH 3' AROUND ALL OPENINGS TO THE WET WELL.
- D. FIELD COORDINATE ALL CONDUIT ROUTING WITH EXISTING CONDITIONS.
- E. ALL FLOOR MOUNTED ELECTRICAL ENCLOSURES TO HAVE HOUSEKEEPING PADS INSTALLED, REFER TO CIVIL SHEETS FOR ADDITIONAL INFORMATION.

NOTES THIS SHEET

- 1 NEW PEDESTAL MOUNTED STAND-BY PUMP.
- 2 EXISTING SUBMERSIBLE PUMP TO BE REPLACED WITH NEW. CONTRACTOR TO RE-USE EXISTING CONDUIT FOR NEW PUMPS.
- 3 LOCAL DISCONNECT FOR STAND-BY PUMP. MOUNT ONTO EXISTING COLUMN AT 5'-0" AFG.
- 4 SEE CIRCUIT CONTINUATION ON SHEET 100-E-4.
- 5 NEW LEVEL TRANSDUCER (LT-3001) LOCATED IN STILLING WELL, SEE DETAIL 7/70-E-6.
- 6 NEW PRESSURE SENSOR (PIT-3001).
- 7 NEW FLOAT SWITCHES (LSL-3001, LSM-3001A, LSM-3001B, LSM-3001C, LSM-3001D, LSH-3001). FIELD VERIFY EXACT LOCATION WITH CIVIL.
- 8 ROUTE CIRCUITS THROUGH EXISTING CONDUIT TO EXISTING JUNCTION BOX AND BACK TO TRANSFER PUMP STATION CONTROL PANEL. FIELD VERIFY EXISTING CONDUIT LOCATION AND CONDITION PRIOR TO INSTALLATION, ALERT ENGINEER OF ANY DISCREPANCIES NOTICED IN THE FIELD FOR FURTHER DIRECTION.
- 9 HYDROSTRAL SUBMERSIBLE PUMPS REQUIRE INTRINSICALLY SAFE RELAY FOR MOISTURE PROBE, PROVIDE (3) ADDITIONAL INTRINSICALLY SAFE RELAYS INSIDE OF TERMINAL BOX. MAINTAIN PROPER SEPARATION OF POWER AND CONTROL CABLES.
- 10 PRIMING PUMP MOUNTED ONTO STAND-BY PUMP SKID.
- 11 LOCAL DISCONNECT FOR PRIMING PUMP. MOUNT ONTO EXISTING COLUMN AT 5'-0" AFG.



THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.



WASTEWATER TREATMENT PLANT UPGRADES
CITY OF MOLALLA

TRANSFER PUMP STATION
POWER & SIGNAL

DESIGNED:	DRAWN:
MICHAEL FOSTER	R&W

APPROVED BY: _____
DATE: _____

REVISIONS			
REVISED	DESCRIPTION	APPR'D.	DATE

LINE IS 1 INCH
AT FULL SCALE
IF NOT 1 INCH - SCALE ACCORDINGLY

PROJECT NO.	DRAWING NO.
198.28	300-E-1
DATE	SHEET NO.
FEB. 2024	164 OF 244

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Project No.: 1384.011.001 Contact: MICHAEL FOSTER

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ENGINEERS & PLANNERS, INC.



WASTEWATER TREATMENT PLANT UPGRADES
CITY OF MOLALLA
NEW AEROBIC DIGESTERS
PLAN VIEW

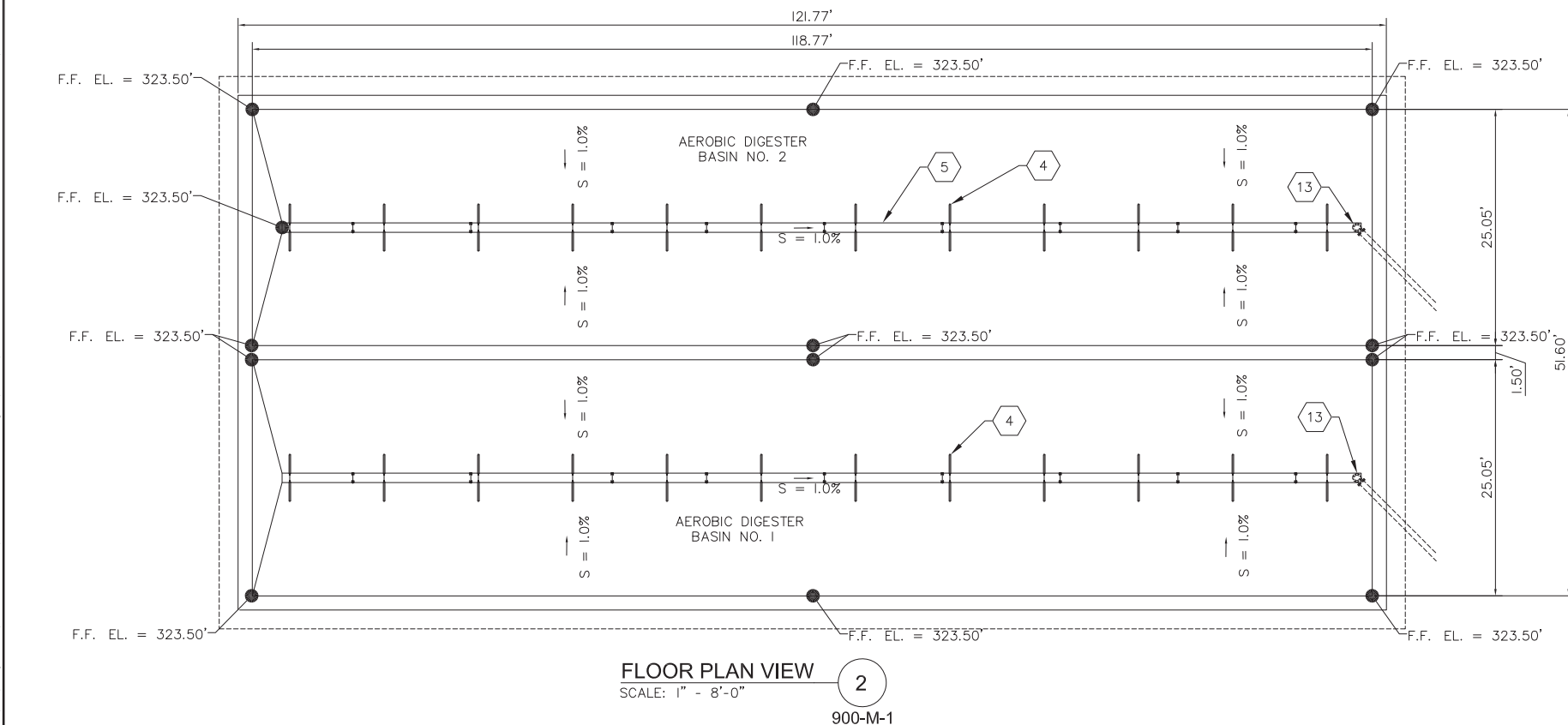
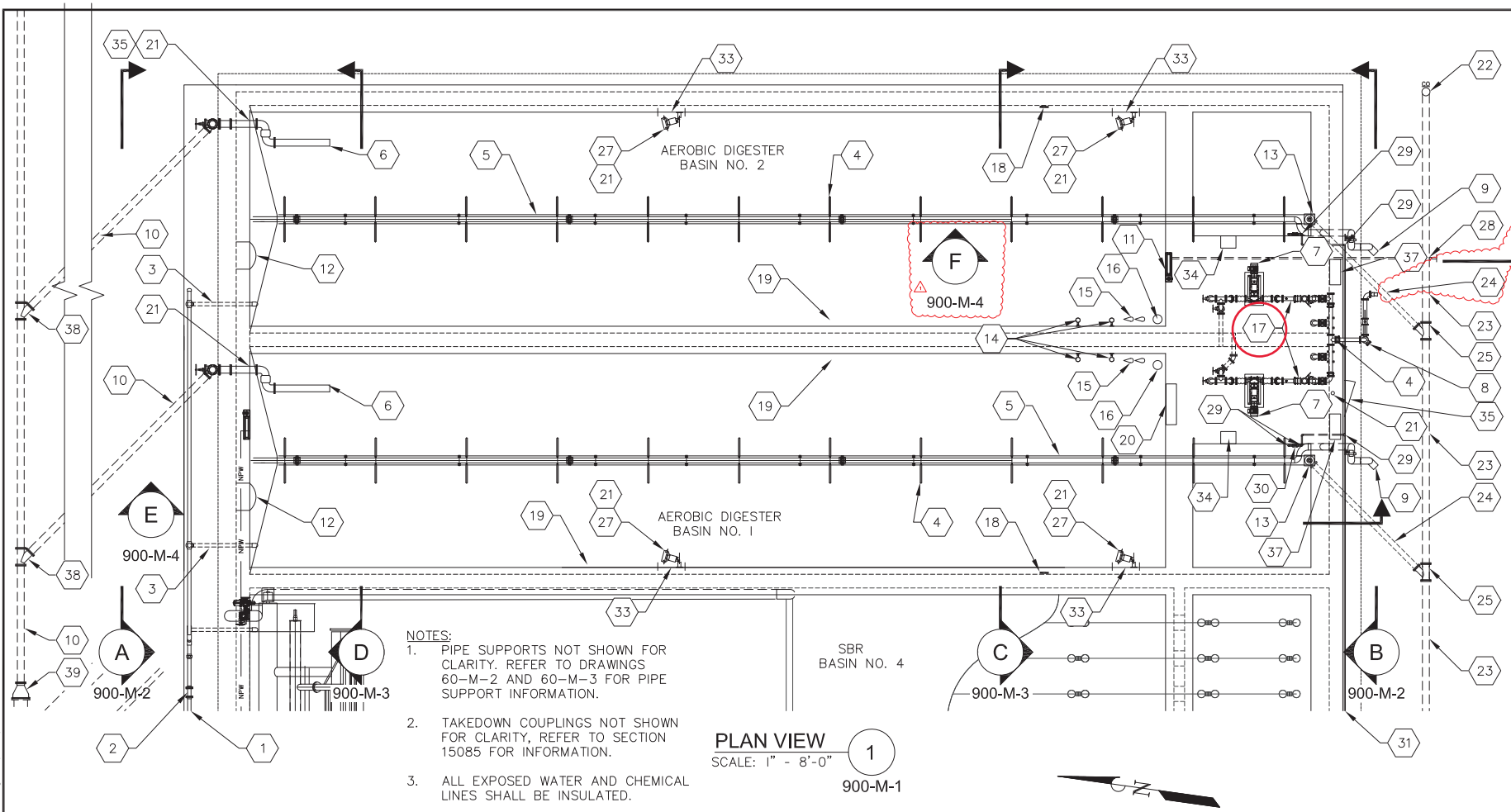
DESIGNED:	DATE:		
COP:	COP:		
APPROVED BY:	DATE:		
REVISIONS			
REVISED	DESCRIPTION	APPR'D.	DATE
1	ADDENDUM NO. 3		3/27/24

LINE IS 1/8" AT FULL SCALE
IF NOT 1/8" - SCALE ACCORDINGLY

PROJECT NO.	DRAWING NO.
198.28	900-M-1
DATE	SHEET NO.
FEB. 2024	230 OF 244

KEY NOTES

- 1 4"ø WAS PIPING FROM SBR, SEE DRAWING 500-M-1 FOR CONTINUATION
- 2 4"ø WAS MAGNETIC FLOW METER, INSTALL PER MANUFACTURER'S RECOMMENDATIONS
- 3 4"ø WAS DISCHARGE PIPING, SEE DRAWING 900-M-4.
- 4 COARSE BUBBLE DIFFUSER SYSTEM, INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 5 DRAIN TROUGH, S = 0.01
- 6 8"ø SWIVEL ARM DECANT
- 7 BIOSOLIDS TRANSFER PUMP AND SCREW PRESS FEED PUMP AND PIPING HEADER, SEE DRAWING 900-M-2 FOR ADDITIONAL INFORMATION.
- 8 4"ø TRANSFER SLUDGE PIPING, SEE DRAWING 100-C-3 FOR CONTINUATION.
- 9 8"ø AIR PIPING, SEE DRAWING 100-C-14 FOR CONTINUATION
- 10 8"ø DECANT PIPING TO SITE SEWER, SEE DRAWING 100-C-II FOR CONTINUATION
- 11 UTILITY STATION, SEE DETAIL 2
- 12 MANWAY ACCESS HATCH, TYP. OF 2, SEE DETAIL 6
- 13 TANK DRAIN MUD VALVES, SEE DETAIL 1 60-M-8
- 14 DO AND ORP PROBE AND RAIL MOUNTED TRANSMITTERS, TYPICAL PER BASIN 2
- 15 HL/LL FLOATS, TYPICAL PER BASIN 60-M-5
- 16 LIQUID LEVEL TRANSDUCER IN STILLING WELL AND TRANSMITTER, TYPICAL PER BASIN 5
- 17 TRANSFER PUMP PRESSURE SENSOR, SEE DETAIL 6 TYP. 60-M-8
- 18 ~~STAFF GAUGE, TYPICAL PER BASIN 60-M-4~~
- 19 HANDRAILS 2
- 20 LIFE RING, SEE DETAIL 50-S-10 5
- 21 PORTABLE HOIST AND FLOOR MOUNTED SOCKET, FIELD LOCATION PER ENGINEER, SEE DETAIL 6 & 7 60-M-6
- 22 8"ø CLEANOUT, SEE DETAIL 3 60-M-5 60-M-5
- 23 8"ø PIPE SPOOL, LENGTH AS REQUIRED 30-C-2
- 24 6"ø PIPE SPOOL, LENGTH AS REQUIRED
- 25 8"ø X 6"ø MJ WYE
- 26 4"ø WAS TRANSFER TO AEROBIC DIGESTER, SEE DRAWING 900-M-4
- 27 SUBMERSIBLE MIXER, TWO PER BASIN, LOCATION PER MANUFACTURER
- 28 2" NON-POTABLE WATER LINE
- 29 1"ø 90° ELBOW
- 30 1"ø TRUE UNION BALL VALVE
- 31 1"ø ALKALINITY PIPING, SEE DRAWING 400-M-2 FOR CONTINUATION.
- 32 8"ø DRAIN PIPING, SEE 100-C-II AND 400-M-2 FOR CONTINUATION
- 33 4' WIDE GATE FOR MIXER ACCESS, SEE DETAIL 3 (SIMILAR)
- 34 PUMP HOA SWITCH 50-S-10
- 35 GATE, SEE 3
- 36 4"ø FCA 50-S-10
- 37 ELECTRICAL LOCAL CONTROL STATION
- 38 8"ø MJ WYE
- 39 18"ø X 8"ø MJ REDUCER



NOTES:
1. PIPE SUPPORTS NOT SHOWN FOR CLARITY. REFER TO DRAWINGS 60-M-2 AND 60-M-3 FOR PIPE SUPPORT INFORMATION.
2. TAKEDOWN COUPLINGS NOT SHOWN FOR CLARITY, REFER TO SECTION 15085 FOR INFORMATION.
3. ALL EXPOSED WATER AND CHEMICAL LINES SHALL BE INSULATED.

H:\AProjects\198 Molalla\198.28 WWTF Design\DWG\PROCESS AREA 900 - AEROBIC DIGESTER\AEROBIC DIGESTER SECTIONS & ELEVATIONS.dwg, 2/14/2024 11:37:25 AM PLOT DATE February 14, 2024

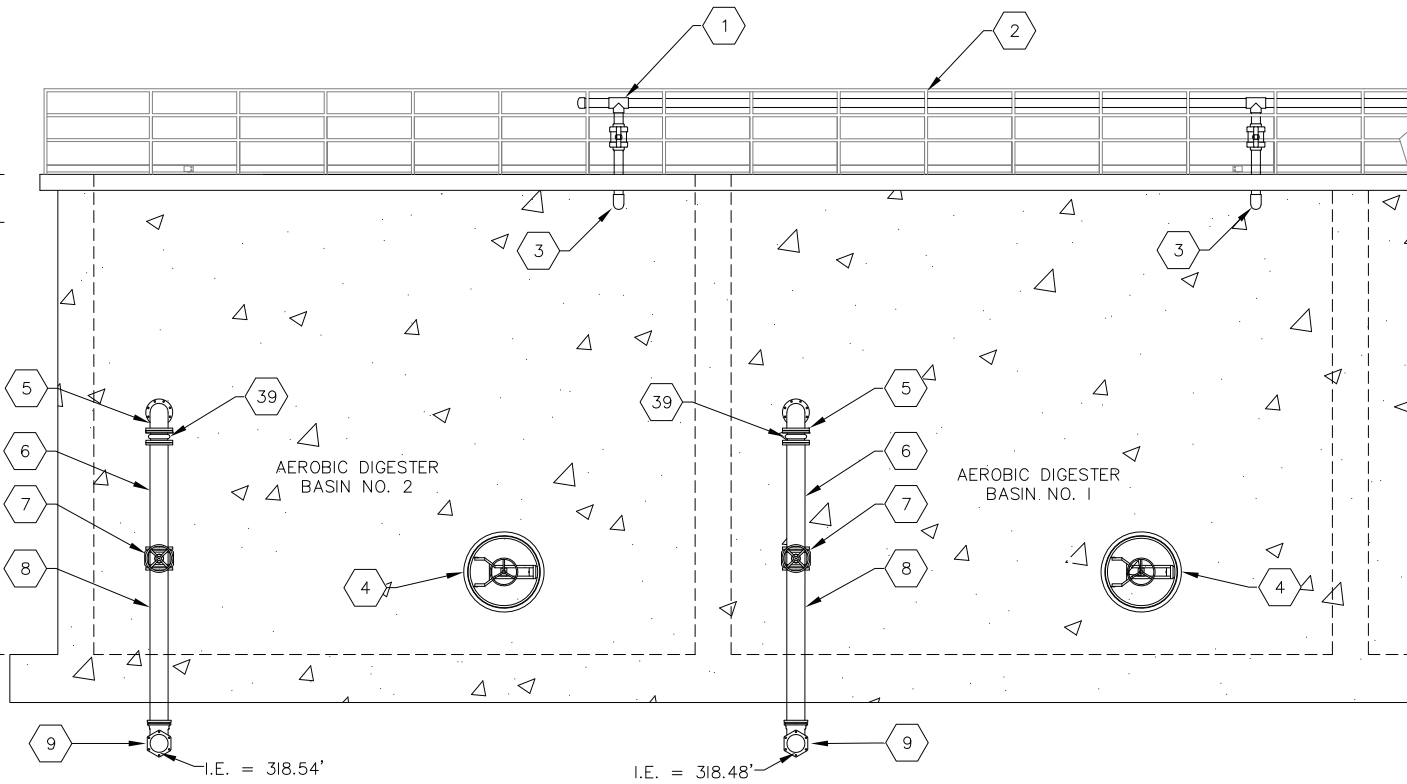
EL. = 343.50'
HWL
EL. = 341.50'

EL. = 323.50'

EL. = 343.50'
EL. = 341.50'

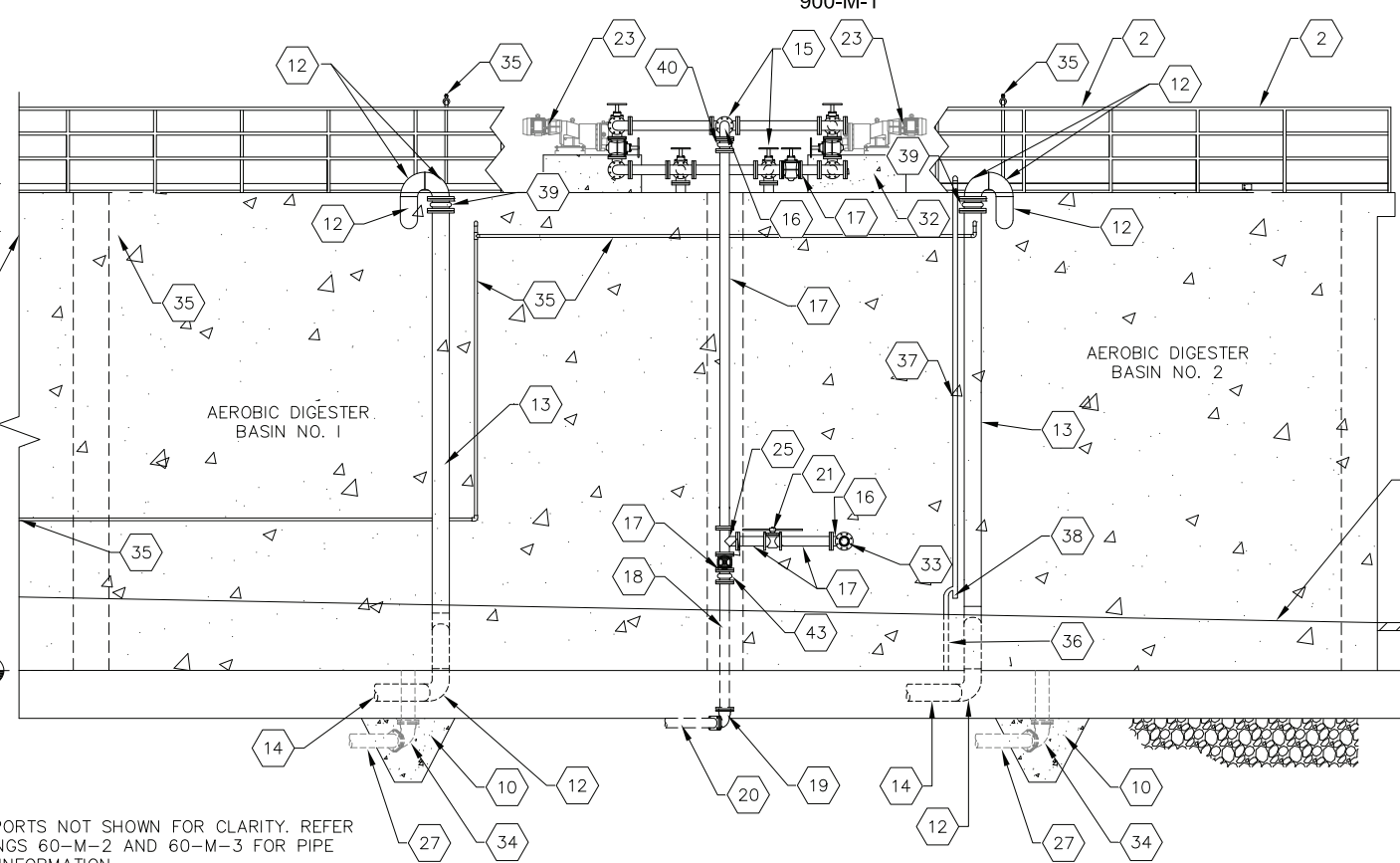
TOP OF FOOTING
EL. = 323.50'

- NOTES:
- PIPE SUPPORTS NOT SHOWN FOR CLARITY. REFER TO DRAWINGS 60-M-2 AND 60-M-3 FOR PIPE SUPPORT INFORMATION.
 - TAKEDOWN COUPLINGS NOT SHOWN FOR CLARITY. REFER TO SECTION 15085 FOR INFORMATION.
 - ALL EXPOSED WATER AND CHEMICAL LINES SHALL BE INSULATED.



NORTH ELEVATION
SCALE: 1" = 4'-0"

900-M-1

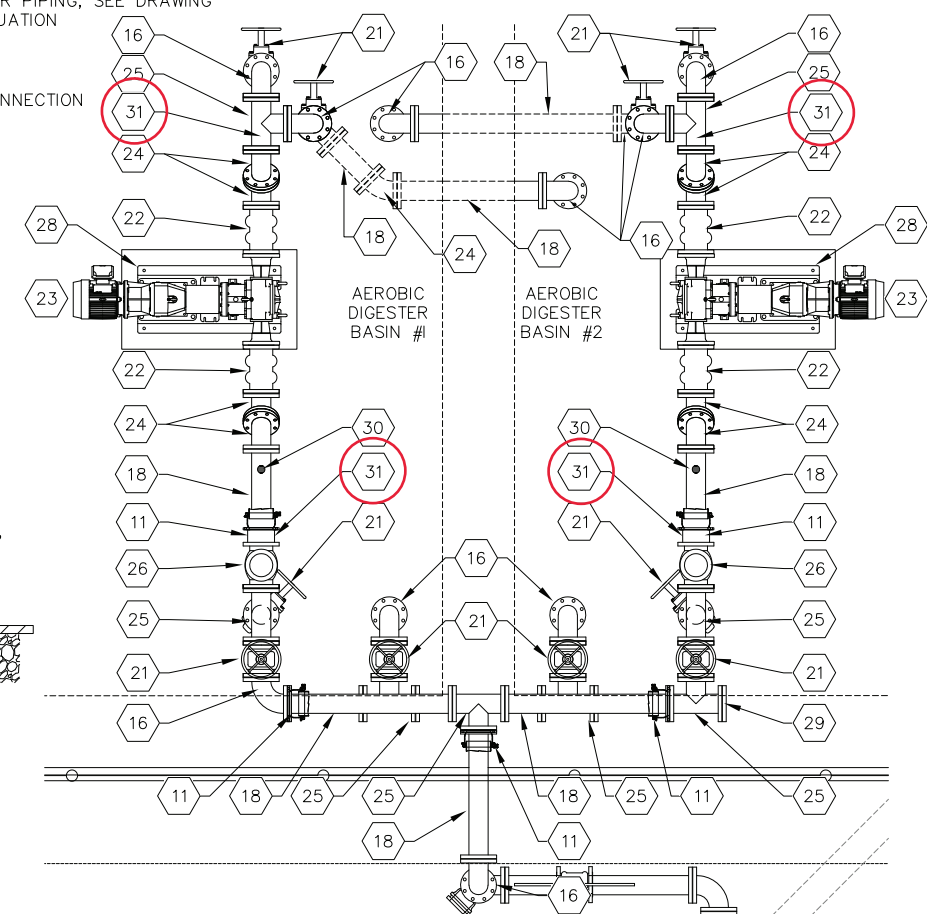


SOUTH ELEVATION
SCALE: 1" = 4'-0"

900-M-1

KEY NOTES

- 4"Ø WAS TRANSFER PIPING, SEE DRAWING 900-M-3
- HANDRAILS, SEE DETAIL 2
- 4"Ø 90° ELBOW 50-S-10
- TANK ACCESS HATCH, SEE DETAIL 6
- 8"Ø FLG 90° ELBOW 60-M-8
- 8"Ø FLG PIPE SPOOL, LENGTH AS REQUIRED
- 8"Ø FLG PLUG VALVE
- 8"Ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
- 8"Ø MJ 90° ELBOW
- 6"Ø TANK DRAIN, ENCASED IN CONCRETE
- 4"Ø FCA
- 8"Ø 90° SHORT RADIUS ELBOW
- 8"Ø PIPE SPOOL, LENGTH AS REQUIRED
- 8"Ø AIR PIPING, SEE DRAWING 100-C-7 FOR CONTINUATION
- SLUDGE TRANSFER, PUMPS AND HEADER, SEE DETAIL 1/900-M-2
- 4"Ø FLG 90° ELBOW
- 4"Ø FLG PIPE SPOOL, LENGTH AS REQUIRED
- 4"Ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
- 4"Ø MJ 90° ELBOW
- 4"Ø SLUDGE TRANSFER PIPING, SEE DRAWING 100-C-14 FOR CONTINUATION
- 4"Ø FLG PLUG VALVE
- 4"Ø FLG FLEXIBLE CONNECTION
- BIOSOLIDS TRANSFER PUMP AND SCREW PRESS FEED PUMP, INSTALL PER MANUFACTURER RECOMMENDATIONS. ON CONCRETE BASE.
- 4"Ø FLG 45° ELBOW
- 4"Ø FLG TEE
- 4"Ø FLG CHECK VALVE
- 6"Ø TANK DRAIN PIPING, SEE DRAWING 100-C-II FOR CONTINUATION
- PUMP BASE, SEE DETAIL 2
- 4"Ø BLIND FLANGE 60-M-6
- AIR/VAC RELIEF VALVE, PROVIDE 1"Ø SST DBL STRAP SADDLE, SST NIPPLES AND ISOLATION BALL VALVE, 1"Ø DRAIN LINE BACK INTO TANK
- TYPE "2" PRESSURE GAUGE ASSEMBLY, SEE DETAIL 6
- CONCRETE EQUIPMENT PAD, SEE DETAIL 2 & 1 60-M-4
- 4"Ø FLG X MALE CAMLOCK 60-M-6 900-M-4
- 6"Ø MJ 90° ELBOW
- 1"Ø ALKALINITY PIPE, SEE DRAWING 900-M5 FOR DETAILS AND 400-M-3 FOR CONTINUATION
- 2"Ø NPW PIPING, SEE DRAWING 100-C-7 FOR CONTINUATION.
- 2"Ø NPW PIPING
- 2"Ø NPW PIPE DRAIN, SEE DETAIL 3
- 8"Ø FLEXIBLE EXPANSION JOINT. PROVIDE FLANGES AS REQUIRED FOR INSTALLATION 60-M-8
- 4"Ø FLEXIBLE EXPANSION JOINT. PROVIDE FLANGES AS REQUIRED FOR INSTALLATION



BIOSOLIDS TRANSFER PUMP & SCREW PRESS FEED PUMPING HEADER

SCALE: 1" = 2'-0"

900-M-2



THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.



WASTEWATER TREATMENT PLANT UPGRADES
CITY OF MOLALLA

NEW AEROBIC DIGESTERS
ELEVATION AND SECTION VIEWS

DESIGNED:	DRAWN:
COP:	COP:
APPROVED BY:	DATE:

REVISED	DESCRIPTION	APPR'D.	DATE

LINE IS 1/8" AT FULL SCALE
IF NOT 1/8" - SCALE ACCORDINGLY

PROJECT NO. 198.28	DRAWING NO. 900-M-2
DATE FEB. 2024	SHEET NO. 231 OF 244

PLOT DATE March 27, 2024

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THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.

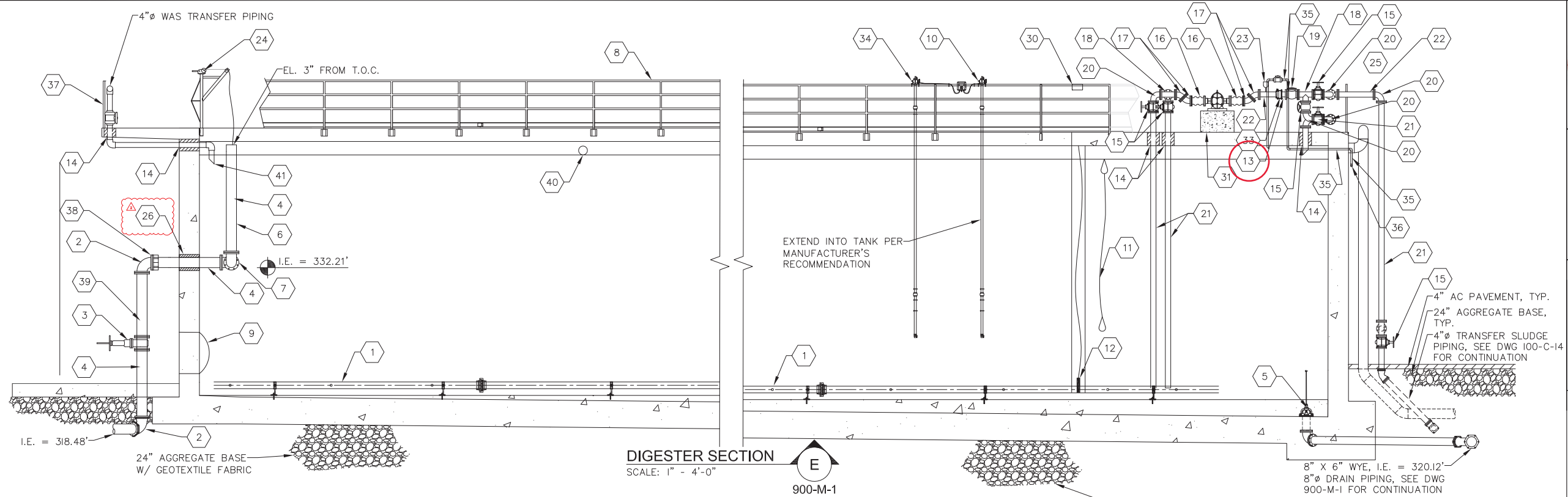


WASTEWATER TREATMENT PLANT UPGRADES
CITY OF MOLALLA

NEW AEROBIC DIGESTERS
SECTION VIEWS

DESIGNED:	DATE:		
APPROVED BY:	DATE:		
REVISIONS			
REVISED	DESCRIPTION	APPROV'D	DATE
1	ADDENDUM NO. 2		3/19/24
2	ADDENDUM NO. 3		3/27/24

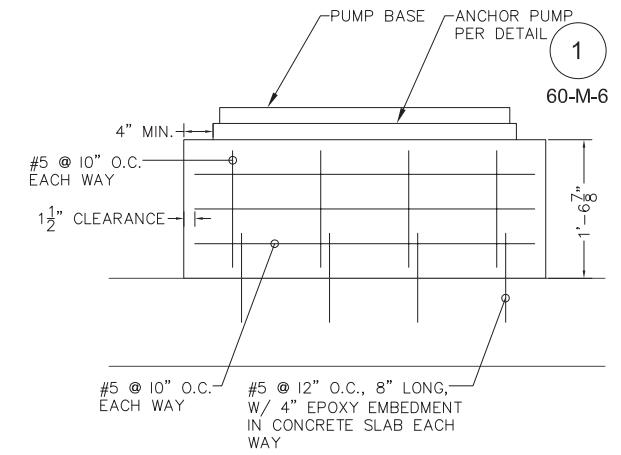
PROJECT NO.		DRAWING NO.	
198.28		900-M-4	
DATE		SHEET NO.	
FEB. 2024		233 OF 244	



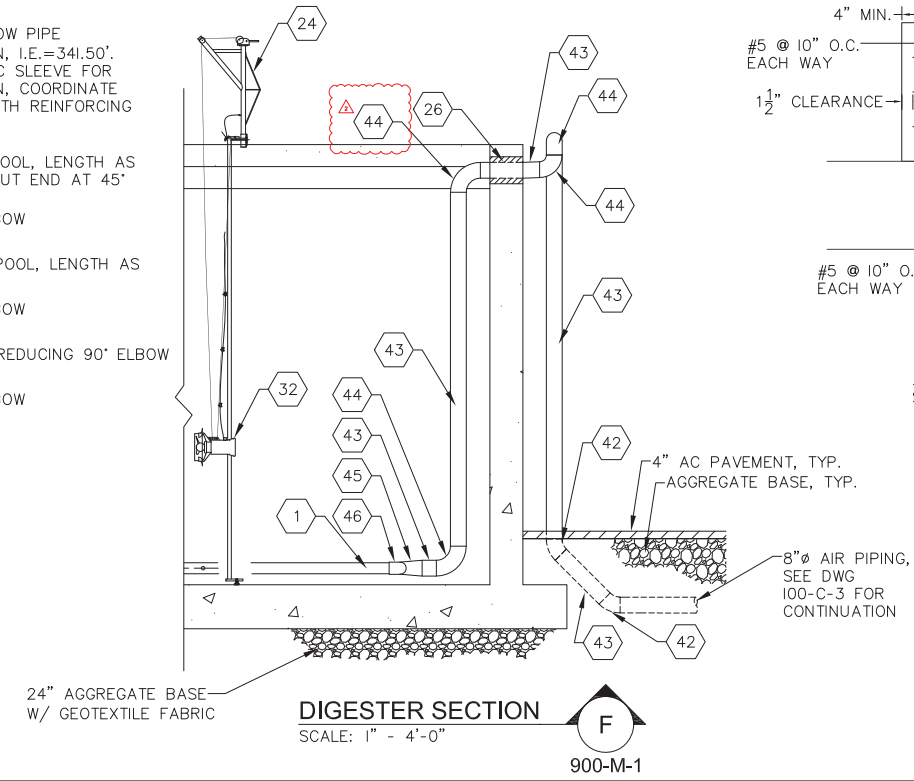
DIGESTER SECTION E
SCALE: 1" = 4'-0"
900-M-1

KEY NOTES

- 1 COARSE BUBBLE DIFFUSER SYSTEM, INSTALL PER MANUFACTURER'S RECOMMENDATIONS
- 2 8"Ø 90° ELBOW
- 3 8"Ø PLUG VALVE
- 4 8"Ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
- 5 6"Ø MUD VALVE, SEE DETAIL 60-M-8
- 6 8"Ø DECANT ARM WITH CHAIN, PROVIDE SADDLE AT END OF PIPE FOR ATTACHMENT TO HOIST
- 7 SWIVEL JOINT FOR DECANT ARM, TYP. PER BASIN
- 8 HANDRAIL, SEE DETAIL 50-S-10
- 9 MAN WAY ACCESS HATCH, SEE DETAIL 60-M-8
- 10 DO PROBE & TRANSMITTER, TYPICAL PER TANK, SEE DETAIL 60-M-5
- 11 HIGH/LOW LEVEL FLOATS, TYP. PER BASIN
- 12 LIQUID LEVEL TRANSDUCER IN STILLING WELL, TYPICAL PER BASIN, SEE DETAIL 60-M-8
- 13 TYPE '2' PRESSURE ASSEMBLY, SEE DETAIL 60-M-4
- 14 PIPE PENETRATION, SEE DETAIL 60-M-1
- 15 4"Ø FLG PLUG VALVE
- 16 4"Ø FLG FLEXIBLE CONNECTION
- 17 4"Ø FLG 45° ELBOW
- 18 4"Ø FLG TEE
- 19 4"Ø FLG CHECK VALVE
- 20 4"Ø FLG 90° ELBOW
- 21 4"Ø FLG PIPE SPOOL, LENGTH AS REQUIRED
- 22 4"Ø FLG X PE PIPE SPOOL, LENGTH AS REQUIRED
- 23 AIR/VAC RELIEF VALVE, PROVIDE 1"Ø SST DBL STRAP SADDLE, SST NIPPLES AND ISOLATION BALL VALVE, SEE DETAIL 60-M-6
- 24 PORTABLE HOIST, SEE DETAIL 60-M-5
- 25 MODIFY HANDRAIL FOR PIPING PENETRATION
- 26 PIPE PENETRATION, SEE DETAIL 60-M-1
- 27 8"Ø FLG 90° ELBOW
- 28 8"Ø FLG 45° ELBOW
- 29 8"Ø FLG PIPE SPOOL, LENGTH AS REQUIRED
- 30 LIQUID LEVEL TRANSMITTER, SEE DETAIL 60-M-8
- 31 PUMP BASE, SEE DETAIL 900-M-4
- 32 SUBMERSIBLE MIXER, TYPICAL (2) PER BASIN. SEE DETAIL 60-M-5
- 33 4"Ø FCA
- 34 ORP PROBE AND TRANSMITTER, SEE DETAIL 60-M-5
- 35 1"Ø ALKALINITY FEED PIPING
- 36 1"Ø ALKALINITY PIPING, SEE DRAWING 400-M-2 FOR CONTINUATION.
- 37 HANDRAILS, TOP MOUNTED
- 38 8"Ø FCA
- 39 8"Ø FLG PIPE SPOOL LENGTH AS REQUIRED
- 40 8"Ø OVERFLOW PIPE PENETRATION, I.E.=341.50'. PROVIDE PVC SLEEVE FOR PENETRATION, COORDINATE LOCATION WITH REINFORCING STEEL
- 41 4"Ø PIPE SPOOL, LENGTH AS REQUIRED, CUT END AT 45°
- 42 8"Ø 45° ELBOW
- 43 8"Ø PIPE SPOOL, LENGTH AS REQUIRED
- 44 8"Ø 90° ELBOW
- 45 8"Ø X 6"Ø REDUCING 90° ELBOW
- 46 6"Ø 90° ELBOW

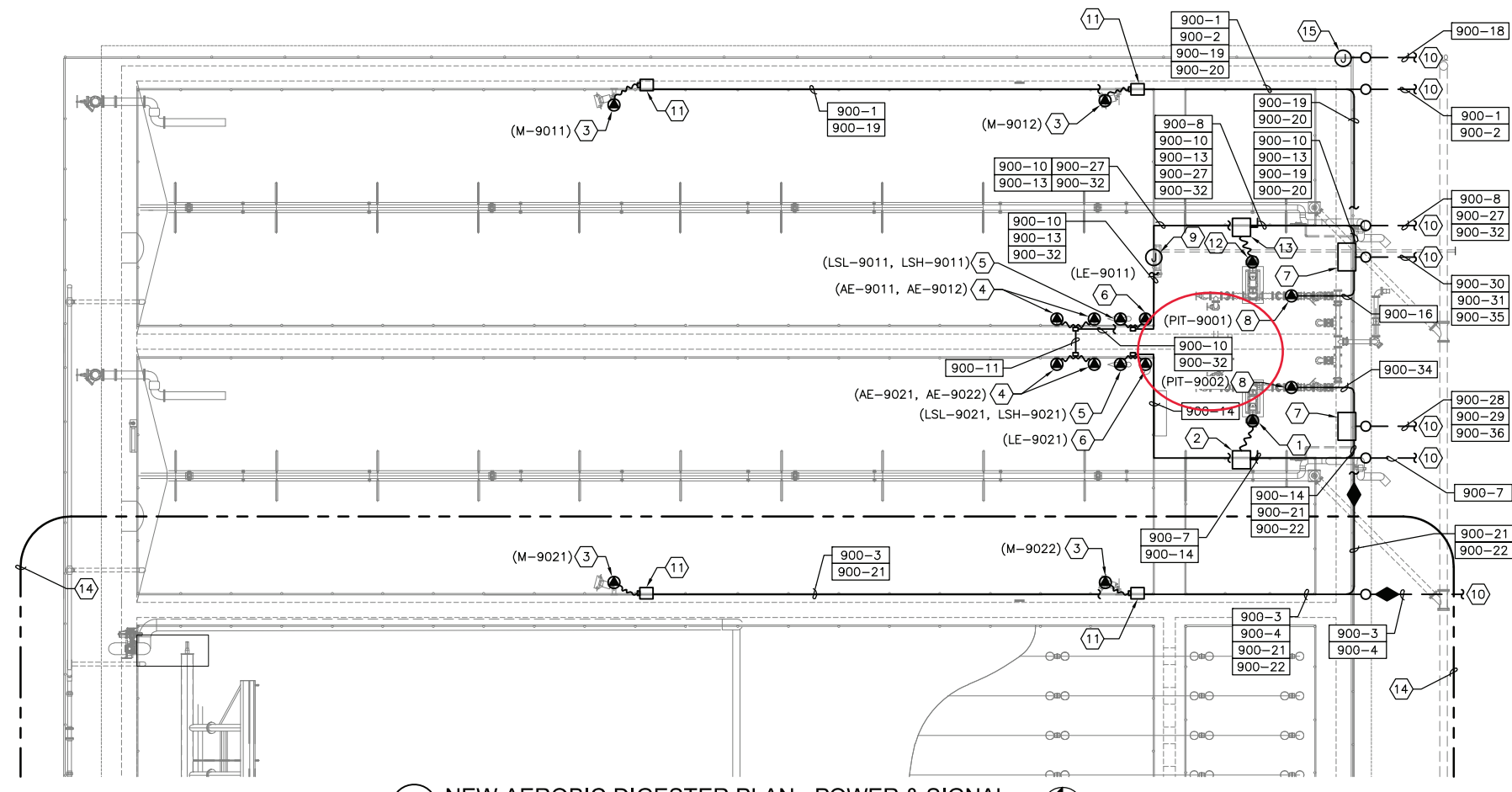


PUMP BASE DETAIL
SCALE: 1" = 1'-0"
900-M-4



DIGESTER SECTION F
SCALE: 1" = 4'-0"
900-M-1

- NOTES:
- PIPE SUPPORTS NOT SHOWN FOR CLARITY. REFER TO DRAWINGS 60-M-2 AND 60-M-3 FOR PIPE SUPPORT INFORMATION.
 - TAKEDOWN COUPLINGS NOT SHOWN FOR CLARITY, REFER TO SECTION 15085 FOR INFORMATION.
 - ALL EXPOSED WATER AND CHEMICAL LINES SHALL BE INSULATED.
 - TRANSMITTERS SHALL CONTROL TWO SENSORS



1 NEW AEROBIC DIGESTER PLAN - POWER & SIGNAL
 900-E-1 SCALE: 1/8" = 1'-0"

GENERAL NOTES

- A. SEE SHEETS 70-E-4 AND 70-E-5 FOR ELECTRICAL ONE-LINE DIAGRAM.
- B. SEE SHEETS 70-E-9 THROUGH 70-E-14 FOR ELECTRICAL CIRCUIT SCHEDULES.
- C. ROUTE CONDUIT AS SHOWN ON OR ALONG CATWALKS TO HANDRAILS OR CATWALKS WITH CONDUIT BODIES AND JUNCTION BOXES IN ACCESSIBLE LOCATIONS FOR MAINTENANCE. FIELD COORDINATE ROUTING SO THAT TOP RAIL OF HANDRAIL IS NOT OBSTRUCTED.
- D. PORTIONS OF THE AEROBIC DIGESTER AREA ARE CLASSIFIED, SEE SHEET NOTES FOR FURTHER CLARIFICATION.
- E. ALL FLOOR MOUNTED ELECTRICAL ENCLOSURES TO HAVE HOUSEKEEPING PADS INSTALLED, REFER TO CIVIL SHEETS FOR ADDITIONAL INFORMATION.
- F. MAINTAIN NEC REQUIRED CLEARANCES FOR ALL ELECTRICAL PANELS. FIELD COORDINATE WITH ENGINEER ON ANY LOCATIONS DETERMINED TO POTENTIALLY IMPEDE ON NEC REQUIRED CLEARANCES.
- G. PROVIDE CONDUIT SEAL-OFFS AS REQUIRED FOR ALL CIRCUITS TERMINATING INSIDE OF A HAZARDOUS AREA. CONFORM TO ALL HAZARDOUS AREA REQUIREMENTS PER NEC 501, 502, 503, 504. COORDINATE WITH ENGINEER IF ANY DISCREPANCIES ARISE.
- H. CONDUITS SHOWN CROSSING CATWALKS ARE TO BE ROUTED BELOW THE CATWALK TO ENSURE THE WALKWAY IS NOT OBSTRUCTED.

NOTES THIS SHEET

- 1 SCREW PRESS FEED PUMP (M-9002).
- 2 SCREW PRESS FEED PUMP DISCONNECT MOUNTED ONTO RAILING.
- 3 SUBMERSIBLE MIXER, TYP. OF 4.
- 4 DO AND ORP PROBES WITH RAIL MOUNTED TRANSMITTER, ROUTE MANUFACTURER CABLE TO TRANSMITTER, TYP. OF 2. BASIN 1 AND BASIN 2 PROBES CONNECTED TO SAME TRANSMITTER.
- 5 HIGH LEVEL AND LOW LEVEL FLOAT SWITCHES, TYP. OF 2.
- 6 LEVEL TRANSDUCER AND TRANSMITTER, TYP. OF 2.
- 7 LOCAL CONTROL STATION IN NEMA 4X FIBERGLASS ENCLOSURE WITH FRONT MOUNTED H-O-A SWITCHES, TYP. OF 2. FLOOR MOUNTED, PROVIDE HOUSEKEEPING PAD.
- 8 PUMP PRESSURE SENSOR, TYP. OF 2.
- 9 PROVIDE 120V CIRCUIT FOR HOSE BIB AND RACK HEAT TRACE CONNECTION. HEAT TRACING SHALL BE RATED FOR CLASS 1, DIVISION 2 AREA.
- 10 SEE SITE PLAN ON SHEET 100-E-2 FOR CIRCUIT CONTINUATION.
- 11 DECONTACTOR ASSEMBLY, SEE DETAIL ON SHEET 70-E-6.
- 12 BIOSOLIDS TRANSFER PUMP (M-9001).
- 13 BIOSOLIDS TRANSFER PUMP DISCONNECT MOUNTED ONTO RAILING.
- 14 DASHED LINE INDICATES THE CLASS 1 DIVISION 2 HAZARDOUS AREA CREATED BY THE SBR BASINS. THE BOUNDARY ENVELOPE ONLY AFFECTS EQUIPMENT ANYWHERE WITHIN 18-INCHES OF THE SBR BASIN WALLS AND OUT 10- FEET FROM THE SBR BASIN WALL AT 18-INCHES ABOVE FINISHED GRADE.
- 15 NEW EXTERIOR CAMERA LOCATION, FIELD VERIFY LOCATION WITH CIVIL AND OWNER PRIOR TO INSTALLATION.



THE DYER PARTNERSHIP
 ENGINEERS & PLANNERS, INC.



WASTEWATER TREATMENT PLANT UPGRADES
 CITY OF MOLALLA

NEW AEROBIC DIGESTER PLAN
 POWER & SIGNAL

DESIGNED:	DRAWN:
MICHAEL FOSTER	R&W

APPROVED BY: _____
 DATE: _____

REVISIONS			
REVISED	DESCRIPTION	APPRD.	DATE

LINE IS 1 INCH
 AT FULL SCALE
 IF NOT 1 INCH - SCALE ACCORDINGLY

PROJECT NO.	DRAWING NO.
198.28	900-E-1
DATE	SHEET NO.
FEB. 2024	235 OF 244

