



FOR CONSTRUCTION - JUNE 2025

SHEET	DESCRIPTION
<u>GENERAL</u>	
G-001	COVER, DRAWING INDEX, LOCATION AND VICINITY MAP
G-002	DESIGN CRITERIA, PIPE SCHEDULE, AND COMMON SYMBOLS
<u>INSTRUMENTATION</u>	
I-001	SYMBOLS AND NOMENCLATURE - I
I-002	SYMBOLS AND NOMENCLATURE - II
I-003	SYMBOLS AND NOMENCLATURE - III
I-004	SYMBOLS AND NOMENCLATURE - IV
I-005	INSTALLATION DETAILS - I
I-006	EXISTING PN-1011 RAS/WAS INTERNAL PLC LAYOUT
I-601	WAS PUMPS P&ID
<u>PROCESS</u>	
D-001	GENERAL NOTES AND STANDARD DETAIL
DD901	WAS PUMP STATION DEMOLITION PICTURES
DD902	SCUM PUMP STATION DEMOLITION PICTURES
D-101	PUMP STATION PLAN
D-102	SCUM PUMP STATION PLAN AND SECTION
D-301	PUMP STATION SECTIONS - I
D-302	PUMP STATION SECTIONS - II
D-901	PUMP STATION ISOMETRIC VIEWS
<u>ELECTRICAL</u>	
E-101	SITE PLAN
E-102	PUMP STATION PLAN AND SCHEDULE



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LOCATION MAP



VICINITY MAP

PROJECT NUMBER: 2002006370

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Permit/Seal

REGISTERED PROFESSIONAL
ENGINEER
77866 PE
OREGON
DEC. 12, 2012
ADAM I. ODELL
EXPIRES: 12-31-26

Client/Project
CITY OF SANDY

WASTE SLUDGE AND SCUM
PUMP REPLACEMENT
PROJECT
Sandy, OR

Project No.: 2002006370			
File Name: F002			
Scale: NO SCALE			
SNA	PMA	2025.04.25	
Dwn.	Dsgn.	Chkd.	YYYY-MM-DD
Title			
SYMBOLS AND			
NOMENCLATURE - II			
Revision:		Sheet:	of
Drawing No.			

I-002

I-002

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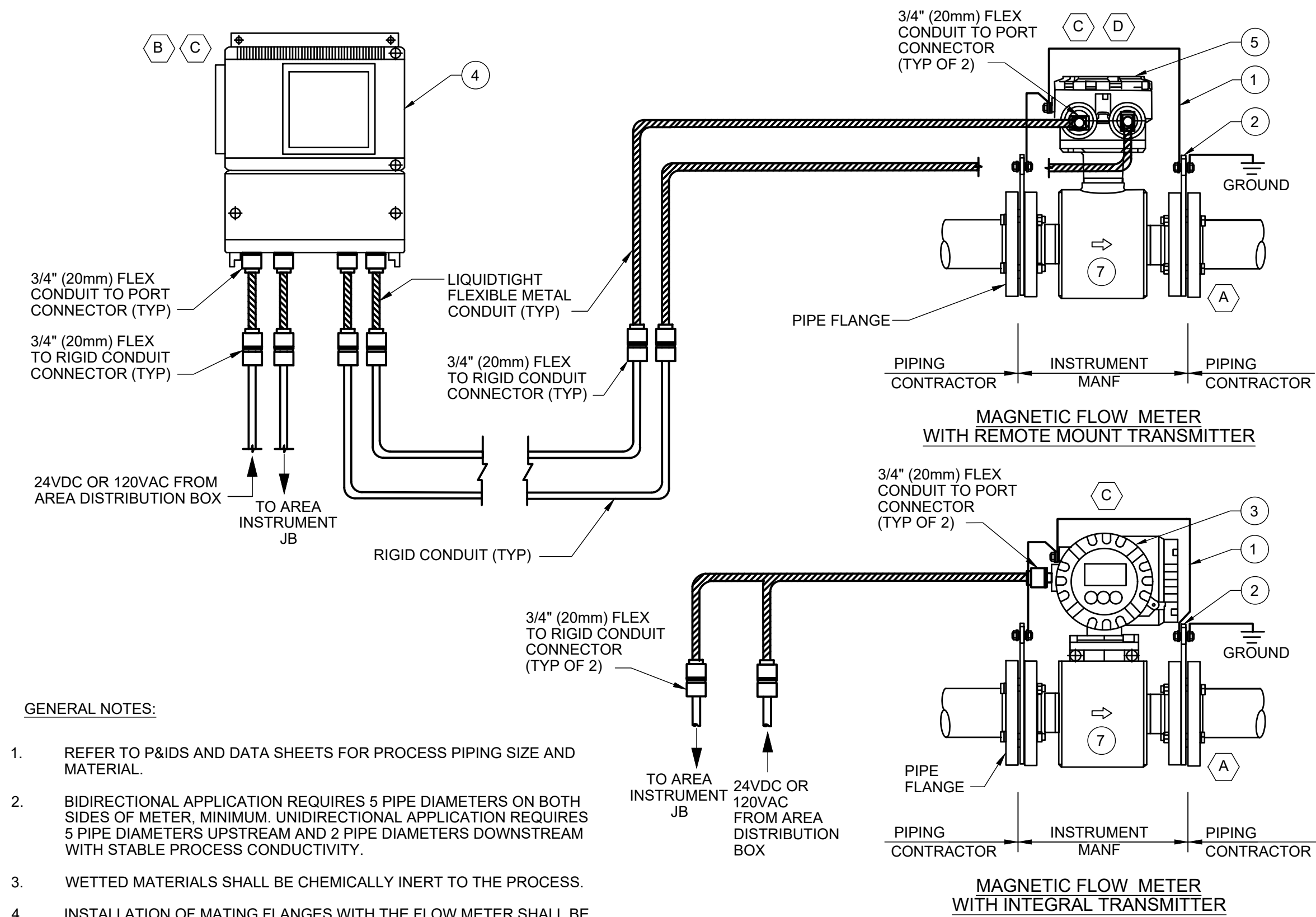
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BILL OF MATERIALS				
ITEM	QTY	DESCRIPTION	SUPPLY	MATERIAL/RATING (WATER) MATERIAL/RATING (CHEMICAL)
1	1	AWG # 8 GROUNDING CONDUCTOR TO GROUND GRID	CONT	COPPER COPPER
2	2	GROUNDING RING	MANF	316 SS (G) 316 SS OR HASTELLOY C (G)
3	1	INTEGRAL TRANSMITTER WITH DISPLAY AND DUAL CONDUIT PORTS	MANF	POWDER COATED ALUMINUM POWDER COATED ALUMINUM
4	1	REMOTE TRANSMITTER WITH DISPLAY	MANF	POWDER COATED ALUMINUM POWDER COATED ALUMINUM
5	1	METER REMOTE WIRE HOUSING FOR REMOTE TRANSMITTER WITH DUAL CONDUIT PORTS	MANF	POWDER COATED ALUMINUM POWDER COATED ALUMINUM
6	1 EACH	COIL DRIVE AND ELECTRODE SIGNAL CABLES (SEPARATE CABLES; LENGTH AS REQUIRED)	CONT	PER MANF SPEC PER MANF SPEC
7	-	METER MEASURING TUBE / FLANGES (LINER PER MANF RECOMMENDATION)	MANF	304 SS (F)
8	2	INSULATING GASKET	CONT	EPDM / NEOPRENE EPDM / NEOPRENE

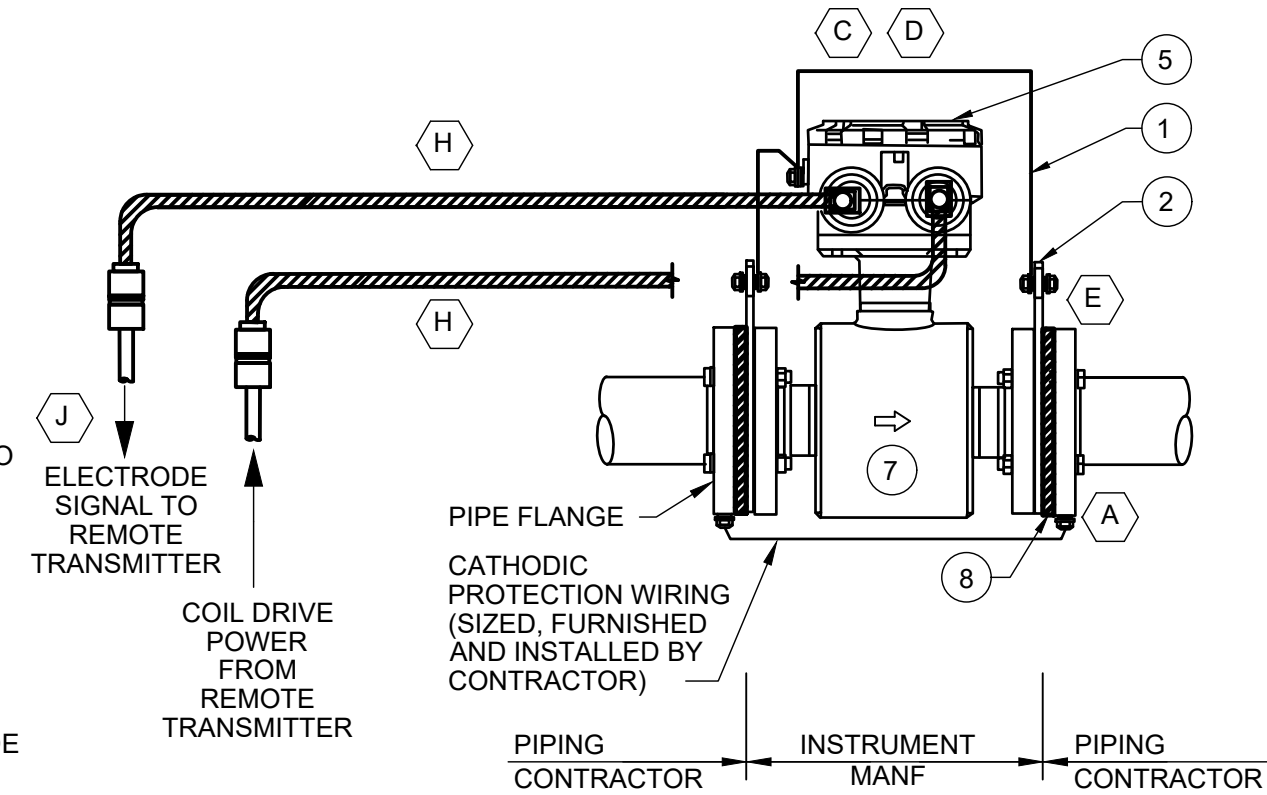
I-101 MAGNETIC FLOW METER

REV 010119

- GENERAL NOTES:**
- REFER TO P&IDS AND DATA SHEETS FOR PROCESS PIPING SIZE AND MATERIAL.
 - BIDIRECTIONAL APPLICATION REQUIRES 5 PIPE DIAMETERS ON BOTH SIDES OF METER. MINIMUM UNIDIRECTIONAL APPLICATION REQUIRES 5 PIPE DIAMETERS UPSTREAM AND 2 PIPE DIAMETERS DOWNSTREAM WITH STABLE PROCESS CONDUCTIVITY.
 - WETTED MATERIALS SHALL BE CHEMICALLY INERT TO THE PROCESS.
 - INSTALLATION OF MATING FLANGES WITH THE FLOW METER SHALL BE CARRIED OUT IN COOPERATION WITH THE PIPING CONTRACTOR USING UPSTREAM AND DOWNSTREAM PIPE REDUCERS AS NECESSARY.
 - PROVIDE MECHANICAL SUPPORT FOR ROUTED CONDUIT.
 - REFER TO DIVISION 26 SPECIFICATIONS FOR FLEX AND RIGID CONDUIT MATERIAL AND USAGE LIMITATIONS.
- KEYNOTES:**
- GROUNDING RINGS REQUIRED FOR METALLIC AND NON-METALLIC PIPE INSTALLATIONS TO SUPPORT PROPER SOLUTION GROUNDING AND / OR LINING PROTECTION.
 - WALL OR INSTRUMENT-STAND MOUNT PER DETAIL I-948.
 - CONFIGURE FOR EMPTY PIPE DETECTION.
 - WHERE TEMPORARY SUBMERGENCE IS POSSIBLE, ELECTRONIC HOUSING SHALL BE POTTED AND SEALED BY MANUFACTURER PRIOR TO SHIPPING TO SITE.
 - CONTRACTOR TO ISOLATE METER FROM THE PIPELINE USING ISOLATION WASHERS AND SLEEVES ON FLANGE BOLTS.
 - 316 SS OR HASTELLOY C PREFERRED. HOWEVER ENGINEER APPROVED FINAL SELECTION BASED ON MATERIAL CHEMICAL COMPATIBILITY.
 - SELECTED GROUNDING RING MATERIAL TO MATCH MEASURING ELECTRODE MATERIAL.
 - FOR INSTALLATION WITHIN CATHODIC PROTECTION SYSTEMS, USE NON-METALLIC LIQUIDTIGHT FLEXIBLE CONDUIT.
 - DISCONNECT COIL SIGNAL SHIELD WIRE AT THE REMOTE TRANSMITTER.



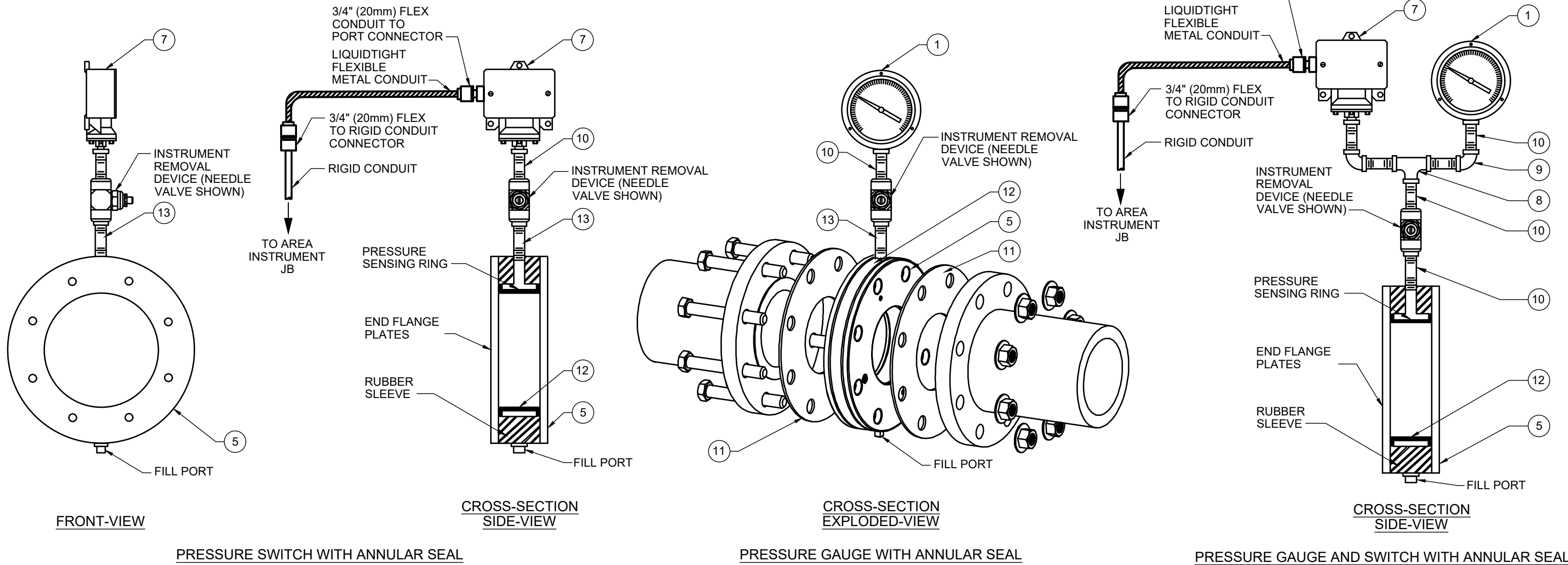
MAGNETIC FLOW METER WITH REMOTE MOUNT TRANSMITTER (FOR CATHODIC PIPE PROTECTION APPLICATION)



BILL OF MATERIALS				
ITEM	QTY	DESCRIPTION	SUPPLY	MATERIAL/ RATING (WATER / AIR) MATERIAL/ RATING (CHEMICAL)
1	1	LIQUID-FILLED PRESSURE GAUGE	MANF	PHENOLIC ENCASED PHENOLIC ENCASED
2	1	1/2" (15mm) 2 VALVE MANIFOLD WITH INTEGRAL BLEED	MANF	316 SS 316 SS OR PVC
3	AR	ISOLATION DIAPHRAGM SEAL; SILICONE OIL FILL FLUID (A)	MANF	316 SS HASTELLOY C OR PVC
4	1	HEX REDUCING BUSHING 1"x1/2" (25mmx15mm)	CONT	316 SS 316 SS OR PVC
5	2	END FLANGES (CLASS TO SUIT PIPING)	MANF	EPOXY COATED CARBON STEEL 316 SS OR PVC
6	1	1/4" NPT VENT PIPE PLUG (B)	MANF	316 SS 316 SS OR PVC
7	1	PRESSURE SWITCH	MANF	316 SS 316 SS OR PVC
8	1	TEE 1/2" (15mm)	CONT	316 SS 316 SS OR PVC
9	2	ELBOW 1/2" (15mm)	CONT	316 SS 316 SS OR PVC
10	AR	1/2" MALE TO MALE NIPPLE	CONT	316 SS 316 SS OR PVC
11	2	GASKETS	CONT	VITON VITON
12	1	ANNULAR SEAL; SILICONE OIL FILL FLUID (A)	MANF	TEFLON COATED BUNA-N PTFE OR TEFLON COATED VITON
13	1	INSTRUMENT REMOVAL DEVICE AND 1/2" STEM	MANF	316 SS 316 SS OR PVC

I-301 PRESSURE GAUGE / SWITCH

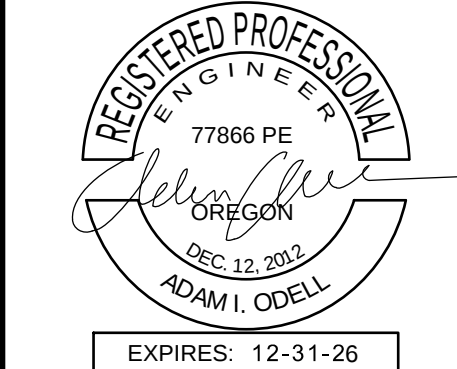
REV 010119



- GENERAL NOTES:**
- POTENTIALLY WETTED MATERIALS SHALL BE CHEMICALLY INERT TO THE PROCESS.
 - REFER TO P&IDS AND DATA SHEETS FOR PROCESS PIPING SIZE AND MATERIAL.
 - PIPING SIDE ISOLATION VALVES FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
 - REFER TO DIVISION 26 SPECIFICATIONS FOR FLEX AND RIGID CONDUIT MATERIAL AND USAGE LIMITATIONS.
- KEYNOTES:**
- FOR AMBIENT TEMPERATURE APPLICATIONS LOWER THAN -10 degC, ETHYLENE GLYCOL FILL FLUID REQUIRED IN LIEU OF STANDARD SILICONE OIL.
 - FURNISH 1/4" (8mm) OD MALE CONNECTOR AND 1/4" OD (1.5mm WALL THICKNESS) 316SS DOWN TURNED DRAIN TUBING FOR FIELD INSTALLATION. ENSURE VENT / DRAIN IS DIRECTED TO SAFE LOCATION.

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Client/Project
CITY OF SANDY

WASTE SLUDGE AND SCUM
PUMP REPLACEMENT
PROJECT
Sandy, OR

Project No.: 2002006370
File Name: I-005
Scale: NO SCALE
SNA PMA 2025.04.25
Dwn. Dsgn. Chkd. YYYY.MM.DD
Title
INSTALLATION DETAILS - I

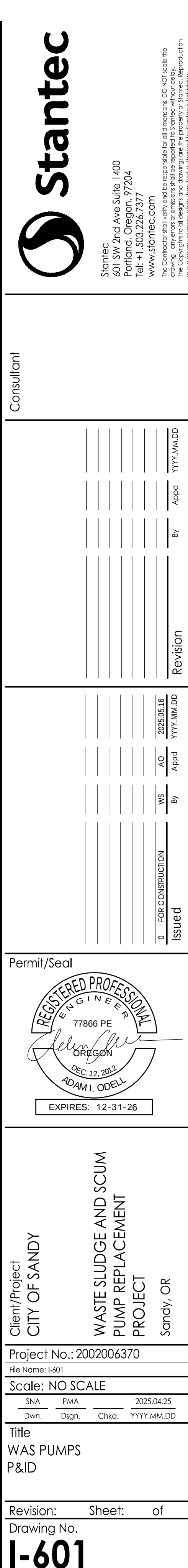
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I-005

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GENERAL SHEET NOTES

1. CONNECT PIPING FROM RAS PUMP TO WAS PIPING PRIOR TO REMOVAL OF WAS SYSTEM. SEE SHEET D-101.
2. FIELD RELOCATE WATER HEATER, PIPING, AND ALL ELECTRICAL.

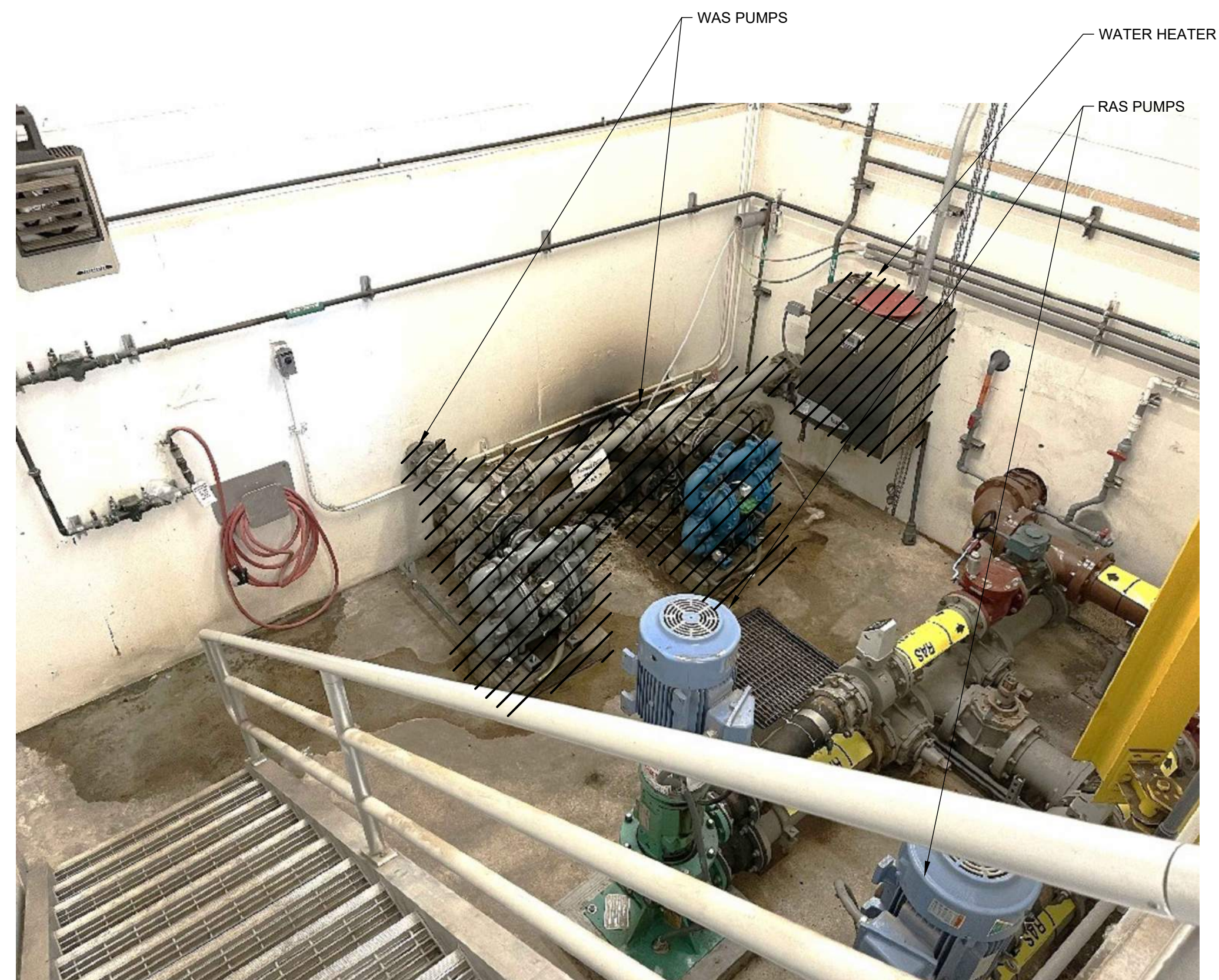


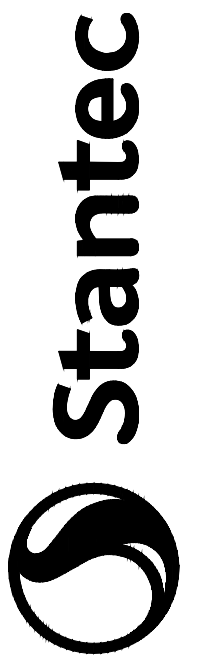
PHOTO - OVERALL DEMOLITION

NO SCALE



PHOTO - PIPING DEMOLITION

NO SCALE



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Client/Project
CITY OF SANDY

WASTE SLUDGE AND SCUM
PUMP REPLACEMENT
PROJECT
Sandy, OR

Project No.: 2002006370

File Name: 06370DD901

Scale: NO SCALE

MT	WS	AO	2025.04.25
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
WAS PUMP STATION
DEMOLITION PICTURES

Revision: Sheet: of
Drawing No.

DD901



SHEET KEYNOTES

- A. REMOVE EXISTING SCUM PUMP AND HOSE.
- B. DEMOLISH AND REMOVE GRATING AND MANHOLE COVER. CHIP OUT CONCRETE AND ASPHALT DOWN TO SUBGRADE.

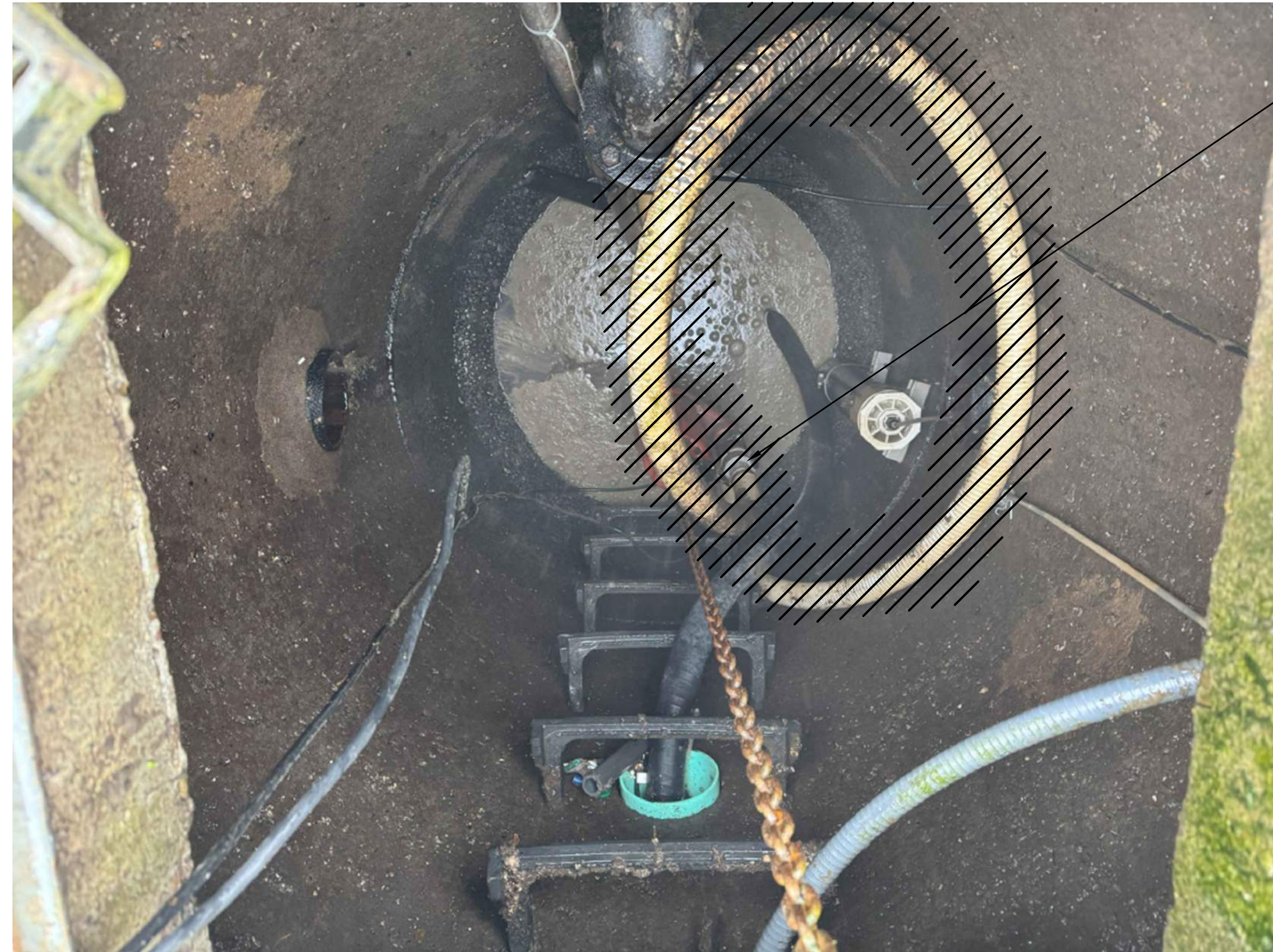


PHOTO - OVERALL DEMOLITION

NO SCALE



PHOTO - SCUM PIT GRATING DEMOLITION

NO SCALE



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WASTE SLUDGE AND SCUM
PUMP REPLACEMENT
PROJECT
Sandy, OR

Project No.: 2002006370

File Name: 06370DD902

Scale: NO SCALE

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Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

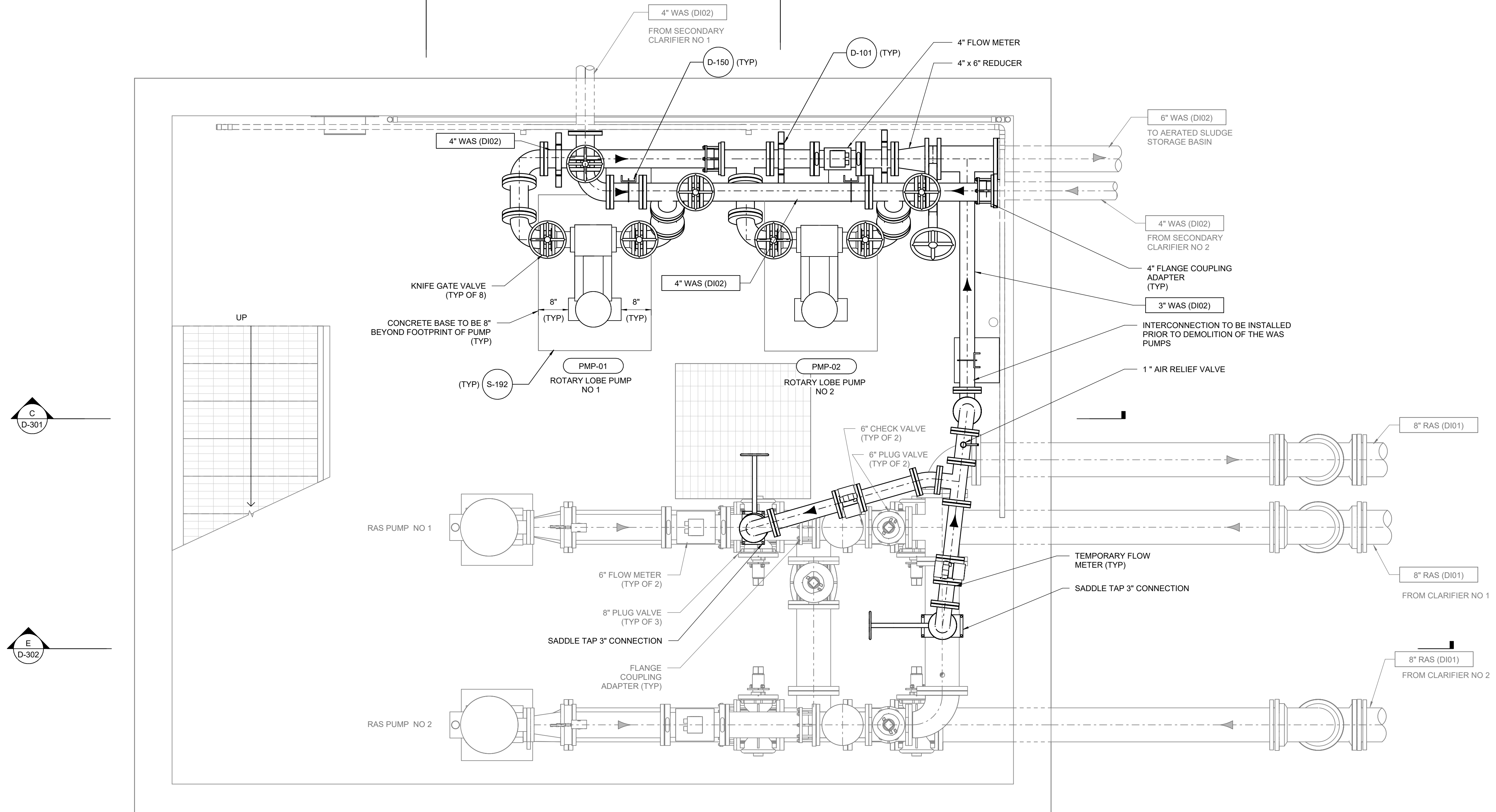
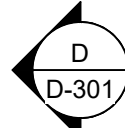
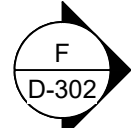
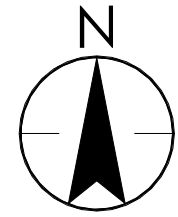
SCUM PUMP STATION
DEMOLITION PICTURE

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DD902

GENERAL SHEET NOTES

1. PREFERRED WAS PUMP: BOERGER MODEL PL 200 (RIGHT ANGLE CONFIGURATION) OR EQUAL.



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Discussion

[illegible][illegible]

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City of Sandy
Waste Sludge and Scum
Pump Replacement
Project
Sandy, OR

Project No.:2002006370

e Name: 06370d-md.rvt

scale: $3/4" = 1'-0"$

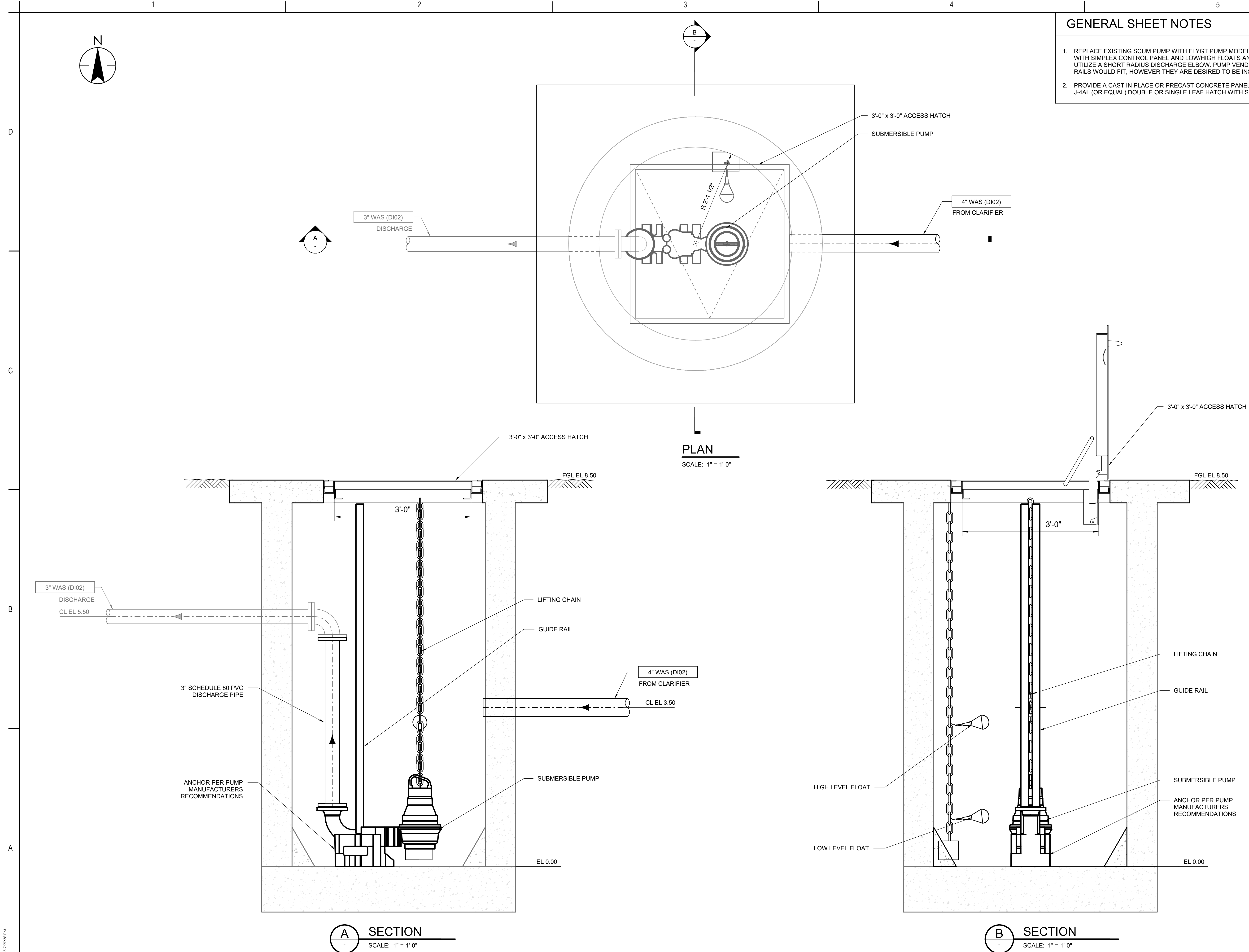
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Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

UMP STATION
LANS

Revision: _____

Drawing No. _____

D-101



- ## GENERAL SHEET NOTES



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CITY OF SANDY

WASTE SLUDGE AND SCUM
PUMP REPLACEMENT
PROJECT

Sandy, OR

File Name: 06380d-md.rvt

Scale: 1" = 1'-0"

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Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

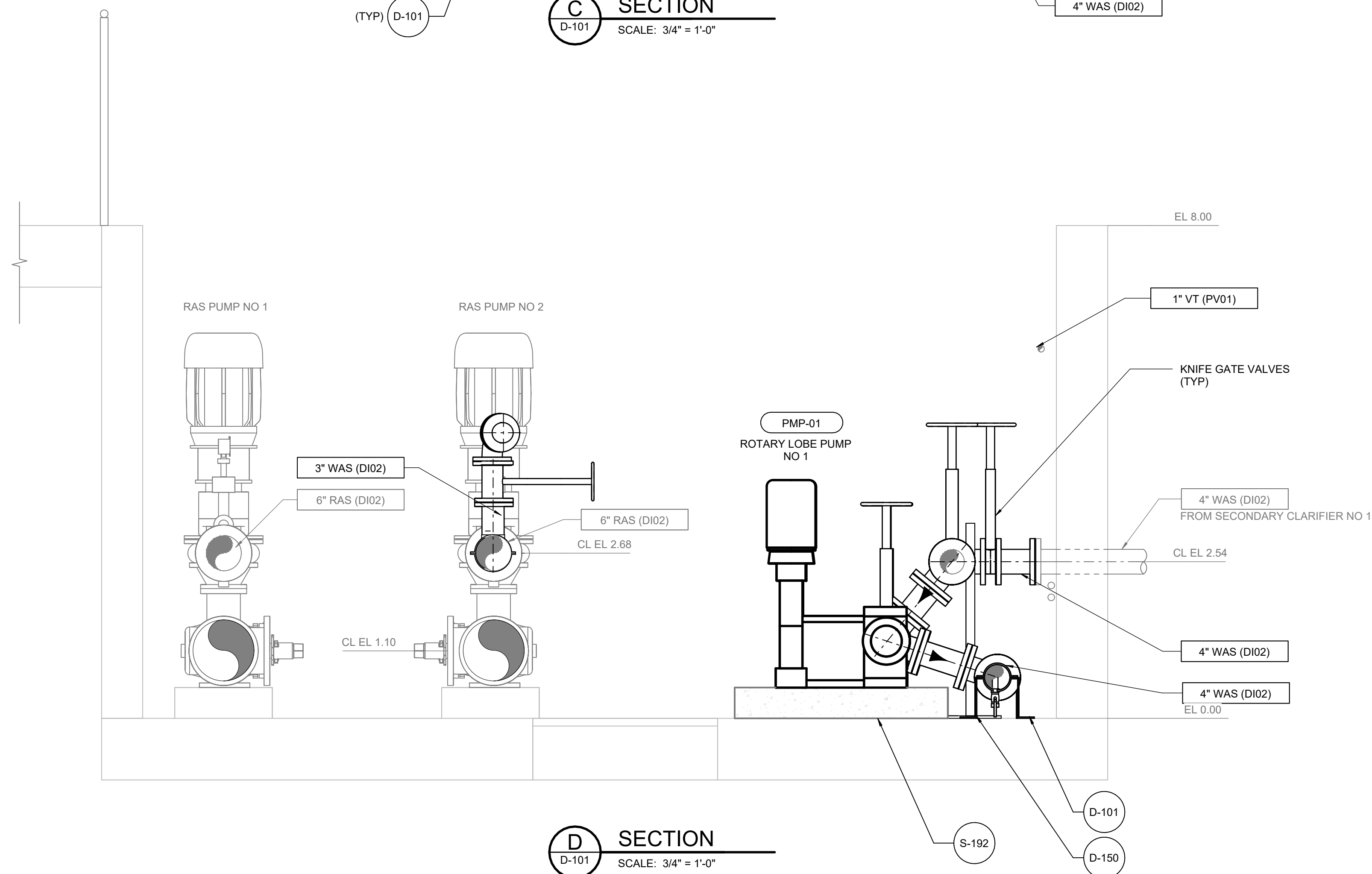
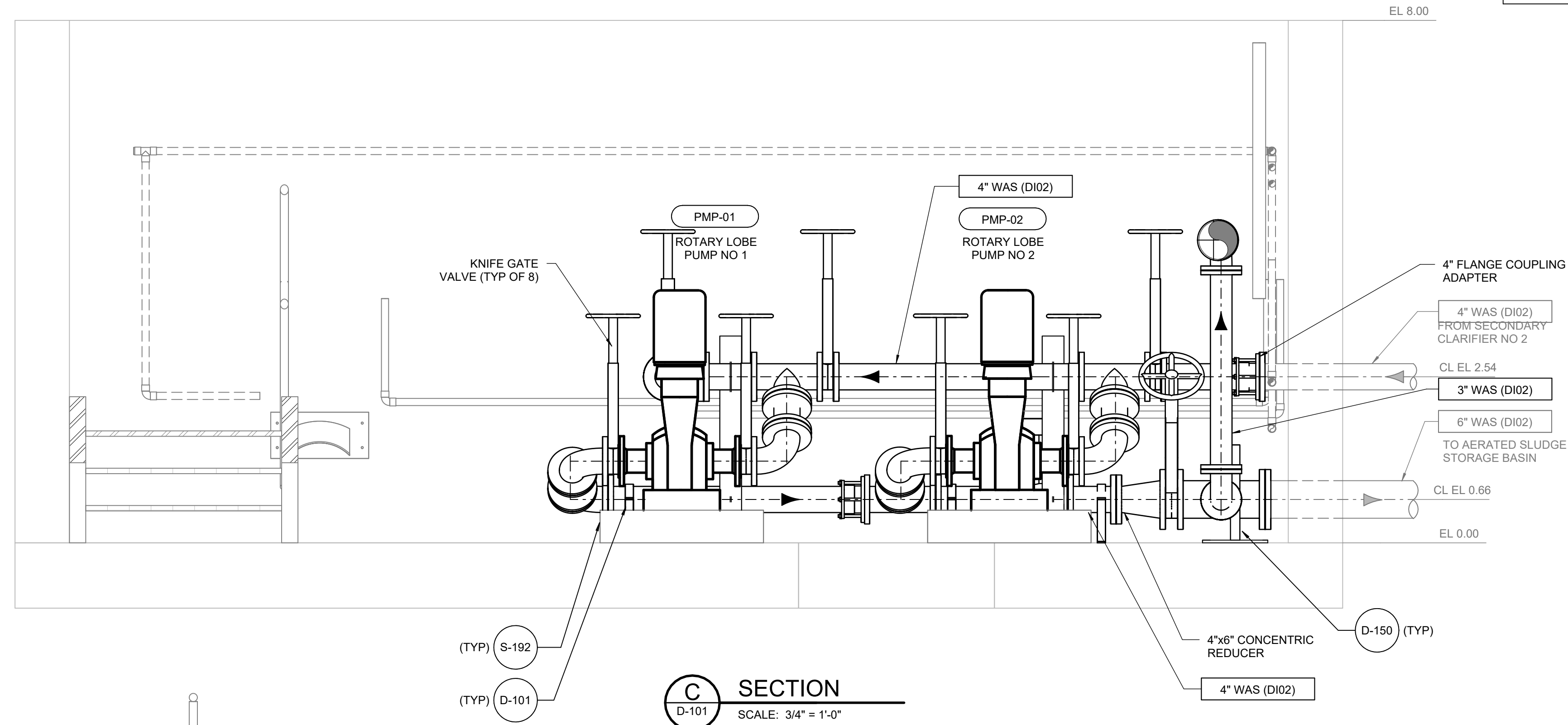
Title
SCUM PUMP STATION
PLAN AND SECTION

Revision: _____
Drawing No. _____

D-102

GENERAL SHEET NOTES

1. PREFERRED WAS PUMP: BOERGER MODEL PL 200 (RIGHT ANGLE CONFIGURATION) OR EQUAL.
2. PADDLEWHEEL FLOW METER SHALL BE ICON TRUFLO TKB SERIES (BATTERY POWERED) PADDLEWHEEL FLOW METER.



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Client/Project
CITY OF SANDY
WASTE SLUDGE AND SCUM
PUMP REPLACEMENT
PROJECT
Sandy, OR

Project No.:2002006370
 File Name: 06370d-md.rvt
 Scale: 3/4" = 1'-0"

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Title
PUMP STATION
SECTIONS - I

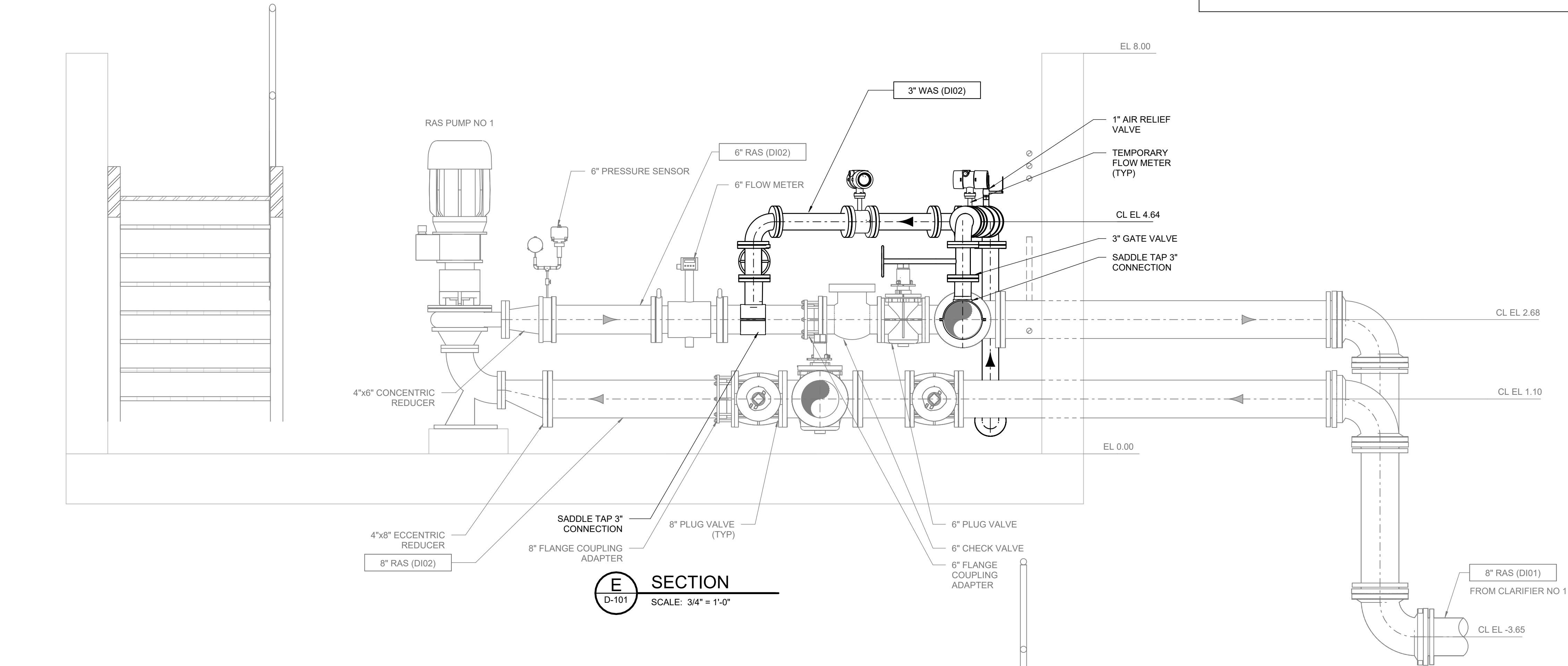
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Drawing No. _____

D-301

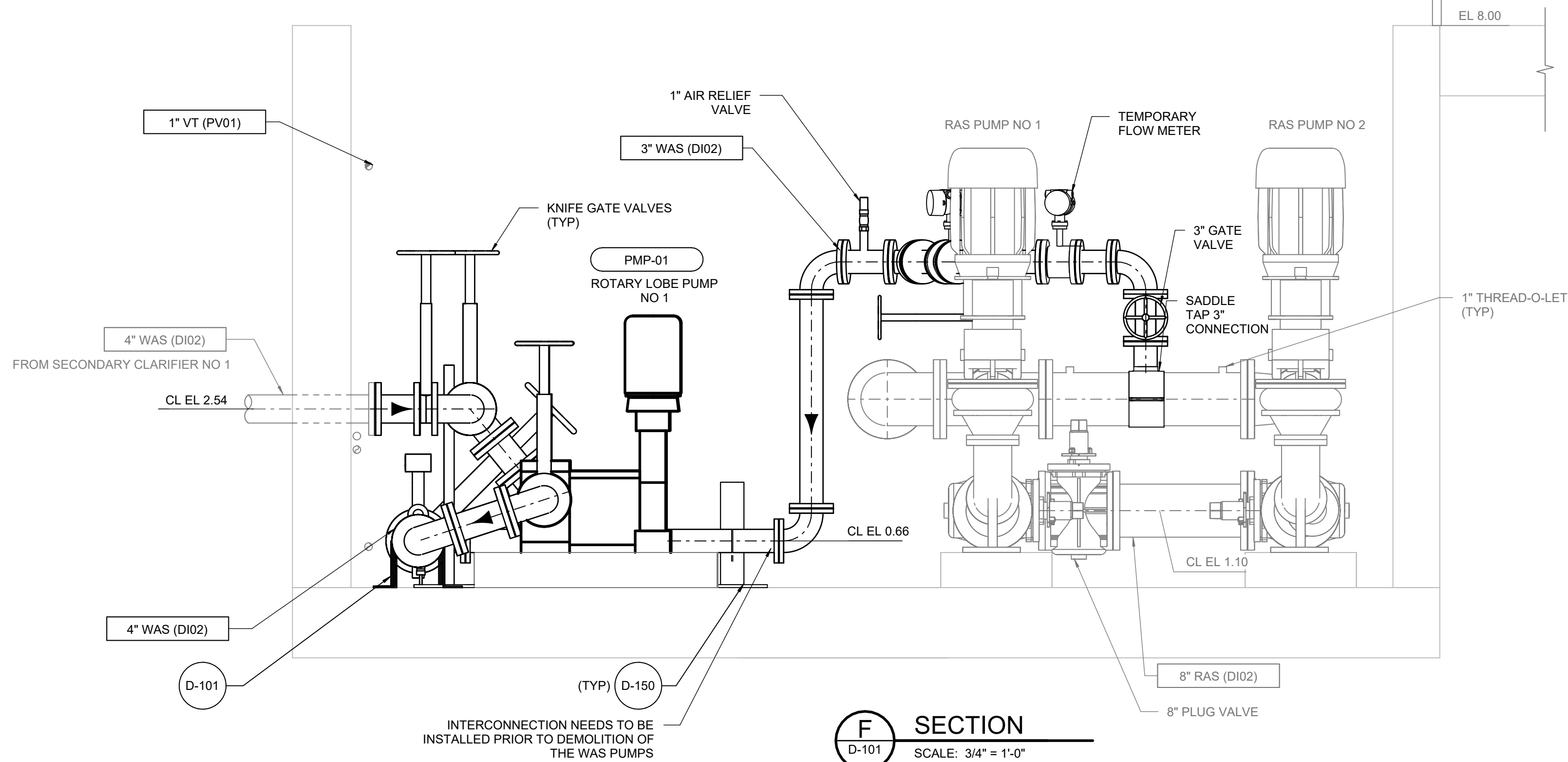
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GENERAL SHEET NOTES

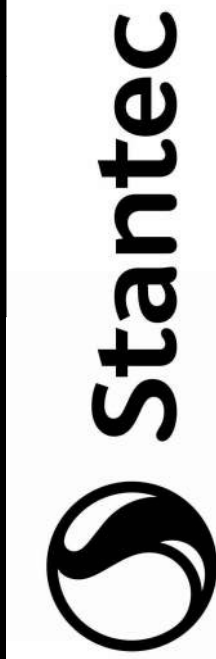
- PREFERRED WAS PUMP: BOERGER MODEL PL 200 (RIGHT ANGLE CONFIGURATION) OR EQUAL.
- PADDLEWHEEL FLOW METER SHALL BE ICON TRUFLO TKB SERIES (BATTERY POWERED) PADDLEWHEEL FLOW METER.



E SECTION
D-101 SCALE: 3/4" = 1'-0"



F SECTION
D-101 SCALE: 3/4" = 1'-0"



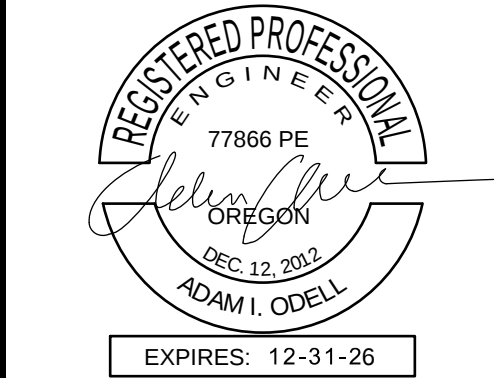
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CITY OF SANDY
WASTE SLUDGE AND SCUM
PUMP REPLACEMENT
PROJECT
Sandy, OR

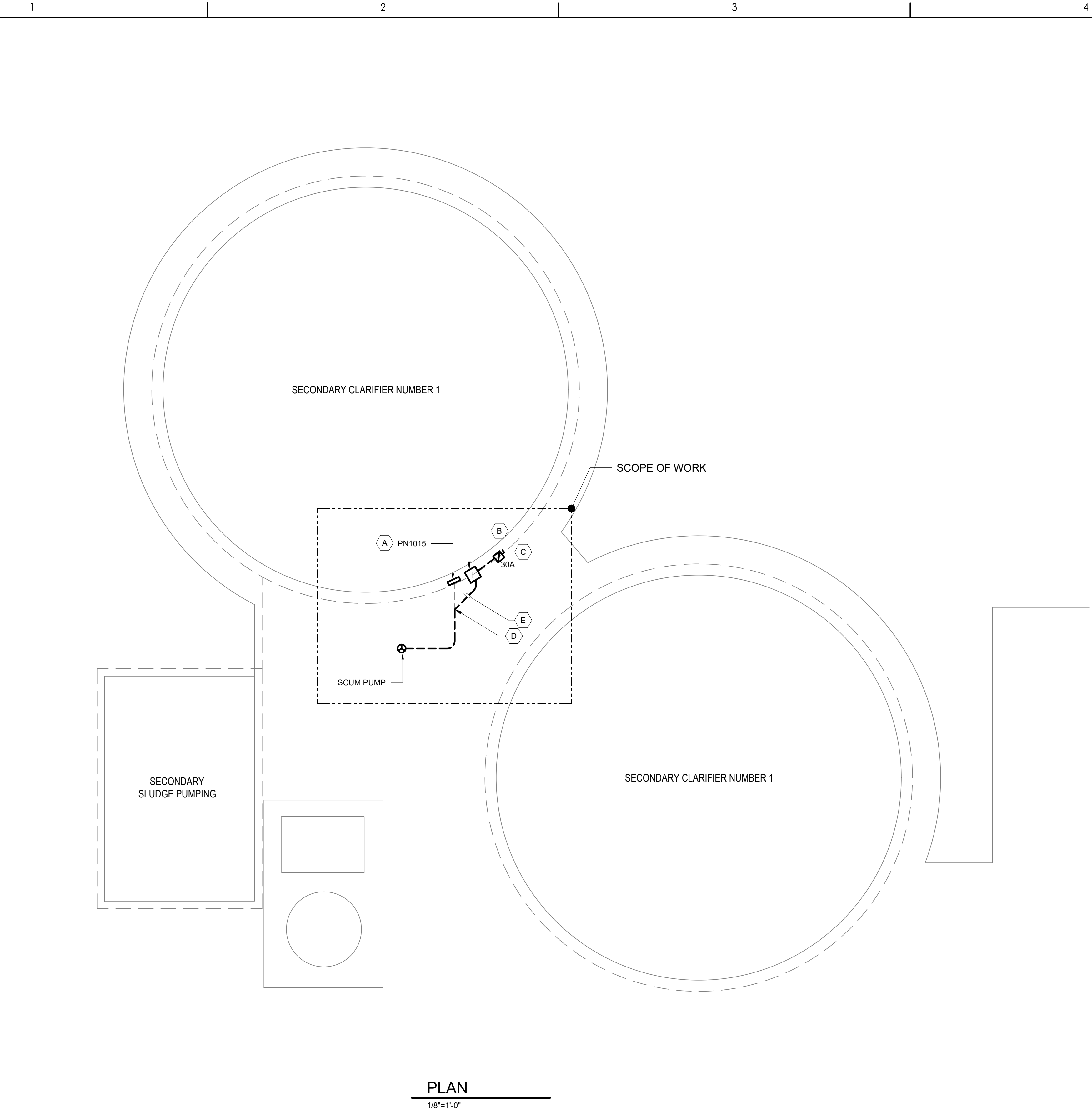
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Dwn. Dgn. Chkd. 2025.04.25
YYYYMMDD

Title
PUMP STATION
SECTIONS - II

Revision:
Drawing No.

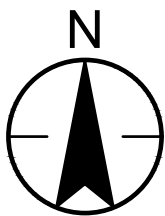
D-302

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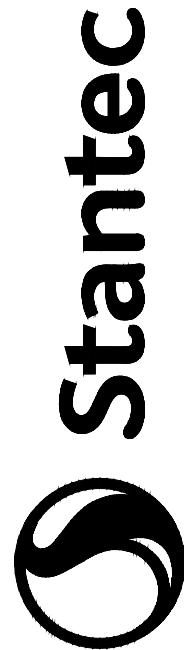
PLAN

1/8"=1'-0"



SHEET KEYNOTES

- A. DISCONNECT EXISTING 480V CIRCUIT TO EXISTING PUMP FROM PN-1015 AND RE-ROUTE TO TRANSFORMER.
- B. PROVIDE 6KVA NEMA 3R 480 TO 208Y/120V TRANSFORMER.
- C. PROVIDE 30A FUSED DISCONNECT.
- D. INTERCEPT EXISTING PATHWAY TO PUMP AND RE-ROUTE TO TRANSFORMER DISCONNECT. TERMINATE IN LOAD SIDE SEAL-OFFS.
- E. PROVIDE 3/4"C WITH 4#12 & #12G, TYP.



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EXPIRES 06-30-2026

Client/Project
CITY OF SANDY

WASTE SLUDGE AND
SCUM PUMP
REPLACEMENT PROJECT

Sandy, OR

Project No.: 2002006370

File Name: 06370E-101

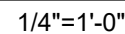
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JL	WS	2025.XX.XX
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Title
SITE PLAN

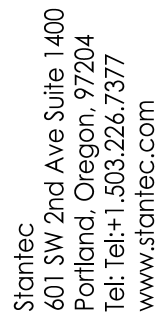
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E-101



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EXPIRES	06-30-2026
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WASTE SLUDGE AND
SCUM PUMP
REPLACEMENT PROJECT
Sandy, OR

JL	WS	2025.XX.XX
Dwn.	Dsgn.	Chkd.
		YYYY.MM.DD

Drawing No.

E 102

E-102