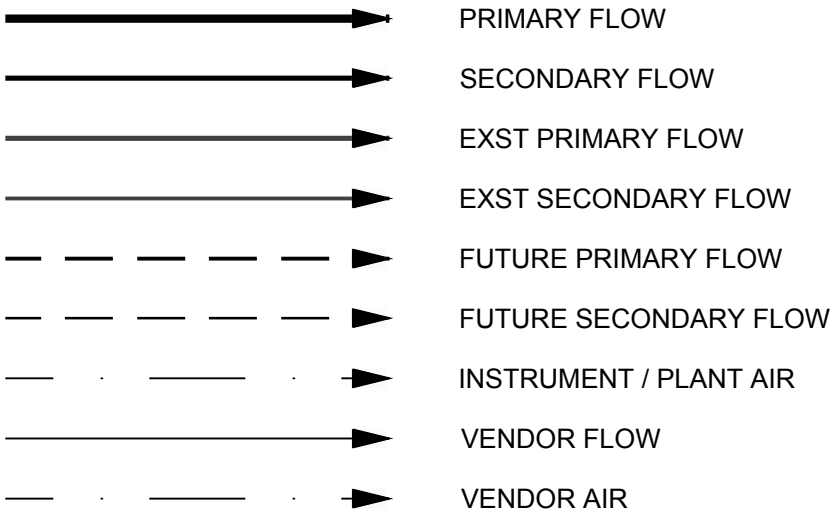
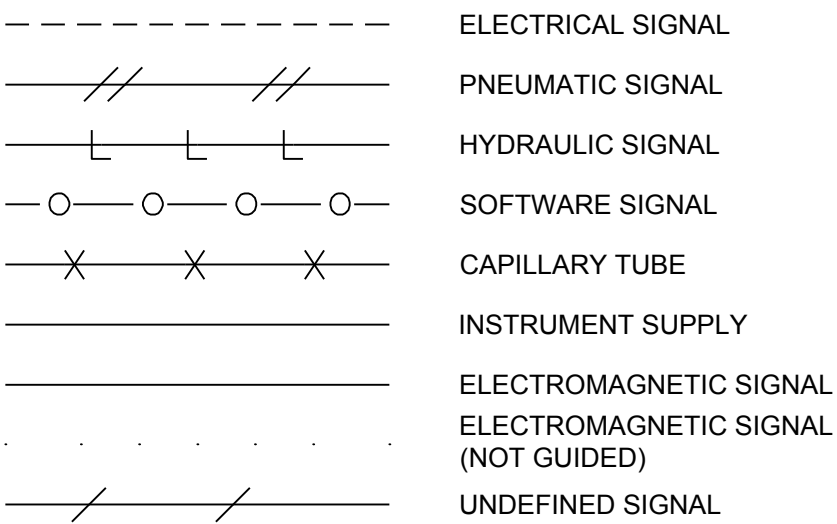


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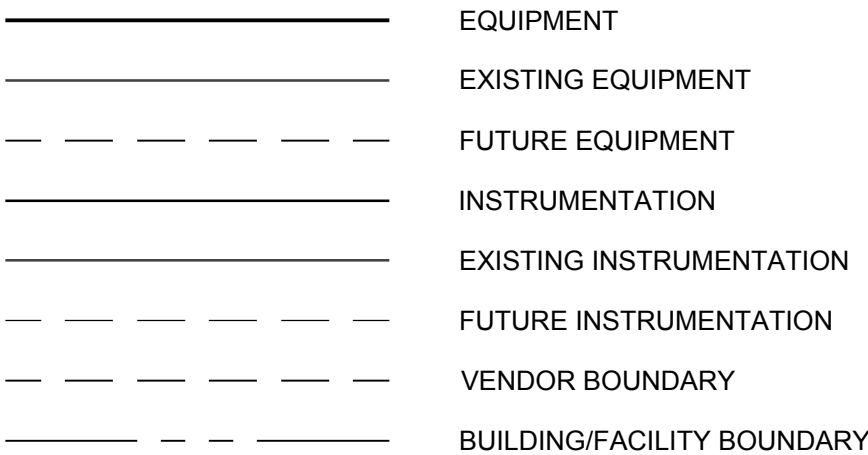
FLOW LINES



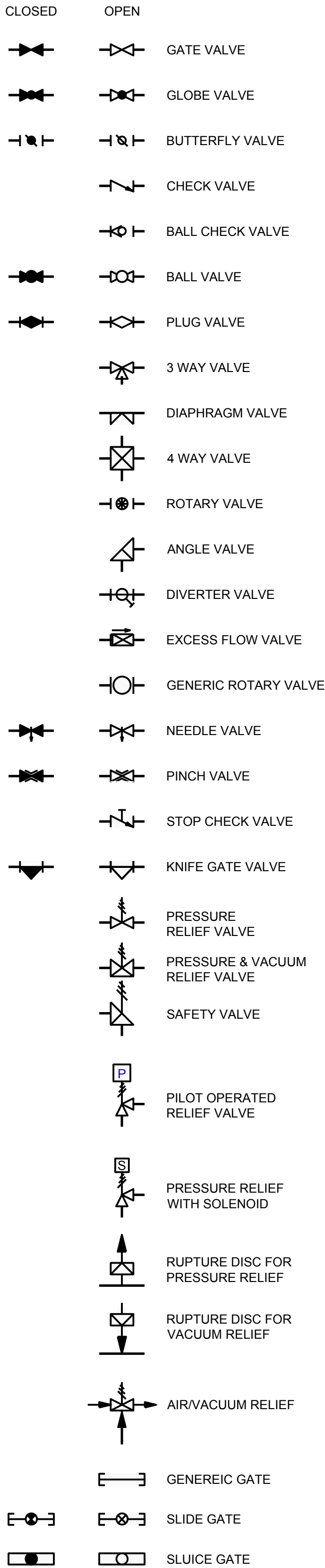
INSTRUMENT LINES



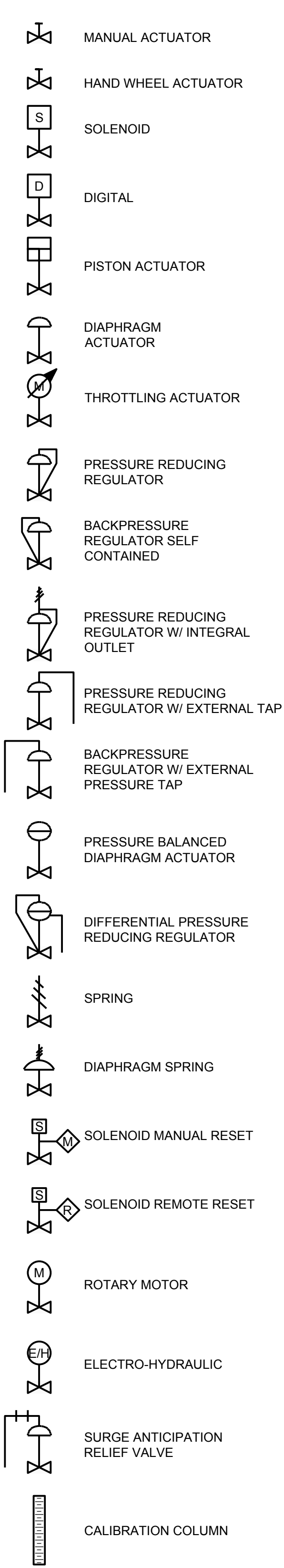
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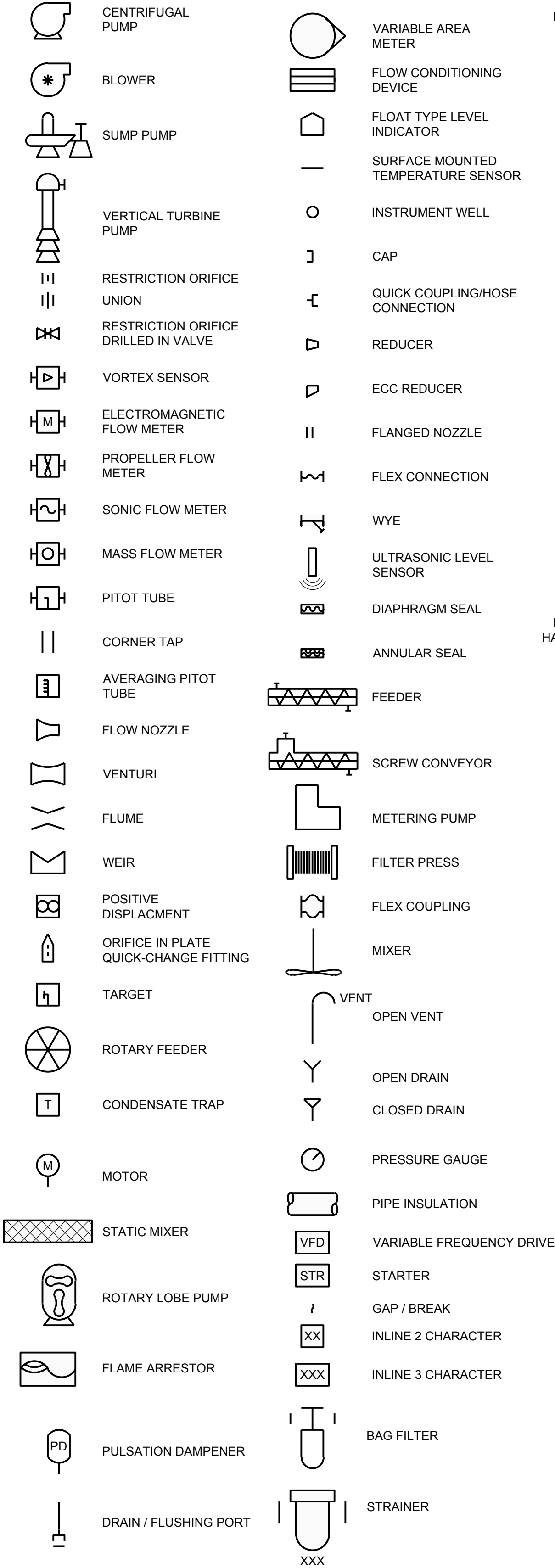
VALVE SYMBOLS



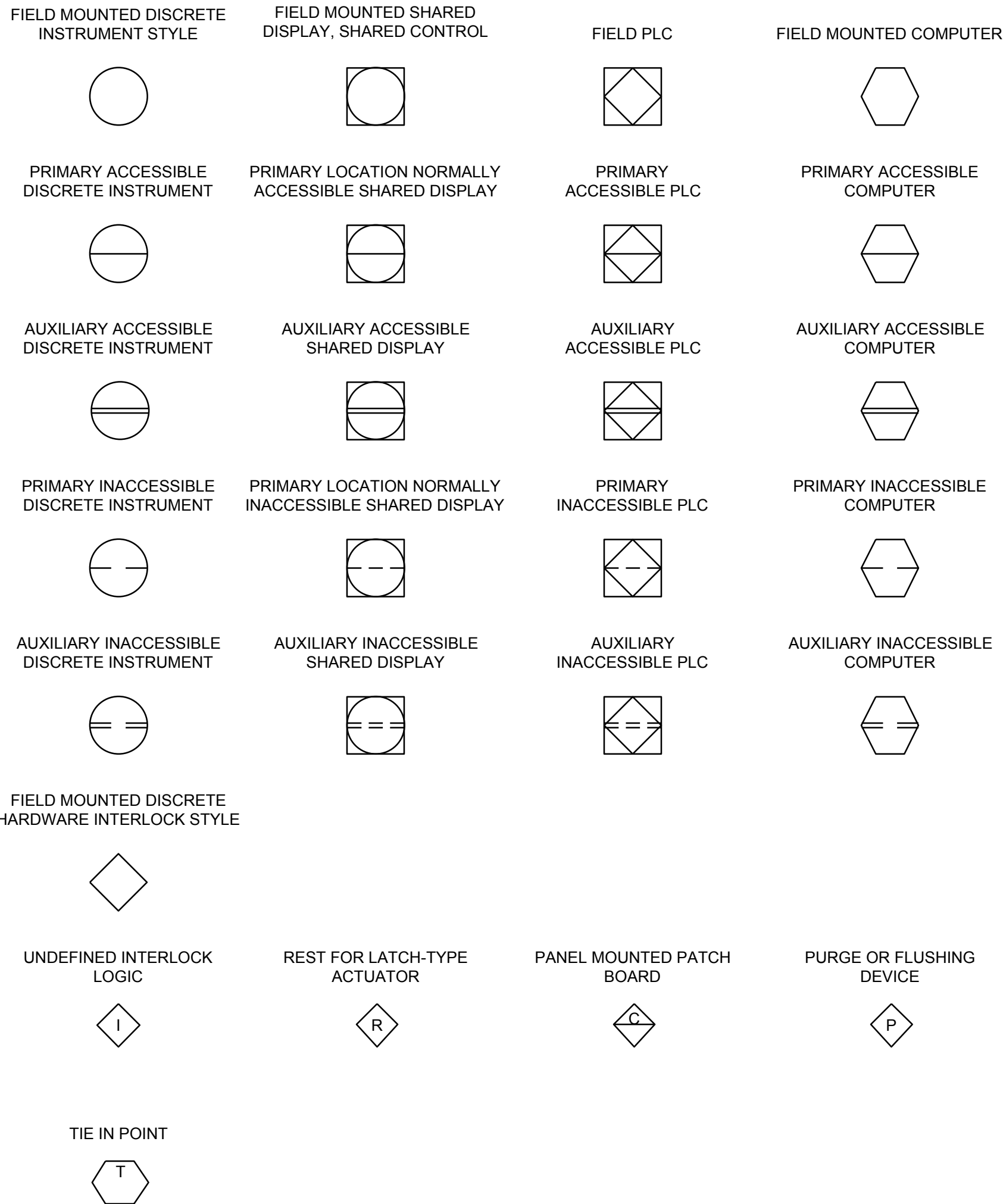
ACTUATOR SYMBOLS



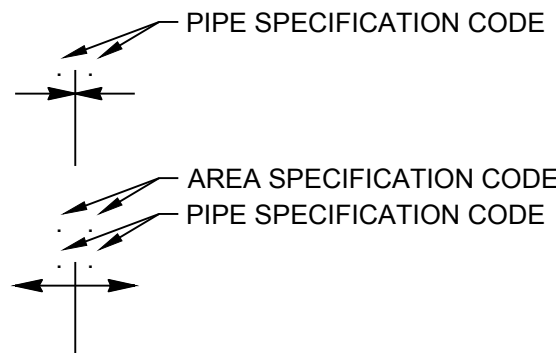
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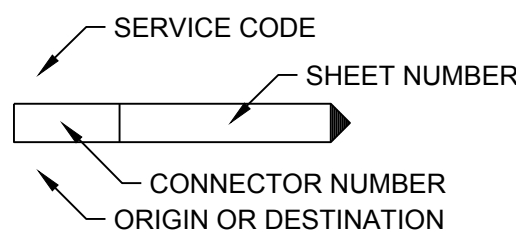
INSTRUMENT SYMBOLS



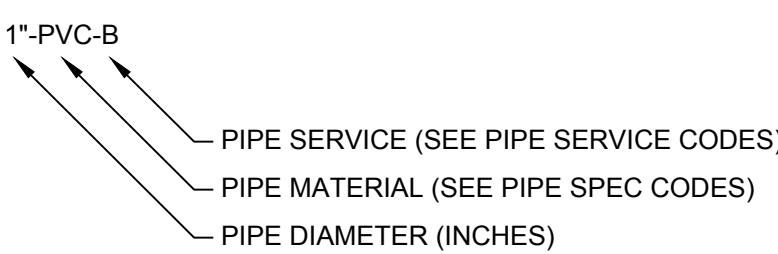
SEGMENT BREAKER



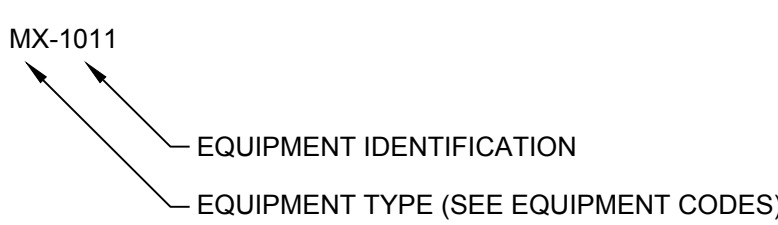
OFF-PAGE CONNECTOR



PIPE TAG



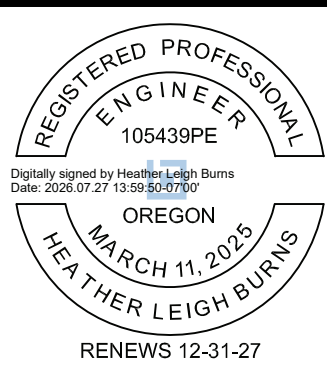
EQUIPMENT & VALVE TAG



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JLC
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INSTRUMENTATION & CONTROL			
P&ID LEGEND AND SYMBOLS			
PROJECT NO.:	W253326OR	SCALE:	AS SHOWN
DATE:	AUGUST 2026		

SHEET
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EQUIPMENT CODES	
CODE	DESCRIPTION
A	AGITATOR
AD	COMPRESSED AIR DRYER
AHU	AIR HANDLING UNIT
AF	AIR FILTER
B	BLOWER
BFP	BELT FILTER PRESS
BIN	BIN
BO	BOILER
BVF	BIN VIBRATORY FEEDER
BWA	BACKWASH AIR
C	COMPRESSOR
CFA	COMPRESSION FITTING ADAPTER
CY	CONVEYOR
DC	DUST COLLECTOR
DGV	DEGASSING VALVE
DRM	DRUM
EF	EXHAUST FAN
ESEW	EMERGENCY SHOWER/EYEWASH
EW	EYEWASH
F	FEEDERS
G	GENERATOR
HST	HOIST
IJ	INJECTION SYSTEM
M	METER
MOT	MOTOR
P	PUMP
S	SUMP
SMXR	STATIC MIXER
TNK	TANK
TO	TOTE
V	VESSEL

VALVE CODES	
CODE	DESCRIPTION
BFV	BUTTERFLY VALVE
BPSF	BACK PRESSURE SUSTAINING VALVE
BV	BALL VALVE
CHK	CHECK VALVE
GV	GATE VALVE
GLV	GLOBE VALVE
HV	MANUAL VALVE
KNV	KNIFE GATE VALVE
PRV	PRESSURE REGULATING VALVE
PRFV	PRESSURE RELIEF VALVE
PV	PLUG VALVE

SIGNAL CODES	
CODE	DESCRIPTION
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT

PIPE SERVICE CODES	
CODE	DESCRIPTION
ACS	ADSORPTION CLARIFIER SUPPLY
AI	AIR, INSTRUMENT
AIR	COMPRESSED AIR
ALP	AIR, LOW PRESSURE
BS	BRINE SOLUTION
BWA	BACKWASH AIR
BWW	BACKWASH WASTE
BYP	BYPASS
CAU	CAUSTIC
CIP	CLEAN-IN-PLACE SOLUTION
CL	CHLORINE FEED
COA	COAGULANT
CW	COLD WATER (DOMESTIC)
D	DRAIN (SANITARY)
DSC	DEWATERED SLUDGE CAKE
DSL	DECANT SLUDGE
DW	DISTILLED WATER
EFF	EFFLUENT
F	FILTRATE
FA	FOUL AIR
FE	FILTER EFFLUENT
FI	FILTER INFLUENT
FLP	FLOCCULANT POLYMER
FOS	FUEL OIL SUPPLY
FS	FIRE SYSTEM
FTW	FILTER TO WASTE
FW	FLUSH WATER
GWW	GROUND WATER WELLS
HO	HYDRAULIC OIL
HPHW	HIGH PRESSURE HOT WATER
HPR	HIGH PRESSURE RETURN
HPS	HIGH PRESSURE STEAM
HW	HOT WATER (POTABLE)
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
KmNO4	POTASSIUM PERMANGANATE
NaOCl	SODIUM HYPOCHLORITE
OD	OVERFLOW DRAIN
ORD	OVERFLOW ROOF DRAIN
P	PROPANE GAS
PH	PH ADJUSTMENT
PI	PRIMARY INFLUENT
PLE	PLANT EFFLUENT
PP	POTASSIUM PERMANAGANATE
PW	POTABLE WATER
PYS	POLYMER SOLUTION
RE	RECLAIM WATER
RW	RAW WATER
SHC	SODIUM HYPOCHLORITE
SL	UNTHICKENED SLUDGE
SS	SANITARY SEWER
SD	STORM DRAIN
STW	STORM WATER
SW	SOLUTION WATER
TO	THICKENER OVERFLOW
TSL	THICKENED SLUDGE
TW	TEMPERED WATER (POTABLE)
UW	UTILITY WATER
V	VENT
W	WASTE

INSTRUMENT CODES	
CODE	DESCRIPTION
AAH	ANALYSIS ALARM HIGH
AC	ANALYSIS CONTROLLER, BLIND
AE	ANALYSIS ELEMENT, PRIMARY
AI	ANALYSIS INDICATING DEVICE
AIT	ANALYSIS TRANSMITTER, INDICATING
ASH	ANALYSIS SWITCH HIGH
AY	ANALYSIS SOLENOID, RELAYS, COMPUTING DEVICE
CV	GENERAL CONTROL VALVE
FAH	FLOW RATE ALARM HIGH
FAL	FLOW RATE ALARM LOW
FCV	FLOW RATE CONTROL VALVE
FE	FLOW RATE ELEMENT, PRIMARY
FFC	FLOW RATIO CONTROLLER, BLIND
FI	FLOW RATE INDICATING DEVICE
FIT	FLOW RATE TRANSMITTER, INDICATING
FS	FLOW RATE SWITCH
FSL	FLOW RATE SWITCH LOW
FV	FLOW RATE ELEMENT, FINAL
HOA	HAND OFF AUTO
HS	HAND SWITCH
LAH	LEVEL ALARM HIGH
LAHH	LEVEL ALARM HIGH HIGH
LAL	LEVEL ALARM LOW
LE	LEVEL ELEMENT, PRIMARY
LI	LEVEL INDICATING DEVICE
LIT	LEVEL TRANSMITTER, INDICATING
LOR	LOCAL OFF REMOTE SWITCH
LS	LEVEL SWITCH
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH HIGH
LSL	LEVEL SWITCH LOW
LT	LEVEL TRANSMITTER, BLIND
LY	LEVEL SOLENOID, RELAYS, COMPUTING DEVICE
MB	MOD BUS
NAH	TORQUE ALARM HIGH
OL	OVERLOAD
PAH	PRESSURE/VACUUM ALARM HIGH
PC	PRESSURE/VACUUM CONTROLLER, BLIND
PI	PRESSURE/VACUUM INDICATING DEVICE
PIT	PRESSURE/VACUUM TRANSMITTER, INDICATING
PS	PRESSURE/VACUUM SWITCH
PSH	PRESSURE/VACUUM SWITCH HIGH
PT	PRESSURE/VACUUM TRANSMITTER, BLIND
PY	PRESSURE/VACUUM SOLENOID, RELAYS, COMPUTING DEVICE
REM	REMOTE
SC	SPEED/FREQUENCY CONTROLLER, BLIND
ST	SPEED/FREQUENCY TRANSMITTER
SV	SPEED/FREQUENCY ELEMENT, FINAL
TAH	TEMPERATURE ALARM HIGH
TAL	TEMPERATURE ALARM LOW
TE	TEMPERATURE ELEMENT, PRIMARY
TI	TEMPERATURE INDICATING DEVICE
TIT	TEMPERATURE TRANSMITTER, INDICATING
TSH	TEMPERATURE SWITCH HIGH
TSL	TEMPERATURE SWITCH LOW
TURB	TURBIDITY
TV	TEMPERATURE ELEMENT, FINAL
XA	GENERAL ALARM
XC	CLOSE CONTROL VALVE
XD	OPEN CONTROL VALVE
XO	OPEN CONTROL VALVE
YC	MOTOR (PUMP/MIXER) START/STOP CONTROL

YL	STATUS, LIGHT
YN	MOTOR (PUMP/MIXER) RUNNING
ZC	POSITION CONTROL
ZI	POSITION INDICATING DEVICE
ZSC	PROXIMITY SWITCH CLOSED
ZSO	PROXIMITY SWITCH OPEN

ELECTRICAL CODES	
CODE	DESCRIPTION
CP	CONTROL PANEL
CST	CONTROL STATION
ECP	ELECTRICAL CONTROL PANEL
MCP	MOTOR CONTROL PANEL
MDP	MAIN DISTRIBUTION PANEL
OIT	OPERATOR INTERFACE TERMINAL
PDP	POWER DISTRIBUTION PANEL
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	CONTROL PANEL
PP	POWER PANEL
REM	REMOTE
SRV	SCADA SERVER
VCP	VENDOR CONTROL PANEL

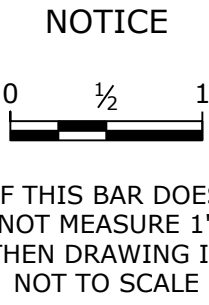
PIPE SPECIFICATION CODES	
CODE	DESCRIPTION
BS	BLACK STEEL, ASTM A53, THREADED
CI1	CAST IRON, AWWA C106/8, ASTM A74, HUBBED JOINTS
CI2	CAST IRON, AWWA C106/8, ASTM A74 & A888, HUBLESS JOINTS
CPVC	CPVC, SCHEDULE 80, ASTM F2618, FLANGED
CS1	CARBON STEEL, PER SPECIFICATION
CU1	COPPER TYPE L, ASTM B88, SOLDERED
CU2	COPPER TYPE K, ASTM B88, SOLDERED
CU3	COPPER TBD
DI1	DUCTILE IRON, PER SPECIFICATION
GV1	GALVANIZED CARBON STEEL, STANDARD WEIGHT, ASTM A53 GR.B, THREADED
HD1	HDPE, PER SPECIFICATION
PV1	PVC SCHEDULE 40, ASTM D-3034, SOLVENT WELDED
PV2	PVC PIPE, SCHEDULE 80, ASTM D-1785, SOLVENT WELDED
PV3	PVC PIPE, SCHEDULE 80, ASTM D-1785, FLANGED
SS1	STAINLESS STEEL 304, WELDED
SS2	STAINLESS STEEL 316, WELDED
TT	TEFL TUBING

INSTRUMENT IDENTIFICATION LETTERS				
	1ST LETTER	2ND LETTER	3RD LETTER	4TH LETTER
A	ANALYSIS	ALARM		
B	BURNER			
C	CONDUCTIVITY	CONTROL	CONTROL OR CLOSE	CONTROL OR CLOSE
D	DENSITY	DIFFERENTIAL		
E	ELECTRIC OR VOLTAGE	ELEMENT		
F	FLOW	RATIO		
G		GLASS		
H	HAND OPERATED		HIGH	HIGH
I	CURRENT	INDICATOR	INDICATOR	
J	POWER	SCAN		
K	TIME	CONTROL STATION		
L	LEVEL	LIGHT	LOW OR LIGHT	
M	MOISTURE	MOTOR	MEDIUM	MEDIUM
N	USER'S CHOICE			
O	N/A	ORIFICE		
P	PRESSURE	TEST CONNECTION		
Q	QUANTITY			
R	RADIATION OR RESTRICTION	RECORD	RECORD	
S	SPEED/SOLENOID	SWITCH	SWITCH	
T	TEMPERATURE	TRANSMITTER	TRANSMITTER	
U	VARIABLE			
V	VIBRATION	VALVE/DAMPER	VALVE/DAMPER	VALVE/DAMPER
W	WEIGHT	WELL		
X	USER'S CHOICE			
Y	USER'S CHOICE	RELAY, CONVERTER, SOLENOID		
Z	POSITION	FINAL CONTROL ELEMENT		
PNL	CONTROL PANEL			

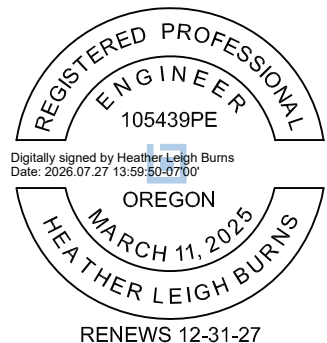
GENERAL NOTES:

- THIS IS A STANDARD LEGEND, THEREFORE NOT ALL OF THE INFORMATION MAY BE USED ON THIS PROJECT.
- P & I D INSTRUMENTATION DETAILS DO NOT REPRESENT INSTRUMENTS AND CONTROLS INTEGRAL TO VENDOR SUPPLIED CONTROL PANELS OR EQUIPMENT. SEE EQUIPMENT SPECIFICATIONS FOR THIS INFORMATION
- FOR INFORMATION REGARDING DIGITAL AND ANALOG ELECTRONIC CONTROL SIGNALING REFER TO E-001
- P & I D DOES NOT REPRESENT EQUIPMENT HARDWIRED INTERLOCK AND ENABLE CIRCUITRY. REFERENCE MCC ELECTRICAL ELEMENTARY SCHEMATICS FOR THIS INFORMATION
- * DENOTES VENDOR SUPPLIED EQUIPMENT
- P&IDS IN THIS CONTRACT ONLY INCLUDE DESIGN INFORMATION FOR THE FIELD PORTION. SCADA AND PLC INTEGRATION SHALL BE DONE BY OTHERS. ANY INFORMATION ABOVE THE FIELD LINE IS FOR REFERENCE ONLY AND SHOULD BE CONFIRMED BY THE OWNER'S INTEGRATOR.

NO.	DATE	BY	REVISION



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DESIGNED
DWN
DRAWN
CHK
CHECKED



BID SET



WATER QUALITY SYSTEMS BUILDING

INSTRUMENTATION & CONTROL

P&ID ABBREVIATIONS

PROJECT NO.: W253326OR SCALE: AS SHOWN DATE: AUGUST 2026

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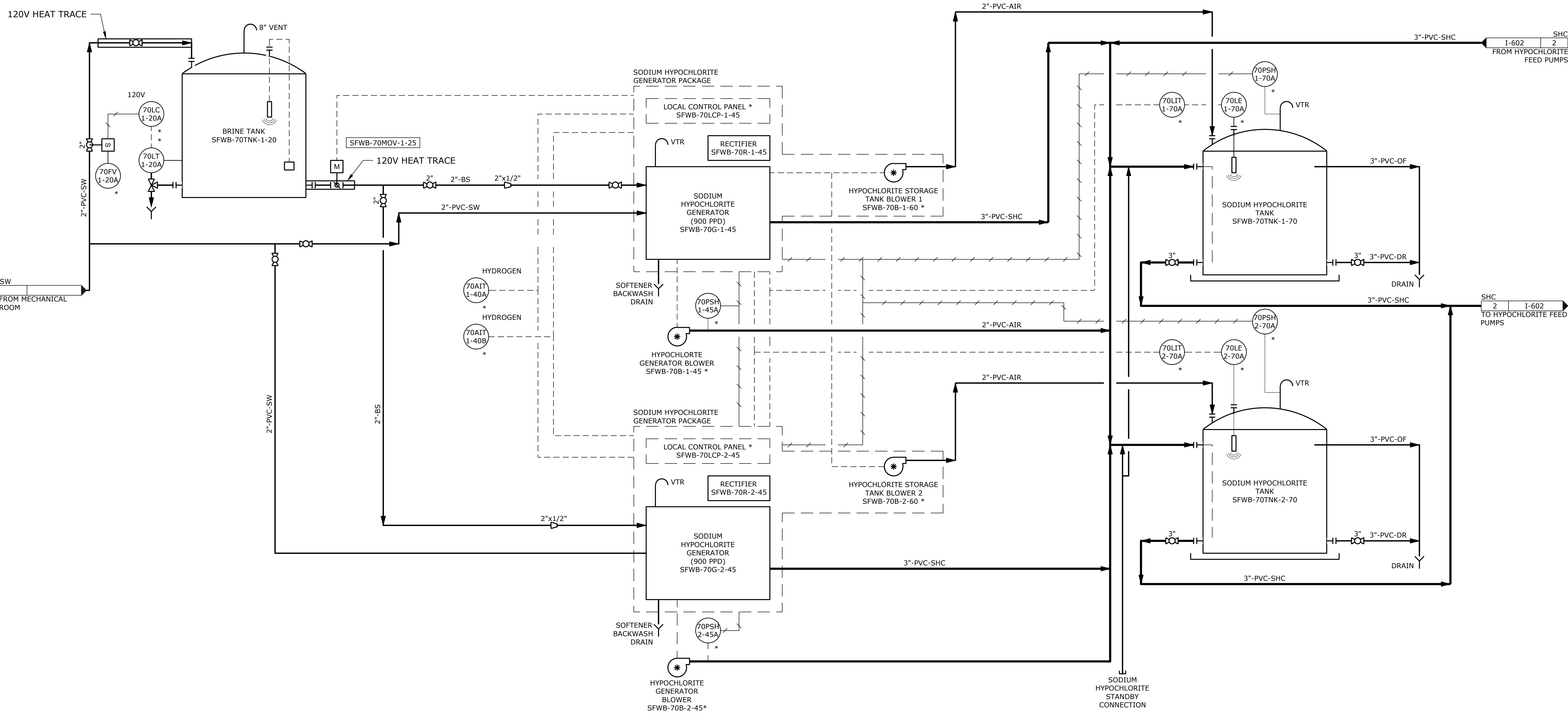
\\EgnyteDrive\Conisor Files\ _V-W\Projects\OR\South Fork Water\2025\W253326OR.00\12 CADD\12-5 Sheets\I-601 P&ID HYPOCHLORITE SYSTEM 1.dwg I-601 7/29/2026 11:08 AM JUSTIN.DEUEL 24.3s (LMS Tech)

SCADA (INTEGRATION BY OTHERS)

PLC (INTEGRATION BY OTHERS)

SFWB REDUNDANT PLANT PLC PROCESSOR AND PANEL NAME - SFWB-PLC01B-00
NEXT REMOTE I/O RACK AND PANEL TAG - SFWB-PLC01-02

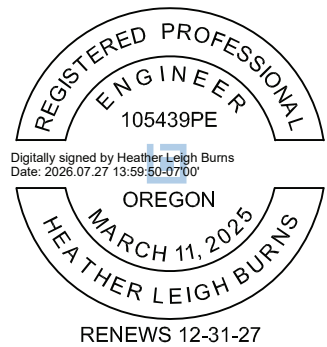
FIELD



NO.	DATE	BY	REVISION

NOTICE
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LHO
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WATER QUALITY SYSTEMS BUILDING

INSTRUMENTATION & CONTROL

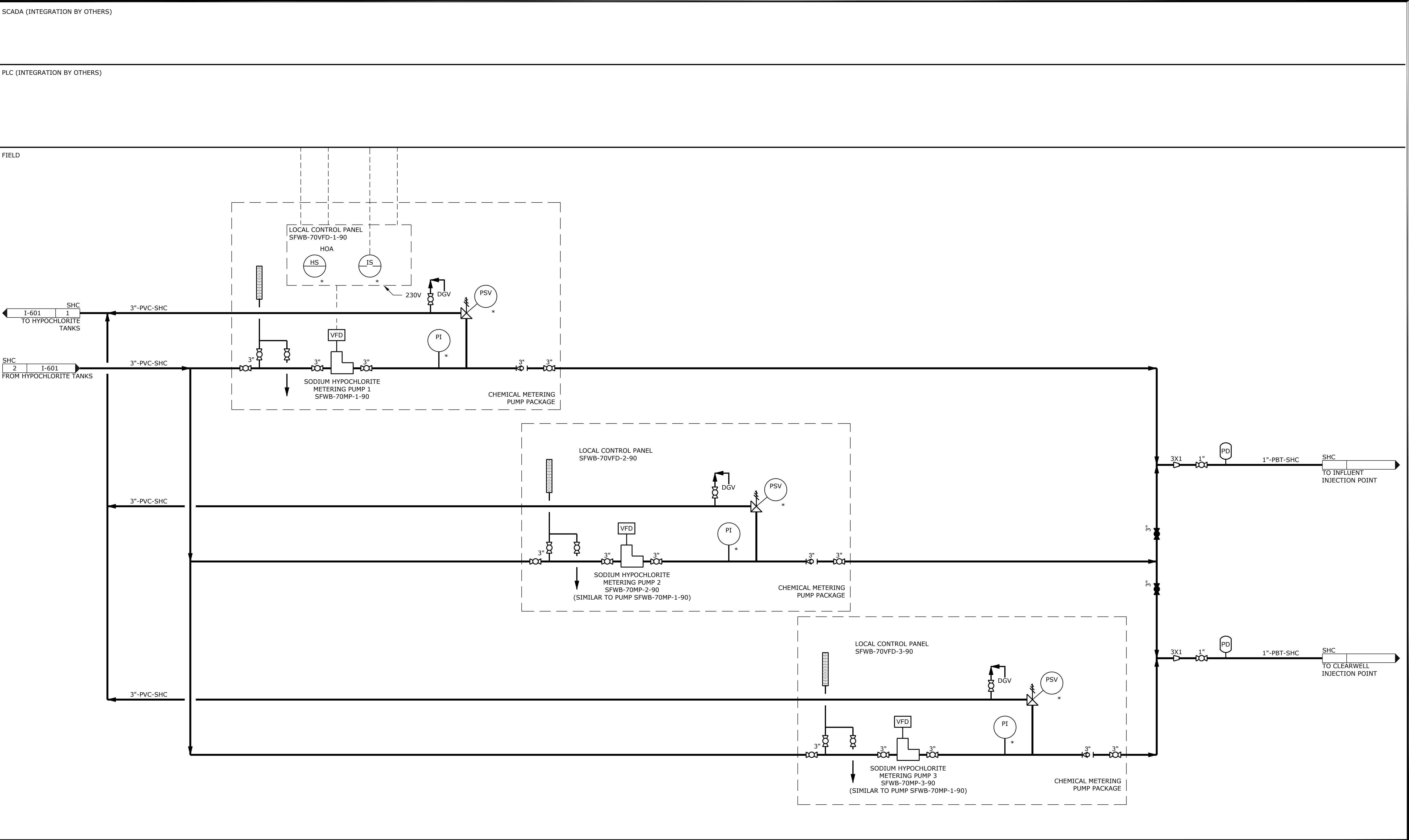
P&ID HYPOCHLORITE SYSTEM 1

PROJECT NO.: W253326OR SCALE: AS SHOWN DATE: AUGUST 2026

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I-601

\\EgnyteDrive\Conisor Files\OR\South Fork Water\2025\W253326OR.00\12 CADD\12-5 Sheets\I-602 P&ID HYPOCHLORITE SYSTEM 2.dwg I-602 7/29/2026 11:08 AM JUSTIN.DEUEL 24.3s (LMS Tech)



NO.	DATE	BY	REVISION

NOTICE

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DSN

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CHK

CHECKED

REGISTERED PROFESSIONAL ENGINEER

105439PE

OREGON

MARCH 11, 2025

HEATHER LEIGH BURNS

RENEWS 12-31-27

BID SET

consor

Stantec

South Fork WATER

PURE WATER SINCE 1915

WATER QUALITY SYSTEMS BUILDING

INSTRUMENTATION & CONTROL

P&ID HYPOCHLORITE SYSTEM 2

PROJECT NO.: W253326OR

SCALE: AS SHOWN

DATE: AUGUST 2026

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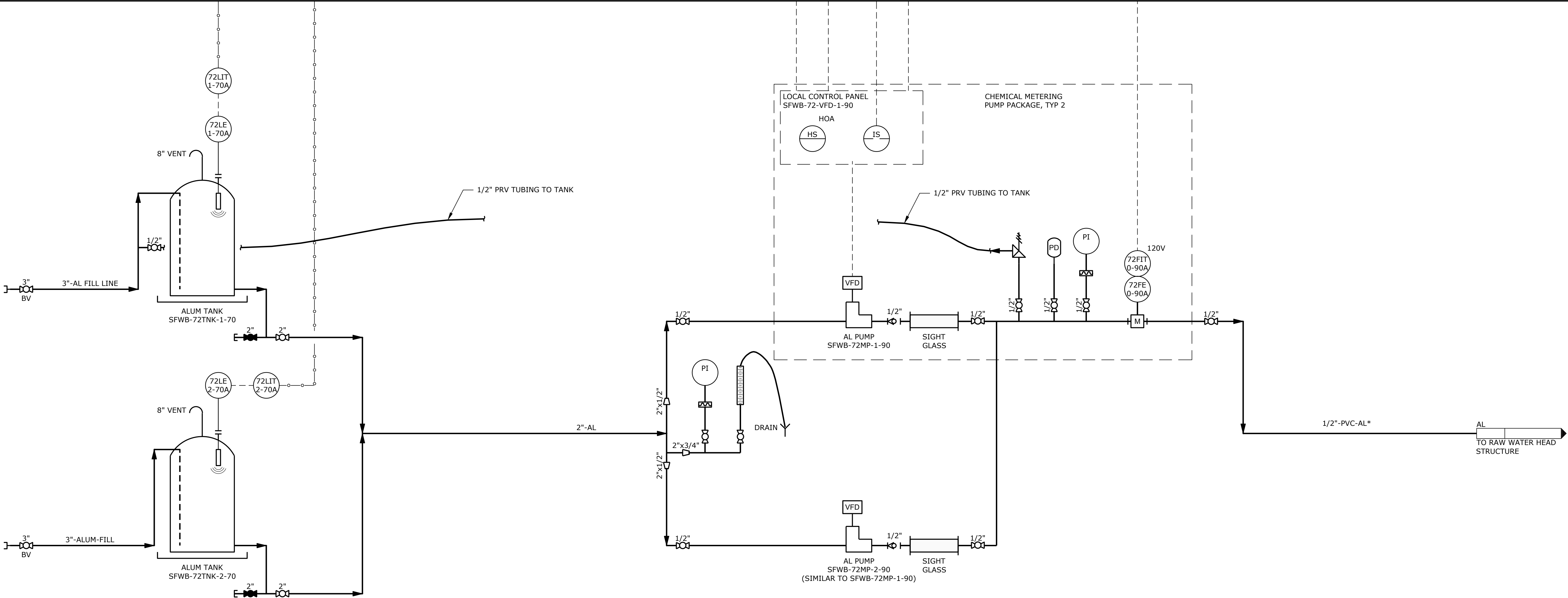
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SCADA (INTEGRATION BY OTHERS)

PLC (INTEGRATION BY OTHERS)

FIELD



- NOTES:
- * INDICATES PIPE SIZE AND MATERIAL SHOWN IS CASING PIPE. SEE DRAWINGS AND PIPE SCHEDULE FOR CONDUIT PIPE SIZE AND MATERIAL..

NO.	DATE	BY	REVISION

NOTICE

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INSTRUMENTATION & CONTROL

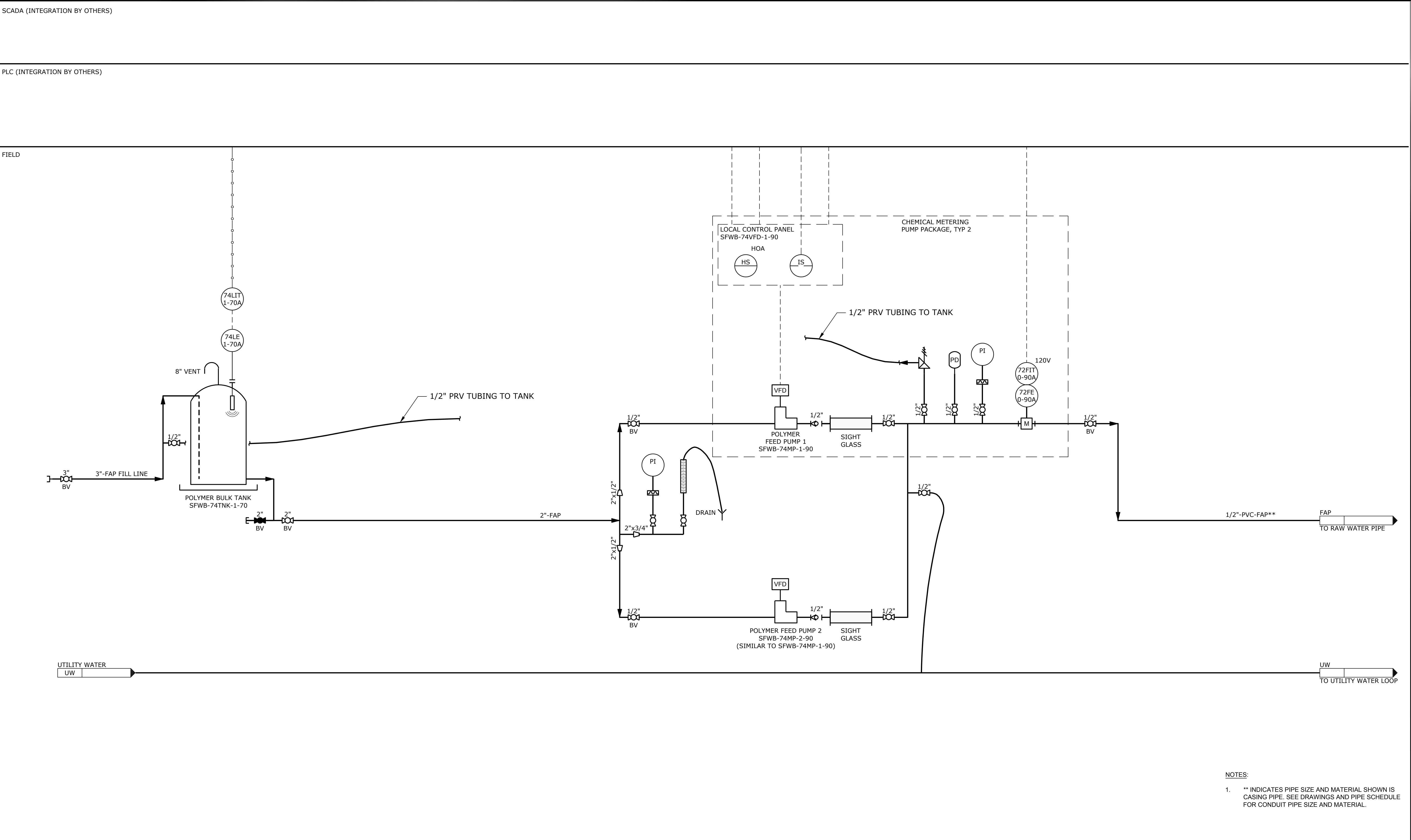
P&ID ALUM SYSTEM

PROJECT NO.: W253326OR SCALE: AS SHOWN DATE: AUGUST 2026

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\\EgnyteDrive\Conisor Files\ _V-W\Projects\OR\South Fork Water\2025\W253326OR.00\12 CADD\12-5 Sheets\I-604 P&ID POLYMER.dwg I-604 7/29/2026 11:08 AM JUSTIN.DEUEL 24.3s (LMS Tech)



- NOTES:
1. ** INDICATES PIPE SIZE AND MATERIAL SHOWN IS CASING PIPE. SEE DRAWINGS AND PIPE SCHEDULE FOR CONDUIT PIPE SIZE AND MATERIAL..

NO.	DATE	BY	REVISION

NOTICE

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REGISTERED PROFESSIONAL ENGINEER

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HEATHER LEIGH BURNS

RENEWES 12-31-27

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 **SOUTH FORK WATER**

PURE WATER SINCE 1915

WATER QUALITY SYSTEMS BUILDING

INSTRUMENTATION & CONTROL

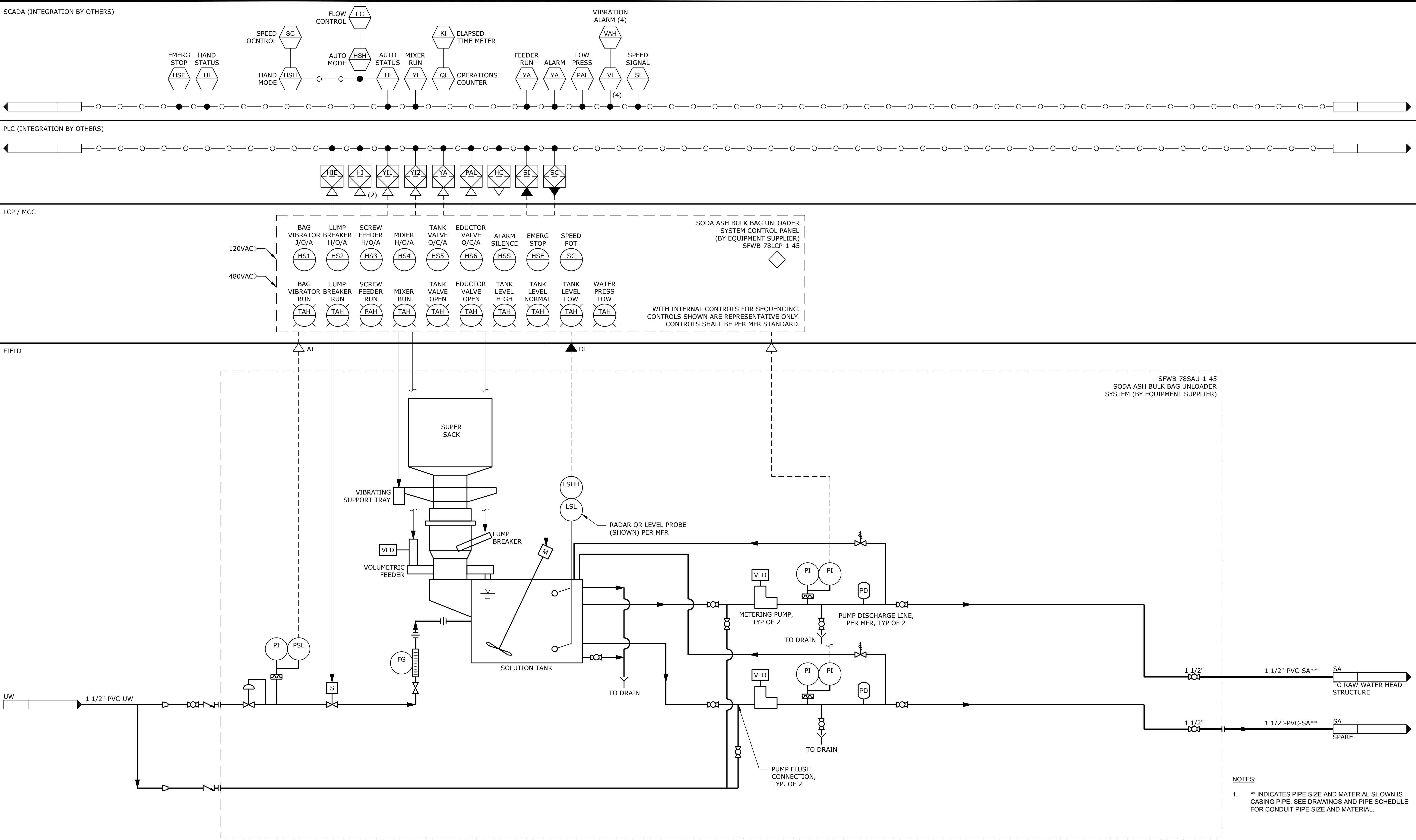
P&ID POLYMER SYSTEM

PROJECT NO.:	W253326OR	SCALE:	AS SHOWN	DATE:	AUGUST 2026
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DSN DESIGNED

DWN DRAWN

CHK CHECKED

REGISTERED PROFESSIONAL ENGINEER

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OREGON

MARCH 11, 2025

HEATHER LEIGH BURNS

RENEWS 12-31-27

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Stantec

South Fork WATER

PURE WATER SINCE 1915

WATER QUALITY SYSTEMS BUILDING

INSTRUMENTATION & CONTROL

P&ID SODA ASH

PROJECT NO.: W253326OR SCALE: AS SHOWN DATE: AUGUST 2026

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I-605