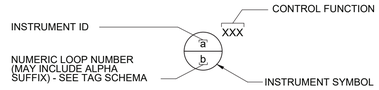
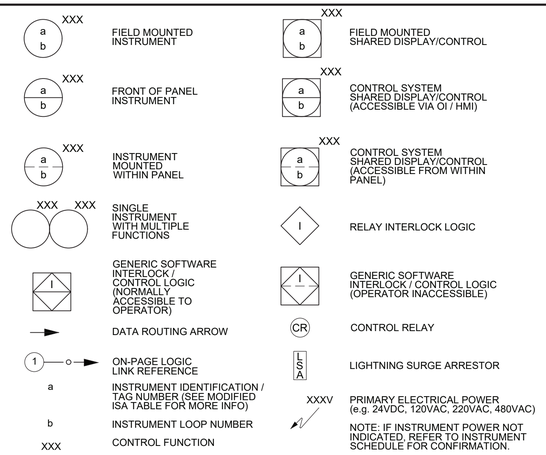
INSTRUMENTATION CALL - OUT

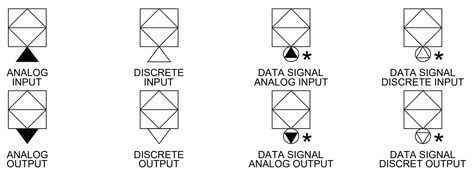


INSTRUMENT SYMBOLS



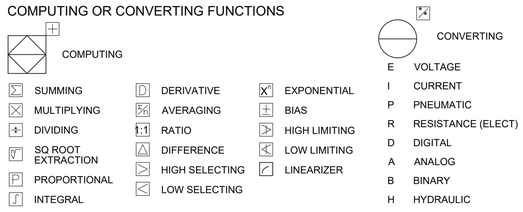
* REFER TO SPEC SECTION 409010 (PROJECT CONTROL PHILOSOPHY) FOR DETAILS.

PLC / REMOTE I/O POINTS



* FIELD NETWORK INTERFACE. SEE SPECIFICATION FOR MORE INFORMATION

COMPUTING OR CONVERTING FUNCTIONS



CONTROL FUNCTION DESIGNATIONS

AHC	AUTO / HOLD / CLOSE	OLH	OFF / LOW / HIGH
AM	AUTO / MANUAL	O/O	ON / OFF
AS	AIR SUPPLY	O/R	OVERRIDE
BEAR	BEARING	OOR	OUT OF RANGE
CLSD	CLOSED	OSC	OPEN / STOP / CLOSE
CV	CONTROL VARIABLE	PID	PROPORTIONAL / INTEGRAL / DERIVATIVE
DEV	DEVIATION	POT	POTENTIOMETER
E-STOP	EMERGENCY STOP	PV	PROCESS VARIABLE
ETM	ELAPSED TIME METER	RDY	READY
FOR	FORWARD /OFF /REVERSE	R/L	RAISE / LOWER
HML	HIGH / MID / LOW	RSL	RAISE / STOP / LOWER
HOA	HAND / OFF / AUTO	RST	RESET
HOR	HAND / OFF / REMOTE	RTD	RESISTANCE TEMPERATURE DETECTOR
LEAK	MOISTURE INTRUSION	SD	SHUTDOWN
LOR	LOCAL / OFF / REMOTE	SEL	SELECT
L/R	LOCAL / REMOTE	SP	SET POINT
LSR	LOCAL / STOP / REMOTE	S/R	START / RESET
MOA	MANUAL / OFF / AUTO	S/S	START / STOP
MN	MAINTENANCE / NORMAL	STR	START
O/C	OPEN / CLOSE	STP	STOP
OCA	OPEN / CLOSE / AUTO	TMR	TIMER
OL	OVERLOAD	WIND	WINDING

NOTE:

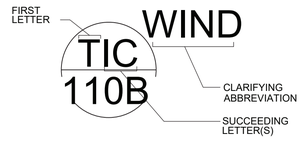
1. REFER TO DRAWING GI-002 FOR ANALYTICAL INSTRUMENT DESIGNATIONS.

ISA TABLE (MODIFIED)

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

TAG SCHEMA

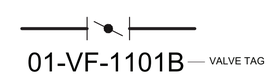
TYPICAL INSTRUMENT & CONTROL VALVE TAGGING



TYPICAL EQUIPMENT TAG FORMAT

01-P-1101B

TYPICAL VALVE TAG / SPEC FORMAT



TYPICAL INSTRUMENT & CONTROL VALVE TAGGING

01-TIC-110B - - INSTRUMENT SCHEDULE (FULL TAG)
TIC-110B - - P&ID (PARTIAL TAG)
01 – – – – – – – PROCESS AREA
TIC – – – – – INSTRUMENT / VALVE ID
110 – – TAG NUMBER
B - - SUFFIX

NOTE: REFER TO GENERAL SHEET GI-004 FOR STANDARD VALVE CALLOUTS.

TYPICAL EQUIPMENT TAG FORMAT

01-P-110B – – – EQUIPMENT SCHEDULE (FULL TAG)
P-110B – – – P&ID (PARTIAL TAG)
10 – – – – – – – – PROCESS AREA
P – – – – – – – EQUIPMENT ID
110 – – – – TAG NUMBER
B – – – SUFFIX

NOTE: REFER TO GENERAL SHEET GI-004 FOR STANDARD EQUIPMENT CALLOUTS.

TYPICAL MANUAL VALVE TAG FORMAT

01-VF-110B – – – MANUAL VALVE SCHEDULE (FULL TAG)
VF-110B – – – P&ID (PARTIAL TAG)
10 – – – – – – – – PROCESS AREA
VF - – – – – – – VALVE
110 – – – – TAG NUMBER
B - – – - SUFFIX

NOTE: REFER TO GENERAL SHEET GI-004 FOR STANDARD VALVE CALLOUTS.

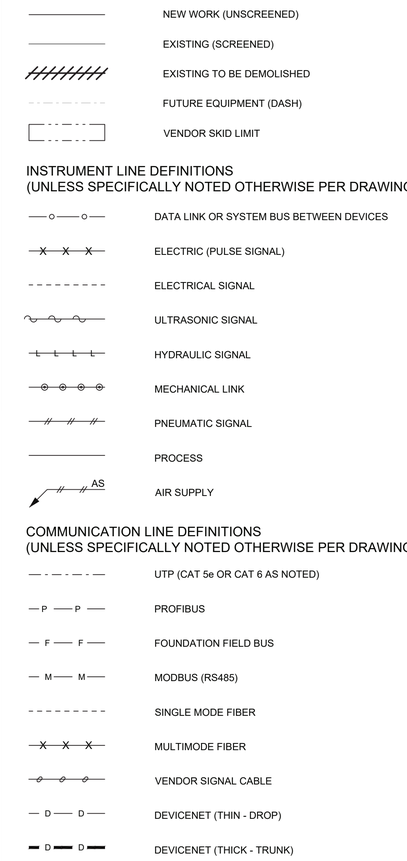
TYPICAL PIPE LINE TAG FORMAT

12-RW-CS08 - – – – - PIPE LINE SCHEDULE (FULL TAG)
12 – – – – – – – – – NOMINAL PIPE DIAMETER
RW - – – – – – – – FLUID CODE
CS08 - – – – - PIPE SPEC

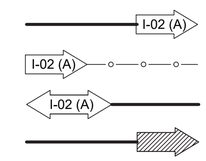
GENERAL INSTRUMENTATION NOTES

1. THE SYMBOLS AND NOMENCLATURE SHEETS ARE REPRESENTATIVE OF A GENERAL STANDARD. THEREFORE, IT SHOULD BE UNDERSTOOD THAT NOT ALL INFORMATION PRESENTED WILL BE RELEVANT TO THIS PROJECT.
2. ADDITIONAL INSTRUMENTATION AND CONTROL SYMBOLS MAY BE USED ASREQUIRED. SYMBOLS AND NOMENCLATURE WILL BE EITHER BASED ON ISA STANDARD 5.1-INSTRUMENTATION SYMBOLS AND IDENTIFICATION OR DEFINED ELSEWHERE IN THE P&ID SET.
3. SEE ELECTRICAL AND PROJECT GENERAL SHEETS FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.
4. TO CAPTURE THE COMPLETE PROCESS CONTROL INTENT, THE P&IDS MUST TO BE REVIEWED IN CONJUNCTION WITH THE PROJECT CONTROL PHILOSOPHY (SPEC SECTION 409010), THE PROJECT I/O AND INSTRUMENT SCHEDULES AND OTHER SECTIONS REFERENCED HEREIN.

INSTRUMENTATION LINE SYMBOLOGY



SIGNAL AND PROCESS OFF-PAGE CONNECTORS



NOTE: REFER TO INSTRUMENTATION LINE SYMBOLOGY FOR PROCESS AND LOGIC LINESTYLE DEFINITION.

REV 010119

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Issued					
0	CONSTRUCTION SET	JCR	2024.03.18	Appd	YYYY.MM.DD
		MB		By	

Revision			
	By	Appd	YYYY.MM.DD

Permit/Seal

PROFESSIONAL ENGINEER
No.11965314
BARBARA HERRERA
03/19/2024
STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: GI-001
Scale: NO SCALE

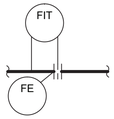
KB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
SYMBOLS AND NOMENCLATURE - I

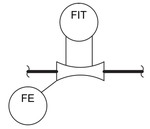
Revision: Sheet: 73 of 160
Drawing No.
GI-001

C:\Users\ccache\181301587_magna_influent_design\acad-dwg\sheet_file\gi-001
2024.03.12 10:07:54 AM
ORIGINAL SHEET - ANSI D

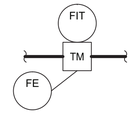
FLOW INSTRUMENTS



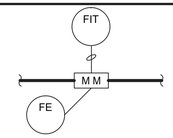
ORIFICE PLATE WITH VENA CONTRACTA, RADIUS, OR PIPE TAPS CONNECTED TO DIFFERENTIAL-PRESSURE -TYPE FLOW TRANSMITTER



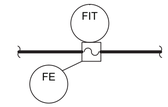
VENTURI TUBE WITH (DIFFERENTIAL PRESSURE) FLOW TRANSMITTER



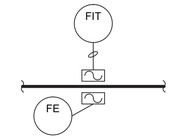
THERMAL MASS FLOW METER



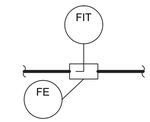
MAGNETIC FLOWMETER WITH REMOTE FLOW TRANSMITTER



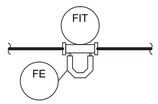
SONIC FLOWMETER DOPPLER OR TRANSIT TIME



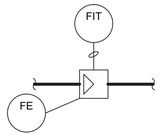
SONIC FLOWMETER CLAMP ON TYPE



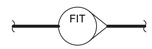
SINGLE PORT PITOT TUBE OR PITOT-VENTURI TUBE



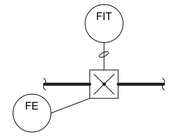
CORIOLIS FLOWMETER



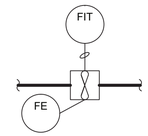
VORTEX FLOW METER



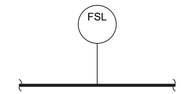
VARIABLE AREA FLOW INDICATOR (ROTAMETER)



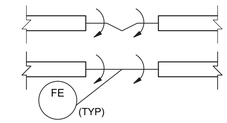
PADDLE WHEEL FLOW METER



TURBINE OR PROPELLER TYPE FLOW METER

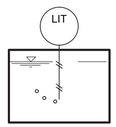


FLOW DETECTION SWITCH THERMAL TYPE

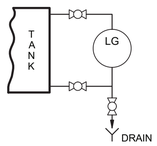


WEIR

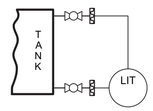
LEVEL INSTRUMENTS



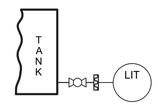
LEVEL TRANSMITTER BUBBLER TYPE



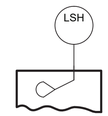
GAUGE GLASS (EXTERNALLY CONNECTED)



LEVEL TRANSMITTER, SEALED DIFFERENTIAL PRESSURE TYPE (MOUNTED ON TANK)

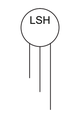


LEVEL TRANSMITTER PRESSURE ACTUATED

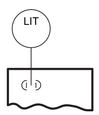


LEVEL DETECTION SWITCH FLOAT ACTUATED TYPE

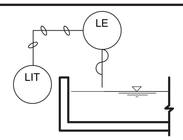
LEVEL DETECTION SWITCH VIBRATING FORK TYPE



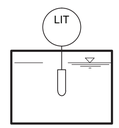
LEVEL DETECTION SWITCH CONDUCTANCE TYPE



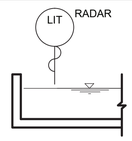
LEVEL TRANSMITTER CAPACITANCE OR DIELECTRIC OR RF ADMITTANCE TYPE



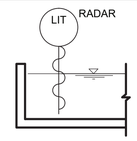
LEVEL TRANSMITTER NON-CONTACTING ULTRASONIC TYPE REMOTE MOUNTED



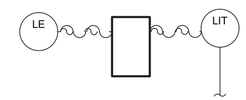
LEVEL TRANSMITTER HYDROSTATIC TYPE



LEVEL TRANSMITTER NON-CONTACTING RADAR TYPE

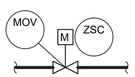


LEVEL TRANSMITTER GUIDED WAVE RADAR TYPE

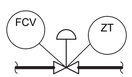


LEVEL TRANSMITTER RADIOACTIVE OR SONIC TYPE WITH INTEGRAL SENSOR

POSITION INSTRUMENTS

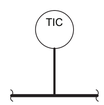


LIMIT SWITCH ON MOTORIZED VALVE INDICATING CLOSED POSITION

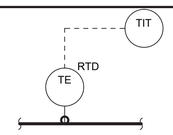


VALVE POSITION TRANSMITTER ON PNEUMATIC ACTUATED VALVE

TEMPERATURE INSTRUMENTS

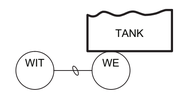


BIMETALLIC TYPE THERMOMETER, GLASS THERMOMETER, OR OTHER LOCAL UNCLASSIFIED TEMPERATURE INDICATOR

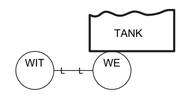


THERMOCOUPLE, RESISTANCE BULB (RTD) OR THERMISTOR (TH) TEMPERATURE TRANSMITTER WITH THERMOWELL

WEIGHT INSTRUMENTS

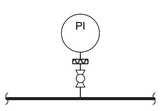


STRAIN GAUGE CONNECTED TO SEPARATE WEIGHT TRANSMITTER (TAG STRAIN GAUGE WE)

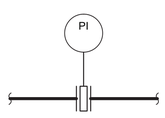


HYDRAULIC ACTUATED WEIGHT TRANSMITTER

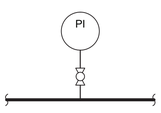
PRESSURE OR VACUUM INSTRUMENTS



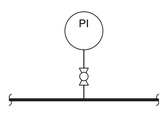
PRESSURE GAUGE WITH DIAPHRAGM SEAL



PRESSURE GAUGE WITH LIQUID FILLED ANNULAR SEAL SYSTEM

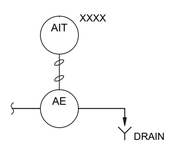


PRESSURE INDICATING TRANSMITTER



PRESSURE INDICATOR DIRECT - CONNECTED

ANALYTICAL INSTRUMENTS



FLOW THROUGH ANALYZING ELEMENT WITH REMOTE TRANSMITTER

ALK	ALKALINITY
CL_2	CHLORINE CONCENTRATION
COMB	COMBUSTIBLE GAS
COND	CONDUCTIVITY
COD	CHEMICAL OXYGEN DEMAND
DO	DISSOLVED OXYGEN
HC	HYDROCARBON
H_2O_2	HYDROGEN PEROXIDE
H_2S	HYDROGEN SULFIDE
LEL	LOWER EXPLOSIVE LIMIT
NO_3 / NO_2	NITRATE / NITRITE
NH_3 / NH_4	AMMONIA / AMMONIUM
O_2	OXYGEN CONCENTRATION
O_3	OZONE
ORP	OXIDATION - REDUCTION POTENTIAL
PC	PARTICLE COUNTER
pH	HYDROGEN ION CONCENTRATION
SCU	STREAMING CURRENT UNIT
SO	SULFUR DIOXIDE
TH^2	TOTAL HARDNESS
TKN	TOTAL KJELDAHL NITROGEN
TN	TOTAL NITROGEN
TOC	TOTAL ORGANIC CARBON
TURB	TURBIDITY
TSS	TOTAL SUSPENDED SOLIDS
UVI	ULTRA VIOLET INTENSITY
UVT	ULTRA VIOLET TRANSMITTANCE

NOTE : IN THE CASE WHERE MULTIPLE SENSORS ARE TIED TO A SINGLE TRANSMITTER OR IN THE CASE OF GAS DETECTION, THE ANALYTIC CALLOUT WILL BE ASSIGNED TO THE SENSOR.

REV 010119

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.
The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: GI-002
Scale: NO SCALE

KB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
SYMBOLS AND NOMENCLATURE - II

Revision: Sheet: 74 of 160
Drawing No.
GI-002

c:\Users\ccacher\181301587_magna_influent_design\acad dwg\sheet_files\gi-002
2024.03.12 10:07:57 AM
ORIGINAL SHEET - ANSI D

VALVES

- 3 WAY MULTI-PORT VALVE
- 4 WAY MULTI-PORT VALVE
- AIR VACUUM, AIR RELEASE, OR COMBINATION AIR VACUUM AND AIR RELEASE ASSEMBLY
- ANGLE VALVE
- BACK-PRESSURE VALVE
- BACKFLOW PREVENTER VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- CONE VALVE
- DIAPHRAGM VALVE
- FLAP VALVE
- GATE VALVE
- GLOBE VALVE
- HOSE BIBB VALVE
- NEEDLE VALVE
- PINCH VALVE
- PLUG VALVE
- PRESSURE REGULATING VALVE
- PRESSURE RELIEF VALVE
- SLEEVE VALVE
- TELESCOPING VALVE
- FLOAT VALVE

VALVE AND GATE ACTUATORS

- DIAPHRAGM ACTUATOR
- E/H = ELECTROHYDRAULIC
P = PNEUMATIC
S = SOLENOID
- MOTOR ACTUATOR
- PISTON ACTUATOR
- WEIGHT BALANCED ACTUATOR

GATES

- SLIDE GATE
- STOP GATE OR SHEAR GATE

WASTEWATER EQUIPMENT

- BELT FILTER PRESS
- SHAFTLESS CONVEYOR
- SCREW CONVEYOR
- CENTRIFUGE
- GRAVITY BELT THICKENER
- BELT CONVEYOR
- SLUDGE GRINDER

HVAC

- AIR CONDITIONING UNIT
- DUCT AIR FILTER
- AIR HANDLING UNIT
- NON-MOTORIZED DAMPER
- MOTORIZED DAMPER
- DEHUMIDIFIER
- DUCT SMOKE DETECTOR
- EVAPORATIVE COOLER
- HEATER
- HVAC BOILER
- HVAC FAN
- VENT FAN
- HVAC LOUVER
- THERMOSTAT
- STEAM GENERATOR
- UNIT HEATER
- WATER HEATER
- AFTER COOLER

PUMPS & COMPRESSORS

- SLUDGE DIAPHRAGM PUMP
- HORIZONTAL CENTRIFUGAL PUMP
- GENERIC PUMP
- CHEMICAL METERING PUMP
- DRUM PUMP
- ROTARY GEAR PUMP
- SPLIT-CASE PUMP
- HOSE / PERISTALTIC PUMP
- PLUNGER / PISTON PUMP
- PROGRESSIVE CAVITY PUMP
- ROTARY LOBE PUMP
- SUBMERSIBLE SUMP PUMP
- SUBMERSIBLE TURBINE PUMP
- VERTICAL TURBINE PUMP
- VERTICAL CENTRIFUGAL PUMP
- INCLINED ARCHIMEDES SCREW PUMP
- VERTICAL SUMP PUMP
- RECIPROCATING COMPRESSOR
- ROTARY SCREW COMPRESSOR

PIPING ACCESSORIES

- ANNULAR SEAL
- ATMOSPHERIC VENT
- BLIND FLANGE
- CAP - BREATHER
- CAP - SCREW / THREADED
- CAP - WELDED
- CAP - QUICK DISCONNECT
- CHLORINE INJECTOR OR CHEMICAL EDUCTOR
- DIAPHRAGM SEAL
- DRAIN
- EXPANSION CHAMBER WITH RUPTURE DISK
- EDUCTOR
- FLANGED
- OR — FLEXIBLE CONNECTION - BELLOWS TYPE
- FLAME ARRESTOR
- FCO — FLOOR CLEANOUT
- FILTER
- HUB DRAIN
- INLINE MIXER
- PIPE MATERIAL CHANGE
- PULSATION DAMPENER
- REDUCER - CONCENTRIC
- REDUCER - ECCENTRIC
- REMOVABLE SPOOL PIECE
- UNION
- RUPTURE DISK
- STRAINER - BASKET TYPE
- STRAINER - DUPLEX BASKET TYPE
- STRAINER - WYE TYPE
- SLOPE
- TRAP
- OR WCO — WALL CLEANOUT
- TP — TIE-IN POINT

BLOWERS

- AERATOR
- BLOWER
- POSITIVE DISPLACEMENT BLOWER
- SINGLE STAGE CENTRIFUGAL BLOWER

MISCELLANEOUS

- BRIDGE CRANE
- CALIBRATION COLUMN
- CONTAINER SCALE
- CARTRIDGE FILTER
- DEMISTOR
- FIRE HYDRANT
- GAS BOTTLE
- HEAT EXCHANGER - PLATE TYPE
- HEAT EXCHANGER - STRAIGHT TYPE
- HEAT EXCHANGER - U TUBE
- HEATER
- HORN
- PANEL-MOUNTED HORN
- BEACON
- MISCELLANEOUS EQUIPMENT
- MIXER
- M — MOTOR SYMBOL
- HORIZONTAL PRESSURE VESSEL
- VERTICAL PRESSURE VESSEL
- RADIO ANTENNA
- REFRIGERATOR DRYER
- SAMPLE COOLER
- AUTO-BACKWASHING STRAINER
- TANK WITH CONE SHAPED ROOF
- TANK WITH DOME ROOF
- TANK WITH FLOATING COVER
- TANK, VESSEL, OR BIN
- TEMPERING TANK
- TOTE TANK
- WATER LEVEL
- GENERATOR

REV 010119

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - use only the dimensions noted/provided. Errors and omissions shall be reported to Stantec. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: GI-003
Scale: NO SCALE

KB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
SYMBOLS AND NOMENCLATURE - III

Revision: Sheet: 75 of 160
Drawing No.
GI-003

ORIGINAL SHEET - ANSI D

PROCESS ABBREVIATIONS

AERATION	A
ALUMINUM SULFATE (LIQUID ALUM)	ALS
AMMONIUM HYDROXIDE (AQUEOUS AMMONIA)	AMH
AUTOMATIC SPRINKLER RISER	ASR
BLEND	B
BALLASTED FLOCCULATION POLYMER	BFP
BALLASTED FLOCCULATION SOLIDS	BFS
BLENDED PRODUCT	BP
CONDENSATE	C
CALCIUM HYDROXIDE (HYDRATED LIME)	CAH
CALCIUM OXIDE (QUICK LIME)	CAO
CHANNEL AGITATION WATER	CAW
MEMBRANE CLEANING CONCENTRATE RETURN	CCR
CHEMICAL DRAIN	CD
CONDENSER WATER RETURN	CDR
CONDENSER WATER SUPPLY	CDS
CHILLED WATER RETURN	CHR
CHILLED WATER SUPPLY	CHS
CORROSION INHIBITOR	CI
CHLORINE (GAS OR LIQUID)	CL
CHLORINE SOLUTION	CLS
CHLORINE GAS UNDER VACUUM	CLV
CENTRATE	CN
CONDENSATE DRAIN	CND
CHEMICAL CONTAINMENT	CP
MEMBRANE CLEANING PERMEATE RETURN	CPR
CIRCULATED SLUDGE	CSL
CITRIC ACID	CTA
CALCIUM THIOSULFATE	CTH
CHLORINATOR VENT AND DETECTION	CV
CHEMICAL DRAIN VENT	CVT
COAGULATED WATER	CW
COOLING WATER RETURN	CWR
COOLING WATER SUPPLY	CWS
DEFOAMING CHEMICAL	DC
DOMESTIC COLD WATER	DCW
DIESEL FUEL OIL	DFO
DEMINERALIZED WATER	DMW
DECANT	DN
DRAIN	DR
DIGESTED SLUDGE	DSL
DOMESTIC HOT WATER RETURN	DWR
DOMESTIC HOT WATER SUPPLY	DWS
ENGINE EXHAUST	EE
ENGINE COOLING WATER RETURN	EWR
ENGINE COOLING WATER SUPPLY	EWS
FOUL AIR	FA
FILTER AIR WASH	FAW
FILTER BACKWASH	FBW
FINAL EFFLUENT	FE
FERRIC CHLORIDE	FEC
FERRIC SULFATE	FES
FILTER INFLUENT	FI
FILTERED WATER	FLW
FORCE MAIN	FM
FUEL OIL RETURN	FOR
FUEL OIL SUPPLY	FOS
FIRE PROTECTION	FP
FROTH	FR
FROTH SPRAY	FS
FILTER SURFACE WASHWATER	FSW
FILTER TO WASTE	FTW
FINISHED WATER	FW
FILTER WASTE WASHWATER	FWW
GRIT	G
GRANULAR ACTIVATED CARBON	GAC
GASEOUS OXYGEN	GOX
HYDROCHLORIC ACID	HCA
HYDROGEN PEROXIDE	HDP
HYDROFLUOSILICIC ACID	HFA
HEATING WATER RETURN	HWR
HEATING WATER SUPPLY	HWS
INSTRUMENT AIR	IA
INTERMEDIATE EFFLUENT	IE
LANDFILL GAS	LFG
LUBE OIL	LO
LIQUID OXYGEN	LOX
LIQUEFIED PETROLEUM GAS	LPG
LIME SLURRY	LS
LANDSCAPING SPRINKLER SYSTEM	LSP
MEMBRANE CONCENTRATE	MC
MEMBRANE CLEANING RETURN	MCR
MEMBRANE CLEANING SUPPLY	MCS
MEMBRANE CLEANING WASTE	MCW
MECHANICAL DEWATERING POLYMER	MDP
MEMBRANE FEED	MF
METHANE GAS	MG
MIXED LIQUOR	ML
MIXED LIQUOR RECYCLE	MLR
MEMBRANE PERMEATE	MP
MURIATIC ACID	MRA
NATURAL GAS	NG
NON-LEADED GASOLINE	NLG
OVERFLOW	OF
OFFGAS	OG
OXIDATION TOWER EFFLUENT	OTE
OZONE	OZG
OZONATED WATER	OZW
PLANT AIR	PA
POWDERED ACTIVATED CARBON	PAC
POLYALUMINUM CHLORIDE	PCL
PLANT DRAIN	PDR
PRIMARY EFFLUENT	PE
PLANT INFLUENT	PI
PLANT EFFLUENT	PLE
PLANT OVERFLOW	PO
ANIONIC POLYMER	POA
CATIONIC POLYMER	POC
FILTER AID POLYMER	POF
NONIONIC POLYMER	PON
THICKENER POLYMER	POT
PRESSURIZED RECYCLE	PRR
PRESSATE	PRS
POTASSIUM PERMANGANATE	PTP
POTABLE WATER	PW
RETURN ACTIVATED SLUDGE	RAS
RECLAIMED WATER	REW
REFRIGERANT LIQUID	RFL
REFRIGERANT SUCTION	RFS
REFRIGERANT SUCTION	RSL
RETURN SECONDARY SLUDGE	RSS
RAW WATER	RW
RAINWATER LEADER	RWL
RAINWATER LEADER OVERFLOW	RWO
SCUM	S
SAMPLE	SAM
SUBNATANT	SBN
SUBNATANT OVERFLOW	SBO
SCAVENGER SYSTEM DISCHARGE	SCV
SANITARY DRAIN	SD
SODIUM BISULFITE	SDB
SODIUM HYDROXIDE (CAUSTIC SODA)	SDH
STORM DRAIN	SDR
SANITARY DRAIN VENT	SDV

REV 010119

PROCESS ABBREVIATIONS

SECONDARY EFFLUENT	SE
SLUDGE FILTRATE	SF
SULFURIC ACID	SFA
SLUDGE GAS	SG
SODIUM HYPOCHLORITE	SHC
SCALE INHIBITOR	SI
SLUDGE	SL
SUPERNATANT	SN
SAND SLURRY	SND
SULFUR DIOXIDE (GAS OR LIQUID)	SO
SULFUR DIOXIDE SOLUTION	SOS
SULFUR DIOXIDE GAS UNDER VACUUM	SOV
SPARE CHEMICAL	SP
SUMP PUMP DISCHARGE	SPD
SANITARY SEWER	SS
SODIUM SILICOFLUORIDE	SSF
STEAM	STM
STRUCTURE UNDERDRAIN	SU
STRUCTURE UNDERDRAIN COLLECTOR	SUC
SETTLED WATER	SW
SCRUBBER WATER RETURN	SWR
TRICKLING FILTER EFFLUENT	TFE
TRICKLING FILTER INFLUENT	TFI
TRICKLING FILTER RECYCLE	TFR
THICKENED SLUDGE	TSL
TREATED WATER	TW
UNDERDRAIN	UD
UTILITY WATER (NON-POTABLE WATER)	UW
VACUUM	V
VENT	VT
WASTE ACTIVATED SLUDGE	WAS
WASTE LUBE OIL	WLO
WASTE SECONDARY SLUDGE	WSS

EQUIPMENT ABBREVIATIONS

AIR HANDLING UNIT	AHU
AIR RELEASE VALVE	ARV
BACK FLOW PREVENTER	BFP
BACK PRESSURE SUSTAINING VALVE	BPV
BEACON	BCN
BLENDING UNIT	BLU
BLOWER	BLW
BULK STORAGE TANK	BTK
COMPRESSED AIR PANEL	CAP
CARTRIDGE FILTER	CF
CHECK VALVE	CV
CLEAN IN PLACE	CIP
CONVEYOR	CN
DAY TANK	DTK
DEGASIFIER	DG
EXHAUST FAN	EF
FILTER (GENERAL)	F
GRIT WASHER	GW
HEATER	HTR
HIGH SERVICE PUMP	HSP
LOUVER	LOU
MECHANICAL EQUIPMENT (GENERAL)	ME
MIXER	MX
MOTOR OPERATOR VALVE	MOV
PNEUMATIC OPERATOR VALVE	POV
PRESSURE REDUCING VALVE	PRV
PRESSURE SAFETY VALVE	PSV
PUMP (GENERAL)	P
RUPTURE DISK	RD
SAMPLE PUMP	SP
SAND SEPARATOR	SS
SLIDE GATE	SG
SOLENOID OPERATOR VALVE	SOV
TANK	TK
TRANSFER PUMP	TP
VALVE (MANUAL)	V

VALVE ABBREVIATIONS

GATE VALVE	VG
BALL VALVE	VB
BUTTERFLY VALVE	VF
CHECK VALVE	VC
DIAPHRAGM VALVE	VD
GLOBE VALVE	VO
NEEDLE VALVE	VN
PLUG VALVE	VP
SPECIALITY VALVES	VX

CONTROL EQUIPMENT ABBREVIATIONS

ATMOSPHERE	ATM
AUTO TRANSFER CONTROLLER	ATC
CONTACT TIME	CT
CONTROL PANEL	CP
DISTRIBUTED CONTROL SYSTEM	DCS
DIRECT ONLINE STARTER	DOL
FAIL CLOSED	FC
FIBER OPTIC CABLE	FOC
FIBER OPTIC TRANSCEIVER	FOT
FULL VOLTAGE NON-REVERSING STARTER	FVNR
HUMAN MACHINE INTERFACE	HMI
LOCKED CLOSED	LC
LOCAL CONTROL PANEL	LCP
LOCAL CONTROL STATION	LCS
LOCKED OPEN	LO
LIGHTNING SURGE ARRESTOR	LSA
MOTOR CONTROL CENTER	MCC
MAIN CONTROL PANEL	MCP
MULTIMODE FIBER	MMF
MOTOR STARTER	MS
MOTOR	MTR
NOT APPLICABLE	N/A
NORMALLY CLOSED	NC
NOT IN CONTRACT	NIC
NORMALLY OPEN	NO
OPERATOR INTERFACE	OI
OPERATOR INTERFACE TERMINAL	OIT
PERSONAL COMPUTER	PC
PROGRAMMABLE LOGIC CONTROLLER	PLC
PLANT CONTROL NETWORK	PCN
POWER DISTRIBUTION UNIT	PDU
REMOTE I/O	RIO
REDUCED VOLTAGE SOLID-STATE STARTER	RVSS
REMOTE TERMINAL UNIT	RTU
SINGLE MODE FIBER	SMF
SOLID STATE METER	SSM
SHIELDED TWISTED PAIR	STP
THERMOCOUPLE	TC
UNINTERRUPTABLE POWER SUPPLY	UPS
UNSHIELDED TWISTED PAIR	UTP
VENDOR CONTROL PANEL	VCP
VARIABLE FREQUENCY DRIVE	VFD
VARIABLE SPEED DRIVE	VSD

AREA NUMBERING

- GENERAL SHEETS:
  - GENERAL SYMBOLS AND NOMENCLATURE
  - INSTRUMENTATION SYMBOLS AND NOMENCLATURE
  - PROCESS SYMBOLS AND NOMENCLATURE
  - INSTRUMENT INSTALLATION DETAILS
- WRF AREA NUMBERING:
  - AREA 1: INFLUENT PUMP STATION
  - AREA 2: GRIT WASHING FACILITY
  - AREA 3: HEADWORKS FACILITY

Stantec
Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER
No.11965314
BARBARA HERRERA
03/19/2024
STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: GI-004

Scale: NO SCALE

KB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
SYMBOLS AND NOMENCLATURE - IV

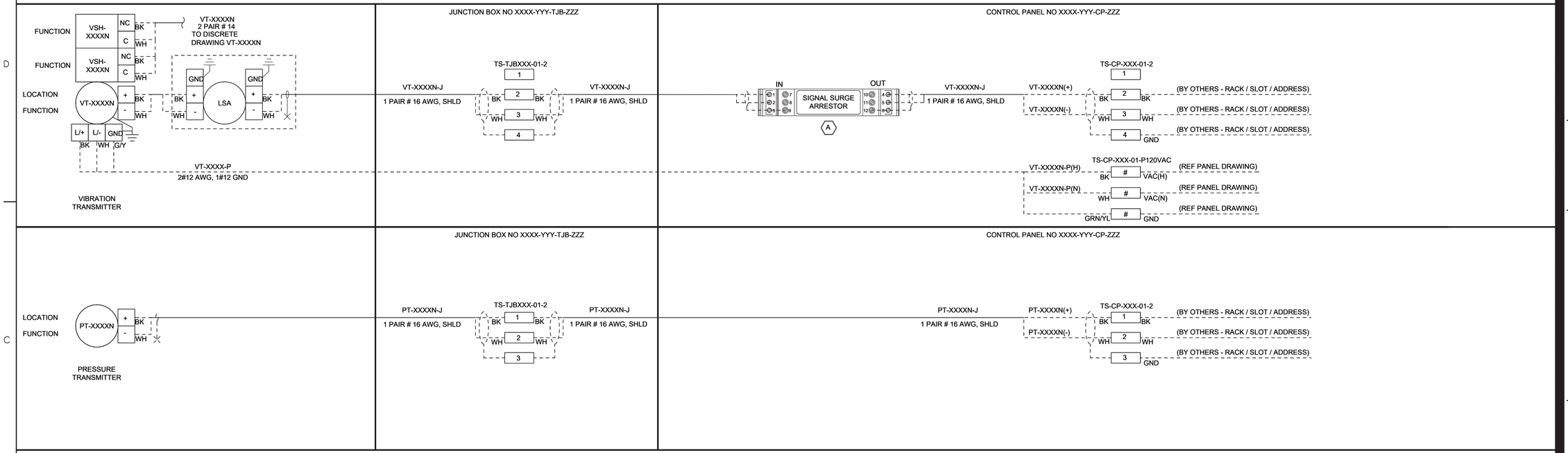
Revision: Sheet: 76 of 160

Drawing No.
GI-004

c:\clientcache\181301587_magna_influent_design\acad drwg\sheet_files\gi-004
2024.03.12 10:08:04 AM
ORIGINAL SHEET - ANSI D

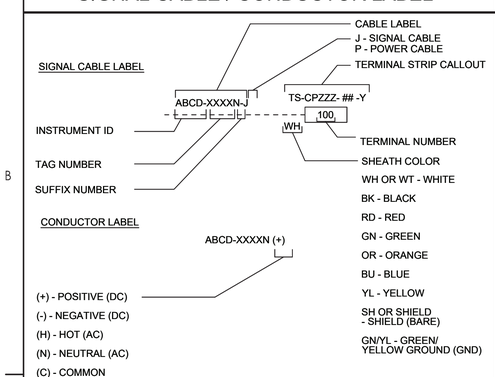
FIELD		CONTROL PANEL
FIELD DEVICE	FIELD JUNCTION BOX	

SAMPLE WIRING DIAGRAM (HARDWIRE)

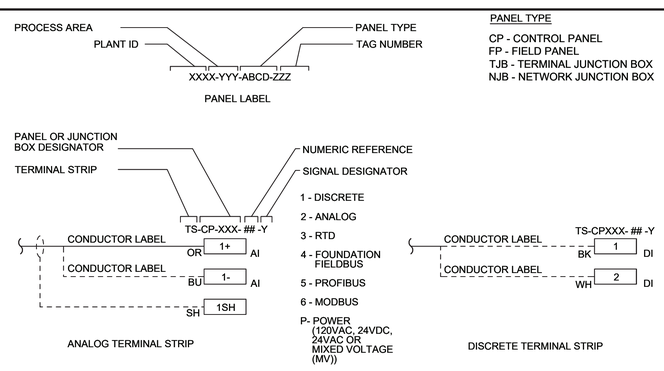


LEGENDS

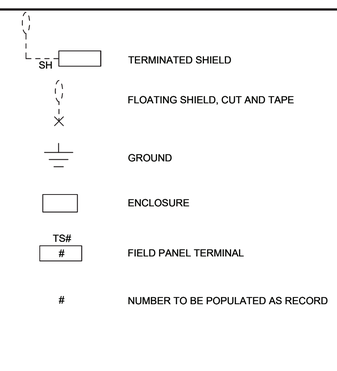
SIGNAL CABLE / CONDUCTOR LABEL



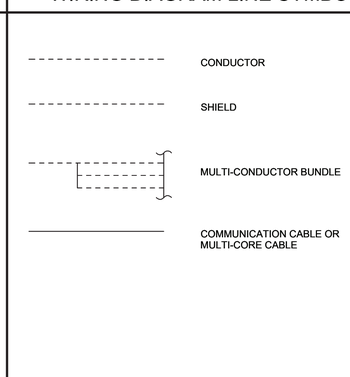
PANEL AND TERMINAL STRIP LABEL



MISCELLANEOUS SYMBOLS



WIRING DIAGRAM LINE SYMBOLOGY



GENERAL SHEET NOTES

1. WIRING INTERNAL TO THE CONTROL PANEL (BETWEEN THE FIELD TERMINALS AND THE CONTROLLER), SHALL BE FURNISHED, INSTALLED, TERMINATED, LABELED, AND TESTED BY THE CONTROL PANEL SUPPLIER. CONTROL PANEL SUPPLIER SHALL ALSO POPULATE THE RACK / SLOT / ADDRESS OF EACH POINT.
2. SHEATH CUTBACK TO BE MINIMIZED WHERE APPLICABLE.
3. CABLES SHALL HAVE APPROVED CABLE MARKERS AT BOTH ENDS, TAGGED AS SHOWN.
4. REFER TO SPECIFICATION SECTION 26 05 19 FOR CABLE AND WIRING GUIDELINES.
5. CABLE SHIELD AND OVERALL SHIELD TO BE CUT BACK AND TAPED IN THE FIELD.
6. INTERNAL JUNCTION BOX WIRES SHALL BE FERRULED AND LABELED IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS.
7. SPARE CONDUCTORS SHALL BE TERMINATED AND LABELED AS SPARE.

SHEET KEYNOTES

A. REFER TO SPECIFICATION SECTION 40 91 00 FOR LIGHTNING AND SURGE ARRESTOR SUPPLY REQUIREMENTS.

REV 010119

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"

Magna, UT

Project No.: 181301587

File Name: GI-005

Scale: NO SCALE

EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
SAMPLE WIRING DIAGRAM - I

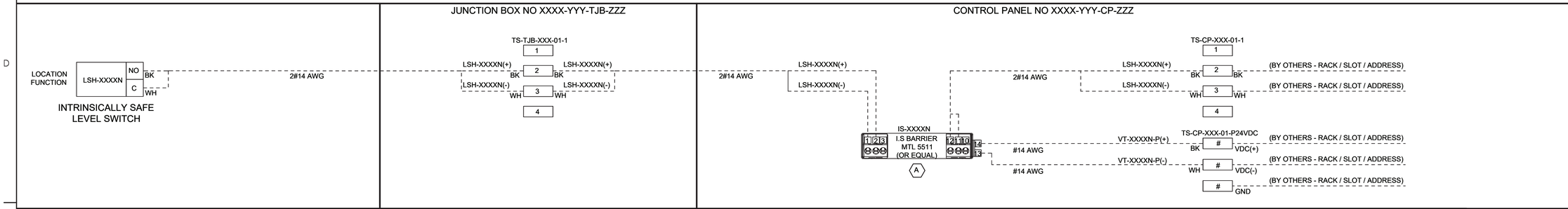
Revision: Sheet: 77 of 160

Drawing No.
GI-005

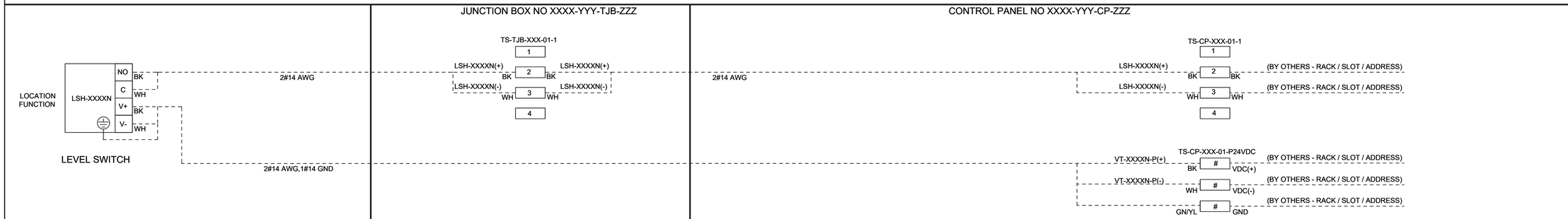
ORIGINAL SHEET - ANSI D

FIELD		CONTROL PANEL
FIELD DEVICE	FIELD JUNCTION BOX	

SAMPLE DISCRETE WIRING DIAGRAM (HARDWIRE INTRINSICALLY SAFE)



SAMPLE DISCRETE WIRING DIAGRAM (HARDWIRE)



GENERAL SHEET NOTES

1. WIRING INTERNAL TO THE CONTROL PANEL(BETWEEN THE FIELD TERMINALS AND THE CONTROLLER), SHALL BE FURNISHED, INSTALLED,TERMINATED, LABELED, AND TESTED BY THE CONTROL PANEL SUPPLIER. CONTROL PANEL SUPPLIER SHALL ALSO POPULATE THE RACK / SLOT / ADDRESS OF EACH POINT.
2. SHEATH CUTBACK TO BE MINIMIZED WHERE APPLICABLE.
3. CABLES SHALL HAVE APPROVED CABLE MARKERS AT BOTH ENDS, TAGGED AS SHOWN.
4. REFER TO SPECIFICATION SECTION 26 05 19 FOR CABLE AND WIRING GUIDELINES.
5. INTERNAL JUNCTION BOX WIRES SHALL BE FERRULED AND LABELED IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS.
6. SPARE CONDUCTORS SHALL BE TERMINATED AND LABELED AS SPARE.

SHEET KEYNOTES

A. REFER TO SPECIFICATION SECTION 40 95 10 FOR INTRINSICALLY SAFE BARRIER SUPPLY REQUIREMENTS.

REV 010119

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - use only the dimensions noted/provided. Errors and omissions must be reported to Stantec. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"

Magna, UT

Project No.: 181301587

File Name: GI-006

Scale: NO SCALE

EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

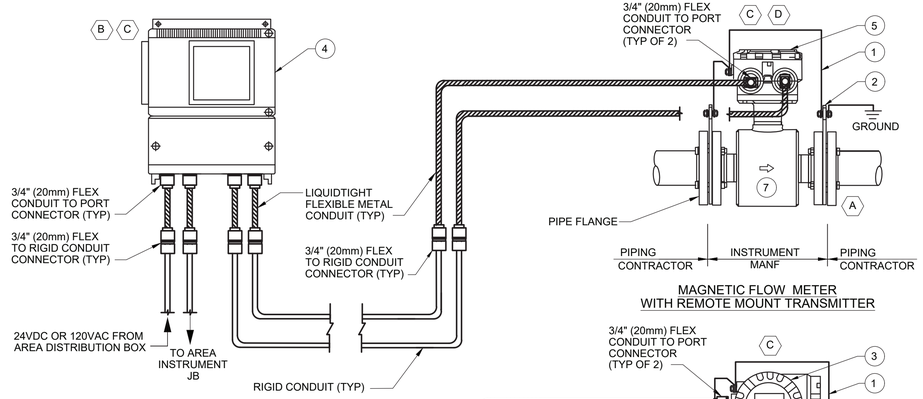
Title
SAMPLE WIRING DIAGRAM - II

Revision: Sheet: 78 of 160

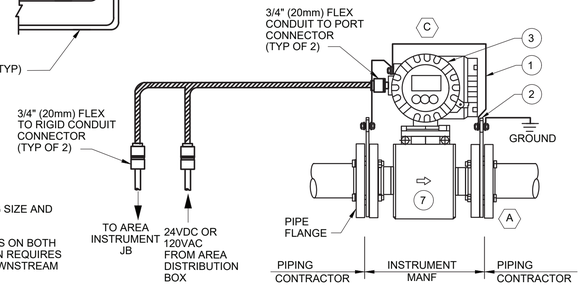
Drawing No.
GI-006

C:\Users\bcchen\181301587_magna_influent_design\acad drawing\sheet_files\gi-006
2024.03.19 10:08:10 AM

ORIGINAL SHEET - ANSI D



MAGNETIC FLOW METER
WITH REMOTE MOUNT TRANSMITTER



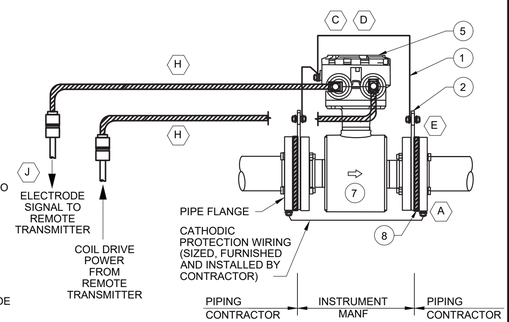
MAGNETIC FLOW METER
WITH INTEGRAL TRANSMITTER

GENERAL NOTES:

1. REFER TO P&IDS AND DATA SHEETS FOR PROCESS PIPING SIZE AND MATERIAL.
2. 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.
3. WETTED MATERIALS SHALL BE CHEMICALLY INERT TO THE PROCESS.
4. 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.
5. PROVIDE MECHANICAL SUPPORT FOR ROUTED CONDUIT.
6. REFER TO DIVISION 26 SPECIFICATIONS FOR FLEX AND RIGID CONDUIT MATERIAL AND USAGE LIMITATIONS.

KEYNOTES:

A. GROUNDING RINGS REQUIRED FOR METALLIC AND NON-METALLIC PIPE INSTALLATIONS TO SUPPORT PROPER SOLUTION GROUNDING AND / OR LINING PROTECTION.
B. WALL OR INSTRUMENT-STAND MOUNT.
C. CONFIGURE FOR EMPTY PIPE DETECTION.
D. WHERE TEMPORARY SUBMERGENCE IS POSSIBLE, ELECTRONIC HOUSING SHALL BE POTTED AND SEALED BY MANUFACTURER PRIOR TO SHIPPING TO SITE.
E. CONTRACTOR TO ISOLATE METER FROM THE PIPELINE USING ISOLATION WASHERS AND SLEEVES ON FLANGE BOLTS.
F. 316 SS OR HASTELLOY C PREFERRED. HOWEVER ENGINEER APPROVED FINAL SELECTION BASED ON MATERIAL CHEMICAL COMPATIBILITY.
G. SELECTED GROUNDING RING MATERIAL TO MATCH MEASURING ELECTRODE MATERIAL.
H. FOR INSTALLATION WITHIN CATHODIC PROTECTION SYSTEMS, USE NON-METALLIC LIQUIDTIGHT FLEXIBLE CONDUIT.
J. 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)	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

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER
No.11965314
BARBARA HERRERA
03/19/2024
STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

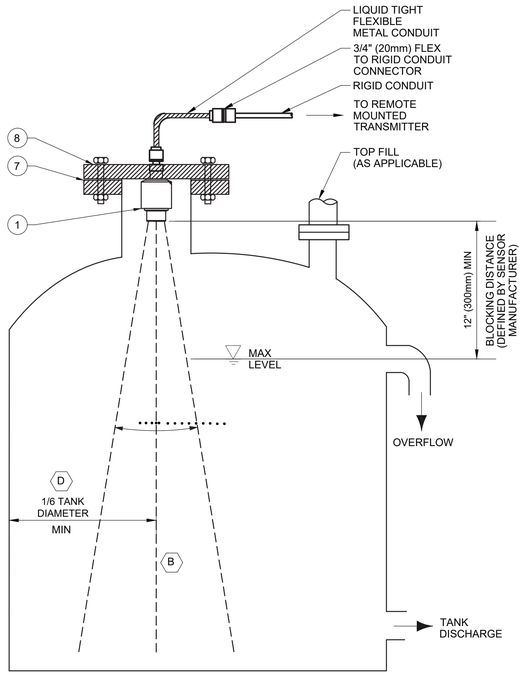
Project No.: 181301587
File Name: GI-007
Scale: NO SCALE

EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

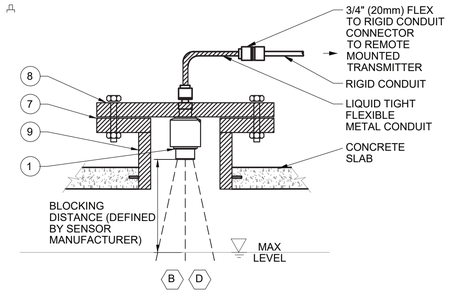
Title
INSTALLATION DETAILS - I

Revision: Sheet: 79 of 160
Drawing No.
GI-007

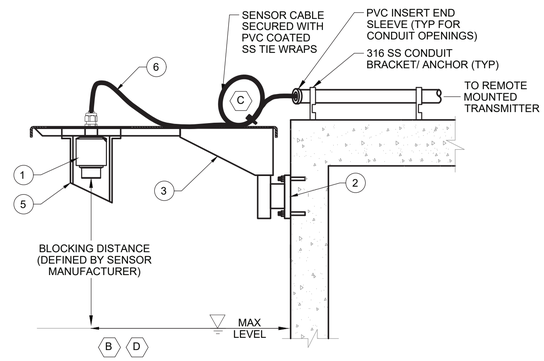
ORIGINAL SHEET - ANSI D



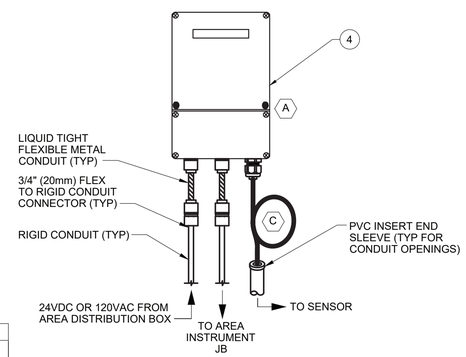
TANK INSTALLED - TOP FLANGE MOUNT WITH REMOTE DISPLAY



CONCRETE TANK - TOP MOUNT WITH REMOTE DISPLAY



BRACKET INSTALLED - WALL MOUNT WITH REMOTE DISPLAY



REMOTE DISPLAY / TRANSMITTER

GENERAL NOTES:

1. PROVIDE MECHANICAL SUPPORT AND FITTINGS FOR ROUTED CONDUIT.
2. VENDOR FURNISHED CABLING SHALL BE RATED WATERTIGHT AND FOR CONTINUOUS UV EXPOSURE WITHOUT DEGRADATION.
3. SENSOR CABLE SPLICE OF ANY KIND SHALL NOT BE ACCEPTABLE.
4. REFER TO DIVISION 26 SPECIFICATIONS FOR FLEX AND RIGID CONDUIT MATERIAL AND USAGE LIMITATIONS.
5. REFER TO TANK MECHANICAL DATA SHEETS OR DETAILS FOR TANK NOZZLE SIZE AND SPACING. INSTRUMENT INSTALLATION IN THE TANK MANWAY IS NOT PERMITTED.
6. USE PVC COATED SS TIE-WRAPS TO NEATLY COIL AND SECURE ANY EXCESS SENSOR CABLING AS SHOWN.
7. TANK FLANGE EXTENSION MAY BE NECESSARY TO ACHIEVE BLOCKING DISTANCE.

KEYNOTES:

A. WALL OR INSTRUMENT STAND MOUNT.

B. SENSOR SHALL BE INSTALLED SUCH THAT THE BEAM ANGLE DOES NOT ENCOUNTER ANY PHYSICAL DEVICE OR FLOW STREAM IN THE BEAM'S SENSING PATH.

C. MAINTENANCE LOOP SHALL INCLUDE 3FT (1 M) LENGTH OF CABLE SECURED WITH PVC-COATED SS TIE WRAPS, BEND RADIUS NO LESS THAN 8" (200mm).

D. INSTALLATION SHALL ALLOW FOR UNOBSTRUCTED SIGNAL PROPAGATION ASSUMING A MAXIMUM RADIUS OF 1/6 TANK DIAMETER (FOR CLOSED VESSEL) OR 36" (1 METER) FOR CONCRETE STRUCTURES (MAXIMUM DEPTH OF 10 METERS). TALLER VESSELS/STRUCTURES SHALL BE AS PER THE INSTRUMENT MANUFACTURER'S RECOMMENDATION.

E. MANUFACTURER FURNISHED ANGLE BRACKET (WITH MOUNTING HARDWARE) SHALL BE SIZED AND TAPPED TO SUPPORT WALL-MOUNT INSTALLATION. REFER TO INSTRUMENT SCHEDULE OR DATA SHEET FOR MEASURING DEPTH REQUIREMENT.

F. SELECTED MATERIALS SHALL BE CHEMICALLY INERT TO ANY OFF-GASSING ANSI D UV RESISTANT.

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	SUPPLY	MATERIAL/RATING (WATER)	MATERIAL/RATING (CHEMICAL) F
1	1	ULTRASONIC LEVEL SENSOR	MANF	PVDF	PVDF
2	AR	ANCHOR BOLTS AND MOUNTING HARDWARE	MANF	316 SS	316 SS
3	AR	POSITIONABLE CANTILEVER MOUNTING ARM (WALL) E	MANF	304 SS	316 SS
4	1	TRANSMITTER UNIT (REMOTE MOUNT)	MANF	POLYCARBONATE	POLYCARBONATE
5	1	PVDF PROTECTIVE SENSOR COVER	MANF	PVDF	PVDF
6	AR	UV RESISTANT SENSOR SIGNAL CABLE (LENGTH LIMIT PER MANUFACTURER)	MANF	PVC	PVC
7	AR	GASKET	MANF	VITON	VITON
8	1	4" (DN100) DIA THREADED FLANGE AND MOUNTING HARDWARE	MANF	316 SS	316 SS
9	1	4" (100mm) DIA SCH 80 FLANGED PIPE SLEEVE WITH SEEP RING	CONT	304 SS	316 SS OR PVC

I-201 ULTRASONIC LEVEL TRANSMITTER

ORIGINAL SHEET - ANSI D

c:\pwworking\181301587_magna_influent_design\cad\dwg\sheet_files\gi-008
2024.03.12 10:08:19 AM

Stantec

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. Copyright The Copyright to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: GI-008

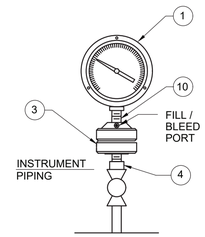
Scale: NO SCALE

EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

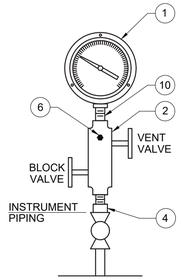
Title
INSTALLATION DETAILS - II

Revision: Sheet: 80 of 160

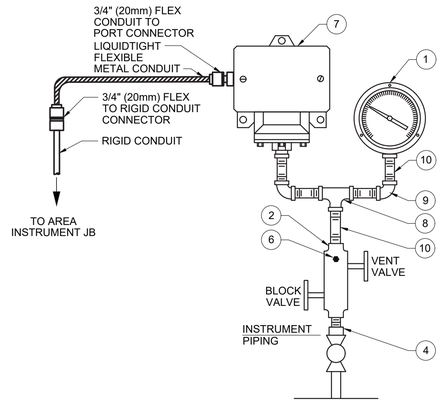
Drawing No.
GI-008



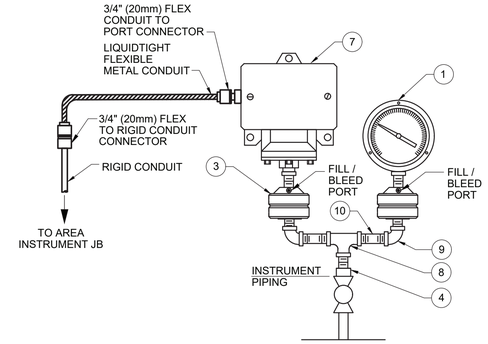
PRESSURE GAUGE OR SWITCH WITH DIAPHRAGM SEAL



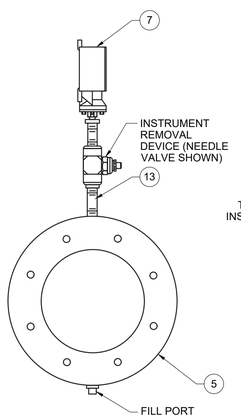
PRESSURE GAUGE OR SWITCH



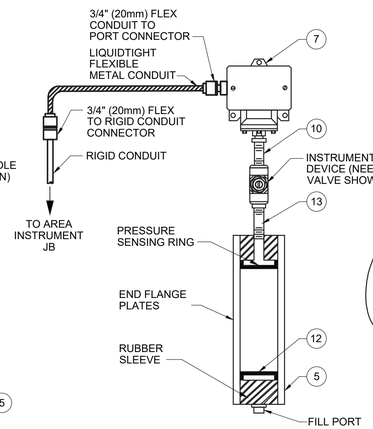
PRESSURE GAUGE AND SWITCH



PRESSURE GAUGE AND SWITCH WITH DIAPHRAGM SEALS

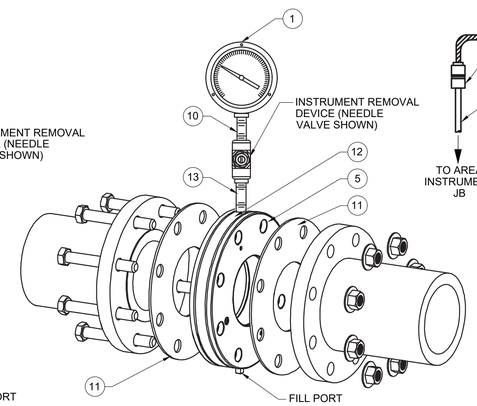


FRONT-VIEW



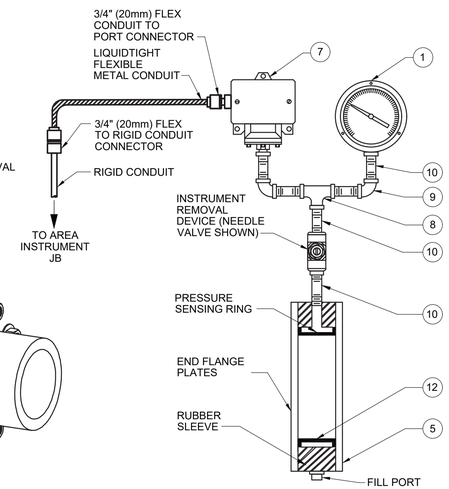
CROSS-SECTION SIDE-VIEW

PRESSURE SWITCH WITH ANNULAR SEAL



CROSS-SECTION EXPLODED-VIEW

PRESSURE GAUGE WITH ANNULAR SEAL



CROSS-SECTION SIDE-VIEW

PRESSURE GAUGE AND SWITCH WITH ANNULAR SEAL

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

GENERAL NOTES:

1. POTENTIALLY WETTED MATERIALS SHALL BE CHEMICALLY INERT TO THE PROCESS.
2. REFER TO P&IDS AND DATA SHEETS FOR PROCESS PIPING SIZE AND MATERIAL.
3. PIPING SIDE ISOLATION VALVES FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
4. REFER TO DIVISION 26 SPECIFICATIONS FOR FLEX AND RIGID CONDUIT MATERIAL AND USAGE LIMITATIONS.

KEYNOTES:

A. FOR AMBIENT TEMPERATURE APPLICATIONS LOWER THAN -10 degC, ETHYLENE GLYCOL FILL FLUID REQUIRED IN LIEU OF STANDARD SILICONE OIL.

B. 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.

I-301 PRESSURE GAUGE / SWITCH

REV 010119

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - use only the dimensions shown. Report errors and omissions to the Stantec Project Manager. The Copyright to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: GI-009
Scale: NO SCALE

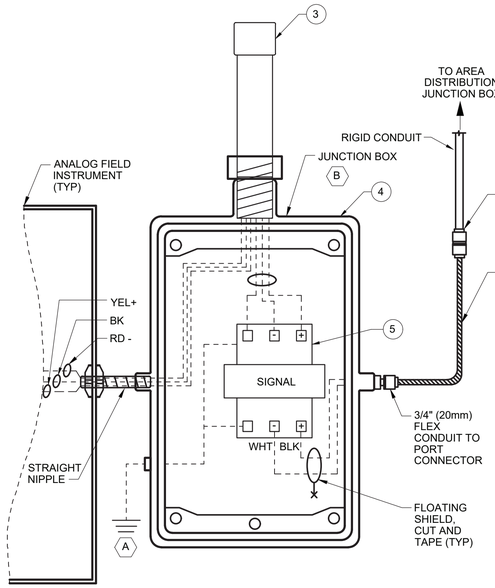
EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
INSTALLATION DETAILS - III

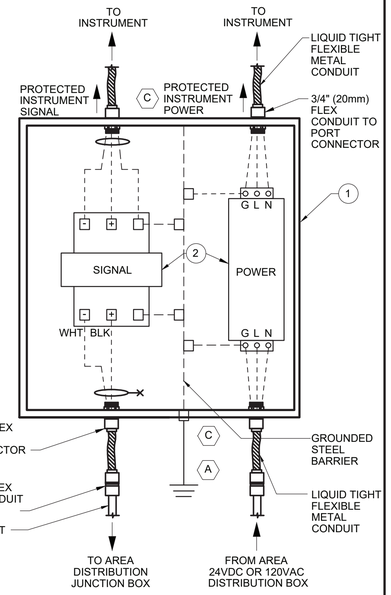
Revision: Sheet: 81 of 160

Drawing No.
GI-009

ORIGINAL SHEET - ANSI D



ANALOG SIGNAL SURGE ARRESTOR
(LOOP POWERED INSTRUMENTS)



ANALOG SIGNAL SURGE ARRESTOR
(FOUR WIRE INSTRUMENTS)

GENERAL NOTES:

1. PROVIDE MECHANICAL SUPPORT AND FITTINGS FOR ROUTED CONDUIT.
2. REFER TO DIVISION 26 SPECIFICATIONS FOR FLEX AND RIGID CONDUIT MATERIAL AND USAGE LIMITATIONS.
3. JUNCTION BOXES AND ENCLOSURES NEMA RATING TO MEET INSTALL ENVIRONMENT PER DIV 40 SPECIFICATIONS .

KEYNOTES:

A. SOLID COPPER GROUND WIRE SHALL NOT EXCEED 5 Ohm RESISTANCE OR 120" (3 METER) DISTANCE TO THE GROUND.

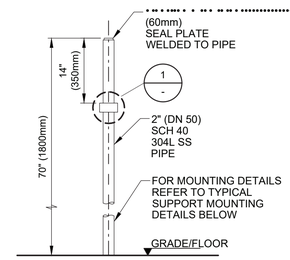
B. JUNCTION BOX ONLY REQUIRED IF SPARE PORT NOT AVAILABLE ON INSTRUMENT TRANSMITTER HOUSING.

C. DO NOT CROSS SIGNAL AND POWER CABLES.

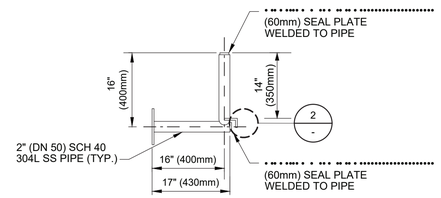
BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	SUPPLY	MATERIAL/ RATING (WATER)	MATERIAL/ RATING (CHEMICAL)
1	1	NEMA RATED ENCLOSURE MOUNTED ON INSTRUMENT STAND	CONT	316 SS	316 SS
2	AR	DIN-RAIL MOUNTED SIGNAL AND AC POWER SURGE SUPPRESSOR / FILTER	MANF	-	-
3	1	MULTISTAGE SIGNAL SURGE SUPPRESSOR HOUSING. THREADED FITTING.	MANF	316 SS	316 SS
4	1	NEMA RATED JUNCTION BOX C	CONT	316 SS	316 SS
5	1	DIN-RAIL MOUNTED TERMINAL BLOCK	CONT	PER DIV 26 SPEC	PER DIV 26 SPEC

I-602 FIELD INSTRUMENT SIGNAL SURGE ARRESTOR (LSA)
REV 010119

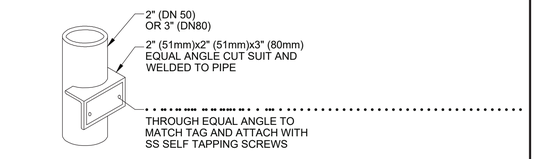


GRADE / FLOOR MOUNTED

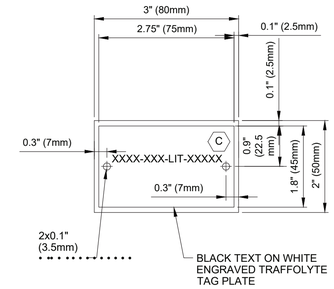


WALL / COLUMN MOUNTED

SINGLE INSTRUMENT SUPPORT B F

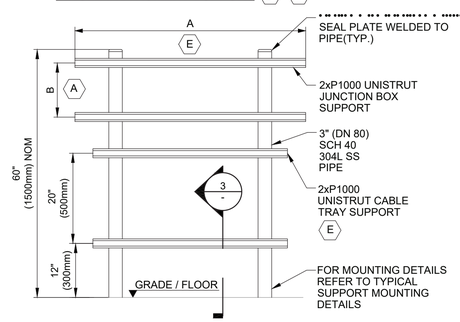


1 - DETAIL

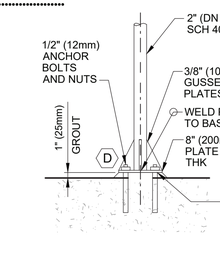


INSTRUMENT TAG AND MOUNTING PLATE B F

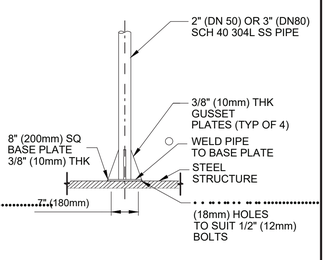
2 - DETAIL



PANEL / JUNCTION BOX SUPPORT B F



CONCRETE SLAB MOUNTING



STEEL STRUCTURE MOUNTING

GENERAL NOTES:

1. INSTRUMENT DISPLAY SHALL BE SITUATED 48" (1220mm) ABOVE GRADE. REQUEST FOR DEVIATION SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL.
2. REFER TO WEATHER SHIELD INSTALLATION DETAILS I-702 FOR WEATHER SHIELD SPECIFICS AND ADDITIONAL INSTALLATION REQUIREMENTS.
3. AFTER FABRICATION REMOVE ALL SHARP EDGES, BURRS ETC.
4. ALL WELDS SHALL BE 0.2" (6mm) CONTINUOUS FILLET WELDS FULL PERIMETER UNLESS NOTED OTHERWISE.
5. STANDS ARE TYPICAL; SITE MODIFICATION MAY BE NECESSARY TO ACCOMMODATE INSTALLATION.

KEYNOTES:

A. DIMENSION "B" TO SUIT JUNCTION BOX MOUNTING BRACKETS.

B. ALL HEAT AFFECTED WELD AREAS TO BE PAINTED WITH ZINC CHROMATE.

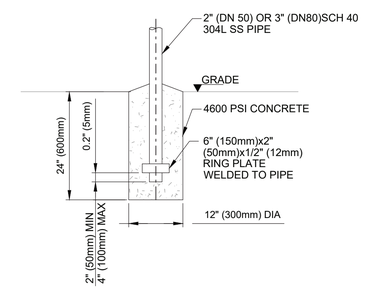
C. REFER TO PROJECT INSTRUMENT SCHEDULE FOR TAG NUMBERING DETAILS.

D. BASEPLATES TO BE FIXED TO CONCRETE USING 1/2" (12mm) 316 SS ANCHOR BOLTS (QTY=4) USING MULTI EPOXY ADHESIVE ANCHORS. IF CONCRETE THICKNESS IS INSUFFICIENT FOR MOUNTING VERTICAL BASE PLATES, EMPLOY A THROUGH BOLTED CONNECTION.

E. DIMENSION "A" LENGTH AND CABLE TRAY SUPPORT LENGTH AS REQUIRED TO SUIT NUMBER OF JUNCTION BOXES OR CONTROL PANELS.

F. SUPPORT ASSEMBLY SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.

I-701 INSTRUMENT STAND
REV 010119



YARD MOUNTING

TYPICAL SUPPORT MOUNTING DETAILS

3 - SECTION

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

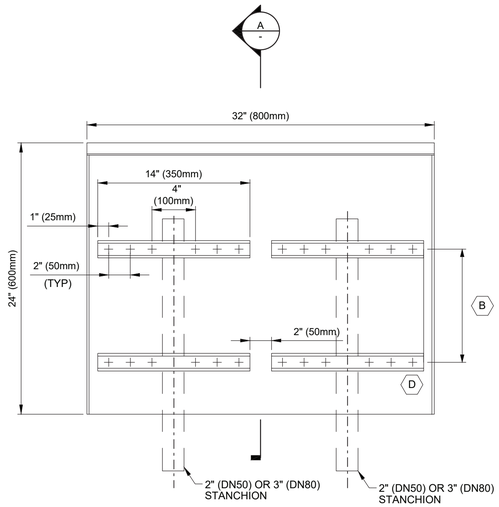
Project No.: 181301587
File Name: GI-010
Scale: NO SCALE

EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

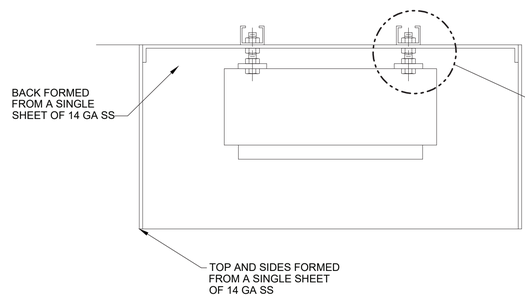
Title
INSTALLATION DETAILS - IV

Revision: Sheet: 82 of 160
Drawing No.
GI-010

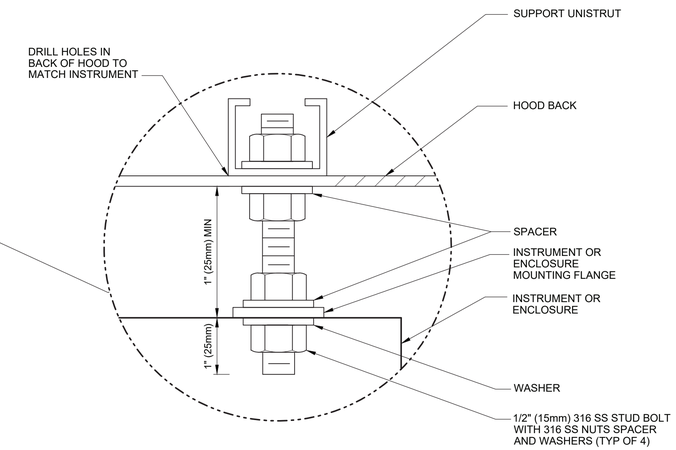
ORIGINAL SHEET - ANSI D

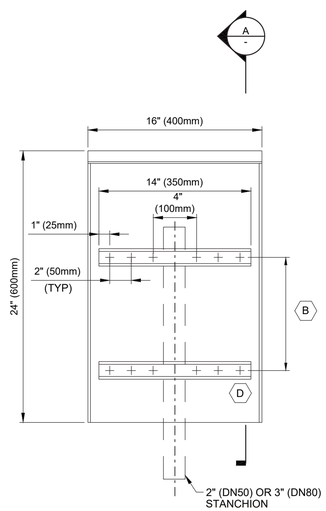


TYPE 32" (800mm) FRONT VIEW

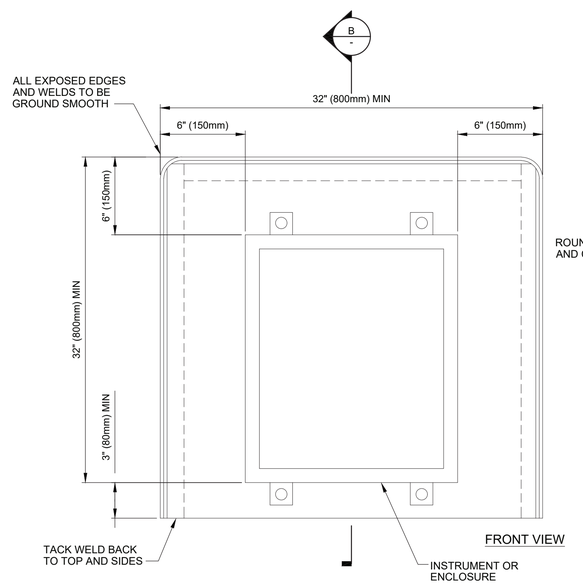


TOP VIEW WITH MOUNTED ELEMENT



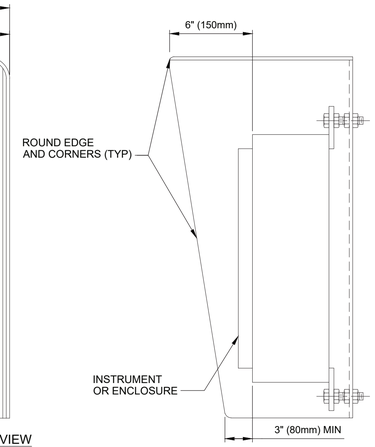


TYPE 16" (400mm) FRONT VIEW

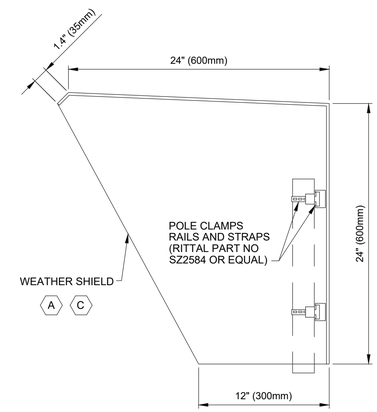


FRONT VIEW

FRONT VIEW WITH MOUNTED ELEMENT



B - SECTION



A - SECTION

GENERAL NOTES:

1. REFER TO INSTRUMENT STAND INSTALLATION DETAIL I-701 FOR STANCHION SUPPORT DETAILS.
2. CROSS RAILS TO HAVE MOUNTING HOLES DRILLED AS DETAILED.

KEYNOTES:

A. 304 STAINLESS STEEL.
B. WEATHER SHIELD MOUNTING HOLES ARE TO BE DRILLED ON SITE TO SUIT JUNCTION BOX POSITION, HOLES TO BE SMOOTH AND DEBURRED.
C. WEATHER SHIELD OPEN AT FRONT AND BOTTOM.
D. WEATHER SHIELD ATTACHED TO CROSS RAILS WITH 1/4" (6mm) DIA BY 3/4" (20mm) LONG 316SS BOLTS, 1/4" (6mm) DIA NUTS AND WASHERS.

I-702 INSTRUMENT WEATHER SHIELD

REV 010119

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER
No.11965314
BARBARA HERRERA
03/19/2024
STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: GI-011

Scale: NO SCALE

EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
INSTALLATION DETAILS - V

Revision: Sheet: 83 of 160

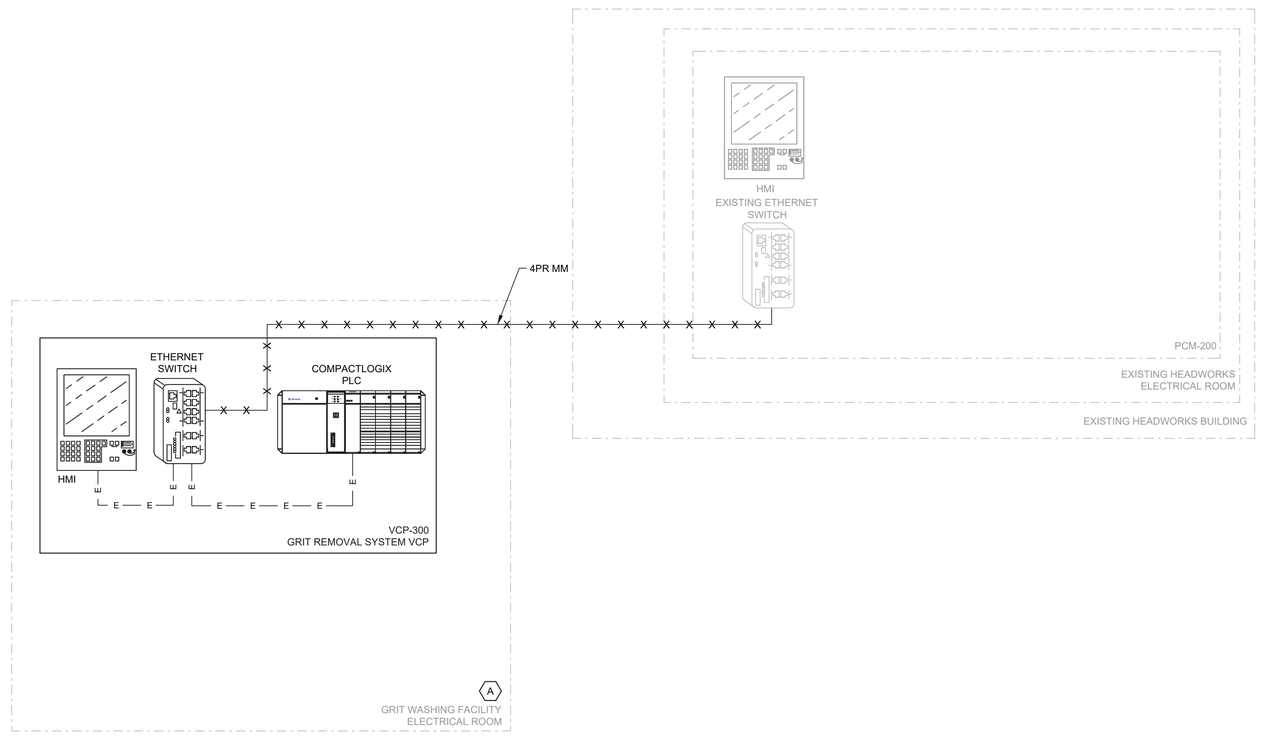
Drawing No.
GI-011

c:\users\cache\181301587_magna_influent_design\acad dwg\sheet_files\gi-011
2024.03.12 10:06:23 AM

ORIGINAL SHEET - ANSI D

SHEET KEYNOTES

A. EXISTING GRIT VCP 240 TO BE DEMOLISHED. RETURN ANY NETWORK EQUIPMENT TO THE OWNER.



Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.
The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER
No.11965314
BARBARA HERRERA
03/19/2024
STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: I-601

Scale: NO SCALE

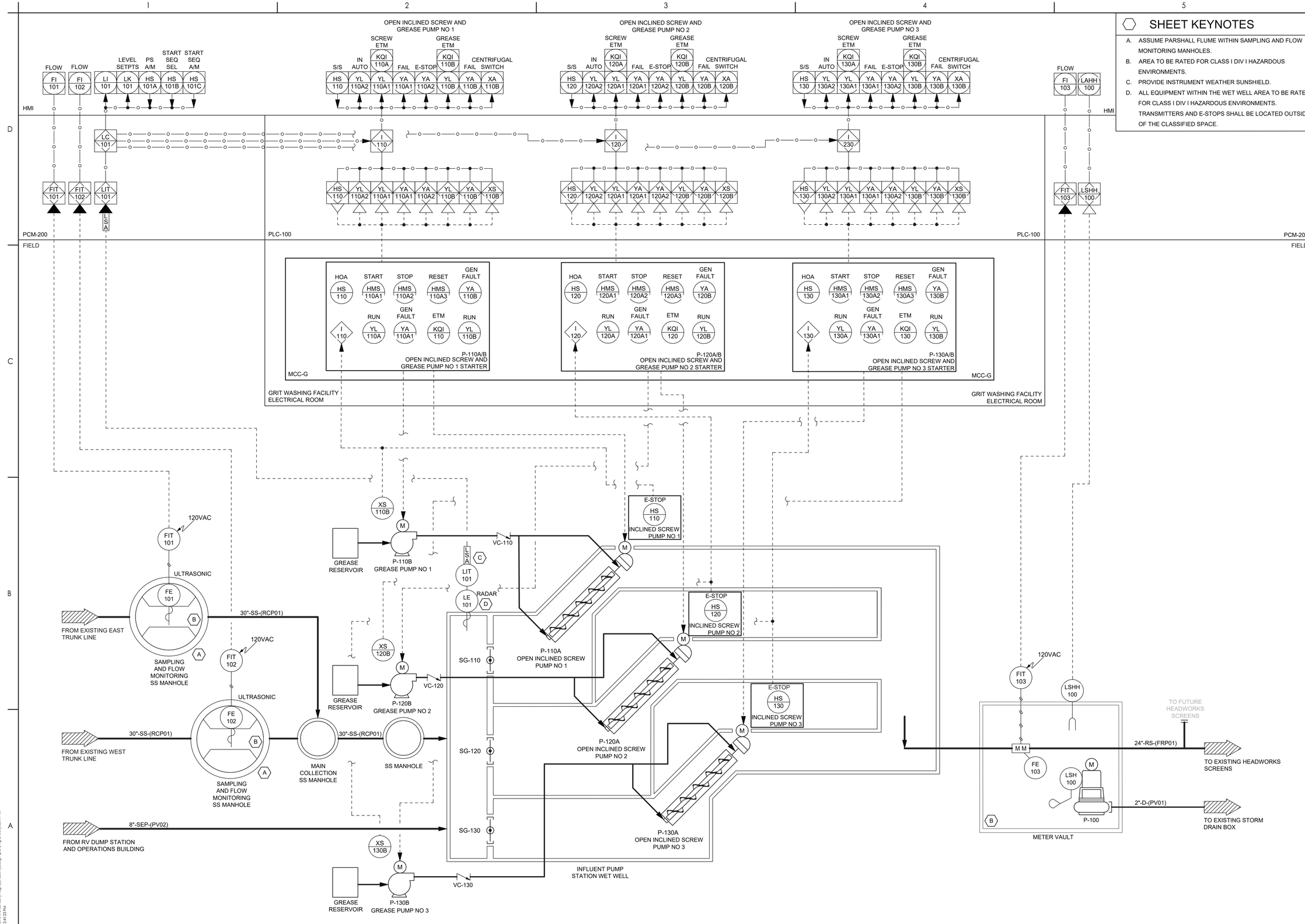
EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
CONTROL SYSTEM NETWORK ARCHITECTURE

Revision: Sheet: 84 of 160

Drawing No.
I-601

ORIGINAL SHEET - ANSI D



SHEET KEYNOTES

A. ASSUME PARSHALL FLUME WITHIN SAMPLING AND FLOW MONITORING MANHOLES.

B. AREA TO BE RATED FOR CLASS I DIV I HAZARDOUS ENVIRONMENTS.

C. PROVIDE INSTRUMENT WEATHER SUNSHIELD.

D. ALL EQUIPMENT WITHIN THE WET WELL AREA TO BE RATED FOR CLASS I DIV I HAZARDOUS ENVIRONMENTS. TRANSMITTERS AND E-STOPS SHALL BE LOCATED OUTSIDE OF THE CLASSIFIED SPACE.

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - use only the dimensions noted/provided. Errors and omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: 1I-101

Scale: NO SCALE

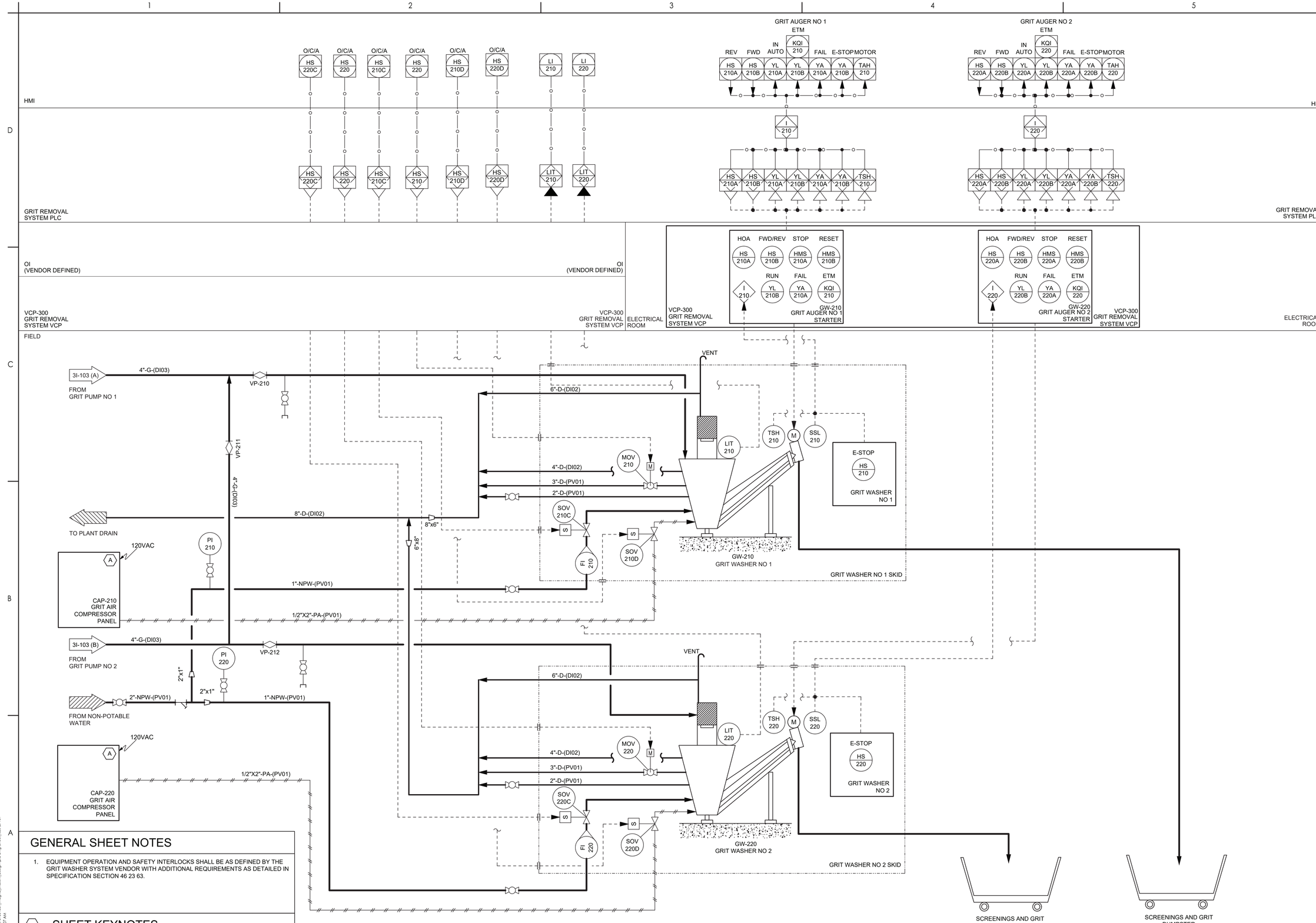
KB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
INFLUENT PUMP STATION P&ID

Revision: Sheet: 85 of 160

Drawing No.
1I-101

ORIGINAL SHEET - ANSI D



GENERAL SHEET NOTES

1. EQUIPMENT OPERATION AND SAFETY INTERLOCKS SHALL BE AS DEFINED BY THE GRIT WASHER SYSTEM VENDOR WITH ADDITIONAL REQUIREMENTS AS DETAILED IN SPECIFICATION SECTION 46 23 63.

SHEET KEYNOTES

A. PROVIDED BY VENDOR AND INSTALLED BY CONTRACTOR.

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - use only the dimensions noted/provided. Report any errors, omissions or conflicts to the Stantec project manager. The Copyright to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Issued					Revision	By	Appd	YYYY.MM.DD
0	CONSTRUCTION SET	MB	JCR	2024.03.18				

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: 2I-101

Scale: NO SCALE

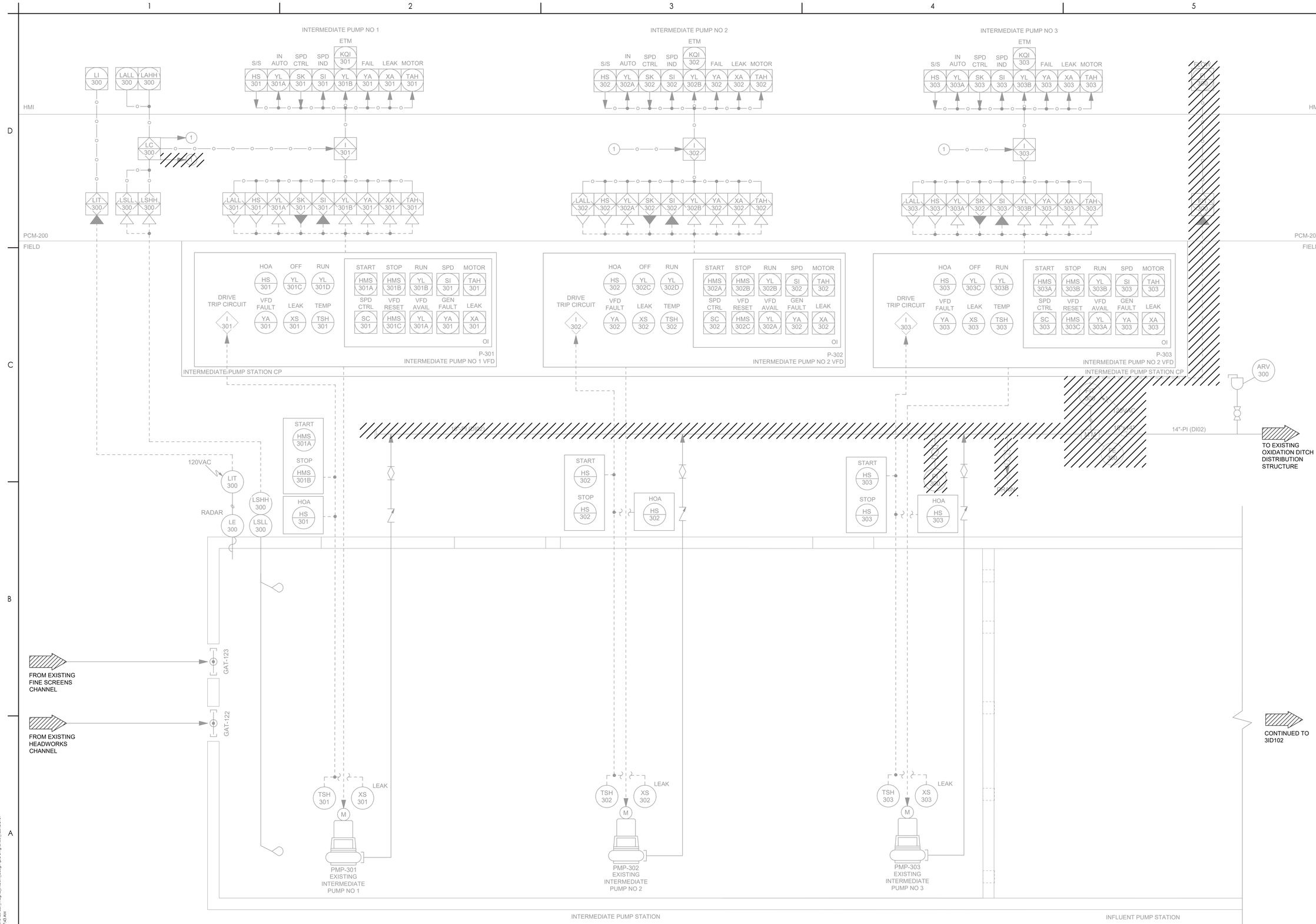
EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY-MM-DD

Title
GRIT WASHING FACILITY
GRIT WASHERS P&ID

Revision: Sheet: 86 of 160

Drawing No.
2I-101

ORIGINAL SHEET - ANSI D



Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"

Magna, UT

Project No.: 181301587

File Name: 3ID101

Scale: NO SCALE

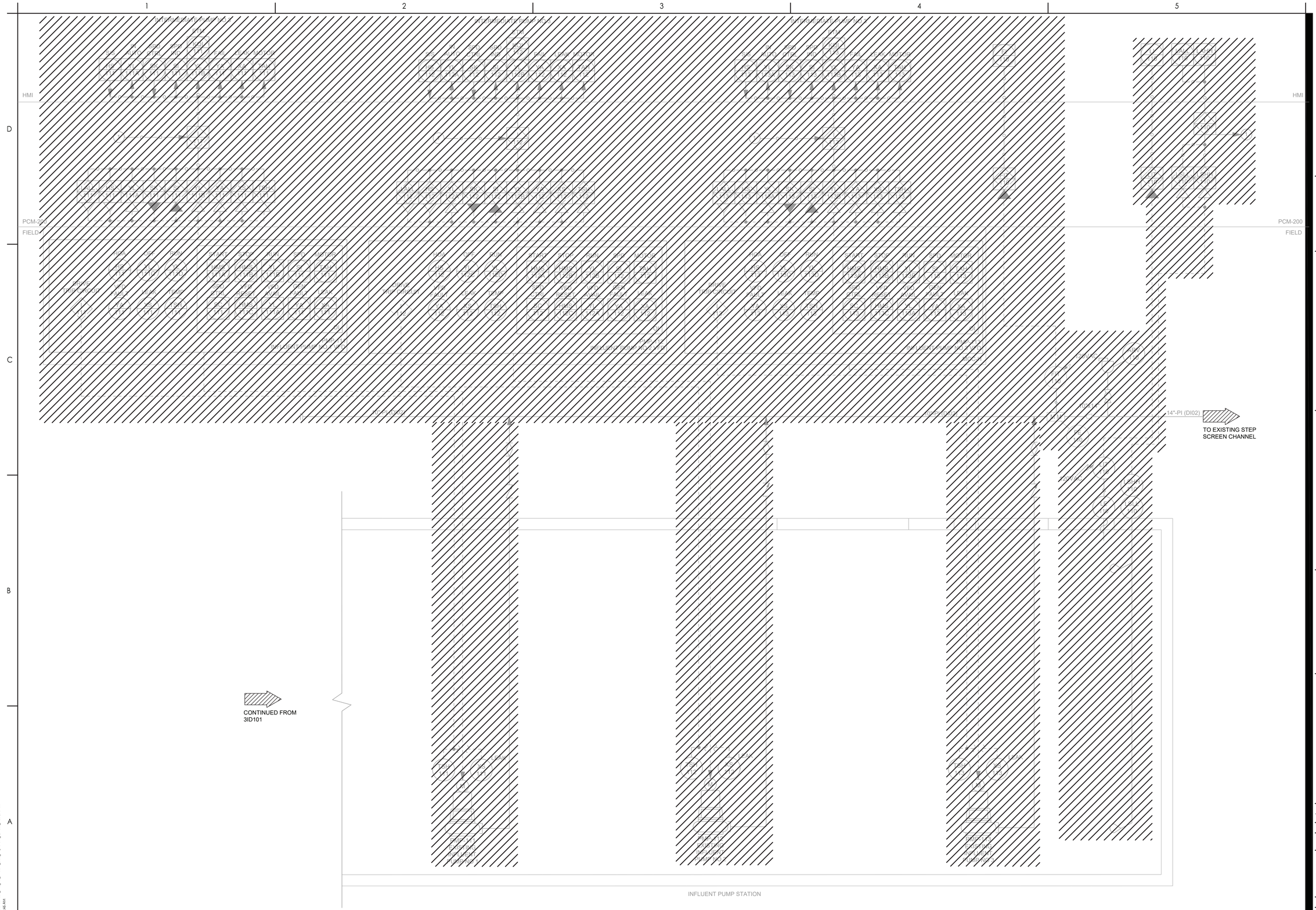
EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
HEADWORKS FACILITY
INTERMEDIATE PUMP
STATION DEMO P&ID

Revision: Sheet: 87 of 160

Drawing No.
3ID101

ORIGINAL SHEET - ANSI D



Stantec

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3300
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - use only the dimensions noted/provided. Report any errors, omissions or conflicts to the Engineer. The Copyright to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER
No.11965314
BARBARA HERRERA
03/19/2024
STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"

Magna, UT

Project No.: 181301587

File Name: 3ID102

Scale: NO SCALE

EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

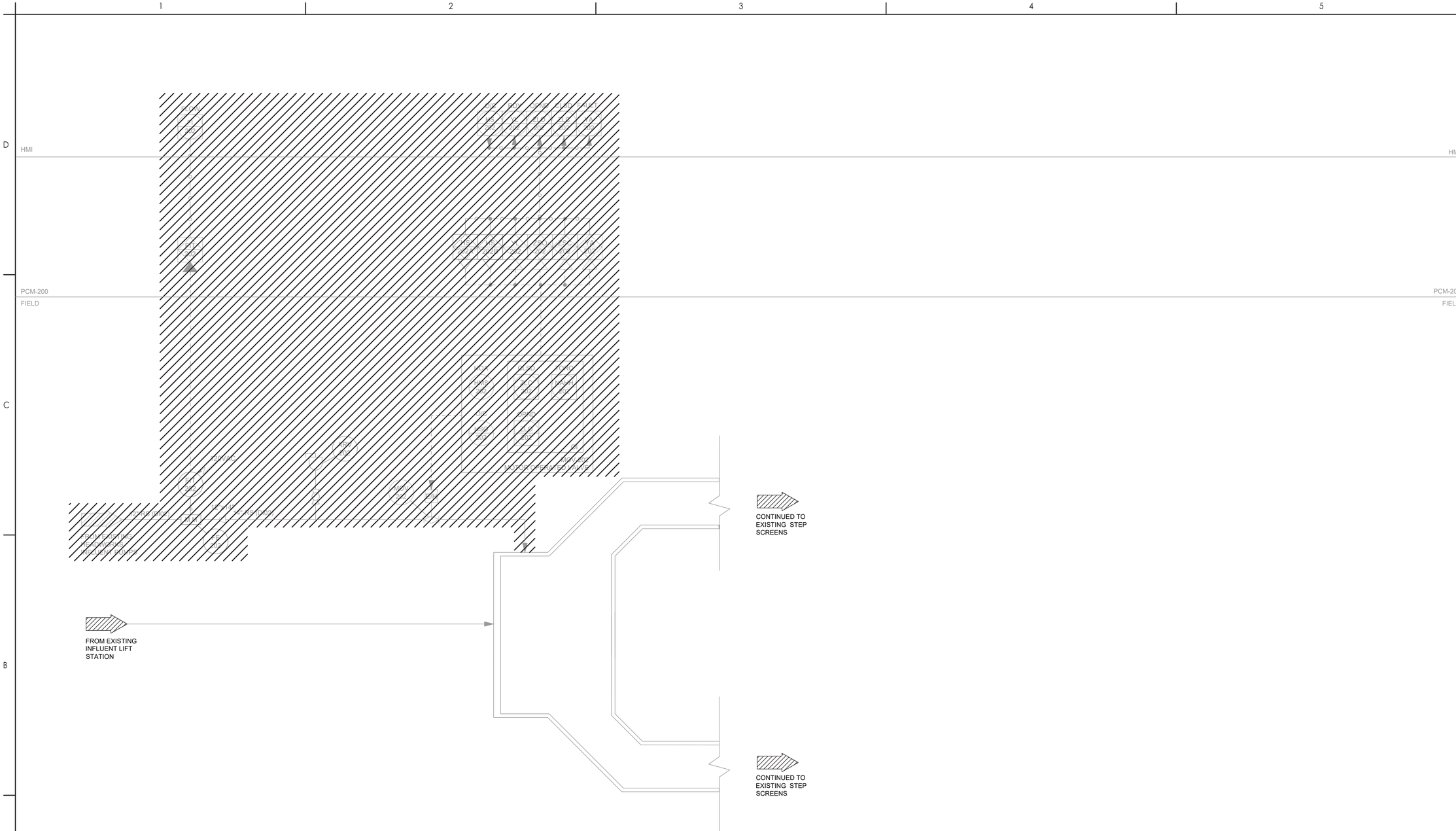
Title
HEADWORKS FACILITY
INFLUENT PUMP STATION
DEMO P&ID

Revision: Sheet: 88 of 160

Drawing No.
3ID102

ORIGINAL SHEET - ANSI D

C:\Users\bcchen\181301587_magna_influent_design\acd-dwg\sheet_files\3id102
2024.03.13 10:07:46 AM



Stantec

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER
No.11965314
BARBARA HERRERA
03/19/2024
STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: 3ID103

Scale: NO SCALE

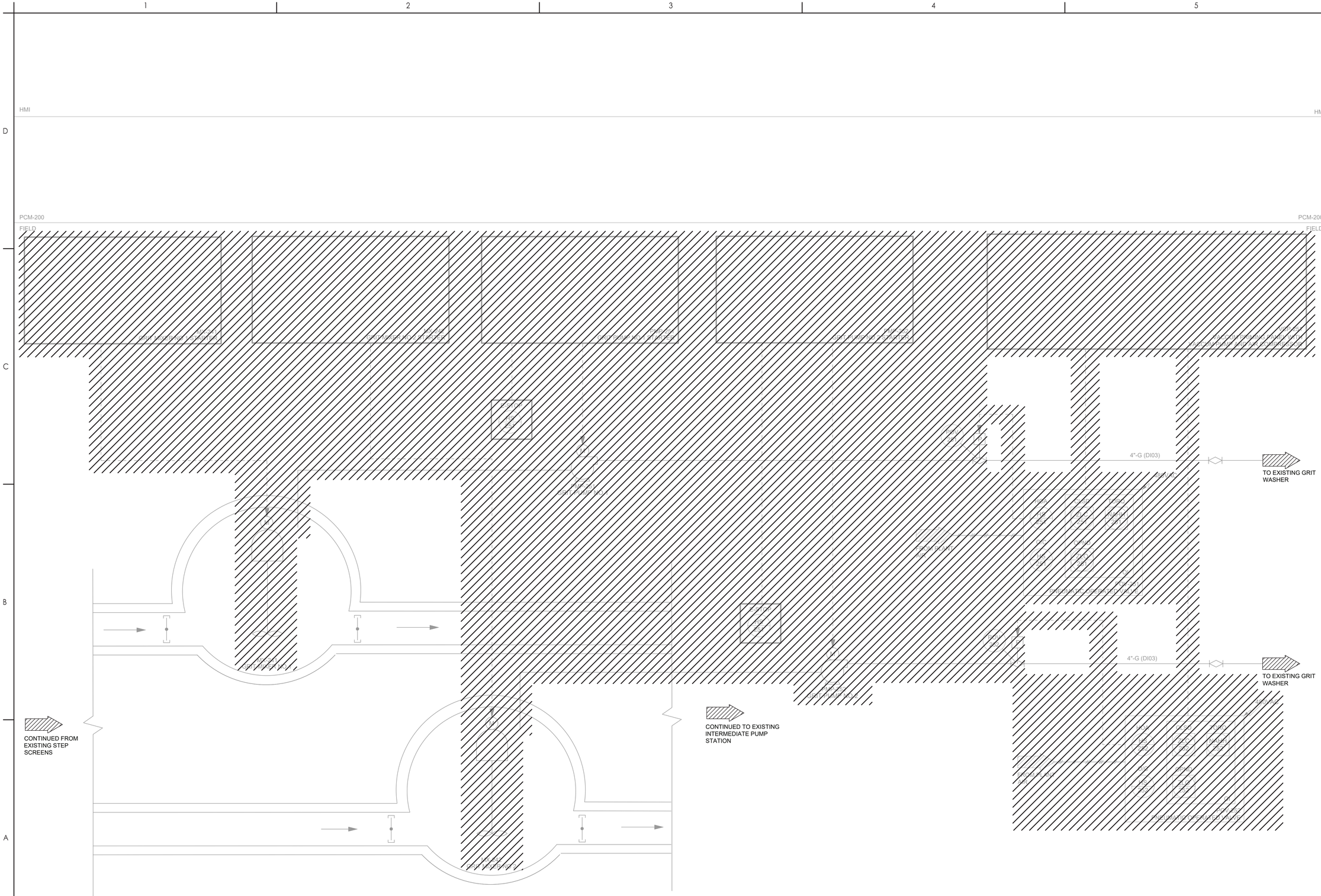
EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
HEADWORKS FACILITY
SCREENS INLET DEMO
P&ID

Revision: Sheet: 89 of 160

Drawing No.
3ID103

ORIGINAL SHEET - ANSI D



Stantec

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER
No.11965314
BARBARA HERRERA
03/19/2024
STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: 3ID104
Scale: NO SCALE

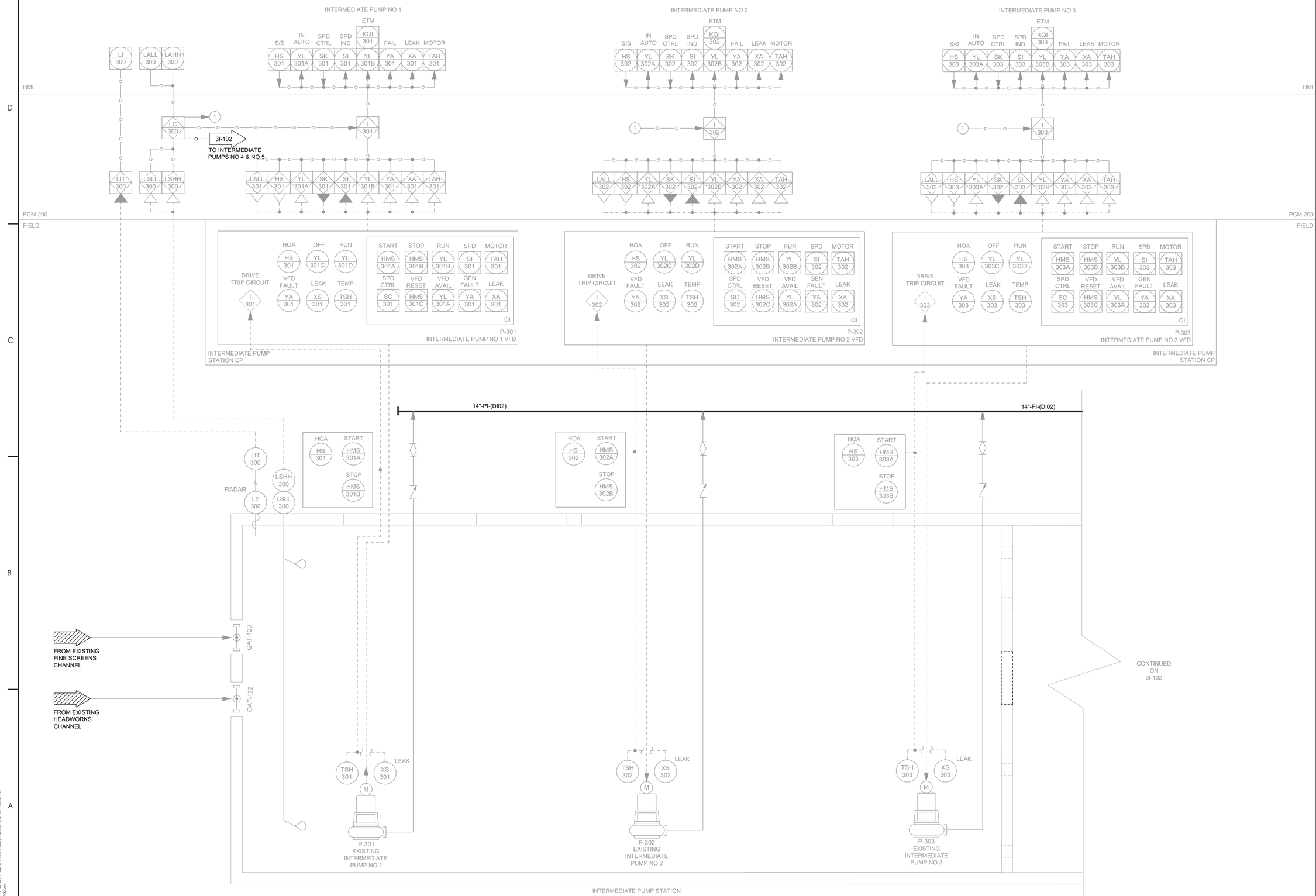
EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
HEADWORKS FACILITY
GRIT CHAMBERS & GRIT PUMPS DEMO P&ID

Revision: Sheet: 90 of 160
Drawing No.
3ID104

C:\pwworking\181301587_magna_influent_design\d0\dwg\sheet_3ID\3ID104
2024.03.12 10:07:21 AM

ORIGINAL SHEET - ANSI D



Stantec

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - use only the dimensions shown. Report errors and omissions to the Stantec. The Copyright to all design and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Issued				Revision	By	Appd	YYYY.MM.DD
0	CONSTRUCTION SET	MB	JCR				2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587

File Name: 3I-101

Scale: NO SCALE

EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

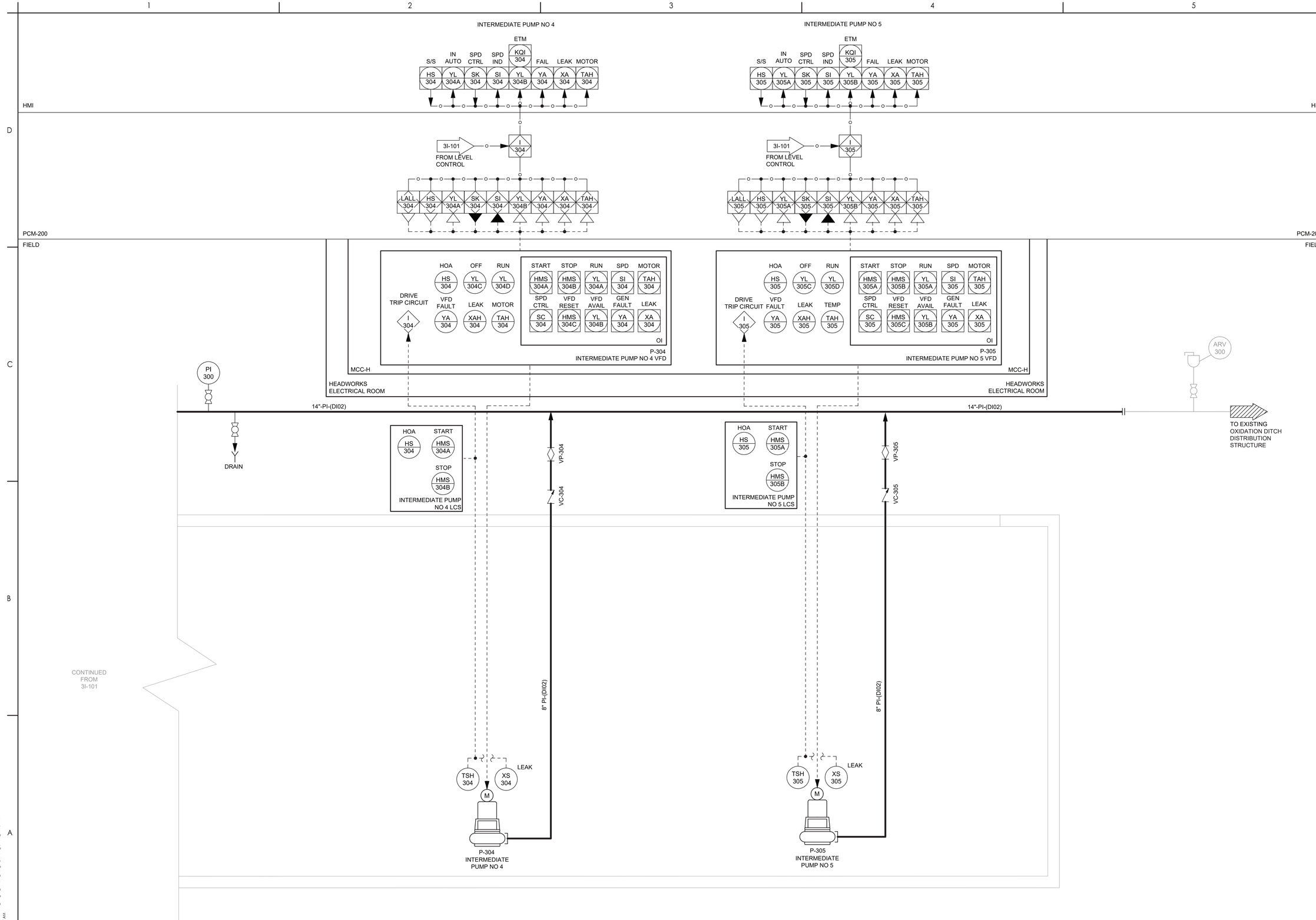
Title
HEADWORKS FACILITY
INTERMEDIATE PUMP
STATION P&ID - I

Revision: Sheet: 91 of 160

Drawing No.
3I-101

c:\pwworking\181301587_magna_influent_design\pid dwg\sheet_file\3I-101
2024.03.12 10:07:32 AM

ORIGINAL SHEET - ANSI D



Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.
The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER
No.11965314
BARBARA HERRERA
03/19/2024
STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

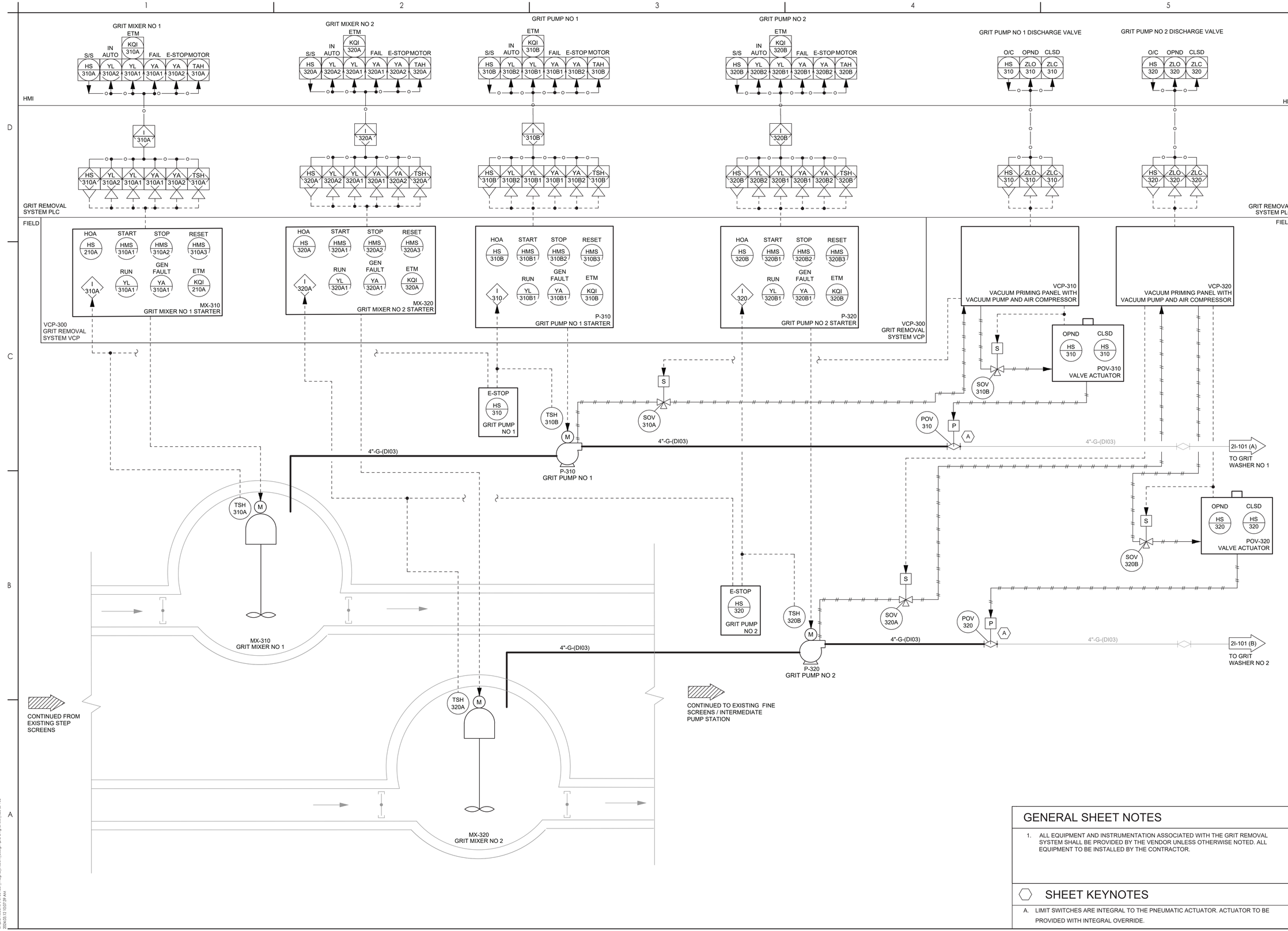
Project No.: 181301587
File Name: 3I-102
Scale: NO SCALE

EB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
HEADWORKS FACILITY INTERMEDIATE PUMP STATION P&ID - II

Revision: Sheet: 92 of 160
Drawing No.
3I-102

ORIGINAL SHEET - ANSI D



GENERAL SHEET NOTES

1. ALL EQUIPMENT AND INSTRUMENTATION ASSOCIATED WITH THE GRIT REMOVAL SYSTEM SHALL BE PROVIDED BY THE VENDOR UNLESS OTHERWISE NOTED. ALL EQUIPMENT TO BE INSTALLED BY THE CONTRACTOR.

SHEET KEYNOTES

A. LIMIT SWITCHES ARE INTEGRAL TO THE PNEUMATIC ACTUATOR. ACTUATOR TO BE PROVIDED WITH INTEGRAL OVERRIDE.

Stantec
2890 E Cottonwood Pkwy STE 300
Salt Lake City, UT, 84121
Tel: (801) 617-3200
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - use only the dimensions noted/provided. Report any errors, omissions or conflicts to the Engineer. The Copyright to all design and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

Consultant

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
0 CONSTRUCTION SET	MB	JCR	2024.03.18

Permit/Seal

PROFESSIONAL ENGINEER No.11965314 BARBARA HERRERA 03/19/2024 STATE OF UTAH

Client/Project
MAGNA WATER DISTRICT

MAGNA WATER RECLAMATION FACILITY "INFLUENT DESIGN PROJECT"
Magna, UT

Project No.: 181301587
File Name: 3I-103
Scale: NO SCALE

KB	BH	SL	2024.03.18
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
HEADWORKS FACILITY
GRIT CHAMBERS &
GRIT PUMPS P&ID

Revision: Sheet: 93 of 160

Drawing No.
3I-103

ORIGINAL SHEET - ANSI D