



City of Cleveland
Justin M. Bibb, Mayor

Department of Finance
Division of Purchases & Supplies
601 Lakeside Avenue, Room 128
Cleveland, Ohio 44114-1080
216/664-2620 • Fax: 216/664-2177
www.cleveland-oh.gov

June 6, 2024

ADDENDUM 4

BID TITLE: File No. 55-24 Green Road Pump Station

BID DUE: Thursday, June 27, 2024 at 12 o'clock noon (Eastern Time)

Attention Bidders:

We have been requested to issue the addendum for the following:

Please ensure that a copy of this addendum is included and returned with the bid specifications furnished to you by this office, as it will have the same force and effect as if it were part of the specifications originally issued.

1. Revised changes to the specifications.
2. Revised changes to the contract drawings.

If you have any questions regarding the attached, please contact Jules Gilliam at 216-664-2621. Thank you for your prompt attention and assistance in this matter.

Signature of Potential Bidder & Name of Company

Today's Date

Thank you;

Donia Patterson, Assistant Administrator
Purchases & Supplies

CC:

Attachments

GREEN ROAD PUMP STATION– FILE NO. 55-24

ADDENDUM NO. 3

The bid due date is extended to June 27, 2024 and bids must be date stamped no later than 11:59 a.m. that day.

The last day for questions is extended to June 13, 2024 by 12:00 p.m.

Site Visit:

1. Another site visit will be held on June 6, 2024 from 9:00 a.m. to 12:00 p.m.

Bid – Gross Price Form:

1. Release Addendum No. 3 – Bid – Gross Price form to extend the time of completion to seven hundred thirty (730) consecutive calendar days after Notice to Proceed (NTP). This is the form that must be submitted with the bid.

Changes to the Specifications:

1. Section 01 01 00 – Summary of Work:
 - A. 1.04 C. 1. a. – Replace 365 with 695.
 - B. 1.04 C. 2. a. – Replace 400 with 730
2. Section 40 05 51 – Valves – Basic Requirements - 3.03 A. – Replace the original schedule with the one below:

TYPE	SIZE INCHES	QTY	LOCATION	ACTUATOR	PRESSURE CLASS	SEATING OR UNSEATING	DIRECTION OF SEATING	SECTION
Gate Valve	36	2	Basement	Electric, 480 V, 3 Phase	ANSI CL 150	Seating	Upstream	40 05 61
Butterfly Valve	36	1	Basement	Manual	ANSI CL 150	Both	N/A	40 05 64
Butterfly Valve	24	4	Basement	Manual	ANSI CL 150	Seating	N/A	40 05 64
Ball Check Valve	16	4	Operations Level	Hydraulic Cylinder	ANSI CL 250	N/A	N/A	40 05 63
Butterfly Valve	16	4	Basement	Manual	ANSI CL 250	Seating	N/A	40 05 64
Ball Valve	24	2	Basement	Electric, 480 V, 3 Phase	ANSI CL 250	N/A	N/A	40 05 63
Gate Valve	24	1	Basement	Electric, 480 V, 3 Phase	ANSI CL 250	Both	N/A	40 05 61

The first gate valve has been revised and the last gate valve has been added.

GREEN ROAD PUMP STATION– FILE NO. 55-24

ADDENDUM NO. 3

Changes to the Contract Drawings:

1. G-02: updated drawing index to indicate changes to numbers and titles of I sheets
2. C-03: updated to include concrete repair detail
3. E-06: updated to show the addition of the Local Control Stations (RIOs), the Main Control Panel (PLC), and relocated RTU
4. E-11: updated to show revised LP2 Panel Schedule for addition of four LCPs and updated Main Control Panel
5. E-12: updated to show revised conduit riser for addition of four LCPs and updated Main Control Panel
6. I-04 thru I-08: updated to indicate relocation of RTU panel and installation of new PLC panel
7. I-09 and I-10: new sheets with new pump Local Control Panel detail
8. I-10A and I-10B: new sheets with new Main Control Panel details
9. I-12, I-14 thru I-22: new/updated sheets to provide networking and loop drawings for new PLC panel and pump Local Control Panels

Answers to questions received:

1. Are there American Iron and Steel Requirements for the project?

Answer: No.

2. Drawings indicate to connect to existing input/output cards in the existing relocated RTU. The specifications do not indicate or provide details for any programming of the RTU. Are all pieces of equipment and instrumentation being replaced in kind or will program modifications be required? If modifications are required will an allowance be provided for this task?-

Answer: The electrical contractor will be responsible for relocating the panel, but HSQ will be responsible for RTU modifications and programming changes. This work must be part of the overall bid for the electrical scope of work

3. Please confirm that all pipe, valves and fittings on the suction side is to have 150 lb flanges and that all pipe, valves and fittings on the discharge are to have 250 lb flanges.

Answer: Confirmed.

4. Please advise if there will be an allowance for the relocation of First Energy equipment or if this is to be included in the base bid by the electrical contractor.

Answer: There is no allowance to be included in the base bid. This work must be part of the overall bid for the electrical scope of work.

5. Is storage of materials outside of the pump station fence acceptable if the area is restored to same as existing conditions?

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ADDENDUM NO. 3

Answer: Additional staging areas outside of the pump station are the responsibility of the contractor. Any area disturbed due to construction activities should be repaired in kind.

6. Please provide details for concrete pavement replacement and details for repairs to occur on the site. Details for the apron replacement at Green road, repair of concrete around manhole, Remove and replace sunken concrete slab (two locations), repair raise concrete slab to be flush with the adjacent drive shown on C-02.

Answer: Concrete Pavement Detail added to sheet C-03.

7. Please provide more detail along with grades for the legend note on C-02 "Repair existing concrete driveway. Concrete driveway to be sloped away from building."

Answer: Refer to Section 01 02 50 for concrete repair requirements. Slope concrete driveway at a minimum of 1/2" per foot for positive drainage away from building.

8. The third legend item " Remove and replace existing concrete driveway as needed to perform excavation for pipe replacement and as noted in contract documents. All areas not impacted by excavation shall be repaired as per the contract documents". Please provide detail for the concrete in areas to be replaced. The second half of the legend note would lead us to believe that if it is not an area being removed and there is not a note specifically pointed to an area we are not to repair the areas. One example is that there are a number concrete joints that are deteriorated and filled with stone. There is not a detail provided for repairs, they are not called out, and the area will not be impacted by pipe replacement, therefore we would not need to perform any repairs?

Answer: Concrete Pavement Detail added to sheet C-03. Refer to Section 01 02 50 for concrete repair requirements.

9. Drawing C-02 has a note to "Replace Broken PVC Pipe and Install More Fill to Cover." Please specify pipe size, class of pipe, and minimum cover requirements.

Answer: Pipe is standard CMP, contractor to field verify size. Assume 18" for bidding purposes. Pipe cover shall be maximum based on existing elevations.

10. Drawing A-03 would appear to indicate a new roof is to be installed. Please confirm, advise on existing roofing material along with insulation thickness, and advise if the roof structure is sloped or if the slope is to be created with tapered insulation.

Answer: As noted on Drawing A-03, remove and replace all roof system, including flashing, insulation, and gutter. Existing roof structure is flat so tapered roof insulation will be required as specified in Section 07 22 16. Roof shall be sloped at 1/4" per foot.

11. Drawing M-03 would appear to indicate that the existing pipe exiting the basement is steel and the buried pipe to remain (connection point for new pipe) is DIP. Please confirm.

GREEN ROAD PUMP STATION– FILE NO. 55-24

ADDENDUM NO. 3

Answer: Confirmed.

12. The various pipe, valve and specifications contradict each other on the flange class to be used on flanged connections between pipe, pumps, valves and fittings. Please advise if all flanges are to be 150lb bolt patterns. Or if suction is to be 150lb and discharge is to be 250lb.

Answer: Design working pressure is to be 150 PSI for suction flanged connections, and 250 PSI for discharge flanged connections.

13. Please advise if a lead paint study will be provided. This was not referenced in the Asbestos and Hazardous Building Material Survey or specification 02 81 00.

Answer: This will not be provided as this facility was constructed after 1978.

14. First, the valve schedule has 17 valves of 16-inch and larger. Using the plans, we are counting 18 valves.

Answer: The 18 valves of 16-inch and larger shown in the drawings is correct. The 24" gate valve was inadvertently excluded from the schedule in 40 05 51 3.03A. Refer to updated schedule included in the changes to the specifications above.

15. Second, comparing the P&ID drawings with the Valve List, we are having trouble determining the number and size of electric actuated valves. The valve list has (2) 24" electric operated ball valves. Looking at P&ID drawings I-104 and I-104A, there are (5) valves labeled to have electric actuators: South Suction Valve, North Suction Valve, North Throttling Valve, South Throttling Valve, and Discharge Isolation Valve.

Answer: The five valves shown to have motorized actuators in the P&IDs is correct. The actuator for the 36-inch gate valves was inadvertently listed as "Manual" in the schedule in 40 05 51 3.03A. Similarly, the 24-inch gate valve that was excluded from the schedule has an electric actuator. Refer to updated schedule included in the changes to the specifications above.

16. Drawing I-04 shows a number of existing points that do not appear to be indicated on the RTU Loop Drawings. An example is the Chlorine TI-1000 point. Are these points to be landed in the "Marshalling Cabinet"? Is it to be assumed that all points new and existing shown on drawings I-04, I-04A, I-05, I-06, I-07, and I-08 are to be landed in the "Marshalling Cabinet" prior to being pulled to the RTU?

Answer: This is indicated in the updated I drawings above. Marshaling Panel drawings have been removed and PLC Panel drawings have been added.

17. Berrington Pump & Systems are the Xylem/Gould's Vertical Turbine Pump Municipal & Industrial distributors for the entire State of Ohio. We are located in Avon, Ohio on Lear Industrial Parkway in our 30,000sq ft facility. We are a stocking pump distributor and warranty repair facility for Xylem/Gould's VT's. Gould's Vertical pumps are manufactured in Lubbock, Texas and are one of our nation's largest VT manufacturers in the

GREEN ROAD PUMP STATION– FILE NO. 55-24

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US. Gould's is a BaBa manufacturer (Buy America Build America) Enclosed please find enclosed Xylem Gould's performance curves, info and clarifications which meet and or exceeds the specification requirements. We would appreciate your review and consideration to include Xylem/Gould's to your list of acceptable U.S. manufacturers for this project. We hope to hear from you – and look forward to working with you on our project .

Answer: We do not add vendors to approved lists during the bid process. When it says, "or Engineer approved equal", that means at the pre-construction meeting, the winning Contractor using Section 01 25 00 can request substitutions.

18. Can we get the attached American Marsh pumps approved as an equal for section 43 24 05 of this project?

Answer: We do not add vendors to approved lists during the bid process. When it says, "or Engineer approved equal", that means at the pre-construction meeting, the winning Contractor using Section 01 25 00 can request substitutions.

19. Can you confirm the NEMA rating for the following electrical equipment:

- o MCC-1
- o ATS-1
- o 480V Panel
- o 120V Panel (LP1, 2, 3)
- o Transformers
- o Fused Disconnects
- o Service Breaker Remote Operator Panel

Answer:

MCC-1 - NEMA 12
ATS-1 - NEMA 12
480V Panel - NEMA 12
120V Panel (LP1, 2, 3) - NEMA 12
Transformers - NEMA 12
Fused Disconnects - NEMA 4X (Located in the Basement)
Service Breaker Remote Operator Panel - NEMA 12

20. Can you please specify if there are any Corrosive, Highly Corrosive Areas, or Hazardous Areas.

Answer: There are no corrosive areas on the project. Enclosures in basement shall be NEMA 4X.

21. The summary of work states that substantial completion is 365 days from Notice To Proceed. Lead times on electrical gear is typically 50 weeks after release if not longer. Additionally pumps and large diameter valves can take 30-50 weeks are release. Please advise if the project duration is going to be modified.

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Answer: See changes to the specifications above.

Answers to questions received but not answered above will be addressed in a forthcoming addendum.

NOTE: THIS BID MUST BE SIGNED IN THE SPACE INDICATED. ERASURES MAY INVALIDATE THIS BID.

CITY OF CLEVELAND

BID - GROSS PRICE

To: Tiffany Johnson

The Commissioner of Purchases and Supplies

BID FOR Green Road Pump Station

for the Department of Public Utilities, Division of Water

The Undersigned certifies that he has carefully examined the Contract Documents as defined in the General Conditions of the Invitation to Bid and has inspected the site of the projected work.

The Undersigned declares that the amount and nature of the work to be done is understood, and that at no time will misunderstanding of the Contract Documents be pleaded.

On the basis of the Contract Documents the Undersigned proposes to furnish all necessary apparatus, machinery, tools and other means of construction, to do all the work and furnish all the materials in the manner specified, to finish the entire project within the time hereinafter proposed, and to accept as full compensation therefor the sum or sums set forth on the next succeeding page or pages.

The Undersigned understands that the prices above set forth cover the cost of all materials to be furnished and work to be performed in the construction and installation of the various items of the public improvement bid upon, complete and ready for service, and includes the cost of bonds, insurance, sales tax, and every other item of expense incident to the contract.

The Undersigned further proposes to execute the Contract Agreement and to furnish satisfactory bond within five (5) days, excluding Saturdays, Sundays and holidays, after notice of award of contract has been received.

The Undersigned further proposes to begin work as specified in the General Conditions set forth in the Invitation to Bid, and to complete the work at the time fixed by the Director, which is seven hundred thirty (730) consecutive calendar days after Notice to Proceed (NTP).

The Undersigned deposits with this Bid a Bid Bond to the City of Cleveland signed by a surety company authorized to do business in Ohio, in the sum of \$ _____, or a cashier's check or certified check on a solvent bank in the sum of \$ _____, payable to the City of Cleveland, as security that if he be awarded the contract, he will enter into a written contract and secure the performance of the same by a bond of an approved surety company authorized to do business in Ohio and satisfactory to the Director of Law, in the sum equal to the total price bid and in conformity with the provisions of The Codified Ordinances of Cleveland, Ohio 1976.

The Undersigned further agrees that if the Bid is accepted and contract awarded and he shall fail to execute said contract and furnish the satisfactory bond, as required, within the time above specified, then the City may, at its option, declare the contract abandoned and this Bid null and void. Thereupon the penal sum of the Bid Bond shall become due to the City, or the certified or cashier's check shall be forfeited to and become the property of the City, as liquidated damages. Otherwise, the Bid Bond or the certified or cashier's check, or the amount of such check shall be returned to the Undersigned.

The Undersigned further certifies that he (as an individual, firm or corporation making this Bid) is not in arrears or default to the City of Cleveland upon any debt or contract, nor is a defaulter as surety or otherwise upon any obligation to said City, nor has failed to perform faithfully any previous contract with said City and that there is no suit or claim pending as to any such arrears or default.

The Undersigned agrees to be bound by this Bid until 120 days after bid due date.

THE UNDERSIGNED UNDERSTANDS THAT THE CITY RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS.

SIGN HERE X _____

Title of Officer

The firm, corporation, or individual name MUST BE SIGNED IN SPACE INDICATED.

Business Address of Bidder

If the Bidder is a firm, or corporation, the title of the officer signing and the State in which incorporated must be indicated.

State where incorporated

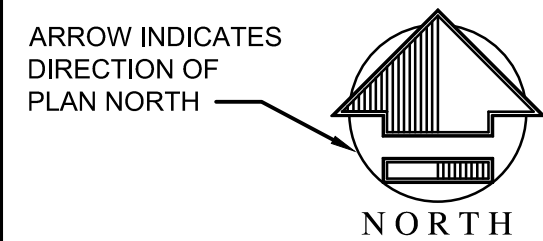
NOTE: Bidder must fill in all blank spaces on this page with required information and signature; and must insert the price of each and every item of the work in the spaces provided in the next succeeding bid sheets and sign and insert date in the indicated spaces thereon.

DRAWING INDEX

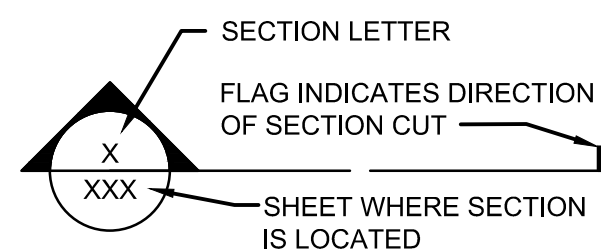
SHEET NO.	DESCRIPTION
GENERAL	
G-01	COVER SHEET
G-02	DRAWING INDEX AND ABBREVIATIONS
G-03	GENERAL NOTES
G-04	SURVEY CONTROL
CIVIL	
C-01	SITE PLAN
C-02	SWPPP & RESTORATION PLAN
C-03	CIVIL DETAILS
C-04	SWPPP DETAILS SHEET 1 OF 2
C-05	SWPPP DETAILS SHEET 2 OF 2
ARCHITECTURE	
A-01	ABBREVIATIONS, SYMBOLS, GENERAL NOTES AND CODE COMPLIANCE
A-02	BASEMENT AND FIRST FLOOR PLANS
A-03	ROOF PLAN AND DETAILS
A-04	ELEVATIONS
A-05	FINISH SCHEDULE, DOOR SCHEDULE, AND DETAILS
STRUCTURAL	
S-01	ABBREVIATIONS, SYMBOLS, GENERAL NOTES AND CODE COMPLIANCE
S-02	BASEMENT AND FIRST FLOOR PLANS
S-03	TYPICAL DETAILS
MECHANICAL	
M-01	MECHANICAL ABBREVIATIONS, LEGEND, & NOTES
M-02	FIRST FLOOR DEMOLITION PLAN
M-03	BASEMENT DEMOLITION PLAN
M-04	DEMOLITION SECTIONS SHEET 1 OF 2
M-05	DEMOLITION SECTIONS SHEET 2 OF 2
M-06	FIRST FLOOR PLAN VIEW
M-07	BASEMENT PLAN VIEW
M-08	SECTIONS SHEET 1 OF 2
M-09	SECTIONS SHEET 2 OF 2
M-10	BASEMENT SUGGESTED PHASING PLAN
M-11	BASEMENT SUGGESTED PHASING PLAN
HVAC	
H-01	HVAC - SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES
H-02	PUMP STATION PLANS
H-03	HVAC - SCHEDULES AND DETAILS
H-04	HVAC - SCHEDULES AND DETAILS

SHEET NO.	DESCRIPTION
INSTRUMENTATION	
I-01	SYMBOLS AND NOMENCLATURE SHEET 1 OF 3
I-02	SYMBOLS AND NOMENCLATURE SHEET 2 OF 3
I-03	SYMBOLS AND NOMENCLATURE SHEET 3 OF 3
I-04	OVERALL PUMP STATION P&ID 1 OF 2
I-04A	OVERALL PUMP STATION P&ID 2 OF 2
I-05	PUMP NO. 1 P&ID
I-06	PUMP NO. 2 P&ID
I-07	PUMP NO. 3 P&ID
I-08	PUMP NO. 4 P&ID
I-09	PUMP LOCAL CONTROL PANEL DETAILS 1 OF 2
I-10	PUMP LOCAL CONTROL PANEL DETAILS 2 OF 2
I-10A	MAIN CONTROL PANEL DETAILS 1 OF 2
I-10B	MAIN CONTROL PANEL DETAILS 2 OF 2
I-11	INSTRUMENTATION DETAILS
I-12	NETWORK BLOCK DIAGRAM
I-14	MAIN CONTROL PANEL LOOP DIAGRAM 1
I-15	MAIN CONTROL PANEL LOOP DIAGRAM 2
I-16	MAIN CONTROL PANEL LOOP DIAGRAM 3
I-17	MAIN CONTROL PANEL LOOP DIAGRAM 4
I-18	MAIN CONTROL PANEL LOOP DIAGRAM 5
I-19	LOCAL CONTROL PANEL LOOP DIAGRAM 1
I-20	LOCAL CONTROL PANEL LOOP DIAGRAM 2
I-21	LOCAL CONTROL PANEL LOOP DIAGRAM 3
I-22	LOCAL CONTROL PANEL LOOP DIAGRAM 4
ELECTRICAL	
E-01	ELECTRICAL LEGEND, SYMBOLS AND ABBREVIATIONS
E-02	FIRST FLOOR DEMOLITION PLAN
E-03	BASEMENT DEMOLITION PLAN
E-04	ONE LINE DIAGRAM
E-05	MCC ELEVATION
E-06	FIRST FLOOR POWER PLAN
E-07	BASEMENT POWER PLAN
E-08	FIRST FLOOR LIGHTING PLAN
E-09	BASEMENT LIGHTING PLAN
E-10	ELECTRICAL SCHEMATICS
E-11	PANEL SCHEDULES
E-12	WIRING BLOCK DIAGRAM
E-13	EXISTING GENERATOR CONTROL PANEL WIRING DIAGRAM

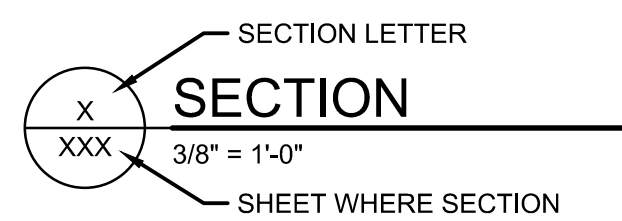
SYMBOLGY



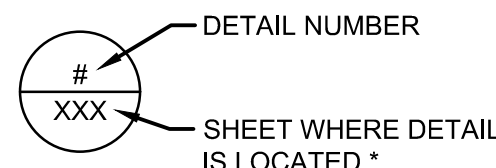
NORTH ARROW



SECTION CUT MARKER



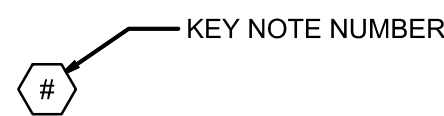
SECTION TITLE



DETAIL MARKER

FOR REFERENCING DETAILS INCLUDED IN DRAWING SET.

KEY NOTE DESIGNATION



	ASPHALT
	STEEL
	CONTRACTOR WORK LIMITS
	CONCRETE
	GROUT
	UNDISTURBED EARTH
	SELECT BACKFILL
	GENERAL FILL
	DEMOLITION

- * EXCEPTIONS WHERE THE SHEET NUMBER IS REPLACED BY A DASH (-).
- FOR COMMON DETAILS, SECTIONS, ELEVATIONS OR DETAILS THAT ARE CUT OR CALLED OUT ON MULTIPLE SHEETS.
 - SECTIONS, ELEVATIONS OR DETAILS THAT ARE LOCATED ON THE SAME SHEET THEY ARE CUT OR CALLED OUT ON.

LEGEND

	EXISTING SANITARY MANHOLE
	EXISTING STORM MANHOLE
	PROPOSED STORM MANHOLE
	EXISTING INLET BASIN
	EXISTING HYDRANT
	EXISTING VALVE
	EXISTING SHRUB
	TREE
	CLEANOUT
	CATCH BASIN
	POWER POLE
	LIGHT POLE
	ELECTRIC MANHOLE
	WATER MANHOLE
	WATER VALVE
	ELECTRIC METER
	CURB INLET
	SIGN
	FLAG
	CONTROL POINT
	BORING LOCATIONS
	CORING LOCATIONS
	KEYNOTE
	UTILITY BOX
	BOLLARD/POST
	EXISTING STORM (12"Ø OR LESS)
	EXISTING STORM (LARGER THAN 12"Ø)
	EXISTING SANITARY (12"Ø OR LESS)
	EXISTING SANITARY (LARGER THAN 12"Ø)
	EXISTING GAS LINE
	EXISTING WATER MAIN
	EXISTING FENCE
	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING RIGHT-OF-WAY
	TEMPORARY EASEMENT
	PERMANENT EASEMENT
	PROPOSED WATER MAIN REHABILITATION
	PROPOSED STORM (12"Ø OR LESS)
	PROPOSED STORM (LARGER THAN 12"Ø)
	EXISTING PROPERTY LINE

ABBREVIATIONS

A	ASPHALT SURFACE	OGPUPS	OHIO OIL AND GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
ABCPA	ANODE BED, CATHODIC PROTECTION ASSEMBLY	O.H.	OVERHEAD
AC	AIR COCK	OHE	OVERHEAD ELECTRIC
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	OMUTCD	OHIO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	OSHA	OCCUPATIONAL HEALTH AND SAFETY ACT
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	OUPS	OHIO UTILITY PROTECTION SERVICE
AVE	AVENUE	PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
AWWA	AMERICAN WATER WORKS ASSOCIATION	PIP	PROTECT IN PLACE
B	BRICK SURFACE	PKWY	PARKWAY
C	CONCRETE SURFACE	PROP	PROPOSED
CB	CATCH BASIN	PVC	POLYVINYL CHLORIDE
CCTV	CLOSED-CIRCUIT TELEVISION	PVCO	MOLECULARLY ORIENTED POLYVINYL CHLORIDE
CI, CIP	CAST IRON PIPE	RCP	REINFORCED CONCRETE PIPE
CIPP	CURED-IN-PLACE-PIPE	RD	ROAD
CNPT	CONTROL POINT	RR	RAILROAD
CONC	CONCRETE	R/W, ROW	RIGHT-OF-WAY
CT	COURT	SD	STORM DRAIN
CWD	CLEVELAND DIVISION OF WATER	SDR	STANDARD DIMENSION RATIO
D	STORM	SS, S, OR SAN	SANITARY
DIA	DIAMETER	SE	SOUTHEAST
DR	DRIVE	SH	SPRINKLER HEAD
E	ELECTRIC	ST, STM	STORM
ELEV	ELEVATION	STA	STATION
EX	EXISTING	SW	SOUTHWEST
FG	FINISH GRADE	SWPPP	STORMWATER POLLUTION PREVENTION PLAN
FT	FOOT	UG	UNDERGROUND
G	GAS	UGE	UNDERGROUND ELECTRIC
HORIZ.	HORIZONTAL	UGT	UNDERGROUND TELEPHONE
HYD	HYDRANT	VERT.	VERTICAL
INV.	INVERT	W	WATER
LN	LANE	W/	WITH
L/S	LANDSCAPE AREA	WM	WATER MAIN
MH	MANHOLE	WSC	WATER SERVICE CONNECTION
NAD	NORTH AMERICA DATUM	WV	WATER VALVE
NE	NORTHEAST	YD	YARD DRAIN
NEORS	NORTHEAST OHIO REGIONAL SEWER DISTRICT	(XX')	WIDTH OF RIGHT OF WAY
NW	NORTHWEST		
ODOT	OHIO DEPARTMENT OF TRANSPORTATION		
OEPA	OHIO ENVIRONMENTAL PROTECTION AGENCY		

ADDENDUM NO. 3 - FILE NO. 55-24

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE

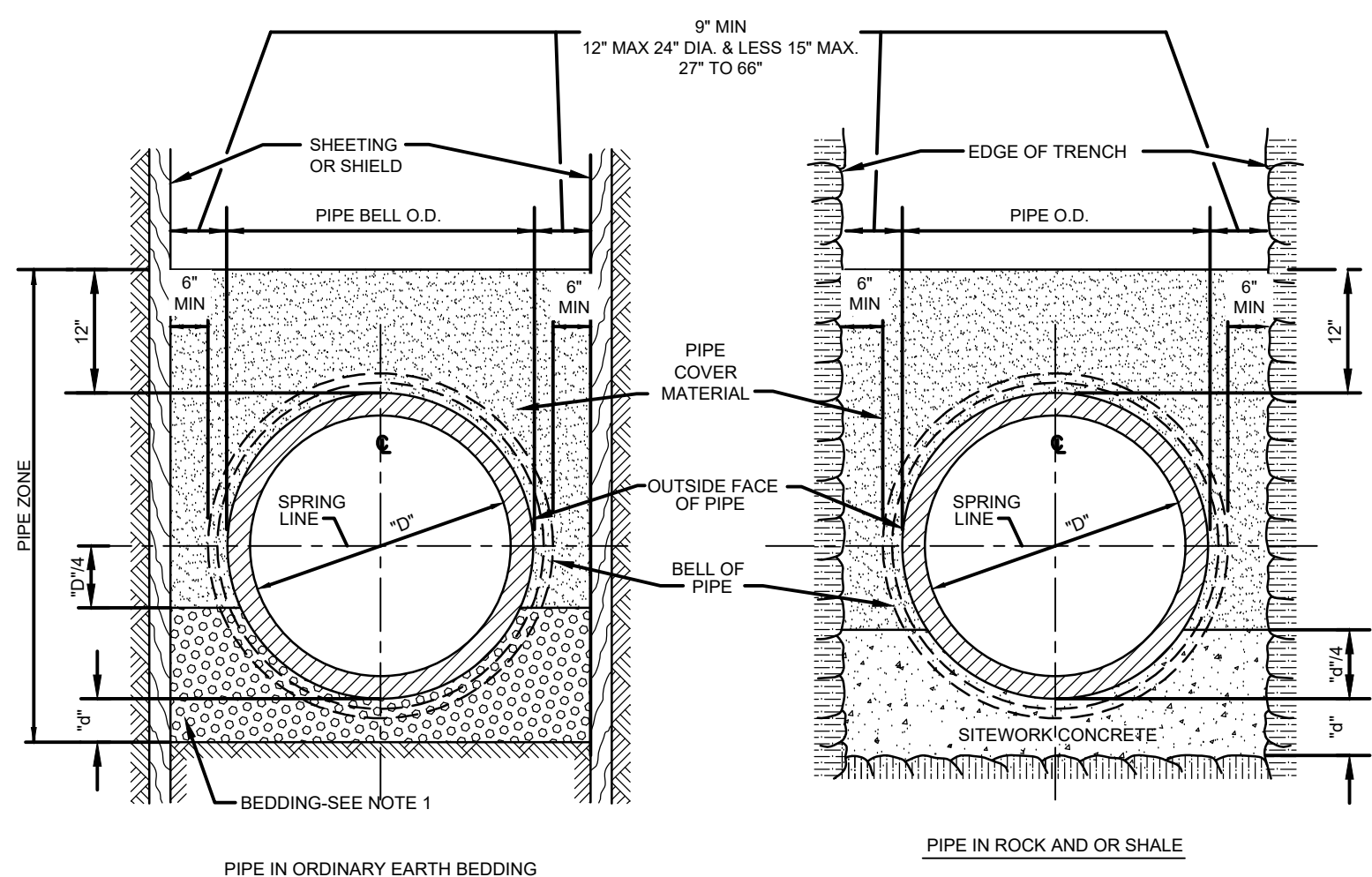
NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-925-0988
OHIO OIL AND GAS PRODUCERS UNDERGROUND PROTECTION SERVICE (OGPUPS)

HR
ARCADIS
SIGMA

CITY OF CLEVELAND
water
AT YOUR SERVICE

REVISIONS			CITY OF CLEVELAND	
NO.	DATE	BY	CLEVELAND DIVISION OF WATER DEPARTMENT OF PUBLIC UTILITIES CLEVELAND, OHIO	
			SUBJECT CYCLE H - GREEN PUMP STATION	
			DRAWING INDEX AND ABBREVIATIONS	
			DRAWN BY: VKN	SCALE: NTS
			DESIGNED BY: VKN	CWD NO:
			CHECKED BY: AJA	DATE: 12/2021
			SHEET NO:	G-02

ISSUED FOR BID

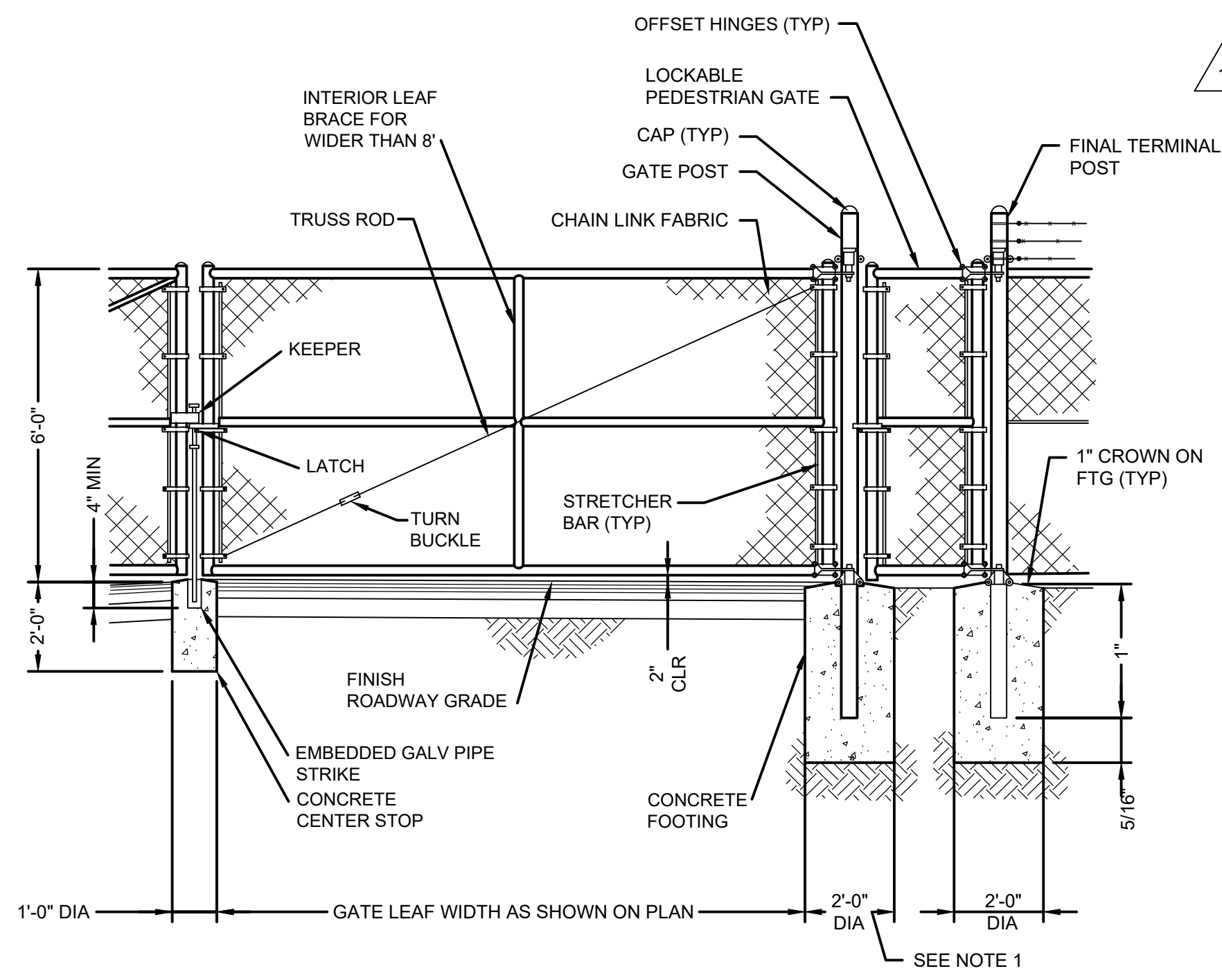
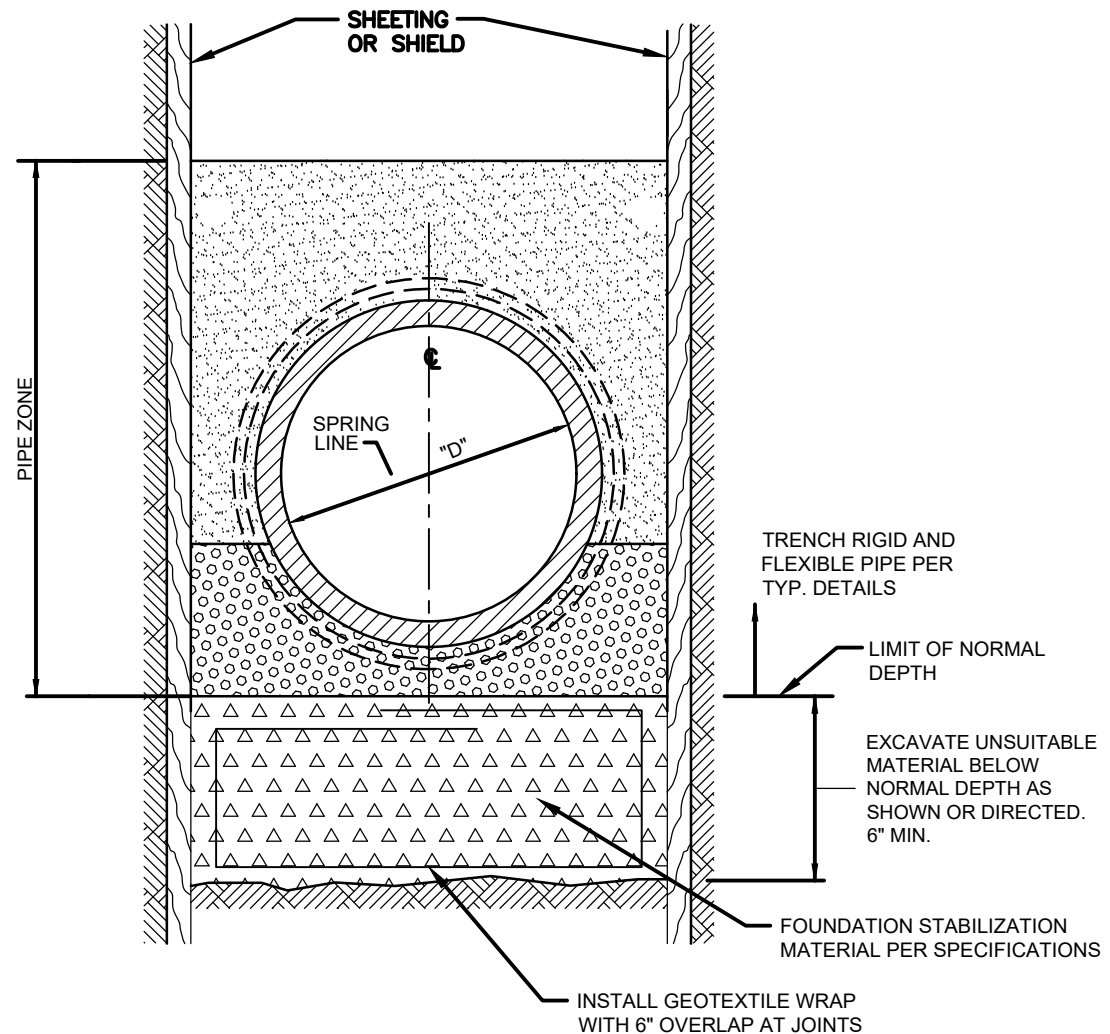


TRENCH NOTES:

- PIPE BEDDING SHALL COMPLY WITH THE FOLLOWING PROVISIONS
 - 6" BEDDING DEPTH "d" FOR 6" TO 60" PIPE
 - 8" BEDDING DEPTH "d" FOR PIPE SIZES GREATER THAN 60". THE MINIMUM DEPTH OF THE BEDDING SHALL BE 2" BELOW THE PIPE BELLS, IF ANY, BUT IN NO CASE SHALL THE BEDDING BE LESS THAN 8"
 - PIPE DIAMETERS SMALLER THAN 6" SHALL HAVE A MINIMUM 3" BEDDING DEPTH
- ALL ROCK WITHIN 3'-0" HORIZONTALLY OF THE ENDS OF BUILDING CONNECTIONS, BRANCHES OR STUBS AND DOWN TO A HORIZONTAL PLANE 6" BELOW THE BOTTOMS OF SUCH CONNECTIONS, BRANCHES OR STUBS, SHALL BE EXCAVATED.
- REQUIREMENTS FOR TRENCH EXCAVATION AND BACKFILL BELOW NORMAL DEPTH ARE DESCRIBED IN THE SPECIFICATIONS.
- REQUIREMENTS FOR USE OF GEOTEXTILE ARE DESCRIBED IN THE SPECIFICATIONS.

TRENCH HATCH LEGEND:

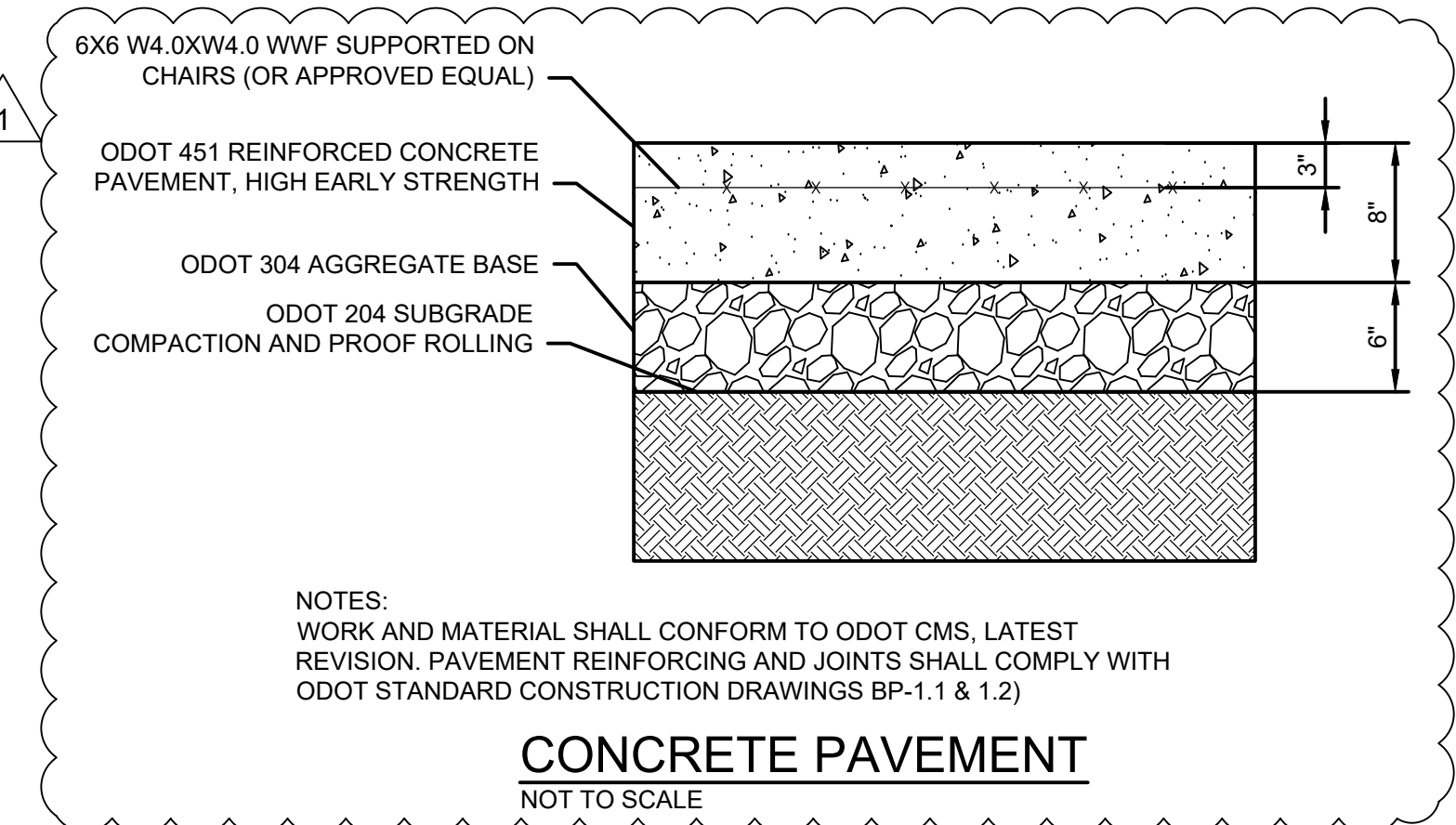
- PIPE COVER MATERIAL
- PIPE BEDDING
- SITEWORK CONCRETE
- STABILIZATION MATERIAL



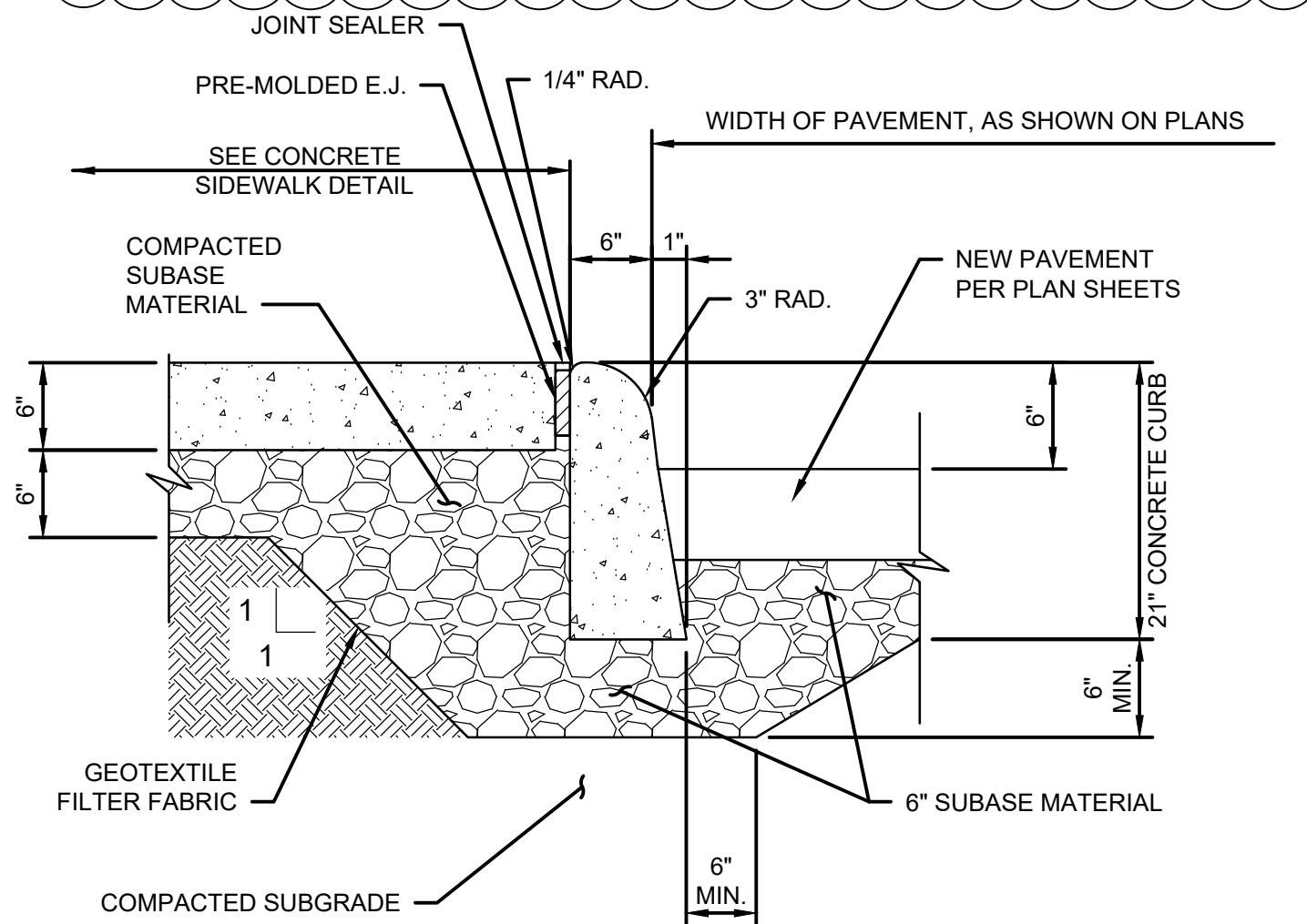
GATE POST SCHEDULE	
LEAF SPAN	NOMINAL PIPE SIZE (NPS)
≤ 6'	3"
6' ≤ 12'	5"
12' ≤ 18'	6"
>18'	8"

NOTE:
 1. USE 3'-0" DIA CONCRETE FOOTING HOLE FOR POST DIAMETERS 5" AND LESS. USE 4'-0" DIA CONCRETE FOOTING HOLE FOR POST DIAMETERS GREATER THAN 5".

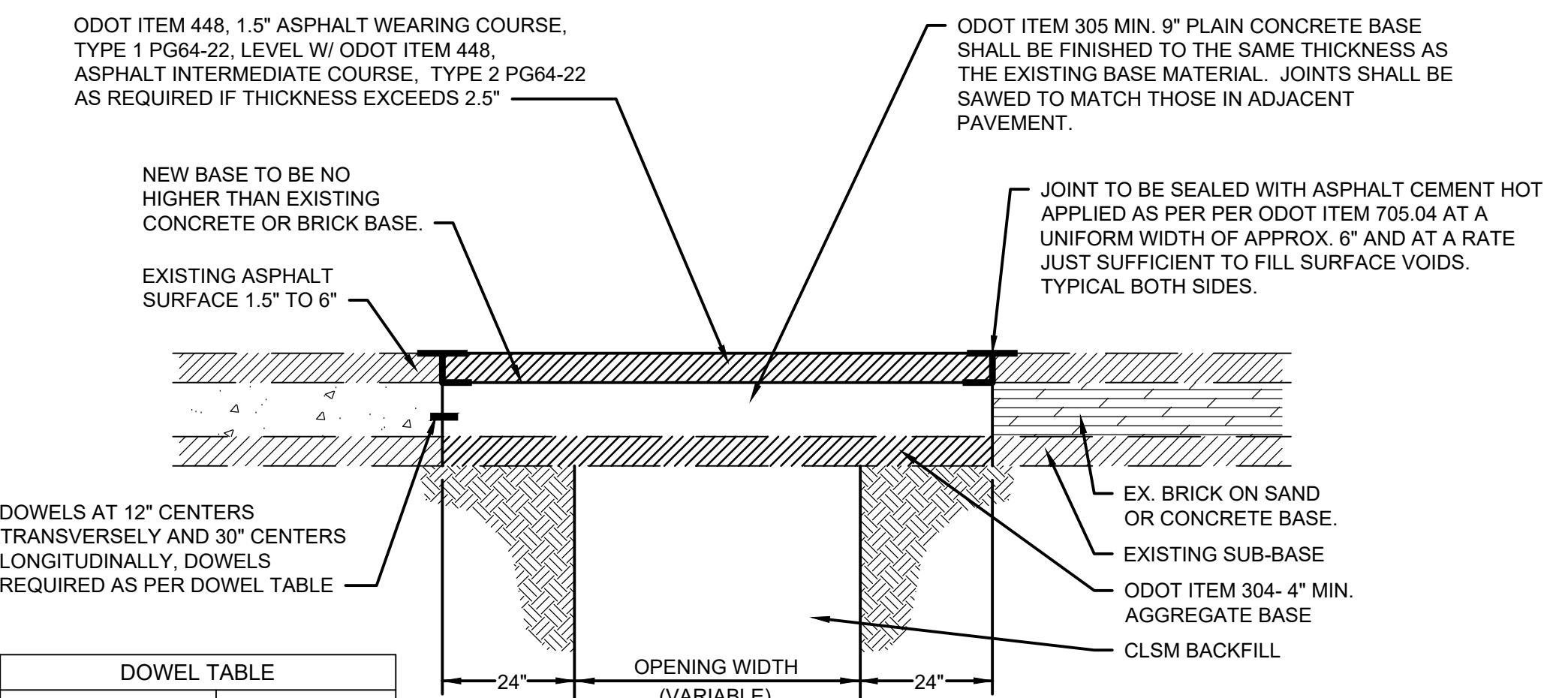
CHAIN LINK GATE
NOT TO SCALE



CONCRETE PAVEMENT
NOT TO SCALE



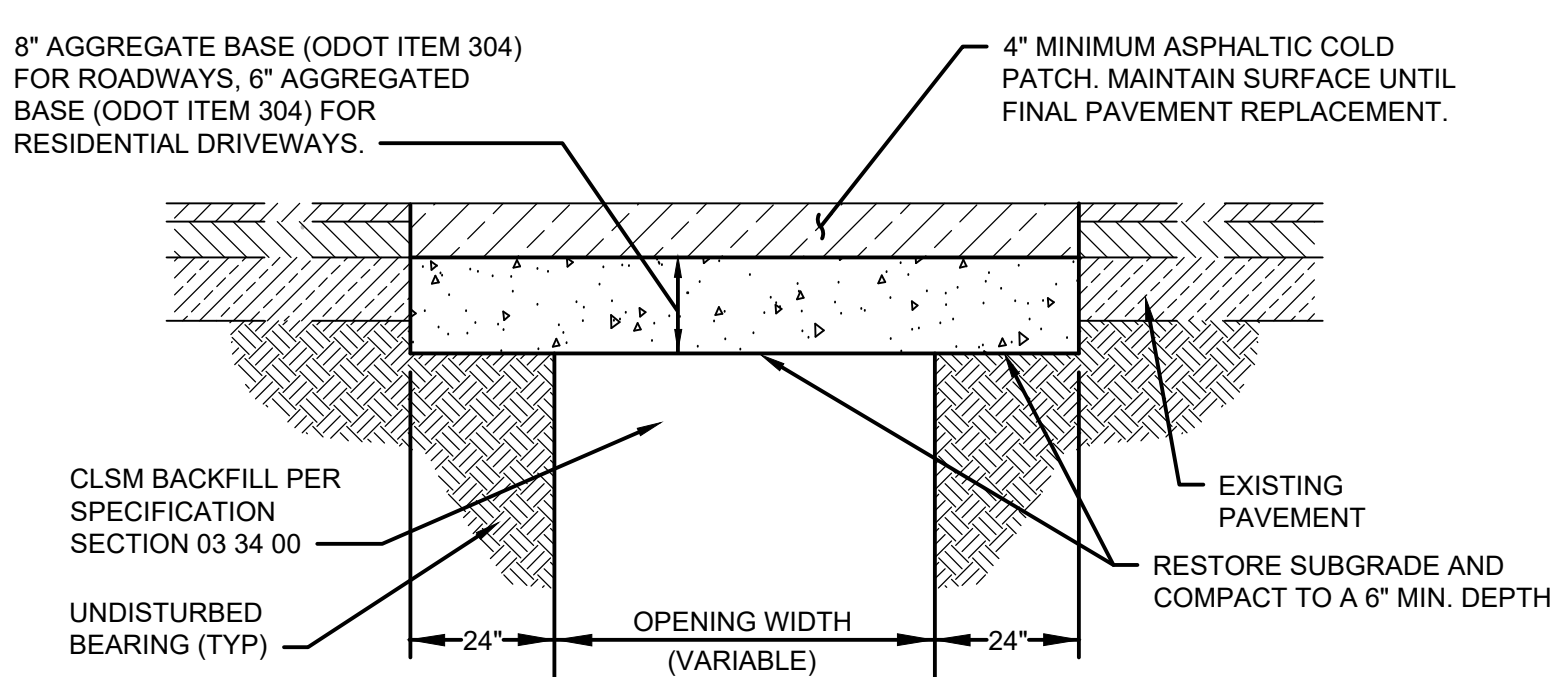
6" CONCRETE CURB WITH SIDEWALK
NOT TO SCALE



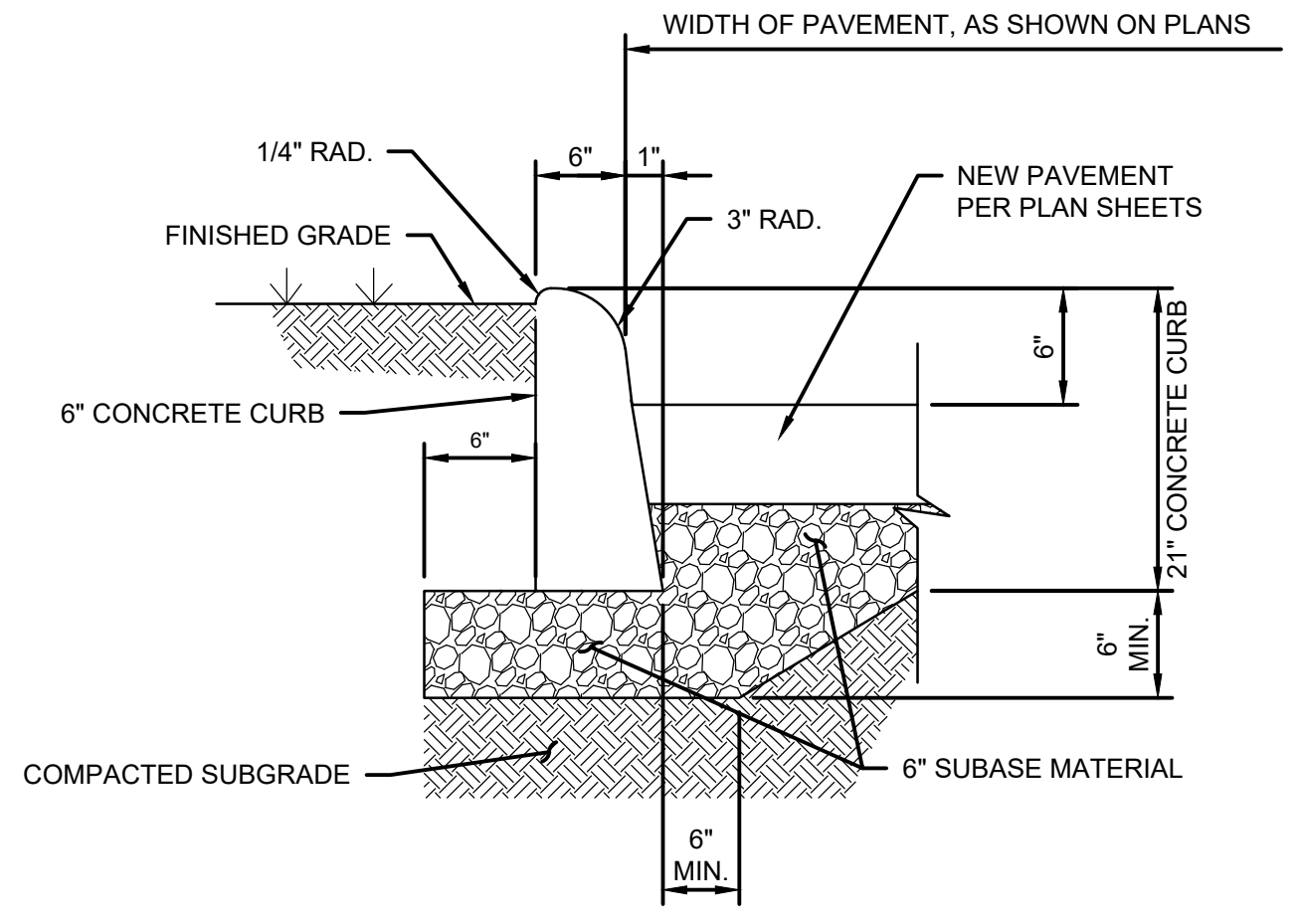
DOWEL TABLE	
PAVEMENT THICKNESS	DIA. OF DOWELS
8" OR LESS	0'-1"
0'-9"	0'-1 1/4"
0'-10"	0'-1 1/4"
OVER 10"	AS DIRECTED

DOWELS SHALL BE SPACED EVERY 30"

FULL DEPTH RESTORATION OF ASPHALT PAVEMENT ON CONCRETE OR BRICK BASE
NOT TO SCALE



TEMPORARY ASPHALT PAVEMENT
NOT TO SCALE

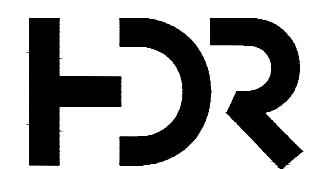


6" CONCRETE CURB WITHOUT SIDEWALK
NOT TO SCALE

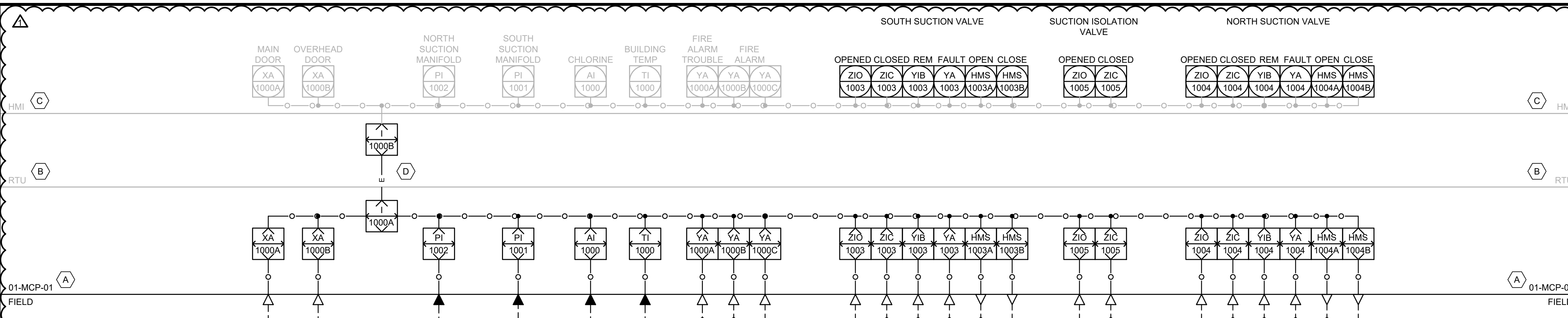
UNDERGROUND UTILITIES
 2 WORKING DAYS
BEFORE YOU DIG
 CALL TOLL FREE 800-362-2764
UNDERGROUND UTILITIES PROTECTION SERVICE

NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
 2 WORKING DAYS
BEFORE YOU DIG
 CALL TOLL FREE 800-925-0988
UNDERGROUND UTILITIES PROTECTION SERVICE (GUPLPS)

ADDENDUM NO. 3 - FILE NO. 55-24

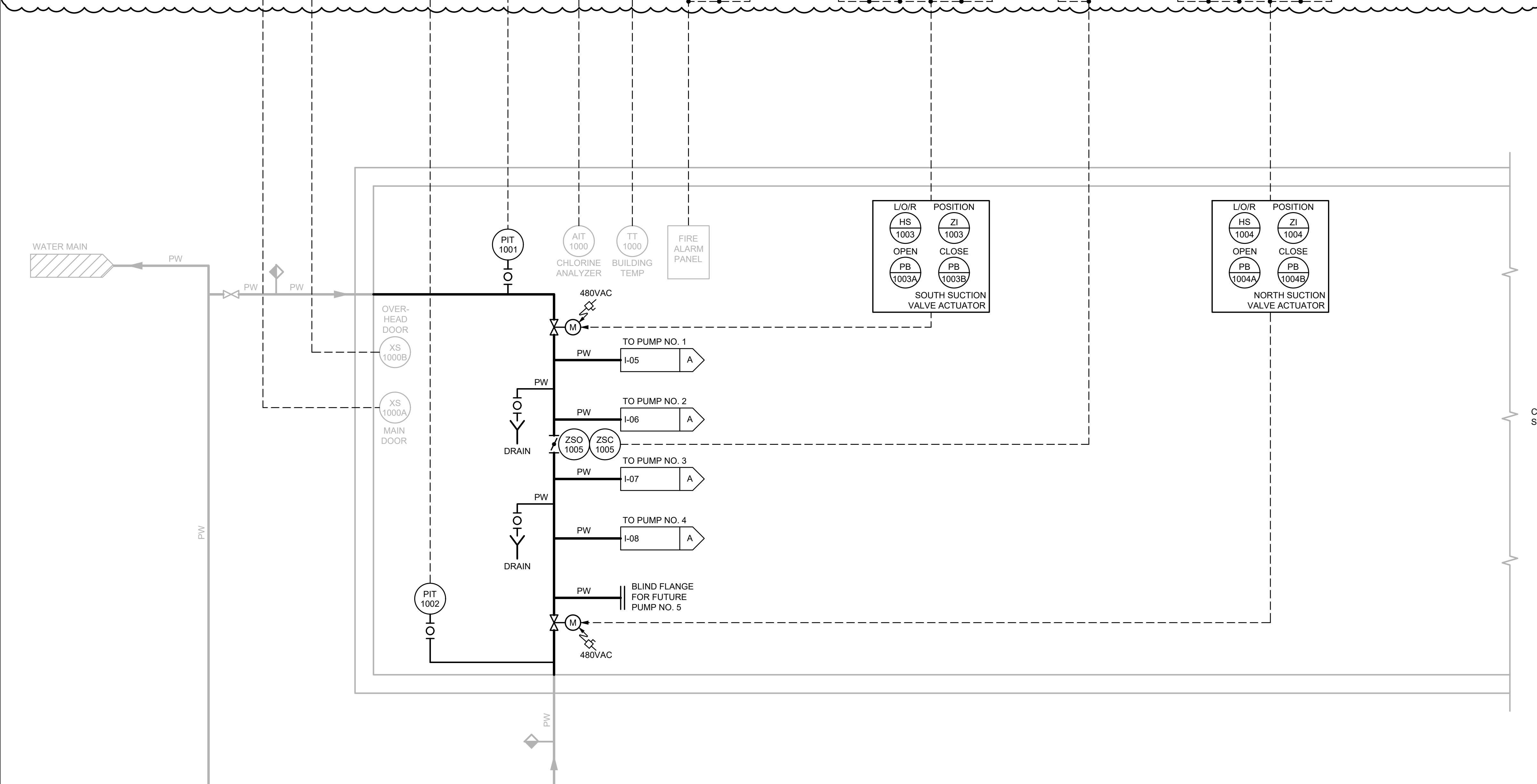


REVISIONS			CITY OF CLEVELAND	
NO	DATE	BY	CLEVELAND DIVISION OF WATER	
			DEPARTMENT OF PUBLIC UTILITIES	
			CLEVELAND, OHIO	
			SUBJECT	CYCLE H - GREEN PUMP STATION
			CIVIL DETAILS	
			DRAWN BY: VKN	SCALE: NTS
			DESIGNED BY: AD	CWD NO:
			CHECKED BY: AJA	DATE: 12/2021
				SHEET NO: C-03



- ### CODED NOTES
- A. INSTALL A NEW PLC IN THE NEW MAIN CONTROL PANEL.
 - B. EXISTING RTU PANEL TO BE RELOCATED. ALL I/O TO BE HARDWIRED TO THE NEW MAIN CONTROL PANEL AND PUMP LOCAL CONTROL PANELS AS SHOWN ON THE DRAWINGS. THE RELOCATED RTU WILL COMMUNICATE WITH THE MAIN CONTROL PANEL VIA AN ETHERNET CONNECTION.
 - C. UPDATE EXISTING HMI AT THE PARMA CONTROL CENTER TO INCLUDE THE NEW I/O AND CONTROL SHOWN ON THE DESIGN DRAWINGS.
 - D. INTERLOCK REPRESENTS A SINGLE ETHERNET CONNECTION BETWEEN THE MCP AND THE RTU. SHOWN ON MULTIPLE DRAWINGS FOR CLARITY.

- ### GENERAL SHEET NOTES
1. PIPING, EQUIPMENT, INSTRUMENTS AND I/O SHOWN SCREENED BACK ARE EXISTING AND WILL REMAIN IN PLACE.
 2. SEE DRAWING I-05 FOR PUMP STATION SUMP PUMP SYSTEM.



CONTINUED ON SHEET I-04A

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ADDENDUM NO. 3 - FILE NO. 55-24

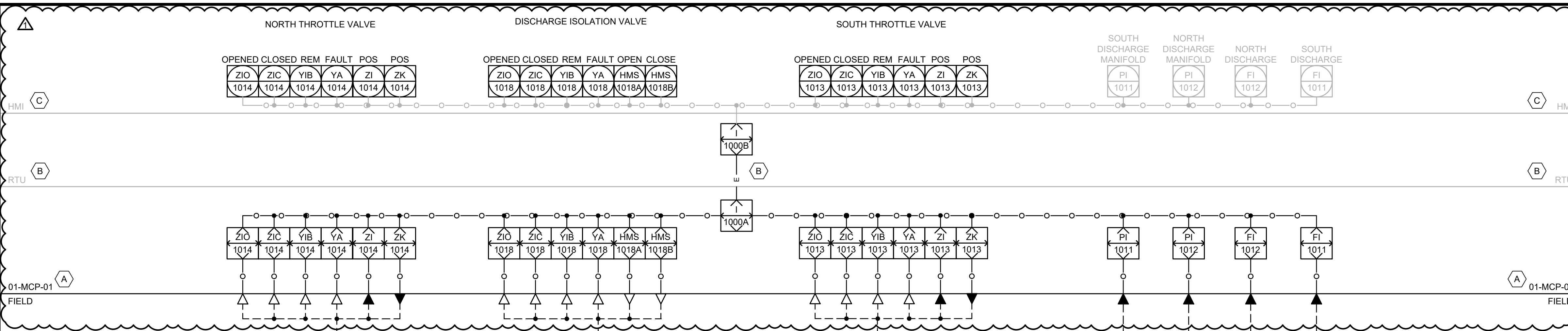
REVISIONS		
NO	DATE	BY

CITY OF CLEVELAND
CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
OVERALL PUMP STATION P&ID

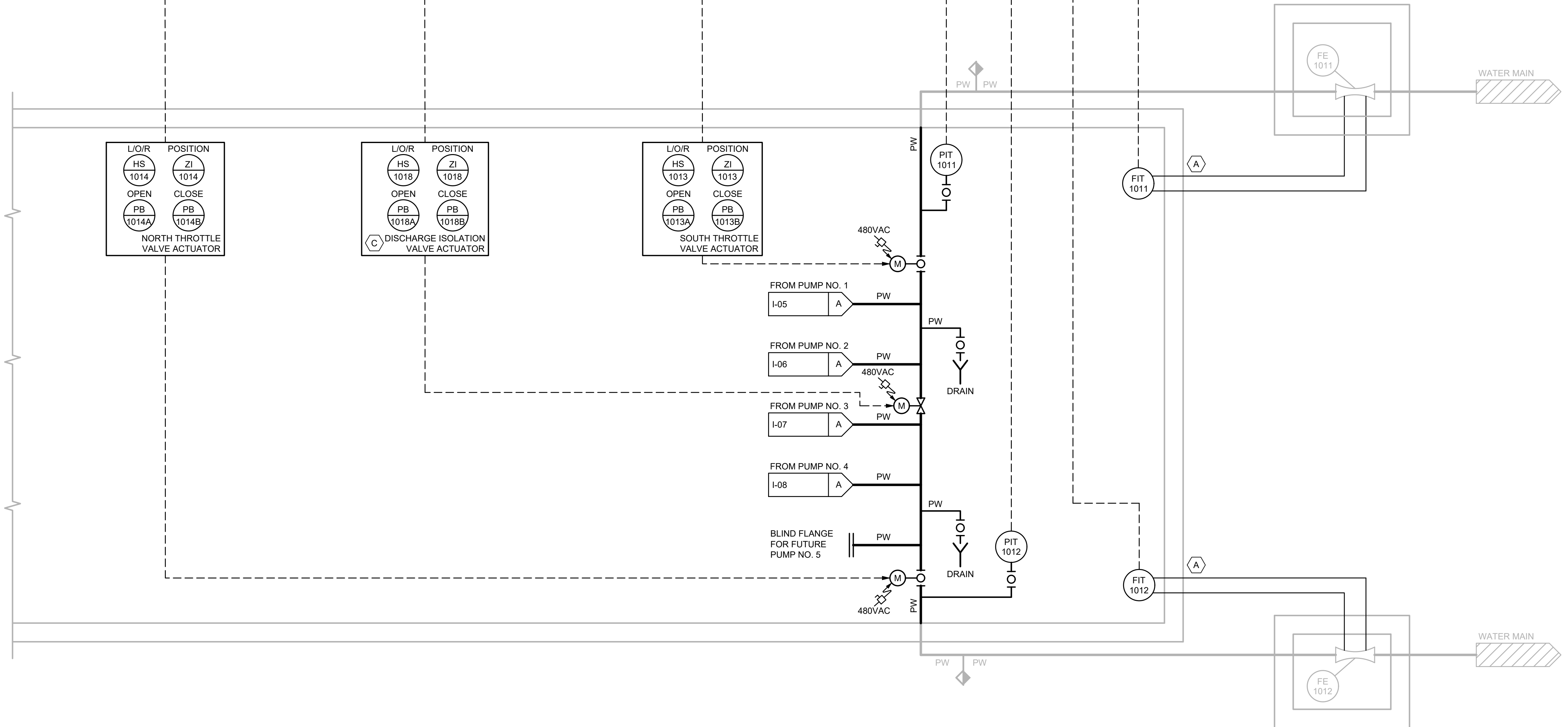
DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: SJT	DATE: 12/2021		I-04
CHECKED BY: VM			

ISSUED FOR BID



- CODED NOTES**
- A. INSTALL NEW SENSING LINES FOR THE NORTH AND SOUTH DISCHARGE FLOW METERS. INSTALL NEW NORTH AND SOUTH FLOW TRANSMITTERS ON THE FIRST FLOOR OF THE PUMP STATION.
 - B. EXISTING RTU PANEL TO BE RELOCATED. ALL I/O TO BE HARDWIRED TO THE NEW MAIN CONTROL PANEL AND PUMP LOCAL CONTROL PANELS AS SHOWN ON THE DRAWINGS. THE RELOCATED RTU WILL COMMUNICATE WITH THE MAIN CONTROL PANEL VIA AN ETHERNET CONNECTION.
 - C. UPDATE EXISTING HMI AT THE PARMA CONTROL CENTER TO INCLUDE THE NEW I/O AND CONTROL SHOWN ON THE DESIGN DRAWINGS.
 - D. INTERLOCK REPRESENTS A SINGLE ETHERNET CONNECTION BETWEEN THE MCP AND THE RTU. SHOWN ON MULTIPLE DRAWINGS FOR CLARITY.
- GENERAL SHEET NOTES**
- 1. PIPING, EQUIPMENT, INSTRUMENTS AND I/O SHOWN SCREENED BACK ARE EXISTING AND WILL REMAIN IN PLACE.
 - 2. SEE DRAWING I-05 FOR PUMP STATION SUMP PUMP SYSTEM.

ISSUED FOR BID



CONTINUED ON SHEET I-04

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ADDENDUM NO. 3 - FILE NO. 55-24

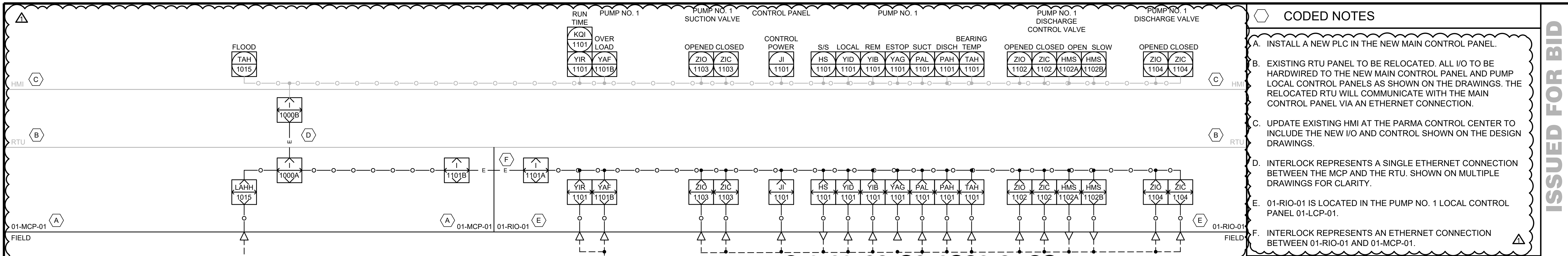
REVISIONS		
NO	DATE	BY

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 DEPARTMENT OF PUBLIC UTILITIES
 CLEVELAND, OHIO

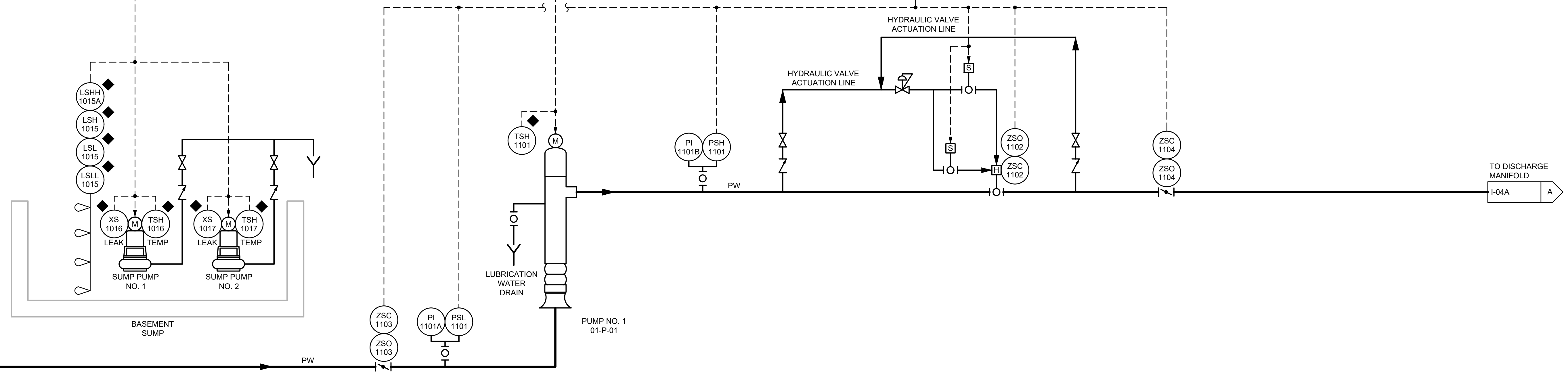
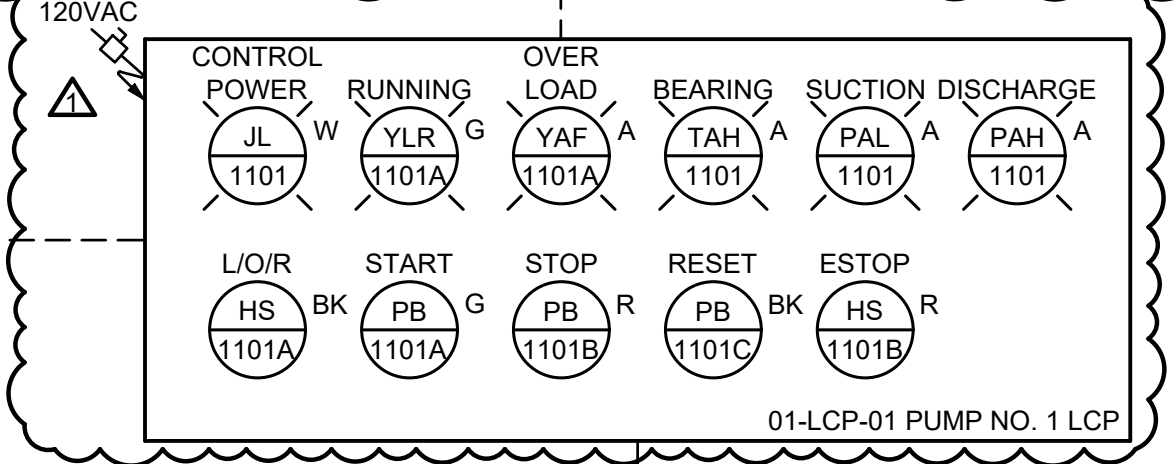
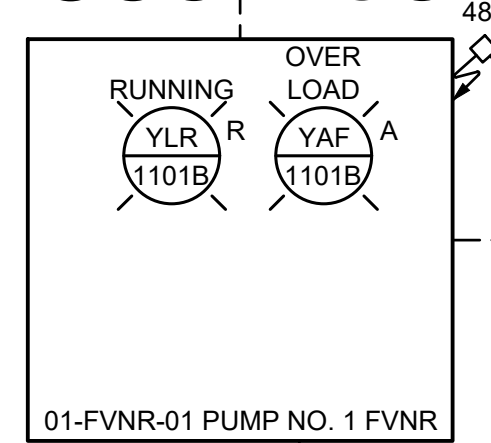
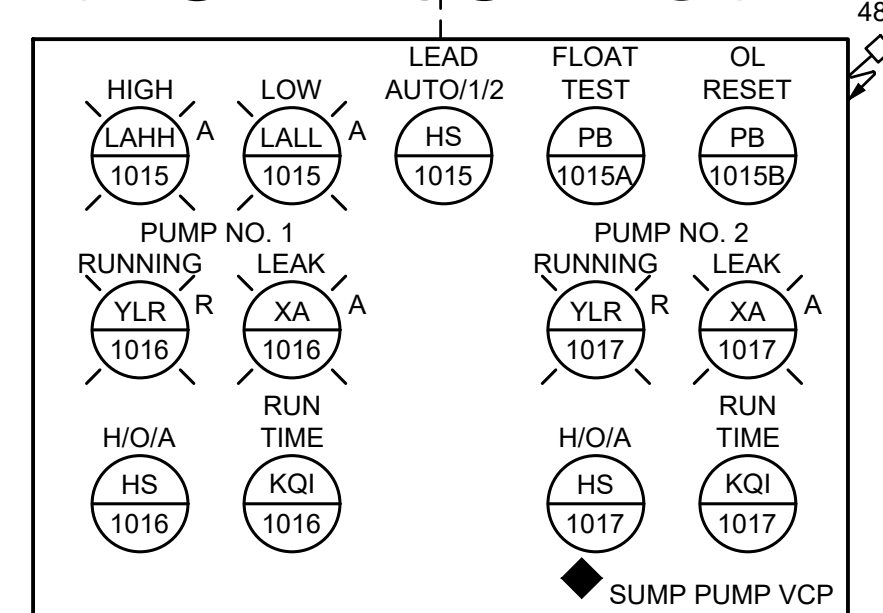
SUBJECT CYCLE H - GREEN PUMP STATION
 OVERALL PUMP STATION P&ID

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: SJT	DATE: 12/2021		I-04A
CHECKED BY: VM			



- CODED NOTES**
- A. INSTALL A NEW PLC IN THE NEW MAIN CONTROL PANEL.
 - B. EXISTING RTU PANEL TO BE RELOCATED. ALL I/O TO BE HARDWIRED TO THE NEW MAIN CONTROL PANEL AND PUMP LOCAL CONTROL PANELS AS SHOWN ON THE DRAWINGS. THE RELOCATED RTU WILL COMMUNICATE WITH THE MAIN CONTROL PANEL VIA AN ETHERNET CONNECTION.
 - C. UPDATE EXISTING HMI AT THE PARMA CONTROL CENTER TO INCLUDE THE NEW I/O AND CONTROL SHOWN ON THE DESIGN DRAWINGS.
 - D. INTERLOCK REPRESENTS A SINGLE ETHERNET CONNECTION BETWEEN THE MCP AND THE RTU. SHOWN ON MULTIPLE DRAWINGS FOR CLARITY.
 - E. 01-RIO-01 IS LOCATED IN THE PUMP NO. 1 LOCAL CONTROL PANEL 01-LCP-01.
 - F. INTERLOCK REPRESENTS AN ETHERNET CONNECTION BETWEEN 01-RIO-01 AND 01-MCP-01.

ISSUED FOR BID



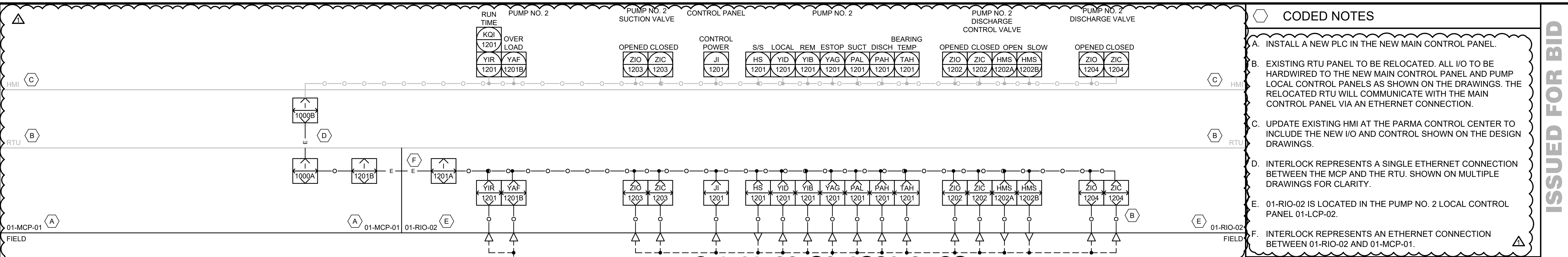
REVISIONS			CITY OF CLEVELAND	
NO	DATE	BY	CLEVELAND DIVISION OF WATER DEPARTMENT OF PUBLIC UTILITIES CLEVELAND, OHIO	
			SUBJECT CYCLE H - GREEN PUMP STATION PUMP NO. 1 P&ID	
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DESIGNED BY: SJT	DATE: 12/2021			
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UNEMPLOYED PROTECTIVE SERVICE (OGPUPS)

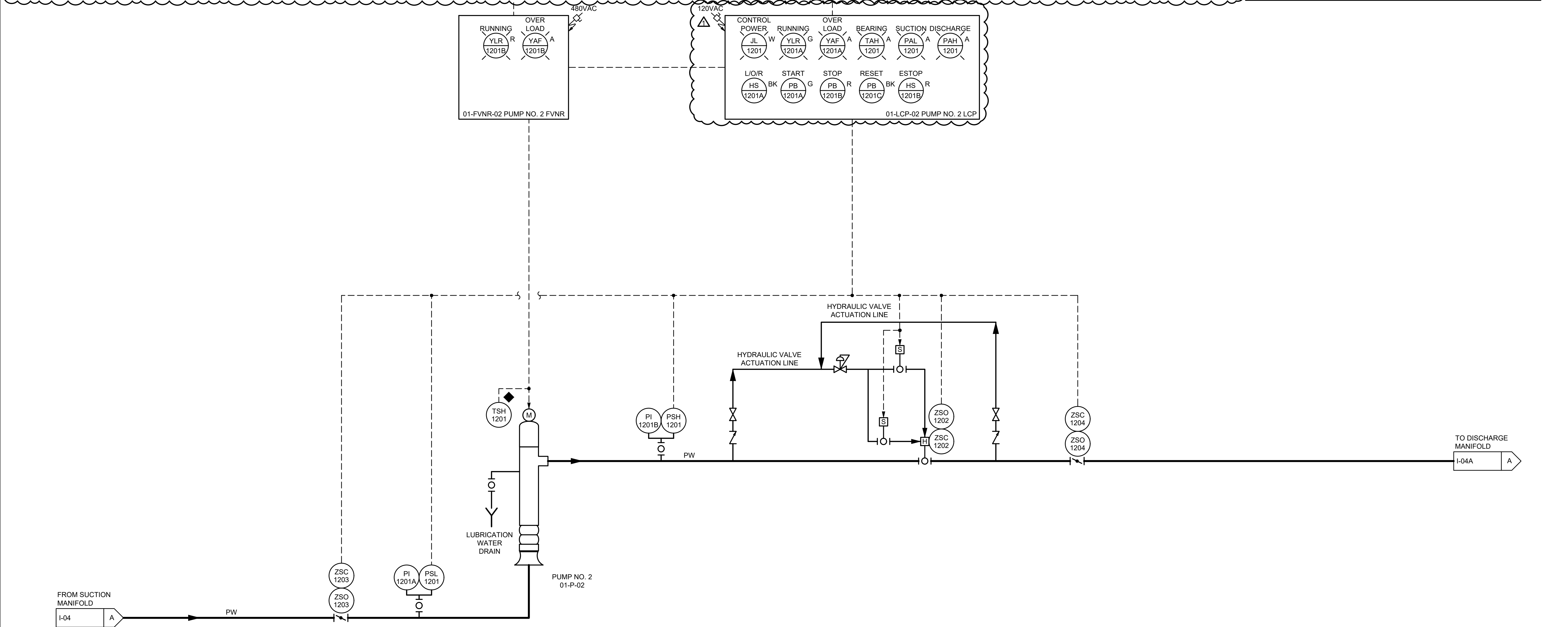


ADDENDUM NO. 3 - FILE NO. 55-24



- CODING NOTES**
- A. INSTALL A NEW PLC IN THE NEW MAIN CONTROL PANEL.
 - B. EXISTING RTU PANEL TO BE RELOCATED. ALL I/O TO BE HARDWIRED TO THE NEW MAIN CONTROL PANEL AND PUMP LOCAL CONTROL PANELS AS SHOWN ON THE DRAWINGS. THE RELOCATED RTU WILL COMMUNICATE WITH THE MAIN CONTROL PANEL VIA AN ETHERNET CONNECTION.
 - C. UPDATE EXISTING HMI AT THE PARMA CONTROL CENTER TO INCLUDE THE NEW I/O AND CONTROL SHOWN ON THE DESIGN DRAWINGS.
 - D. INTERLOCK REPRESENTS A SINGLE ETHERNET CONNECTION BETWEEN THE MCP AND THE RTU. SHOWN ON MULTIPLE DRAWINGS FOR CLARITY.
 - E. 01-RIO-02 IS LOCATED IN THE PUMP NO. 2 LOCAL CONTROL PANEL 01-LCP-02.
 - F. INTERLOCK REPRESENTS AN ETHERNET CONNECTION BETWEEN 01-RIO-02 AND 01-MCP-01.

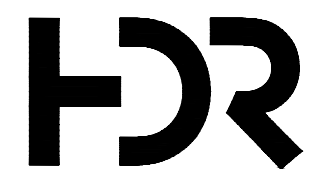
ISSUED FOR BID



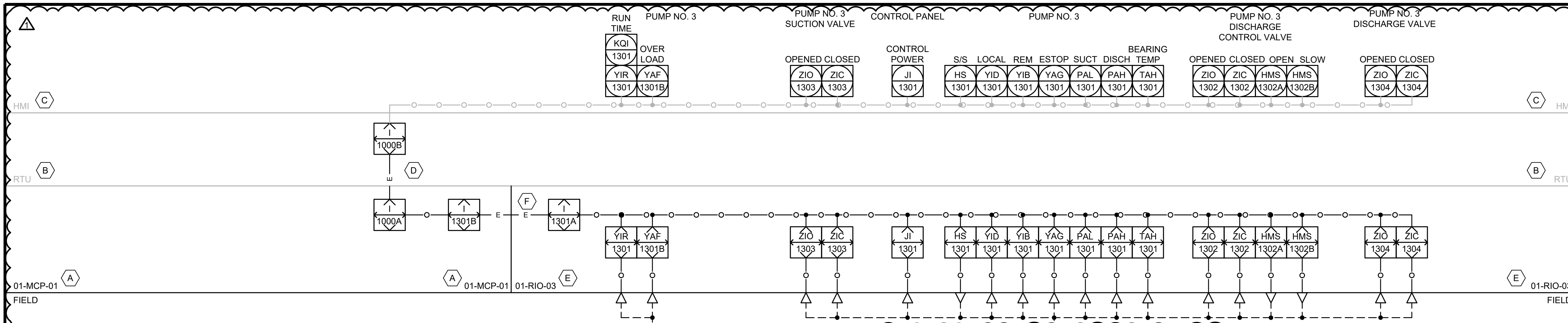
REVISIONS			CITY OF CLEVELAND	
NO	DATE	BY	CLEVELAND DIVISION OF WATER DEPARTMENT OF PUBLIC UTILITIES CLEVELAND, OHIO	
			SUBJECT: CYCLE H - GREEN PUMP STATION	
			PUMP NO. 2 P&ID	
			SCALE: NTS	CWD NO:
			DATE: 12/2021	SHEET NO: I-06

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(OGPUPS)

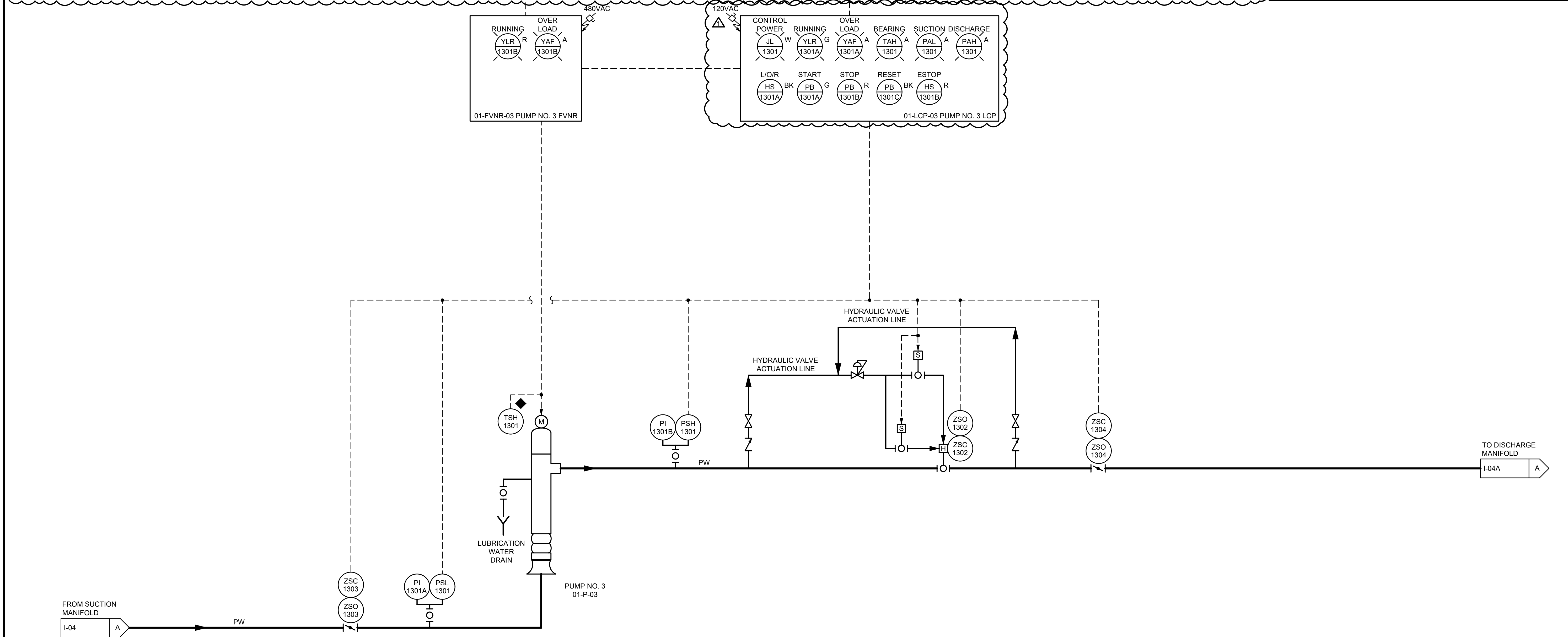


ADDENDUM NO. 3 - FILE NO. 55-24



- ### CODED NOTES
- A. INSTALL A NEW PLC IN THE NEW MAIN CONTROL PANEL.
 - B. EXISTING RTU PANEL TO BE RELOCATED. ALL I/O TO BE HARDWIRED TO THE NEW MAIN CONTROL PANEL AND PUMP LOCAL CONTROL PANELS AS SHOWN ON THE DRAWINGS. THE RELOCATED RTU WILL COMMUNICATE WITH THE MAIN CONTROL PANEL VIA AN ETHERNET CONNECTION.
 - C. UPDATE EXISTING HMI AT THE PARMA CONTROL CENTER TO INCLUDE THE NEW I/O AND CONTROL SHOWN ON THE DESIGN DRAWINGS.
 - D. INTERLOCK REPRESENTS A SINGLE ETHERNET CONNECTION BETWEEN THE MCP AND THE RTU. SHOWN ON MULTIPLE DRAWINGS FOR CLARITY.
 - E. 01-RIO-03 IS LOCATED IN THE PUMP NO. 3 LOCAL CONTROL PANEL 01-LCP-03.
 - F. INTERLOCK REPRESENTS AN ETHERNET CONNECTION BETWEEN 01-RIO-03 AND 01-MCP-01.

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NO	DATE	BY

CITY OF CLEVELAND

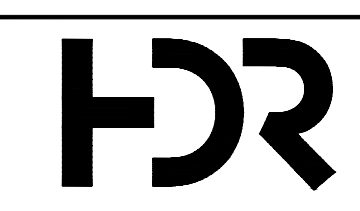
CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
 PUMP NO. 3 P&ID

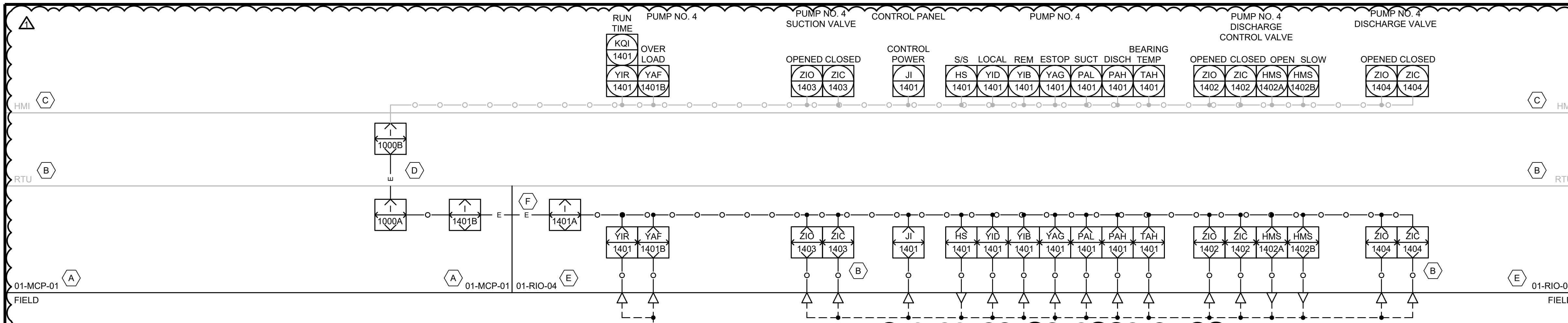
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DESIGNED BY: SJT	DATE: 12/2021		I-07
CHECKED BY: VM			

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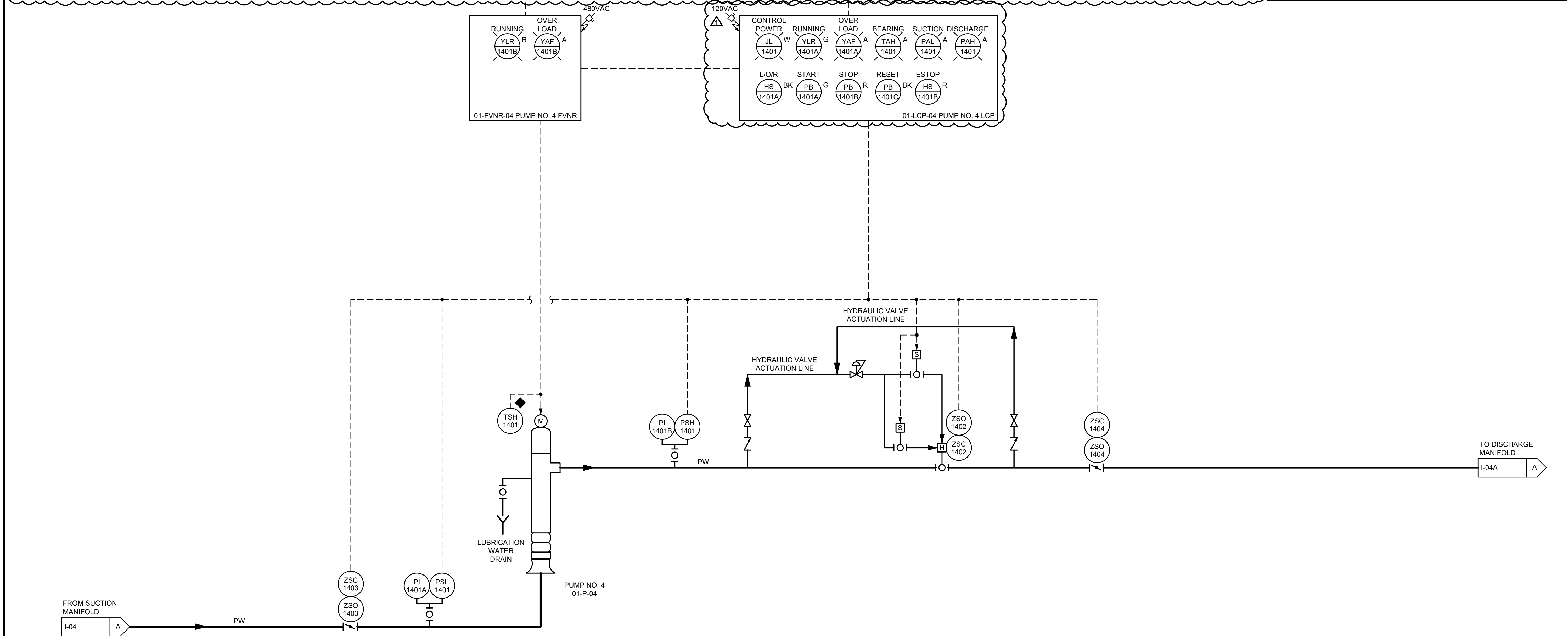


ADDENDUM NO. 3 - FILE NO. 55-24



- ### CODED NOTES
- A. INSTALL A NEW PLC IN THE NEW MAIN CONTROL PANEL.
 - B. EXISTING RTU PANEL TO BE RELOCATED. ALL I/O TO BE HARDWIRED TO THE NEW MAIN CONTROL PANEL AND PUMP LOCAL CONTROL PANELS AS SHOWN ON THE DRAWINGS. THE RELOCATED RTU WILL COMMUNICATE WITH THE MAIN CONTROL PANEL VIA AN ETHERNET CONNECTION.
 - C. UPDATE EXISTING HMI AT THE PARMA CONTROL CENTER TO INCLUDE THE NEW I/O AND CONTROL SHOWN ON THE DESIGN DRAWINGS.
 - D. INTERLOCK REPRESENTS A SINGLE ETHERNET CONNECTION BETWEEN THE MCP AND THE RTU. SHOWN ON MULTIPLE DRAWINGS FOR CLARITY.
 - E. 01-RIO-04 IS LOCATED IN THE PUMP NO. 4 LOCAL CONTROL PANEL 01-LCP-04.
 - F. INTERLOCK REPRESENTS AN ETHERNET CONNECTION BETWEEN 01-RIO-04 AND 01-MCP-01.

ISSUED FOR BID



REVISIONS		
NO	DATE	BY

CITY OF CLEVELAND

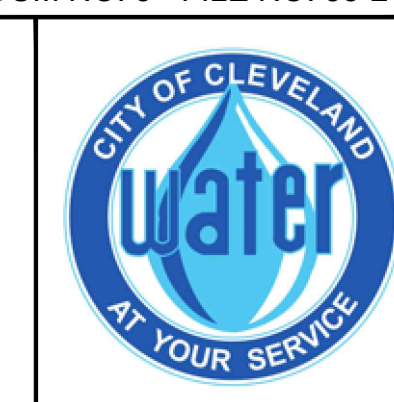
CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
PUMP NO. 4 P&ID

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DESIGNED BY: SJT	DATE: 12/2021		I-08
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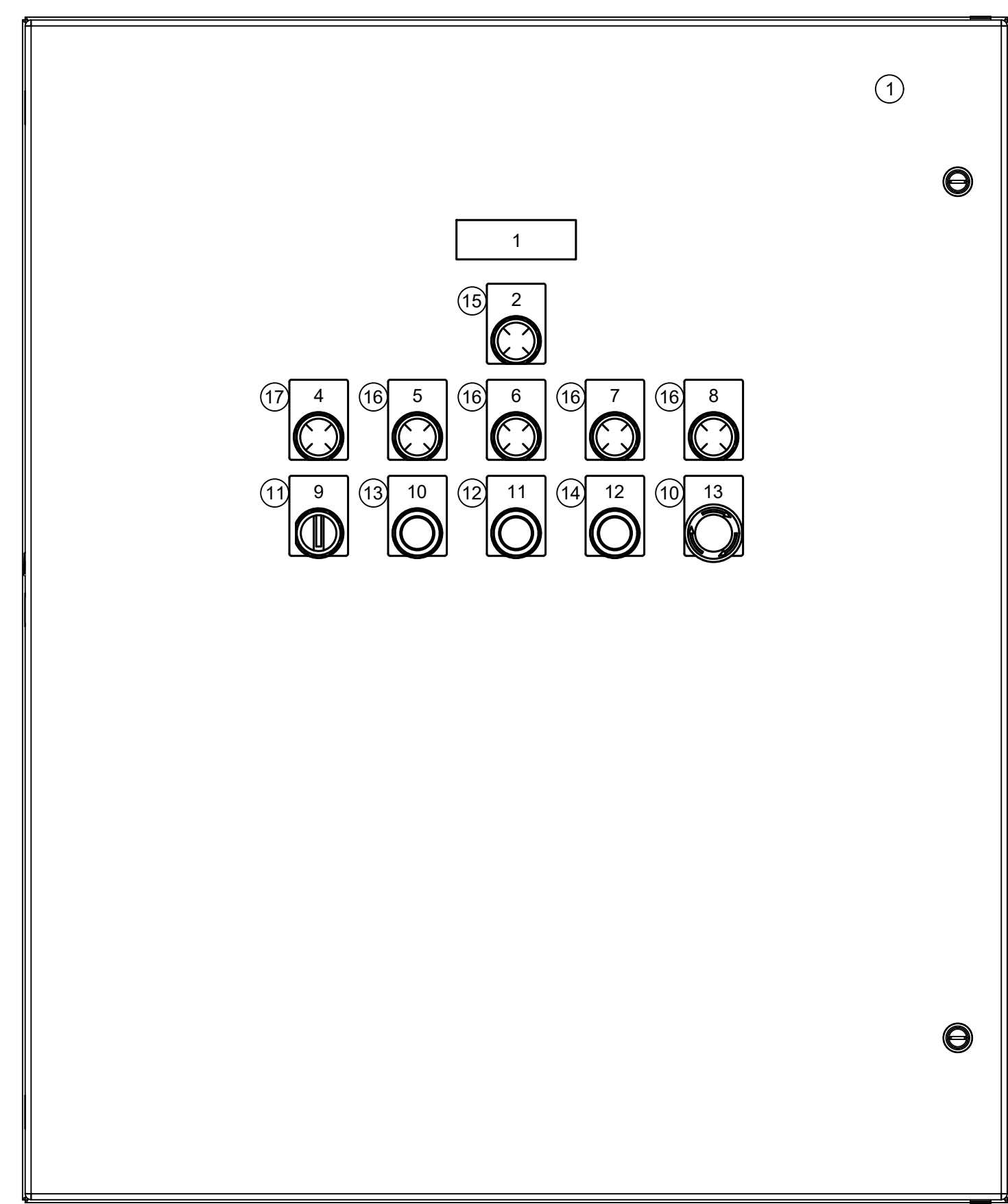


ADDENDUM NO. 3 - FILE NO. 55-24

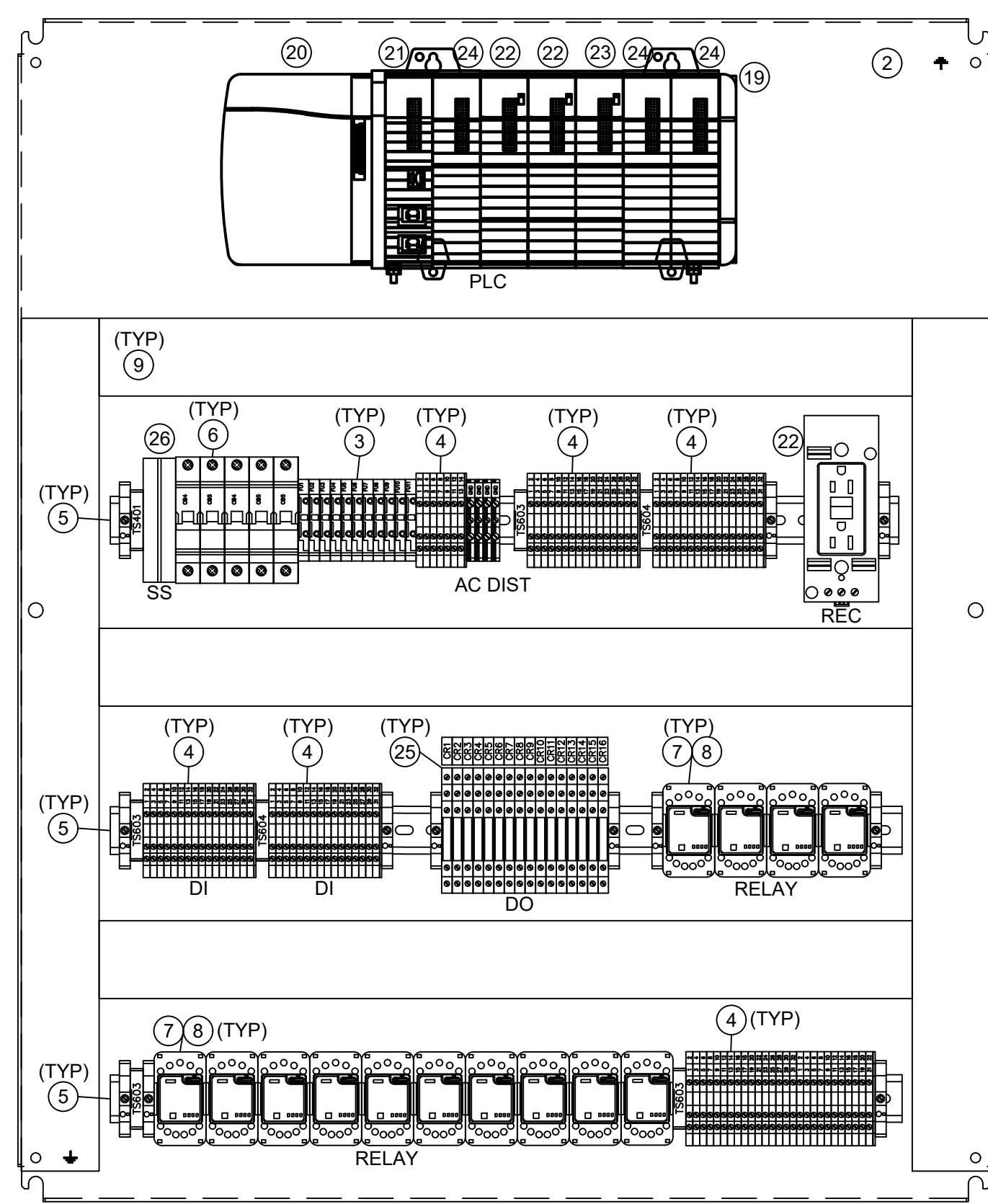
ISSUED FOR BID

GENERAL SHEET NOTES

- PUMP LOCAL CONTROL PANEL LAYOUT IS TYPICAL FOR FOUR PUMP LOCAL CONTROL PANELS 01-LCP-01, 01-LCP-02, 01-LCP-03, AND 01-LCP-04.
- PROVIDE PANEL OF SUFFICIENT SIZE TO ACCOMMODATE ALL REQUIRED TERMINAL BLOCKS, CONTROL RELAYS, AND CONTROL WIRING CONDUIT ENTRIES. REFERENCE THE P&IDS FOR FIELD CONNECTIONS TO THE PUMP LOCAL CONTROL PANELS.
- CONTRACTOR SHALL SUPPLY THE TYPE AND QUANTITY OF PLC CHASSIS, PLC MODULES, AND ANCILLARY HARDWARE AS REQUIRED TO ACCOMMODATE ALL I/O, INCLUDING 20% FUTURE CONTROL SYSTEM GROWTH PROVISIONS.
- PANEL SHALL BE IN ACCORDANCE WITH NEC ARTICLE 409/UL508A.
- THE PLC PANEL LAYOUT DRAWING SHOWS THE GENERAL ARRANGEMENT OF THE HARDWARE. THE CONTRACTOR IS RESPONSIBLE FOR THE DETAILED PANEL DESIGN, INCLUDING PANEL SIZING AND AND THE QUANTITY AND TYPE OF HARDWARE SHOWN IN THE LIST OF PANEL EQUIPMENT.
- FOR ALL PANELS CONTAINING WIRING NOT DE-ENERGIZED BY THE PANEL MAIN DISCONNECTING MEANS OR CIRCUIT BREAKER, PROVIDE A WARNING NAMEPLATE ON THE FRONT OF THE PANEL STATING "WARNING: YELLOW WIRING NOT DE-ENERGIZED BY PANEL DISCONNECTING MEANS". THE NAMEPLATE SHALL BE YELLOW WITH BLACK 1/4" HIGH LETTER ENGRAVINGS AND SHALL BE ATTACHED TO THE PANEL FACE WITH STAINLESS STEEL SCREWS.
- REFERENCE DIVISION 26 AND DIVISION 40 SPECIFICATIONS FOR ADDITIONAL DETAILS AND REQUIREMENTS ON ALL PANEL DEVICES AND HARDWARE.



PUMP LOCAL CONTROL PANEL FRONT DOOR LAYOUT



PUMP LOCAL CONTROL PANEL BACK PANEL LAYOUT

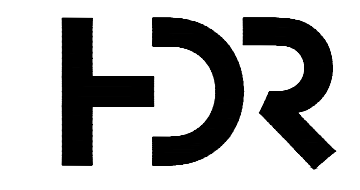
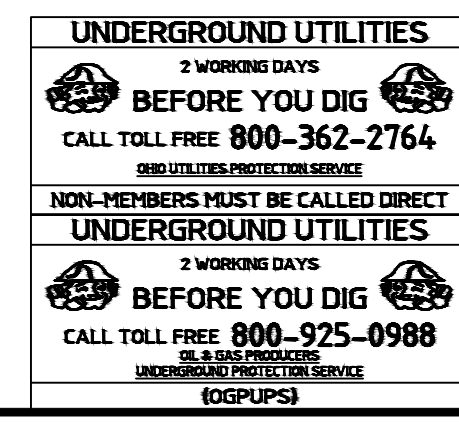
LOCAL CONTROL PANEL BILL OF MATERIALS

ITEM NO	QTY	MFR	MODEL	DESCRIPTION
1	1	HOFFMAN	CSD363016SS (A)	36"x30"x16" NEMA 4X 316L SS PANEL (A)
2	1	HOFFMAN	CP3630	FULL BACK PANEL FOR ITEM 1
3	AR	ALLEN-BRADLEY	1492-H SERIES	FUSED TERMINAL BLOCKS, END ANCHORS, END BARRIER, AND MARKER CARDS
4	AR	ALLEN-BRADLEY	1492-J SERIES	TERMINAL BLOCKS, END ANCHORS, END BARRIER, AND MARKER CARDS
5	AR	ALLEN-BRADLEY	1492-DR4	DIN RAIL MOUNTING CHANNEL
6	AR	ALLEN-BRADLEY	1492-SPM	MINIATURE CIRCUIT BREAKER - 1-POLE
7	AR	ALLEN-BRADLEY	700-HA SERIES	3-POLE, 120VAC RELAY WITH SOCKET
8	AR	ALLEN-BRADLEY	700-FE SERIES	120VAC GENERAL PURPOSE TIMING RELAY
9	AR	PANDUIT	PANELMAX DRD SERIES	WIREWAY AND COVER, SIZE TO ACCOMMODATE GROWTH PROVISIONS
10	1	ALLEN-BRADLEY	800T SERIES	45mm EMERGENCY STOP PUSHBUTTON, 1 NO, 1 NC CONTACTS
11	1	ALLEN-BRADLEY	800T SERIES	30.5mm 3-POSITION SELECTOR SWITCH
12	1	ALLEN-BRADLEY	800T SERIES	30.5mm MOMENTARY CONTACT PUSHBUTTON, RED
13	1	ALLEN-BRADLEY	800T SERIES	30.5mm MOMENTARY CONTACT PUSHBUTTON, GREEN
14	1	ALLEN-BRADLEY	800T SERIES	30.5mm MOMENTARY CONTACT PUSHBUTTON, BLACK
15	1	ALLEN-BRADLEY	800T SERIES	30.5mm PUSH-TO-TEST, FULL VOLTAGE LED PILOT LIGHT, WHITE
16	4	ALLEN-BRADLEY	800T SERIES	30.5mm PUSH-TO-TEST, FULL VOLTAGE LED PILOT LIGHT, AMBER
17	1	ALLEN-BRADLEY	800T SERIES	30.5mm PUSH-TO-TEST, FULL VOLTAGE LED PILOT LIGHT, GREEN
18	1	PHOENIX CONTACT	EO-AB SERIES	DIN RAIL-MOUNTED DUPLEX RECEPTACLE
19	1	ALLEN-BRADLEY	1756-A7	7-SLOT PLC CHASSIS
20	1	ALLEN-BRADLEY	1756-PA72	PLC POWER SUPPLY
21	1	ALLEN-BRADLEY	1756-EN2TR	ETHERNET COMMUNICATIONS MODULE
22	2	ALLEN-BRADLEY	1756-IA16I	16-POINT DIGITAL INPUT MODULE
23	1	ALLEN-BRADLEY	1756-OA16I	16-POINT DIGITAL OUTPUT MODULE
24	3	ALLEN-BRADLEY	1756-N2	SLOT FILLER
25	AR	ALLEN-BRADLEY	700-HL	INTERPOSING RELAY
26	1	EDCO	SLAC-12036	120VAC SURGE SUPPRESSOR

LCP NAMEPLATE LEGEND

NAMEPLATE	NAMEPLATE TEXT
1	PUMP NO. 1 LOCAL CONTROL PANEL (SEE NOTE 1)
2	CONTROL POWER
3	RUN TIME
4	RUNNING
5	LOW SUCTION PRESSURE
6	MOTOR OVERLOAD
7	BEARING OVER TEMP
8	HIGH DISCHARGE PRESSURE
9	LOCAL/OFF/REMOTE
10	START
11	STOP
12	RESET
13	E-STOP

ADDENDUM NO. 3 - FILE NO. 55-24



REVISIONS		
NO	DATE	BY

CITY OF CLEVELAND

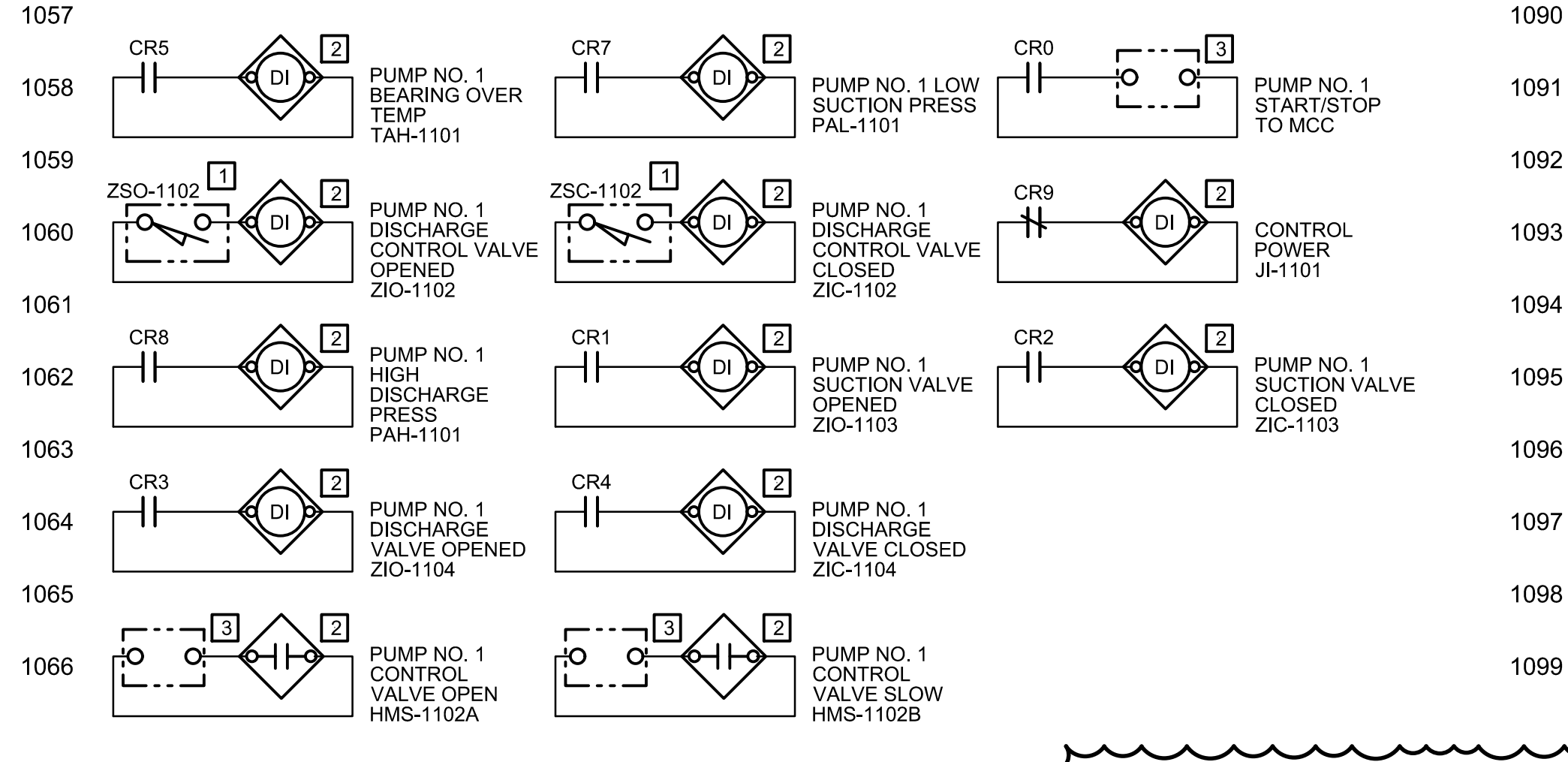
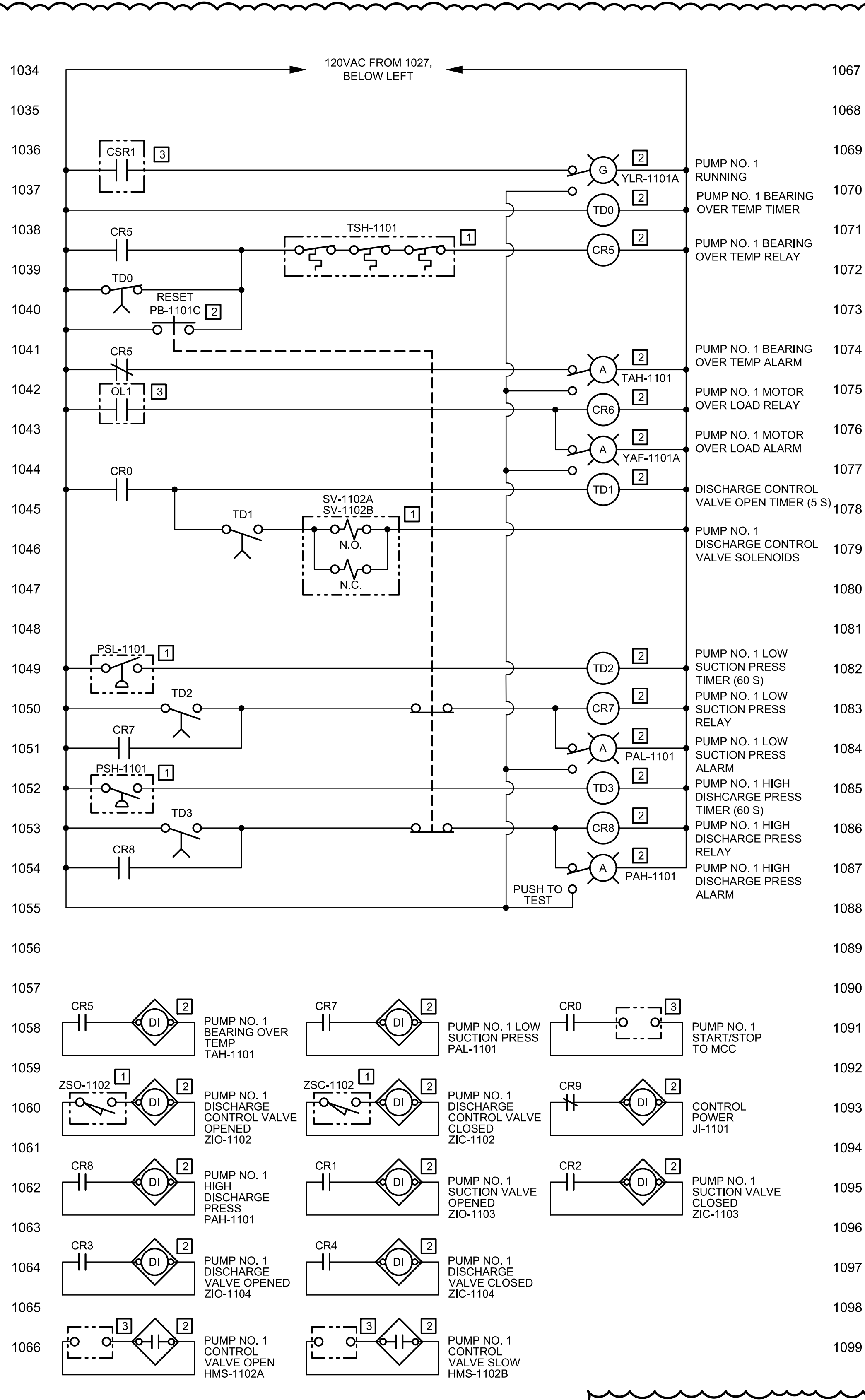
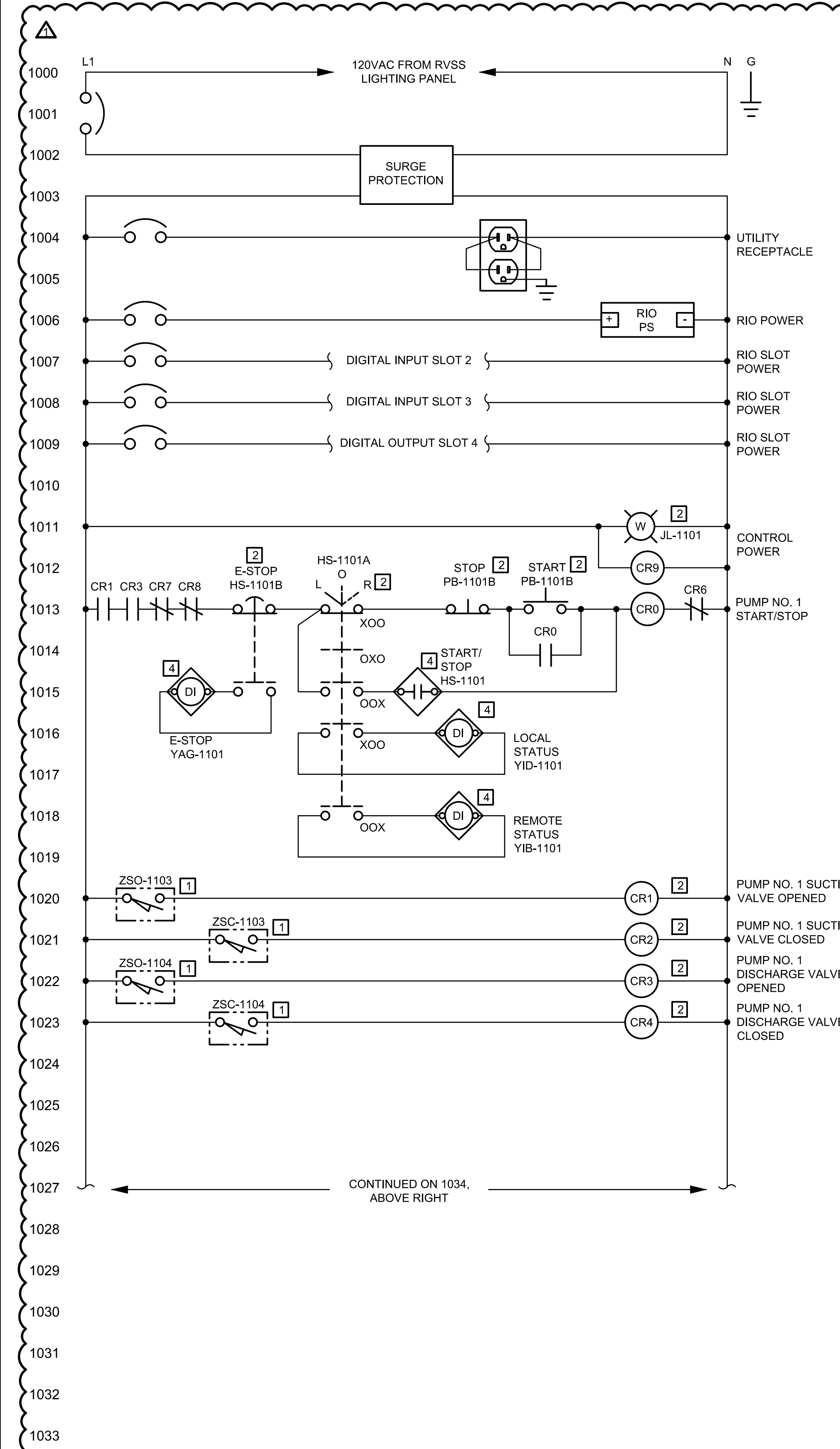
CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
PUMP LOCAL CONTROL PANEL DETAILS 1 OF 2

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: SJT	DATE: 12/2021		1-09
CHECKED BY: VM			

ISSUED FOR BID

- GENERAL SHEET NOTES**
- PUMP LOCAL CONTROL PANEL WIRING DIAGRAM IS TYPICAL FOR FOUR PUMP LOCAL CONTROL PANELS 01-LCP-01, 01-LCP-02, 01-LCP-03, AND 01-LCP-04.
 - PANEL SHALL BE IN ACCORDANCE WITH NEC ARTICLE 409/UL508A.
 - REFERENCE DIVISION 26 AND DIVISION 40 SPECIFICATIONS FOR ADDITIONAL DETAILS AND REQUIREMENTS ON ALL PANEL DEVICES AND HARDWARE.



PUMP NO. 1 CONTROL SCHEMATIC

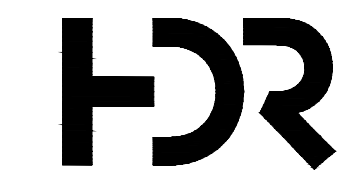
LOCATION LEGEND

1	FIELD
2	LOCAL CONTROL PANEL
3	MCC
4	RTU PANEL

REVISIONS			CITY OF CLEVELAND	
NO	DATE	BY	CLEVELAND DIVISION OF WATER DEPARTMENT OF PUBLIC UTILITIES CLEVELAND, OHIO	
			SUBJECT CYCLE H - GREEN PUMP STATION	
			PUMP LOCAL CONTROL PANEL DETAILS 2 OF 2	
			DRAWN BY: SJT	SCALE: NTS
			DESIGNED BY: SJT	CWD NO:
			CHECKED BY: VM	DATE: 12/2021
				SHEET NO: I-10

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
#9 UNDERGROUND UTILITIES PROTECTION SERVICE

NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-925-0988
#9 UNDERGROUND UTILITIES PROTECTION SERVICE
(GUPPS)



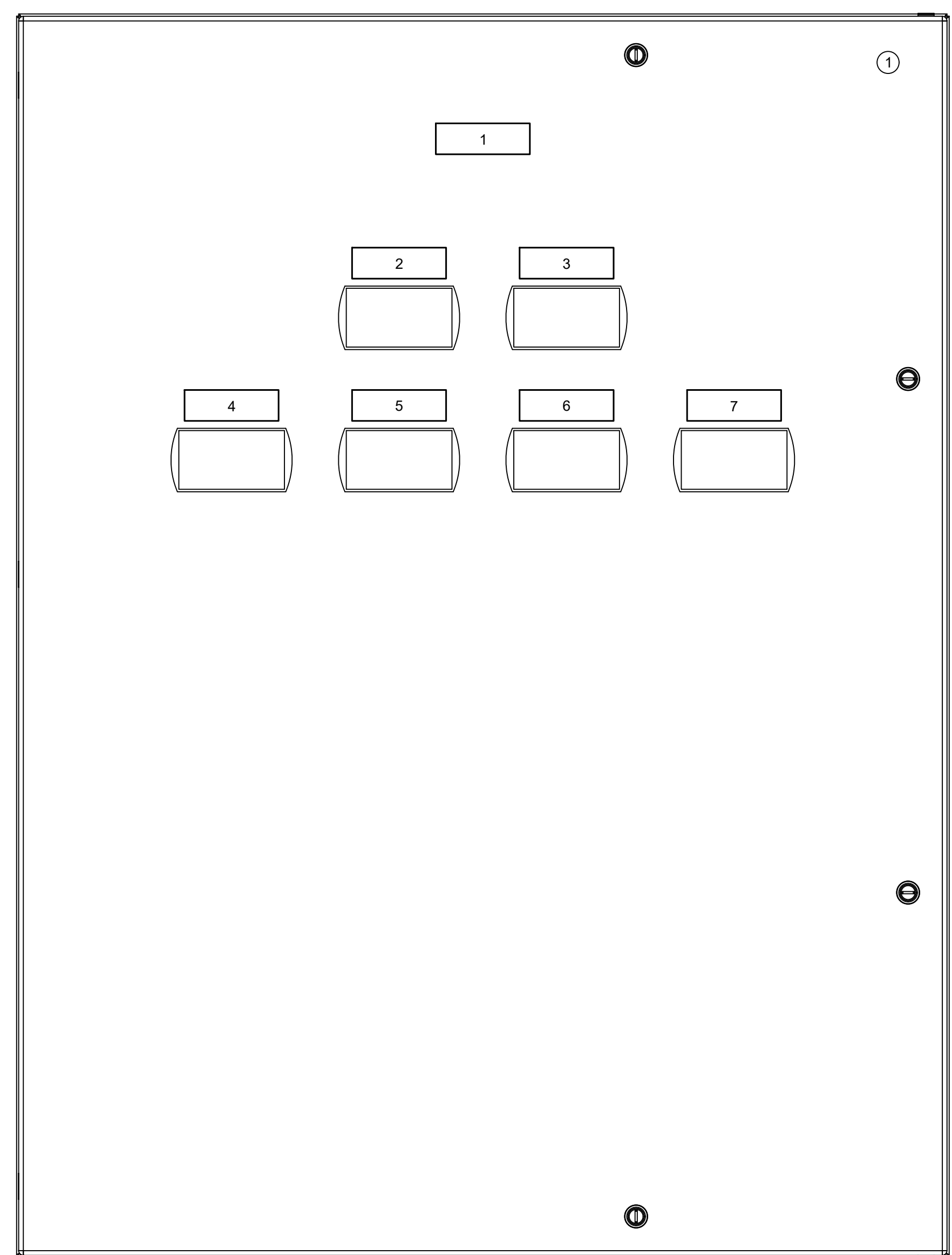
ADDENDUM NO. 3 - FILE NO. 55-24

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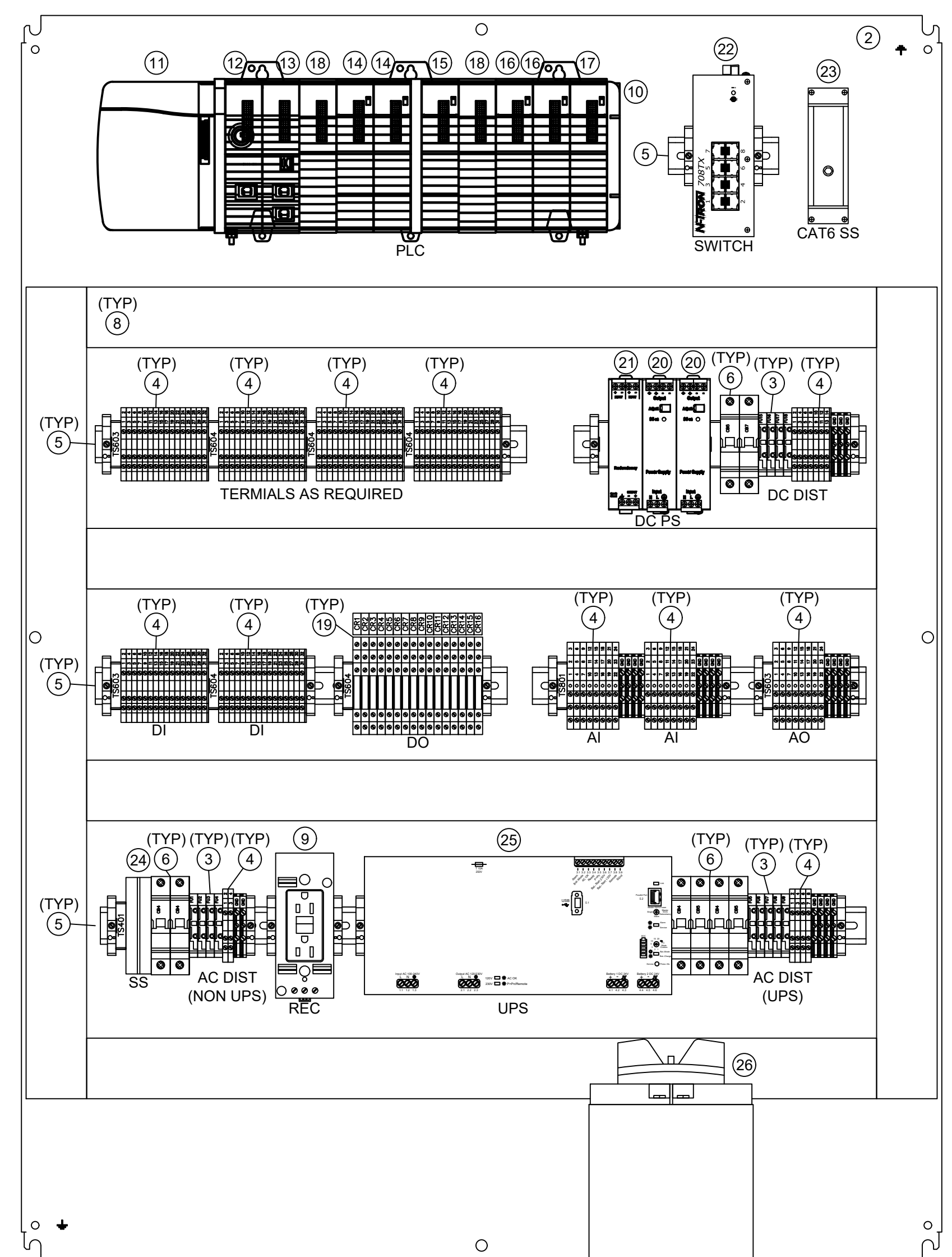
ISSUED FOR BID

GENERAL SHEET NOTES

1. PROVIDE PANEL OF SUFFICIENT SIZE TO ACCOMMODATE ALL REQUIRED TERMINAL BLOCKS, CONTROL RELAYS, AND CONTROL WIRING CONDUIT ENTRIES. REFERENCE THE P&IDS FOR FIELD CONNECTIONS TO THE PUMP LOCAL CONTROL PANELS.
2. CONTRACTOR SHALL SUPPLY THE TYPE AND QUANTITY OF PLC CHASSIS, PLC MODULES, AND ANCILLARY HARDWARE AS REQUIRED TO ACCOMMODATE ALL I/O, INCLUDING 20% FUTURE CONTROL SYSTEM GROWTH PROVISIONS.
3. PANEL SHALL BE IN ACCORDANCE WITH NEC ARTICLE 409/UL508A.
4. THE PLC PANEL LAYOUT DRAWING SHOWS THE GENERAL ARRANGEMENT OF THE HARDWARE. THE CONTRACTOR IS RESPONSIBLE FOR THE DETAILED PANEL DESIGN, INCLUDING PANEL SIZING AND AND THE QUANTITY AND TYPE OF HARDWARE SHOWN IN THE LIST OF PANEL EQUIPMENT.
5. FOR ALL PANELS CONTAINING WIRING NOT DE-ENERGIZED BY THE PANEL MAIN DISCONNECTING MEANS OR CIRCUIT BREAKER, PROVIDE A WARNING NAMEPLATE ON THE FRONT OF THE PANEL STATING "WARNING: YELLOW WIRING NOT DE-ENERGIZED BY PANEL DISCONNECTING MEANS". THE NAMEPLATE SHALL BE YELLOW WITH BLACK 1/4" HIGH LETTER ENGRAVINGS AND SHALL BE ATTACHED TO THE PANEL FACE WITH STAINLESS STEEL SCREWS.
6. SIZE UPS FOR A MINIMUM OF 15 MINUTES UP TIME.
7. REFERENCE DIVISION 26 AND DIVISION 40 SPECIFICATIONS FOR ADDITIONAL DETAILS AND REQUIREMENTS ON ALL PANEL DEVICES AND HARDWARE.



MAIN CONTROL PANEL FRONT DOOR LAYOUT



MAIN CONTROL PANEL BACK PANEL LAYOUT

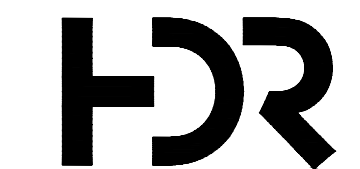
MAIN CONTROL PANEL BILL OF MATERIALS				
ITEM NO	QTY	MFR	MODEL	DESCRIPTION
1	1	HOFFMAN	CSD483616SS (A)	48"x36"x16" NEMA 4X 316L SS PANEL (A)
2	1	HOFFMAN	CP4836	FULL BACK PANEL FOR ITEM 1
3	AR	ALLEN-BRADLEY	1492-H SERIES	FUSED TERMINAL BLOCKS, END ANCHORS, END BARRIER, AND MARKER CARDS
4	AR	ALLEN-BRADLEY	1492-J SERIES	TERMINAL BLOCKS, END ANCHORS, END BARRIER, AND MARKER CARDS
5	AR	ALLEN-BRADLEY	1492-DR6	HIGH-RISE DIN RAIL MOUNTING CHANNEL
6	AR	ALLEN-BRADLEY	1492-SPM	MINIATURE CIRCUIT BREAKER - 1-POLE
7	6	PRECISION DIGIAL	PD6000	DIGITAL PANEL DISPLAY
8	AR	PANDUIT	PANELMAX DRD SERIES	WIREFWAY AND COVER, SIZE TO ACCOMMODATE GROWTH PROVISIONS
9	1	PHOENIX CONTACT	EO-AB SERIES	DIN RAIL-MOUNTED DUPLEX RECEPTACLE
10	1	ALLEN-BRADLEY	1756-A7	7-SLOT PLC CHASSIS
11	1	ALLEN-BRADLEY	1756-PA72	PLC POWER SUPPLY
12	1	ALLEN-BRADLEY	1756-L83E	PLC PROCESSOR
13	1	ALLEN-BRADLEY	1756-EN2TR	ETHERNET COMMUNICATIONS MODULE
14	2	ALLEN-BRADLEY	1756-IA16I	16-POINT DIGITAL INPUT MODULE
15	1	ALLEN-BRADLEY	1756-OA16I	16-POINT DIGITAL OUTPUT MODULE
16	2	ALLEN-BRADLEY	1756-IF8H	8-CHANNEL ANALOG INPUT MODULE
17	1	ALLEN-BRADLEY	1756-OF8H	8-CHANNEL ANALOG OUTPUT MODULE
18	3	ALLEN-BRADLEY	1756-N2	SLOT FILLER
19	AR	ALLEN-BRADLEY	700-HL	INTERPOSING RELAY
20	2	ALLEN-BRADLEY	1606-XLE SERIES	24VDC POWER SUPPLY
21	1	ALLEN-BRADLEY	1606-XLE SERIES	24VDC POWER SUPPLY REDUNDANCY MODULE
22	1	RED LION NTRON	708TX	8 PORT MANAGED ETHERNET SWITCH
23	1	EDCO	CAT6-POE	ETHERNET SURGE SUPPRESSOR
24	1	EDCO	SLAC-12036	120VAC SURGE SUPPRESSOR
25	1	PHOENIX CONTACT	QUINT4-UPS SERIES	UNINTERRUPTIBLE POWER SUPPLY
26	1	PHOENIX CONTACT	UPS-BAT SERIES	BATTERY MODULE FOR UNINTERRUPTIBLE POWER SUPPLY

LCP NAMEPLATE LEGEND	
NAMEPLATE	NAMEPLATE TEXT
1	MAIN CONTROL PANEL
2	NORTH SUCTION MANIFOLD PRESSURE
3	SOUTH SUCTION MANIFOLD PRESSURE
4	NORTH DISCHARGE MANIFOLD PRESSURE
5	NORTH DISCHARGE MANIFOLD FLOW
6	SOUTH DISCHARGE MANIFOLD PRESSURE
7	SOUTH DISCHARGE MANIFOLD FLOW

ADDENDUM NO. 3 - FILE NO. 55-24

UNDERGROUND UTILITIES
 2 WORKING DAYS
BEFORE YOU DIG
 CALL TOLL FREE 800-362-2764
800 UTILITIES PROTECTION SERVICE

NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
 2 WORKING DAYS
BEFORE YOU DIG
 CALL TOLL FREE 800-925-0988
800 UTILITIES PROTECTION SERVICE



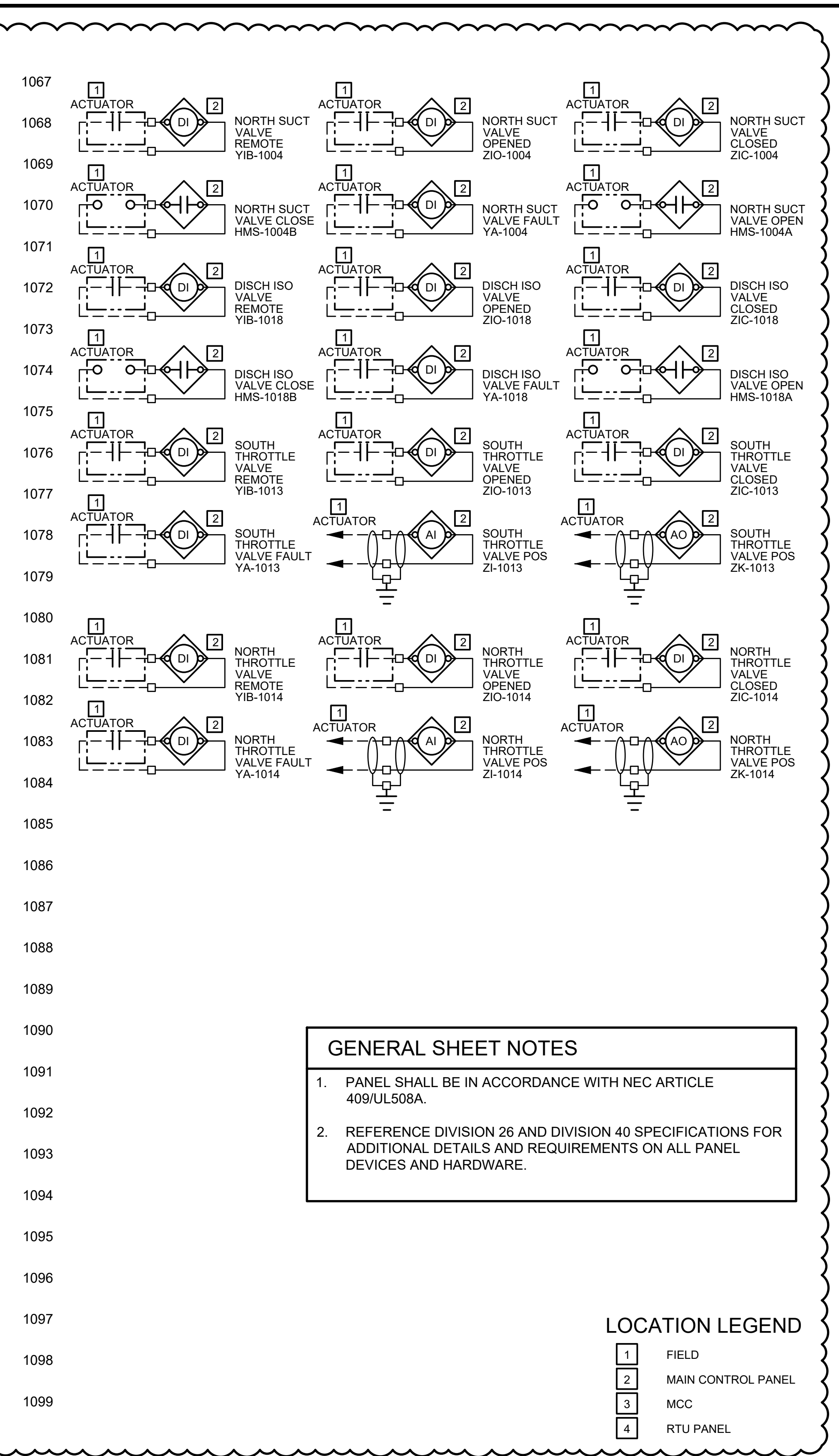
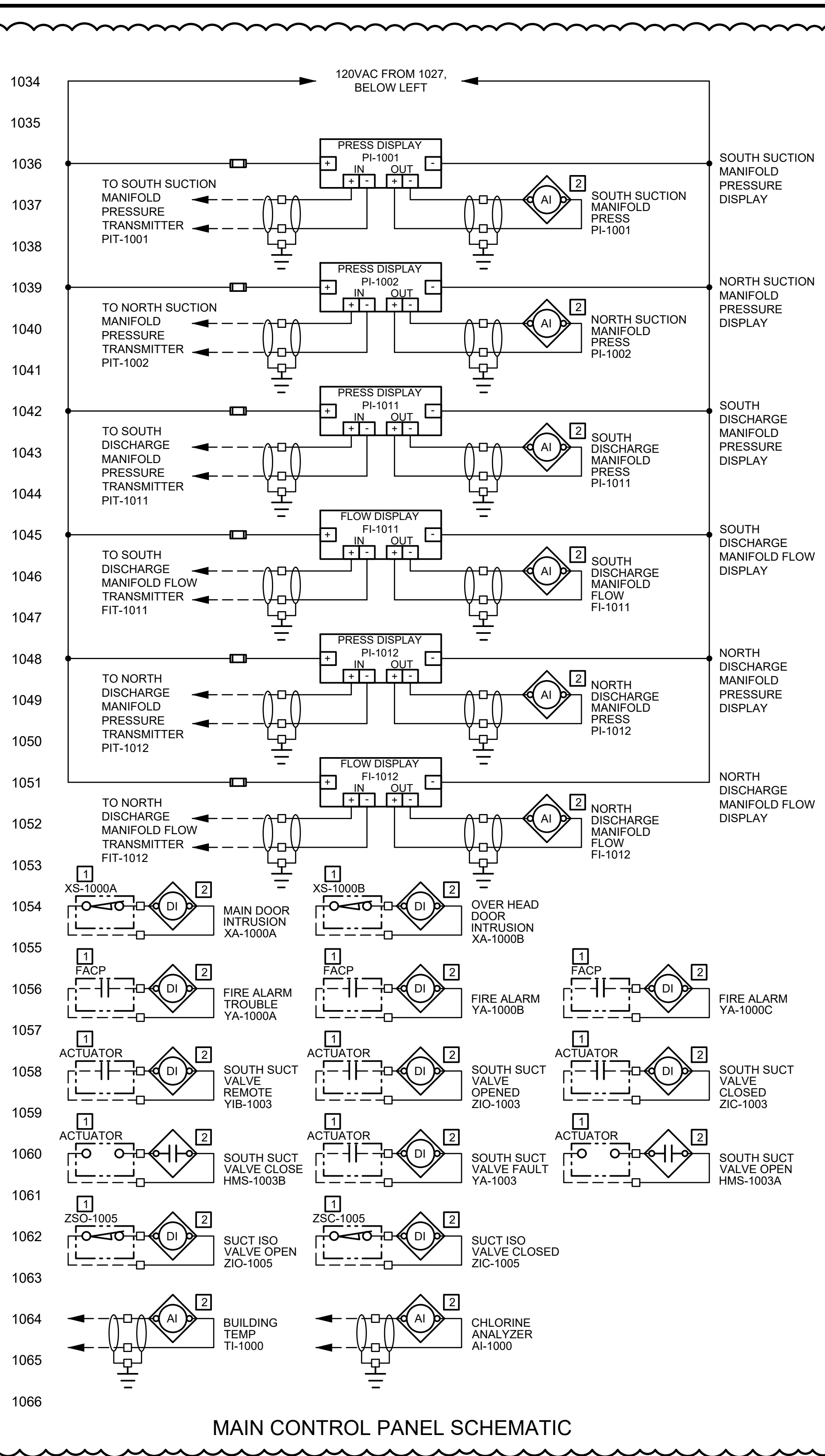
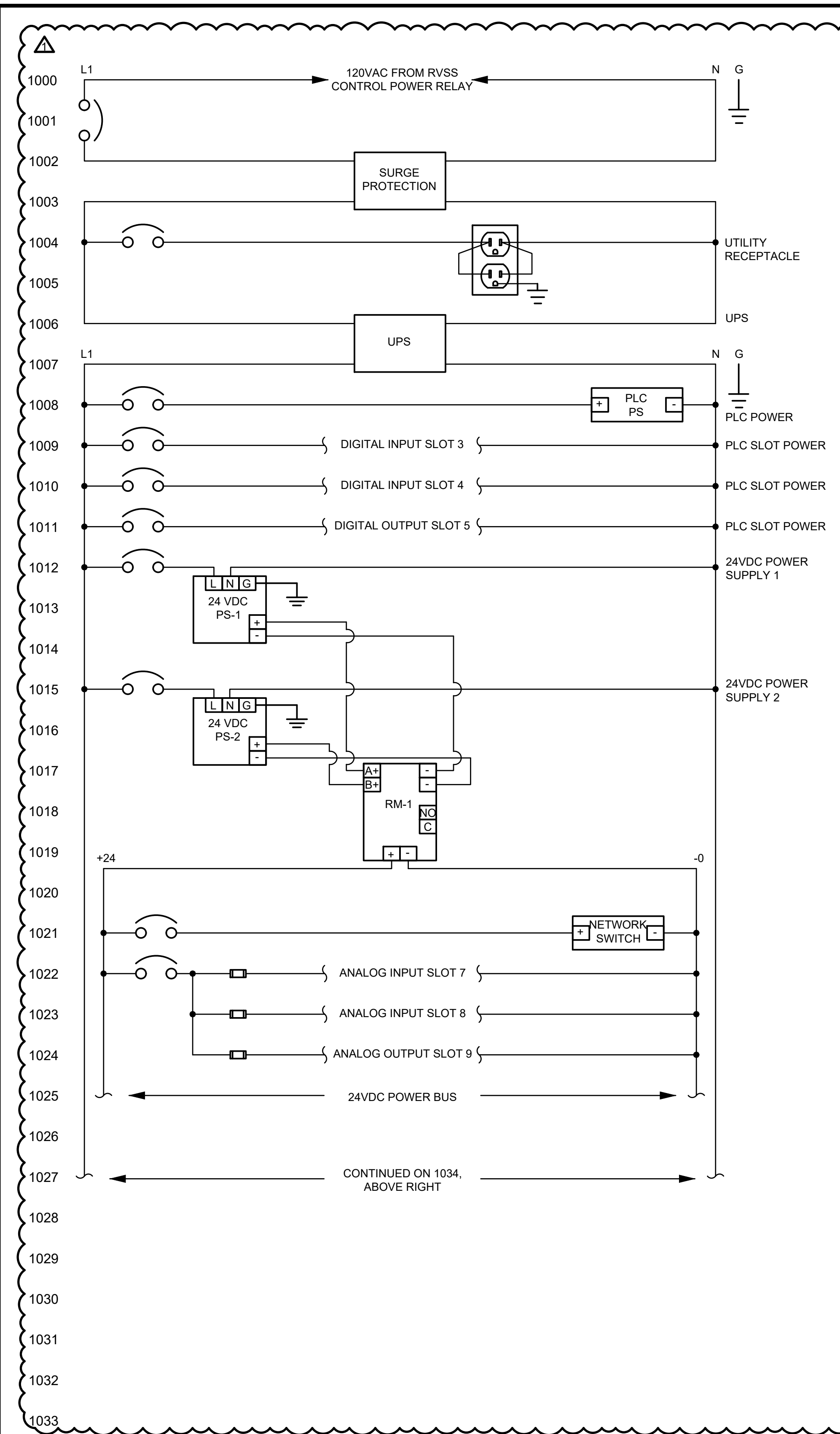
REVISIONS		
NO	DATE	BY

CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
 DEPARTMENT OF PUBLIC UTILITIES
 CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
MAIN CONTROL PANEL DETAILS 1 OF 2

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: SJT	DATE: 12/2021		I-10A
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GENERAL SHEET NOTES

- PANEL SHALL BE IN ACCORDANCE WITH NEC ARTICLE 409/UL508A.
- REFERENCE DIVISION 26 AND DIVISION 40 SPECIFICATIONS FOR ADDITIONAL DETAILS AND REQUIREMENTS ON ALL PANEL DEVICES AND HARDWARE.

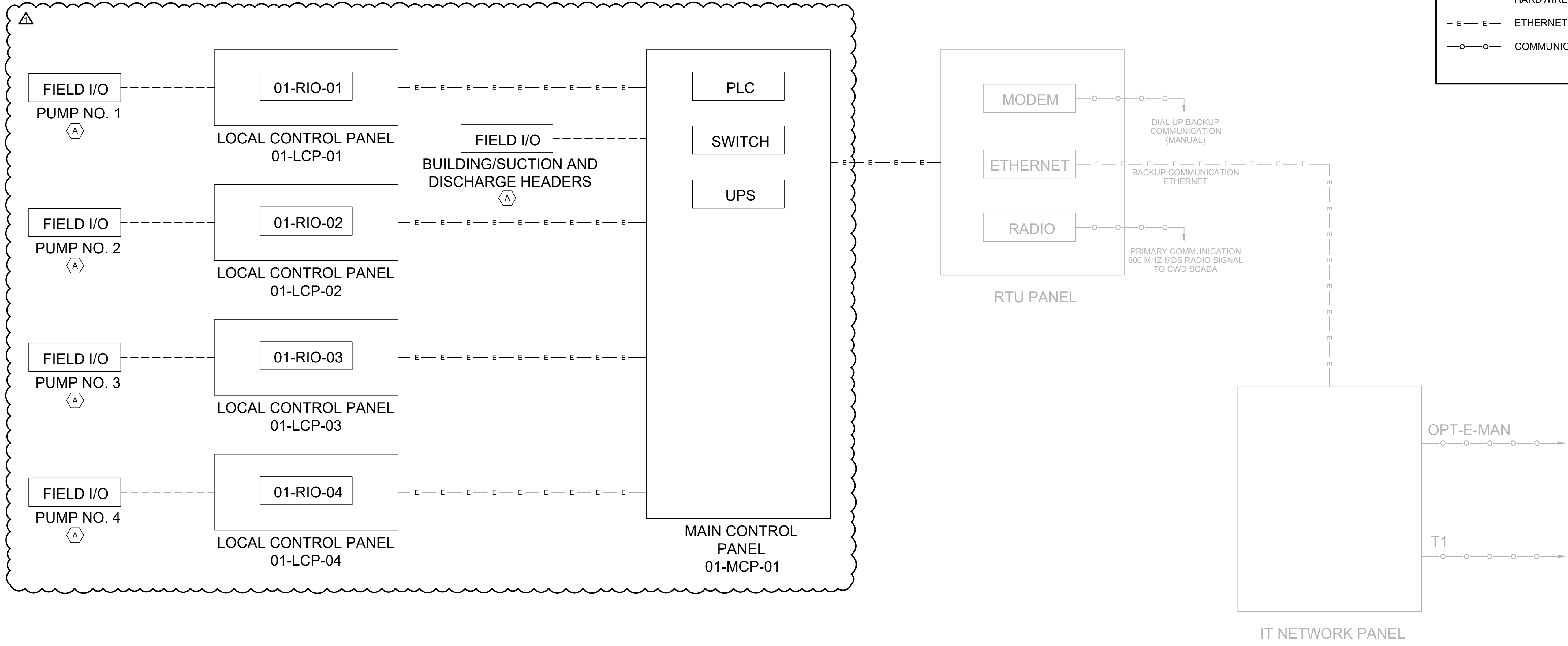
LOCATION LEGEND

1	FIELD
2	MAIN CONTROL PANEL
3	MCC
4	RTU PANEL

MAIN CONTROL PANEL SCHEMATIC

<p>UNDERGROUND UTILITIES 2 WORKING DAYS BEFORE YOU DIG CALL TOLL FREE 800-362-2764 @BUUTILITIESPROTECTIONSERVICE</p>		<p>ADDENDUM NO. 3 - FILE NO. 55-24</p>			<p>REVISIONS</p> <table border="1"> <tr><th>NO</th><th>DATE</th><th>BY</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	NO	DATE	BY										<p>CITY OF CLEVELAND CLEVELAND DIVISION OF WATER DEPARTMENT OF PUBLIC UTILITIES CLEVELAND, OHIO</p>
NO	DATE				BY													
<p>UNDERGROUND UTILITIES 2 WORKING DAYS BEFORE YOU DIG CALL TOLL FREE 800-925-0988 @BUUTILITIESPROTECTIONSERVICE</p>		<p>DRAWN BY: SJT DESIGNED BY: SJT CHECKED BY: VM</p>	<p>SCALE: NTS DATE: 12/2021</p>	<p>CWD NO: SHEET NO: I-10B</p>														

<p>⬡ CODED NOTES</p> <p>A. REFERENCE THE P&IDS FOR REQUIRED FIELD I/O.</p>	
<p>LEGEND</p> <p>----- HARDWIRED</p> <p>- E - E - ETHERNET</p> <p>—○—○— COMMUNICATIONS DATA LINK</p>	



⚠ ADDENDUM NO. 3 - FILE NO. 55-24

UNDERGROUND UTILITIES
 2 WORKING DAYS
BEFORE YOU DIG
 CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
 2 WORKING DAYS
BEFORE YOU DIG
 CALL TOLL FREE 800-925-0988
OHIO UTILITIES PROTECTION SERVICE
UNINCORPORATED PROTECTIVE SERVICE (OGPLUPS)



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CITY OF CLEVELAND	
CLEVELAND DIVISION OF WATER DEPARTMENT OF PUBLIC UTILITIES CLEVELAND, OHIO	
SUBJECT CYCLE H - GREEN PUMP STATION	
NETWORK BLOCK DIAGRAM	
DRAWN BY: SJT	SCALE: NTS
DESIGNED BY: SJT	CWD NO:
CHECKED BY: VM	DATE: 12/2021
SHEET NO: I-12	

LEGEND

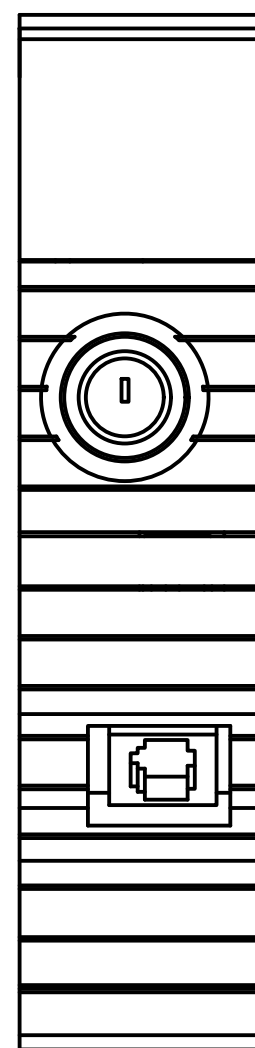
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- - - FIELD WIRING
- FIELD DEVICE TERMINAL
- ⊙ LOCAL CONTROL PANEL TERMINAL

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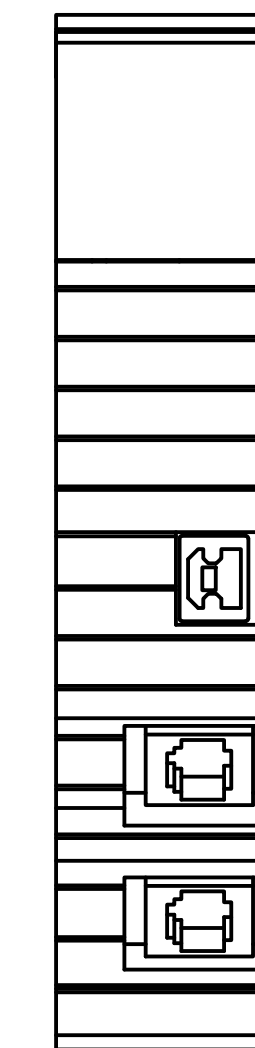
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PROCESSOR
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RACK 0 SLOT 00



CONTROLLOGIX
NETWORK MODULE
1756-EN2TR
RACK 0 SLOT 01



E — E — E — E — TO MAIN CONTROL PANEL
ETHERNET SWITCH

ADDENDUM NO. 3 - FILE NO. 55-24

UNDERGROUND UTILITIES
2 WORKING DAYS
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CALL TOLL FREE 800-362-2764
@BUUTILITIESPROTECTIONSERVICE

NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-925-0988
CITY OF CLEVELAND
DEPARTMENT OF PUBLIC UTILITIES
UNINCORPORATED PUBLIC UTILITY SERVICE
(OGPUPS)

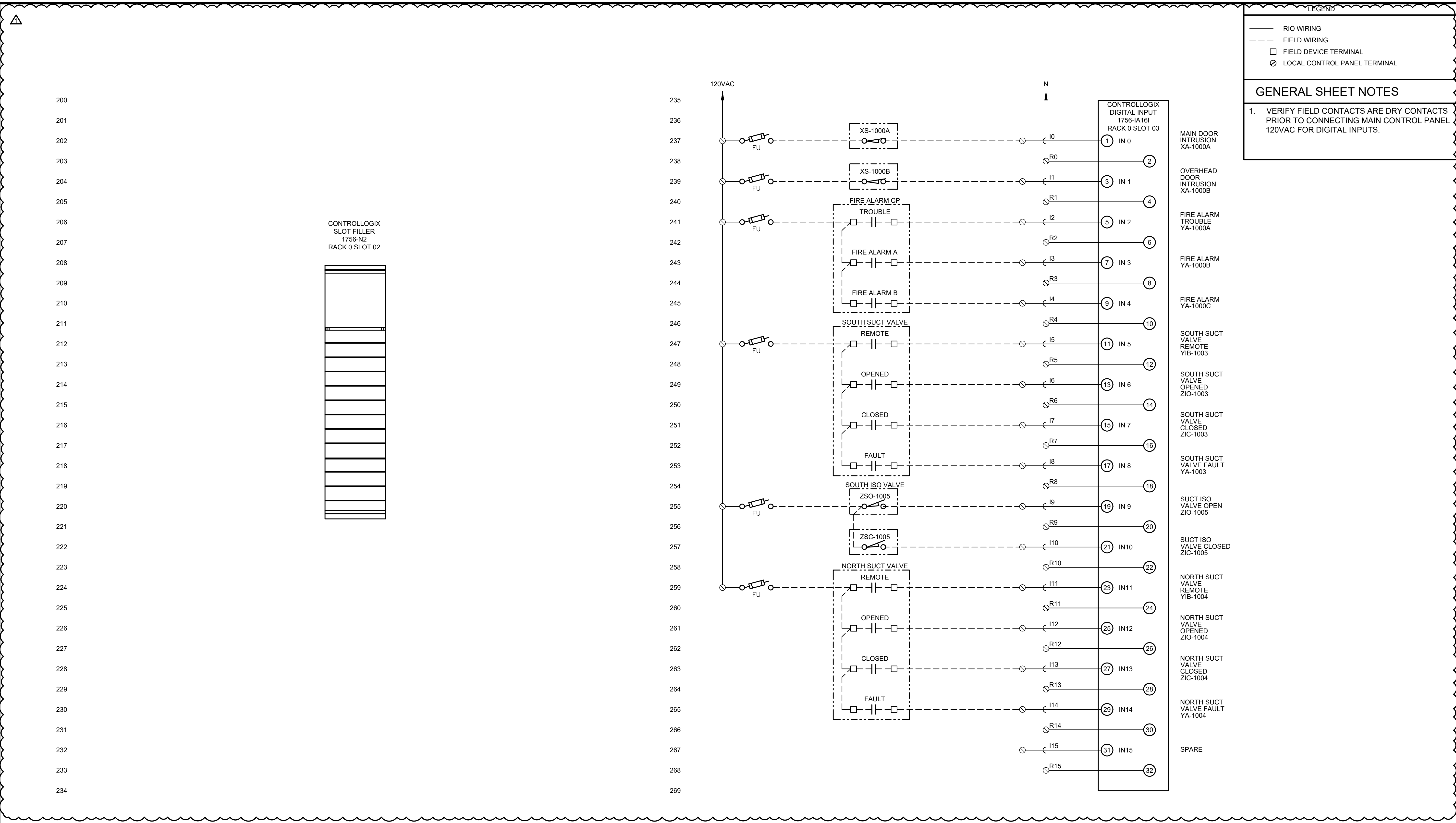
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CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
MAIN CONTROL PANEL LOOP DIAGRAM 1

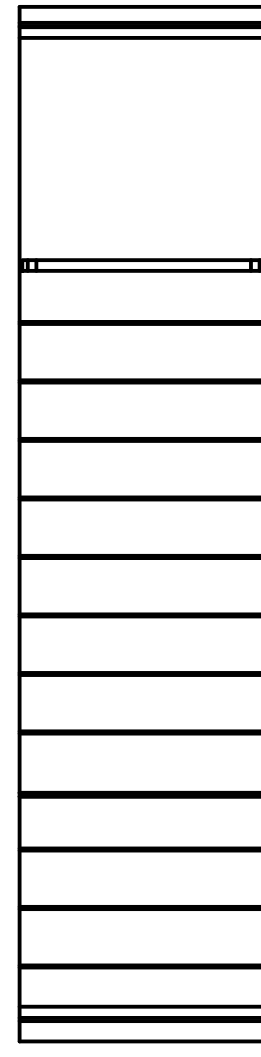
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DESIGNED BY: SJT	DATE: 12/2021		I-14
CHECKED BY: VM			



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LEGEND

- RIO WIRING
- - - FIELD WIRING
- FIELD DEVICE TERMINAL
- LOCAL CONTROL PANEL TERMINAL

GENERAL SHEET NOTES

1. VERIFY FIELD CONTACTS ARE DRY CONTACTS PRIOR TO CONNECTING MAIN CONTROL PANEL 120VAC FOR DIGITAL INPUTS.

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UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-925-0988
OHIO UTILITIES PROTECTION SERVICE



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CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
MAIN CONTROL PANEL LOOP DIAGRAM 2

DRAWN BY: SJT
DESIGNED BY: SJT
CHECKED BY: VM

SCALE: NTS
DATE: 12/2021

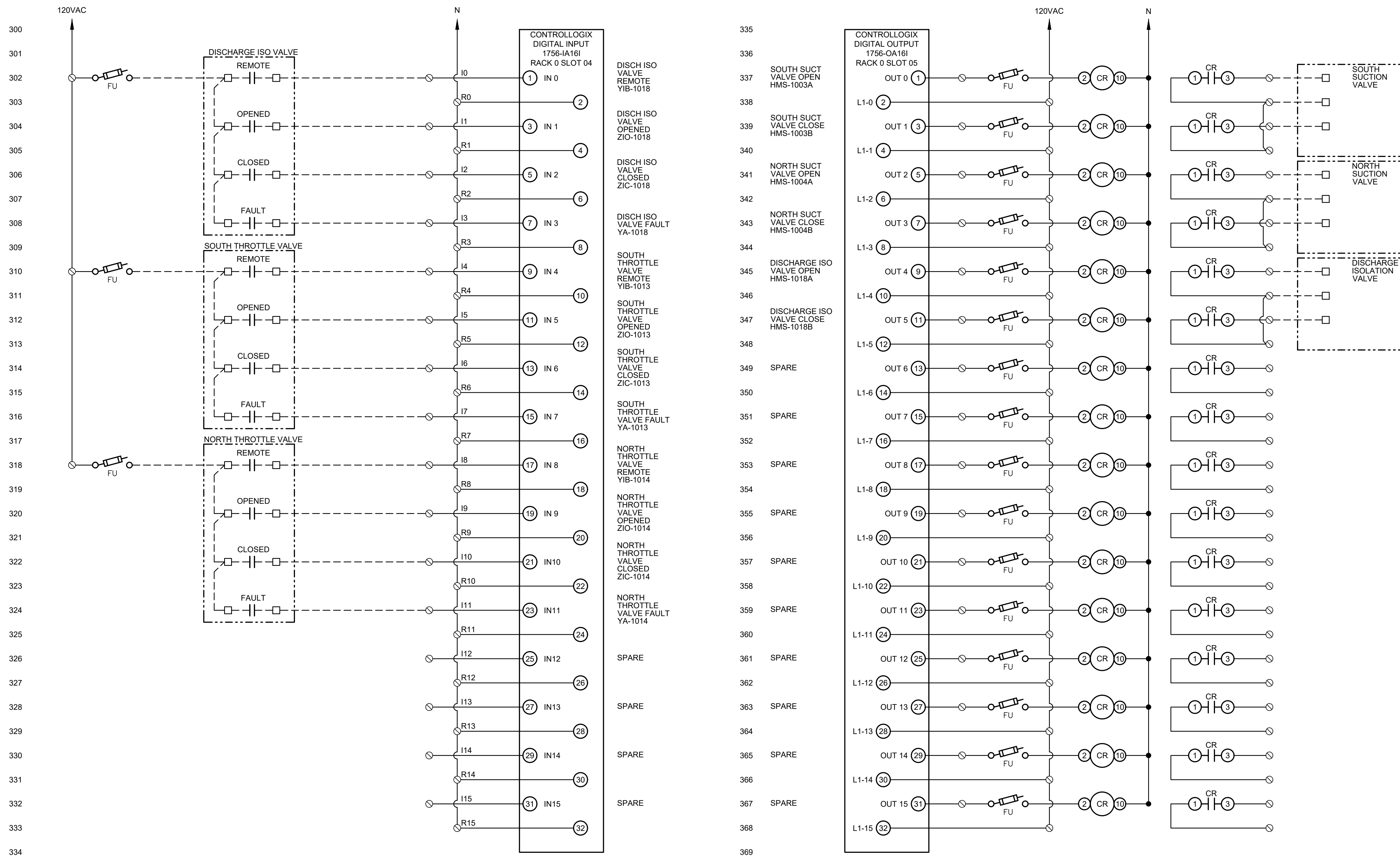
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SHEET NO: **I-15**

ADDENDUM NO. 3 - FILE NO. 55-24

- RIO WIRING
- - - FIELD WIRING
- FIELD DEVICE TERMINAL
- LOCAL CONTROL PANEL TERMINAL

GENERAL SHEET NOTES

1. VERIFY FIELD CONTACTS ARE DRY CONTACTS PRIOR TO CONNECTING MAIN CONTROL PANEL 120VAC FOR DIGITAL INPUTS.



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ADDENDUM NO. 3 - FILE NO. 55-24

UNDERGROUND UTILITIES
 2 WORKING DAYS
BEFORE YOU DIG
 CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTOR SERVICE

NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
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BEFORE YOU DIG
 CALL TOLL FREE 800-925-0988
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CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
 DEPARTMENT OF PUBLIC UTILITIES
 CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
 MAIN CONTROL PANEL LOOP DIAGRAM 3

DRAWN BY: SJT
 DESIGNED BY: SJT
 CHECKED BY: VM

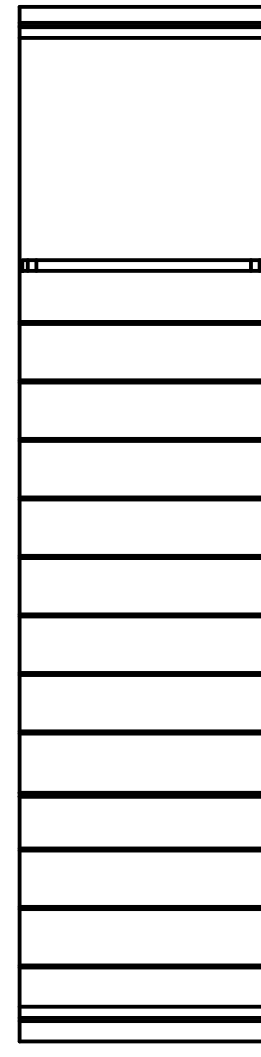
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 DATE: 12/2021

CWD NO:
 SHEET NO: **I-16**

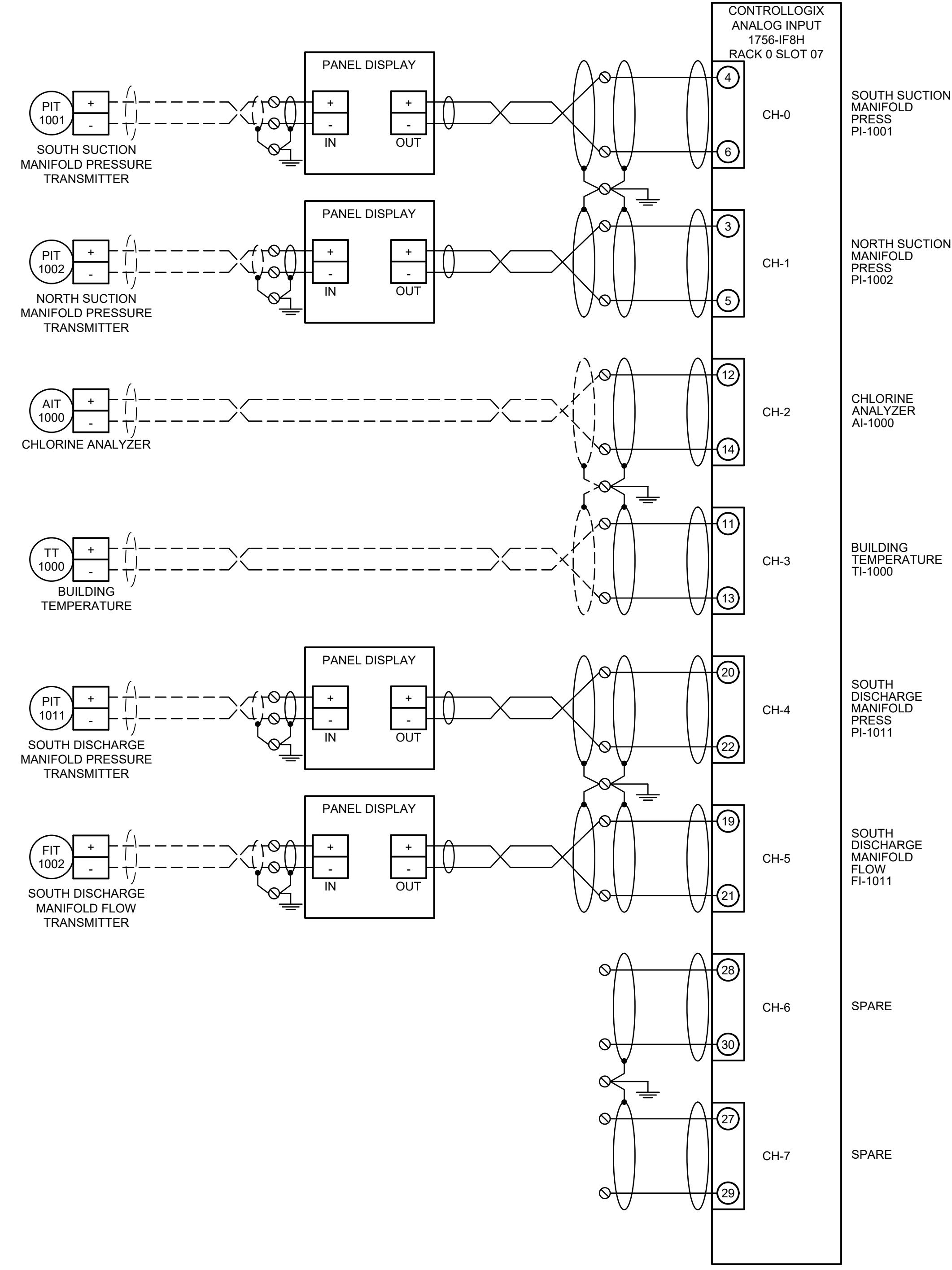
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—	RIO WIRING
- - -	FIELD WIRING
□	FIELD DEVICE TERMINAL
⊙	LOCAL CONTROL PANEL TERMINAL

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ADDENDUM NO. 3 - FILE NO. 55-24

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE **800-362-2764**
OHIO UTILITIES PROTECTOR SERVICE

NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE **800-925-0988**
OHIO UTILITIES PROTECTOR SERVICE
UNINCORPORATED PUBLIC UTILITIES SERVICE (OUPUS)



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C	10/22/21	Sigma

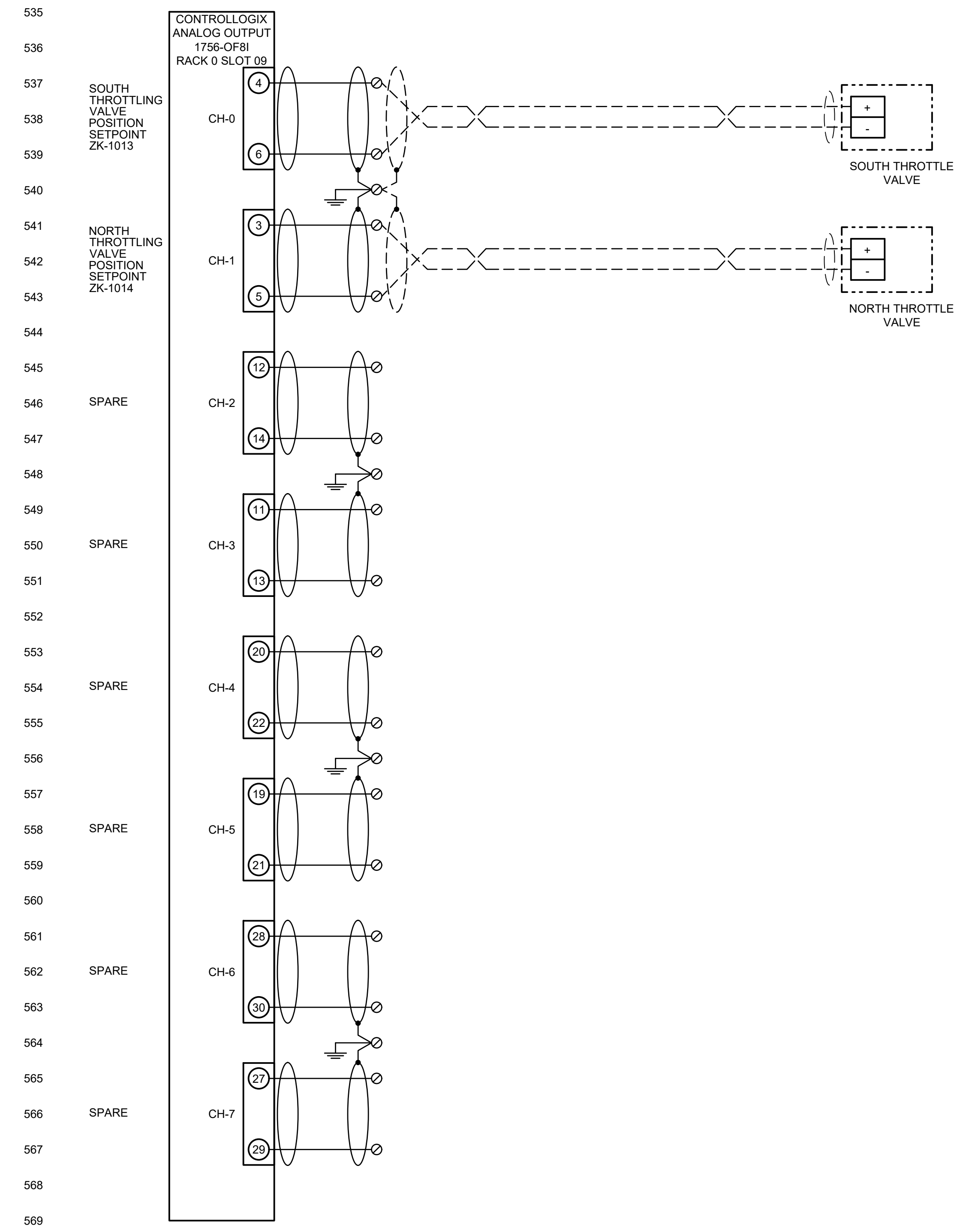
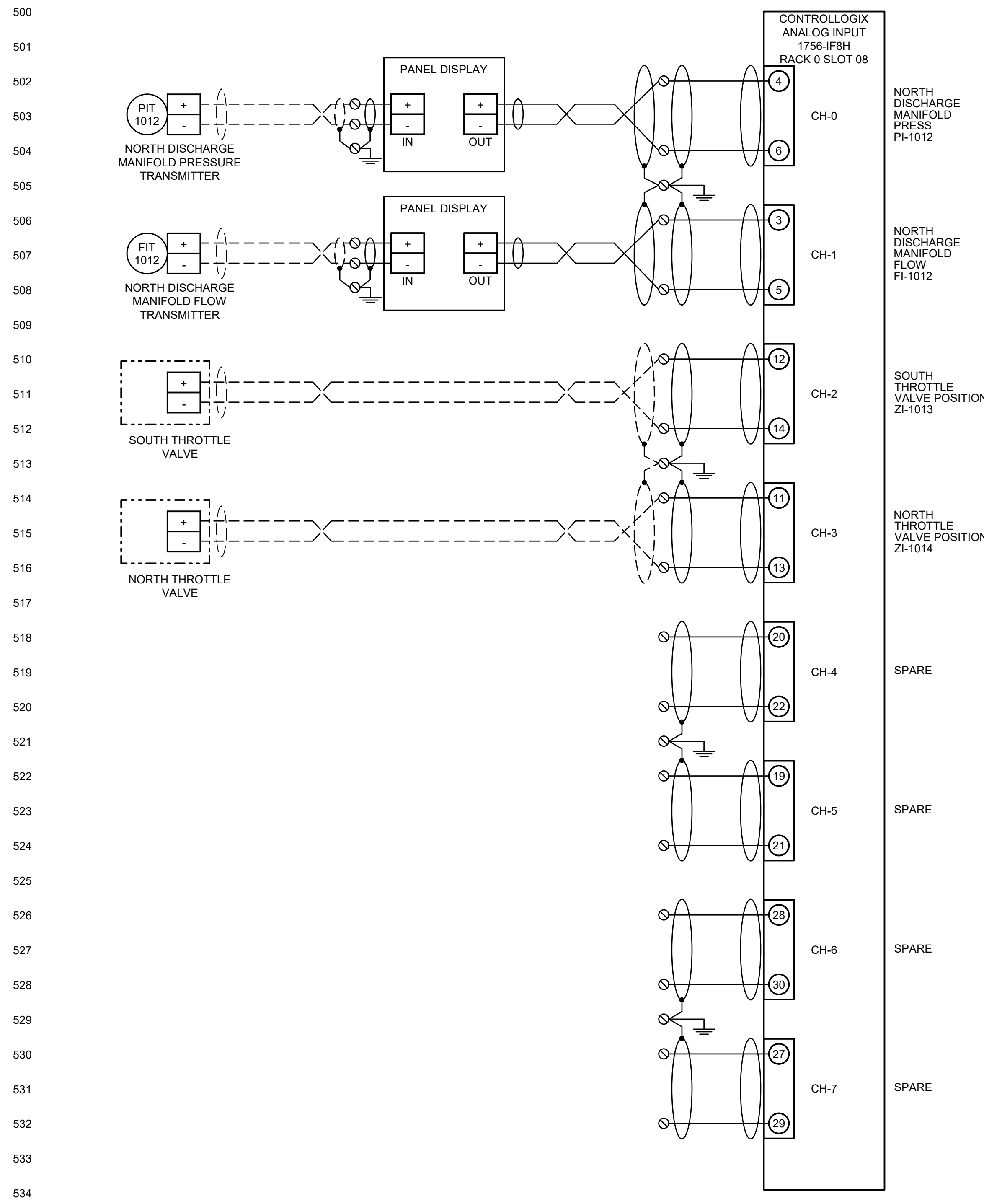
CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
MAIN CONTROL PANEL LOOP DIAGRAM 4

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO: I-17
DESIGNED BY: SJT	DATE: 12/20/21		
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—	RIO WIRING
- - -	FIELD WIRING
□	FIELD DEVICE TERMINAL
⊗	LOCAL CONTROL PANEL TERMINAL



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ADDENDUM NO. 3 - FILE NO. 55-24

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
@BUUTILITIESPROTECTORSERVICE

NON-MEMBERS MUST BE CALLED DIRECT
UNDERGROUND UTILITIES
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@BUUTILITIESPROTECTORSERVICE



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B	5/2021	Sigma
C	10/22/21	Sigma

CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
MAIN CONTROL PANEL LOOP DIAGRAM 5

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO: I-18
DESIGNED BY: SJT	DATE: 12/2021		
CHECKED BY: VM			

LEGEND

- RIO WIRING
- - - FIELD WIRING
- FIELD DEVICE TERMINAL
- ⊙ LOCAL CONTROL PANEL TERMINAL

GENERAL SHEET NOTES

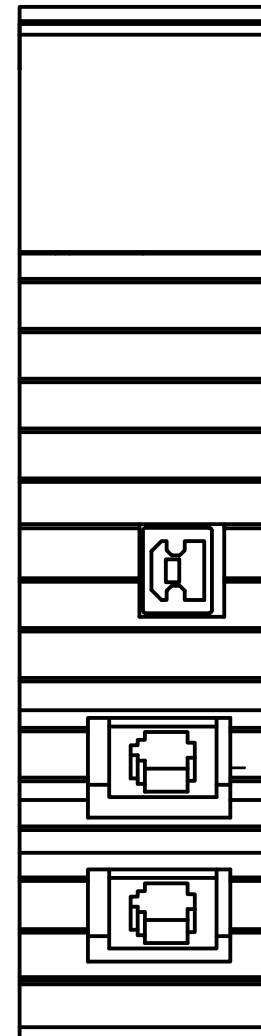
1. LOOP DIAGRAMS FOR 01-LCP-01 ARE TYPICAL FOR 01-LCP-02, 01-LCP-03, AND 01-LCP-04. REFERENCE THE P&IDS FOR LOOP AND FIELD DEVICE NUMBERS.

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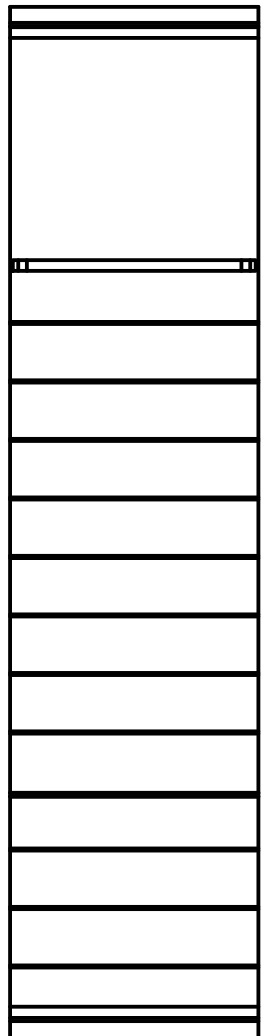
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166
167
168
169

CONTROLLOGIX
NETWORK MODULE
1756-EN2TR
RACK 1 SLOT 00



CONTROLLOGIX
SLOT FILLER
1756-N2
RACK 1 SLOT 01



E — E — E — E — TO MAIN CONTROL PANEL
ETHERNET SWITCH

ADDENDUM NO. 3 - FILE NO. 55-24

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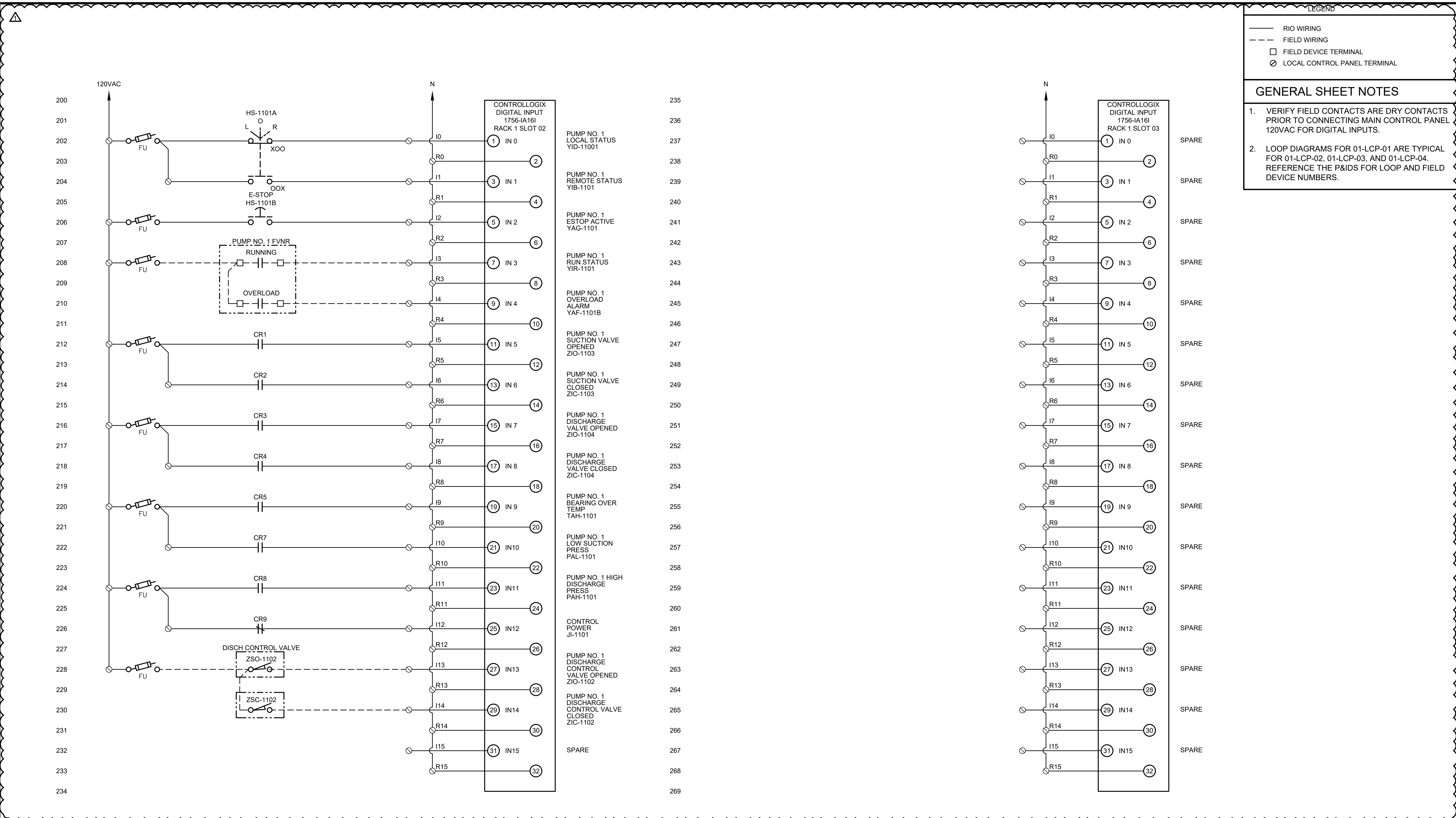
REVISIONS		
NO	DATE	BY
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C	10/22/21	Sigma

CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
LOCAL CONTROL PANEL LOOP DIAGRAM 1

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO: I-19
DESIGNED BY: SJT	DATE: 12/2021		
CHECKED BY: VM			



LEGEND

- RIO WIRING
- - - FIELD WIRING
- FIELD DEVICE TERMINAL
- LOCAL CONTROL PANEL TERMINAL

GENERAL SHEET NOTES

1. VERIFY FIELD CONTACTS ARE DRY CONTACTS PRIOR TO CONNECTING MAIN CONTROL PANEL 120VAC FOR DIGITAL INPUTS.
2. LOOP DIAGRAMS FOR 01-LCP-01 ARE TYPICAL FOR 01-LCP-02, 01-LCP-03, AND 01-LCP-04. REFERENCE THE P&IDs FOR LOOP AND FIELD DEVICE NUMBERS.

ISSUED FOR BID

REVISIONS			CITY OF CLEVELAND	
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C	11/2021	Sigma	SUBJECT CYCLE H - GREEN PUMP STATION LOCAL CONTROL PANEL LOOP DIAGRAM 2	
DRAWN BY: SJT			SCALE: NTS	CWD NO:
DESIGNED BY: SJT			DATE: 12/2021	SHEET NO: I-20
CHECKED BY: VM				

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ADDENDUM NO. 3 - FILE NO. 55-24

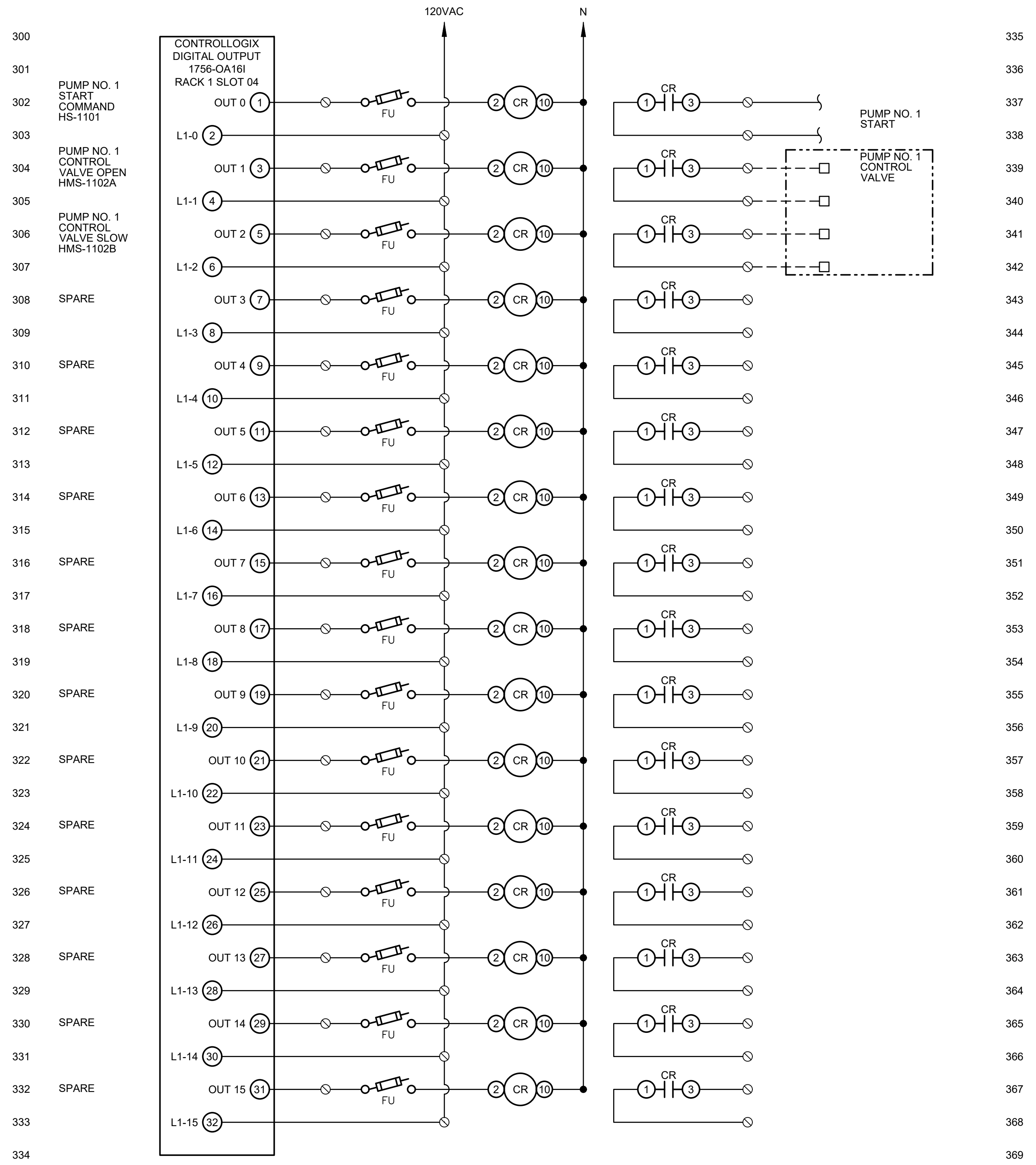
LEGEND

- RIO WIRING
- - - FIELD WIRING
- FIELD DEVICE TERMINAL
- ⊙ LOCAL CONTROL PANEL TERMINAL

GENERAL SHEET NOTES

1. LOOP DIAGRAMS FOR 01-LCP-01 ARE TYPICAL FOR 01-LCP-02, 01-LCP-03, AND 01-LCP-04. REFERENCE THE P&IDS FOR LOOP AND FIELD DEVICE NUMBERS.

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CONTROLLOGIX
SLOT FILLER
1756-N2
RACK 1 SLOT 05



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CITY OF CLEVELAND
CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
LOCAL CONTROL PANEL LOOP DIAGRAM 3

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO: I-21
DESIGNED BY: SJT	DATE: 12/2021		
CHECKED BY: VM			

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ADDENDUM NO. 3 - FILE NO. 55-24

LEGEND

- RIO WIRING
- - - FIELD WIRING
- FIELD DEVICE TERMINAL
- ⊙ LOCAL CONTROL PANEL TERMINAL

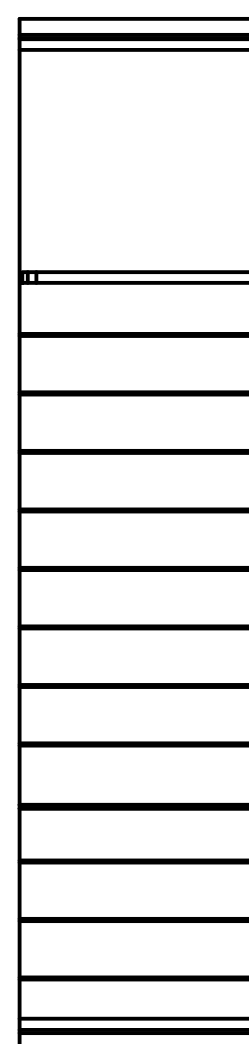
GENERAL SHEET NOTES

1. LOOP DIAGRAMS FOR 01-LCP-01 ARE TYPICAL FOR 01-LCP-02, 01-LCP-03, AND 01-LCP-04. REFERENCE THE P&IDS FOR LOOP AND FIELD DEVICE NUMBERS.

ISSUED FOR BID

<p>400</p> <p>401</p> <p>402</p> <p>403</p> <p>404</p> <p>405</p> <p>406</p> <p>407</p> <p>408</p> <p>409</p> <p>410</p> <p>411</p> <p>412</p> <p>413</p> <p>414</p> <p>415</p> <p>416</p> <p>417</p> <p>418</p> <p>419</p> <p>420</p> <p>421</p> <p>422</p> <p>423</p> <p>424</p> <p>425</p> <p>426</p> <p>427</p> <p>428</p> <p>429</p> <p>430</p> <p>431</p> <p>432</p> <p>433</p> <p>434</p>	<p>435</p> <p>436</p> <p>437</p> <p>438</p> <p>439</p> <p>440</p> <p>441</p> <p>442</p> <p>443</p> <p>444</p> <p>445</p> <p>446</p> <p>447</p> <p>448</p> <p>449</p> <p>450</p> <p>451</p> <p>452</p> <p>453</p> <p>454</p> <p>455</p> <p>456</p> <p>457</p> <p>458</p> <p>459</p> <p>460</p> <p>461</p> <p>462</p> <p>463</p> <p>464</p> <p>465</p> <p>466</p> <p>467</p> <p>468</p> <p>469</p>
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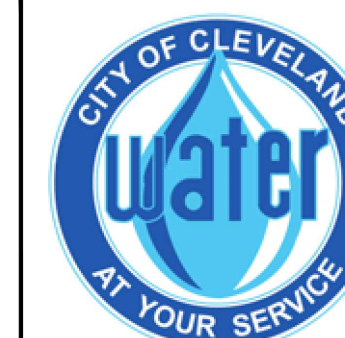
CONTROLLOGIX
SLOT FILLER
1756-N2
RACK 0 SLOT 06



ADDENDUM NO. 3 - FILE NO. 55-24

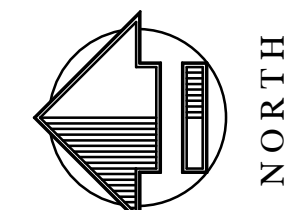
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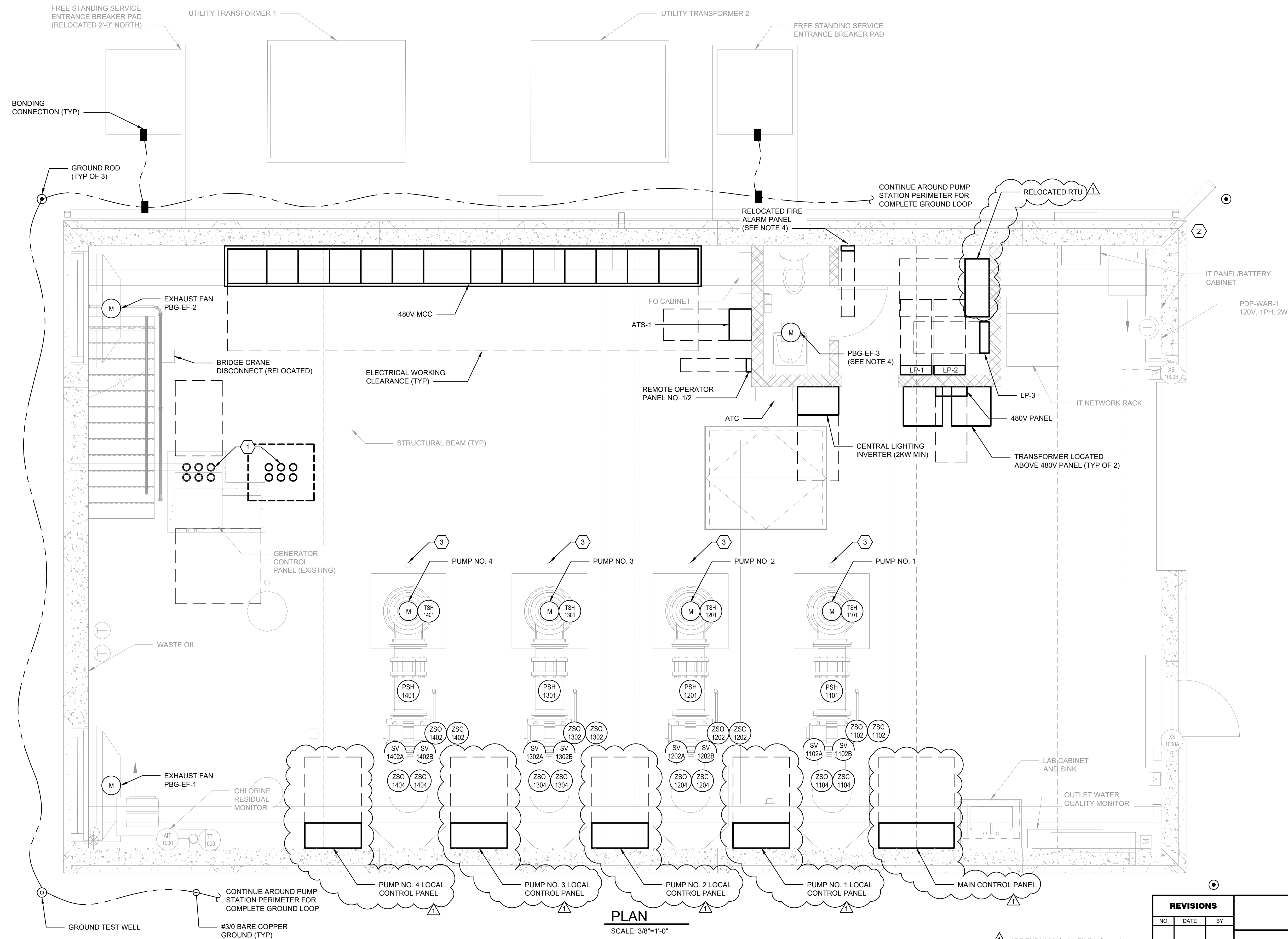


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C	11/2021	Sigma

CITY OF CLEVELAND	
CLEVELAND DIVISION OF WATER DEPARTMENT OF PUBLIC UTILITIES CLEVELAND, OHIO	
SUBJECT CYCLE H - GREEN PUMP STATION	
LOCAL CONTROL PANEL LOOP DIAGRAM 4	
DRAWN BY: SJT	SCALE: NTS
DESIGNED BY: SJT	CWD NO:
CHECKED BY: VM	DATE: 12/2021
SHEET NO: I-22	



- GENERAL SHEET NOTES**
- SEE SHEET E-01 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
 - SEE SHEET E-04 FOR ONE LINE DIAGRAM.
 - DASHED LINES REPRESENT REQUIRED CLEARANCE IN FRONT OF PANELS.
 - PROVIDE CABLE, CONDUIT, SPLICE CONNECTIONS, AND JUNCTION BOXES AS REQUIRED TO EXTEND ALL THE FACP DEVICES TO THE NEW PANEL LOCATION. CONSTRUCTION SHALL MINIMIZE DOWN TIME OF FACP.
- CODED NOTES**
- (6) 4" GENERATOR POWER CONDUITS SHALL EXIT TOP OF EXISTING GENERATOR CONTROL PANEL, THEN RUN VERTICALLY THROUGH FLOOR TO LOWER LEVEL. SUPPORT CONDUITS VERTICALLY WITH 8" CHANNEL FRAMING. INSTALL JUNCTION BOX AT LOWER LEVEL. BOX SIZE SHALL BE MINIMUM 42"H x 36"D x 42"W.
 - BUILDING LIGHTNING PROTECTION SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH SPECIFICATION 26 41 13.
 - REUSE EXISTING 3.5" CONDUIT CORE FOR NEW PUMP WIRING. EXTEND EXISTING CONDUIT TO NEW MCC PUMP STARTER LOCATION.



PLAN
SCALE: 3/8"=1'-0"

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CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION

FIRST FLOOR
POWER PLAN

DRAWN BY: E. KLINE	SCALE AS NOTED	CWD NO:	SHEET NO:
DESIGNED BY: E. KLINE	DATE: 12/2021		E-06
CHECKED BY: J. SIDOTI			

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ADDENDUM NO. 3 - FILE NO. 55-24

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE			POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	20	FIRST FLOOR LIGHTS	0.3	2.5	1	1.1			1	6.7	0.8	FIRST FLOOR RECEPTACLES	20	2
3	20	FIRST FLOOR LIGHTS	0.3	2.5	1		1.1		1	6.7	0.8	FIRST FLOOR RECEPTACLES	20	4
5	20	RSTRM LGHT AND EXHST FAN (PGB-EF-3)	0.1	0.8	1			0.5	1	3.3	0.4	OFFICE RECEPTACLES	20	6
7	20	OFFICE LIGHTS	0.1	0.8	1	1.3			1	10.0	1.2	EXTERIOR RECEPTACLES	20	8
9	20	EXTERIOR LIGHTS	0.2	1.7	1		1.7		1	12.5	1.5	BASEMENT RECEPTACLES	20	10
11	20	BASEMENT LIGHTS	0.4	3.3	1			3.4	1	25.0	3	ATC PANEL	35	12
13	20	RESTROOM HOT WATER HEATER	1	8.3	1	3.0			1	16.7	2	LIGHTING INVERTER	25	14
15	20	SPARE			1		0.0		1			SPARE	20	16
17	20	SPARE			1			0.0	1			SPARE	20	18
19	20	SPARE			1	0.0			1			SPARE	20	20
21	20	SPARE			1		0.0		1			SPARE	20	22
23	20	SPARE			1			0.0	1			SPARE	20	24
25	20	SPARE			1	0.0			1			SPARE	20	26
27	20	SPACE			1		0.0		1			SPACE	20	28
29	20	SPACE			1			0.0	1			SPACE	20	30
31	20	SPACE			1	0.0			1			SPACE	20	32
33	20	SPACE			1		0.0		1			SPACE	20	34
35	20	SPACE			1			0.0	1			SPACE	20	36
37	20	SPACE			1	0.0			1			SPACE	20	38
39	20	SPACE			1		0.0		1			SPACE	20	40
41	20	SPACE			1			0.0	1			SPACE	20	42

PANEL LP1 LOCATION FIRST FLOOR BUILDING GREEN PUMP STATION NOTES: PROVIDE INTEGRAL SPD	TOTAL KVA	5.4	2.8	3.9	SERVICE CHARACTERISTICS VOLTS: 208Y/120 PHASE: 3 WIRE: 4 10k MIN AIC SYMM, FULLY RATED ASSEMBLY	A MLO	100	A MCB
	GRAND CONNECTED TOTAL KVA	12.1						

LP1 PANEL SCHEDULE

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE			POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	20	OVERHEAD DOOR	1.2	5.0	2	2.1			2	12.5	3	CHLORINE VAULT 240V PANEL (1)	20	2
5	20	FIRST FLOOR 240V RECEPTACLE	0.2	0.8	2		2.1	4.1	2	33.3	8	30" VAULT PANEL (1)	50	6
9	20	BASEMENT 240V RECEPTACLE	0.2	0.8	2	4.1		0.1	1			SPARE	20	10
13	20	SPARE			1	0.0			1			SPARE	20	12
15	20	SPARE			1		0.0		1			SPARE	20	14
17	20	SPARE			1			0.0	1			SPARE	20	16
19	20	SPARE			1	0.0			1			SPARE	20	18
21	20	SPARE			1		0.0		1			SPARE	20	20
23	20	SPARE			1			0.0	1			SPARE	20	22
25	20	SPACE			1	0.0			1			SPACE	20	24
27	20	SPACE			1		0.0		1			SPACE	20	26
29	20	SPACE			1			0.0	1			SPACE	20	28
31	20	SPACE			1	0.0			1			SPACE	20	30
33	20	SPACE			1		0.0		1			SPACE	20	32
35	20	SPACE			1			0.0	1			SPACE	20	34
37	20	24" VALVE VAULT (1)	3	7.2	3	1.7		1.7	3	4.8	2	36" VAULT PLUG AND LIGHT	20	38

PANEL LP3 LOCATION FIRST FLOOR BUILDING GREEN PUMP STATION NOTES: PROVIDE INTEGRAL SPD	TOTAL KVA	7.9	3.9	5.9	SERVICE CHARACTERISTICS VOLTS: 240 PHASE: 3 WIRE: 3 10k MIN AIC SYMM, FULLY RATED ASSEMBLY	A MLO	100	A MCB
	GRAND CONNECTED TOTAL KVA	17.6						

LP3 PANEL SCHEDULE

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	KVA PER PHASE			POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	35	SUMP PUMP LOCAL CONTROL PANEL	3	25.0	1	3.0			1			SPARE	20	2
3	35	ENV RACK UPS (1)	3	25.0	1		3.0		1			SPARE	20	4
5	20	ALARM CONTROL PANEL	0.2	1.7	1			0.2	1			SPARE	20	6
7	20	36" VALVE VAULT SUMP PUMP OUTLET (1)	0.5	4.2	1	0.7			1	1.7	0.2	ROSEMONT UNITS SEIVER 900 (1)	20	8
9	20	36" VALVE VAULT OUTLET LIGHT (1)	0.5	4.2	1		1.0		1	4.2	0.5	RTU CABINET (1)	20	10
11	20	WATER QUALITY CONTROL GFCl (1)	0.5	4.2	1			1.0	1	4.2	0.5	BASEMENT BOOSTER PUMP (1)	20	12
13	20	PIT LIGHTS (1)	0.1	0.8	1	0.6			1	4.2	0.5	FIRE ALARM PANEL (1)	20	14
15	20	01-MCP-01 MAIN CONTROL PANEL	0.5	4.2	1		1.0		1	4.2	0.5	01-LCP-01 PUMP NO. 1 LCP	20	16
17	20	GUH-1	0.2	1.7	1			0.7	1	4.2	0.5	01-LCP-02 PUMP NO. 2 LCP	20	18
19	20	GUH-2	0.2	1.7	1	0.7			1	4.2	0.5	01-LCP-03 PUMP NO. 3 LCP	20	20
21	20	GUH-3	0.2	1.7	1		0.7		1	4.2	0.5	01-LCP-04 PUMP NO. 4 LCP	20	22
23	20	SPARE			1			0.0	1			SPARE	20	24
25	20	SPARE			1	0.0			1			SPARE	20	26
27	20	SPARE			1		0.0		1			SPARE	20	28
29	20	SPARE			1			0.0	1			SPACE	20	30
31	20	SPARE			1	0.0			1			SPACE	20	32
33	20	SPACE			1		0.0		1			SPACE	20	34
35	20	SPACE			1			0.0	1			SPACE	20	36
37	20	SPACE			1	0.0			1			SPACE	20	38
39	20	SPACE			1		0.0		1			SPACE	20	40
41	20	SPACE			1			0.0	1			SPACE	20	42

PANEL LP2 LOCATION FIRST FLOOR BUILDING GREEN PUMP STATION NOTES: PROVIDE INTEGRAL SPD	TOTAL KVA	5.0	5.7	1.9	SERVICE CHARACTERISTICS VOLTS: 208Y/120 PHASE: 3 WIRE: 4 10k MIN AIC SYMM, FULLY RATED ASSEMBLY	A MLO	100	A MCB
	GRAND CONNECTED TOTAL KVA	12.6						

LP2 PANEL SCHEDULE

GENERAL SHEET NOTES

(#) PANEL SCHEDULE CODED NOTES

- EXISTING EQUIPMENT TO BE RECONNECTED WITH NEW CIRCUIT. FOR EQUIPMENT LOCATED OUTSIDE BUILDING, PROVIDE WIRING TO NEW NEMA 4X JUNCTION BOX IN LOWER LEVEL AT EXTERIOR WALL, AND CONNECT NEW WIRING TO EXISTING.

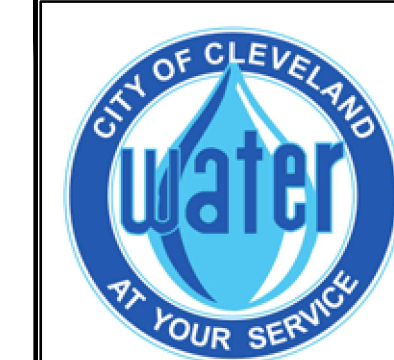
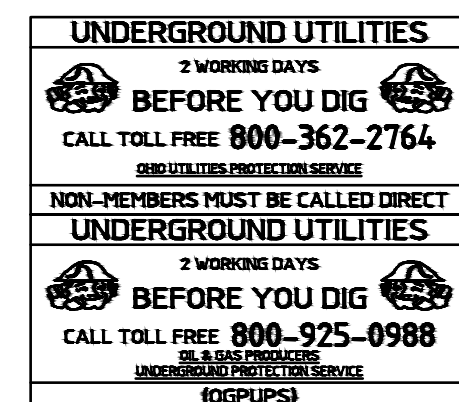
PANEL SCHEDULE NOTES

- PROVIDE 2#12, 1#12G, 3/4" CONDUIT FOR BRANCH CIRCUITS TO IDENTIFIED EQUIPMENT UNLESS NOTED OTHERWISE.
- ALL 20A BRANCH CIRCUITS WHICH EXTEND BEYOND 100 FEET IN LENGTH SHALL UTILIZE #10 AWG WIRING THROUGHOUT THE ENTIRE LENGTH OF THE CIRCUIT FOR THE PURPOSE OF LIMITING VOLTAGE DROP AND REDUCING WIRING SYSTEM LOSSES.
- MULTIPLE 120V 20A BRANCH CIRCUITS MAY BE COMBINED WITHIN A SINGLE CONDUIT TO MINIMIZE THE NUMBER OF HOMERUNS TO PANELBOARD. DO NOT EXCEED SIX CURRENT CARRYING CONDUCTORS PER RACEWAY WHEN USING #12 AWG WIRING. NINE CURRENT CARRYING CONDUCTORS MAY SHARE THE SAME CONDUIT IF ALL CONDUCTOR SIZES ARE INCREASED TO #10 AWG, AND PROVIDED THAT THE CIRCUIT BREAKERS FOR EACH CIRCUIT ARE RATED 20A OR LESS.
- A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH BRANCH CIRCUIT.

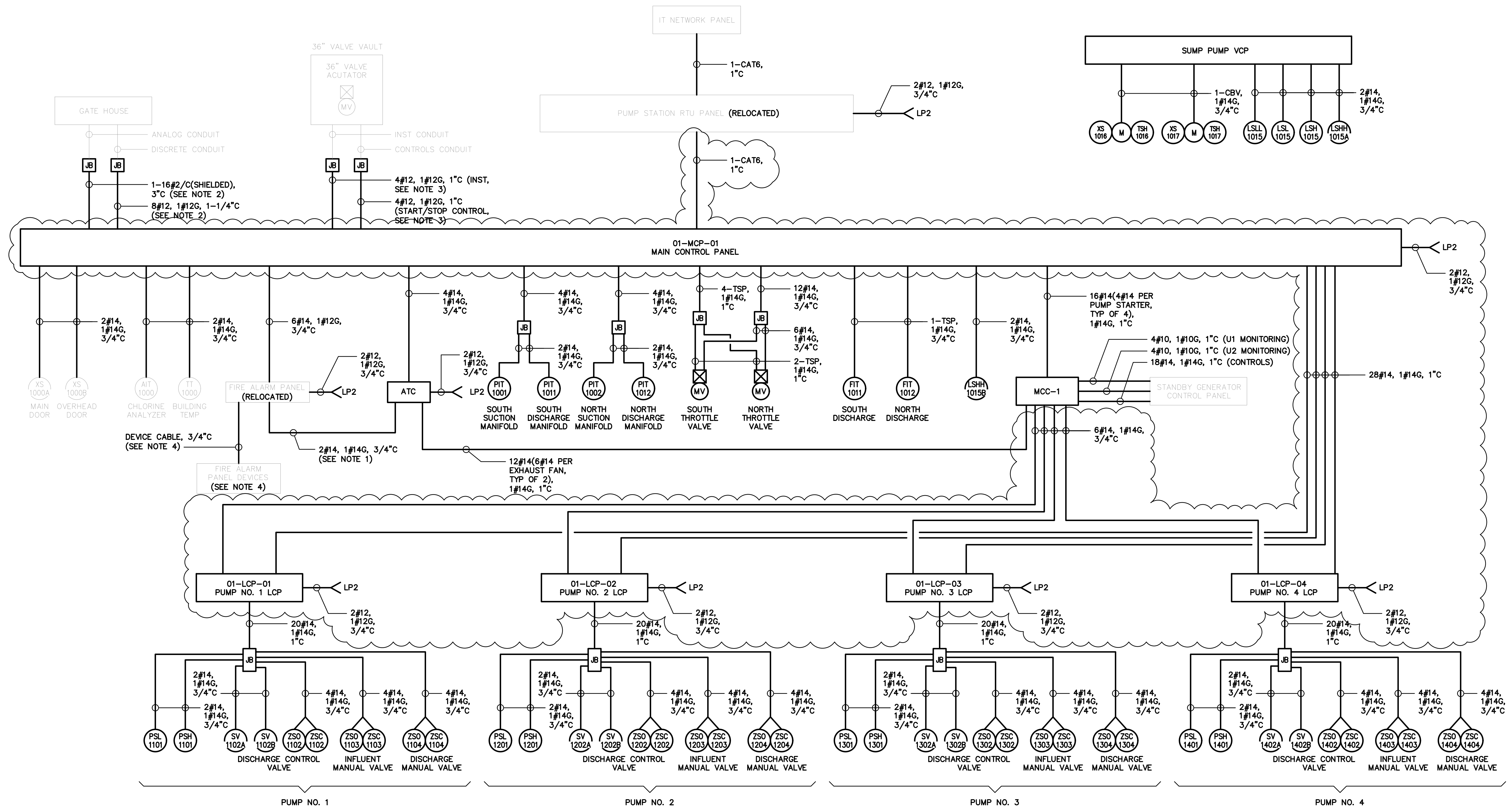
CODED NOTES

- 2#10, 1#10G, 3/4"C
- 2#8, 1#10G, 3/4"C
- 3#12, 1#12G, 3/4"C

ADDENDUM NO. 3 - FILE NO. 55-24



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			DEPARTMENT OF PUBLIC UTILITIES		
			CLEVELAND, OHIO		
			SUBJECT: CYCLE H - GREEN PUMP STATION		
			PANEL SCHEDULES		
DRAWN BY: E. KLINE		SCALE: NTS	CWD NO:		SHEET NO:
DESIGNED BY: E. KLINE		DATE: 12/2021			E-11
CHECKED BY: J. SIDOTI					



BLOCK DIAGRAM

GENERAL SHEET NOTES

- 1. PROVIDE CONTROL SIGNAL FROM FACP TO ATC TO SHUT DOWN THE FANS ON FIRE DETECTION. CONFIGURE OUTPUT FROM FACP FOR SIGNAL TO ATC PANEL.
- 2. FROM JUNCTION BOX TO GATE HOUSE IS EXISTING CABLE AND CONDUIT. PROVIDE CONDUCTOR SPLICES IN THE JUNCTION BOX TO THE EXISTING.
- 3. FROM JUNCTION BOX TO 36" VALVE VAULT IS EXISTING CABLE AND CONDUIT. PROVIDE CONDUCTOR SPLICES IN THE JUNCTION BOX TO THE EXISTING.

CODED NOTES

- 4. PROVIDE CABLE AND CONDUIT TO EACH EXISTING FACP DEVICE IN THE FIELD TO THE NEW FACP LOCATION. CONTRACTOR SHALL CONFIRM CABLE REQUIREMENTS AND PROVIDE CABLE, SPLICES, AND BOXES AS REQUIRED TO PUT BACK INTO SERVICE THE FIRE ALARM SYSTEM. CONTRACTOR SHALL FIELD VERIFY QUANTITY OF DEVICES. AUDIO/VISUAL ANNUNCIATORS ON NORTH AND SOUTH INTERIOR WALLS. AUDIO/VISUAL ANNUNCIATOR ON SOUTH EXTERIOR WALL.

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ADDENDUM NO. 3 - FILE NO. 55-24



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CITY OF CLEVELAND
CLEVELAND DIVISION OF WATER
 DEPARTMENT OF PUBLIC UTILITIES
 CLEVELAND, OHIO

SUBJECT: CYCLE H - GREEN PUMP STATION
WIRING BLOCK DIAGRAM

DRAWN BY: E. KLINE
 DESIGNED BY: E. KLINE
 CHECKED BY: J. SIDOTTI

SCALE: AS NOTED
 DATE: 12/2021

CWD NO:
 SHEET NO: **E-12**