



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 14, 2024

ADDENDUM 5

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

BID DUE: Thursday, July 18, 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. Extend the bid opening date.
2. Extend the last day for questions.
3. Remind potential bidders of the OEO participation goals.
4. Make changes to the specifications.
5. Make changes to the contract drawings.
6. Answer questions received.

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. 5

The bid due date is extended to July 18, 2024 and bids must be date stamped no later than 11:59 a.m. that day.

The last day for questions is extended to July 8, 2024 by 12:00 p.m.

OEO Participation Goals

- Reminder that the OEO participation goals are 15%/MBE, 7%/FBE, and 8%/CSB. Please make a good faith effort to meet the goals.

Changes to the Specifications:

1. Section 32 31 13 – Chain Link Fence and Gates is deleted. Refer to the detail on sheet C-03 for ornamental security gate requirements.

Changes to the Contract Drawings:

1. C-01 - Showing approximate routing of gas service.
2. C-03 - The gate detail was revised to reflect an ornamental security gate instead of a chain link gate, to match the rest of the existing gate.
3. I-05 thru I-10 and I-20 - Revised to include an intermediate position limit switch on the discharge check valves, and to include check valve closed as a start permissive for the pumps.
4. E-12 - Revised to add a CAT6 cable from each pump local control panel to the master control panel.

Answers to questions received:

1. There is a discrepancy in the duration of the guarantee period on the project. General Conditions B-38 states the guarantee period is 12 months. Supplemental General Conditions C-12 for insurance says there is a 24 month period. Please clarify.

Answer: C-12 supplements B-38, so 24 months is the guarantee period.

2. The ball check valves with hydraulic actuators are specified to operate with slow and fast speeds. At other CWD pump stations this is done with open, intermediate (20% open) and closed limit switches mounted on the valve that communicate with the associated pump LCP. The pump LCP then commands solenoid valves on the hydraulic actuator control panel for slow/fast open and closed. These switches and positions are not indicated in the valve specifications or on the ladder diagrams for the pump LCPs. This would provide local control of pumps if the RTU is out of service. Please provide additional information on the logic for opening and closing the ball check valves in coordination with pump start/stop.

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Answer: The ball check valves shall include an intermediate limit switch in addition to the open and closed limit switches. Ladder diagrams have been modified to incorporate the intermediate limit switches and slow and open commands.

3. The pump LCP sequence of control does not indicate that the ball check valves being closed is a permissive for pump start. This permissive is common at other locations.

Answer: Ladder diagrams have been modified to add a relay indicating ball check valve closed position, and adding that relay as a start permissive for pump start.

4. The ladder diagrams for the pump LCPs show two solenoids for operation of the hydraulic cylinders. Please provide additional detail on the purpose of each solenoid valve and their sequencing with ball check valve position and pump start/stop.

Answer: Please see line 1044 of the schematic on sheet I-10. This shows the startup sequence for the pumps. After pump start, and following a 5-second timer, switch TD1 closes, powering both solenoids. The normally open solenoid closes and the normally closed solenoid opens, opening the discharge control valve (ball check valve).

5. Please confirm the existing first floor slab can support loading imposed by construction loading. For example a 36" gate valve can weigh between 4-5 tons.

Answer: EL 1131.50 slab has a design load rating of 200 psf. It is the Contractor's responsibility to determine the means and methods to ensure the safety of the structure during construction.

6. The existing louvers have operable/lockable security bars on the exterior of the building. Are the new louvers to have new lockable/operable security bars?

Answer: Security bars to be removed, but not replaced.

7. Please confirm that the existing overhead door is to remain. Only the operator and weather stripping is to be replaced.

Answer: Existing overhead door not to be replaced.

8. Drawing I-04 currently only shows chlorine from the water quality panel. There are a number of other instruments on the water quality panel that are not shown on the drawings. Do those need to be added to the loop drawings?

Answer: The chlorine analyzer is separate from the water quality panel. Currently the RTU only receives a signal from the chlorine analyzer and does not receive any signals from the water quality panel. The new PLC matches this, therefore, no instruments from the water quality panel need to be added.

9. Where is the existing water quality panel to remain to sample water from?

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Answer: No modifications are being made to the existing water quality panel under this project.

10. The mechanical drawings state to refer to the structural drawings for pipe support details. However, the only detail supplied is for pipe straps connected to concrete thrust blocks. Will a detail be provided for the pipe stand and various valve supports?

Answer: Pipe support detail is found on lower left corner of sheet S-03.

11. Per plan, portions of the existing concrete driveway are removed and replaced. However, there are no details for said repairs within the plans for concrete drives. Can a detail be provided for these replacements/repairs?

Answer: See sheet S-03.

12. I am looking at the Green Rd Pump Station project. Concerning the gates. Drawing C-01 shows a single leaf 18' wide gate. The chain link detail on C-03 shows a double gate.

Answer: Both C-01 and C-03 show a vehicle access gate and pedestrian gate.

13. The specification 32-31-13 page 3 Part 2 - Products calls for Sch 80 pipe. This is not readily available and would be cost prohibitive for such a small quantity. SS-40 pipe is the most common used today and is a stock material.

Answer: SS-40 pipe is acceptable.

14. Is there an electric gate operator for the 18' gate, if so what is the voltage and how is it going to operate. A slide gate with an operator would be much better. Call with any questions.

Answer: No electric operator, manual swing gate only.

15. See question below from the RTU supplier. We are working on the bid for this project and have discovered that the existing RTU cannot support the additional I/O required for the project. The only solution would be to add an additional Remote I/O cabinet next to the relocated RTU panel. Can you send in a question to see if there will be room to add another cabinet because existing RTU panel cannot support or be modified to add additional I/O. We need to add a Remote I/O panel that will house all new I/O and new HMI. In addition we will need to upgrade the exiting HSQ RTU processor to support the Remote I/O software. Existing RTU is running DOS. We would need to add

- 3- DI Boards
- 1-DO Board
- 1-AI Board
- 1_AO board

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6 additional I/o boards, plus upgrade Processor , replace power supply to 10 amp, replace power control Board and add an ethernet switch for connection the new HMI display on for of existing RTU panel.

One option is to add the additional RIO panel for the added I/O in separate enclosure and include the HMI in that panel.

Second Option is to convert the new Marshalling panel (Terminal Block panel) to the RIO panel as one. This way you can keep the existing RTU panel (Relocated with above mentioned modifications) and terminate all new I/O direct to the RIO PLC and have one less point of connection failure.

I believe the second option would be the most cost effective. (Sketch included)

Answer: See drawing changes related to RTU and PLC panels in Addendum No. 3.

16. Vibration testing is discussed in general specs as well as pump spec. In pump spec it is listed in the field test section only -- 3rd party vibration. Please advise if FEA analysis is to be conducted by Xylem or 3rd party prior to manufacturing as well. One part of the spec states flow conditioning basket and that the pumps have 18" submergence.

Answer: Third party vibration analysis is required. FEA is not required per the specifications, but the supplier's vibration analyst's Professional Engineer must be experienced in preparing FEA, per 01 61 00 1.02.B.4.a. Please clarify question regarding flow conditioning basket and submergence.

17. Section 400500 – Pipe Schedule for PW (System 10): Exposed ductile iron service notes cement lining for pipe and fusion bonded epoxy coated. However, section 099100 2.02.D (interior non-submerged ferrous metals) notes a shop primer such as Tnemec N69. Is the interior process ductile iron pipe to be provided as cement lined with a shop applied epoxy primer or to be fusion bonded epoxy lined and coated? Please clarify.

Answer: 09 91 00 2.02D is not intended to apply to process piping. The requirements of 40 05 00 System 10 govern coatings for potable water pipe.

18. We are interested in having Integrity Pump & Motor named as an acceptable manufacturer for Section 43 24 05 (Vertical Suspended Centrifugal Pumps) via addendum. Integrity has confirmed they can meet the specifications and I have attached a curve for your consideration.

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. Please confirm that the owner can isolate the pipe in the basement of the pump station of the building by utilizing existing buried valves outside of the pump station.

Answer: Yes.

20. Will the overhead crane be permitted for use by the contractor for the duration of the contract?

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Answer: Yes.

21. On Drawing E-04 it shows a welding outlet & a 480 outlet on the one-line. I could not find them on the electrical drawings for their actual location. Please confirm the welding/480v outlet location.

Answer: Receptacles shown on E-09, Basement Lighting Plan, on the East wall.

22. Are there any pipe spools, fittings, valves, couplings, etc. on the interior PW lines that are to have Class 250 drilled flanges? The specs contain some conflicting information regarding flanges and the Ball Valve spec for 6" to 24" ball valves references Class 250 flanges. However, the plans and specs do not specifically note where or if any flanges should be drilled to class 125 or 250. Please clarify.

Answer: The design working pressure for the suction pipe, flanges, and valves is 150 PSI, and suction pipe and flanges shall be Pressure Class 150. The design working pressure for the discharge pipe, flanges, and valves is 250 PSI, and discharge pipe and flanges shall be Pressure Class 250. Pump suction and discharge flanges shall be provided to match pressure rating and flanges of supplied ductile iron pipe. Ball valves are Pressure Class 250 as stated in the Contract Documents.

23. There may still be some confusion on the working pressure ratings versus flange class drilling for the ductile iron pipe, fittings, valves, couplings etc. I am writing to try to confirm what the intent is for the discharge piping, fittings, valves, etc.
- ANSI/ASME 125/250 standards refer to grey iron while 150/300 refer to ductile iron The flange O.D. and drilling pattern is the same for Class 125 and Class 150 flanges.
 - The flange O.D. and drilling pattern is the same for Class 250 and Class 300 flanges.
 - Class 125/150 flanges do not mate up with class 250/300 flanges (drilling patterns and bolt sizing differ) class 250/300 will achieve higher pressure ratings than 125/150.
- Clarification: When you refer to 250 psi, are you referring to the class of flange and its drilling pattern or are you referring to the minimum working pressure of 250psi that the flanges must meet? I ask because 250 flange class and 250 PSI have been used at the same time in the plans, specs and Addendum 3 and can be contradicting at times. If Class 250/300 flanges are required, all pipe, fittings, couplings, pumps, valves etc on the discharge side must be drilled to that pattern in order to mate up. The pump spec makes a reference to ASME B16.1 125/150 lb discharge head flange. The ball valve spec references Class 250 flanges.

Answer: See answer to No. 22 above.

24. On the North side of the pump station the contractor is to replace 2 sections of piping on the 36" and 24" intake/discharge lines to a point 2.5' outside of the building. When excavating for the 36" stub there is an existing electrical feed designated to be protected, however, the plans do not show where this feed runs to and what it is feeding. Please indicate the feeder location and connection voltage as this connection will need to be temporarily removed and reworked.

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Answer: Generator power conduits that run East of the 36" line shall be protected during excavation. The voltage of the generator feed is 480V, 3PH. See sheet E07. An existing 16" valve vault and chlorine vault are also routed through this area and shall be protected. Contractor to verify any other existing duct banks that leave the North wall and are impacted by the excavation.

25. On the North side of the pump station the contractor is to replace 2 sections of piping on the 36" and 24" intake/discharge lines to a point 2.5' outside of the building. When excavating for the 36" stub there is an existing gas meter/feed shown on the plans, however, the gas line service from the main is not shown in the plans. Please indicate approximate routing of gas line from the main to the meter and the specific size/material of the existing service.

Answer: See revised C-01 in this addendum showing approximate routing of gas service. Based on Dominion East Ohio provided information, gas service is assumed to be 1" steel.

26. On the bid drawings, the one line of the MCC differs with the elevation, we need confirmation which is correct. If it is the elevation, the one line needs to be adjusted to give the appropriate sizes/ratings needed.

Answer: It is unclear where the discrepancy between the MCC one-line diagram and elevation exists. Contractor to clarify the exact discrepancy in question. See response to No. 27 for clarification on one-line diagram and the elevation.

27. There is an MLO section in the MCC elevation graphic, which is not shown on the one line. Is it to be included in the MCC?

Answer: The MLO section is for the existing standby generator connection as shown on the one-line diagram. The MLO section shown on elevation on E05 is not explicitly labeled MLO on the one-line diagram on E04.

28. On sheet, E-12, Note #4 states the contractor is responsible for field verifying quantities of fire alarm devices and reworking all existing fire alarm conduit and cable. Since there are no more site visits, can the locations and quantities of these devices be located on the drawings to allow for an accurate and competitive bid?

Answer: Contractor scope of Work is as stated in the Contract Documents; to field verify the existing FACP devices. Existing fire alarm control system generally includes 3-4 smoke detectors in the main pump room, 2-3 audio/visual notification devices on the building exterior at the manddoors. Final quantity and location to be verified by Contractor.

29. On sheet, E-12, Note #2 states that from the junction box to the Gate house is all existing cable & conduit. Can you please provide a location of this existing junction box that leads to the gate house?

Answer: Junction boxes proposed for the Gate House are proposed new. Provide new junction boxes on the exterior wall to allow for splice connections to the existing conductors.

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30. On sheet, E-12, Note #3 states that from the junction box to the 36" Valve Vault is all existing cable & conduit. Can you please provide a location of this existing junction box that leads to the 36" Valve Vault?

Answer: Junction boxes proposed for the 36" Valve Vault are proposed new. Provide new junction boxes on the exterior wall to allow for splice connections to the existing conductors.

31. Can the location of all existing circuits/devices that will be modified into the new LP-2 & LP-3 panelboards be shown on the site drawings?

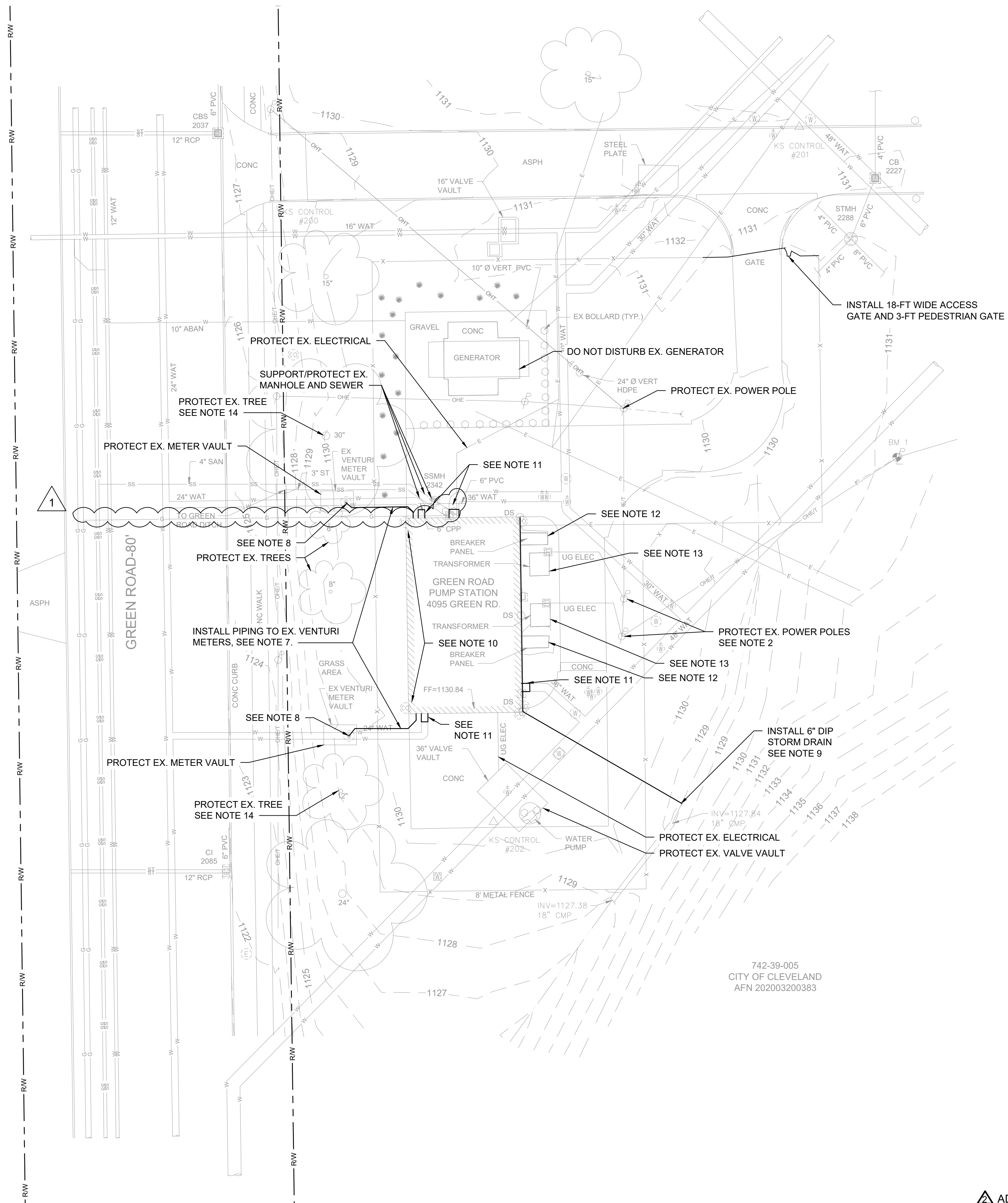
Answer: For panelboard circuits located on the interior of the building see Electrical plan views for equipment locations. See Civil site plans for location of exterior circuits (16" and 30" valve vaults, etc.).



ISSUED FOR BID

GENERAL SHEET NOTES

- FIELD VERIFY ALL SURFACE FEATURES AND UTILITIES PRIOR TO INITIATING SITE WORK.
- COORDINATE WITH UTILITY OWNERS FOR PROTECTION AND/OR RELOCATION OF EXISTING OVERHEAD UTILITIES.
- SECURE THE SITE AT THE END OF EACH WORK DAY.
- COORDINATE WITH THE VILLAGE OF HIGHLAND HILLS FOR MAINTENANCE OF TRAFFIC AS REQUIRED TO COMPLETE PROPOSED WORK.
- RESTORE AREAS DISTURBED BY CONSTRUCTION ACTIVITIES IN KIND AND AS SHOWN ON C-02.
- ADDITIONAL STAGING AREAS REQUIRED FOR CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- INSTALL AN 8-INCH DUCTILE IRON CASING PIPE TO CARRY THE TWO (2) 1-INCH SCHEDULE 40 PVC PIPES LOCATED DOWNSTREAM AND UPSTREAM THE EXISTING VENTURI METER AS SHOWN WITH FOUR (4) FEET MINIMUM COVER. CONTRACTOR SHALL ALSO INSTALL TWO SPARE 1-INCH SCHEDULE 40 PVC PIPE WITHIN EACH CASING PIPE AND CAP AT EACH END. ALL PIPING SHALL BE INSTALLED TO REDUCE THE NUMBER OF BENDS AND SLOPED TO AVOID HIGH POINTS.
- CORE THROUGH EXISTING STRUCTURE WITH A 2-INCH MINIMUM ANNULUS AND BACKFILL WITH NONSHRINK GROUT AND HYDROPHILIC WATERSTOP.
- INSTALL 6-INCH DUCTILE IRON STORM PIPE THAT CONNECTS TO ROOF DOWNSPOUTS AND DAYLIGHTS UPSTREAM THE EXISTING 18" CMP CULVERTED PIPE AS SHOWN. PIPE SLOPE AND COVER SHALL BE MAXIMIZED BASED ON EXISTING ELEVATIONS. CONCRETE DRIVEWAY SHALL BE SAWCUT AND REPLACED IN KIND TO INSTALL PIPE.
- INSTALL DIFFERENTIAL PRESSURE SENSOR INSIDE PUMP BUILDING.
- REPLACE 2.5FT OF PIPE OUTSIDE OF WALL. SEE SHEET M-07 FOR DETAIL. REFER TO SPECIFICATIONS FOR EXCAVATION AND TEMPORARY EXCAVATION SUPPORT REQUIREMENTS.
- EXISTING SERVICE ENTRANCE RATED CIRCUIT BREAKERS TO BE REMOVED AND TEMPORARILY STORED FOR CONCRETE PAD AND ASSOCIATED CONDUIT REPLACEMENT. CIRCUIT BREAKER SHALL BE REINSTALLED AFTER CONCRETE PAD AND CONDUIT INSTALLATION. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- EXISTING PAD-MOUNTED TRANSFORMER TO BE REMOVED AND TEMPORARILY STORED BY FIRST ENERGY AND CONCRETE PAD REPLACEMENT. FIRST ENERGY SHALL REINSTALL AFTER CONCRETE PAD AND CONDUIT INSTALLATION. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
- IF TREE CANNOT BE PROTECTED DURING CONSTRUCTION, CONTRACTOR TO REPLACE IN KIND DURING RESTORATION OF SITE.



742-39-005
CITY OF CLEVELAND
AFN 202003200383



REVISIONS		
NO	DATE	BY

CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
SITE PLAN

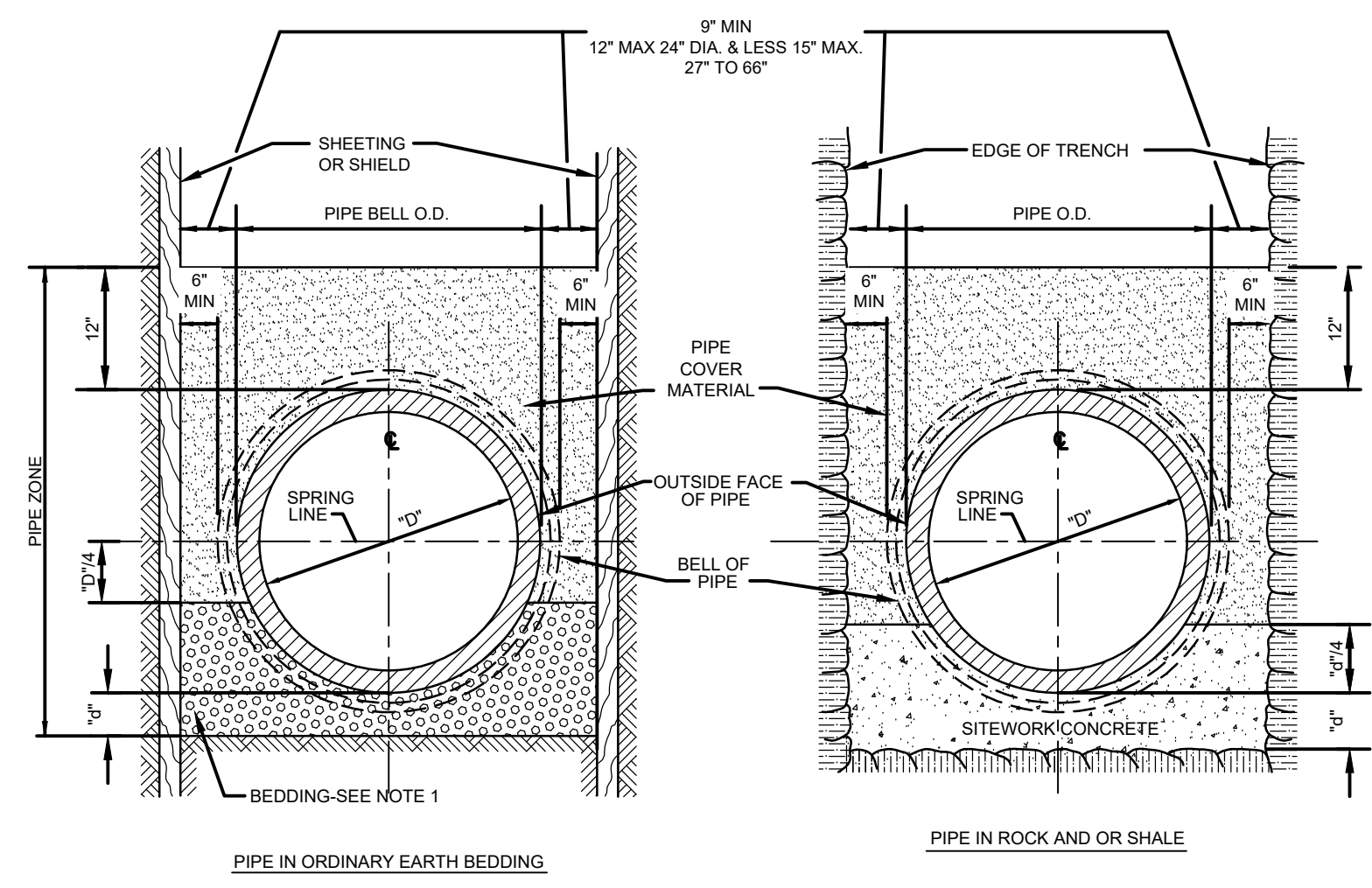
DRAWN BY: VKN	SCALE: 1"=20'	CWD NO:	SHEET NO:
DESIGNED BY: AD	DATE: 12/2021		C-01
CHECKED BY: AJA			

ADDENDUM NO. 5 - FILE NO. 55-24
ADDENDUM NO. 3 - FILE NO. 55-24

UNDERGROUND UTILITIES
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BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
@UTILITIESPROTECTIONSERVICE

NON-MEMBERS MUST BE CALLED DIRECT
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2 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 800-925-0988
OR 216-442-3300
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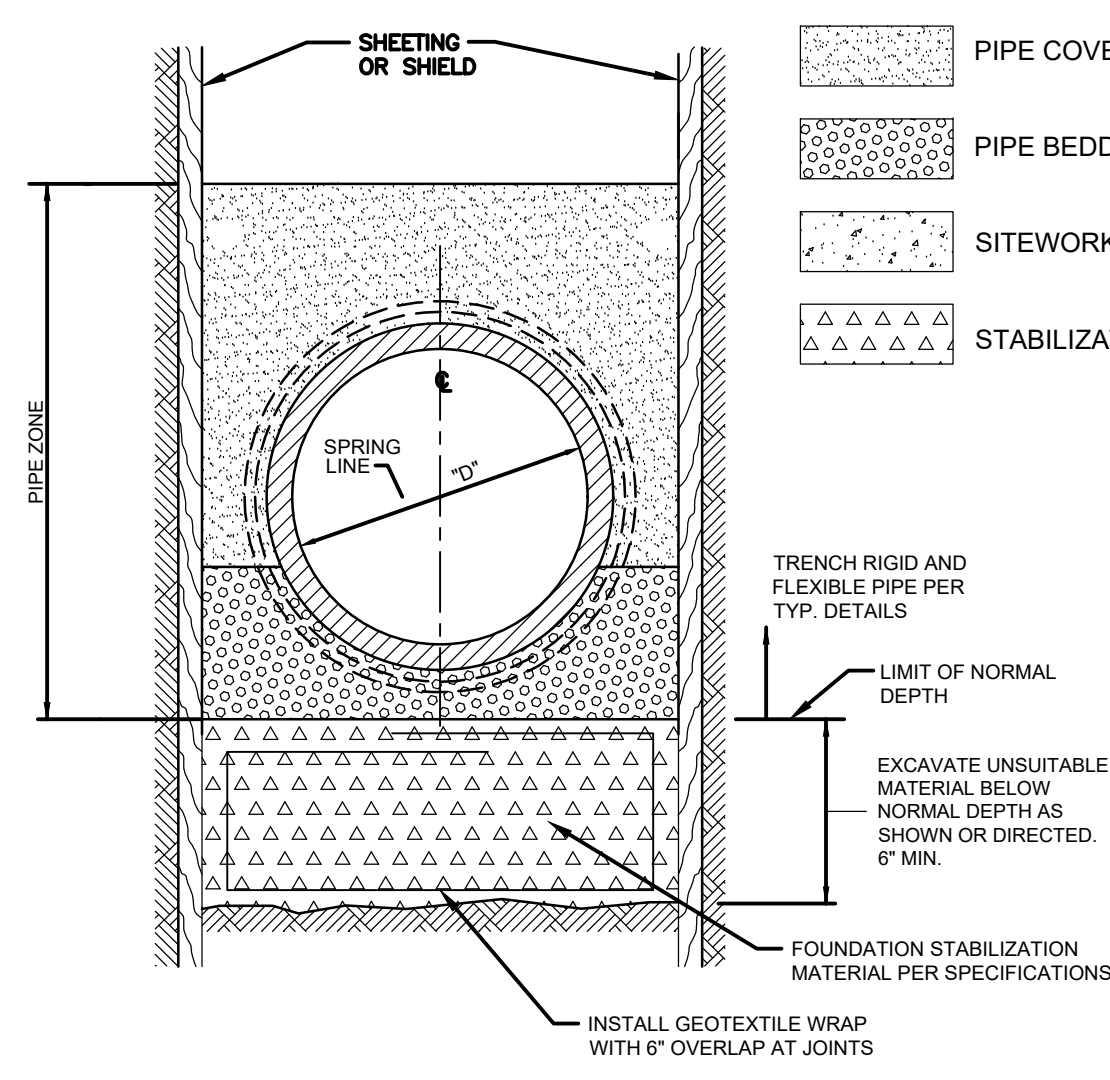


PIPE IN ORDINARY EARTH BEDDING

PIPE IN ROCK AND OR SHALE

TRENCH HATCH LEGEND:

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

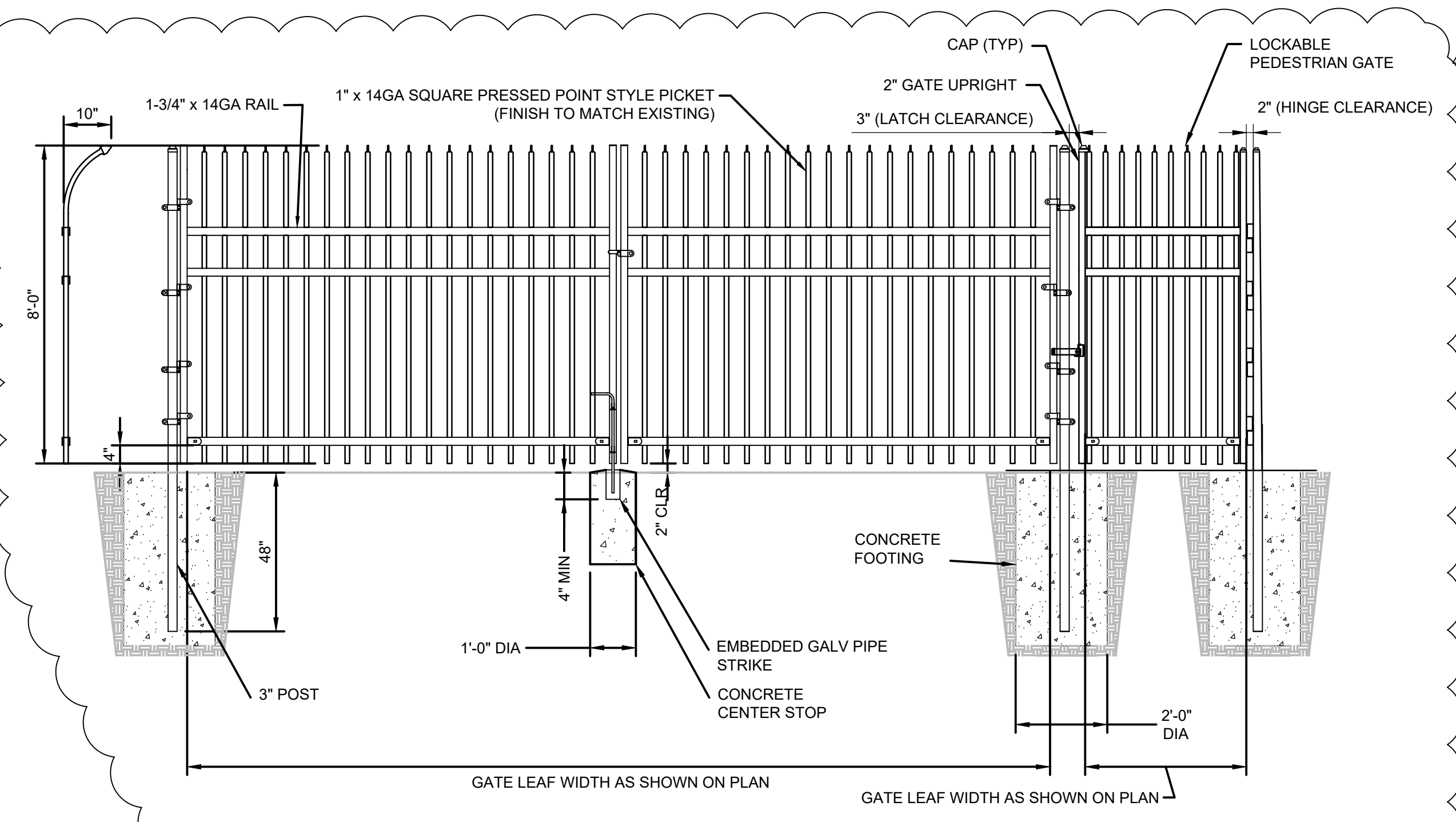


FOUNDATION STABILIZATION MATERIAL PER SPECIFICATIONS

INSTALL GEOTEXTILE WRAP WITH 6\"/>

TRENCH NOTES:

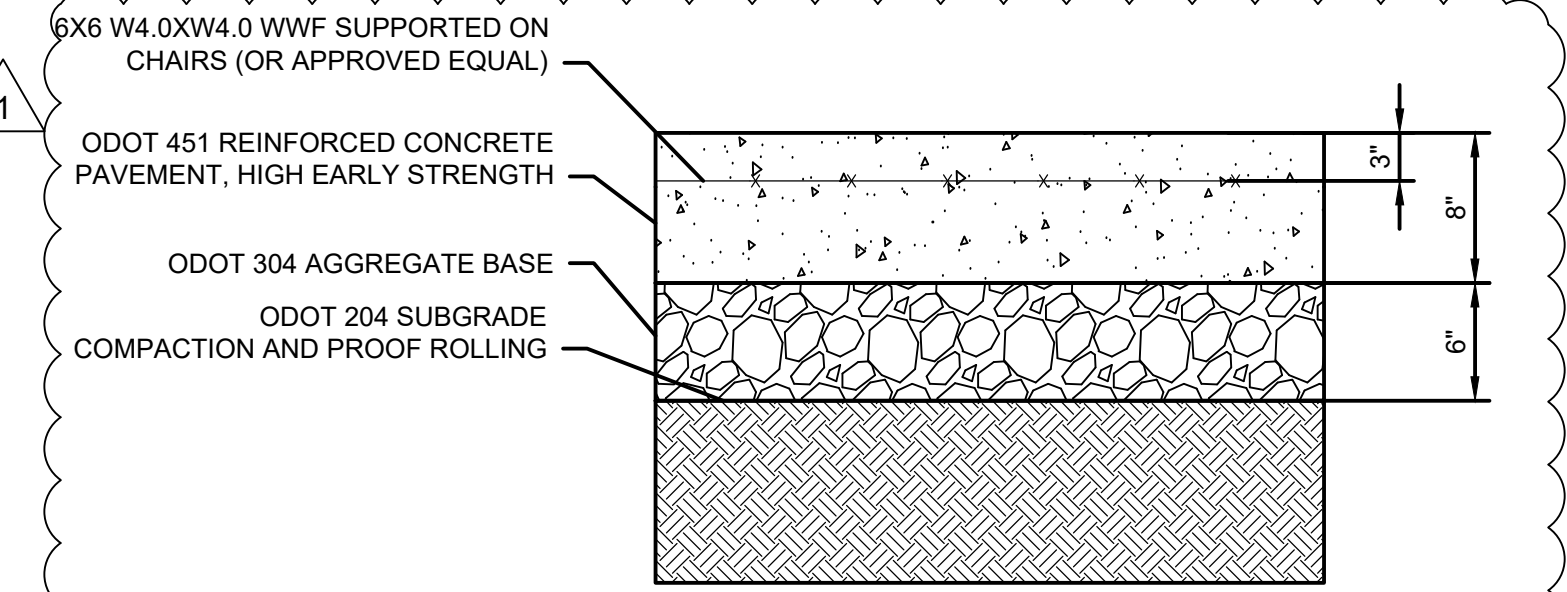
1. PIPE BEDDING SHALL COMPLY WITH THE FOLLOWING PROVISIONS:
 - A) 8\"/>
2. ALL ROCK WITHIN 3'-0\"/>
3. REQUIREMENTS FOR TRENCH EXCAVATION AND BACKFILL BELOW NORMAL DEPTH ARE DESCRIBED IN THE SPECIFICATIONS.
4. REQUIREMENTS FOR USE OF GEOTEXTILE ARE DESCRIBED IN THE SPECIFICATIONS.



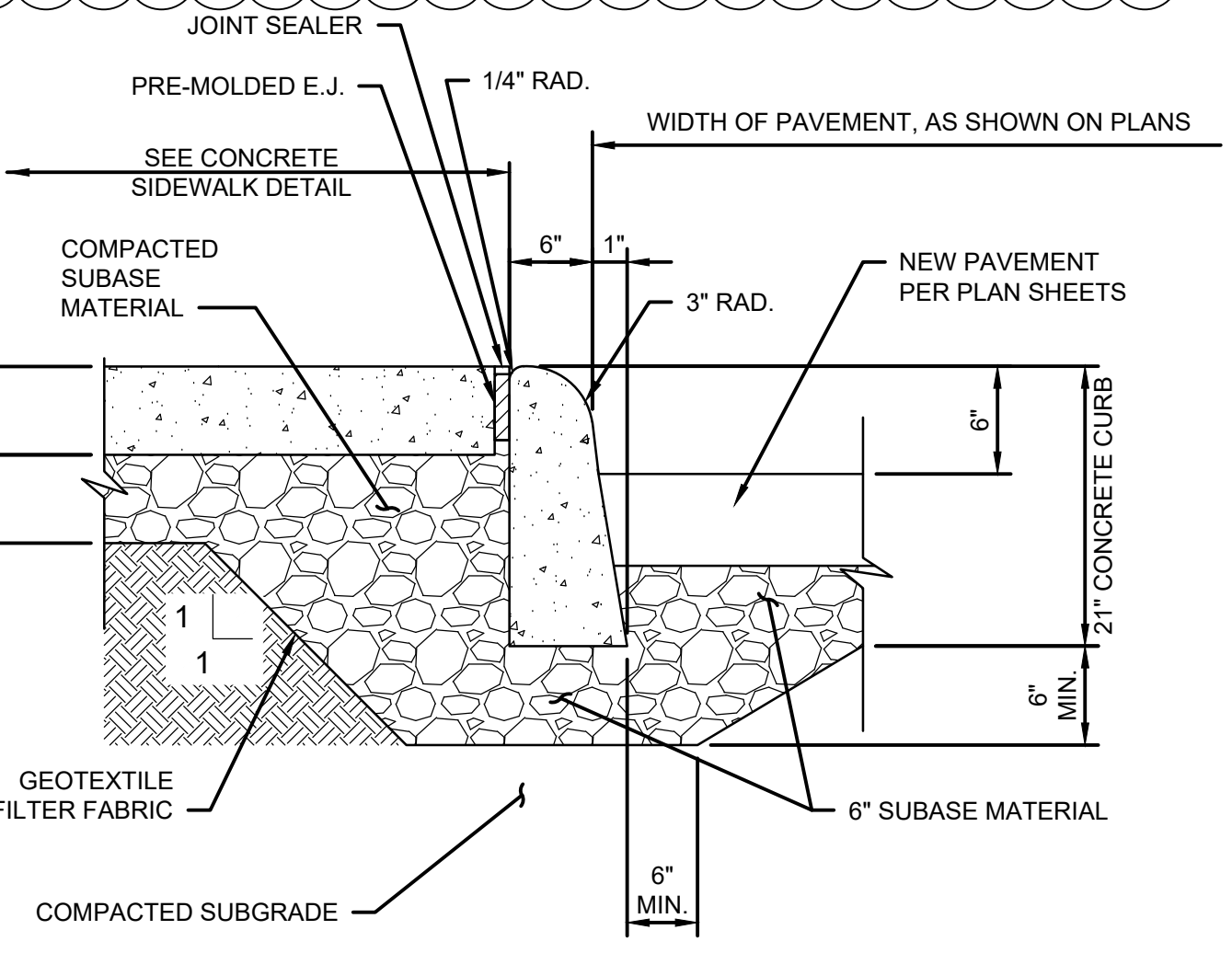
ORNAMENTAL SECURITY GATE
NOT TO SCALE

NOTES:

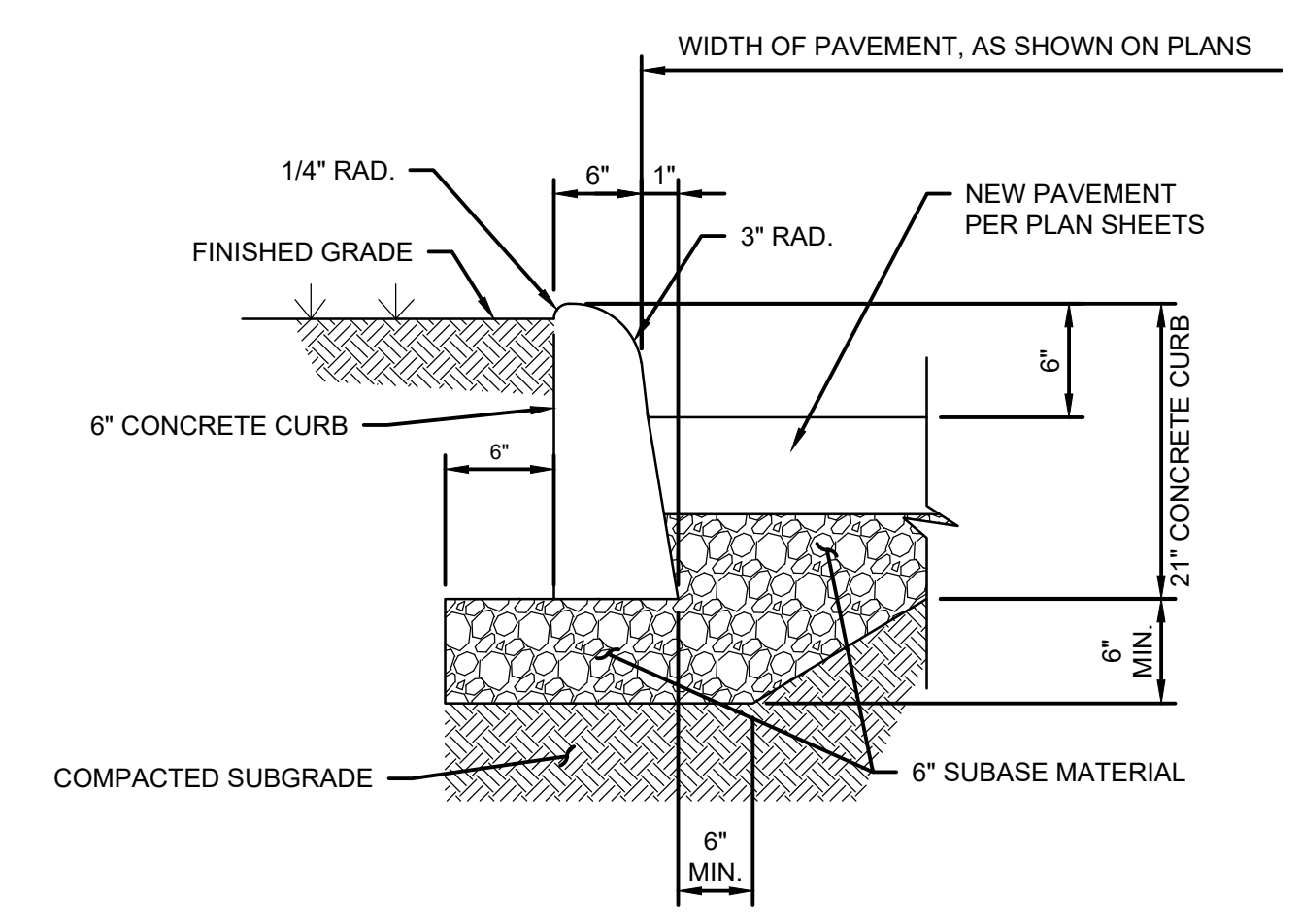
1. GATE TO BE AEGIS II INVINCIBLE, 2-RAIL DESIGN, BY AMERISTAR FENCE PRODUCTS OR APPROVED EQUAL.
2. MATERIALS SHALL CONFORM TO ASTM-A924 (BEFORE FORMING) AND ASTM-A1011 (AFTER FORMING) WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI.
3. MATERIALS TO BE HOT DIP GALVANIZED PER ASTM-A653 WITH A MIN. ZINC COATING WEIGHT OF 0.90 OZ/SF BEFORE FORMING AND 0.45 OZ/SF AFTER FORMING.
4. CONCRETE FOOTING TO HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2500 PSI.



CONCRETE PAVEMENT
NOT TO SCALE



6\"/>



6\"/>

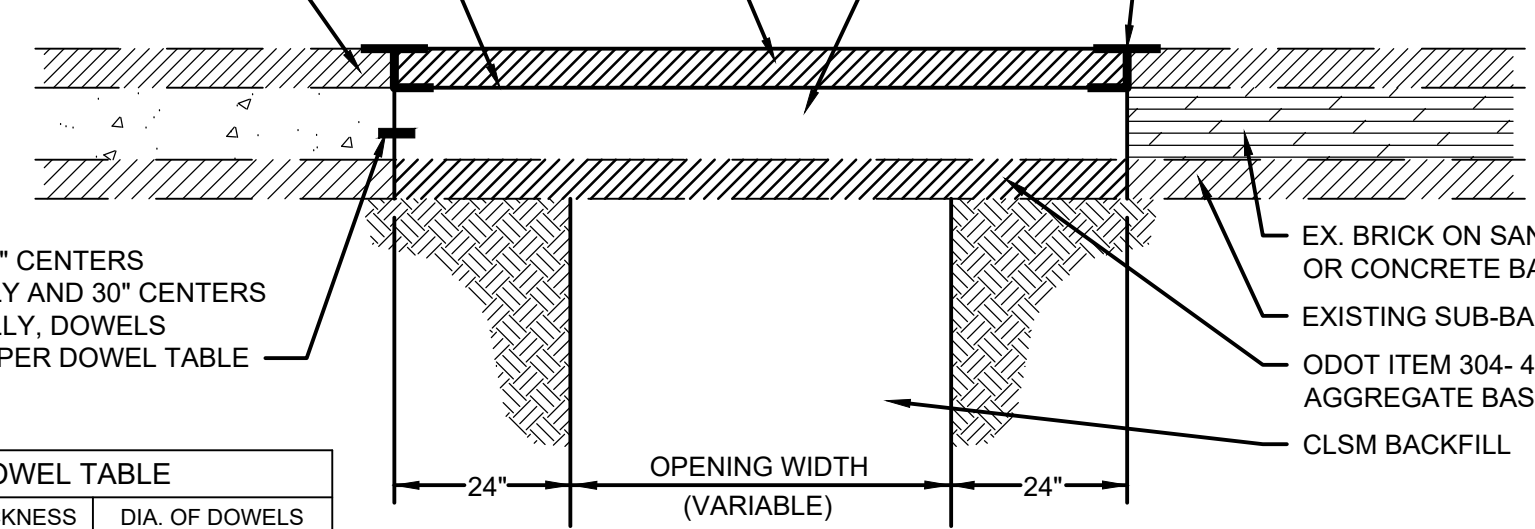
ODOT ITEM 448, 1.5\"/>

ODOT ITEM 305 MIN. 9\"/>

NEW BASE TO BE NO HIGHER THAN EXISTING CONCRETE OR BRICK BASE.

JOINT TO BE SEALED WITH ASPHALT CEMENT HOT APPLIED AS PER PER ODOT ITEM 705.04 AT A UNIFORM WIDTH OF APPROX. 6\"/>

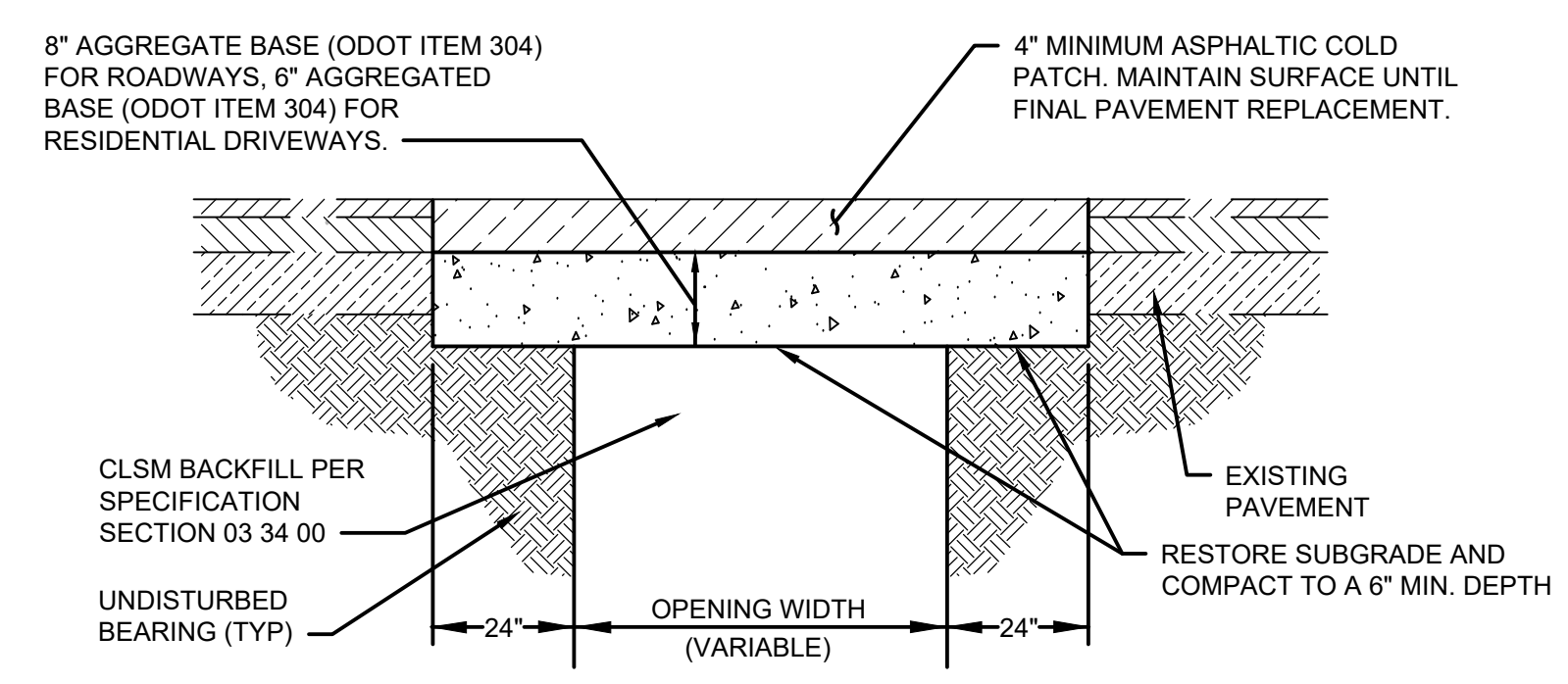
EXISTING ASPHALT SURFACE 1.5\"/>



DOWEL TABLE	
PAVEMENT THICKNESS	DIA. OF DOWELS
8\"/>	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

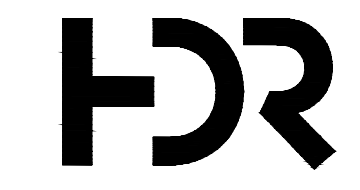


TEMPORARY ASPHALT PAVEMENT
NOT TO SCALE

- ADDENDUM NO. 5 - FILE NO. 55-24
- ADDENDUM NO. 3 - FILE NO. 55-24

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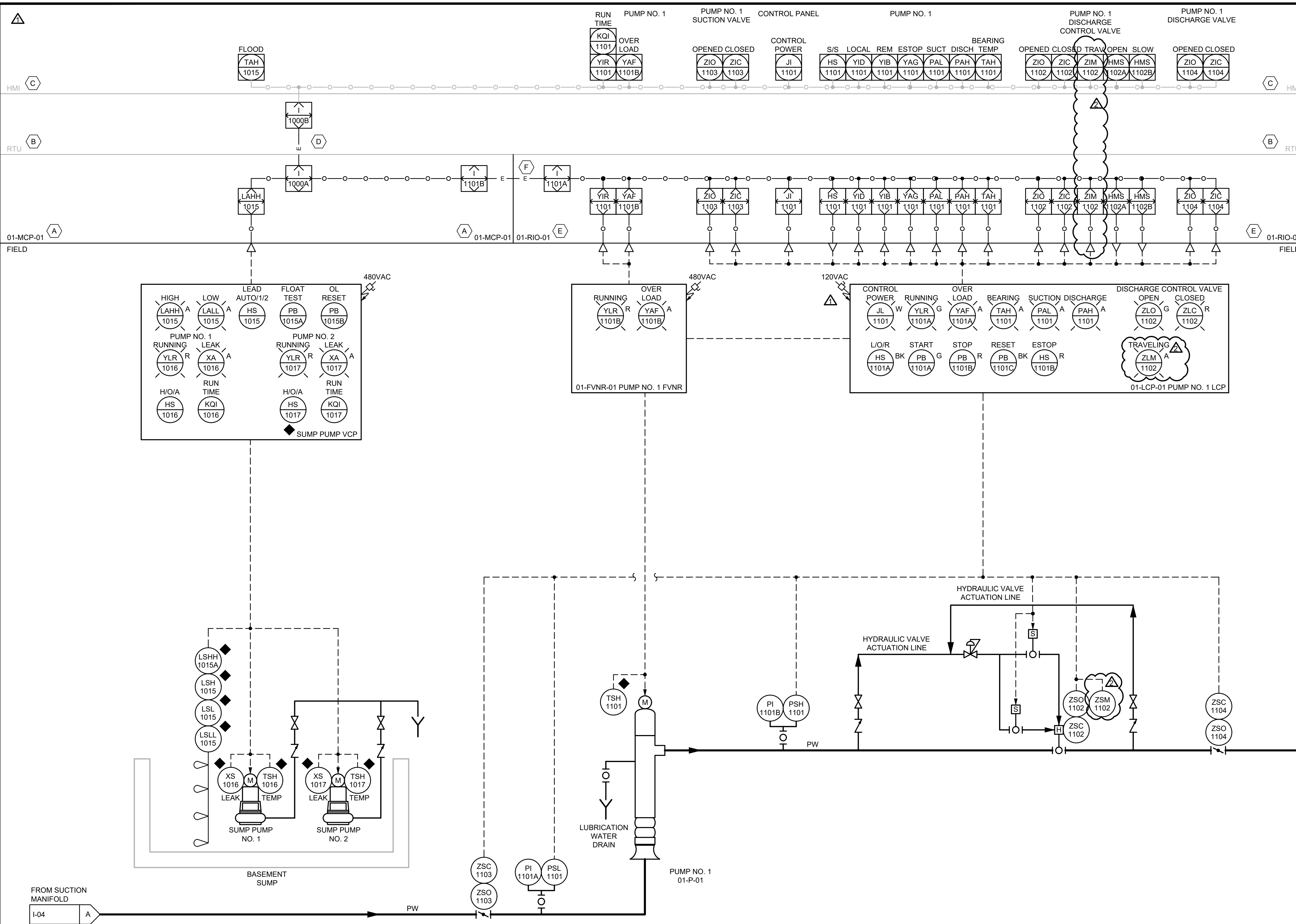
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NO.	DATE	BY

CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
CIVIL DETAILS

DRAWN BY: VKN	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: AD	DATE: 12/2021		C-03
CHECKED BY: AJA			



- 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		
NO	DATE	BY

CITY OF CLEVELAND

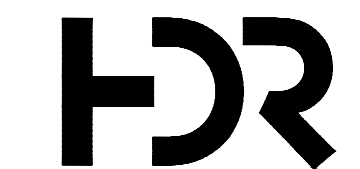
CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
PUMP NO. 1 P&ID

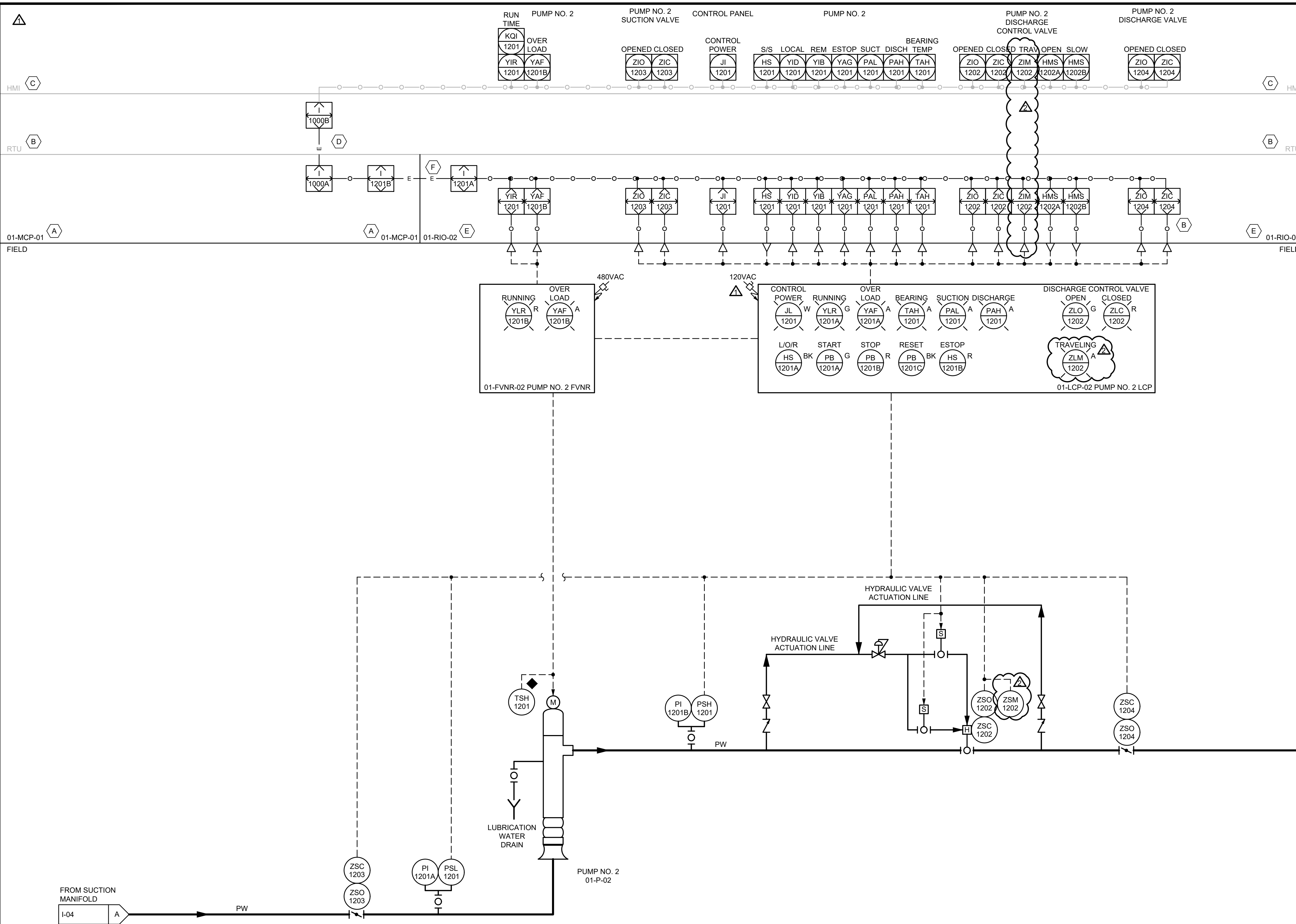
DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: SJT	DATE: 12/2021		I-05
CHECKED BY: VM			

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OHIO UTILITIES PROTECTION SERVICE
UNINCORPORATED PRELIMINARY SERVICE
(OGPUPS)



ADDENDUM NO. 5 - FILE NO. 55-24
ADDENDUM NO. 3 - FILE NO. 55-24



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 - 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

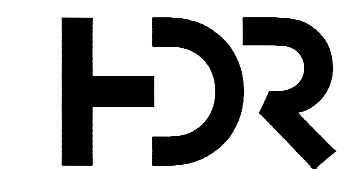
FROM SUCTION MANIFOLD
I-04 A

TO DISCHARGE MANIFOLD
I-04A A

ADDENDUM NO. 5 - FILE NO. 55-24
ADDENDUM NO. 3 - FILE NO. 55-24

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OHIO UTILITIES PROTECTION SERVICE

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OHIO UTILITIES PROTECTION SERVICE
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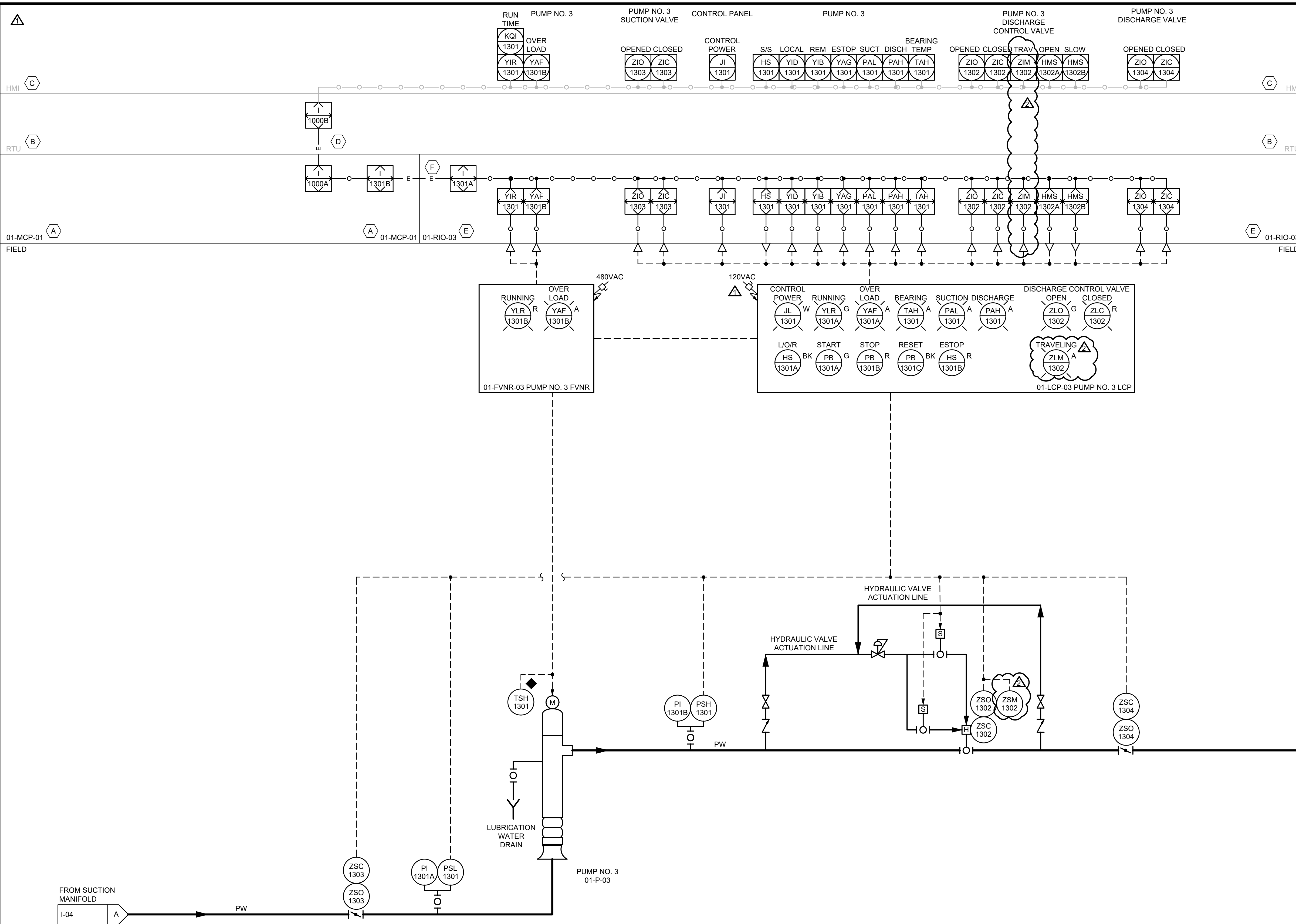
REVISIONS		
NO	DATE	BY

CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

SUBJECT CYCLE H - GREEN PUMP STATION
PUMP NO. 2 P&ID

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: SJT	DATE: 12/2021		I-06
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-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.

ISSUED FOR BID

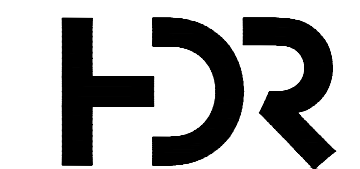
FROM SUCTION MANIFOLD
I-04 A

TO DISCHARGE MANIFOLD
I-04A A

ADDENDUM NO. 5 - FILE NO. 55-24
ADDENDUM NO. 3 - FILE NO. 55-24

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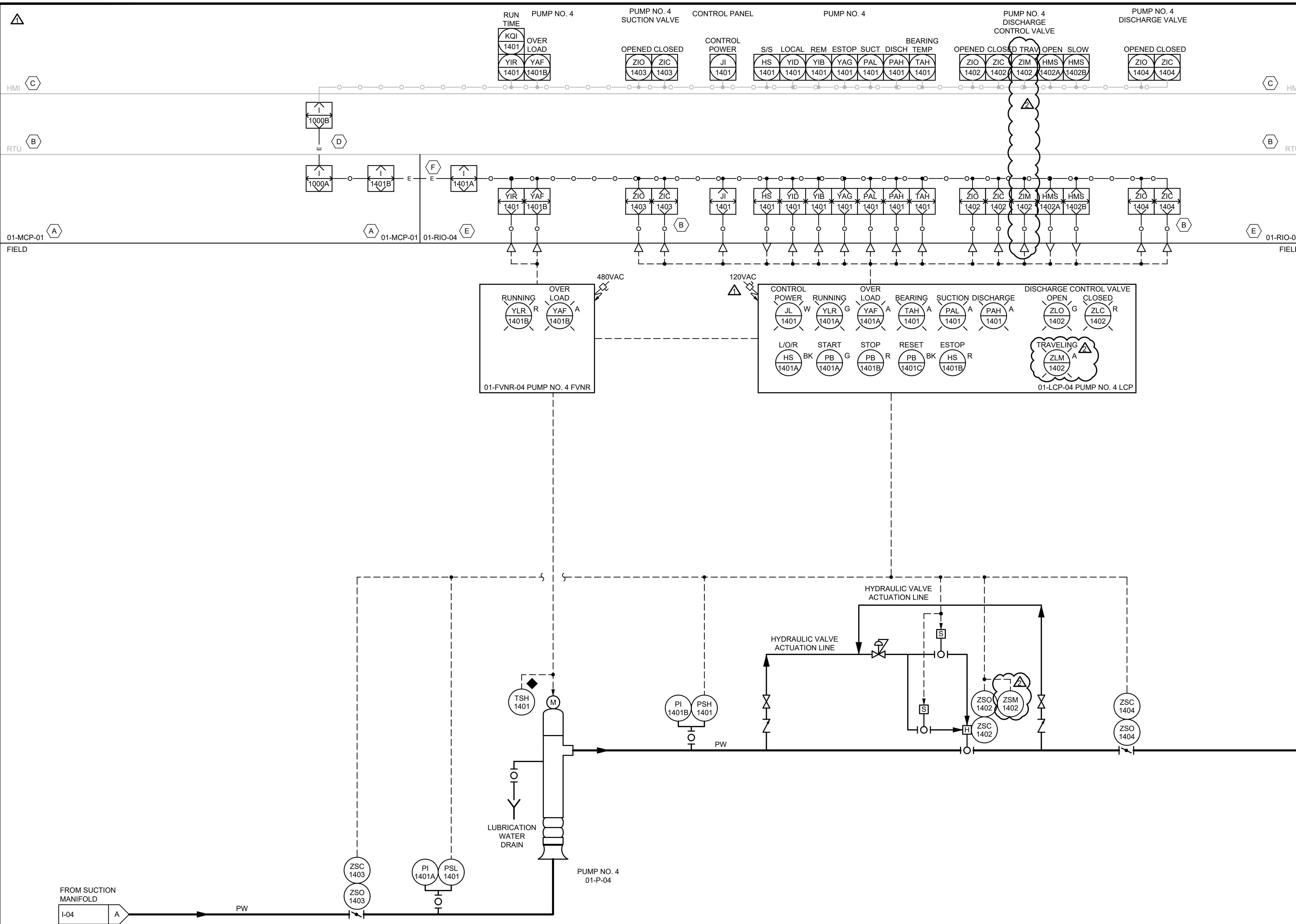
REVISIONS		
NO	DATE	BY

CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

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

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: SJT	DATE: 12/2021		I-07
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-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

FROM SUCTION MANIFOLD
I-04 A

TO DISCHARGE MANIFOLD
I-04A A

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NO	DATE	BY

CITY OF CLEVELAND

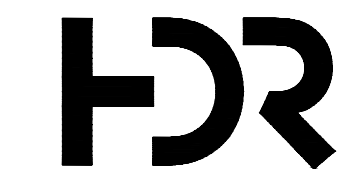
CLEVELAND DIVISION OF WATER
DEPARTMENT OF PUBLIC UTILITIES
CLEVELAND, OHIO

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

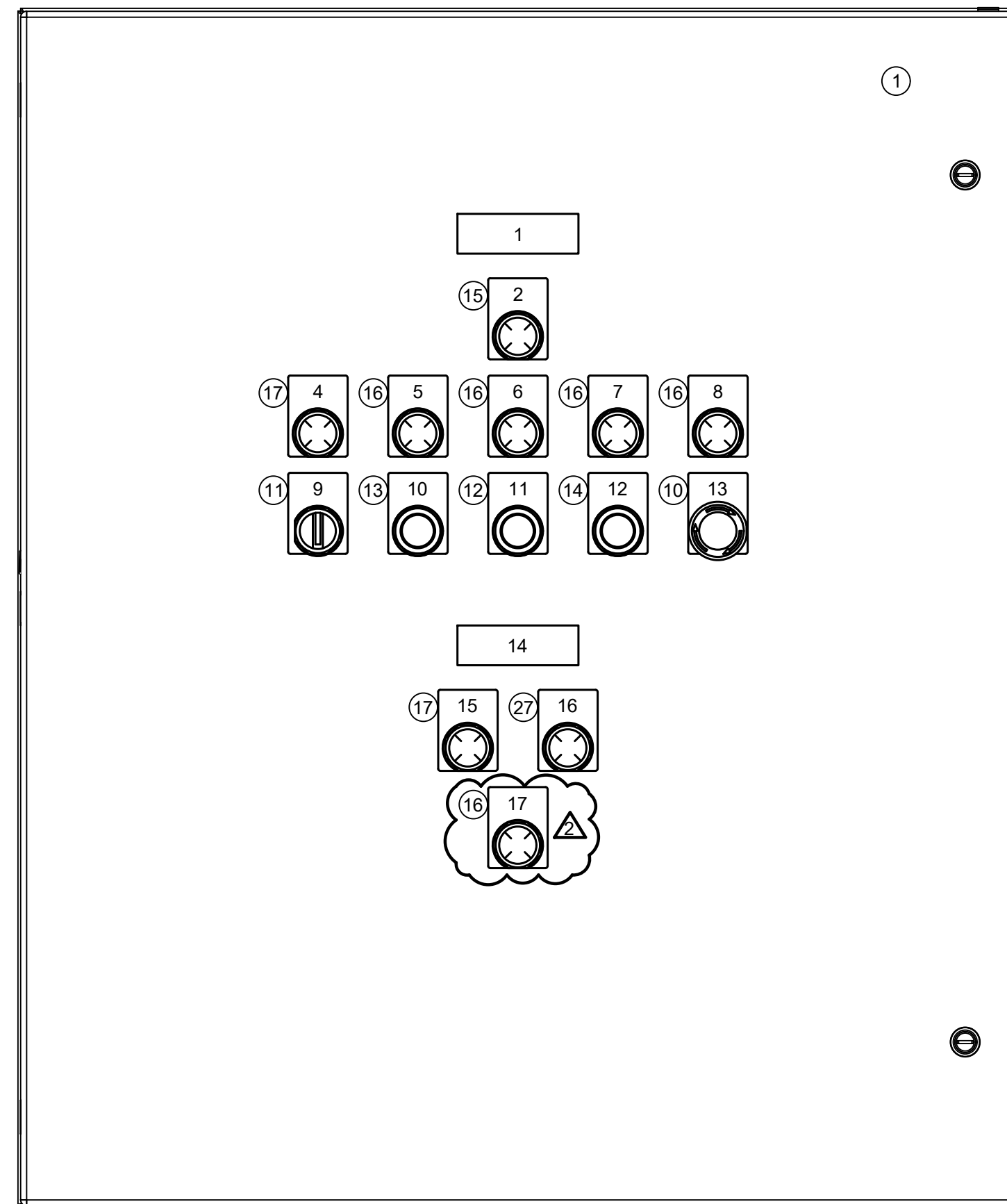
DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: SJT	DATE: 12/2021		I-08
CHECKED BY: VM			

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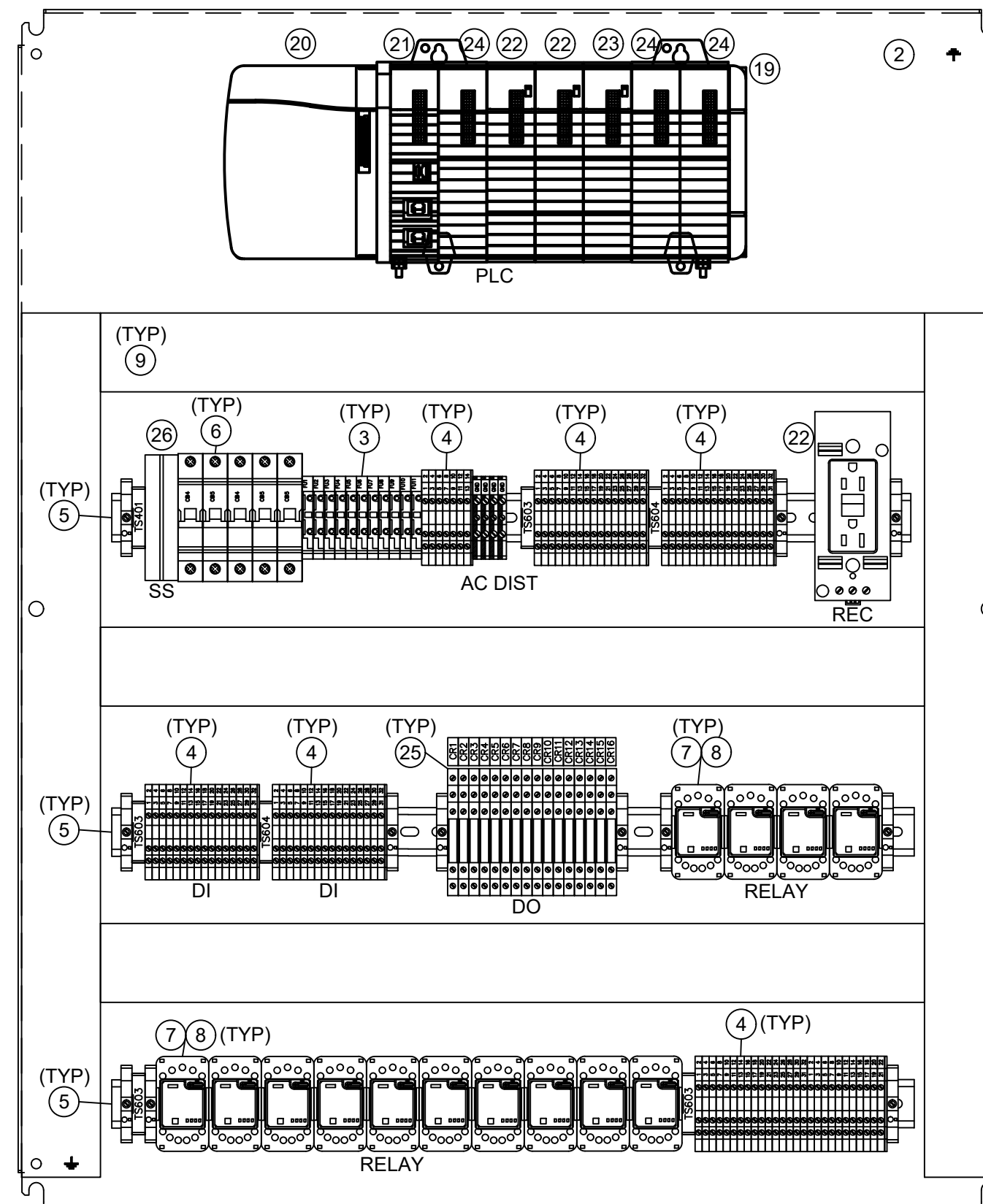
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(OGUPPS)



ADDENDUM NO. 5 - FILE NO. 55-24
ADDENDUM NO. 3 - FILE NO. 55-24



PUMP LOCAL CONTROL PANEL
FRONT DOOR LAYOUT



PUMP LOCAL CONTROL PANEL
BACK PANEL LAYOUT

GENERAL SHEET NOTES

1. 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.
2. 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.
3. 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.
4. PANEL SHALL BE IN ACCORDANCE WITH NEC ARTICLE 409/UL508A.
5. 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.
6. 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.
7. REFERENCE DIVISION 26 AND DIVISION 40 SPECIFICATIONS FOR ADDITIONAL DETAILS AND REQUIREMENTS ON ALL PANEL DEVICES AND HARDWARE.

ISSUED FOR BID

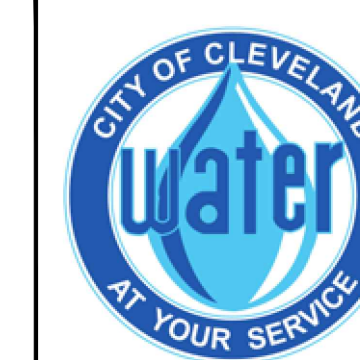
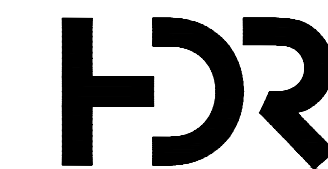
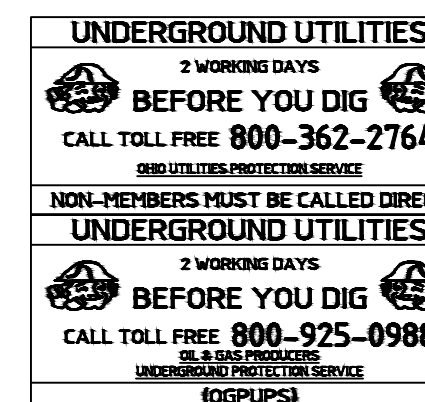
LOCAL CONTROL PANEL BILL OF MATERIALS

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	5	ALLEN-BRADLEY	800T SERIES	30.5mm PUSH-TO-TEST, FULL VOLTAGE LED PILOT LIGHT, AMBER
17	2	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
27	1	ALLEN-BRADLEY	800T SERIES	30.5mm PUSH-TO-TEST, FULL VOLTAGE LED PILOT LIGHT, RED

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
14	DISCHARGE CONTROL VALVE
15	OPENED
16	CLOSED
17	TRAVELING

ADDENDUM NO. 5 - FILE NO. 55-24
ADDENDUM NO. 3 - FILE NO. 55-24

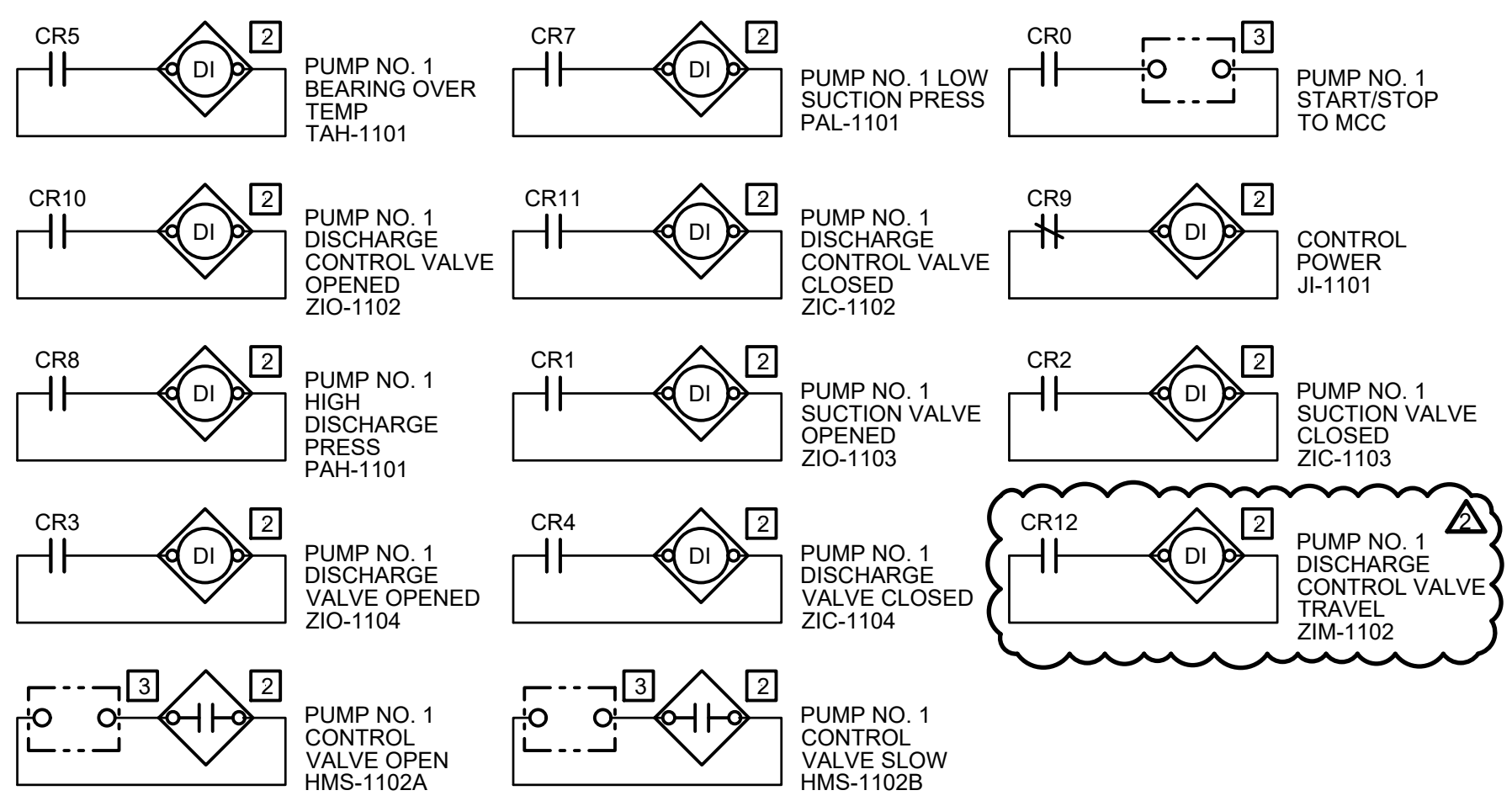
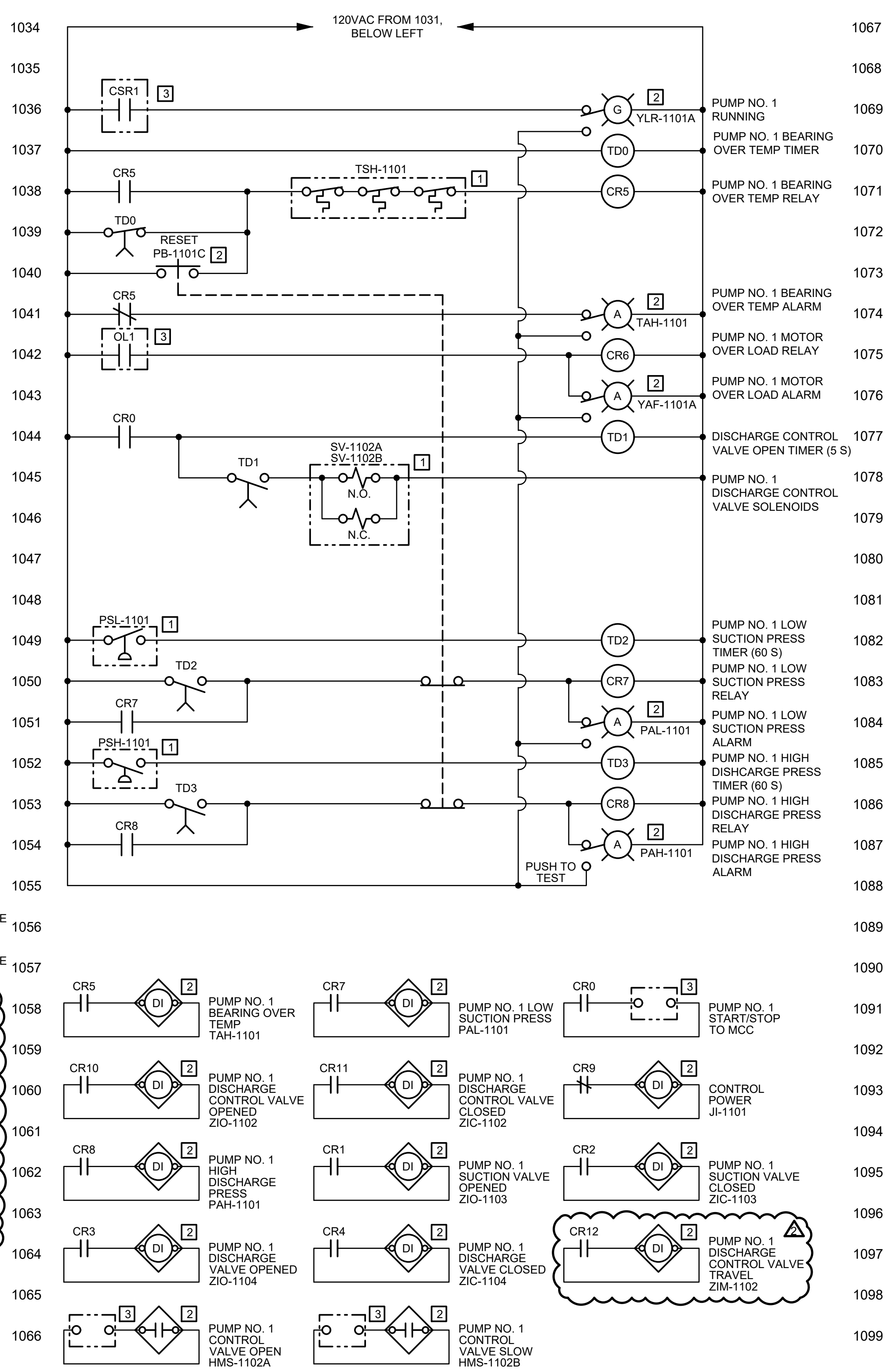
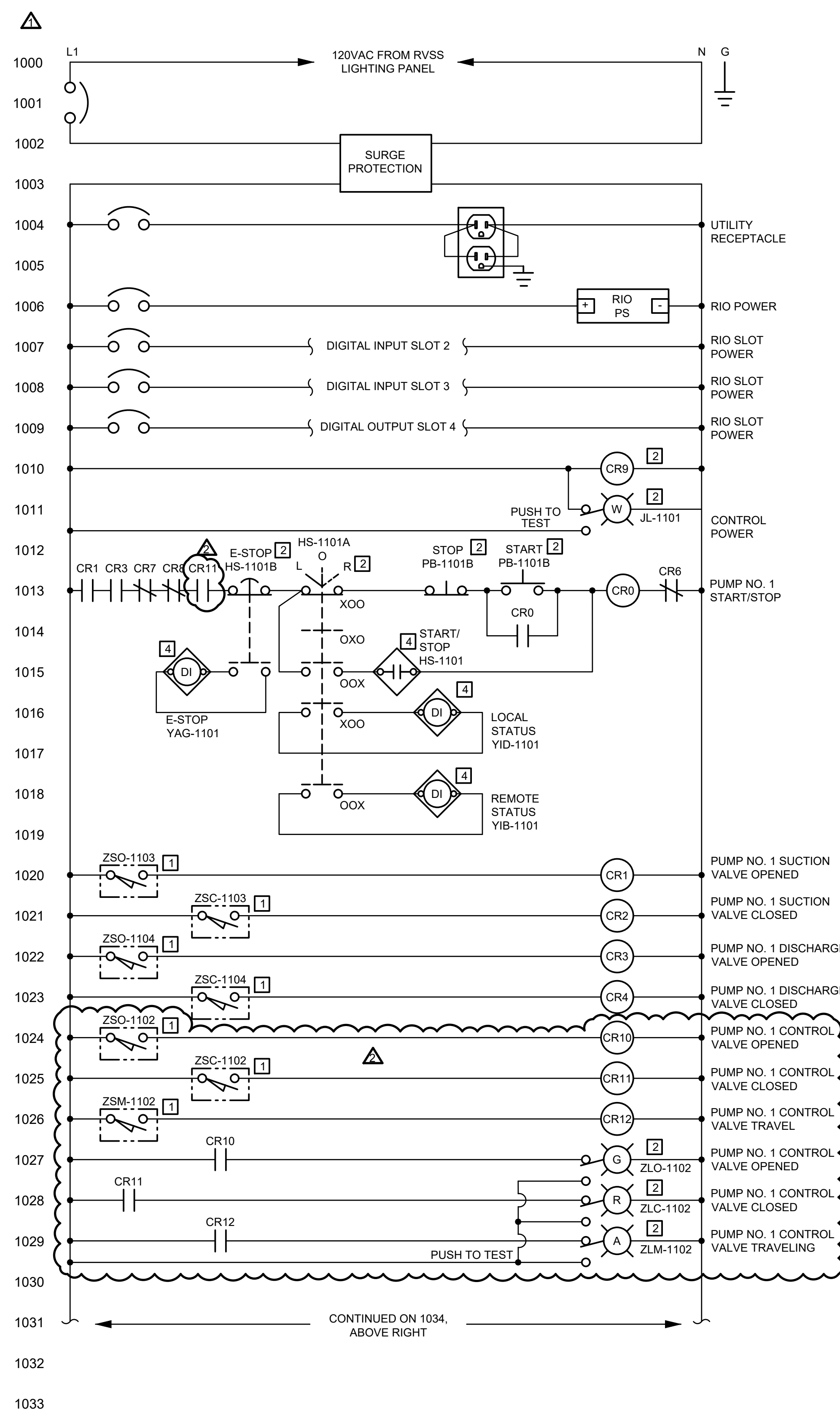


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CITY OF CLEVELAND	
CLEVELAND DIVISION OF WATER DEPARTMENT OF PUBLIC UTILITIES CLEVELAND, OHIO	
SUBJECT CYCLE H - GREEN PUMP STATION	
PUMP LOCAL CONTROL PANEL DETAILS 1 OF 2	
DRAWN BY: SJT	SCALE: NTS
DESIGNED BY: SJT	CWD NO:
CHECKED BY: VM	DATE: 12/2021
SHEET NO: I-09	

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.



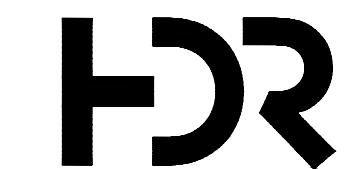
LOCATION LEGEND

1	FIELD
2	LOCAL CONTROL PANEL
3	MCC
4	RTU PANEL

PUMP NO. 1 CONTROL SCHEMATIC

ADDENDUM NO. 5 - FILE NO. 55-24
 ADDENDUM NO. 3 - FILE NO. 55-24

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800-UTILITIES-PROTECTION-SERVICE
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UNDERGROUND UTILITIES
 2 WORKING DAYS
BEFORE YOU DIG
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800-925-PROTECT
 UNDEGROUND UTILITIES SERVICE
 (OGUPUS)



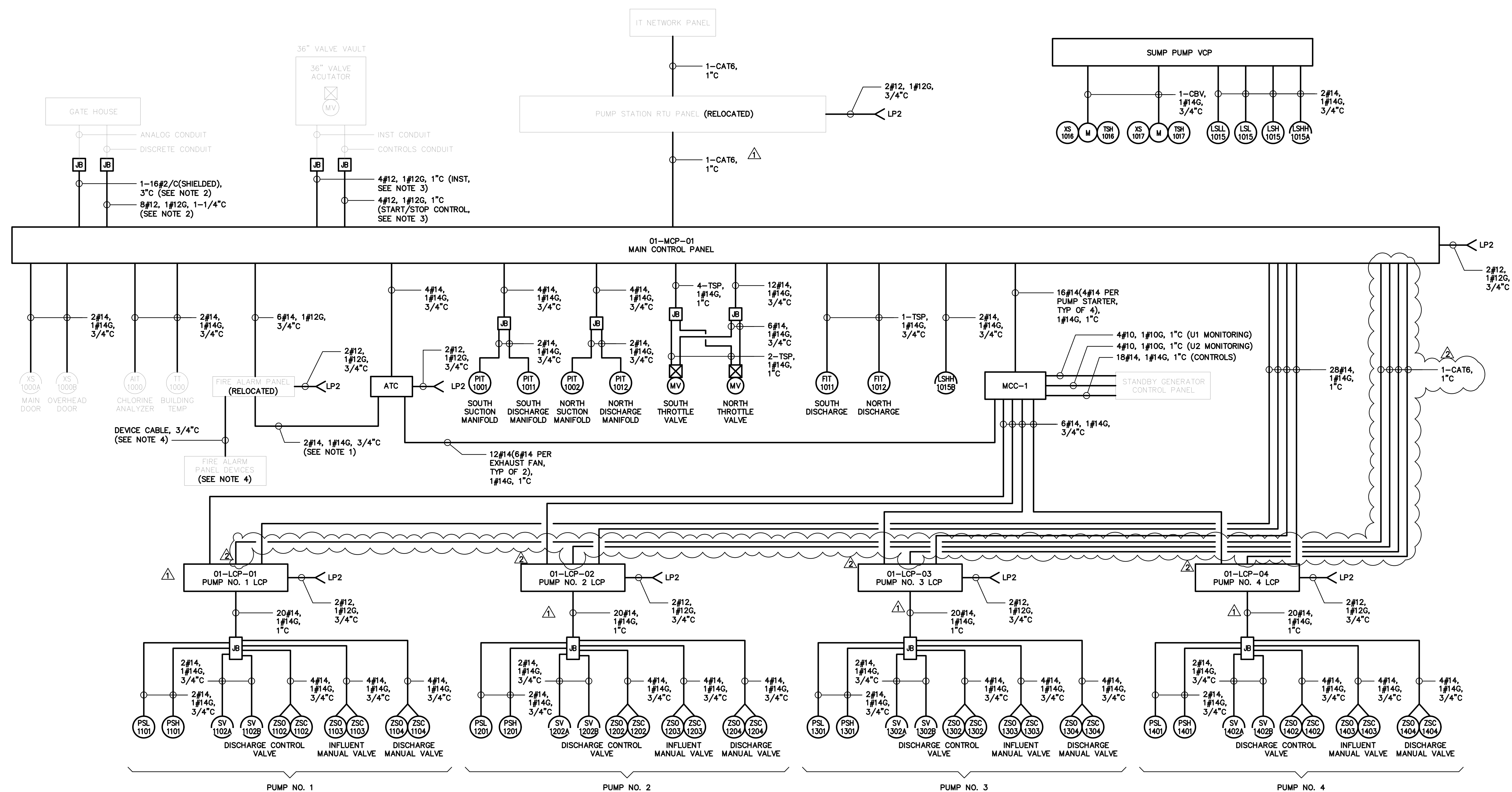
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NO	DATE	BY

CITY OF CLEVELAND

CLEVELAND DIVISION OF WATER
 DEPARTMENT OF PUBLIC UTILITIES
 CLEVELAND, OHIO

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

DRAWN BY: SJT	SCALE: NTS	CWD NO:	SHEET NO:
DESIGNED BY: SJT	DATE: 12/2021		I-10
CHECKED BY: VM			



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.
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.

CODED NOTES

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OR 216-421-2200
 UNINCORPORATED PUBLIC UTILITIES SERVICE (GCPUPS)



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 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. SIDOTI

SCALE AS NOTED
 DATE: 12/2021

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

▲ ADDENDUM NO. 5 - FILE NO. 55-24
 ▲ ADDENDUM NO. 3 - FILE NO. 55-24