



Worcester County Administration Office
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Snow Hill, MD 21863
Ph. 410-632-1194 Fax 410-632-3131
Email: nrice@co.worcester.md.us

Addendum # 1 Riddle Farm WWTP Equipment Upgrades

Date of Addendum: 5/3/24

NOTICE TO ALL BIDDERS AND PLANHOLDERS

The Bid Documents for the above-referenced Project are modified as set forth in this Addendum. The original Bid Documents and any previously issued addenda remain in full force and effect, except as modified by this Addendum, which is hereby made part of the Bid Documents. Vendors will take this Addendum into consideration when preparing and submitting a bid and shall acknowledge receipt of this Addendum in the space provided in the Bid Documents.

BID SUBMITTAL DEADLINE

The bid submittal deadline has been revised to Monday, May 20, 2024, at 2:30 p.m. The last day for questions will Monday, May 13, 2024, at 2:00 p.m.

1.0 – ATTACHMENTS

Item	Description
1.1	GMB prepared pre-bid meeting minutes for meeting held on April 30, 2024.
1.2	Replace Electrical Drawings E-1 thru E-9 in Bid Documents with attached set that is stamped “Bid Set” in upper right-hand corner.

2.0 – CLARIFICATIONS

The following clarifications are provided as a matter of information to clarify issues raised about the Bid Documents.

Item	Description
2.1	Note #5 on Sheet Q2.8, ADD: “Existing wall consists of metal wall panels at interior and exterior of building. To repair wall following the removal of temporary piping, Contractor shall scab a section of wall panel covering openings at interior and exterior of building. Installation shall adhere to those standard details of metal wall panel manufacturer.”
2.2	Project Manual Paragraph 01100, 1.04, DELETE paragraphs in entirety. Wage rates are not applicable.

3.0 – QUESTIONS AND ANSWERS

The following questions and answers are provided as a matter of information to clarify issues raised about the Bid Documents.

Item	Questions and Answers
3.1	Q. We request a bid date extension for this project of at least one (1) week and prefer that it not Bid on a Monday. A. A one (1) week bid date extension will be issued.
3.2	Q. Sheet Q-1.1: The note in the middle of the page states, “Ex. Trolley beam to be load tested per Note 2 on Sheet Q2.3.” Be advised there is no Note 2, located on Sheet Q2.3. Please provide information on the required load testing of the existing beam. A. Load testing of the existing beam is not required, Note #2 shall be deleted.

3.3	<p>Q. Sheet Q-2.8: Note 5 states, "...and repair when temporary operations are complete." Please provide a specific repair procedure and level of acceptance for each pipe penetration location.</p> <p><i>A. The existing wall above the concrete tanks consists of metal wall panels at interior and exterior of building. To repair wall following the removal of temporary piping, Contractor shall scab a section of wall panel covering openings at interior and exterior of building. Installation shall adhere to those standard details of metal wall panel manufacturer.</i></p>
3.4	<p>Q. What System Integrator is Worcester County DPW presently using at the Riddle Farm WWTP?</p> <p><i>A. System Integration for the County is currently performed in-house and coordinated through a county employee. The successful vendor will be supplied contact information for county employee managing integration.</i></p>
3.5	<p>Q. Can you share the existing As-Built Drawings for the Facility?</p> <p><i>A. Existing facilities were provided under a developer design/build process and "as-built" drawings are separate for different trades. This information can be made available to the successful Vendor.</i></p>
3.6	<p>Q. Can you provide the name of the manufacturer for the existing metal siding?</p> <p><i>A. This information is not readily available; however, the County will endeavor to provide the information to the Vendor who is awarded the project.</i></p>

END OF ADDENDUM



GEORGE, MILES & BUHR, LLC



ARCHITECTS
ENGINEERS

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PRE-BID MEETING AGENDA
(MINUTES ANNOTATED IN BOLD/ITALICS)

RIDDLE FARM WWTP
EQUIPMENT UPGRADES
WORCESTER COUNTY, MARYLAND

GMB FILE No. 220047

APRIL 30, 2024
TIME: 10:00 a.m.

LOCATION: 11401 Grays Corner, Berlin, MD 21811

A pre-bid conference was held at the time and date indicated above at the Riddle Farm WWTP for the above referenced project.

I. Introductions/ Project Representatives

- A. Owner: Worcester County
Representatives: Nicholas Rice, Purchasing Director
Dallas Baker, Public Works Director
- B. Engineer: George, Miles & Buhr, LLC
Representatives: Chris Derbyshire, P.E.
Peter Bozick, P.E.
- C. Other attendees are shown on the attached sign-in sheet.

II. Project Description

- A. The Riddle Farm WWTP has been operational for 20 years using a Membrane Bioreactor Process (MBR) and the purpose of this project is the replacement of failing membrane units and aging mechanical equipment as well as minor process modifications. The WWTP operates with two (2) parallel treatment trains, and one (1) train must always remain operational. Partial funding for the project comes from a grant through the Department of Commerce.
- B. The hollow-fiber membrane filter units are the ZENON ZW500D cassettes manufactured by Veolia and purchased directly by Worcester County because of the long-lead time. Expected delivery of the membrane cassettes is July 2024. The purchase order is included in the Project Manual.
- C. Temporary mobile hollow fiber treatment filters are to be provided on a monthly rental basis for a duration compatible with the construction schedule. Details of equipment are provided in the proposal contained in the Project Manual.

JAMES H. WILLEY, JR., P.E.
CHARLES M. O'DONNELL, III, P.E.
A. REGGIE MARINER, JR., P.E.
JAMES C. HOAGESON, P.E.
STEPHEN L. MARSH, P.E.
DAVID A. VANDERBEEK, P.E.
ROLAND E. HOLLAND, P.E.
JASON M. LYTLE, P.E.
CHRIS B. DERBYSHIRE, P.E.
MORGAN H. HELFRICH, AIA
KATHERINE J. MCALLISTER, P.E.
W. MARK GARDOCKY, P.E.
ANDREW J. LYONS, JR., P.E.

PETER A. BOZICK, JR., P.E.
JUDY A. SCHWARTZ, P.E.
W. BRICE FOXWELL, P.E.

JOHN E. BURNSWORTH, P.E.
VINCENT A. LUCIANI, P.E.
AUTUMN J. BURNS
CHRISTOPHER J. PFEIFER, P.E.
BENJAMIN K. HEARN, P.E.

- D. The project includes a Bid Add Alternate for work at the Water Treatment Plant to settle out the iron from the waste backwash. Work includes a settling tank and a waste backwash pump station. The foundation for the settling tank will be designed and sealed by the tank supplier. Geotechnical soil data is included in the information for bidders in the Project Manual.

III. Work Includes:

A. General Utility Information

- i. All work is to be completed at the existing site of the Wastewater and Water Treatment Plants.
- ii. It is the responsibility of the contractor to locate all underground utilities in advance of construction. The cost of all test pitting shall be included within the prices bid and will not be paid for separately. The Contractor is also responsible and shall accept all risk associated with any utilities that may run in or along his trenches.
- iii. Coordinate with the Owner for an onsite construction staging area located onsite.
- iv. Contractor is responsible to coordinate all work with Owner and schedule any necessary existing equipment shutdowns accordingly. Night work may be required and shall be included in bid price.

B. Work Consists of Furnishing and Installing Equipment for:

- i. Replacing MBR membranes and related controls.
- ii. New internal recycling pumps.
- iii. New blower for the membrane cleaning tank.
- iv. Replace existing hoist and crane assembly, plus installation of a new mono-rail beam and hoist assembly.
- v. New backwash water pump station and reclaimed water settling tank for the adjacent Riddle Farm Water Treatment Plant [ADD ALTERNATE].
- vi. Add variable speed drives for the existing Process Blowers.
- vii. Replace existing aeration diffusers.
- viii. Provide temporary mobile hollow fiber treatment system. Work includes associated piping, valves, flow meters and appurtenances.

- C. Electrical upgrades include but are not limited to a changes tom the existing MCC Operations, VFDs, upgrading the MBR operational controls software and SCADA modifications with new signals from Filter Building

IV. Bidding Information

A. Bids Due / Bid Opening:

- i. Bids are due Monday, May 13, 2024, at 2:30 p.m. at the Office of the County Commissioners, Worcester County Government Center - Room 1103, One West Market Street, Snow Hill, Maryland 21863.

Bids will be opened and publicly read aloud at 2:30 p.m. **Rice noted that there is security for this building and Bid Couriers should allow time for this to ensure a timely Bid delivery.**

- B. No bids may be withdrawn within 100 days of the Bid Due Date.
 - C. 5% Bid bond or certified check is required with submission of Bid.
 - D. The low bidder selected will be determined based on the Total Base Bid (Schedule A+B+C+D) with the caveat that Schedule D may be deleted at the discretion of the Owner.
- V. Contract Provisions
- A. Contract Duration: 360 consecutive calendar days for Substantial Completion and additional 60 days for Final Completion.
 - B. Liquidated Damages
 - i. Liquidated damages prior to Substantial Completion: \$2,000.00/day.
 - ii. Liquidated Damages prior to Final Completion: \$1,000.00/day.
 - C. The Contractor will be responsible for inspection overtime for hours worked beyond any normal working day.
 - D. Performance Bond & Payment Bond: 100%
 - E. The following permits have been obtained for this project:
 - i. MDE Construction Permit
 - F. Contractor shall be responsible for obtaining all other permits and licenses as necessary.
- VI. Questions/Comments
- A. All questions pertaining to this bid shall be directed to Worcester County (Nicholas Rice) writing by email to nrice@co.worcester.md.us no later than 2:00 p.m., on May 6, 2024. **Rice clarified the all Addendums will be issue at least 5-days prior to the Bid Opening.**
 - B. Questions from attendees at pre-bid meeting will be provided in Addendum that will be issued which includes meeting minutes. Written answers will be provided under Addendum #1.
 - C. Questions was asked regarding applicability of Davis Bacon Act Wage Rates, M/WBE goals, American Iron & Steel or Buy American. Meeting drawings attendee indicated that Project Manual has reference to wage rate determination being issued prior to Bid due date. **Baker clarified that none of these apply to this project. Baker clarified that there is a form to be completed for funding agency (Dept of Commerce) which tracks**

M/WBE participation, but this does not impact General Contractors hiring of subcontractors or suppliers/vendors. GMB/County will review Project Manual and provide any necessary corrections via Addendum.

- D.*** Meeting attendee inquired about relief on liquidated damages (LDs) if delay was a result of electrical components which are essentially impossible to obtain set procurement lead times for. ***County requested formal written question to be submitted on this; question to clarify if Bidders believe contract duration is inadequate as proposed or if the electrical item procurement delay might be a matter that didn't materialize until after submittals had been processed and material orders placed. GMB clarified that the LD costs are real world and representative to cost County incurs related to pump and haul operations and to maintain mobile treatment unit. County noted that long lead procurement items would need to be identified by Contractor at project onset and those submittals expedited early on.***
- E.*** Question was asked regarding "optional" helical piles for backwash holding tank and whether they were in fact to be provided. ***Bozick responded that the tank foundation is to be designed and provided by tank supplier. Helical piles appear to be one (1) feasible option; however, they are not the only permissible foundation for the tank.***
- F.*** Question was raised regarding the timing of a Notice to Proceed. ***Bozick responded that County's intention is to issue Notice of Award within 100-calendar days of Bid Opening. Meeting attendee added that NTP issuance would need to be coordinated with procurement schedules as minimal work could occur on site until equipment is received.***

VII. WWTP & WTP Site Visits / WWTP Tour

- A.*** ***Bozick guided a tour of the WWTP facility and pointed out areas where proposed improvements are to be made. Bozick led attendees to WTP site where he showed proposed location of backwash recovery tank and backwash pump station.***

VIII. Adjournment.

*** END OF MEETING MINUTES ***

CBD/slh

Enclosure: Sign-in Sheet



Worcester County Commissioners Office

Pre-Bid Sign In Sheet

Bid: Riddle Farm WWP Upgrades

Date:

4/30/24 @ 11am
~~4/30/24~~

Name	Company	Title	Phone	E-Mail	Signature
Nicholas Rice	Worcester County	Procurement Officer	On File		
Charlie Tedee	Beckwith Const	Estimator	410-490-7547	charlie@beckwithconstruction.net	
Andrew Workman	M2 Construction LLC	"	417-355-8801	est@m2constructionllc.com	
Galay Serwan	War City DPW	Operations Manager	410-641-5251	gservan@warcitydpw.com	
DOMINIC ROSS	WAR COURT	WASTEWATER SUPERVISOR	410 641 5333	dross@warcourtdpw.com	
Jimmy Conston	CON-060	PM	413-812-3331	James.Conston@con-060.com	
REED MARRAS	CHESAPEAKE TOWNS, LLC	EST.	302-222-1317	REED@CHESAPEAKE-TOWNS.COM	
Chris Clasing	Worcester County	Deputy Director	File	File	
Dallas Baker	War. Public Works	Director	"	"	
Tony Farscell	War. Public Works	Wastwtr. Director	File	File	
ANDREW DRZ	FRM STEEL CHKS	Business Developer	410507 6176	ANDREW@FRMSTEELCHKS.COM	



Worcester County Commissioners Office

Pre-Bid Sign In Sheet

Bid: Apple Farm WWT Upgrade

Date: 4/30/24 @ 10am

Name	Company	Title	Phone	E-Mail	Signature
Chris Derbyshire	CMB	Engineer	410 742 3115	derbyshire@cmb.com	
Jose Casillas	Lywood Elect.	Estimator	(410) 739-4224	Jcasillas@lywood.com	
A Scott Whitth	A-DEI	PM	443-882-3105	swhitt@adei.com	
Trene Pais	Geiger	Sales Engineer	443-841-4058	tpais@geiger.com	
Peter Bozick	GMB	Engineer	410-742-3115	pbozick@cmb.com	

NO.	REVISIONS	DATE



GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SALISBURY, MARYLAND · 20690RD
206 WEST MAIN STREET
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410-742-3115, FAX 410-346-5790
www.gmbnet.com

RIDDLE FARM WWTP
EQUIPMENT UPGRADES

WORCESTER COUNTY, MARYLAND

LEGEND

SCALE	SHEET NO.
SCALE : AS NOTED	SHEET NO.
DESIGN BY : CLJ	E-1
DRAWN BY : CAD	
CHECKED BY : CLJ	
GMB FILE : 220047	
DATE : AUGUST 2023	

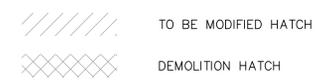
GENERAL NOTES:

- ALL ELECTRICAL EQUIPMENT AND INSTALLATIONS SHALL CONFORM WITH THE REQUIREMENTS OF LATEST APPLICABLE VERSION OF THE INTERNATIONAL BUILDING CODE (IBC) AND NATIONAL ELECTRICAL CODE (NFPA 70) AS ADOPTED BY THE AHJ (AUTHORITY HAVING JURISDICTION), AND UNDERWRITER'S LABORATORIES (UL) REQUIREMENTS.
- ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER. REFER TO NECA - GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION AND OTHER APPLICABLE NECA STANDARDS. CONDUIT PLANS ARE DIAGRAMMATIC IN NATURE AND NOT INTENDED TO SHOW ALL TURNS, BENDS, FITTINGS, AND SPECIAL INTRICACIES. THIS DOES NOT LIMIT CONTRACTOR'S LIABILITY FOR THE INSTALLATION OF A SOUND AND COMPLETE SYSTEM THAT COMPLIES WITH THE N.E.C. AND LOCAL CODES AND REGULATIONS.
- PRIOR TO PURCHASING ANY MATERIALS OR COMMENCING WORK, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, CONDUIT SIZES AND LOCATIONS, EQUIPMENT, ETC. SHOWN ON THE DRAWINGS OR AFFECTING THIS WORK AND SHALL REPORT ANY DEVIATIONS TO THE ENGINEER.
- COORDINATE ALL WORK WITH STRUCTURAL, MECHANICAL, AND OTHER CRAFTS AS REQUIRED. CONTRACTOR SHALL APPRISE HIMSELF OF ALL WORK SHOWN ON OTHER DRAWING FOR VARIOUS ASPECTS OF THIS PROJECTS AND COORDINATE ACCORDINGLY.
- PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT COMPLETELY TO PROVIDE FULLY OPERATIONAL SYSTEMS.
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- WHERE CONDUIT SIZE AND FILL IS NOT DEFINED ON THE SINGLE LINE OR INTERCONNECTION DIAGRAM, PROVIDE 3/4" CONDUIT WITH 2 #12 AWG AND #12 AWG GROUND CONDUCTORS FOR SINGLE PHASE AND 3/4" CONDUIT WITH 3#12 AWG AND #12 AWG GROUND CONDUCTOR FOR 3 PHASE.
- ALL 120V OR GREATER WIRING FOR DEDICATED OR MULTIPLE CIRCUITS IN THE SAME RACEWAY SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR.

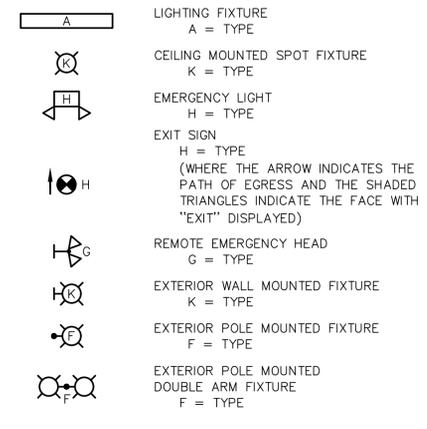
MECHANICAL/PLUMBING COORDINATION:

- CONTRACTOR SHALL COORDINATE CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH ELECTRICAL DRAWINGS PRIOR TO ORDERING OR INSTALLING EQUIPMENT. CONTRACTOR SHALL FURNISH EQUIPMENT COMPATIBLE FOR THE VOLTAGES SHOWN ON THE MECHANICAL/PLUMBING DRAWINGS.
- ALL MECHANICAL AND PLUMBING EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH DISCONNECT SWITCHES AT EACH PIECE OF EQUIPMENT. COORDINATE SWITCH TYPE (FUSED OR NON-FUSED) WITH EQUIPMENT CHARACTERISTICS, MANUFACTURER'S RECOMMENDATIONS, AND THE MECHANICAL/PLUMBING DRAWINGS.

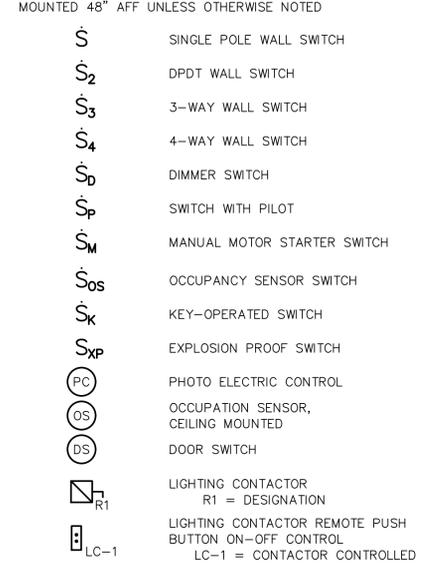
DEMOLITION AND MODIFICATION



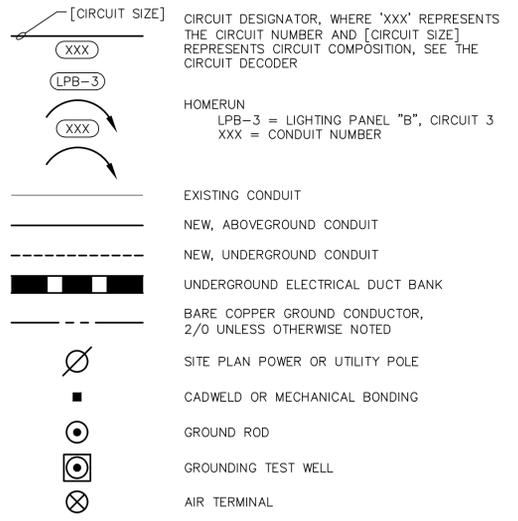
LIGHTING SYMBOLS



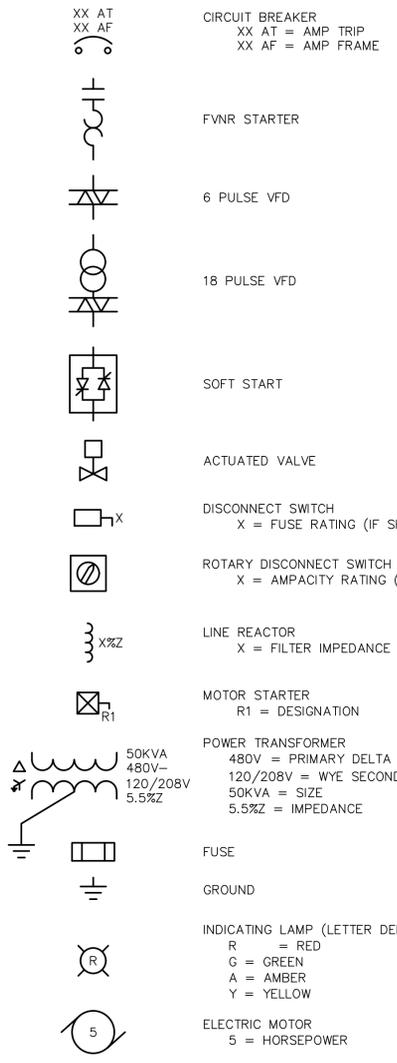
SWITCHING SYMBOLS



CIRCUITING AND RACEWAY SYMBOLS



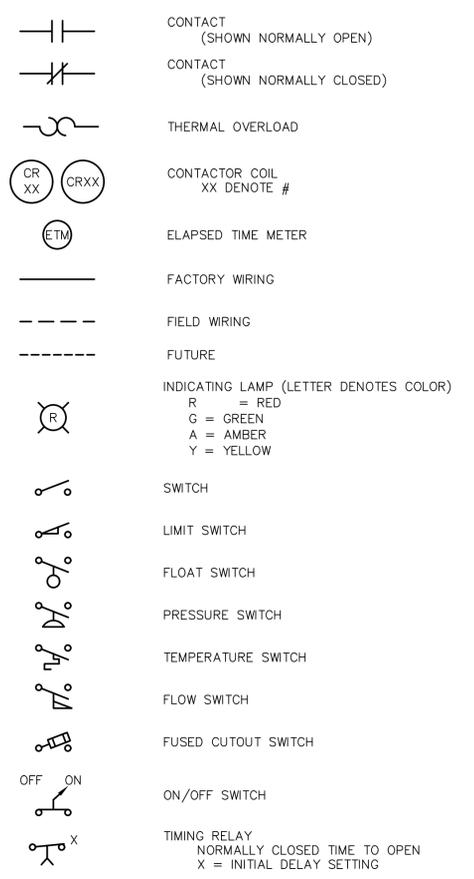
SINGLE LINE SYMBOLS



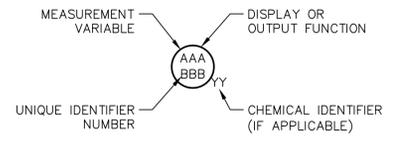
CIRCUIT DECODER

[CIRCUIT SIZE]	CIRCUIT DESIGNATOR, WHERE 'XXX' REPRESENTS THE CIRCUIT NUMBER AND [CIRCUIT SIZE] REPRESENTS CIRCUIT COMPOSITION, SEE THE CIRCUIT DECODER
(XXX)	HOMERUN LPB-3 = LIGHTING PANEL "B", CIRCUIT 3 XXX = CONDUIT NUMBER
3/4" 4#12, #12 GND	THREE #12 PHASE & A #12 NEUTRAL CONDUCTORS WITH A #12 GROUND IN A 3/4" CONDUIT
(4) 4" 3#350, #350N, #4/0 GND EA	FOUR 4" CONDUITS WITH PARALLEL SETS OF THREE 350KCMIL PHASE CONDUCTORS, A 350KCMIL NEUTRAL CONDUCTOR AND A 4/OAWG GROUND IN EACH
(2) TC 3#500, #1 GND & #1/0 GND	TWO TRAY CABLES, 3#500KCMIL PHASE AND #1 GND WITH A SUPPLEMENTAL #1/0 GND RUN ALONG WITH THE CABLES IN THE TRAY
1" 5#18 STP	1" CONDUIT WITH FIVE SHIELDED TWISTED PAIR CABLES
1" (1) 12-FOC	1" CONDUIT WITH ONE 12 STRAND FIBER OPTIC CABLE
1" (1) 8PR#16	1" CONDUIT WITH ONE 8 PAIR UNSHIELDED TWISTED PAIR CABLES
2" (2) 4PR#18 STP	2" CONDUIT WITH TWO 4 PAIR SHIELDED TWISTED PAIR CABLES

SCHEMATIC DIAGRAM SYMBOLS

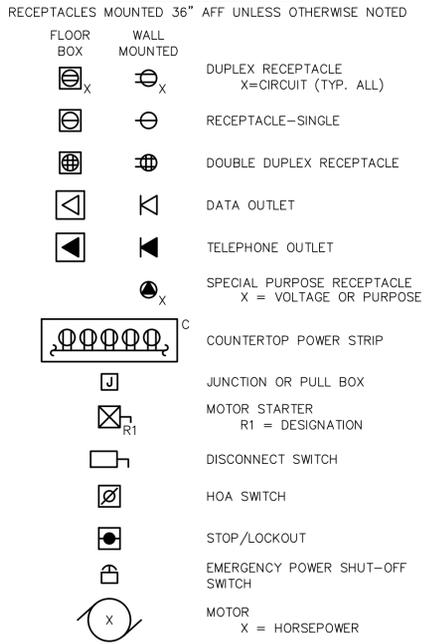


INSTRUMENT SYMBOL DECODER



FIRST LETTER 'A'	SUCCEEDING LETTERS 'B'
MEASURED VARIABLE	DISPLAY OR OUTPUT FUNCTION
A ANALYZER	ALARM
B BURNER	CONTROL
C DIFFERENTIAL	DIFFERENTIAL
D VOLTAGE	PRIMARY ELEMENT
E FLOW RATE	GLASS HIGH
F	HAND INDICATE
G	POWER SCAN
H	CONTROL STATION
I	LOW/LIGHT
J	MIDDLE
K	ORIFICE
L	RECORD/PRINT
M MALFUNCTION	INTEGRATE/TOTALIZE
N TURBIDITY	RECORD/PRINT
O	SWITCH
P PRESSURE	RECORD/PRINT
Q QUANTITY	RECORD/PRINT
R REMOTE	RECORD/PRINT
S SPEED/FREQUENCY	RECORD/PRINT
T TYPICAL	RECORD/PRINT
U	RECORD/PRINT
V	RECORD/PRINT
W	RECORD/PRINT
X	RECORD/PRINT
Y	RECORD/PRINT
Z	RECORD/PRINT

POWER SYMBOLS



ABBREVIATIONS

- 3P 3 POLE
- 4X NEMA 4X
- A AMP
- AC ALTERNATING CURRENT
- AF AMP FRAME
- AFF ABOVE FINISHED FLOOR
- AT AMP TRIP
- ATS AUTOMATIC TRANSFER SWITCH
- AWG AMERICAN WIRE GAUGE
- BLDG BUILDING
- CKT CIRCUIT
- CMD COMMAND
- CP CONTROL PANEL
- DIA DIAMETER
- DIV DIVISION
- DS DISCONNECT SWITCH
- EUH ELECTRIC UNIT HEATER
- EXP EXPLOSION PROOF (NEMA 8)
- FDBK FEEDBACK
- FVNR FULL VOLTAGE NON REVERSING
- GFCI GROUND FAULT CIRCUIT INTERRUPTER
- GND GROUND
- HOA HAND-OFF-AUTOMATIC
- HP HORSE POWER
- HVAC HEAT-VENT-AIR CONDITIONING
- JB JUNCTION BOX
- KA KILOAMPERE
- KCMIL 1000 CIRCULAR MILS
- KV KILOVOLT
- KVA KILOVOLT AMPERE
- KW KILOWATT
- LTG LIGHTING
- MAX MAXIMUM
- MC MANUFACTURER'S CABLE
- MCC MOTOR CONTROL CENTER
- MCP MOTOR CIRCUIT PROTECTOR
- MFR MANUFACTURER
- MIN MINIMUM
- MS MOTOR STARTER
- N/A NOT APPLICABLE
- N.C. NORMALLY CLOSED
- NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
- N.O. NORMALLY OPEN
- No. NUMBER
- PH. PHASE
- OR
- PNL PANEL
- PSI POUNDS PER SQUARE INCH
- PVC POLYVINYL CHLORIDE
- QTY QUANTITY
- RGS RIGID GALVANIZED STEEL
- RVSS REDUCED VOLTAGE SOLID STATE SPARE
- SS STAINLESS STEEL
- STP SHIELDED TWISTED PAIR
- TYP TYPICAL
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION
- U.O.N. UNLESS OTHERWISE NOTED
- V VOLT
- VAC VOLTS ALTERNATING CIRCUIT
- VFD VARIABLE FREQUENCY DRIVE
- W WIRE
- WP WEATHERPROOF
- XFMR TRANSFORMER

NO.	REVISIONS	DATE



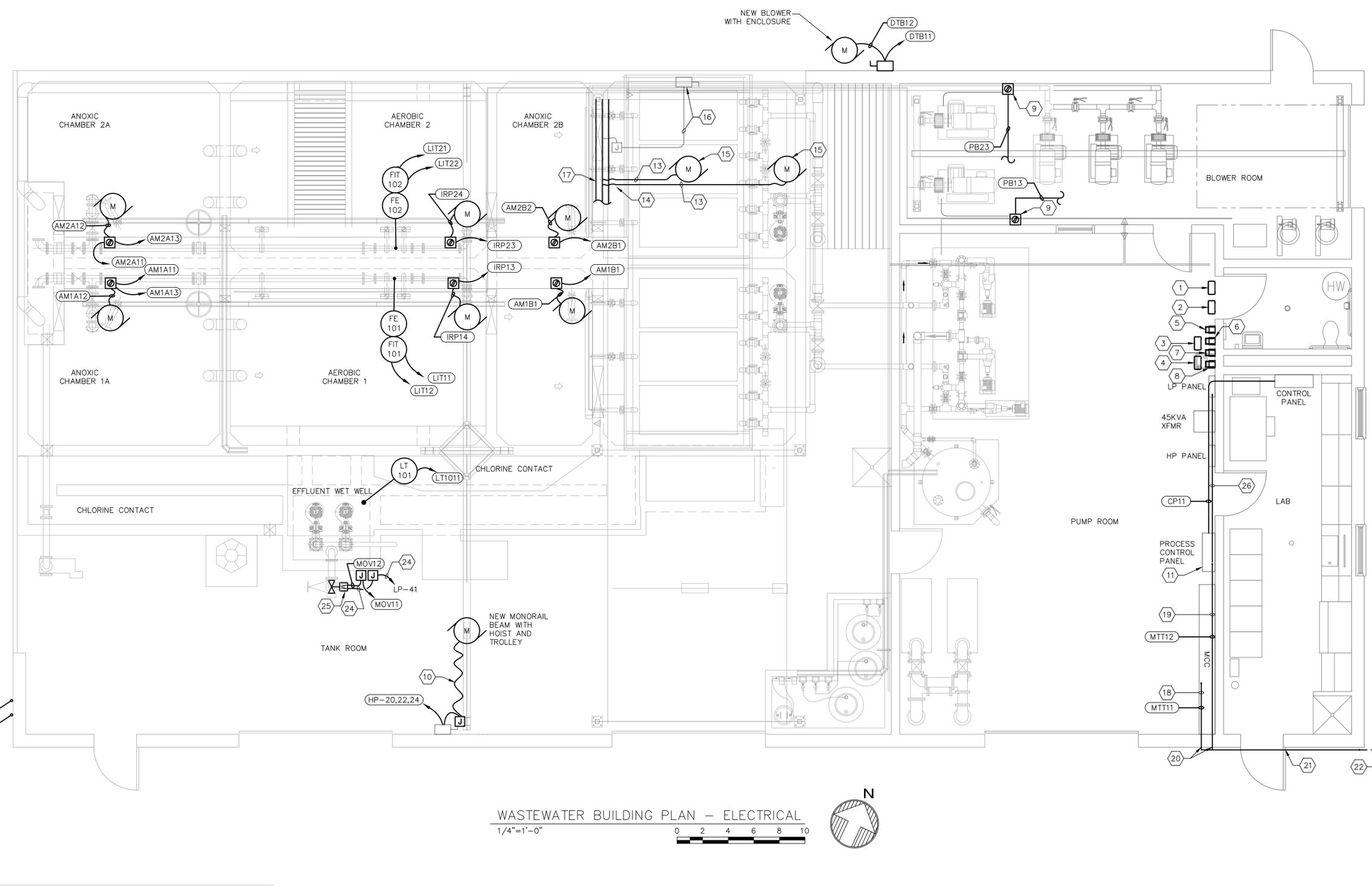
GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
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RIDDLE FARM WWTP
EQUIPMENT UPGRADES

WORCESTER COUNTY, MARYLAND

WWTP BUILDING
PLAN -
ELECTRICAL

SCALE : AS NOTED	SHEET NO. E-2
DESIGN BY : CLJ	
DRAWN BY : CAD	
CHECKED BY : CLJ	
GMB FILE : 220047	
DATE : AUGUST 2023	



WASTEWATER BUILDING PLAN - ELECTRICAL
1/4"=1'-0"
0 2 4 6 8 10

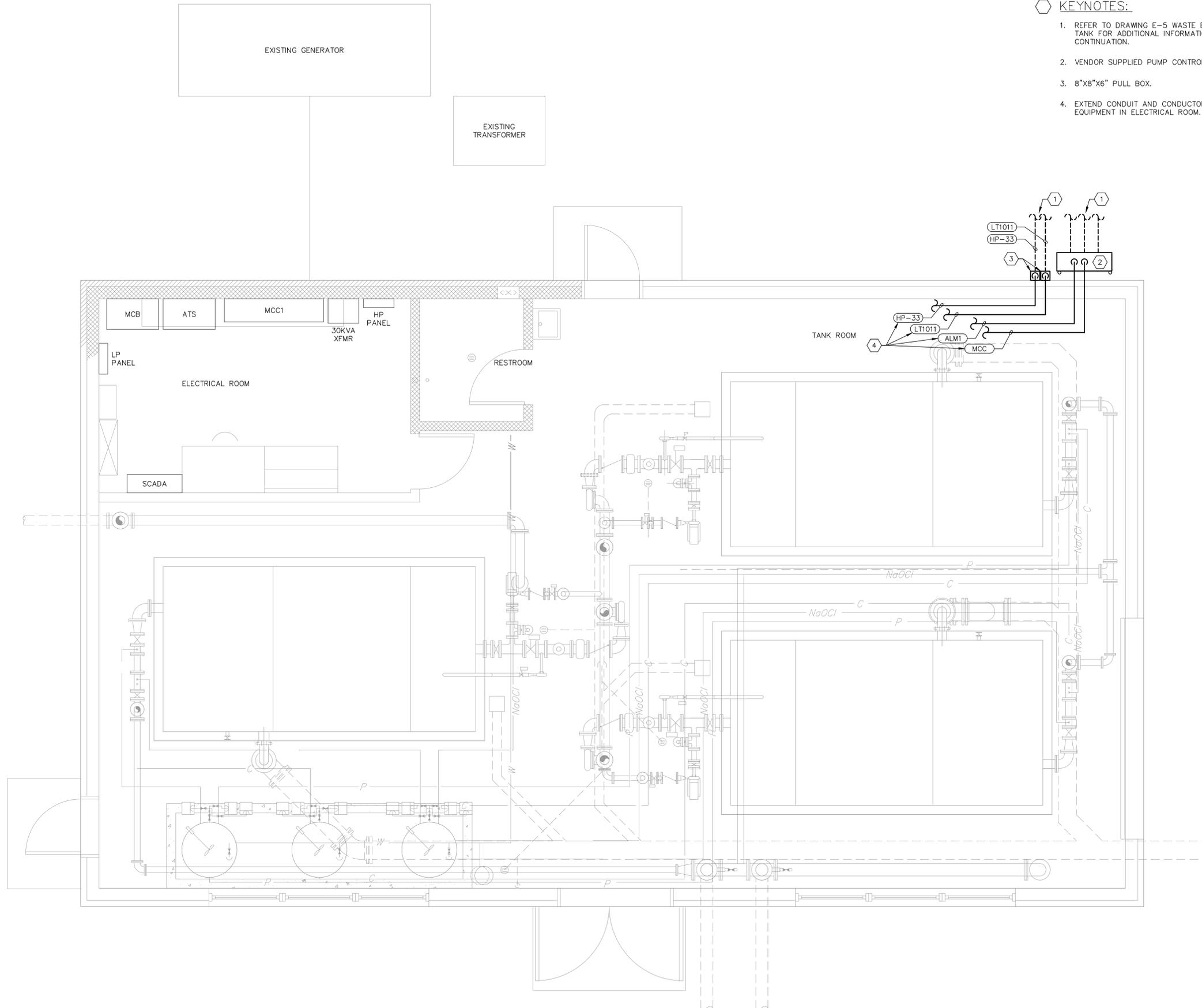
KEYNOTES:

- 1. PROVIDE WALL MOUNT LINE REACTOR WITH ENCLOSURE TO SERVE BLOWER #1. LOCATE ABOVE DOOR. SEE SINGLE LINE ON DRAWING E-8.
- 2. PROVIDE WALL MOUNT LINE REACTOR WITH ENCLOSURE TO SERVE BLOWER #2. LOCATE ABOVE DOOR. SEE SINGLE LINE ON DRAWING E-8.
- 3. PROVIDE WALL MOUNT LINE REACTOR WITH ENCLOSURE TO SERVE INTERNAL RECYCLE PUMP #1. LOCATE ABOVE VFD. SEE SINGLE LINE ON DRAWING E-8.
- 4. PROVIDE WALL MOUNT LINE REACTOR WITH ENCLOSURE TO SERVE INTERNAL RECYCLE PUMP #2. LOCATE ABOVE VFD. SEE SINGLE LINE ON DRAWING E-8.
- 5. PROVIDE STANDALONE VFD TO SERVE BLOWER #1. SEE SINGLE LINE ON DRAWING E-8.
- 6. PROVIDE STANDALONE VFD TO SERVE BLOWER #2. SEE SINGLE LINE ON DRAWING E-8.
- 7. PROVIDE STANDALONE VFD TO SERVE INTERNAL RECYCLE PUMP #1. SEE SINGLE LINE ON DRAWING E-8.
- 8. PROVIDE STANDALONE VFD TO SERVE INTERNAL RECYCLE PUMP #2. SEE SINGLE LINE ON DRAWING E-8.
- 9. EXISTING ROTARY DISCONNECT, ADD BREAK-BEFORE-BREAK CONTACTS OR REPLACE WITH ROTARY DISCONNECT WITH BREAK-BEFORE-BREAK CONTACTS.
- 10. PROVIDE FESTOON CABLE SYSTEM TO SERVE TROLLEY HOIST, INCLUDING BUT NOT LIMITED TO, 14 AWG FESTOON CABLE, STAINLESS STEEL (SS) CROSS ARMS, SS CROSS ARM MOUNTING BRACKETS, SS JOINT ASSEMBLIES, SS TOW TROLLEYS, AND SS CONTROL BOX TROLLEY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 11. DIV 16 CONTRACTOR SHALL INSTALL PLC AND ASSOCIATED HARDWARE SUPPLIED BY VEOLIA. DIV 16 CONTRACTOR SHALL REPLACE INTERNAL COMPONENTS WITH NEW.
- 12. PROVIDE 1"C TO NEW VALVE VAULT. STUB UP 2' AT WALL. PROVIDE WEATHERPROOF CAP. REFER TO DRAWING C-1 FOR DISTANCE.
- 13. PROVIDE 1-1/4" ARC, #12 SEOWW (3 CONDUCTOR + GND) TO SERVE HOIST, CONDUIT FITTINGS WITH BUSHINGS. SECURE CONDUIT TO CRANE USING STAINLESS STEEL HARDWARE. MAKE FINAL CONNECTIONS AT CONDUCTOR BAR AND HOIST.
- 14. REMOVE EXISTING MESSENGER CABLE AND FESTOON SYSTEM. PROVIDE NEW CRANE CONDUCTOR BAR CONNECTORS. TERMINATE NEW CORDS SERVING HOISTS TO CRANE CONDUCTOR BAR CONNECTORS.
- 15. NEW MOTORIZED HOISTS ON EXISTING OVERHEAD CRANE BY HOIST CONTRACTOR.
- 16. EXISTING DISCONNECT AND CONDUIT SERVING OVERHEAD CRANE CONDUCTOR BARS.
- 17. EXISTING OVERHEAD CRANE HOIST CONDUCTOR BARS.
- 18. PROVIDE TEMPORARY POWER CONDUIT AND CONDUCTORS TO SERVE MOBILE TREATMENT TRAILER. SEAL CONDUIT TO PREVENT CONDENSATION INGRESS. TEMPORARY CONDUCTORS AND CONDUIT TO BE REMOVED AFTER PLANT IS FULLY OPERATIONAL. SEE SINGLE LINE FOR ADDITIONAL INFORMATION.
- 19. PROVIDE TEMPORARY CONTROLS CONDUIT AND CABLE TO SERVE MOBILE TREATMENT TRAILER. SEAL CONDUIT TO PREVENT CONDENSATION INGRESS. TEMPORARY CONDUIT AND CABLE TO BE REMOVED AFTER PLANT IS FULLY OPERATIONAL. REFER TO INTERCONNECT FOR ADDITIONAL INFORMATION.
- 20. PROVIDE WALL PENETRATION TO SERVE TEMPORARY CONDUIT. SEAL PENETRATION TO PREVENT WATER AND AIR INGRESS.
- 21. ROUTE CONDUIT ABOVE PEDESTRIAN DOOR.
- 22. ROUTE CONDUIT OVER PAVED AREA. PROVIDE TRAFFIC RATED UV-STABILIZED HDPE RAMPS TO PROTECT CONDUITS FROM MOTORIZED TRAFFIC.
- 23. COORDINATE MOBILE TREATMENT TRAILER LOCATION WITH OWNER.
- 24. PROVIDE 3/4"C 2#12, #12 GND.
- 25. MOTOR OPERATED VALVE. SEE DRAWING E-8 AND DRAWING Q-2.7 FOR ADDITIONAL INFORMATION.
- 26. PROVIDE 1"C 2#6, #6 GND TO SERVE MOBILE TREATMENT TRAILER.

PLOT CODE PLOT SIZE PLOT CODE PLOT SIZE PLOT CODE PLOT SIZE PLOT CODE PLOT SIZE

PEN=WHITE 200 INCHES (5.0mm)
PEN=LIGHT 207 INCHES (5.2mm)
PEN=BLUE 200 INCHES (5.0mm)
PEN=GREEN 210 INCHES (5.3mm)
PEN=YELLOW 207 INCHES (5.2mm)
PEN=RED 208 INCHES (5.3mm)

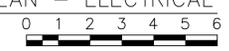
PLOT CODE : PLOT-RED : 0/8 INCHES (20mm)
 PLOT-YELLOW : 0/8 INCHES (20mm)
 PLOT-GREEN : 0/10 INCHES (25mm)
 PLOT-BLUE : 0/20 INCHES (50mm)
 PLOT-MASTDA : 0/27 INCHES (70mm)
 PLOT-WHITE : 0/29 INCHES (75mm)



KEYNOTES:

1. REFER TO DRAWING E-5 WASTE BACKWASH SETTLING TANK FOR ADDITIONAL INFORMATION AND CONDUIT CONTINUATION.
2. VENDOR SUPPLIED PUMP CONTROL PANEL.
3. 8"x8"x6" PULL BOX.
4. EXTEND CONDUIT AND CONDUCTORS TO CORRESPONDING EQUIPMENT IN ELECTRICAL ROOM.

WATER TREATMENT BUILDING PLAN - ELECTRICAL
 3/8"=1'-0"



PRINTS ISSUED FOR:
 BID SET

NO.	REVISIONS	DATE



RIDDLE FARM WWTP
 EQUIPMENT UPGRADES
 WORCESTER COUNTY, MARYLAND

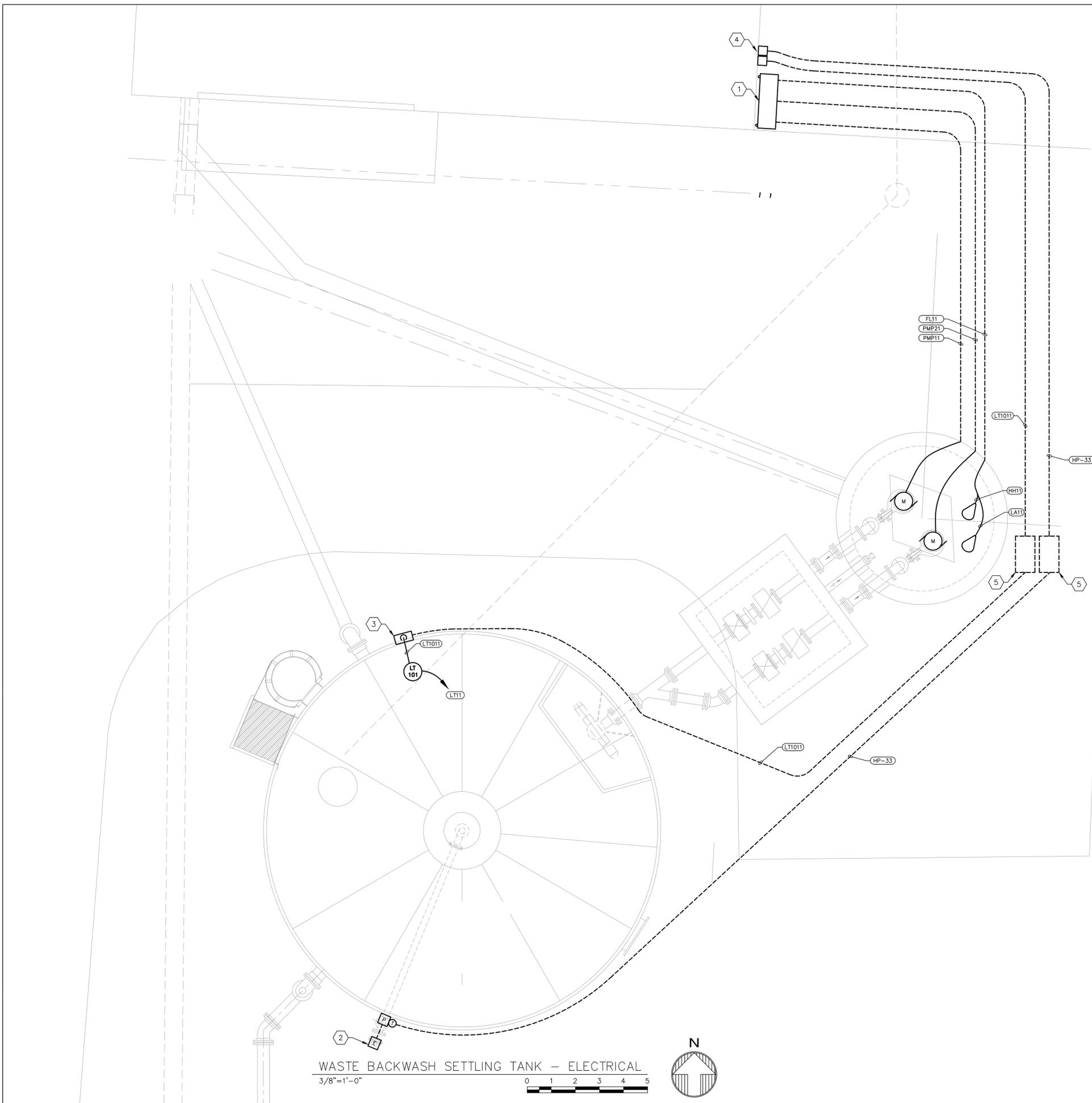
WTP BUILDING
 PLAN -
 ELECTRICAL

SCALE : AS NOTED	SHEET NO. : E-3
DESIGN BY : CLJ	
DRAWN BY : CAD	
CHECKED BY : CLJ	
GMB FILE : 220047	
DATE : AUGUST 2023	

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PLOT CODE
PLOT SIZE
PLOT CODE
PLOT SIZE
PLOT CODE
PLOT SIZE
PLOT CODE
PLOT SIZE
PLOT CODE
PLOT SIZE

PEN-RED
.206 INCHES (5.29mm)
PEN-YELLOW
.207 INCHES (5.30mm)
PEN-GREEN
.210 INCHES (5.35mm)
PEN-CYAN
.214 INCHES (5.45mm)
PEN-BLUE
.220 INCHES (5.60mm)
PEN-MAGENTA
.227 INCHES (5.77mm)
PEN-WHITE
.230 INCHES (5.84mm)



KEYNOTES:

1. PUMP CONTROL PANEL BY VENDOR. INSTALL PUMP CONTROL PANEL ADJACENT TO BUILDING.
2. HEAT TRACE: HEAT TRACE SHALL BE SELF REGULATING LOW HEATING CABLE, 5 WATTS PER FOOT WITH HEAVY DUTY OIL TIGHT PILOT LIGHT WITH RED COVERED CAP, LEGEND PLATE AND VOLTAGE RATING TO MATCH CIRCUIT. PILOT LIGHT SHALL BE USED TO MONITOR LOAD SIDE OF THE CONTACTOR. HEAT TRACE SHALL BE MANUFACTURED BY CHROMALOX OR APPROVED EQUAL. PROVIDE SUFFICIENT HEAT TRACE TO PREVENT PIPE FROM FREEZING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. POWER CONNECTION KIT SHALL BE NEMA 4X RATED. THERMOSTATS SHALL BE AMBIENT SENSING WITH CAPILLARY BULB, NEMA 4X ENCLOSURE AND SHALL BE FURNISHED BY THE HEAT TRACE MANUFACTURER.
3. 8"X8"X6" PULL BOX, NEMA 4X.
4. REFER TO DRAWING E-3 FOR ADDITIONAL INFORMATION.
5. PROVIDE 17"X24" QUAZITE HAND HOLE.

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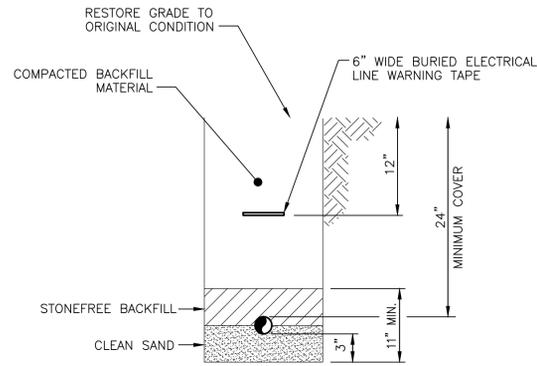
RIDDLE FARM WWTP
EQUIPMENT UPGRADES

WORCESTER COUNTY, MARYLAND

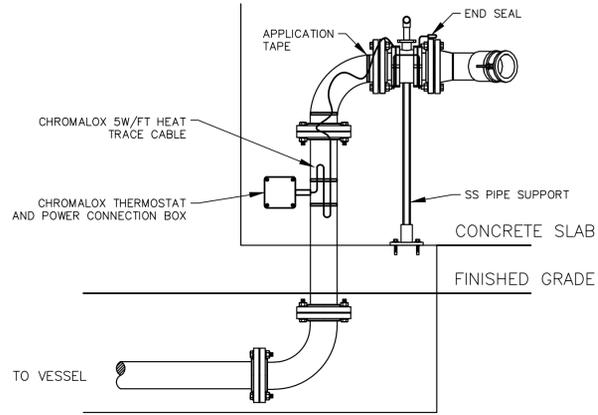
WASTE BACKWASH
SETTLING TANK -
ELECTRICAL

SCALE : AS NOTED	SHEET NO.
DESIGN BY : CLJ	E-4
DRAWN BY : CAD	
CHECKED BY : CLJ	
GMB FILE : 220047	
DATE : AUGUST 2023	

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DIRECT BURIED – ELECTRICAL – DETAIL
SCALE: NTS

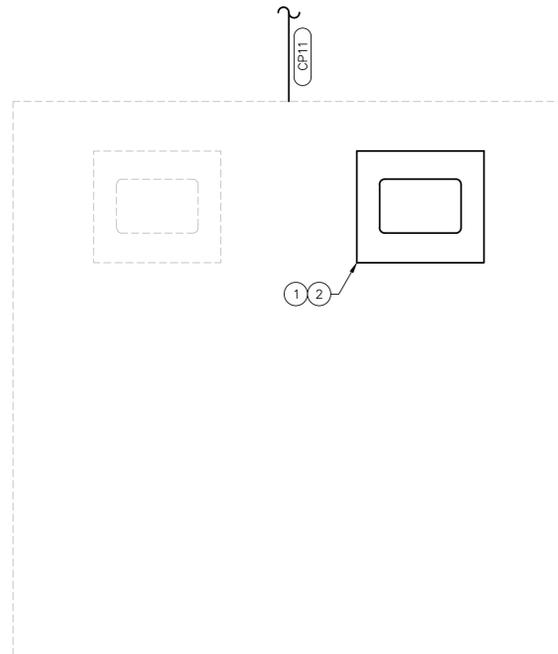


- NOTES:
1. PROVIDE CHROMALOX HEAT TRACING CABLE WITH THERMOSTAT AND POWER CONNECTION BOX.
 2. INSTALL HEAT TRACE CABLING PER MANUFACTURER'S INSTRUCTIONS.

HEAT TRACING – ELECTRICAL – DETAIL
SCALE: NTS

MAIN LUG	WELL PMP #1 STR	EFFLU PMP #1 STR
WTR TOW	SUBTROLS WELL PMP 1&2	EFFLU PMP #2 STR
HP PANEL C.B.	WELL PMP #2 STR	EFFLU PMP #3 STR
SPACE		PMP CTRL PANEL
SPACE	WWTP C.B.	SPACE
SPACE		SPACE

WTP MCC



- NOTES:
1. CUT PANEL DOOR PENETRATION TO SERVE NEW OIT.
 2. PROVIDE NEW OIT TO DISPLAY MBR CONTROL PANEL DATA.
 3. DEDICATED CATSE CABLE. NO COMMUNICATIONS WITH EXISTING EQUIPMENT IN THIS PANEL.
 4. USE POWER SOURCE IN CABINET TO SERVE NEW OIT.

EXISTING WWTP – SCADA PANEL – DETAIL
SCALE: NTS

HP C.B.	PROC. BLWR #1 C.B.	COMP. #1 STR	PERM. PMP #1	RECIRC. PMP #1		
SPACE	PROC. BLWR #2 C.B.	COMP. #2 STR	PERM. PMP #2	RECIRC. PMP #2	INFLU. PMP #1 VFD	INFLU. PMP #2 VFD
BLANK	MIXER 1A	F.E. RECIRC F.F. #1	PERM. PMP #3	IRP #1 IRP #2		
MAIN C.B.	MEM BLWR #1 STR	F.E. RECIRC F.F. #2	SCR. BUILD. C.B.	DIP TANK BLR	LINE R. INFLU PMP #1	LINE R. INFLU PMP #2
	MEM BLWR #3 STR	EFFLU PMP #1	SPACE	MIXER 2A		
	MEM BLWR #2 STR	EFFLU PMP #1	EFF. PMP RESET	MOBILE TRAILER	MIXER 1B	MIXER 2B

WWTP MCC

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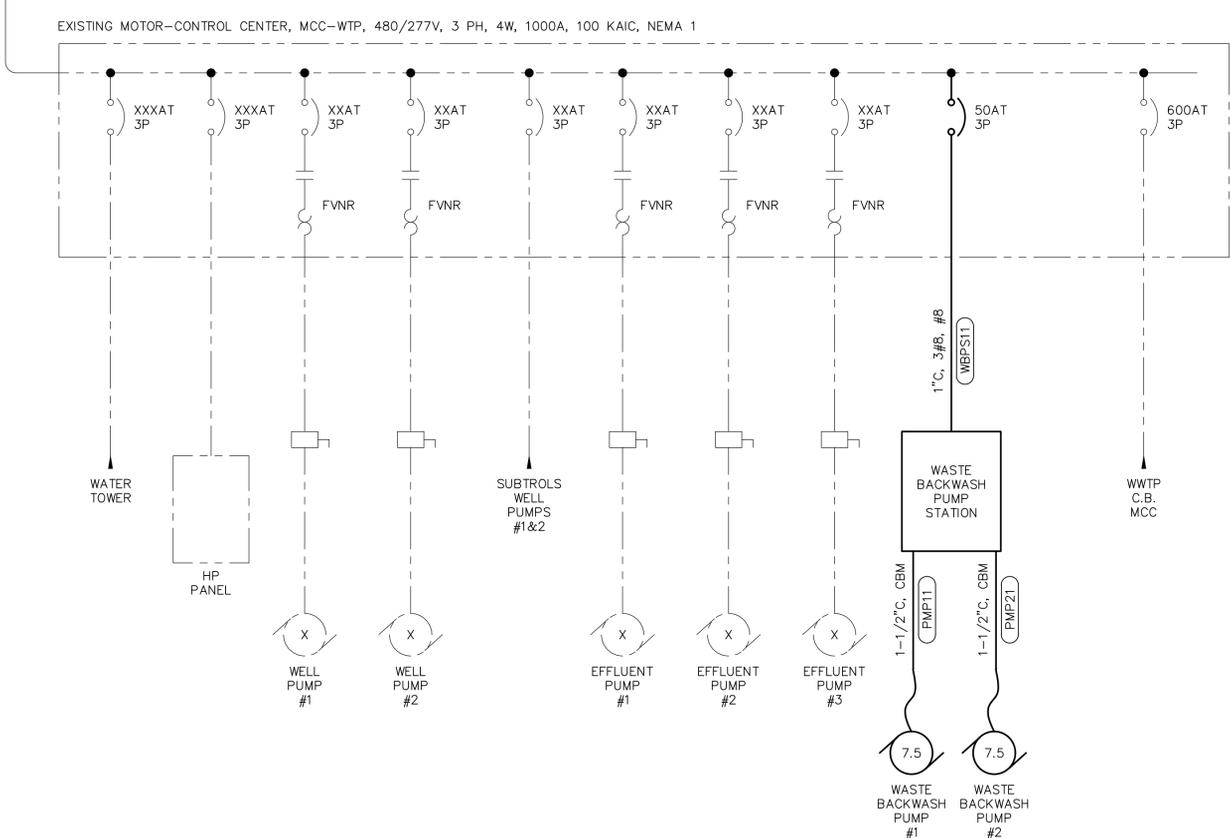
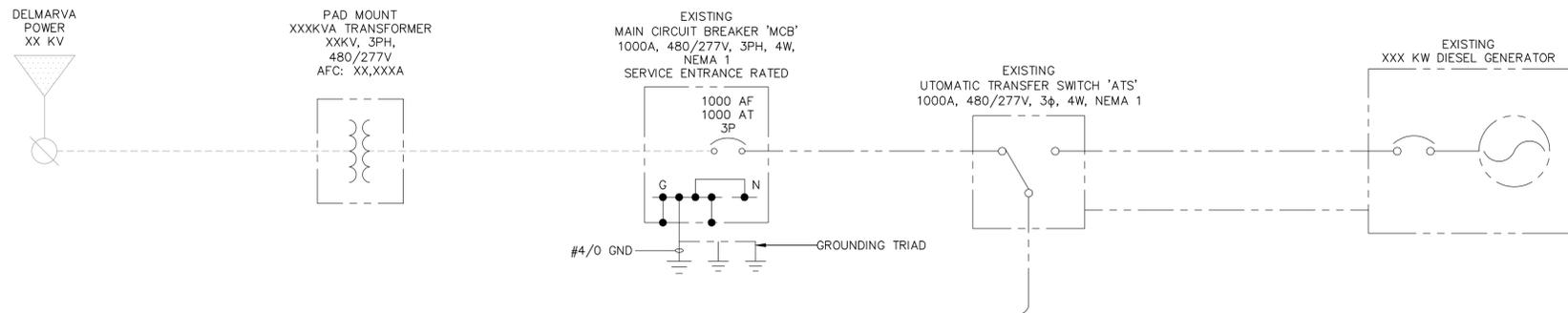
RIDDLE FARM WWTP
EQUIPMENT UPGRADES

WORCESTER COUNTY, MARYLAND

DETAILS -
ELECTRICAL

SCALE : AS NOTED	SHEET NO.
DESIGN BY : CLJ	E-5
DRAWN BY : CAD	
CHECKED BY : CLJ	
GMB FILE : 220047	
DATE : AUGUST 2023	

PLOT CODE
PLOT SIZE
PLOT COLOR
PLOT SCALE
PLOT DATE



SINGLE LINE DIAGRAM

PLOT CODE
 PENN-RED : 208 INCHES (52mm)
 PENN-YELLOW : 207 INCHES (53mm)
 PENN-GREEN : 210 INCHES (53mm)
 PENN-BLUE : 202 INCHES (51mm)
 PENN-MAUENTA : 207 INCHES (53mm)
 PENN-WHITE : 209 INCHES (53mm)

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RIDDLE FARM WWTP
 EQUIPMENT UPGRADES

 WORCESTER COUNTY, MARYLAND

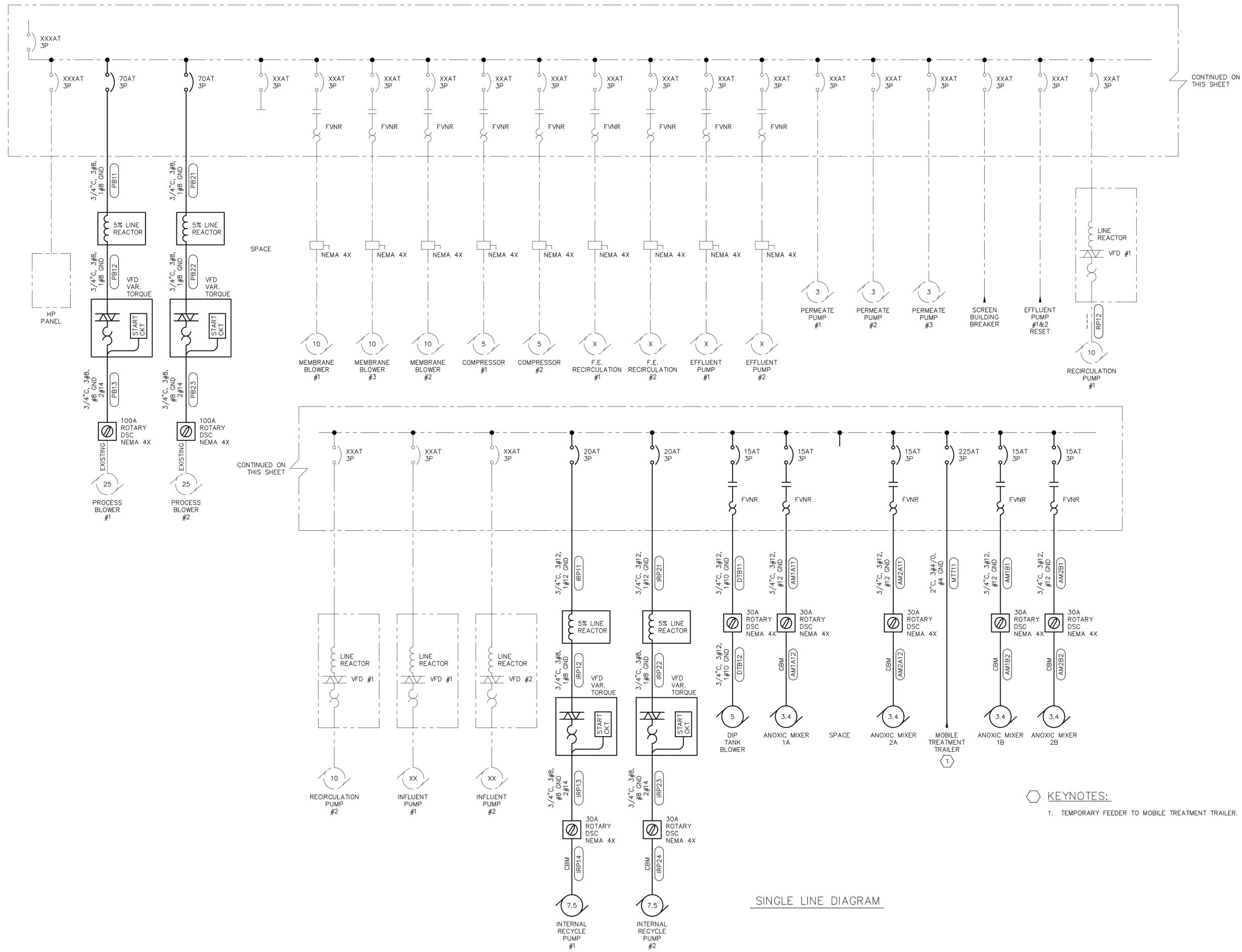
SINGLE LINE
 DIAGRAM -
 ELECTRICAL

SCALE : AS NOTED
 DESIGN BY : CLJ
 DRAWN BY : CAD
 CHECKED BY : CLJ
 GMB FILE : 220047
 DATE : AUGUST 2023

SHEET NO.
E-6

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EXISTING MOTOR-CONTROL CENTER, MCC-WWTP, 480/277V, 3 PH, 4W, 1000A, 100 KAIC, NEMA 1



CONTINUED ON THIS SHEET

CONTINUED ON THIS SHEET

SINGLE LINE DIAGRAM

- KEYNOTES:**
- TEMPORARY FEEDER TO MOBILE TREATMENT TRAILER.

PLOT CODE: PEN-YELLOW 207 INCHES (53mm)
 PEN-GREEN 210 INCHES (53mm)
 PEN-BLUE 202 INCHES (50mm)
 PEN-MAGENTA 207 INCHES (53mm)
 PEN-WHITE 209 INCHES (53mm)

PRINTS ISSUED FOR: BID SET

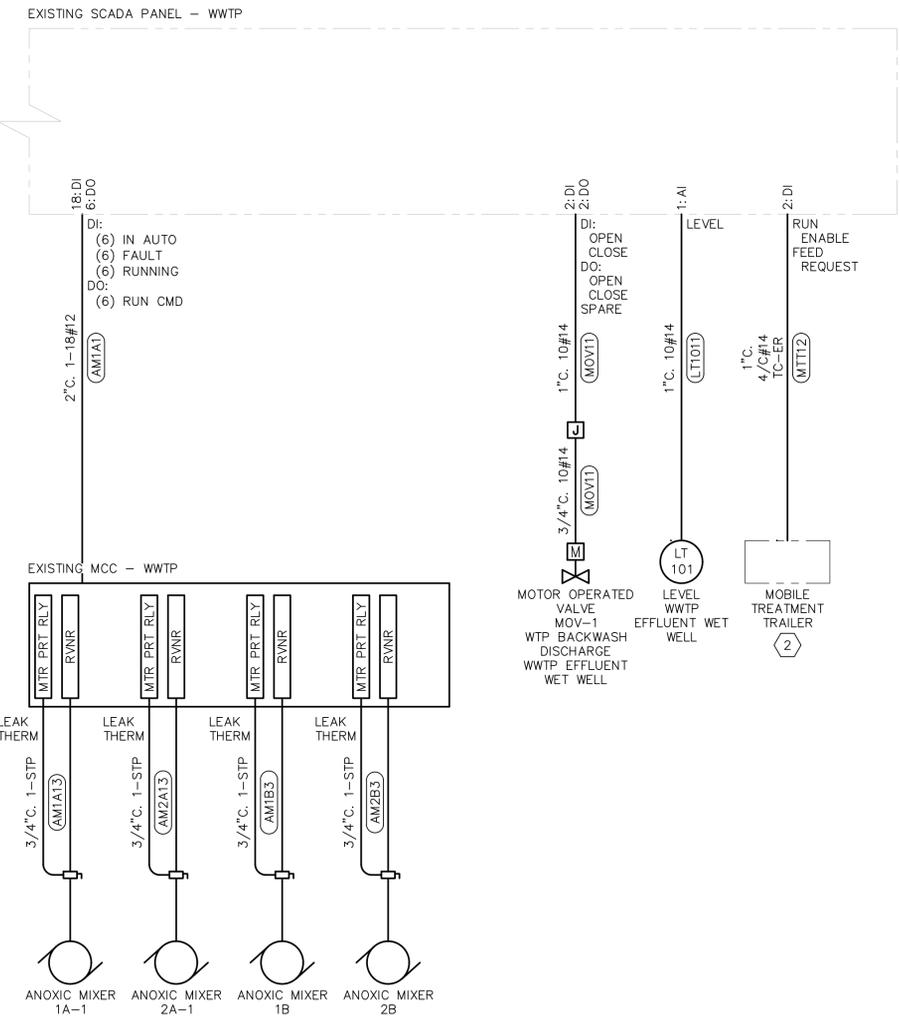
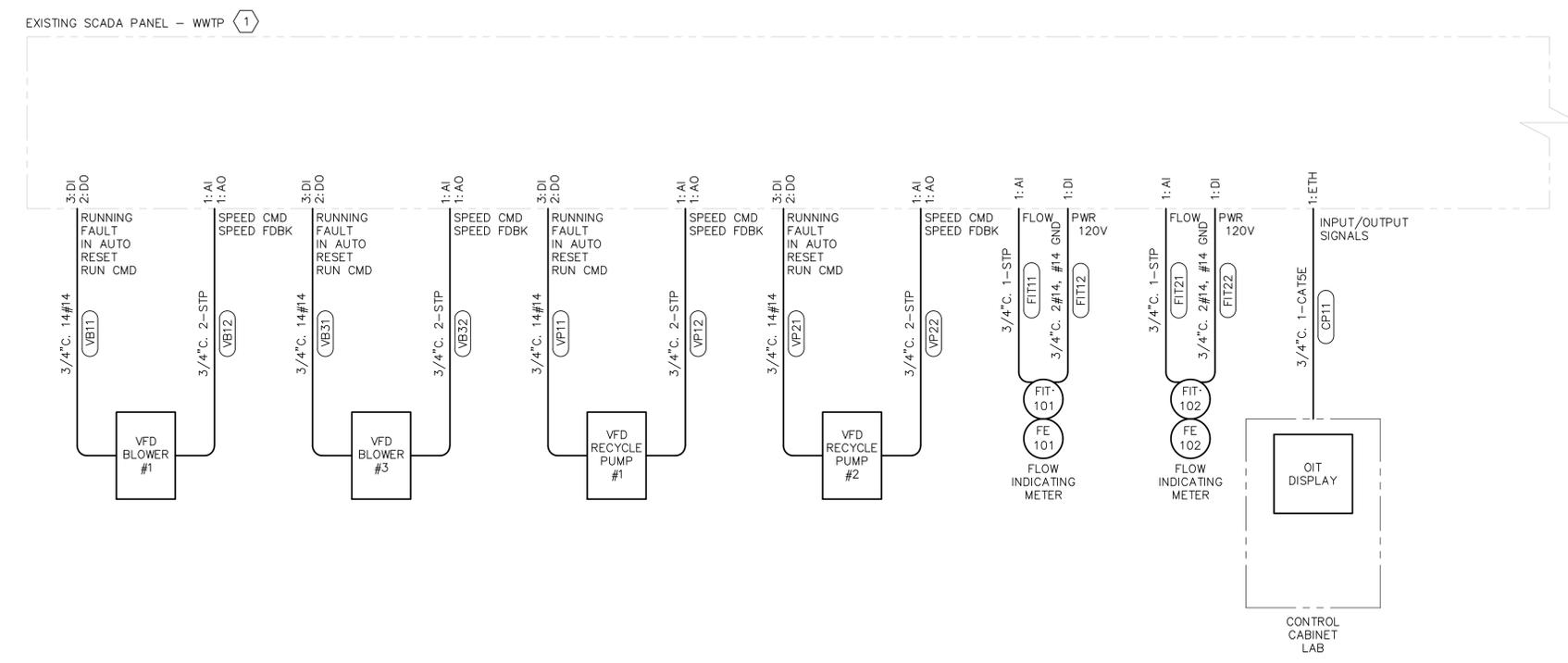
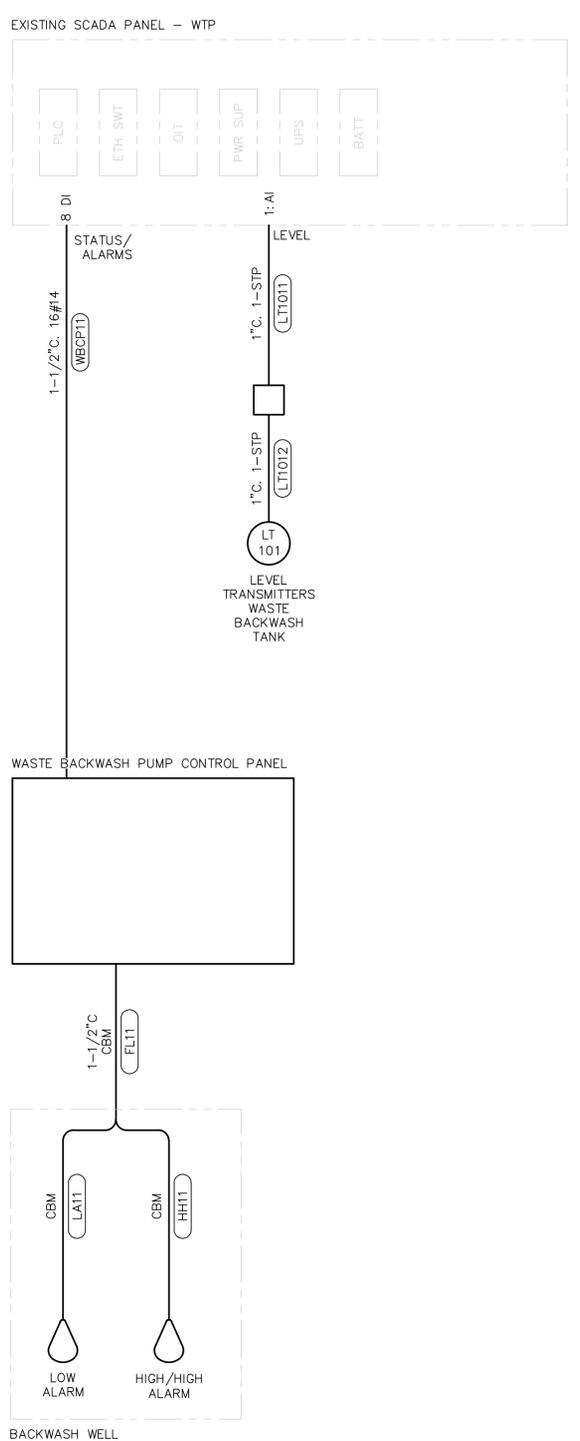
NO.	REVISIONS	DATE



RIDDLE FARM WWTP
EQUIPMENT UPGRADES
WORCESTER COUNTY, MARYLAND

SINGLE LINE
DIAGRAM -
ELECTRICAL

SCALE : AS NOTED	SHEET NO.
DESIGN BY : CLJ	E-7
DRAWN BY : CAD	
CHECKED BY : CLJ	
GMB FILE : 220047	
DATE : AUGUST 2023	



KEYNOTES:

1. INSTALL VEOLIA SUPPLIED EQUIPMENT IN EXISTING CONTROL PANEL.
2. TEMPORARY CABLING TO SERVE MOBILE TREATMENT TRAILER.

INTERCONNECT DIAGRAM

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**RIDDLE FARM WWTP
 EQUIPMENT UPGRADES**

WORCESTER COUNTY, MARYLAND

**INTERCONNECT
 DIAGRAM -
 ELECTRICAL**

SCALE : AS NOTED	SHEET NO. E-8
DESIGN BY : CLJ	
DRAWN BY : CAD	
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GMB FILE : 220047	
DATE : AUGUST 2023	

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PLOT CODE: PENN-BROWN 014 INCHES (36mm) PENN-YELLOW 007 INCHES (19mm) PENN-GREEN 010 INCHES (25mm) PENN-BLUE 020 INCHES (50mm) PENN-MAENTA 027 INCHES (70mm) PENN-WHITE 039 INCHES (100mm)

DISTRIBUTION PANELBOARD: LP
 VOLTS: 208Y/120 MOUNTING: SURFACE A.I.C. RATING: 22K
 PHASEWIRE: 3 PHASE, 4 WIRE ENCLOSURE: TYPE 1 MAINS TYPE: MAIN LUG ONLY (MLO)
 SERVED BY: TRANSFORMER EQUIPMENT: 100% RATED NEUTRAL EQUIPMENT GROUND BAR MCB RATING: 150A

ROOM DESIGNATION: PUMP ROOM
 LOCATION: WWTP BUILDING

CKT NO.	CKT. BKR.	CIRCUIT DESCRIPTION	KVAPER PHASE			CIRCUIT DESCRIPTION	CKT. BKR.	CKT NO.	
			A	B	C				
1	1	20A TANK RM	---	---	---	HOT WATER HEATER	30A	2	2
3	1	20A EX. FAN CONTROL	---	---	---				
5	1	20A SEAL FAIL REC-PUMPS	---	---	---	AC UNIT #1	20A	2	6
7	2	50A MOBILE TREATMENT TRAILER (NOTE 3)	---	---	---	AC UNIT #2	20A	2	10
11	1	20A GL2 ANALYZER	---	---	---				
13	1	20A CHLOR. VAC	---	---	---	TANK RM REC / GARAGE DOOR	20A	1	14
15	1	20A GL2 PUMP	---	---	---	PUMP RM. REC.	20A	1	16
17	1	20A SEAL FAIL IFF-PUMPS	---	---	---	BATHROOM REC.	20A	1	18
19	1	20A LAB REC.	---	---	---	SOUTH WALL REC.	20A	1	20
21	1	20A LAB REC.	---	---	---	SOUTH WALL REC.	20A	1	22
23	1	20A STEAM WASHER	---	---	---	SCADA PANEL	20A	1	24
25	1	20A LAB REF	---	---	---	EX. FAN #1	20A	1	26
27	1	20A TANK RM RCPT	---	---	---	EX. FAN #2	20A	1	28
29	1	20A COUNTER REC.	---	---	---	BLOWER ROOM FAN & REC	20A	1	30
31	1	20A COUNTER REC.	---	---	---	REC. MSS ROOM	20A	1	32
33	1	20A OVEN REC.	---	---	---	DOOR & HEATER PUMP RM.	20A	1	34
35	1	20A LAB LIGHT & FAN	---	---	---	DOOR BLOWER ROOM	20A	1	36
37	1	20A EX. FAN PUMPING STATION	---	---	---	HEATER BLOWER ROOM	20A	1	38
39	1	20A HEAT UNITS #1 & #2	---	---	---	ZENON PANEL	20A	2	40
41	1	20A INFLUENT METER (NOTE 2)	---	---	---				

- NOTES:
 1. SCHEDULE REPRESENTS OBSERVED BRANCH-CIRCUIT DESCRIPTIONS. BRANCH-CIRCUITS HAVE NOT BEEN VERIFIED.
 2. NEW WORK IN **BOLD**.
 3. DISCONNECT EXISTING RECEPTACLE CONDUCTORS AND SAVE FOR FUTURE USE. TERMINATE TEMPORARY CONDUCTORS SERVING MOBILE TREATMENT TRAILER.

DISTRIBUTION PANELBOARD: HP
 VOLTS: 480Y/277 MOUNTING: SURFACE A.I.C. RATING: 22K
 PHASEWIRE: 3 PHASE, 4 WIRE ENCLOSURE: TYPE 1 MAINS TYPE: MAIN LUG ONLY (MLO)
 SERVED BY: MCC-WWTP EQUIPMENT: 100% RATED NEUTRAL EQUIPMENT GROUND BAR MCB RATING: ---

ROOM DESIGNATION: PUMP ROOM
 LOCATION: WWTP BUILDING

CKT NO.	CKT. BKR.	CIRCUIT DESCRIPTION	KVAPER PHASE			CIRCUIT DESCRIPTION	CKT. BKR.	CKT NO.	
			A	B	C				
1	---	---	1.30	-	---	PINCH VALVE	20A	3	2
3	3	20A TRAIN HOIST (NOTE 3)	---	1.30	---				
5	---	---	---	---	1.30				
7	---	---	1.30	-	---	PUMP RM. LTS	20A	1	8
9	3	20A MOTOR HOIST	---	1.30	---	TANK RM. LTS	20A	1	10
11	---	---	---	---	1.30	TANK RM. LTS	20A	1	12
13	1	20A LAV LTS.	-	-	-	SPARE	20A	1	14
15	1	20A BLOWER RM. LTS	-	-	-	SPARE	20A	1	16
17	1	15A SPARE	-	-	-	SPARE	15A	1	18
19	---	---	-	1.30	---				
21	3	70A TRANSFORMER	---	---	1.30	NEW MONORAIL HOIST	20A	3	20
23	---	---	---	---	1.30				
25	---	---	-	-	-	BLANK	---	---	26
27	---	---	-	-	-	BLANK	---	---	28
29	---	---	-	-	-	BLANK	---	---	30
31	---	---	-	-	-	BLANK	---	---	32
33	---	---	-	-	-	BLANK	---	---	34
35	---	---	-	-	-	BLANK	---	---	36
37	---	---	-	-	-	BLANK	---	---	38
39	---	---	-	-	-	BLANK	---	---	40
41	---	---	-	-	-	BLANK	---	---	42
TOTAL KVAPER PHASE:			3.9	3.9	3.9				
TOTAL KVA:					11.7				
TOTAL AMPS PER PHASE:			14.1	14.1	14.1				
TOTAL AMPS:					14.1				

- NOTES:
 1. SCHEDULE REPRESENTS RECORDED BRANCH-CIRCUIT DESCRIPTIONS. BRANCH-CIRCUITS HAVE NOT BEEN VERIFIED.
 2. NEW WORK IN **BOLD**.
 3. REUSE EXISTING CIRCUIT BREAKER TO SERVE NEW HOISTS.

MOTOR CONTROL CENTER - WASTE WATER TREATMENT PLANT (MCC-WWTP) - SCHEDULE

SECTION	COMP HEIGHT (INCH)	COMPARTMENT DESCRIPTION	UNIT TYPE	SIZE	HP	OCPD		TRIP		ADDITIONAL FEATURES	REMARKS
						TYPE	MODEL	AMPS	TYPE		
1	18	HP BREAKER	CB	---	---	---	---	---	---		
	6	SPACE	---	---	---	---	---	---	---		
	3	BLANK	---	---	---	---	---	---	---		
2	36	MAIN BREAKER	CB	---	---	---	---	---	---		
	12	PROCESS BLOWER #1	CB	2	25	BREAKER	HJ150	70	FIXED		NOTE 2
	12	PROCESS BLOWER #2	CB	2	25	BREAKER	HJ150	70	FIXED		NOTE 2
	12	MIXER 1A	FVNR	1	3.4	BREAKER	---	15.0	MCP	HOA, RUN-RED, STOP-GREEN	
3	12	MEMBRANE BLOWER #1	FVNR	---	10	---	---	---	---		B-85A
	12	MEMBRANE BLOWER #3	FVNR	---	10	---	---	---	---		B-85S
	12	MEMBRANE BLOWER #2	FVNR	---	10	---	---	---	---		B-85B
	12	COMPRESSOR #1	FVNR	---	5	---	---	---	---		AC-91A
4	12	COMPRESSOR #2	FVNR	---	5	---	---	---	---		AC-91B
	12	F.E. RECIRCULATION #1	VFD	---	---	---	---	---	---		
	12	F.E. RECIRCULATION #2	VFD	---	---	---	---	---	---		
	12	EFFLUENT PUMP #1	FVNR	---	---	---	---	---	---		60A DSC
5	12	EFFLUENT PUMP #2	FVNR	---	---	---	---	---	---		60A DSC
	12	PERMEATE PUMP #1	CB	---	3	---	---	---	---		P-35-A
	12	PERMEATE PUMP #2	CB	---	3	---	---	---	---		P-35-B
	12	PERMEATE PUMP #3	CB	---	3	---	---	---	---		P-35-C
	18	SCREEN BUILDING BREAKER	CB	---	---	---	---	---	---		
6	6	EFFLUENT PUMP #1&2 RESET	---	---	---	---	---	---	---		
	12	RECIRCULATION PUMP #1	VFD	---	10	---	---	---	---		P-34A
	12	RECIRCULATION PUMP #2	VFD	---	10	---	---	---	---		P-34B
	6	RECYCLE PUMP #1	FVNR	1	7.5	BREAKER	HJ150	20	FIXED		
7	6	RECYCLE PUMP #2	FVNR	1	7.5	BREAKER	HJ150	20	FIXED		
	12	DIP TANK BLOWER	FVNR	1	5	BREAKER	HJ150	20	FIXED	HOA, RUN-RED, STOP-GREEN	
	12	MIXER 2A	FVNR	1	3.4	BREAKER	---	15.0	MCP	HOA, RUN-RED, STOP-GREEN	
	12	MOBILE TREATMENT TRAILER	CB	---	---	BREAKER	---	225	FIXED		
8	48	INFLUENT PUMP #1 VFD	VFD	---	---	---	---	---	---		
	12	LINE REACTOR - INFLUENT PUMP #1 FEQ	---	---	---	---	---	---	---		
	12	MIXER 1B	FVNR	1	3.4	BREAKER	---	15.0	MCP	HOA, RUN-RED, STOP-GREEN	
9	3	BLANK	---	---	---	---	---	---	---		
	45	INFLUENT PUMP #2 VFD	VFD	---	---	---	---	---	---		
	12	LINE REACTOR - INFLUENT PUMP #2 FEQ	---	---	---	---	---	---	---		
10	12	MIXER 2B	FVNR	1	3.4	BREAKER	---	15.0	MCP	HOA, RUN-RED, STOP-GREEN	
	3	BLANK	---	---	---	---	---	---	---		

- NOTES:
 1. NEW WORK IN **BOLD**.
 2. FVNR STARTER TO BE REPLACED BY EXTERNAL VFD.

DISTRIBUTION PANELBOARD: HP
 VOLTS: 480Y/277 MOUNTING: SURFACE A.I.C. RATING: 22K
 PHASEWIRE: 3 PHASE, 4 WIRE ENCLOSURE: TYPE 1 MAINS TYPE: MAIN LUG ONLY (MLO)
 SERVED BY: MCC-WWTP EQUIPMENT: 100% RATED NEUTRAL EQUIPMENT GROUND BAR MCB RATING: ---

ROOM DESIGNATION: ELECTRICAL ROOM
 LOCATION: WTP BUILDING

CKT NO.	CKT. BKR.	CIRCUIT DESCRIPTION	KVAPER PHASE			CIRCUIT DESCRIPTION	CKT. BKR.	CKT NO.	
			A	B	C				
1	---	---	-	-	-	WATER TOWER HEATER	45A	3	2
3	3	50A TRANSFORMER	---	---	---				
5	---	---	-	-	-				
7	---	---	-	-	-				
9	3	30A GENERATOR BLOCK HEATER	---	---	---	NO LABEL	20A	3	10
11	---	---	---	---	---				
13	---	---	-	-	-				
15	3	30A NO LABEL	---	---	---	NO LABEL	20A	3	16
17	---	---	-	-	-				
19	---	---	-	-	-				
21	---	---	-	-	-	NO LABEL	20A	3	22
23	---	---	-	-	-				
25	---	---	-	-	-	ELECTRIC ROOM LIGHTS	20A	1	26
27	3	20A NO LABEL	---	---	---	TANK ROOM LIGHTS	20A	1	28
29	---	---	-	-	-	OUTSIDE LIGHTS	20A	1	30
31	1	20A LIGHTS TANK ROOM	---	---	---	TANK ROOM LIGHTS	20A	1	32
33	1	20A HEAT TRACE	---	---	---	BLANK	---	---	34
35	---	---	-	-	-	BLANK	---	---	36
37	---	---	-	-	-	BLANK	---	---	38
39	---	---	-	-	-	BLANK	---	---	40
41	---	---	-	-	-	BLANK	---	---	42
TOTAL KVAPER PHASE:			0.0	0.0	0.0				
TOTAL KVA:					0.0				
TOTAL AMPS PER PHASE:			0.0	0.0	0.0				
TOTAL AMPS:					0.0				

- NOTES:
 1. SCHEDULE REPRESENTS RECORDED BRANCH-CIRCUIT DESCRIPTIONS. BRANCH-CIRCUITS HAVE NOT BEEN VERIFIED.
 2. NEW WORK IN **BOLD**.

PRINTS ISSUED FOR:
 BID SET

DATE	REVISIONS	NO.



RIDDLE FARM WWTP
 EQUIPMENT UPGRADES
 WORCESTER COUNTY, MARYLAND

SCHEDULES -
 ELECTRICAL

SCALE : AS NOTED SHEET NO.
 DESIGN BY : CLJ
 DRAWN BY : CAD
 CHECKED BY : CLJ
 GMB FILE : 220047
 DATE : AUGUST 2023
E-9