ADDENDUM NO. 3

FOR THE

CAESARS LANE
WASTEWATER TREATMENT PLANT EXPANSION
PHASE 2 PROJECT

TOWN OF NEW WINDSOR
ORANGE COUNTY, NEW YORK

PREPARED FOR:
Town of New Windsor
555 Union Avenue
New Windsor, NY 12553

PREPARED BY:
MHE Engineering, D.P.C.
111 Wheatfield Drive, Suite 1
Milford, PA 18337

NOTE: ANY UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW.

DATE: June 27, 2025
JOB #: 18-732

THIS ADDENDUM CONSISTS OF (7) PAGES & (45) ATTACHMENTS

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Prospective bidders are advised of the following revisions, additions, deletions and/or clarifications to the contract documents:

Revisions:

1. Instructions to Bidders for Construction Contract (EJCDC C-200) has been revised. Article 11 "Subcontractors, Suppliers, and Others" has been removed.

2. The following Construction Bid Plans have been revised:
    a. C-410: Located valve V-503C
    b. C-421: Clarified Jet Header and pipe support sizes, clarified suction bell size, located jet pump seal water panels.
    c. C-422: Clarified that nozzles 1 and 6 are not aerated and do not require downcomers, clarified transfer line invert elevation, called out threaded connections for blower temperature and pressure transmitters on blower discharge piping.
    d. C-440: Clarified suction bell sizing.
    e. C-450: Revised plant water schematic and added detail for pump seal water panel.
    f. Redline revisions included on Electrical Plan Sheets: E-012 through E-017, E-020 through E-028, E-042 through E-046, E-101, E-201, E-301, E-400, E-401, E-501 through E-503, E-702, E-703 (30 sheets)

3. The following Specifications have been revised:
    a. 095123 SF - Acoustical Tile Ceilings: Revised to add Maintenance Material Submittals, for extra stock of those finish materials to be supplied to the owner at the completion of construction.
    b. 096513 SF - Resilient Base and Accessories: Revised to add Maintenance Material Submittals, for extra stock of those finish materials to be supplied to the owner at the completion of construction.
    c. 096519 SF - Resilient Tile Flooring: Revised to add Maintenance Material Submittals, for extra stock of those finish materials to be supplied to the owner at the completion of construction.
    d. 099113 SF - Exterior Painting: Revised to add Maintenance Material Submittals, for extra stock of those finish materials to be supplied to the owner at the completion of construction.
    e. 432313.27 Primary Sludge Pumps: Section 1.2.F.4 has been deleted and revisions made to Section 1.2.f5.
    f. 462323 Vortex Grit Removal Equipment: Section 3.2 has been revised to reflect startup and training requirements.

Additional Information:

1. The Owner will retain specific equipment designated to be removed. The following table outlines the specific equipment the Contractor is responsible for removing and storing on-site. Location for stored equipment to be coordinated and determined with the Operator at time of removal.

Table 1 – Equipment Salvage

Equipment to Salvage	Quantity	Associated Equipment and Location	Reference Sheet
Center Drive Unit and Control Panel	1	Primary Clarifier #3	CD-301
Sludge Pumps	2	Primary Clarifier Sludge Pump Station	C-321
Center Drive Unit and Control Panel	2	Secondary Clarifiers # 1 and 2	CD-801
Sludge Pumps	2	Secondary Clarifier Sludge Pump Station	CD-805
Effluent Pumps	5	Secondary Clarifier Recycle Effluent Pump Station	CD-805
Sludge Feed Pumps	2	Lower-level Dewatering Building	CD-701
Generator	1	Existing Control Building	C-102
Generator Transfer Switches	2	Existing Control Building	CD-702
Scum Chopper Pumps	2	Sludge Thickeners	CD-807

Clarifications:

1. The filter fabric noted in details 2/C-137 and 13/C-140 shall be US Fabrics US-120 NW or acceptable equal. The Geotextile referenced in details 1/C-140, 10/C-140 and 12/C-140 shall be US Fabric 180 NW or acceptable equal.

2. The concealed fastener wall panels to be installed on the Headworks Building (A-201, A-202, A-203) shall be installed horizontally as shown on those drawings and per Specification 074213.13.

3. SK-1 Polymer Feed Schematic is provided in this addendum for clarification. This schematic applies to piping for polymer feed skids in the Drum Thickener Room (Sheet C-410) and in the Dewatering Building (Sheet C-702).

RFI's:

1. **Question**: Sheet A-953 includes callouts indicating the use of exposed fasteners; however, specification section 133419, 2.5A specifies concealed fasteners. Please confirm which type of fastener is required for this application.
   Response: The fasteners for the wall panels shall be concealed as per the specification.

2. **Question:** Specification Section 133419, part 2.6 calls for a combination of perforated and solid panels. However, these buildings are typically constructed with solid panels only. Please clarify.
   Response: The metal soffit panels shall be solid panels only.

3. **Question:** Plan sheet C-410 and C-421, can the Owner/Engineer specify where the transition on the Thickened Sludge to Thermaer Tanks is to be located from DI to SS.
   Response: Piping within the ATAD room to be SS and piping within Rotary Drum thickener to be DI. Transition from DI to SS has been located on C-410 and C-421.

4. **Question:** Plant Water layout is not shown in the 700's drawings except directly at the Belt Presses, can an updated drawing be provided showing routing of plant water from 6" DR9 wall penetration on lower level.
   Response: Exact plant water line location to be determined by the contractor during construction as approved by the Engineer. Existing penetration through floor adjacent to existing hydraulic power unit to be utilized to bring plant water line from the lower level to the upper level of the dewatering building. Piping to be supported as per Specification 220510.

5. **Question:** Plan sheet C-450 detail 2 shows multiple valves of various sizes, can the Owner/Engineer specify the type and style for each valve or is it assumed all valves are ball type?
   Response: The valves shown in detail 2 on Sheet C-450 are ball valves.

6. **Question:** Plan sheet C-450 detail 2 note 1 states: all plant water piping inside the ATAD is to be Sch 80 unless otherwise noted. Specifications – PVC Process Piping 402323-4.C. Solvent weld joints may be utilized on piping less than 3" in diameter provided pressure ratings are met. Plant water piping is identified as 6", please identify the pipe material.
   Response: Solvent welded joints may be used on the 6" SCH80 PVC plant water lines.

7. **Question:** Plan Sheet C-701 detail 2, please identify 6" valve type and verify 6" Sch 80 piping for plant water piping.
   Response: The valves shown in detail 2 on Sheet C-701 are ball valves. Confirmed 6" SCH80 PVC piping for plant water lines.

8. **Question:** Who provides chemicals for startup of new processes?
   Response: The contractor is responsible for necessary chemicals for initial start up and testing of the system until seed sludge is added.

9. **Question:** Contract documents appear to be silent on startup considerations for the new MBR biological treatment processes. Are there any constraints and/or requirements on maintaining the existing processes through startup of the MBR and SPDES discharge permit requirements.

Response: In general, the contractor is expected to coordinate with the plant operator and Engineer throughout construction to ensure normal plant operations are not interrupted. Temporary measures or modifications to normal plant processes may be proposed by the contractor in order expedite construction timeline, but are subject to review and approval by the Engineer and plant operator.

The Town has received interim limits that are in effect during plant construction which are attached to this addendum (See Attachment B). The anticipated sequence of startup consists of introducing flow from two of the three existing primary settling tanks as seed sludge is added. Initially two of the three biological trains and all MBR trains will be brought online. Flow from the third existing primary settling tank will continue to the existing trickling filter flow splitter and to the existing trickling filters, effluent pump pit and secondary settling tanks. These existing units will remain in service until the start of the demonstration period at which time all flow will be directed to the MBR system and the existing units may be decommissioned.

Additionally, the assumed MBR System Pre-Selection contract (Veolia) includes technical specifications regarding startup, including System Start-Up, Demonstration and Training, and General Commissioning Requirements.

10. **Question:** In relation to startup of the MBR what is the anticipated duration of time anticipated to accumate and stabilize the new biological processes prior to the 30 day performance testing duration?
    Response: It is anticipated that the process will take 20 to 30 days to stabilize after seeding.

11. **Question:** If current plant sludge is not acceptable seed sludge, please identify where seed sludge is to be obtained and quantify the amount of seed sludge needed.
    Response: The current plant sludge is not acceptable to seed the new process. The Town will arrange for suitable seed sludge to be obtained from a plant within 30 miles of the project site. The contractor shall haul approximately 20,000 gallons to the plant for startup.

12. **Question:** Issued contract documents for this contract appear to be silent on start up considerations of the proposed constructed treatment processes. Contract documents issued form the MBR pre-selection contract includes technical specification sections including 017516. Please clarify.
    Response: Specification 017516 details requirements for the MBR supplier, Veolia, prior to and during system startup, commissioning and demonstration. Please see attachment A in this Addendum for summary of on-site services provided by Veolia and those provided by the Contractor:

13. **Question:** Specification section 455000 for the Membrane Filtration System includes Part 3.2 Project Schedule please provide current dates associated to fabrication and delivery of the MBR equipment.
    Response: Veolia has indicated that equipment such as pumps, blowers, valves etc will be available for shipment approximately 6 months after release by the contractor. Membrane cassettes will be available for shipment approximately 12 months after release.

14. **Question:** Specification section 432313.27 Part 1.2 Performance criteria, subsection F. certified performance test, Item 4 states: "It is not intended that the pump manufacture assume liability for consequential damages or contingent liabilities arising from failure of any vendor supplied product or part which fails to properly operator, however caused. Consequential damages resulting from defects in design, or delays in delivery are also beyond the manufactures scope of liability." It is unclear if the language is truly intended in this specification section or was overlooked and not omitted, however, please consider striking the language in part 1.2.F.4.
    Response: Refer to attached Specification 432313.27 Section 1.2.F.4 which is deleted and revisions to Section 1.2.f.5.

15. **Question:** Specification section 462323 does not appear to include any requirements for manufactures services, verification of installation, startup, or training. Please verify that is intended.
    Response: Specification 462323 section 3.2 has been revised to reflect startup and training requirements.

16. **Question:** Can the Owner/Engineer clarify if the 6" transfer line in the A.T.A.D is to be SS or DI. Transfer line callouts seem to be conflicting from C-421 and C-422.
    Response: The transfer line shall be 316 SS. Sheet C-422 has been revised accordingly.

17. **Question**: On plan sheet C-542 in the Drum Thickener room there is a Polymer feed skid. Can the Owner/Engineer indicate the location/schematic of this piping?
    Response: Assuming this question references the Drum Thickener room shown on Sheet C-410, SK-1 Polymer Feed Schematic is provided in this addendum for clarification.

18. **Question**: On plan sheet C-702 in the Dewatering Building there are two Polymer feed skids. Can the Owner/Engineer indicate the location/schematic of this piping?
    Response: SK-1 Polymer Feed Schematic is provided in this addendum for clarification.

19. **Question**: Can the Owner/Engineer verify the suction bells sizing for the Jet pumps, they differ on plan sheets C-421 and C-422.
    Response: Jet pump suction bell shall be 16" as shown on Sheet C-422**.**

20. **Question**: Can the Owner/Engineer clarify if the pipe material inside the ATAD equipment room coming off of the Jet pumps, suction lines, thermaer feed lines, and transfer lines are to be FRP or Stainless Steel.
    Response: Piping within the ATAD equipment room to be 316SS. As listed in Specification 467321, the in-basin piping to be FRP and provided by ATAD supplier.

21. **Question**: Per Article 11.01 of the Instructions to Bidders, "The Contractor shall not award work to Subcontractor(s) in excess of 50% of the contract value." Given that this project is not a standard Wicks Law proposal—with Electrical, HVAC, Plumbing, Mechanical, and Civil work all combined under a single contract rather than multiple prime contracts—can the 50% self-performance requirement be reduced?
    Response: Prospective bidders shall delete reference to article 11.01 of the Instructions to Bidders.

Attachments:
Attachment A: Summary of on-site Services provided by Veolia and those provided by the Contractor
Attachment B: SPDES Interim Effluence Limitations, Monitoring Requirements and Conditions
Revised Plan Sheets C-410, C-421, C-422, C-440, C-450
Revised Electrical Plan Sheets (30 sheets)
Revised Instructions to Bidders for Construction Contract (EJCDC C-200)
Revised Specification 096519 SF - Resilient Tile Flooring - R3
Revised Specification 096513 SF - Resilient Base and Accessories - R3
Revised Specification 095123 SF - Acoustical Tile Ceilings - R3
Revised Specification 099113 SF - Exterior Painting - R3
Revised Specification 462323 Vortex Grit Removal Equipment
Revised Specification 432313.27 Primary Sludge Pumps
Sheet SK-1 Polymer Feed Schematic

ALL BIDDERS MUST SUBMIT ACKNOWLEDGEMENT OF RECEIPT OF ALL ADDENDUMS WITH BID

ACKNOWLEDGEMENT OF RECEIPT OF ALL ADDENDUMS LISTED BELOW:

ADDENDUM No. 3: June 27, 2025_____

SUBMIT THIS SHEET WITH YOUR BID

MHE Engineering, P.C.
111 Wheatfield Drive, Suite 1
Milford, PA 18337

(End of Addendum No. 3)

Attachment A

Summary of on-site services provided by Veolia and those provided by the Contractor

The following is a summary of the on-site technical support services provided by trained VEOLIA field service representatives. VEOLIA will provide the owner and contractor with:

- construction and installation assistance related to VEOLIA supplied equipment;
- recommendations for VEOLIA equipment off-loading and installation
- materials inspection
- supervision of VEOLIA membrane installation
- assistance with commissioning and start-up of the membrane system;
- mechanical inspection (prior to commissioning)
- loop checking, instrumentation and control system verification
- pipe loss testing
- clean water permeability testing
- sludge seeding
- operator training
- assistance with the acceptance/performance testing of the system

Scope by Contractor:
Equipment installation, including;

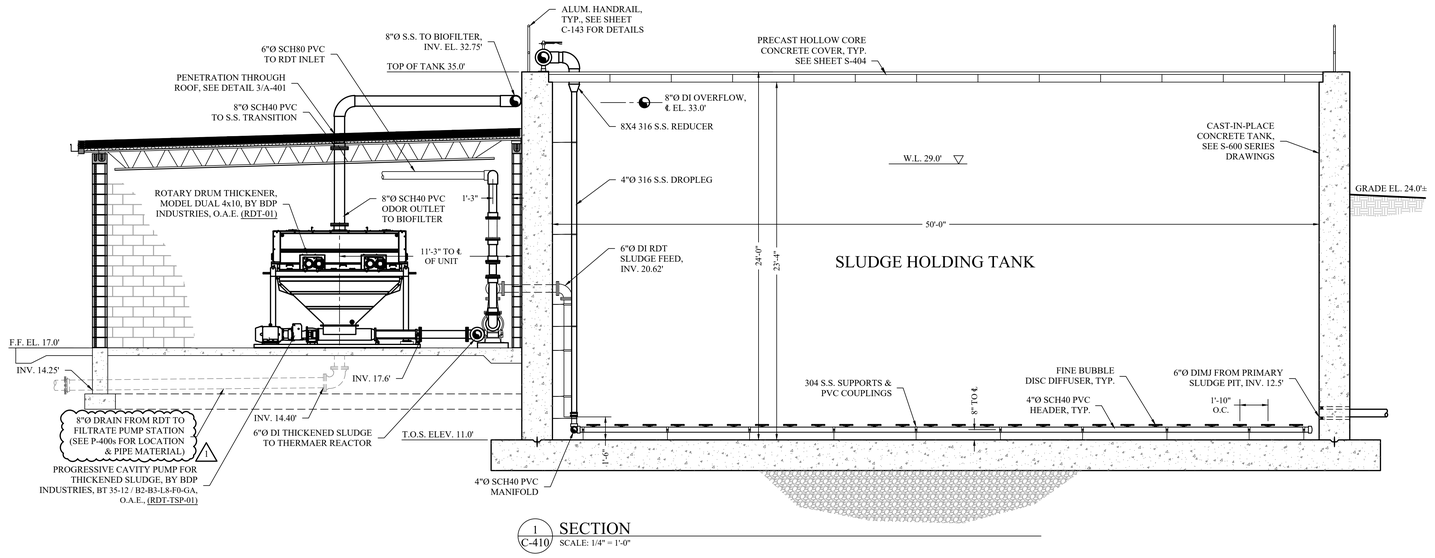
- All VEOLIA supplied loose-shipped equipment.
- Alignment and coupling of all pumps and other rotating equipment by a qualified and certified millwright provided by the General Contractor or other local firm. Submission of an alignment report to VEOLIA is required for equipment warranty validation purposes for each piece of equipment.
- Unloading of delivered process equipment at the defined point of destination including receiving, sign-off and safe storage of equipment at site until ready for installation. Customer to provide suitable warehousing to meet VEOLIA requirements at or near the site.
- Coordination of membrane cassette shipment to site with VEOLIA personnel.
- Provide trailers/offices and washroom facilities for the VEOLIA site personnel and its representatives.
- Installation & removal of suitable temporary screens on all process lines entering the membrane basins to prevent foreign construction related debris from coming in contact with the membranes. Debris found within the tank can potentially void membrane warranties or require immediate replacement of damaged cassettes.
- Raw materials, chemicals, seeding sludge and utilities during equipment start-up and operation including a supply of raw water feed that meets all design parameters for the successful commissioning of the membrane equipment.
- Supply and installation of all required oil and lubricants for equipment start-up and initial operation per the manufacturer's specifications.
- Replacement of lubricants in all drives and intermediate drives of mechanical equipment after initial break-in of the equipment
- Flushing of all piping and membrane tanks and verification of removal of all residual debris from construction.
- Laboratory services, operating and maintenance personnel during equipment checkout, start-up and operation.

- Providing assistance where necessary to electrical trades in the accomplishment of functions requiring mechanical tradesmen (including pipe fitters and any other trades within the scope of this contract).
- Temporary piping/hosing may be required for the commissioning of the plant before effluent distribution is authorized.
- Contractor checklists are required complete prior to commissioning

APPENDIX 1
INTERIM EFFLUENT LIMITATIONS, MONITORING REQUIREMENTS AND CONDITIONS
Permittee Name: Town of New Windsor
Facility Name: New Windsor (T) Sewage Treatment Plant
SPDES No: 3-3348-00055/000003
Order on Consent Case No: R3-20231006-149

During the period beginning with the effective date of the attached Order on Consent and lasting until such time that the Department accepts the certificate for completion required under the SPDES Permit for the Facility, the discharges from the permitted facility shall be limited and monitored by the permittee as specified below. Effluent limitations of all parameters in the SPDES Permit not included in the list below remain per Permit requirement. Failure to abide by the interim limits and conditions below is a violation of this Order.

Parameter	Type	Units	5.0 MGD Permitted Limit	Consent Order Interim Limit
BOD5	Monthly Avg.	mg/L	30	42
	7 Day Average		45	110
BOD5	Monthly Avg.	lb/d	1300	1800
	7 Day Average		1900	4600
BOD5	Percent Removal	%	70	65
Total Suspended Solids	Monthly Avg	mg/l	30	42
	7 Day Average		45	76
Total Suspended Solids	Monthly Avg.	lb/d	1300	1800
	7 Day Average		1900	3200
Total Suspended Solids	Percent Removal	%	80	70
Settleable Solids	Daily Max	mL/L	0.3	0.4
Ammonia (as N) June 1- Sept 30	Monthly Avg	mg/l	14	18
		lb/d	Monitor	Monitor
Bis (2-ethylhexyl) phthalate	Daily Max	µg/L	7.5	100
Total Copper	Daily Max	µg/L	Monitor	Monitor
		lb/d	3.6	4.6
Total Residual Chlorine	Daily Max	µg/L	55	82
		lb/d	Monitor	-



1/C-410 SECTION
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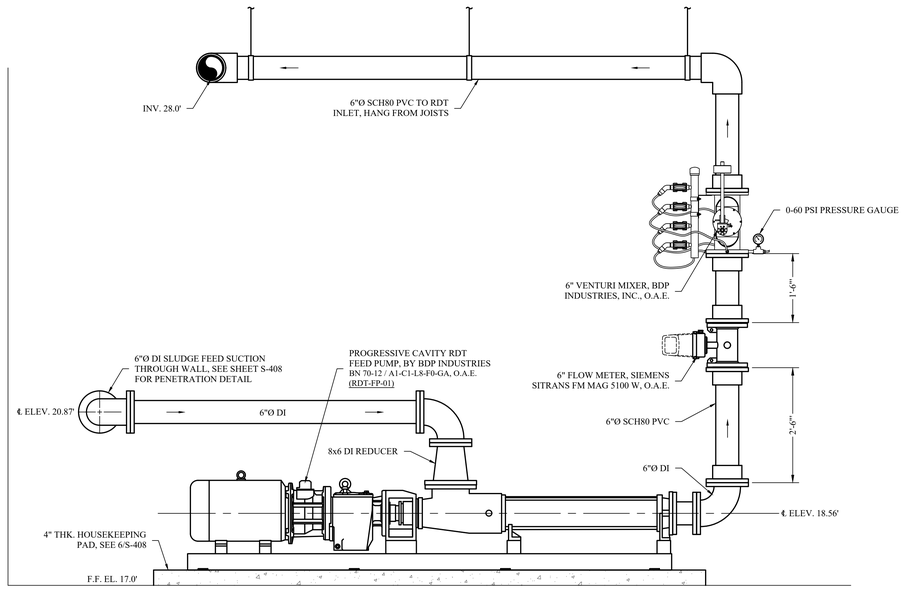
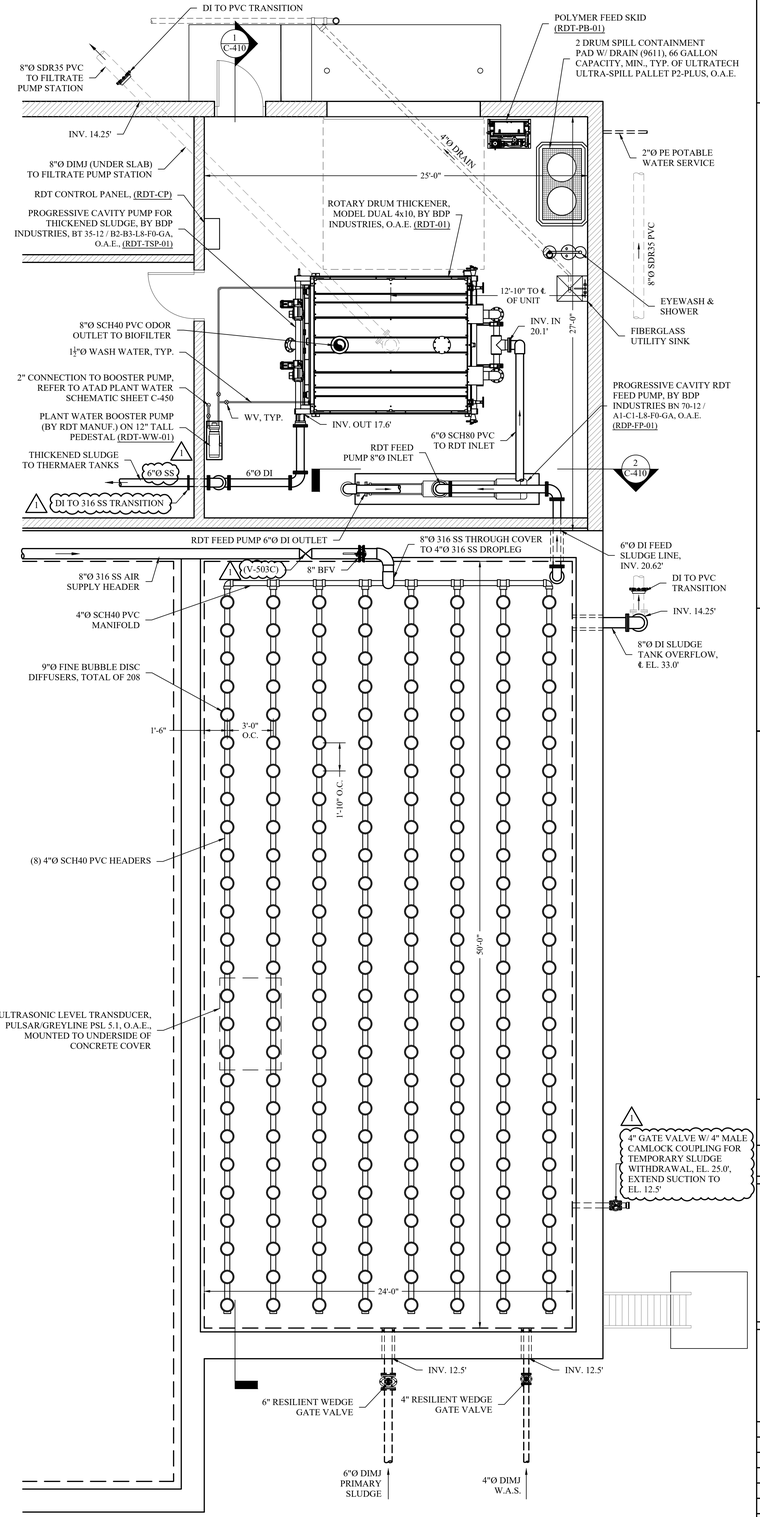


2/C-410 SECTION
SCALE: 3/4" = 1'-0"

NOTES :

1. PIPING TO BE SUPPORTED IN ACCORDANCE WITH PROJECT SPECIFICATION 400507 - HANGERS AND SUPPORTS.
2. REFER TO SHEET C-143 FOR PIPE PENETRATIONS THROUGH WALLS AND/OR SLABS.
3. REFER TO ATAD SYSTEM SPECIFICATION 467321 FOR ATAD MANUFACTURER SUPPLIED PIPING MATERIAL.



A/C-410 SLUDGE HOLDING TANK - AERATION LAYOUT
SCALE: 1/4" = 1'-0"

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BID SET

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

DRUM THICKENERS & SLUDGE HOLDING IN-BASIN LAYOUT

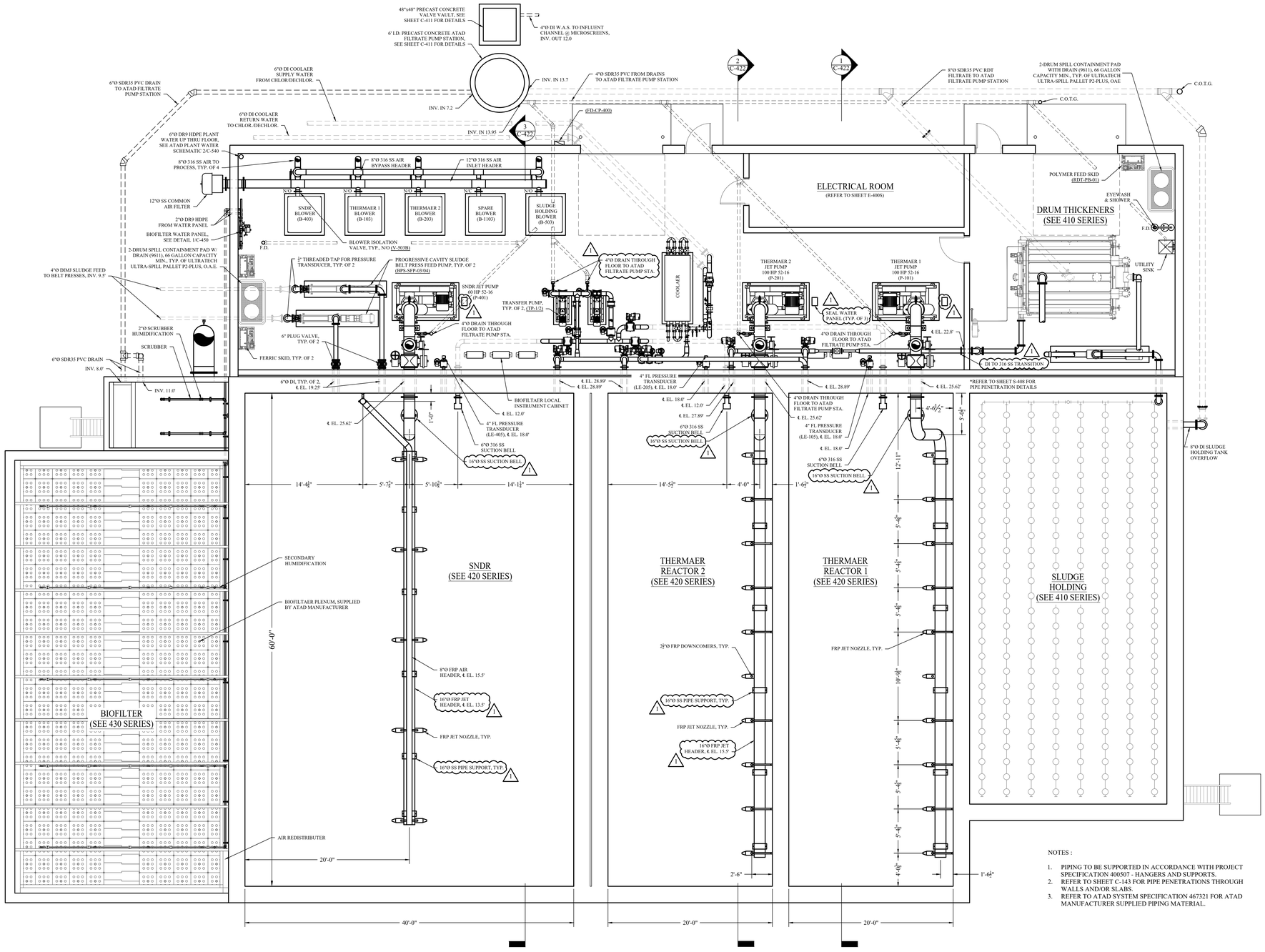
REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 3	06/27/25

ISSUED DATE:	18 APR, 2025
DESIGN BY:	SMQ, JTW
DRAWN BY:	HPBJr
CHECKED BY:	MWW
REVIEWED BY:	**MJS, JZ**

SHEET NO.
C-410

PROJECT # 18-732 PHASE #



NOTES :

1. PIPING TO BE SUPPORTED IN ACCORDANCE WITH PROJECT SPECIFICATION 400507 - HANGERS AND SUPPORTS.
2. REFER TO SHEET C-143 FOR PIPE PENETRATIONS THROUGH WALLS AND/OR SLABS.
3. REFER TO ATAD SYSTEM SPECIFICATION 467321 FOR ATAD MANUFACTURER SUPPLIED PIPING MATERIAL.

A / C-421 A.T.A.D. FOAM CONTROL SYSTEM IN-BASIN PLAN

SCALE : $\frac{3}{16}$" = 1'-0"

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BID SET

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UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2

145 CAESARS LN.
NEW WINDSOR, NY 12553

FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

A.T.A.D. FOAM CONTROL SYSTEM PLAN

REVISIONS

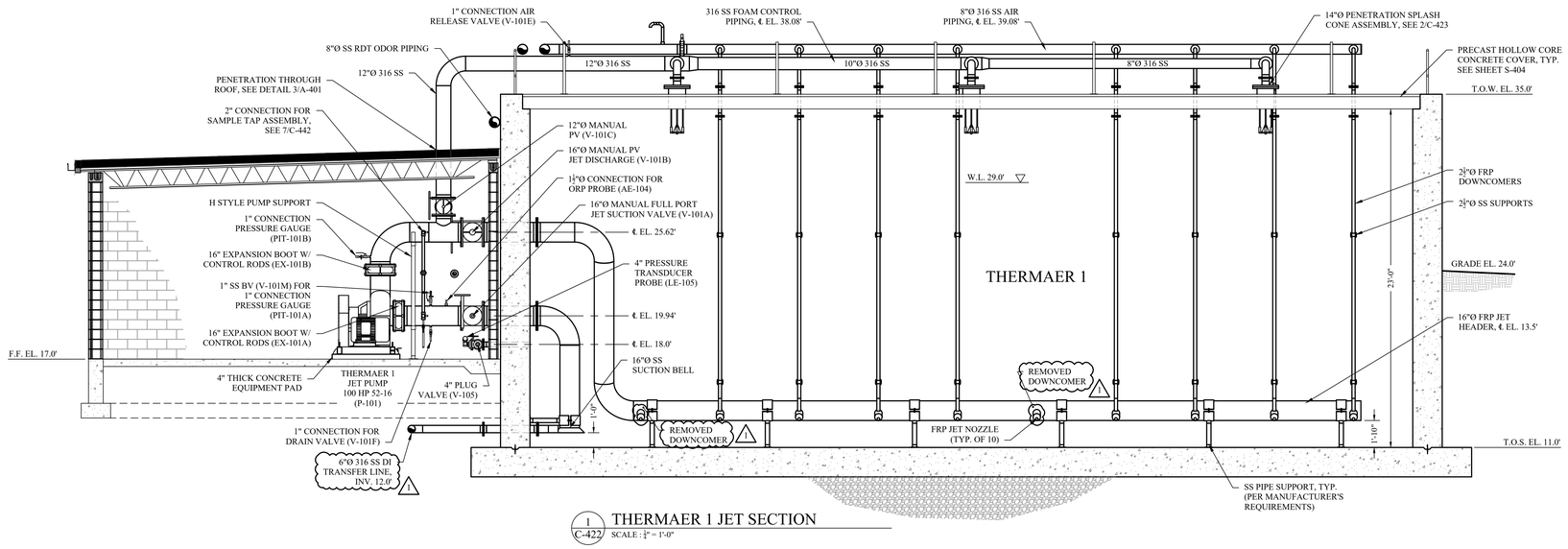
NO.	DESCRIPTION	DATE
1	ADDENDUM 3	06/27/25

ISSUED DATE:	18 APR, 2025
DESIGN BY:	SMQ, JTW
DRAWN BY:	HPBJr
CHECKED BY:	MWW
REVIEWED BY:	**MJS, JZ**

SHEET NO.

C-421

PROJECT # 18-732 PHASE #



1 C-422 THERMAER 1 JET SECTION
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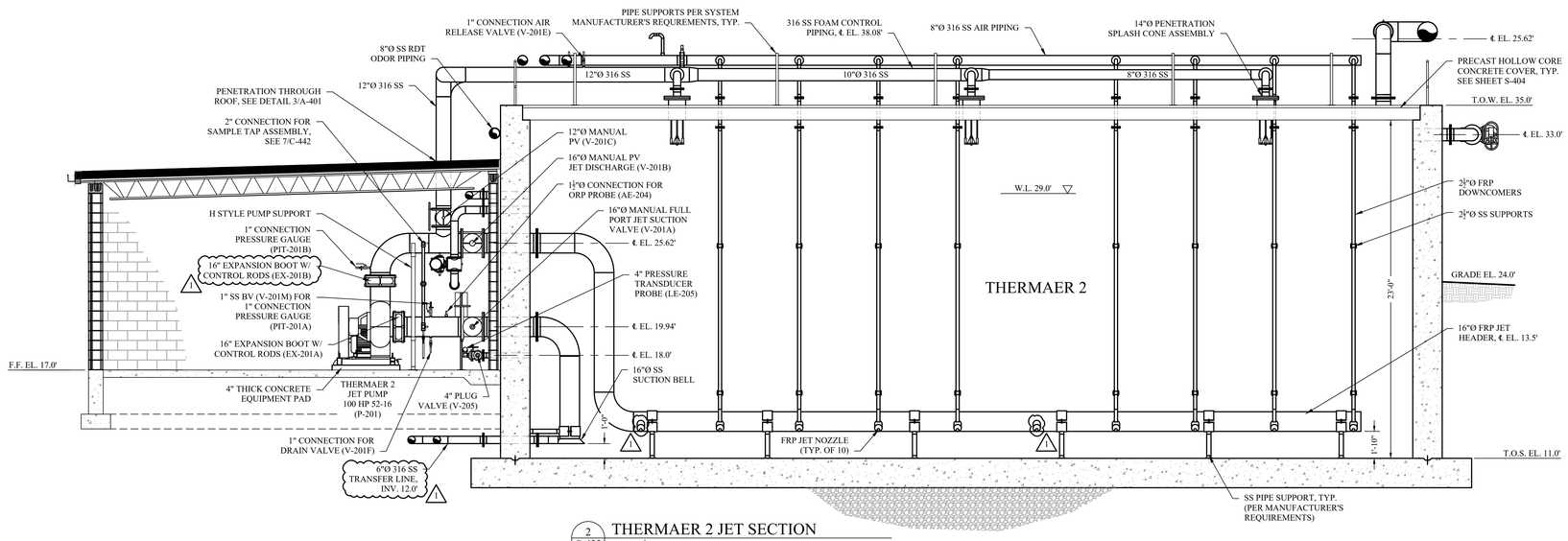

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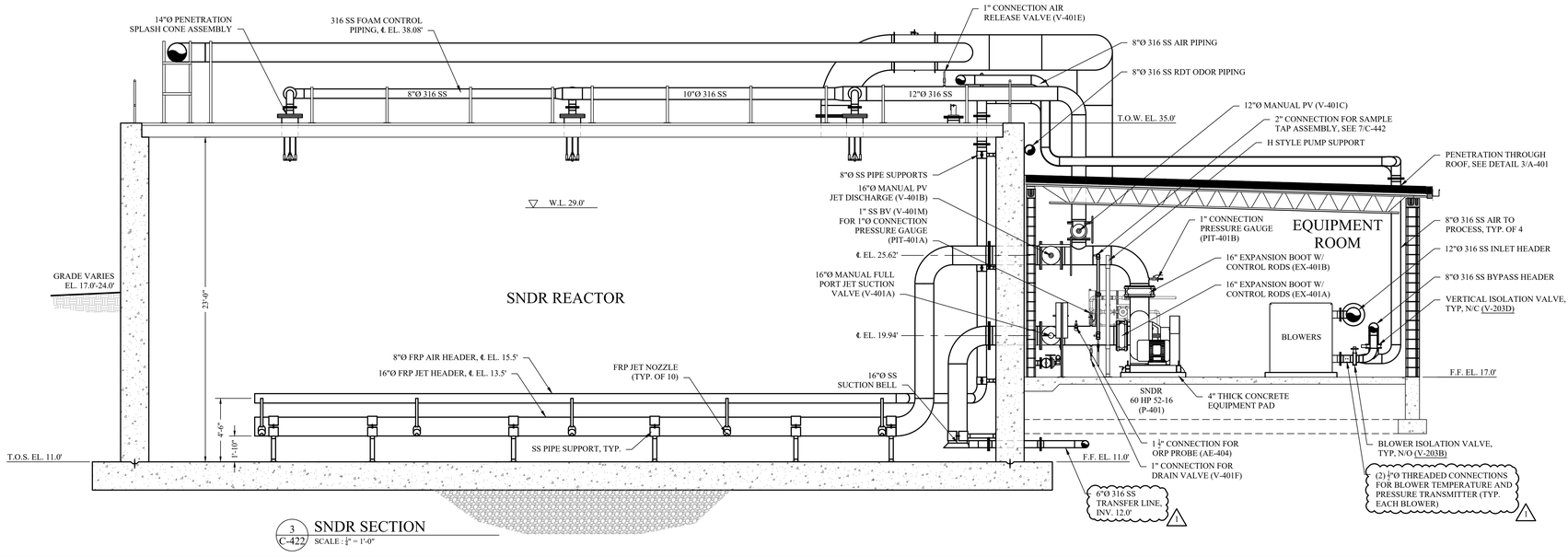

3 C-422 SNDR SECTION
SCALE : ¼" = 1'-0"

NOTES :

1. PIPING TO BE SUPPORTED IN ACCORDANCE WITH PROJECT SPECIFICATION 400507 - HANGERS AND SUPPORTS.
2. REFER TO SHEET C-143 FOR PIPE PENETRATIONS THROUGH WALLS AND/OR SLABS.
3. REFER TO ATAD SYSTEM SPECIFICATION 467321 FOR ATAD MANUFACTURER SUPPLIED PIPING MATERIAL.

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BID SET

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UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

THERMAER & SNDR FOAM CONTROL SECTIONS

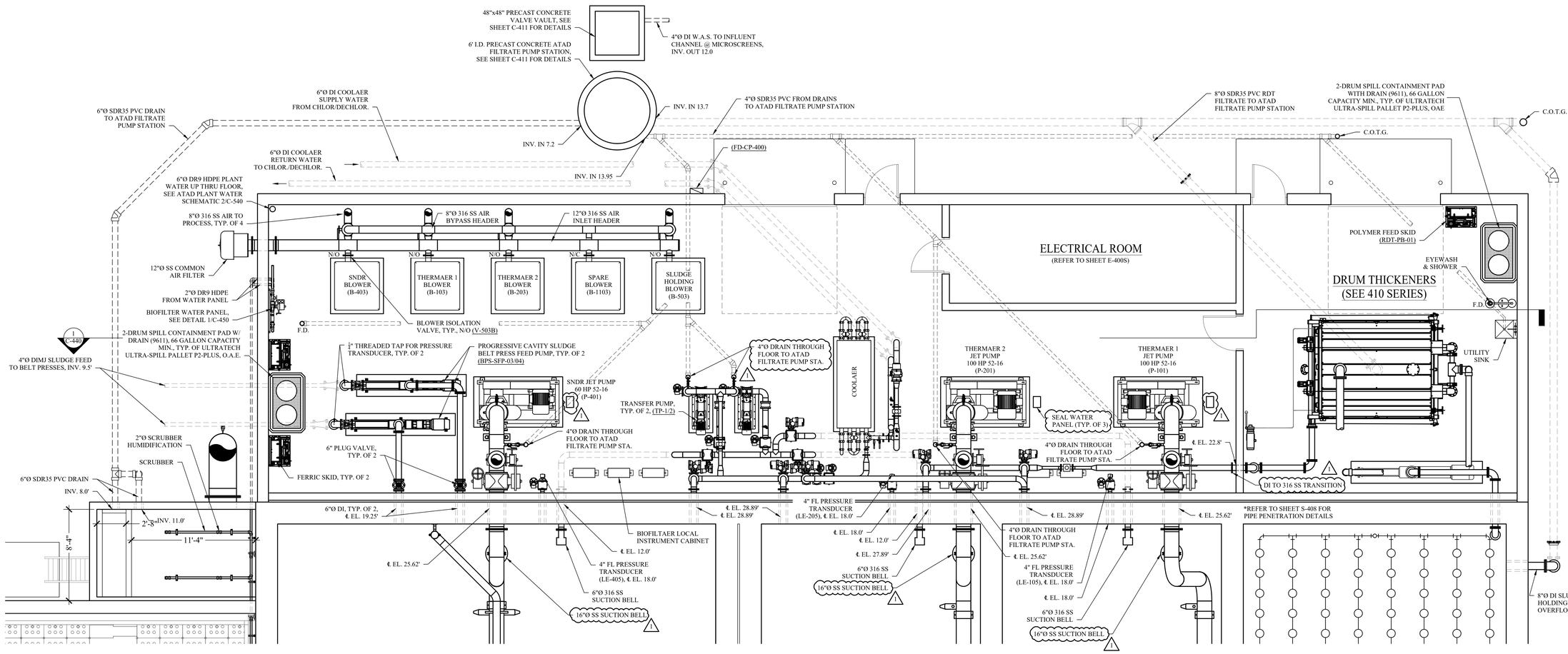
REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 3	06/27/25

ISSUED DATE:	18 APR, 2025
DESIGN BY:	SMQ, JTW
DRAWN BY:	HPBJr
CHECKED BY:	MWW
REVIEWED BY:	MJS, JZ

SHEET NO.
C-422

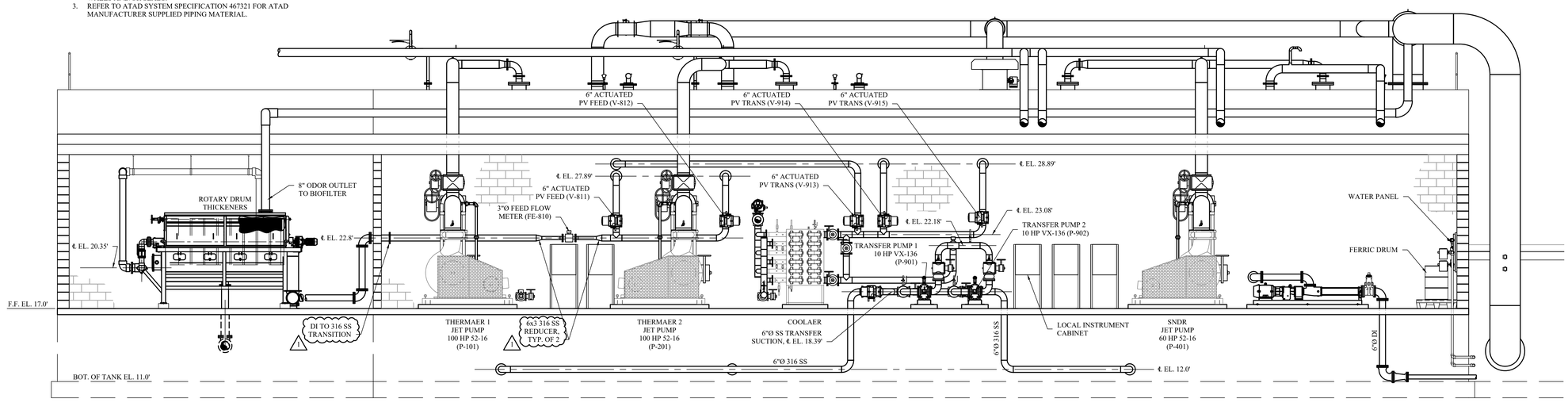
PROJECT # 18-732 PHASE #



A C-440 EQUIPMENT ROOM LAYOUT PLAN
SCALE: 1/4" = 1'-0"

NOTES :

1. PIPING TO BE SUPPORTED IN ACCORDANCE WITH PROJECT SPECIFICATION 400507 - HANGERS AND SUPPORTS.
2. REFER TO SHEET C-143 FOR PIPE PENETRATIONS THROUGH WALLS AND/OR SLABS.
3. REFER TO ATAD SYSTEM SPECIFICATION 467321 FOR ATAD MANUFACTURER SUPPLIED PIPING MATERIAL.



NOTE : PIPING TO BE SUPPORTED IN ACCORDANCE WITH PROJECT SPECIFICATION 400507 - HANGERS AND SUPPORTS.

1 C-440 EQUIPMENT ROOM SECTION
SCALE: 1/4" = 1'-0"

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 567-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID SET

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

EQUIPMENT ROOM LAYOUT PLAN AND OVERALL SECTION

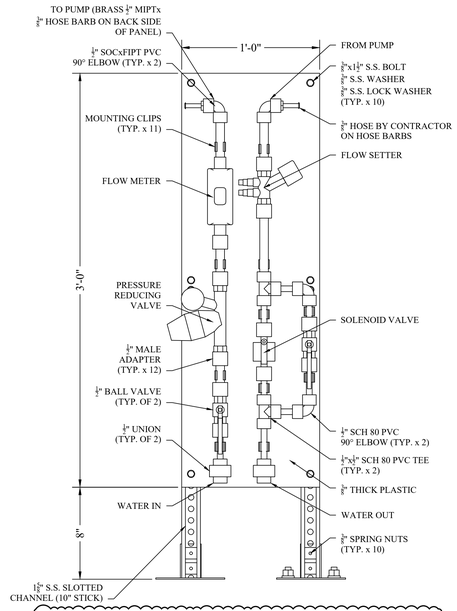
REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 3	06/27/25

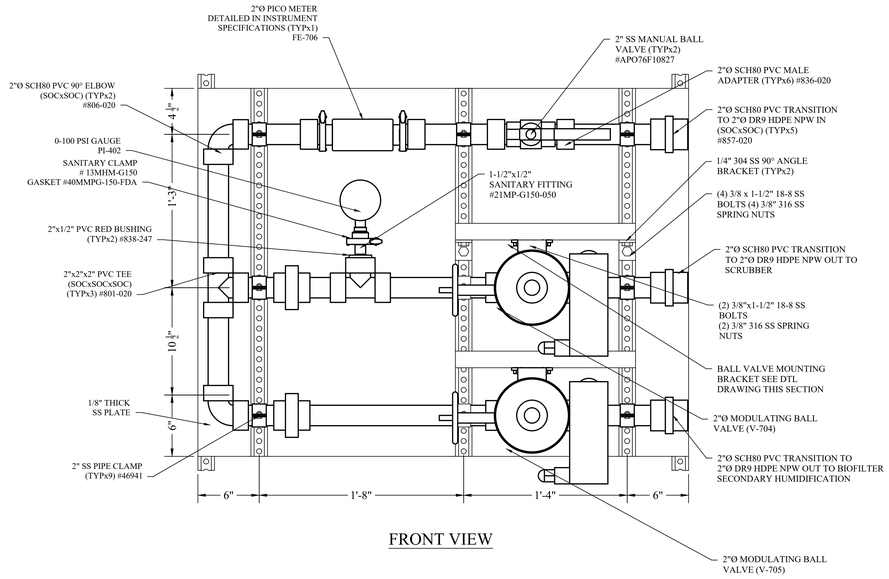
ISSUED DATE:	18 APR, 2025
DESIGN BY:	SMQ, JTW
DRAWN BY:	HPBJr
CHECKED BY:	MWW
REVIEWED BY:	MJS, JZ

SHEET NO.
C-440

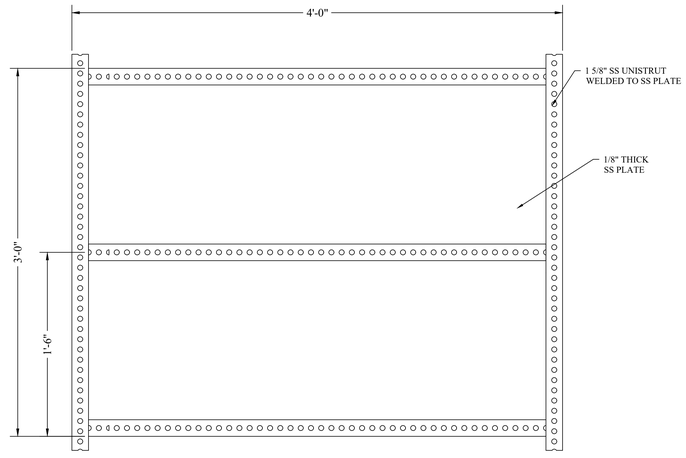
PROJECT # 18-732 PHASE #



3 C-450 PUMP SEAL WATER PANEL ASSEMBLY
SCALE: NONE

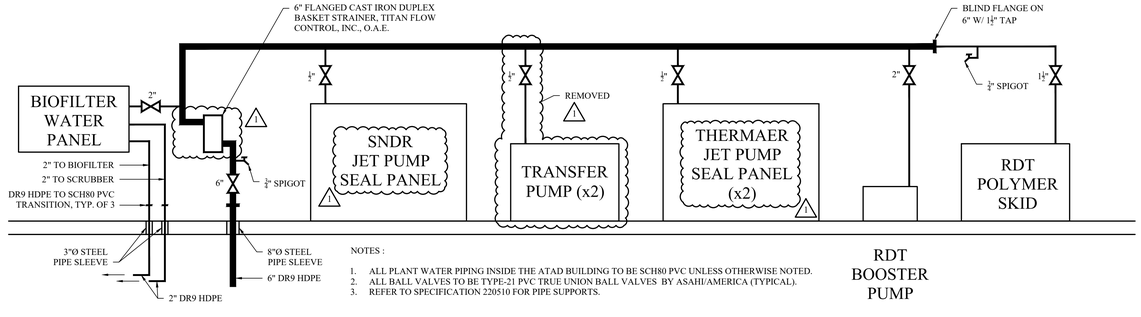


FRONT VIEW



BACK SIDE VIEW

1 C-450 WATER PANEL
SCALE: NONE



NOTES :

1. ALL PLANT WATER PIPING INSIDE THE ATAD BUILDING TO BE SCH80 PVC UNLESS OTHERWISE NOTED.
2. ALL BALL VALVES TO BE TYPE-21 PVC TRUE UNION BALL VALVES BY ASAHI/AMERICA (TYPICAL).
3. REFER TO SPECIFICATION 220510 FOR PIPE SUPPORTS.

2 C-450 ATAD PLANT WATER PROCESS SCHEMATIC
SCALE: NONE

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33 Airport Center Drive, Suite 202
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(845) 567-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
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BID SET

HAZARDOUS MATERIAL NOTE:

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UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

POTABLE AND NON-POTABLE WATER SCHEMATICS

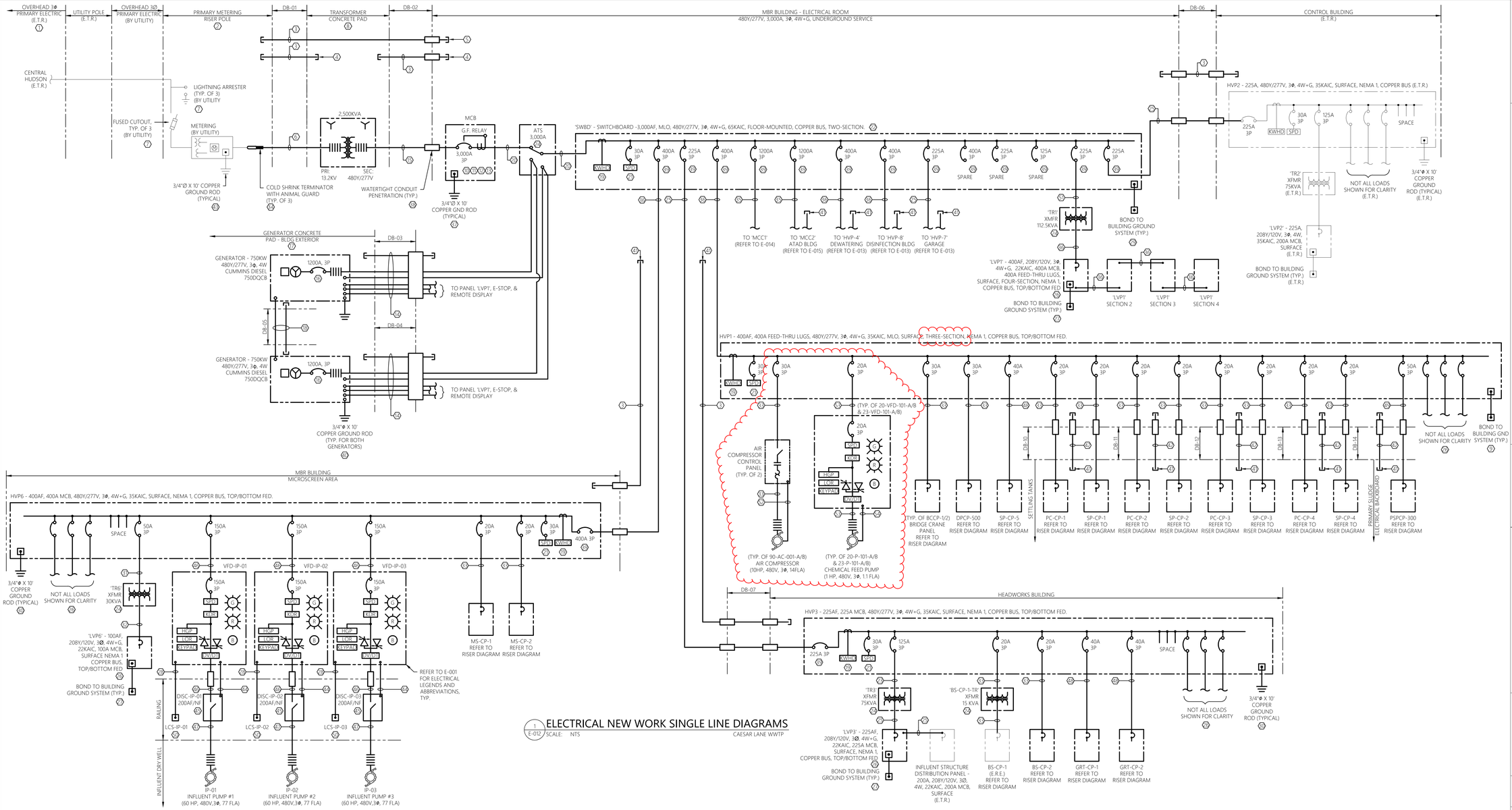
REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 3	06/27/25

ISSUED DATE:	18 APR. 2025
DESIGN BY:	SMQ, JTW
DRAWN BY:	HPBJr
CHECKED BY:	MWW
REVIEWED BY:	**MJS, JZ**

SHEET NO.
C-450

PROJECT # 18-732 PHASE #



1 E-012 ELECTRICAL NEW WORK SINGLE LINE DIAGRAMS
SCALE: NTS
CAESAR LANE WWTP

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. NEW ELECTRICAL EQUIPMENT BASIS OF DESIGN - EATON
3. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
4. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
5. ALL UTILITY CHARGES RESULTING FROM THIS SERVICE ENTRANCE DESIGN SHALL BE BILLED DIRECTLY TO THE OWNER FROM THE UTILITY COMPANY.
6. REFER TO CONTROL DIAGRAMS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. REFER TO ELECTRICAL FLOOR PLAN DRAWINGS AND ELECTRICAL SITE PLAN FOR GENERAL LOCATIONS AND DUCT BANK INFORMATION.
8. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
9. CONTRACTOR TO PROVIDE ADDITIONAL LUG TERMINATION KITS OR PIN ADAPTORS WITHIN EQUIPMENT SHOWN/SPECIFIED AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.
10. CIRCUITS SHOWN ARE POWER. REFER TO CONTROL RISER DIAGRAMS FOR INSTRUMENTATION AND CONTROL CIRCUITS. REFER TO SCHEDULES FOR ADDITIONAL CIRCUITS.
11. NOT ALL REQUIRED THRU-WALL AND THRU-FLOOR WATERTIGHT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL/FLOOR WATERTIGHT PENETRATION FOR ALL PENETRATIONS WITHIN BUILDING EXTERIOR WALLS AND FLOORS. REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION.
12. CONTRACTOR SHALL INCLUDE A SHORT CIRCUIT, COORDINATION, AND ARC FLASH HAZARD ANALYSIS FOR THIS PROJECT. STUDY SHALL BE PERFORMED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER. SUBMIT SHORT CIRCUIT REPORT FINDINGS PRIOR TO SUBMITTAL DOCUMENTS ON ELECTRICAL GEAR & CONFIRM ALL PROPOSED AIC RATINGS. PROVIDE COORDINATION AND ARC FLASH HAZARD ANALYSIS FOR ALL ELECTRICAL EQUIPMENT. CONTRACTOR SHALL PROVIDE THE APPROPRIATE WARNING STICKERS ON ALL PANELBOARDS, CONTROL PANELS, AND EQUIPMENT DISCONNECTS. COORDINATION AND ARC FLASH HAZARD ANALYSIS TO BE IN ACCORDANCE WITH THE LATEST IEEE & NFPA 70E REQUIREMENTS. CONTRACTOR TO PROVIDE STUDY RESULTS IN REPORT FORMAT AND SUBMIT TO THE ENGINEER FOR REVIEW. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
13. CONTRACTOR TO COORDINATE OVERALL SEQUENCE OF CONSTRUCTION WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER
14. SERVICE EQUIPMENT TO BE LABELED WITH MAX AVAILABLE FAULT CURRENT PER NEC 110.24. CONTRACTOR TO PROVIDE A SHORT CIRCUIT ANALYSIS TO DETERMINE THE MAX AVAILABLE FAULT CURRENT. ANALYSIS TO BE PERFORMED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER. SUBMIT SHORT CIRCUIT REPORT TO ENGINEER FOR APPROVAL DURING THE SUBMITTAL PHASE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
15. REFER TO DUCT BANK SCHEDULE FOR ADDITIONAL SPARE CONDUIT REQUIREMENTS.
16. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION (UNLESS OTHERWISE NOTED).
17. CONTRACTOR TO COMPLY WITH THE HIGH VOLTAGE PROXIMITY ACT AND ALL NESC REQUIREMENTS WHEN ERECTING STRUCTURES AND UTILIZING EQUIPMENT NEAR ENERGIZED UTILITY LINES. ALL CRANES, ETC. TO BE KEPT A MINIMUM OF 10'-0" FROM ENERGIZED UTILITY LINES. TYPICAL.

SHEET KEY NOTES:

1. FINAL CONNECTIONS BETWEEN CENTRAL HUDSON'S EXISTING OVERHEAD FACILITIES AND CUSTOMERS FACILITIES (SPECIFIED AS PART OF CONTRACT) SHALL BE MADE BY CENTRAL HUDSON. REFER TO SHEET E-001 FOR UTILITY CONTACT INFORMATION AND ASSOCIATED WORK ORDER NUMBER. CONTRACTOR TO REFERENCE WORK ORDER NUMBER WHEN CONTACTING THE UTILITY.
2. REFER TO ELECTRICAL SINGLE LINE DIAGRAM, SCHEDULES, DETAILS, & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. CONTRACTOR TO COORDINATE ALL WORK AND REQUIREMENTS ASSOCIATED WITH THE PROPOSED ELECTRICAL SERVICE WITH THE UTILITY COMPANY INCLUDING BUT NOT LIMITED TO THE FOLLOWING: PRIMARY METERING RISER POLE, OVERHEAD 3Φ PRIMARY ELECTRIC, METERING, EQUIPMENT LOCATIONS, AND POINT OF SUPPLY. REFER TO SHEET E-001 FOR UTILITY CONTACT INFORMATION AND ASSOCIATED WORK ORDER. CONTRACTOR TO REFERENCE WORK ORDER NUMBER WHEN CONTACTING CENTRAL HUDSON.
3. SPARE 4" CONDUIT.
4. PROVIDE SPARE CONDUIT FROM UTILITY RISER POLE TO UTILITY PAD-MOUNTED TRANSFORMER AND FROM UTILITY PAD-MOUNTED TRANSFORMER TO MBR BUILDING AS SHOWN. STUB CONDUIT ALSO SPARE TO SERVICE EQUIPMENT OR AS DIRECTED BY UTILITY/OWNER. PROVIDE PULL STRING AND CAP BOTH ENDS. LABEL BOTH ENDS OF SPARE CONDUIT INDICATING ORIGIN/DESTINATION.
5. PROVIDE SPARE CONDUIT FROM UTILITY RISER POLE TO MBR BUILDING. CONDUIT INTENDED FOR COMMUNICATION SERVICES. PROVIDE INNERDUCT SYSTEM WITHIN CONDUIT AS SPECIFIED ON ELECTRICAL DETAILS. REFER TO SITE PLAN FOR ADDITIONAL INFORMATION.
6. PROVIDE AS 15KV CABLE SYSTEM: PROVIDE AS (4)#4/0 ALUMINUM, UL TYPE MV-105, 133% INSULTAION LEVEL, 220 MILS, EPR, AND COPPER TAPE SHIELD. PROVIDE AS GENERAL CABLE SPEC 6360 OR APPROVED EQUAL. CONTRACTOR TO PROVIDE 45'-0" OF COILED PRIMARY CONDUCTOR SLACK AT THE UTILITY RISER POLE AND 20'-0" OF COILED PRIMARY CONDUCTOR SLACK AT THE UTILITY PAD-MOUNTED TRANSFORMER. ALL PRIMARY CONNECTIONS AT THE UTILITY RISER POLE AND PAD-MOUNTED TRANSFORMER ARE BY THIS CONTRACT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. PROVIDED BY UTILITY. TYPICAL OF FUSED CUTOUTS, LIGHTING ARRESTERS, METERING (METER, CURRENT TRANSFORMERS, POTENTIAL TRANSFORMERS, AND ALL WIRING AND CONDUCTORS BETWEEN COMPONENTS OF THE PRIMARY METERING SYSTEM). THIS CONTRACT IS RESPONSIBLE FOR PROVIDING AND INSTALLING POLE CROSS ARMS AND BRACING, PRIMARY INSULATORS, GROUND RODS, GROUND BONDING, COLD SHRINK TERMINATOR KITS, ANIMAL GUARDS, THREE PHASE FIBERGLASS EQUIPMENT BRACKET, POLYMER VISE TOP INSULATOR, NEUTRAL ATTACHMENT, PRIMARY RISER (CONDUCTORS AND CONDUIT). REFER TO SITE PLAN, POLE DETAILS ON SHEET E-035, AND SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
8. PROPOSED PAD-MOUNTED TRANSFORMER BY THIS CONTRACT. THIS CONTRACT RESPONSIBLE FOR THE TRANSFORMER, CONCRETE PAD, CONCRETE VAULT, AND GROUNDING AS SHOWN. REFER TO 'TYPICAL UTILITY TRANSFORMER PAD AND VAULT DETAIL' FOR ADDITIONAL INFORMATION. TRANSFORMER TO BE KEPT A MINIMUM OF 10'-0" FROM ALL STRUCTURES, ACCESS DRIVES, BUILDINGS, UNDERGROUND UTILITIES, AND ALL OTHER ABOVE GRADE EQUIPMENT. IN ADDITION, TRANSFORMER TO BE KEPT A MINIMUM OF 25'-0" FROM ABOVE GRADE EXPOSED GAS LINES, GAS METERS, WATER LINES, AND SEWER LINES. FINAL LOCATION TO BE COORDINATED IN THE FIELD WITH THE UTILITY, OWNER, ENGINEER AND APPLICABLE CONTRACTOR TO AVOID CONFLICT WITH EXISTING SITE CONDITIONS AND PROPOSED WORK, AS WELL AS COMPLY WITH ALL UTILITY REQUIREMENTS. REFER TO THE ELECTRICAL SINGLE LINE DIAGRAM & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
9. CONTRACTOR TO BOND TO BUILDING GROUND SYSTEM AND LIGHTING PROTECTION SYSTEM. UTILIZE #1/0 COPPER GROUND CONDUCTOR UNLESS OTHERWISE NOTED. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
10. MAIN SERVICE DISCONNECT. PROVIDE AS SERVICE ENTRANCE RATED. PROVIDE SERVICE ENTRANCE LABEL AND LABEL INDICATING SWITCH POSITION PER NEC. IN ADDITION MAIN SERVICE DISCONNECT TO BE LABELED WITH MAX AVAILABLE FAULT CURRENT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
11. MAIN SERVICE DISCONNECT TO CONTAIN GROUND FAULT PROTECTION AND A DIGITRIP 1150+ ELECTRONIC TRIP UNIT WITH LSIG PROTECTION. MAIN SERVICE DISCONNECT TO BE A FIXED MOUNTED MAGNUM DS LOW VOLTAGE POWER CIRCUIT BREAKER AS MANUFACTURED BY EATON OR APPROVED EQUAL. PROVIDE PILOT LIGHT INDICATING LINE SIDE VOLTAGE IS PRESENT.
12. CIRCUIT BREAKER TO BE EQUIPPED WITH ARC FLASH REDUCTION MAINTENANCE SYSTEM. THIS FUNCTION IS TO BE ACTIVATED WITH A LOCAL SWITCH DIRECTLY ON THE CIRCUIT BREAKER. THIS FUNCTION IS REQUIRED TO COMPLY WITH NEC ARTICLE 240.87.
13. GROUND FAULT PROTECTION SYSTEM TO BE PERFORMANCE TESTED ONCE FIRST INSTALLED. TESTS TO BE IN ACCORDANCE WITH NEC 230.95 (C) AND UTILITY REQUIREMENTS. TESTS TO INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING: SECONDARY CURRENT INJECTION TEST. SUBMIT RESULTS TO ENGINEER AND UTILITY UPON COMPLETION.
14. GENERATOR CIRCUITRY TO INCLUDE:
    - 4 SETS OF [(4)#500 & #4/0G, 4" C] FROM PROPOSED GENERATOR TO ATS.
    - SPARE 4" C FROM PANEL GENERATOR ENCLOSURE TO MBR BUILDING ELECTRICAL ROOM.
    - (2)#14 & (2)#18STP, 1" C FROM PROPOSED GENERATOR TO ATS.
    - (3)#2 & #8G, 1-1/2" C FROM GENERATOR LOAD CENTER TO PANEL LVP1 .
    - BELDEN 9729, 1" C AND (4)#14, 3/4"C. FROM GENERATOR CONTROL SYSTEM TO
    - (4)#14, 3/4" C FROM GENERATOR CONTROL SYSTEM TO REMOTE E-STOP REDUNDANT DISPLAY. REFER TO SPECIFICATIONS.
15. EIGHT (8) SETS OF [(4)#500, 4"C]. CONTRACTOR TO PROVIDE 20'-0" COILED SLACK AT THE UTILITY PAD-MOUNTED TRANSFORMER. CONTRACTOR IS RESPONSIBLE FOR SECONDARY TERMINATIONS AT THE UTILITY PAD-MOUNTED TRANSFORMER. CONTRACTOR TO COORDINATE ALL TRANSFORMER SECONDARY WORK WITH THE UTILITY. PROVIDE ADDITIONAL TERMINATION/LUG KITS AS REQUIRED TO TERMINATE ALL PROPOSED CONDUCTORS.
16. PROVIDE AS 100% RATED UNIT MOUNTED CIRCUIT BREAKER WITH ELECTRONIC LSI TRIP UNIT.
17. OUTDOOR EMERGENCY GENERATOR FOUNDATION AND EQUIPMENT PAD TO BE PROVIDED BY THIS CONTRACT. TYPICAL FOR (2) TWO GENERATOR UNITS. REFER TO SITE PLAN AND 'TYPICAL GENERATOR PAD DETAIL' FOR ADDITIONAL INFORMATION/REQUIREMENTS. CLOSELY COORDINATE ALL REQUIREMENTS WITH ALL OTHER TRADE CONTRACTORS.
18. FINAL GENERATOR INTERCONNECTION CIRCUITRY TO BE COORDINATED WITH THE EQUIPMENT MANUFACTURER AND PROVIDED AS REQUIRED. FOR BIDDING PURPOSES ASSUME CIRCUITRY BETWEEN GENERATOR UNITS TO INCLUDE:
    - (12)#14 & (2)#18STP, 1" C
    - BELDEN 9729, 1"C.
    - SPARE 4" C
19. PROVIDE CUSTOMER POWER METERING INTERNAL TO SWITCHBOARD/PANELBOARD. METER TO BE MODEL POWER XPERT METER 3000/7000 SERIES AS MANUFACTURED BY EATON OR APPROVED EQUAL. PROVIDE METER WITH OPTIONAL COMMUNICATIONS EXPANSION CARD TO ENABLE ETHERNET CONNECTION TO SCADA FOR MONITORING. PROVIDE ALL REQUIRED INTERNAL PROTECTION AND CABLING AS REQUIRED.
20. EIGHT (8) SETS OF [(4)#500 & #500G, 4"C].
21. PROVIDE SECONDARY SURGE PROTECTIVE DEVICE SUITABLE FOR INSTALLED SERVICE PER MANUFACTURERS RECOMMENDATIONS. AT MINIMUM DEVICE TO BE RATED FOR A SURGE CAPACITY RATING OF 200KA PER PHASE, BE A TYPE 1 DEVICE, 20KA NOMINAL DISCHARGE CURRENT, AND CONTAIN STANDARD PACKAGE OPTIONS/FEATURES. PROVIDE DEVICE INTERNAL TO MAIN SWITCHBOARD AND PROVIDE DISCONNECT AS REQUIRED. BOND TO BUILDING GROUND SYSTEM.
22. MAIN SWITCHBOARD TO BE FRONT ACCESSIBLE AND PROVIDED WITHIN A NEMA 1 ENCLOSURE. SWITCHBOARD ASSEMBLY TO BE RATED FOR A MINIMUM 65KAIC. IN ADDITION SWITCHBOARD TO BE PROVIDED WITH INTEGRAL SURGE PROTECTION AND CUSTOMER METERING. REFER TO ELECTRICAL ELEVATION AND SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. SWITCHBOARD TO BE CONFIGURED FOR TOP/BOTTOM CONDUIT ENTRY WITH THE MAIN BREAKER ON THE RIGHT MOST SECTION WITH ALL SUBSEQUENT SECTIONS TO THE LEFT (WHILE LOOKING AT THE SWITCHBOARD FRONT). SWITCHBOARD TO BE AS MANUFACTURED BY EATON OR APPROVED EQUAL.
23. (3)#1/0 & #6G, 2"C.
24. REFER TO ELECTRICAL SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
25. (4)#4/0 & #4G, 4"C
26. NOT ALL LOADS SHOWN FOR CLARITY. REFER TO EQUIPMENT CONNECTION SCHEDULE, PANEL SCHEDULES, ELEVATIONS, AND SUPPLEMENTAL RISER DIAGRAMS FOR ADDITIONAL CIRCUITING INFORMATION/REQUIREMENTS.
27. CONTRACTOR TO BOND TO BUILDING GROUND SYSTEM. UTILIZE #4 COPPER GROUND CONDUCTOR UNLESS OTHERWISE NOTED. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
28. (16)#14, 1"C
29. CONTRACTOR TO BOND TO BUILDING GROUND SYSTEM AND LIGHTING PROTECTION SYSTEM. UTILIZE #400 COPPER GROUND CONDUCTOR UNLESS OTHERWISE NOTED. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
30. CONTRACTOR TO PROVIDE TWO (2) 3/4"Ø x 10' COPPER GROUND RODS. PROVIDE GROUNDING ELECTRODE FOR BUILDING SERVICE PER NEC. GROUND RODS TO BE PLACED AT MINIMUM OF 10 FEET APART. BOND GROUND RODS TOGETHER WITH A LOOPED #2 COPPER CONDUCTOR.
31. (3)#6 & #8G, 1-1/2"C.
32. (4)#1/0 & #6G, 2"C
33. (4)#10 & #10G, 1"C.
34. PROVIDE AS 3M COLD SHRINK QT-III TERMINATION KIT. TYPICAL OF THREE (3). INSTALL ON THREE PHASE FIBERGLASS EQUIPMENT BRACKET PER MANUFACTURERS RECOMMENDATIONS. PROVIDE AND INSTALL ANIMAL GUARD ON COLD SHRINK TERMINATION KIT PER MANUFACTURERS RECOMMENDATIONS. REFER TO POLE DETAILS ON SHEET E-035 AND SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
35. FOUR (4) SETS OF [(4)#500 & #4/0G, 4"C]
36. TWO (2) SETS OF [(4)#4/0 & #2G, 4"C]
37. CONTRACTOR TO PROVIDE TWO (2) 3/4"Ø x 10' COPPER GROUND RODS. PROVIDE GROUNDING ELECTRODE FOR BUILDING SERVICE PER NEC. GROUND RODS TO BE PLACED AT MINIMUM OF 10 FEET APART. BOND GROUND RODS TOGETHER WITH A LOOPED #400 COPPER CONDUCTOR. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
38. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
39. PROVIDE BREAKER WITH ELECTRONIC LSI TRIP UNIT. COORDINATE PROTECTIVE DEVICE SETTINGS WITH COORDINATION STUDY. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
40. GROUND RING TO BE BURIED AT MINIMUM 3 FEET BELOW FINISHED GRADE. GROUND RING TO BE KEPT AT MINIMUM OF 3 FEET AWAY FROM EQUIPMENT AT ALL TIMES. PROVIDE AND INSTALL 3/4"Ø x 10' GROUND RODS AT EACH CORNER OF GROUND RING FOR A TOTAL OF FOUR (4) GROUND RODS. ALL GROUND CONDUCTORS SHALL BE #3/0 COPPER, U.O.N.
41. PROVIDE SPARE CONDUIT AS SHOWN. STUB CONDUIT ADJACENT TO SERVICE EQUIPMENT OR AS DIRECTED BY UTILITY/OWNER. PROVIDE PULL STRING AND CAP BOTH ENDS. LABEL BOTH ENDS OF SPARE CONDUIT INDICATING ORIGIN/DESTINATION.
42. SPARE 2" CONDUIT.
43. PROVIDE AND INSTALL TWO (2) 3/4"Φ x 10'-0" COPPER GROUND RODS. BOND ALL EQUIPMENT ON PRIMARY METERING RISER POLE AS SHOWN ON POLE DETAILS ON SHEET E-035 OR AS REQUIRED BY THE UTILITY. GROUND ROD TO BE BURIED AT MINIMUM 3 FEET BELOW FINISHED GRADE. GROUND RING TO BE KEPT AT MINIMUM OF 3 FEET AWAY FROM POLES AT ALL TIMES. ALL GROUND CONDUCTORS SHALL BE #1/0 COPPER, U.O.N.
44. (2)#14, 3/4"C. CIRCUIT TO BE UTILIZED TO SHUT DOWN THE PROPOSED VFD IN THE EVENT THE DISCONNECT IS OPENED (PREVENT DAMAGE TO THE PROPOSED VFD) AND REENGAGE THE VFD WHEN THE DISCONNECT IS CLOSED.
45. PROPOSED DISCONNECT SWITCH TO BE PROVIDED WITH 2 SETS OF AUXILIARY CONTACTS. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION.
46. (3)#1/0 & #6G, 2"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE LISTED AS MINIMUM. PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING VFD CABLE.
47. FACTORY CABLE BY EQUIPMENT MANUFACTURER. PROVIDE 2" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM. PROVIDE LARGER AS REQUIRED PER MANUFACTURER. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH EQUIPMENT MANUFACTURER.
48. (4)#8 & #10G, 1"C.
49. (4)#6 & #10G, 1-1/2"C.
50. CONTRACTOR TO PROVIDE FOUR (4) DEVICE LOCAL CONTROL STATION. STATION TO INCLUDE START (MOMENTARY SWITCH), STOP (MOMENTARY SWITCH), HAND/OFF/AUTO (THREE (3) POSITION SELECTOR SWITCH) AND E-STOP (PUSH BUTTON). STATION TO BE RATED NEMA 4X (NON-METALLIC / FIBERGLASS). ENCLOSURE TO BE PROVIDED AS NEMA 4X (NON-METALLIC / FIBERGLASS), FOUR (4) DEVICE, AND SUPPORT TWO CONTACT BLOCK DEPTH. CONTRACTOR TO PROVIDE MOUNTING NUTS, LEGEND PLATES, OPERATORS, CONTACT BLOCKS, AND ENCLOSURE FOR A COMPLETE UL LISTED CONTROL STATION ASSEMBLY. PROVIDE AS KILLARK HKH SERIES OR APPROVED EQUAL. TYPICAL OF THREE (3) CONTROL STATIONS ONE (1) FOR EACH INFLUENT PUMP.
51. (3)#4/0 & #4G, 4"C.
52. (20)#14, 1"C.
53. (3)#12 & #12G, 1"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE LISTED AS MINIMUM. PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING VFD CABLE.
54. (4)#14, 3/4"C

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33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK — JEFFREY E ROBINSON — 095896 — LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG-NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL NEW WORK SINGLE LINE DIAGRAMS

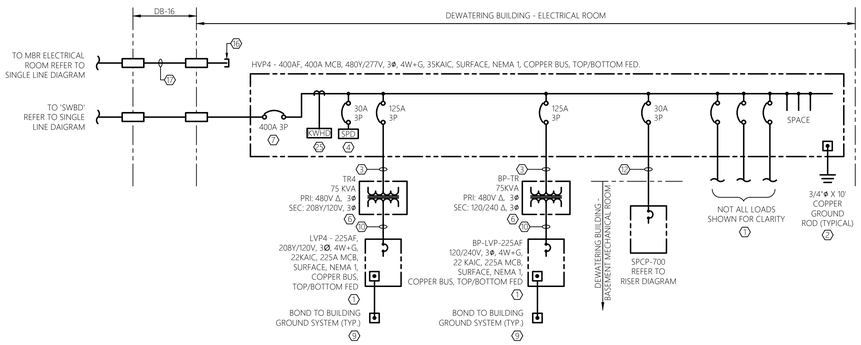
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

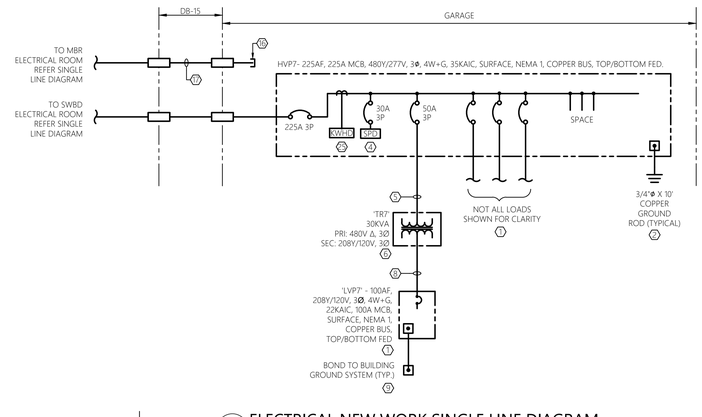
ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-012

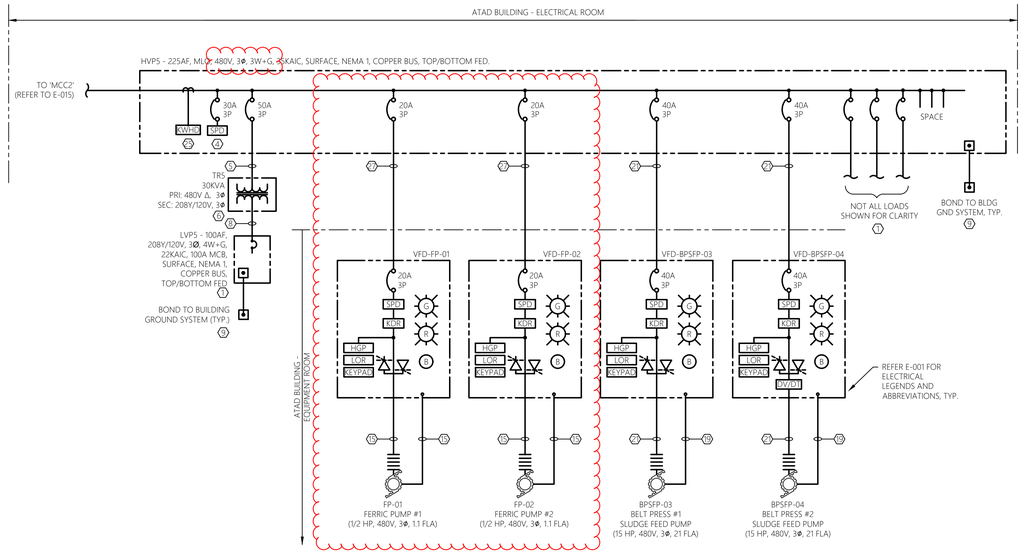
PROJECT # 18-732 PHASE #



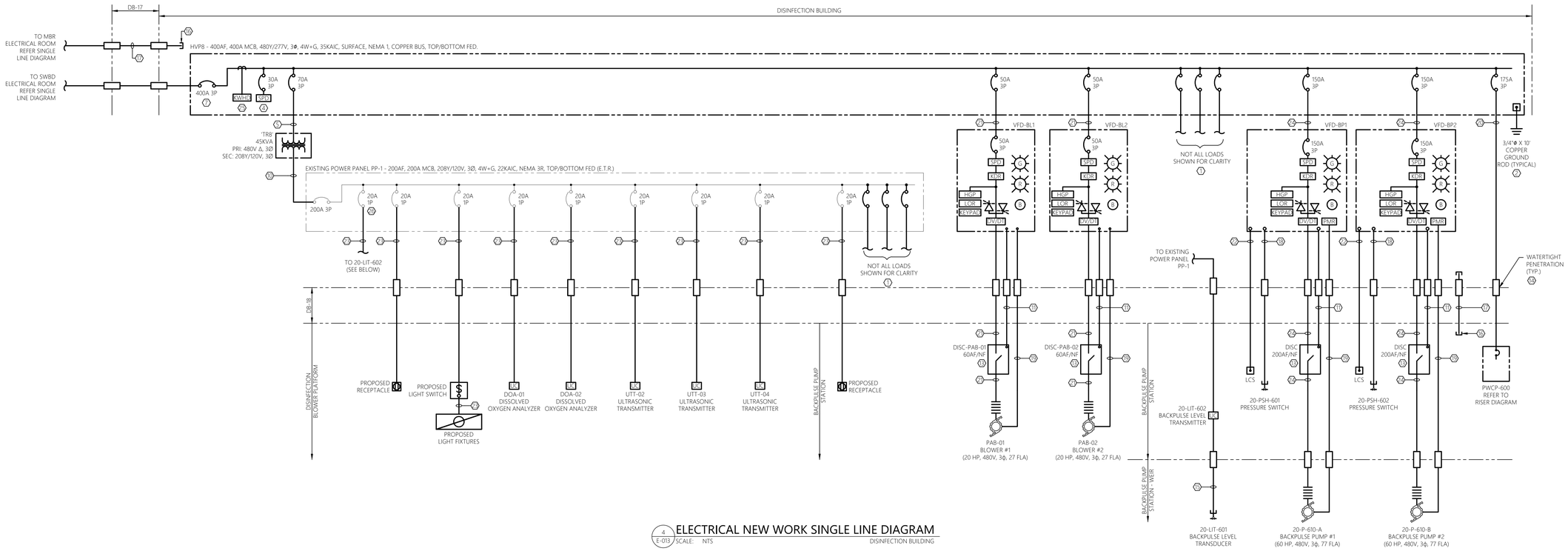
1 E-013 ELECTRICAL NEW WORK SINGLE LINE DIAGRAM
SCALE: NTS — DEWATERING BUILDING



2 E-013 ELECTRICAL NEW WORK SINGLE LINE DIAGRAM
SCALE: NTS — GARAGE



3 E-013 ELECTRICAL NEW WORK SINGLE LINE DIAGRAM
SCALE: NTS — ATAD BUILDING



4 E-013 ELECTRICAL NEW WORK SINGLE LINE DIAGRAM
SCALE: NTS — DISINFECTION BUILDING

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. NEW ELECTRICAL EQUIPMENT BASIS OF DESIGN - EATON
3. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
4. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
5. REFER TO CONTROL DIAGRAMS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. REFER TO ELECTRICAL FLOOR PLAN DRAWINGS AND ELECTRICAL SITE PLAN FOR GENERAL LOCATIONS AND DUCT BANK INFORMATION.
7. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
8. CONTRACTOR TO PROVIDE ADDITIONAL LUG TERMINATION KITS OR PIN ADAPTORS WITHIN EQUIPMENT SHOWN/SPECIFIED AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.
9. CIRCUITS SHOWN ARE POWER. REFER TO CONTROL RISER DIAGRAMS FOR INSTRUMENTATION AND CONTROL CIRCUITS. REFER TO SCHEDULES FOR ADDITIONAL CIRCUITS.
10. NOT ALL REQUIRED THRU-WALL AND THRU-FLOOR WATERTIGHT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL/FLOOR WATERTIGHT PENETRATION FOR ALL PENETRATIONS WITHIN BUILDING EXTERIOR WALLS AND FLOORS. REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION.
11. CONTRACTOR SHALL INCLUDE A SHORT CIRCUIT, COORDINATION, AND ARC FLASH HAZARD ANALYSIS FOR THIS PROJECT. STUDY SHALL BE PERFORMED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER. SUBMIT SHORT CIRCUIT REPORT FINDINGS PRIOR TO SUBMITTAL DOCUMENTS ON ELECTRICAL GEAR & CONFIRM ALL PROPOSED AIC RATINGS. PROVIDE COORDINATION AND ARC FLASH HAZARD ANALYSIS FOR ALL ELECTRICAL EQUIPMENT. CONTRACTOR SHALL PROVIDE THE APPROPRIATE WARNING STICKERS ON ALL PANELBOARDS, CONTROL PANELS, AND EQUIPMENT DISCONNECTS. COORDINATION AND ARC FLASH HAZARD ANALYSIS TO BE IN ACCORDANCE WITH THE LATEST IEEE & NFPA 70E REQUIREMENTS. CONTRACTOR TO PROVIDE STUDY RESULTS IN REPORT FORMAT AND SUBMIT TO THE ENGINEER FOR REVIEW. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
12. CONTRACTOR TO COORDINATE OVERALL SEQUENCE OF CONSTRUCTION WITH THE OWNER AND ALL OTHER TRADE CONTRACTORS.
13. SERVICE EQUIPMENT TO BE LABELED WITH MAX AVAILABLE FAULT CURRENT PER NEC 110.24. CONTRACTOR TO PROVIDE A SHORT CIRCUIT ANALYSIS TO DETERMINE THE MAX AVAILABLE FAULT CURRENT. ANALYSIS TO BE PERFORMED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER. SUBMIT SHORT CIRCUIT REPORT TO ENGINEER FOR APPROVAL DURING THE SUBMITTAL PHASE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
14. REFER TO DUCT BANK SCHEDULE FOR ADDITIONAL SPARE CONDUIT REQUIREMENTS.
15. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION (UNLESS OTHERWISE NOTED).

SHEET KEY NOTES:

1. NOT ALL LOADS SHOWN FOR CLARITY. REFER TO EQUIPMENT CONNECTION SCHEDULE, PANEL SCHEDULES, ELEVATIONS, AND SUPPLEMENTAL RISER DIAGRAMS FOR ADDITIONAL CIRCUITING INFORMATION/REQUIREMENTS.
2. CONTRACTOR TO PROVIDE TWO (2) 3/4"Ø x 10' COPPER GROUND RODS. PROVIDE GROUNDING ELECTRODE FOR BUILDING SERVICE PER NEC. GROUND RODS TO BE PLACED AT MINIMUM OF 10 FEET APART. BOND GROUND RODS TOGETHER WITH A LOOPED #3 COPPER CONDUCTOR.
3. (3)#1/0 & #6G, 2"C.
4. PROVIDE SECONDARY SURGE PROTECTIVE DEVICE SUITABLE FOR INSTALLED SERVICE PER MANUFACTURERS RECOMMENDATIONS. AT MINIMUM DEVICE TO BE RATED FOR A SURGE CAPACITY RATING OF 160KA PER PHASE, BE A TYPE 2 DEVICE, 20KA NOMINAL DISCHARGE CURRENT, AND CONTAIN STANDARD PACKAGE OPTIONS/FEATURES. PROVIDE DEVICE INTERNAL TO MAIN SWITCHBOARD AND PROVIDE DISCONNECT AS REQUIRED. BOND TO BUILDING GROUND SYSTEM.
5. (3)#6 & #8G, 1-1/2"C.
6. REFER TO ELECTRICAL SCHEDULES FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. PROVIDE BREAKER WITH ELECTRONIC LSI TRIP UNIT. COORDINATE PROTECTIVE DEVICE SETTINGS WITH COORDINATION STUDY. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
8. (4)#1/0 & #6G, 2"C.
9. CONTRACTOR TO BOND TO STRUCTURE GROUND SYSTEM. UTILIZE #4 COPPER GROUND CONDUCTOR UNLESS OTHERWISE NOTED. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
10. (4)#4/0 & #4G, 2-1/2"C.
11. (4)#14, 3/4"C. CIRCUIT TO BE UTILIZED TO SHUT DOWN THE PROPOSED VFD IN THE EVENT THE DISCONNECT IS OPENED (PREVENT DAMAGE TO THE PROPOSED VFD) AND REENGAGE THE VFD WHEN THE DISCONNECT IS CLOSED.
12. (4)#10 & #10G, 3/4"C.
13. PROPOSED DISCONNECT SWITCH TO BE PROVIDED WITH A SET OF AUXILIARY CONTACTS. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION.
14. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
15. FACTORY CABLE BY EQUIPMENT MANUFACTURER. PROVIDE 3/4" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER AS REQUIRED PER MANUFACTURER. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH EQUIPMENT MANUFACTURER.
16. PROVIDE SPARE CONDUIT AS SHOWN. STUB CONDUIT ADJACENT TO SERVICE EQUIPMENT OR AS DIRECTED BY UTILITY/OWNER. PROVIDE PULL STRING AND CAP BOTH ENDS. LABEL BOTH ENDS OF SPARE CONDUIT INDICATING ORIGIN/DESTINATION.
17. SPARE 4" CONDUIT.
18. (4)#14, 3/4"C.
19. (12)#14 & (4)#18STP, 1"C. CIRCUIT TO BE UTILIZED FOR THE ASSOCIATED MOTOR THERMAL SAFETY SWITCH. CIRCUIT TO CONTROL TERMINALS OF PROPOSED VFD. IN THE EVENT OF A MOTOR HIGH TEMPERATURE THE UNIT IS TO BE SHUT DOWN TO PREVENT DAMAGE TO UNIT. NOTE, SPARE CONDUCTORS TO BE UTILIZED FOR VARIOUS INPUT/OUTPUT FUNCTIONS.
20. (4)#4/0 & #4G, 4"C.
21. (3)#6 & #10G, 2"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.
22. (12)#14 & (2)18STP, 1"C
23. (2)#10 & #10G, 1"C
24. (3)#1/0 & #6G, 3" C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE LISTED AS MINIMUM. PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING VFD CABLE.
25. PROVIDE CUSTOMER POWER METERING INTERNAL TO PANELBOARD. METER TO BE MODEL POWER XPERT METER 1000 SERIES AS MANUFACTURED BY EATON OR APPROVED EQUAL. PROVIDE METER WITH OPTIONAL COMMUNICATIONS EXPANSION CARD TO ENABLE ETHERNET CONNECTION TO SCADA FOR MONITORING. PROVIDE ALL REQUIRED INTERNAL PROTECTION AND CABLING AS REQUIRED.
26. CONTRACTOR TO UTILIZE SPARE CIRCUIT BREAKER WITHIN EXISTING PANEL TO SERVE PROPOSED EQUIPMENT AS SHOWN/INDICATED. UPDATE PANELBOARD'S CIRCUITRY DIRECTORY/TYPEWRITTEN ALL PROPOSED LOADS SERVED FROM EXISTING PANEL.
27. (4)#12 & #12G, 3/4"C.

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE JADE STONE ENGINEERING

STATE OF NEW YORK — JEFFREY E ROBINSON — 095896 — LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:

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UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL NEW WORK SINGLE LINE DIAGRAMS

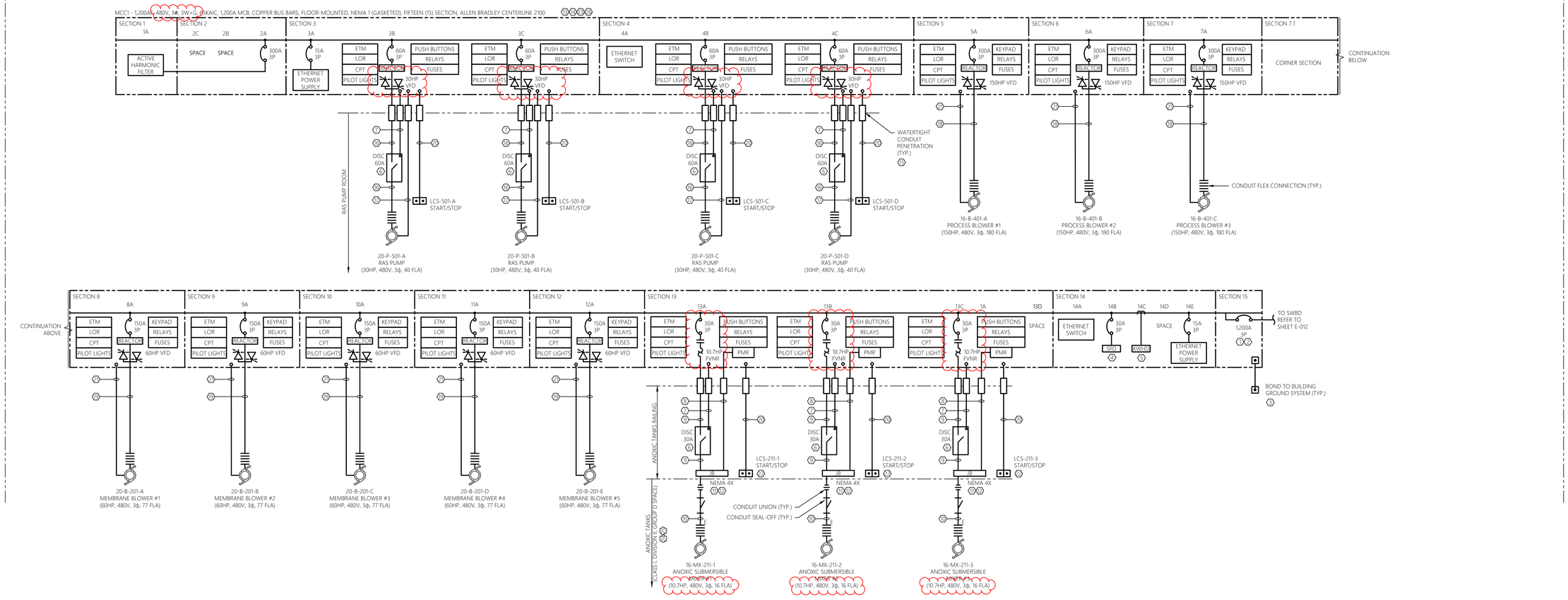
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

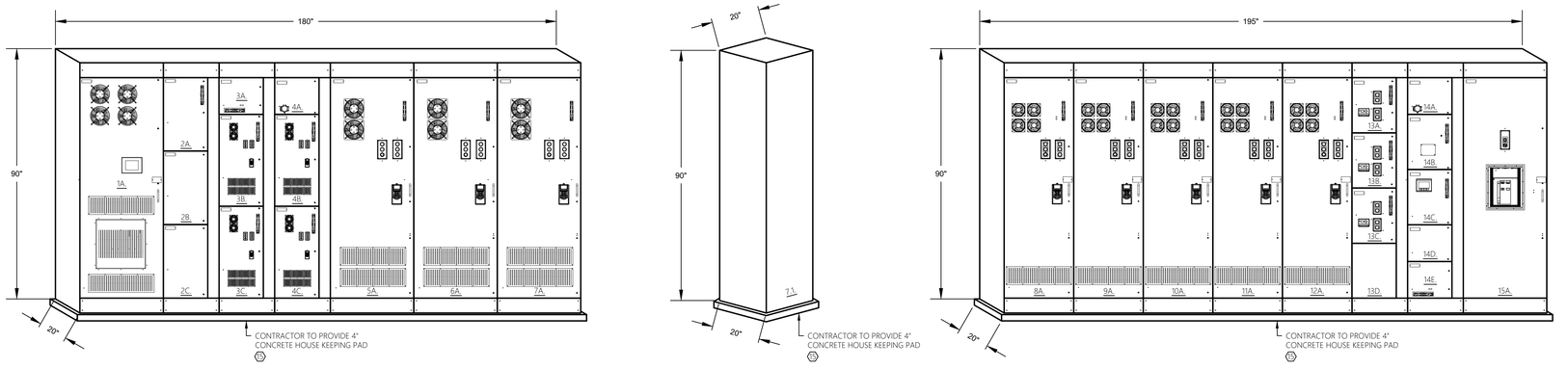
ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-013

PROJECT # 18-732 PHASE #



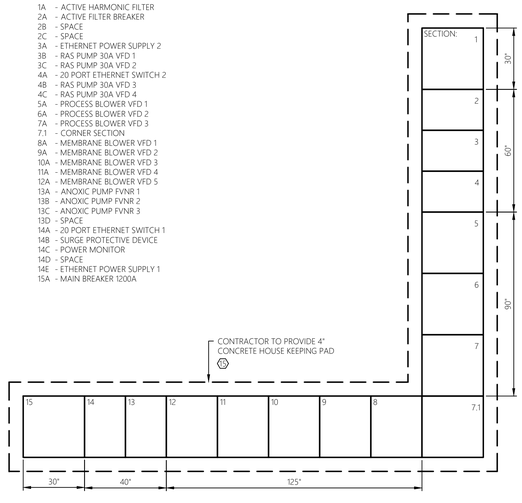
1 E-014 SCALE: NTS — ELECTRICAL NEW WORK SINGLE LINE DIAGRAM — MCC1



2 E-014 SCALE: NTS — ELECTRICAL ELEVATION — MCC1

MCC1

1A - ACTIVE HARMONIC FILTER
2A - ACTIVE FILTER BREAKER
2B - SPACE
2C - SPACE
3A - ETHERNET POWER SUPPLY 2
3B - RAS PUMP 30A VFD 1
3C - RAS PUMP 30A VFD 2
4A - 20 PORT ETHERNET SWITCH 2
4B - RAS PUMP 30A VFD 3
4C - RAS PUMP 30A VFD 4
5A - PROCESS BLOWER VFD 1
6A - PROCESS BLOWER VFD 2
7A - PROCESS BLOWER VFD 3
7.1 - CORNER SECTION
8A - MEMBRANE BLOWER VFD 1
9A - MEMBRANE BLOWER VFD 2
10A - MEMBRANE BLOWER VFD 3
11A - MEMBRANE BLOWER VFD 4
12A - MEMBRANE BLOWER VFD 5
13A - ANOXIC PUMP FVNR 1
13B - ANOXIC PUMP FVNR 2
13C - ANOXIC PUMP FVNR 3
13D - SPACE
14A - 20 PORT ETHERNET SWITCH 1
14B - SURGE PROTECTIVE DEVICE
14C - POWER MONITOR
14D - SPACE
14E - ETHERNET POWER SUPPLY 1
15A - MAIN BREAKER 1200A



3 E-014 SCALE: NTS — ELECTRICAL PAD LAYOUT — MCC1

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. NEW ELECTRICAL EQUIPMENT BASIS OF DESIGN - ALLEN BRADLEY
3. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
4. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
5. REFER TO CONTROL DIAGRAMS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. REFER TO ELECTRICAL FLOOR PLAN DRAWINGS AND ELECTRICAL SITE PLAN FOR GENERAL LOCATIONS AND DUCT BANK INFORMATION.
7. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
8. CONTRACTOR TO PROVIDE ADDITIONAL LUG TERMINATION KITS OR PIN ADAPTORS WITHIN EQUIPMENT SHOWN/SPECIFIED AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.
9. CIRCUITS SHOWN ARE POWER. REFER TO CONTROL RISER DIAGRAMS FOR INSTRUMENTATION AND CONTROL CIRCUITS. REFER TO SCHEDULES FOR ADDITIONAL CIRCUITS.
10. NOT ALL REQUIRED THRU-WALL AND THRU-FLOOR WATERTIGHT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL/FLOOR WATERTIGHT PENETRATION FOR ALL PENETRATIONS WITHIN BUILDING EXTERIOR WALLS AND FLOORS. REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION.
11. CONTRACTOR SHALL INCLUDE A SHORT CIRCUIT, COORDINATION, AND ARC FLASH HAZARD ANALYSIS FOR THIS PROJECT. STUDY SHALL BE PERFORMED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER. SUBMIT SHORT CIRCUIT REPORT FINDINGS PRIOR TO SUBMITTAL DOCUMENTS ON ELECTRICAL GEAR & CONFIRM ALL PROPOSED AIC RATINGS. PROVIDE COORDINATION AND ARC FLASH HAZARD ANALYSIS FOR ALL ELECTRICAL EQUIPMENT. CONTRACTOR SHALL PROVIDE THE APPROPRIATE WARNING STICKERS ON ALL PANELBOARDS, CONTROL PANELS, AND EQUIPMENT DISCONNECTS. COORDINATION AND ARC FLASH HAZARD ANALYSIS TO BE IN ACCORDANCE WITH THE LATEST IEEE & NFPA 70E REQUIREMENTS. CONTRACTOR TO PROVIDE STUDY RESULTS IN REPORT FORMAT AND SUBMIT TO THE ENGINEER FOR REVIEW. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
12. CONTRACTOR TO COORDINATE OVERALL SEQUENCE OF CONSTRUCTION WITH THE OWNER AND ALL OTHER TRADE CONTRACTORS.
13. SERVICE EQUIPMENT TO BE LABELED WITH MAX AVAILABLE FAULT CURRENT PER NEC 110.24. CONTRACTOR TO PROVIDE A SHORT CIRCUIT ANALYSIS TO DETERMINE THE MAX AVAILABLE FAULT CURRENT. ANALYSIS TO BE PERFORMED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER. SUBMIT SHORT CIRCUIT REPORT TO ENGINEER FOR APPROVAL DURING THE SUBMITTAL PHASE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
14. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION (UNLESS OTHERWISE NOTED).

SHEET KEY NOTES:

(1) CIRCUIT BREAKER TO BE PROVIDED WITH AN ELECTRONIC TRIP UNIT WITH LSI PROTECTION.

(2) CIRCUIT BREAKER TO BE EQUIPPED WITH ARC FLASH REDUCTION MAINTENANCE SYSTEM. THIS FUNCTION IS TO BE ACTIVATED WITH A LOCAL SWITCH DIRECTLY ON THE CIRCUIT BREAKER. THIS FUNCTION IS REQUIRED TO COMPLY WITH NEC ARTICLE 240.87.

(3) CONTRACTOR TO BOND TO BUILDING GROUND SYSTEM. UTILIZE #3/0 COPPER GROUND CONDUCTOR UNLESS OTHERWISE NOTED. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(4) PROVIDE SECONDARY SURGE PROTECTIVE DEVICE SUITABLE FOR ITS MATED SERVICE PER MCC MANUFACTURERS RECOMMENDATIONS. AT MINIMUM DEVICE TO BE RATED FOR A SURGE CAPACITY RATING OF 80KA PER PHASE, BE A TYPE 1 DEVICE, 20KA NOMINAL DISCHARGE CURRENT, AND CONTAIN STANDARD PACKAGE OPTIONS/FEATURES. PROVIDE DEVICE INTERNAL TO MCC AND PROVIDE DISCONNECT AS REQUIRED. BOND TO BUILDING GROUND SYSTEM.

(5) PROVIDE POWER METERING INTERNAL TO MCC. METER TO BE MODEL POWER XPERT METER 5000 SERIES AS MANUFACTURED BY EATON OR APPROVED EQUAL. PROVIDE ALL REQUIRED OVERCURRENT PROTECTION AND CABLING AS REQUIRED.

(6) PROPOSED DISCONNECT SWITCH TO BE PROVIDED WITH A SET OF AUXILIARY CONTACTS. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION.

(7) (4)#14, 3/4"C. CIRCUIT TO BE UTILIZED TO SHUT DOWN THE PROPOSED STARTER IN THE EVENT THE DISCONNECT IS OPENED AND PROVIDE STATUS OF OPEN DISCONNECT VIA PILOT LIGHT.

(8) (6)#14, 3/4"C. CIRCUIT TO BE UTILIZED FOR THE ASSOCIATED MOTOR THERMAL SAFETY SWITCH AND SEAL FAILURE. CIRCUIT TO CONTROL TERMINALS OF PROPOSED STARTER. IN THE EVENT OF A MOTOR HIGH TEMPERATURE OR LEAKAGE, THE UNIT IS TO BE SHUT DOWN TO PREVENT DAMAGE. NOTE, TWO CONDUCTORS TO BE UTILIZED AS SPARES.

(9) (3)#10 & #10G, 1"C.

(10) FACTORY CABLE. THIS CONTRACT RESPONSIBLE FOR ALL TERMINATIONS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE CONDUIT SYSTEM WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. PROVIDE CONDUIT SIZE AS REQUIRED PER MANUFACTURER.

(11) CONTRACTOR TO PROVIDE STAINLESS STEEL (NEMA 4X) JUNCTION BOX TO SERVE AS A PULL POINT TO EXTEND CIRCUITRY AS SHOWN. CONTRACTOR TO FIELD VERIFY AND COORDINATE CONDUIT ARRANGEMENT ENTERING/LEAVING PROPOSED JUNCTION BOX. CONTRACTOR TO ASSUME A 6"W X 8"L X 4"D (INSIDE DIMENSIONS) BOX IS REQUIRED FOR BIDDING PURPOSES. FINAL BOX SIZE TO COMPLY WITH NEC ARTICLE 314. JUNCTION BOX TO BE 'STB' SERIES AS MANUFACTURED BY EATON OR APPROVED EQUAL.

(12) CONTRACTOR TO PROVIDE NECESSARY TERMINAL STRIPS AND SPLICE KITS WITHIN JUNCTION BOX TO EXTEND CIRCUITRY AS SHOWN.

(13) MOTOR CONTROL CENTER (MCC) TO BE FRONT ACCESSIBLE AND PROVIDED WITHIN A NEMA 1 (GASKETED) ENCLOSURE. MCC ASSEMBLY TO BE RATED FOR A MINIMUM 65KAIC. IN ADDITION, MCC TO BE PROVIDED WITH INTEGRAL SURGE PROTECTION AND CUSTOMER METERING. REFER TO ELECTRICAL ELEVATION AND SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. MCC TO BE MODEL CENTERLINE 2100 AS MANUFACTURED BY ALLEN-BRADLEY OR APPROVED EQUAL. CONTRACTOR TO PROVIDE 4" CONCRETE HOUSEKEEPING PAD AND ALL REQUIRED ANCHORING EQUIPMENT, MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...

(XX) NOT ALL LOADS SHOWN FOR CLARITY. REFER TO EQUIPMENT CONNECTION SCHEDULE, MCC SCHEDULE, ELEVATIONS, AND SUPPLEMENTAL WIRING DIAGRAMS FOR ADDITIONAL CIRCUITING INFORMATION/REQUIREMENTS.

(XX) REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(XX) (3)#6 & #10G, 1-1/2"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM. PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.

(XX) (6)#14, 3/4"C. CIRCUIT TO BE UTILIZED FOR THE ASSOCIATED MOTOR THERMAL SAFETY SWITCH AND HIGH DISCHARGE PRESSURE SWITCH. CIRCUIT TO CONTROL TERMINALS OF PROPOSED VFD. IN THE EVENT OF A MOTOR HIGH TEMPERATURE, OR HIGH DISCHARGE PRESSURE, THE UNIT IS TO BE SHUT DOWN TO PREVENT DAMAGE. NOTE, TWO CONDUCTORS TO BE UTILIZED AS SPARES.

(XX) (3)#1/0 & #6G, 2"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.

(XX) (12)#14, 3/4"C.

(XX) (16)#14 & (4)#18STP, 1"C. CIRCUIT TO BE UTILIZED FOR THE ASSOCIATED MOTOR THERMAL SAFETY SWITCH. CIRCUIT TO CONTROL TERMINALS OF PROPOSED VFD. IN THE EVENT OF A MOTOR HIGH TEMPERATURE THE UNIT IS TO BE SHUT DOWN TO PREVENT DAMAGE TO UNIT. NOTE, SPARE CONDUCTORS TO BE UTILIZED FOR VARIOUS INPUT/OUTPUT FUNCTIONS.

(XX) CONTRACTOR TO PROVIDE START/STOP PUSH BUTTON LOCAL CONTROL STATION WITHIN NEMA 4X ENCLOSURE.

(XX) CONTRACTOR TO PROVIDE ALL VFD WITHIN THE MCC AS HEAVY DUTY VARIABLE FREQUENCY AC DRIVE WITH CIRCUIT BREAKER. VFD TO BE MODEL POWERFLEX 750 SERIES AS MANUFACTURED BY ALLEN BRADLEY OR APPROVED EQUAL.

(XX) TANK INTERIOR IS A CLASS I DIVISION II GROUP D SPACE. THE CLASS I DIVISION II GROUP D SPACE EXTENDS TO ENVELOPE OF 18" SURROUNDING TANK. ALL WIRING METHODS WITHIN THIS SPACE TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES WITHIN THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASS I DIVISION II GROUP D ENVIRONMENT.

(XX) ALL ELECTRICAL EQUIPMENT, DEVICES, AND RACEWAY SYSTEMS TO BE KEPT OUT OF THE CLASSIFIED AREA AT ALL TIMES.

(XX) CONTRACTOR TO FOLLOW MANUFACTURER'S SPECIAL HANDLING REQUIREMENTS CLOSELY WHILE RIGGING EQUIPMENT THRU ACCESS DOORS. EQUIPMENT MANUFACTURER TO BE ON SITE WHILE EQUIPMENT IS MOVED THRU ACCESS DOORS AND RIGGED INTO FINAL INSTALL LOCATION. NOTE, MCC TO BE SHIPPED AS MULTIPLE SECTIONS, EACH SECTION TO BE RIGGED THRU ACCESS DOORS SEPARATELY PRIOR TO ASSEMBLING TOGETHER. CONTRACTOR TO FIELD VERIFY AND COORDINATE CLOSELY WITH THE EQUIPMENT MANUFACTURER.

MHE ENGINEERING
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(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL NEW WORK SINGLE LINE DIAGRAMS

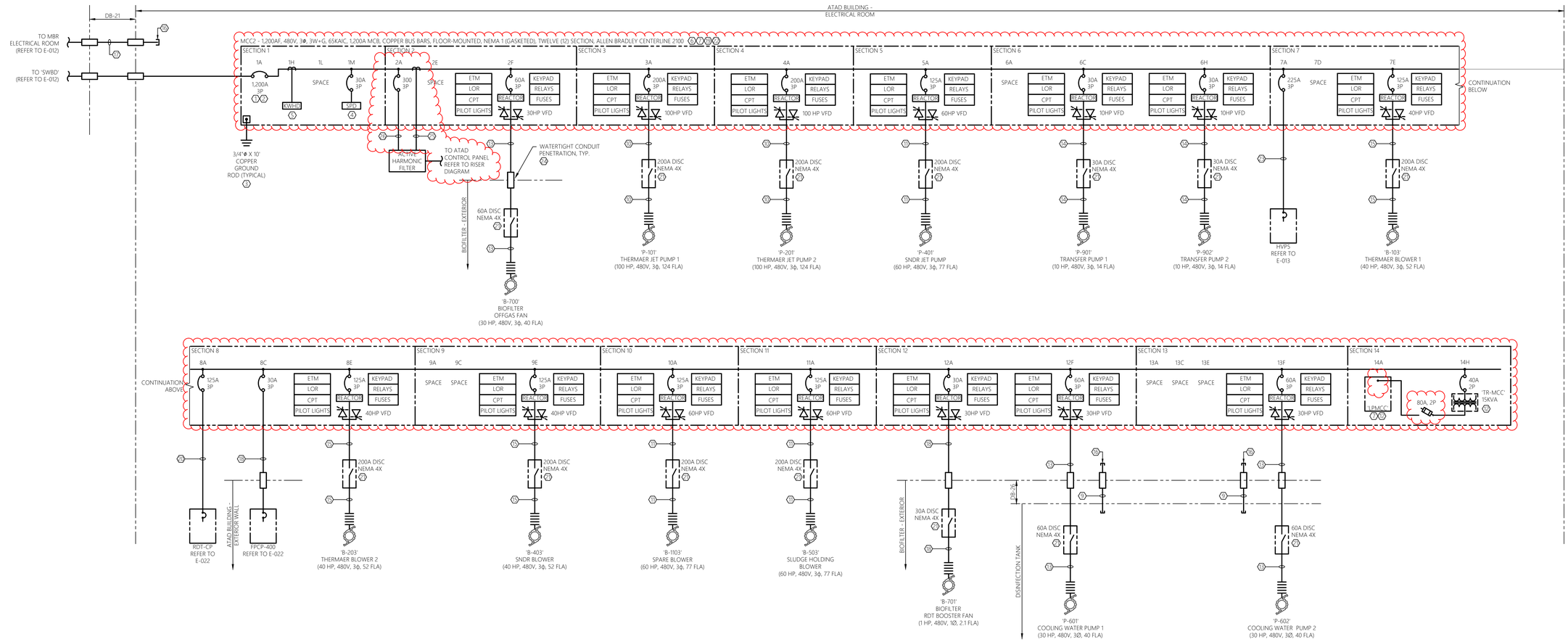
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

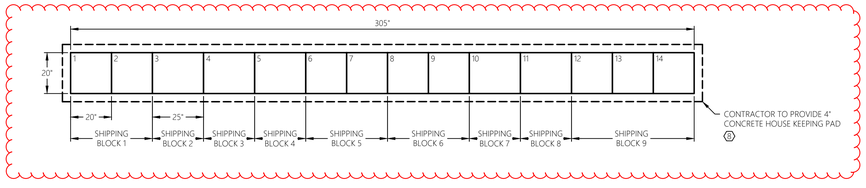
SHEET NO.
E-014

PROJECT # 18-732 PHASE #



1 E-015 ELECTRICAL NEW WORK SINGLE LINE DIAGRAM
SCALE: NTS MCC2

2 E-015 ELECTRICAL ELEVATION
SCALE: NTS MCC2



3 E-015 ELECTRICAL PAD LAYOUT
SCALE: NTS MCC2

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. NEW ELECTRICAL EQUIPMENT BASIS OF DESIGN - ALLEN BRADLEY
3. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
4. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
5. REFER TO CONTROL DIAGRAMS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. REFER TO ELECTRICAL FLOOR PLAN DRAWINGS AND ELECTRICAL SITE PLAN FOR GENERAL LOCATIONS AND DUCT BANK INFORMATION.
7. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
8. CONTRACTOR TO PROVIDE ADDITIONAL LUG TERMINATION KITS OR PIN ADAPTORS WITHIN EQUIPMENT SHOWN/SPECIFIED AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.
9. CIRCUITS SHOWN ARE POWER. REFER TO CONTROL RISER DIAGRAMS FOR INSTRUMENTATION AND CONTROL CIRCUITS. REFER TO SCHEDULES FOR ADDITIONAL CIRCUITS.
10. NOT ALL REQUIRED THRU-WALL AND THRU-FLOOR WATERTIGHT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL/FLOOR WATERTIGHT PENETRATION FOR ALL PENETRATIONS WITHIN BUILDING EXTERIOR WALLS AND FLOORS. REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION.
11. CONTRACTOR SHALL INCLUDE A SHORT CIRCUIT, COORDINATION, AND ARC FLASH HAZARD ANALYSIS FOR THIS PROJECT. STUDY SHALL BE PERFORMED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER. SUBMIT SHORT CIRCUIT REPORT FINDINGS PRIOR TO SUBMITTAL DOCUMENTS ON ELECTRICAL GEAR & CONFIRM ALL PROPOSED AIC RATINGS. PROVIDE COORDINATION AND ARC FLASH HAZARD ANALYSIS FOR ALL ELECTRICAL EQUIPMENT. CONTRACTOR SHALL PROVIDE THE APPROPRIATE WARNING STICKERS ON ALL PANELBOARDS, CONTROL PANELS, AND EQUIPMENT DISCONNECTS. COORDINATION AND ARC FLASH HAZARD ANALYSIS TO BE IN ACCORDANCE WITH THE LATEST IEEE & NFPA 70E REQUIREMENTS. CONTRACTOR TO PROVIDE STUDY RESULTS IN REPORT FORMAT AND SUBMIT TO THE ENGINEER FOR REVIEW. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
12. CONTRACTOR TO COORDINATE OVERALL SEQUENCE OF CONSTRUCTION WITH THE OWNER AND ALL OTHER TRADE CONTRACTORS.
13. SERVICE EQUIPMENT TO BE LABELED WITH MAX AVAILABLE FAULT CURRENT PER NEC 110.24. CONTRACTOR TO PROVIDE A SHORT CIRCUIT ANALYSIS TO DETERMINE THE MAX AVAILABLE FAULT CURRENT. ANALYSIS TO BE PERFORMED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER. SUBMIT SHORT CIRCUIT REPORT TO ENGINEER FOR APPROVAL DURING THE SUBMITTAL PHASE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
14. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION (UNLESS OTHERWISE NOTED).

SHEET KEY NOTES:

1. CIRCUIT BREAKER TO BE PROVIDED WITH AN ELECTRONIC TRIP UNIT WITH LSI PROTECTION.
2. CIRCUIT BREAKER TO BE EQUIPPED WITH ARC FLASH REDUCTION MAINTENANCE SYSTEM. THIS FUNCTION IS TO BE ACTIVATED WITH A LOCAL SWITCH DIRECTLY ON THE CIRCUIT BREAKER. THIS FUNCTION IS REQUIRED TO COMPLY WITH NEC ARTICLE 240.87.
3. CONTRACTOR TO PROVIDE TWO (2) 3/4"Ø x 10' COPPER GROUND RODS. PROVIDE GROUNDING ELECTRODE FOR BUILDING SERVICE PER NEC. GROUND RODS TO BE PLACED AT MINIMUM OF 10 FEET APART. BOND GROUND RODS TOGETHER WITH A LOOPED #3/0 COPPER CONDUCTOR.
4. PROVIDE SECONDARY SURGE PROTECTIVE DEVICE SUITABLE FOR USE AT THE SERVICE PER MCC MANUFACTURERS RECOMMENDATIONS. AT MINIMUM DEVICE TO BE RATED FOR A SURGE CAPACITY RATING OF 80KA /3Ø PHASE, BE A TYPE 1 DEVICE, 20KA NOMINAL DISCHARGE CURRENT, AND CONTAIN STANDARD PACKAGE OPTIONS/FEATURES. PROVIDE DEVICE INTERNAL TO MCC AND PROVIDE DISCONNECT AS REQUIRED. BOND TO BUILDING GROUND SYSTEM.
5. PROVIDE POWER METERING INTERNAL TO MCC. METER TO BE MODEL POWER XPERT METER 5000 SERIES AS MANUFACTURED BY EATON OR APPROVED EQUAL. PROVIDE ALL REQUIRED OVERCURRENT PROTECTION AND CABLING AS REQUIRED.
6. MOTOR CONTROL CENTER (MCC) TO BE FRONT ACCESSIBLE AND PROVIDED WITHIN A NEMA 1 (GASKETED) ENCLOSURE. MCC ASSEMBLY TO BE RATED FOR A MINIMUM 65KAIC. IN ADDITION, MCC TO BE PROVIDED WITH INTEGRAL SURGE PROTECTION AND CUSTOMER METERING. REFER TO ELECTRICAL ELEVATION AND SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. MCC TO BE MODEL CENTERLINE 2100 AS MANUFACTURED BY ALLEN-BRADLEY OR APPROVED EQUAL. CONTRACTOR TO PROVIDE 4" CONCRETE HOUSEKEEPING PAD AND ALL REQUIRED ANCHORING EQUIPMENT, MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
7. NOT ALL LOADS SHOWN FOR CLARITY. REFER TO EQUIPMENT CONNECTION SCHEDULE, MCC SCHEDULE, ELEVATIONS, AND SUPPLEMENTAL WIRING DIAGRAMS FOR ADDITIONAL CIRCUITING INFORMATION/REQUIREMENTS.
8. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS
9. SPARE 2" CONDUIT.
10. (3)#4/0 & #4G, 4"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.
11. (3)#1/0 & #6G, 2"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.
12. REFER TO ELECTRICAL SCHEDULES FOR ADDITIONAL INFORMATION/REQUIREMENTS.
13. (3)#6 & #10G, 2"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.
14. (3)#10 & #10G, 1"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.
15. (3)#4 & #10G, 2"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.
16. PROVIDE SPARE CONDUIT AS SHOWN. STUB CONDUIT ADJACENT TO SERVICE EQUIPMENT OR AS DIRECTED BY UTILITY/OWNER. PROVIDE PULL STRING AND CAP BOTH ENDS. LABEL BOTH ENDS OF SPARE CONDUIT INDICATING ORIGIN/DESTINATION.
17. SPARE 4" CONDUIT.
18. (3)#10 & #10G, 1"C
19. CONTRACTOR TO PROVIDE ALL VFD WITHIN THE MCC AS HEAVY DUTY VARIABLE FREQUENCY AC DRIVE WITH CIRCUIT BREAKER. VFD TO BE MODEL POWERFLEX 750 SERIES AS MANUFACTURED BY ALLEN BRADLEY OR APPROVED EQUAL.
20. (3)#1/0 & #6G, 2"C.
21. PROPOSED EQUIPMENT DISCONNECT TO BE PROVIDED WITH A SET OF AUXILIARY CONTACTS. REFER TO EQUIPMENT CONNECTION SCHEDULE AND RISER DIAGRAMS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
22. CONTRACTOR TO FOLLOW MANUFACTURER'S SPECIAL HANDLING REQUIREMENTS CLOSELY WHILE RIGGING EQUIPMENT THRU ACCESS DOORS. EQUIPMENT MANUFACTURER TO BE ON SITE WHILE EQUIPMENT IS MOVED THRU ACCESS DOORS AND RIGGED INTO FINAL INSTALL LOCATION. NOTE, MCC TO BE SHIPPED AS MULTIPLE SECTIONS. EACH SECTION TO BE RIGGED THRU ACCESS DOORS SEPARATELY PRIOR TO ASSEMBLING TOGETHER. CONTRACTOR TO FIELD VERIFY AND COORDINATE CLOSELY WITH THE EQUIPMENT MANUFACTURER.
23. (3)#4/0 & #4G, 2-1/2"C
24. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
25. (12)#14, 1"C.
26. (3)#350 & #3G, 3"C.

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(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE JADE STONE ENGINEERING

STATE OF NEW YORK JEFFREY E ROBINSON 095896 LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:
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555 UNION AVE.
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ELECTRICAL NEW WORK SINGLE LINE DIAGRAMS

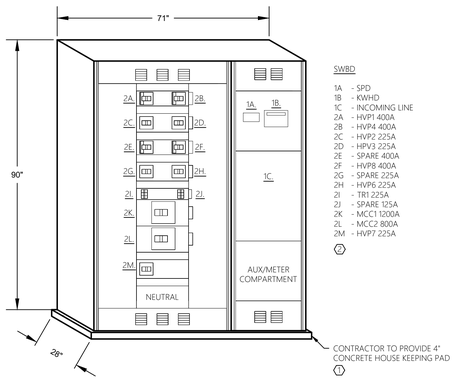
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

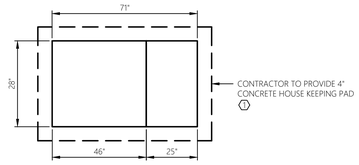
SHEET NO.
E-015

PROJECT # 18-732 PHASE #

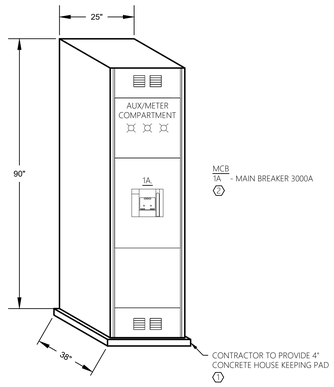


SWBD

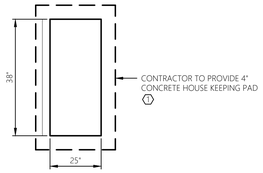
1A - SPD
1B - KWHD
1C - INCOMING LINE
2A - HVP1 400A
2B - HVP4 400A
2C - HVP2 225A
2D - HPV3 225A
2E - SPARE 400A
2F - HVP8 400A
2G - SPARE 225A
2H - HVP6 225A
2I - TR1 225A
2J - SPARE 125A
2K - MCC1 1200A
2L - MCC2 800A
2M - HVP7 225A
2



1 E-016 ELECTRICAL ELEVATION AND PAD LAYOUT
SCALE: NTS SWITCHBOARD



MCB
1A - MAIN BREAKER 3000A
2



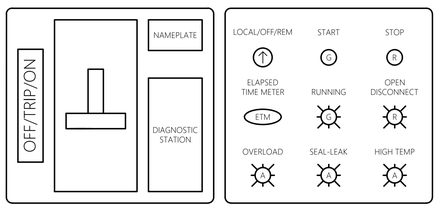
2 E-016 ELECTRICAL ELEVATION AND PAD LAYOUT
SCALE: NTS MAIN SERVICE DISCONNECT

GENERAL SHEET NOTES:

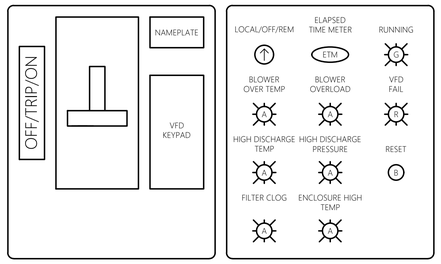
1. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS.
2. NEW ELECTRICAL EQUIPMENT BASIS OF DESIGN - ALLEN BRADLEY (MCC), SIEMENS (SWITCHBOARD)
3. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
4. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
5. REFER TO ELECTRICAL SCHEDULES AND DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. REFER TO ELECTRICAL RISER DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. ALL CONDUCTORS, EQUIPMENT, COMPONENTS, AND DEVICES NOT SHOWN FOR CLARITY, COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
8. CONTRACTOR TO PROVIDE ADDITIONAL LUG TERMINATION KITS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED. CIRCUITS SHOWN ARE POWER, CONTROL, AND CONTROL CIRCUIT POWER. REFER TO ELECTRICAL RISER DIAGRAMS AND ELEMENTARY WIRING DIAGRAMS FOR ADDITIONAL INSTRUMENTATION AND CONTROL CIRCUITS.
9. CONTRACTOR TO PROVIDE ADDITIONAL LUG TERMINATION KITS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED. CIRCUITS SHOWN ARE POWER, CONTROL, AND CONTROL CIRCUIT POWER. REFER TO ELECTRICAL RISER DIAGRAMS AND ELEMENTARY WIRING DIAGRAMS FOR ADDITIONAL INSTRUMENTATION AND CONTROL CIRCUITS.
10. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS PROVIDED BY OTHERS WITH OWNER, ENGINEER, AND APPLICABLE TRADE CONTRACTOR. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC., TO INSTALL PANELS & CONTROLLERS FURNISHED BY OTHERS.
11. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL, WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING EXTERIOR WALLS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION.
12. ELEVATIONS SHOWN ARE GENERAL IN NATURE AND ARE INTENDED TO PROVIDE GENERAL DESIGN OVERVIEW AND INTENT. REFER TO SUBMITTAL DOCUMENTATION FOR ACTUAL LAYOUT AND FOR ADDITIONAL INFORMATION/REQUIREMENTS.
13. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS (POWER SYSTEM ANALYSIS) FOR REQUIREMENTS.
14. CONTRACTOR TO COORDINATE OVERALL SEQUENCE OF CONSTRUCTION WITH THE OWNER, ENGINEER, AND ALL TRADE CONTRACTORS.
15. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL TRADE CONTRACTORS, OWNER, AND ENGINEER PRIOR TO ROUGH-IN.
16. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
17. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. ALL REQUIREMENTS TO BE PER NEC.
18. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED. ALL REQUIREMENTS TO BE PER NEC.
19. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE.
20. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION.

SHEET KEY NOTES:

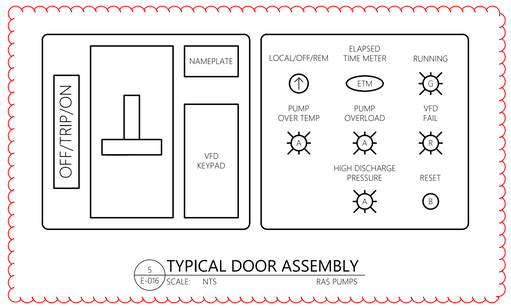
1. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. CONTRACTOR TO FOLLOW MANUFACTURER'S SPECIAL HANDLING REQUIREMENTS CLOSELY WHILE RIGGING EQUIPMENT THRU ACCESS DOORS. EQUIPMENT MANUFACTURER TO BE ON SITE WHILE EQUIPMENT IS MOVED THRU ACCESS DOORS AND RIGGED INTO FINAL INSTALL LOCATION. NOTE, EQUIPMENT MAY BE SHIPPED AS MULTIPLE SECTIONS. EACH SECTION TO BE RIGGED THRU ACCESS DOORS SEPARATELY PRIOR TO ASSEMBLING TOGETHER. CONTRACTOR TO FIELD VERIFY AND COORDINATE CLOSELY WITH THE EQUIPMENT MANUFACTURER.



3 E-016 TYPICAL DOOR ASSEMBLY
SCALE: NTS ANOXIC MIXERS



4 E-016 TYPICAL DOOR ASSEMBLY
SCALE: NTS MBR BLOWERS



5 E-016 TYPICAL DOOR ASSEMBLY
SCALE: NTS RAS PUMPS

MCC SCHEDULE

DESIGNATION	ELECTRICAL CHARACTERISTICS	LOCATION	MAIN BUS (HORIZONTAL)	VERTICAL BUS	MAIN BREAKER	INCOMING POWER	MIN. INTERRUPTING RATING - SYM	NEMA ENCLOSURE	BASIS OF DESIGN	COMMUNICATIONS / I/O	REMARKS
MCC1	480V, 3Ø, 3W	MBR BUILDING (ELECTRICAL ROOM)	1,200A	600A (MINIMUM)	1,200 AMP FRAME 1,200 AMP ELECTRONIC TRIP UNIT WITH LSI	BOTTOM LEFT	65KAIC	1 (GASKETED)	ALLEN BRADLEY (CENTERLINE 2100)	HARDWIRED & ETHERNET	
MCC2	480V, 3Ø, 3W	ATAD BUILDING (ELECTRICAL ROOM)	1200A	600A (MINIMUM)	1,200 AMP FRAME 1,200 AMP ELECTRONIC TRIP UNIT WITH LSI	BOTTOM LEFT	65KAIC	1 (GASKETED)	ALLEN BRADLEY (CENTERLINE 2100)	HARDWIRED & ETHERNET	

GENERAL SCHEDULE NOTES:

1. PROVIDE 4" CONCRETE HOUSE KEEPING PAD AND ALL REQUIRED ANCHORING EQUIPMENT, MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC., REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. CIRCUIT BREAKER AND MOTOR HORSEPOWER RATINGS SHOWN ON THE ELECTRICAL SINGLE LINE DIAGRAM AND EQUIPMENT CONNECTION SCHEDULE ARE TO BE VERIFIED AND COORDINATED WITH THE PROPOSED EQUIPMENT. COORDINATE CLOSELY WITH OWNER, ENGINEER, AND APPLICABLE TRADE CONTRACTOR PRIOR TO RELEASE OF ORDER.
3. ELEVATIONS SHOWN ARE GENERAL IN NATURE. COORDINATE FINAL CONFIGURATION, ORIENTATION, LAYOUT, ETC.,.. AND CONDUIT ENTRY POINTS WITH THE EQUIPMENT MANUFACTURER PRIOR TO RELEASE OF ORDER. EQUIPMENT IS TO BE CONFIGURED TO ACCOMMODATE PROPOSED INSTALLATION LOCATION AS SHOWN ON THE ELECTRICAL FLOOR PLAN SHEETS. MCC IS TO BE CONFIGURED FOR TOP AND BOTTOM CONDUIT ENTRY WITH THE MAIN BREAKER LOCATED IN THE BOTTOM LEFT WITH ALL SUBSEQUENT SECTIONS TO THE RIGHT (WHILE LOOKING AT THE MCC FRONT). MCC TO BE SET UP FOR BACK TO BACK CONFIGURATION AS SHOWN.
4. PROVIDE INTERNAL POWER METERING AND SURGE PROTECTION WITHIN MCC AS SPECIFIED ON THE ASSOCIATED SINGLE LINE DIAGRAM.
5. MCC TO FOLLOW NEMA CLASS II STANDARDS AND TYPE B-T WIRING STANDARDS.
6. MCC TO BE PROVIDED WITH PRE-DEFINED SPACE AS INDICATED WITHIN ELEVATION VIEW.
7. COORDINATE DELIVERY, STORAGE, AND HANDLING IN FIELD AND INSTALL PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. MAINTAIN ALL REQUIRED NEC CLEARANCES. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO ROUGH-IN TO AVOID ANY POTENTIAL OBSTRUCTIONS, OR CONFLICTS AND REPORT ANY ISSUES, OR DISCREPANCIES TO ENGINEER PRIOR TO PROCEEDING WITH WORK.
8. PROVIDE IDENTIFICATION NAMEPLATES AND LABELS PER ELECTRICAL SPECIFICATIONS.
9. REFER TO ELECTRICAL SPECIFICATIONS FOR INSPECTION, TESTING, START-UP, TRAINING, WARRANTY, AND ADDITIONAL INFORMATION/REQUIREMENTS.
10. CONTRACTOR RESPONSIBLE FOR INSTALLING ARC FLASH WARNING LABELS AND ADJUSTING OVER-CURRENT PROTECTIVE DEVICE SETTINGS PER POWER SYSTEM ANALYSIS.
11. PROVIDE ADDITIONAL LUG TERMINATION KITS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

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BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK
JEFFREY E ROBINSON
095896
LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:
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UDIG·NY SAFE DIGGING STARTS HERE
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CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
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ELECTRICAL
NEW WORK
SINGLE LINE DIAGRAMS

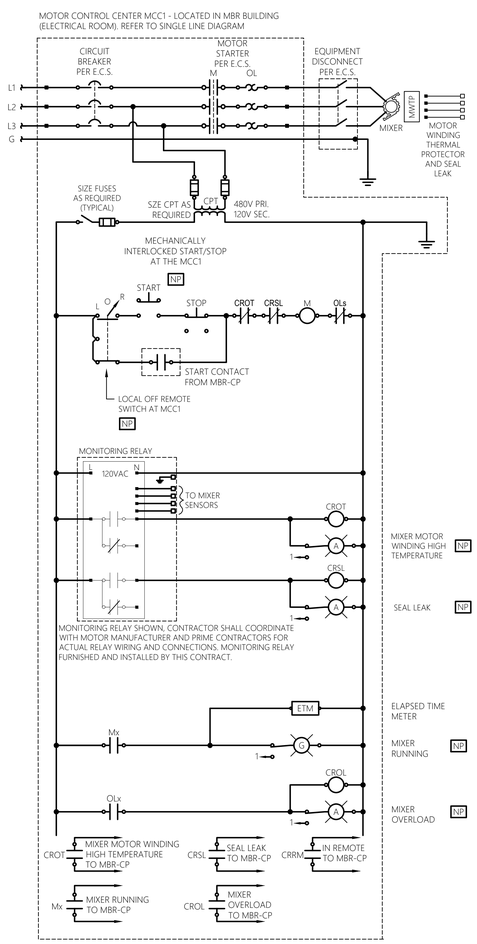
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

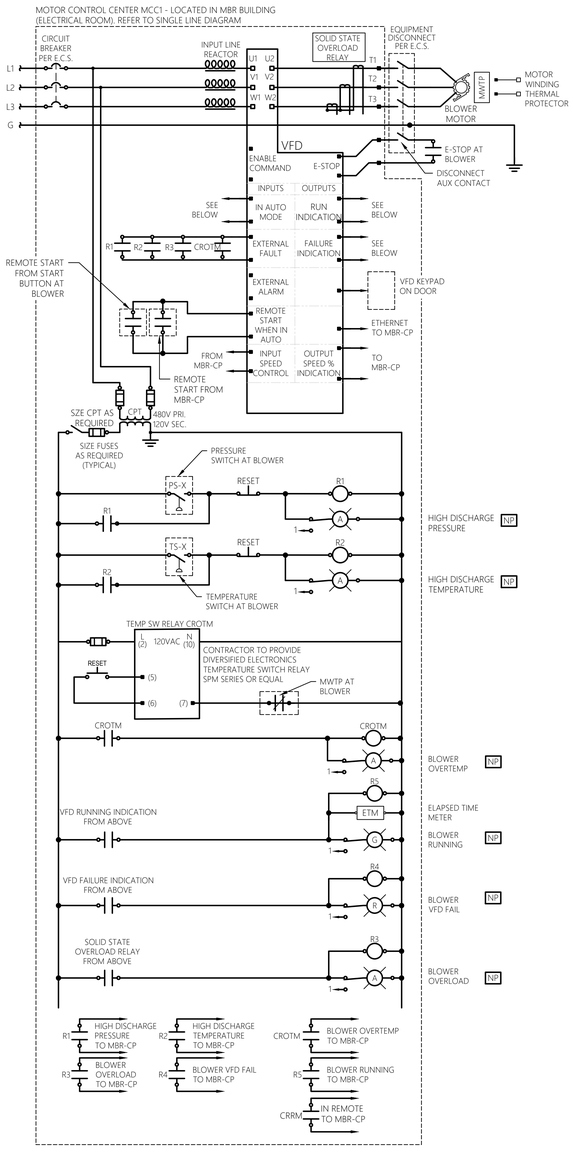
ISSUED DATE: 27 JUNE, 2025
DESIGN BY: RRM
DRAWN BY: CDJ
CHECKED BY: MGR
REVIEWED BY: JER

SHEET NO.
E-016

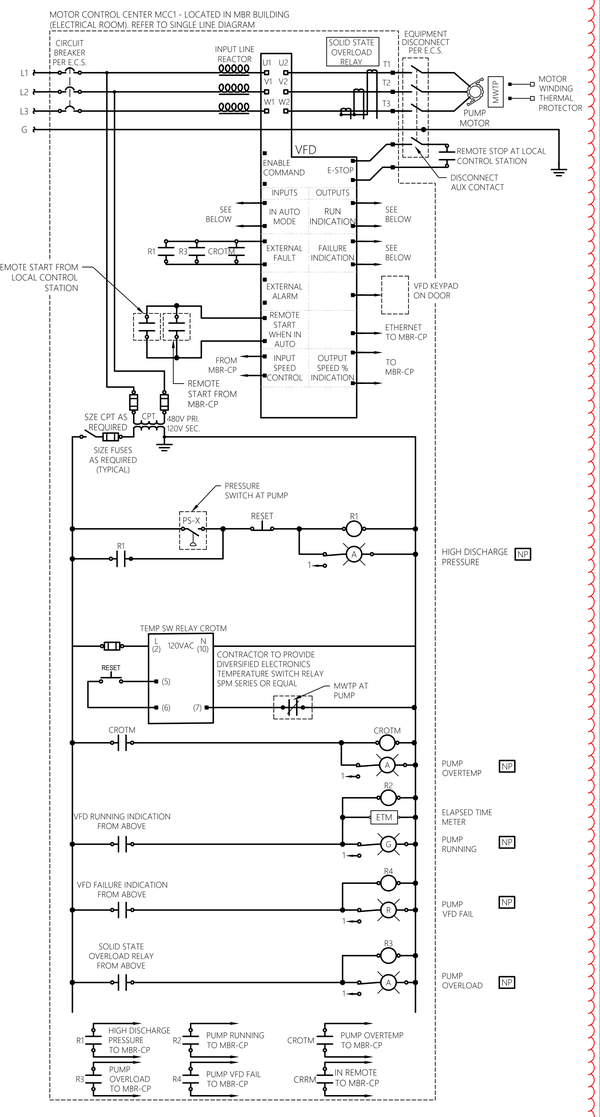
PROJECT # 18-732 PHASE #



1 E-017 ELEMENTARY WIRING DIAGRAM
SCALE: NTS — ANOXIC MIXERS



2 E-017 ELEMENTARY WIRING DIAGRAM
SCALE: NTS — MBR BLOWERS



3 E-017 ELEMENTARY WIRING DIAGRAM
SCALE: NTS — RAS PUMPS

DIAGRAM IS TYPICAL OF ANOXIC MIXERS
(16-MX-211-1, 16-MX-211-2, 16-MX-211-3).

DIAGRAM IS TYPICAL OF ALL MBR BLOWERS
(20-B-201-A, B, C, D, E; 16-B-401-A, B, C)

DIAGRAM IS TYPICAL OF RAS PUMPS
(20-P-501-A, 20-P-501-B, 20-P-501-C, 20-P-501-D).

GENERAL SHEET NOTES:

1. CONTRACTOR TO SIZE PROPOSED MOTOR STARTERS AND OVERCURRENT PROTECTION DEVICES WITHIN MCC BUCKETS BASED UPON LOAD DATA LISTED WITHIN EQUIPMENT CONNECTION SCHEDULE.
2. REFER TO EQUIPMENT CONNECTION SCHEDULE, SINGLE LINE DIAGRAMS, CONTROL RISER DIAGRAMS, SCHEDULES, DETAILS, AND SPECIFICATIONS FOR CIRCUITING INFORMATION AND ADDITIONAL REQUIREMENTS.
3. NOTE, NOT ALL MCC BUCKET LOADS ARE SHOWN WITHIN DIAGRAMS. THE DIAGRAMS SHOWN ARE OF PERTINENT LOADS AND SPECIAL SITUATIONS.
4. ELEMENTARY WIRING DIAGRAMS ARE INTENDED TO SHOW DESIGN INTENT AND NOT EVERY RELAY, CONTACT, TIMER, CIRCUITRY, ETC. REQUIRED WITHIN THE MCC BUCKET. CONTRACTOR RESPONSIBLE TO WORK WITH THE EQUIPMENT MANUFACTURER/SUPPLIER IN ORDER TO PROVIDE A COMPLETE AND OPERABLE SYSTEM PER DESIGN INTENT SHOWN/SPECIFIED.

MHE ENGINEERING
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New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK
JEFFREY E ROBINSON
095896
LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL ELEMENTARY WIRING DIAGRAMS

REVISIONS

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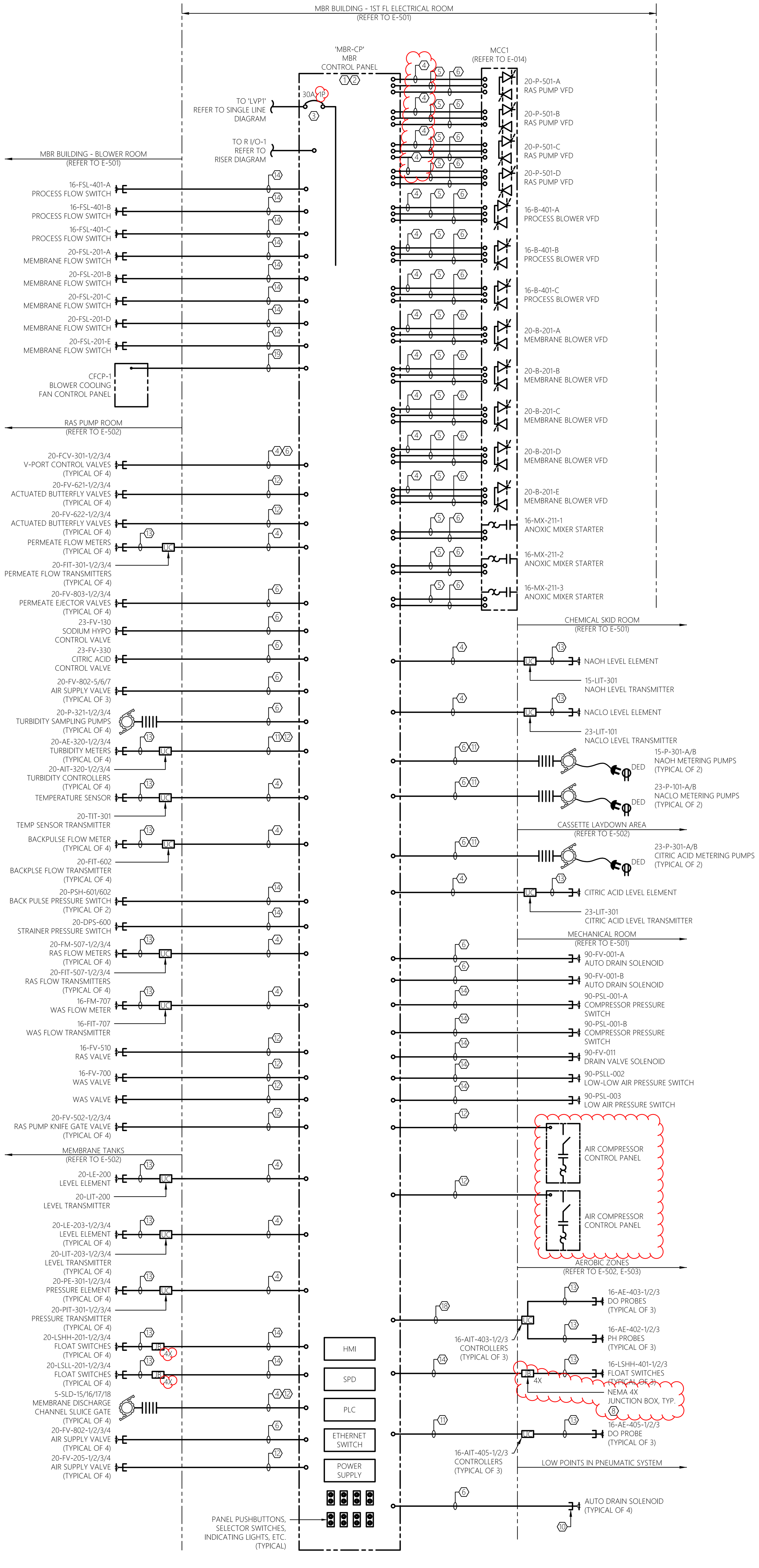
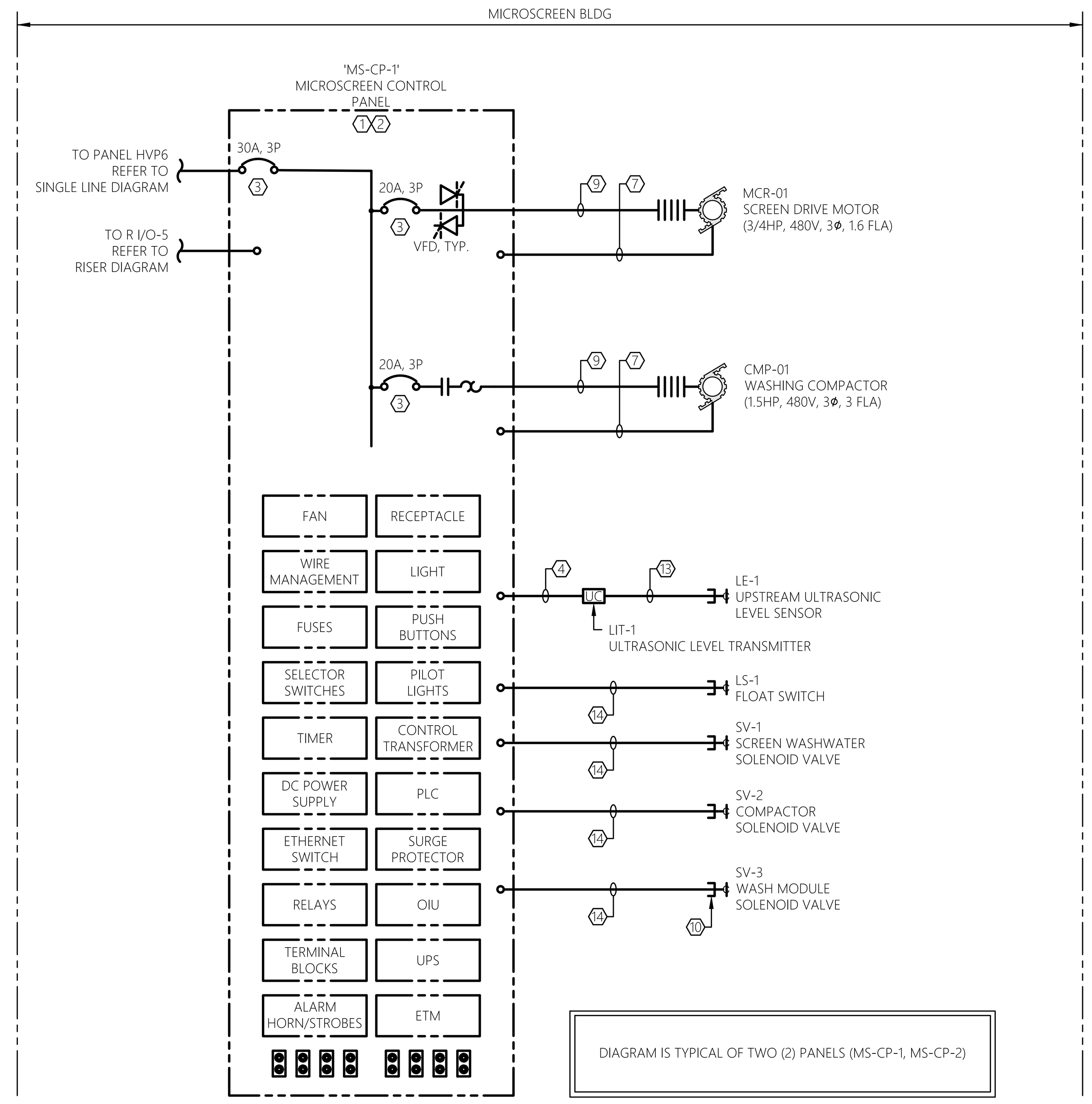
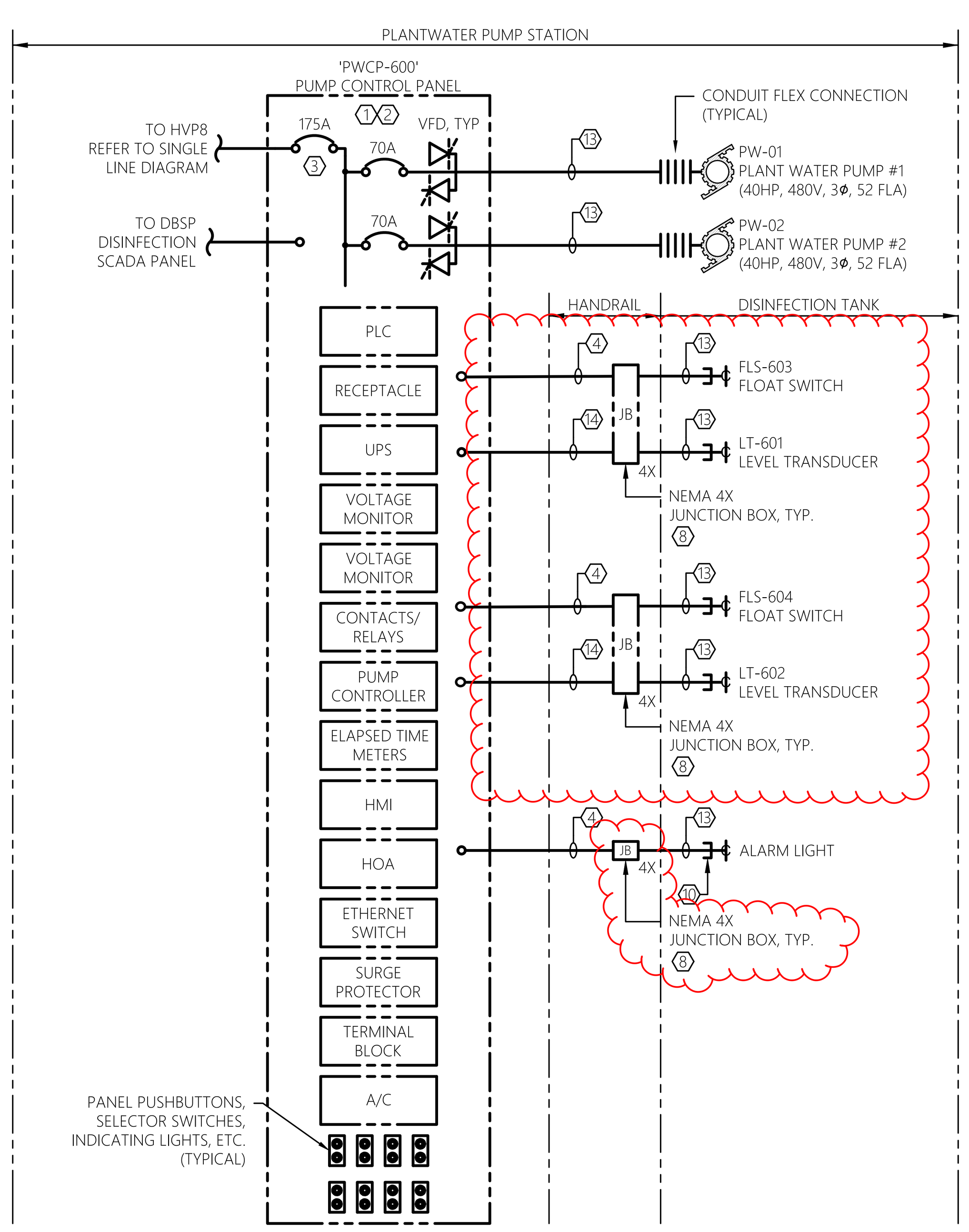


1 E-020 MBR CONTROL PANEL RISER DIAGRAM
SCALE: NTS



2 E-020 MICROSCREEN CONTROL PANEL RISER DIAGRAM
SCALE: NTS MICROSCREEN BUILDING



3 E-020 PLANT WATER SYSTEM CONTROL PANEL
SCALE: NTS PLANTWATER PUMP STATION

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO FLOOR PLANS FOR GENERAL DEVICE/EQUIPMENT LOCATIONS. COORDINATE FINAL LOCATIONS WITH PROCESS MECHANICAL DRAWINGS. REFER TO SITE PLAN FOR DUCT BANK INFORMATION
5. REFER TO SINGLE LINE DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER ALL OTHER TRADE CONTRACTORS.
7. CIRCUITS SHOWN ARE POWER, CONTROL, INSTRUMENTATION, AND CONTROL CIRCUIT POWER. REFER TO SINGLE LINE DIAGRAMS, SCHEDULES, AND DETAILS FOR ADDITIONAL CIRCUITS.
8. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
9. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. ALL REQUIREMENTS TO BE PER NEC.
10. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
11. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS WITH OWNER AND ALL OTHER TRADE CONTRACTORS. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC..
13. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED INTERNAL TO CONTROL PANELS. ALL REQUIREMENTS TO BE PER NEC.
14. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE.
15. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL, WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING INTERIOR/EXTERIOR WALLS AND FLOORS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN
16. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL OTHER TRADE CONTRACTORS AND OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION.
18. ALL CONTROL/COMMUNICATION WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
19. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.

SHEET KEY NOTES:

1. NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING REQUIRED UNDER THIS CONTRACT. REFERENCE SUBMITTAL DOCUMENTATION FOR ALL PANEL INTERNAL COMPONENTS. CONTRACTOR TO PROVIDE ADDITIONAL INTERNAL CONTACTS AND JUMPERS PER CONTROL PANEL MANUFACTURERS RECOMMENDATIONS FOR AN OVERALL COMPLETE AND OPERABLE SYSTEM.
2. CONTROL PANEL AND ALL INTERNAL COMPONENTS ARE BY THIS CONTRACT. THIS CONTRACT IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, TERMINATIONS, AND MOUNTING/INSTALLATION OF PANEL AS SHOWN/INDICATED. REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH ALL OTHER TRADE CONTRACTORS TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
3. DISCONNECT SIZE SHOWN FOR BIDDING PURPOSES ONLY. COORDINATE DISCONNECT SIZE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. COORDINATE CONDUCTOR/CONDUIT SIZE WITH MANUFACTURERS RECOMMENDED DISCONNECT SIZE. ALL REQUIREMENTS TO BE PER NEC.
4. (2)#18STP, 3/4"C
5. (1) CAT 6A PREMIUM ETHERNET CABLE, 1"C. PROVIDE AS PLENUM RATED WITH 4 BONDED PAIRS. TO BE BELDEN #3633 OR APPROVED EQUAL.
6. (12)#14, 1"C
7. (4)#14, 3/4"C. CIRCUIT TO BE UTILIZED FOR THE ASSOCIATED MOTOR THERMAL SAFETY SWITCH. CIRCUIT TO CONTROL TERMINALS OF PROPOSED VFD. IN THE EVENT OF A MOTOR HIGH TEMPERATURE, THE UNIT IS TO BE SHUT DOWN TO PREVENT DAMAGE. NOTE, TWO CONDUCTORS TO BE UTILIZED AS SPARES.
8. CONTRACTOR TO PROVIDE JUNCTION/PULL BOXES AS REQUIRED. COORDINATE FINAL LOCATIONS WITH OTHER TRADE CONTRACTORS (NOTE, JUNCTION BOXES ARE NOT ALWAYS SHOWN ON FLOOR PLANS. CONTRACTOR TO FIELD LOCATE AS NECESSARY). JUNCTION BOXES ARE TO BE RATED FOR ENVIRONMENT INSTALLED, INCLUDING BUT NOT LIMITED TO HAZARDOUS ENVIRONMENTS, CORROSIVE AREAS AND OUTDOORS INSTALLATIONS. CONTRACTOR TO SIZE JUNCTION BOXES PER NEC ARTICLE 314. TYPICAL OF ALL JUNCTION BOXES SHOWN ON THIS DRAWING.
9. (3)#12 & #12G, 1"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.
10. PROVIDE CONDUIT BUSHING, FITTING, OR FLEX CONNECTION AS REQUIRED FOR PROPER CONNECTION OF DEVICE. ALL BUSHINGS, FITTINGS, OR FLEX CONNECTIONS TO BE SUITED FOR ENVIRONMENT INSTALLED WITHIN. COORDINATE WITH EQUIPMENT MANUFACTURER. FLEX CONNECTION LENGTHS TO BE MINIMIZED TO GREATEST EXTENT POSSIBLE. TYPICAL
11. (4)#18STP, 3/4"C.
12. (20)#14, 1"C.
13. FACTORY CABLE BY THIS CONTRACT. THIS CONTRACT RESPONSIBLE FOR ALL TERMINATIONS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE 3/4" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER AS REQUIRED PER MANUFACTURER. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH ALL OTHER TRADE CONTRACTORS.
14. (4)#14, 3/4"C.

CONTROL DIAGRAMS ARE SCHEMATIC IN NATURE AND SHOWS ALL INTERCONNECTIONS. CONTRACTOR MAY GROUP POWER CIRCUITS INTO LARGER CONDUIT AND GROUP CONTROL CIRCUITS INTO SEPARATE LARGER CONDUIT. GROUPING OF CIRCUITS INTO LARGER CONDUITS MUST COMPLY WITH NEC FILL AND DERATING REQUIREMENTS. VFD INPUT & OUTPUT CONDUCTORS MUST BE RUN INDEPENDENT OF OTHER CONDUCTORS.

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BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK
JEFFREY E ROBINSON
095896
LICENSED PROFESSIONAL ENGINEER

CAESARS LANE WWTP
EXPANSION PROJECT:
PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553

FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL
RISER DIAGRAMS

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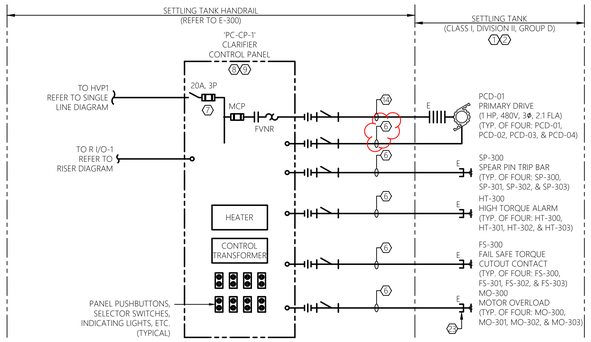
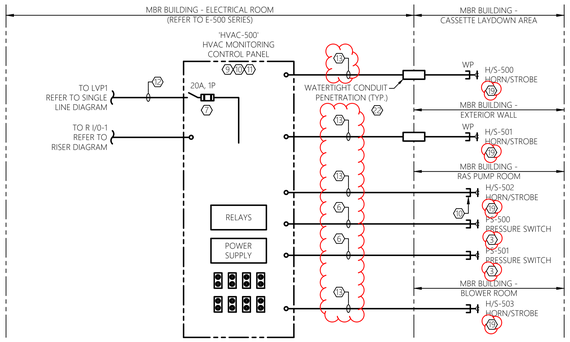


DIAGRAM IS TYPICAL OF FOUR (4) PANELS
(PC-CP-1, PC-CP-2, PC-CP-3, PC-CP-4)

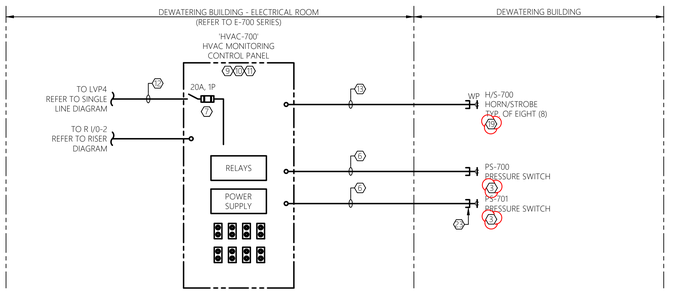
1 CLARIFIER CONTROL PANEL RISER DIAGRAM

E-021 SCALE: NTS — SETTLING TANKS



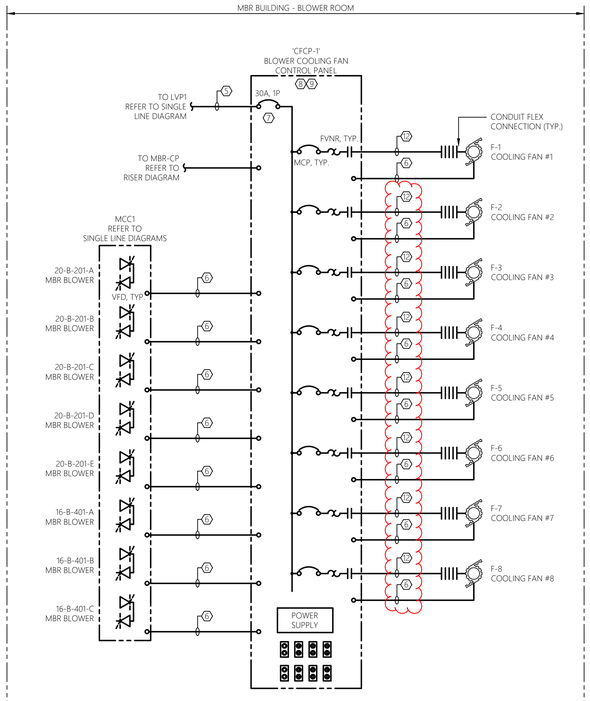
4 HVAC MONITORING CONTROL PANEL RISER DIAGRAM

E-021 SCALE: NTS — MBR BUILDING



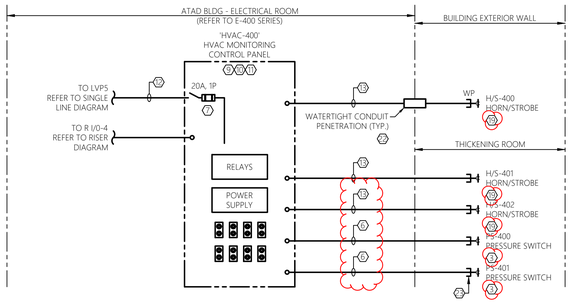
5 HVAC MONITORING CONTROL PANEL RISER DIAGRAM

E-021 SCALE: NTS — DEWATERING BUILDING



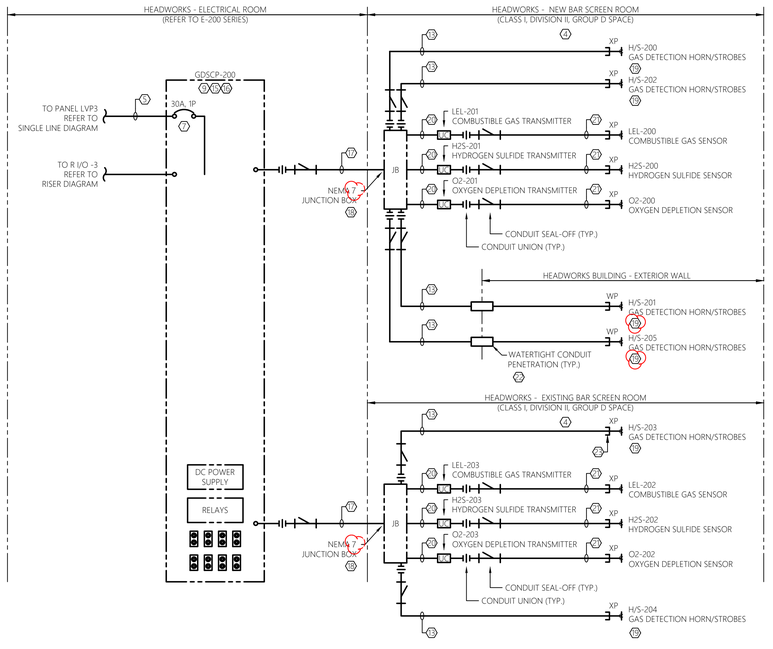
2 COOLING FAN CONTROL PANEL RISER DIAGRAM

E-021 SCALE: NTS — MBR BUILDING



3 HVAC MONITORING CONTROL PANEL RISER DIAGRAM

E-021 SCALE: NTS — ATAD BUILDING



6 GAS DETECTION SYSTEM CONTROL PANEL RISER DIAGRAM

E-021 SCALE: NTS — HEADWORKS ELECTRICAL ROOM

CONTROL DIAGRAMS ARE SCHEMATIC IN NATURE AND SHOWS ALL INTERCONNECTIONS. CONTRACTOR MAY GROUP POWER CIRCUITS INTO LARGER CONDUIT AND GROUP CONTROL CIRCUITS INTO SEPARATE LARGER CONDUIT. GROUPING OF CIRCUITS INTO LARGER CONDUITS MUST COMPLY WITH NEC FILL AND DERATING REQUIREMENTS. VFD INPUT & OUTPUT CONDUCTORS MUST BE RUN INDEPENDENT OF OTHER CONDUCTORS.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO FLOOR PLANS FOR GENERAL DEVICE/EQUIPMENT LOCATIONS. COORDINATE FINAL LOCATIONS WITH PROCESS MECHANICAL DRAWINGS. REFER TO SITE PLAN FOR DUCT BANK INFORMATION
5. REFER TO SINGLE LINE DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER ALL OTHER TRADE CONTRACTORS.
7. CIRCUITS SHOWN ARE POWER, CONTROL, INSTRUMENTATION, AND CONTROL CIRCUIT POWER. REFER TO SINGLE LINE DIAGRAMS, SCHEDULES, AND DETAILS FOR ADDITIONAL CIRCUITS.
8. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
9. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS, ALL REQUIREMENTS TO BE PER NEC.
10. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
11. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS WITH OWNER AND ALL OTHER TRADE CONTRACTORS. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC..
13. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED INTERNAL TO CONTROL PANELS. ALL REQUIREMENTS TO BE PER NEC.
14. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE.
15. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING INTERIOR/EXTERIOR WALLS AND FLOORS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN
16. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL OTHER TRADE CONTRACTORS AND OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION.
18. ALL CONTROL/COMMUNICATION WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
19. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.

SHEET KEY NOTES:

(1) TANK INTERIOR IS CLASS I, DIVISION II, GROUP D SPACE. CLASSIFICATION EXTENDS TO THE MINIMUM OPERATING WATER SURFACE TO THE TOP OF THE WALL; ENVELOPE 18" ABOVE THE TOP OF THE TANK AND EXTENDING 18" BEYOND THE EXTERIOR WALL; ENVELOPE 18" ABOVE GRADE EXTENDING 10' HORIZONTALLY FROM THE EXTERIOR WALLS. ALL WIRING METHODS WITHIN THIS SPACE TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES WITHIN THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASS I, DIVISION II, GROUP D ENVIRONMENT.

(2) ALL ELECTRICAL EQUIPMENT, COMPONENTS, DEVICES, AND RACEWAY SYSTEMS TO BE KEPT OUT OF CLASSIFIED AREAS TO GREATEST EXTENT POSSIBLE.

(3) AIRFLOW PROVING SWITCH/PRESSURE SENSOR TO BE PROVIDED AND INSTALLED IN DUCTWORK FOR AIRFLOW MONITORING PER MANUFACTURER'S RECOMMENDATIONS. UNIT SHALL BE CLEVELAND CONTROLS MODEL AFS-222-139 OR APPROVED EQUAL. PROVIDE ALL COMPONENTS FOR A COMPLETE AND OPERABLE AIRFLOW MONITORING SYSTEM. COORDINATE WITH APPLICABLE TRADE CONTRACTORS.

(4) AREA IS CLASS I, DIVISION II, GROUP D SPACE. CLASSIFICATION EXTENDS TO ENTIRE ENCLOSED SPACE. ALL WIRING METHODS WITHIN THIS SPACE TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES WITHIN THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASS I, DIVISION II, GROUP D ENVIRONMENT.

(5) (2)#10 & #10G, 3/4"C.

(6) (4)#14, 3/4"C.

(7) DISCONNECT SIZE SHOWN FOR BIDDING PURPOSES ONLY. COORDINATE DISCONNECT SIZE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. COORDINATE CONDUCTOR/CONDUIT SIZE WITH MANUFACTURERS RECOMMENDED DISCONNECT SIZE. ALL REQUIREMENTS TO BE PER NEC.

(8) NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING REQUIRED UNDER THIS CONTRACT. REFERENCE SUBMITTAL DOCUMENTATION FOR ALL PANEL INTERNAL COMPONENTS. CONTRACTOR TO PROVIDE ADDITIONAL INTERNAL CONTACTS AND JUMPERS PER CONTROL PANEL MANUFACTURERS RECOMMENDATIONS FOR AN OVERALL COMPLETE AND OPERABLE SYSTEM.

(9) CONTROL PANEL AND ALL INTERNAL COMPONENTS ARE BY THIS CONTRACT. THIS CONTRACT IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, TERMINATIONS, AND MOUNTING/INSTALLATION OF PANEL AS SHOWN/INDICATED. REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH ALL OTHER TRADE CONTRACTORS TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

(10) CONTRACTOR TO PROVIDE HVAC MONITORING CONTROL PANEL, HORN/ALARM LIGHTS, AND ALL ACCESSORIES FOR A COMPLETE AND OPERABLE SYSTEM. PROVIDE WITHIN NEMA 12 ENCLOSURE.

(11) CONTRACTOR TO WORK WITH CSI TO PROVIDE RELAY BASED CONTROL PANEL. UPON A LOSS OF ADEQUATE AIR FLOW OR A VENTILATION FAN FAILURE, THE CONTROL PANEL IS TO ENERGIZE THE APPROPRIATE LED WARNING LIGHTS AND SOUNDER/HORN. COORDINATE OVERALL SEQUENCE OF OPERATION WITH ENGINEER DURING SUBMITTAL PHASE.

(12) (2)#12 & #12G, 3/4"C.

(13) (12)#14, 3/4"C.

(14) (3)#12 & #12G, 3/4"C.

(15) GAS DETECTION SYSTEM CONTROL PANEL 'GDSCP-200' AND ASSOCIATED SENSORS, TRANSMITTERS, COMPONENTS & DEVICES ARE TO BE PROVIDED AND INSTALLED UNDER THIS CONTRACT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(16) CONTRACTOR TO PROVIDE ADDITIONAL DC POWER SUPPLY SIZED AS NECESSARY WITHIN NEMA 1 ENCLOSURE TO PROVIDE 24 VDC POWER TO PROPOSED TRANSMITTERS, HORNS, AND STROBES. PROVIDE CIRCUITRY (CONDUITS AND CONDUCTORS) AND TERMINATIONS AS REQUIRED.

(17) (6)#18STP & (36)#14, 2"C.

(18) CONTRACTOR TO PROVIDE JUNCTION/PULL BOXES AS REQUIRED. COORDINATE FINAL LOCATIONS WITH OTHER TRADE CONTRACTORS (NOTE, JUNCTION BOXES ARE NOT ALWAYS SHOWN ON FLOOR PLANS. CONTRACTOR TO FIELD-LOCATE AS NECESSARY). JUNCTION BOXES ARE TO BE RATED FOR ENVIRONMENT INSTALLED, INCLUDING BUT NOT LIMITED TO HAZARDOUS ENVIRONMENTS AND OUTDOORS INSTALLATIONS. CONTRACTOR TO SIZE JUNCTION BOXES PER NEC ARTICLE 314. TYPICAL OF ALL JUNCTION BOXES SHOWN ON THIS DRAWING.

(19) ALARMING LIGHTS AND HORNS (HORN/STROBE) TO BE PROVIDED AS FEDERAL SIGNAL GLOBAL SERIES CUSTOM CONFIGURED FIXTURES MODEL #C-MSC-3A-120-NN-LG-SR OR APPROVED EQUAL. TO BE 3 POSITION VERTICAL STACK, SOUNDER HORN, GREEN LED LIGHT, AND RED LED LIGHT, RATED NEMA 4X, AND POWERED BY 120V AC CONTACT CLOSURES WITHIN CONTROL PANEL. PROVIDE ALL REQUIRED POWER SUPPLIES, CONTROL TRANSFORMERS, AND RELAYS, AS WELL AS, DOME GUARDS TO PROTECT LED LIGHTS FROM PHYSICAL DAMAGE. CONDUIT ADAPTORS, INDICATOR RINGS AND LEGEND PLATE KITS AS NECESSARY. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE SYSTEM. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABELS PER SPECIFICATIONS.

(20) (2)#18STP & (4)#14, 3/4"C.

(21) FACTORY CABLE. THIS CONTRACT RESPONSIBLE FOR ALL TERMINATIONS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE 3/4" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER AS REQUIRED PER MANUFACTURER. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH MANUFACTURER.

(22) REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS. CLOSELY COORDINATE FINAL PENETRATION LOCATION/REQUIREMENTS WITH OTHER TRADE CONTRACTORS AND OWNER. TYPICAL.

(23) PROVIDE CONDUIT BUSHING, FITTING, OR FLEX CONNECTION AS REQUIRED FOR PROPER CONNECTION OF DEVICE. ALL BUSHINGS, FITTINGS, OR FLEX CONNECTIONS TO BE SUITED FOR ENVIRONMENT INSTALLED WITHIN. COORDINATE WITH EQUIPMENT MANUFACTURER. FLEX CONNECTION LENGTHS TO BE MINIMIZED TO GREATEST EXTENT POSSIBLE. TYPICAL.

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE
JADE STONE ENGINEERING

STATE OF NEW YORK
JEFFREY E ROBINSON
095896
LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL RISER DIAGRAMS

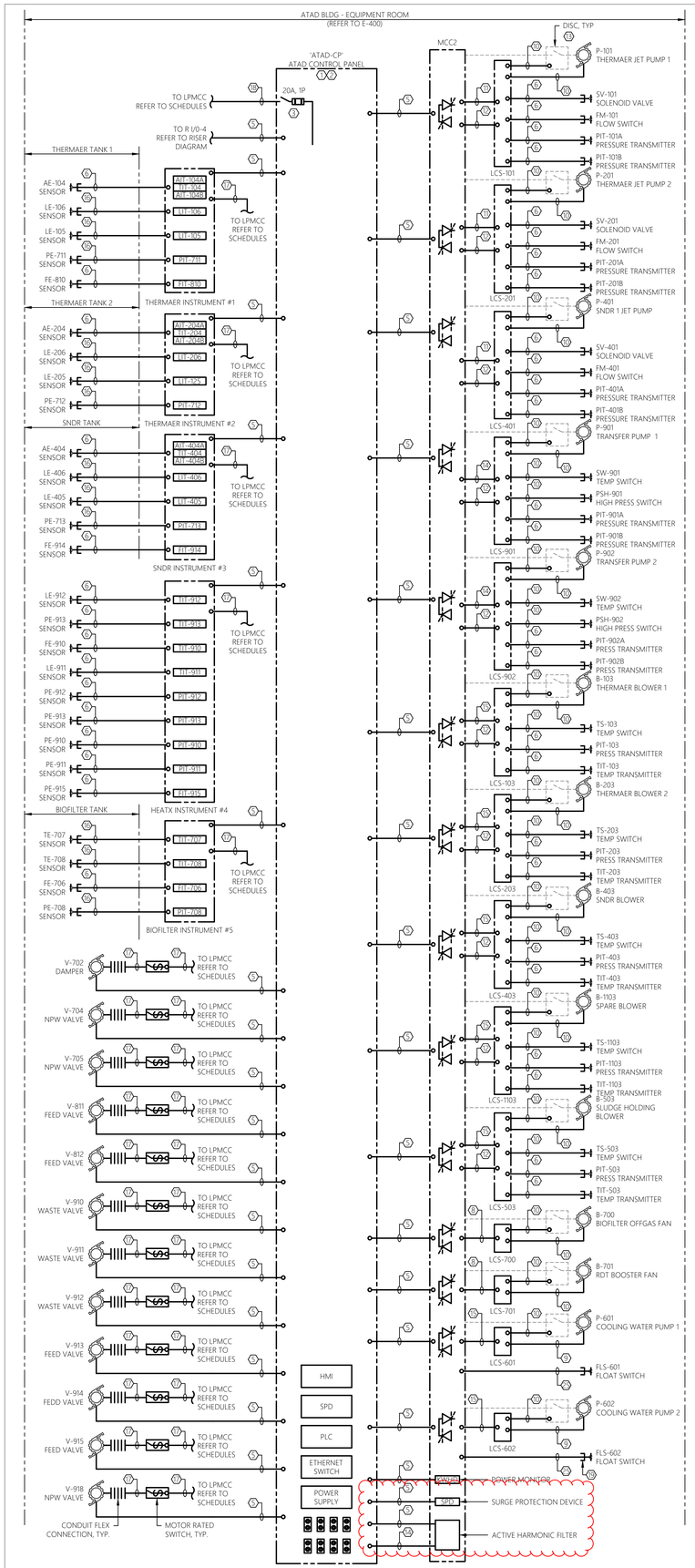
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

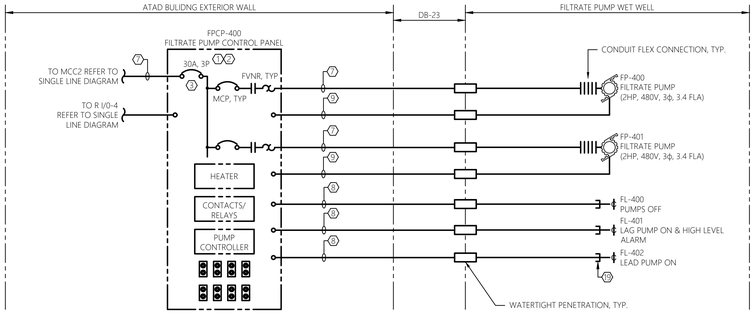
ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-021

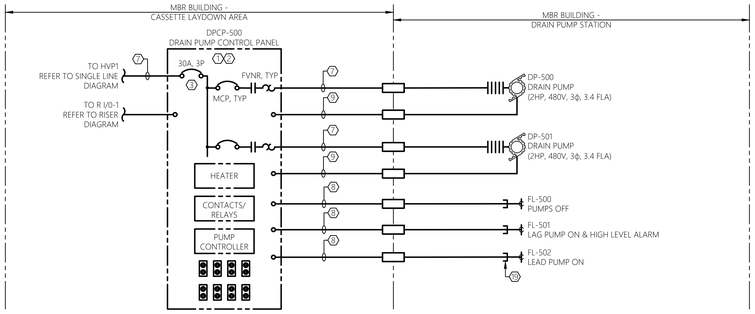
PROJECT # 18-732 PHASE #



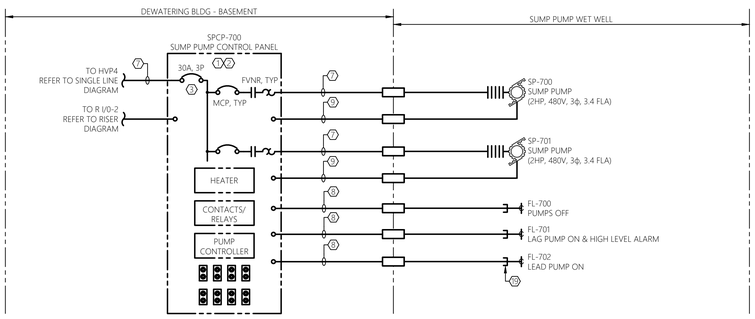
1 E-022 SCALE: NTS — ATAD CONTROL PANEL RISER DIAGRAM — ATAD EQUIPMENT ROOM



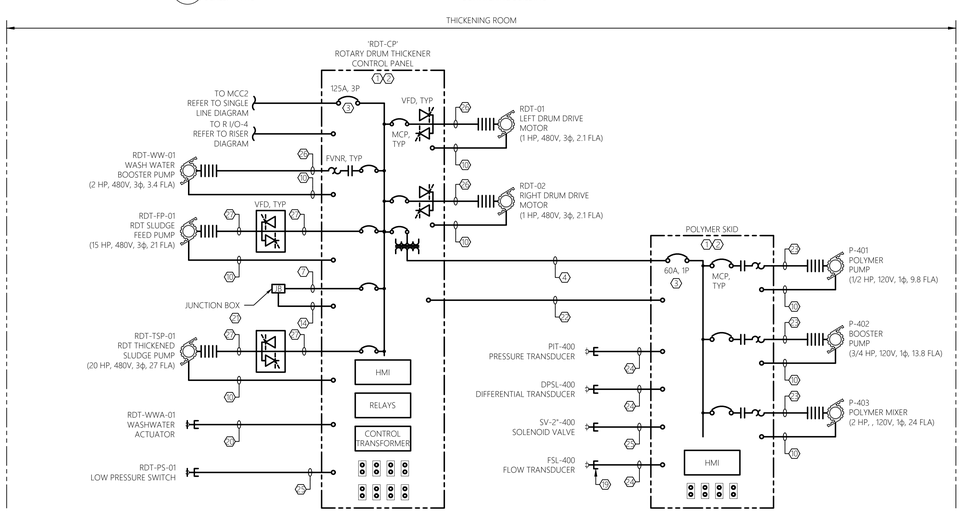
2 E-022 SCALE: NTS — FILTRATE PUMP CONTROL PANEL RISER DIAGRAM — ATAD BUILDING



3 E-022 SCALE: NTS — DRAIN PUMP CONTROL PANEL RISER DIAGRAM — MBR BUILDING



4 E-022 SCALE: NTS — SUMP PUMP CONTROL PANEL RISER DIAGRAM — DEWATERING BUILDING



5 E-022 SCALE: NTS — RDT CONTROL PANEL RISER DIAGRAM — RDT ROOM

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO FLOOR PLANS FOR GENERAL DEVICE/EQUIPMENT LOCATIONS. COORDINATE FINAL LOCATIONS WITH PROCESS MECHANICAL DRAWINGS. REFER TO SITE PLAN FOR DUCT BANK INFORMATION.
5. REFER TO SINGLE LINE DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER ALL OTHER TRADE CONTRACTORS.
7. CIRCUITS SHOWN ARE POWER, CONTROL, INSTRUMENTATION, AND CONTROL CIRCUIT POWER. REFER TO SINGLE LINE DIAGRAMS, SCHEDULES, AND DETAILS FOR ADDITIONAL CIRCUITS.
8. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
9. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. ALL REQUIREMENTS TO BE PER NEC.
10. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
11. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS WITH OWNER AND ALL OTHER TRADE CONTRACTORS. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC..
13. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED INTERNAL TO CONTROL PANELS. ALL REQUIREMENTS TO BE PER NEC.
14. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE.
15. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL, WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING INTERIOR/EXTERIOR WALLS AND FLOORS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN
16. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL OTHER TRADE CONTRACTORS AND OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION.
18. ALL CONTROL/COMMUNICATION WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
19. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.

SHEET KEY NOTES:

1. NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING REQUIRED UNDER THIS CONTRACT. REFERENCE SUBMITTAL DOCUMENTATION FOR ALL PANEL INTERNAL COMPONENTS. CONTRACTOR TO PROVIDE ADDITIONAL INTERNAL CONTACTS AND JUMPERS PER CONTROL PANEL MANUFACTURERS RECOMMENDATIONS FOR AN OVERALL COMPLETE AND OPERABLE SYSTEM.
2. CONTROL PANEL AND ALL INTERNAL COMPONENTS ARE BY THIS CONTRACT. THIS CONTRACT IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, TERMINATIONS, AND MOUNTING/INSTALLATION OF PANEL AS SHOWN/INDICATED. REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH ALL OTHER TRADE CONTRACTORS TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
3. DISCONNECT SIZE SHOWN FOR BIDDING PURPOSES ONLY. COORDINATE DISCONNECT SIZE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. COORDINATE CONDUCTOR/CONDUIT SIZE WITH MANUFACTURERS RECOMMENDED DISCONNECT SIZE. ALL REQUIREMENTS TO BE PER NEC.
4. (2)#8 & #10G, 3/4"C.
5. (1) CAT 6A PREMIUM ETHERNET CABLE, 1"C. PROVIDE AS PLENUM RATED WITH 4 BONDED PAIRS. TO BE BELDEN #3633 OR APPROVED EQUAL.
6. FACTORY CABLE. THIS CONTRACT RESPONSIBLE FOR ALL TERMINATIONS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE 1" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM. PROVIDE LARGER AS REQUIRED PER MANUFACTURER. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH MANUFACTURER.
7. (3)#10 & #10G, 1"C.
8. (4)#14, 3/4"C.
9. (6)#14, 3/4"C. CIRCUIT TO BE UTILIZED FOR THE ASSOCIATED MOTOR THERMAL SAFETY AND SEAL LEAK SWITCH. CIRCUIT TO CONTROL TERMINALS OF PROPOSED VFD. IN THE EVENT OF A MOTOR HIGH TEMPERATURE OR SEAL LEAKAGE, THE UNIT IS TO BE SHUT DOWN TO PREVENT DAMAGE. NOTE, TWO CONDUCTORS TO BE UTILIZED AS SPARES.
10. (4)#14, 3/4"C.
11. (10)#14, 1"C
12. (3)#18STP, 3/4"C
13. REFER TO SINGLE LINE DIAGRAM SHEET E-015 FOR POWER AND DISCONNECT INFORMATION/DETAILS.
14. (12)#14, 1"C
15. (8)#14, 1"C
16. (1)#18STP, 3/4"C
17. (2)#12 & #12G, 3/4"C.
18. (2)#10 & #10G, 1"C.
19. PROVIDE CONDUIT BUSHING, FITTING, OR FLEX CONNECTION AS REQUIRED FOR PROPER CONNECTION OF DEVICE. ALL BUSHINGS, FITTINGS, OR FLEX CONNECTIONS TO BE SUITED FOR ENVIRONMENT INSTALLED WITHIN. COORDINATE WITH OTHER TRADE CONTRACTORS AND EQUIPMENT MANUFACTURER. FLEX CONNECTIONS TO BE MINIMIZED TO THE GREATEST EXTENT POSSIBLE. TYPICAL.
20. (8)#14, 3/4"C.
21. JUNCTION BOX BY EQUIPMENT MANUFACTURER. COORDINATE FINAL LOCATION WITH EQUIPMENT MANUFACTURER. JUNCTION BOX FACTORY WIRED TO RDT SYSTEM CONTROL INSTRUMENTATION/DEVICES. THIS CONTRACT RESPONSIBLE FOR PROVIDING CIRCUITRY (CONDUIT & CONDUCTORS) AND TERMINATIONS AS SHOWN/SPECIFIED AS A MINIMUM. PROVIDE ADDITIONAL CIRCUITRY AS REQUIRED PER MANUFACTURERS RECOMMENDATIONS. REFER TO SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION AND COORDINATE FINAL REQUIREMENTS WITH EQUIPMENT MANUFACTURER. REFER TO FLOOR PLAN FOR GENERAL LOCATION.
22. (10)#14, (2)#18STP, 1"C
23. (3)#12 & #12G, 3/4"C.
24. (2)#18STP, 3/4"C.
25. (4)#14, 3/4"C
26. (3)#10 & #10G, 3/4"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.
27. (3)#8 & #10G, 3/4"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.

CONTROL DIAGRAMS ARE SCHEMATIC IN NATURE AND SHOWS ALL INTERCONNECTIONS. CONTRACTOR MAY GROUP POWER CIRCUITS INTO LARGER CONDUIT AND GROUP CONTROL CIRCUITS INTO SEPARATE LARGER CONDUIT. GROUPING OF CIRCUITS INTO LARGER CONDUITS MUST COMPLY WITH NEC FILL AND DERATING REQUIREMENTS. VFD INPUT & OUTPUT CONDUCTORS MUST BE RUN INDEPENDENT OF OTHER CONDUCTORS.

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE
JADE STONE ENGINEERING

STATE OF NEW YORK — JEFFREY E ROBINSON — 055896 — LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL RISER DIAGRAMS

REVISIONS

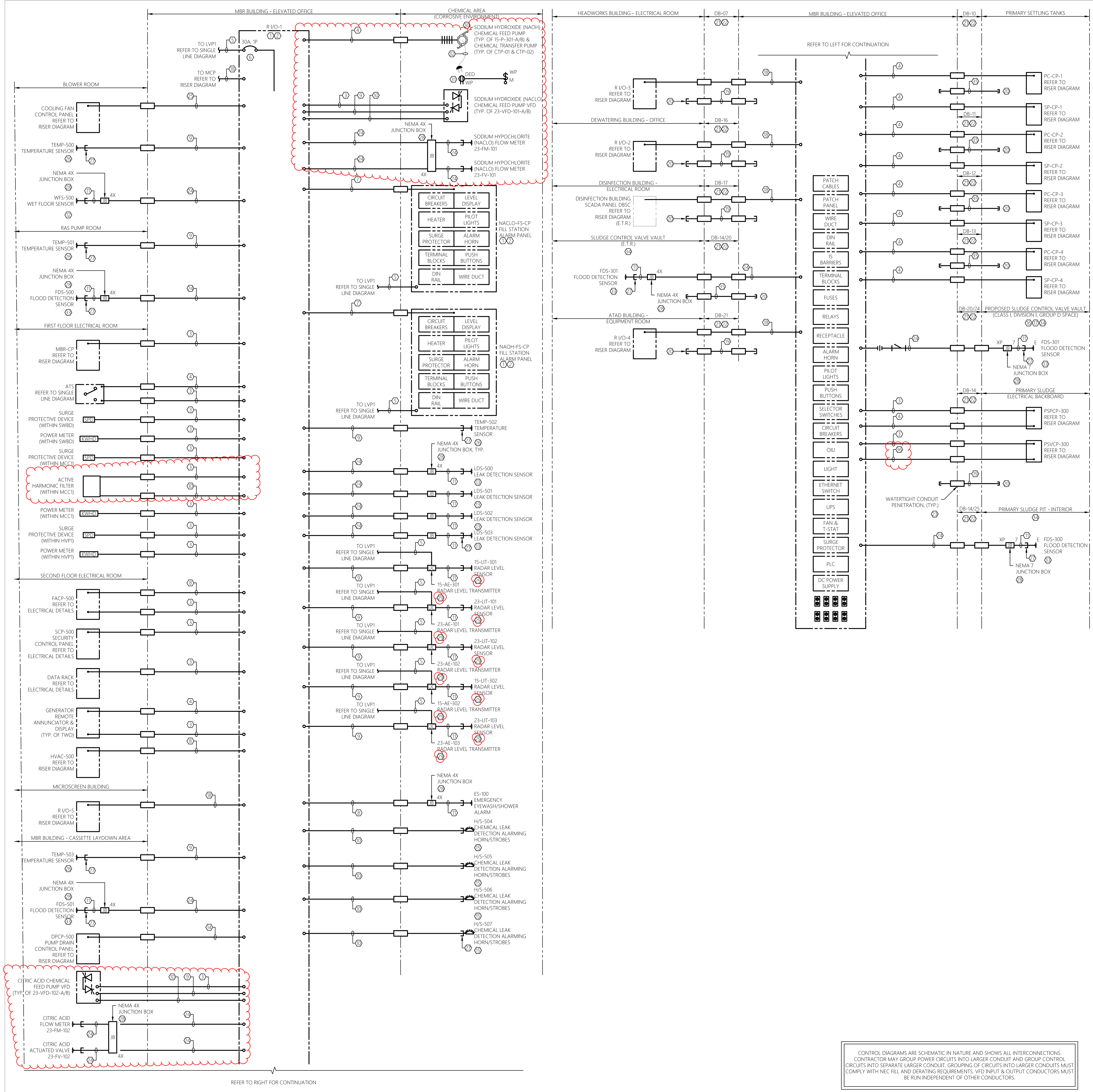
NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.

E-022

PROJECT # 18-732 PHASE #



MBR BUILDING - ELEVATED OFFICE
CHEMICAL AREA (CORROSIVE ENVIRONMENT)
R I/O-1
TO LVP1 REFER TO SINGLE LINE DIAGRAM
30A, 1P
TO MCP REFER TO RISER DIAGRAM
SODIUM HYDROXIDE (NAOH) CHEMICAL FEED PUMP (TYP. OF 15-P-301-A/B) & CHEMICAL TRANSFER PUMP (TYP. OF CTP-01 & CTP-02)
DED WP
WP M
SODIUM HYDROXIDE (NACLO) CHEMICAL FEED PUMP VFD (TYP. OF 23-VFD-101-A/B)
NEMA 4X JUNCTION BOX
SODIUM HYPOCHLORITE (NACLO) FLOW METER 23-FM-101
SODIUM HYPOCHLORITE (NACLO) FLOW METER 23-FV-101
BLOWER ROOM
COOLING FAN CONTROL PANEL REFER TO RISER DIAGRAM
TEMP-500 TEMPERATURE SENSOR
NEMA 4X JUNCTION BOX
WFS-500 WET FLOOR SENSOR
RAS PUMP ROOM
TEMP-501 TEMPERATURE SENSOR
FDS-500 FLOOD DETECTION SENSOR
FIRST FLOOR ELECTRICAL ROOM
MBR-CP REFER TO RISER DIAGRAM
ATS REFER TO SINGLE LINE DIAGRAM
SURGE PROTECTIVE DEVICE (WITHIN SWBD)
POWER METER (WITHIN SWBD)
SURGE PROTECTIVE DEVICE (WITHIN MCC1)
ACTIVE HARMONIC FILTER (WITHIN MCC1)
POWER METER (WITHIN MCC1)
SURGE PROTECTIVE DEVICE (WITHIN HVP1)
POWER METER (WITHIN HVP1)
SECOND FLOOR ELECTRICAL ROOM
FACP-500 REFER TO ELECTRICAL DETAILS
SCP-500 SECURITY CONTROL PANEL REFER TO ELECTRICAL DETAILS
DATA RACK REFER TO ELECTRICAL DETAILS
GENERATOR REMOTE ANNUNCIATOR & DISPLAY (TYP. OF TWO)
HVAC-500 REFER TO RISER DIAGRAM
MICROSCREEN BUILDING
R I/O-5 REFER TO RISER DIAGRAM
MBR BUILDING - CASSETTE LAYDOWN AREA
TEMP-503 TEMPERATURE SENSOR
FDS-501 FLOOD DETECTION SENSOR
DPCP-500 PUMP DRAIN CONTROL PANEL REFER TO RISER DIAGRAM
CITRIC ACID CHEMICAL FEED PUMP VFD (TYP. OF 23-VFD-102-A/B)
CITRIC ACID FLOW METER 23-FM-102
CITRIC ACID ACTUATED VALVE 23-FV-102
REFER TO RIGHT FOR CONTINUATION
CIRCUIT BREAKERS
LEVEL DISPLAY
HEATER
PILOT LIGHTS
SURGE PROTECTOR
ALARM HORN
TERMINAL BLOCKS
PUSH BUTTONS
DIN RAIL
WIRE DUCT
NACLO-FS-CP FILL STATION ALARM PANEL
NAOH-FS-CP FILL STATION ALARM PANEL
TEMP-502 TEMPERATURE SENSOR
NEMA 4X JUNCTION BOX, TYP.
LDS-500 LEAK DETECTION SENSOR
LDS-501 LEAK DETECTION SENSOR
LDS-502 LEAK DETECTION SENSOR
LDS-503 LEAK DETECTION SENSOR
15-LIT-301 RADAR LEVEL SENSOR
15-AE-301 RADAR LEVEL TRANSMITTER
23-LIT-101 RADAR LEVEL SENSOR
23-AE-101 RADAR LEVEL TRANSMITTER
23-LIT-102 RADAR LEVEL SENSOR
23-AE-102 RADAR LEVEL TRANSMITTER
15-LIT-302 RADAR LEVEL SENSOR
15-AE-302 RADAR LEVEL TRANSMITTER
23-LIT-103 RADAR LEVEL SENSOR
23-AE-103 RADAR LEVEL TRANSMITTER
ES-100 EMERGENCY EYEWASH/SHOWER ALARM
H/S-504 CHEMICAL LEAK DETECTION ALARMING HORN/STROBES
H/S-505 CHEMICAL LEAK DETECTION ALARMING HORN/STROBES
H/S-506 CHEMICAL LEAK DETECTION ALARMING HORN/STROBES
H/S-507 CHEMICAL LEAK DETECTION ALARMING HORN/STROBES
HEADWORKS BUILDING - ELECTRICAL ROOM
DB-07
R I/O-3 REFER TO RISER DIAGRAM
DEWATERING BUILDING - OFFICE
DB-16
R I/O-2 REFER TO RISER DIAGRAM
DISINFECTION BUILDING - ELECTRICAL ROOM
DB-17
DISINFECTION BUILDING SCADA PANEL DBSC REFER TO RISER DIAGRAM (E.T.R.)
SLUDGE CONTROL VALVE VAULT (E.T.R.)
DB-14/20
FDS-301 FLOOD DETECTION SENSOR
NEMA 4X JUNCTION BOX
ATAD BUILDING - EQUIPMENT ROOM
DB-21
R I/O-4 REFER TO RISER DIAGRAM
REFER TO LEFT FOR CONTINUATION
PATCH CABLES
PATCH PANEL
WIRE DUCT
DIN RAIL
IS BARRIERS
TERMINAL BLOCKS
FUSES
RELAYS
RECEPTACLE
ALARM HORN
PILOT LIGHTS
PUSH BUTTONS
SELECTOR SWITCHES
CIRCUIT BREAKERS
OIU
LIGHT
ETHERNET SWITCH
UPS
FAN & T-STAT
SURGE PROTECTOR
PLC
DC POWER SUPPLY
DB-10
PRIMARY SETTLING TANKS
PC-CP-1 REFER TO RISER DIAGRAM
DB-11
SP-CP-1 REFER TO RISER DIAGRAM
PC-CP-2 REFER TO RISER DIAGRAM
DB-12
SP-CP-2 REFER TO RISER DIAGRAM
PC-CP-3 REFER TO RISER DIAGRAM
DB-13
SP-CP-3 REFER TO RISER DIAGRAM
PC-CP-4 REFER TO RISER DIAGRAM
SP-CP-4 REFER TO RISER DIAGRAM
DB-20/24
PROPOSED SLUDGE CONTROL VALVE VAULT (CLASS I, DIVISION I, GROUP D SPACE)
FDS-301 FLOOD DETECTION SENSOR
NEMA 7 JUNCTION BOX
DB-14
PRIMARY SLUDGE ELECTRICAL BACKBOARD
PSPCP-300 REFER TO RISER DIAGRAM
PSVCP-300 REFER TO RISER DIAGRAM
WATERTIGHT CONDUIT PENETRATION, (TYP.)
DB-14/25
PRIMARY SLUDGE PIT - INTERIOR
FDS-300 FLOOD DETECTION SENSOR
NEMA 7 JUNCTION BOX

CONTROL DIAGRAMS ARE SCHEMATIC IN NATURE AND SHOWS ALL INTERCONNECTIONS. CONTRACTOR MAY GROUP POWER CIRCUITS INTO LARGER CONDUIT AND GROUP CONTROL CIRCUITS INTO SEPARATE LARGER CONDUIT. GROUPING OF CIRCUITS INTO LARGER CONDUITS MUST COMPLY WITH NEC FILL AND DERATING REQUIREMENTS. VFD INPUT & OUTPUT CONDUCTORS MUST BE RUN INDEPENDENT OF OTHER CONDUCTORS.

1 E-023 REMOTE I/O PANEL #1 RISER DIAGRAM
SCALE: NTS — MBR BUILDING

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS, EQUIPMENT, COMPONENTS, AND DEVICES NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO ELECTRICAL PLANS FOR GENERAL DEVICE/EQUIPMENT LOCATIONS. COORDINATE FINAL LOCATIONS WITH ALL PRIME CONTRACT DRAWINGS. REFER TO ELECTRICAL SITE PLAN FOR DUCT BANK INFORMATION
5. REFER TO SINGLE LINE DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER AND ALL OTHER TRADE CONTRACTORS.
7. CIRCUITS SHOWN ARE POWER, CONTROL, INSTRUMENTATION, AND CONTROL CIRCUIT POWER. REFER TO SINGLE LINE DIAGRAMS, SCHEDULES, AND DETAILS FOR ADDITIONAL CIRCUITS.
8. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
9. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. ALL REQUIREMENTS TO BE PER NEC.
10. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
11. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS WITH OWNER AND ALL OTHER TRADE CONTRACTORS. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC..
13. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED INTERNAL TO CONTROL PANELS. ALL REQUIREMENTS TO BE PER NEC.
14. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE.
15. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL, WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING INTERIOR/EXTERIOR WALLS AND FLOORS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN
16. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL OTHER TRADE CONTRACTORS AND OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUCTORS TO BE COPPER AND CONTAIN XHHW-2 INSULATION.
18. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.

SHEET KEY NOTES:

1. CONTROL PANEL AND ALL INTERNAL COMPONENTS TO BE FURNISHED BY CONTRACTOR THRU BID ALLOWANCE. THIS CONTRACT IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, AND MOUNTING/INSTALLATION/WIRING OF PANEL AS SHOWN/INDICATED. REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH OWNER AND ENGINEER TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
2. NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING REQUIRED UNDER THIS CONTRACT. REFERENCE SUBMITTAL DOCUMENTATION AND SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ALL PANEL INTERNAL COMPONENTS.
3. (1) CAT 6A PREMIUM ETHERNET CABLE, 1"C. PROVIDE AS PLENUM RATED WITH 4 BONDED PAIRS. TO BE BELDEN #3633 OR APPROVED EQUAL.
4. (12)#14 & (2)#18STP, 1"C.
5. (2)#10 & #10G, 1"C.
6. DISCONNECT SIZE SHOWN FOR BIDDING PURPOSES ONLY. COORDINATE DISCONNECT SIZE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. COORDINATE CONDUCTOR/CONDUIT SIZE WITH MANUFACTURERS RECOMMENDED DISCONNECT SIZE. ALL REQUIREMENTS TO BE PER NEC.
7. (24)#14 & (4)#18STP, 1-1/2"C.
8. (4)#14, 1"C
9. (2)#18STP, 1"C
10. (12)#14, 1"C
11. FACTORY CABLE. THIS CONTRACT RESPONSIBLE FOR ALL TERMINATIONS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE 1" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER AS REQUIRED PER MANUFACTURER. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH MANUFACTURER
12. WET FLOOR SENSOR TO BE PROVIDED FINDER MODEL 072.21, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE FLOOD DETECTION SYSTEM. REFER TO SPECIFICATIONS SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 INDENTIFICATION FOR ELECTRICAL SYSTEMS.
13. LEAK DETECTION SENSOR TO BE PROVIDED AS PAINTEK CLS200 CAPACITANCE PROBE AS MANUFACTURED BY SIEMENS, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETTS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE LEAK DETECTION SYSTEM. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
14. (6)#14, 3/4"C.
15. CHEMICAL LEAK DETECTION ALARMING LIGHTS AND HORNS (HORN/STROBE) TO BE PROVIDED AS FEDERAL SIGNAL GLOBAL SERIES CUSTOM CONFIGURED FIXTURES MODEL #C-MSC-3A-120-NN-LG-SR OR APPROVED EQUAL THRU BID ALLOWANCE. TO BE 3 POSITION VERTICAL STACK, SOUNDER HORN, GREEN 'OK' LED LIGHT, & RED 'LEAK DETECTED' LED LIGHT), RATED NEMA 4X, AND POWERED BY 120V AC CONTACT CLOSURES WITHIN CONTROL PANEL. PROVIDE ALL REQUIRED POWER SUPPLIES, CONTROL TRANSFORMERS, AND RELAYS, AS WELL AS, DOME GUARDS TO PROTECT LED LIGHTS FROM PHYSICAL DAMAGE, CONDUIT ADAPTORS, INDICATOR RINGS AND LEGEND PLATE KITS AS NECESSARY. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETTS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE LEAK DETECTION SYSTEM. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
16. AREA IS A CLASS I, DIVISION I, GROUP D SPACE. ALL WIRING METHODS WITHIN THIS SPACE TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES WITHIN THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASS I, DIVISION I, GROUP D ENVIRONMENT. NOTE, NOT ALL REQUIRED SEAL-OFFS SHOWN FOR CLARITY. PROVIDE PER NEC.
17. ALL ELECTRICAL EQUIPMENT, COMPONENTS, DEVICES, AND RACEWAY SYSTEMS TO BE KEPT OUT OF CLASSIFIED AREAS TO GREATEST EXTENT POSSIBLE.
18. 8-STRAND, MULTI-MODE (50 MICRON CORE / 125 MICRON CLADDING DIAMETER), FIBER OPTIC CABLE, 4"C. PROVIDE MAXCELL FABRIC INNERDUCT WITHIN 4" CONDUIT. PROVIDE AS MAXCELL 4" 3-CELL PRODUCT. INSTALL PROPOSED FIBER OPTIC CABLE WITHIN 1-CELL OF THE PROPOSED INNERDUCT AND A PULL STRING THROUGH THE OTHER TWO (2) CELLS. FIBER OPTIC CABLE TO BE CONTINUOUS (NO SPLICE) AND SUITABLE FOR INDOOR/OUTDOOR APPLICATIONS ALONG WITH SUITABLE FOR DIRECT BURIAL APPLICATIONS. FIBER OPTIC CABLE TO BE MODEL CLEARCURVE AS MANUFACTURED BY CORNING OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER FOR REVIEW DURING SUBMITTAL PHASE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
19. SPARE 4"C.
20. PROVIDE SPARE CONDUIT AS SHOWN. STUB CONDUIT ADJACENT TO EQUIPMENT, OR AS DIRECTED BY THE OWNER. PROVIDE PULL ROPE AND CAP BOTH ENDS. CONTRACTOR TO PROVIDE LABEL FOR ALL SPARE CONDUITS INDICATING CONDUIT DESTINATION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
21. CONTRACTOR RESPONSIBLE TO RESTORE ALL DISTURBED SURFACES AS PART OF THIS CONTRACT. COORDINATE FINAL REQUIREMENTS WITH THE OWNER AND ENGINEER. REFER TO TYPICAL DUCT BANK SECTION DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
22. CONTRACTOR TO COORDINATE FINAL DUCT BANK ROUTING/REQUIREMENTS WITH EXISTING FIELD CONDITIONS, PROPOSED WORK, OWNER AND ENGINEER PRIOR TO ROUGH-IN TO AVOID CONFLICTS.
23. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS. CLOSELY COORDINATE FINAL PENETRATION LOCATIONS/REQUIREMENTS WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER. TYPICAL.
24. (2)#18STP & (4)#14, 1"C
25. (64)#14, 1-1/2"C.
26. TEMPERATURE SENSOR TO BE PROVIDED AS OMEGA EWS-TX SERIES WALL MOUNT SENSOR, OR APPROVED EQUAL THRU BID ALLOWANCE #1. PROVIDE ELECTRICAL BOX, 24V OC POWER SUPPLY, CIRCUITRY (CONDUIT AND CONDUCTORS), WALL PLATE, AND MOUNTING BRACKETS AS REQUIRED FOR AN OVERALL COMPLETE AND OPERABLE ROOM TEMPERATURE SENSING DEVICE PER MANUFACTURER'S RECOMMENDATIONS. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
27. PROVIDE CONDUIT BUSHING, FITTING, OR FLEX CONNECTION AS REQUIRED FOR PROPER CONNECTION OF DEVICE. ALL BUSHINGS, FITTINGS, OR FLEX CONNECTIONS TO BE SUITED FOR ENVIRONMENT INSTALLED WITHIN, INCLUDING BUT NOT LIMITED TO, HAZARDOUS ENVIRONMENTS, CORROSIVE ENVIRONMENTS, AND OUTDOOR INSTALLATIONS. COORDINATE WITH APPLICABLE CONTRACTOR AND EQUIPMENT MANUFACTURER. FLEX CONNECTION LENGTHS TO BE MINIMIZED TO GREATEST EXTENT POSSIBLE. TYPICAL.
28. CONTRACTOR TO PROVIDE JUNCTION/PULL BOXES FOR SPLICING, OR EXTENDING CIRCUITRY AS REQUIRED. PROVIDE NECESSARY TERMINAL STRIPS, OR SPLICE KITS WITHIN JUNCTION BOX TO EXTEND CIRCUITRY AS SHOWN. (NOTE, JUNCTION BOXES ARE NOT ALWAYS SHOWN ON FLOOR PLANS. CONTRACTOR TO FIELD LOCATE AS NECESSARY). JUNCTION BOXES ARE TO BE RATED FOR ENVIRONMENT INSTALLED, INCLUDING BUT NOT LIMITED TO HAZARDOUS ENVIRONMENTS, CORROSIVE ENVIRONMENTS, AND OUTDOOR INSTALLATIONS. CONTRACTOR TO FIELD VERIFY AND COORDINATE CONDUIT ARRANGEMENT ENTERING/LEAVING JUNCTION BOX AS REQUIRED. CONTRACTOR TO SIZE JUNCTION BOXES PER NEC ARTICLE 314. JUNCTION BOXES TO BE MANUFACTURED BY EATON, OR APPROVED EQUAL. TYPICAL OF ALL JUNCTION BOXES SHOWN ON THIS DRAWING.
29. RADAR LEVEL SENSOR TO BE PROVIDED AS VEGAPLUS 31, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE LIQUID LEVEL MEASURING SYSTEM. REFER TO SPECIFICATIONS SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
30. ROOM INTERIOR IS A CORROSIVE ENVIRONMENT. ALL WIRING METHODS, EQUIPMENT, AND DEVICES WITHIN THIS SPACE ARE TO BE OF CORROSION RESISTANT MATERIALS/METHODS. ALL RACEWAY TO BE PVC COATED RGS BY PLASTI-BOND, OR APPROVED EQUAL. ALL MOUNTING HARDWARE, BRACKETS, SUPPORTS, CHANNELS, FITTINGS, CLAMPS, ETC... TO BE A CORROSION RESISTANT PRODUCT LINE AS MANUFACTURED BY POWER-STRUT DEFENDER, OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER DURING SUBMITTAL PHASE FOR APPROVAL. REFER TO RACEWAY SCHEDULE FOR ADDITIONAL INFORMATION. UTILIZE NEMA 4X (NON-METALLIC) ENCLOSURES FOR ALL ELECTRICAL EQUIPMENT, SWITCHES, RECEPTACLES, DISCONNECTS, BOXES, ETC...
31. CONTRACTOR TO PROVIDE 125-VOLT, 2-POLE, 3-WIRE, 20-AMP, HEAVY DUTY, DUPLEX WEATHERPROOF RECEPTACLE EQUIPPED WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER (GFI) MOUNTED ADJACENT TO EQUIPMENT. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC....PROVIDE DEDICATED CIRCUIT FROM PROPOSED PANEL 'LVP1'. PROVIDE AS SWITCHED RECEPTACLE.
32. EQUIPMENT WHIP (CORD) AND PLUG PROVIDED BY EQUIPMENT MANUFACTURER. CONTRACTOR TO SUBSTITUTE HARD WIRED CONNECTION IN LIEU OF RECEPTACLE (CORD & PLUG) PER MANUFACTURERS RECOMMENDATIONS. COORDINATE FINAL REQUIREMENTS WITH EQUIPMENT MANUFACTURER, OWNER, AND ENGINEER. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS.
33. FLOAT SWITCH TO BE PROVIDED AS SJE RHOMBUS MILI-AMP-MASTER, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE FLOAT SWITCH SYSTEM. REFER TO SPECIFICATIONS SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
34. ROUTING AND ATTACHMENT METHODS OF ALL CONDUITS WITHIN STRUCTURE ARE TO BE CLOSELY COORDINATED WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER TO AVOID CONFLICTS. ALL RACEWAY TO BE PVC COATED RGS BY PLASTI-BOND, OR APPROVED EQUAL. ALL MOUNTING HARDWARE, BRACKETS, SUPPORTS, CHANNELS, FITTINGS, CLAMPS, ETC... TO BE A CORROSION RESISTANT PRODUCT LINE AS MANUFACTURED BY POWER-STRUT DEFENDER, OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER DURING SUBMITTAL PHASE FOR APPROVAL. REFER TO RACEWAY SCHEDULE FOR ADDITIONAL INFORMATION.
35. SPARE 2"C.
36. (48)#14 & (8)#18STP, 2"C.

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(845) 567-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE JADE STONE ENGINEERING

STATE OF NEW YORK JEFFREY E ROBINSON 095896 LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE CALL 811

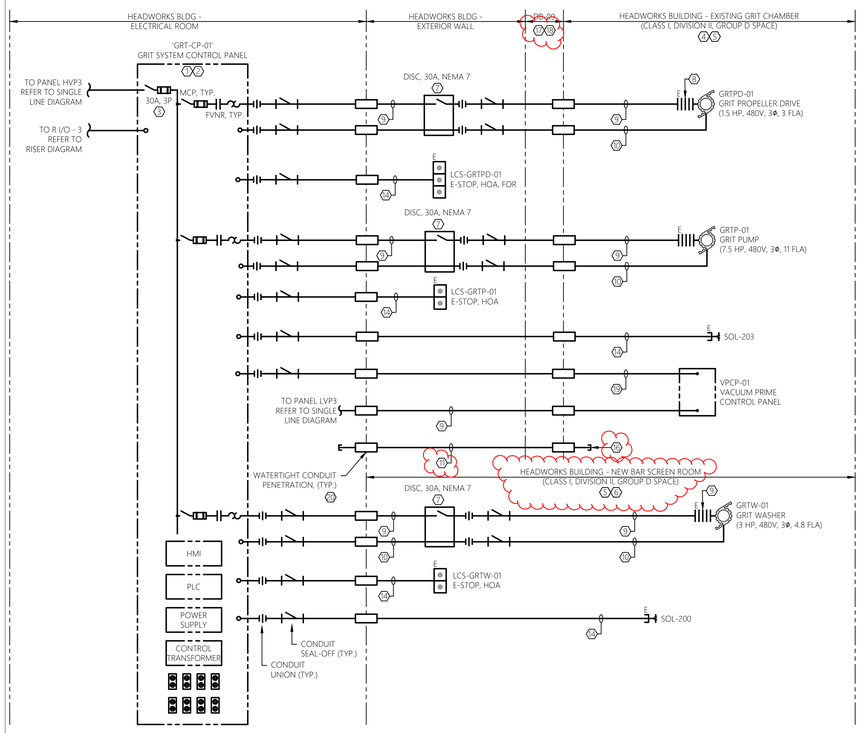
CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL RISER DIAGRAMS

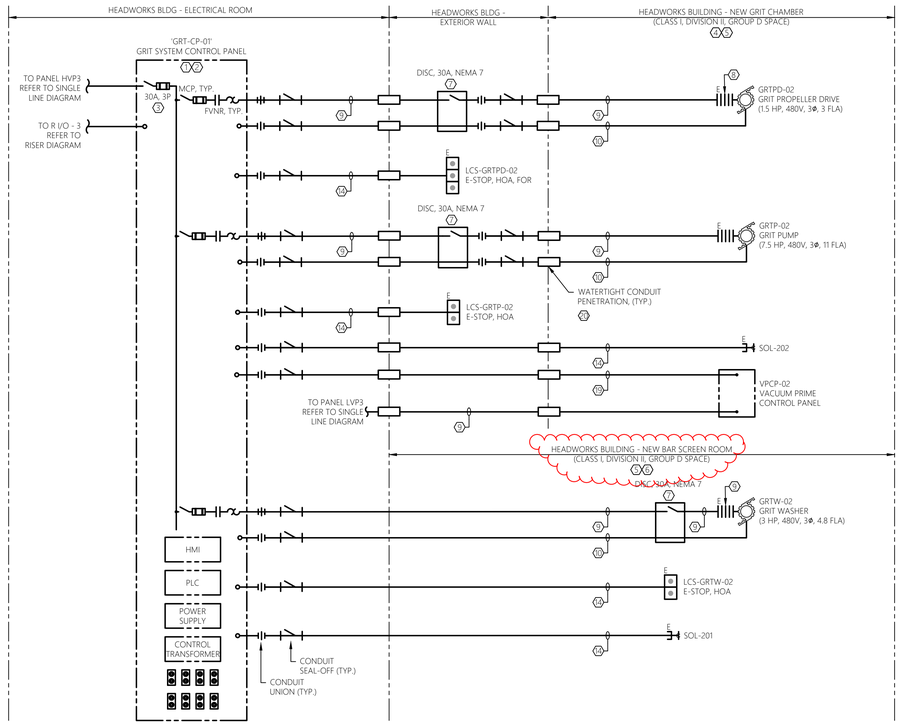
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

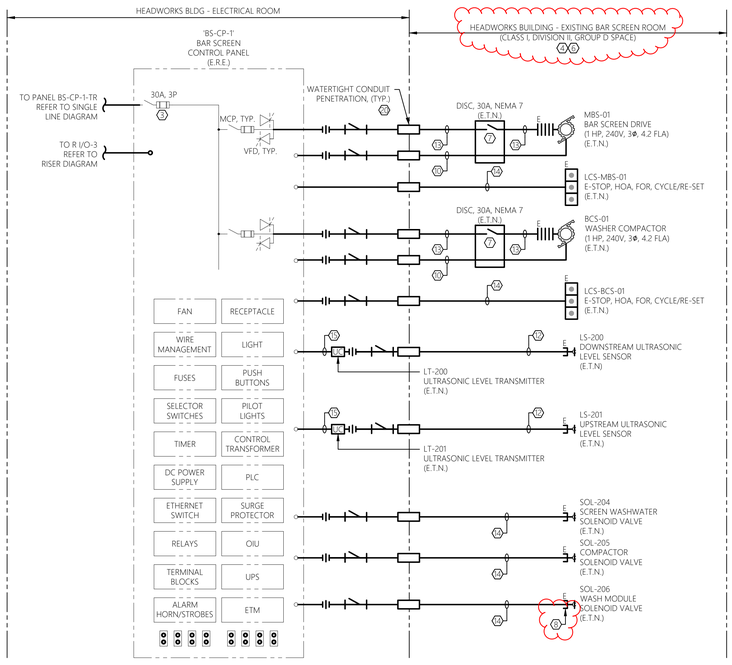
ISSUED DATE: 27 JUNE, 2025
DESIGN BY: RRM
DRAWN BY: CDJ
CHECKED BY: MGR
REVIEWED BY: JER
SHEET NO.
E-023
PROJECT # 18-732 PHASE #



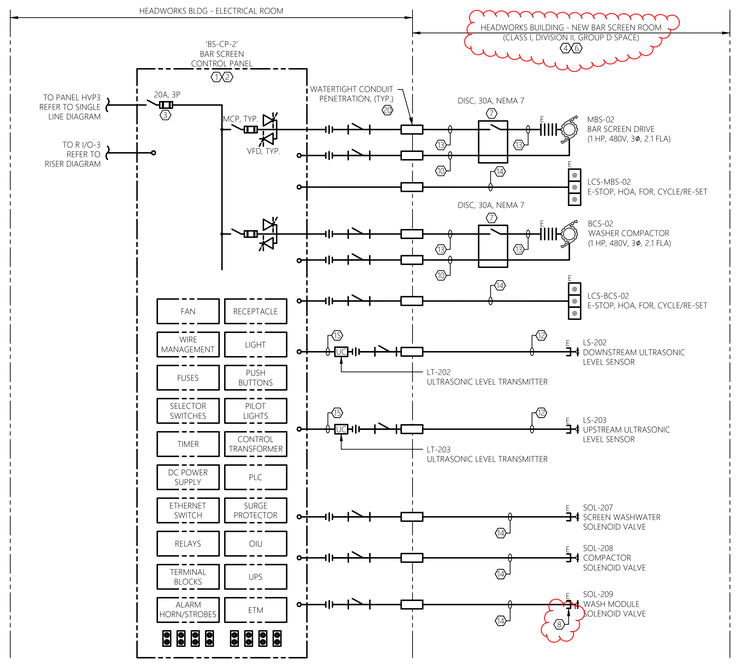
1 E-024 SCALE: NTS — GRIT SYSTEM CONTROL PANEL RISER DIAGRAM — HEADWORKS BUILDING



2 E-024 SCALE: NTS — GRIT SYSTEM CONTROL PANEL RISER DIAGRAM — HEADWORKS BUILDING



3 E-024 SCALE: NTS — BAR SCREEN CONTROL PANEL RISER DIAGRAM — HEADWORKS BLDG



4 E-024 SCALE: NTS — BAR SCREEN CONTROL PANEL RISER DIAGRAM — HEADWORKS BLDG

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO FLOOR PLANS FOR GENERAL DEVICE/EQUIPMENT LOCATIONS. COORDINATE FINAL LOCATIONS WITH PROCESS MECHANICAL DRAWINGS. REFER TO SITE PLAN FOR DUCT BANK INFORMATION.
5. REFER TO SINGLE LINE DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER ALL OTHER TRADE CONTRACTORS.
7. CIRCUITS SHOWN ARE POWER, CONTROL, INSTRUMENTATION, AND CONTROL CIRCUIT POWER. REFER TO SINGLE LINE DIAGRAMS, SCHEDULES, AND DETAILS FOR ADDITIONAL CIRCUITS.
8. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
9. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. ALL REQUIREMENTS TO BE PER NEC.
10. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
11. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS WITH OWNER AND ALL OTHER TRADE CONTRACTORS. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC.
13. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED INTERNAL TO CONTROL PANELS. ALL REQUIREMENTS TO BE PER NEC.
14. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE.
15. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL, WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING INTERIOR/EXTERIOR WALLS AND FLOORS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN
16. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL OTHER TRADE CONTRACTORS AND OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION.
18. ALL CONTROL/COMMUNICATION WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
19. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.

SHEET KEY NOTES:

(1) CONTROL PANEL AND ALL INTERNAL COMPONENTS ARE BY THIS CONTRACT. THIS CONTRACT IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, AND MOUNTING/INSTALLATION OF PANEL AS SHOWN/INDICATED; REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH OWNER TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

(2) NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING REQUIRED UNDER THIS CONTRACT. REFERENCE SUBMITTAL DOCUMENTATION FOR ALL PANEL INTERNAL COMPONENTS. CONTRACTOR TO PROVIDE ADDITIONAL INTERNAL CONTACTS AND JUMPERS PER CONTROL PANEL MANUFACTURERS RECOMMENDATIONS FOR AN OVERALL COMPLETE AND OPERABLE SYSTEM.

(3) DISCONNECT SIZE SHOWN FOR BIDDING PURPOSES ONLY. COORDINATE DISCONNECT SIZE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. COORDINATE CONDUCTOR/CONDUIT SIZE WITH MANUFACTURERS RECOMMENDED SIZE. ALL REQUIREMENTS TO BE PER NEC.

(4) AREA IS A CLASS I, DIVISION II, GROUP D SPACE. THE CLASS I, DIVISION II, GROUP D SPACE EXTENDS 10' ENVELOPE AROUND EQUIPMENT AND OPEN CHANNEL. ALL WIRING METHODS WITHIN THIS SPACE TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES WITHIN THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASS I, DIVISION II, GROUP D ENVIRONMENT.

(5) ALL ELECTRICAL EQUIPMENT, COMPONENTS, DEVICES, AND RACEWAY SYSTEMS TO BE KEPT OUT OF CLASSIFIED AREAS TO GREATEST EXTENT POSSIBLE.

(6) AREA IS A CLASS I, DIVISION II, GROUP D SPACE. THE CLASS I, DIVISION II, GROUP D SPACE EXTENDS TO ENTIRE CLOSED SPACE. ALL WIRING METHODS WITHIN THIS SPACE TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES WITHIN THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASS I, DIVISION II, GROUP D ENVIRONMENT.

(7) PROPOSED EQUIPMENT DISCONNECT TO BE PROVIDED WITH A SET OF AUXILIARY CONTACTS. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(8) PROVIDE CONDUIT BUSHING, FITTING, OR FLEX CONNECTION AS REQUIRED FOR PROPER CONNECTION OF DEVICE. ALL BUSHINGS, FITTINGS, OR FLEX CONNECTIONS TO BE SUITED FOR ENVIRONMENT INSTALLED WITHIN. COORDINATE WITH OTHER PRIME CONTRACTORS AND EQUIPMENT MANUFACTURER. FLEX CONNECTION LENGTHS TO BE MINIMIZED TO GREATEST EXTENT POSSIBLE. TYPICAL.

(9) (3)#10 & #10G, 1"C.

(10) (4)#14, 3/4"C. CIRCUIT TO BE UTILIZED FOR THE ASSOCIATED MOTOR THERMAL SAFETY SWITCH. CIRCUIT TO CONTROL TERMINALS OF PROPOSED STARTER WITHIN CONTROL PANEL. IN THE EVENT OF A MOTOR HIGH TEMPERATURE CONDITION THE UNIT IS TO BE SHUT DOWN TO PREVENT DAMAGE TO UNIT. NOTE, TWO CONDUCTORS TO BE UTILIZED AS SPARES.

(11) SPARE 2" C.

(12) FACTORY CABLE. THIS CONTRACT RESPONSIBLE FOR ALL TERMINATIONS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE 3/4" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER AS REQUIRED PER MANUFACTURER

(13) (3)#12 & #12G, 3/4"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.

(14) (12)#14, 1"C

(15) (24)#18STP, 3/4"C

(16) PROVIDE SPARE CONDUIT AS SHOWN. STUB CONDUIT ADJACENT TO EQUIPMENT, OR AS DIRECTED BY THE OWNER. PROVIDE PULL ROPE AND CAP BOTH ENDS. CONTRACTOR TO PROVIDE LABEL FOR ALL SPARE CONDUITS INDICATING CONDUIT DESTINATION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(17) CONTRACTOR TO COORDINATE FINAL DUCT BANK ROUTING AND ELEVATIONS WITH EXISTING FIELD CONDITIONS, PROPOSED WORK, OWNER AND ENGINEER PRIOR TO ROUGH-IN TO AVOID CONFLICTS.

(18) CONTRACTOR RESPONSIBLE TO RESTORE ALL DISTURBED SURFACES AS PART OF THIS CONTRACT. COORDINATE FINAL REQUIREMENTS WITH THE OWNER AND ENGINEER. REFER TO TYPICAL DUCT BANK SECTION DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(19) (24)#14, 1"C

(20) REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS. CLOSELY COORDINATE FINAL PENETRATION LOCATIONS/REQUIREMENTS WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER. TYPICAL.

CONTROL DIAGRAMS ARE SCHEMATIC IN NATURE AND SHOWS ALL INTERCONNECTIONS. CONTRACTOR MAY GROUP POWER CIRCUITS INTO LARGER CONDUIT AND GROUP CONTROL CIRCUITS INTO SEPARATE LARGER CONDUIT. GROUPING OF CIRCUITS INTO LARGER CONDUITS MUST COMPLY WITH NEC FILL AND DERATING REQUIREMENTS. VFD INPUT & OUTPUT CONDUCTORS MUST BE RUN INDEPENDENT OF OTHER CONDUCTORS.

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BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK — JEFFREY E ROBINSON — 095896 — LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:
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UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL RISER DIAGRAMS

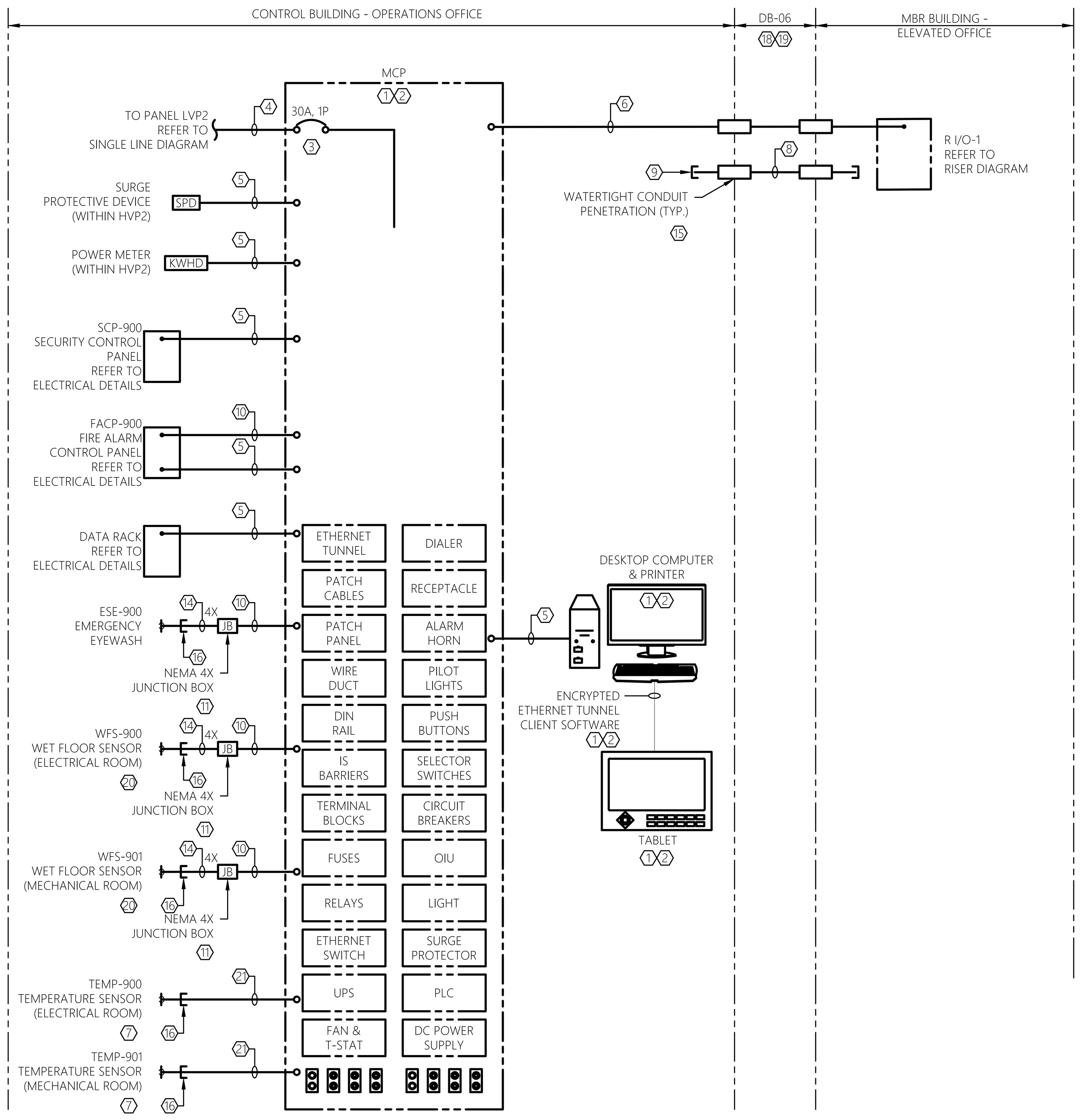
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

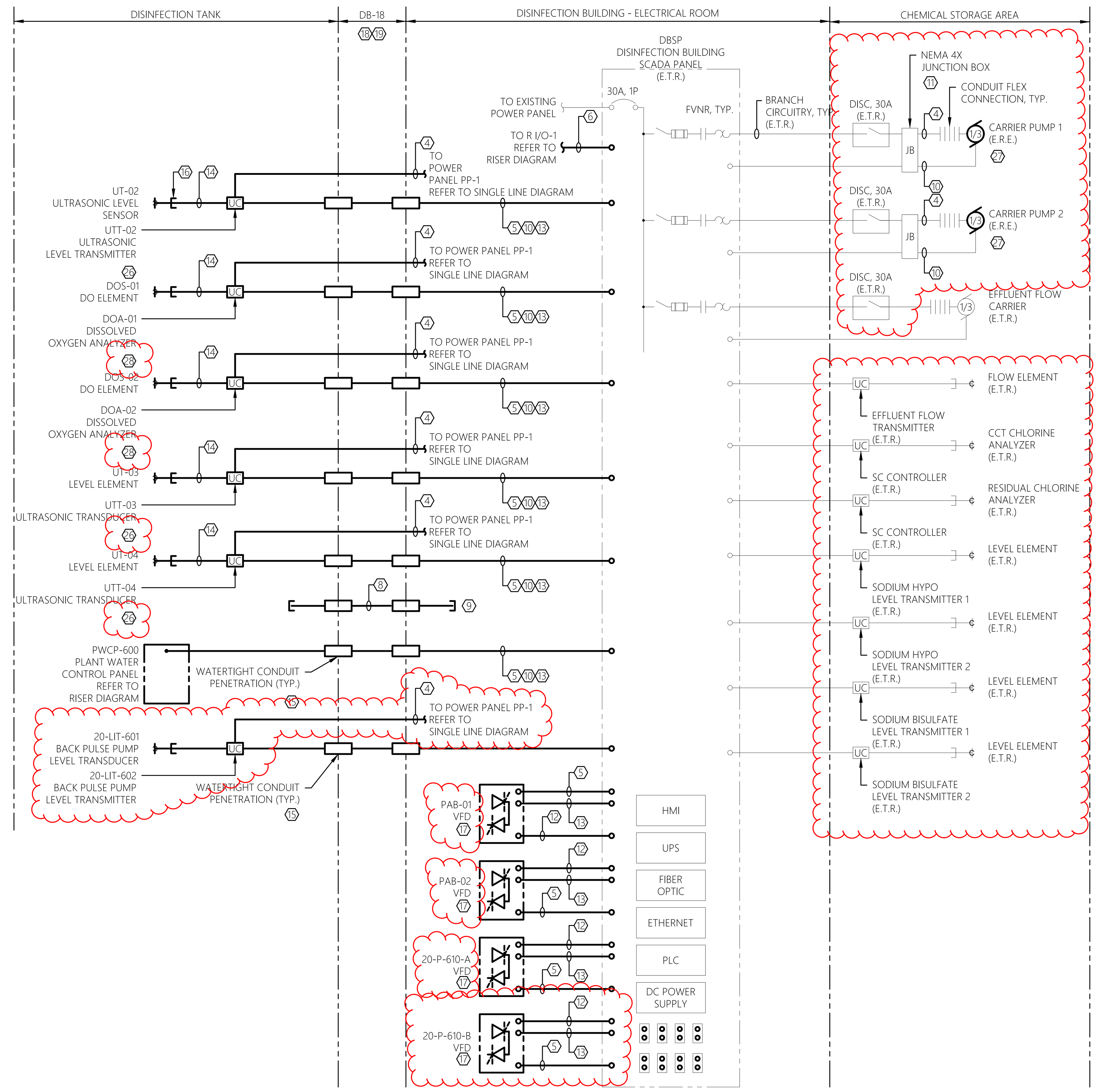
ISSUED DATE: 27 JUNE, 2025
DESIGN BY: RRM
DRAWN BY: CDJ
CHECKED BY: MGR
REVIEWED BY: JER

SHEET NO.
E-024

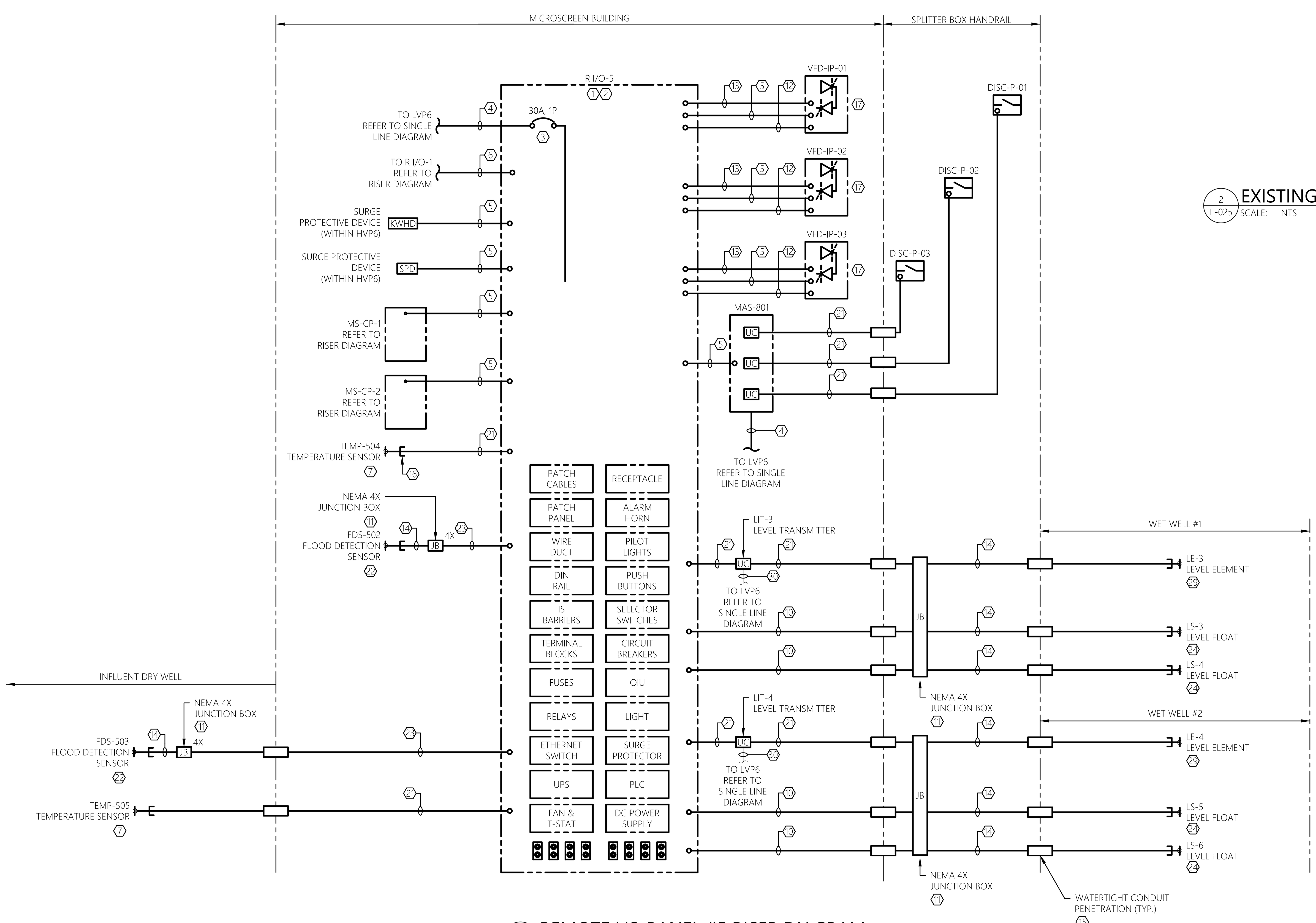
PROJECT # 18-732 PHASE #


CONTROL BUILDING - OPERATIONS OFFICE
DB-06
MBR BUILDING - ELEVATED OFFICE
MCP
TO PANEL LVP2 REFER TO SINGLE LINE DIAGRAM
30A, 1P
SURGE PROTECTIVE DEVICE (WITHIN HVP2)
SPD
POWER METER (WITHIN HVP2)
KWHD
SCP-900 SECURITY CONTROL PANEL REFER TO ELECTRICAL DETAILS
FACP-900 FIRE ALARM CONTROL PANEL REFER TO ELECTRICAL DETAILS
DATA RACK REFER TO ELECTRICAL DETAILS
ESE-900 EMERGENCY EYEWASH
NEMA 4X JUNCTION BOX
WFS-900 WET FLOOR SENSOR (ELECTRICAL ROOM)
WFS-901 WET FLOOR SENSOR (MECHANICAL ROOM)
TEMP-900 TEMPERATURE SENSOR (ELECTRICAL ROOM)
TEMP-901 TEMPERATURE SENSOR (MECHANICAL ROOM)
ETHERNET TUNNEL
DIALER
PATCH CABLES
RECEPTACLE
PATCH PANEL
ALARM HORN
WIRE DUCT
PILOT LIGHTS
DIN RAIL
PUSH BUTTONS
IS BARRIERS
SELECTOR SWITCHES
TERMINAL BLOCKS
CIRCUIT BREAKERS
FUSES
OIU
RELAYS
LIGHT
ETHERNET SWITCH
SURGE PROTECTOR
UPS
PLC
FAN & T-STAT
DC POWER SUPPLY
DESKTOP COMPUTER & PRINTER
ENCRYPTED ETHERNET TUNNEL CLIENT SOFTWARE
TABLET
R I/O-1 REFER TO RISER DIAGRAM
WATERTIGHT CONDUIT PENETRATION (TYP.)

1 E-025 MAIN CONTROL PANEL RISER DIAGRAM
SCALE: NTS — CONTROL BUILDING


DISINFECTION TANK
DB-18
DISINFECTION BUILDING - ELECTRICAL ROOM
CHEMICAL STORAGE AREA
DBSP DISINFECTION BUILDING SCADA PANEL (E.T.R.)
TO EXISTING POWER PANEL
30A, 1P
FVNR, TYP.
BRANCH CIRCUITRY, TYP. (E.T.R.)
TO R I/O-1 REFER TO RISER DIAGRAM
TO POWER PANEL PP-1 REFER TO SINGLE LINE DIAGRAM
UT-02 ULTRASONIC LEVEL SENSOR
UTT-02 ULTRASONIC LEVEL TRANSMITTER
DOS-01 DO ELEMENT
DOA-01 DISSOLVED OXYGEN ANALYZER
DOS-02 DO ELEMENT
DOA-02 DISSOLVED OXYGEN ANALYZER
UT-03 LEVEL ELEMENT
UTT-03 ULTRASONIC TRANSDUCER
UT-04 LEVEL ELEMENT
UTT-04 ULTRASONIC TRANSDUCER
PWCP-600 PLANT WATER CONTROL PANEL REFER TO RISER DIAGRAM
WATERTIGHT CONDUIT PENETRATION (TYP.)
20-LIT-601 BACK PULSE PUMP LEVEL TRANSDUCER
20-LIT-602 BACK PULSE PUMP LEVEL TRANSMITTER
PAB-01 VFD
PAB-02 VFD
20-P-610-A VFD
20-P-610-B VFD
HMI
UPS
FIBER OPTIC
ETHERNET
PLC
DC POWER SUPPLY
NEMA 4X JUNCTION BOX
CONDUIT FLEX CONNECTION, TYP.
DISC, 30A (E.T.R.)
CARRIER PUMP 1 (E.R.E.)
CARRIER PUMP 2 (E.R.E.)
EFFLUENT FLOW CARRIER (E.T.R.)
FLOW ELEMENT (E.T.R.)
EFFLUENT FLOW TRANSMITTER (E.T.R.)
CCT CHLORINE ANALYZER (E.T.R.)
SC CONTROLLER (E.T.R.)
RESIDUAL CHLORINE ANALYZER (E.T.R.)
LEVEL ELEMENT (E.T.R.)
SODIUM HYPO LEVEL TRANSMITTER 1 (E.T.R.)
SODIUM HYPO LEVEL TRANSMITTER 2 (E.T.R.)
SODIUM BISULFATE LEVEL TRANSMITTER 1 (E.T.R.)
SODIUM BISULFATE LEVEL TRANSMITTER 2 (E.T.R.)

2 E-025 EXISTING DISINFECTION BUILDING SCADA PANEL DBSP RISER DIAGRAM
SCALE: NTS — CHEMICAL FEED BUILDING


MICROSCREEN BUILDING
SPLITTER BOX HANDRAIL
R I/O-5
TO LVP6 REFER TO SINGLE LINE DIAGRAM
30A, 1P
TO R I/O-1 REFER TO RISER DIAGRAM
SURGE PROTECTIVE DEVICE (WITHIN HVP6)
KWHD
SURGE PROTECTIVE DEVICE (WITHIN HVP6)
SPD
MS-CP-1 REFER TO RISER DIAGRAM
MS-CP-2 REFER TO RISER DIAGRAM
TEMP-504 TEMPERATURE SENSOR
NEMA 4X JUNCTION BOX
FDS-502 FLOOD DETECTION SENSOR
INFLUENT DRY WELL
FDS-503 FLOOD DETECTION SENSOR
TEMP-505 TEMPERATURE SENSOR
PATCH CABLES
RECEPTACLE
PATCH PANEL
ALARM HORN
WIRE DUCT
PILOT LIGHTS
DIN RAIL
PUSH BUTTONS
IS BARRIERS
SELECTOR SWITCHES
TERMINAL BLOCKS
CIRCUIT BREAKERS
FUSES
OIU
RELAYS
LIGHT
ETHERNET SWITCH
SURGE PROTECTOR
UPS
PLC
FAN & T-STAT
DC POWER SUPPLY
VFD-IP-01
VFD-IP-02
VFD-IP-03
DISC-P-01
DISC-P-02
DISC-P-03
MAS-801
TO LVP6 REFER TO SINGLE LINE DIAGRAM
LIT-3 LEVEL TRANSMITTER
LIT-4 LEVEL TRANSMITTER
WET WELL #1
WET WELL #2
LE-3 LEVEL ELEMENT
LS-3 LEVEL FLOAT
LS-4 LEVEL FLOAT
LE-4 LEVEL ELEMENT
LS-5 LEVEL FLOAT
LS-6 LEVEL FLOAT
JB
NEMA 4X JUNCTION BOX
WATERTIGHT CONDUIT PENETRATION (TYP.)

3 E-025 REMOTE I/O PANEL #5 RISER DIAGRAM
SCALE: NTS — MICROSCREEN BUILDING

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS, EQUIPMENT, COMPONENTS, AND DEVICES NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO ELECTRICAL PLANS FOR GENERAL DEVICE/EQUIPMENT LOCATIONS. COORDINATE FINAL LOCATIONS WITH ALL PRIME CONTRACT DRAWINGS. REFER TO ELECTRICAL SITE PLAN FOR DUCT BANK INFORMATION
5. REFER TO SINGLE LINE DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER AND ALL OTHER TRADE CONTRACTORS.
7. CIRCUITS SHOWN ARE POWER, CONTROL, INSTRUMENTATION, AND CONTROL CIRCUIT POWER. REFER TO SINGLE LINE DIAGRAMS, SCHEDULES, AND DETAILS FOR ADDITIONAL CIRCUITS.
8. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
9. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. ALL REQUIREMENTS TO BE PER NEC.
10. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
11. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS WITH OWNER AND ALL OTHER TRADE CONTRACTORS. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC..
13. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED INTERNAL TO CONTROL PANELS. ALL REQUIREMENTS TO BE PER NEC.
14. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE.
15. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL, WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING INTERIOR/EXTERIOR WALLS AND FLOORS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN
16. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL OTHER TRADE CONTRACTORS AND OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUCTORS TO BE COPPER AND CONTAIN XHHW-2 INSULATION.
18. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.

SHEET KEY NOTES:

1. CONTROL PANEL AND ALL INTERNAL COMPONENTS TO BE FURNISHED BY CONTRACTOR THRU BID ALLOWANCE. THIS CONTRACT IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, AND MOUNTING/INSTALLATION/WIRING OF PANEL AS SHOWN/INDICATED. REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH OWNER AND ENGINEER TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
2. NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING REQUIRED UNDER THIS CONTRACT. REFERENCE SUBMITTAL DOCUMENTATION AND SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ALL PANEL INTERNAL COMPONENTS.
3. DISCONNECT SIZE SHOWN FOR BIDDING PURPOSES ONLY. COORDINATE DISCONNECT SIZE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. COORDINATE CONDUCTOR/CONDUIT SIZE WITH MANUFACTURERS RECOMMENDED SIZE. ALL REQUIREMENTS TO BE PER NEC.
4. (2)#10 & #10G, 1"C.
5. (1) CAT 6A PREMIUM ETHERNET CABLE, 1"C. PROVIDE AS PLENUM RATED WITH 4 BONDED PAIRS. TO BE BELDEN #3633 OR APPROVED EQUAL.
6. 8-STRAND, MULTI-MODE (50 MICRON CORE / 125 MICRON CLADDING DIAMETER), FIBER OPTIC CABLE, 4"C. PROVIDE MAXCELL FABRIC INNERDUCT WITHIN 4" CONDUIT. PROVIDE AS MAXCELL 4" 3-CELL PRODUCT. INSTALL PROPOSED FIBER OPTIC CABLE WITHIN 1-CELL OF THE PROPOSED INNERDUCT AND A PULL STRING THROUGH THE OTHER TWO (2) CELLS. FIBER OPTIC CABLE TO BE CONTINUOUS (NO SPLICE) AND SUITABLE FOR INDOOR/OUTDOOR APPLICATIONS ALONG WITH SUITABLE FOR DIRECT BURIAL APPLICATIONS. FIBER OPTIC CABLE TO BE MODEL CLEARCURVE AS MANUFACTURED BY CORNING OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER FOR REVIEW DURING SUBMITTAL PHASE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. TEMPERATURE SENSOR TO BE PROVIDE AS OMEGA EWS-TX SERIES WALL MOUNT SENSOR, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE ELECTRICAL BOX, 24V OC POWER SUPPLY, CIRCUITRY (CONDUIT AND CONDUCTORS), WALL PLATE, AND MOUNTING BRACKETS AS REQUIRED FOR AN OVERALL COMPLETE AND OPERABLE ROOM TEMPERATURE SENSING DEVICE PER MANUFACTURER'S RECOMMENDATIONS. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
8. SPARE 4"C.
9. PROVIDE SPARE CONDUIT AS SHOWN. STUB CONDUIT ADJACENT TO EQUIPMENT, OR AS DIRECTED BY THE OWNER. PROVIDE PULL ROPE AND CAP BOTH ENDS. CONTRACTOR TO PROVIDE LABEL FOR ALL SPARE CONDUITS INDICATING CONDUIT DESTINATION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
10. (4)#14, 1"C
11. CONTRACTOR TO PROVIDE JUNCTION/PULL BOXES FOR SPLICING, OR EXTENDING CIRCUITRY AS REQUIRED. PROVIDE NECESSARY TERMINAL STRIPS, OR SPLICE KITS WITHIN JUNCTION BOX TO EXTEND CIRCUITRY AS SHOWN. (NOTE, JUNCTION BOXES ARE NOT ALWAYS SHOWN ON FLOOR PLANS. CONTRACTOR TO FIELD LOCATE AS NECESSARY). JUNCTION BOXES ARE TO BE RATED FOR ENVIRONMENT INSTALLED, INCLUDING BUT NOT LIMITED TO HAZARDOUS ENVIRONMENTS, CORROSIVE ENVIRONMENTS, AND OUTDOOR INSTALLATIONS. CONTRACTOR TO FIELD VERIFY AND COORDINATE CONDUIT ARRANGEMENT ENTERING/LEAVING JUNCTION BOX AS REQUIRED. CONTRACTOR TO SIZE JUNCTION BOXES PER NEC ARTICLE 314. JUNCTION BOXES TO BE MANUFACTURED BY EATON, OR APPROVED EQUAL. TYPICAL OF ALL JUNCTION BOXES SHOWN ON THIS DRAWING.
12. (24)#14, 1"C
13. (4)#18STP, 1"C
14. FACTORY CABLE. THIS CONTRACT RESPONSIBLE FOR ALL TERMINATIONS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE 1" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER AS REQUIRED PER MANUFACTURER. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH MANUFACTURER.
15. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS. CLOSELY COORDINATE FINAL PENETRATION LOCATIONS/REQUIREMENTS WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER. TYPICAL.
16. PROVIDE CONDUIT BUSHING, FITTING, OR FLEX CONNECTION AS REQUIRED FOR PROPER CONNECTION OF DEVICE. ALL BUSHINGS, FITTINGS, OR FLEX CONNECTIONS TO BE SUITED FOR ENVIRONMENT INSTALLED WITHIN, INCLUDING BUT NOT LIMITED TO, HAZARDOUS ENVIRONMENTS, CORROSIVE ENVIRONMENTS, AND OUTDOOR INSTALLATIONS. COORDINATE WITH APPLICABLE CONTRACTOR AND EQUIPMENT MANUFACTURER. FLEX CONNECTION LENGTHS TO BE MINIMIZED TO GREATEST EXTENT POSSIBLE. TYPICAL.
17. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR POWER CIRCUITRY SPECIFICATIONS. REFER TO ELECTRICAL SCHEDULES FOR ADDITIONAL INFORMATION & ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
18. CONTRACTOR RESPONSIBLE TO RESTORE ALL DISTURBED SURFACES AS PART OF THIS CONTRACT. COORDINATE FINAL REQUIREMENTS WITH THE OWNER AND ENGINEER. REFER TO TYPICAL DUCT BANK SECTION DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
19. CONTRACTOR TO COORDINATE FINAL DUCT BANK ROUTING/REQUIREMENTS WITH EXISTING FIELD CONDITIONS, PROPOSED WORK, OWNER AND ENGINEER PRIOR TO ROUGH-IN TO AVOID CONFLICTS.
20. WET FLOOR SENSOR TO BE PROVIDED FINDER MODEL 072.21, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE FLOOD DETECTION SYSTEM. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEM.
21. (2)#18STP, 1"C
22. FLOOD DETECTION SENSOR TO BE PROVIDED AS SJE RHOMBUS FLOAT SWITCH, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE FLOOD DETECTION SYSTEM. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
23. (2)#18STP & (4)#14, 1"C
24. FLOAT SWITCH TO BE PROVIDED AS SJE RHOMBUS MILI-AMP-MASTER, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE FLOAT SWITCH SYSTEM. REFER TO SPECIFICATIONS SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
25. (3)#18STP, 3/4"C.
26. LEVEL TRANSMITTER AND ELEMENT TO BE PROVIDED AS PULSAR/GREYLINE OCF 6.1 WITH PZ15 SENSOR, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE TRANSMITTER SYSTEM. REFER TO SPECIFICATIONS SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
27. SUBMERSIBLE PUMPS ARE TO BE RELOCATED AS SHOWN ON FLOOR PLANS. PROVIDE ALL NECESSARY CIRCUIT EXTENSIONS, SPLICES, AND JUNCTION BOXES FOR A COMPLETE AND OPERABLE SYSTEM. SPLICE KITS ARE TO BE FULLY SHIELDED, SEPARABLE, AND INSULATED AS MANUFACTURED BY ILSCO, OR APPROVED EQUAL.
28. DISSOLVED OXYGEN CONTROLLER AND ELEMENT TO BE PROVIDED AS HACH SC4500 WITH LDO SENSOR, OR APPROVED EQUAL THRU BID ALLOWANCE #1. PROVIDE REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL AND COMPLETE AND OPERABLE TRANSMITTER SYSTEM. REFER TO SPECIFICATIONS SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
29. LEVEL TRANSMITTER TO BE PROVIDED AS KELLER AMERICA LEVELRAT SUBMERSIBLE LEVEL TRANSMITTER, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE TRANSMITTER SYSTEM. REFER TO SPECIFICATIONS SECTION 260912 CONTROL PANELS AND INTEGRATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.
30. (2)#12 & #12G, 3/4"C.

CONTROL DIAGRAMS ARE SCHEMATIC IN NATURE AND SHOWS ALL INTERCONNECTIONS. CONTRACTOR MAY GROUP POWER CIRCUITS INTO LARGER CONDUIT AND GROUP CONTROL CIRCUITS INTO SEPARATE LARGER CONDUIT. GROUPING OF CIRCUITS INTO LARGER CONDUITS MUST COMPLY WITH NEC FILL AND DERATING REQUIREMENTS. VFD INPUT & OUTPUT CONDUCTORS MUST BE RUN INDEPENDENT OF OTHER CONDUCTORS.

MHE ENGINEERING
33 Airport Center Drive, Suite 202, New Windsor, NY 12553, (845) 567-3100
111 Wheatfield Drive, Suite 1, Milford, PA 18337, (570) 296-2765

BID ADDENDUM

JSE JADE STONE ENGINEERING

STATE OF NEW YORK JEFFREY E ROBINSON LICENSED PROFESSIONAL ENGINEER 095896

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553

FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL RISER DIAGRAMS

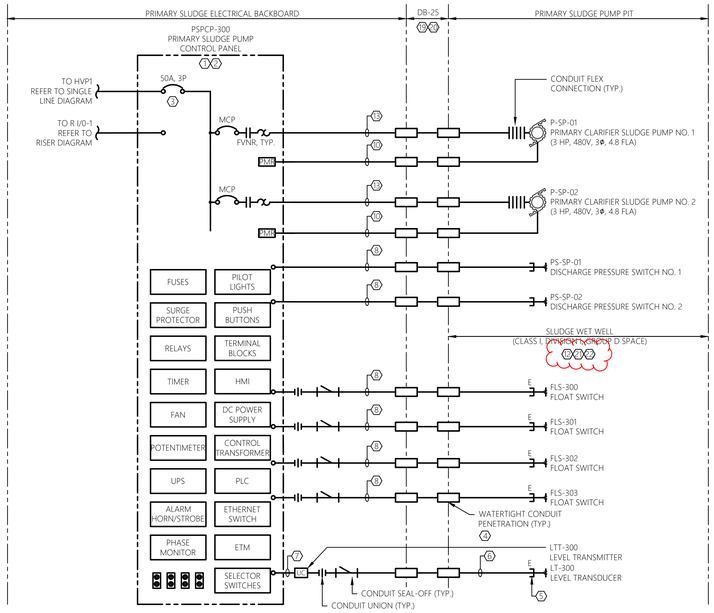
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

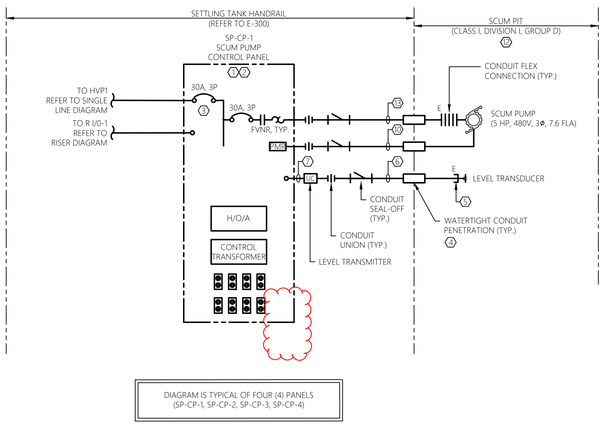
ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-025

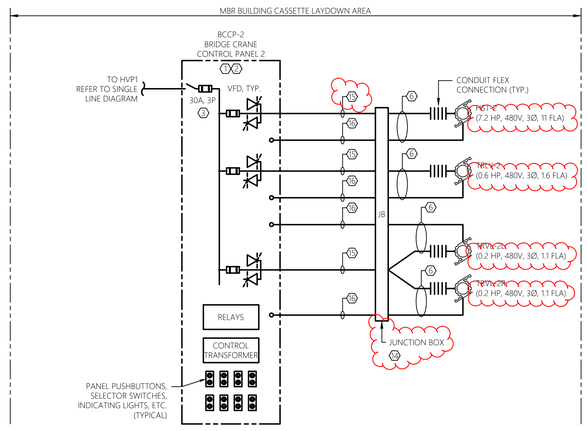
PROJECT # 18-732 PHASE #



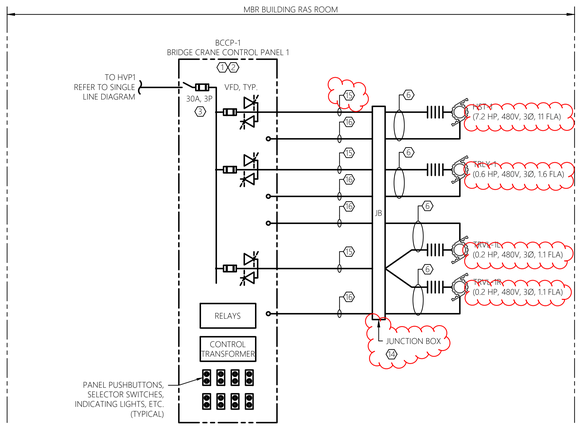
1 E-026 SCALE: NTS — PRIMARY SLUDGE PUMP CONTROL PANEL RISER DIAGRAM — CAESARS LANE



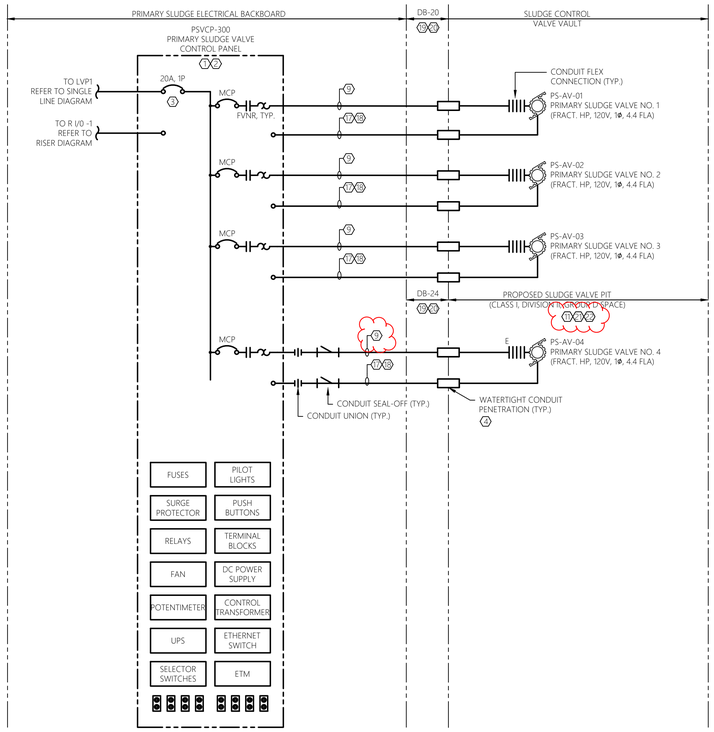
3 E-026 SCALE: NTS — SCUM PUMP CONTROL PANEL RISER DIAGRAM — SETTLING TANKS



4 E-026 SCALE: NTS — BRIDGE CRANE CONTROL PANEL RISER DIAGRAM — CASSETTE LAYDOWN AREA



5 E-026 SCALE: NTS — BRIDGE CRANE CONTROL PANEL RISER DIAGRAM — RAS PUMP ROOM



2 E-026 SCALE: NTS — PRIMARY SLUDGE VALVE CONTROL PANEL RISER DIAGRAM — CAESARS LANE

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO FLOOR PLANS FOR GENERAL DEVICE/EQUIPMENT LOCATIONS. COORDINATE FINAL LOCATIONS WITH PROCESS MECHANICAL DRAWINGS. REFER TO SITE PLAN FOR DUCT BANK INFORMATION
5. REFER TO SINGLE LINE DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER ALL OTHER TRADE CONTRACTORS.
7. CIRCUITS SHOWN ARE POWER, CONTROL, INSTRUMENTATION, AND CONTROL CIRCUIT POWER. REFER TO SINGLE LINE DIAGRAMS, SCHEDULES, AND DETAILS FOR ADDITIONAL CIRCUITS.
8. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
9. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. ALL REQUIREMENTS TO BE PER NEC.
10. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
11. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS WITH OWNER AND ALL OTHER TRADE CONTRACTORS. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC..
13. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED INTERNAL TO CONTROL PANELS. ALL REQUIREMENTS TO BE PER NEC.
14. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE.
15. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL, WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING INTERIOR/EXTERIOR WALLS AND FLOORS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN
16. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL OTHER TRADE CONTRACTORS AND OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUCTORS TO BE COPPER AND CONTAIN THWN OR XHHW INSULATION.
18. ALL CONTROL/COMMUNICATION WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
19. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.

SHEET KEY NOTES:

(1) CONTROL PANEL AND ALL INTERNAL COMPONENTS ARE BY THIS CONTRACT. THIS CONTRACT IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, AND MOUNTING/INSTALLATION OF PANEL AS SHOWN/INDICATED. REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH OWNER TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

(2) NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING REQUIRED UNDER THIS CONTRACT. REFERENCE SUBMITTAL DOCUMENTATION FOR ALL PANEL INTERNAL COMPONENTS. CONTRACTOR TO PROVIDE ADDITIONAL INTERNAL CONTACTS AND JUMPERS PER CONTROL PANEL MANUFACTURERS RECOMMENDATIONS FOR AN OVERALL COMPLETE AND OPERABLE SYSTEM.

(3) DISCONNECT SIZE SHOWN FOR BIDDING PURPOSES ONLY. COORDINATE DISCONNECT SIZE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. COORDINATE CONDUCTOR/CONDUIT SIZE WITH MANUFACTURERS RECOMMENDED SIZE. ALL REQUIREMENTS TO BE PER NEC.

(4) REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS. CLOSELY COORDINATE FINAL PENETRATION LOCATIONS/REQUIREMENTS WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER. TYPICAL.

(5) PROVIDE CONDUIT BUSHING, FITTING, OR FLEX CONNECTION AS REQUIRED FOR PROPER CONNECTION OF DEVICE. ALL BUSHINGS, FITTINGS, OR FLEX CONNECTIONS TO BE SUITED FOR ENVIRONMENT INSTALLED WITHIN, INCLUDING BUT NOT LIMITED TO, HAZARDOUS ENVIRONMENTS, CORROSIVE ENVIRONMENTS, AND OUTDOOR INSTALLATIONS. COORDINATE WITH APPLICABLE CONTRACTOR AND EQUIPMENT MANUFACTURER. FLEX CONNECTION LENGTHS TO BE MINIMIZED TO GREATEST EXTENT POSSIBLE. TYPICAL.

(6) FACTORY CABLE. THIS CONTRACT RESPONSIBLE FOR ALL TERMINATIONS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE 1" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM. PROVIDE LARGER AS REQUIRED PER MANUFACTURER. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH MANUFACTURER.

(7) (2)#18STP, 3/4"C

(8) (4)#14, 3/4"C

(9) (2)#10 & #10G, 1"C.

(10) (6)#14, 3/4"C. CIRCUIT TO BE UTILIZED FOR THE ASSOCIATED MOTOR THERMAL SAFETY AND SEAL LEAK SWITCH. CIRCUIT TO CONTROL TERMINALS OF PROPOSED VFD. IN THE EVENT OF A MOTOR HIGH TEMPERATURE OR SEAL LEAKAGE, THE UNIT IS TO BE SHUT DOWN TO PREVENT DAMAGE. NOTE, TWO CONDUCTORS TO BE UTILIZED AS SPARES.

(11) AREA IS A CLASS I DIVISION II GROUP D SPACE. ALL WIRING METHODS TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES INTERIOR TO THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASS I DIVISION II GROUP D ENVIRONMENT. REFER TO NFPA 820 TABLE FOR ADDITIONAL INFORMATION/REQUIREMENTS. NOTE, NOT ALL REQIREDSEAL-OFFS SHOWN FOR CLARITY. PROVIDE PER NEC.

(12) AREA IS A CLASS I DIVISION I GROUP D SPACE WITHIN 18" ENVELOPE ABOVE WATER SURFACE AND HORIZONTALLY FROM WETTED WALLS. ALL WIRING METHODS TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES INTERIOR TO THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASS I DIVISION II GROUP D ENVIRONMENT. REFER TO NFPA 820TABLE FOR ADDITIONAL INFORMATION/REQUIREMENTS. NOTE, NOT ALL REQUIRED SEAL-OFFS SHOWN FOR CLARITY. PROVIDE PER NEC.

(13) [illegible]

(14) CONTRACTOR TO PROVIDE JUNCTION/PULL BOXES FOR SPLICING, OR EXTENDING CIRCUITRY AS REQUIRED. PROVIDE NECESSARY TERMINAL STRIPS, OR SPLICE KITS WITHIN JUNCTION BOX TO EXTEND CIRCUITRY AS SHOWN. (NOTE, JUNCTION BOXES ARE NOT ALWAYS SHOWN ON FLOOR PLANS. CONTRACTOR TO FIELD LOCATE AS NECESSARY). JUNCTION BOXES ARE TO BE RATED FOR ENVIRONMENT INSTALLED, INCLUDING BUT NOT LIMITED TO HAZARDOUS ENVIRONMENTS, CORROSIVE ENVIRONMENTS, AND OUTDOOR INSTALLATIONS. CONTRACTOR TO FIELD VERIFY AND COORDINATE CONDUIT ARRANGEMENT ENTERING/LEAVING JUNCTION BOX AS REQUIRED. CONTRACTOR TO SIZE JUNCTION BOXES PER NEC ARTICLE 314. JUNCTION BOXES TO BE MANUFACTURED BY EATON, OR APPROVED EQUAL. TYPICAL OF ALL JUNCTION BOXES SHOWN ON THIS DRAWING.

(15) [illegible] REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.

(16) (4)#14, 3/4"C. CIRCUIT TO BE UTILIZED FOR THE ASSOCIATED MOTOR THERMAL SAFETY SWITCH. CIRCUIT TO CONTROL TERMINALS OF PROPOSED STARTER. IN THE EVENT OF A MOTOR HIGH TEMPERATURE, THE UNIT IS TO BE SHUT DOWN TO PREVENT DAMAGE. NOTE, TWO CONDUCTORS TO BE UTILIZED AS SPARES.

(17) (2)#14 & (2)#18STP, 3/4"C

(18) (1) CAT 6A PREMIUM ETHERNET CABLE, 1"C. PROVIDE AS PLENUM RATED WITH 4 BONDED PAIRS. TO BE BELDEN #3633 OR APPROVED EQUAL.

(19) CONTRACTOR RESPONSIBLE TO RESTORE ALL DISTURBED SURFACES AS PART OF THIS CONTRACT. COORDINATE FINAL REQUIREMENTS WITH THE OWNER AND ENGINEER. REFER TO TYPICAL DUCT BANK SECTION DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(20) CONTRACTOR TO COORDINATE FINAL DUCT BANK ROUTING/REQUIREMENTS WITH EXISTING FIELD CONDITIONS, PROPOSED WORK, OWNER AND ENGINEER PRIOR TO PROCUREMENT AND CONSTRUCTION.

(21) ALL ELECTRICAL EQUIPMENT, COMPONENTS, DEVICES, AND RACEWAY SYSTEMS TO BE KEPT OUT OF CLASSIFIED AREAS TO GREATEST EXTENT POSSIBLE.

(22) ROUTING AND ATTACHMENT METHODS OF ALL CONDUITS WITHIN STRUCTURE ARE TO BE CLOSELY COORDINATED WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER TO AVOID CONFLICTS. ALL RACEWAY TO BE PVC COATED RGS BY PLASTI-BOND, OR APPROVED EQUAL. ALL MOUNTING HARDWARE, BRACKETS, SUPPORTS, CHANNELS, FITTINGS, CLAMPS, ETC... TO BE A CORROSION RESISTANT PRODUCT LINE AS MANUFACTURED BY POWER-STRUT DEFENDER, OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER DURING SUBMITTAL PHASE FOR APPROVAL. REFER TO RACEWAY SCHEDULE FOR ADDITIONAL INFORMATION.

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE
JADE STONE ENGINEERING

STATE OF NEW YORK
JEFFREY E ROBINSON
095896
LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP
EXPANSION PROJECT:
PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL
RISER DIAGRAMS

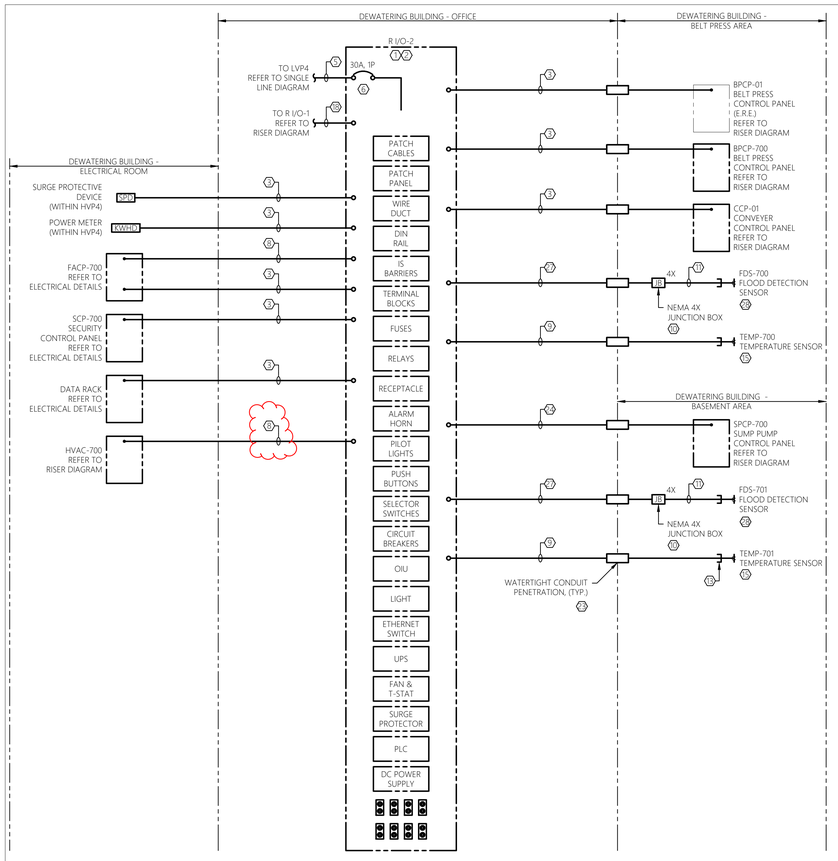
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

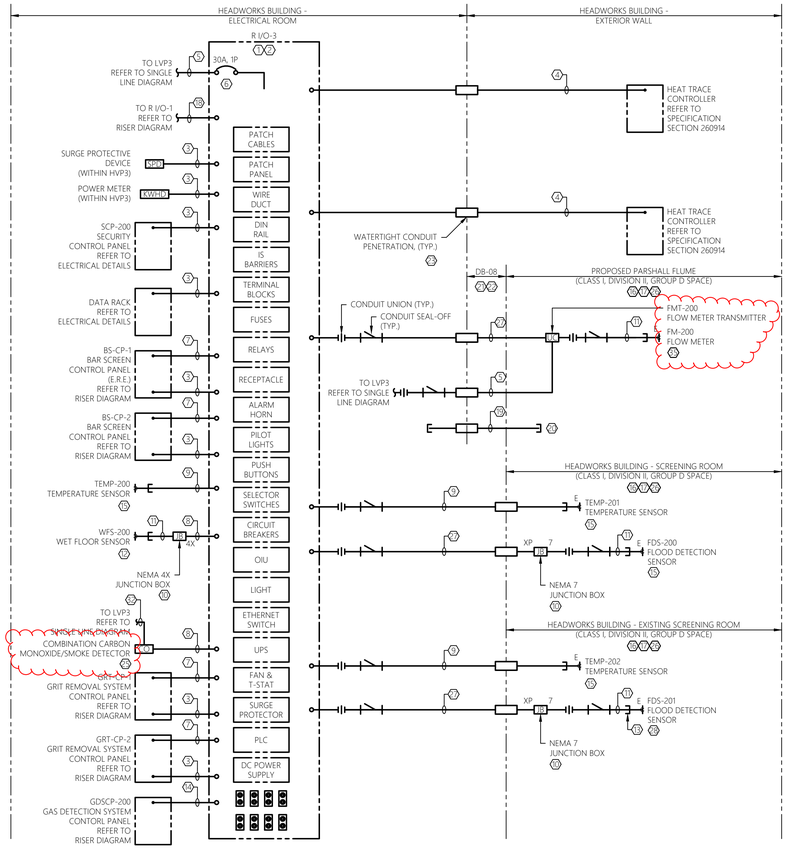
ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-026

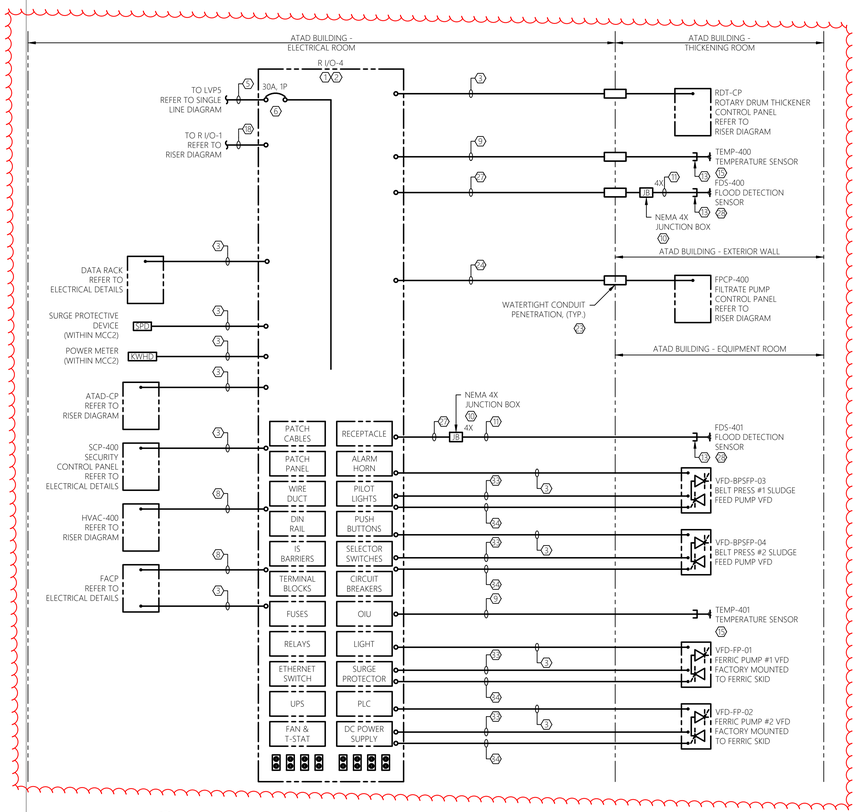
PROJECT # 18-732 PHASE #



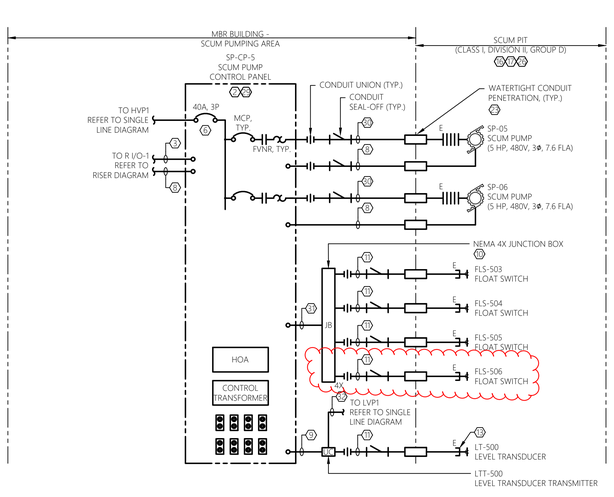
1 / E-027 REMOTE I/O PANEL #2 RISER DIAGRAM
SCALE: NTS — DEWATERING BUILDING



2 / E-027 REMOTE I/O PANEL #3 RISER DIAGRAM
SCALE: NTS — HEADWORKS BUILDING



3 / E-027 REMOTE I/O PANEL #4 RISER DIAGRAM
SCALE: NTS — ATAD BUILDING



4 / E-027 SCUM PUMP CONTROL PANEL RISER DIAGRAM
SCALE: NTS — MBR BUILDING

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS, EQUIPMENT, COMPONENTS, AND DEVICES NOT SHOWN FOR CLARITY. COORDINATE WITH ALL PRIME CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO ELECTRICAL PLANS FOR GENERAL DEVICE/EQUIPMENT LOCATIONS. COORDINATE FINAL LOCATIONS WITH ALL PRIME CONTRACT DRAWINGS. REFER TO ELECTRICAL SITE PLAN FOR DUCT BANK INFORMATION
5. REFER TO SINGLE LINE DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER AND ALL OTHER TRADE CONTRACTORS.
7. CIRCUITS SHOWN ARE POWER, CONTROL, INSTRUMENTATION, AND CONTROL CIRCUIT POWER. REFER TO SINGLE LINE DIAGRAMS, SCHEDULES, AND DETAILS FOR ADDITIONAL CIRCUITS.
8. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
9. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. ALL REQUIREMENTS TO BE PER NEC.
10. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
11. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS WITH OWNER AND ALL OTHER TRADE CONTRACTORS. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC.
13. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED INTERNAL TO CONTROL PANELS. ALL REQUIREMENTS TO BE PER NEC.
14. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE
15. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL, WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING INTERIOR/EXTERIOR WALLS AND FLOORS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN
16. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL OTHER TRADE CONTRACTORS AND OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUCTORS TO BE COPPER AND CONTAIN XHHW-2 INSULATION.
18. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.

SHEET KEY NOTES:

(1) CONTROL PANEL AND ALL INTERNAL COMPONENTS TO BE FURNISHED BY CONTRACTOR THRU BID ALLOWANCE #1. THIS CONTRACT IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, AND MOUNTING/INSTALLATION/WIRING OF PANEL AS SHOWN/INDICATED. REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH OWNER AND ENGINEER TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

(2) NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING REQUIRED UNDER THIS CONTRACT. REFERENCE SUBMITTAL DOCUMENTATION AND SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ALL PANEL INTERNAL COMPONENTS.

(3) (1) CAT 6A PREMIUM ETHERNET CABLE, 1"C, PROVIDE AS PLENUM RATED WITH 4 BONDED PAIRS. TO BE BELDEN #3633 OR APPROVED EQUAL.

(4) (12)#14 & (2)#18STP, 1"C.

(5) (2)#10 & #10G, 1"C.

(6) DISCONNECT SIZE SHOWN FOR BIDDING PURPOSES ONLY. COORDINATE DISCONNECT SIZE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. COORDINATE CONDUCTOR/CONDUIT SIZE WITH MANUFACTURERS RECOMMENDED DISCONNECT SIZE. ALL REQUIREMENTS TO BE PER NEC.

(7) (24)#14 & (4)#18STP, 1-1/2"C.

(8) (4)#14, 3/4"C

(9) (2)#18STP, 3/4"C

(10) CONTRACTOR TO PROVIDE JUNCTION/PULL BOXES FOR SPLICING, OR EXTENDING CIRCUITRY AS REQUIRED. PROVIDE NECESSARY TERMINAL STRIPS, OR SPLICE KITS WITHIN JUNCTION BOX TO EXTEND CIRCUITRY AS SHOWN. (NOTE, JUNCTION BOXES ARE NOT ALWAYS SHOWN ON FLOOR PLANS. CONTRACTOR TO FIELD LOCATE AS NECESSARY). JUNCTION BOXES ARE TO BE RATED FOR ENVIRONMENT INSTALLED, INCLUDING BUT NOT LIMITED TO HAZARDOUS ENVIRONMENTS, CORROSIVE ENVIRONMENTS, AND OUTDOOR INSTALLATIONS. CONTRACTOR TO FIELD VERIFY AND COORDINATE CONDUIT ARRANGEMENT ENTERING/LEAVING JUNCTION BOX AS REQUIRED. CONTRACTOR TO SIZE JUNCTION BOXES PER NEC ARTICLE 314. JUNCTION BOXES TO BE MANUFACTURED BY EATON, OR APPROVED EQUAL. TYPICAL OF ALL JUNCTION BOXES SHOWN ON THIS DRAWING.

(11) FACTORY CABLE. THIS CONTRACT RESPONSIBLE FOR ALL TERMINATIONS PER MANUFACTURERS RECOMMENDATIONS. PROVIDE 1" CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE AND RECOMMENDED BY THE EQUIPMENT MANUFACTURER. CONDUIT SIZE IS LISTED AS MINIMUM. PROVIDE LARGER AS REQUIRED PER MANUFACTURER. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH MANUFACTURER.

(12) WET FLOOR SENSOR TO BE PROVIDED FINDER MODEL 072.21, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETTS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE FLOOD DETECTION SYSTEM. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.

(13) PROVIDE CONDUIT BUSHING, FITTING, OR FLEX CONNECTION AS REQUIRED FOR PROPER CONNECTION OF DEVICE. ALL BUSHINGS, FITTINGS, OR FLEX CONNECTIONS TO BE SUITED FOR ENVIRONMENT INSTALLED WITHIN, INCLUDING BUT NOT LIMITED TO, HAZARDOUS ENVIRONMENTS, CORROSIVE ENVIRONMENTS, AND OUTDOOR INSTALLATIONS. COORDINATE WITH APPLICABLE CONTRACTOR AND EQUIPMENT MANUFACTURER. FLEX CONNECTION LENGTHS TO BE MINIMIZED TO GREATEST EXTENT POSSIBLE. TYPICAL.

(14) (2)#14 & (12)#18STP, 1-1/2"C.

(15) TEMPERATURE SENSOR TO BE PROVIDED AS OMEGA EWS-TX SERIES WALL MOUNT SENSOR, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE AS DWYER INSTRUMENTS MODEL TTE-104-W-LCD WALL MOUNT SENSOR, OR APPROVED EQUAL WITHIN CLASSIFIED AREAS. PROVIDE ELECTRICAL BOX, 24V DC POWER SUPPLY, CIRCUITRY (CONDUIT AND CONDUCTORS), WALL PLATE, AND MOUNTING BRACKETS AS REQUIRED FOR AN OVERALL COMPLETE AND OPERABLE ROOM TEMPERATURE SENSING DEVICE PER MANUFACTURER'S RECOMMENDATIONS. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.

(16) AREA IS A CLASSIFIED SPACE. ALL WIRING METHODS WITHIN THIS SPACE TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES WITHIN THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASSIFIED GROUP D ENVIRONMENT. REFER TO NFPA 820 TABLE FOR ADDITIONAL INFORMATION/REQUIREMENTS. NOTE, NOT ALL REQUIRED SEAL-OFFS SHOWN FOR CLARITY. PROVIDE PER NEC.

(17) ALL ELECTRICAL EQUIPMENT, COMPONENTS, DEVICES, AND RACEWAY SYSTEMS TO BE KEPT OUT OF CLASSIFIED AREAS TO GREATEST EXTENT POSSIBLE.

(18) 8-STRAND, MULTI-MODE (50 MICRON CORE / 125 MICRON CLADDING DIAMETER), FIBER OPTIC CABLE, 4"C. PROVIDE MAXCELL FABRIC INNERDUCT WITHIN 4" CONDUIT. PROVIDE AS MAXCELL 4" 3-CELL PRODUCT. INSTALL PROPOSED FIBER OPTIC CABLE WITHIN 1-CELL OF THE PROPOSED INNERDUCT AND A PULL STRING THROUGH THE OTHER TWO (2) CELLS. FIBER OPTIC CABLE TO BE CONTINUOUS (NO SPLICE) AND SUITABLE FOR INDOOR/OUTDOOR APPLICATIONS ALONG WITH SUITABLE FOR DIRECT BURIAL APPLICATIONS. FIBER OPTIC CABLE TO BE MODEL CLEARCURVE AS MANUFACTURED BY CORNING OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER FOR REVIEW DURING SUBMITTAL PHASE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(19) SPARE 2"C.

(20) PROVIDE SPARE CONDUIT AS SHOWN. STUB CONDUIT ADJACENT TO EQUIPMENT, OR AS DIRECTED BY THE OWNER. PROVIDE PULL ROPE AND CAP BOTH ENDS. CONTRACTOR TO PROVIDE LABEL FOR ALL SPARE CONDUITS INDICATING CONDUIT DESTINATION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(21) CONTRACTOR RESPONSIBLE TO RESTORE ALL DISTURBED SURFACES AS PART OF THIS CONTRACT. COORDINATE FINAL REQUIREMENTS WITH THE OWNER AND ENGINEER. REFER TO TYPICAL DUCT BANK SECTION DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

(22) CONTRACTOR TO COORDINATE FINAL DUCT BANK ROUTING/REQUIREMENTS WITH EXISTING FIELD CONDITIONS, PROPOSED WORK, OWNER AND ENGINEER PRIOR TO ROUGH-IN TO AVOID CONFLICTS.

(23) REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS. CLOSELY COORDINATE FINAL PENETRATION LOCATIONS/REQUIREMENTS WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER. TYPICAL.

(24) (6)#14, 3/4"C.

(25) CONTRACTOR TO PROVIDE COMBINATION CARBON MONOXIDE/SMOKE DETECTOR MODEL GN-503F AS MANUFACTURED BY GENTEX OR APPROVED EQUAL. DETECTOR TO BE 120V POWERED BY BUILDING ELECTRICAL SYSTEM, CONTAIN BATTERY BACKUP, AND BE UL LISTED. DETECTOR TO FEATURE ONE (1) SET OF CONTACTS THAT ACTIVATE UPON DETECTION OF SMOKE, OR CARBON MONOXIDE. INSTALL ON WALL/CEILING PER MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH NFPA 720.

(26) ROUTING AND ATTACHMENT METHODS OF ALL CONDUITS WITHIN STRUCTURE ARE TO BE CLOSELY COORDINATED WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER TO AVOID CONFLICTS. ALL RACEWAY TO BE PVC COATED RGS BY PLASTI-BOND, OR APPROVED EQUAL. ALL MOUNTING HARDWARE, BRACKETS, SUPPORTS, CHANNELS, FITTINGS, CLAMPS, ETC... TO BE A CORROSION RESISTANT PRODUCT LINE AS MANUFACTURED BY POWER-STRUT DEFENDER, OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER DURING SUBMITTAL PHASE FOR APPROVAL. REFER TO RACEWAY SCHEDULE FOR ADDITIONAL INFORMATION.

(27) (2)#18STP & (4)#14, 3/4"C.

(28) FLOOD DETECTION SENSOR TO BE PROVIDED AS SJE RHOMBUS FLOAT SWITCH, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETTS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE FLOOD DETECTION SYSTEM. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.

(29) CONTROL PANEL AND ALL INTERNAL COMPONENTS ARE BY THIS CONTRACT. THIS CONTRACT IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, AND MOUNTING/INSTALLATION OF PANEL AS SHOWN/INDICATED. REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH OWNER TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

(30) (3)#12 & #12G, 3/4" C.

(31) (8)#14, 3/4" C.

(32) (2)#12 & #12G, 3/4" C.

(33) (12)#14, 3/4"C.

(34) (4)#18STP, 3/4"C.

(35) FLOW TRANSMITTER AND ELEMENT TO BE PROVIDED AS PULSAR/GREYLINE OCF 6.1 WITH PZ1S SENSOR, OR APPROVED EQUAL THRU BID ALLOWANCE. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETTS, ACCESSORIES, ETC... AND CIRCUITRY (CONDUIT AND CONDUCTORS) FOR AN OVERALL COMPLETE AND OPERABLE LEVEL MEASURING SYSTEM. REFER TO SPECIFICATION SECTION 260912 CONTROL PANELS AND INTEGRATION FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE LABEL PER SPECIFICATION SECTION 260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS.

CONTROL DIAGRAMS ARE SCHEMATIC IN NATURE AND SHOWS ALL INTERCONNECTIONS. CONTRACTOR MAY GROUP POWER CIRCUITS INTO LARGER CONDUIT AND GROUP CONTROL CIRCUITS INTO SEPARATE LARGER CONDUIT. GROUPING OF CIRCUITS INTO LARGER CONDUITS MUST COMPLY WITH NEC FILL AND DERATING REQUIREMENTS. VFD INPUT & OUTPUT CONDUCTORS MUST BE RUN INDEPENDENT OF OTHER CONDUCTORS.

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE JADE STONE ENGINEERING

STATE OF NEW YORK — JEFFREY E ROBINSON — 095896 — LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL RISER DIAGRAMS

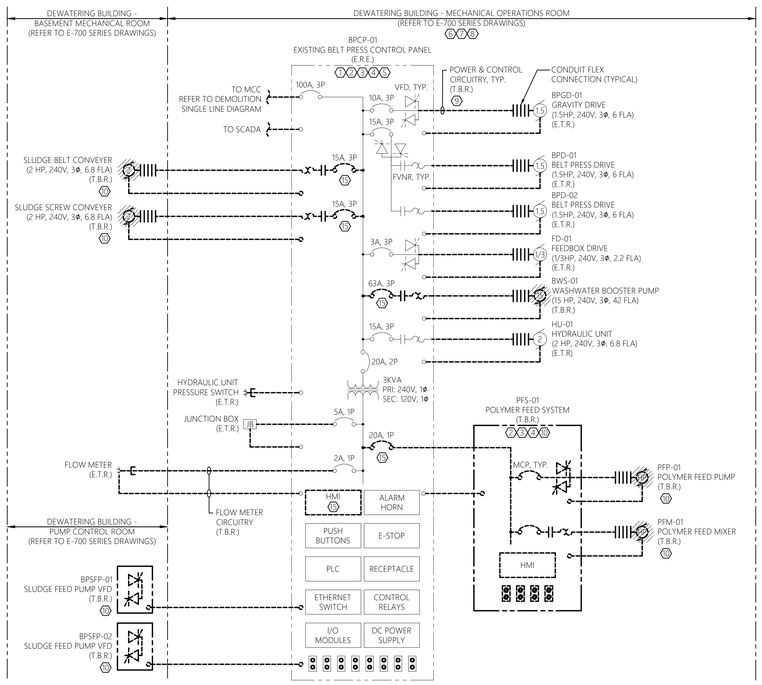
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

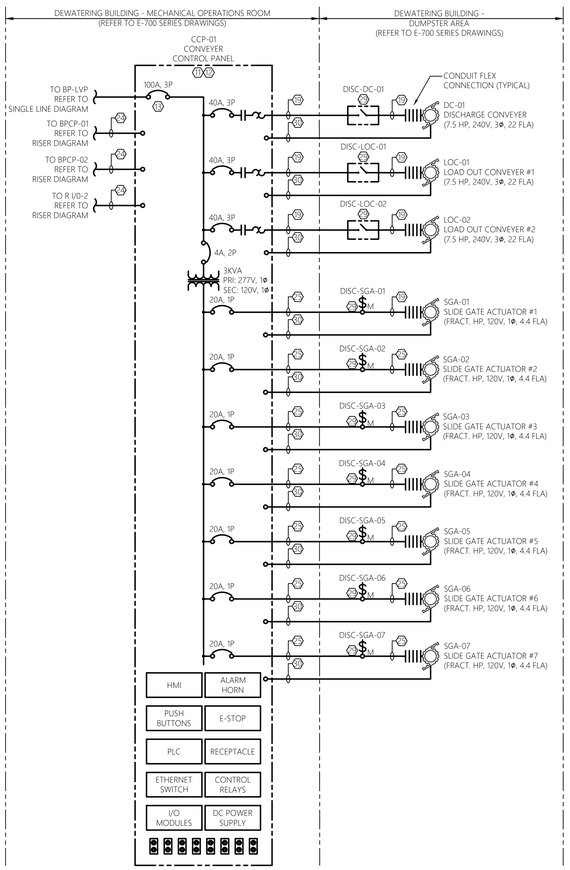
SHEET NO.
E-027

PROJECT # 18-732 PHASE #



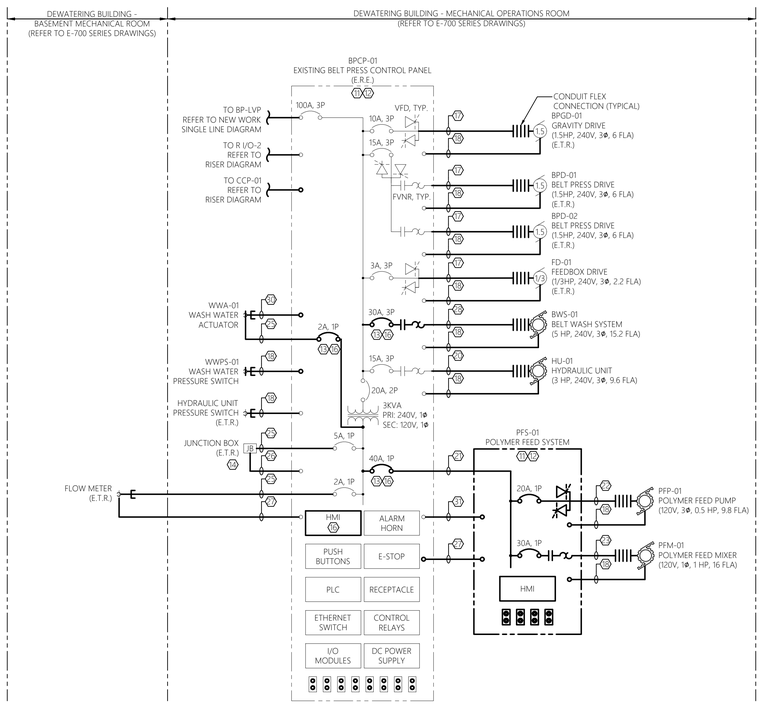
1 E-028 EXISTING BELT FILTER PRESS CONTROL PANEL RISER DIAGRAM - DEMOLITION

SCALE: NTS DEWATERING BLDG



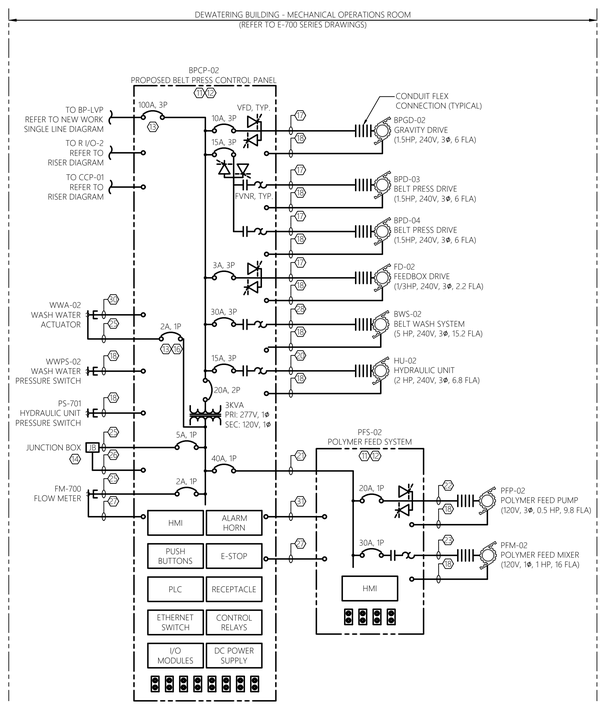
2 E-028 CONVEYER CONTROL PANEL RISER DIAGRAM

SCALE: NTS DEWATERING BLDG



2 E-028 EXISTING BELT FILTER PRESS CONTROL PANEL RISER DIAGRAM - NEW WORK

SCALE: NTS DEWATERING BLDG



4 E-028 PROPOSED BELT FILTER PRESS CONTROL PANEL RISER DIAGRAM

SCALE: NTS DEWATERING BLDG

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
3. ALL CONDUCTORS NOT SHOWN FOR CLARITY. COORDINATE WITH OTHER TRADE CONTRACTORS AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
4. REFER TO FLOOR PLANS FOR GENERAL DEVICE/EQUIPMENT LOCATIONS. COORDINATE FINAL LOCATIONS WITH PROCESS MECHANICAL DRAWINGS. REFER TO SITE PLAN FOR DUCT BANK INFORMATION AS REQUIRED.
5. REFER TO SINGLE LINE DIAGRAMS, SPECIFICATIONS, AND SUBMITTAL DOCUMENTATION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER ALL OTHER TRADE CONTRACTORS.
7. CIRCUITS SHOWN ARE POWER, CONTROL, INSTRUMENTATION, AND CONTROL CIRCUIT POWER. REFER TO SINGLE LINE DIAGRAMS, SCHEDULES, AND DETAILS FOR ADDITIONAL CIRCUITS.
8. ALL WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
9. QUANTITY OF CONDUCTORS CALLED FOR MAY INCLUDE SPARE CONDUCTORS. PROVIDE CONDUCTORS SHOWN OR MINIMUM NUMBER REQUIRED PER MANUFACTURERS WRITTEN INSTRUCTIONS. ALL REQUIREMENTS TO BE PER NEC.
10. CONTRACTOR TO PROVIDE ARC FLASH WARNING LABELS FOR ALL NEW OR MODIFIED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
11. REFER TO ELECTRICAL DETAIL SHEETS AND SCHEDULE SHEETS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. CONTRACTOR TO COORDINATE MOUNTING LOCATIONS OF ALL PANELS WITH OWNER AND ALL OTHER TRADE CONTRACTORS. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC..
13. PROVIDE INTRINSICALLY SAFE BARRIERS AS REQUIRED INTERNAL TO CONTROL PANELS. ALL REQUIREMENTS TO BE PER NEC.
14. NOT ALL REQUIRED CLASSIFIED SPACE WIRING METHODS INCLUDING, BUT NOT LIMITED TO SEAL-OFFS MAY BE SHOWN. PROVIDE WIRING METHODS PER NEC (LATEST EDITION). PROVIDE CONDUIT UNION WITHIN 6" OF EACH SEAL-OFF AT CONTROL PANELS, DISTRIBUTION PANELS, VFDS, STARTERS, DISCONNECTS, OR SOURCE OF SUPPLY WHERE FEASIBLE.
15. NOT ALL REQUIRED THRU-WALL, WATERTIGHT, CONDUIT PENETRATIONS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE A THRU-WALL WATERTIGHT, CONDUIT PENETRATION FOR ALL CONDUIT PENETRATIONS WITHIN BUILDING INTERIOR/EXTERIOR WALLS AND FLOORS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN
16. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL OTHER TRADE CONTRACTORS AND OWNER PRIOR TO ROUGH-IN.
17. ALL CONDUCTORS TO BE COPPER AND CONTAIN XHHW INSULATION.
18. ALL CONTROL/COMMUNICATION WIRING REQUIREMENTS INCLUDING BUT NOT LIMITED TO WIRE SIZE, TYPE, AND QUANTITY OF CONDUCTORS TO BE VERIFIED WITH EQUIPMENT MANUFACTURER.
19. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.

SHEET KEY NOTES:

(1) CONTRACTOR TO DISCONNECT FROM POWER SOURCE AND ALL CONNECTED EQUIPMENT, MAKE ELECTRICALLY SAFE, AND RELOCATE EXISTING BELT PRESS CONTROL PANEL "BPCP-01" AS SHOWN ON E-700 SERIES DRAWINGS. EQUIPMENT TO BE REMOVED IS TO BECOME PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE IN ITS ENTIRETY. OWNER HAS THE RIGHT TO MAINTAIN ANY EQUIPMENT, COMPONENTS, DEVICES, CONTROLS, ETC... SCHEDULED FOR REMOVAL. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND COORDINATE FINAL REQUIREMENTS WITH APPLICABLE TRADE CONTRACTOR, OWNER, BELT PRESS CONTROL PANEL MANUFACTURE, AND ENGINEER.

(2) NOT ALL ASSOCIATED CONTROLS, STARTERS, DISCONNECTS & CIRCUITRY MAY BE SHOWN FOR CLARITY. CONTRACTOR TO FIELD VERIFY AND COMPLETELY REMOVE ALL ASSOCIATED CONTROLS, STARTERS, DISCONNECTS, CONTROLS, CONTROLS CIRCUITRY (CONDUIT & CONDUCTORS), ALL MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... ASSOCIATED WITH EQUIPMENT/CIRCUITING SCHEDULED FOR REMOVAL. COORDINATE FINAL REQUIREMENTS WITH APPLICABLE TRADE CONTRACTOR, OWNER, BELT PRESS CONTROL PANEL MANUFACTURE, AND ENGINEER.

(3) NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING AND EQUIPMENT TO BE REMOVED AS REQUIRED BY THE CONTRACTOR. CONTRACTOR TO REMOVE ANY EXISTING CIRCUITING ASSOCIATED WITH THE BELT PRESS SYSTEM. CLOSELY COORDINATE ALL REQUIREMENTS WITH APPLICABLE TRADE CONTRACTOR, OWNER, BELT PRESS CONTROL PANEL MANUFACTURE, AND ENGINEER.

(4) REFER TO ELECTRICAL DEMOLITION PLANS, SCHEDULES AND DETAILS FOR ADDITIONAL DEMOLITION INFORMATION/REQUIREMENTS. CONTRACTOR TO COORDINATE ALL EQUIPMENT/CIRCUITING SCHEDULED FOR REMOVAL AND FINAL SEQUENCE OF REMOVAL REQUIREMENTS WITH APPLICABLE TRADE CONTRACTOR, OWNER, BELT PRESS CONTROL PANEL MANUFACTURE, AND ENGINEER PRIOR TO COMMENCEMENT OF DEMOLITION. CONTRACTOR TO FIELD VERIFY AND PROVIDE AS REQUIRED.

(5) FOR EXISTING TO REMAIN EQUIPMENT, CONTRACTOR TO DISCONNECT, MAKE ELECTRICALLY SAFE, AND LABEL TO BE RECONNECTED AS SHOW ON NEW WORK.

(6) WWTP IS TO BE OPERATIONAL AT ALL TIMES. PROVIDE TEMPORARY POWER PROVISIONS AS REQUIRED TO FACILITATE WWTP OPERATION DURING ELECTRICAL DEMOLITION AND INSTALLATION. PROVIDE ALL NECESSARY EQUIPMENT, DEVICES, CABLING, ETC... AS REQUIRED FOR AN OVERALL COMPLETE AND OPERABLE TEMPORARY POWER SYSTEM. CONTRACTOR TO MINIMIZE DOWN TIMES TO THE GREATEST EXTENT POSSIBLE. COORDINATE ALL REQUIREMENTS WITH APPLICABLE TRADE CONTRACTOR, OWNER, AND ENGINEER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING TEMPORARY POWER.

(7) CONTRACTOR TO PROVIDE TEMPORARY POWER PLAN IN WRITING TO ENGINEER FOR APPROVAL PRIOR TO PERFORMING ELECTRICAL SERVICE DISRUPTIONS.

(8) CONTRACTOR TO NOT COMMENCE ELECTRICAL DEMOLITION UNTIL TEMPORARY POWER PROVISIONS HAVE BEEN ESTABLISHED AND APPROVED BY THE ENGINEER. NOTE, IT IS THE INTENTION THAT THE NEW ELECTRICAL SERVICE BE INSTALLED, TESTED, AND OPERATIONAL BEFORE THE EXISTING ELECTRICAL SERVICE BE REMOVED.

(9) CONTRACTOR TO REMOVE ALL POWER AND CONTROL CIRCUITRY (CONDUIT AND CONDUCTORS) IN IT'S ENTIRETY AS SHOWN. CONTRACTOR TO FIELD VERIFY.

(10) CONTRACTOR TO DISCONNECT/REMOVE ALL POWER AND CONTROL CIRCUITRY (CONDUIT & CONDUCTORS) IN ITS ENTIRETY BACK TO SOURCE AS WELL AS DEMOLISH ASSOCIATED JUNCTION BOXES, DISCONNECTS, STARTERS, ASSOCIATED CONTROL DEVICES, ALL MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... ALL ITEMS REMOVED TO BECOME PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT SITE. CONTRACTOR TO FIELD VERIFY.

(11) NOT ALL INTERNAL COMPONENTS SHOWN FOR CLARITY. DIAGRAM IS INTENDED TO SHOW ALL REQUIRED FIELD CIRCUITING AND TERMINATION REQUIRED BY THE CONTRACTOR. REFERENCE SUBMITTAL DOCUMENTATION FOR ALL PANEL INTERNAL COMPONENTS. CONTRACTOR TO PROVIDE ADDITIONAL INTERNAL COMPONENTS, CONTACTS, AND JUMPERS PER CONTROL PANEL MANUFACTURERS RECOMMENDATIONS FOR AN OVERALL COMPLETE AND OPERABLE SYSTEM. CLOSELY COORDINATE ALL REQUIREMENTS WITH ALL OTHER TRADE CONTRACTORS AND PANEL MANUFACTURE.

(12) CONTROL PANEL AND ALL INTERNAL COMPONENTS (IF NOT EXISTING) ARE BY TO BE PROVIDED BY THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR ALL FIELD WIRING BETWEEN DEVICES, AND MOUNTING/INSTALLATION OF PANEL AS SHOWN/INDICATED. REFER TO SUBMITTAL DOCUMENTATION AND COORDINATE WITH APPLICABLE TRADE CONTRACTOR, OWNER, CONTROL PANEL MANUFACTURE, AND ENGINEER TO PROVIDE COMPLETE SYSTEM FIELD CIRCUITRY AND TERMINATIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

(13) DISCONNECT SIZE SHOWN FOR BIDDING PURPOSES ONLY. COORDINATE DISCONNECT SIZE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. COORDINATE CONDUCTOR/CONDUIT SIZE WITH MANUFACTURERS RECOMMENDED DISCONNECT SIZE. ALL REQUIREMENTS TO BE PER NEC. TYPICAL.

(14) COORDINATE TERMINATIONS OF CIRCUITRY AT BELT PRESS MANUFACTURE PROVIDED (IF NOT EXISTING) JUNCTION BOX CLOSELY WITH MANUFACTURER & OTHER TRADE CONTRACTORS.

(15) COMPONENT INTERNAL TO CONTROL PANEL IS TO BE REMOVED BY BELT PRESS CONTROL PANEL MANUFACTURE. NOT ALL PROPOSED COMPONENTS INTERNAL TO CONTROL PANEL MAY BE SHOWN FOR CLARITY. COORDINATE WITH BELT PRESS CONTROL PANEL MANUFACTURE AS NEEDED.

(16) COMPONENT INTERNAL TO CONTROL PANEL IS TO BE INSTALLED BY BELT PRESS CONTROL PANEL MANUFACTURE. NOT ALL PROPOSED COMPONENTS INTERNAL TO CONTROL PANEL MAY BE SHOWN FOR CLARITY. COORDINATE WITH BELT PRESS CONTROL PANEL MANUFACTURE AS NEEDED.

(17) (3)#12 & #12G, 3/4"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.

(18) (4)#14, 3/4"C.

(19) (3)#8 & #10G, 1"C.

(20) (3)#12 & #12G, 3/4"C.

(21) (2)#8 & #10G, 3/4"C.

(22) (2)#12 & #12G, 3/4"C. PROVIDE AS VFD SHIELDED CABLE. CONDUIT SIZE IS LISTED AS MINIMUM, PROVIDE LARGER DIAMETER AS REQUIRED PER MANUFACTURER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. ALL REQUIREMENTS TO BE PER NEC.

(23) (2)#12 & #12G, 3/4"C.

(24) (1) CAT 6A PREMIUM ETHERNET CABLE, 1"C. PROVIDE AS PLENUM RATED WITH 4 BONDED PAIRS. TO BE BELDEN #3633 OR APPROVED EQUAL.

(25) (2)#12 & #12G, 3/4"C.

(26) (20)#14, 1"C.

(27) (2)#18STP, 3/4"C.

(28) (3)#10 & #10G, 3/4"C.

(29) REFER TO EQUIPMENT CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS. TYPICAL.

(30) (6)#14, 3/4"C.

(31) (10)#14, 3/4"C.

CONTROL DIAGRAMS ARE SCHEMATIC IN NATURE AND SHOWS ALL INTERCONNECTIONS. CONTRACTOR MAY GROUP POWER CIRCUITS INTO LARGER CONDUIT AND GROUP CONTROL CIRCUITS INTO SEPARATE LARGER CONDUIT. GROUPING OF CIRCUITS INTO LARGER CONDUITS MUST COMPLY WITH NEC FILL AND DERATING REQUIREMENTS. VFD INPUT & OUTPUT CONDUCTORS MUST BE RUN INDEPENDENT OF OTHER CONDUCTORS.

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(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE JADE STONE ENGINEERING

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL RISER DIAGRAMS

REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.

E-028

PROJECT # 18-732 PHASE #

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	FIXTURE BASIS OF DESIGN	LENS/DIFFUSER/ FINISH	VOLTAGE	LAMPS	BALLAST BASIS OF DESIGN	MOUNTING	DIMMING	REMARKS
L1	2' X 2' TROFFER LED MODULE	COOPER - METALUX 22EN-LD2-19-UNV-L840-CD1-U	ACRYLIC	120V	LED 1,900 LUMENS / 4000K 16.5W	0-10V DIMMING DRIVER	RECESSED	YES	
L1E	2' X 2' TROFFER LED MODULE WITH EMERGENCY	COOPER - METALUX 22EN-LD2-19-UNV-EL7W-L840-CD1-U	ACRYLIC	120V	LED 1,900 LUMENS / 4000K 16.5W	0-10V DIMMING DRIVER	RECESSED	YES	1 2
L2	STAINLESS STEEL LED LIGHTING (1' x 4')	RIG-A-LITE MHLS11-L-C-2-U-MB-316	STAINLESS STEEL	120V	LED 11252 LUMENS / 4000K 77W	0-10V DIMMING DRIVER	SURFACE	NO	4 15
L2E	STAINLESS STEEL LED LIGHTING W/EMERGENCY (1' x 4')	RIG-A-LITE MHLS11-L-C-2-U-MB-EM-316	STAINLESS STEEL	120V	LED 11,252 LUMENS / 4000K 77W	0-10V DIMMING DRIVER	SURFACE	NO	1 2 4 15
L3	EXPLOSION PROOF LINEAR LED LIGHTING (1' x 4')	RIG-A-LITE XML-07-L-C-4-U-MB	TEMPERED GLASS	120V	LED 7,291 LUMENS / 4000K 54W	LED DRIVER	SURFACE	NO	4 5
L3E	EXPLOSION PROOF LINEAR LED LIGHTING W/EM (1' x 4')	RIG-A-LITE XML-07-L-C-4-U-MB-EM	TEMPERED GLASS	120V	LED 7,291 LUMENS / 4000K 54W	LED DRIVER	SURFACE	NO	1 2 4 5
L4	4' INDUSTRIAL LED LAMP (1' x 4')	COOPER - METALUX 4VT2-LD5-8-DR-UNV-L840-CD1-WL-U	TEMPERED GLASS	120V	LED 8,000 LUMENS / 4000K 58W	0-10V DIMMING DRIVER	SURFACE	NO	
L4E	4' INDUSTRIAL LED LAMP W/ EM (1' x 4')	COOPER - METALUX 4VT2-LD5-8-DR-UNV-VT-REM-EL-L840-CD1-WL-U	TEMPERED GLASS	120V	LED 8,000 LUMENS / 4000K 58W	0-10V DIMMING DRIVER	SURFACE	NO	1 2
L5	2' INDUSTRIAL LED LAMP (1' x 2')	COOPER - METALUX 2VT2-LD5-3-DR-UNV-L840-CD1-WL-U	TEMPERED GLASS	120V	LED 3,000 LUMENS / 4000K 22W	0-10V DIMMING DRIVER	SURFACE	NO	
L5E	2' INDUSTRIAL LED LAMP W/ EM (1' x 2')	COOPER - METALUX 2VT2-LD5-3-DR-UNV-VT-REM-EL-L840-CD1-WL-U	TEMPERED GLASS	120V	LED 3,000 LUMENS / 4000K 22W	0-10V DIMMING DRIVER	SURFACE	NO	1 2 4 5
L6	4' INDUSTRIAL LED LAMP (1' x 4')	COOPER - METALUX 4VT2-LD5-6-DR-UNV-L840-CD1-WL-U	TEMPERED GLASS	120V	LED 6,000 LUMENS / 4000K 51W	0-10V DIMMING DRIVER	SURFACE	NO	
L6E	4' INDUSTRIAL LED LAMP W/ EM (1' x 4')	COOPER - METALUX 4VT2-LD5-6-DR-UNV-VT-REM-EL-L840-CD1-WL-U	TEMPERED GLASS	120V	LED 6,000 LUMENS / 4000K 51W	0-10V DIMMING DRIVER	SURFACE	NO	1 2
L7	LED HIGH BAY (1' x 4')	COOPER - METALUX 4ILED-LD5-11-W-UNV-L840-CD1-U-AYC-CHAIN/SET/U	WIDE BEAM	120V	LED 11,000 LUMENS / 4000K 79W	0-10V DIMMING DRIVER	CHAIN HANG	NO	1 17
L7E	LED HIGH BAY (1' x 4')	COOPER - METALUX 4ILED-LD5-11-W-UNV-L840-EL7W-CD1-U-AYC-CHAIN/SET/U	WIDE BEAM	120V	LED 11,000 LUMENS / 4000K 79W	0-10V DIMMING DRIVER	CHAIN HANG	NO	1 2 17
L8	STAINLESS STEEL LED LIGHTING (1' x 2')	RIG-A-LITE MHLS04-L-C-2-U-MB-316	STAINLESS STEEL	120V	LED 3,620 LUMENS / 4000K 27W	0-10V DIMMING DRIVER	SURFACE	NO	4 15
L8E	STAINLESS STEEL LED LIGHTING W/EMERGENCY (1' x 2')	RIG-A-LITE MHLS04-L-C-2-U-MB-EM-316	STAINLESS STEEL	120V	LED 3,620 LUMENS / 4000K 27W	0-10V DIMMING DRIVER	SURFACE	NO	1 2 4 15
L9	STAINLESS STEEL LED LIGHTING (1' x 2')	RIG-A-LITE MHLS05-L-C-2-U-MB-316	STAINLESS STEEL	120V	LED 4,833 LUMENS / 4000K 37W	0-10V DIMMING DRIVER	SURFACE	NO	4 15
L9E	STAINLESS STEEL LED LIGHTING W/EMERGENCY (1' x 2')	RIG-A-LITE MHLS05-L-C-2-U-MB-EM-316	STAINLESS STEEL	120V	LED 4,833 LUMENS / 4000K 37W	0-10V DIMMING DRIVER	SURFACE	NO	1 2 4 15
L10	6" LED MEDIUM BEAM DOWN LIGHT	COOPER (PORTFOLIO) LIGHT: LD6C-10IC-90-40-D010-B26-M-1-LI GASKET: LGSKT6IP66	SPECULAR CLEAR	120V	LED 1,000 LUMENS / 4000K 11W	0-10V DIMMING DRIVER	RECESSED	NO	18 19 20
L10E	6" LED MEDIUM BEAM DOWN LIGHT W/EMERGENCY	COOPER (PORTFOLIO) LIGHT: LD6C-10IC-90-40-D010-B26-M-1-LI-IEM7 GASKET: LGSKT6IP66	SPECULAR CLEAR	120V	LED 1,000 LUMENS / 4000K 11W	0-10V DIMMING DRIVER	RECESSED	NO	1 2 18 19 20
TL1	TELESCOPING LIGHT POLE	EATON CROUSE-HINDS POLE: V65H-S, BRACKET: MHK-RT S LIGHT FIXTURE: VMVL-17-N-J-UNV1	STAINLESS STEEL	120V	LED 17,800 LUMENS / 4000K 135W	0-10V DIMMING DRIVER	TELESCOPING POLE	NO	21
S1	AREA/SITE LUMINAIRE	COOPER - MCGRAW-EDISON GALN-SA3B-740-U-T4W-BK-WLS4BK	BLACK	208V	LED 17,000 LUMENS / 4000K 121W	LED DRIVER	POLE	NO	9 10 11 12 13 14 16 22
S2	AREA/SITE LUMINAIRE	COOPER - MCGRAW-EDISON GALN-SA3B-740-U-5WQ-BK-WLS4BK	BLACK	208V	LED 17,000 LUMENS / 4000K 121W	LED DRIVER	POLE	NO	9 10 11 12 13 14 16 22
WP1	EXTERIOR WALL MOUNT LUMINAIRE	COOPER (MCGRAW-EDISON) IST-SA1B-740-U-SL4-BZ	BRONZE	120V	LED 3,342 LUMENS / 4000K 25.4W	LED DRIVER	WALL	NO	7 8 9 14
WP1E	EXTERIOR WALL MOUNT LUMINAIRE W/EMERGENCY	COOPER (MCGRAW-EDISON) IST-SA1B-740-U-SL4-CBP-BZ	BRONZE	120V	LED 3,342 LUMENS / 4000K 25.4W	LED DRIVER	WALL	NO	1 6 7 8 9 14
WP2	EXPLOSION PROOF WALL MOUNT LUMINAIRE	RIG-A-LITE SAFJ03-L2-U-LFG-W-SS	LOW PROFILE FROSTED GLOBE & GUARD	120V	LED 2752 LUMENS / 4000K 30W	LED DRIVER	WALL	NO	4 5 9
A	ARCHITECTURAL LED EXIT SIGN	COOPER (EVENLITE) SOV-EM-R-1C-BA	BRUSHED ALUMINUM W/RED LETTERING	120V	LED 2.5W	-	CEILING OR WALL	-	1 2 3
I	INDUSTRIAL LED EXIT SIGN	COOPER (SURE-LITES) UX7-1-BK-SD	ALUMINUM	120V	LED 1.5W	-	CEILING OR WALL	-	1 2 3
XP	EXPLOSION PROOF LED EXIT SIGN	COOPER (RIG-A-LITE) XPEX-1-R-DT-WP-EM-SD	A356T6 ALUMINUM BODY W/ACRYLIC SIGN	120V	LED 2.5W	-	WALL	-	1 2 3 5

GENERAL SCHEDULE NOTES:
1. MODELS ARE GIVEN FOR QUALITY ONLY, SUBSTITUTE LIGHT FIXTURES SHALL BE OF APPROVED EQUAL OR GREATER QUALITY.
2. ALL FIXTURES (WHERE APPLICABLE) SHALL BE POST FABRICATION PAINTED, BAKED ACRYLIC ENAMEL.
3. PROVIDE ALL NECESSARY MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... FOR INSTALLATION TYPE AS INDICATED.
4. ALL FIXTURES TO BE PROVIDED WITH LAMPS INSTALLED.
5. REFER TO ELECTRICAL PLANS FOR QUANTITIES AND GENERAL LOCATIONS.
6. REFER TO ELECTRICAL PLANS AND DETAILS FOR LIGHTING CONTROL AND ADDITIONAL INFORMATION/REQUIREMENTS.

REMARKS:
1. INTERCEPT & CONNECT TO NEAREST NON-SWITCHED PORTION OF LIGHTING CIRCUIT. TYPICAL FOR ALL EXIT SIGNS AND FIXTURES WITH INTEGRAL EMERGENCY BATTERY OPTION.
2. FIXTURE TO BE PROVIDED WITH INTEGRAL EMERGENCY BATTERY BACK-UP.
3. CONTRACTOR TO REFER TO ELECTRICAL FLOOR PLANS TO DETERMINE ORIENTATION OF FACES/ARROWS AND TO VERIFY MOUNTING TYPE.
4. PROVIDE EACH FIXTURE WITH STAINLESS STEEL MOUNTING BRACKETS FOR SURFACE MOUNTING AS SPECIFIED.
5. FIXTURE TO BE UL LISTED FOR USE IN A CLASS I DIVISION I GROUP D SPACE.
6. FIXTURE TO BE PROVIDED WITH INTEGRAL COLD WEATHER BATTERY PACK.
7. FIXTURE TO BE UL LISTED FOR WET LOCATIONS.
8. FIXTURE TO BE DARK SKY COMPLIANT.
9. REFER TO ELECTRICAL PLANS FOR MOUNTING HEIGHTS. FINAL MOUNTING HEIGHT TO BE COORDINATED WITH THE OWNER/ENGINEER PRIOR TO ROUGH-IN.
10. CONTRACTOR TO PROVIDE/INSTALL POLE. POLE TO BE MODEL NO. RTA30C7B4 (ROUND TAPERED ALUMINUM POLE) AS MANUFACTURED BY HAPCO OR APPROVED EQUAL. CONTRACTOR TO PROVIDE APPROPRIATE POLE TO ACHIEVE LIGHTING MOUNTING HEIGHT AS INDICATED ON THE ELECTRICAL PLANS. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL POLE MOUNTING/ANCHORING HARDWARE AS WELL AS ALL MOUNTING HARDWARE FOR ATTACHING PROPOSED LIGHT FIXTURE TO POLE. REFER TO 'TYPICAL POLE MOUNTED LIGHT FIXTURE INSTALLATION DETAIL' FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE LIGHT FIXTURE WITH STANDARD ARM FOR POLE MOUNTING AS INDICATED.
12. LIGHT FIXTURE TO BE DLC LISTED.
13. DRIVE CURRENT TO BE FACTORY SET AT 800MA.
14. REFER TO ELECTRICAL PLANS AND DETAILS FOR EXTERIOR LIGHTING CONTROL AND ADDITIONAL INFORMATION/REQUIREMENTS.
15. FIXTURE TO BE PROVIDED WITH 316 STAINLESS STEEL OPTION.
16. PROVIDE POLE WITH LIFETIME WARRANTY.
17. FIXTURE TO BE PROVIDED WITH EYE BOLT MOUNTING KIT AND STAINLESS STEEL MOUNTING CABLE AS REQUIRED TO SUSPEND 20'-0"A.F.F.
18. FIXTURE TO BE IC RATED.
19. FIXTURE TO BE UL LISTED FOR WET LOCATIONS WITH COVERED CEILINGS. PROVIDE GASKET KIT AS REQUIRED.
20. FIXTURE TO BE PROVIDED WITH HANGER BARS AS SPECIFIED.
21. FIXTURE TO BE PROVIDED WITH TELESCOPING POLE AND HANDRAIL MOUNTING BRACKET.
22. FIXTURE TO BE PROVIDED WITH OUTDOOR WIRELESS SENSOR WITH INTEGRAL PASSIVE INFRARED (PIR) OCCUPANCY AND PHOTOCELL. FIXTURE TO COME ON TO 100% OUTPUT WITH THE PHOTOCELL. AFTER 15 MINUTES OF NO MOTION DETECTED, FIXTURE TO DIM TO 50% OUTPUT. ONCE MOTION IS DETECTED AGAIN, FIXTURE TO GO BACK TO 100% OUTPUT WITH A 15 MINUTE TIME DELAY. PHOTOCELL TO TURN FIXTURE OFF AT DAWN. SETUP, CONFIGURATION, TIME DELAYS, AND LIGHTING OUTPUTS SHALL BE ABLE TO BE WIRELESSLY PROGRAMMED.

SWITCH TAG SCHEDULE

$ XX — TEXT ADJACENT TO SYMBOL REPRESENTS THE TAG

SWITCH TAG	DESCRIPTION	FACEPLATE COLOR	BASIS OF DESIGN FACEPLATE	SWITCH TYPE	BASIS OF DESIGN SWITCH	REMARKS
NO MARKING	STANDARD SWITCH	COORDINATE WITH OWNER/ENGINEER	THERMOPLASTIC NYLON	120V, 20A, HEAVY DUTY	PASS & SEYMOUR PT20AC1	
DCLV	DIMMABLE CONTROL LOW VOLTAGE LED SWITCH	COORDINATE WITH OWNER/ENGINEER	THERMOPLASTIC NYLON	LOW VOLTAGE	WATTSTOPPER DCLV-2	
LV	1-BUTTON LOW VOLTAGE LED SWITCH	COORDINATE WITH OWNER/ENGINEER	THERMOPLASTIC NYLON	LOW VOLTAGE	WATTSTOPPER LVSW-101	

GENERAL SCHEDULE NOTES:
1. NYLON FACEPLATE COLOR SHALL MATCH DEVICE COLOR.
2. ALL DEVICES SHALL BE PIGTAIL TYPE (WITH SEPARABLE WIRING HARNESS) WHERE AVAILABLE BY MANUFACTURER.
3. "a, b, c ..." LOWER CASE LETTERING IS USED TO INDICATE FIXTURE SWITCHING CONFIGURATION.
4. '3' OR '4' INDICATES 3 OR 4 WAY SWITCHING DEVICE. SUBSTITUTE INDICATED SWITCH TYPE (BASIS OF DESIGN COLUMN) WITH 3 OR 4 WAY VERSION.
5. REFER TO ELECTRICAL PLANS FOR TYPES, QUANTITIES, AND GENERAL LOCATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE FINAL REQUIREMENTS WITH THE OWNER AND ENGINEER.

OCCUPANCY SENSOR SCHEDULE

TYPE	TYPICAL USAGE	BASIS OF DESIGN	COVERAGE	TECHNOLOGY	MOUNTING	OPTIONS	REMARKS
A	GENERAL PURPOSE	WATTSTOPPER DT-200	2000SF WALKING/1000SF SITTING	DUAL TECHNOLOGY	CEILING/WALL	-	

GENERAL NOTES:
1. POWER PACKS NOT SHOWN ON PLAN. PROVIDE POWER PACKS AND ALL CIRCUITING AS REQUIRED FOR PROPER OPERATION OF LIGHTING SYSTEM. POWER PACKS SHALL BE MODEL "BZ" AS MANUFACTURED BY WATTSTOPPER OR APPROVED EQUAL. CONCEAL POWER PACK WITHIN CEILING/WALL ADJACENT TO SENSOR WHERE FEASIBLE.
2. CONTRACTOR TO FIELD ADJUST OCCUPANCY SENSORS AS REQUIRED TO LIGHT DESIRED AREAS. COORDINATE WITH OWNER AND ENGINEER.
3. COORDINATE FINAL DEVICE & FACEPLATE COLORS WITH OWNER.
4. "a, b, c ..." LOWER CASE LETTERING IS USED TO INDICATE FIXTURE SWITCHING CONFIGURATION.
5. REFER TO ELECTRICAL PLANS FOR TYPES, QUANTITIES, AND GENERAL LOCATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE FINAL REQUIREMENTS WITH THE OWNER AND ENGINEER.

PANEL HVP1 — MBR BUILDING

400 AMP FRAME
MLO
480Y/277 VOLT 3ϕ, 4W+G
35KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	AIR COMPRESSOR A					AIR COMPRESSOR B	2
3	↓	30	3	30	3	↓	4
5							6
7	CRANE PANEL - 1					CRANE PANEL - 2	8
9	↓	30	3	30	3	↓	10
11							12
13	DRAIN PUMP CONTROL PANEL					SCUM PUMP CONTROL PANEL - 5	14
15	↓	20	3	40	3	↓	16
17							18
19	PRIMARY CLARIFIER CONTROL PANEL - 1					SCUM PUMP CONTROL PANEL - 1	20
21	↓	20	3	20	3	↓	22
23							24
25	PRIMARY CLARIFIER CONTROL PANEL - 2					SCUM PUMP CONTROL PANEL - 2	26
27	↓	20	3	20	3	↓	28
29							30
31	PRIMARY CLARIFIER CONTROL PANEL - 3					SCUM PUMP CONTROL PANEL - 3	32
33	↓	20	3	20	3	↓	34
35							36
37	PRIMARY CLARIFIER CONTROL PANEL - 4					SCUM PUMP CONTROL PANEL - 4	38
39	↓	20	3	20	3	↓	40
41							42
43	PRIMARY SLUDGE PUMP CONTROL PANEL					ELECTRIC UNIT HEATER EUH-300	44
45	↓	50	3	20	3	↓	46
47							48
49	ELECTRIC UNIT HEATER EUH-500					ELECTRIC UNIT HEATER EUH-504	50
51	↓	20	3	20	3	↓	52
53							54
55	ELECTRIC UNIT HEATER EUH-505					ELECTRIC UNIT HEATER EUH-507	56
57	↓	20	3	50	3	↓	58
59							60
61	ELECTRIC UNIT HEATER EUH-508					ELECTRIC UNIT HEATER EUH-509	62
63	↓	50	3	50	3	↓	64
65							66
67	ELECTRIC UNIT HEATER EUH-513					ELECTRIC UNIT HEATER EUH-514	68
69	↓	50	3	50	3	↓	70
71							72
73	ELECTRIC UNIT HEATER EUH-515					ELECTRIC UNIT HEATER EUH-516	74
75	↓	50	3	50	3	↓	76
77							78
79	ELECTRIC WATER HEATER EWH-500					CHEMICAL FEED PUMP 23-P-301-A	80
81	↓	30	3	20	3	↓	82
83							84
85	SLUICE GATE #1					CHEMICAL FEED PUMP 23-P-301-B	86
87	↓	20	3	20	3	↓	88
89							90
91	SLUICE GATE #2					CHEMICAL FEED PUMP 23-P-101-A	92
93	↓	20	3	20	3	↓	94
95							96
97	SLUICE GATE #3					CHEMICAL FEED PUMP 23-P-101-B	98
99	↓	20	3	20	3	↓	100
101							102
103	SLUICE GATE #4					SPARE	104
105	↓	20	3	100	3	↓	106
107							108
109	SPARE					SPARE	110
111	↓	60	3	30	3	↓	112
113							114
115	SPARE			-	-	SPACE	116
117	↓	15	3	-	-	SPACE	118
119				-	-	SPACE	120
121	SPACE	-	-	-	-	SPACE	122
123	SPACE	-	-	-	-	SPACE	124
125	SPACE	-	-	-	-	SPACE	126
127	SPACE	-	-	-	-	SPACE	128
129	SPACE	-	-	-	-	SPACE	130
131	SPACE	-	-	-	-	SPACE	132
133	SPACE	-	-	-	-	SPACE	134
135	SPACE	-	-	-	-	SPACE	136
137	SPACE	-	-	-	-	SPACE	138
139	SPACE	-	-	-	-	SPACE	140
141	SPACE	-	-	-	-	SPACE	142
143	SPACE	-	-	-	-	SPACE	144
145	SPACE	-	-	-	-	SPACE	146
147	SPACE	-	-	-	-	SPACE	148
149	SPACE	-	-	-	-	SPACE	150
151	SPACE	-	-	-	-	SPACE	152
153	SPACE	-	-	-	-	SPACE	154
155	SPACE	-	-	-	-	SPACE	156
157	SPACE	-	-	-	-	SPACE	158
159	SPACE	-	-	-	-	SPACE	160
161	SPACE	-	-	-	-	SPACE	162

GENERAL SCHEDULE NOTES:
1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE ALL REQUIRED GROUNDING PER PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:
1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. INTEGRAL SPD
6. INTEGRAL KWHD
7. TOP/BOTTOM FED
8. TWO-SECTION PANELBOARD
9. 400A FEED-THRU LUGS
10. BASIS OF DESIGN: EATON

PANEL LVP1 — MBR BUILDING

400 AMP FRAME
400A MCB
208Y/120 VOLT 3ϕ, 4W+G
22KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	NAOH METERING PUMP 15-P-301-A	20	1	20	1	NAOH METERING PUMP 15-P-301-B	2
3	FLOW TRANSMITTER 16-FIT-707	20	1	20	1	FLOW TRANSMITTER 20-FIT-602	4
5	RECEPTS. - CHEMICAL ROOMS	20	1	20	1	RECEPTS. - ELECTRICAL ROOM	6
7	RECEPTS. - MECHANICAL/STORAGE ROOM	20	1	20	1	RECEPTS. - MEMBRANE ZONE	8
9	CHEMICAL ROOM EXHAUST FAN EF-500	20	1	20	1	RECEPTS. - ELEVATED OFFICE	10
11	LIGHTS - ELECTRICAL / BLOWER ROOM	20	1	20	1	LIGHTS - CHEMICAL ROOMS	12
13	LIGHTS - RAS PUMP ROOM	20	1	20	1	LIGHTS - SECOND FLOOR	14
15	LIGHTS - EXTERIOR	20	1	20	1	LIGHTS - MEMBRANE ZONE	16
17	LIGHTS - ELEVATED OFFICE	20	1	20	1	RECEPTS. - ELECTRICAL/BLOWER ROOM	18
19	RECEPTS. - EXTERIOR	20	1	20	1	CHEMICAL TRANSFER PUMP #1	20
21	CHEMICAL TRANSFER PUMP #2	20	1	20	1	LEVEL TRANSMITTER 15-LIT-301	22
23	NAOH FILL STATION CONTROL PANEL	20	1	20	1	LEVEL TRANSMITTER 15-LIT-302	24
25	NACLO FILL STATION CONTROL PANEL	20	1	20	1	LEVEL TRANSMITTER 23-LIT-101	26
27	DATA RACK	20	1	20	1	LEVEL TRANSMITTER 23-LIT-102	28
29	SECURITY CONTROL PANEL	20	1	20	1	LEVEL TRANSMITTER 23-LIT-103	30
31	FIRE ALARM CONTROL PANEL	20	1	20	1	LEAK DETECTION CONTROLLER LDC-500	32
33	HVAC MONITORING CONTROL PANEL	20	1	20	1	AUTOMATIC DRAIN VALVE 90-FV-001-A	34
35	AIR DRYER 90-DR-001-A	20	1	20	1	AUTOMATIC DRAIN VALVE 90-FV-001-B	36
37	AIR DRYER 90-DR-001-B	20	1	20	1	AUTOMATIC DRAIN VALVE 90-FV-011	38
39	OVERHEAD DOOR	20	1	20	1	OVERHEAD DOOR	40
41	REMOTE I/O PANEL #1	30	1	30	1	BLOWER COOLING FAN CONTROL PANEL	42
43	SLUDGE PIT EXHAUST FAN EF-300	20	1	30	1	ELECTRIC WATER HEATER EWH-501	44
45	SLUDGE VALVE PIT EXHAUST FAN EF-301	20	1	20	1	RECIRCULATION PUMP RCP-500	46
47	DUCTLESS SPLIT SYSTEM	20	2	20	1	STATIONARY ROOF VENTILATOR SRV-300	48
49	↓			20	1	STATIONARY ROOF VENTILATOR SRV-500	50
51	ELECTRIC UNIT HEATER EUH-501					ELECTRIC UNIT HEATER EUH-502	52
53	↓	30	3	30	3	↓	54
55							56
57	ELECTRIC UNIT HEATER EUH-503					ELECTRIC UNIT HEATER EUH-506	58
59	↓	30	3	30	3	↓	60
61							62
63	ELECTRIC UNIT HEATER EUH-510					ELECTRIC UNIT HEATER EUH-511	64
65	↓	30	3	30	3	↓	66
67							68
69	ELECTRIC UNIT HEATER EUH-512					ELECTRIC UNIT HEATER EUH-519	70
71	↓	30	3	30	3	↓	72
73							74
75	LOUVER W/MOTORIZED DAMPER LV-500	20	1			SLUDGE VALVE PIT ELECTRIC UNIT HEATER EUH-301	76
77	LOUVER W/MOTORIZED DAMPER LV-501	20	1	30	3	↓	78
79	LOUVER W/MOTORIZED DAMPER LV-502	20	1				80
81	LOUVER W/MOTORIZED DAMPER LV-503	20	1	30	2	HEAT TRACE SYSTEM	82
83	LOUVER W/MOTORIZED DAMPER LV-504	20	1			↓	84
85	LOUVER W/MOTORIZED DAMPER LV-505	20	1	100	2	GENERATOR #1 LOADCENTER	86
87	LOUVER W/MOTORIZED DAMPER LV-506	20	1			↓	88
89	LOUVER W/MOTORIZED DAMPER LV-507	20	1	100	2	GENERATOR #2 LOADCENTER	90
91	SUPPLY FAN SF-500	20	1			↓	92
93	SPARE					SPARE	94
95	↓	100	3	60	3	↓	96
97							98
99	SPARE					SPARE	100
101	↓	30	3	15	3	↓	102
103							104
105	SPARE	40	2	20	2	SPARE	106
107	↓					↓	108
109	RAS PUMP ROOM EXHAUST FAN EF-501	20	2	20	2	BLOWER ROOM EXHAUST FAN EF-502	110
111	↓					↓	112
113	BLOWER ROOM EXHAUST FAN EF-503	20	2	20	2	MEMBRANE AREA EXHAUST FAN EF-505	114
115	↓					↓	116
117	MEMBRANE AREA EXHAUST FAN EF-506	20	2	20	2	MEMBRANE AREA EXHAUST FAN EF-507	118
119	↓					↓	120
121	ELECTRICAL ROOM EXHAUST FAN EF-504	20	1	20	2	MEMBRANE AREA EXHAUST FAN EF-508	122
123	PRIMARY SLUDGE PIT DEHUMIDIFIER	20	1			↓	124
125	PRIMARY SETTLING TANK #1 LIGHTS	20	1	20	1	PRIMARY SETTLING TANK #1 RECEPTACLES	126
127	PRIMARY SETTLING TANK #2 LIGHTS	20	1	20	1	PRIMARY SETTLING TANK #2 RECEPTACLES	128
129	PRIMARY SETTLING TANK #3 LIGHTS	20	1	20	1	PRIMARY SETTLING TANK #3 RECEPTACLES	130
131	PRIMARY SETTLING TANK #4 LIGHTS	20	1	20	1	PRIMARY SETTLING TANK #4 RECEPTACLES	132
133	SLUDGE CONTROL VALVE VAULT LIGHT	20	1	20	1	SLUDGE CONTROL VALVE VAULT SUMP PUMP	134
135	SLUDGE VALVE PIT LIGHT	20	1	20	1	SLUDGE VALVE PIT SUMP PUMP	136
137	PRIMARY SLUDGE PIT LIGHT	20	1	20	1	PRIMARY SLUDGE PIT SUMP PUMP	138
139	ELECTRICAL BACKBOARD LIGHTS	20	1	20	1	ELECTRICAL BACKBOARD RECEPTACLE	140
141	PRIMARY SLUDGE VALVE CONTROL PANEL	20	1	20	1	LEVEL TRANSDUCER TRANSMITTER LTT-300	142
143	MBR CONTROL PANEL	30	1	20	1	TEMPERATURE SENSOR TRANSMITTER 20-TIT-301	144
145	TURBIDITY PANEL #1	20	1	20	1	TURBIDITY PANEL #2	146
147	TURBIDITY PANEL #3	20	1	20	1	TURBIDITY PANEL #4	148
149	SAMPLING PUMP 20-P-321-1	20	1	20	1	SAMPLING PUMP 20-P-321-2	150
151	SAMPLING PUMP 20-P-321-3	20	1	20	1	SAMPLING PUMP 20-P-321-4	152
153	SPARE	30	1	30	1	SPARE	154
155	SPARE	15	1	15	1	SPARE	156
157	SPARE	20	1	20	1	SPARE	158
159	SPARE	20	1	20	1	SPARE	160
161	SPARE	20	1	20	1	SPARE	162
163	LEVEL TRANSMITTER 23-LIT-301	20	1	20	1	LEVEL TRANSMITTER LTT-500	164
165	LEVEL TRANSMITTER 20-LIT-203-1	20	1	20	1	LEVEL TRANSMITTER 20-LIT-203	166
167	LEVEL TRANSMITTER 20-LIT-203-3	20	1	20	1	LEVEL TRANSMITTER 20-LIT-203-2	168
169	PRESSURE TRANSMITTER 20-PIT-301-1	20	1	20	1	LEVEL TRANSMITTER 20-LIT-203-4	170
171	PRESSURE TRANSMITTER 20-PIT-301-3	20	1	20	1	PRESSURE TRANSMITTER 20-PIT-301-2	172
173	DO/PH PROBE CONTROLLER 16-AIT-403-1	20	1	20	1	PRESSURE TRANSMITTER 20-PIT-301-4	174
175	DO/PH PROBE CONTROLLER 16-AIT-403-3	20	1	20	1	DO/PH PROBE CONTROLLER 16-AIT-403-2	176
177	DO PROBE CONTROLLER 16-AIT-405-2	20	1	20	1	DO PROBE CONTROLLER 16-AIT-405-1	178
179	FLOW TRANSMITTER 16-FIT-301-1	20	1	20	1	DO PROBE CONTROLLER 16-AIT-405-3	180
181	FLOW TRANSMITTER 16-FIT-301-3	20	1	20	1	FLOW TRANSMITTER 16-FIT-301-2	182
183	FLOW TRANSMITTER 16-FIT-301-4	20	1	20	2	POLE-MOUNTED SITE LIGHTS - SOUTH	184
185	POLE-MOUNTED SITE LIGHTS - NORTH	20	2			↓	186
187	↓			-	-	SPACE	188
189	POLE-MOUNTED SITE LIGHTS - CENTRAL	20	2	-	-	SPACE	190
191	↓			-	-	SPACE	192
193	SPACE	-	-	-	-	SPACE	194
195	SPACE	-	-	-	-	SPACE	196
197	SPACE	-	-	-	-	SPACE	198
199	SPACE	-	-	-	-	SPACE	200
201	SPACE	-	-	-	-	SPACE	202
203	SPACE	-	-	-	-	SPACE	204
205	SPACE	-	-	-	-	SPACE	206
207	SPACE	-	-	-	-	SPACE	208
209	SPACE	-	-	-	-	SPACE	210
211	SPACE	-	-	-	-	SPACE	212
213	SPACE	-	-	-	-	SPACE	214
215	SPACE	-	-	-	-	SPACE	216

GENERAL SCHEDULE NOTES:
1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE ALL REQUIRED GROUNDING PER PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:
1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. TOP/BOTTOM FED
6. FOUR-SECTION PANELBOARD
7. 400A FEED-THRU LUGS
8. BASIS OF DESIGN: EATON

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Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK — JEFFREY E ROBINSON — LICENSED PROFESSIONAL ENGINEER — 095896

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553

FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL SCHEDULES

REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-042

PROJECT # 18-732 PHASE #

PANEL HVP4 — DEWATERING BUILDING

400 AMP FRAME
400A MCB
480Y/277 VOLT 3ϕ, 4W+G
35KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	PANEL LVP4 VIA TRANSFORMER TR4					PANEL BP-LVP VIA TRANSFORMER BP-TR	2
3		125	3	125	3		4
5							6
7	PUMP P-700					BOILER PUMP BP-700	8
9		20	3	20	3		10
11							12
13	PUMP P-701					BOILER PUMP BP-701	14
15		20	3	20	3		16
17							18
19	SUMP PUMP CONTROL PANEL					SPARE	20
21		30	3	100	3		22
23							24
25	SPARE	40	2			SPARE	26
27				60	3		28
29	SPARE	20	2				30
31						SPARE	32
33	SPARE	30	1	30	3		34
35	SPARE	15	1				36
37	SPARE	20	1			SPARE	38
39	SPARE	20	1	15	3		40
41	SPARE	20	1				42
43	SPACE	-	-	-	-	SPACE	44
45	SPACE	-	-	-	-	SPACE	46
47	SPACE	-	-	-	-	SPACE	48
49	SPACE	-	-	-	-	SPACE	50
51	SPACE	-	-	-	-	SPACE	52
53	SPACE	-	-	-	-	SPACE	54

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE ALL REQUIRED GROUNDING PER PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. INTEGRAL SPD
6. INTEGRAL KWHD
7. TOP/BOTTOM FED
8. BASIS OF DESIGN: EATON

PANEL LVP4 — DEWATERING BUILDING

225 AMP FRAME
225A MCB
208Y/120 VOLT 3ϕ, 4W+G
22KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	LIGHTS - MECHANICAL OPERATIONS ROOM	20	1	20	1	LIGHTS - ELECT. / MECH. ROOMS & OFFICES	2
3	LIGHTS - ENTRY / LOBBY, KITCHEN, & OFFICE	20	1	20	1	LIGHTS - LOCKER ROOMS	4
5	RECEPTS. - ENTRY DRINKING FOUNTAIN	20	1	20	1	LIGHTS - EXTERIOR	6
7	LIGHTS - SHOP/MECHANICAL ROOM	20	1	20	1	LIGHTS - DUMPSTER AREA	8
9	RECEPTS. - MECHANICAL OPERATION ROOM	20	1	20	1	RECEPTS. - OFFICE	10
11	RECEPTS. - OFFICE	20	1	20	1	RECEPTS. - ENTRY / LOBBY	12
13	RECEPTS. - KITCHEN	20	1	20	1	RECEPTS. - KITCHEN REFRIGERATOR	14
15	RECEPTS. - LOCKER ROOM	20	1	20	1	RECEPTS. - OFFICE	16
17	RECEPTS. - BASEMENT MECHANICAL ROOM	20	1	20	1	RECEPTS. - STORAGE ROOM	18
19	RECEPTS. - DUMPSTER AREA	20	1	20	1	RECEPTS. - SHOP	20
21	RECEPTS. - EXTERIOR	20	1	20	1	RECEPTS. - MECHANICAL ROOM	22
23	FIRE ALARM CONTROL PANEL	20	1	20	1	RECEPTS. - ELECTRICAL ROOM	24
25	SECURITY CONTROL PANEL	20	1	20	1	DATA RACK	26
27	HVAC MONITORING CONTROL PANEL	20	1	30	1	REMOTE I/O PANEL #2	28
29	OVERHEAD DOOR - MECH. OPERATIONS RM.	20	1	20	1	OVERHEAD DOOR - MECH. OPERATIONS RM.	30
31	OVERHEAD DOOR - DUMPSTER AREA	20	1	20	1	OVERHEAD DOOR - DUMPSTER AREA	32
33	WATER HEATER WH-700	15	1	15	1	RECIRCULATION PUMP RCP-700	34
35	HYDRONIC UNIT HEATER HUH-700	20	1	20	1	BOILER B-700	36
37	HYDRONIC UNIT HEATER HUH-701	20	1	20	1	BOILER B-701	38
39	HYDRONIC UNIT HEATER HUH-702	20	1	20	1	LOUVER W/MOTORIZED DAMPER LV-700	40
41	HYDRONIC UNIT HEATER HUH-703	20	1	20	1	LOUVER W/MOTORIZED DAMPER LV-701	42
43	HYDRONIC UNIT HEATER HUH-704	20	1	20	1	SUPPLY FAN SF-700	44
45	HYDRONIC UNIT HEATER HUH-705	20	1	20	1	SUPPLY FAN SF-701	46
47	HYDRONIC UNIT HEATER HUH-706	20	1	20	2	EXHAUST FAN EF-700	48
49	HYDRONIC UNIT HEATER HUH-707	20	1				50
51	FURNACE F-700	20	1	20	2	EXHAUST FAN EF-701	52
53	DUCTLESS SPLIT SYSTEM DSCU-700	20	2				54
55				20	1	EXHAUST FAN EF-702	56
57	DUCTLESS SPLIT SYSTEM DSCU-701	20	2	50	2	DUCTLESS SPLIT SYSTEM DSCU-702	58
59							60
61	SPARE					SPARE	62
63		100	3	60	3		64
65							66
67	SPARE					SPARE	68
69		30	3	15	3		70
71							72
73	SPARE	40	2	20	2	SPARE	74
75							76
77	SPARE	30	1	30	1	SPARE	78
79	SPARE	15	1	15	1	SPARE	80
81	SPARE	20	1	20	1	SPARE	82
83	SPARE	20	1	20	1	SPARE	84
85	SPACE	–	–	–	–	SPACE	86
87	SPACE	–	–	–	–	SPACE	88
89	SPACE	–	–	–	–	SPACE	90
91	SPACE	–	–	–	–	SPACE	92
93	SPACE	–	–	–	–	SPACE	94
95	SPACE	–	–	–	–	SPACE	96
97	SPACE	–	–	–	–	SPACE	98
99	SPACE	–	–	–	–	SPACE	100
101	SPACE	–	–	–	–	SPACE	102
103	SPACE	–	–	–	–	SPACE	104
105	SPACE	–	–	–	–	SPACE	106
107	SPACE	–	–	–	–	SPACE	108

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE ALL REQUIRED GROUNDING PER PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. TOP/BOTTOM FED
6. TWO-SECTION PANELBOARD
7. 225A FEED-THRU LUGS
8. BASIS OF DESIGN: EATON

PANEL HVP5 — ATAD BUILDING

225AMP FRAME
MLO
480 VOLT 3ϕ, 3W+G
35KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	PANEL LVP5 VIA TRANSFORMER TR5					BELT PRESS SLUDGE FEED PUMP BPSFP-03	2
3		50	3	40	3		4
5							6
7	ELECTRIC UNIT HEATER EUH-400					BELT PRESS SLUDGE FEED PUMP BPSFP-04	8
9		50	3	40	3		10
11							12
13	ELECTRIC UNIT HEATER EUH-401					ELECTRIC UNIT HEATER EUH-402	14
15		50	3	50	3		16
17							18
19	ELECTRIC WATER HEATER EWH-400					ELECTRIC UNIT HEATER EUH-403	20
21		30	3	20	3		22
23							24
25	FERRIC SKID #1					FERRIC SKID #2	26
27		20	3	20	3		28
29							30
31	SPARE					SPARE	32
33		100	3	60	3		34
35							36
37	SPARE					SPARE	38
39		30	3	15	3		40
41							42
43	SPARE	40	2	20	2	SPARE	44
45							46
47	SPACE	-	-	-	-	SPACE	48
49	SPACE	-	-	-	-	SPACE	50
51	SPACE	-	-	-	-	SPACE	52
53	SPACE	-	-	-	-	SPACE	54

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
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12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. INTEGRAL SPD
6. INTEGRAL KWHD
7. TOP/BOTTOM FED
8. BASIS OF DESIGN: EATON

PANEL LVP5 — ATAD BUILDING

100 AMP FRAME
100A MCB
208Y/120 VOLT 3ϕ, 4W+G
22KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	RECEPTS. - EQUIPMENT ROOM	20	1	20	1	LIGHTS - EQUIPMENT ROOM	2
3	RECEPTS. - THICKENING ROOM	20	1	20	1	LIGHTS - THICKENING ROOM	4
5	RECEPTS. - ELECTRICAL ROOM	20	1	20	1	LIGHTS - ELECTRICAL ROOM	6
7	RECEPTS. - EXTERIOR	20	1	20	1	LIGHTS - EXTERIOR	8
9	SPACE	20	1	20	1	OVERHEAD DOOR	10
11	SPACE	20	1	20	1	OVERHEAD DOOR	12
13	FIRE ALARM CONTROL PANEL	20	1	20	1	DATA RACK	14
15	SECURITY CONTROL PANEL	20	1	20	1	HVAC MONITORING CONTROL PANEL	16
17	REMOTE I/O PANEL 4	30	1	20	1	STATIONARY ROOF VENTILATOR SRV-400	18
19	SUPPLY FAN SF-400	20	1	20	1	LOUVER W/MOTORIZED DAMPER LV-400	20
21	EXHAUST FAN EF-400	20	2	20	1	LOUVER W/MOTORIZED DAMPER LV-401	22
23				20	1	LOUVER W/MOTORIZED DAMPER LV-402	24
25	EXHAUST FAN EF-401	20	1			SPARE	26
27	DUCTLESS SPLIT SYSTEM	30	2	100	3		28
29							30
31	SPARE	40	2			SPARE	32
33				60	3		34
35	SPARE	20	2				36
37						SPARE	38
39	SPARE	30	1	30	3		40
41	SPARE	15	1				42
43	SPARE	20	1			SPARE	44
45	SPARE	20	1	15	3		46
47	SPARE	20	1				48
49	SPACE	-	-	-	-	SPACE	50
51	SPACE	-	-	-	-	SPACE	52
53	SPACE	-	-	-	-	SPACE	54

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
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8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE ALL REQUIRED GROUNDING PER PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. TOP/BOTTOM FED
6. BASIS OF DESIGN: EATON

PANEL LPMCC — ATAD BUILDING MCC

100 AMP FRAME
MLO
120/240 VOLT 1ϕ, 3W+G
22KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	V-910	20	1	20	1	ATAD MCP	2
3	V-911	20	1	20	1	V-811	4
5	V-912	20	1	20	1	V-812	6
7	V-913	20	1	20	1	THERMAER 1 INSTRUMENT CABINET #1	8
9	V-914	20	1	20	1	THERMAER 2 INSTRUMENT CABINET #2	10
11	V-915	20	1	20	1	SNDR INSTRUMENT CABINET #3	12
13	V-918	20	1	20	1	HEATX INSTRUMENT CABINET #4	14
15	V-702	20	1	20	1	BIOFILTER INSTRUMENT CABINET #5	16
17	V-704	20	1	20	1	SPARE	18
19	V-705	20	1	20	1	SPARE	20
21	SPARE	20	1	20	1	SPARE	22
23	SPARE	20	1	20	1	SPARE	24
25	SPACE	–	–	–	–	SPACE	26
27	SPACE	–	–	–	–	SPACE	28
29	SPACE	–	–	–	–	SPACE	30

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE ALL REQUIRED GROUNDING PER PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:

1. MOUNTING: INTERNAL TO MCC
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. TOP/BOTTOM FED
6. BASIS OF DESIGN: SAME AS MCC

PANEL HVP6 — MIRCROSCREEN BUILDING

400 AMP FRAME
400A MCB
480Y/277 VOLT 3ϕ, 4W+G
35KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	MICROSCREEN CONTROL PANEL - 1					MICROSCREEN CONTROL PANEL - 2	2
3		20	3	20	3		4
5							6
7	PANEL LVP6 VIA TRANSFORMER TR6					INFLUENT PUMP #1	8
9		50	3	150	3		10
11							12
13	INFLUENT PUMP #2					INFLUENT PUMP #3	14
15		150	3	150	3		16
17							18
19	ELECTRIC UNIT HEATER EUH-517					ELECTRIC UNIT HEATER EUH-518	20
21		30	3	30	3		22
23							24
25	ELECTRIC UNIT HEATER EUH-520					SPARE	26
27		30	3	100	3		28
29							30
31	SPARE	40	2			SPARE	32
33				60	3		34
35	SPARE	20	2				36
37						SPARE	38
39	SPARE	30	1	30	3		40
41	SPARE	15	1				42
43	SPARE	20	1			SPARE	44
45	SPARE	20	1	15	3		46
47	SPARE	20	1				48
49	SPACE	-	-	-	-	SPACE	50
51	SPACE	-	-	-	-	SPACE	52
53	SPACE	-	-	-	-	SPACE	54

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE ALL REQUIRED GROUNDING PER PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. INTEGRAL SPD
6. INTEGRAL KWHD
7. TOP/BOTTOM FED
8. BASIS OF DESIGN: EATON

PANEL LVP6 — MICROSCREEN BUILDING

100 AMP FRAME
100A MCB
208Y/120 VOLT 3ϕ, 4W+G
22KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	RECEPTS. - EXTERIOR	20	1	20	1	RECEPTS. - INTERIOR	2
3	LIGHTS - INTERIOR	20	1	20	1	LIGHTS - EXTERIOR	4
5	RECEPTS. - INFLUENT DRY WELL	20	1	20	1	LIGHTS - INFLUENT DRY WELL	6
7	INFLUENT DRY WELL SUMP PUMP	20	1	20	1	LEVEL TRANSMITTER LIT-1	8
9	REMOTE I/O PANEL 5	30	1	20	1	LEVEL TRANSMITTER LIT-2	10
11	PUMP MONITORING SYSTEM MAS-801	20	1	20	1	LEVEL TRANSMITTER LIT-3	12
13	STATIONARY ROOF VENTILATOR SRV-500	20	1	20	1	LEVEL TRANSMITTER LIT-4	14
15	EXHAUST FAN EF-509	20	1	20	1	LOUVER W/MOTORIZED DAMPER LV-508	16
17	EXHAUST FAN EF-510	20	1	20	1	LOUVER W/MOTORIZED DAMPER LV-509	18
19	SPARE					SPARE	20
21		100	3	60	3		22
23							24
25	SPARE					SPARE	26
27		30	3	15	3		28
29							30
31	SPARE	40	2	30	1	SPARE	32
33				30	1	SPARE	34
35	SPARE	20	2	15	1	SPARE	36
37				15	1	SPARE	38
39	SPARE	20	1	20	1	SPARE	40
41	SPARE	20	1	20	1	SPARE	42
43	SPACE	-	-	-	-	SPACE	44
45	SPACE	-	-	-	-	SPACE	46
47	SPACE	-	-	-	-	SPACE	48
49	SPACE	-	-	-	-	SPACE	50
51	SPACE	-	-	-	-	SPACE	52
53	SPACE	-	-	-	-	SPACE	54

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE ALL REQUIRED GROUNDING PER PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. TOP/BOTTOM FED
6. BASIS OF DESIGN: EATON

PANEL BP-LVP — DEWATERING BUILDING

225 AMP FRAME
225A MCB
120/240 VOLT 3ϕ, 4W+G
22KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	BELT PRESS CONTROL PANEL #1					BELT PRESS CONTROL PANEL #2	2
3		100	3	100	3		4
5							6
7	WINCH #1					WINCH #2	8
9		30	3	30	3		10
11							12
13	CONVEYOR CONTROL PANEL					SPARE	14
15		100	3	100	3		16
17							18
19	SPARE					SPARE	20
21		15	3	60	3		22
23							24
25	SPARE	40	2			SPARE	26
27				30	3		28
29	SPARE	20	2				30
31				20	1	SPARE	32
33	SPARE	30	1	20	1	SPARE	34
35	SPARE	15	1	20	1	SPARE	36
37	SPACE	-	-	-	-	SPACE	38
39	SPACE	-	-	-	-	SPACE	40
41	SPACE	-	-	-	-	SPACE	42
43	SPACE	-	-	-	-	SPACE	44
45	SPACE	-	-	-	-	SPACE	46
47	SPACE	-	-	-	-	SPACE	48
49	SPACE	-	-	-	-	SPACE	50
51	SPACE	-	-	-	-	SPACE	52
53	SPACE	-	-	-	-	SPACE	54

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
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ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. TOP/BOTTOM FED
6. BASIS OF DESIGN: EATON

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 567-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING
STATE OF NEW YORK — JEFFREY E ROBINSON — LICENSED PROFESSIONAL ENGINEER — 095896

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY
SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553

FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL SCHEDULES

REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE: 27 JUNE, 2025
DESIGN BY: RRM
DRAWN BY: CDJ
CHECKED BY: MGR
REVIEWED BY: JER

SHEET NO.
E-043

PROJECT # 18-732 PHASE #

PANEL HVP7 — GARAGE

225 AMP FRAME
225A MCB
480Y/277 VOLT 3ϕ, 4W+G
35KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	PANEL LVP7 VIA TRANSFORMER TR7					ELECTRIC UNIT HEATER EUH-950	2
3		50	3	30	3		4
5							6
7	AIR COMPRESSOR					ELECTRIC UNIT HEATER EUH-951	8
9		20	3	30	3		10
11							12
13	HOIST					SPARE	14
15		20	3	100	3		16
17							18
19	SPARE	40	2			SPARE	20
21				60	3		22
23	SPARE	20	2				24
25						SPARE	26
27	SPARE	30	1	30	3		28
29	SPARE	15	1				30
31	SPARE	20	1			SPARE	32
33	SPARE	20	1	15	3		34
35	SPARE	20	1				36
37	SPACE	-	-	-	-	SPACE	38
39	SPACE	-	-	-	-	SPACE	40
41	SPACE	-	-	-	-	SPACE	42

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
8. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND PROVIDE NAMEPLATE PER SPECIFICATIONS.
9. PROVIDE TOTAL NUMBER OF 1P SPACES AS INDICATED. PROVIDE BLOCK OFF PLATES FOR ALL SPACES WHICH ARE NOT UTILIZED.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. PROVIDE ALL REQUIRED GROUNDING PER PLANS AND SPECIFICATIONS. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
12. PROVIDE LUG TERMINATION KITS, OR PIN ADAPTORS AS NECESSARY TO TERMINATE THE NUMBER OF SETS OF CONDUCTORS AND SIZE SHOWN/SPECIFIED.

ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. INTEGRAL SPD
6. INTEGRAL KWHD
7. TOP/BOTTOM FED
8. BASIS OF DESIGN: EATON

PANEL HVP8 — DISINFECTION BUILDING

400 AMP FRAME
400A MCB
480Y/277 VOLT 3ϕ, 4W+G
35KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	PLANT WATER CONTROL PANEL					POWER PANEL PP-1 VIA TRANSFORMER TR8	2
3		175	3	70	3		4
5							6
7	BLOWER #1					BLOWER #2	8
9		50	3	50	3		10
11							12
13	BACKPULSE PUMP #1					BACKPULSE PUMP #2	14
15		150	3	150	3		16
17							18
19	SPARE					SPARE	20
21		100	3	60	3		22
23							24
25	SPARE					SPARE	26
27		30	3	15	3		28
29							30
31	SPARE	40	2	20	1	SPARE	32
33				20	1	SPARE	34
35	SPARE	20	2	20	1	SPARE	36
37				–	–	SPACE	38
39	SPARE	30	1	–	–	SPACE	40
41	SPARE	15	1	–	–	SPACE	42

GENERAL SCHEDULE NOTES:

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ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. INTEGRAL SPD
6. INTEGRAL KWHD
7. TOP/BOTTOM FED
8. BASIS OF DESIGN: EATON

PANEL LVP7 — GARAGE

100 AMP FRAME
100A MCB
208Y/120 VOLT 3ϕ, 4W+G
22KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	LIGHTS - INTERIOR	20	1	20	1	RECEPTS. - NORTH INTERIOR	2
3	LIGHTS - EXTERIOR	20	1	20	1	RECEPTS. - SOUTH INTERIOR	4
5	OVERHEAD DOOR	20	1	20	1	RECEPTACLES - EXTERIOR	6
7	OVERHEAD DOOR	20	1	20	1	OVERHEAD DOOR	8
9	DATA RACK	20	1	20	1	SECURITY CONTROL PANEL	10
11	ELECTRIC WATER HEATER	20	1	20	1	FIRE ALARM CONTROL PANEL	12
13	EXHAUST FAN	20	1	20	1	LOUVER W/MOTORIZED DAMPER	14
15	WELDER RECEPTACLE	50	2	50	2	WELDER RECEPTACLE	16
17							18
19	AIR COMPRESSOR	60	2	30	2	LATHE MILLING MACHINE	20
21							22
23	SAND BLASTER	20	1			SPARE	24
25	HOIST			100	3		26
27		40	3				28
29						SPARE	30
31	SPARE			60	3		32
33		40	2				34
35	SPARE	20	2			SPARE	36
37				30	3		38
39	SPARE	30	1				40
41	SPARE	30	1			SPARE	42
43	SPARE	20	1	15	3		44
45	SPARE	20	1				46
47	SPARE	15	1	15	1	SPARE	48
49	SPACE	-	-	–	–	SPACE	50
51	SPACE	-	-	–	–	SPACE	52
53	SPACE	-	-	–	–	SPACE	54

GENERAL SCHEDULE NOTES:

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ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. TOP/BOTTOM FED
6. BASIS OF DESIGN: EATON

PANEL HVP3 — HEADWORKS BUILDING

225 AMP FRAME
225A MCB
480Y/277 VOLT 3ϕ, 4W+G
35KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	SPACE	-	-			PANEL LVP3 VIA TRANSFORMER TR3	2
3	SPACE	-	-	125	3		4
5	SPACE	-	-				6
7	BAR SCREEN CONTROL PANEL - 1					BAR SCREEN CONTROL PANEL - 2	8
9		20	3	20	3		10
11							12
13	GRIT SYSTEM CONTROL PANEL - 1					GRIT SYSTEM CONTROL PANEL - 2	14
15		40	3	40	3		16
17							18
19	ELECTRIC UNIT HEATER EUH-200					ELECTRIC UNIT HEATER EUH-201	20
21		50	3	50	3		22
23							24
25	ELECTRIC UNIT HEATER EUH-202					ELECTRIC UNIT HEATER EUH-203	26
27		50	3	20	3		28
29							30
31	SPARE					SPARE	32
33		100	3	60	3		34
35							36
37	SPARE					SPARE	38
39		30	3	15	3		40
41							42
43	SPARE	40	2	-	-	SPACE	44
45				-	-	SPACE	46
47	SPARE	20	2	-	-	SPACE	48
49				-	-	SPACE	50
51	SPARE	20	1	-	-	SPACE	52
53	SPARE	20	1	-	-	SPACE	54

GENERAL SCHEDULE NOTES:

1. PROVIDE SPARE BREAKERS AS INDICATED.
2. PROVIDE ARC FLASH WARNING LABEL PER SPECIFICATIONS.
3. PROVIDE TYPED PANEL DIRECTORY INDICATING LOADS SERVED.
4. REFER TO ELECTRICAL PLANS FOR GENERAL LOCATIONS OF EQUIPMENT.
5. PROVIDE ALL REQUIRED MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC...
6. CONTRACTOR TO BALANCE PROPOSED PANEL LOAD ACROSS ALL PHASES EQUALLY.
7. VERIFY ALL CIRCUIT BREAKER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE AS REQUIRED.
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ACCESSORIES & TRIM:

1. MOUNTING: SURFACE
2. NEMA 1 ENCLOSURE
3. DOOR-IN-DOOR COVER
4. COPPER BUS BARS
5. INTEGRAL SPD
6. INTEGRAL KWHD
7. TOP/BOTTOM FED
8. BASIS OF DESIGN: EATON

PANEL LVP3 — HEADWORKS BUILDING

225 AMP FRAME
225A MCB
208Y/120 VOLT 3ϕ, 4W+G
22KAIC RMS SYM

CIRCUIT NUMBER	CIRCUIT SERVED	BREAKER AMP	BREAKER POLE	BREAKER AMP	BREAKER POLE	CIRCUIT SERVED	CIRCUIT NUMBER
1	LIGHTS - INTERIOR	20	1	20	1	LIGHTS - EXTERIOR	2
3	RECEPTS. - ELECTRICAL ROOM	20	1	20	1	RECEPTS. - INFLUENT ROOM	4
5	RECEPTS. - EXTERIOR	20	1	30	1	REMOTE I/O PANEL	6
7	FLOW METER TRANSMITTER FMT-200	20	1	30	1	GAS DETECTION SYSTEM	8
9	EXHAUST FAN EF-200	20	1	30	1	VACUUM PRIME CONTROL PANEL	10
11	EXHAUST FAN EF-201	20	1	30	1	VACUUM PRIME CONTROL PANEL	12
13	SUPPLY FAN SF-200	20	1	20	1	SECURITY PANEL	14
15	LOUVER W/MOTORIZED DAMPER LV-200	20	1	20	1	DATA RACK	16
17	LOUVER W/MOTORIZED DAMPER LV-201	20	1	20	1	~~COMBIN. CARBON MONOXIDE/SMOKE DETECTOR~~	18
19	LOUVER W/MOTORIZED DAMPER LV-202	20	1	20	1	ULTRASONIC LEVEL TRANSMITTER LT-200	20
21	LOUVER W/MOTORIZED DAMPER LV-203	20	1	20	1	ULTRASONIC LEVEL TRANSMITTER LT-201	22
23	HEAT TRACE SYSTEM	30	2	30	2	HEAT TRACE SYSTEM	24
25							26
27	SPARE					SPARE	28
29		100	3	60	3		30
31							32
33	SPARE					SPARE	34
35		30	3	15	3		36
37							38
39	SPARE	40	2	20	2	SPARE	40
41							42
43	SPARE	30	1	20	1	ULTRASONIC LEVEL TRANSMITTER LT-202	44
45	SPARE	30	1	20	1	ULTRASONIC LEVEL TRANSMITTER LT-203	46
47	SPARE	20	1			SPACE	48
49	SPARE	20	1			INFLUENT STRUCTURE DISTRIBUTION PANEL	50
51	SPARE	15	1	200	3	SUB-FEED CIRCUIT BREAKER	52
53	SPARE	15	1				54

GENERAL SCHEDULE NOTES:

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5. TOP/BOTTOM FED
6. BASIS OF DESIGN: EATON

TRANSFORMER SCHEDULE

DESIGNATION	LOCATION	RATING	TYPE	VOLTAGE PRIMARY	VOLTAGE SECONDARY	TAPS	DEGREE C TEMPERATURE RISE	NEMA ENCLOSURE	REMARKS
TR1	MBR BLDG	112.5KVA	DRY-TYPE	480V Δ, 3Ø	208Y/120V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
TR2 (E.T.R.)	CONTROL BLDG	75KVA	DRY-TYPE	480V Δ, 3Ø	208Y/120V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
TR3	HEADWORKS BLDG	75KVA	DRY-TYPE	480V Δ, 3Ø	208Y/120V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
CS-CP-1-TR	HEADWORKS BLDG	15KVA	DRY-TYPE	480V Δ, 3Ø	120/240V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
TR4	DEWATERING BLDG	75KVA	DRY-TYPE	480V Δ, 3Ø	208Y/120V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
BP-TR	DEWATERING BLDG	75KVA	DRY-TYPE	480V Δ, 3Ø	120/240V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
TR5	ATAD BLDG	30KVA	DRY-TYPE	480V Δ, 3Ø	208Y/120V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
TR-MCC	ATAD MCC2	30KVA	DRY-TYPE	480V Δ, 3Ø	208Y/120V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
TR6	MICROSCREEN BLDG	30KVA	DRY-TYPE	480V Δ, 3Ø	208Y/120V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
TR7	GARAGE	30KVA	DRY-TYPE	480V Δ, 3Ø	208Y/120V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-
TR8	DISINFECTION BLDG	45KVA	DRY-TYPE	480V Δ, 3Ø	208Y/120V, 3Ø	4 AT -2.5% FCBN 2 AT +2.5% FCAN	115	1	-

GENERAL SCHEDULE NOTES:
1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. PROVIDE 4" CONCRETE HOUSEKEEPING PAD AND ALL REQUIRED ANCHORING EQUIPMENT, MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... FOR EACH TRANSFORMER. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
3. TRANSFORMERS TO BE PROVIDED WITH COPPER WINDINGS.
4. TRANSFORMERS TO MEET MINIMUM ENERGY EFFICIENCY STANDARDS SET FORTH IN 10 CFR PART 431 (DOE 2016).
5. TRANSFORMERS TO BE INSTALLED A MINIMUM OF 4" OFF WALL(S) TO ALLOW FOR VENTILATION. FINAL REQUIREMENTS TO BE COORDINATED WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS.

TRANSFER SWITCH SCHEDULE

DESIGNATION	LOCATION	TRANSFER TYPE	VOLTAGE	AMPERAGE	MAIN INPUT BREAKER	POLE	KAIC	NEUTRAL	NEMA ENCLOSURE	REMARKS
ATS	MBR BLDG	AUTOMATIC	480V, 3Ø, 4W	3,000A	N/A	3	65	SOLID	1	-

GENERAL SCHEDULE NOTES:
1. SWITCH TO HAVE A SOLID GROUND BAR.
2. REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION/REQUIREMENTS.
3. TRANSFER SWITCH TO BE RATED AT MINIMUM 65KAIC.
4. TRANSFER SWITCH TO BE OF THE OPEN TRANSITION TYPE.
5. ATS TO BE PROVIDED WITH PROGRAMMABLE EXERCISER CLOCK.

EXISTING DISTRIBUTION PANEL PP1

LOAD	CONDUCTORS	C.B.		C.B.	CONDUCTORS	LOAD
EF-1	(2) #12 THHN COPPER & (1) #12 GRND.	20		20	(2) #12 THHN COPPER & (1) #12 GRND.	RECEPTACLES
EUH-1	(2) #12 THHN COPPER & (1) #12 GRND.	20		20	(2) #12 THHN COPPER & (1) #12 GRND.	RECEPTACLES
				20	(2) #12 THHN COPPER & (1) #12 GRND.	FEED PUMP RECEPTS.
WH-1	(3) #2 THHN COPPER & (1) #8 GRND.	90		20	(2) #12 THHN COPPER & (1) #12 GRND.	FLOW METER
				20	(2) #12 THHN COPPER & (1) #12 GRND.	INTERIOR LIGHTING
				20	(2) #12 THHN COPPER & (1) #12 GRND.	MOTORIZED ACTUATOR
20-LIT-602	(2)#10 & #10G, 1"C.	20		20	(2) #12 THHN COPPER & (1) #12 GRND.	EXTERIOR LIGHTING
PUMP CONTROL PANEL	(2) #12 THHN COPPER & (1) #12 GRND.	20		20	(2) #12 THHN COPPER & (1) #12 GRND.	CL ANALYZER
SUBMERSIBLE PUMP	(2) #10 THHN COPPER & (1) #10 GRND.	20		20	(2) #10 THHN COPPER & (1) #10 GRND.	SUBMERSIBLE PUMP
SUBMERSIBLE PUMP	(2) #10 THHN COPPER & (1) #10 GRND.	20		30	(2) #10 THHN COPPER & (1) #10 GRND.	EFFLUENT PUMP
ACC-1 / AC-1	(2) #12 THHN COPPER & (1) #12 GRND.	20		20	(2) #12 THHN COPPER & (1) #12 GRND.	TANK RECEPTACLES
				20	(2)#10 & #10G, 1"C.	DOA-01
UTT-04	(2)#10 & #10G, 1"C.	20		20	(2)#10 & #10G, 1"C.	DOA-02
BLOWER PLATFORM LIGHTS & RECEPTS	(2)#10 & #10G, 1"C.	20		20	(2)#10 & #10G, 1"C.	UTT-02
BACKPULSE PUMP STATION RECEPTS.	(2)#10 & #10G, 1"C.	20		20	(2)#10 & #10G, 1"C.	UTT-03

GENERAL SCHEDULE NOTES:

CONTRACTOR TO UTILIZE SPARE CIRCUIT BREAKERS WITHIN EXISTING PANEL TO SERVE PROPOSED EQUIPMENT AS SHOWN / INDICATED. UPDATE PANELBOARD'S CIRCUIT DIRECTORY. TYPICAL OF ALL PROPOSED LOADS SERVED FROM EXISTING PANEL.

BRANCH CIRCUIT SCHEDULE

CIRCUIT BREAKER	PHASE CONDUCTORS AND/OR NEUTRAL CONDUCTORS	GROUND CONDUCTOR	CONDUIT
3 POLE CIRCUITS			
50/3	(3)#6	#10	1-1/2" CONDUIT
40/3	(3)#8	#10	1" CONDUIT
30/3	(3)#10	#10	3/4" CONDUIT
20/3	(3)#12	#12	3/4" CONDUIT
15/3	(3)#12	#12	3/4" CONDUIT
2 POLE CIRCUITS			
50/2	(2)#6	#10	1-1/4" CONDUIT
40/2	(2)#8	#10	1" CONDUIT
30/2	(2)#10	#10	3/4" CONDUIT
20/2	(2)#12	#12	3/4" CONDUIT
15/2	(2)#12	#12	3/4" CONDUIT
1 POLE CIRCUITS			
50/1	(2)#6	#10	1-1/4" CONDUIT
40/1	(2)#8	#10	1" CONDUIT
30/1	(2)#10	#10	3/4" CONDUIT
20/1	(2)#12	#12	3/4" CONDUIT
15/1	(2)#12	#12	3/4" CONDUIT

NOTES REGARDING THE USE OF THIS SCHEDULE:

1. USE THIS SCHEDULE FOR:
   - ALL RECEPTACLE AND LIGHTING CIRCUITS.
   - WHERE SPECIFIC CONDUCTOR/CONDUIT SIZING IS NOT INDICATED ELSEWHERE ON THE DRAWING SET.
   - FOR ANY BRANCH CIRCUITS THAT ARE REQUIRED TO BE RELOCATED/EXTENDED, ETC.
2. DO NOT USE THIS SCHEDULE:
   - FOR LARGE MECHANICAL LOADS (ANYTHING SHOWN WITHIN THE EQUIPMENT CONNECTION SCHEDULE).
   - FOR SERVICE ENTRANCE CONDUCTORS.
   - WHERE SPECIFIC CONDUCTOR/CONDUIT IS CALLED FOR ON THE DRAWINGS.
3. WHERE CIRCUIT LENGTH EXCEEDS 100' - CONTRACTOR SHALL USE NEXT HIGHER PHASE/NEUTRAL CONDUCTOR SIZE, TO COMPENSATE FOR VOLTAGE DROP.
4. NOTE MC CABLE IS NOT ALLOWED.

RACEWAY SCHEDULE

AREA	CABLING/RACEWAY METHOD	REMARKS
EXTERIOR EXPOSED	RGS	SEE NOTES BELOW
RISERS FROM UNDERGROUND	RGS	SEE NOTES BELOW
UNDERGROUND 90 DEGREE SWEEPS	RGS	SEE NOTES BELOW
UNDERGROUND (SAND FILL DUCT BANK)	PVC #80	SEE NOTES BELOW
UNDERGROUND (REINFORCED CONCRETE DUCT BANK)	PVC #40	SEE NOTES BELOW
IN SLAB	PVC #40	SEE NOTES BELOW
CLASSIFIED AREAS	PVC COATED RGS	SEE NOTES BELOW
CORROSIVE AREAS	PVC COATED RGS	SEE NOTES BELOW
FORCEMAIN DISCHARGE CHAMBER - INTERIOR	PVC COATED RGS	SEE NOTES BELOW
FLOW CONTROL BUILDING - INTERIOR	RGS	SEE NOTES BELOW
INFLUENT BUILDING - ELECTRICAL ROOM	RGS	SEE NOTES BELOW
INFLUENT BUILDING - PUMP ROOM	RGS	SEE NOTES BELOW
INFLUENT BUILDING - INFLUENT ROOM	PVC COATED RGS	SEE NOTES BELOW
INFLUENT BUILDING - WET WELL	PVC COATED RGS	SEE NOTES BELOW
INFLUENT BUILDING - FOG VAULT	PVC COATED RGS	SEE NOTES BELOW
SBR - PRE-REACT BASINS	PVC COATED RGS	SEE NOTES BELOW
SBR - AERATION BASINS	PVC COATED RGS	SEE NOTES BELOW
AEROBIC DIGESTERS - INTERIOR	PVC COATED RGS	SEE NOTES BELOW
SLUDGE HOLDING TANK - INTERIOR	PVC COATED RGS	SEE NOTES BELOW
FOUNDATION DRAIN PUMP STATION - INTERIOR	PVC COATED RGS	SEE NOTES BELOW
METERING MANHOLE - INTERIOR	RGS	SEE NOTES BELOW
POST AERATION TANK - INTERIOR	RGS	SEE NOTES BELOW
PROCESS BUILDING - CHEMICAL ROOM	PVC COATED RGS	SEE NOTES BELOW
PROCESS BUILDING - FILTER / UV ROOM	RGS	SEE NOTES BELOW
PROCESS BUILDING - BLOWER ROOM	RGS	SEE NOTES BELOW
PROCESS BUILDING - ELECTRICAL & RPZ ROOM	RGS	SEE NOTES BELOW
PROCESS BUILDING - LAB, OFFICE, LOCKERS, & BATHROOM	EMT	SEE NOTES BELOW
PROCESS BUILDING - BASEMENT	RGS	SEE NOTES BELOW
SOLIDS HANDLING FACILITY - CONT, ELECT, & BATHROOM	RGS	SEE NOTES BELOW
SOLIDS HANDLING FACILITY - BELT PRESS ROOM	RGS	SEE NOTES BELOW
SOLIDS HANDLING FACILITY - DRYER AREA (FUTURE)	RGS	SEE NOTES BELOW
SOLIDS HANDLING FACILITY - BIOSOLIDS STORAGE AREA	RGS	SEE NOTES BELOW
SEPTAGE RECEIVING STATION - WET WELL	PVC COATED RGS	SEE NOTES BELOW
SEPTAGE RECEIVING STATION - DRY WELL	PVC COATED RGS	SEE NOTES BELOW
SEPTAGE RECEIVING STATION - BASEMENT / PUMP ROOM	RGS	SEE NOTES BELOW
SEPTAGE RECEIVING STATION - SHOP AREA	RGS	SEE NOTES BELOW
UNPROTECTED SERVICE CONDUCTORS - WITHIN A BUILDING	RGS	SEE NOTES BELOW

GENERAL CONDUIT SCHEDULE NOTES:

1. FITTINGS:
   - RGS: THREADED
   - PVC: BELL OR GLUE
   - EMT : SET SCREW TYPE
2. ALL CIRCUITS SHALL CONTAIN DEDICATED NEUTRALS (NO MULTI-WIRE CIRCUITS PERMITTED)
3. CONDUIT SHALL NOT BE UTILIZED FOR EFFECTIVE GROUND FAULT RETURN PATH - ALL CIRCUITS SHALL CONTAIN DEDICATED GREEN INSULATED CONDUCTOR, SIZED PER DRAWINGS, OR IN ACCORDANCE WITH APPLICABLE NEC CRITERIA.
4. ALL RACEWAY TYPES ARE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
5. PVC COATED RGS CONDUIT AND ASSOCIATED COMPONENTS TO BE BY PLASTI-BOND OR APPROVED EQUAL. WHEN USING PVC COATED RGS CONDUIT CONTRACTOR TO USE A CORROSION RESISTANT PRODUCT LINE AS MANUFACTURED BY POWER-STRUT DEFENDER OR APPROVED EQUAL FOR ALL ASSOCIATED CHANNEL, FITTINGS, AND CONDUIT CLAMPS/SUPPORTS.
6. "UNPROTECTED SERVICE CONDUCTORS - WITHIN A BUILDING" REFERS TO BUILDING SERVICE/FEEDER CONDUCTORS BETWEEN THE POINT THEY ENTER THE BUILDING UNTIL THE POINT AT WHICH THEY REACH THE FIRST DISCONNECTING DEVICE WITHIN THAT BUILDING.
7. CONTRACTOR TO PROVIDE TRANSITION FITTINGS TO SWITCH BETWEEN RACEWAY TYPES AS REQUIRED.

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 567-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK · JEFFREY E ROBINSON · 095896 · LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY
SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553

FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL SCHEDULES

REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-044

PROJECT # 18-732 PHASE #

INDICATED BY ⊘ ON PLAN SHEETS

EQUIPMENT CONNECTION SCHEDULE (SHEET 1 OF 4)

SPECIFIC NOTES:

1. WHEN LOCATION IS NOT REFERENCED ON 'E' SHEETS, REFER TO ASSOCIATED CONTRACT DRAWINGS.
2. LOCATIONS SHOWN ARE GENERAL IN NATURE. COORDINATE WITH ALL TRADE CONTRACTORS PRIOR TO ROUGH-IN.

DISCONNECT/SAFETY SWITCH — TYPES: A: NON-FUSED; B: FUSED; M: MOTOR RATED SWITCH; R: RECEPTACLE/CORD/PLUG; N: NOT REQUIRED; C: CKT BREAKER WITHIN SIGHT. SIZES: AF: AMPERE FRAME; NF: NON-FUSED; AT: FUSE SIZE (RK5, UON)

STARTER — TYPES: VFD: VARIABLE FREQUENCY DRIVE; CMS: COMBINATION MOTOR STARTER WITH DISCONNECT; ATL: ACROSS THE LINE, FVNR MAGNETIC STARTER; M: MOTOR RATED SWITCH - MANUAL STARTER; P: PACKAGED CONTROLLER BY MANUFACTURER; LVT: THERMOSTAT

EQUIPMENT TAG	EQUIPMENT TYPE	LOCATION ON PLAN	ELECTRICAL LOAD FLA	HP (KW)	V	PH	POWER CONNECTION HOMERUN TO	CIRCUIT BREAKER	CONDUCTORS & CONDUIT	CONTROL CONNECTION HOMERUN / INTERLOCK TO	CONDUCTORS & CONDUIT	DISCONNECT TYPE/SIZE	DISCONNECT NEMA ENCLOSURE TYPE	STARTER TYPE	STARTER NEMA ENCLOSURE TYPE	REMARKS
PCD-01	PRIMARY DRIVE #1	PRIMARY SETTLING TANK #1	2.1	1	480	3	PC-CP-1	REFER TO RISER DIAGRAM		PC-CP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
PCD-02	PRIMARY DRIVE #2	PRIMARY SETTLING TANK #2	2.1	1	480	3	PC-CP-2	REFER TO RISER DIAGRAM		PC-CP-2	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
PCD-03	PRIMARY DRIVE #3	PRIMARY SETTLING TANK #3	2.1	1	480	3	PC-CP-3	REFER TO RISER DIAGRAM		PC-CP-3	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
PCD-04	PRIMARY DRIVE #4	PRIMARY SETTLING TANK #4	2.1	1	480	3	PC-CP-4	REFER TO RISER DIAGRAM		PC-CP-4	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
PC-CP-1	CLARIFIER CONTROL PANEL #1	PRIMARY SETTLING TANK #1	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
PC-CP-2	CLARIFIER CONTROL PANEL #2	PRIMARY SETTLING TANK #2	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
PC-CP-3	CLARIFIER CONTROL PANEL #3	PRIMARY SETTLING TANK #3	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
PC-CP-4	CLARIFIER CONTROL PANEL #4	PRIMARY SETTLING TANK #4	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
SP-01	SCUM PUMP #1	PRIMARY SETTLING TANK #1	7.6	5	480	3	SP-CP-1	REFER TO RISER DIAGRAM		SP-CP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
SP-02	SCUM PUMP #2	PRIMARY SETTLING TANK #2	7.6	5	480	3	SP-CP-1	REFER TO RISER DIAGRAM		SP-CP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
SP-03	SCUM PUMP #3	PRIMARY SETTLING TANK #3	7.6	5	480	3	SP-CP-1	REFER TO RISER DIAGRAM		SP-CP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
SP-04	SCUM PUMP #4	PRIMARY SETTLING TANK #4	7.6	5	480	3	SP-CP-1	REFER TO RISER DIAGRAM		SP-CP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
SP-CP-1	SCUM PUMP CONTROL PANEL #1	PRIMARY SETTLING TANK #1	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
SP-CP-2	SCUM PUMP CONTROL PANEL #2	PRIMARY SETTLING TANK #2	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
SP-CP-3	SCUM PUMP CONTROL PANEL #3	PRIMARY SETTLING TANK #3	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
SP-CP-4	SCUM PUMP CONTROL PANEL #4	PRIMARY SETTLING TANK #4	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
P-SP-01	PRIMARY CLARIFIER SLUDGE PUMP #1	PRIMARY SLUDGE PUMP PIT	3	4.8	480	3	PSPCP-300	REFER TO RISER DIAGRAM		PSPCP-300	REFER TO RISER DIAGRAM	-	-	ATL	-	1
P-SP-02	PRIMARY CLARIFIER SLUDGE PUMP #2	PRIMARY SLUDGE PUMP PIT	3	4.8	480	3	PSPCP-300	REFER TO RISER DIAGRAM		PSPCP-300	REFER TO RISER DIAGRAM	-	-	ATL	-	1
PSPCP-300	PRIMARY SLUDGE PUMP CONTROL PANEL	PRIMARY SLUDGE ELECTRICAL BACKBOARD	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
PS-AV-01	PRIMARY SLUDGE VALVE #1	SLUDGE CONTROL VALVE VAULT	4.4	FRACT.	120	1	PSVCP-300	REFER TO RISER DIAGRAM		PSVCP-300	REFER TO RISER DIAGRAM	-	-	ATL	-	1
PS-AV-02	PRIMARY SLUDGE VALVE #2	SLUDGE CONTROL VALVE VAULT	4.4	FRACT.	120	1	PSVCP-300	REFER TO RISER DIAGRAM		PSVCP-300	REFER TO RISER DIAGRAM	-	-	ATL	-	1
PS-AV-03	PRIMARY SLUDGE VALVE #3	SLUDGE CONTROL VALVE VAULT	4.4	FRACT.	120	1	PSVCP-300	REFER TO RISER DIAGRAM		PSVCP-300	REFER TO RISER DIAGRAM	-	-	ATL	-	1
PS-AV-04	PRIMARY SLUDGE VALVE #4	PROPOSED SLUDGE VALVE PIT	4.4	FRACT.	120	1	PSVCP-300	REFER TO RISER DIAGRAM		PSVCP-300	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
PSVCP-300	PRIMARY SLUDGE VALVE CONTROL PANEL	PRIMARY SLUDGE ELECTRICAL BACKBOARD	-	-	120	1	LVP1	20A/1P		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
SP-300	SUMP PUMP	PRIMARY SLUDGE PUMP PIT	9.8	1/2	120	1	LVP1	20A/1P	(2)#10 & #10G, 1"C.	LOCAL CONTROL ONLY		R	WP	M	4X	3,4,5
SP-301	SUMP PUMP	SLUDGE CONTROL VALVE VAULT	9.8	1/2	120	1	LVP1	20A/1P	(2)#10 & #10G, 1"C.	LOCAL CONTROL ONLY		R	WP	M	4X	3,4,5
SP-302	SUMP PUMP	PROPOSED SLUDGE VALVE PIT	9.8	1/2	120	1	LVP1	20A/1P	(2)#10 & #10G, 1"C.	LOCAL CONTROL ONLY		R	WP	M	7	2,3,4,5
SP-05	SCUM PUMP #5	MBR BUILDING - SCUM PUMP AREA	7.6	5	480	3	SP-CP-5	REFER TO RISER DIAGRAM		SP-CP-5	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
SP-06	SCUM PUMP #6	MBR BUILDING - SCUM PUMP AREA	7.6	5	480	3	SP-CP-5	REFER TO RISER DIAGRAM		SP-CP-5	REFER TO RISER DIAGRAM	-	-	ATL	-	1,2
SP-CP-5	SCUM PUMP CONTROL PANEL #5	MBR BUILDING - SCUM PUMP AREA	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
20-B-201-A	MEMBRANE BLOWER #1	MBR BUILDING - BLOWER ROOM	77	60	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	-	-	VFD	-	6
20-B-201-B	MEMBRANE BLOWER #2	MBR BUILDING - BLOWER ROOM	77	60	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	-	-	VFD	-	6
20-B-201-C	MEMBRANE BLOWER #3	MBR BUILDING - BLOWER ROOM	77	60	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	-	-	VFD	-	6
20-B-201-D	MEMBRANE BLOWER #4	MBR BUILDING - BLOWER ROOM	77	60	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	-	-	VFD	-	6
20-B-201-E	MEMBRANE BLOWER #5	MBR BUILDING - BLOWER ROOM	77	60	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	-	-	VFD	-	6
20-P-501-A	RAS PUMP #1	MBR BUILDING - RAS PUMP ROOM	40	30	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
20-P-501-B	RAS PUMP #2	MBR BUILDING - RAS PUMP ROOM	40	30	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
20-P-501-C	RAS PUMP #3	MBR BUILDING - RAS PUMP ROOM	40	30	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
20-P-501-D	RAS PUMP #4	MBR BUILDING - RAS PUMP ROOM	40	30	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
16-B-401-A	PROCESS BLOWER #1	MBR BUILDING - BLOWER ROOM	180	150	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	-	-	VFD	-	6
16-B-401-B	PROCESS BLOWER #2	MBR BUILDING - BLOWER ROOM	180	150	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	-	-	VFD	-	6
16-B-401-C	PROCESS BLOWER #3	MBR BUILDING - BLOWER ROOM	180	150	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	-	-	VFD	-	6
16-MX-211-1	ANOXIC SUBMERSIBLE MIXER #1	ANOXIC ZONE #1	16	10.7	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	A (30AF/NF)	4X	ATL	-	7
16-MX-211-2	ANOXIC SUBMERSIBLE MIXER #2	ANOXIC ZONE #2	16	10.7	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	A (30AF/NF)	4X	ATL	-	7
16-MX-211-3	ANOXIC SUBMERSIBLE MIXER #3	ANOXIC ZONE #3	16	10.7	480	3	MCC1	REFER TO SINGLE LINE DIAGRAM		MCC1	REFER TO SINGLE LINE DIAGRAM	A (30AF/NF)	4X	ATL	-	7
90-AC-001-A	AIR COMPRESSOR #1	MBR BUILDING - MECHANICAL ROOM	14	10	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		MBR-CP	REFER TO RISER DIAGRAM	-	-	CMS	-	1
90-AC-001-B	AIR COMPRESSOR #2	MBR BUILDING - MECHANICAL ROOM	14	10	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		MBR-CP	REFER TO RISER DIAGRAM	-	-	CMS	-	1
90-DR-001-A	REFRIGERATED DRYER #1	MBR BUILDING - MECHANICAL ROOM	3.4	-	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5
90-DR-001-B	REFRIGERATED DRYER #2	MBR BUILDING - MECHANICAL ROOM	3.4	-	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5
15-P-301-A	NAOH METERING PUMP	MBR BUILDING - CHEMICAL SKID ROOM	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5,14
15-P-301-B	NAOH METERING PUMP	MBR BUILDING - CHEMICAL SKID ROOM	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5,14
23-P-101-A	NACLO METERING PUMP	MBR BUILDING - CHEMICAL SKID ROOM	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5,14
23-P-101-B	NACLO METERING PUMP	MBR BUILDING - CHEMICAL SKID ROOM	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5,14
23-P-301-A	CITRIC ACID METERING PUMPS	MBR BUILDING - CASSETTE LAYDOWN AREA	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5,14
23-P-301-B	CITRIC ACID METERING PUMPS	MBR BUILDING - CASSETTE LAYDOWN AREA	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5,14
20-P-321-1	TURBIDITY SAMPLING PUMPS #1	MBR BUILDING - RAS PUMP ROOM	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5
20-P-321-2	TURBIDITY SAMPLING PUMPS #2	MBR BUILDING - RAS PUMP ROOM	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5
20-P-321-3	TURBIDITY SAMPLING PUMPS #3	MBR BUILDING - RAS PUMP ROOM	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5
20-P-321-4	TURBIDITY SAMPLING PUMPS #4	MBR BUILDING - RAS PUMP ROOM	4.4	FRACTIONAL	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	R	WP	M	4X	3,4,5
CTP-01	NAOH CHEMICAL TRANSFER PUMP	MBR BUILDING - CHEMICAL SKID ROOM	9.8	0.5	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	LOCAL CONTROL ONLY		R	WP	M	4X	3,4,5,14
CTP-02	NACLO CHEMICAL TRANSFER PUMP	MBR BUILDING - CHEMICAL SKID ROOM	9.8	0.5	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	LOCAL CONTROL ONLY		R	WP	M	4X	3,4,5,14
F-1	COOLING FAN #1	MBR BUILDING - BLOWER ROOM	4.4	FRACTIONAL	120	1	CFCP-1	REFER TO RISER DIAGRAM		CFCP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1
F-2	COOLING FAN #2	MBR BUILDING - BLOWER ROOM	4.4	FRACTIONAL	120	1	CFCP-1	REFER TO RISER DIAGRAM		CFCP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1
F-3	COOLING FAN #3	MBR BUILDING - BLOWER ROOM	4.4	FRACTIONAL	120	1	CFCP-1	REFER TO RISER DIAGRAM		CFCP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1
F-4	COOLING FAN #4	MBR BUILDING - BLOWER ROOM	4.4	FRACTIONAL	120	1	CFCP-1	REFER TO RISER DIAGRAM		CFCP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1
F-5	COOLING FAN #5	MBR BUILDING - BLOWER ROOM	4.4	FRACTIONAL	120	1	CFCP-1	REFER TO RISER DIAGRAM		CFCP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1
F-6	COOLING FAN #6	MBR BUILDING - BLOWER ROOM	4.4	FRACTIONAL	120	1	CFCP-1	REFER TO RISER DIAGRAM		CFCP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1
F-7	COOLING FAN #7	MBR BUILDING - BLOWER ROOM	4.4	FRACTIONAL	120	1	CFCP-1	REFER TO RISER DIAGRAM		CFCP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1
F-8	COOLING FAN #8	MBR BUILDING - BLOWER ROOM	4.4	FRACTIONAL	120	1	CFCP-1	REFER TO RISER DIAGRAM		CFCP-1	REFER TO RISER DIAGRAM	-	-	ATL	-	1
CFCP-1	BLOWER COOLING FAN CONTROL PANEL	MBR BUILDING - BLOWER ROOM	-	-	120	1	LVP1	30A/1P	(2)#10 & #10G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	-	-	-	-	-
DP-500	DRAIN PUMP #1	MBR BUILDING - MBR DRAIN PUMP STATION	3.4	2	480	3	DPCP-500	REFER TO RISER DIAGRAM		DPCP-500	REFER TO RISER DIAGRAM	-	-	ATL	-	1
DP-500	DRAIN PUMP #2	MBR BUILDING - MBR DRAIN PUMP STATION	3.4	2	480	3	DPCP-500	REFER TO RISER DIAGRAM		DPCP-500	REFER TO RISER DIAGRAM	-	-	ATL	-	1
DPCP-500	DRAIN PUMP CONTROL PANEL	MBR BUILDING - CASSETTE LAYDOWN AREA	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
HST-1	BRIDGE CRANE HOIST	MBR BUILDING - RAS ROOM	11	7.2	480	3	BCCP-1	REFER TO RISER DIAGRAM		BCCP-1	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
TRLY-1	BRIDGE CRANE TROLLEY	MBR BUILDING - RAS ROOM	2.1	0.6	480	3	BCCP-1	REFER TO RISER DIAGRAM		BCCP-1	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
TRVL-1L	BRIDGE CRANE END TRUCK	MBR BUILDING - RAS ROOM	1.1	0.4	480	3	BCCP-1	REFER TO RISER DIAGRAM		BCCP-1	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
TRVL-1R	BRIDGE CRANE END TRUCK	MBR BUILDING - RAS ROOM	1.1	0.4	480	3	BCCP-1	REFER TO RISER DIAGRAM		BCCP-1	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
BCCP-1	BRIDGE CRANE CONTROL PANEL	MBR BUILDING - RAS ROOM	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		LOCAL CONTROL ONLY		-	-	-	-	-
HST-2	BRIDGE CRANE HOIST	MBR BUILDING - CASSETTE LAYDOWN AREA	11	7.2	480	3	BCCP-2	REFER TO RISER DIAGRAM		BCCP-2	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
TRLY-2	BRIDGE CRANE TROLLEY	MBR BUILDING - CASSETTE LAYDOWN AREA	2.1	0.6	480	3	BCCP-2	REFER TO RISER DIAGRAM		BCCP-2	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
TRVL-2L	BRIDGE CRANE END TRUCK	MBR BUILDING - CASSETTE LAYDOWN AREA	1.1	0.4	480	3	BCCP-2	REFER TO RISER DIAGRAM		BCCP-2	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
TRVL-2R	BRIDGE CRANE END TRUCK	MBR BUILDING - CASSETTE LAYDOWN AREA	1.1	0.4	480	3	BCCP-2	REFER TO RISER DIAGRAM		BCCP-2	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
BCCP-2	BRIDGE CRANE CONTROL PANEL	MBR BUILDING - CASSETTE LAYDOWN AREA	-	-	480	3	HVP1	REFER TO SINGLE LINE DIAGRAM		LOCAL CONTROL ONLY		-	-	-	-	-
HVAC-500	HVAC MONITORING CONTROL PANEL	MBR BUILDING - 2ND FLOOR ELECTRICAL ROOM	-	-	120	1	LVP1	20A/1P	(2)#12 & #12G, 3/4"C.	R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
R I/O-1	REMOTE I/O PANEL #1	MBR BUILDING - ELEVATED OFFICE	-	-	120	1	LVP1	30A/1P	(2)#10 & #10G, 1"C.	MCP	REFER TO RISER DIAGRAM	-	-	-	-	-
S-SLD-15	SLUICE GATE #1	MBR BUILDING - MEMBRANE DISCHARGE CHANNEL	5	-	480	3	HVP1	20A/3P	(3)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	A (30AF/NF)	4X	P	-	-
S-SLD-16	SLUICE GATE #2	MBR BUILDING - MEMBRANE DISCHARGE CHANNEL	5	-	480	3	HVP1	20A/3P	(3)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	A (30AF/NF)	4X	P	-	-
S-SLD-17	SLUICE GATE #3	MBR BUILDING - MEMBRANE DISCHARGE CHANNEL	5	-	480	3	HVP1	20A/3P	(3)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	A (30AF/NF)	4X	P	-	-
S-SLD-18	SLUICE GATE #4	MBR BUILDING - MEMBRANE DISCHARGE CHANNEL	5	-	480	3	HVP1	20A/3P	(3)#12 & #12G, 3/4"C.	MBR-CP	REFER TO RISER DIAGRAM	A (30AF/NF)	4X	P	-	-

REFER TO SHEET E-046 FOR SCHEDULE CONTINUATION

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK — JEFFREY E ROBINSON — 095896 — LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL SCHEDULES

REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE: 27 JUNE, 2025
DESIGN BY: RRM
DRAWN BY: CDJ
CHECKED BY: MGR
REVIEWED BY: JER

SHEET NO.
E-045

PROJECT # 18-732 PHASE #

INDICATED BY ⊘ ON PLAN SHEETS

EQUIPMENT CONNECTION SCHEDULE (SHEET 2 OF 4)

SPECIFIC NOTES:

1. WHEN LOCATION IS NOT REFERENCED ON 'E' SHEETS, REFER TO ASSOCIATED CONTRACT DRAWINGS.
2. LOCATIONS SHOWN ARE GENERAL IN NATURE. COORDINATE WITH ALL TRADE CONTRACTORS PRIOR TO ROUGH-IN.

DISCONNECT/SAFETY SWITCH — TYPES: A: NON-FUSED; B: FUSED; M: MOTOR RATED SWITCH; R: RECEPTACLE/CORD/PLUG; N: NOT REQUIRED; C: CKT BREAKER WITHIN SIGHT. SIZES: AF: AMPERE FRAME; NF: NON-FUSED; AT: FUSE SIZE (RK5, UON)

STARTER — TYPES: VFD: VARIABLE FREQUENCY DRIVE; CMS: COMBINATION MOTOR STARTER WITH DISCONNECT; ATL: ACROSS THE LINE, FVNR MAGNETIC STARTER; M: MOTOR RATED SWITCH - MANUAL STARTER; P: PACKAGED CONTROLLER BY MANUFACTURER; LVT: THERMOSTAT

EQUIPMENT			ELECTRICAL LOAD				POWER CONNECTION			CONTROL CONNECTION		DISCONNECT/SAFETY SWITCH		STARTER		REMARKS
EQUIPMENT TAG	EQUIPMENT TYPE	LOCATION ON PLAN	FLA	HP (KW)	V	PH	HOMERUN TO	CIRCUIT BREAKER	CONDUCTORS & CONDUIT	HOMERUN / INTERLOCK TO	CONDUCTORS & CONDUIT	DISCONNECT TYPE/SIZE	NEMA ENCLOSURE TYPE	STARTER TYPE	NEMA ENCLOSURE TYPE	
IP-01	INFLUENT PUMP #1	INFLUENT DRY WELL	77	60	480	3	HVP6	150A/3P	(3)#1/0 & #6G, 2" C.	R I/O-5	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
IP-02	INFLUENT PUMP #2	INFLUENT DRY WELL	77	60	480	3	HVP6	150A/3P	(3)#1/0 & #6G, 2" C.	R I/O-5	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
IP-03	INFLUENT PUMP #3	INFLUENT DRY WELL	77	60	480	3	HVP6	150A/3P	(3)#1/0 & #6G, 2" C.	R I/O-5	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
SP-01	SUMP PUMP	INFLUENT DRY WELL	9.8	1/2	120	1	LVP6	20A/1P	(2)#10 & #10G, 1"C.	LOCAL CONTROL ONLY		R	WP	M	4X	3,4,5
MAS-801	PUMP MONITORING SYSTEM	MICROSCREEN BUILDING - ELECTRICAL AREA	-	-	120	1	LVP6	30A/1P	(2)#10 & #10G, 1"C.	R I/O-5	REFER TO RISER DIAGRAM	-	-	-	-	-
R I/O-5	INFLUENT PUMP CONTROL PANEL	MICROSCREEN BUILDING - ELECTRICAL AREA	-	-	120	1	LVP6	30A/1P	(2)#10 & #10G, 1"C.	R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
MCR-01	SCREEN DRIVE MOTOR #1	MICROSCREEN BUILDING - FINE SCREEN AREA	1.6	3/4	480	3	MS-CP-1		REFER TO RISER DIAGRAM	MC-CP-1	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
CMP-01	WASHING COMPACTOR #1	MICROSCREEN BUILDING - FINE SCREEN AREA	3	1.5	480	3	MS-CP-1		REFER TO RISER DIAGRAM	MC-CP-1	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
MS-CP-1	MICROSCREEN CONTROL PANEL #1	MICROSCREEN BUILDING - ELECTRICAL AREA	-	-	480	3	HVP6		REFER TO SINGLE LINE DIAGRAM	R I/O-5	REFER TO RISER DIAGRAM	-	-	-	-	-
MCR-02	SCREEN DRIVE MOTOR #2	MICROSCREEN BUILDING - FINE SCREEN AREA	1.6	3/4	480	3	MS-CP-2		REFER TO RISER DIAGRAM	MS-CP-2	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
CMP-02	WASHING COMPACTOR #2	MICROSCREEN BUILDING - FINE SCREEN AREA	3	1.5	480	3	MS-CP-2		REFER TO RISER DIAGRAM	MS-CP-2	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
MS-CP-2	MICROSCREEN CONTROL PANEL #2	MICROSCREEN BUILDING - ELECTRICAL AREA	-	-	480	3	HVP6		REFER TO SINGLE LINE DIAGRAM	R I/O-5	REFER TO RISER DIAGRAM	-	-	-	-	-
AC-1	AIR COMPRESSOR	GARAGE	44	7.5	208	1	LVP7	60A/2P	(2)#6 & 10G, 1"C.	LOCAL CONTROL ONLY		-	-	-	-	-
EHS-1	ELECTRONIC HOIST SYSTEM	GARAGE	16.7	5	208	3	LVP7	40A/3P	(4)#8 & 10G, 1"C.	LOCAL CONTROL ONLY		-	-	-	-	-
LMM-1	LATHE MILLING MACHINE	GARAGE	13.2	2	208	1	LVP7	30A/2P	(2)#10 & #10G, 1"C.	LOCAL CONTROL ONLY		-	-	-	-	-
ASBC-1	ABRASIVE SAND BLASTING CABINET	GARAGE	10	(1.2KW)	120	1	LVP7	20A/1P	(2)#12 & #12G, 3/4"C.	LOCAL CONTROL ONLY		-	-	-	-	-
PAB-01	BLOWER #1	POST-AERATION PLATFORM & CANOPY	27	20	480	3	HVP8		REFER TO SINGLE LINE DIAGRAM	DBSP	REFER TO RISER DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
PAB-02	BLOWER #2	POST-AERATION PLATFORM & CANOPY	27	20	480	4	HVP8		REFER TO SINGLE LINE DIAGRAM	DBSP	REFER TO RISER DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
20-P-610-A	BACKPULSE PUMP #1	DECHLORINATION BUILDING	77	60	480	3	HVP8		REFER TO SINGLE LINE DIAGRAM	DBSP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
20-P-610-B	BACKPULSE PUMP #2	DECHLORINATION BUILDING	77	60	480	3	HVP8		REFER TO SINGLE LINE DIAGRAM	DBSP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
PW-01	PLANT WATER PUMP #1	PREFAB NON-POTABLE WATER SUCTION LIFT STATION	52	40	480	3	PWCP-600		REFER TO RISER DIAGRAM	PWCP-400	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
PW-02	PLANT WATER PUMP #2	PREFAB NON-POTABLE WATER SUCTION LIFT STATION	52	40	480	3	PWCP-600		REFER TO RISER DIAGRAM	PWCP-400	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
PWCP-600	PUMP CONTROL PANEL	PREFAB NON-POTABLE WATER SUCTION LIFT STATION	-	-	480	3	HVP8		REFER TO SINGLE LINE DIAGRAM	DBSP	REFER TO RISER DIAGRAM	-	-	-	-	-
P-601	COOLING WATER PUMP #1	DISINFECTION TANK	40	30	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
P-602	COOLING WATER PUMP #2	DISINFECTION TANK	40	30	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
RDT-01	LEFT DRUM DRIVE MOTOR	ATAD BUILDING - THICKENING ROOM	2.1	1	480	3	RDT-CP		REFER TO RISER DIAGRAM	RDT-CP	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
RDT-02	LEFT DRUM DRIVE MOTOR	ATAD BUILDING - THICKENING ROOM	2.1	1	480	3	RDT-CP		REFER TO RISER DIAGRAM	RDT-CP	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
RDT-WW-01	WASH WATER BOOSTER PUMP	ATAD BUILDING - THICKENING ROOM	3.4	2	480	3	RDT-CP		REFER TO RISER DIAGRAM	RDT-CP	REFER TO RISER DIAGRAM	-	-	ATL	-	1
RDT-FP-01	RTD SLUDGE FEED PUMP	ATAD BUILDING - THICKENING ROOM	21	15	480	3	RDT-CP		REFER TO RISER DIAGRAM	RDT-CP	REFER TO RISER DIAGRAM	-	-	VFD	-	6
RTD-TSP-01	RTD THICKENED SLUDGE PUMP	ATAD BUILDING - THICKENING ROOM	27	20	480	3	RDT-CP		REFER TO RISER DIAGRAM	RDT-CP	REFER TO RISER DIAGRAM	-	-	VFD	-	6
P-401	POLYMER PUMP	ATAD BUILDING - THICKENING ROOM	9.8	0.5	120	1	RDT-CP		REFER TO RISER DIAGRAM	RDT-CP	REFER TO RISER DIAGRAM	-	-	ATL	-	1
P-402	BOOSTER PUMP	ATAD BUILDING - THICKENING ROOM	13.8	0.75	120	2	RDT-CP		REFER TO RISER DIAGRAM	RDT-CP	REFER TO RISER DIAGRAM	-	-	ATL	-	1
P-403	POLYMER MIXER	ATAD BUILDING - THICKENING ROOM	24	2	120	3	RDT-CP		REFER TO RISER DIAGRAM	RDT-CP	REFER TO RISER DIAGRAM	-	-	ATL	-	1
RDT-CP	ROTARY DRUM THICKENER CONTROL PANEL	ATAD BUILDING - THICKENING ROOM	-	-	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	R I/O-2	REFER TO RISER DIAGRAM	-	-	-	-	-
P-101	THERMAER JET PUMP 1	ATAD BUILDING - EQUIPMENT ROOM	124	100	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
P-202	THERMAER JET PUMP 2	ATAD BUILDING - EQUIPMENT ROOM	125	100	480	4	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
P-401	SNDR JET PUMP	ATAD BUILDING - EQUIPMENT ROOM	77	60	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
B-103	THERMAER 1 BLOWER	ATAD BUILDING - EQUIPMENT ROOM	52	40	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
B-203	THERMAER 2 BLOWER	ATAD BUILDING - EQUIPMENT ROOM	52	40	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
B-403	SNDR BLOWER	ATAD BUILDING - EQUIPMENT ROOM	52	40	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
B-503	SLUDGE HOLDING BLOWER	ATAD BUILDING - EQUIPMENT ROOM	77	60	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
B-1103	SPARE BLOWER	ATAD BUILDING - EQUIPMENT ROOM	77	60	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (200AF/NF)	4X	VFD	-	6,7
P-901	TRANSFER PUMP 1	ATAD BUILDING - EQUIPMENT ROOM	14	10	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (30AF/NF)	4X	VFD	-	6,7
P-902	TRANSFER PUMP	ATAD BUILDING - EQUIPMENT ROOM	14	10	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (30AF/NF)	4X	VFD	-	6,7
B-700	BIOFILTER OFFGAS FAN	BIOFILTER - EXTERIOR	40	30	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
B-701	RDT BOOSTER FAN	BIOFILTER - EXTERIOR	2.1	1	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (30AF/NF)	4X	VFD	-	6,7
P-601	COOLING WATER PUMP 1	ATAD BUILDING - EQUIPMENT ROOM	40	30	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
P-601	COOLING WATER PUMP 2	ATAD BUILDING - EQUIPMENT ROOM	40	30	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	ATAD-CP	REFER TO RISER DIAGRAM	A (60AF/NF)	4X	VFD	-	6,7
V-702	DAMPER	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-704	NPW VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-705	NPW VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-811	FEED VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-812	FEED VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-910	WASTE VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-911	WASTE VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-912	WASTE VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-913	FEED VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-914	FEED VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-915	FEED VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
V-918	NPW VALVE	ATAD BUILDING - EQUIPMENT ROOM	4.4	FRACTIONAL	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	M	4X	-	-	-
-	THERMAER INSTRUMENT CABINET #1	ATAD BUILDING - EQUIPMENT ROOM	-	-	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	-	-	-	-	-
-	THERMAER INSTRUMENT CABINET #2	ATAD BUILDING - EQUIPMENT ROOM	-	-	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	-	-	-	-	-
-	SNDR INSTRUMENT CABINET #3	ATAD BUILDING - EQUIPMENT ROOM	-	-	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	-	-	-	-	-
-	HEATX INSTRUMENT CABINET #4	ATAD BUILDING - EQUIPMENT ROOM	-	-	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	-	-	-	-	-
-	BIOFILTER INSTRUMENT CABINET #5	ATAD BUILDING - EQUIPMENT ROOM	-	-	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	ATAD-CP	REFER TO RISER DIAGRAM	-	-	-	-	-
ATAD-CP	ATAD CONTROL PANEL	ATAD BUILDING - ELECTRICAL ROOM	-	-	120	1	LPMCC	20A/1P	(2)#12 & #12G, 3/4"C.	R I/O-4	REFER TO RISER DIAGRAM	-	-	-	-	-
FP-400	FILTRATE PUMP 1	FILTRATE PUMP WET WELL	3.4	2	480	3	FPCP-400		REFER TO RISER DIAGRAM	FPCP-400	REFER TO RISER DIAGRAM	-	-	ATL	-	1
FP-401	FILTRATE PUMP 2	FILTRATE PUMP WET WELL	3.4	2	480	3	FPCP-400		REFER TO RISER DIAGRAM	FPCP-400	REFER TO RISER DIAGRAM	-	-	ATL	-	1
FPCP-400	FILTRATE PUMP CONTROL PANEL	ATAD BUILDING - EXTERIOR WALL	-	-	480	3	MCC2		REFER TO SINGLE LINE DIAGRAM	R I/O-4	REFER TO RISER DIAGRAM	-	-	-	-	-
BPSFP-03	BELT PRESS #1 SLUDGE FEED PUMP	ATAD BUILDING - EQUIPMENT ROOM	21	15	480	3	HVP5		REFER TO SINGLE LINE DIAGRAM	R I/O-4	REFER TO RISER DIAGRAM	-	-	VFD	-	6
BPSFP-04	BELT PRESS #2 SLUDGE FEED PUMP	ATAD BUILDING - EQUIPMENT ROOM	21	15	480	3	HVP5		REFER TO SINGLE LINE DIAGRAM	R I/O-4	REFER TO RISER DIAGRAM	-	-	VFD	-	6
FP-01	FERRIC PUMP/SKID #1	ATAD BUILDING - EQUIPMENT ROOM	1.1	0.5	480	3	HVP5		REFER TO SINGLE LINE DIAGRAM	R I/O-4	REFER TO RISER DIAGRAM	-	-	VFD	-	6
FP-02	FERRIC PUMP/SKID #2	ATAD BUILDING - EQUIPMENT ROOM	1.1	0.5	480	3	HVP5		REFER TO SINGLE LINE DIAGRAM	R I/O-4	REFER TO RISER DIAGRAM	-	-	VFD	-	6
HVAC-CP-01	HVAC MONITORING CONTROL PANEL	ATAD BUILDING - ELECTRICAL ROOM	-	-	120	1	LVP5	30A/1P	(2)#10 & #10G, 1"C.	R I/O-4	REFER TO RISER DIAGRAM	-	-	-	-	-
R I/O-4	REMOTE I/O PANEL #4	ATAD BUILDING - ELECTRICAL ROOM	-	-	120	1	LVP5	30A/1P	(2)#10 & #10G, 1"C.	R I/O-1	REFER TO RISER DIAGRAM	-	-	-	-	-
BPGD-01	GRAVITY DRIVE #1 (E.T.R.)	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	6	1.5	240	3	BPCP-01		REFER TO RISER DIAGRAM	BPCP-01	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
BDP-01	BELT PRESS DRIVE #1 (E.T.R.)	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	6	1.5	240	3	BPCP-01		REFER TO RISER DIAGRAM	BPCP-01	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
BDP-02	BELT PRESS DRIVE #2 (E.T.R.)	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	6	1.5	240	3	BPCP-01		REFER TO RISER DIAGRAM	BPCP-01	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
FD-01	FEEDBOX DRIVE #1 (E.T.R.)	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	2.2	1/3	240	3	BPCP-01		REFER TO RISER DIAGRAM	BPCP-01	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
BWS-01	BELT WASH SYSTEM #1	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	15.2	5	240	3	BPCP-01		REFER TO RISER DIAGRAM	BPCP-01	REFER TO RISER DIAGRAM	-	-	ATL	-	1
HU-01	HYDRAULIC UNIT #1 (E.T.R.)	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	6.8	2	240	3	BPCP-01		REFER TO RISER DIAGRAM	BPCP-01	REFER TO RISER DIAGRAM	-	-	ATL	-	1
PFP-01	POLYMER FEED PUMP #1	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	9.8	0.5	120	1	PFS-01		REFER TO RISER DIAGRAM	PFS-01	REFER TO RISER DIAGRAM	-	-	VFD	-	1,6
PFM-01	POLYMER FEED MIXER #1	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	16	1	120	1	PFS-01		REFER TO RISER DIAGRAM	PFS-01	REFER TO RISER DIAGRAM	-	-	ATL	-	1
PFS-01	POLYMER FEED SYSTEM #1	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	-	-	120	1	BPCP-01		REFER TO RISER DIAGRAM	BPCP-01	REFER TO RISER DIAGRAM	-	-	ATL	-	1
BPCP-01	BELT PRESS CONTROL PANEL #1 (E.R.E.)	DEWATERING BUILDING - MECHANICAL OPERATIONS ROOM	-	-	240	3	BP-LVP	100A/3P	(4)1/0 & #6G, 2"C.	R I/O -2	REFER TO RISER DIAGRAM	-	-	-	-	-

REFER TO SHEET E-047 FOR SCHEDULE CONTINUATION

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL SCHEDULES

REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE: 27 JUNE, 2025
DESIGN BY: RRM
DRAWN BY: CDJ
CHECKED BY: MGR
REVIEWED BY: JER

SHEET NO.

E-046

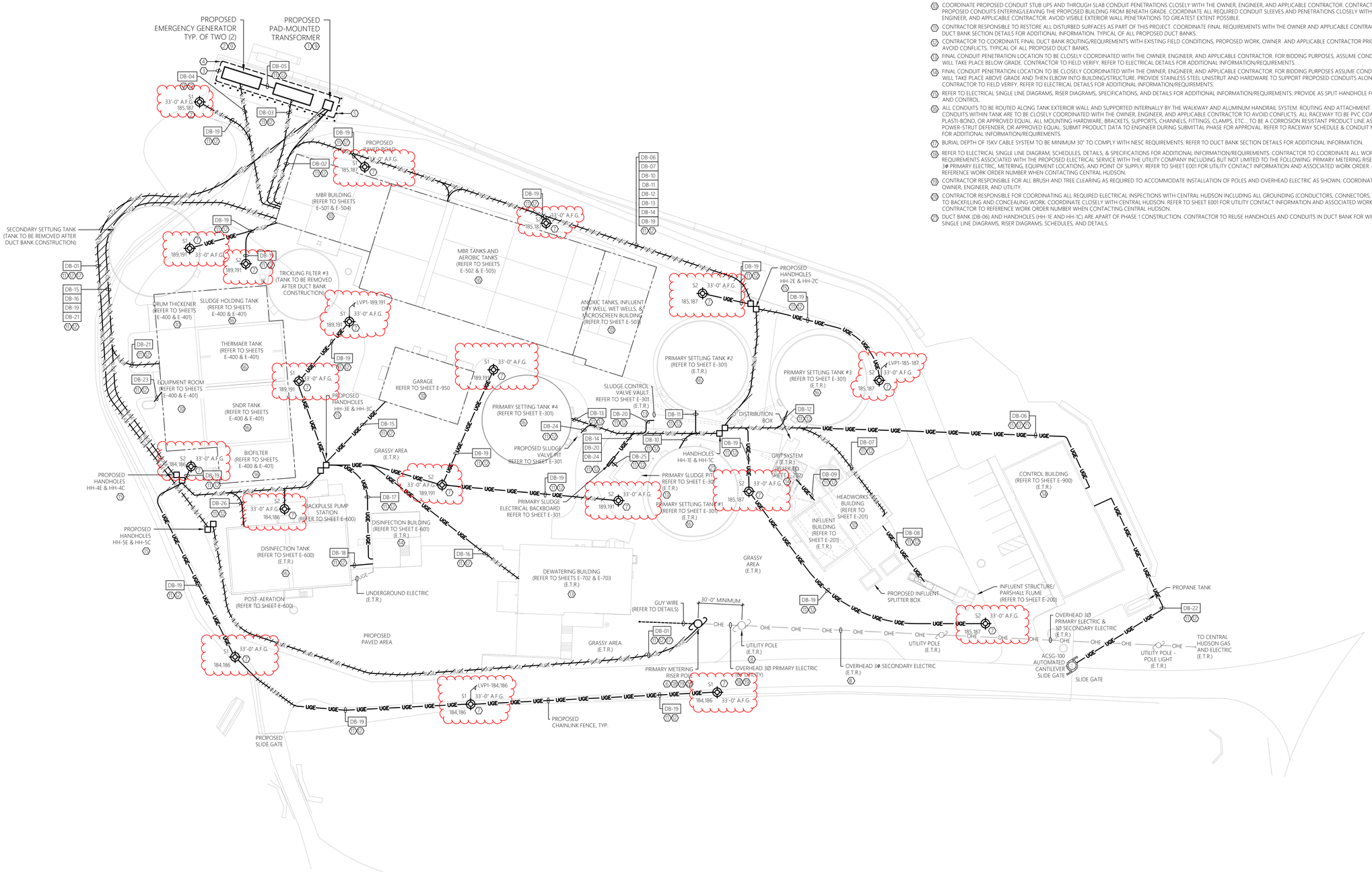
PROJECT # 18-732 PHASE #

GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROPOSED UG DUCT BANKS AND STRUCTURES SHOWN ARE APPROXIMATE IN LOCATION. ROUTE UG DUCT BANKS WITH GENERAL ROUTING AS SHOWN ON PLANS. ROUTE DUCT BANKS AS NECESSARY TO AVOID CONFLICTS WITH SITE CONDITIONS AND PROPOSED PIPING SYSTEMS.
3. DUCT BANKS SHALL NOT BE LOCATED ABOVE OTHER PIPING SYSTEMS EXCEPT WHERE CROSSING. MAINTAIN NESC SEPARATION BETWEEN UTILITIES.
4. REFER TO UNDERGROUND UTILITIES (GENERAL NOTES) ON SHEET E-001 FOR ADDITIONAL INFORMATION.
5. COORDINATE FINAL DUCT BANK LOCATIONS (PRIOR TO ROUGH-IN) WITH APPLICABLE CONTRACTOR AND THE OWNER TO AVOID CONFLICT WITH PROPOSED WORK AND EXISTING CONDITIONS.
6. REFER TO DUCT BANK SCHEDULE FOR ADDITIONAL INFORMATION REGARDING DUCT BANK ROUTING, PURPOSE, AND CONTENTS.
7. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT/DEVICES.
8. EQUIPMENT AND DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO GENERAL SHEETS AND COORDINATE WITH APPLICABLE CONTRACTOR FOR EXACT LOCATIONS.
9. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH THE OWNER AND APPLICABLE CONTRACTOR.
10. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, FLOOR PLANS, RISER DIAGRAMS, SCHEDULES, DETAILS, & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. REFER TO OVERALL SITE PLANS ON CIVIL/GENERAL SHEETS FOR ADDITIONAL SITE INFORMATION.
12. NOT ALL EXISTING/PROPOSED SITE UTILITIES SHOWN FOR CLARITY. REFER TO GENERAL/CIVIL SHEETS FOR ADDITIONAL SITE INFORMATION.
13. CONTRACTOR IS RESPONSIBLE FOR ALL SITE RESTORATION. REFER TO TYPICAL DUCT BANK SECTION DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
14. CONTRACTOR TO COORDINATE PARKING & LAYDOWN AREA WITH THE OWNER AND APPLICABLE CONTRACTOR.
15. CONTRACTOR TO ADJUST FINAL AIMING ANGLE OF EXTERIOR LIGHT FIXTURES TO LIGHT DESIRED AREAS AND MINIMIZE LIGHT POLLUTION. COORDINATE WITH THE OWNER AND APPLICABLE CONTRACTOR. REFER TO THE LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS.
16. NOT ALL HAND-HOLES AND PULL POINTS SHOWN FOR CLARITY. CONTRACTOR TO PROVIDE HAND-HOLES AND PULL POINTS AS REQUIRED AND PER NEC. CONTRACTOR TO FIELD VERIFY. REFER TO TYPICAL HANDHOLE DETAIL FOR ADDITIONAL INFORMATION/REQUIREMENTS.
17. ALL UTILITY CHARGES RESULTING FROM THE PROPOSED SERVICE ENTRANCE DESIGN SHALL BE BILLED DIRECTLY TO THE OWNER FROM THE UTILITY COMPANY.

SHEET KEY NOTES:

1. PROPOSED PAD-MOUNTED TRANSFORMER BY THIS CONTRACT. THIS CONTRACT RESPONSIBLE FOR THE TRANSFORMER, CONCRETE PAD, CONCRETE VAULT, AND GROUNDING AS SHOWN. REFER TO 'TYPICAL UTILITY TRANSFORMER PAD AND VAULT DETAIL' FOR ADDITIONAL INFORMATION. TRANSFORMER TO BE KEPT A MINIMUM OF 10'-0" FROM ALL STRUCTURES, ACCESS DRIVES, BUILDINGS, UNDERGROUND UTILITIES, AND ALL OTHER ABOVE GRADE EQUIPMENT. IN ADDITION, TRANSFORMER TO BE KEPT A MINIMUM OF 25'-0" FROM ABOVE GRADE EXPOSED GAS LINES, GAS METERS, WATER LINES, AND SEWER LINES. FINAL LOCATION TO BE COORDINATED IN THE FIELD WITH THE UTILITY, OWNER, ENGINEER AND APPLICABLE CONTRACTOR TO AVOID CONFLICT WITH EXISTING SITE CONDITIONS AND PROPOSED WORK, AS WELL AS COMPLY WITH ALL UTILITY REQUIREMENTS. REFER TO THE ELECTRICAL SINGLE LINE DIAGRAM & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. PROPOSED EMERGENCY GENERATOR, ENCLOSURE AND CONCRETE EQUIPMENT PAD. TYPICAL OF TWO (2). GENERATORS TO BE KEPT A MINIMUM OF 10'-0" FROM ALL STRUCTURES, ACCESS DRIVES, BUILDINGS, AND EQUIPMENT. FINAL LOCATION TO BE ADJUSTED TO AVOID CONFLICT AND COMPLY WITH NEC ARTICLE 110.26 'SPACE ABOUT ELECTRICAL EQUIPMENT'. COORDINATE FINAL LOCATION AND ORIENTATION IN THE FIELD WITH THE OWNER, ENGINEER, AND APPLICABLE CONTRACTOR. REFER TO THE ELECTRICAL SINGLE LINE DIAGRAM, SPECIFICATIONS AND 'TYPICAL GENERATOR PAD DETAIL' FOR ADDITIONAL INFORMATION/REQUIREMENTS.
3. EQUIPMENT GROUND RING. GROUND RING TO BE BURIED AT MINIMUM 3 FEET BELOW FINISHED GRADE. GROUND RING TO BE KEPT AT MINIMUM OF 3 FEET AWAY FROM EQUIPMENT (GENERATORS & TRANSFORMER) AT ALL TIMES. PROVIDE AND INSTALL 3/4" Ø X 10' GROUND RODS AT EACH CORNER OF GROUND RING FOR A TOTAL OF FOUR (4) GROUND RODS. BOND ALL PROPOSED EQUIPMENT (GENERATORS & TRANSFORMER) TO GROUND RING. ALL GROUND CONDUCTORS SHALL BE #4/0 COPPER, U.O.N.
4. 3/4"Ø x 10'-0" COPPER GROUND ROD. TYPICAL OF 4, ONE AT EACH CORNER OF THE GROUND RING.
5. PROTECTIVE BOLLARD; TYPICAL OF TWENTY (20). DISTANCE FROM BOLLARD TO EQUIPMENT PAD (GENERATOR AND TRANSFORMER) TO BE 5'-0" MINIMUM TO COMPLY WITH NEC REQUIRED WORKING CLEARANCES AND ALLOW FOR ROUTINE MAINTENANCE. BOLLARDS TO BE SPACED 5'-0" APART ON CENTER. REFER TO TYPICAL BOLLARD DETAIL FOR ADDITIONAL INFORMATION/REQUIREMENTS. COORDINATE FINAL QUANTITIES / LOCATIONS IN THE FIELD WITH THE OWNER, UTILITY, ENGINEER, AND APPLICABLE CONTRACTOR PRIOR TO ROUGH-IN.
6. PROVIDE AND INSTALL TWO (2) 3/4"Ø x 10'-0" COPPER GROUND RODS. BOND ALL EQUIPMENT ON PRIMARY METERING RISER POLE AS SHOWN ON POLE DETAILS ON SHEET E-035 OR AS REQUIRED BY THE UTILITY. GROUND ROD TO BE BURIED AT MINIMUM 3 FEET BELOW FINISHED GRADE. GROUND RING TO BE KEPT AT MINIMUM OF 3 FEET AWAY FROM POLES AT ALL TIMES. ALL GROUND CONDUCTORS SHALL BE #1/0 COPPER, U.O.N.
7. CONTRACTOR TO COORDINATE FINAL LOCATION WITH OWNER, ENGINEER, AND APPLICABLE CONTRACTOR TO AVOID POTENTIAL CONFLICTS WITH EXISTING AND PROPOSED CONDITIONS. ADJUST FIXTURE TO LIGHT DESIRED AREAS AND MINIMIZE LIGHT POLLUTION. REFER TO ELECTRICAL DETAILS AND SCHEDULES FOR ADDITIONAL INSTALLATION, CONTROL, AND WIRING INFORMATION/REQUIREMENTS.
8. CONTRACTOR TO COMPLY WITH THE HIGH VOLTAGE PROXIMITY ACT AND ALL NESC REQUIREMENTS WHEN ERECTING STRUCTURES NEAR ENERGIZED UTILITY LINES. ALL EQUIPMENT, CRANES, ETC. TO BE KEPT A MINIMUM OF 10'-0" FROM ENERGIZED UTILITY LINES. COORDINATE WITH UTILITY PRIOR TO COMMENCING WORK. TYPICAL.
9. AREA IS TO BE RE-GRADED BY APPLICABLE CONTRACTOR PRIOR TO EQUIPMENT INSTALLATION. COORDINATE FINAL REQUIREMENTS CLOSELY WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER PRIOR TO EQUIPMENT INSTALLATION TO AVOID CONFLICTS WITH EXISTING AND PROPOSED CONDITIONS. REFER TO CIVIL SITE PLANS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
10. COORDINATE PROPOSED CONDUIT STUB UPS AND THROUGH SLAB CONDUIT PENETRATIONS CLOSELY WITH THE OWNER, ENGINEER, AND APPLICABLE CONTRACTOR. CONTRACTOR TO ROUTE ALL PROPOSED CONDUITS ENTERING/LEAVING THE PROPOSED BUILDING FROM BENEATH GRADE. COORDINATE ALL REQUIRED CONDUIT SLEEVES AND PENETRATIONS CLOSELY WITH THE OWNER, ENGINEER, AND APPLICABLE CONTRACTOR. AVOID VISIBLE EXTERIOR WALL PENETRATIONS TO GREATEST EXTENT POSSIBLE.
11. CONTRACTOR RESPONSIBLE TO RESTORE ALL DISTURBED SURFACES AS PART OF THIS PROJECT. COORDINATE FINAL REQUIREMENTS WITH THE OWNER AND APPLICABLE CONTRACTOR. REFER TO DUCT BANK SECTION DETAILS FOR ADDITIONAL INFORMATION. TYPICAL OF ALL PROPOSED DUCT BANKS.
12. CONTRACTOR TO COORDINATE FINAL DUCT BANK ROUTING/REQUIREMENTS WITH EXISTING FIELD CONDITIONS, PROPOSED WORK, OWNER AND APPLICABLE CONTRACTOR PRIOR TO ROUGH-IN TO AVOID CONFLICTS. TYPICAL OF ALL PROPOSED DUCT BANKS.
13. FINAL CONDUIT PENETRATION LOCATION TO BE CLOSELY COORDINATED WITH THE OWNER, ENGINEER, AND APPLICABLE CONTRACTOR. FOR BIDDING PURPOSES, ASSUME CONDUIT PENETRATIONS WILL TAKE PLACE BELOW GRADE. CONTRACTOR TO FIELD VERIFY. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
14. FINAL CONDUIT PENETRATION LOCATION TO BE CLOSELY COORDINATED WITH THE OWNER, ENGINEER, AND APPLICABLE CONTRACTOR. FOR BIDDING PURPOSES ASSUME CONDUIT PENETRATIONS WILL TAKE PLACE ABOVE GRADE AND THEN ELBOW INTO BUILDING/STRUCTURE. PROVIDE STAINLESS STEEL UNISTRUT AND HARDWARE TO SUPPORT PROPOSED CONDUITS ALONG EXTERIOR WALL. CONTRACTOR TO FIELD VERIFY. REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
15. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SPECIFICATIONS, AND DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE AS SPLIT HANDHOLE FOR BOTH POWER AND CONTROL.
16. ALL CONDUITS TO BE ROUTED ALONG TANK EXTERIOR WALL AND SUPPORTED INTERNALLY BY THE WALKWAY AND ALUMINUM HANDRAIL SYSTEM. ROUTING AND ATTACHMENT METHODS OF ALL CONDUITS WITHIN TANK ARE TO BE CLOSELY COORDINATED WITH THE OWNER, ENGINEER, AND APPLICABLE CONTRACTOR TO AVOID CONFLICTS. ALL RACEWAY TO BE PVC COATED RGS BY PLASTI-BOND, OR APPROVED EQUAL. ALL MOUNTING HARDWARE, BRACKETS, SUPPORTS, CHANNELS, FITTINGS, CLAMPS, ETC., TO BE A CORROSION RESISTANT PRODUCT LINE AS MANUFACTURED BY POWER-STRUT DEFENDER, OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER DURING SUBMITTAL PHASE FOR APPROVAL. REFER TO RACEWAY SCHEDULE & CONDUIT MOUNTING DETAIL FOR ADDITIONAL INFORMATION/REQUIREMENTS.
17. BURIAL DEPTH OF 15KV CABLE SYSTEM TO BE MINIMUM 30" TO COMPLY WITH NESC REQUIREMENTS. REFER TO DUCT BANK SECTION DETAILS FOR ADDITIONAL INFORMATION.
18. REFER TO ELECTRICAL SINGLE LINE DIAGRAM, SCHEDULES, DETAILS, & SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. CONTRACTOR TO COORDINATE ALL WORK AND REQUIREMENTS ASSOCIATED WITH THE PROPOSED ELECTRICAL SERVICE WITH THE UTILITY COMPANY INCLUDING BUT NOT LIMITED TO THE FOLLOWING: PRIMARY METERING RISER POLE, OVERHEAD 3Ø PRIMARY ELECTRIC, METERING, EQUIPMENT LOCATIONS, AND POINT OF SUPPLY. REFER TO SHEET E001 FOR UTILITY CONTACT INFORMATION AND ASSOCIATED WORK ORDER. CONTRACTOR TO REFERENCE WORK ORDER NUMBER WHEN CONTACTING CENTRAL HUDSON.
19. CONTRACTOR RESPONSIBLE FOR ALL BRUSH AND TREE CLEARING AS REQUIRED TO ACCOMMODATE INSTALLATION OF POLES AND OVERHEAD ELECTRIC AS SHOWN. COORDINATE CLOSELY WITH OWNER, ENGINEER, AND UTILITY.
20. CONTRACTOR RESPONSIBLE FOR COORDINATING ALL REQUIRED ELECTRICAL INSPECTIONS WITH CENTRAL HUDSON INCLUDING ALL GROUNDING (CONDUCTORS, CONNECTORS, RODS, ETC..) PRIOR TO BACKFILLING AND CONCEALING WORK. COORDINATE CLOSELY WITH CENTRAL HUDSON. REFER TO SHEET E001 FOR UTILITY CONTACT INFORMATION AND ASSOCIATED WORK ORDER. CONTRACTOR TO REFERENCE WORK ORDER NUMBER WHEN CONTACTING CENTRAL HUDSON.
21. DUCT BANK (DB-06) AND HANDHOLES (HH-1E AND HH-1C) ARE APART OF PHASE 1 CONSTRUCTION. CONTRACTOR TO REUSE HANDHOLES AND CONDUITS IN DUCT BANK FOR WIRING SHOWN ON SINGLE LINE DIAGRAMS, RISER DIAGRAMS, SCHEDULES, AND DETAILS.



0 30' 60'
SCALE: 1" = 30'-0"

1 E-101 ELECTRICAL SITE PLAN - NEW WORK
SCALE: 1" = 30'-0" CAESARS LANE WASTEWATER TREATMENT PLANT

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK JEFFREY E ROBINSON 095896 LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2

145 CAESARS LN.
NEW WINDSOR, NY 12553

FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL SITE PLAN - NEW WORK

REVISIONS

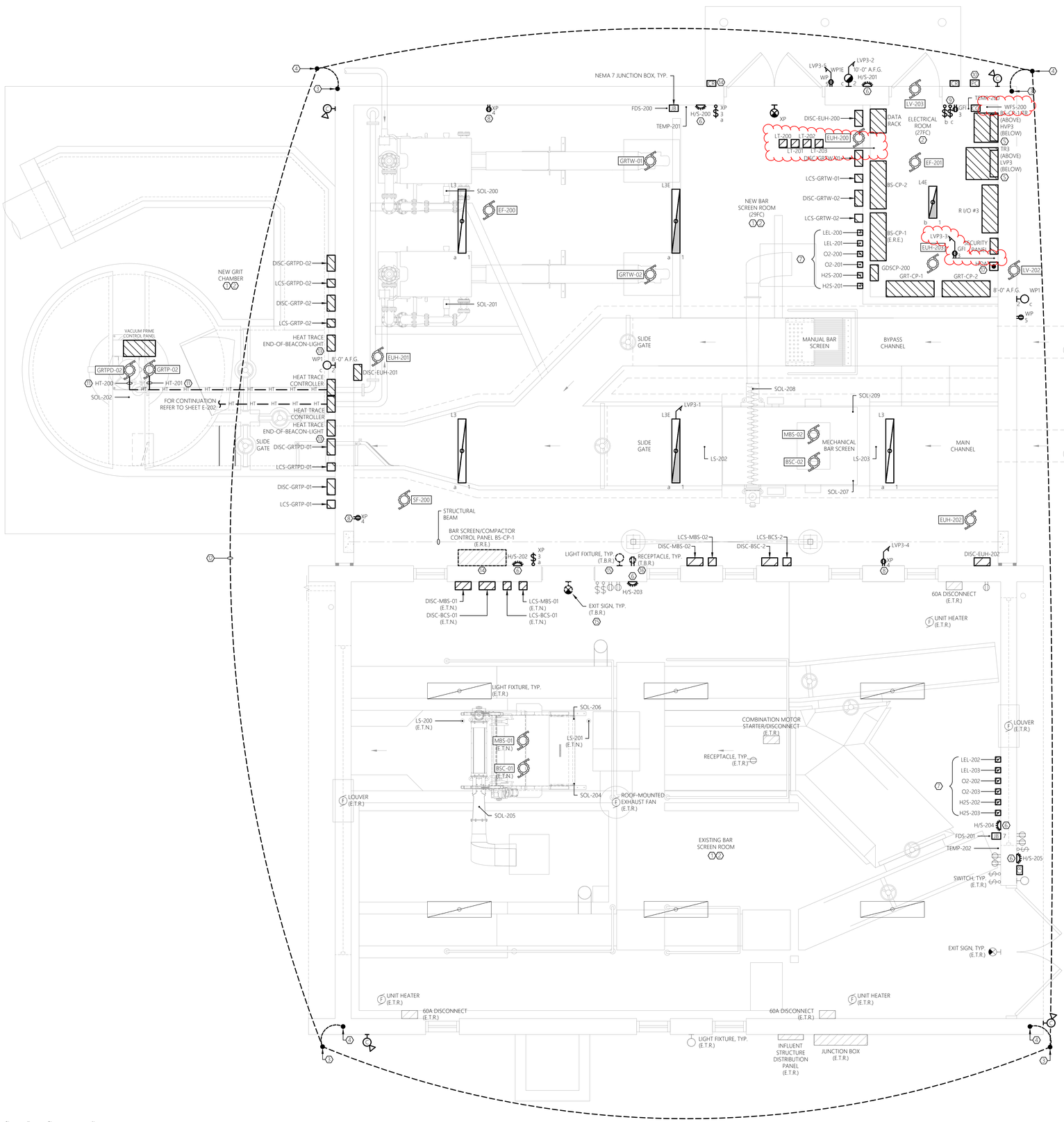
NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.

E-101

PROJECT # 18-732 PHASE #



0' 1' 2' 4'
SCALE: 1/2" = 1'-0"

1 E-201 ELECTRICAL POWER, SYSTEMS, & LGHTING PLAN
SCALE: 1/2" = 1'-0"
HEADWORKS BUILDING

GENERAL DEMOLITION NOTES:

MECHANICAL EQUIPMENT & MISC. ELECTRICAL EQUIPMENT:
WHERE INDICATED TO BE DEMOLISHED:
- REFER TO GENERAL CONTRACT DRAWINGS FOR AN ACCURATE DEPICTION OF ALL DEMOLITION REQUIRED AS PART OF THIS CONTRACT.
- REMOVE ALL WIRE (POWER & CONTROLS) & EXPOSED CONDUIT BACK TO SOURCE PANEL, UNLESS OTHERWISE INDICATED (UOI).
- REMOVE ANY ASSOCIATED MOTOR STARTERS, CONTROL STATIONS, &/OR DISCONNECTS, UOI.
- REMOVE CIRCUIT WIRING FROM SOURCE PANEL AND REMOVE ASSOCIATED SOURCE CIRCUIT BREAKER; UOI.
- REMOVE ALL INTERLOCK CIRCUITRY, UOI.
- PROVIDE REVISED TYPED PANELBOARD DIRECTORIES FOR ALL EXISTING TO REMAIN PANELS WHERE CIRCUITS ARE TO BE REMOVED.
- REMOVE ALL ASSOCIATED MOUNTING HARDWARE, BRACKETS, AND EQUIPMENT, UOI.

RECEPTACLES:
WHERE INDICATED TO BE DEMOLISHED:
- REMOVE ALL RECEPTACLES IMPACTED BY WALL MODIFICATIONS AND OVERALL PROJECT IMPROVEMENTS. **NOTE** ALL EXISTING RECEPTACLES MAY NOT BE SHOWN ON THESE DEMOLITION PLANS. MINOR FIELD VERIFICATION REQUIRED.
- REMOVE DEVICE, AND ALL ASSOCIATED WIRE & CONDUIT BACK TO SOURCE OR NEAREST ACTIVE JUNCTION BOX, UOI.

LIGHTING:
WHERE INDICATED TO BE DEMOLISHED:
- REMOVE ALL FIXTURES THROUGHOUT SPACE. **NOTE** ALL EXISTING LIGHTING FIXTURES MAY NOT BE SHOWN ON THESE DEMOLITION PLANS. MINOR FIELD VERIFICATION REQUIRED.
- REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE, UOI.
- REMOVE SWITCHING AND CONTROL DEVICES, UOI.
- REMOVE CONTACTORS ASSOCIATED WITH LOW VOLTAGE SWITCHING DEVICES, UOI.
- DISPOSE OF ALL LAMPS IN ACCORDANCE WITH STATE/FEDERAL AND EPA REQUIREMENTS.

PANELBOARD REMOVAL AND REPLACEMENT:
- REFER TO SINGLE LINE DIAGRAMS FOR SCOPE OF WORK.

CIRCUIT AND FEEDER REMOVAL AND REPLACEMENT:
- MAINTAIN ANY EXISTING NON-IMPACTED PANELBOARDS AND ANY NON-IMPACTED CIRCUITS WHICH ARE EXISTING TO REMAIN.
- WHERE CIRCUITS ARE AFFECTED BY MODIFICATION/REMOVAL ACTIVITIES, PROVIDE NECESSARY CIRCUIT EXTENSIONS AND ALL NECESSARY LABOR/MATERIALS AS NECESSARY TO REPAIR AND RE-CONNECT CIRCUIT(S).
- ANY CIRCUITS/FEEDERS WHICH REQUIRE SHUTDOWN TO ACCOMMODATE WORK SHALL BE COORDINATED WITH THE OWNER WELL IN ADVANCE.

BUILDING/STRUCTURE GROUND SYSTEM:
- CONTRACTOR TO CAREFULLY PROTECT AND MAINTAIN ALL GROUND SYSTEMS ASSOCIATED WITH BUILDINGS/STRUCTURES EXISTING TO REMAIN.
- CONTRACTOR TO REMOVE ALL GROUND SYSTEMS ASSOCIATED WITH BUILDING/STRUCTURES TO BE REMOVED.
- GROUND SYSTEM COMPONENTS MAY INCLUDE, BUT ARE NOT LIMITED TO, GROUNDING CONDUCTORS, JUMPERS, TERMINATIONS, RODS, AND AIR TERMINALS. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF DEMOLITION.

HAZARDOUS MATERIAL REMOVAL:
PERFORM WORK FOR REMOVAL AND DISPOSAL OF EQUIPMENT AND MATERIALS CONTAINING TOXIC SUBSTANCES REGULATED UNDER THE FEDERAL TOXIC SUBSTANCES CONTROL ACT (TSCA) IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. APPLICABLE EQUIPMENT AND MATERIALS INCLUDE, BUT ARE NOT LIMITED TO:
- PCB-CONTAINING ELECTRICAL EQUIPMENT, INCLUDING TRANSFORMERS, CAPACITORS, AND SWITCHES.
- PCB- AND DEHP-CONTAINING LIGHTING BALLASTS.
- MERCURY-CONTAINING LAMPS AND TUBES, INCLUDING FLUORESCENT LAMPS, HIGH INTENSITY DISCHARGE (HID), ARC LAMPS, ULTRA-VIOLET, HIGH PRESSURE SODIUM, MERCURY VAPOR, IGNITRON TUBES, NEON, AND INCANDESCENT.
- CONTRACTOR TO COORDINATE ANY REQUIRED HAZARDOUS MATERIAL REMOVAL WITH THE OWNER, ENGINEER, AND APPLICABLE TRADE CONTRACTOR.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS, AND GENERAL PROJECT NOTES.
2. ITEMS INDICATED TO BE REMOVED:
   2.1. REMOVE ALL CONDUCTORS AND EXPOSED CONDUIT BACK TO SOURCE (UOI).
   2.2. REMOVE CIRCUIT WIRING AND CIRCUIT BREAKER FROM SOURCE PANEL (UOI).
   2.3. REMOVE ALL ASSOCIATED CONTROL CONDUCTORS, CONDUITS, AND DEVICES (UOI).
   2.4. REMOVE ASSOCIATED STARTERS, DISCONNECTS, AND ASSOCIATED CIRCUITRY (UOI).
   2.5. REMOVE EQUIPMENT PADS & MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... (UOI).
   2.6. REVISE PANELBOARD AND MOTOR CONTROL CENTER DIRECTORIES/NAME PLATES AS CHANGES OCCUR (UOI).
3. THESE DEMOLITION DRAWINGS ARE SCHEMATIC IN NATURE AND ARE BASED ON CURSORY FIELD OBSERVATION AND EXISTING DRAWINGS. IT IS NOT THE INTENTION OF THESE DRAWINGS TO INDICATE EVERY DEVICE/FIXTURE REQUIRING REMOVAL/DEMO RATHER GENERAL SYSTEMS WHICH ARE TO BE REMOVED.
4. CIRCUITS NOT IN AREA OF WORK THAT ARE AFFECTED BY WORK SHALL BE OPERATIONAL DURING PROJECT. PROVIDE TEMPORARY CIRCUITS AS NECESSARY.
5. CIRCUIT, EQUIPMENT, AND DEVICE REMOVAL SHALL NOT AFFECT THE INTEGRITY OR FUNCTIONALITY OF CIRCUITS TO REMAIN. ALL CIRCUITS TO REMAIN SHALL BE MAINTAINED. PROVIDE ALL NECESSARY CIRCUIT MODIFICATIONS AND EXTENSIONS.
6. WHERE REMOVALS LEAVE HOLES AND DAMAGED SURFACES EXPOSED IN THE FINISHED WORK, PATCH AND REPAIR THESE HOLES AND DAMAGED SURFACES TO MATCH ADJACENT FINISHED SURFACES. WHERE NEW WORK IS TO BE APPLIED TO EXISTING SURFACES, PERFORM REMOVALS, AND PATCHING IN A MANNER TO PRODUCE SURFACES SUITABLE FOR RECEIVING NEW WORK. COORDINATE ALL WORK WITH APPLICABLE TRADE CONTRACTOR, OWNER, AND ENGINEER.
7. COORDINATE WITH ALL CONTRACT DRAWINGS AND TRADE CONTRACTORS FOR ADDITIONAL EQUIPMENT THAT IS TO BE DEMOLISHED. FOR ALL EQUIPMENT SHOWN/INDICATED FOR REMOVAL: DISCONNECT AND REMOVE ELECTRICAL CIRCUIT INCLUDING CONDUCTORS AND CONDUIT BACK TO SOURCE.
8. NOT ALL EQUIPMENT/DEVICES ARE SHOWN FOR CLARITY. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND REPORT DISCREPANCIES TO ENGINEER PRIOR TO COMMENCEMENT OF DEMOLITION.
9. REFER TO THE ELECTRICAL SINGLE LINE DIAGRAMS, SCHEDULES & DETAILS FOR ADDITIONAL DEMOLITION INFORMATION/REQUIREMENTS.
10. COORDINATE ALL ASPECTS OF SEQUENCE OF REMOVAL WITH THE OWNER, ENGINEER, AND APPLICABLE TRADE CONTRACTOR. REFER TO SPECIFICATIONS AND DEMOLITION SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.
11. WHERE REMOVAL OF CONDUIT SYSTEM IS NOT FEASIBLE, REMOVE ALL CONDUCTORS FROM CONDUIT SYSTEM, CUT FLUSH, CAP CONDUIT SYSTEM, AND ABANDON IN PLACE. FEASIBLE IS DEFINED AS BEING LOCATED WITHIN A CONCRETE DUCT BANK OR CONCRETE SLAB. ALL OTHER INSTANCES TO HAVE THE CONDUIT & CIRCUITRY TO BE REMOVED IN THERE ENTIRETY. FIELD VERIFY AND COORDINATE FINAL REQUIREMENTS WITH THE OWNER, TYPICAL.

GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT/DEVICES.
3. EQUIPMENT & DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO ALL TRADE CONTRACT DRAWINGS AND COORDINATE WITH ALL TRADE CONTRACTORS FOR EXACT LOCATIONS. CLOSE CONTRACTOR COORDINATION REQUIRED.
4. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.
5. CONTRACTOR TO PROVIDE ALL REQUIRED MOUNTING HARDWARE, EQUIPMENT, BRACKETS, SUPPORTS, ACCESSORIES, ETC... PROVIDE AS STAINLESS STEEL IN CORROSIVE ENVIRONMENTS, EXTERIOR APPLICATIONS, OR WHERE INDICATED ON THE CONTRACT DRAWINGS.
6. NOT ALL EQUIPMENT/DEVICES MAY BE SHOWN FOR CLARITY. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING AND PROPOSED CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. COORDINATE WITH ALL TRADES, OWNER, AND ENGINEER.
7. CONTRACTOR RESPONSIBLE FOR MOUNTING OF ALL PANELS FURNISHED BY OTHERS. COORDINATE WITH OWNER, ENGINEER, AND APPLICABLE TRADE CONTRACTOR AND PROVIDE ALL NECESSARY MOUNTING HARDWARE/EQUIPMENT.
8. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH THE OWNER, ENGINEER, AND ALL TRADE CONTRACTORS.
9. CONTRACTOR TO ADJUST FINAL INTERIOR LIGHT FIXTURE LOCATIONS TO AVOID CONFLICTS WITH EQUIPMENT, PIPING SYSTEMS, AND DUCTWORK. COORDINATE WITH ALL TRADES.
10. CONTRACTOR TO ADJUST FINAL AIMING ANGLE OF EXTERIOR LIGHT FIXTURES TO LIGHT DESIRED AREAS AND MINIMIZE LIGHT POLLUTION. COORDINATE WITH THE OWNER. REFER TO THE LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. ALL WEATHERPROOF RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 36" A.F.G.
12. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH ALL TRADES, OWNER, AND ENGINEER PRIOR TO ROUGH-IN.
13. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, SPECIFICATIONS, RISER DIAGRAMS, SCHEDULES & DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
14. CONTRACTOR TO PROVIDE LABEL FOR ALL PROPOSED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR LABELING INFORMATION/REQUIREMENTS. PROVIDE LABEL FOR ALL LIGHT SWITCHES/TIME SWITCHES INDICATING LOAD SERVED, AS WELL AS ALARM LIGHTS/HORNS.
15. ALL EQUIPMENT/DEVICES INSTALLED ON EXTERIOR WALLS OF THE HEADWORKS ROOM TO BE INSTALLED 3'-0" MINIMUM FROM ANY OPENINGS (DOORS, LOUVERS, ETC.). FINAL REQUIREMENTS TO BE IN COMPLIANCE WITH THE LATEST EDITION OF NFPA 820.

SHEET KEY NOTES:

1. AREA IS A CLASS I, DIVISION II, GROUP D SPACE. ALL WIRING METHODS TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES INTERIOR TO THIS AREA ARE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASS I, DIVISION II, GROUP D ENVIRONMENT. ALL RACEWAY AND BOXES TO BE PVC COATED RGS BY PLASTI-BOND, OR APPROVED EQUAL. ALL MOUNTING HARDWARE, BRACKETS, SUPPORTS, CHANNELS, FITTINGS, CLAMPS, ETC., TO BE A CORROSION RESISTANT PRODUCT LINE AS MANUFACTURED BY POWER-STRUT DEFENDER, OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER DURING SUBMITTAL PHASE FOR APPROVAL. REFER TO RACEWAY SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. ROUTING & ATTACHMENT METHODS OF ALL CONDUITS TO BE CLOSELY COORDINATED WITH APPLICABLE TRADE CONTRACTOR & OWNER PRIOR TO ROUGH-IN AND VERIFIED IN FIELD TO AVOID POTENTIAL CONFLICTS WITH PROPOSED EQUIPMENT, DUCT WORK, AND PIPING SYSTEMS.
3. CONTRACTOR TO PROVIDE 3/4"ø x 10' COPPER GROUND ROD. BOND ALL METAL STRUCTURES, EQUIPMENT, AND LIGHTING PROTECTION DOWN CONDUCTOR TO GROUND ROD USING #2 COPPER CONDUCTOR WITHIN RGS CONDUIT. REFER TO 'TYPICAL LIGHTNING PROTECTION GROUNDING DETAIL' AND 'TYPICAL PANEL GROUNDING DETAIL' FOR ADDITIONAL INFORMATION/REQUIREMENTS.
4. LIGHTNING PROTECTION DOWN CONDUCTOR. CONCEAL IN RGS CONDUIT AND ATTACH TO EXTERIOR WALL. CONTRACTOR TO WORK WITH CERTIFIED LIGHTNING PROTECTION INSTALLER TO PROVIDE COMPLETE BUILDING LIGHTNING PROTECTION SYSTEM IN ACCORDANCE WITH NFPA. UPON COMPLETION PROVIDE UL MASTER LABEL. REFER TO LIGHTNING PROTECTION FOR STRUCTURES SPECIFICATIONS FOR REQUIREMENTS AND ADDITIONAL INFORMATION.
5. CONTRACTOR TO PROVIDE WALL MOUNT BRACKETS FOR INSTALLATION OF TRANSFORMER ON WALL ABOVE PANEL.
6. GAS DETECTION SYSTEM MONITORING ALARM HORN/STROBES. INSTALL DEVICES (HORN/STROBES) AT 8'-0" ABOVE FINISHED FLOOR/GRADE, TYPICAL OF SIX (6). REFER TO SPECIFICATIONS AND RISER DIAGRAM FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. GAS DETECTION SYSTEM SENSORS AND TRANSMITTERS. INSTALL SENSORS PER MANUFACTURER'S RECOMMENDATIONS. INSTALL TRANSMITTERS AT 48" A.F.F. ON CENTER. REFER TO RISER DIAGRAM AND SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
8. CONTRACTOR TO PROVIDE 20 AMP, 125 VOLT RECEPTACLE (NEMA 5-20R) SUITABLE FOR USE IN A CLASS I DIVISION I GROUP D SPACE. PROVIDE AS CATALOG # ENR21201 M4 AS MANUFACTURED BY CROUSE-HINDS OR APPROVED EQUAL. IN ADDITION, CONTRACTOR TO PROVIDE CORRESPONDING PLUG CATALOG # ENPS201 AS MANUFACTURED BY CROUSE-HINDS, OR APPROVED EQUAL. TURN PLUG OVER TO OWNER. MOUNT RECEPTACLE AT 36" A.F.F.
9. CONTRACTOR TO PROVIDE AS WATTSTOPPER RT-200 ASTRONOMICAL TIME SWITCH OR APPROVED EQUAL WITHIN NEMA 1 ENCLOSURE. SWITCH TO CONTROL PROPOSED EXTERIOR WALL MOUNTED LIGHT FIXTURES TYPES 'WP1' & 'WP1E'. PROGRAM TIME SWITCH FOR LIGHTING 'ON' AT ASTRONOMICAL SUNSET AND 'OFF' AT ASTRONOMICAL SUNRISE. FINAL ON/OFF PROGRAMMING PARAMETERS TO BE COORDINATED WITH THE OWNER.
10. CONTRACTOR TO PROVIDE ONE (1) 120V, 20A PHOTO CONTROL WITH ADJUSTABLE SHIELD FOR CONTROL OF EXTERIOR LIGHTING CIRCUIT. INTERLOCK WITH ASTRONOMICAL TIME SWITCH. CONFIRM FINAL LOCATION WITH THE OWNER PRIOR TO ROUGH-IN. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
11. EXTERIOR 4" DUCTILE DISCHARGE AND EXTERIOR 1-1/2" POTABLE FLUSH WATER BETWEEN THE BUILDING AND GRIT CHAMBER TO HAVE HEAT TRACE SYSTEM APPLIED. PROVIDE HEAT TRACING CABLES, INSULATION, AND JACKET. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. THIS CONTRACT RESPONSIBLE FOR ALL HEATING CABLES, PIPE INSULATION/JACKET, AND ANCILLARY EQUIPMENT AS SHOWN/SPECIFIED FOR AN OVERALL COMPLETE AND OPERABLE HEAT TRACE SYSTEM. PROVIDE 30A, 208V/1P DEDICATED CIRCUIT (2)#10 & #10G, 3/4"C) FROM PANEL 'LVP3' AS SHOWN ON PANEL SCHEDULE. NOTE, THE PIPING WILL BE PROVIDED/INSTALLED BY APPLICABLE CONTRACTOR. COORDINATE ALL EFFORTS AND FINAL REQUIREMENTS CLOSELY WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER.
12. GROUND RING. GROUND RING TO BE BURIED AT MINIMUM 3 FEET BELOW FINISHED GRADE. GROUND RING TO BE KEPT AT MINIMUM OF 3 FEET AWAY FROM BUILDING AT ALL TIMES. PROVIDE AND INSTALL 3/4"Ø x 10' GROUND RODS AT EACH CORNER OF GROUND RING FOR A TOTAL OF FOUR (4) GROUND RODS. ALL GROUND CONDUCTORS SHALL BE #2 COPPER, U.O.N.
13. CONTRACTOR TO INSTALL END OF BEACON LIGHT ASSOCIATED WITH HEAT TRACE SYSTEM ON BUILDING EXTERIOR WALL (VISIBLE TO OWNER). COORDINATE FINAL LOCATIONS IN FIELD WITH THE OWNER (PRIOR TO ROUGH-IN) AND PROVIDE ALL NECESSARY STAINLESS STEEL MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION/REQUIREMENTS. TYPICAL OF FOUR (4).
14. PANEL TO BE RELOCATED TO ELECTRICAL ROOM BY THIS CONTRACT. DISCONNECT ELECTRICAL PANEL, MAKE ELECTRICALLY SAFE AND REMOVE ALL CIRCUITRY (CONDUIT & CONDUCTORS) BACK TO SOURCE.
15. CONTRACTOR TO DISCONNECT & REMOVE LIGHT FIXTURE IN ITS ENTIRETY. REMOVE CONDUIT AND CONDUCTORS BACK TO SOURCE. CONTRACTOR TO FIELD VERIFY.
16. CONTRACTOR TO DISCONNECT & REMOVE RECEPTACLE IN ITS ENTIRETY. REMOVE CONDUIT AND CONDUCTORS BACK TO SOURCE. CONTRACTOR TO FIELD VERIFY.
17. CONTRACTOR TO PROVIDE HAND-OFF-AUTO (H-O-A) SWITCH FOR CONTROL OF EXHAUST FAN 'EF-201' AND LOUVERS 'LV-202', 'LV-203'. IN HAND MODE FAN IS TO BE ON. IN OFF MODE FAN IS TO BE OFF. IN AUTO MODE FAN IS TO OPERATE VIA REVERSE ACTING THERMOSTAT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY INTERLOCK CIRCUITRY. PROVIDE CONTROL POWER TRANSFORMER AND ENCLOSURE AS REQUIRED TO OBTAIN NECESSARY VOLTAGE FOR THERMOSTAT. REFER TO HVAC DRAWINGS AND COORDINATE WITH APPLICABLE TRADE CONTRACTORS FOR THERMOSTAT LOCATIONS AND FINAL REQUIREMENTS. REFER TO VENTILATION SYSTEM INTERLOCK DETAIL FOR ADDITIONAL INFORMATION.

MHE ENGINEERING
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New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK
JEFFREY E ROBINSON
095896
LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:

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UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL FLOOR PLANS - HEADWORKS BUILDING

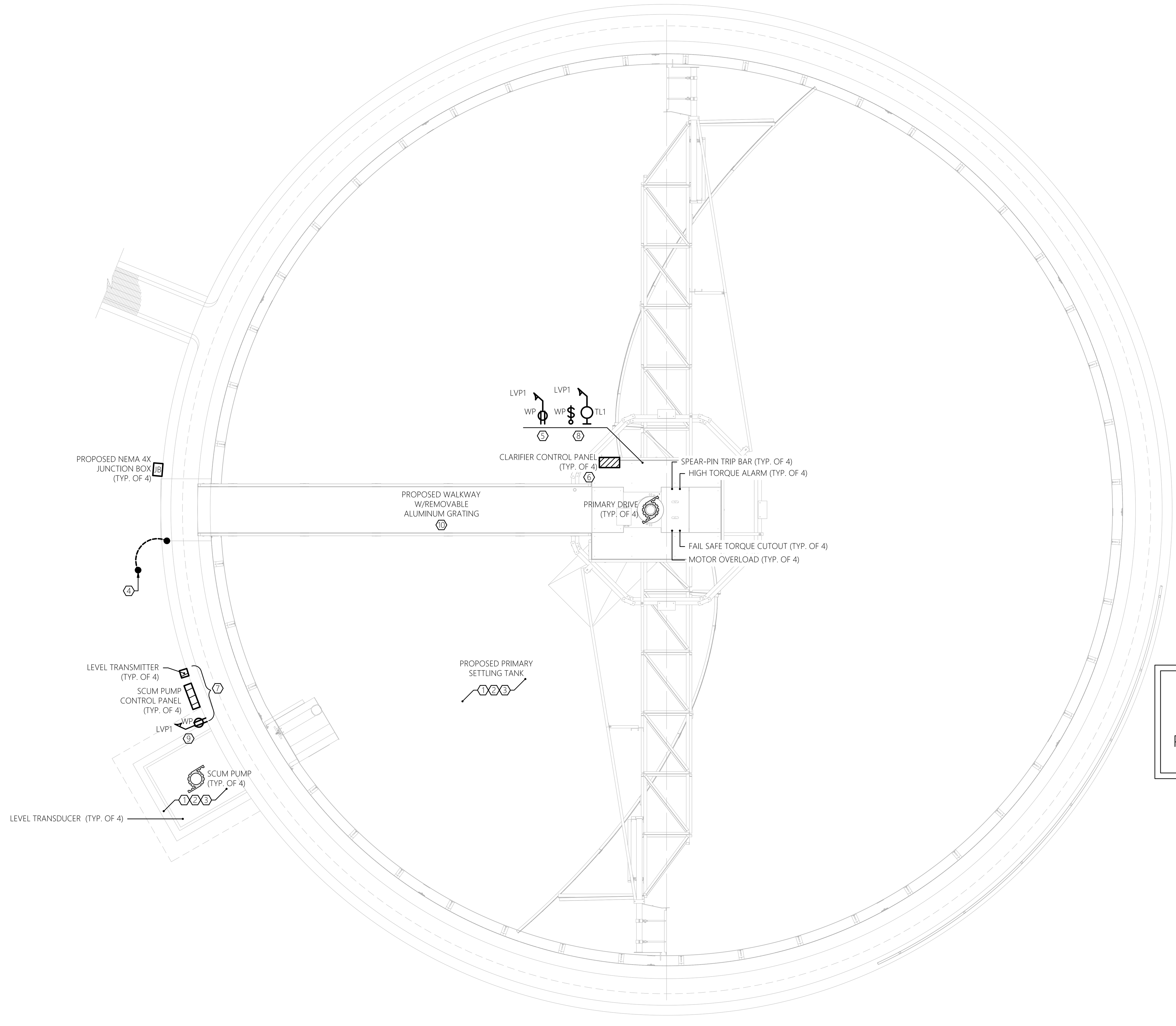
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

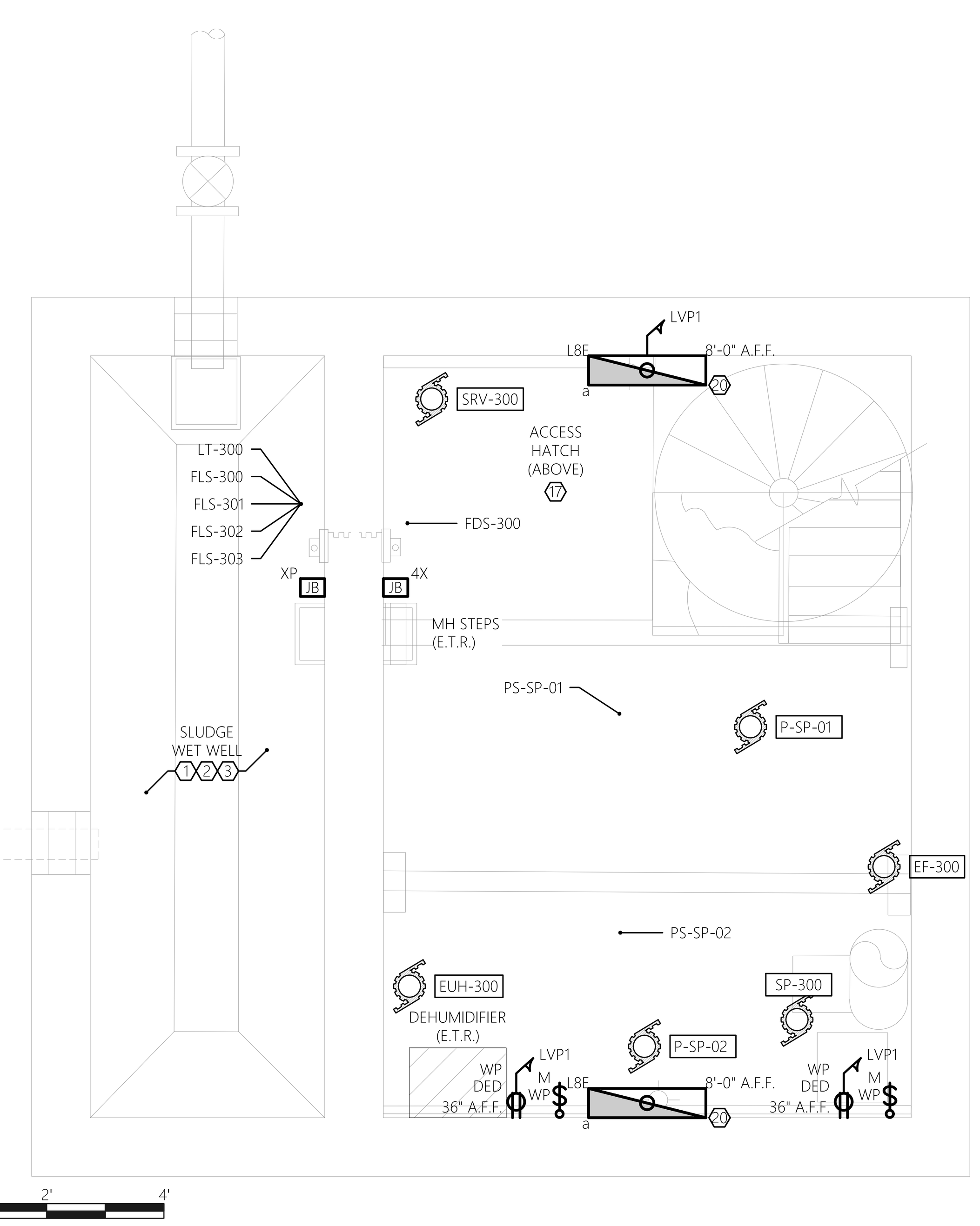
SHEET NO.
E-201

PROJECT # 18-732 PHASE #

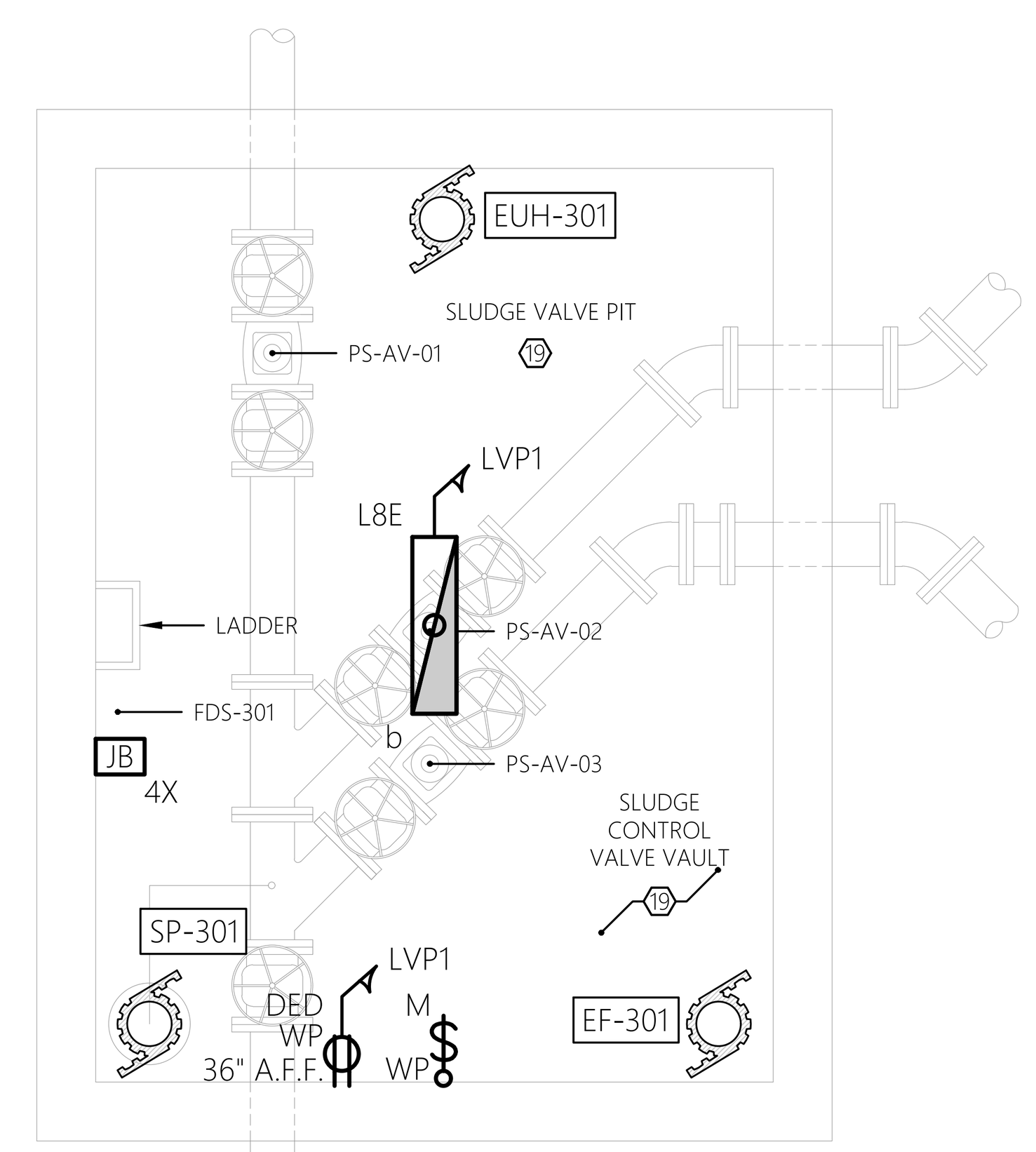


TYPICAL OF FOUR (4):
PRIMARY SETTLING TANK #1,
PRIMARY SETTLING TANK #2,
PRIMARY SETTLING TANK #3, AND
PRIMARY SETTLING TANK #4

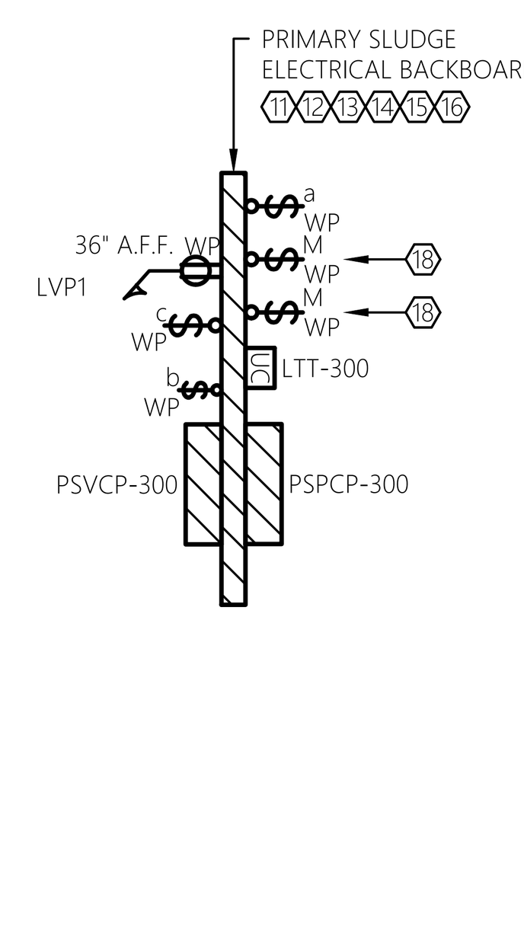
1 E-301 ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0" PRIMARY SETTLING TANK #1, #2, #3, AND #4



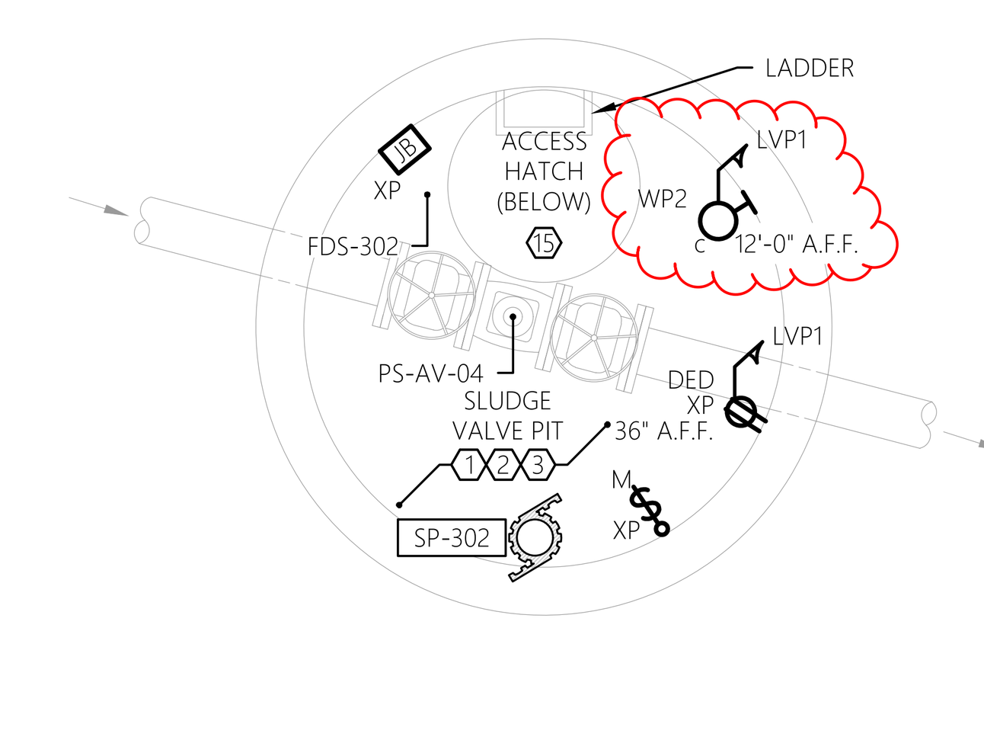
2 E-301 ELECTRICAL NEW WORK PLAN
SCALE: 1/2" = 1'-0" PRIMARY SLUDGE PIT



3 E-301 ELECTRICAL NEW WORK PLAN
SCALE: 1/2" = 1'-0" SLUDGE CONTROL VALVE VAULT



4 E-301 PRIMARY SLUDGE ELECTRICAL BACKBOARD
SCALE: 1/2" = 1'-0"



5 E-301 ELECTRICAL NEW WORK PLAN
SCALE: 1/2" = 1'-0" PROPOSED SLUDGE VALVE PIT

GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT/DEVICES.
3. EQUIPMENT & DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO ALL TRADE CONTRACT DRAWINGS AND COORDINATE WITH ALL TRADE CONTRACTORS FOR EXACT LOCATIONS. CLOSE CONTRACTOR COORDINATION REQUIRED.
4. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.
5. CONTRACTOR TO PROVIDE ALL REQUIRED MOUNTING HARDWARE, EQUIPMENT, BRACKETS, SUPPORTS, ACCESSORIES, ETC... PROVIDE AS STAINLESS STEEL IN CORROSIVE ENVIRONMENTS, EXTERIOR APPLICATIONS, OR WHERE INDICATED ON THE CONTRACT DRAWINGS.
6. NOT ALL EQUIPMENT/DEVICES MAY BE SHOWN FOR CLARITY. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING AND PROPOSED CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. COORDINATE WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER.
7. CONTRACTOR RESPONSIBLE FOR MOUNTING OF APPLICABLE CONTRACTOR, OWNER, AND ENGINEER FURNISHED PANELS. COORDINATE WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER AND PROVIDE ALL NECESSARY MOUNTING HARDWARE/EQUIPMENT.
8. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH THE APPLICABLE CONTRACTOR, OWNER, AND ENGINEER.
9. CONTRACTOR TO ADJUST FINAL INTERIOR LIGHT FIXTURE LOCATIONS TO AVOID CONFLICTS WITH EQUIPMENT, PIPING SYSTEMS, AND DUCTWORK. COORDINATE WITH ALL TRADES.
10. CONTRACTOR TO ADJUST FINAL AIMING ANGLE OF EXTERIOR LIGHT FIXTURES TO LIGHT DESIRED AREAS AND MINIMIZE LIGHT POLLUTION. COORDINATE WITH THE OWNER. REFER TO THE LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. ALL EXTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 36" A.F.G.
12. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER PRIOR TO ROUGH-IN.
13. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, SPECIFICATIONS, RISER DIAGRAMS, SCHEDULES & DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
14. CONTRACTOR TO PROVIDE LABEL FOR ALL PROPOSED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR LABELING INFORMATION/REQUIREMENTS. PROVIDE LABEL FOR ALL LIGHT SWITCHES/TIME SWITCHES INDICATING LOAD SERVED, AS WELL AS ALARM LIGHTS/HORNS.
15. ALL EQUIPMENT/DEVICES INSTALLED ON EXTERIOR WALLS OF THE HEADWORKS ROOM TO BE INSTALLED 3'-0" MINIMUM FROM ANY OPENINGS (DOORS, LOUVERS, ETC.). FINAL REQUIREMENTS TO BE IN COMPLIANCE WITH THE LATEST EDITION OF NFPA 820.

SHEET KEY NOTES:

1. TANK INTERIOR IS A CLASSIFIED SPACE. THE CLASS I, DIVISION II, GROUP D SPACE EXTENDS 18" ABOVE TOP OF TANK WALL AND EXTENDS 10'-0" HORIZONTALLY FROM THE TANK EXTERIOR WALL. ALL WIRING METHODS WITHIN THIS SPACE TO COMPLY WITH NEC ARTICLE 501. ALL ELECTRICAL EQUIPMENT AND DEVICES WITHIN THIS SPACE TO BE EXPLOSION PROOF RATED FOR USE IN A CLASSIFIED ENVIRONMENT. REFER TO TABLE NFPA820 TABLE FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. ROUTING AND ATTACHMENT METHODS OF ALL CONDUITS WITHIN STRUCTURE ARE TO BE CLOSELY COORDINATED WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER TO AVOID CONFLICTS. ALL RACEWAY TO BE PVC COATED RGS BY PLASTI-BOND, OR APPROVED EQUAL. ALL MOUNTING HARDWARE, BRACKETS, SUPPORTS, CHANNELS, FITTINGS, CLAMPS, ETC... TO BE A CORROSION RESISTANT PRODUCT LINE AS MANUFACTURED BY POWER-STRUT DEFENDER, OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER DURING SUBMITTAL PHASE FOR APPROVAL. REFER TO RACEWAY SCHEDULE FOR ADDITIONAL INFORMATION.
3. ALL ELECTRICAL EQUIPMENT, COMPONENTS, DEVICES, AND RACEWAY SYSTEMS TO BE KEPT OUT OF CLASSIFIED AREAS TO GREATEST EXTENT POSSIBLE.
4. CONTRACTOR TO PROVIDE 3/4"ϕ x 10' COPPER GROUND ROD. BOND ALL METAL STRUCTURES (GRATING, LADDERS, HANDRAILS, STAIRS, ETC...) TO GROUND ROD USING #2 COPPER CONDUCTOR WITHIN RGS CONDUIT. TYPICAL OF EACH PRIMARY SETTLING TANK.
5. CONTRACTOR TO PROVIDE 125V, 2-POLE, 3-WIRE, 20-AMP, HEAVY-DUTY, WEATHER-PROOF, DUPLEX RECEPTACLE WITH INTEGRAL GFI PROTECTION AND ~~INSTALL AT 36" ABOVE TANK~~ WALKWAY. PROVIDE STAINLESS STEEL MOUNTING HARDWARE & UNISTRUT FOR INSTALLATION AS INDICATED. PROVIDE CIRCUIT FROM PANEL 'LVP1' AS SHOWN. CIRCUIT IS TO BE SHARED WITH RECEPTACLE NEAR SCUM PUMP CONTROL PANEL. REFER TO 'LVP1' PANEL ~~SCHEDULE AND DUCT BANK~~ SCHEDULE FOR CIRCUITING AND ADDITIONAL INFORMATION/REQUIREMENTS. TYPICAL OF EACH PRIMARY SETTLING TANK.
6. PROVIDE ALL REQUIRED STAINLESS STEEL UNISTRUT, MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... FOR STANCHION MOUNTING ABOVE TANK WALKWAY AS SHOWN/INDICATED.
7. PROVIDE ALL REQUIRED STAINLESS STEEL UNISTRUT, MOUNTING HARDWARE, BRACKETS, SUPPORTS, ACCESSORIES, ETC... FOR STANCHION MOUNTING ON TANK HANDRAIL AS SHOWN/INDICATED.
8. CONTRACTOR TO ~~PROVIDE TELESCOPING POLE LIGHT AND 125V, 20A, HEAVY-DUTY~~ SWITCH WITH WEATHER-PROOF-IN-USE BUBBLE COVER FOR ON/OFF CONTROL OF LIGHT. LIGHT IS TO BE CIRCUITED FROM PANEL 'LVP1' AS SHOWN. REFER TO 'LVP1' PANEL SCHEDUEL AND DUCT BANK SCHEDULE FOR CIRCUITING AND ~~ADDITIONAL INFORMATION/REQUIREMENTS. PROVIDE STAINLESS~~ STEEL MOUNTING HARDWARE AND UNISTRUT FOR INSTALLATION AS INDICATED. COORDINATE FINAL LOCATION WITH OWNER AND APPLICABLE TRADE CONTRACTORS. TYPICAL OF EACH PRIMARY SETTLING TANK.
9. CONTRACTOR TO PROVIDE 125V, 2-POLE, 3-WIRE, 20A, EAVY-DUTY, WEATHER-PROOF-IN-USE BUBBLE COVER, DUPLEX RECEPTACLE WITH INTEGRAL GFI PROTECTION AND INSTALL AT 36" ABOVE FINISHED GRADE. RECEPTACLE CIRCUIT IS TO SHARED WITH RECEPTACLE ON TANK WALKWAY. REFER TO 'LVP1' PANEL SCHEDULE AND DUCT BANK SCHEDULE FOR CIRCUITING AND ADDITIONAL INFORMATION/REQUIREMENTS. TYPICAL OF EACH PRIMARY SETTLING TANK.
10. CONTRACTOR TO ROUTE ALL CONDUIT UNDER WALKWAY FOR EQUIPMENT LOCATED ON WALKWAY. PROVIDE ALL REQUIRED STAINLESS STEEL MOUNTING HARDWARE, UNISTRUT ACCESSORIES, ETC... AS REQUIRED TO INSTALL CONDUITS UNDER WALKWAY PER NEC. ROUTING METHODS TO BE CLOSELY ~~COORDINATED WITH THE APPLICABLE TRADE CONTRACTOR TO AVOID CONFLICTS.~~
11. CONTRACTOR TO PROVIDE TWO (2) 'L8' LIGHT FIXTURES SUITED FOR EXTERIOR USE. PROVIDE WITH BRACKET/MOUNT TO ALLOW OWNER TO ADJUST LIGHT FIXTURE ANGLE/POSITION. PROVIDE POWER CIRCUITRY FROM PANEL 'LVP1'. INSTALL LIGHT TO BACKBOARD AT MINIMUM 72" ABOVE FINISHED GRADE. MOUNT FIXTURE AT 30° ANGLE. REFER LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS, TYP.
12. ~~CONTRACTOR TO PROVIDE RECEPTACLE AS 125 VOLT, 2 POLE, 3 WIRE, 20 AMP, WEATHERPROOF GFCI HEAVY DUTY DUPLEX RECEPTACLE. PROVIDE POWER~~ CIRCUITRY FROM PANEL 'LVP1'. INSTALL RECEPTACLE TO BACKBOARD AT MINIMUM 36" ABOVE FINISHED GRADE.
13. ALL PROPOSED EQUIPMENT/ENCLOSURES ON ELECTRICAL BACKBOARD TO BE RATED FOR OUTDOOR USE (MINIMUM NEMA 4X).
14. CONTRACTOR TO PROVIDE ELECTRICAL BACKBOARD. FINAL LOCATION TO BE COORDINATED WITH THE OWNER AND APPLICABLE CONTRACTOR PRIOR TO ROUGH-IN TO AVOID CONFLICT WITH EXISTING CONDITIONS AND PROPOSED WORK. REFER TO SLUDGE CONTROL ELECTRICAL BACKABOARD DETAIL AND SITE PLAN FOR ADDITIONAL INFORMATION, REQUIREMENTS, AND GENERAL LOCATION.
15. CONTRACTOR TO PROVIDE ALL REQUIRED STAINLESS STEEL MOUNTING HARDWARE, BRACKETS, ACCESSORIES, ETC... REFER TO 'TYPICAL ELECTRICAL BACKBOARD DETAIL' FOR ADDITIONAL INFORMATION/REQUIREMENTS.
16. WHERE APPLICABLE, ALL PROPOSED EQUIPMENT ON ELECTRICAL BACKBOARD TO PROVIDED AS PAD-LOCKABLE. PROVIDE LOCK (TURN KEY OVER TO THE OWNER). COORDINATE FINAL REQUIREMENTS WITH THE OWNER.
17. ACCESS HATCH (BELOW)CONTRACTOR TO KEEP AREA CLEAR AND COORDINATE FINAL LOCATION/REQUIREMENTS WITH APPLICABLE TRADE CONTRACTOR.
18. CONTRACTOR TO PROVIDE MOTOR RATED SWITCHES WITHIN NEMA 4X ENCLOSURE FOR CONTROL OF PRIMARY SLUDGE PIT EXHAUST FANS 'EF-300' AND 'EF-301'. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION. COORDINATE FINAL REQUIREMENTS WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER.
19. ROUTING AND ATTACHMENT METHODS OF ALL CONDUITS TO BE CLOSELY COORDINATED WITH APPLICABLE CONTRACTOR AND OWNER PRIOR TO ROUGH-IN AND VERIFIED IN FIELD TO AVOID POTENTIAL CONFLICTS WITH PROPOSED EQUIPMENT, DUCT WORK, AND PIPING SYSTEMS.
20. MOUNT TWO (2) LIGHT FIXTURES ON WALLS OF UPPER LEVEL OF SLUDGE PIT AS SHOWN AND MOUNT AN ADDITIONAL TWO (2) LIGHT FIXTURES ON WALLS OF LOWER LEVEL DIRECTLY BELOW UPPER LEVEL LIGHT FIXTURES FOR A TOTAL OF FOUR (4) IN THE SLUDGE PIT. ALL LIGHTS ARE TO BE ON THE SAME CIRCUIT AND CONTROLLED BY LIGHT SWITCH 'a' AS SHOWN.

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FOR TOWN OF NEW WINDSOR
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ELECTRICAL NEW WORK PLANS - PRIMARY SETTLING TANKS

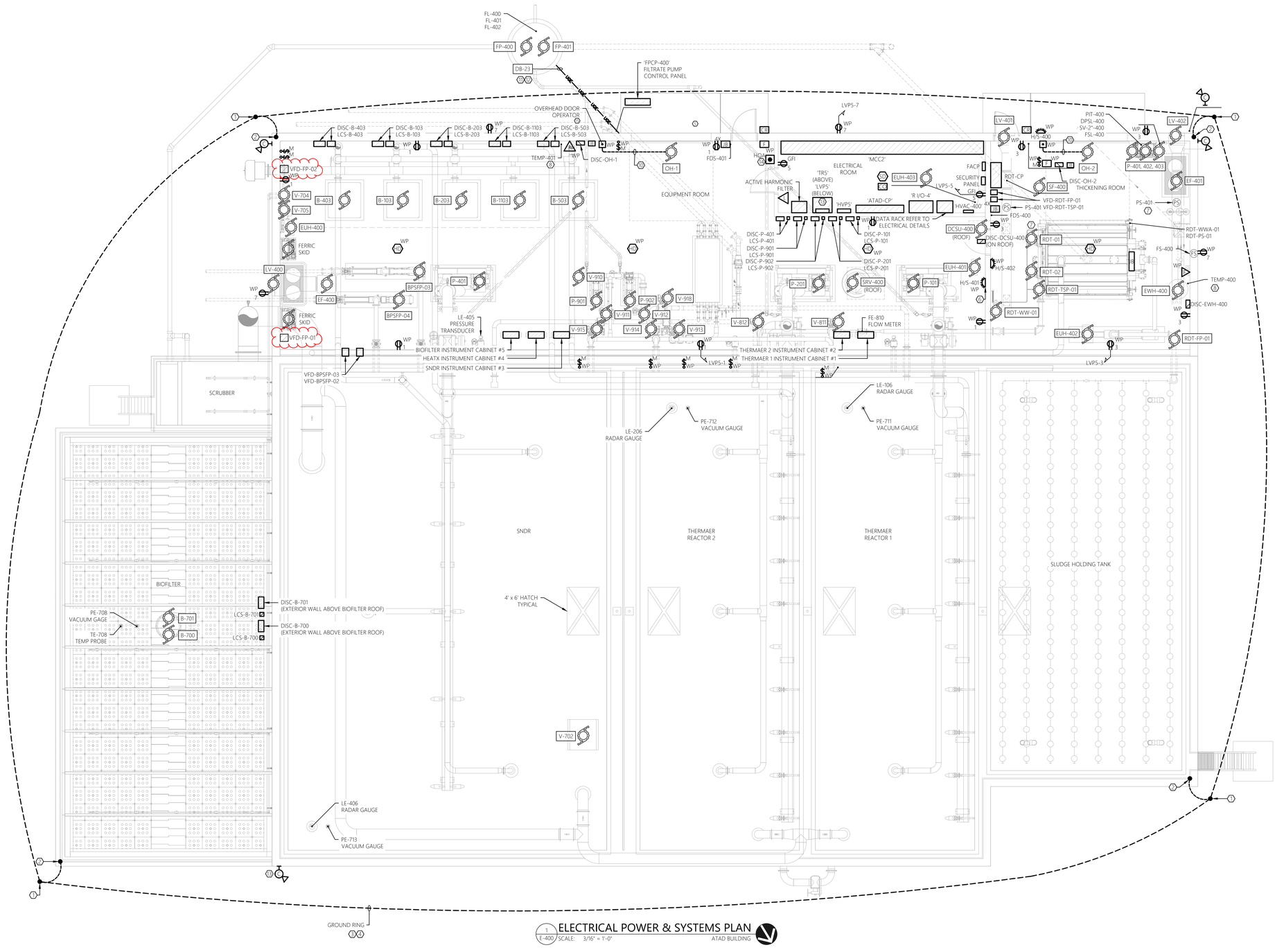
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-301

PROJECT # 18-732 PHASE #



1 E-400 ELECTRICAL POWER & SYSTEMS PLAN — ATAD BUILDING
SCALE: 3/16" = 1'-0"

GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT AND DEVICES.
3. EQUIPMENT & DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO MECHANICAL, PROCESS AND HVAC DRAWINGS FOR EXACT LOCATIONS.
4. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'. CONTRACTOR TO COORDINATE INSTALLATION LOCATIONS OF ALL EQUIPMENT WITH ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH IN.
5. CONTRACTOR RESPONSIBLE FOR MOUNTING OF ALL CONTROL PANELS, CONTROLLERS, TRANSMITTERS, ETC... THAT ARE FURNISHED AS PART OF THIS PROJECT (INCLUDING GENERAL CONTRACTOR). PROVIDE ALL NECESSARY MOUNTING HARDWARE/EQUIPMENT. ALL MOUNTING HARDWARE/EQUIPMENT TO BE STAINLESS STEEL. REFERENCE TYPICAL MOUNTING DETAILS FOR ADDITIONAL INFORMATION.
6. REFER TO ELECTRICAL SINGLE LINE DIAGRAM, SCHEDULES, AND DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER AND GENERAL CONTRACTOR.
8. ALL EXTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 36" A.F.G. ALL INTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 24" A.F.F. UNLESS NOTED OTHERWISE.
9. CONTRACTOR TO PROVIDE LABEL FOR ALL PROPOSED ELECTRICAL EQUIPMENT AND DEVICES. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND ALL OTHER TRADE CONTRACTORS.
10. COORDINATE CONDUIT PENETRATION LOCATIONS THRU EXTERIOR BUILDING WALLS CLOSELY WITH GENERAL CONTRACTOR PRIOR TO PERFORMING WORK.
11. REFER TO DATA DETAILS FOR COMMUNICATION SCOPE OF WORK.

0' 2' 4' 8' 16'
SCALE: 3/16" = 1'-0"

SHEET KEY NOTE:

1. CONTRACTOR TO PROVIDE 3/4"Ø x 10' COPPER GROUND ROD. BOND ALL METAL STRUCTURES AND LIGHTING PROTECTION DOWN CONDUCTOR TO GROUND ROD USING #2/0 COPPER CONDUCTOR WITHIN RGS CONDUIT. REFER TO TYPICAL LIGHTNING PROTECTION GROUNDING DETAILS AND TYPICAL PANEL GROUNDING DETAIL FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. LIGHTNING PROTECTION DOWN CONDUCTOR. CONCEAL IN RGS CONDUIT WITHIN EXTERIOR WALL CONSTRUCTION. CONTRACTOR TO WORK WITH CERTIFIED LIGHTNING PROTECTION INSTALLER TO PROVIDE COMPLETE BUILDING LIGHTNING PROTECTION SYSTEM IN ACCORDANCE WITH NFPA. UPON COMPLETION PROVIDE UL MASTER LABEL. REFER TO LIGHTNING PROTECTION FOR STRUCTURES SPECIFICATIONS FOR REQUIREMENTS AND ADDITIONAL INFORMATION.
3. GROUND RING. GROUND RING TO BE BURIED AT MINIMUM 3 FEET BELOW FINISHED GRADE. GROUND RING TO BE KEPT AT MINIMUM OF 3 FEET AWAY FROM BUILDING AT ALL TIMES. PROVIDE AND INSTALL 3/4"Ø x 10' GROUND RODS AT EACH CORNER OF GROUND RING FOR A TOTAL OF SIX (6) GROUND RODS. ALL GROUND CONDUCTORS SHALL BE #2/0 COPPER, U.O.N.
4. CONTRACTOR TO ADDITIONALLY BOND GROUND RING TO ADJACENT BUILDING GROUND SYSTEM. UTILIZE #2/0 COPPER GROUND CONDUCTOR.
5. LADDER, STAIRS, HANDRAIL AND ALL OTHER METALLIC STRUCTURES.
6. HVAC MONITORING SYSTEM ALARM HORN/STROBES. INSTALL DEVICES (HORN/STROBES) AT 8'-0" ABOVE FINISHED FLOOR/GRADE. TYPICAL OF TWO (2). REFER TO RISER DIAGRAM FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. PRESSURE SENSOR FOR MONITORING. COORDINATE FINAL CIRCUITRY REQUIREMENTS WITH THE HVAC CONTRACTOR. CONNECT TO 'HVAC-400'.
8. TEMPERATURE SENSOR FOR MONITORING. COORDINATE FINAL CIRCUITRY REQUIREMENTS WITH THE APPLICABLE TRADE CONTRACTOR. CONNECT TO 'R I/O-4'. TYPICAL OF TWO (2).
9. CONTRACTOR TO PROVIDE COMBINATION CARBON MONOXIDE/SMOKE DETECTOR MODEL GN-503F AS MANUFACTURED BY GENTEX OR APPROVED EQUAL. DETECTOR TO BE 120V POWERED BY BUILDING ELECTRICAL SYSTEM, CONTAIN BATTERY BACKUP, AND BE UL LISTED. DETECTOR TO FEATURE ONE (1) SET OF CONTACTS THAT ACTIVATE UPON DETECTION OF SMOKE, OR CARBON MONOXIDE. INSTALL ON WALL PER MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH NFPA 720.
10. PROVIDE LOW VOLTAGE CONDUCTORS IN 1/2" CONDUIT PER MANUFACTURERS RECOMMENDATIONS FOR AN OVERALL COMPLETE AND OPERABLE SYSTEM. COORDINATE FINAL REQUIREMENTS WITH ALL OTHER TRADE CONTRACTORS AND THE OWNER.
11. CONTRACTOR RESPONSIBLE TO RESTORE ALL DISTURBED SURFACES AS PART OF THIS PROJECT. COORDINATE FINAL REQUIREMENTS WITH THE OWNER AND APPLICABLE CONTRACTOR. REFER TO DUCT BANK SECTION DETAILS FOR ADDITIONAL INFORMATION. TYPICAL OF ALL PROPOSED DUCT BANKS.
12. CONTRACTOR TO COORDINATE FINAL DUCT BANK ROUTING/REQUIREMENTS WITH EXISTING FIELD CONDITIONS, PROPOSED WORK, OWNER AND APPLICABLE CONTRACTOR PRIOR TO ROUGH-IN TO AVOID CONFLICTS. TYPICAL OF ALL PROPOSED DUCT BANKS.
13. CONTRACTOR TO PROVIDE WALL MOUNT BRACKETS FOR INSTALLATION ON WALL ABOVE PANEL LVP5.
14. CONTRACTOR TO PROVIDE HAND-OFF-AUTO (H-O-A) SWITCH FOR CONTROL OF EXHAUST FAN 'EF-400' AND LOUVER 'LV-400'. IN HAND MODE FAN IS TO BE ON. IN OFF MODE FAN IS TO BE OFF. IN AUTO MODE FAN IS TO OPERATE VIA REVERSE ACTING THERMOSTAT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY INTERLOCK CIRCUITRY. PROVIDE CONTROL POWER TRANSFORMER AND ENCLOSURE AS REQUIRED TO OBTAIN NECESSARY VOLTAGE FOR THERMOSTAT. REFER TO HVAC DRAWINGS AND COORDINATE WITH APPLICABLE TRADE CONTRACTORS FOR THERMOSTAT LOCATIONS AND FINAL REQUIREMENTS. REFER TO VENTILATION SYSTEM INTERLOCK DETAIL FOR ADDITIONAL INFORMATION.
15. REFER TO EQUIPMENT CONNECTION SCHEDULE AND 'TYPICAL OVERHEAD DOOR RISER DIAGRAM' FOR ADDITIONAL INFORMATION/REQUIREMENTS.

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HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

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CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL POWER & SYSTEMS PLAN - ATAD BUILDING

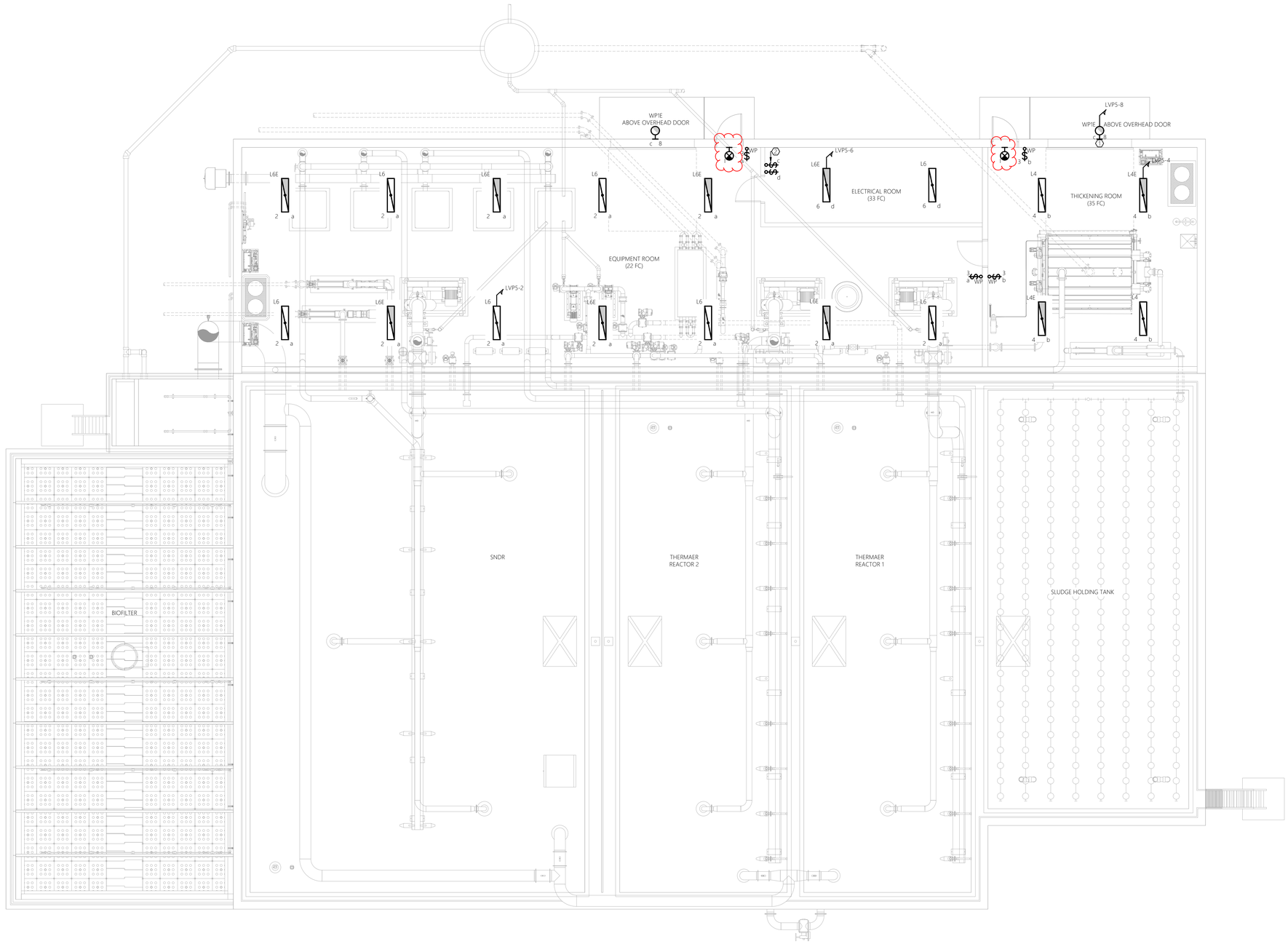
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-400

PROJECT # 18-732 PHASE #



1 E-401 ELECTRICAL LIGHTING PLAN
SCALE: 3/16" = 1'-0" ATAD BUILDING

GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT AND DEVICES.
3. EQUIPMENT & DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO MECHANICAL, PROCESS AND HVAC DRAWINGS FOR EXACT LOCATIONS.
4. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'. CONTRACTOR TO COORDINATE INSTALLATION LOCATIONS OF ALL EQUIPMENT WITH ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH IN.
5. CONTRACTOR RESPONSIBLE FOR MOUNTING OF ALL CONTROL PANELS, CONTROLLERS, TRANSMITTERS, ETC... THAT ARE FURNISHED AS PART OF THIS PROJECT (INCLUDING GENERAL CONTRACTOR). PROVIDE ALL NECESSARY MOUNTING HARDWARE/EQUIPMENT. ALL MOUNTING HARDWARE/EQUIPMENT TO BE STAINLESS STEEL. REFERENCE TYPICAL MOUNTING DETAILS FOR ADDITIONAL INFORMATION.
6. REFER TO ELECTRICAL SINGLE LINE DIAGRAM, SCHEDULES, AND DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER AND GENERAL CONTRACTOR.
8. ALL EXTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 36" A.F.G. ALL INTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 24" A.F.F. UNLESS NOTED OTHERWISE.
9. CONTRACTOR TO PROVIDE LABEL FOR ALL PROPOSED ELECTRICAL EQUIPMENT AND DEVICES. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND ALL OTHER TRADE CONTRACTORS.
10. COORDINATE CONDUIT PENETRATION LOCATIONS THRU EXTERIOR BUILDING WALLS CLOSELY WITH GENERAL CONTRACTOR PRIOR TO PERFORMING WORK.
11. REFER TO DATA DETAILS FOR COMMUNICATION SCOPE OF WORK.
12. CONTRACTOR TO ADJUST FINAL PROPOSED INTERIOR LIGHT FIXTURE LOCATIONS TO AVOID CONFLICTS WITH PROPOSED EQUIPMENT, AND PIPING SYSTEMS.
13. CONTRACTOR TO ADJUST FINAL AIMING ANGLE OF EXTERIOR LIGHT FIXTURES TO LIGHT DESIRED AREAS AND MINIMIZE LIGHT POLLUTION. COORDINATE WITH OWNER AND ALL OTHER TRADE CONTRACTORS. REFER TO THE LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS.

SHEET KEY NOTES:

1. COORDINATE FINAL INSTALLATION LOCATION WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN. TYPICAL OF FOUR (4) WALL PACK LIGHTING FIXTURES.
2. CONTRACTOR TO PROVIDE TIME SWITCH AS WATTSTOPPER RT-200 ASTRONOMICAL TIME SWITCH OR APPROVED EQUAL. TIME SWITCH TO CONTROL PROPOSED EXTERIOR LIGHTING FIXTURES TYPE WP1/WP1E. PROGRAM THE SWITCH FOR LIGHTING 'ON' AT ASTRONOMICAL SUNSET AND 'OFF' AT ASTRONOMICAL SUN RISE. FINAL ON/OFF PARAMETERS TO BE COORDINATED WITH THE OWNER.

0' 2' 4' 8' 16'
SCALE: 3/16" = 1'-0"

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NEW WINDSOR, NY 12553

ELECTRICAL LIGHTING PLAN - ATAD BUILDING

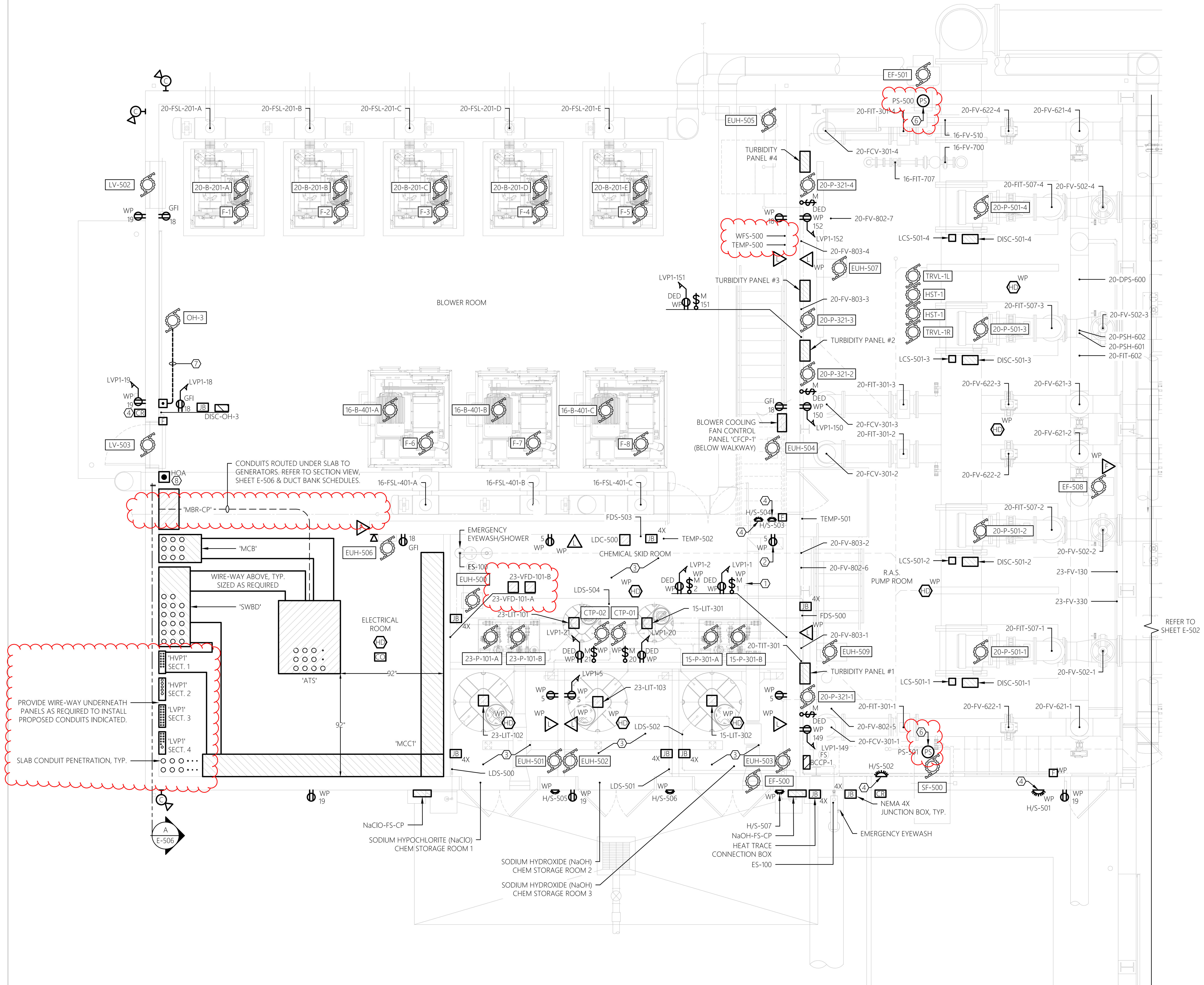
REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

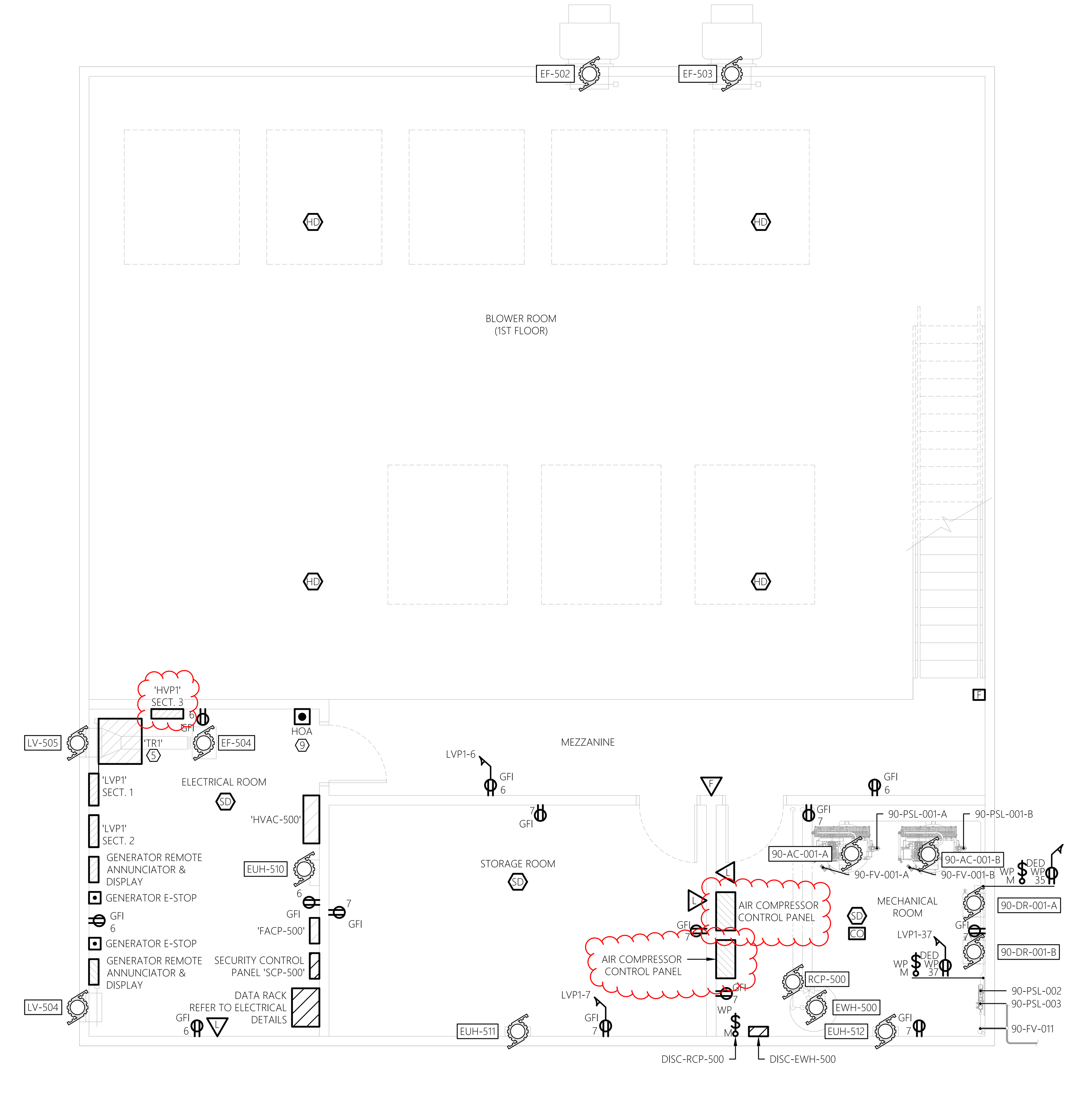
ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.
E-401

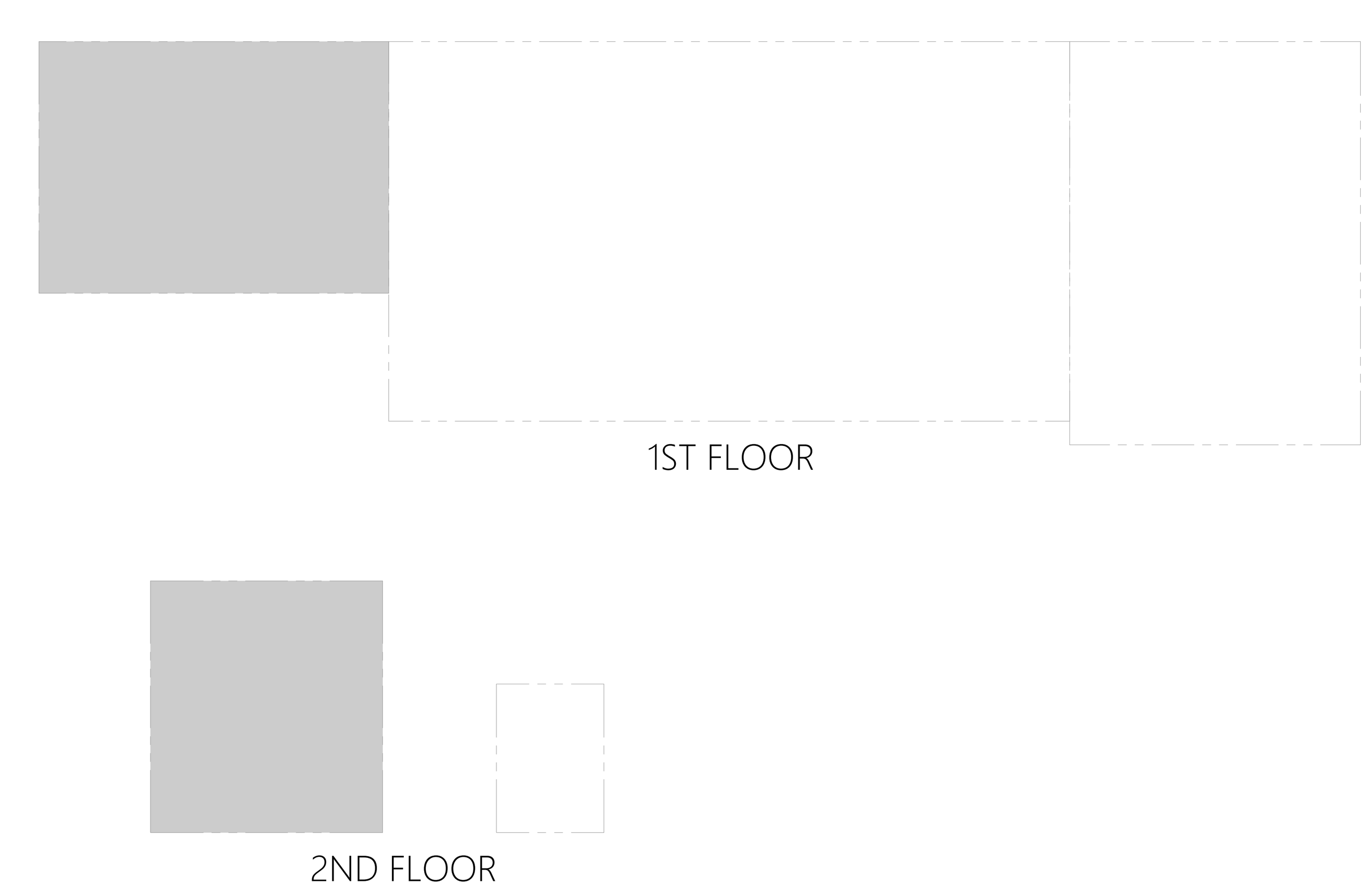
PROJECT # 18-732 PHASE #


BLOWER ROOM
ELECTRICAL ROOM
CHEMICAL SKID ROOM
R.A.S. PUMP ROOM
'MBR-CP'
'MCB'
'SWBD'
'ATS'
'MCC1'
'HVP1' SECT. 1
'HVP1' SECT. 2
'LVP1' SECT. 3
'LVP1' SECT. 4
WIRE-WAY ABOVE, TYP. SIZED AS REQUIRED
CONDUITS ROUTED UNDER SLAB TO GENERATORS. REFER TO SECTION VIEW, SHEET E-506 & DUCT BANK SCHEDULES.
PROVIDE WIRE-WAY UNDERNEATH PANELS AS REQUIRED TO INSTALL PROPOSED CONDUITS INDICATED.
SLAB CONDUIT PENETRATION, TYP.
BLOWER COOLING FAN CONTROL PANEL 'CFCP-1' (BELOW WALKWAY)
TURBIDITY PANEL #1
TURBIDITY PANEL #2
TURBIDITY PANEL #3
TURBIDITY PANEL #4
EMERGENCY EYEWASH/SHOWER
NEMA 4X JUNCTION BOX, TYP.
EMERGENCY EYEWASH
HEAT TRACE CONNECTION BOX
SODIUM HYPOCHLORITE (NaClO) CHEM STORAGE ROOM 1
SODIUM HYDROXIDE (NaOH) CHEM STORAGE ROOM 2
SODIUM HYDROXIDE (NaOH) CHEM STORAGE ROOM 3
REFER TO SHEET E-502

1 E-501 ELECTRICAL POWER & SYSTEMS PLAN
SCALE: 1/4" = 1'-0" BLOWER & RAS AREA


BLOWER ROOM (1ST FLOOR)
MEZZANINE
ELECTRICAL ROOM
STORAGE ROOM
MECHANICAL ROOM
'HVP1' SECT. 3
'TR1'
'LVP1' SECT. 1
'LVP1' SECT. 2
GENERATOR REMOTE ANNUNCIATOR & DISPLAY
GENERATOR E-STOP
'HVAC-500'
'FACP-500'
SECURITY CONTROL PANEL 'SCP-500'
DATA RACK REFER TO ELECTRICAL DETAILS
AIR COMPRESSOR CONTROL PANEL
AIR COMPRESSOR CONTROL PANEL
DISC-RCP-500
DISC-EWH-500

2 E-501 ELECTRICAL POWER & SYSTEMS PLAN
SCALE: 1/4" = 1'-0" 2ND FLOOR



3 E-501 OVERALL PLAN KEY
SCALE: NTS MBR BUILDING

GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT AND DEVICES.
3. EQUIPMENT & DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO MECHANICAL, PROCESS AND HVAC DRAWINGS FOR EXACT LOCATIONS.
4. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'. CONTRACTOR TO COORDINATE INSTALLATION LOCATIONS OF ALL EQUIPMENT WITH ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH IN.
5. CONTRACTOR RESPONSIBLE FOR MOUNTING OF ALL CONTROL PANELS, CONTROLLERS, TRANSMITTERS, ETC... THAT ARE FURNISHED AS PART OF THIS PROJECT (INCLUDING GENERAL CONTRACTOR). PROVIDE ALL NECESSARY MOUNTING HARDWARE/EQUIPMENT. ALL MOUNTING HARDWARE/EQUIPMENT TO BE STAINLESS STEEL. REFERENCE TYPICAL MOUNTING DETAILS FOR ADDITIONAL INFORMATION.
6. REFER TO ELECTRICAL SINGLE LINE DIAGRAM, SCHEDULES, AND DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER AND ALL OTHER TRADE CONTRACTORS.
8. ALL EXTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 36" A.F.G. ALL INTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 24" A.F.F. UNLESS NOTED OTHERWISE.
9. CONTRACTOR TO PROVIDE LABEL FOR ALL PROPOSED ELECTRICAL EQUIPMENT AND DEVICES. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND ALL OTHER TRADE CONTRACTORS.
10. COORDINATE CONDUIT PENETRATION LOCATIONS THRU EXTERIOR BUILDING WALLS CLOSELY WITH GENERAL CONTRACTOR PRIOR TO PERFORMING WORK.
11. REFER TO DATA DETAILS FOR COMMUNICATION SCOPE OF WORK.

0' 2' 4' 8'
SCALE: 1/4" = 1'-0"

SHEET KEY NOTES:

1. EACH CHEMICAL PUMP TO BE PROVIDED WITH A SWITCHED RECEPTACLE FOR ON/OFF CONTROL OF CHEMICAL PUMP. REFER TO EQUIPMENT CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION. TYPICAL.
2. ALL RECEPTACLES WITHIN CHEMICAL ROOM TO BE PROVIDED WITH PVC COATED BOX AND COVER SYSTEM. TYPICAL.
3. CHEMICAL ROOM INTERIOR IS A CORROSIVE ENVIRONMENT. ALL ELECTRICAL EQUIPMENT, WIRING METHODS, AND DEVICES INTERIOR TO THE CHEMICAL ROOM TO BE OF CORROSION RESISTANT MATERIALS/METHODS. UTILIZE NEMA 4X (NON-METALLIC) ENCLOSURES FOR DISCONNECTS AND LOCAL CONTROL STATIONS. UTILIZED TITANIUM FOR ALL SUPPORTS, ANCHORS, AND FASTENERS.
4. HVAC MONITORING SYSTEM ALARM HORN/STROBES. INSTALL DEVICES (HORN/STROBES) AT 8'-0" ABOVE FINISHED FLOOR/GRADE. REFER TO RISER DIAGRAM FOR ADDITIONAL INFORMATION/REQUIREMENTS.
5. ~~CONTRACTOR TO PROVIDE CONCRETE EQUIPMENT PAD. REFER TO TYPICAL EQUIPMENT PAD DETAIL.~~
6. AIRFLOW PROVING SWITCH/PRESSURE SENSOR TO BE PROVIDED AND INSTALLED IN DUCTWORK FOR AIRFLOW MONITORING PER MANUFACTURER RECOMMENDATIONS. REFER TO RISER HVAC MONITORING CONTROL PANEL FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. ~~PROVIDE LOW VOLTAGE CONDUCTORS IN 1/2" CONDUIT PER MANUFACTURERS RECOMMENDATIONS FOR AN~~ OVERALL COMPLETE AND OPERABLE SYSTEM. COORDINATE FINAL REQUIREMENTS WITH ALL OTHER TRADE CONTRACTORS AND THE OWNER.
8. CONTRACTOR TO PROVIDE HAND-OFF-AUTO (H-O-A) SWITCH FOR CONTROL OF EXHAUST FANS 'EF-502' AND 'EF-503' AND LOUVERS 'LV-502' AND 'LV-503'. IN HAND MODE FAN IS TO BE ON. IN OFF MODE FAN IS TO BE OFF. IN AUTO MODE FAN IS TO OPERATE VIA REVERSE ACTING THERMOSTAT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY INTERLOCK CIRCUITRY. PROVIDE CONTROL POWER TRANSFORMER AND ENCLOSURE AS REQUIRED TO OBTAIN NECESSARY VOLTAGE FOR THERMOSTAT. REFER TO HVAC DRAWINGS AND COORDINATE WITH APPLICABLE TRADE CONTRACTORS FOR THERMOSTAT LOCATIONS AND FINAL REQUIREMENTS.
9. CONTRACTOR TO PROVIDE HAND-OFF-AUTO (H-O-A) SWITCH FOR CONTROL OF EXHAUST FAN 'EF-504' AND LOUVERS 'LV-504' AND 'LV-505'. IN HAND MODE FAN IS TO BE ON. IN OFF MODE FAN IS TO BE OFF. IN AUTO MODE FAN IS TO OPERATE VIA REVERSE ACTING THERMOSTAT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY INTERLOCK CIRCUITRY. PROVIDE CONTROL POWER TRANSFORMER AND ENCLOSURE AS REQUIRED TO OBTAIN NECESSARY VOLTAGE FOR THERMOSTAT. REFER TO HVAC DRAWINGS AND COORDINATE WITH APPLICABLE TRADE CONTRACTORS FOR THERMOSTAT LOCATIONS AND FINAL REQUIREMENTS.

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New Windsor, NY 12553
(845) 567-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE
JADE STONE ENGINEERING

STATE OF NEW YORK
JEFFREY E ROBINSON
LICENSED PROFESSIONAL ENGINEER
095896

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY
SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL POWER & SYSTEMS PLAN - BLOWER & RAS AREA

REVISIONS

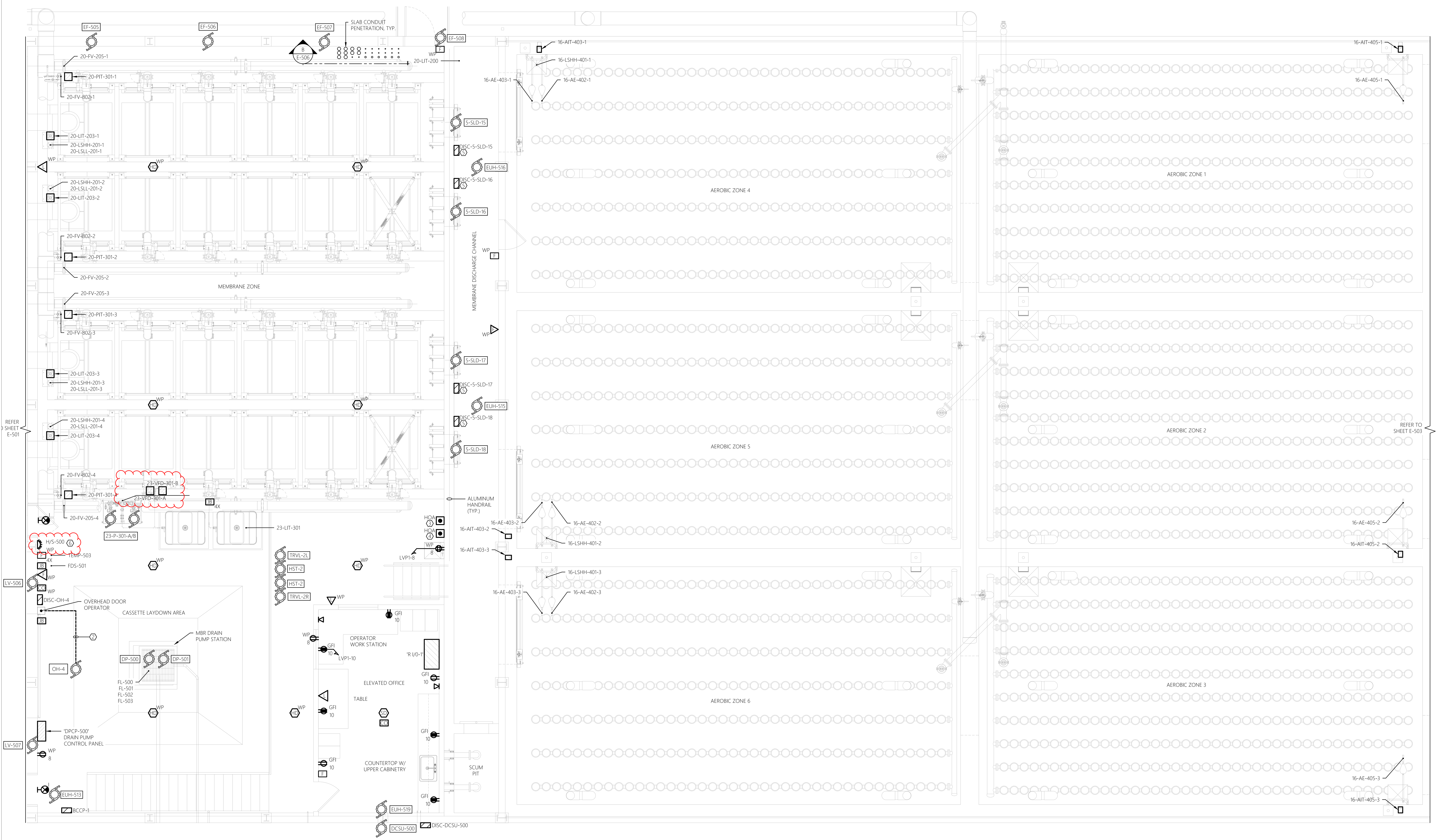
NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.

E-501

PROJECT # 18-732 PHASE #



1 E-502 ELECTRICAL POWER & SYSTEMS PLAN
SCALE: 1/4" = 1'-0" MEMBRANE & AEROBIC ZONES

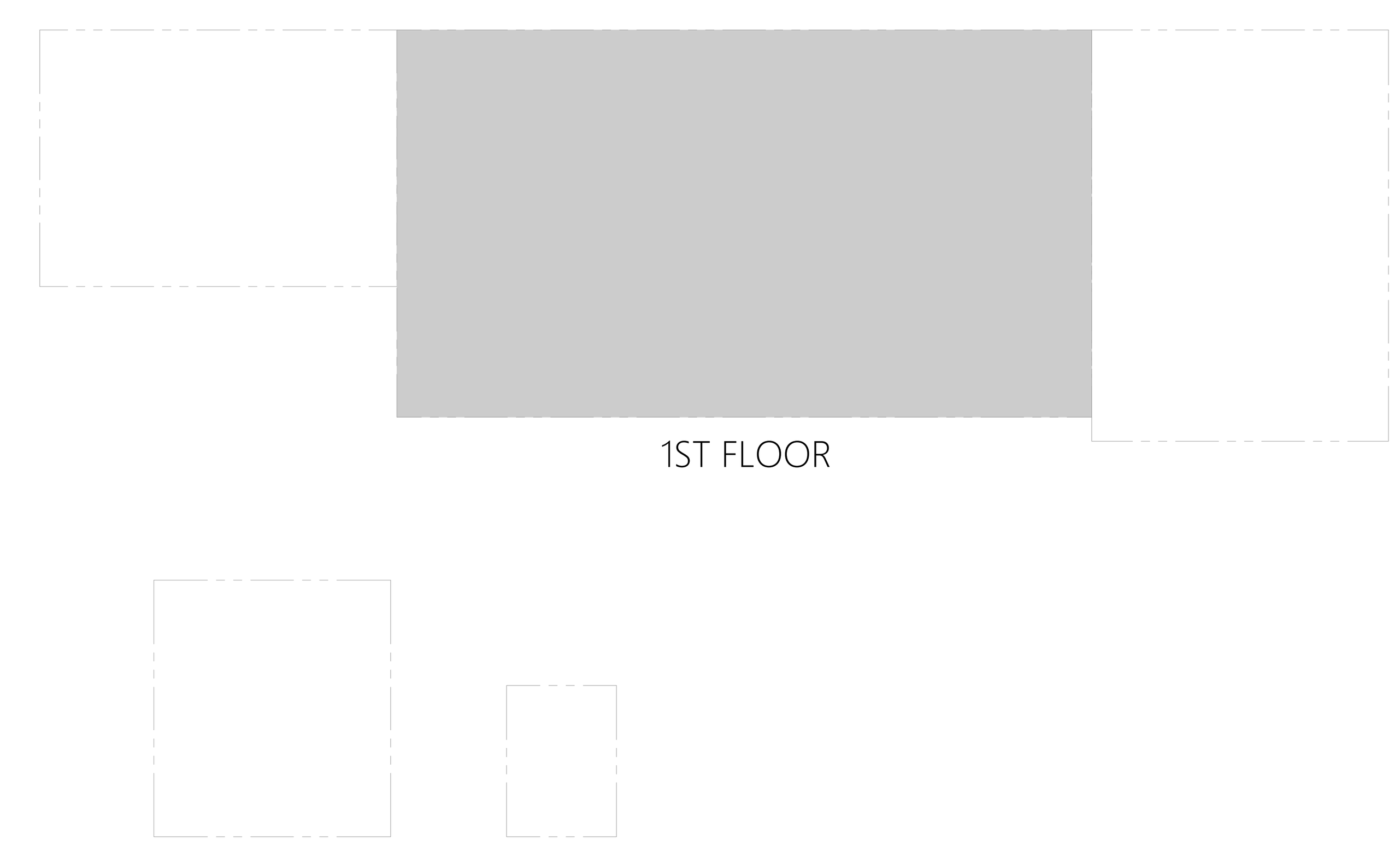
GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT AND DEVICES.
3. EQUIPMENT & DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO MECHANICAL, PROCESS AND HVAC DRAWINGS FOR EXACT LOCATIONS.
4. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'. CONTRACTOR TO COORDINATE INSTALLATION LOCATIONS OF ALL EQUIPMENT WITH ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH IN.
5. CONTRACTOR RESPONSIBLE FOR MOUNTING OF ALL CONTROL PANELS, CONTROLLERS, TRANSMITTERS, ETC... THAT ARE FURNISHED AS PART OF THIS PROJECT (INCLUDING GENERAL CONTRACTOR). PROVIDE ALL NECESSARY MOUNTING HARDWARE/EQUIPMENT. ALL MOUNTING HARDWARE/EQUIPMENT TO BE STAINLESS STEEL. REFERENCE TYPICAL MOUNTING DETAILS FOR ADDITIONAL INFORMATION.
6. REFER TO ELECTRICAL SINGLE LINE DIAGRAM, SCHEDULES, AND DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER AND ALL OTHER TRADE CONTRACTORS.
8. ALL EXTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 36" A.F.G. ALL INTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 24" A.F.F. UNLESS NOTED OTHERWISE.
9. CONTRACTOR TO PROVIDE LABEL FOR ALL PROPOSED ELECTRICAL EQUIPMENT AND DEVICES. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND ALL OTHER TRADE CONTRACTORS.
10. COORDINATE CONDUIT PENETRATION LOCATIONS THRU EXTERIOR BUILDING WALLS CLOSELY WITH GENERAL CONTRACTOR PRIOR TO PERFORMING WORK.
11. REFER TO DATA DETAILS FOR COMMUNICATION SCOPE OF WORK.

SHEET KEY NOTES:

1. HVAC MONITORING SYSTEM ALARM HORN/STROBE SERVING RAS PUMP ROOM. INSTALL DEVICE (HORN/STROBE) AT 8'-0" ABOVE FINISHED FLOOR/GRADE. REFER TO RISER DIAGRAM FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. PROVIDE LOW VOLTAGE CONDUCTORS IN 1/2" CONDUIT PER MANUFACTURERS RECOMMENDATIONS FOR AN OVERALL COMPLETE AND OPERABLE SYSTEM. COORDINATE FINAL REQUIREMENTS WITH ALL OTHER TRADE CONTRACTORS AND THE OWNER.
3. CONTRACTOR TO PROVIDE HAND-OFF-AUTO (H-O-A) SWITCH FOR CONTROL OF EXHAUST FANS 'EF-505' AND 'EF-506' AND LOUVER 'LV-506'. IN HAND MODE FAN IS TO BE ON. IN OFF MODE FAN IS TO BE OFF. IN AUTO MODE FAN IS TO OPERATE VIA REVERSE ACTING THERMOSTAT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY INTERLOCK CIRCUITRY. PROVIDE CONTROL POWER TRANSFORMER AND ENCLOSURE AS REQUIRED TO OBTAIN NECESSARY VOLTAGE FOR THERMOSTAT. REFER TO HVAC DRAWINGS AND COORDINATE WITH APPLICABLE TRADE CONTRACTORS FOR THERMOSTAT LOCATIONS AND FINAL REQUIREMENTS.
4. CONTRACTOR TO PROVIDE HAND-OFF-AUTO (H-O-A) SWITCH FOR CONTROL OF EXHAUST FANS 'EF-507' AND 'EF-508' AND LOUVER 'LV-507'. IN HAND MODE FAN IS TO BE ON. IN OFF MODE FAN IS TO BE OFF. IN AUTO MODE FAN IS TO OPERATE VIA REVERSE ACTING THERMOSTAT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY INTERLOCK CIRCUITRY. PROVIDE CONTROL POWER TRANSFORMER AND ENCLOSURE AS REQUIRED TO OBTAIN NECESSARY VOLTAGE FOR THERMOSTAT. REFER TO HVAC DRAWINGS AND COORDINATE WITH APPLICABLE TRADE CONTRACTORS FOR THERMOSTAT LOCATIONS AND FINAL REQUIREMENTS.
5. CONTRACTOR TO PROVIDE ALL REQUIRED STAINLESS STEEL UNISTRUT AND ASSOCIATED MOUNTING BRACKETS, ACCESSORIES, ETC... TO MOUNT ELECTRICAL EQUIPMENT TO HANDRAIL. COORDINATE FINAL LOCATION WITH OWNER AND APPLICABLE TRADE CONTRACTORS. ALL REQUIREMENTS TO BE PER NEC.

0' 2' 4' 8'
SCALE: 1/4" = 1'-0"



2 E-502 OVERALL PLAN KEY
SCALE: NTS MBR BUILDING

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33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 567-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE JADE STONE ENGINEERING

STATE OF NEW YORK · JEFFREY E ROBINSON · LICENSED PROFESSIONAL ENGINEER · 095896

HAZARDOUS MATERIAL NOTE:
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UDIG·NY SAFE DIGGING STARTS HERE CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553

FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL POWER & SYSTEMS PLAN - MEMBRANE & AEROBIC AREA

REVISIONS

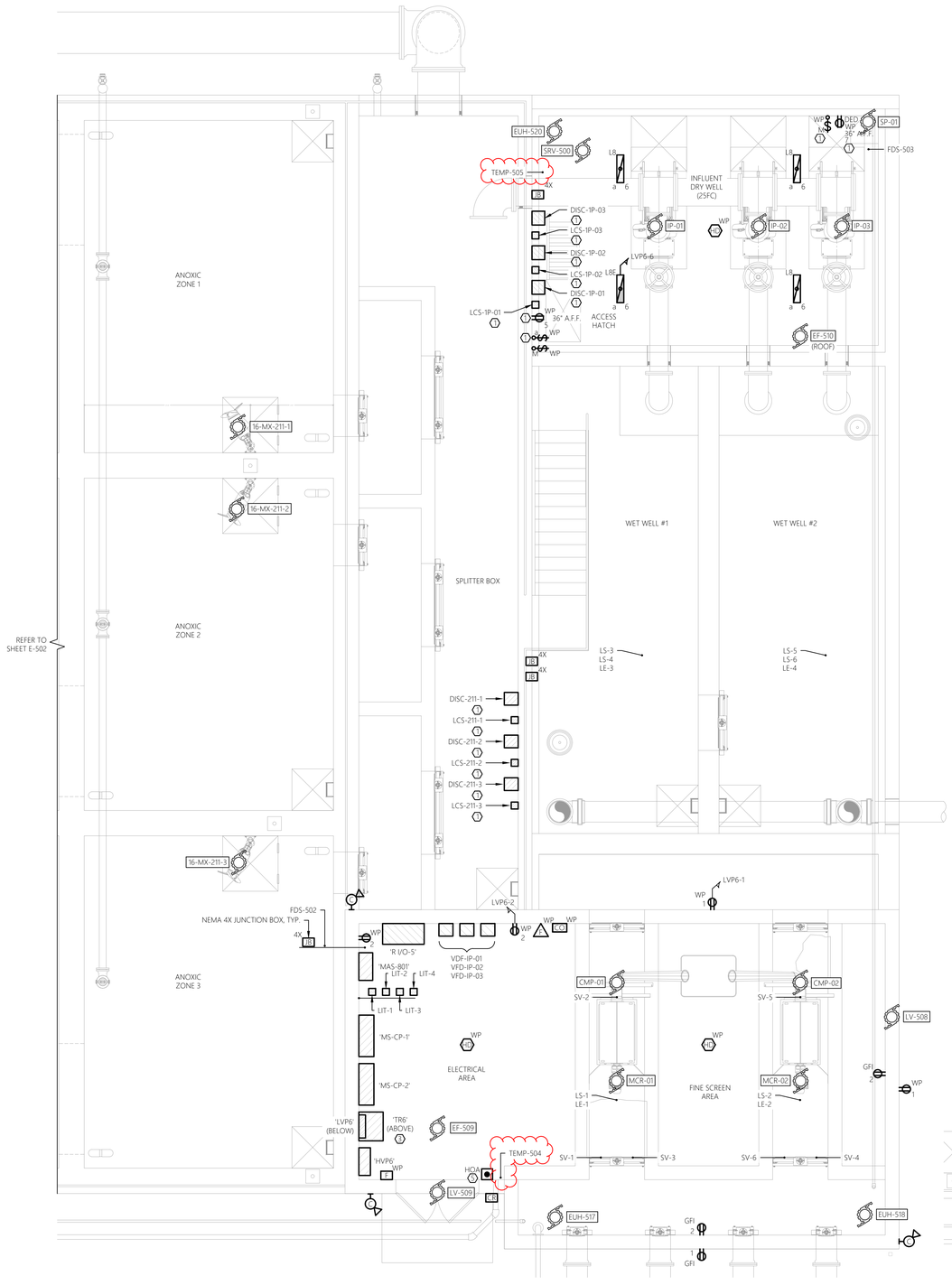
NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.

E-502

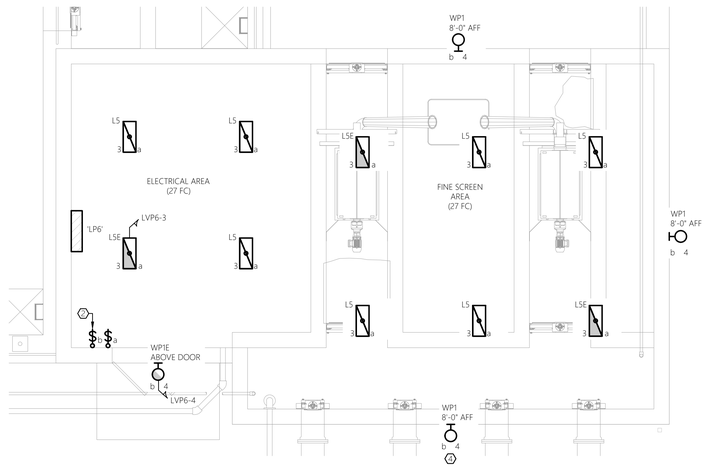
PROJECT # 18-732 PHASE #



1ST FLOOR

2ND FLOOR

2 E-503 OVERALL PLAN KEY SCALE: NTS MBR BUILDING



1 E-503 ELECTRICAL POWER & SYSTEMS PLAN SCALE: 1/4" = 1'-0" SCREENING & INFLUENT AREA

3 E-503 ELECTRICAL LIGHTING PLAN SCALE: 1/4" = 1'-0" SCREENING & INFLUENT AREA

0' 2' 4' 8'
SCALE: 1/4" = 1'-0"

GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT AND DEVICES.
3. EQUIPMENT & DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO MECHANICAL, PROCESS AND HVAC DRAWINGS FOR EXACT LOCATIONS.
4. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'. CONTRACTOR TO COORDINATE INSTALLATION LOCATIONS OF ALL EQUIPMENT WITH ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH IN.
5. CONTRACTOR RESPONSIBLE FOR MOUNTING OF ALL CONTROL PANELS, CONTROLLERS, TRANSMITTERS, ETC... THAT ARE FURNISHED AS PART OF THIS PROJECT (INCLUDING GENERAL CONTRACTOR). PROVIDE ALL NECESSARY MOUNTING HARDWARE/EQUIPMENT. ALL MOUNTING HARDWARE/EQUIPMENT TO BE STAINLESS STEEL. REFERENCE TYPICAL MOUNTING DETAILS FOR ADDITIONAL INFORMATION.
6. REFER TO ELECTRICAL SINGLE LINE DIAGRAM, SCHEDULES, AND DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER AND APPLICABLE TRADE CONTRACTORS.
8. ALL EXTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 36" A.F.G. ALL INTERIOR RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 24" A.F.F. UNLESS NOTED OTHERWISE.
9. CONTRACTOR TO PROVIDE LABEL FOR ALL PROPOSED ELECTRICAL EQUIPMENT AND DEVICES. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER AND ALL OTHER TRADE CONTRACTORS.
10. COORDINATE CONDUIT PENETRATION LOCATIONS THRU EXTERIOR BUILDING WALLS CLOSELY WITH GENERAL CONTRACTOR PRIOR TO PERFORMING WORK.
11. REFER TO DATA DETAILS FOR COMMUNICATION SCOPE OF WORK.
12. CONTRACTOR TO ADJUST FINAL PROPOSED INTERIOR LIGHT FIXTURE LOCATIONS TO AVOID CONFLICTS WITH PROPOSED EQUIPMENT, AND PIPING SYSTEMS.
13. CONTRACTOR TO ADJUST FINAL AIMING ANGLE OF EXTERIOR LIGHT FIXTURES TO LIGHT DESIRED AREAS AND MINIMIZE LIGHT POLLUTION. COORDINATE WITH ALL OTHER TRADE CONTRACTORS. REFER TO THE LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS.

SHEET KEY NOTES:

1. PROVIDE ALL REQUIRED STAINLESS STEEL UNISTRUT, MOUNTING HARDWARE, BRACKETS, SUPPORTS, ACCESSORIES, ETC... FOR STANCHION MOUNTING ABOVE TANK WALKWAY AS SHOWN/INDICATED. COORDINATE WITH ALL OTHER TRADE CONTRACTORS AND INSTALL TO HANDRAIL SYSTEM. TYPICAL.
2. CONTRACTOR TO PROVIDE TIME SWITCH AS WATTSTOPPER RT-200 ASTRONOMICAL TIME SWITCH OR APPROVED EQUAL. TIME SWITCH TO CONTROL PROPOSED EXTERIOR LIGHTING FIXTURES TYPE WP1/WP1E. PROGRAM THE SWITCH FOR LIGHTING 'ON' AT ASTRONOMICAL SUNSET AND 'OFF' AT ASTRONOMICAL SUN RISE. FINAL ON/OFF PARAMETERS TO BE COORDINATED WITH THE OWNER.
3. CONTRACTOR TO PROVIDE WALL MOUNT BRACKETS FOR INSTALLATION ON WALL ABOVE PANEL LVP6.
4. COORDINATE FINAL INSTALLATION LOCATION WITH OWNER AND ALL OTHER TRADE CONTRACTORS PRIOR TO ROUGH-IN. TYPICAL OF FOUR (4) WALL PACK LIGHTING FIXTURES.

   CONTRACTOR TO PROVIDE HAND-OFF-AUTO (H-O-A) SWITCH FOR CONTROL OF EXHAUST FAN 'EF-509' AND LOUVERS 'LV-508' AND 'LV-509'. IN HAND MODE FAN IS TO BE ON. IN OFF MODE FAN IS TO BE OFF. IN AUTO MODE FAN IS TO OPERATE VIA REVERSE ACTING THERMOSTAT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY INTERLOCK CIRCUITRY. PROVIDE CONTROL POWER TRANSFORMER AND ENCLOSURE AS REQUIRED TO OBTAIN NECESSARY VOLTAGE FOR THERMOSTAT. REFER TO HVAC DRAWINGS AND COORDINATE WITH APPLICABLE TRADE CONTRACTORS FOR THERMOSTAT LOCATIONS AND FINAL REQUIREMENTS.

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JADE STONE ENGINEERING

STATE OF NEW YORK
JEFFREY E ROBINSON
095896
LICENSED PROFESSIONAL ENGINEER

HAZARDOUS MATERIAL NOTE:
THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP EXPANSION PROJECT: PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL POWER, SYSTEMS, & LIGHTING PLAN - SCREENING & INFLUENT AREA

REVISIONS

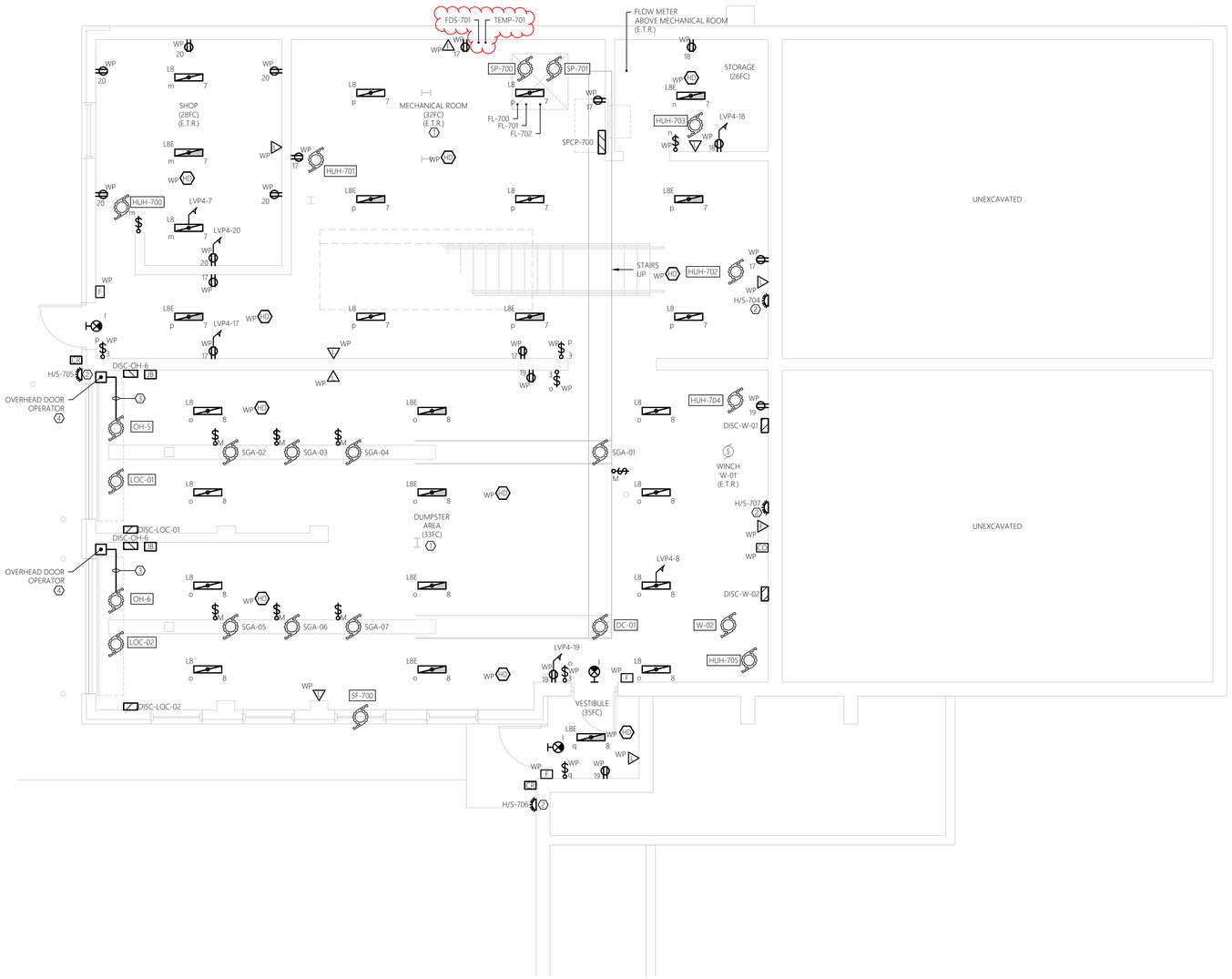
NO.	DESCRIPTION	DATE

ISSUED DATE:	18 APRIL, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	RJK
REVIEWED BY:	RJK

SHEET NO.

E-503

PROJECT # 18-732 PHASE #



0' 2' 4' 8'
SCALE: 1/4" = 1'-0"

1 E-702 ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0" DEWATERING BUILDING - LOWER LEVEL

GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT/DEVICES.
3. EQUIPMENT & DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO ALL TRADE CONTRACT DRAWINGS AND COORDINATE WITH ALL TRADE CONTRACTORS FOR EXACT LOCATIONS. CLOSE CONTRACTOR COORDINATION REQUIRED.
4. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'.
5. CONTRACTOR TO PROVIDE ALL REQUIRED MOUNTING HARDWARE, EQUIPMENT, BRACKETS, SUPPORTS, ACCESSORIES, ETC... PROVIDE AS STAINLESS STEEL IN CORROSIVE ENVIRONMENTS, EXTERIOR APPLICATIONS, OR WHERE INDICATED ON THE CONTRACT DRAWINGS.
6. NOT ALL EQUIPMENT/DEVICES MAY BE SHOWN FOR CLARITY. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING AND PROPOSED CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. COORDINATE WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER.
7. CONTRACTOR RESPONSIBLE FOR MOUNTING OF APPLICABLE CONTRACTOR, OWNER, AND ENGINEER FURNISHED PANELS. COORDINATE WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER AND PROVIDE ALL NECESSARY MOUNTING HARDWARE/EQUIPMENT.
8. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH THE APPLICABLE CONTRACTOR, OWNER, AND ENGINEER.
9. CONTRACTOR TO ADJUST FINAL INTERIOR LIGHT FIXTURE LOCATIONS TO AVOID CONFLICTS WITH EQUIPMENT, PIPING SYSTEMS, AND DUCTWORK. COORDINATE WITH ALL TRADES.
10. CONTRACTOR TO ADJUST FINAL AIMING ANGLE OF EXTERIOR LIGHT FIXTURES TO LIGHT DESIRED AREAS AND MINIMIZE LIGHT POLLUTION. COORDINATE WITH THE OWNER. REFER TO THE LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION/REQUIREMENTS.
11. ALL WEATHERPROOF RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 36" A.F.G.
12. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND CONDUIT ROUTING WITH APPLICABLE CONTRACTOR, OWNER, AND ENGINEER AND OWNER PRIOR TO ROUGH-IN.
13. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, SPECIFICATIONS, RISER DIAGRAMS, SCHEDULES & DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
14. CONTRACTOR TO PROVIDE LABEL FOR ALL PROPOSED ELECTRICAL EQUIPMENT AND DEVICES. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER. REFER TO SPECIFICATION SECTION 26 0553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS FOR ADDITIONAL INFORMATION/REQUIREMENTS.

SHEET KEY NOTES:

1. ROUTING & ATTACHMENT METHODS OF ALL CONDUITS TO BE CLOSELY COORDINATED WITH APPLICABLE TRADE CONTRACTOR & OWNER PRIOR TO ROUGH-IN AND VERIFIED IN FIELD TO AVOID POTENTIAL CONFLICTS WITH PROPOSED EQUIPMENT, DUCT WORK, AND PIPING SYSTEMS.
2. HVAC VENTILATION MONITORING ALARM HORN/STROBES. INSTALL DEVICES (HORN/STROBES) AT 8'-0" ABOVE FINISHED FLOOR/GRADE. REFER TO SPECIFICATIONS AND RISER DIAGRAM FOR ADDITIONAL INFORMATION/REQUIREMENTS.
3. PROVIDE LOW VOLTAGE CONDUCTORS 1/2" CONDUIT PER MANUFACTURERS RECOMMENDATIONS FOR A COMPLETE AND OPERABLE SYSTEM. COORDINATE FINAL REQUIREMENTS WITH THE OWNER.
4. REFER TO EQUIPMENT CONNECTION SCHEDULE AND 'TYPICAL OVERHEAD DOOR RISER DIAGRAM' FOR ADDITIONAL INFORMATION/REQUIREMENTS.

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111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JADE STONE ENGINEERING

STATE OF NEW YORK
JEFFREY E ROBINSON
LICENSED PROFESSIONAL ENGINEER
095896

HAZARDOUS MATERIAL NOTE:

THE SERVICES PROVIDED BY MHE, INCLUDING ALL WORK DEPICTED ON MHE PLANS, DO NOT INCLUDE SERVICES RELATED TO THE IDENTIFICATION, CONTROLS OR HANDLING OF HAZARDOUS MATERIALS, INCLUDING SUCH MATERIALS AS ASBESTOS AND LEAD PAINT. ALL TESTING, IDENTIFICATION, ABATEMENT, CONTROLS, AND HANDLING OF HAZARDOUS MATERIALS SHALL BE UNDERTAKEN BY A HAZARDOUS MATERIAL CONSULTANT AND CERTIFIED PROFESSIONALS. IF SUCH MATERIALS HAVE BEEN IDENTIFIED, CONTRACTOR WILL COMMUNICATE DIRECTLY WITH HAZARDOUS MATERIAL PROFESSIONAL FOR THE PERFORMANCE OF ANY WORK ON OR ADJACENT TO SAID MATERIALS. IF UNIDENTIFIED MATERIALS OF CONCERN ARE ENCOUNTERED WHILE UNDERTAKING THE WORK SHOWN HEREON, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND OWNER, AND SHALL OBTAIN DIRECTION FROM THE HAZARDOUS MATERIAL CONSULTANT PRIOR TO THE CONTINUATION OF WORK INVOLVING SUSPECTED MATERIAL.

UDIG·NY SAFE DIGGING STARTS HERE
CALL 811

CAESARS LANE WWTP
EXPANSION PROJECT:
PHASE 2
145 CAESARS LN.
NEW WINDSOR, NY 12553
FOR TOWN OF NEW WINDSOR
555 UNION AVE.
NEW WINDSOR, NY 12553

ELECTRICAL NEW WORK PLAN - DEWATERING BUILDING LOWER LEVEL

REVISIONS

NO.	DESCRIPTION	DATE
1	BID ADDENDUM	06/27/2025

ISSUED DATE:	27 JUNE, 2025
DESIGN BY:	RRM
DRAWN BY:	CDJ
CHECKED BY:	MGR
REVIEWED BY:	JER

SHEET NO.

E-702

PROJECT # 18-732 PHASE #

0' 2' 4' 8'
SCALE: 1/4" = 1'-0"

1 E-703 ELECTRICAL NEW WORK PLAN
SCALE: 1/4" = 1'-0" DEWATERING BUILDING - UPPER LEVEL

GENERAL NEW WORK NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE A DEDICATED GROUNDING CONDUCTOR FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT/DEVICES.
3. EQUIPMENT & DEVICE LOCATIONS ARE SHOWN AS GENERAL IN NATURE. REFER TO ALL TRADE CONTRACT DRAWINGS AND COORDINATE WITH ALL TRADE CONTRACTORS, OWNER, AND ENGINEER FOR EXACT LOCATIONS. CLOSE CONTRACTOR COORDINATION REQUIRED.
4. ALL PROPOSED EQUIPMENT LOCATIONS/INSTALLATIONS TO COMPLY WITH NEC ARTICLE 110.26 'SPACES ABOUT ELECTRICAL EQUIPMENT'. CONTRACTOR TO COORDINATE INSTALLATION LOCATIONS OF ALL EQUIPMENT WITH APPLICABLE TRADE CONTRACTOR, OWNER, AND ENGINEER PRIOR TO ROUGH-IN.
5. CONTRATOR TO PROVIDE ALL REQUIRED MOUNTING HARDWARE, EQUIPMENT, BRACKETS, SUPPORTS, ACCESSORIES, ETC., PROVIDE AS STAINLESS STEEL IN CORROSIVE ENVIRONMENTS, EXTERIOR APPLICATIONS, OR WHERE INDICATED ON THE CONTRACT DRAWINGS.
6. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS, SPECIFICATIONS, SCHEDULES, AND DETAILS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
7. CONTRACTOR TO COORDINATE ALL ASPECTS OF SEQUENCE OF CONSTRUCTION WITH OWNER, ENGINEER, AND ALL TRADE CONTRACTORS.
8. ALL WEATHERPROOF RECEPTACLES TO BE INSTALLED AT A HEIGHT OF 36" A.F.G.
9. CONTRACTOR TO PROVIDE LABEL FOR ALL PROPOSED ELECTRICAL EQUIPMENT AND DEVICES. COORDINATE FINAL LABELING REQUIREMENTS WITH THE OWNER. REFER TO SPECIFICATION SECTION 26 0553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS FOR ADDITIONAL INFORMATION/REQUIREMENTS.
10. CONTRACTOR TO COORDINATE ALL CONDUIT PENETRATIONS AND ROUTING WITH ALL TRADE CONTRACTORS, OWNER, AND ENGINEER PRIOR TO ROUGH-IN TO AVOID CONFLICTS.
11. NOT ALL EQUIPMENT/DEVICES MAY BE SHOWN FOR CLARITY. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING AND PROPOSED CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. COORDINATE WITH ALL TRADE CONTRACTORS, OWNER, AND ENGINEER.
12. CONTRACTOR TO ADJUST FINAL INTERIOR LIGHT FIXTURE LOCATIONS TO AVOID CONFLICTS WITH EQUIPMENT, PIPING SYSTEMS, AND DUCT WORK. COORDINATE WITH ALL TRADE CONTRACTORS, OWNER, AND ENGINEER PRIOR TO ROUGH-IN.
13. CONTRACTOR TO ADJUST FINAL AIMING ANGLE OF EXTERIOR LIGHT FIXTURES TO LIGHT DESIRED AREAS AND MINIMIZE LIGHT POLLUTION. COORDINATE WITH ALL TRADE CONTRACTORS, OWNER, AND ENGINEER.

SHEET KEY NOTES:

1. CONTRACTOR TO PROVIDE 3/4"ø x 10' COPPER GROUND ROD. BOND ALL METAL STRUCTURES, EQUIPMENT, AND LIGHTING PROTECTION DOWN CONDUCTOR TO GROUND ROD USING #2 COPPER CONDUCTOR WITHIN PVC CONDUIT. REFER TO TYPICAL LIGHTNING PROTECTION GROUNDING DETAIL AND TYPICAL PANEL GROUNDING DETAIL FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. LIGHTNING PROTECTION DOWN CONDUCTOR. CONCEAL IN PVC CONDUIT AND ATTACH CONDUIT TO EXTERIOR WALL. CONTRACTOR TO WORK WITH CERTIFIED LIGHTNING PROTECTION INSTALLER TO PROVIDE COMPLETE BUILDING LIGHTNING PROTECTION SYSTEM IN ACCORDANCE WITH NFPA. UPON COMPLETION PROVIDE UL MASTER LABEL. REFER TO SPECIFICATION SECTION 26 4113 LIGHTNING PROTECTION FOR ADDITIONAL INFORMATION/REQUIREMENTS.
3. CONTRACTOR TO PROVIDE WALL MOUNT BRACKETS FOR INSTALLATION OF TRANSFORMER ON WALL ABOVE PANEL.
4. FURNACE/BOILER EMERGENCY SHUTDOWN. TYPICAL OF THREE (3). REFER TO ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION. COORDINATE FINAL LOCATION/REQUIREMENTS WITH APPLICABLE CONTRACTOR.
5. HVAC VENTILATION MONITORING ALARM HORN/STROBES. INSTALL DEVICES (HORN/STROBES) AT 8'-0" ABOVE FINISHED FLOOR/GRADE. REFER TO SPECIFICATIONS AND RISER DIAGRAM FOR ADDITIONAL INFORMATION/REQUIREMENTS.
6. GROUND RING. GROUND RING TO BE BURIED AT MINIMUM 3 FEET BELOW FINISHED GRADE. GROUND RING TO BE KEPT AT MINIMUM OF 3 FEET AWAY FROM BUILDINGS, STRUCTURES, AND EQUIPMENT AT ALL TIMES. PROVIDE AND INSTALL 3/4"ø x 10' GROUND RODS AT EACH CORNER OF GROUND RING FOR A TOTAL OF FOUR (4) GROUND RODS. BOND ALL METAL STRUCTURES, EQUIPMENT, AND LIGHTNING PROTECTION DOWN CONDUCTOR TO GROUND RING. ALL GROUND CONDUCTORS SHALL BE #2 COPPER, U.O.N.
7. CONTRACTOR TO PROVIDE ONE (1) 120V, 20A PHOTO CONTROL WITH ADJUSTABLE SHIELD FOR CONTROL OF EXTERIOR LIGHTING CIRCUITS. INTERLOCK WITH ASTRONOMICAL TIME SWITCHES. CONFIRM FINAL LOCATIONS WITH THE OWNER PRIOR TO ROUGH-IN. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE LOW VOLTAGE CONDUCTORS, 1/2" CONDUIT PER MANUFACTURERS RECOMMENDATIONS FOR A COMPLETE AND OPERABLE SYSTEM. COORDINATE FINAL REQUIREMENTS WITH THE OWNER.
9. REFER TO EQUIPMENT CONNECTION SCHEDULE AND 'TYPICAL OVERHEAD DOOR RISER DIAGRAM' FOR ADDITIONAL INFORMATION/REQUIREMENTS.
10. CONTRACTOR TO PROVIDE AS WATTSTOPPER RT-200 ASTRONOMICAL TIME SWITCH OR APPROVED EQUAL/WITHIN NEMA 1 ENCLOSURE. SWITCH TO CONTROL PROPOSED EXTERIOR WALL MOUNTED LIGHT FIXTURES TYPES 'WP1' & 'WP1E'. PROGRAM TIME SWITCH FOR LIGHTING 'ON' AT ASTRONOMICAL SUNSET AND 'OFF' AT ASTRONOMICAL SUNRISE. FINAL ON/OFF PROGRAMMING PARAMETERS TO BE COORDINATED WITH THE OWNER.

MHE ENGINEERING
33 Airport Center Drive, Suite 202
New Windsor, NY 12553
(845) 587-3100
111 Wheatfield Drive, Suite 1
Milford, PA 18337
(570) 296-2765

BID ADDENDUM

JSE
JADE STONE ENGINEERING

STATE OF NEW YORK
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SHEET NO.

E-703

PROJECT # 18-732 PHASE #

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

TABLE OF CONTENTS

ARTICLE 1—DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.

ARTICLE 2—BIDDING DOCUMENTS

2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.

2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.

2.03 Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the Advertisement or invitation to bid, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.

2.04 Partial sets of Bidding Documents will not be available from the Issuing Office. Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including addenda, if any, obtained from sources other than the Issuing Office. Only those persons whose name and address are on record of having obtained the Contract Documents will be permitted to bid and issued the Addendums, if any.

2.05 *Electronic Documents*

A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.

1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version **2017** or later. It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.

B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.05.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:

A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.

B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.

C. Bidder's state or other contractor license number, if applicable.

D. Subcontractor and Supplier qualification information.

E. Other required information regarding qualifications.

3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 4—PRE-BID CONFERENCE

4.01 A pre-bid conference will be held for this Project on **May 22, 2025 at 10:00 AM at the project site, Caesars Lane WWTP, 145 Caesars Lane, New Windsor, NY 12553.**

4.02 A non-mandatory pre-bid conference will be held at the time and location indicated in the Advertisement or invitation to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference; however, attendance at this conference is not required to submit a Bid.

4.03 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions

at the pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

5.01 *Site and Other Areas*

A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:

a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.

b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.

c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.

d. Technical Data contained in such reports and drawings.

2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

4. *Geotechnical Baseline Report/Geotechnical Data Report:* The Bidding Documents contain a Geotechnical Engineering Report (GER).

a. As set forth in the Supplementary Conditions, the GER describes certain select subsurface conditions that are anticipated to be encountered by Contractor during construction in specified locations ("Baseline Conditions"). The GER is a Contract Document.

b. The Baseline Conditions in the GER are intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on the Baseline Conditions. Bids should be based on a comprehensive approach that includes an independent review and analysis of the GER, all other Contract Documents, Technical Data, other available information, and observable surface conditions. Not all potential subsurface conditions are baselined.

c. Nothing in the GER is intended to relieve Bidders of the responsibility to make their own determinations regarding construction costs, bidding strategies, and Bid prices, nor of the responsibility to select and be responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs incident thereto.

d. As set forth in the Supplementary Conditions, the GER is a Contract Document containing data prepared by or for the Owner in support of the GER.

B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

5.03 *Other Site-related Documents*

A. In addition to the documents regarding existing Site conditions referred to in Paragraph 5.02.A, the following other documents relating to conditions at or adjacent to the Site are known to Owner and made available to Bidders for reference:

1. **No additional site related documents.**

Owner will make copies of these other Site-related documents available to any Bidder on request.

B. Owner has not verified the contents of these other Site-related documents, and Bidder may not rely on the accuracy of any data or information in such documents. Bidder is responsible for any interpretation or conclusion Bidder draws from the other Site-related documents.

C. The other Site-related documents are not part of the Contract Documents.

D. Bidders are encouraged to review the other Site-related documents, but Bidders will not be held accountable for any data or information in such documents. The requirement to review and take responsibility for documentary Site information is limited to information in (1) the Contract Documents and (2) the Technical Data.

E. No other Site-related documents are available.

5.04 *Site Visit and Testing by Bidders*

A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.

B. A Site visit is scheduled following the pre-bid conference.

C. Bidders visiting the Site are required to arrange their own transportation to the Site.

D. All access to the Site other than during a regularly scheduled Site visit must be coordinated through the Owner or Engineer. Bidder must conduct any Site visit during normal working hours.

E. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.

5.05 *Owner's Safety Program*

A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.06 *Other Work at the Site*

A. Reference is made to Article 8 of the General Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Express Representations and Certifications in Bid Form, Agreement*

A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.

B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.

7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing. Contact information and submittal procedures for such questions are as follows:

A. **Email: mhepa@mhepc.com**

7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven (7) working days prior to the date for opening of Bids will not be answered. Addenda will be issued no later than five (5) working days prior to the date for opening bids.

7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract

Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8—BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of **five** percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents. **Bid security must be at least 5% of the Bidder's maximum Bid price.**

8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.

8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

ARTICLE 9—CONTRACT TIMES

9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.

9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 10—SUBSTITUTE AND "OR EQUAL" ITEMS

10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.

10.02 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

~~**ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS**~~

~~11.01 The Contractor shall not award work to Subcontractor(s) in excess of the 50% of the contract value.~~

ARTICLE 12—PREPARATION OF BID

12.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."

12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.

12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.

12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.

12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.

12.06 A Bid by an individual must show the Bidder's name and official address.

12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.

12.08 All names must be printed in ink below the signatures.

12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.

12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.

12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.

12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13—BASIS OF BID

13.01 *Lump Sum*

A. Bidders must submit a Bid on a lump sum basis as set forth in the Bid Form.

13.02 *Base Bid with Alternates*

A. Bidders must submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents and as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate.

B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form.

13.03 *Unit Price*

A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.

B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

13.04 *Allowances*

A. For allowances the Bid price must include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 14—SUBMITTAL OF BID

14.01 The Bidding Documents include one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.

14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement.

14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted

prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.

ARTICLE 16—OPENING OF BIDS

16.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.

18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.

18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.

18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.

18.05 *Evaluation of Bids*

A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner will announce to all bidders a "Base Bid plus alternates" budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.

C. For determination of the apparent low Bidder(s) when sectional bids are submitted, Bids will be compared on the basis of the aggregate of the Bids for separate sections and the Bids for combined sections that result in the lowest total amount for all of the Work.

D. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.

18.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

The Contract will be awarded to that responsible Bidder or Bidders whose Bid, so determined within the Base Bid or Alternate Bids, totals the lowest number of dollars, if said Bidder or Bidders are otherwise satisfactory to the Owner. The Owner reserves the right to waive any informalities in or reject any or all Bids.

In the event that there is a discrepancy between the unit prices and the extended totals, unit prices shall govern. In the event that there is a discrepancy between the unit prices or the extended totals written in words and written in figures, the unit prices or extended totals written in words shall govern. No Bid will be accepted which does not contain a unit price for every item in the proposal form.

ARTICLE 19—BONDS AND INSURANCE

19.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.

19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 20—SIGNING OF AGREEMENT

20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful

Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 21—SALES AND USE TAXES

21.01 Owner is exempt from **New York** state sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes must not be included in the Bid.

ARTICLE 22—ADDITIONAL REQUIREMENTS

22.01 **Agreement to be Assigned**. Bidder acknowledges the provisions of the Agreement as to the assignment of the specified contract for procurement of goods and special services for Suez WTS USA, Inc.

The contract between Owner as "Buyer" and Suez WTS USA, Inc. as "Seller" for procurement of goods and special services ("Procurement Contract") for MBR equipment will be assigned to Contractor by Owner, and Contractor will accept such assignment. A form documenting the assignment is attached as an exhibit to this Agreement.

This assignment will occur on **[the Effective Date of the Agreement]** and will relieve the Owner as Buyer from all further obligations and liabilities under the Procurement Contract. Contractor, as Buyer (Contractor/Assignee) following assignment, will assume full responsibility to Owner for the performance of obligations by Seller, which will be Contractor's Subcontractor or Supplier. Notwithstanding this assignment, all performance guarantees and warranties required by the Procurement Contract will continue to run for the benefit of the Owner and, in addition, for the benefit of the Contractor. Except as noted in the Procurement Contract, all rights, duties, and obligations of Engineer to Buyer and Seller under the Procurement Contract will cease upon assignment.

A copy of the assigned Procurement Contract is attached as Exhibit I.

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Vinyl composition floor tile.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and pattern specified.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for floor tile installation.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For resilient floor tile, as determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 VINYL COMPOSITION FLOOR TILE

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Armstrong World Industries, Inc.
2. Congoleum Corporation.

B. Tile Standard: ASTM F1066, Class 2, through pattern.

C. Wearing Surface: Smooth.

D. Thickness: 0.125 inch.

E. Size: 12 by 12 inches.

F. Colors and Patterns: Color as selected by Engineer/Architect from manufacturer's full range of colors. Patterns designated on drawings.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.

C. Floor Polish: Provide protective, liquid floor-polish products recommended by floor tile manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare according to ASTM F710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.

4. Moisture Testing: Perform tests so that each test area does not exceed 300 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 95 percent relative humidity level measurement.

C. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.

D. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

E. Do not install floor tiles until materials are the same temperature as space where they are to be installed.

1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.

F. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.2 FLOOR TILE INSTALLATION

A. Comply with manufacturer's written instructions for installing floor tile.

B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

1. Lay tiles square with room axis.

C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.

1. Lay tiles with grain direction alternating in adjacent tiles.

D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.

G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

H. Adhere floor tiles to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

I. Floor Polish: Remove soil, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.

1. Apply two coats immediately after installation to protect during construction.

2. Apply three coats after final cleaning for final floor finish.

END OF SECTION 096519

SECTION 096513 - RESILIENT BASE AND ACCESSORIES – R3

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Vinyl base.
   2. Vinyl molding accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified.

1.3 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

   1. Resilient Base Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

2.2 VINYL BASE

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

   1. Armstrong World Industries, Inc.
   2. Burke Mercer Flooring Products; a division of Burke Industries Inc.
   3. Johnsonite; a Tarkett company.

B. Product Standard: ASTM F1861, Type TV (vinyl, thermoplastic).

   1. Group: I (solid, homogeneous).

   2. Style to be Cove in areas with carpet or with resilient floor coverings.

C. Minimum Thickness: 0.125 inch.

D. Height: 4 inches.

E. Lengths: Coils in manufacturer's standard length.

F. Outside and Inside Corners: Preformed.

G. Colors and Patterns: As selected by Engineer/Architect from manufacturer’s full range.

2.3 VINYL MOLDING ACCESSORY

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Burke Mercer Flooring Products; a division of Burke Industries Inc.
2. Johnsonite; a Tarkett company.

B. Description: Vinyl transition strips.

C. Profile and Dimensions: As indicated.

D. Locations: Provide vinyl molding accessories in areas indicated.

E. Colors and Patterns: As selected by Engineer/Architect from manufacturer’s full range.

2.4 THERMOSET RUBBER BASE

A. Basis of Design: Premium TS Molded Wall Base to be Burke Base by Mannington Commercial.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Armstrong World Industries, Inc.
2. Burke Mercer Flooring Products; a division of Burke Industries Inc.
3. Johnsonite; a Tarkett company.

C. Product Standard: ASTM F1861, Type TP, Group 1 thermoplastic rubber.

1. Group: I (solid, homogeneous).
2. Style to be Cove in areas with Rubber athletic floor coverings.

D. Minimum Thickness: 0.125 inch.

E. Height: 4 inches.

F. Lengths: Coils in manufacturer's standard length.

G. Outside and Inside Corners: Preformed.

H. Colors and Patterns: As selected by Engineer/Architect from manufacturer's full range.

2.5 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

C. Floor Polish: Provide protective, liquid floor-polish products recommended by resilient stair-tread manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates for Resilient Stair Accessories: Prepare horizontal surfaces according to ASTM F710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.
4. Moisture Testing: Perform tests so that each test area does not exceed 300 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install resilient products until materials are the same temperature as space where they are to be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.2 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Preformed Corners: Install preformed corners before installing straight pieces.

H. Job-Formed Corners:

1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 12 inches in length.

    a. Form without producing discoloration (whitening) at bends.

2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 12 inches in length.

    a. Miter corners to minimize open joints.

3.3 RESILIENT ACCESSORY INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient accessories.

B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips and or transition stips at edges of floor covering that would otherwise be exposed.

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.

B. Floor Polish: Remove soil, adhesive, and blemishes from resilient stair treads before applying liquid floor polish.

1. Apply two coat(s).

C. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

SECTION 095123 - ACOUSTICAL TILE CEILINGS - R3

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Acoustical tiles for interior ceilings.
2. Fully concealed, direct-hung, suspension systems.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at a location to be determined.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified.

C. Delegated-Design Submittal: For seismic restraints for ceiling systems.

1. Include design calculations for seismic restraints including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans, drawn to scale, and coordinated with each other, using input from installers of the items involved.

B. Product test reports.

C. Research reports.

D. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile: Furnish quantity of full size units equal to 3 percent of amount installed for each type, composition, color, pattern and size indicated.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design seismic restraints for ceiling systems.

B. Seismic Performance: Suspended ceilings shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

C. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: Class A according to ASTM E1264.
2. Smoke-Developed Index: 50 or less.

2.2 ACOUSTICAL TILES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Armstrong World Industries, Inc.
2. CertainTeed Corporation.
3. USG Corporation.

B. Acoustical Tile Standard: Manufacturer's standard tiles of configuration indicated that comply with ASTM E1264.

C. Classification: Type III, Form 2, Pattern CD, Item No. 1756 (24x24x7/8” Tile), Item No. 1757 (24x48x7/8” Tile).

D. Color: White.

E. Light Reflectance (LR): 0.86.

F. Ceiling Attenuation Class (CAC): 35.

G. Noise Reduction Coefficient (NRC): 0.75.

H. Articulation Class (AC): 170.

I. Edge/Joint Detail: Angled Tegular.

J. Thickness: 15/16”.

K. Modular Size: As indicated on Drawings.

2.3 ACOUSTICAL TILES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Armstrong World Industries, Inc.
2. CertainTeed Corporation.
3. USG Corporation.

B. Basis of Design: Armstrong Lumawash

C. Acoustical Tile Standard: Manufacturer's standard tiles of configuration indicated that comply with ASTM E1264.

D. Classification: Type III, Form 2, Pattern CD, Item No. 973 (24x24x7/8” Tile), Item No. 972 (24x48x7/8” Tile).

E. Color: White.

F. Light Reflectance (LR): 0.89.

G. Ceiling Attenuation Class (CAC): 33.

H. Noise Reduction Coefficient (NRC): 0.70.

I. Articulation Class (AC): 170.

J. Edge/Joint Detail: Square edge.

K. Thickness: 15/16”.

L. Modular Size: As indicated on Drawings.

M. Smooth face texture with superior sag and mold resistance meeting USDA / FSIS

2.4 METAL SUSPENSION SYSTEM

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Armstrong World Industries, Inc.
2. USG Corporation.

B. Metal Suspension-System Standard: Manufacturer's standard, direct-hung, fully concealed, metal suspension system that complies with applicable requirements in ASTM C635/C635M.

C. Direct-Hung, Double-Web Suspension System: Main and cross runners roll formed from and capped with cold-rolled steel sheet, prepainted, electrolytically zinc coated, or hot-dip galvanized, G30 coating designation.

1. Structural Classification: Intermediate-duty system.

2.5 ACCESSORIES

A. Attachment Devices: Size for five times the design load indicated in ASTM C635/C635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.

B. Seismic Clips: Manufacturer's standard seismic clips designed to secure acoustical tiles in place during a seismic event.

2.6 METAL EDGE MOLDINGS AND TRIM

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Armstrong World Industries, Inc.
2. CertainTeed Corporation.
3. USG Corporation.

B. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations complying with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for of suspension-system runners.

PART 3 - EXECUTION

3.1 PREPARATION

A. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders unless otherwise indicated.

B. Layout openings for penetrations centered on the penetrating items.

3.2 INSTALLATION OF SUSPENDED ACOUSTICAL TILE CEILINGS

A. Install suspended acoustical tile ceilings according to ASTM C636/C636M, seismic design requirements, and manufacturer's written instructions.

B. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical tiles.

1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
2. Do not use exposed fasteners, including pop rivets, on moldings and trim.

C. Arrange directionally patterned acoustical tiles as indicated on reflected ceiling plans.

3.3 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform inspections:

1. Periodic inspection during the installation of suspended ceiling grids according to ASCE/SEI 7 – if required by authority having jurisdiction.

END OF SECTION 095123

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following exterior substrates:

1. Concrete.
2. Fiber-cement board and trim.
3. Clay masonry.
4. Concrete masonry units (CMUs).
5. Steel and iron.
6. Aluminum (not anodized or otherwise coated).
7. Wood.
8. Gypsum board.

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.

B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.

D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.

E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.

F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

B. Samples: For each type of paint system and each color and gloss of topcoat.

1.4 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft..
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Sherwin-Williams Company (The).
2. Benjamin Moore & Co.
3. Coronado Paint; Benjamin Moore & Co.
4. PPG Paints.
5. Rust-Oleum Corporation; a subsidiary of RPM International, Inc.

B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include but are not limited to products listed in the Exterior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by

manufacturer, based on testing and field experience.

2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. Colors: As selected by Architect from manufacturer's full range.

1. Twenty percent of surface area will be painted with deep tones.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Fiber-Cement Board: 12 percent.
3. Masonry (Clay and CMUs): 12 percent.
4. Wood: 15 percent.
5. Portland Cement Plaster: 12 percent.
6. Gypsum Board: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks,

roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

A. Concrete Cementitious Siding, Nontraffic Surfaces:

1. Latex System:

a. Prime Coat: Primer sealer, latex.

1) S-W Loxon Concrete & Masonry Primer Sealer, A24W8300, at 8.0 mils wet, 3.2 mils dry.

b. Prime Coat: Latex, exterior, matching topcoat.
c. Intermediate Coat: Latex, exterior, matching topcoat.
d. Topcoat: Latex, exterior, flat.

1) S-W A-100 Exterior Latex Flat, A6 Series, at 4.0 mils wet, 1.2 mils dry, per coat.

e. Topcoat: Latex, exterior, low sheen.

1) S-W A-100 Exterior Latex Low Sheen, A12 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

f. Topcoat: Latex, exterior, satin.

1) S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

g. Topcoat: Latex, exterior, semi-gloss.

1) S-W Solo Acrylic Semi-Gloss, A76 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

h. Topcoat: Latex, exterior, gloss.

1) S-W A-100 Exterior Latex Gloss, A8 Series, at 4.0 mils wet, 1.3 mils dry, per coat.

2. Latex over Latex Aggregate System:

a. Prime Coat: Block Filler, Latex, Interior/Exterior.

1) S-W Loxon Block Surfacer, A24W200, at 50 to 100 sq. ft. per gal. .

b. Topcoat: Latex, exterior flat, coarse texture.

1) S-W UltraCrete Textured Masonry Topcoat, A44-800 Series, 50 to 80 sq. ft. per gal. .

3. Concrete Stain System (Water-based):

a. First Coat: Low-luster opaque finish matching topcoat.
b. Topcoat: Low-luster opaque finish:

1) S-W H&C Colortop Water-Based Solid Color Concrete Stain, at 50 to 250 sq. ft. per gal.

B. Concrete Substrates, Pedestrian Traffic Surfaces:

1. Latex Floor Paint System:

a. First Coat: Floor paint, latex, slip-resistant, matching topcoat.
b. Topcoat: Floor paint, latex, slip-resistant, low gloss.

1) S-W ArmorSeal Tread-Plex, B90 Series, at 1.5 to 2.0 mils dry per coat.

2. Concrete Stain System (Water-based) for Vertical Surfaces:

a. First Coat: Low-luster opaque finish matching top coat.
b. Topcoat: Low-luster opaque finish.

1) S-W H&C Colortop Water-Based Solid Color Concrete Stain, at 50 to 250 sq. ft. per gal. .

C. CMU Substrates:

1. Latex System:

a. Block Filler: Block filler, latex, interior/exterior:

1) S-W PrepRite Block Filler, B25W25, at 75 to 125 sq. ft. per gal..

b. Intermediate Coat: Latex, exterior, matching topcoat.
c. Topcoat: Latex, exterior, flat.

1) S-W A-100 Exterior Latex Flat, A6 Series, at 4.0 mils wet, 1.2 mils dry, per coat.

d. Topcoat: Latex, exterior, low sheen.

1) S-W A-100 Exterior Latex Low Sheen, A12 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

e. Topcoat: Latex, exterior, satin.

1) S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

f. Topcoat: Latex, exterior, semi-gloss.

1) S-W Solo Acrylic Semi-Gloss, A76 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

g. Topcoat: Latex, exterior, gloss.

1) S-W A-100 Exterior Latex Gloss, A8 Series, at 4.0 mils wet, 1.3 mils dry, per coat.

2. CMU Stain System (Water-Based):

a. First Coat: Low-luster opaque finish matching topcoat.
b. Topcoat: Low-luster opaque finish.

1) S-W H&C Colortop Water-Based Solid Color Concrete Stain, at 50 to 250 sq. ft. per gal. .

D. Ferrous Metal and Aluminum Substrates:

1. Water-Based Light Industrial Coating System:

a. Prime Coat: Primer, water based.

1) S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series, 5.0 to 10.0 mils wet, 2.0 to 4.0 mils dry.

b. Intermediate Coat: Light industrial coating, exterior, water based, matching topcoat.
c. Topcoat: Light industrial coating, exterior, water based eggshell.

1) S-W Pro Industrial Eg-Shel Acrylic B66-660 Series, at 2.5 to 4.0 mils dry, per coat.

d. Topcoat: Light industrial coating, exterior, water based, semi-gloss.

1) S-W Pro Industrial Acrylic Semi-Gloss Coating, B66-650 Series, at 2.5 to 4.0 mils dry, per coat.

e. Topcoat: Light industrial coating, exterior, water based, gloss.

1) S-W Pro Industrial Acrylic Gloss Coating, B66-600 Series, at 2.5 to 4.0 mils dry, per coat.

E. Wood Substrates: Including exposed wood items not indicated to receive shop-applied finish.

1. Latex System:

a. Prime Coat: Primer, latex for exterior wood.

1) S-W Exterior Latex Primer, B42, at 4.0 mils wet, 1.4 mils dry, per coat.

b. Intermediate Coat: Latex, exterior, matching topcoat.
c. Topcoat: Latex, exterior, flat:

1) S-W A-100 Exterior Latex Flat, A6 Series, at 4.0 mils wet, 1.2 mils dry, per coat.

d. Topcoat: Latex, exterior, low-sheen:

1) S-W A-100 Exterior Latex Low Sheen, A12 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

e. Topcoat: Latex, exterior, satin:

1) S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

f. Topcoat: Latex, exterior, semi-gloss:

1) S-W Solo Acrylic Semi-Gloss, A76 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

g. Topcoat: Latex, exterior, gloss:

1) S-W A-100 Exterior Latex Gloss, A8 Series, at 4.0 mils wet, 1.3 mils dry, per coat.

F. Wood Substrates, Pedestrian Traffic Surfaces:

1. Latex Floor Paint System:

a. First Coat: Floor paint, latex, slip-resistant, matching topcoat.
b. Topcoat: Floor paint, latex, slip-resistant, low gloss:

1) S-W ArmorSeal Tread-Plex, B90 Series, at 1.5 to 2.0 mils dry per coat.

2. Solid Color Stain System:

a. First Coat: Solid color stain, latex, matching topcoat.
b. Topcoat: Solid color stain, latex, slip-resistant, flat, interior/exterior:

1) S-W SuperDeck Exterior Acrylic Solid Color Deck, SD7-Series, at 200 to 400 sq. ft. per gal..

G. Plastic Trim Fabrication Substrates: Including architectural PVC, plastic, and fiberglass items.

1. Latex System:

a. Prime Coat: Primer, bonding, water-based:

1) S-W PrepRite ProBlock Latex Primer/Sealer, B57-620 Series, at 4.0 mils wet, 1.4 mils dry.

b. Intermediate Coat: Latex, exterior, matching topcoat.

a. Topcoat: Latex, exterior, flat:

1) S-W A-100 Exterior Latex Flat, A6 Series, at 4.0 mils wet, 1.2 mils dry, per coat.

b. Topcoat: Latex, exterior, low-sheen:

1) S-W A-100 Exterior Latex Low Sheen, A12 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

c. Topcoat: Latex, exterior, satin:

1) S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

d. Topcoat: Latex, exterior, semi-gloss:

1) S-W Solo Acrylic Semi-Gloss, A76 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

e. Topcoat: Latex, exterior, gloss:

1) S-W A-100 Exterior Latex Gloss, A8 Series, at 4.0 mils wet, 1.3 mils dry, per coat.

H. Exterior Gypsum Board Substrates:

1. Latex System:

a. Prime Coat: Primer bonding, water-based.

1) S-W PrepRite ProBlock Latex Primer/Sealer, B57-620 Series, at 4.0 mils wet, 1.4 mils dry.

b. Intermediate Coat: Latex, exterior, matching topcoat.

c. Topcoat: Latex, exterior, flat.

1) S-W A-100 Exterior Latex Flat, A6 Series, at 4.0 mils wet, 1.2 mils dry, per coat.

d. Topcoat: Latex, exterior, low-sheen.

1) S-W A-100 Exterior Latex Low Sheen, A12 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

e. Topcoat: Latex, exterior, satin:

1) S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

f. Topcoat: Latex, exterior, semi-gloss.

1) S-W Solo Acrylic Semi-Gloss, A76 Series, at 4.0 mils wet, 1.5 mils dry, per coat.

g. Topcoat: Latex, exterior, gloss.

1) S-W A-100 Exterior Latex Gloss, A8 Series, at 4.0 mils wet, 1.3 mils dry, per coat.

END OF SECTION 099113

SECTION 462323 - VORTEX GRIT REMOVAL EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. This section covers the work necessary to furnish and install, complete, all necessary equipment and appurtenances for the new grit chamber equipment, including paddle apparatus, drive, fluidizer vanes, grit well cover plate, flow control baffles, grit pump, grit concentrator, screw classifier, and controls.

1.2 RELATED SECTIONS

A. Cast-In-Place Concrete – Section 033000

B. Division 26 – Electrical Sections

1.3 REFERENCES

A. Reference Standards: Comply as a minimum with applicable provisions and recommendations of the following:

1. NEC, National Electric Code.
2. NEMA, Standards of National Electrical Manufacturers Association.
3. IEEE, Institute of Electrical and Electronic Engineers.
4. AFBMA, Anti-Friction Bearing Manufacturers Association.
5. ANSI, American National Standards Institute.
6. SSPC, Steel Structures Painting Council.
7. ASTM, American Society for Testing and Materials.

1.4 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 013300.

B. Submit manufacturer’s qualifications as detailed in 1.5.B.

C. To insure compatibility and complete system integration, all pieces of equipment for the grit removal system (e.g. grit chamber, grit pump, grit classifier,) shall be manufactured by the same company. Components from multiple manufacturers will not be acceptable.

D. Submit locations of the nearest permanent service headquarters.

E. Submit descriptive literature, including a cross-sectional view of each chamber, which indicates materials of construction, weights, principal dimensions and other important details.

F. Submit operation and maintenance data under provisions of Section 017823.

G. Record Drawings: Submit record drawing under provisions of Section 017839.

H. Grit system manufacturer shall provide Computation Fluid Dynamics (CFD) modeling to verify the grit chamber removal characteristics and flow regime. Data on the CFD through generic simulation results of the specified chamber diameter shall be provided with the submittal and prior to approval.

I. Grit system manufacturer shall provide calculations and supporting information to demonstrate sizing of the grit chamber based on particle size, peak flow, and chamber diameter. Units sized on Surface Overflow Rate (SOR) shall not be allowed. Details to be provided with submittal and prior to approval.

1.5 QUALITY ASSURANCE

A. All materials used shall be new, of high grade and of properties best suited to the Work required.

B. Manufacturer's Qualifications:

1. Grit chamber equipment provided under this Section shall submit a list of not less than fifty (50) installations where equipment of the same removal efficiencies as specified herein has been in successful operation for at least five (5) years.

2. Five (5) grit removal efficiency tests shall be provided from an installations where similar equipment by the Manufacturer is currently in similar service. Each grit removal efficiency test shall meet the removal efficiency in 2.3.C. A Manufacturer that does not have test data that is acceptable to the Engineer shall not be considered as an approved equal or be required to provide grit testing of equipment.

C. Coordination Responsibility:

1. To insure compatibility and complete system integration, all pieces of equipment for the grit removal system (e.g. grit chamber, grit pump, grit classifier,) shall be manufactured by the same company. Components from multiple manufacturers will not be acceptable.

2. Contractor shall retain overall responsibility for equipment coordination, installation, testing and operation.

D. Manufacturer shall have operational grit chamber with minimum 4 MGD capacity at their facility and upon request from the engineer, the operational unit may be witnessed by the engineer and/or representative of their choice. Hands on demonstration and training with operational grit chamber shall be completed prior to delivery.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver equipment to and coordinate with contractor.

B. Store and protect equipment prior to installation off the ground in enclosed shelter.

1.7 GUARANTEE

A. Manufacturer shall furnish to the owner a written warranty against workmanship and material for 1 year from the date of substantial completion under normal use and service. Warranty shall be in printed form and previously published as the manufacturers' Standard Warranty for similar units.

PART 2 - PRODUCTS

2.1 GENERAL

A. Furnish and install the vortex grit removal equipment and appurtenances in accordance with these specifications and as shown on the Drawings.

2.2 MANUFACTURER

A. Smith & Loveless, Inc.

B. Acceptable equal.

2.3 OPERATIONAL CHARACTERISTICS

A. Design each grit chamber for following hydraulic conditions.

1. Minimum Flow: 1.2 MGD.
2. Maximum Flow While Maintaining Below Removal Efficiency: 12 MGD

B. Construct suitable for extremely humid installation, and splash resistant.

C. Limit headloss through grit chamber to 7.5 in. or less at 12.0 MGD.

D. Grit removal from screened raw wastewater.

Grit Size	% Removed (by Weight)
Down to 100-mesh particle size	95

E. Wearing parts readily accessible for inspection, repairs, and replacement.

F. Replacement parts easily duplicated and attainable.

G. No moving parts subject to wear or stoppage below water surface.

H. No bends or elbows on underwater or inaccessible grit piping.

I. Provide drives, lubrication, and support equipment bearings accessible from operating floor level.

J. No loss of grit removal efficiency for flows with inlet velocity less than 3.5 ft/s.

K. Provide inlet ramp to enhance coanda effect and direct grit downward to separation chamber.

L. Grit removal system to fit in grit tank shown on Drawings.

1. Inlet and outlet to be separated by flow control baffle and chamber travel path to be 270°.

2. Storage hopper to have 60° sloped bottom with a maximum diameter of 3’-0” and a minimum depth of 5’-0”.

2.4 GRIT CHAMBER EQUIPMENT

A. Paddles

1. Adjustable grit scouring intensity.
2. Four blades.
3. Material: 316 stainless steel.

B. Propeller Drive Tube:

1. Driven by large, totally enclosed spur gear and turntable bearing.
2. Dia: 10-3/4 in. minimum.
3. Material: 316 stainless steel.

C. Grit Fluidizer

1. Bolted to propeller drive tube.
2. Within 6" of pump suction inlet.
3. Helical configuration.

D. Propeller Drive Unit (Gear Motor and Gear Head):

1. Motor:
   a. Helical gear type.
   b. 1.5hp, 230/460 v, 3-ph, 60 Hz. TEFC
   c. Steel housing and frame.
   d. Service Factor: 2.0 or greater on reducer, 1.15 on motor.

2. Gears:
    a. Alloy steel, heat treated, and hardened.
    b. Teeth: Hobbed and flame hardened.
    c. Helical Gears: Oil lubricated.
    d. Spur Tooth Bull Gear: Large, driven by pinion mounted on output shaft of helical gear motor, enclosed in heavy cast iron case.
    e. Spur Gear Pinion: Cut from heat-treated steel.
    f. Bull Gear: Rotate with minimum 21-in. diameter turntable bearing.
    g. Service Factor for Pinion and Bull Gear: 5 or greater at standard operating speeds.

3. Bull Gear Box:
    a. Specifically designed for this service.
    b. Provide opening for propeller drive table.
    c. Seal with air bell at bottom opening around drive tube.
    d. Provide bolted flanged connection at top for grit pump suction.

4. General Requirements:
    a. Maximum Drive Output Speed: 21 rpm.
    b. Suitable for continuous (24 hrs/day year round) service.
    c. Bearings shall have minimum B-10 bearing life of 50,000 hrs., except 21" diameter turntable bearing which shall have minimum B-10 life of 20 years.

E. Grit well cover plates

1. Maximum 3" opening between cover plate and propeller drive tube.
2. Two-piece with lifting loops.
3. Stationary, not part of rotating assembly.
4. Material: 316 stainless steel.

F. Flow Control Baffle:

1. Integral flow control baffle for the outlet of the main chamber.
2. Material: 316 stainless steel.
3. Fabricate to dimensions as shown on Drawings.
4. It shall be designed to direct the inlet flow into the chamber in a manner ensuring the proper vortex flow and to prevent short-circuiting.

2.5 GRIT PUMP (250 GPM)

A. Pump:

1. Centrifugal, vertical configuration.
2. Close-coupled.
3. Recessed Ni-Hard impeller.
4. Construction: Ni-hard especially designed for use of mechanical seals and vacuum priming.
5. Size: 4" suction, 4" discharge.

6. Capable of passing 4” sphere.
7. Capacity: 250 GPM at 58 ft. TDH.
8. One piece motor adapter/backhead.

B. Motor:

1. 10 HP,1760 RPM, 230/460 Volt, 3 phase, 60 hertz TEFC
2. Minimum 1-7/8" shaft diameter.
3. Solid stainless steel shaft through mechanical seal.
4. 6" maximum lower bearing to impeller distance.
5. Class F insulation, Class B temperature rise, 1.15, unless explosion-proof or VFD duty then 1.0 service factor.

C. Lifting Stanchion
1. A stanchion with lifting arm shall be provided to lift the Grit Pump for disassembly.
2. The lifting arm shall have a hook over the center of the motor to support a hoist provided by the Owner. Installation shall be as detailed in the contract drawings.
3. The lifter shall be designed for a 1,000 lbs. (454 kg) lifting load.

2.6 CENTRIFUGAL GRIT CONCENTRATOR (250 GPM)

A. Mount grit concentrator on grit dewatering screw as recommended by manufacturer.

B. Size, capacity, and range of operation shall be compatible with total grit removal system as described herein.

C. Operates on the constant rate vortex principle.

D. Purpose: Remove water and organics from mixture of grit, water, and organics (pumped by grit pump) prior to grit dewatering screw, thereby minimizing hydraulic load.

E. Flow Pattern:

1. Pumped flow enters tangentially through side.
2. Grit and small volume of water exit out bottom into hopper of dewatering screw.
3. Organic material and rest of water exit out top to drain.
4. Minimum 93% removal of influent water and 95% removal influent organics.
5. Less than 5% putrescible material in recovered grit from underflow.

F. Material: Minimum 1/2" Ni-Hard, high nickel iron coated with minimum 6 mil dry film thickness epoxy resin.

G. No moving parts; operates totally on hydraulic principles.

2.7 GRIT WASHER (for 250 GPM)

A. General:

1. Provide inlet hopper to receive mixture of grit and water, sufficiently large to allow grit to settle out of water.
2. Provide 4” overflow in inlet hopper.
3. Provide unit as freestanding with support legs to hold conveyor at approximately 22° angle from horizontal.
4. Drive screw conveyor with gear motor mounted on discharge end.
5. The PLC control logic will operate the grit washer through its various cycles, including air infusion, grit wash water, spray water, organic drain solenoid valves and ejection cycle, in proper sequence.

A. Construction:

1. Screw:
   a. Diameter: 9 in.
   b. Length: 15 ft.
   c. Material: 316 stainless steel.
   d. Shaftless screws not allowed due to wear or loss of grit.

2. Screw Bearings:
   a. Outlet End: Anti-friction type.
   b. Inlet End: Greaseable bronze bushing.

3. Screw Trough:
   a. Material: 316 stainless steel
   b. Open 3/16” steel formed, U-shaped.
   c. Provide 2” diameter drain at inlet end.
   d. Provide
   e. Provide 8” outlet.
   f. Provide 5'-1/4" of clearance between centerline of support legs and centerline of discharge.

4. Inlet Hopper:
   a. Material: 316 stainless steel.
   b. Overflow: Full-length, double-sided outlet weir trough with 4-in. flange.
   c. Slope three sides of hopper at least 50 degrees to horizontal.
   d. Projected Surface Area: 17.0 sq. ft.
   e. Parallel plates to improve retention of fine grit.

5. Drive:
   a. Provide belt driven shaft mounted helical gear reducer.
   b. Mount on plate bolted to flanges of screw trough at discharge end.

6. Motor:
   a. 3 hp, 230/460 v, 3-ph, 60 Hz. TEFC.

7. Cover:
   a. Material: 316 stainless steel
   b. Solid Covers

c. Opening under concentrator not covered to allow incoming flow to enter unit.

8. Wash Water Requirements:
   a. 20 GPM at 60 psig of plant effluent.
   b. Intermittent.
   c. Water supply may be non-potable, however not wastewater.
   d. If a potable supply is used, a backflow preventer should be provided.

9. Flowmeter:
   a. Wash water shall be controlled by a manual valve and measured by a flowmeter.
   b. Constructed with a tough machined acrylic meter body, highly polished to a clear finish with a direct reading permanent scale.
   c. Float and guide rod shall be constructed of 316 stainless steel.
   d. The flowmeter shall be capable of usage in direct sunlight.

10. Scouring Air Requirements:
    a. 5 SCFH at 70 psig.
    b. Intermittent.
    c. Air shall be provided by NEMA 4X air infusion panel provided by grit system manufacturer.

11. Rotometer:
    a. Scouring air shall be by a manual valve and measured by a rotometer.
    b. Constructed of one piece welded 316 stainless steel with a clear, polycarbonate plastic tube shield and Borosilicate glass tube.
    c. Float shall be constructed of 316 stainless steel
    d. The rotometer shall be capable of usage in direct sunlight.

12. Grit Level Sensor:
    a. A rotating level limit switch with direct contact probe shall send a signal to the controller to begin the grit discharge cycle
    b. This switch shall not be affected by external vibration.
    c. It shall actuate a dedicated DPDT DC relay in the PISTA® TURBO™ Grit Washer control panel.
    d. The electronic enclosure of the switch shall be NEMA 4X.

13. Automatic Spring Loaded Lubricator:
    a. Unit relies on the movement of the bushing to pull grease from the refillable reservoir to the bushing surface.
    b. The reservoir and base shall be constructed of clear polycarbonate, which allows for visual inspection.
    c. The thread size is 1/8” NPT.
    d. Capacity: 6 oz. (178 cc).
    e. Size: 3” (75 mm) diameter x 6” (150 mm) tall.
    f. Operating Temperature Range: -10°F (-23°C) to 250°F (121°C).

2.8 VACUUM PRIMING PANEL

A. Panel

1. NEMA 4X.
2. Mounted on paddle drive unit.

B. Panel Mounted Devices

1. Vacuum Pump:
   a. Corrosion resistant internal components.
   b. Sized to prime pump and piping in less than 60 seconds.

2. Air Compressor:
   a. Oil-less

C. Priming System

1. Consists of vacuum pump, vacuum control solenoid valve, prime level sensing probe, and float operated check valve.

2. Positive lubrication of mechanical seal.

3. Minimum passageway equivalent to 2-1/2" opening.

4. Prime from low-pressure area of pump.

D. Pinch Valve

1. On pump discharge line.
2. In vertical piping.
3. 4" diameter.
4. Pneumatically controlled.

2.9 ELECTRICAL CONTROLS FOR AUTOMATIC OPERATION

A. Panel

1. NEMA 4X.
2. All components within the control panel shall be UL listed or recognized, and the complete grit system control panel itself shall be labeled as a UL 508A General Use Industrial Control Panel.
3. To facilitate wire tracing and servicing, the control wiring shall be run in enclosed wireways, with removable covers, rather than tied up in bundles.
4. Control relays up to 6-amp capacity shall be the modular, plug-in type, with integral LED indicating lights to show activation. Larger control relays shall be enclosed to be “finger safe”.
5. A duplex GFI protected convenience outlet shall be provided in the panel for operation of

120-volt AC devices.

B. Circuit Breakers

1. Thermal magnetic air circuit breakers shall be provided for branch disconnect service and short-circuit protection of all auxiliary circuits
2. Thermal magnetic circuit breakers with lockout capability shall be provided for each drive and pump motor, matched to the motor inrush current.

C. Starters

1. Magnetic across-the-line starters with 24-volt coils and solid-state overload protection for each phase shall be provided for each motor to give positive protection against phase unbalance, thermal overload, phase loss and ground fault.

2. To provide the fastest trip speed and for ground fault protection, only solid-state overload protection will be used, and motor starters using heater coils will not be acceptable.

3. Each single-phase auxiliary motor shall be equipped with an over-current protection device in addition to the branch circuit breaker, or shall be impedance protected.

4. Include for following motors:

   a. Paddle drive.

   b. Grit pump.

   c. Screw conveyor.

5. Individual NEMA 4X Hand-Off-Automatic selector switches shall be provided for the pump and dewatering device drives.

D. Control Devices

1. Spare ethernet port shall be provided

2. Individual NEMA 4X Hand-Off-Automatic selector switches shall be provided for the pump and dewatering device drives.

3. An On Off selector switch shall be provided to operate the propeller drive motor starter.

4. To control the operation of the grit removal and dewatering system, and monitor the control, environmental and alarm functions, a specially preprogrammed, dedicated microprocessor-based control system shall be provided.

5. The PLC shall be an Allen Bradley MicroLogix 1400.

6. The controller shall interface with the panel display unit, motor starters, accessories and alarm functions through digital and analog input and output ports as required.

7. The digital controls shall operate on 24 volts or less, to eliminate shock hazard.

8. The 24-volt DC power supply shall be overload protected to be “crowbar safe” and will return to operation when a short is removed.

9. Program integrity shall be maintained by battery-backed RAM.

10. A surge suppressor with power filter shall be provided for the control circuits.

11. A NEMA 4X rated display unit shall be mounted through the front of the panel to provide operator input to and visual output from the microprocessor controller.

12. This interface shall be a 7” wide screen graphic interface with DSTN 65K-color Liquid Crystal Display with backlighting and resistive-type touch screen, for data input and programming.

13. The display shall have a “sleep” feature to prolong screen life.

14. A minimum of 11 (eleven) menu screens shall be available for display and management of paddle drive, grit pump and grit screw conveyor (optional) functions including, but not limited to:

E. Menu Screens shall be available for display and management of grit system control functions listed below:
   1. Display Functions:
      a. Graphical motor running indication
      b. General alarm indication
      c. Individual alarm indicators for each alarm function (with time and date)
      d. Paddle drive run time
      e. Grit pump run time
      f. Grit screw conveyor run time
      g. Alarm silencing
      h. Date & time indication with set time functionality
      i. I/O status for trouble shooting
      j. Schedule maintenance items
      k. “Help” screens

   2. Field Programming Functions:
      a. Select English or Spanish language display mode
      b. Grit removal schedule or return to default settings
      c. Grit pump run time or return to default settings
      d. Silence audible alarm
      e. Reset running time meters
      f. Set date/time

   3. Grit system control to be integrated with plant SCADA.

2.10 SHOP PAINTING

A. Surface Preparation

1. All structural steel surfaces shot blasted with steel grit.
2. Weld splatter and surface roughness removed by grinding.
3. Comply with SSPC-SP6 specifications.

B. Coating - Grit Mechanism

1. Single, 3 mil DFT primer - shop applied.

C. Coating - Concentrator and Conveyor

1. Single, 6 mil DFT, VERSAPOX® epoxy resin.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Installation of the grit equipment shall be in complete accordance with the manufacturer's instructions and recommendations, and the reviewed shop drawings.

3.2 TESTING, STARTUP AND TRAINING

A. After completion of the installation, the equipment shall be inspected and certified by an authorized representative of the Manufacturer as being in compliance with the Manufacturer's recommendations and requirements. At such time as the Manufacturer has deemed the installation to be acceptable, the Manufacturer's authorized service representative shall make any required adjustments and shall start the equipment to assure proper operation.

B. In the presence of the Engineer and the Operator, field testing of all equipment shall be performed to determine that operation is satisfactory and in compliance with the specifications. Testing shall be completed after the installation is complete, the equipment has been operated and all necessary adjustments have been made.

C. Testing shall meet performance criteria listed in Section 1.3 of this specification before final acceptance by engineer and owner.

D. A written report shall be supplied to the engineer upon completion. Repeat tests if necessary, to obtain results acceptable to engineer.

E. The Manufacturer's authorized representative shall provide instruction to the plant personnel as to the operation and maintenance of the equipment including commissioning, shut down, on-line operations, lubrication and preventative maintenance.

F. Manufacturer's representative shall provide these services for one (1) trip totaling two (2) eight-hour days total for the Grit systems onsite to complete the certifications and training described in this specification section.

END OF SECTION 462323

SECTION 432313.27 – PRIMARY SLUDGE PUMPS (HORIZONTAL SELF-PRIMING CENTRIFUGAL PUMP)

PART 1 - GENERAL

1.1 SCOPE:

A. Under this item, the contractor shall furnish and install into operation the following;

1. (2) two horizontal self-priming centrifugal pumps and all appurtenances as specified below. These pumps shall be installed in the Primary Sludge Pit as indicated on the plans.
2. The manufacturer shall provide complete simplex control panels and control instrumentation for each pump.

1.2 PERFORMANCE CRITERIA

A. The pump manufacturer must be ISO 9001:2008 revision certified, with scope of registration including design control and service after sales activities.

B. The pump manufacturer must be registered to the ISO 14001 Environmental Management System standard and as such is committed to minimizing the impact of its activities on the environment and promoting environmental sustainability by the use of best management practices, technological advances, promoting environmental awareness and continual improvement.

C. Pumps must be designed to handle raw, unscreened, domestic sanitary sewage. Pumps shall have 3" suction connection, and 3" discharge connection. Each pump shall be selected to perform under following operating conditions:

1.	Capacity (GPM)	_____200____
2.	Total Dynamic Head (FT)	_____15_____
3.	Minimum TDH (FT)	_____11_____
4.	Maximum TDH (FT)	_____30_____
5.	Total Discharge Static Head (FT)	_____20_____

D. Pump Performance Certifications

1. Solids Handling Capability

a. All internal passages, impeller vanes, and recirculation ports shall pass a 2.5" spherical solid. Smaller internal passages that create a maintenance nuisance or interfere with priming and pump performance shall not be permitted. Upon request from the engineer, manufacturer's certified drawings showing size and location of the recirculation port(s) shall be submitted for approval.

E. Reprime Performance

1. Consideration shall be given to the sanitary sewage service anticipated, in which debris is expected to lodge between the suction check valve and its seat, resulting in the loss of the pump suction leg, and siphoning of liquid from the pump casing to the approximate center line of the impeller. Such occurrence shall be considered normal, and the pump must be capable of automatic, unattended operation with an air release line installed.
2. During unattended operation, the pump shall retain adequate liquid in the casing to insure automatic repriming while operating at its rated speed in a completely open system. The need for a suction check valve or external priming device shall not be required.

3. Pump must reprime 10 vertical ft. at the specified speed and impeller diameter. Reprime lift is defined as the static height of the pump suction above the liquid, while operating with only one-half of the liquid remaining in the pump casing. The pump must reprime and deliver full capacity within five minutes after the pump is energized in the reprime condition. Reprime performance must be confirmed with the following test set-up:

    a. A check valve to be installed down stream from the pump discharge flange. The check valve size shall be equal (or greater than) the pump discharge diameter.
    b. A length of air release pipe shall be installed between pump and the discharge check valve. This line shall be open to atmosphere at all times duplicating the air displacement rate anticipated at a typical pump station fitted with an air release valve.
    c. The pump suction check valve shall be removed. No restrictions in the pump or suction piping will prevent the siphon drop of the suction leg. Suction pipe configuration for reprime test shall incorporate a 2 feet minimum horizontal run, a 90^{o} elbow and vertical run at the specified lift. Pipe size shall be equal to the pump suction diameter.
    d. Impeller clearances shall be set as recommended in the pump service manual.
    e. Repeatability of performance shall be demonstrated by testing five consecutive reprime cycles. Full pump capacity (flow) shall be achieved within five minutes during each cycle.
    f. Liquid to be used for reprime test shall be water.
    g. Upon request from the engineer, certified reprime performance test results, prepared by the manufacturer, and certified by a registered professional engineer, shall be submitted for approval prior to shipment.

F. Certified Pump Performance Test

1. Tests shall be conducted in accordance with Hydraulic Institute Standards 14.6.3.4 Acceptance Grade 2B at the specified head, capacity, rated speed and horsepower. The performance tests will validate the correct performance of the equipment at the design head, capacity and speed.

2. For pumps utilizing up to (13 HP) motors; but larger than (1.3 HP), tests shall be conducted in accordance with Hydraulic Institute Standards 14.6.3.4.1, as the specified head, capacity, rated speed and horsepower.

3. Components failing to perform as specified by the engineer, or as represented by the manufacturer, or as proven defective in service during the warranty period, shall be replaced, repaired, or satisfactorily modified by the manufacturer.

4. It is not intended that the pump manufacturer assume liability for consequential damages or contingent liabilities arising from failure of any vendor supplied product or part which fails to properly operate, however caused. Consequential damages resulting from defects in design, or delays in delivery are also beyond the manufacturer's scope of liability.

5. This limited warranty shall be valid only when installation is made and use and maintenance is performed in accordance with manufacturer recommendations. The warranty shall become effective on the date of acceptance by the purchaser or the purchaser's authorized agent, or sixty (60) days after installation, or ninety (90) days after shipment from the factory, whichever occurs first.

1.2 SUBMITTALS:

A. Submittal data shall be provided to show compliance with these specifications, plans or other specifications that will influence the proper operation of the pump(s).

B. Standard submittal data for approval must consist of:

1. Pump Performance Curves.
2. Pump Outline Drawing.
3. Electrical Motor Data.
4. Typical Installation Guides.
5. Technical Manuals and Parts List.
6. Printed Warranty.
7. Management system certificate ISO 9001.
8. Manufacturer's Equipment Storage Recommendations.
9. Manufacturer's Standard Recommended Start-Up Report Form.

C. Lack of the above requested submittal data is cause for rejection.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. The specifications and project drawings depict equipment and materials manufactured by The Gorman-Rupp Company, or approved equal.

B. After execution of the contract, the contractor may offer substitutions to the specified equipment for consideration. The equipment proposed for substitution must be superior in construction and performance to that specified in the contract, and the higher quality must be demonstrated by a list of current users of the proposed equipment in similar installations.

C. In event the contractor obtains engineer's approval for equipment substitution, the contractor shall, at his own expense, make all resulting changes to the enclosures, buildings, piping or electrical systems as required to accommodate the proposed equipment. Revised detail drawings illustrating the substituted equipment shall be submitted to the engineer prior to acceptance.

D. It will be assumed that if the cost to the contractor is less for the proposed substitution, then the contract price shall be reduced by an amount equal to the savings.

2.2 PUMP DESIGN

A. Pumps shall be horizontal, self-priming centrifugal type, designed specifically for handling raw, unscreened, domestic sanitary sewage. Pump solids handling capability and performance criteria shall be in accordance with requirements listed under PART 1 - GENERAL of this section.

B. The pump manufacturer must be ISO 9001:2008 revision certified, with scope of registration including design control and service after sales activities.

C. Materials and Construction Features

1. Pump casing shall be cast iron Class 30 with integral volute scroll. Casing shall incorporate following features:

a. Mounting feet sized to prevent tipping or binding when pump is completely disassembled for maintenance.
b. Fill port coverplate, 3 1/2" diameter, shall be opened after loosening a hand nut/clamp bar assembly. In consideration for safety, hand nut threads must provide slow release of pressure, and the clamp bar shall be retained by detente lugs. A Teflon gasket shall prevent adhesion of the fill port cover to the casing.
c. Casing drain plug shall be at least 1 1/4" NPT to insure complete and rapid draining.
d. Liquid volume and recirculation port design shall be consistent with performance criteria listed under PART 1 - GENERAL of this section.

2. Coverplate shall be cast iron Class 30. Design must incorporate following maintenance features:

a. Retained by hand nuts for complete access to pump interior. Coverplate removal must provide ample clearance for removal of stoppages, and allow service to the impeller, seal, wearplate or check valve without removing suction or discharge piping.
b. A replaceable wearplate secured to the coverplate by weld studs and nuts shall be AISI 1015 HRS.
c. In consideration for safety, a pressure relief valve shall be supplied in the coverplate. Relief valve shall open at 75-200 PSI.
d. Two O-rings of Buna-N material shall seal coverplate to pump casing.
e. Pusher bolt capability to assist in removal of coverplate. Pusher bolt threaded holes shall be sized to accept same retaining capscrews as used in rotating assembly.
f. Easy-grip handle shall be mounted to face of coverplate.

3. Rotating assembly, which includes impeller, shaft, mechanical shaft seal, lip seals, bearings, sealplate and bearing housing, must be removable as a single unit without disturbing the pump casing or piping. Design shall incorporate following features:

a. Sealplate and bearing housing shall be cast iron Class 30. Separate oil filled cavities, vented to atmosphere, shall be provided for shaft seal and bearings. Cavities must be cooled by the liquid pumped. Three lip seals will prevent leakage of oil.

1) The bearing cavity shall have an oil level sight gauge and fill plug check valve. The clear sight gauge shall provide easy monitoring of the bearing cavity oil level and condition of oil without removal of the fill plug check valve. The check valve shall vent the cavity but prevent introduction of moist air to the bearings.
2) The seal cavity shall have an oil level sight gauge and fill/vent plug. The clear sight gauge shall provide easy monitoring of the seal cavity oil level and condition of oil without removal of the fill/vent plug.
3) Double lip seal shall provide an atmospheric path providing positive protection of bearings, with capability for external drainage monitoring.

b. Impeller shall be ductile iron, two-vane, semi-open, non-clog, with integral pump out vanes on the back shroud. Impeller shall thread onto the pump shaft and be secured with a lockscrew and conical washer.
c. Shaft shall be AISI 4140 alloy steel unless otherwise specified by the engineer, in which case AISI 17-4 pH stainless steel shall be supplied.
d. Bearings shall be anti-friction ball type of proper size and design to withstand all radial and thrust loads expected during normal operation. Bearings shall be oil lubricated from a dedicated reservoir. Pump designs which use the same oil to lubricate the bearings and shaft seal shall not be acceptable.
e. Shaft seal shall be cartridge oil lubricated mechanical type. The stationary and rotating seal faces shall be tungsten titanium carbide alloy. Each mating surface shall be lapped to within three light bands flatness (35 millionths of an inch), as measured by an optical flat under monochromatic light. The stationary seal seat shall be double floating by virtue of a dual O-ring design; an external O-ring secures the stationary seat to the sealplate, and an internal O-ring holds the faces in alignment during periods of mechanical or hydraulic shock (loads which cause shaft deflection, vibration, and axial/radial movement). Elastomers shall be viton; cage and spring to be stainless steel. Seal shall be oil lubricated from a dedicated reservoir. The same oil shall not lubricate both shaft seal and shaft bearings. Seal shall be warranted in accordance with requirements listed under PART 1 - GENERAL of this section.
f. Pusher bolt capability to assist in removal of rotating assembly. Pusher bolt threaded holes shall be sized to accept same capscrews as used for retaining rotating assembly.

4. Adjustment of the impeller face clearance (distance between impeller and wearplate) shall be accomplished by external means.

a. Clearances shall be maintained by a four point external shimless coverplate adjustment system, utilizing a four collar and four adjusting screw design allowing for incremental adjustment of clearances by hand as required. Each of the four points shall be lockable to prevent inadvertent clearance increases or decreases due to equipment vibration or accidental operator contact. The four point system also allows for equal clearance gaps at all points between the impeller and wear plate. Requirement of realignment of belts, couplings, etc., shall not be acceptable.

Coverplate shall be capable of being removed without disturbing clearance settings. Clearance adjustment systems that utilize less than four points will not be considered.

b. There shall be provisions for additional clearance adjustment in the event that adjustment tolerances have been depleted from the coverplate side of the pump. The removal of stainless steel shims from the rotating assembly side of the pump shall allow for further adjustment as described above

c. Clearance adjustment which requires movement of the shaft only, thereby adversely affecting seal working length or impeller back clearance, shall not be acceptable.

5. Suction check valve shall be molded Neoprene with integral steel and nylon reinforcement. A blow-out center shall protect pump casing from hydraulic shock or excessive pressure. Removal or installation of the check valve must be accomplished through the coverplate opening, without disturbing the suction piping. Sole function of check valve shall be to save energy by eliminating need to reprime after each pumping cycle. Pumps requiring a suction check valve to assist reprime will not be acceptable.

6. Spool flanges shall be one-piece cast iron, class 30 fitted to suction and/or discharge ports. Each spool shall have one 1-1/4" NPT and one 1/4" NPT tapped hole with pipe plugs for mounting gauges or other equipment.

D. Serviceability

1. The pump manufacturer shall demonstrate to the engineer's satisfaction that consideration has been given to reducing maintenance costs.

2. No special tools shall be required for replacement of any components within the pump.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Contractor shall off-load equipment at installation site using equipment of sufficient size and design to prevent injury or damage. Immediately after off-loading, contractor shall inspect complete pump and appurtenances for shipping damage or missing parts. Any damage or discrepancy shall be noted in written claim with shipper prior to accepting delivery. Validate all pump serial numbers and parts lists with shipping documentation. Notify the manufacturer’s representative of any unacceptable conditions noted with shipper.

3.2 INSTALLATION

A. Install, level, align, and lubricate pump(s) as indicated on project drawings. Installation must be in accordance with written instructions supplied by the manufacturer at time of delivery.

B. Suction pipe connections are vacuum tight. Fasteners at all pipe connections must be tight. Install pipe with supports and thrust blocks to prevent strain and vibration on pump piping.

Install and secure all service lines (level control, air release valve or pump drain lines) as required in wet well.

C. Check motor and control data plates for compatibility to site voltage. Install and test the station ground prior to connecting line voltage to control panel.

D. Prior to applying electrical power to any motors or control equipment, check all wiring for tight connection. Verify that protective devices (fuses and circuit breakers) conform to project design documents. Manually operate circuit breakers and switches to ensure operation without binding. Open all circuit breakers and disconnects before connecting utility power. Verify line voltage, phase sequence and ground before actual start-up.After all anchor bolts, piping and control connections are installed, completely fill the grout dam in the pump station base with non-shrink grout.

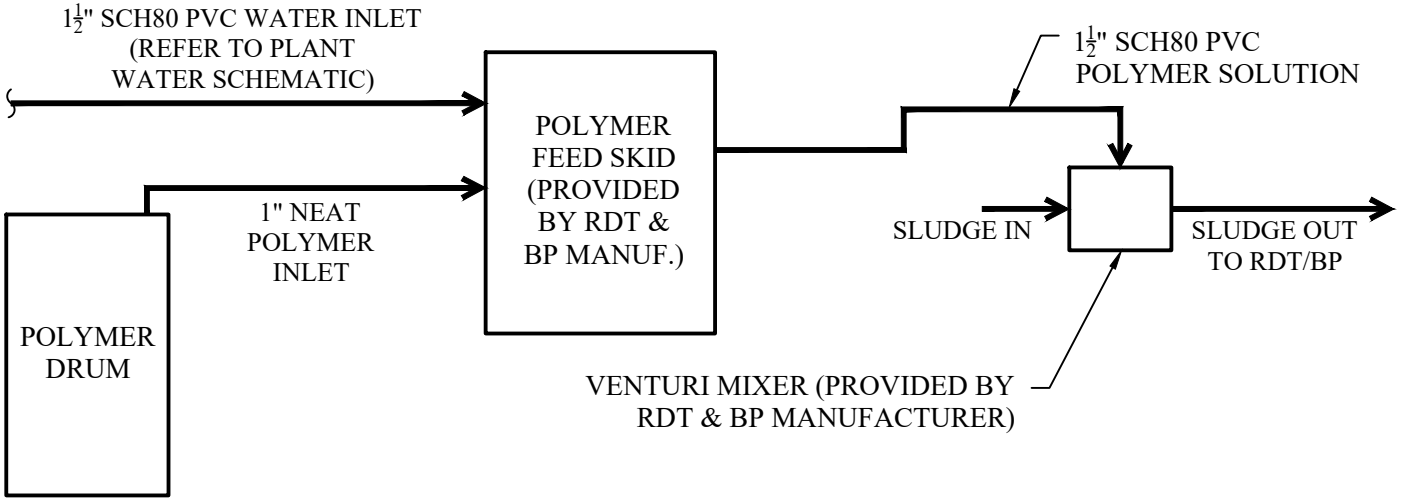
3.3 FIELD SERVICE CONTROL

A. Operational Test

1. Prior to acceptance by owner, an operational test of all pumps, drives, and control systems shall be conducted to determine if the installed equipment meets the purpose and intent of the specifications. Tests shall demonstrate that all equipment is electrically, mechanically, structurally, and otherwise acceptable; it is safe and in optimum working condition; and conforms to the specified operating characteristics.

2. After construction debris and foreign material has been removed form the wet well, contractor shall supply clear water volume adequate to operate station through several pumping cycles. Observe and record operation of pumps, suction and discharge gage readings, ampere draw, pump controls, and liquid level controls. Check calibration of all instrumentation equipment, test manual control devices, and automatic control systems. Be alert to any undue noise, vibration or other operational problems.

END OF SECTION 432313.27



NOTES:

1. PIPING TO BE SUPPORTED IN ACCORDANCE WITH SPECIFICATION 400507 - HANGERS AND SUPPORTS.
2. SCHEMATIC APPLIES TO BOTH THE ROTARY DRUM THICKENER AND BELT PRESS POLYMER FEED SYSTEMS.

1 / SK-1 — POLYMER FEED SCHEMATIC

SCALE: NONE

Addendum #3

ENGINEERING
33 Airport Center Drive
Suite 202
New Windsor, NY 12553
(845) 567-3100
111 Wheatfield Drive
Suite 1
Milford, PA 18337
(570) 296-2765

POLYMER FEED SCHEMATIC

CAESERS LANE WWTP EXPANSION PROJECT : PHASE 2

FOR TOWN OF NEW WINDSOR - 555 UNION AVE. - NEW WINDSOR, NY 12553

DRAWN BY:	HPBJr
REVIEWED BY:	QMM
PROJECT #	18-732
PHASE #	-
DATE:	06/27/25

SK-1