

ADDENDUM NO. 1

VILLAGE OF NEW MADISON
Darke County, Ohio
Water Plant Electrical Power & Controls Upgrade
October 13, 2015

To: Planholders

From: Mote & Associates, Inc.
214 West Fourth Street
Greenville, Ohio 45331
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Re: Village of New Madison, Darke County, Ohio
Water Plant Electrical Power & Controls Upgrade

This addendum forms a part of the Contract Documents and modifies the original Contract Documents dated October 2015. Acknowledge receipt of this Addendum in the space provided on the Bid Proposal form. Failure to do so may subject the Bidder to disqualification.

CHANGES/CLARIFICATIONS TO TECHNICAL SPECIFICATIONS

1. Section 26 18 23, MEDIUM-VOLTAGE SURGE ARRESTERS

A technical specification for Medium-Voltage Surge Arresters, has been added to the Contract Document Manual and is attached hereto.

2. Section 26 32 13.16, GAS –ENGINE DRIVEN GENERATOR SETS

- A. Sub-section 2.05 (A) provides two, 100% Rated breakers. Omit the requirement for the second breaker.
- B. Sub-section 2.08 (B) – The design is based on a Generac SG130 with an upsized 200 amp alternator. The system is a 240 Volt, 3-Phase.
- C. Sub-Section 2.08 (C-6) - Omit the need for a remote transfer control switch on the annunciator panel.
- D. Sub-Section 2.08 (C-12) - Indicates the engine start delay.
- E. Sub-Section 2.08 (C-26) - Omit the requirement for Elevator pre-transfer signal.

3. Section 26 36 23, AUTOMATIC TRANSFER SWITCHES

- A. Sub-Section 2.02 (J) calls for the NEMA-1 enclosure and the one-line drawing (Sheet #11 of 11) calls for a NEMA-3X enclosure. Technical Specification 26 32 13.16, Gas-Engine Driven Generator Sets, calls for a NEMA-12 enclosure in Subsection 2.08 (C-1).

As clarification to these references, as per Sheet #11 of 11 any panel located within the garage, new electrical room or administrative spaces shall be NEMA-1. The Panel CP-1 is to be a NEMA-4X (example, gray fiberglass). Mounting hardware for CP-1 shall also be corrosion resistant (non-ferric).

- B. Sub-section 2.03 (E) vs. Sub-section 1.01 (B-1) - Omit the requirement for a “Closed Transition”. This is to be a standard open transition transfer switch with delayed transition.

CHANGES/CLARIFICATIONS TO CONSTRUCTION PLANS

4. Sheet #4 of 11, Existing System Location Photos

- A. Requirements for closing/repairing existing wall and roof penetrations after the removal of the generator exhaust system and other piping will include the following:

- a) Any holes left in the CMU wall after the removal of the existing generator shall be patched using a non-shrink grout.
- b) Holes in the metal roof of the garage shall be patched using a boot plug or a like metal plate and caulking to seal the hole from water leaking in.

5. Sheet #8 of 11, Master Control Panel Details

- A. The two Precision Digital meters located in the MCP which receive identical signals from Panel CP-1 shall be the same model of meters. See Exhibit #1 attached hereto.

6. Sheet #11 of 11, Single Line & Distribution Details

- A. See Exhibit #2 attached hereto for the following clarifications for the single line schematic:

- a) The main breaker on the generator and Automatic Transfer Switch has been upsized to 400 amp.
- b) The conduit and wire from the generator to the Automatic Transfer switch has been changed to (4) 500 THE/THWN CU and 4” conduit.
- c) The “Lightening Surge Suppressor” has been renamed “TVSS / Surge Suppressor”
- d) An alternative location for the TVSS has been added.

GENERAL NOTES

7. The Generac representative indicated that new gas feed pipe from the meter to the engine would need to be a 3” gas pipe.

8. The contractor shall be responsible for providing a gas pressure reducer to restore gas service to the building service.
 - a) The new pressure being provided shall be 2 lbs.
 - b) A pressure reduction from 2 lbs to 7 inches WC will be needed.

9. Some of the product supplier information for the components selected for the design of the control panels and SCADA system are as follows:
 - a) Precision Digital & Dwyer
M. L. Johnson Company
Wayne Adams - wayne@mljco.com
4322 Mt. Carmel-Tobasco Rd.
Cincinnati, OH 45244
Phone 513.528.4445
Fax 513.528.5908

 - b) Hightide SCADA
HP Thompson
Tim Shaw - tshaw@hpthompson.com
101 Main Street, Suite 300
Milford, Ohio 45150
Phone: (800) 597-5099
Fax: (513) 248-3201

 - c) Honeywell Multitrend and other water plant supplies
USA Blue Book, <http://www.usabluebook.com/>
Phone: 800-548-1234
Fax: 847-689-3030

 - d) Flowline
Automation Direct, <http://www.automationdirect.com/>
(800) 633-0405
770-889-2858

10. Cummins Generator may be reviewed as a viable alternative as a generator supplier. The Contractor may submit all documentation to show comparison with the approved manufacturer for review and consideration by the Engineer as a substitution in accordance with Section 7.05, Substitutes in the General Conditions (Section 00 72 00) contained in the Contract Documents Manual

11. The notes and sign-in sheet from the Pre-Bid Meeting held on Friday, October 9, 2015 are attached hereto.

End of Addendum

Attachments: Technical Specification - Medium Voltage Surge Arresters, Section 26 18 23
Exhibit #1 – Detail Clarification for Sheet #8
Exhibit #2 – Detail Clarification for Sheet #11
Pre-Bid Meeting Notes & Sign-In Sheet

MEDIUM-VOLTAGE SURGE ARRESTERS

26 18 23

PART ONE – GENERAL

1.01 Work Included:

- A. Provide and Install an Automatic Surge Protection Device also known as TVSS as shown on the Drawings and specified herein.
- B. The work includes supplying and installing a complete surge protection system. All wiring, conduit and other peripherals required for a proper installation.

1.02 Quality Assurance:

- A. The Automatic Surge Protection device covered by these specifications shall be designed, tested, rated, assembled and installed in strict accordance with all applicable standards of ANSI, NEC, ISO, UL, IEEE, NFPA and NEMA.
- B. cULus UL1449 3rd Edition, UL 1283 5th Edition, CSA CSS.2 No. 8-M1986

1.03 Submittals

- A. Complete operating instruction and maintenance manual. Four (4) copies.
- B. Parts or Replacement Items list.
- C. Submit catalog cuts or shop drawings for review. Submittals shall include all capacities and physical dimensions and layout drawings of the Automatic Surge Protection device, and related accessories including the following:
 - 1. Installation / Layout dimensional drawing
 - 2. Operation & Maintenance Manuals
 - a. Submit manufacturer's instructions for surge arresters including special provisions required to install equipment components and system packages. Provide special notices that detail impedances, hazards and safety precautions
 - 3. Performance Characteristics
 - 4. Wiring schematic
 - 5. Manufacturer's written warranty
- D. Shop Drawings: Detail equipment assemblies and indicate dimensions, weights, required clearances, method of field assembly, components, and location and size of each field connection.
 - 1. Wiring Diagrams: Power, signal, and control wiring.

PART TWO – PRODUCTS

2.01 Products and Manufacturer

- A. Two types SPD (Surge Protection Device) will be acceptable.
 - 1. Internal Modular to the MCC
 - 2. External Modular (wall mounted)
- B. Manufactures: Schneider Electric, Eaton or approved equal.
 - 1. Schneider Electric Surgelologic
 - a. EMA or EBA Series
 - b. 240 VAC, 3Phase
- C. The contractor shall insure the proper type and size based on the application.
 - a. Examples
 - i. Surgelologic EMA
 - 1. TVS6EMA – 240 V, 3-Phase 3-Wire + Ground, Delta
 - 2. TVS3EMA – 240/120 V, 3-Phase 4-Wire + Ground, High-Leg Delta
 - ii. Surgelologic EBA
 - 1. TVS3EBA – 240/120 V, 3-Phase, High-Leg Delta

PART THREE – EXECUTION

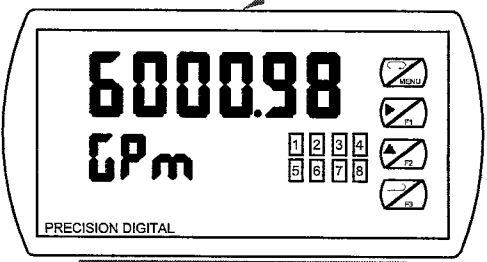
3.01 Installation

- A. Contractor to supply all mounting brackets and necessary hardware for proper installation based on the manufactures recommendations.
- B. Install TVSS per the manufactures recommendation including proper wire size and conduits.
- C. Ground equipment according to National Electrical Code requirements.
- D. Perform tests and inspections and prepare test reports.
- E. Training
 - a. Provide on-site training to instruct the owner’s personnel in the proper operation and maintenance of the equipment.
 - b. Review operation and maintenance manuals
 - c. Parts manuals
 - d. Emergency service procedures.

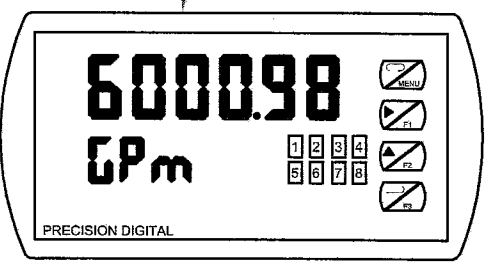
End of Section

DIGITAL

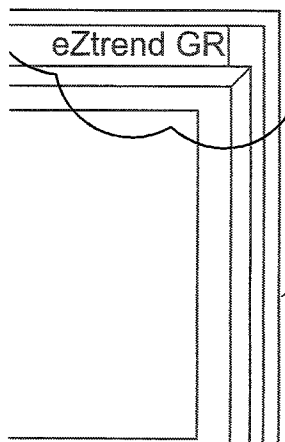
PRECISION DIGITAL
THESE TWO METER ARE TO MATCH THE
TWO WITHIN PANEL CP-1, PD6200-6R7
OR 6300-6R7
120VAC



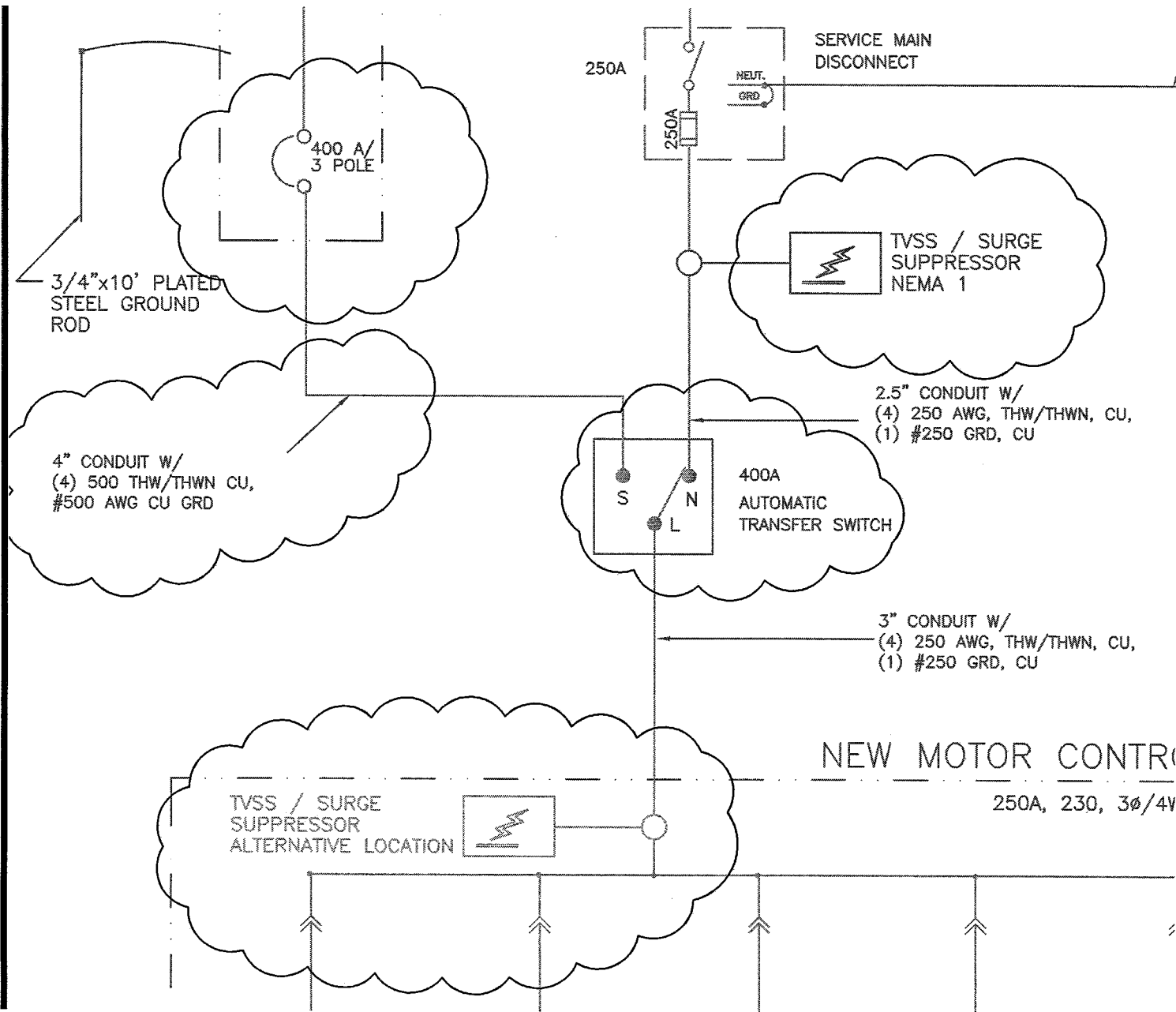
RAW
WATER FLOW



FINISHED
WATER FLOW



PAPERLESS VIDEOGRAPHIC RECORDER
(SHOWN IS: HONEYWELL Minitrend GR)



*Village of New Madison
Water Plant Electrical Power & Controls Upgrade
Pre-Bid Meeting Notes*

October 9, 2015

The following notes and comments were addressed at the Pre-Bid Meeting held for the New Madison Water Plant Electrical Power & Controls Upgrade project on October 9, 2015:

1. The sign-in sheet is hereby made a part of these Pre-Bid Meeting Notes.
2. It is a requirement of this project that all bidders must obtain plans and contract documents from the office of Mote & Associates, Inc. and must appear on the Planholder's list. Anyone submitting a bid that is not shown on the Planholder's List will be considered unresponsive. This requirement insures that all Bidders receive the same and appropriate information for bidding purposes and subsequent completion of the project.
3. The project bids will be submitted to the Darke County Commissioners at the Darke County Administration Building located at 520 South Broadway, Greenville, Ohio. The bids must be received by 1:00 PM on Monday, October 19, 2015. No late bids will be accepted. The bids will then be opened at the regular meeting of the County Commissioners to begin at 1:30 PM on the same day.
4. This project includes a Davis-Bacon Wage Determination that is included in the Contract Documents Manual and that must be followed for all worker classifications.
5. The project completion date is July 31, 2016.
6. Aid to construction for upsizing of the current natural gas line by Vectren to supply a new gas feed for the new generator and building supply along with the Building Permit from Darke County (DA-2015-02217-C) will be coordinated and paid for by the Village of New Madison. Any cost required from other utilities such as DP&L for a temporary power drop during the incoming power transfer shall be paid for by the Contractor.
7. A review of the project components was given by consulting engineer, Mote & Associates, Inc. and then a plant tour followed. The questions below were received and answered:

A. What disinfection procedures are required after entrance into the Post Aeration Basin?

Disinfection procedures shall adhere to the following:

- a) The contractor shall take precautions to only enter the post aeration basin with clean clothing.
- b) It is best to use a pair of boots that have been cleaned and sterilized and preserved in a sterile bag and put on your feet just as you enter the basin.
- c) The worker should wear a new Tyvek overalls suit that is clean and free of dirt.
- d) All tools and material should be clean and wiped down with disinfectant prior to entering the basin.
- e) Sterilization of the basin shall be made at the discretion of the plant operator.
- f) There are three methods for using chlorine to disinfect a water storage tank.
 - i) Method 1: The water storage tank is filled to the point of overflow with potable water to which chlorine is added. The amount of chlorine in the water should reach a minimum of 10 milligrams per liter (mg/L) and left for a period of 6 to 24 hours.
 - ii) Method 2: A solution containing 200 mg/L of chlorine is applied to all surfaces of the tank that will come into contact with water when the tank is filled to the point of overflowing. The

solution must stay on for a minimum of 30 minutes. All drainpipes must be filled with a 10-mg/L chlorine solution for the same amount of time. The tank should then be cleaned with potable water and the drainpipes should be cleared.

iii) Method 3: A 50 mg/L chlorine solution should be used to fill 5 percent of the tank. After waiting a minimum of 6 hours, the tank should then be filled to its overflow point with potable water. After another 24 hours, the tank is then drained.

- g) This is not finished water. The tank is raw water that has been aerated to remove iron in the filtration process.
 - h) Method 2 will be the preferred method of choice.
 - i) A bacteria test is to be performed by the plant operator at the Village's expense.
- B. *Maximum allowable time for outage periods?* For scheduling purposes, the most time allowed for the plant to be out-of-service will be six (6) hours. All interruptions to plant operations must be coordinated in advance with the Village of New Madison Water Superintendent. The Contractor is expected to be prepared for the shortest outages necessary since this is the only drinking water supply and fire protection for the Village.
- C. *Disposal of existing equipment and materials during the demolition phase?* The existing generator belongs to the Village and will be left on site at the water plant. All other scrap metals and wire may be salvaged by the Contractor. The Contractor is responsible for removing all construction debris from the site.
- D. *Who is responsible to remove miscellaneous wire and conduit connecting the small generator to the building transfer switch?* The plant operator indicated at the Pre-Bid Meeting that the generator is inoperable. The operator made mention that they would remove the generator from the site prior to the project starting. If the wire and conduit is still at the site during the construction phase, the contractor is not required to remove any wire or conduit that is not directly related to the project.
- E. *Use of PVC versus metallic conduit?* PVC conduit may be used within the water interior. PVC may be used underground between the generator and the water plant wall. Rigid aluminum or galvanized steel is to be used on any exterior application. Rigid conduit must be used when transitioning from underground to exposed surface.
- F. *Are the existing flow meters being replaced?* The existing raw water and finished water flow meters are not to be replaced. They are shown in the drawings to help the contractor understand the existing conditions.
- G. *Is there a need for structural review of the post aeration basin prior to core drilling?* No, based on the available original design drawings there is no need for structural review of the basin.
- H. *Is there anything under the existing concrete slab in the area the new generator is located?* Review of the available drawings indicates there is nothing under the concrete slab. Caution should always be taken when work around and existing facility.
- I. *Where will the new gas meter be placed?* Based on a conversation on 12 Oct 2015 with Vectren Engineer Brent Van Skiver, the new gas service will be installed along the north side of the driveway and end adjacent of the concrete pavement near the new generator location.

Mote & Associates

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VILLAGE OF NEW MADISON Water Plant Electrical Power & Controls Upgrade

Pre-Bid Meeting
Sign-in Sheet

Date: October 9, 2015 Time: 10:00 A.M.

	<u>ATTENDEES:</u>	<u>REPRESENTING:</u>	<u>PHONE NUMBER:</u>
1.	Susan Yamp	Mote Associates	548-7511
2.	Doug Matthews	Mote & Associates	548-7511
3.	Jeff Collins	York Electric, Inc	937-760-7015
4.	Jason Pike	Bud's Electric Inc	937-692-8026
5.	Chris Goubeaux	BUSCHUE ELECTRIC	419-628-3407
6.	Gray Vercell	ESI ELEC	937-293-6138
7.	JB Mashala	Danka Co	937-547-7362
8.	SECFI	V. Page of New Madison	937-421-1405
9.	Patrick Quinn	VILLAGE OF NEW MADISON	937-423-7546
10.	Tyler Cox	Calvin Electric, LLC	937-670-2558
11.	Ty Wilkinson	Ohio CAT - ^{Emergency} Generators	937-668-2757
12.			

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