

**ADDENDUM NO. 1  
TO SPECIFICATIONS AND PLANS FOR THE  
SECONDARY CLARIFIER ADDITIONS AND IMPROVEMENTS PROJECT  
CITY OF WIXOM, MICHIGAN**

ISSUED: June 16, 2021

HRC Job. No. 20210864

This Addendum is issued prior to receipt of bids to provide for certain changes and clarifications to the Specifications and/or the Plans, as herein specified, and is hereby made a part of the Contract Documents and shall be taken into consideration in preparing the Proposal. All other conditions remain the same. The following lists the extent of this Addendum. Descriptions of the changes or clarifications are given within each heading.

**The Bidder shall acknowledge the receipt of this Addendum on the Bid form.** Failure to acknowledge Addendum No. 1 in the submission of bids may be justification for the bid proposal being rejected as non-responsive.

**ADDENDUM NO. 1 CHANGES**

The attendance list for the mandatory pre-bid meeting is attached to this addendum. Bids will only be received from companies attending this meeting.

**SPECIFICATIONS**

Section 11204, Page 2, Section 2.1 Manufacturer, replace part A in this section with the following:

MFG, Warminster, NEFCO incorporated, or Enduro

Section 11336, Page 1, Section 1.1.A Description of Work, replace paragraph #2 in this section with the paragraph below:

This specification covers the general requirements for the design, fabrication, and installation of four (4) clarifiers nominally 60-feet in diameter, with side-water depth and configuration as shown on the drawings.

Section 11336, Page 3, Section 2.2.B Design Criteria, replace paragraph #3 in this section with the following:

Center Pier Diameter: 24 inches

Section 11342, Page 1, Section 1.1.A General Requirements, replace part A in this section with the paragraph below:

**Bloomfield Hills**  
555 Hulet Drive  
Bloomfield Hills, MI 48302  
248-454-6300

**Delhi Township**  
2101 Aurelius Rd.  
Suite 2A  
Holt, MI 48842  
517-694-7760

**Detroit**  
535 Griswold St.  
Buhl Building, Ste  
1650  
Detroit, MI 48226  
313-965-3330

**Grand Rapids**  
1925 Breton Road SE  
Suite 100  
Grand Rapids, MI  
49506  
616-454-4286

**Jackson**  
401 S. Mechanic St.  
Suite B  
Jackson, MI 49201  
517-292-1295

**Kalamazoo**  
834 King Highway  
Suite 107  
Kalamazoo, MI 49001  
269-665-2005

**Lansing**  
215 S. Washington  
SQ  
Suite D  
Lansing, MI 48933  
517-292-1488

Provide one (1) dry pit submersible pump as shown on the drawings with variable frequency drive and accessories as specified herein.

Section 16810 Page 3, Section 2.1 Phosphate Analyzer (AE/ATI), replace this entire section with the following:

- A. General
1. Furnish one (1) analyzer for monitoring of phosphate in water at the location shown on the drawings.
  2. The analyzer shall include the capability to remotely monitor sensors on any browser-enabled device and present diagnostics on the overall health of the measurements (on Predictive Diagnostics-enabled sensors), as well as upcoming and required maintenance.
  3. The analyzer shall include the capability to connect to a laboratory spectrophotometer to correct process measurements based on lab samples, without having to remove the process sensor from the water.
- B. Components
1. Housing: ASA UV-resistant, IP55-rated, lockable
  2. Gas sensitive electrode
  3. Colorimeter
  4. The phosphate sensor shall be provided with integral data cable for connection to the phosphate controller.
  5. The phosphate controller shall accept the phosphate sensor signal and convert it to a 4-20ma linear output signal. Discrete output relays shall also be provided.
  6. Dimensions: 21.3 x 28.3 x 15.4 inches (540 x 720 x 390 mm).
  7. Weight: 77 pounds (35 kg)
  8. Hach Filterprobe sc
  9. Hach sc1000 multi-parameter universal controller
  10. Hach engineered mounting panel
- C. Measurement Procedures
1. The method of measuring ammonia will be by vanadomolybdophosphoric acid colorimetric method as found in *Standard Methods*.
  2. At the beginning of each measurement cycle the analyzer measures the sample for purposes of compensating for background color of the sample.
- D. Performance Requirements
1. Measurement range: 0.05 to 15 mg/L,
  2. Accuracy: 2%  $\pm$ 0.05 mg/L
  3. Reproducibility: 2%  $\pm$ 0.05 mg/L
  4. Response time: Less than 5 minutes (T90), including sample preparation.
  5. Measurement interval: 5 to 120 minutes, adjustable.
  6. When connected to a multi-parameter digital control the overall status of the instrument performance is displayed as a percentage value via a measurement indicator.
  7. When connected to a multi-parameter digital control the overall time remaining until maintenance tasks are due is displayed in days.

8. The analyzer calibrates and cleans itself automatically.
  9. The analyzer shall be powered at 115 Vac, 60Hz connected to a Hach model sc1000 multi-parameter universal controller.
- E. Operational Criteria
1. Sample temperature: 4 to 40 °C (39 to 104 °F)
  2. Sample pH: 5 to 9 pH
  3. Operating temperature: -20 to 45 °C (-4 to 114 °F)
  4. Operating humidity: 95% relative humidity, non-condensing
- F. Warranty
1. The products shall be furnished with a WarrantyPlus Service Agreement as offered by the manufacturer.
- G. Manufacturer
1. The phosphate analyzer instruments shall be as manufactured by Hach Company, Loveland, CO, Model PHOSPHAX sc Phosphate Analyzer. No substitutions shall be allowed.
- H. Installation
1. Contractor will install the sensor in strict accordance with the manufacturer's instructions and recommendations.
  2. Manufacturer's representative will include a half-day of start-up service by a factory-trained technician.
  3. Contractor will schedule a date and time for start-up and require the Hach Company factory trained representative, general contractor, electrical contractor, Owner & Engineer to be present.
  4. Contractor will include the manufacturer's services to perform start-up on instrument to include basic operational training and certification of performance of the instrument.
  5. Contractor will include a manufacturer's Service Agreement that covers all the manufacturer's recommended preventative maintenance, regularly scheduled calibration and any necessary repairs beginning from the time of equipment startup through to end user acceptance / plant turnover and the first 12 months of end-user operation post turnover.
  6. Use of manufacturer's service parts and reagents is required. Third-party parts and reagents are not approved for use.

Section 16810 Page 3, add Section 2.2 "Sample Preparation Instrument" with the following content:

- A. General
1. Furnish one (1) sample preparation instrument to remove suspended solids from the water using membrane modules.
- B. Components
1. The sample preparation instrument shall consist of a control unit which needs to be installed along the basin, module carrier (including membrane modules) to be submerged in the water, and sample hoses to cover distances between instrument and the phosphate analyzer.

2. The system shall be a stand-alone system (AC powered). Two programmable relays shall be included to program warnings and errors.
  3. Control unit housing: stainless steel
  4. Module carrier with 16 feet delivery hose (vacuum side) Housing: stainless steel
  5. Delivery hose outer material: PVC
  6. Sample hose outer Material: PVC
  7. Dimensions:
    - a. Control unit: (W x H x D) 430 x 530 x 220 mm 16.9 x 10.9 x 8.7inches
    - b. Module carrier: (W x H x D) 92 x 500 x 340 mm 3.6 x 19.7 x 13.4 inches
  8. Mounting sets for control unit
  9. Mounting sets for module carrier
- C. Measurement Procedures
1. Sample will be extracted, using peristaltic pumps, through membrane plates (modules). The filtrate shall be free of suspended solids to be used for further analysis.
- D. Performance Requirements
1. Flow: approximately 900 mL/h (depending of pollution grade of membrane modules and hoses).
  2. Suitable for up to three process analyzers.
- E. Operational Criteria
1. Operating temperature -20 to 40 °C (-4 to 114 °F)
  2. Sample temperature: 5 to 40 °C (41 to 104 °F)
  3. Sample pH: 5 to 9
  4. Membrane immersion depth: 0.1 to 0.5 m (4 to 20 inch)
  5. Module carrier (membranes) minimum 0.1 m (4 inch) removed from bottom of basin  
Maximum vertical lift to control unit 3.0 m (10 feet)
- F. Warranty
1. The products shall be furnished with a WarrantyPlus Service Agreement as offered by the manufacturer.
- G. Manufacturer
1. The Filtrax unit shall be as manufactured by Hach Company, Loveland, CO. No substitutions shall be allowed.
- H. Installation
1. The control module must be mounted steady on side of the basin. Module carrier must be submerged between 100 and 500mm. And the space between the carrier and the bottom of the tank must be at least 100mm.
  2. Contractor will install the probe in strict accordance with the manufacturer's instructions and recommendation.
  3. Manufacturer's representative will include a half-day of start-up service by a factory-trained technician.

4. Contractor will schedule a date and time for start-up and require the Hach Company factory trained representative, general contractor, electrical contractor, Owner & Engineer to be present

## **DRAWINGS**

### Sheet DE-03 (Not Issued)

1. Revise Demolition Note – C to read “For each conduit from the Clarifiers, remove conduit from Clarifier equipment and approximately 25’ through the Gallery, field verify condition of each conduit. Wire to be removed back to source.”

### Sheet E-02 (Not Issued)

1. Revise Note-4 to read “Route 6-#14, 3/4”C. to the associated Clarifier Motor Starter and 2-#14, 3/4”C. to the PLC in the PMP.”
2. Revise the first sentence of Note-6 to read “Install new conduits and link seal through existing and new sleeves into Gallery.”
3. On the southwest Clarifier, revise the leader note from “Start-Stop Control St. (typ.)” to “W.T. Start-Stop Control St. (Typ.)”

### Sheet E-03 (Not Issued)

1. Add a leader note pointing to the three conduit home runs near the southwest Clarifier that reads “Note-11 (Typ. 4 Places)”.
2. Add Note-11 that reads “Conduits from Clarifier Equipment. For each conduit in the Gallery, install a conduit “T” fitting and conduit drip leg to 12” above the Gallery floor. Install a drain fitting in each conduit drip leg.”

### Sheet E-09 (Not Issued)

1. On the Typical Clarifier Tank Drive Wiring Diagram, delete the “Aux Intlk” switch in the disconnect switch and in the control circuit of the wiring diagram.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



John Bergsma, P.E.  
Project Engineer

ENCLOSURES:            Prebid Meeting Attendance List



HUBBELL, ROTH & CLARK, INC  
CONSULTING ENGINEERS SINCE 1915

### Meeting Sign-In Sheet

Project Name: Wixom Secondary Clarifier Addition      Date of Meeting: 6/14/2022  
 Purpose of Meeting: Pre-Bid Meeting  
 For the Township/City/Village of: Wixom  
 Location of Meeting: Wixom WWTP

No.	Name	Agency/ Company	Phone Number	Email
1	MICHAEL WHETSTONE	LASALLE	313-492-7996	MWHETSTONE@LASALLEINC.COM
2	Alex Wenn	CCI	8109197730	Alex.Wenn@CCIGroupUSA.COM
3	Rob Garcia	CCI	248-343-1416	rob.garcia@ccigroupusa.com
4	Evan ANTON	BNE Services	(234) 422-8706	eanton@bneresto.com
5	Tim LANGE	SYNERGY	248-303-3145	TLANGE@SYNERGYEQUIP.COM
6	BRANDY SLY	SPENCER GROSS	(616) 767-4821	BRANDYSGCOMPANY.COM
7	Andrew Smith	PPE	248 684 5730	ads@ppeinc.net
8	DAVID BRUCE	Spence Brothers	810 224-1355	Davidb@spencebrothers.com
9	LYNN NATZKE	Reliance Bldg. Co	248. 207. 6982	Lynn@RelianceBC.com
10	Dan Chenoweth	Reliance Bldg. Co.	248 207 6985	dan@reliancebc.com
11	Rick Parcheta	Grand River Construction, Inc	616-669-5611	rparcheta@grandriverconstruction.com
12	David Best	D.F. BEST CO.	517-404-7637	dfbest@dfbestco.com
13	Chuck Kronk	Waterworks Sys	810 923-7778	ckronk@waterworksys.com
14	JALAL JOULAN	Commercial Contracting	248.209.0424	JALAL.JOULAN@CCCNETWORK.COM
15	Michaela Zaenglein	A.Z. Shmina, Inc	810-227-5100	mz@azshmina.com
16	NICK COON	RCL CONSTRUCTION	989.513.6081	nick@rclconstruct.com
17	Ben Rosenberg	Rosenberg Electric	313 957-4160	benrosenberg@rosenbergelectric.com
18	Ian Nash	Doublejack Elect.	(248) 543-1982	ianm@doublejackelectric.com

Delhi Township  
2101 Aurelius Rd.  
Suite 2A  
Holt, MI 48842  
517-694-7760

Detroit  
535 Griswold St.  
Buhl Building, Ste 1650  
Detroit, MI 48226  
313-965-3330

Grand Rapids  
801 Broadway NW  
Suite 215  
Grand Rapids, MI 49504  
616-454-4286

Howell  
105 W. Grand River  
Howell, MI 48843  
517-552-9199

Jackson  
401 S. Mechanic St.  
Suite B  
Jackson, MI 49201  
517-292-1295

Kalamazoo  
834 King Highway  
Suite 107  
Kalamazoo, MI 49001  
269-665-2005

Lansing  
215 S. Washington SQ  
Suite D  
Lansing, MI 48933  
517-292-1488



**HUBBELL, ROTH & CLARK, INC**  
CONSULTING ENGINEERS SINCE 1915

### Meeting Sign-In Sheet

**Project Name:** Wixom Secondary Clarifier Addition      **Date of Meeting:** 6/14/2022

---

**Purpose of Meeting:** Pre-Bid Meeting

---

**For the Township/City/Village of:** Wixom

---

**Location of Meeting:** Wixom WWTP

No.	Name	Agency/ Company	Phone Number	Email
1	Joe Ritter	JF Cavanaugh	313-310-2947	jritter@jfcav.com
2	Brian Pass	Titus Welding	248-724-6775	brian@tituswelding.com
3	TODD UNDERHILL	INNOVATION ENVIRONMENTAL CONSULTING	(810) 429-2070	TUNDERHILL@IECCOMPANY.COM
4	Eric Douglas	Blue STAR		Estimate@bluestardemo.com
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

**Delhi Township**  
2101 Aurelius Rd.  
Suite 2A  
Holt, MI 48842  
517-694-7760

**Detroit**  
535 Griswold St.  
Buhl Building, Ste 1650  
Detroit, MI 48226  
313-965-3330

**Grand Rapids**  
801 Broadway NW  
Suite 215  
Grand Rapids, MI 49504  
616-454-4286

**Howell**  
105 W. Grand River  
Howell, MI 48843  
517-552-9199

**Jackson**  
401 S. Mechanic St.  
Suite B  
Jackson, MI 49201  
517-292-1295

**Kalamazoo**  
834 King Highway  
Suite 107  
Kalamazoo, MI 49001  
269-665-2005

**Lansing**  
215 S. Washington SQ  
Suite D  
Lansing, MI 48933  
517-292-1488