GOLDER

DATE February 1, 2021 **Project No.** 20394143

TO Lisa Sutton
Eaton Corporation

CC Jeff Allen (Eaton Corporation)

FROM Anne Faeth-Boyd, Rick Booth **EMAIL afaeth@golder.com**

RE: PHASE III ENVIRONMENTAL SITE ASSESSMENT SCOPE OF WORK, EATON CORPORATION SHENANDOAH, IOWA

The following presents the proposed Scope of Work (SOW) for a Phase III Environmental Site Assessment (ESA) of the Eaton Corporation (Eaton) Shenandoah, Iowa Facility located at 1600 Airport Road, Shenandoah, Iowa (Site). This scope of work is based on the results of the Phase II ESA completed by Golder in November 2020, the letter response from the Iowa Department of Natural Resources (DNR) regarding the Phase II ESA dated January 6, 2021, and discussions with Eaton.

1.0 SCOPE OF WORK

Based on the results of the Phase II ESA and ongoing discussions with Eaton and the Iowa DNR, Golder proposes the following scope of work:

- Advance four soil borings up to approximately 30 feet below ground surface (bgs) and install permanent monitoring wells to further evaluate the potential for Volatile Organic Compounds (VOCs) in soil and ground water at the Site.
- Perform slug testing in the newly installed permanent monitoring wells to determine an approximate hydraulic conductivity for the shallow aquifer at the Site. The hydraulic conductivity values will also support the evaluation of the shallow aquifer as a protected ground water source.

1.1 Field Preparation and Mobilization

Prior to initiating field work, Golder will review and update the Site-specific Health and Safety Environment Plan (HASEP) that was previously prepared for the Site. The HASEP includes identification of occupational health and safety hazards (risks) related to the field team and Site conditions, specific risk controls, training requirements, personal protective equipment (PPE) requirements, and information on potential emergencies. Golder will also compile all the necessary equipment needed to complete the job, including sample containers, and subcontract the required drilling, utility locate, and laboratory services. Golder will also review Eaton's Environment, Health and Safety Handbook and require subcontractors to review the Handbook and certify compliance in accordance with Eaton's requirements if they have not already done so. Golder or the drilling subcontractor will contact Iowa One Call (811) to locate public underground utilities. At the start of the field program, Golder will meet with Site representatives and hold an on-Site kickoff meeting to discuss scope of work, health and safety, and schedule.

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1.2 Private Utility Locate

Golder will review Site plans provided by Eaton and will meet with Site representatives to assist in utility location. Prior to conducting any field work, Golder will communicate with Site personnel regarding identification of subsurface utilities at the Site. Golder will not perform any work until written authorization to perform activities is obtained. Golder proposes to use ground penetrating radar (GPR) and electromagnetic (EM) tracing to clear the proposed borehole locations for soil and groundwater sampling.

1.3 Field Investigation

1.3.1 Drilling

Golder proposes to advance four boreholes, designated MW-1 through MW-4. The proposed locations of the boreholes are shown on Figure 1. All borings will be advanced, depending on field conditions, up to 25 to 30 feet bgs using a combination of DPT and hollow stem auger.

1.3.2 Soil Sampling

The recovered soil cores from DPT drilling will be logged in the field by a Golder engineer or geologist. A Field Boring Log detailing the location, depth, and soil type for each soil sample collected will be completed by the field engineer/geologist for each boring. Logging of the soil cores will include soil descriptions and visual classifications in accordance with the Unified Soil Classification System (USCS) and standard industry practices. The dampness of each soil sample will also be noted during the logging process. Pertinent data concerning the drilling activities will be recorded on the field boring logs. Soil cores will be field screened using a photoionization detector (PID) at 1 to 2-foot intervals. One soil sample will be collected from the interval with the highest PID reading. If there are no significant PID readings above background or other indications of impact, the soil sample will be collected from the interval above groundwater. The soil sample(s) will be collected using laboratory supplied coring devices (Terra Core® sampler or similar) and will be placed directly into appropriate laboratory containers, labeled and placed in a cooler with ice.

1.3.3 Monitoring Well Installation

Golder proposes to install four permanent groundwater monitoring wells, MW-1 through MW-4, as shown on Figure 1. The monitoring wells will be constructed of two-inch diameter PVC with a 0.010-inch slotted screen. The screened intervals of the monitoring wells will be based on lithology encountered during drilling, likely within a range of 15 to 30 feet bgs. The monitoring wells will be constructed using a 20/40 sand filter pack extending from a minimum of six inches at the bottom of the borehole to at least two feet above the top of the well screen. A bentonite annular seal will extend a minimum of two feet above the top of the sand pack. The annular space will then be grouted with a cement/bentonite grout (or similar approved material) to within two feet of the ground surface. The remaining annulus will be filled with concrete tying into the surface completion. The surface completion will consist of a 2-foot x 2-foot x 4-inch concrete pad and steel flush-mount monitoring well cover. The monitoring wells will be surveyed by an Iowa licensed land surveyor to determine location and elevation. This will support calculation of groundwater elevation relative to mean sea level and site-wide flow direction and gradient.

1.3.4 Monitoring Well Development

Following drilling and completion of installation of the permanent monitoring wells, Golder will develop the monitoring wells using a stainless-steel bailer and/or submersible pump until a minimum of three borehole volumes have been removed and the groundwater is relatively clear and free of sediment, or until the well is dry. If enough water is present, the wells will be purged until groundwater parameters (temperature, pH, and specific

conductivity) have stabilized and the turbidity is below 10 nephelometric turbidity units (NTUs). Should turbidity values remain above 10 NTU, the monitoring wells will be purged until at least five borehole volumes have been removed and three consecutive turbidity readings are within 10%.

1.3.5 Groundwater Sampling

Golder proposes to collect groundwater samples from the four newly installed monitoring wells. Prior to purging, the depth to water and total depth will be recorded to the nearest 0.01 foot. Purging and sampling of the wells will be conducted using a peristaltic pump. Stabilization and sampling will be completed in general accordance with USEPA low-flow groundwater sampling procedures. The wells will be purged using a flow rate less than 0.5 liters per minute and groundwater will be sampled from the wells after stabilization of parameters (temperature, pH, specific conductivity, and turbidity) or after approximately three well casing volumes have been removed, whichever occurs first. If limited groundwater is present in a well and the well goes dry during purging, the well will be sampled as soon as the water level recovers enough to allow for sampling.

1.3.6 Sample Handling and Laboratory Analysis

Soil and groundwater samples will be collected directly into laboratory-supplied, labeled containers, and then packed in a cooler with ice to maintain a temperature of approximately four degrees Celsius.

All analytical samples will be properly labeled as to sample location and depth (if applicable), date and time of collection, sampler's initials, analyses to be performed, preservative(s) used, and project name. This information will then be logged on a chain-of-custody form.

Sample coolers will be shipped to the analytical laboratory under chain-of-custody protocol for analysis. A 10-day laboratory turnaround time will be requested. Soil and groundwater samples will be analyzed for VOCs by EPA method 5035 (for soil preparation) and 8260.

1.3.7 Slug Testing

Golder proposes to calculate hydraulic conductivity estimates for the shallow aquifer using the “slug test” methodology. Slug testing will be performed in the newly installed permanent monitoring wells following sampling using decontaminated equipment. Falling and rising-head slug tests will be performed in each well by inserting and removing a cylindrical slug of known volume, or performing pneumatic slug tests, and recording the hydraulic pressure response with electronic pressure transducers and manual water level measurements. The pressure response data will be analyzed with spreadsheet solutions or commercially available aquifer testing software to estimate near-well hydraulic conductivity.

1.4 Equipment Decontamination

Equipment decontamination will be conducted in general conformance with ASTM Standard D 5088-15a. The drill rig will be decontaminated before arriving on-Site with particular attention to the working end and downhole equipment (i.e., rods, etc.).

Non-dedicated downhole drilling, slug testing and sampling equipment will be decontaminated before use at each location. Decontamination will consist of washing the equipment in a potable water and Liquinox™ solution (or equivalent) and followed by a potable water rinse. Decontamination of this equipment, including rods, will be performed at a decontamination area or adjacent to the drill rig. Wastewater generated by the decontamination process will be containerized for proper disposal.

1.5 Quality Assurance/Quality Control

The investigation activities will be conducted in general accordance with industry standard practices. Field procedures, including soil and groundwater sampling, collection of quality assurance and quality control (QA/QC) samples will be conducted in accordance with industry standard practices. Field QA/QC will include one trip blank (provided by the laboratory) per cooler and the collection of one duplicate sample and one equipment blank for each media (soil and groundwater).

To confirm the accuracy and reproducibility of the laboratory analytical results, the analytical laboratory will implement a program, including laboratory replicate samples, method blanks and control standards. The laboratory QA/QC data generated during the sample analysis will be included in the laboratory analytical reports provided to Golder. An evaluation of the quality assurance and quality control data (level 2 data validation) will be performed and will be included with the analytical data.

1.6 Reporting

Golder will prepare a letter report within approximately four weeks of completion of the field investigation and receipt of all laboratory data. The report will include a description of field activities, tabulated data, groundwater elevation and groundwater quality figures, appendices containing all “raw” data, a summary of results, and recommendations for next steps. Laboratory analytical results will be compared to the relevant screening levels, as specified by the Iowa DNR, to determine if impacted soil and/or groundwater is present at the Site. The soil sample results will be compared to the Statewide Standards for soil and the groundwater sample results will be compared to the Statewide Standards for both and protected groundwater source and a non-protected groundwater source. The Statewide Standards can be accessed online at https://programs.iowadnr.gov/riskcalc/Home/statewidestandards.

2.0 SCHEDULE

Golder is prepared to start this work upon receipt of written authorization and the field program is tentatively planned for the week of February 22, 2021. This proposal assumes a 10-day laboratory turn-around time. Golder anticipates that the Phase III ESA report will be submitted to IDNR within four weeks of receiving all final analytical and survey data.

3.0 ASSUMPTIONS

The following assumptions were made for the preparation of this proposal:

- Golder Ground Disturbance Procedure will be implemented. Soft dig technologies will not be required to clear utilities and utility information will be provided by Eaton.
- The Site-specific health, safety and environment plan will be updated prior to starting on-Site work.
- All field work may be conducted using Level D PPE consisting of a hard hat, steel toed boots, reflective safety vest, safety glasses, and ear protection.
- Borehole locations may be adjusted based on access or utility constraints.
- Laboratory analyses will be conducted on a standard 10-day turnaround time (TAT).

- IDW will include decontamination water, soil, purged groundwater, PPE, and general refuse. IDW will be containerized in 55-gallon drums, labeled, sampled, and staged on-Site. Waste disposition will be determined following the receipt of all analytical data.

4.0 CLOSING

Golder appreciates the opportunity to continue work on this project. Should you require any additional information about this proposal, please feel free to contact the undersigned.

Sincerely,

Golder Associates Inc

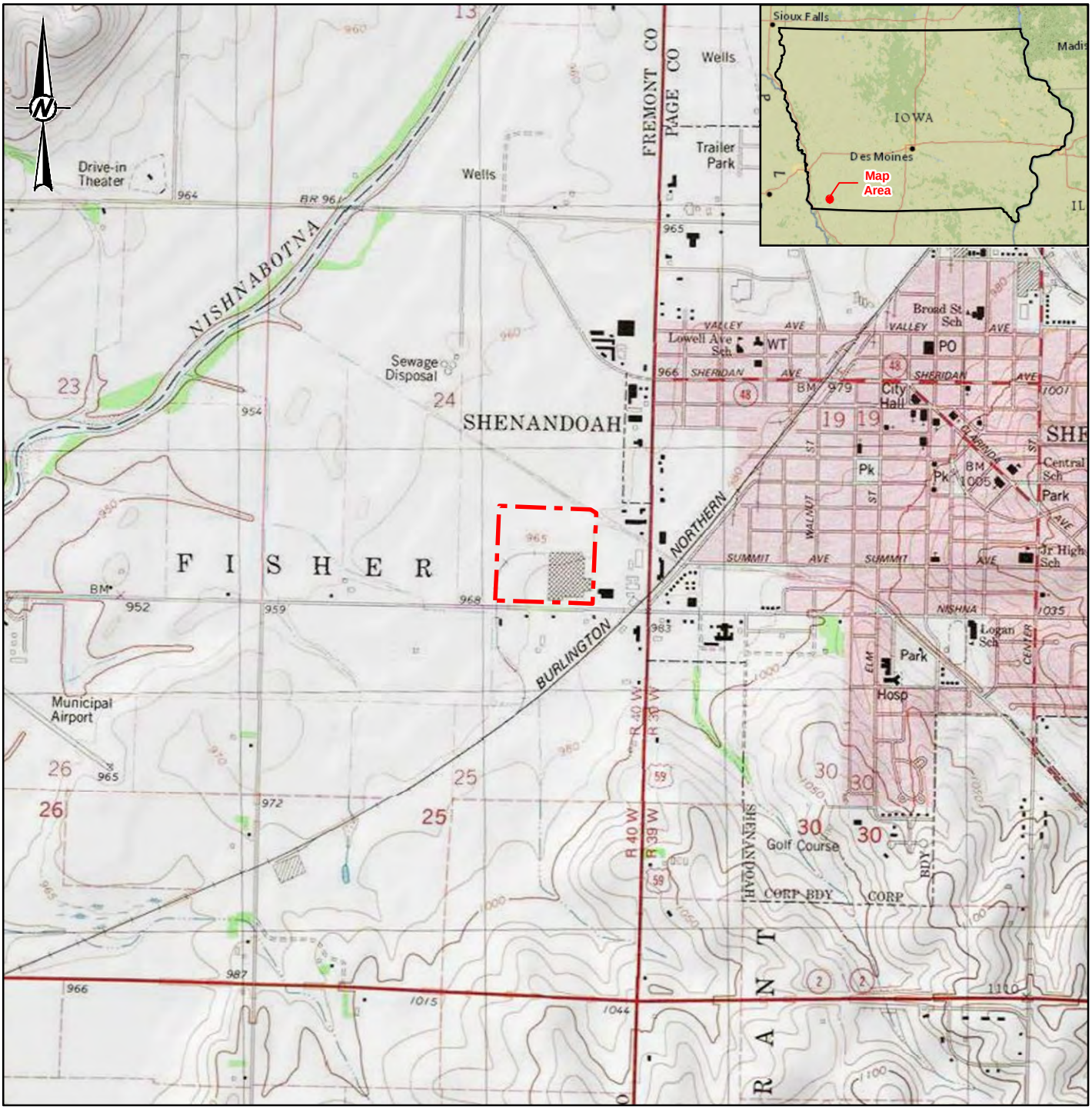
Anne M. Faeth-Boyd, R.G., P.E. (Missouri)
Associate and Senior Consultant

Frederick M. Booth, P.G. (Wyoming)
Principal and Program Leader

Attachments

Figure 1 – Site Location Map

Figure 2 – Proposed and Existing Sample Location Map



LEGEND

Subject Property

0 1,000 2,000 4,000 Feet

REFERENCE(S)

1. TOPOGRAPHIC BACKGROUND: ESRI BASEMAP SERVICES. USGS 1:24,000 TOPOGRAPHIC QUADRANGLES SHOWN: SHENANDOAH WEST, SHENANDOAH EAST, FARRAGUT, & BINGHAM.
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE IOWA SOUTH FIPS 1402 FEET.

CLIENT
EATON CORPORATION

PROJECT
EATON CORPORATION, 1600 AIRPORT ROAD, SHENANDOAH, IOWA 51601

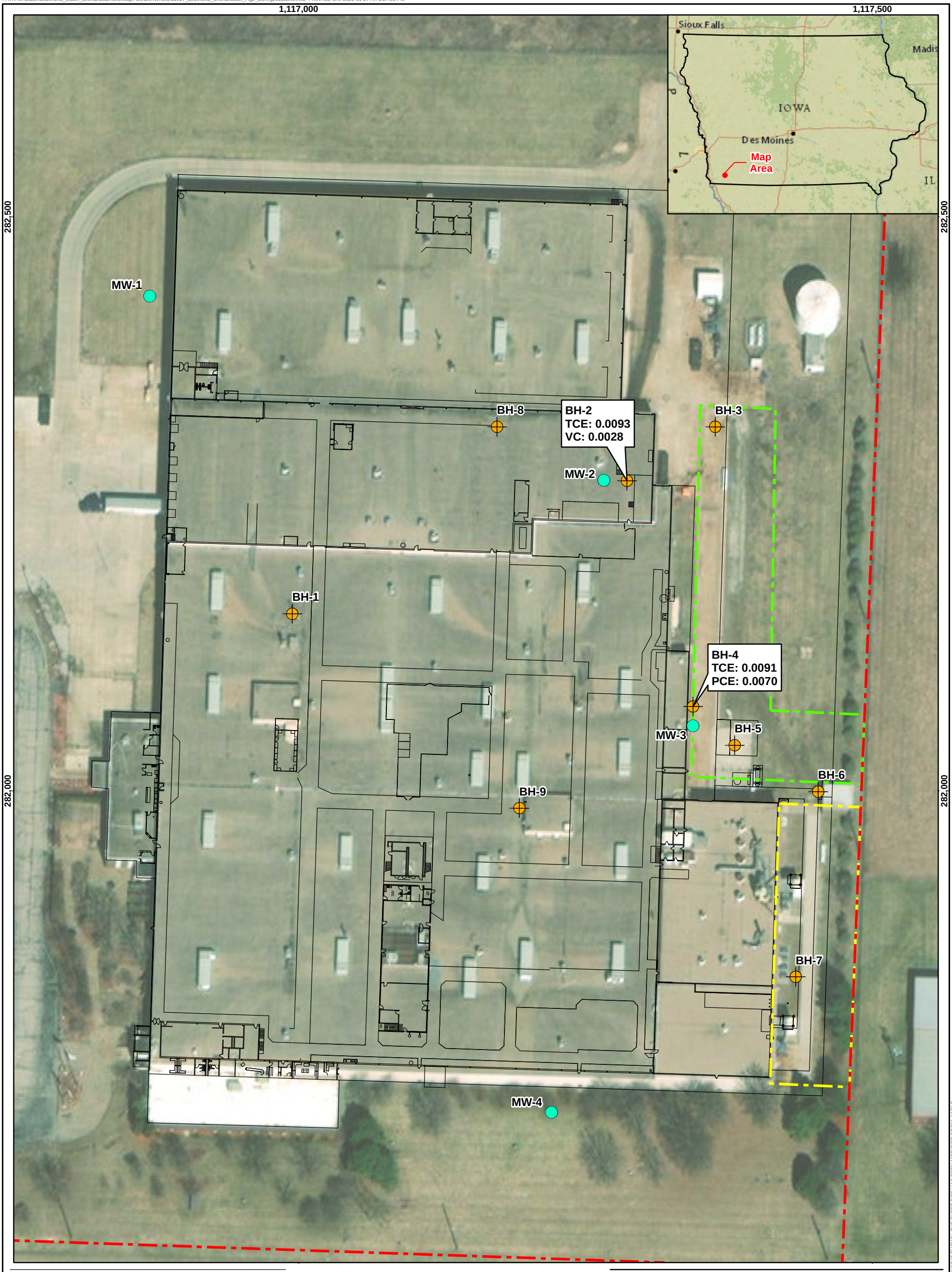
TITLE
SITE LOCATION MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-01-27
DESIGNED	RHG
PREPARED	RHG
REVIEWED	BEF
APPROVED	AMF

PROJECT NO.
20394143

FIGURE
1



LEGEND

- Subject Property
- 2010 Investigation Area
- Former UST Area
- Boring Location
- Proposed Monitoring Well Location

0 80 160

1 Inch = 80 Feet Feet

NOTE(S)

1. TCE - TRICHLOROETHENE.
2. VC - VINYL CHLORIDE.
3. PCE - TETRACHLOROETHENE.
4. ALL CONCENTRATIONS REPORTED IN MILLIGRAMS PER LITER CONCENTRATIONS LISTED WERE DETECTED IN EXCEEDANCE OF THE IOWA STATEWIDE STANDARDS FOR A PROTECTED GROUNDWATER SOURCE (SAMPLES COLLECTED BY GOLDER NOVEMBER 2020).

REFERENCE(S)

1. BASEMAP(S): ESRI PROVIDED BASEMAP SERVICE. VIVID. MAXAR. IMAGERY FLOWN 3/22/2019.
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE IOWA SOUTH FIPS 1402 FEET

CLIENT
EATON CORPORATION

PROJECT
EATON CORPORATION, 1600 AIRPORT ROAD, SHENANDOAH, IOWA 51601

TITLE
PROPOSED AND EXISTING SAMPLE LOCATION MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-01-27
DESIGNED	EFT
PREPARED	RHG
REVIEWED	BEF
APPROVED	AMF

PROJECT NO.	CONTROL	REV.	FIGURE
20394143	-	-	2