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June 7, 2022
File No. 20.0157080.00

Mr. Kevin McKnight, Hydrogeologist
Wisconsin Department of Natural Resources
625 East County Road Y, Suite 700
Oshkosh, Wisconsin 54901-9731

Subject: Supplemental Site Investigation Work Plan
Oshkosh Defense Waukau Lot
359 West Waukau Avenue
Oshkosh, Wisconsin
BRRTS No. 02-71-587405

Dear Mr. McKnight:

GZA GeoEnvironmental, Inc. (GZA), on behalf of Oshkosh Defense, LLC (Oshkosh/"Client"), prepared this Supplemental Site Investigation Work Plan ("Work Plan") for the property located at 359 West Waukau Avenue in Oshkosh, Wisconsin (referred to as the "Waukau Lot"). This Work Plan is being submitted in response to comments from the Wisconsin Department of Natural Resources (WDNR) based on a review of the soil and groundwater sample results collected at the Site in August and October 2021. Based on the review comments received by Oshkosh in a February 14, 2022 email, the WDNR PFAS Review Committee met on January 26, 2022, and is requiring that site investigation activities be completed in accordance with Chapter NR 716, Wisconsin Administrative Code (Wis. Adm. Code). Specifically, the comments provided by the WDNR from the meeting were as follows:

- "NR716 SIR needs to be completed
- Workplan needed to delineate extent of PFAS compounds in soil, sediment, and groundwater. Step out investigation warranted.
- Question: Are the previously collected 'sediment' samples are actually sediment or should they be considered shallow soil? Please discuss in future submittals
- Groundwater detection limits appear elevated (ex. PFOA). Please review and work with lab to determine if lower detection limits can be achieved.
- PFAS compounds without proposed standards considered environmental pollution and degree and extent needs to be defined.
- Compounds without proposed standards – Site specific soil and groundwater standards may be proposed for use."

Following our review of WDNR's comments, GZA reached out with additional email communication on March 18, 2022, seeking clarification on various elements, followed by a teleconference call with you on March 23, 2022.

The Work Plan presented herein incorporates the information gained through our discussion and was ultimately developed to address these requirements of Chapter NR 716. This Work Plan is based on a phased approach that utilizes the existing data and observations to determine the need and scope of subsequent data collection activities.

INVESTIGATION APPROACH AND RATIONALE

Previous site investigation activities identified polyfluoroalkyl substances in soil and groundwater in an area of the Waukau Lot previously used to field-test fire suppression equipment. The aqueous film-forming foam (AFFF) was discharged to the asphalt lot during testing and was collected by a vacuum at a berm at the lowest area of the asphalt lot. Surface water from this asphalt lot flows to a drainage ditch that connects to a lined pond before discharging into Gallups/Merritts Creek east of the site. During previous investigation activities, one monitoring well and 13 soil borings were advanced to characterize the soil and groundwater for per- and polyfluoroalkyl substances (PFAS). The detected levels of PFAS in the soil (non-detect to 41 microgram/kilogram) and groundwater (non-detect to 14,000 nanograms/liter) were low-level concentrations that do not indicate a significant discharge to the soil or groundwater.

The Waukau Lot is located in an industrial area on the southwest corner of the intersection of Waukau Avenue and Oregon Street. In the southern portion of the industrial area is a historic landfill, referred to as Timmerman Landfill, that may be influencing groundwater quality at the site, as discussed below.

The Waukau Lot is within the Gallups/Merritts Creek watershed, as shown on Figure 1. The creek is an intermittent stream near the Waukau Lot during dry periods of the year but drains water from a large area southwest of the Waukau Lot during wet periods of the year. On the west side of the creek, along the Waukau Lot property, the surface elevation is 6 to 8 feet higher than the creek elevation; a berm separates the creek from the Waukau Lot.

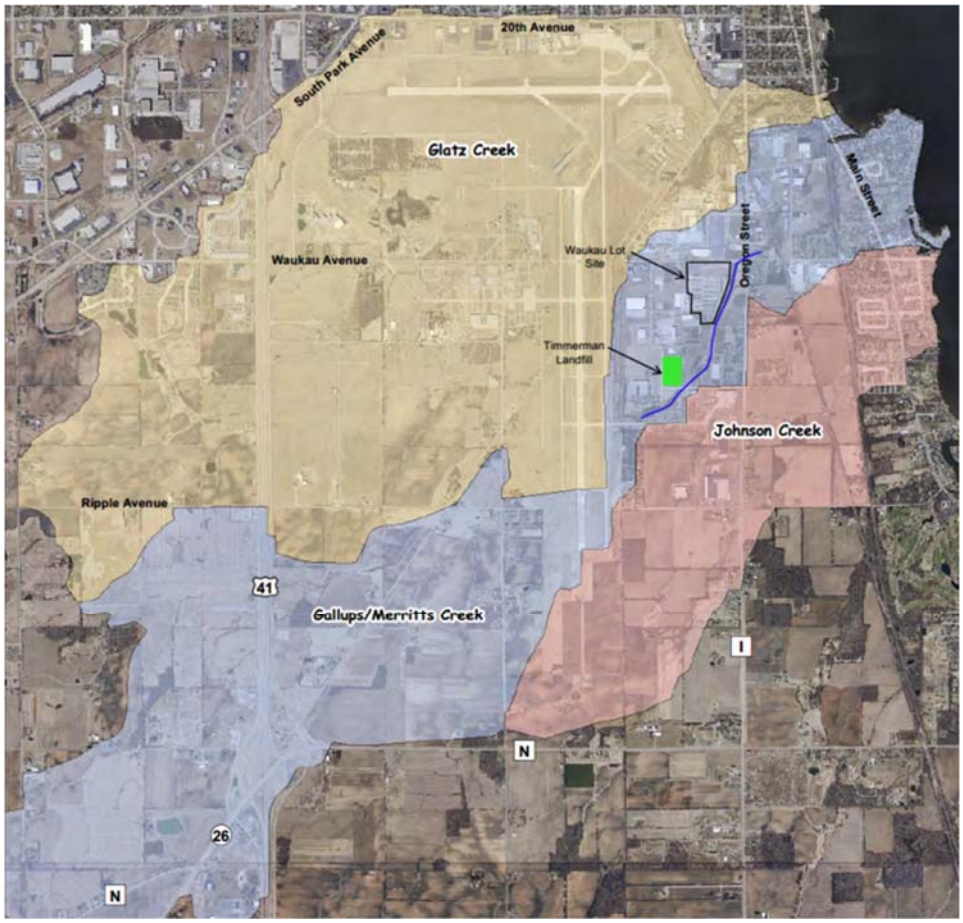

Figure 1. Gallups/Merritts Creek Watershed and Waukau Lot.
City of Oshkosh website: https://www.ci.oshkosh.wi.us/StormWaterUtility/city_of_oshkosh_watersheds.aspx.

Based on publicly available information, the City of Oshkosh developed the Timmerman Landfill in 1964, to receive municipal waste and the landfill accepted waste through 1973. Four waste cells comprised the landfill, covering an area of approximately 20 acres. Based on the soil boring logs in the information reviewed, the landfill is unlined and contains approximately 5 to 13 feet of waste. The landfill was capped with silty clay ranging in thickness from 0.5 to 5.5 feet. The former Timmerman Landfill is located approximately 1,500 feet southwest of the Waukau Lot and is situated immediately adjacent to Gallups/Merritts Creek.

Previous site investigation activities at the landfill identified volatile organic compounds (VOCs) in the groundwater at concentrations exceeding the Chapter NR 140 enforcement standards (ESs) and indicated that the groundwater flow in the area of the landfill was generally northeast and east toward the Waukau Lot and abutting creek. Given that the landfill is unlined, and VOCs were detected in the groundwater during previous investigation activities, it is likely that the landfill is impacting shallow groundwater that is partially discharging water to the creek. Given the source of waste is municipal, there is the potential for PFAS-containing materials in the landfill, which represents a potential PFAS source area that may have affected the soil and groundwater quality in the area and at the Waukau Lot site either by groundwater flow or through surface water flowing in Gallups/Merritts Creek.

The Waukau Lot is situated along the east edge of the Gallups/Merritts Creek watershed, as shown on Figure 1. The creek discharges into Lake Winnebago approximately 4,000 feet northeast of the Waukau Lot and the headwaters of Gallups/Merritts Creek extend southwest of the Waukau Lot to an area on the west side of Interstate 41 (I-41). The creek crosses the Wittmann Airport property at the south edge of the airport runway and extends to the southwest. Between the airport and I-41, the land is largely undeveloped and appears to be used for agricultural purposes. On the west side of I-41 near the intersection with County Road N/Highway 26, a truck stop is located on the southwest corner. The developed land on the western portion of the watershed is very limited, but depending on the land use, could represent a potential source of PFAS migrating through surface water in the creek.

The groundwater flow in the area of the Waukau Lot is anticipated to follow the topography and, therefore, is expected to be north/northeast toward Gallups/Merritts Creek and Lake Winnebago. Figure 2 is a regional groundwater flow map prepared by the WDNR and is the basis for estimating the groundwater flow direction at the Site. Based on the assumed groundwater flow direction, the headwaters of the watershed and the Timmerman Landfill to the south are in an upgradient and upstream position of the Site and could represent a potential source of low-level PFAS that may affect groundwater quality in the area and at the Waukau Lot.

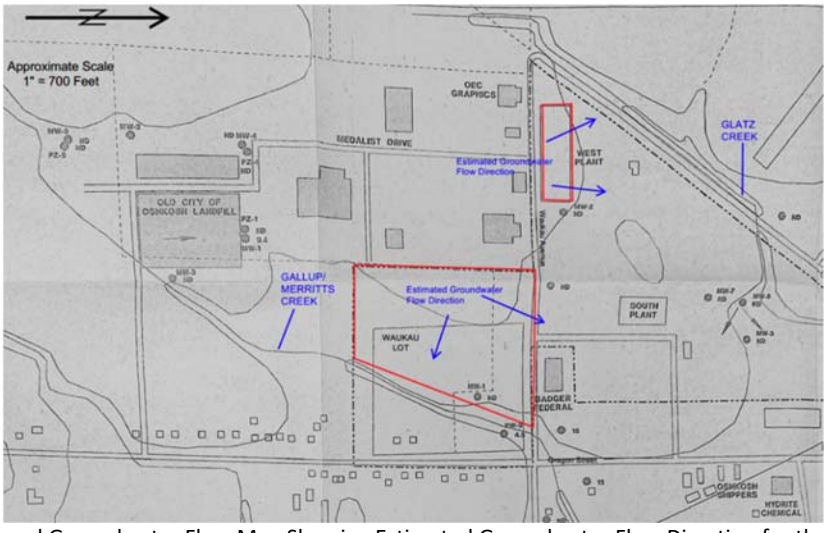

Figure 2. Regional Groundwater Flow Map Showing Estimated Groundwater Flow Direction for the Waukau Lot.

Based on the low-level PFAS concentrations detected in soil and groundwater at the AFFF discharge area on the site and the potential PFAS sources upgradient of the site or the discharge surface water through Gallups/Merritts Creek, the initial approach for this investigation is to install monitoring wells along the upgradient property boundaries to evaluate the potential for other sources to be affecting the groundwater quality at the Waukau Lot. In addition to the monitoring wells, a soil sample will be collected on the southern property boundary where Gallups/Merritts Creek enters the site to evaluate the potential for PFAS impacts in soil conveyed via surface water along the creek.

PROPOSED SITE INVESTIGATION ACTIVITIES

The proposed site investigation activities to be performed include the following:

- Four monitoring wells (MW-2 through MW-5), as shown on Figure 3, will be installed to characterize and delineate groundwater quality around the AFFF discharge location. The monitoring wells will be installed to a depth of approximately 20 feet below ground surface (bgs). Soils samples will be collected throughout the depths of the borings for visual observation and soil classification. Soil samples will not be collected for laboratory analysis.

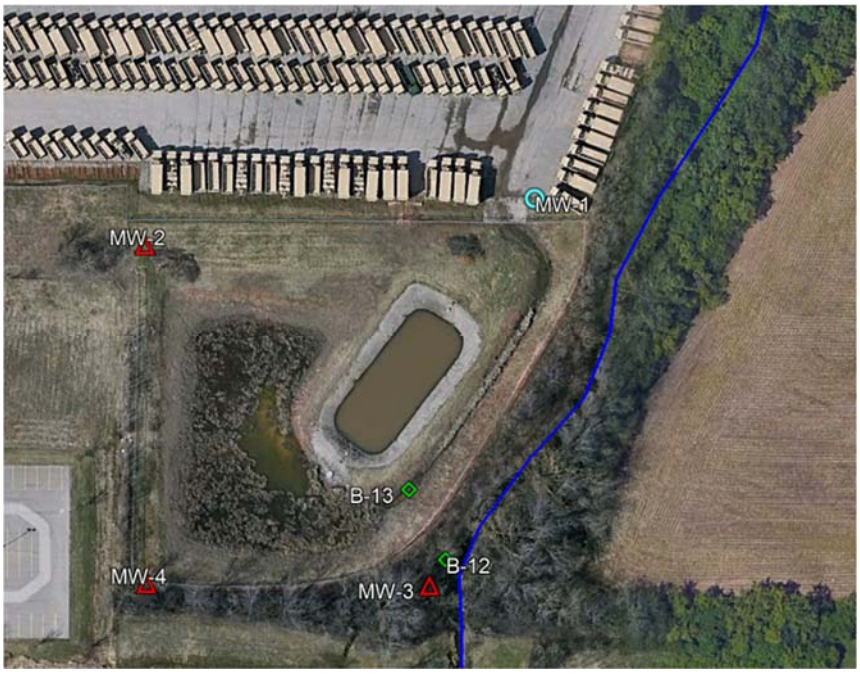

Figure 3. Proposed Soil Boring and Monitoring Well Locations.
Existing Well (blue circle), Proposed Wells (red triangle), and Proposed Soil Borings (green diamonds)

- The monitoring wells will be completed with 2-inch-diameter flush-threaded polyvinyl chloride (PVC) riser and well screen. The well screen will be 10 feet of 0.010-inch factory-slotted screen. The annular space surrounding the well screen will be filled with sand filter pack material from the bottom of the borehole to a depth approximately 2 feet above the top of the screen. The annular space above the sand filter pack will be filled with ⅜-inch bentonite pellets to create a seal to prevent surface water migration along the well casing. The surface of the wells will be covered with an 8-inch protective cover with a concrete apron.
- Following well installation, the wells will be developed by surging the water in the well screen and sand filter pack to mobilize sediment into the well and the water will be removed using a disposable bailer or submersible pump. The wells will be developed in accordance with the WDNR Groundwater Sampling Field Manual

procedures. The purge water will be placed in a 55-gallon drum and labeled until proper disposal can be arranged.

- The top of casing elevation of the newly installed wells will be surveyed relative to on-site datum so that groundwater elevations can be determined for each well.
- Following well development, the wells will be allowed to equilibrate prior to performing groundwater sampling activities. The depth to groundwater relative to the top of casing will be measured in each well prior to purging. The groundwater purging and sampling will be performed using low-flow sampling techniques. The wells will be purged using a peristaltic pump with a flow rate that generates negligible drawdown in the well. During purging, field parameters (temperature, pH, dissolved oxygen, specific conductance, oxidation-reduction potential, and turbidity) will be monitored using a flow-through cell until the parameters stabilize. The groundwater sampling activities and measurements will be recorded on a groundwater sampling form.
- Following purging, the tubing will be disconnected prior to the flow-through cell and the groundwater samples will be collected in laboratory-supplied sample containers directly from the sample tube. The samples will be placed on ice in an insulated cooler and shipped via overnight carrier under chain-of-custody control to Pace® Analytical Services (Pace) of West Columbia, South Carolina for analysis of the Wisconsin List of 33 PFAS.
- Two soil samples (B-12 and B-13, as shown on Figure 3) will be collected from a depth of 1 to 2 feet bgs. Sample B-12, along Gallups/Merritts Creek, will be collected during the advancement of the boring for MW-3; a separate soil boring will not be advanced. Soil sample B-13 will be located in the drainage from the asphalt lot and will be advanced using a hand auger. Soil samples will be collected throughout the boring in 1-foot intervals for visual observation and soil classification. One soil sample will be collected from each boring location (B-12 and B-13), placed on ice, and shipped under chain-of-custody control to Pace of West Columbia, South Carolina for analysis of the Wisconsin List of 33 PFAS.
- Upon receipt of the soil and groundwater results, the results will be summarized in letter format and will be presented to the WDNR. The additional sampling of these wells will achieve the requirements of the site investigation and Wisconsin Administrative Code NR 716.09. The letter will include historic soil and groundwater data tables, a map of the soil boring and monitoring well sample locations, a map showing the potentiometric surface and groundwater flow directions, and an interpretation of the site investigation data with a recommendation for the next steps.

SCHEDULE

The Site investigation activities described above are anticipated to be implemented in June 2022. GZA and Oshkosh are not requesting a written response to this Work Plan, therefore, the activities will be implemented once subcontractor schedules can be coordinated.

This scope of work will be implemented, and the results will be presented to the WDNR in a timely manner following receipt. Oshkosh and GZA appreciate the comments from the WDNR and look forward to moving this project toward closure.

If you have questions regarding this Work Plan, please feel free to contact Mr. Kevin Hedinger at 262-424-1761 or via email at kevin.hedinger@gza.com, or Mr. John Osborne at 262-424-2042 or via email at john.osborne@gza.com.

Sincerely,

GZA GeoEnvironmental, Inc.

Kevin M. Hedinger
Senior Hydrogeologist

John C. Osborne, P.G.
Principal Hydrogeologist

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Ms. Suzanne Murawski, Oshkosh Defense
Mr. Scott Obremski, Oshkosh Defense
Mr. Edward Witte, Godfrey & Kahn
Mr. William Nelson, Godfrey & Kahn