

26850 Haggerty Road
Farmington Hills, Michigan 48331
United States
www.ghd.com



Our ref: 11223983-LTR-1-2023 Limited Work Plan

June 30, 2023

Ms. Ashley Lesser, P.E.
Environmental Quality Analyst
EGLE-RRD, Jackson District

Limited Work Plan for Limited 2023 Groundwater Gauging and Monitoring, Utility Corridor Investigation and Seep Sampling
Willow Run CVO
2625 Tyler Road
Ypsilanti Twp., Michigan

Dear Ms. Lesser:

1. Introduction

Pursuant to its proposal for professional services dated November 28, 2022, on behalf of the RACER Trust, GHD Services Inc. (GHD) is providing this workplan for 2023 limited groundwater sampling, utility corridor investigation and seep sampling at the Willow Run Company Vehicle Operations (CVO) location in Ypsilanti, Michigan (Site). **Figure 1** depicts the Site location.

EGLE Remediation and Redevelopment Division Groundwater/Surface Water (GSI) TAPS Team provided a Review and Tracking Form in June 2022 (letter, see **Attachment A**) in response to the GSI Evaluation Report GHD submitted to EGLE on August 11, 2021. In its letter, EGLE states that it agrees with the GSI assessment performed by GHD indicating groundwater is not hydraulically connected to the creek following dam removal with a recommendation that no further action be taken associated with GSI pathway other than to sample seeps seasonally.

Additionally, the EGLE letter discussed potentially assessing sediments or surface water. During a conference call with EGLE on August 9, 2022, EGLE questioned whether surface water sampling of Willow Run Creek should be performed and indicated that a file review may clarify whether surface samples are needed. GHD has completed a file review and assessed whether there is a need to sample surface water based on downstream historical and recent sample results of Willow Run Creek. A summary of the file review is included below.

Proposed tasks included in the 2023 scope of work are:

- a. 2023 Haulaway Building Sub-Slab Depressurization System Operation and Maintenance (SSDS O&M) inspection;
- b. Quarterly seep inspection and sampling;
- c. Limited groundwater gauging and sampling; and
- d. Limited Soil Gas Utility Corridor Investigation.

2. 2023 Scope of Work

The tasks to be performed during 2023 are presented below.

A. Haulaway Building 2023 O&M Inspection

GHD proposes to conduct a Haulaway Building SSDS O&M inspection for 2023 to continue to evaluate the effectiveness of the system for protection of human health.

B. Quarterly Seep Inspection and Sampling –2023

As outlined in the GSI report titled “GSI Evaluation,” dated August 6, 2021, the hydrogeology investigated between the former Tyler Pond bank and the new Willow Run Creek bank indicates that there is not a complete GSI pathway to the north of the Site (no hydraulic connection). Following its review, the GSI TAPS Team agreed no GSI pathway exists. In its same letter, EGLE recommended seasonal sampling of the seeps. In a conference with Ashley Lesser of EGLE on Tuesday, August 9, 2022, RACER and EGLE agreed that seasonal inspection and sampling for one year would be performed by RACER.

Seeps previously identified as Seeps 1 – 4 during the September 2018 groundwater monitoring event will continue to be evaluated in the field quarterly for any flow in addition to an evaluation of whether any other seeps are present. Any additional seeps are to be documented and sampled. The first seep inspection and sampling event was performed on March 31, 2023 and the results document there were no GSI exceedances. GHD plans to complete the next seep inspection and sampling event in July of 2023, during the planned groundwater sampling and gauging event. Samples will be analyzed for TCL VOCs. A total of three additional seep inspection and sampling events are proposed to be conducted in 2023.

C. Limited Site Wide Ground Water Gauging and Sampling – From Existing Wells

The last site wide groundwater sampling event was performed in 2017 to monitor constituent concentrations and groundwater flow direction at the Site. Sporadic sampling has been conducted since that time for various limited purposes (GSI evaluation). The groundwater monitoring program consists of groundwater sampling, as well as groundwater level monitoring to evaluate groundwater flow conditions. The shallow groundwater at the Site is impacted with chlorinated volatile organic compounds (CVOCs). The main constituents of concern (COCs) at the Site are trichloroethylene (TCE), cis-1,2-dichloroethylene (cis-1,2-DCE), and vinyl chloride (VC). Groundwater samples are collected and analyzed for the Target Compound List (TCL) of VOCs as part of the routine sampling protocol.

As outlined above, the results of the GSI investigation on the northern property boundary were that Site groundwater is not hydraulically connected to the creek. As a result, GHD proposes a limited groundwater sampling and gauging event to obtain current information on Site conditions along the central and southern portions of the Site. All accessible wells, except for the infiltration gallery wells (~100), are to be gauged under this task during the 2023 sampling event. Additionally, up to 31 monitoring wells are to be sampled for TCL VOCs under this task. The work is expected to take up to 8 days to complete by two field technicians. Wells selected for gauging and sampling are southern boundary wells and wells with historically higher concentrations of constituents of concern. GHD plans to sample the following locations:

Western and Eastern Boundary Wells: MW19-33, MW-13

Southern Boundary Wells: MW-18, MW-4, MW19-01, MW19-02, MW19-03, MW-14; MW-1U-93; MWOS-02, MW-6U-93; MWOS-05; GS-7

Wells Near Haulaway Building: MW-19-42, IW-9, IW-10, IW-33, IW-6

Site Wells: MW-19-07, MW19-38, MW19-45, MW19-43, MW19-11, MW19-53, MW-5, MW19-56, MW19-41

PAOC 18 Wells: GS-20, GS-20D, GS-21, GS-21D

Sampling of groundwater within existing on-Site utility corridor wells MW-19-24 and MW-19-54 will be included under this task. See **Figure 3** for the location of monitoring wells to be gauged and sampled during this event. Following this work, a groundwater elevation contour map and analytical results databox figure indicating groundwater sample results will be prepared for reporting to RACER and EGLE.

GHD also has assessed whether there is a need to sample surface water based on downstream historical and recent sample results of Willow Run Creek. Based on public records, surface water samples obtained immediately downstream of the Site (at the Willow Run Creek (WRC) site) near the Willow Run Landfill location, (approximately 2,450 feet downstream of Site) shows no detections of Site constituents of concern since the Tyler Pond Drawdown Project was completed in approximately November of 2017. See **Table 1** and references cited therein. Samples obtained at the same locations *prior* to completion of the Tyler Pond drawdown project, which was completed in November of 2017, did not show any detections of Site constituents of concern greater than 1 ppb. See **Table 1**. **Figure 2** shows the locations of these surface water samples in comparison to the Site. Therefore, based on these results and the details provided in the GSI report dated August 11, 2021, GHD does not recommend further collection of any surface water samples.

D. Limited Soil Gas Utility Corridor Investigation

Historic groundwater monitoring events have detected VOC impacts along the southern property boundary line. Further investigations delineated the extent of groundwater impacts and documented that groundwater was not impacting surface water. As outlined below, GHD plans to collect soil gas samples above two utilities that run just south of the southern Site boundary to assess potential vapor intrusion impacts to off-Site receptors.

The installation of soil gas probes will be performed to assess whether there is any evidence of soil gas impacts within the utility corridor that runs along the northern edge of Tyler Road. Up to two soil gas probes will be installed under this task within the utility corridor(s), at the approximate locations identified in **Figure 4**. GHD has obtained recent utility drawings from YCUA to aide in the selection of sampling locations. GHD will obtain right-of-way permit(s) and any needed permissions. GHD also will schedule a Miss Dig utility locate and a private utility locate prior to performing this work.

One soil gas sample from each location will be collected for TCL VOCs via US EPA TO-15. Soil gas and groundwater samples will be analyzed for TCL VOCs.

The results of this work will be summarized in a table and analytical databox figure along with a written summary for reporting to RACER and EGLE.

Please contact us if you have any questions or concerns regarding the planned scope of work described in this workplan.

Regards,



Ben Fruchey
Project Manager

+1 517 507-7128
ben.fruchey@ghd.com

BF/kg/LTR-1-2023 Limited Work Plan

Cc: Grant Trigger, RACER Trust

Encl.

Figure 1: Site Location Map

Figure 2: Map of Surface Water Sample Locations

Figure 3: Map of Wells to Be Sampled and Gauged

Figure 4: Utility Corridor Investigation - Proposed Locations of Soil Gas Probes

Table 1: Surface Water Sample Results – Tyler Pond / Tyler Creek

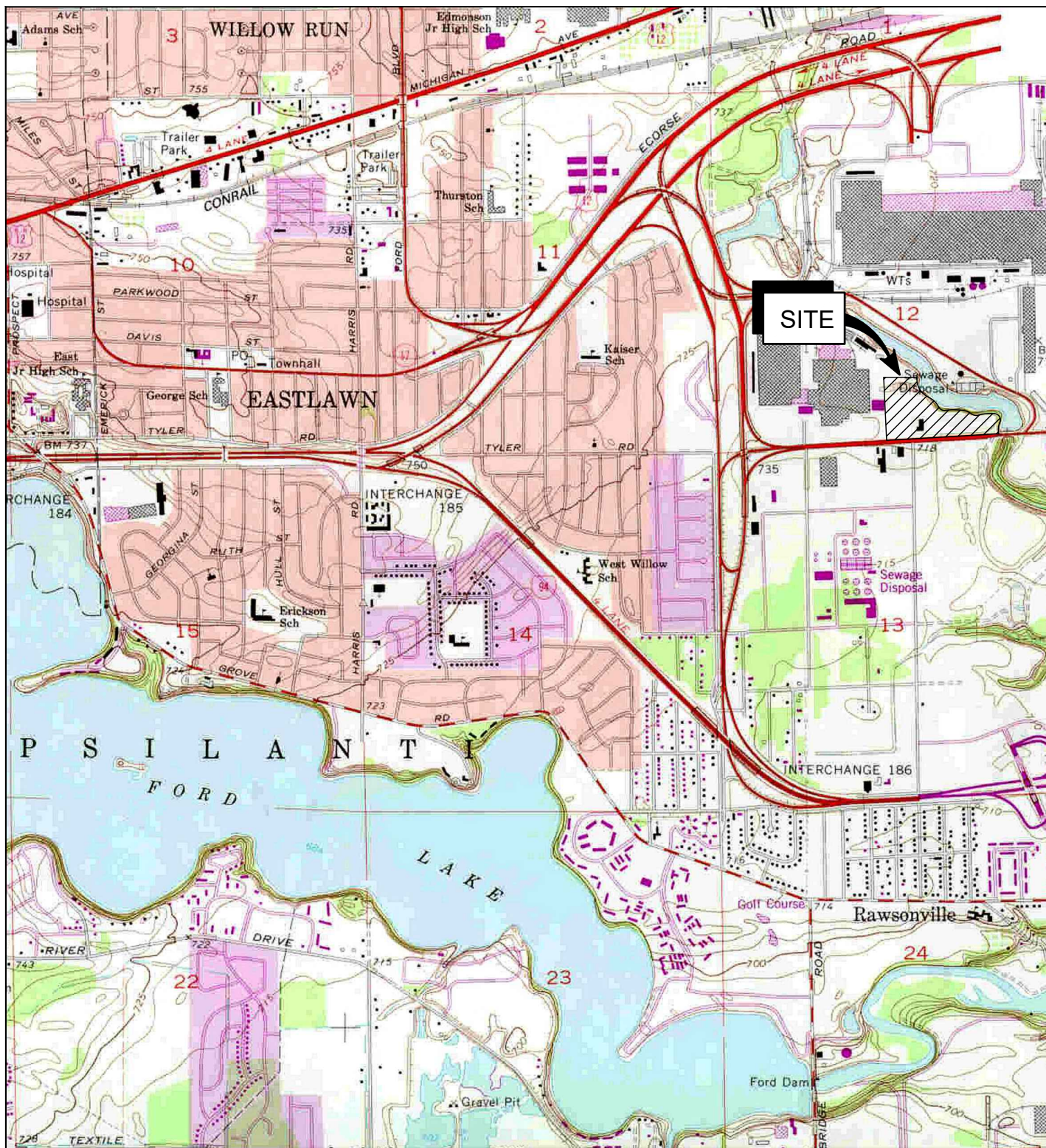
Attachment A: EGLE TAP's June 2022 Letter



Thomas Kinney, CPG
Project Director

+1 248 893-3410
Tom.kinney@ghd.com

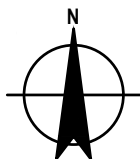
Figures



SOURCE: USGS QUADRANGLE MAP;
YPSILANTI EAST, MICHIGAN

0 1000 2000 ft
1" = 2000 ft

Coordinate System:
<INSERT HERE>

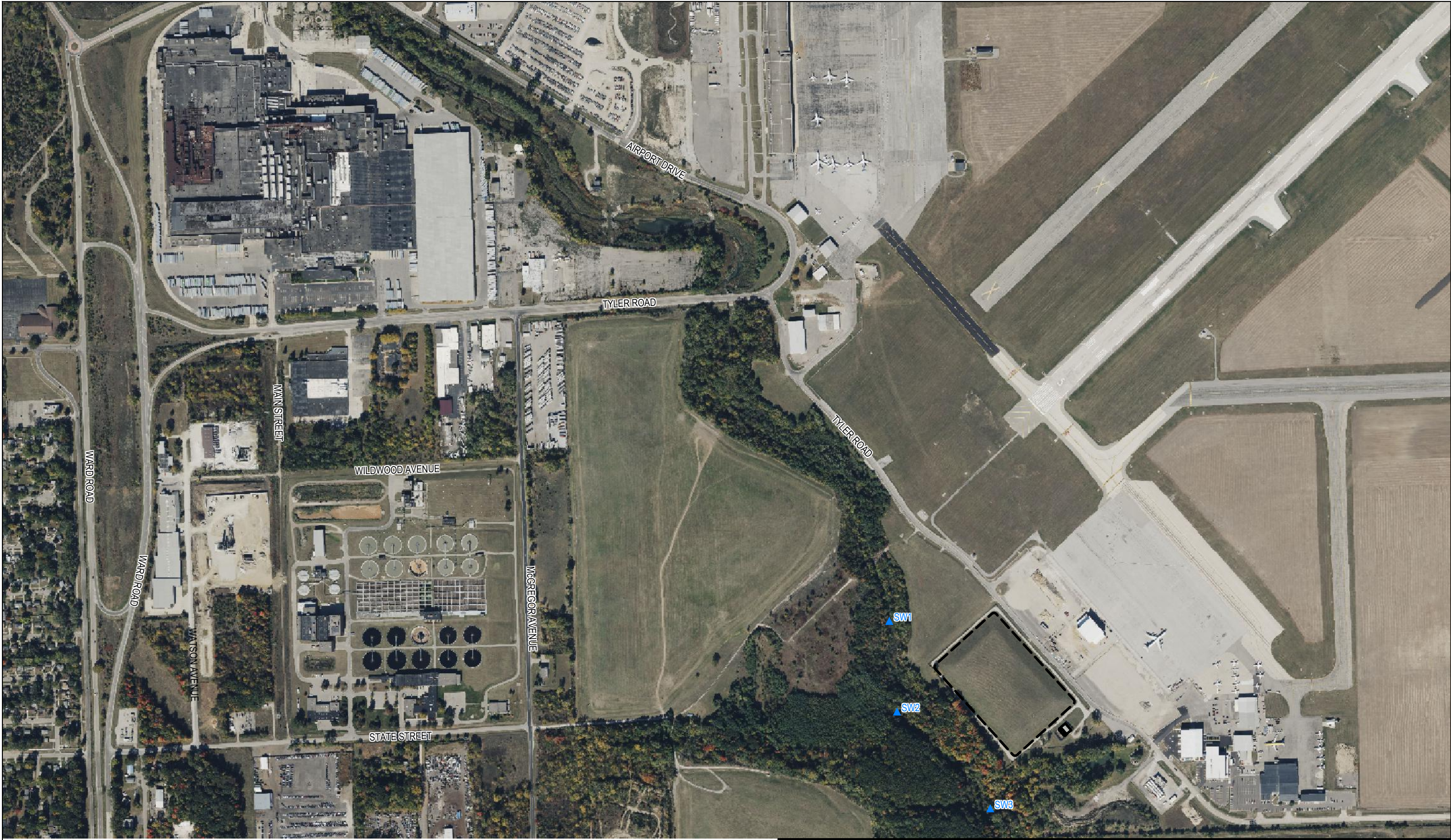


WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Project No. 11223983
Date March 2023

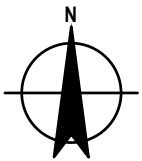
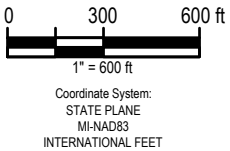
SITE LOCATION MAP

FIGURE 1



LEGEND

▲ SURFACE WATER SAMPLE LOCATION

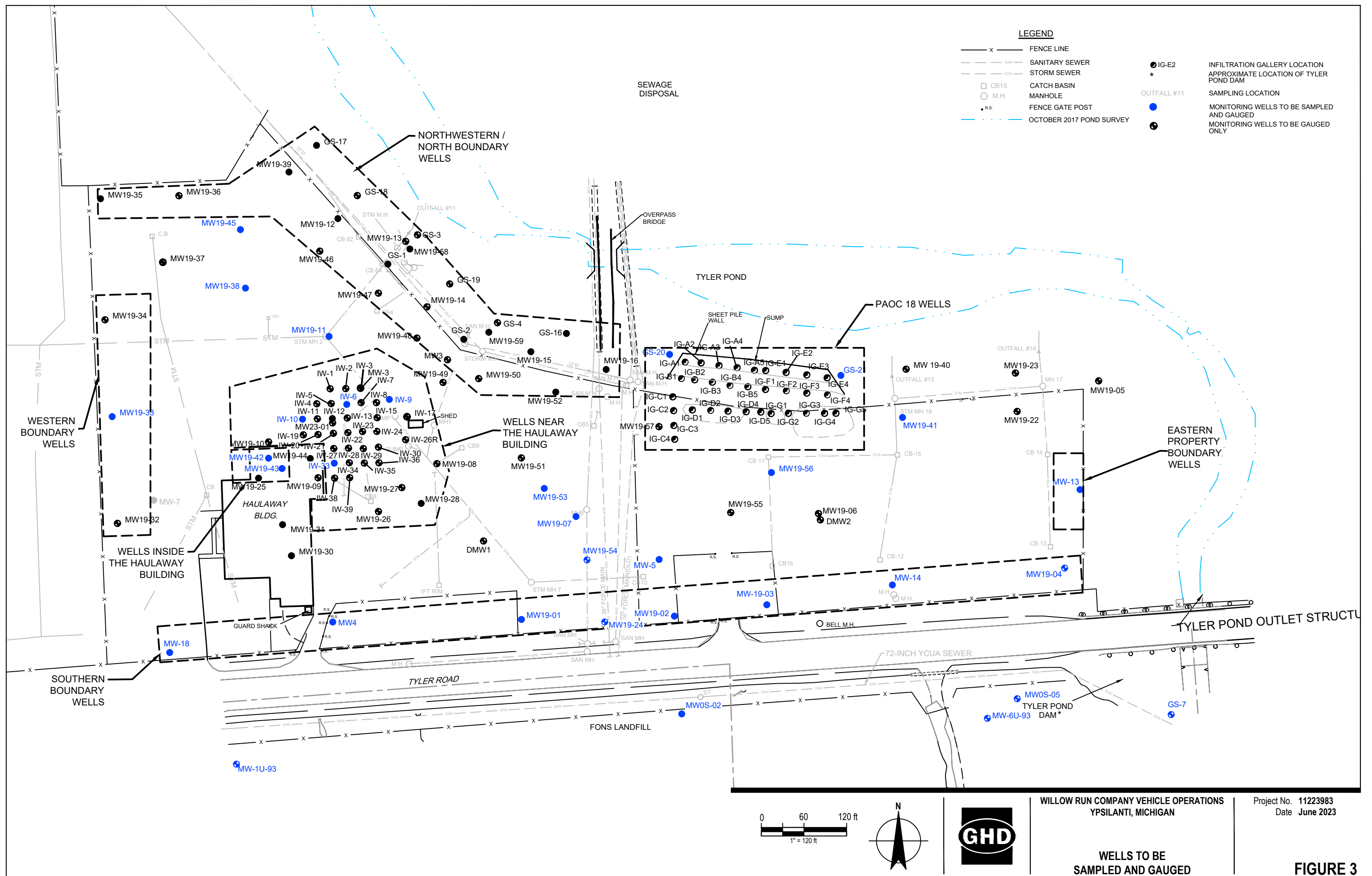


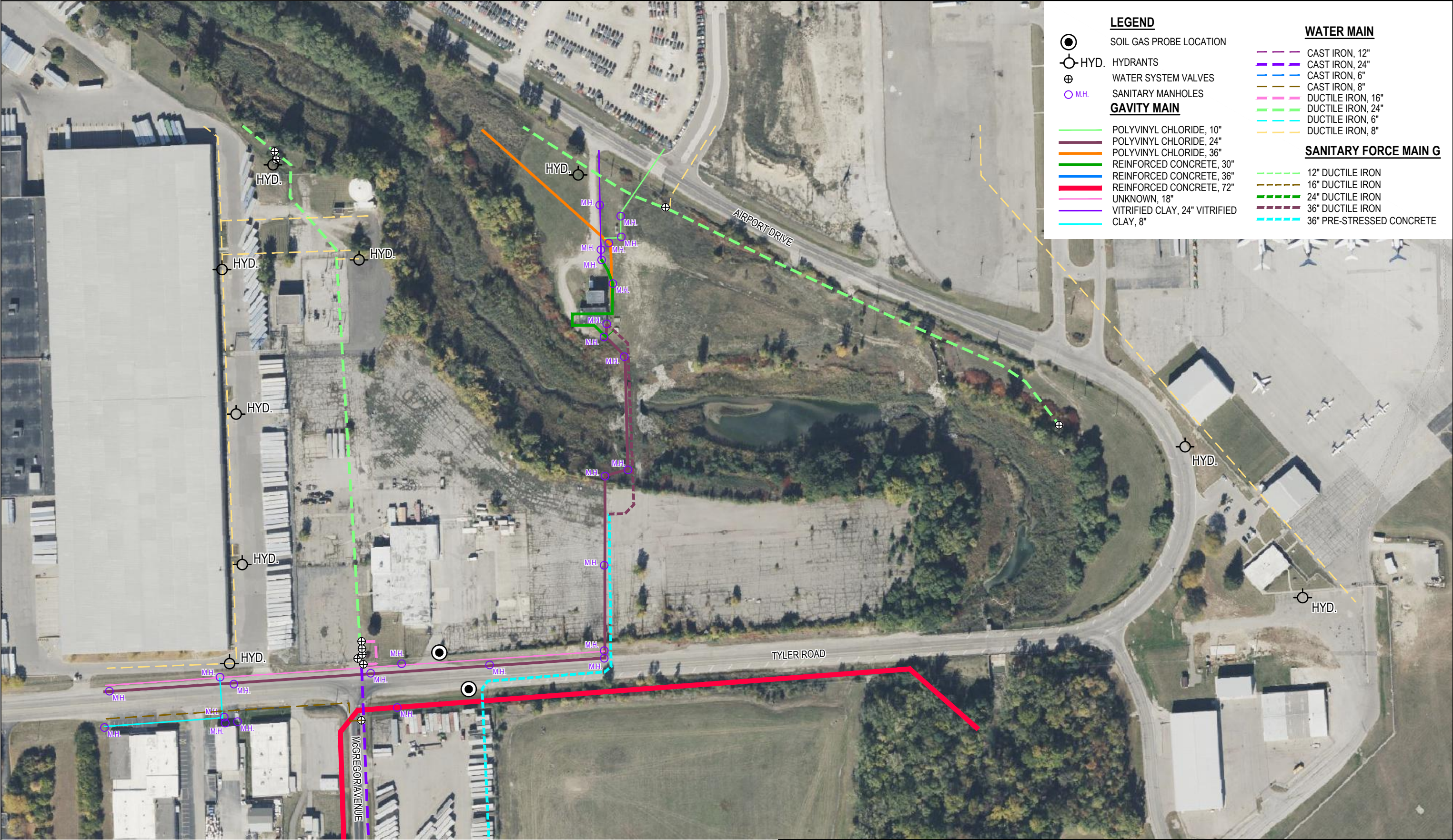
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

**SURFACE WATER
SAMPLE LOCATIONS**

Project No. 11223983
Date March 2023

FIGURE 2





0 100 200 ft
1" = 200 ft
Coordinate System:
STATE PLANE
MID83
INTERNATIONAL FEET

N

GHD

WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Utility Corridor Investigation -
Proposed Locations of Soil Gas
Probes

Project No. 11223983
Date March 2023

FIGURE 4

Table

Table 1

Surface Water Sample Results
Willow Run Company Vehicle Operations
Ypsilanti, Michigan

Date	PCE (ppb) ug/l SW1	TCE (ppb) ug/l SW1	1,2 DCE (total) (ppb) ug/l SW1	VC (ppb) ug/l SW1		PCE (ppb) ug/l SW2	TCE (ppb) ug/l SW2	1,2 DCE (total) (ppb) ug/l SW2	VC (ppb) ug/l SW2		PCE (ppb) ug/l SW3	TCE (ppb) ug/l SW3	1,2 DCE (total) (ppb) ug/l SW3	VC (ppb) ug/l SW3
Apr-13	ND	0.21	0.5	0.41		ND	0.19	0.44	0.36		ND	ND	0.47	0.36
Jul-13	ND	ND	0.72	0.64		ND	ND	0.65	0.53		ND	ND	0.56	4
Oct-13	ND	ND	0.64	0.48		ND	ND	0.67	0.36		ND	ND	0.51	0.25
Jan-14	ND	0.37	0.85	0.52		ND	0.28	0.66	4		ND	0.26	0.67	0.32
Apr-14	ND	ND	ND	0.38		ND	ND	ND	0.3		ND	ND	ND	0.28
Oct-14	ND	ND	0.52	0.36		ND	ND	0.37	ND		ND	ND	0.32	ND
Jan-15	ND	0.23	0.53	0.34		ND	0.19	0.44	ND		ND	ND	0.43	ND
Apr-15	ND	ND	0.39	0.33		ND	ND	0.36	ND		ND	ND	0.29	ND
Jul-15	ND	ND	0.43	ND		ND	ND	0.41	ND		ND	ND	0.33	ND
Oct-15	ND	ND	0.41	ND		ND	ND	0.32	ND		ND	ND	0.26	ND
Jan-16	ND	ND	0.55	0.39		ND	ND	0.44	ND		ND	ND	0.34	ND
Jul-16	ND	ND	0.45	ND		ND	ND	0.37	ND		ND	ND	0.26	ND
Jan-17	ND	0.38	0.58	ND		ND	0.38	0.58	ND		ND	ND	ND	ND
Nov-17	Tyler Pond Drawdown Completion					Tyler Pond Drawdown Completion					Tyler Pond Drawdown Completion			
Jul-21	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	ND	ND
Oct-21	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	ND	ND
Jan-22	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	ND	ND
Apr-22	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	ND	ND
Jul-22	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	ND	ND
Oct-22	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	ND	ND

NOTES: Data Obtained From Publicly Available Quarterly Reports from 2013 to 2022 - Willow Run Creek Landfill Site
ND = Non-Detect at the associated reporting limit.

Attachment A

EGLE TAP's June 2022 Letter



**REMEDIATION AND REDEVELOPMENT DIVISION
GROUNDWATER/SURFACE WATER (GSI) TAPS TEAM
REVIEW & TRACKING FORM**

The recommendation provided below is based upon the information presented herein and does not constitute a full file review. This document does not convey or imply any other position of the Michigan Department of Environment, Great Lakes and Energy (EGLE)) with regards to known or potential environmental conditions and compliance with environmental protection laws and regulations at this location. EGLE makes no warranty or guarantee as to the fitness of this site for any general or specific use. Prospective purchasers or users of this site are advised to use due diligence in acquiring or using this site. Please refer to the site file for more information.

GSI TAPS Team Discussion/ Conclusions/ Recommendations made on submittal:

Statement of Understanding:

An area of the RACER Willow Run Company Vehicle Operations (CVO) facility located at 2901 Tyler Road in Ypsilanti was used as a disposal location that contaminated soil and groundwater with VOCs, SVOCs, PCBs and metals. CVOs are the primary groundwater contaminants of concern. Multiple response actions have been conducted on the property in the past.

A dam in Willow Run Creek was removed in 2017 which eliminated Tyler Pond and returned water levels to their original conditions in the creek. An investigation in 2018 confirmed soil contamination above GSI protection criteria; however, groundwater was not encountered during the investigation.

Four groundwater seeps from the former streambank were sampled and one seep location (#4) had concentrations of vinyl chloride above GSI criteria.

The CSM for this area identifies a confining clay layer between the shallow water-bearing sand unit on site and the new bank of Willow Run Creek.

Recommendations: *The GSI TAPS offers the following determinations and recommendations to the Jackson District Office:*

- *Based upon the information presented, it was determined that groundwater is no longer hydraulically connected to the creek following the dam removal.*
- *The groundwater seeps above the creek should be sampled and conditions documented on a seasonal basis to build a line of evidence that contaminants that may be detected are at or below generic GSI criteria.*

Part of the investigation involved collecting pore water samples from within/beneath the stream bed. Since it does not appear that groundwater is hydraulically connected to the stream based upon the geology, the samples collected within/beneath the stream bed were likely surface water. Contaminant concentrations that were detected in the pore water samples are likely associated with the sediments of the creek.

- Because a sediment removal in the pond was completed by multiple parties in the past, it is recommended to obtain the information about the previous sediment removal to determine the area of the excavation, the amount removed and if sediment samples were collected after the removal.
- Depending upon the information available from the sediment removal, it may be appropriate to develop a sediment sampling plan to verify the data or collect data from areas in the streambed that were not investigated after the removal.
 - Contaminant concentrations in the sediment can be compared to USEPA's Ecological Sediment Screening Levels (USEPA August 2003) or any other nationally recognized screening values that may then be used as site specific criteria for sediment with concurrence from Water Resources Division and the Remediation & Redevelopment Division.
- Collecting surface water samples in Willow Run Creek can be used as a line of evidence of contaminant conditions in the water body that may need additional delineation.



Project Manager/ GSI POC

6/22/22

Date



GSI Team Leader

6/22/22

Date