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

Our ref: 12573440-LTR-6

January 13, 2022

Ms. Jennifer Stanhope
RACER Trust
Land, Chemicals, and Redevelopment Division
77 West Jackson Blvd., LR-16J
Chicago, Illinois 60604 3590

2nd 2022 Semi-Annual Progress Report
Performance Based Administrative Order on Consent
Docket Number RCRA 05 2011 0025
Eckles Road Site, Livonia, Michigan
USEPA ID No. MID 005 356 621

Dear Ms. Stanhope:

In accordance with the Performance Based Administrative Order on Consent between the U.S. Environmental Protection Agency Region 5 (USEPA) and Revitalizing Auto Communities Environmental Response Trust (RACER), please find the attached progress report for the 2nd half of 2022 (July 1, 2022 through December 31, 2022).

Please let us know if you would like to discuss further. Thank you.

Regards,

Chris Meincke
Associate

+1 248 893-3402
chris.meincke@ghd.com

CJM/mg/LTR-6

Encl: Attachment A – 2nd Semi-Annual 2022 Progress Report

Copy to: William Burbidge, GLWA
Grant Trigger, RACER
Dave Favero, RACER
Jeff Crum, Hamp, Mathews & Associates

Attachments

Attachment A

2nd Semi-Annual 2022 Progress Report
Performance-Based Administrative Order on Consent
Eckles Road Site, Livonia, Michigan
July 1, 2022 to December 31, 2022

1. Description of Work Completed

- Continued operation of the Area 1 southern French Drain Collection Trench and Groundwater Treatment system (GWTP). GLWA has been updated on operations and required effluent samples were collected and reported to GLWA. During the second half of 2022 the system collected and discharged 1,129,613 gallons of groundwater. Monthly discharge totals are presented in Table 1. Groundwater elevation measurements were collected periodically from the French drain sump located within Area 1 and select monitoring wells. Continued periodic downloads of transducer groundwater elevation data from monitoring wells inside and outside the Area 1 Barrier Wall. Monitoring locations are provided on Figure 1.
- Submitted the 1st 2022 Semi-Annual Progress Report dated July 15, 2022, to USEPA.
- Participated in a Site visit with GLWA representatives on August 21, 2022.
- Continued preparation of technical memo to document interim measure implementation activities.
- Completed Post-Construction and Interim Measure Performance Area 1 Groundwater Monitoring sampling activities September 12 to 15, 2022. Area 1 IM Performance monitoring well locations are presented on Figure 1.
- Submitted a semi-annual report to GLWA dated September 16, 2022, for the March 2022 to August 2022 reporting period.
- Participated in virtual meetings on November 2 and 4, 2022 with USEPA to discuss Interim Measure completion activities, performance groundwater monitoring results, off-site groundwater characterization activities, and tasks to be included in the 2023 Annual Environmental Action Budget Request.
- Submitted an application to GLWA on November 11, 2022 to renew Special Discharge Permit SD6-94508 for the discharge of treated groundwater. Following clarifications, GLWA issued a renewed Special Discharge Permit dated November 28, 2022, effective January 1, 2023, and expiring December 31, 2023.
- Continued preparation of technical memo to provide a summary and evaluation of Area 1 Construction/Performance Monitoring data, and on- and off-site groundwater monitoring results.
- Participated in a virtual meeting with USEPA on July 7 and November 21, 2022 with USEPA to discuss AOI 31 Vapor Intrusion evaluation and reporting activities.
- Continued Revisions to the AOI 31 Vapor Intrusion Report per USEPA guidance.
- Collected groundwater and soil gas samples from existing AOI 31 monitoring wells and soil gas probes during November/December 2022, as access to residential properties permitted.
- Conducted an inspection and performance evaluation of the Home 7 and Home 8 vapor mitigation systems on December 29, 2022.
- Submitted a signed 2023 Annual Environmental Action Budget Request to USEPA on December 6, 2022. USEPA approved the 2022 Annual Environmental Action Budget Request on December 9, 2022.

2. Data Collected

- A Summary of Monthly Groundwater Treatment Plant Discharge Volumes is provided in Table 1.
- A summary and evaluation of groundwater elevations and sample results associated with the Area 1 Construction/Performance Monitoring activities will be included in the Area 1 Construction/Performance Monitoring Summary to be submitted under separate cover.
- Groundwater sample results and soil vapor sample results associated with AOI 31 long-term vapor intrusion monitoring activities are being formatted based on requests from USEPA and will be submitted under separate cover.

3. Problems Encountered

- The Area 1 Groundwater Collection and Treatment System suffered a broken city water supply line in late December 2022 and the system stopped operating due to damage to controls. An evaluation of the damage was completed, and the system was able to be re-started in early January with minor repairs.

4. Estimated Percent Complete and Information Summary for Selected Activities

- O&M of the Groundwater Pump & Treat System (GWTP, Barrier Wall, Cover) 41%

  Continued operation of the Area 1 French Drain Collection Trench and Groundwater Treatment system on an as-needed basis. Chromium VI and nickel treatment is no longer required to discharge to the sanitary sewer under GLWA special discharge permit. GAC installed to treat PFOS. Submitted appropriate discharge reports as per the Special Discharge Permit. (Although not applicable to the current Site remediation strategy, percent complete is estimated as 11 years complete of 27 years estimated in the May 2010 RCES. This metric will be re-evaluated when the interim measures for Area 1 has been implemented and evaluated.) Also see below item - PFAS Remedy/Interim Measure Operation, Maintenance, and Monitoring.

- Long-Term Groundwater Monitoring On-going

  Long-Term Groundwater Monitoring Plan proposed 5 years of monitoring to verify continued stability/reduction in off-Site/boundary concentrations (anticipated completion 2006 through 2010). Sampling activities are currently planned to continue pending USEPA approval to cease monitoring. Also see below item - PFAS Remedy/Interim Measure Operation, Maintenance, and Monitoring.

- Maintenance of the AOI 39 Dust Control Plan 100%
- Restrictive Covenants 100%

  Prepared a revised Declaration of Restrictive Covenant (DRC) and Termination of the 2007 DRC and submitted to USEPA on June 25, 2015. Recorded revised DRC and 2007 DRC Termination on August 26, 2015. A DRC for the southwest portion (Area 1) was recorded on April 9, 2019. First Amended and Restated Declaration of Restrictive Covenant was recorded on May 12, 2021 for the southwest portion of the Site (Area 1). An amended DRC for Area 1 will be recorded when the interim measure has been implemented.

– Vapor Intrusion Investigation 100%

Vapor Intrusion Investigation has been completed and subsequent mitigation has been implemented at two residences, and a VI pathway sampling plan downgradient of previously investigated homes has been approved and is being implemented. See AOI 31 below for additional activities.

– Installation of Vapor Mitigation System (Two homes) 100%

Installation completed and system operational at one home since September 2012.
Installation completed and system operational at a second home since January 2018.

– O&M and Performance Monitoring of Vapor Mitigation System On-going

System performance monitoring is being implemented annually. Latest system performance monitoring completed December 2022 at two homes.

– Area 1 Pilot Tests - Alternative Chemicals & Target In-Situ Treatment Injection 100%

Objective was to design, implement, and evaluate a pilot test to use alternative chemicals in the wastewater treatment process that could reduce treatment system operating time and/or operating costs. Also, design and implement an in-situ stabilization treatment in Area 1 that could also reduce treatment system operating time and long-term monitoring duration.

The groundwater treatment plant optimization activities were not conducted due to health and safety concerns associated with handling, storing, and mixing the proposed replacement chemicals.

The Area 1 field pilot test was conducted in November and December 2010. Based on an evaluation of the pilot test results, additional pilot study injection and monitoring activities were recommended to determine if full-scale on-site implementation would significantly reduce dissolved concentrations of chromium and nickel and allow for the groundwater treatment plant activities to be reduced or eliminated.

Additional cost and remedial alternative evaluations were performed in 2013. Additional Area 1 Characterization activities have been implemented. A laboratory treatability study was performed using site groundwater to evaluate the effectiveness of utilizing a permeable reactive barrier wall (PRB) with zero valent iron (ZVI) to treat Area 1 groundwater if the existing groundwater collection and treatment system operations are ceased. Groundwater modeling activities were also performed to evaluate the optimal location and number of PRBs and the effects on groundwater flow inside and outside of the Area 1 Barrier Wall.

An additional field pilot test injection was completed in November 2013 and monitoring activities were completed through October 2014 with expanded pilot injections in the northern portion of the Area 1 chromium and nickel-impacted groundwater plume proposed in the 2015 Annual EA Budget Request.

Additional expanded pilot study injections were completed in May through June of 2015 including the injection of sodium sulfide, sodium dithionite, or a combination of the two in 83 injections points in the northern portion of the Area 1 chromium and nickel-impacted groundwater plume. Groundwater monitoring concluded in December 2015. An Area 1 ISCR Pilot Study Summary Report was submitted in January 2016.

– Groundwater Treatment System Decommissioning & Removal 100%

Anticipated to be completed in 2037 per May 2010 RCES but was implemented in 2021 to support the Area 1 interim measure. The existing French drain collection system was retained, and the treatment system was re-located/upgraded as a contingency to the interim measure.

– Completion Report & Well Abandonment 0%

Anticipated to be completed in 2037 per May 2010 RCES but this is likely to change given the interim measure being implemented for Area 1.

– AOI 31 Long-Term VI Pathway Monitoring and Groundwater TCE Remediation 50%

A Long-Term VI Pathway Monitoring Work Plan was approved May 2016 which included a minimum two years of semi-annual/annual soil vapor and groundwater sample collection to evaluate groundwater plume stability, downgradient extent of the groundwater and soil vapor TCE plume, and spatial and temporal variability in TCE soil vapor concentrations. The first semi-annual event was conducted in June 2016. Based on the results of the first event, additional groundwater delineation activities (Phase I Geoprobe®) were completed during the 1st Quarter of 2017 to further delineate TCE and TCA groundwater plumes and concentrations to determine if modifications are needed to the VI pathway monitoring plan, or if response actions are needed to mitigate potential unacceptable VI risk. Additional permanent monitoring wells and soil vapor probes were installed in June 2017 and were sampled in July 2017, as well as in 2018, 2019 2020, 2021, and 2022 in coordination with the annual Groundwater Monitoring Program. Subslab soil vapor probes at two homes were resampled in December 2017. Soil vapor samples were collected November/December 2018, December 2019, December 2020, December 2021, and November/December 2022. Preparation of a Long-Term VI pathway risk summary report based on VI sampling results from 2016 through 2021 will be prepared and is anticipated to be submitted as a draft report in January 2023

Groundwater and soil diagnostic sample and hydraulic data were collected June and October 2018 to assist design of an In-Situ Groundwater Remediation of the TCE plume to lessen vapor intrusion pathway risk assessment and mitigation activities in the future at homes downgradient of the plume's current extent. A Draft Work Plan for In-Situ Chemical Oxidation Remediation of TCE at AOI 31 dated June 13, 2019, and revised August 23, 2019 was submitted to USEPA. USEPA submitted technical review comments on March 10, 2020 which are currently under review by RACER.

Per USEPA's approval of the November 16, 2020 scope of work, groundwater monitoring wells MW-103R and MW-202R, as well as soil gas well SG-1R were replaced and sampled in January/February 2021 due to construction-related damage. Soil gas and groundwater samples were collected in December 2021 and December 2022. Sample results will be used to refine the TCE vapor source conceptual site model. Refinement of the vapor pathway CSM in the area downgradient of the southeast corner of the former Site is also under current consideration.

– Area 1 Remedial Implementation - Metals 100%

A request to perform Targeted Area 1 ISCR Injections was submitted to USEPA in April 2016 and approved by USEPA on May 18, 2016. Targeted injections were implemented in August 2016. An Area 1 Full Scale ISCR Work Plan was submitted to USEPA in April 2016 and approved by USEPA on May 18, 2016. Implementation of the work plan activities began September 2016. ISCR injections were completed in November 2016. Performance groundwater monitoring following the ISCR injections was completed in January 2017 and April/May 2017.

An Area 1 Permeable Reactive Gate Evaluation report was submitted to USEPA in September 2017 proposing to install a permeable reactive gate (PRG) along a portion of the eastern alignment of the Area 1 Barrier Wall, to allow groundwater to exit the area surrounded by the barrier wall while being passively treated. An Area 1 Permeable Reactive Gate Work Plan was submitted to USEPA in April 2018. Comments received from USEPA were addressed. The presence of PFAS-impacted groundwater within the Area 1 Barrier wall put implementation of the PRG on hold while the impacts of PFAS being present were evaluated.

Follow-up targeted injections were conducted in December 2017 along the south and southeastern alignments of the Area 1 Barrier Wall (in the vicinity of French drain collection trench and proposed PRG location, where injections had not previously been conducted). Follow-up groundwater monitoring activities were completed in January 2018 and May 2018. Additional groundwater monitoring activities were completed in October 2019. Two additional injections with sodium dithionite were conducted in December 2019 northwest of the field pilot study injection locations. Additional groundwater monitoring activities were completed in October 2020 and January/February 2021.

An interim measure integrating an impermeable cap with development of Area 1 was implemented in 2021 and the first half of 2022.

– Area 1 PFAS and Metals Characterization 90%

Initial groundwater samples were collected during 2017/2018 to evaluate the potential presence of PFAS-impacted groundwater at the Site. PFAS has been detected in groundwater samples within the former Plating Area and GWTP influent/effluent samples at concentrations greater than the USEPA's 2016 Lifetime Health Advisory of 70 ng/L for PFOA and PFOS. Additional characterization activities were completed in 2019 to evaluate horizontal and vertical extents of PFAS-impacted groundwater within Area 1, and how it may impact potential Area 1 remedies. Additional characterization activities to further evaluate shallow PFAS impacted groundwater were conducted in the northern portion of Area 1 in May 2020. Additional characterization activities were conducted in October 2020 to further delineate shallow PFAS-impacted groundwater in the northern and western portions of Area 1, and outside the southern alignment of the Area 1 Barrier wall.

Off-site characterization of PFAS and metal groundwater impacts was advanced in January/February 2021 through the collection of groundwater grab samples through drilling equipment. Additional monitoring well installation and groundwater sampling activities were proposed to and approved by USEPA. Two additional monitoring well pairs were installed in December 2021, the remaining proposed monitoring well pair was installed in February 2022. MW-OS-17S/D were inadvertently installed slightly outside of the right-of-way and were abandoned during March 2022 to accommodate planned construction activities of the property owner. Off-Site groundwater samples were collected in February and March/April 2022.

– PFAS Remedy/Interim Measure Evaluation 100%

Potential remedial alternatives to address PFAS-impacted groundwater within Area 1 have been reviewed and summarized. The evaluation was updated per comments from USEPA and resubmitted. An interim measure has been implemented to integrate an impermeable cap with development of Area 1. Additional Remedy/Interim Measure Evaluation activities may be required pending the results of Interim Measure Performance Monitoring.

– PFAS Treatability Pilot Tests 100%

A USEPA approved Scope of Work for a laboratory treatability study has been completed to evaluate several media to evaluate their effectiveness treating PFAS-impacted groundwater.

– PFAS Remedy/Interim Measure Design 100%

Design of a cap integrated with development of Area 1 has been developed and implemented. The interim measure incorporates capping and development to reduce infiltration and eliminate/minimize the need for ongoing groundwater treatment/operation and maintenance activities. An Interim Measures Work Plan was submitted to USEPA for review in December 2020. Comments from USEPA were received and were addressed in a Revised Interim Measures Work Plan which was submitted to USEPA on July 20, 2021 and approved by USEPA on September 29, 2021.

– PFAS Remedy/Interim Measure Implementation 100%

  Installation of the cap (a high-density polyethylene liner [HDPE] liner and drainage layer) and cover materials, and construction of a new building, parking and truck dock areas is complete. Interior building slab and finishes were completed during the 1st half of 2022. Installation of pump, controls, and piping for the contingency North French Drain System is pending evaluation of the performance groundwater monitoring results.

– PFAS Remedy/Interim Measure Operation, Maintenance, and Monitoring 5%

  The previous groundwater treatment plant (GWTP) was supplemented with granular activated carbon in April 2020 to remove PFAS from collected groundwater. Groundwater was collected and treated by the GWTP on an as-necessary basis (responding to precipitation events and generally maintaining the groundwater within the Area 1 Barrier Wall at depths greater than 3 feet bgs) from December 2018 through January 2021 to manage groundwater elevations within the Area 1 Barrier Wall. Since February 2021 groundwater has been collected and treated on an on-going basis. Certain groundwater treatment components were removed from the former GWTP building and relocated into a Conex box. New pump and control components were installed as part of the Interim Measure implementation activities in 2021. O&M tasks are anticipated to change based on implementation and evaluation of the interim measure. A plan for ongoing O&M will be developed after an evaluation of the Interim Measure performance monitoring and groundwater elevation monitoring is completed.

5. Summary of Contacts with Interested Parties

– Correspondence with GLWA regarding Special Discharge Permit activities, permit renewal, and required reporting.
– Residents are updated on a one-on-one basis to maintain privacy of VI pathway risk evaluations at their homes.
– Property owners south of Area 1 are updated on a one-on-one basis for access to install and sampling monitoring wells.

6. Changes in Personnel

– None.

7. Projected Work for Next Reporting Period (January 2021 through June 2022)

– Continue performance groundwater monitoring activities and reporting.
– Continue to work with USEPA and EGLE to address Area 1 impacts and with GLWA to address any discharge issues.
– Continue monitoring groundwater elevations and operation of the Area 1 French Drain Collection Trench and Groundwater Treatment system in accordance with the approved Construction Groundwater Monitoring Plan and Revised Interim Measures Work Plan – Area 1.
– Finalize and submit an Area 1 IM Implementation technical memo.

- Finalize and submit a technical memo to provide a summary and evaluation of Area 1 Construction/Performance Monitoring data on- and off-site groundwater monitoring results.
- Prepare a Longer-Term Groundwater Monitoring Plan.
- Continue to evaluate the presence of PFAS and metals outside of the Barrier Wall.
- Continue to consider an interim measure/remedy to mitigate the potential for a future complete VI pathway for off-site AOI 31 receptors. Additional data collection is anticipated to be necessary to develop a proposed remedial technology.
- Prepare summaries of meetings, data reviews, or conference calls with USEPA, as appropriate.
- Prepare this 2nd 2022 Semi-Annual Progress Report.

Attachments: Table 1 – Summary of Monthly Groundwater Treatment Plant Discharge Volume
Figure 1 – Construction and Performance Monitoring Locations

Table 1

Summary of Monthly Groundwater Treatment Plant Discharge
AREA 1 - Former Plating Area
Eckles road Site
Livonia, Michigan

Month	Monthly GWTP Discharge Volume (Gallons)
July 2022	240,279
August 2022	260,562
September 2022	179,186
October 2022	189,694
November 2022	155,793
December 2022	104,099
Total July 2022 to December 2022 Discharge	1,129,613

Notes:

LEGEND

- AREA BARRIER WALL
- FRENCH DRAIN
- GWTP DISCHARGE LINE
- EXTENTS OF FORMER PRESS PIT BASEMENT
- STORMWATER SEWER LINE
- SITE BOUNDARY
- SANITARY LINE
- FENCE
- MW-A2-2S — EXISTING MONITORING WELL/ PERFORMANCE MONITORING LOCATION
- MW-86S-20 — PROPOSED NEW MONITORING WELL/ PERFORMANCE MONITORING LOCATION
- MW-A2-2S — EXISTING MONITORING WELL/ CONSTRUCTION MONITORING LOCATION
- MW-A2-2S — EXISTING MONITORING WELL/ CONSTRUCTION AND PERFORMANCE MONITORING LOCATION
- JET-GROUTED BARRIER WALL

0 25 50 ft

N

GHD

RACER TRUST
ECKLES ROAD SITE
LIVONIA, MICHIGAN

CONSTRUCTION MONITORING LOCATIONS
PERFORMANCE MONITORING LOCATIONS
AREA 1 INTERM MEASURE COMPONENTS

Project No. **12573440**
Date **May 2022**

FIGURE 1

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