

Mr. Tauren Beggs
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Resources
2984 Shawano Avenue
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October 24, 2018

**Emerging Contaminant Monitoring Work Plan and Project Status Update
Former Town of Newton Gravel Pit
BRRTS No. 02-3-000268
AECOM Project No. 60135471(82518)**

Dear Mr. Beggs,

AECOM Technical Services, Inc. (AECOM), on the behalf of the City of Manitowoc (City), is pleased to submit this emerging contaminant monitoring work plan and project status update for the Former Town of Newton Gravel Pit site.

Presented below are site background information, an emerging contaminant work plan for potable well and groundwater monitoring well sampling, and a project status update.

BACKGROUND INFORMATION

On September 24, 2018, AECOM notified the Wisconsin Department of Natural Resources (WDNR) that per- and polyfluoroalkyl substances (PFAS) were present in the groundwater at the Former Town of Newton Gravel Pit site, 3130 Hecker Road, Manitowoc Wisconsin.

In response to the notification, the WDNR issued an updated responsible party (RP) letter¹ to the City informing them of their legal responsibilities and the next steps to be taken associated with the PFAS release.

In accordance with the updated RP letter, the City is providing the following work plan for initiating the emerging contaminant site investigation with a focus on potable wells. In addition, the City is also providing a status update for the multiple activities associated with the project.

EMERGING CONTAMINANT WORK PLAN

The emerging contaminant work plan is provided in general accordance with the requirements of the Wis. Admin. Code Chapter NR 700 rule series with the understanding that multiple work plans for the project are currently in-place and approved by the WDNR. Therefore, the work plan presented below is provided as an update to the existing plans and is not intended to be a comprehensive/stand-alone document.

The work plan is based on the results of the initial limited groundwater assessment conducted by the WDNR² indicating PFAS are present in the groundwater beneath the site. The need for additional PFAS

¹ Roxanne N. Chronert, WDNR, to City of Manitowoc, September 24, 2018. *Reported Contamination at Manitowoc City/Former Newton Tn Gravel Pit*, 3130 Hecker Road, Manitowoc.

² *Limited Groundwater Assessment for Emerging Contaminants*, Former Town of Newton Gravel Pit, 3130 Heck Road, Manitowoc, Wisconsin. AECOM, dated October 22, 2018.

sampling beyond what is proposed in this work plan, will be evaluated based on the results of the proposed sampling.

Potable Well Sampling

As of the date of this letter, AECOM is in the process of conducting potable well sampling for volatile organic compounds (VOCs) in accordance with the Five Year Potable Well Monitoring Work Plan³. The October 2018 sampling event includes monitoring of four potable wells along Hecker Road, as follows:

- 3327 Hecker Road
- 3461(3417) Hecker Road
- 3702 Hecker Road
- 3320 Hecker Road

AECOM proposes to complete PFAS sampling at these four wells during the regularly scheduled VOC sampling.

Sampling will follow the approved Five Year Work Plan methodology for VOC sampling with the following amendments to include PFAS sampling:

PFAS Testing Laboratory:
TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Potable Water Laboratory Analysis:
EPA Method 537, standard list of 14 analytes, using laboratory-supplied 250ml HDPE bottles containing Trizma preservative.

Scheduling:
The City will schedule the potable well sampling appointments with the individual well owners and occupants, as applicable. The correspondence will include notification of the additional sampling for PFAS.

Sampling:
PFAS sampling will be conducted first, before the VOC sampling, at each location. This is to provide a separation of time and distance between the PFAS sampling and the VOC sampling, which is collected in three 40-ml glass vials with a Teflon septa (the Teflon septa is a possible source for PFAS).

Sampling will be conducted by AECOM-certified PFAS sampling teams. AECOM certification requires attending an AECOM internal PFAS sampling training course and reviewing the PFAS Sampling Guidance document designed to make AECOM samplers aware of the products that are known to have tested positive for PFAS compounds, as well as identifying products that are appropriate to use in the sampling environment. Care will be taken by the AECOM sample teams to use PFAS-free sampling protocols.

Potable water samples will be obtained from a sample port/valve prior to treatment equipment and at a location as close to the well as possible. This is typically a sample port/valve located next to the system pressure tank, or it may be the nearest cold-water hose bib.

³ *Five Year Potable Well Monitoring Work Plan*, Former Town of Newton Gravel Pit, 3130 Hecker Road, Manitowoc, Wisconsin. AECOM, dated May 8, 2017.

The potable water system will be sampled using laboratory-supplied 250ml HDPE bottles containing Trizma preservative. The sample bottles, once filled, will be stored on ice in insulated coolers. The coolers will be shipped via FEDEX to the analytical laboratory for chemical analysis within the holding times specified by the analytical method (14 days). The samples will be transferred to the laboratory under standard chain of custody control.

Quality Control:

Duplicate Sample: AECOM will obtain one (1) field duplicate sample.

Field Blanks: The Method 537 sampling protocol, which requires field blanks at each sampling location, will be modified as follows:

A single field blank, representing outside conditions along Hecker Road, will be collected outside (i.e. exterior to the house) at the 3461(3417) Hecker Road location.

Equipment Blanks: No equipment blanks will be obtained as the sampling equipment is inherently the plumbing system at each sample location.

Laboratory Quality Control: The test lab will provide a Level IV data package. Matrix Spike/Spike Duplication (MS/MSD) analysis will not be requested. The laboratory will have batch MS/MSD data if needed.

Data Validation: AECOM will provide a data validation review using procedures described in the National Functional Guidelines for High Resolution Superfund Method Data Review (EPA, April 2016), as appropriate.

Reporting:

AECOM will incorporate the PFAS sampling results into the October 2018 Semi-Annual Potable Well Monitoring letter report.

Notification to Well Owners:

In accordance with WAC Chapter NR 716.14, the City will provide sampling results to the WDNR along with individual results to the well owner, and occupants as applicable, within 10 business days of receiving the laboratory analytical reports.

Additional Monitoring:

As an emerging class of contaminants, to date, the EPA has not determined a Maximum Contaminant Level (MCL) for PFAS under the Safe Drinking Water Act. Additionally, there are currently no applicable WAC Chapter NR 140 Enforcement Standards (ESs) or Preventative Action Limits (PALs) for PFAS in groundwater.

The EPA has published a drinking water lifetime Health Advisory Level (HAL) for two PFAS compounds, Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS). The HAL serves as a technical guidance for federal, state, and local officials, but it is a non-enforceable federal limit. The lifetime HAL for PFOA and PFOS is 70 nanograms per liter (ng/l) or parts per trillion (ppt) and when both PFOA and PFOS are present in drinking water the combined levels should be compared with the 70 ppt advisory level.

Based on this lack of regulatory standards for PFAS, the need for expanded potable well monitoring will be determined by the results of this initial round of sampling and future discussions with the WDNR.

Groundwater Monitoring Well Sampling

The Revised Remedial Actions Options & Conceptual Design Report⁴ (ROAR) identified the proposed groundwater sampling requirements as part of a future operation and maintenance (O&M) plan for the Groundwater Treatment Pond. The 2017 Groundwater Monitoring Letter Report⁵ identified the changes to the groundwater monitoring well network associated with groundwater remediation activities and presented the results from the first post-groundwater remediation VOC sampling event. In general, the Newton Pit site is currently within a normal cycle of annual groundwater monitoring for VOCs.

The initial limited groundwater assessment for PFAS conducted by the WDNR sampled seven on-site wells, as follows:

- WT-01
- WP-06R
- WT-26
- PZ-26A
- WT-31
- PZ-31A
- WT-34

AECOM proposes to expand the PFAS on-site groundwater monitoring by sampling the balance of the on-site water table wells and the groundwater treatment pond, 10 locations total, including the following:

- WT-02A
- WT-03
- WP-07R
- WT-27
- WT-28
- WT-29
- WT-30
- WT-32
- WT-33
- Treatment Pond Staff Gage, SG-P

The combined results of the WDNR's initial groundwater assessment event and this proposed expanded sampling event, will provide a complete data set for the on-site water table wells and characterize the treatment pond.

On-site groundwater sampling for PFAS will include the following protocols:

PFAS Testing Laboratory:
TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

Groundwater Water Laboratory Analysis:
Modified EPA Method 537 (isotope dilution method), State of Michigan list of 24 analytes.
Laboratory-supplied 250ml HDPE bottles without preservative.

Sampling:
Sampling will be conducted by AECOM-certified PFAS sampling teams. AECOM certification requires attending an AECOM internal PFAS sampling training course and reviewing the PFAS Sampling Guidance document designed to make AECOM samplers aware of the products that are known to have tested positive for PFAS compounds, as well as identifying products that are

⁴ *Revised Remedial Action Options Report & Conceptual Design Report*, Former Town of Newton Gravel Pit, 3130 Hecker Road, Manitowoc, Wisconsin. AECOM, dated June 12, 2017.

⁵ *2017 Groundwater Monitoring Letter Report*, Former Town of Newton Gravel Pit, 3130 Hecker Road, Manitowoc, Wisconsin. AECOM, dated March 27, 2018.

appropriate to use in the sampling environment. Care will be taken by the AECOM sample teams to use PFAS free sampling protocols.

The groundwater monitoring wells will be sampled using the laboratory supplied 250ml HDPE bottles without preservative. The sample bottles, once filled, will be stored on ice in insulated coolers. The coolers will be shipped via FEDEX to the analytical laboratory for chemical analysis within the holding times specified by the analytical method (14 days). The samples will be transferred to the laboratory under standard chain of custody control.

Quality Control:

Duplicate Sample: AECOM will obtain one (1) field duplicate sample.

Field Blanks: The Method 537 sampling protocol, which require field blanks at each sampling location, will be modified as follows:

A single field blank will be collected from a central location within the Newton Pit during the sampling event.

Equipment Blanks: AECOM will collect one (1) equipment blank representative of the sampling equipment.

Laboratory Quality Control: The test lab will provide a Level IV data package. Matrix Spike/Spike Duplication (MS/MSD) analysis will not be requested. The laboratory will have batch MS/MSD data if needed.

Data Validation: AECOM will provide a data validation review using procedures described in the National Functional Guidelines for High Resolution Superfund Method Data Review (EPA, April 2016), as appropriate.

Reporting:

AECOM will incorporate the PFAS sampling results into the 2018 Groundwater Monitoring letter report. The report will also incorporate historical PFAS results obtained during the WDNR's sampling efforts.

Additional Monitoring:

As noted above, there is a lack of regulatory standards for PFAS in groundwater. Based on this lack standards, the need for expanded groundwater monitoring will be determined by the results of the proposed sampling event and future discussions with the WDNR.

PROJECT STATUS UPDATE

The discovery of emerging contaminants in the groundwater at the Newton Pit has introduced a level of uncertainty into the management of the project. Until more information is known about the extent of the emerging contaminants the City must manage their limited resources and prioritize the project activities. Presented below is a summary of the current project activities and their status.

Remedial activities for the known environmental impacts, as identified in the ROAR, were approved by the WDNR⁶ and have been ongoing. The existing remedial actions were designed to be implemented in two phases.

⁶ Roxanne N. Chronert, WDNR, to Mr. Dan Koski, Director of Public Infrastructure, City of Manitowoc, July 7, 2017. *Approval of Revised Remedial Action Options Report & Conceptual Design Report for Manitowoc City / Former Newton Tn Gravel Pit*, 3130 Hecker Road, Manitowoc.

Phase 1

The first phase included the design and construction of a Western Source Area Engineered Cap and the Groundwater Treatment Pond. Both elements were constructed in 2017.

As they relate to the Engineered Cap, AECOM has prepared and submitted a draft Cap Maintenance Plan and the associated Deed Restriction to the WDNR for review. These documents can be finalized once review comments are received.

Monitoring of the Groundwater Treatment Pond operation has been occurring over the past year. During this period the Pond has been operating without discharging to Silver Creek. AECOM is in the process of reporting the monitoring results in conjunction with the annual Wisconsin Pollutant Discharge Elimination System (WPDES) reporting requirements. We anticipate continued operation of the Pond without discharge until the outcomes of the PFAS investigation are understood.

Phase 2

The second phase of the remedial actions includes the design and construction of the Western Source Area Engineered Treatment System (i.e. soil vapor extraction (SVE) with LNAPL recovery). This work was initially scheduled to occur in 2018 but has been put on hold.

Additional Investigation Activities

As part of the ongoing WDNR and City project team discussions, the City acknowledges the WDNR's May 14, 2018 letter⁷ concerning additional investigation activities. As outlined by the WDNR, the continued investigation activities include the following:

Activities associated with the Newton Pit Source Property:

- As requested, AECOM, on behalf of the City, is working on a technical memo to formalize discussions and agreements concerning other potential dumping areas at the Newton Pit. Once completed and reviewed, the memo will be submitted to the WDNR.
- Groundwater Monitoring within the Northern Source Area. This work is complete. A water table monitoring well, WT-34, has been installed and sampled for VOCs, Resource Conservation & Recovery Act (RCRA) Metals, and PFAS. The well construction activities along with the soil and groundwater analytical results will be included in the 2018 groundwater monitoring report.
- PCB soil testing within the Western Source Area. This soil testing will be conducted when soil borings are advanced for construction of the SVE and LNAPL recovery system.

Off-site and private well investigation activities associated with the down-gradient VOC groundwater plume:

- Additional private well investigation in the vicinity of South 26th Street, Town of Newton and Town of Manitowoc, and along Silver Creek Road, southeast of Thunder Ridge Road. The submittal of a potable well sampling work plan to the WDNR will be required prior to conducting the monitoring. This work is currently on hold.

⁷ Roxanne N. Chronert, WDNR, to City of Manitowoc, Attn. Kathleen McDaniel, May 14, 2018. *Additional Investigation for Manitowoc City / Former Newton Tn Gravel Pit*, 3130 Hecker Road, Manitowoc.

- Installation of monitoring wells and groundwater sampling in the area within the City limits north of Viebahn Street to define the degree and extent of the designated northeast groundwater plume in this direction. This work is on hold.
- Investigation to provide multiple lines of evidence to differentiate the currently designated northeast groundwater plume from the southeast groundwater plume, if required by the City. This work is on hold.

In addition to these activities, the City is continuing cost recovery efforts under Wis. Stat. § 292.35 and is also exploring the feasibility of extending city water main, in a phased approach, as an option for providing safe drinking water for homeowners with public health drinking water enforcement standard exceedances.

SUMMARY

AECOM, on the behalf of the City, has provided an emerging contaminant monitoring work plan and project status update for the Former Town of Newton Gravel Pit site.

At this time, we are proceeding with the proposed monitoring activities, unless otherwise notified by the WDNR.

If you have any questions, please contact Dave Henderson at 414.944.6190 or dave.henderson@aecom.com.

Yours sincerely,

AECOM Technical Services, Inc.



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Cc: Kathleen M. McDaniel, City Attorney, City of Manitowoc
Dan Koski, Director of Public Infrastructure, City of Manitowoc