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PI
11-16-20



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**Supplemental Task Order
Balance of 2020 and 2021 Services
Former Town of Newton Gravel Pit
AECOM Project No. 60135471 (82518)**

A. Purpose of Task Order

AECOM Technical Services, Inc. (AECOM) is to provide consulting and subcontractor services for the balance of the 2020 and the 2021 calendar year for the Former Town of Newton Gravel Pit project. AECOM proposes to perform these services as a supplemental task order under the terms of our Consulting Agreement authorized by the City of Manitowoc Common Council November 23, 2009, and as modified by this change order. These costs will be tracked and invoiced under AECOM's current Project No. 60135471.

As you are aware, the world is experiencing a pandemic as it relates to the coronavirus COVID-19 ("Coronavirus"). This health emergency has the potential of impacting multiple facets of the project including, without limitation, labor, personnel, manufacturing, equipment, materials, transportation and related supply chains, all of which have the potential to adversely impact the critical path of the project schedule. These potential, unusual, and unavoidable delays are outside of the control of AECOM and cannot be anticipated or determined in advance. AECOM will exercise reasonable care to mitigate the potential impact of the Coronavirus to the extent within AECOM's reasonable control. AECOM will notify you in the event AECOM becomes aware of any potential impact to the work caused by the Coronavirus.

Please note that the proposed services are being proposed during the COVID pandemic.

B. Scope of Services

The proposed scope of services is summarized below followed by more detailed descriptions of individual tasks:

- Project Management
- Volatile Organic Compound (VOC) and Per- and polyfluoroalkyl substances (PFAS) Groundwater and Surface Water Sampling
- VOC & PFAS Potable Well Sampling
- PFAS Site Investigation Work Plan Prep
- VOC Potable Well Work Plan Update
- PFAS Potable Well Work Plan Prep
- PFAS Site Investigation Activities
- Specs, Plan Set, Bidding – Engineered Treatment System
- Construction Observation – Engineered Treatment System
- Operation & Maintenance – Groundwater Treatment System
- Operation & Maintenance – Engineered Treatment System

Balance 2020 Project Management

The Newton Pit Project Team (City personnel, WDNR personnel, and the AECOM project manager) typically meet on a monthly or bi-monthly basis. Most meetings are convened at City Hall, but some meetings are conference calls (more prevalent during COVID). Occasionally, the City Team (City personnel and AECOM project manager) have a preparation meeting prior to meetings with regulators.

Health & Safety Plan Update:

AECOM will prepare an OSHA required site-specific Health and Safety Plan (HASP) update to cover the environmental field activities of AECOM staff.

Cost Recovery:

Included in this task is time to provide technical support to the City and Mr. Ned Witte, Godfrey & Kahn S.C., for Cost Recovery activities. It is anticipated that the level of this support will be nominal in 2020 unless the City requires litigation support. If litigation support is needed, additional funding will be requested.

WDNR Liaison:

AECOM will provide correspondence with Mr. Tauren Beggs, WDNR Project Manager, to define scope of work for on-site PFAS site investigation activities, VOC and PFAS potable well sampling, PFAS surface water sampling, and other technical support as determined by the City Team.

Virtual Town Hall Meeting:

The Project Team anticipates conducting a virtual town hall meeting in 2020. AECOM will assist the Project Team by preparing materials for the presentation (i.e. slide show, figures, tables, etc.), participating in preparation meetings, participating in the virtual town hall meeting, and supporting follow-up activities.

Water Main Support:

AECOM will provide technical environmental support to the City and MPU for the water main extension project. This includes periodic City Team meetings and regulatory support for the SDWLP application and PSC submittals.

Balance of 2020: PFAS Groundwater and Surface Water Sampling

Conduct PFAS groundwater and surface water sampling services to include an estimated 45 groundwater monitoring wells and 10 staff gauge locations in Silver Creek. The work is anticipated to include:

- Obtain groundwater and Silver Creek staff gauge elevation measurements for use in interpreting groundwater flow direction.
- Purge and sample groundwater for field parameter analysis (pH, dissolved oxygen, conductivity, and redox potential) along with sampling for laboratory analysis of PFAS. AECOM assumes that the sampling purge water will be disposed of in the on-site treatment pond.
- Conduct water sampling from Silver Creek for PFAS consistent with groundwater sampling.
- Collect quality control samples. VOC quality control samples will include field duplicate and laboratory-prepared matrix spike/matrix spike samples. PFAS quality control samples will include field blank and equipment blank samples.
- Submit an estimated 55 water samples (includes quality control samples) to a WAC Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B) and the WI 36 list of PFAS compounds (EPA modified Method 537.1 isotope dilution).

- Compile the data into a letter report for submittal to the City and the WDNR. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, figures showing the results, and copies of laboratory reports.
- Laboratory subcontractor costs and AECOM expenses are estimates. Final costs will be based on invoicing.

Balance of 2020: PFAS and VOC Potable Well Sampling – June 2020

Conduct semi-annual potable well sampling activities for 2020, AECOM will sample an estimated total of 16 potable wells in June. The specific wells to be sampled will be determined by the Existing 5-Year Potable Well Monitoring Work Plan and WDNR requested PFAS sampling. The scope of services for the sampling event is expected to include:

- Notification to the potable well owners to schedule the sampling (to be conducted by the City) and coordination between AECOM, the City, and owners to determine specific sampling times for an AECOM field technician to sample the private wells.
- Collect potable well water samples and quality control samples. The VOC quality control samples will include field duplicate and matrix spike/matrix spike samples. PFAS quality control samples will include field blank samples. The number of quality control samples will be determined by AECOM field personnel.
- Submit an estimated 17 samples, including quality control samples, to a Wisconsin Administrative Code (WAC) Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B) and the WI 36 list of PFAS compounds (EPA modified Method 537.1 isotope dilution).
- AECOM will assist the City with reporting the individual sampling results to both the WDNR and potable well owners. A potable well sampling letter report will be submitted to the WDNR by AECOM. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, a figure showing the results, and copies of laboratory reports. Well owner notification of analytical results will be performed by the City and is expected to include a cover letter explaining the results with an attached copy of the well-specific laboratory report. The WDNR will be copied on the well owner reporting.
- The proposed scope of services does not include confirmation potable well water sampling if a new/replacement potable well is installed at a residence with an impacted well. These services will be provided under a separate cover if potable well replacement activities take place.
- If sampling results indicate that updates should be made to the number of Target Zone or Sentinel Zone wells (as provided for in the 5-Year Potable Well Monitoring Work Plan), those changes will be reflected in the number of potable wells sampled during subsequent sampling events.
- Laboratory subcontractor costs and AECOM expenses are estimates. Final costs will be based on invoicing.

Balance of 2020: Expanded Potable Well Sampling

AECOM will conduct continued Expanded Potable Well Monitoring in response to regulatory exceedances at the previously established limits of the downgradient VOC plume. Initially this task includes sampling 20 potable wells. Potential additional sampling will be determined based on the results of this initial sampling and WDNR approval. The scope of services for the sampling event is expected to include:

- Notification to the potable well owners to schedule the sampling (to be conducted by the City) and coordination between AECOM, the City, and owners to determine specific sampling times for an AECOM field technician to sample the private wells.

- Collection of potable well water samples and quality control samples. The VOC quality control samples will include field duplicate and matrix spike/matrix spike duplicate samples. The quality control samples will be determined by AECOM field personnel.
- Submit an estimated 25 samples in 2020 including quality control samples to a Wisconsin Administrative Code (WAC) Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B).
- AECOM will assist the City with reporting the individual sampling results to both the WDNR and potable well owners. A potable well sampling letter report will be submitted to the WDNR by AECOM. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, a figure showing the results, and copies of laboratory reports. Well owner notification of analytical results will be performed by the City and is expected to include a cover letter explaining the results with an attached copy of the well-specific laboratory report. The WDNR will be copied on the well owner reporting.
- The proposed scope of services does not include confirmation potable well water sampling if a new/replacement potable well is installed at a residence with an impacted well. These services will be provided under a separate cover if potable well replacement activities take place.
- If sampling results indicate that updates should be made to the number of Target Zone or Sentinel Zone wells (as provided for in the Expanded Downgradient Potable Well Monitoring Work Plan), those changes will be reflected in the number of potable wells sampled during subsequent sampling events.
- Laboratory subcontractor costs and AECOM expenses are estimates. Final costs will be based on invoicing.

Balance of 2020; VOC 5-Year Plan, Semi-Annual Potable Well Sampling – November 2020

As part of semi-annual potable well sampling activities for 2020, AECOM will sample an estimated total of 30 potable wells in November. The specific wells to be sampled will be determined by the Existing 5-Year Potable Well Monitoring Work Plan. The scope of services for the sampling event is expected to include:

- Notification to the potable well owners to schedule the sampling (to be conducted by the City) and coordination between AECOM, the City, and owners to determine specific sampling times for an AECOM field technician to sample the private wells.
- Collect potable well water samples and quality control samples. The VOC quality control samples will include field duplicate and matrix spike/matrix spike duplicate samples. The quality control samples will be determined by AECOM field personnel.
- Submit an estimated 35 samples, including quality control samples, to a Wisconsin Administrative Code (WAC) Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B).
- AECOM will assist the City with reporting the individual sampling results to both the WDNR and potable well owners. A potable well sampling letter report will be submitted to the WDNR by AECOM. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, a figure showing the results, and copies of laboratory reports. Well owner notification of analytical results will be performed by the City and is expected to include a cover letter explaining the results with an attached copy of the well-specific laboratory report. The WDNR will be copied on the well owner reporting.
- The proposed scope of services does not include confirmation potable well water sampling if a new/replacement potable well is installed at a residence with an impacted well. These services will be provided under a separate cover if potable well replacement activities take place.
- If sampling results indicate that updates should be made to the number of Target Zone or Sentinel Zone wells, those changes will be reflected in the number of potable wells sampled during subsequent sampling events.

- Laboratory subcontractor costs and AECOM expenses are estimates. Final costs will be based on invoicing.

Balance of 2020: PFAS Site Investigation Work Plan Prep

AECOM will prepare an NR 700 required on-site PFAS Site Investigation Work Plan for review by the City and submittal to the WDNR. The anticipated scope will be to conduct additional on-site soil and groundwater investigation to delineate possible sources for the PFAS impacts. No WDNR review fees are include with this scope.

Balance of 2020: VOC Potable Well Work Plan Update

AECOM will prepare an NR 700 required Potable Well Monitoring Work Plan for review by the City and submittal to the WDNR. The work plan will incorporate the results of the existing 5-Year and Expanded Sampling Work Plans to create a comprehensive VOC Potable Well. No WDNR review fees are include with this scope.

Balance of 2020: PFAS Potable Well Work Plan Prep

Potable well monitoring for PFAS compounds is anticipated to be conducted in a phased approach. AECOM will prepare a PFAS Potable Well Monitoring Work Plan for review by the City and submittal to the WDNR. The anticipated scope will take into account previously conducted PFAS sampling and include a stepped-out approach for monitoring of select potable wells in response to the proposed PFAS regulatory standards. No WDNR review fees are include with this scope.

2021 Project Management

The Newton Pit project team (City personnel, WDNR personnel, and the AECOM project manager) typically meet on a monthly or bi-monthly basis. Most meetings are convened at City Hall, but some meetings are conference calls (more prevalent during COVID). Occasionally, the City Team (City personnel and AECOM project manager) have a preparation meeting prior to meetings with regulators.

Health & Safety Plan Update:

AECOM will prepare an OSHA required site-specific Health and Safety Plan (HASP) update to cover the environmental field activities of AECOM staff.

Cost Recovery:

Included in this task is time to provide technical support to the City and Mr. Ned Witte, Godfrey & Kahn S.C., for Cost Recovery activities. It is anticipated that the level of this support will be nominal in 2021 unless the City requires litigation support. If support is needed, additional funding will be requested.

WDNR Liaison:

AECOM will provide correspondence with Mr. Tauren Beggs, WDNR Project Manager, to define scope of work for on-site PFAS site investigation activities, VOC and PFAS potable well sampling, PFAS surface water sampling, and other technical support as determined by the City Team.

Town Hall Meeting:

The Project Team anticipates conducting a town hall meeting in 2021. It is uncertain if the meeting will be virtual or in-person. AECOM will assist the Project Team by preparing materials for the presentation (i.e. slide show, figures, tables, etc.), participating in preparation meetings, participating in the virtual town hall meeting, and supporting follow-up activities.

Water Main Support:

AECOM will provide technical environmental support to the City and MPU for the water main extension project. This includes periodic City Team meetings and regulatory support for the SDWLP application and PSC submittals.

2021: VOC & PFAS Potable Well Sampling - May

As part of the semi-annual potable well sampling activities for 2021, AECOM will sample an estimated total of 75 to 100 potable wells in May. The specific wells to be sampled will be determined by the Updated Potable Well Monitoring Work Plan. The scope of services for the sampling event is expected to include:

- Notification to the potable well owners to schedule the sampling (to be conducted by the City) and coordination between AECOM, the City, and owners to determine specific sampling times for an AECOM field technician to sample the private wells.
- Collection of VOC and PFAS potable well water samples and quality control samples. The VOC quality control samples will include field duplicate and matrix spike/matrix spike duplicate samples. The PFAS quality control samples will include a field blank. The number of quality control samples will be determined by AECOM field personnel.
- Submit an estimated 75 to 100 samples, including quality control samples, to a Wisconsin Administrative Code (WAC) Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B) and the WI 36 list of PFAS compounds (EPA modified Method 537.1 isotope dilution).
- AECOM will assist the City with reporting the individual sampling results to both the WDNR and potable well owners. A potable well sampling letter report will be submitted to the WDNR by AECOM. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, a figure showing the results, and copies of laboratory reports. Well owner notification of analytical results will be performed by the City and is expected to include a cover letter explaining the results with an attached copy of the well-specific laboratory report. The WDNR will be copied on the well owner reporting.
- The proposed scope of services does not include confirmation potable well water sampling if a new/replacement potable well is installed at a residence with an impacted well. These services will be provided under a separate cover if potable well replacement activities take place.
- If sampling results indicate that updates should be made to the number of Target Zone or Sentinel Zone wells (as provided for in the Updated Potable Well Monitoring Work Plan), those changes will be reflected in the number of potable wells sampled during subsequent sampling events.
- Laboratory subcontractor costs and AECOM expenses are estimates. Final costs will be based on invoicing.

2021: PFAS Site Investigation

Conduct an NR 700 on-site PFAS soil and groundwater investigation to delineate possible sources for the PFAS impacts. AECOM anticipates two sets of nested groundwater monitoring wells will be installed, a total of eight wells. Each well nest will include four wells consisting of one water table well and three piezometers. The site investigation scope may be modified in accordance with the on-site PFAS Site Investigation Work Plan.

- Conduct eight soil borings for monitoring well installation configured into two well nests.
- Laboratory analysis of two soil samples by a WAC Chapter NR 149 certified laboratory for analyses of VOCs and the WI 36 list of PFAS compounds (EPA modified Method 537.1 isotope dilution).

- Each well nest will be comprised of four wells including a water table well and three piezometers at approximate depths of 60, 100, and 120 feet below ground surface. The deepest piezometer will be completed approximately 20 feet below the top of bedrock
- Each of the newly installed wells will be developed and sampled prior to incorporating into the annual site-wide monitoring event. AECOM assumes that the sampling purge water can be discharged into the groundwater treatment pond.
- Laboratory analysis of nine groundwater samples by a WAC Chapter NR 149 certified laboratory for analyses of VOCs and the WI 36 list of PFAS compounds (EPA modified Method 537.1 isotope dilution).
- The location of each newly-installed well will be surveyed (X and Y coordinates), as well as top of casing elevation.
- AECOM will complete boring logs and well construction and development documentation for each well (WDNR Forms 4400-122 and 4400-113A and 113B).
- AECOM will assist the City with reporting preliminary sampling results to the WDNR. If the delineation results are supportive of a separate delineation report, AECOM will prepare such a report. Otherwise, the formal reporting of the well installation and sampling activities will occur in the 2021 annual groundwater and surface water sampling report.
- Laboratory and drilling subcontractor costs are estimates. Final subcontractor costs will be determined through formal bids and invoiced accordingly.
- Investigation derived waste, soil cuttings from the borings will be disposed of at the gravel pit site.

2021: Specs, Plan Sets, Bidding – SVE & LNAPL Engineered Treatment System

AECOM will assist the City with preparing plans and technical specifications along with bidding activities in support for the 2021 construction for the engineered treatment system (i.e. SVE and LNAPL recovery systems). It is anticipated that these activities will include:

- Preparing a plan set with sheets for site layout design, process & instrumentation diagram, building layout, and cross-sections/details.
- A technical specification document providing details for the engineered treatment system construction. AECOM understands that the City will provide the "front end" documents for the public bid documents.
- Bidding; AECOM will assist the City with the bidding process by providing technical support during the pre-bid meeting, answering technical questions and providing support for addendums during the bidding period, and supporting the final bid review.

2021: Construction Observation – SVE & LNAPL Engineered Treatment System

AECOM will assist the City with pre-construction, construction observation, and post-construction activities. It is anticipated that these activities will include:

- Pre-construction:
 - Pre-construction Meeting: AECOM will assist the City with a project kick-off pre-construction meeting with the construction contractor and subcontractors.
 - Pre-construction Layout Survey: AECOM surveyors will conduct one trip to the site for the proposed extraction well and remediation building layout.
 - AECOM expenses are estimates. Final costs will be based on invoicing.
- Construction Observation:
 - Construction Observation: For budgeting purposes AECOM has assumed construction will take a period of two months (8 weeks).

- AECOM proposes a weekly construction meeting with the contractor, City personnel, and the AECOM project manager. Weekly meetings are budgeted at 1-day a week over the 8 week construction period.
- AECOM will assist the City with construction observation activities and proposes providing construction observation personnel for an average of 1-day a week over the 8 week construction period. This time will also be used to complete WDNR-requested PCB soil sampling within the Western Source Area during the extraction well installation activities.
- AECOM expenses are estimates. Final costs will be based on invoicing.
- Punch List & Substantial Completion:
 - Punch list observation is anticipated to take a period of one day.
 - As-built Survey: AECOM surveyors will conduct one trip to the site for an as-built survey.
 - AECOM expenses are estimates. Final costs will be based on invoicing.

2021: Groundwater Treatment System Operation & Maintenance

Operation & Maintenance (O&M) activities for the groundwater treatment system include training of City staff, discharge operations, discharge permit sampling, and operational/groundwater monitoring. For budgeting purposes, O&M activities began in March (pre-ice out) and will be performed for the remainder of 2021.

- Wisconsin Pollutant Discharge Elimination System (WPDES) Discharge Sampling: In accordance with WPDES discharge permit requirements, AECOM will conduct pre-discharge monitoring of the pond surface water. Once the pre-discharge results indicate compliance with the permit discharge limits AECOM will begin discharging water from the pond to Silver Creek and simultaneously begin discharge permit monitoring. The work is anticipated to include:
 - Pre-discharge surface water sampling, budgeted for four sampling events.
 - Discharge monitoring includes six weekly and four monthly sampling events. Budgeting includes AECOM assistance to City staff for the first three weekly sampling events. It is assumed that the remaining sampling events will be completed by City staff. Sampling events to include staff gauge monitoring, discharge flow monitoring, and sampling discharged surface water.
 - Collect quality control samples, when applicable. The quality control samples will include field duplicate and laboratory-prepared matrix spike/matrix spike duplicate samples.
 - Submit an estimated 20 water samples (includes quality control samples) to a WAC Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B), PAHs (EPA Method 8270), Total Recoverable Lead (EPA Method 6010), Oil, Fats, and Grease (EPA Method 1664), and Total Suspended Solids (EPA Method 160.2).
 - Compile and report the data to the WDNR on a monthly basis using the WDNR's Discharge Monitoring Report (DMR) forms. Incorporate the data into an annual groundwater monitoring report.
 - Laboratory subcontractor costs and AECOM expenses are estimates. Final costs will be based on invoicing.
- NR 724 O&M and Groundwater Monitoring Plan: AECOM will finalize a combined NR 724 O&M Plan for the operation of the groundwater treatment system, an as-built submittal, and a monitoring well sampling schedule.
- Cap Maintenance Plan and Deed Restriction: AECOM will finalize the previously submitted Cap Maintenance Plan for the Western Source Area cap deed restriction notice based on WDNR review.

- USFS Phytoremediation Management: Assist the City in managing the USFS work for phytoremediation activities.
- Annual Treatment System O&M Report: AECOM anticipates incorporating the NR 700 required remedial system operation annual report into the annual groundwater monitoring report. An initial discussion with the WDNR indicates combining the reports in this manner will be acceptable.

2021: SVE & LNAPL Engineered Treatment System Operation & Maintenance

Operation & Maintenance (O&M) activities for the engineered treatment system (i.e. soil vapor extraction (SVE) and (Light non-aqueous phase liquid (LNAPL) recovery systems) include start-up testing and system balancing, operation monitoring, air emission sampling, and LNAPL waste disposal. For budgeting purposes, O&M activities assume construction activities are completed by the end of September allowing for an October system start-up.

- Start-up Operations: AECOM will conduct start-up activities anticipated to include one day for start-up testing and system balancing. An air discharge sample will be obtained to verify that air emissions are below permit requirement levels. The system will be left off after the one day start-up testing until air sample analytical results are received. Only after air emission rates are confirmed will operation of the system begin.
- O&M Monitoring: AECOM will conduct system O&M monitoring for both the SVE and LNAPL systems. The work is anticipated to include:
 - Air emissions monitoring includes six weekly and four monthly sampling events. AECOM assumes that during this monitoring period, City staff will be trained to assist in the operation of the system.
 - Collect quality control samples, when applicable. The quality control samples will include field duplicate and laboratory-prepared matrix spike/matrix spike duplicate samples.
 - Submit an estimated 20 air samples (includes quality control samples) to a WAC Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B), and Gasoline Range Organics (GRO) (Wisconsin Method).
 - Disposal of one drum of recovered LNAPL product.
 - Laboratory subcontractor costs, LNAPL disposal, and AECOM expenses are estimates. Final costs will be based on invoicing.
- NR 724 O&M Monitoring Plan: AECOM will prepare a NR 724 O&M Plan for the operation of the engineered treatment system along with an as-built submittal.
- Annual Treatment System O&M Report: AECOM will prepare an NR 700 required remedial system operation annual report.

2021: Annual VOC Groundwater & Surface Water Sampling - October

The annual VOC site groundwater/surface water monitoring is planned to occur during October 2021. The scope of services includes sampling an estimated 54 groundwater monitoring wells and 3 staff gauges in Silver Creek. The work is anticipated to include:

- Obtaining groundwater and surface water staff gauge elevation measurements for use in interpreting the groundwater flow direction.
- Purge and sample groundwater for field parameter analysis (pH, dissolved oxygen, conductivity, and redox potential) along with sampling for laboratory analysis of VOCs. AECOM assumes that the sampling purge water can be discharged into the groundwater treatment pond.
- Conduct water sampling from Silver Creek for field parameters and VOCs consistent with groundwater sampling.

- Collect quality control samples. The quality control samples will include field duplicate and laboratory-prepared matrix spike/matrix spike duplicate samples.
- Submit an estimated 65 water samples (includes quality control samples) to a WAC Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B).
- Compile the data into a VOC letter report for submittal to the City and the WDNR. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, figures showing the results, and copies of laboratory reports.
- Laboratory subcontractor costs and AECOM expenses are estimates. Final costs will be based on invoicing.

2021: Annual PFAS Groundwater & Surface Water Sampling - October

The annual PFAS site groundwater/surface water monitoring is planned to occur during October 2021 in conjunction with the VOC sampling event. In addition to the VOC sampling field work, the PFAS work is anticipated to include:

- Sampling for laboratory analysis of PFAS. AECOM assumes that the sampling purge water can be discharged into the groundwater treatment pond.
- Conduct water sampling from Silver Creek for PFAS consistent with groundwater sampling.
- Collect quality control samples. The quality control samples will include field duplicate and equipment blank laboratory samples.
- Submit an estimated 56 water samples (includes quality control samples) to a WAC Chapter NR 149 certified laboratory for analyses of the WI 36 list of PFAS compounds (EPA modified Method 537.1 isotope dilution).
- Compile the data into a PFAS letter report for submittal to the City and the WDNR. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, figures showing the results, and copies of laboratory reports.
- Laboratory subcontractor costs and AECOM expenses are estimates. Final costs will be based on invoicing.

2021: VOC & PFAS Potable Well Sampling – October

As part of the semi-annual potable well sampling activities for 2021, AECOM will sample an estimated total of 75 to 100 potable wells in October. The specific wells to be sampled will be determined by the Updated Potable Well Monitoring Work Plan. The scope of services for the sampling event is expected to include:

- Notification to the potable well owners to schedule the sampling (to be conducted by the City) and coordination between AECOM, the City, and owners to determine specific sampling times for an AECOM field technician to sample the private wells.
- Collection of VOC and PFAS potable well water samples and quality control samples. The VOC quality control samples will include field duplicate and matrix spike/matrix spike duplicate samples. The PFAS quality control samples will include a field blank. The number of quality control samples will be determined by AECOM field personnel.
- Submit an estimated 75 to 100 samples, including quality control samples, to a Wisconsin Administrative Code (WAC) Chapter NR 149 certified laboratory for analyses of VOCs (EPA Method SW 8260B) and the WI 36 list of PFAS compounds (EPA modified Method 537.1 isotope dilution).
- AECOM will assist the City with reporting the individual sampling results to both the WDNR and potable well owners. A potable well sampling letter report will be submitted to the WDNR by AECOM. The letter report will include a written summary of the sampling event, summarized laboratory results in tabular form, a figure showing the results, and copies of laboratory reports. Well owner notification of analytical results will be performed by the City and is expected to

include a cover letter explaining the results with an attached copy of the well-specific laboratory report. The WDNR will be copied on the well owner reporting.

- The proposed scope of services does not include confirmation potable well water sampling if a new/replacement potable well is installed at a residence with an impacted well. These services will be provided under a separate cover if potable well replacement activities take place.
- If sampling results indicate that updates should be made to the number of Target Zone or Sentinel Zone wells (as provided for in the Updated Potable Well Monitoring Work Plan), those changes will be reflected in the number of potable wells sampled during subsequent sampling events.
- Laboratory subcontractor costs and AECOM expenses are estimates. Final costs will be based on invoicing.

VOC Plume Delineation North of Viebahn Street

WDNR requires further investigation of the down-gradient groundwater VOC contaminant plume north of Viebahn Street. This work is not scheduled for 2020 or 2021.

C. Updated Terms & Conditions

AECOM proposes to perform these services as a supplemental task order under the terms of our Consulting Agreement authorized by the City of Manitowoc Common Council November 23, 2009, and as modified by the updated rates below.

Updated rates have been determined by negotiations with the City of Manitowoc. They include the following rate changes:

- Services provided prior to November 1, 2020; labor rates based upon a 3.0 Direct Labor Multiplier (DLX) and sub-contractors (subs) and other direct charges (ODCs) marked up 10%.
- Services provided after November 1, 2020; labor rates based on a 2.7 DLX with 0% markup on subs and ODCs.
- AECOM will hold the labor 2.7 DLX rate and the 0% markup rate for a period of three years.

D. Compensation

The total cost to complete the described activities is estimated to be \$ 662,900.00. The sub-totals for each task are as follows:

<u>Task</u>	<u>Sub-Total</u>
<u>Balance of 2020 Services:</u>	
Project Management	\$ 48,650
PFAS Groundwater & Surface Water Sampling	\$ 59,510
VOC & PFAS Potable Well Sampling, May/June	\$ 23,650
VOC Potable Well Sampling, Oct	\$ 20,630
Expanded Potable Well Sampling	\$ 21,600
PFAS Site Investigation Work Plan Prep	\$ 4,890
VOC Potable Well Work Plan Update	\$ 4,950
PFAS Potable Well Work Plan Prep	\$ 6,780

2021 Services:

Project Management	\$ 59,100
VOC & PFAS Potable Well Sampling, May	\$ 64,680
PFAS Site Investigation	\$ 75,460
Specs, Plan Set, Bidding – Engineered Treatment System	\$ 20,890
Construction Observation – Engineered Treatment System	\$ 35,150
Operation & Maintenance – GW Treatment System	\$ 15,490
Operation & Maintenance – Engineered Treatment System	\$ 36,350
Annual VOC Groundwater & Surface Water Sampling - October	\$ 49,180
Annual PFAS Groundwater & Surface Water Sampling - October	\$ 35,970
VOC & PFAS Potable Well Sampling, Oct	\$ 79,970

Activities outside the scope of services described in this proposal will only be completed with prior written approval.

AECOM has prepared this proposal to address activities through calendar year 2021 for which the scope of work required during that period is, in some cases, uncertain or loosely defined. We expect, based on our past conversations with the City, that additional services will be needed and that the scope of work presented herein will vary. AECOM will continue our close communication with you and advise on scope of work and budgetary matters throughout the period of this task order as to the level of effort and deviations in the scope of work.

F. Schedule


AECOM will commence the additional activities upon written authorization to proceed. By signing below and/or an email authorization and returning it to David Henderson at AECOM's Milwaukee, Wisconsin office, will serve as written authorization to proceed.

The above is understood and authorization to proceed is given as noted by the undersigned:

Approved by:
 City of Manitowoc

Accepted by:
 AECOM Technical Services, Inc.

 Signature



 Kevin Brehm, P.E.

 Title

 Associate Vice President
 Title

 Date

 November 10, 2020
 Date