



City of Dayton, Ohio
Department of Central Services
Division of Purchasing

GROUNDWATER INVESTIGATIONS

REQUEST FOR PROPOSAL (RFP) No. 17043D

June 2017

TABLE OF CONTENTS

SECTION 1 – PROPOSAL INSTRUCTIONS	3
1.01 Communications Regarding this Project	3
1.02 RFP Schedule	3
1.03 Submitting a Proposal	3
1.04 Required Proposal Contents	4
1.05 Items that Disqualify a Vendor Immediately	4
1.06 Criteria.....	4
1.07 Miscellaneous Items.....	5
SECTION 2 – SCOPE OF PROJECT	6
2.01 Purpose and Need / Project Description.....	6
2.02 Background Information	6
2.03 Scope of Work / Project Requirements.....	6
2.04 Pricing Structure.....	13
SECTION 3 – REQUIREMENTS AND CONDITIONS FOR ALL PROPOSERS	13
3.01 Tax Exemption.....	13
3.02 Proposer Affidavit	13
3.03 Procurement Enhancement Program	13
3.04 Proposer’s Financial Obligation to the City.....	13
3.05 Proposer’s Incurred Costs	13
3.06 Affirmative Action Assurance (AAA).....	13
3.07 Standard Agreement Terms for Professional Services.....	14
ARTICLE 1. TERM	14
ARTICLE 2. SERVICES TO BE PERFORMED BY CONTRACTOR	14
ARTICLE 3. COMPENSATION	14
ARTICLE 4. CITY’S RESPONSIBILITIES.....	14
ARTICLE 5. STANDARD OF CARE	14
ARTICLE 6. INDEMNIFICATION.....	14
ARTICLE 7. INSURANCE.....	14
ARTICLE 8. OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY	15
ARTICLE 9. TERMINATION	15
ARTICLE 10. STANDARD TERMS	15
A. DELAY IN PERFORMANCE.....	15
B. GOVERNING LAW AND VENUE.....	16

C. COMMUNICATIONS	16
D. EQUAL EMPLOYMENT OPPORTUNITY	16
E. WAIVER	16
F. SEVERABILITY	16
G. INDEPENDENT CONTRACTOR.....	16
H. ASSIGNMENT.....	17
I. THIRD PARTY RIGHTS	17
J. AMENDMENT	17
K. POLITICAL CONTRIBUTIONS	17
L. INTEGRATION	17
EXHIBIT A – LETTER OF TRANSMITTAL.....	A-1
EXHIBIT B – REFERENCES FOR PROPOSING COMPANY	B-1
EXHIBIT C – PRODUCT MANUFACTURE LABOR STANDARDS: VENDOR COMPLIANCE FORM	C-1
EXHIBIT D – RELEVANT EXPERIENCE	D-1
EXHIBIT E – PRICING STRUCTURE	E-1

SECTION 1 – PROPOSAL INSTRUCTIONS

1.01 COMMUNICATIONS REGARDING THIS PROJECT. Please direct all communications regarding the RFP Process to:

City of Dayton, Division of Purchasing, Room 514
Donita Jo Garner CPPB
101 West Third Street
Dayton, Ohio 45402
Telephone: (937) 333-4035
Fax: (937) 234-1600
E-Mail: Donita.garner@daytonohio.gov

All communications/questions concerning this RFP must be submitted in writing referencing the specific paragraph and page number. The deadline for questions is listed in Section 1.02 (RFP Schedule). Written responses will be prepared by the City and posted on the city’s web site by the date listed in *Section 1.02*. Changes to this RFP will be made only by formal written correspondence issued by the City.

A copy of this proposal and any additional documentation may be found at the City of Dayton’s website at:

<http://daytonohio.gov/bids.aspx>

1.02 RFP SCHEDULE. The following is the anticipated schedule for the RFP Process:

Issue RFP:	June 15, 2017
Last Day to Submit Questions:	10:00 A.M. local (Dayton OH) time on June 30, 2017
Written Responses to Questions:	July, 10, 2017 no later than close of business
Due Date for Proposals:	3:00 P.M. local (Dayton OH) time on July 18, 2017

1.03 SUBMITTING A PROPOSAL. Each Contractor seeking consideration for performance of services related to the project must submit a Proposal. Proposers are to submit one (1) original copy signed by an officer authorized to bind the company, six (6) hard copies and two (2) electronic copies of their written proposal. All proposals shall be sealed, properly addressed with the name of the Contractor and sent to:

RFP No.17043D – Groundwater Investigations
City of Dayton, Division of Purchasing, Room 514
Donita Jo Garner CPPB
City Hall
101 West Third Street
Dayton, Ohio 45402

Sealed proposals must be received at the above address, in Room 514 by time/date indicated in Section 1.02 (RFP Schedule). Proposals received after the scheduled date/time will not be considered. All supporting materials and documentation must be included with the proposal. The responsibility of timely delivery lies solely with the proposer. Faxed and e-mailed proposals are **not** acceptable.

The City reserves the right to reject any and all proposals, to waive any irregularities in a proposal, or to accept the proposal(s) which in the judgment of proper officials, is in the best interest of the City. The City reserves the right to accept a part or parts of a proposal unless otherwise restricted in the RFP or issue subsequent Requests for Proposal. The City reserves the right to approve or reject any sub-Contractors proposed for work under this proposal or waive any minor irregularities

The City reserves the right to select the successful proposer on the basis of proposals received, without seeking further information for clarification from proposers. Upon review of proposals, the City may designate the most qualified proposals as

finalists. These finalists may be invited to make oral presentations and participate in a question and answer session with the City. The City shall have the right to visit selected user sites, should this be deemed necessary.

All federal, state, and local laws regarding competitive bidding, anti-competitive practices, and conflict of interest shall be applicable to this RFP.

The City does not guarantee that any contract will be awarded as a result of this RFP. In the event that a contract award is made but the contract is not executed, the City does not guarantee that the contract will be re-awarded.

1.04 REQUIRED PROPOSAL CONTENTS. All brochures and supplemental documentation shall be included with the original and all of the copies. If not, the proposal may be considered as non-responsive. Contractors are required to submit the following information in their proposal:

- **Letter of Transmittal:** The proposer shall provide a transmittal letter with authorizing signature for the proposal. The letter must briefly summarize the vendor's ability and willingness to perform the services required by the RFP. The letter must be on the form provided in Exhibit A.
- **Company Profile and Background.** Provide the following information:
 - **Location** - The street address of the proposer's company headquarters.
 - **Local Office of Proposer** - Provide the location of the proposer's office nearest to Dayton, Ohio. Include the local office, a contact name, address, telephone, and fax numbers.
 - **Company's Primary Business** - State the proposer's primary business, the number of years in the proposer's industry, and the number of employees assigned to these related activities.
 - **State the legal make-up** of your company: sole proprietorship, partnership, corporation, etc.
 - **Please list any Lawsuits that you are currently engaged in.** Please provide any and all suits either with the City of Dayton or any other Municipalities (include, but not limited to Federal, State, Local or other Municipalities and Governmental agencies).
- **Key Personnel Information.** Provide the name, title, mailing address, telephone number and e-mail address of the persons who will function as the City's primary contact and back-up contact person. Provide brief resumes/qualifications of personnel who will be primarily involved in this project. Include any certifications earned, special training taken, and memberships in professional groups. Complete Form found in Exhibit A.
- **Proposal Response** as per Section 2.
- **Statement of Exceptions to RFP requirements:** Provide a detailed description of any exceptions taken to the requirements of this RFP, including the City Standard Terms and Conditions in Section 3. Exceptions shall be referenced to the applicable RFP section/sub-section numbers. Any other departures from the city's RFP are to be identified and failure to do so shall make the proposal non-responsive. City's Standard Terms for Payment are Net 30 days from date of invoice once the project is complete, unless otherwise negotiated. If you cannot comply with this, please state any changes in the Statement of Exceptions to the RFP Requirements.
- **References:** Provide a list of references on form provided as Exhibit B. The City is particularly interested in contacting your governmental clients in the state of Ohio.

1.05 ITEMS THAT DISQUALIFY A VENDOR IMMEDIATELY.

- Incomplete or non-responsive proposal
- Inability to obtain Affirmative Action Assurance approval prior to award of the contract. See Section 3.06 for information on how to contact the Human Relations Council.

1.06 CRITERIA. The selection committee will evaluate each proposal submitted based on the following criteria. After receipt and review of the written proposal, the City may elect to have the proposal presented in person, or clarifications submitted in writing.

Proposers shall not assume that any information shared with the City prior to this RFP will be considered in the Evaluation process of this RFP. Evaluation team may or may not have prior knowledge of any discussions and processes. **Evaluation will be completed on the information submitted in proposal only.**

Evaluation Criteria		
Item	Description	Percentage Possible
1	Cost	30%
2	Relevant Experience – Prime (Consultant) – Exhibit D	30%
3	Relevant Experience – Drilling Subcontractor – Exhibit D	15%
4	Project Team	15%
6	Dayton Local Business	5%
7	PEP Certified Vendor	5%
	Total Points	100%

1.07 MISCELLANEOUS ITEMS.

- All Exhibits must be completed to ensure consideration of proposal(s) submitted. All Exhibits shall be included in the original and all hard copies and electronic copies of proposal submitted.
- PROJECT TEAM – Proposer shall notify City, in writing, within five (5) business days should any Project Team personnel change.
- All Contractors submitting a proposal will be notified, upon final determination by the City, of the firm(s) selected to perform the requested work.

SECTION 2 – SCOPE OF PROJECT

2.01 PURPOSE AND NEED / PROJECT DESCRIPTION. The City of Dayton, Department of Water, Division of Environmental Management (DEM) is requesting proposals from professional environmental consulting firms (contractors) to coordinate and monitor assigned projects with the Division of Environmental Management (DEM); and perform drilling, vertical aquifer sampling, onsite laboratory analyses, well installation, well development, auxiliary services, installation of gradient control and groundwater treatment systems, well cleaning, groundwater monitoring, including sampling and water level measurements, installation of water level transducers into existing two-inch diameter monitoring wells, telemetry, conceptual and numerical groundwater modeling, installation and maintenance of automated micro gas chromatograph sampler units, and industrial risk assessments. These services will enhance the City’s emergency and time-critical response capability relative to incidents of contamination and to evaluate threats to drinking water, groundwater and surface water.

Contractor shall provide personnel and necessary equipment within 48 hours of notification, that may also include weekends and after normal business hours, to provide the following services:

1. Provide slotted hollow stem auger (preferred) and rotosonic drilling (as necessary) with capabilities that provide representative vertical groundwater samples during borehole advancement and well installation equipment.
2. Provide mobile laboratory for immediate on-site analyses.
3. Provide groundwater extraction and treatment systems.

Additional services include water quality and water level monitoring of over 330 monitoring wells and risk assessment inspections in the City’s Source Water Protection Area (SWPA) and five-year time-of-travel.

2.02 BACKGROUND INFORMATION. The City’s DEM is responsible for compliance with the Source Water Protection Program (SWPP). The City of Dayton’s Multi-Jurisdictional SWPP was established in 1988 and last amended in July 2015. The SWPP is designed to protect the City’s and the region’s drinking water supply. The ordinances establishing the SWPP are located in Chapter 53 of the Revised Code of General Ordinances (R.C.G.O.) and the City of Dayton Zoning Code. The R.C.G.O. as it relates to the SWPP can be viewed at [HTTP://WWW.DAYTONOHIO.GOV/154/SOURCE-WATER-PROTECTION-PROGRAM](http://www.daytonohio.gov/154/SOURCE-WATER-PROTECTION-PROGRAM). This RFP is soliciting consulting firms to submit their proposal to assess groundwater quality, subsurface geology and hydrogeology of the portion of the Great Miami Buried Valley Aquifer that underlies the delineated SWPA and five-year time of travel, and to assess and advise businesses and industry in risk reduction efforts. The City’s DEM is seeking proposals through calendar year 2021 for groundwater protection efforts in the Source Water Protection Area. This includes the identification, delineation, and remediation of adverse groundwater quality and assistance in identifying risk reduction strategies through risk assessment inspections of businesses in the SWPA.

After Price Agreements have been approved, contracts will be issued or amended at various times during the year in accordance with the needs of the using Division. Contracts may be issued to multiple vendors at the sole discretion of the City of Dayton.

2.03 Scope of Work / Project Requirements. In response to changes in the SWPP including a much larger protection area, the City of Dayton Water Department is expanding the existing early warning monitoring well network. In addition, emergency response and time-critical groundwater investigations are initiated in response to spills and releases which have impacted or have the potential to impact groundwater and the City’s drinking water supply. Other investigations are performed to enhance our understanding of the groundwater quality and underlying deposits by defining the lateral and vertical distribution of existing groundwater contamination and to determine the appropriate mitigation remedy. The City’s contractor must be able to respond to episodes of groundwater contamination, under the direction of the Division of Environmental Management (DEM), within 48 hours of notification. The contractor must be able to interpret geological and groundwater quality issues based on available information and make sound turn-key decisions that are in the best interest of the Water Department and consistent with the Triad Approach. The contractor and drilling crew must be familiar with the buried valley deposits that underlie the Miami Valley and Southwest Ohio and have extensive experience in delineating groundwater contaminant plumes by vertically profiling water quality via slotted hollow stem auger (preferred in the upper aquifer) or rotosonic drilling techniques.

The contractor will also submit memorandums summarizing the investigations; perform soil and groundwater sampling, monitoring water levels through “snapshot” events, collect soil samples, and drilling and installing monitoring wells via conventional methods (standard hollow stem auger drilling). Additionally, the contractor will provide comprehensive review

of remediation sites in the Source Water Protection Area, Phase 1 and 2 Environmental Site Assessments (ESA), Brownfield sites, and reports associated with the Ohio Voluntary Action Program. The contractor will also perform water quality and water level monitoring to over 330 existing monitoring wells. Lastly, the contractor will perform risk assessment inspections of selected businesses and industrial sites in the SWPA.

The contractor will also install and service for five (5) years water level and monitoring equipment in existing monitoring wells. This will include telemetry equipment that allows for real time secured remote viewing and do not require cellular use agreements. The automated Micro GC units must be adjustable to analyze for chlorinated ethenes or other VOCs and PFAS compounds. The Micro GC units shall be able to both pump the groundwater from the well and be able to analyze for selected VOC analysis once per day. The unit shall be water proof and operable in all types of weather.

The contractor will also perform a Bayesian statistics-based methodology to optimize the scheduling of long-term monitoring. Some of the well locations will be based on known or potential sources while others will be based on a data driven analysis approach.

A. Locations

Locations will include, but are not limited to the City's Multi-Jurisdictional Source Water Protection Area and the five-year time of travel. Information regarding Dayton's Source Water Protection Program (SWPP) and Source Water Protection Areas (SWPA) can be viewed at <http://www.daytonohio.gov/154/Source-Water-Protection-Program>. All groundwater investigations are anticipated to occur within the Great Miami Buried Valley Aquifer System (GMBVA) or the limestone and shale formations which make up the valley walls surrounding the GMBVA.

B. Utility Clearance

The contractor will be required to field locate all existing utilities prior to set-up at each location. Upon initial notification of an emergency response groundwater investigation, the contractor will contact the Ohio Utilities Protection Service (OUPS). All other entities that may have underground utilities in the area and are non-members of OUPS shall be notified by the contractor.

C. Health and Safety

Due to the potential to encounter groundwater contamination, the contractor shall have a complete health and safety plan for all onsite personnel including subcontractors. At a minimum, this plan will address onsite monitoring, personal protective equipment and action levels to be utilized by all onsite personnel. The contractor will provide the City with a Health and Safety Plan prior to the start of each investigation.

D. Borehole Advancement

For conventional auger: "Screen" which is welded to a conventional auger will not be acceptable.

All borings shall be advanced for the primary purpose of vertical characterization of groundwater contamination and monitoring well installation. The drilling method employed must be slotted hollow stem auger (SHSA) or rotosonic. The drilling method must be compatible with the collection of representative groundwater samples at discreet intervals (see Groundwater Sampling).

The SHSA is the preferred method and must be capable of drilling and performing vertical aquifer sampling to depths of up to 100 feet. The lower five feet of auger must be laser or machine slotted. SHSAs must have new O-ring seals separating five-foot auger sections. Augers found to be in poor condition will be rejected. To promote discreet and representative interval samples, the lead slotted auger must have a Teflon plug. As a result no split spoon samples will be required during vertical sampling under this method. However, SHSA borings may be gamma logged to confirm lithology.

Rotosonic drilling is required for all borings greater than 100 feet and will include continuous core sampling. The introduction of water into the borehole during rotosonic drilling will not be acceptable except as a result of extreme

drilling conditions and must be approved by DEM. Any water added to the borehole must be accurately measured and evacuated prior to interval development.

NOTE: Non-vertical profiling borings will be drilled via a conventional hollow stem auger. Continuous split spoon (two-foot spoons) sampling will be performed until the desired depth is drilled. Soil samples will be collected at two depths during borehole advancement based on results of headspace readings; and one at the groundwater interface. If the subsurface is known to contain old foundations, the rotosonic drilling method may be employed.

E. Drilling Fluids

If the rotosonic drilling method is used, it must be dry-drilled unless extreme drilling conditions are encountered which necessitates the introduction of water to the borehole. Any water added to the borehole must be pre-approved by DEM. A totalizer, or similar measuring instrument, will be used to record the amount of water added. Any water added to the hole must be evacuated prior to collecting vertical profile samples. Drilling water shall be obtained directly from a designated City production well or a pre-tested water source.

F. Vertical Aquifer Sampling

Groundwater samples shall be collected during borehole advancement of all borings. This method of subsurface exploration is intended to provide a qualitative vertical characterization of groundwater contamination. Onsite laboratory results will supplement the lithologic information to determine appropriate screen length and depth.

Groundwater samples will be collected at “first water” (approximately five feet into the saturated deposits), above all low-permeability layers/lenses and at 10-foot intervals in permeable deposits. Sampling intervals must be no more than five feet in length.

To promote discreet interval samples, the submersible pump must have an inflatable packer above the pump to eliminate water from above the selected interval from entering the intended sampling zone. (Note that new O-ring seals should prevent any water from entering the zone and are required for screened hollow stem auger drilling— see Borehole Advancement.)

Each sampling interval shall be developed by slight overpumping from a submersible pump until water is less than 25 NTUs. Temperature, pH and specific conductivity will be measured on a groundwater fraction from each sampling interval to assure proper development. Development water shall be containerized and transported by the contractor to a site designated by the City.

The contractor shall sample each interval using a low flow-purge submersible pump. The contractor shall collect two sets of VOA vials for onsite analysis and one set for the City. The contractor shall properly label each sample container (including those set aside for the City) and store them on ice. The contractor shall arrange a schedule with the City’s commercial laboratory for pick-up/delivery at the drilling site or will arrange for the samples to be dropped off at the laboratory before 5 pm each day.

G. Onsite Laboratory Analyses

All vertical samples shall be analyzed onsite for volatile organic compounds via a mobile laboratory. The mobile laboratory shall be self-contained and equipped with a gas chromatograph (GC), a generator and associated support equipment. The GC shall employ a photoionization detector and flame ionization detector.

The GC shall be calibrated, at least one hour prior to the first analysis, using mixtures or standard mixtures applicable to the compounds to be quantified for the day. Periodic checks will be performed each day to demonstrate consistency in instrument calibration. Results for key petroleum and chlorinated ethene hydrocarbons must be available within 45 minutes from the time the sample was collected.

The following chlorinated ethene and petroleum hydrocarbon compounds require detection limits of five micrograms per liter (ug/l) or less: tetrachloroethylene (PCE), trichloroethylene (TCE), trans 1,2 dichloroethylene (trans 1,2 DCE), cis 1,2 dichloroethylene (cis 1,2 DCE), 1,1 dichloroethylene (1,1 DCE), and vinyl chloride. The City may require the contractor to identify the presence of chlorinated ethane compounds such as 1,1,1 trichloroethane (1,1,1 TCA), 1,1 dichloroethane (1,1 DCA) and 1,2 dichloroethane (1,2 DCA) or petroleum compounds such as benzene, toluene, ethylbenzene and xylene..

H. Soil Sampling and Analysis

All non-vertical profile drilling will include the collection of soil samples during borehole advancement. Soil samples will be collected at two depths during borehole advancement based on results of headspace readings; and one at the groundwater interface. The contractor will submit the soil samples to an Ohio Voluntary Action Program certified laboratory. The analytical parameters will be site specific.

I. Holes Abandoned for Cause

If the City determines that, for reasons beyond the control of the contractor, it is necessary to stop drilling, or the hole is lost before the objective or desired depth is reached and further attempts to save or complete the hole are not practical, the hole will be ordered abandoned for cause. The contractor shall abandon the hole as described under Borehole/Well Abandonment. The contractor will be paid for work completed including the footage drilled.

J. Defective Holes

If the City determines that the hole is lost due to, negligence, incompetence or malpractice on the part of the contractor or his subcontractors, or to the use of defective or unsuitable equipment, the City will notify the contractor and order the hole abandoned. The contractor, at his own expense, will abandon the hole as described under Borehole/Well Abandonment. The contractor will not be paid for any footage in any hole abandoned because of defects caused by the contractor or his subcontractors. The contractor shall drill a new hole at an alternate site in the immediate area as approved by the City.

K. Soil Containment

With the exception of drilling activities along City right-of-ways, a temporary catchment pit shall be excavated and double lined with polypropylene prior to the commencement of drilling. The pit shall be located downslope of the borehole and will be of suitable size to contain all auger cuttings and development and decon water. Where access prohibits, a double lined (temporary) above ground catchment may be constructed and used in lieu of catchment pits. Following site completion, all liquids shall be pumped from the pit, containerized and transported to a site designated by the City. The contractor shall collect a composite sample of the pit soils to be analyzed for VOCs (Method 8260). If analytical results indicate levels below Ohio Voluntary Action Program (OVAP) Single Chemical Generic standards (dependent on the existing use of the property, i.e. residential or commercial/industrial), the contractor will remove the polypropylene liner and backfill the pit level with the surface. If analytical results indicate contamination above OVAP standards, the contractor will be responsible for proper transportation and disposal costs. The contractor will first transport the drums to a temporary staging area located at Ottawa Yards.

For wells drilled along City right-of-ways or on private property where catchment pits are prohibited, all auger cuttings and/or bailer material shall be contained in 55-gallon drums. Upon site completion, the contractor shall provide proper transport to a temporary staging area as designated by the City. When the investigation has been completed, the contractor will collect an appropriate number of drum samples for proper disposal. Any excavated areas left open or obstacles which may be potentially dangerous to the public will be adequately fenced, taped and/or barricaded to clearly identify any physical hazards. This may include the use of caution lights.

L. Decontamination

This item covers the work, materials and equipment necessary for cleaning all drilling, logging and sampling equipment.

All equipment shall be washed and cleaned prior to going onsite. All equipment to be introduced to the borehole must be cleaned prior to introduction. Equipment to be cleaned will include (but not necessarily be limited to) well casings, well screens, rods, drill bits, pumps, samplers, logging tools, drive casings and augers. The decontamination process consists of hosing the drilling equipment with a high-pressure hot water rinse.

All sampling tools shall be cleaned prior to use including at a minimum, rods, bits, pumps, samplers, hand tools, and logging tools. Any tools that come in contact with the soil or groundwater during the drilling process shall be cleaned.

The contractor must provide all equipment necessary for this cleaning process, including clean water and a mobile hot water high-pressure washer, as necessary. All water used in the decontamination process shall be containerized and transported by the contractor to a site designated by the City. Equipment and procedures used by the contractor for the cleaning of drilling and sampling equipment must be approved by the City.

M. Well Construction

All borings shall be completed using 2-inch, schedule 40, flush joint threaded PVC casing and screen. It is anticipated that screen slot size will be 0.010 inch and screen length will be 10 feet. However, screen lengths of five (5) feet should be on hand during the project. Centralizers will be used to center casing and screen in the borehole and to ensure an even distribution of filter pack and seals around the casing and screen for wells greater than 80 feet. Centralizers shall be placed at the bottom and near the top of the screen with one centralizer placed at every 25 feet of casing. No centralizer will be placed just below land surface.

N. Well Completion

For all wells, and depending on the percentage of fines in the proposed interval, either sand or gravel pack or naturally caved-in formation shall be installed or allowed to collapse around the well screen to a depth of three to five feet above the top of the screen. One foot of fine sand shall be placed immediately above the sand or natural pack. Each well shall have a two to four foot bentonite seal (bentonite pellets) above the fine sand and a bentonite/cement slurry tremie-grouted from the top of the bentonite seal to the frost line.

After the slurry has settled, 4,000 psi air-entrained concrete (4%-6% air) shall be used to fill the annular space above the slurry, to secure a 4-inch or 8-inch square protective casing and to construct a 54-inch square concrete pad. (Note: Concrete pads securing flush mount vaults shall be 36" by 36".) The pad shall slope away from the casing in all directions. For stick-up wells, three 6-inch steel guard posts will be installed near the edge of the pad and will be secured in concrete poured separately from the "pour" used to construct the pad.

Wells installed along City right-of-ways and on private property will be completed in a flush mount vault level with the surface. Flush mount vaults must offer a high security locking system requiring a key and specialized opening tool.

The contractor will cut a V-shaped notch into the top of the casing to represent the measuring point for each well installed.

O. Well Development

The well shall be developed until the water is free from sand, silt, and turbidity. The contractor shall develop the well by first extracting sediment via a submersible or centrifugal pump and vacuum hose, then pumping at rates no greater than eight gallons per minute. If this method does not allow for timely development, the contractor may adopt a mechanical surging (surge block) method. Air lift pumps or any other pumping method where air comes in contact with the water will not be an acceptable method of development unless authorized by DEM.

The contractor shall furnish a pump, generator, and any other necessary appurtenances. Development water shall be containerized and transported by the contractor to a site designated by the City.

The contractor will provide a non-potable water tank of at least 500 gallons to containerize development water. Physical and chemical parameters including temperature, pH, specific conductance and turbidity of the water shall be measured

during well development. Development will be considered complete when the pH, temperature, and specific conductance of the discharge water have stabilized or until a maximum of ten well volumes are removed, and the turbidity of the water is less than 25 nephelometric turbidity units (NTUs) as verified by a nephelometer.

Once the well is completely and properly developed, a sample shall be collected and analyzed on site for VOCs and priority pollutant metals (filtered). Additional samples will be collected for the City and properly stored on site.

P. Downhole Gamma Logging

SHSA borings may be gamma logged prior to well installation to provide supplemental stratigraphic information. Qualified personnel must perform the gamma ray logging. The equipment must meet the DEM's approval. Documentation must be provided to show the equipment has been calibrated immediately prior to use on this project and recalibrated on a monthly basis or as needed (whichever is more frequent) throughout the project.

Q. Restoration

The area surrounding the monitoring wells, abandoned holes and any other work sites shall be returned to the original condition and to the satisfaction of the City. This includes removal or replacement of trees, large rocks or metal, the placement of topsoil, seeding or the placement of sod. This also includes the leveling and grading of dirt or gravel roads.

R. Survey

A complete survey will be required on all wells. This will include both a horizontal and a vertical (NAVD 88) survey. The City will provide information regarding existing USGS benchmarks and the City's GPS monuments.

Each well will require an X and Y coordinate (State Plane) and two Z coordinates. The vertical survey will include top-of-well-casing (TOWC) elevation, taken at the "measuring point", and a surface elevation.

S. Well Sampling Events

The contractor will sample 70 investigation wells on a quarterly basis. The contractor will properly purge at least three well volumes from each well prior to sampling. Purge water will be contained via a water tank or drums. If drums are used, a representative number of samples will be collected and analyzed for non-hazardous waste disposal. The contractor will deliver the well samples and associated chain of custodies to a local commercial laboratory under a City purchase order. If a water tank is used to contain purge water, the contractor will transport the tank to a designated sanitary pump station for disposal. The well samples will be analyzed for VOCs (Method 8260).

T. Memorandums

After the completion of field activities, the following information will be submitted to the City in the form of a Draft Memorandum (for each investigation):

1. Project location map.
2. Executive Summary.
3. Summary of activities.
4. Findings, conclusions, and supporting conceptual maps (potentiometric and iso-concentration), cross-sections, summary tables and laboratory reports.
5. Boring/well logs.
6. Well construction diagrams including well depth, screen location, screen length, slot size, vertical distribution and amount of sand or gravel pack, vertical distribution and amount of cement/bentonite, and survey information.
7. Well development logs and sampling procedures.
8. Spreadsheets showing the analytical parameters and mobile lab results.

Following DEM review, the contractor will submit a final memorandum.

U. Meetings and Report Preparation

The contractor shall attend monthly meetings and weekly conference calls with the City to facilitate rapid and efficient project execution. In addition, the contractor shall keep the City informed regarding activities and findings on a daily basis during investigations. Following the completion of each investigation, the contractor will submit to the City a draft memorandum summarizing site activities and findings, maps, cross-sections, pictures, and tables for review. The contractor will submit three copies of the final memorandum to the City.

ADDITIONAL REQUIREMENTS

- A. The contractor will apply for and obtain all necessary permits, manifest, and file any other necessary paperwork.
- B. The contractor will be responsible for erosion control requirements relative to drainage ditches, waterways and the City's Municipal Separate Storm Sewer System (MS4) including but not limited to silt fencing and catch basin protection.
- C. To ensure compliance with the regulations pertaining to all work necessary, a representative of the contractor will be *onsite* at all times when subcontractors are working.
- D. The contractor and subcontractor(s) are required to comply with all applicable regulations including, but not limited to Occupational Safety and Health Administration (OSHA), American National Standard Institute (ANSI), American Petroleum Institute (API), Environmental Protection Agency (EPA), National Fire Protection Association (NFPA), and the Ohio Department of Natural Resources (ODNR), pertaining to all work associated with this project. The contractor is responsible for ensuring that all personnel including all onsite subcontractors comply with all health and safety requirements.
- E. All samples, to be analyzed by the contractor's commercial laboratory, will be taken in accordance with US EPA and Ohio EPA guidelines and regulations. A chain of custody is to be completed for each non-mobile laboratory sample taken.
- F. In the event that 55-gallon drums or roll-off boxes are used to contain auger cuttings, rotosonic cores, or "catchment pit" material, the contractor will be responsible for appropriate packaging, labeling, transportation, and proper disposal. The contractor may be asked to transport material to a temporary staging area located at Ottawa Yards. (The contractor will be escorted by DEM personnel to gain entry into Ottawa Yards.) The contractor will conform to all applicable transportation regulations. Additionally, the contractor will be responsible for spill clean-up associated with these activities.
- G. All memorandums will be submitted to the City in draft form. The City reserves the right to request changes and/or modifications of the draft memorandums prior to the acceptance of any final memorandums.
- H. All work which does not conform to the specifications will not be accepted. Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness or any other cause found to exist prior to final acceptance of the work will be corrected or removed immediately and completed or replaced in an acceptable manner at the contractor's expense.
- I. All equipment proposed for use during the project shall be of appropriate design and properly maintained to conduct the work and to produce a satisfactory result. Equipment used on any portion of the project shall be utilized such that no damage to public roadways or adjacent property will result from its use.
- J. The result of all services under this contract will be "exclusive property" of the City of Dayton and all documents (including without limitation, all writings, drawings, blueprints, pictures, recordings, notes, data reports, computer or machine-readable data (including groundwater modeling information) and all copies or reproductions thereof, or other information received or generated in the performance of this agreement) shall be delivered to the City, and shall be maintained as strictly confidential and not disclosed to others, including individuals, corporations, or government agencies, either before or after the termination of this agreement, except as expressly authorized in writing by the City of Dayton, Ohio.

K. All work will be charged to the City based on time and materials not to exceed the total amount specified in the proposal and Purchase Order. The City reserves the right to delete and/or modify the work required as deemed necessary within the scope of the total money available.

2.04 Pricing Structure. Prices proposed will remain firm for acceptance within **180** calendar days after the RFP closing date. **Complete Exhibit E in its entirety.**

SECTION 3 – REQUIREMENTS AND CONDITIONS FOR ALL PROPOSERS

3.01 TAX EXEMPTION. All items purchased under this contract will be exempt from the State of Ohio Sales Tax as provided for in Section 5739-02(b)(1) of the Revised Code of Ohio, and will be exempt from the State of Ohio Use Tax, Section 5741.02(C)(2). Blanket Certification of Exemption Forms will be furnished to the Proposer by the Division of Purchasing.

3.02 PROPOSER AFFIDAVIT. If the successful proposer should be a corporation not incorporated under the laws of the State of Ohio, a certificate from the Secretary of State showing the rights of the successful proposer to do business in the State of Ohio shall be furnished. Each proposer is required to submit with their bid, an Affidavit stating that neither the proposer nor agents thereof, nor any other party of the proposer has paid or agreed to pay directly or indirectly, any person, firm or corporation, any money or valuable consideration for assistance in procuring or attempting to procure the contract herein referred to, and further agreeing that no such money or reward will hereafter be paid.

3.03 PROCUREMENT ENHANCEMENT PROGRAM. It is the policy of the City to promote full and equal business opportunity to all persons doing business with the City. The City must ensure that businesses seeking to participate in contracting and procurement activities with the City are not prevented from doing so on the basis of the race or gender of their owners. The City is committed to ensuring that it is not engaged in passive participation in any form of discrimination. (R.C.G.O. Section 35.32) It is the City of Dayton's position to encourage the greatest participation possible on all projects connected with any aspect of the City's auspices through the Procurement Enhancement Program (PEP). All contractors are encouraged to visit <http://daytonhrc.org/business-technical-assistance/certification/> to learn more about PEP and other certification programs, and to review the list of currently certified Minority-Owned, Woman-Owned and Small Business Enterprises.

3.04 PROPOSER'S FINANCIAL OBLIGATION TO THE CITY. No bid may be accepted or contract awarded to any person, firm or corporation that is in arrears or in default to the City, or that is a defaulter of surety or otherwise upon any obligation to the City, or has failed to perform faithfully any previous contract with the City.

3.05 PROPOSER'S INCURRED COSTS. Each proposer shall be responsible for all costs incurred in preparing a response to this RFP. All materials and documents submitted by the proposer in response to this RFP shall become the property of the City, and shall not be returned. Respondents selected for further negotiations, as well as the proposer ultimately selected to enter into a contractual agreement with the City, shall be responsible for all costs incurred by it during negotiations.

3.06 AFFIRMATIVE ACTION ASSURANCE (AAA). The selected Contractor must electronically submit an Affirmative Action Assurance application via the City's online vendor portal (citybots.com) and obtain approval from the Human Relations Council (HRC) in order to do business with the City. You may contact the HRC for the Rules and Regulations regarding AAA certification at:

Human Relations Council
371 West Second Street, Suite 100
Dayton, Ohio 45402
(937) 333-1403 (Office)
(937) 222-4589 (Fax)

Failure to maintain active AAA certification with the HRC may result in termination of the contract and/or denial of future contract awards from the City. AAA certification must be updated annually via citybots.com.

3.07 STANDARD AGREEMENT TERMS FOR PROFESSIONAL SERVICES – These are standard terms are subject to change by the City prior to the award of the contract.

ARTICLE 1. TERM

The Agreement shall commence upon execution by the City and shall terminate upon expenditure of all funds provided herein or on December 31, 2021, whichever date is earlier. At the City’s discretion, an option may be exercised to extend the Agreement for a sixth year at the established rates.

ARTICLE 2. SERVICES TO BE PERFORMED BY CONTRACTOR

Consultant shall provide all services necessary to complete the Services that are described in an Attachment, Scope of Services, which is incorporated herein by reference.

ARTICLE 3. COMPENSATION

City’s standard Terms for Payment are Net 30 days from date of invoice once the project is complete, unless otherwise negotiated.

ARTICLE 4. CITY’S RESPONSIBILITIES

The City will furnish Contractor, at no cost or expense, all reports, records, data that might be necessary or useful to complete the Services required under this Agreement.

ARTICLE 5. STANDARD OF CARE

Contractor shall exercise the same degree of care, skill, and diligence in the performance of the Services as is ordinarily possessed and exercised by a professional under similar circumstances. Contractor shall have no liability for defects in the Services attributable to Contractor’s reliance upon or use of data or other information furnished by the City or third parties retained by the City.

If, during the one year period following completion of the Services, it is shown there is an error in the Services caused by Contractor's failure to meet such standards and City has notified Contractor in writing of any such error within that period, Contractor shall perform, at no additional cost to City, such Services within the original Project as may be necessary to remedy such error.

ARTICLE 6. INDEMNIFICATION

Contractor shall indemnify and defend the City and its elected officials, officers, employees and agents from and against all claims, losses, damages, and expenses (including reasonable attorneys’ fees) of whatsoever kind and nature, to the extent that such claims, losses, damages, or expenses are caused by or arise out of the performance or non-performance of this Agreement and/or the acts, omissions, or conduct of Contractor and its agents, employees, contractors, sub-contractors and representatives in undertaking and performing the Services.

This Article shall survive early termination or expiration of this Agreement.

ARTICLE 7. INSURANCE

During the term of this Agreement, Contractor shall maintain, at its sole cost and expense, no less than the following insurance issued by an insurance company authorized to conduct business in the State of Ohio and having an “A” rating or better by A.M. Best:

- (1) General Liability Insurance, having a combined single limit of \$1,000,000 for each occurrence and \$1,000,000 in the aggregate.

- (2) Automobile Liability Insurance, having a combined single limit of \$1,000,000 for each person and \$1,000,000 for each accident.
- (3) Employers' Liability Insurance, having a limit of \$500,000 for each occurrence.
- (4) Professional Liability Insurance, having a limit of \$1,000,000 annual aggregate.
- (5) Contractor shall maintain errors and omissions insurance in the amount of \$1,000,000.00.
- (6) Environmental Impairment Liability Insurance, having a minimum amount of one million dollars (\$1,000,000.00) per occurrence, five million dollars (\$5,000,000.00) aggregate, and said policy shall name the City of Dayton as co-insured.

Current certificates of insurance for all policies and concurrent policies required to be maintained by Contractor pursuant to this Article shall be furnished to the City. All such insurance policies, excluding Professional Liability Insurance, shall name the City, its elected officials, officers, agents, employees, and volunteers as additional insureds, but only to the extent of the extent of the policy limits stated herein. All policies of insurance required hereunder shall contain a provision requiring a minimum of thirty (30) days advance written notice to the City in the event of cancellation or diminution of coverage

Contractor also shall maintain Workers' Compensation Insurance in such amounts as required by law for all employees, and shall furnish to the City evidence of same.

ARTICLE 8. OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY

Except as otherwise provided in this Agreement, documents and reports prepared by Contractor as part of the Services shall become the sole and exclusive property of the City upon payment. However, Contractor shall have the unrestricted right to their use.

Contractor shall retain its rights in pre-existing and standard scripts, databases, computer software, and other proprietary property. Rights to intellectual property that is not specifically designed or created exclusively for the City in the performance of this Agreement shall also remain the property of Contractor.

ARTICLE 9. TERMINATION

This Agreement may be terminated by the City upon written notice in the event of substantial failure by Contractor to perform in accordance with the terms of this Agreement. Contractor shall have fifteen (15) calendar days from the date of the termination notice to cure or to submit a plan for cure acceptable to the other party.

The City may terminate or suspend performance of this Agreement for the City's convenience upon thirty (30) days prior written notice to Contractor. In the event of termination by the City hereunder, the City will pay Contractor for Services actually provided up to the date of termination.

Any such termination shall not relieve the vendor of any liability to the City for damages sustained by virtue of any breach by the vendor. The City will be under no further monetary obligation or commitment to the vendor. The City may terminate this contract at any time upon 30 days written notice to the vendor.

In the event of termination, the City may, at its option, exercise any remedy available to it, including the Uniform Commercial Code, according to Ohio law.

ARTICLE 10. STANDARD TERMS

A. DELAY IN PERFORMANCE

Neither the City nor Contractor shall be considered in default of this Agreement for delays in performance caused by circumstances beyond the reasonable control of the non-performing party. For purposes of this Agreement, such circumstances include, but are not limited to, abnormal weather conditions; floods; earthquakes; fire; epidemics; war, riots, and other civil disturbances; strikes, lockouts, work slowdowns, and other labor disturbances; sabotage; judicial restraint; and inability to procure permits, licenses, or authorizations from any local, state, or federal agency for any of the supplies, materials, accesses, or services required to be provided by either the City or Contractor under this Agreement, provided the aforementioned circumstances are not due to the negligence or fault of the asserting party or any of its agents, employees, contractors, sub-contractors and/or representatives.

Should such circumstances occur, the non-performing party shall, within a reasonable time of being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of this Agreement.

B. GOVERNING LAW AND VENUE

This Agreement shall be governed by and construed in accordance with the laws of the State of Ohio, without giving effect to the principles thereof relating to conflicts or choice of laws. Any arbitration, litigation or other legal matter regarding this Agreement or performance by either party must be brought in a court of competent jurisdiction in Montgomery County, Ohio.

C. COMMUNICATIONS

Any written communication or notice required or permitted by this Agreement shall be made in writing and shall be delivered personally, sent by express delivery, certified mail or first class U.S. mail, postage pre-paid to the address specified below:

Company Name: _____
 Address: _____
 City, State Zip Code _____
 Attention: _____
 Title: _____

Nothing contained in this Article shall be construed to restrict the transmission of routine communications between representatives of Contractor and the City.

D. EQUAL EMPLOYMENT OPPORTUNITY

Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, ancestry, national origin, place of birth, age, marital status, or handicap with respect to employment, upgrading, demotion, transfer, recruitment or recruitment advertising, lay-off, termination, rates of pay or other forms of compensation, or selection for training, including apprenticeship.

It is expressly agreed and understood that Section 35.14 of the Revised Code of General Ordinances of the City of Dayton constitutes a material condition of this Agreement as fully and as if specifically rewritten herein and that failure to comply therewith shall constitute a breach thereof entitling the City to terminate this Agreement at its option and may bar Contractor from receiving future City contracts.

E. WAIVER

A waiver by the City or Contractor of any breach of this Agreement shall be in writing. Such a waiver shall be effective only in the specific instance and for the specific purpose for which it is given and shall not affect the waiving party's rights with respect to any other or further breach.

F. SEVERABILITY

The invalidity, illegality, or unenforceability of any provision of this Agreement or the occurrence of any event rendering any portion or provision of this Agreement void shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. Any void, unenforceable, invalid or illegal provision shall be deemed severed from this Agreement, and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision.

G. INDEPENDENT CONTRACTOR

By executing this Agreement for professional services, Contractor acknowledges and agrees that it will be providing services to the City as an "independent contractor". As an independent contractor for the City, Contractor shall be prohibited from representing or allowing others to construe the parties' relationship in a manner inconsistent with this Article. Contractor shall have no authority to assume or create any obligation on behalf of, or in the name of the City, without the express prior written approval of a duly authorized representative of the City.

Contractor, its employees and any persons retained or hired by Contractor to perform the duties and responsibilities under this Agreement are not City employees, and therefore, such persons shall not be entitled to, nor will they make a claim for, any of

the emoluments of employment with the City of Dayton. Further, Contractor shall be responsible to withhold and pay, or cause such agents, contractors and sub-contractors to withhold and pay, all applicable local, state and federal taxes. Contractor acknowledges its employees are not public employees for purposes of Ohio Public Employees Retirement System (“OPERS”) membership.

H. ASSIGNMENT

Contractor shall not assign any rights or duties under this Agreement without the prior written consent of the City. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge the assignor from any obligation under this Agreement. Nothing contained in this Article shall prevent Contractor from employing independent Contractors, associates, and subcontractors to assist in the performance of the Services.

I. THIRD PARTY RIGHTS

Except as expressly provided in this Agreement, nothing in this Agreement shall be construed to give any rights or benefits to anyone other than the City and Contractor.

J. AMENDMENT

The parties may mutually agree to amend this Agreement. However, no such amendment shall be effective unless it is reduced to a writing, which references this Agreement, executed by a duly authorized representative of each party and, if applicable or required, approved by the Commission of the City of Dayton, Ohio.

K. POLITICAL CONTRIBUTIONS

Contractor affirms and certifies that it complies with Ohio Revised Code § 3517.13 limiting political contributions.

L. INTEGRATION

This Agreement represents the entire and integrated agreement between the City and Contractor. This Agreement supersedes all prior and contemporaneous communications, representations, and agreements, whether oral or written, relating to the subject matter of this Agreement.



City of Dayton, Ohio
Department of Water
GROUNDWATER INVESTIGATIONS
RFP No. 17043D
June 2017

EXHIBIT A – LETTER OF TRANSMITTAL

The undersigned hereby certifies that items furnished as a result of this proposal will be in full accordance with the City of Dayton specification applying thereto unless exception are stated above.

The Proposer's name and address exactly as it would appear in a contract:

Entity Name: _____

Street Address: _____

City, State, Zip: _____

Proposer's Phone Number: _____

Proposer's Fax Number: _____

Proposer's E-mail Address: _____

Form of Ownership Sole Proprietorship Franchise Partnership Corporation
 Joint Venture LLC Other (Specify): _____

If a corporation, state of incorporation: _____

Federal Identification Number (or SSN if sole proprietorship): _____

Please include your IRS Form W9 with your proposal.

I certify the proposing entity complies with City of Dayton Ordinance #30829-09 and the City's Revised Code of General Ordinances Section 35.70 through 35.74 regarding Living Wages. Yes No

SIGNATURE: _____

PRINTED NAME AND TITLE: _____

By signing this page, you state that you are an authorized representative, and have reviewed and are presenting this proposal on behalf of your business entity. Please continue completing this exhibit on the next page.

EXHIBIT A – LETTER OF TRANSMITTAL (continued)

COMPANY PROFILE AND BACKGROUND

Name of Proposing Company: _____

Company’s Primary Business - State the proposer’s primary business, the number of years in the industry, and the number of employees assigned to these related activities:		
Primary Business	# of Years	# of Employees Assigned

If a corporation, state of incorporation: _____

Current Pending Lawsuits: Please provide any and all suits either with the City of Dayton or any other Municipalities and Government Agencies; including, but not limited to Federal, State, Local or other Municipalities and Governmental Agencies:

Local Office of Proposer: Office in/nearest to Dayton, Ohio: _____

Federal Identification Number (or SSN if sole proprietorship): ##-#####

Key Personnel:

Name	Title	Contact Information: Mailing address, telephone number, fax number and email address	Designated as Primary Contact for the City of Dayton? YES / NO

EXHIBIT A – LETTER OF TRANSMITTAL (continued)

Name of Proposing Company: _____

PROJECT TEAM – Proposer shall notify City within five (5) business days should any Project Team personnel change.

List names, expertise, and years of experience of personnel that are anticipated to be associated with this project. Attach resumes to this section. At minimum, include Project Manager, Project Geologist/Scientist/Engineer, Onsite Geologist/Scientist/Engineer, Field Technician, Risk Assessor.

<p>Name: _____</p> <p>Title/Discipline: _____</p> <p>Years with Firm / Years Experience: _____</p>	<p>Name: _____</p> <p>Title/Discipline: _____</p> <p>Years with Firm / Years Experience: _____</p>
<p>Name: _____</p> <p>Title/Discipline: _____</p> <p>Years with Firm / Years Experience: _____</p>	<p>Name: _____</p> <p>Title/Discipline: _____</p> <p>Years with Firm / Years Experience: _____</p>
<p>Name: _____</p> <p>Title/Discipline: _____</p> <p>Years with Firm / Years Experience: _____</p>	<p>Name: _____</p> <p>Title/Discipline: _____</p> <p>Years with Firm / Years Experience: _____</p>



City of Dayton, Ohio
Department of Water
GROUNDWATER INVESTIGATIONS
RFP No. 17043D
June 2017

EXHIBIT B – REFERENCES FOR PROPOSING COMPANY

Name of Proposing Company: _____

List company names, addresses, and telephone numbers for at least three references presently or previously served by your Company for RFP No. 17043D. Do not use the City of Dayton as a reference.

Company Name: _____

Address: _____

Contact Person: _____

Telephone Number: _____ Fax Number: _____

Email Address: _____

Company Name: _____

Address: _____

Contact Person: _____

Telephone Number: _____ Fax Number: _____

Email Address: _____

Company Name: _____

Address: _____

Contact Person: _____

Telephone Number: _____ Fax Number: _____

Email Address: _____



City of Dayton, Ohio
Department of Water
GROUNDWATER INVESTIGATIONS
RFP No. 17043D
June 2017

EXHIBIT C – PRODUCT MANUFACTURE LABOR STANDARDS: VENDOR COMPLIANCE FORM

By informal resolution 301-97, the City of Dayton is prohibited from purchasing, leasing, renting or taking on consignment goods for use or for resale by the City which were produced under sweatshop conditions.

The City of Dayton requests the following information concerning the products you intend to provide to the City as a result of this bid. This information will allow us to determine your products' compliance with the standards outlined in informal resolutions 301-97.

We require that you make a good faith effort to ascertain the following about the factories which manufacture the products you intend to supply to the City and that you make information available to us for our verification of your claims.

Child Labor. The factory or producer does not employ anybody younger than the legal age as established by the jurisdiction in which such factory or producer is located for children to work or participate in the production.

Forced Labor. The factory or producer does not use forced labor of any kind-prison labor, indentured labor or bonded labor. However, goods produced by prisoners and/or patients as part of a formal rehabilitation or treatment program shall not be considered "forced labor" under the terms of this section.

Wages and Benefits. The factory or producer pays and/or provides at least the minimum wages and/or benefits as required by law in the jurisdiction in which the factory or producer is located.

Hours of Work. Employees are not required to work more hours than the maximum allowed by law for the jurisdiction in which the factory or producer is located.

Worker Rights. The factory or producer makes available to its employees such rights and procedures as required by law for the jurisdiction in which the factory or producer is located.

Health and Safety. The factory or producer provides at least the minimum safe and healthy working environment as required by law for the jurisdiction in which the factory or producer is located.

Notice to Employees. The factory or producer provides any and all applicable notices to its workers as required by law for the jurisdiction in which the factory or producer is located.

This compliance form must be submitted with your bid. If at any time your products are found to be out of compliance with these standards, or if you refuse to provide information to the City for our verification of compliance, the City reserves the right to terminate contracts for those products.

City of Dayton Ref. No.: _____
Bidding Company: _____
Address: _____

Signature/Title: _____
Federal I.D.#: _____
Phone No.: _____
FaxNo.: _____



City of Dayton, Ohio
Department of Water
GROUNDWATER INVESTIGATIONS
RFP No. 17043D
June 2017

EXHIBIT D – RELEVANT EXPERIENCE

Consultant must provide relevant knowledge and experience relative to vertical aquifer sampling and onsite analysis.

Name of Proposing Company: _____

The following questions and information must be completed by the proposer and drilling subcontractor. The bidder should be aware that in addition to cost, our evaluation will place the heaviest weight on Relevant Experience detailing past projects employing vertical sampling techniques and immediate onsite analyses. Emphasis will be placed on vertical sampling projects that employed slotted hollow stem auger drilling. Rotosonic drilling will be scored lower (unless dry-drilling techniques were used).

SUMMARY OF RELEVANT EXPERIENCE – PRIME CONTRACTOR

Project #1

Project Name/Location/Year: _____

Description of Project: _____

1. Did your company perform vertical sampling for this project? _____
2. If yes to #1, are the personnel that performed vertical sampling for the above project on your RFP Project Team for which you are bidding? _____
3. What drilling and vertical sampling method was used during this project? _____
4. If the drilling method was rotosonic, was water added during borehole advancement? _____
5. Were samples analyzed onsite by a mobile laboratory? _____

Project #2

Project Name/Location/Year: _____

Description of Project: _____

1. Did your company perform vertical sampling for this project? _____
2. If yes to #1, are the personnel that performed vertical sampling for the above project on your RFP Project Team for which you are bidding? _____
3. What drilling and vertical sampling method was used during this project? _____

EXHIBIT D – RELEVANT EXPERIENCE (continued)

Name of Proposing Company: _____

4. If the drilling method was rotosonic, was water added during borehole advancement? _____

5. Were samples analyzed onsite by a mobile laboratory? _____

Project #3

Project Name/Location/Year: _____

Description of Project: _____

1. Did your company perform vertical sampling for this project? _____

2. If yes to #1, are the personnel that performed vertical sampling for the above project on your RFP Project Team for which you are bidding? _____

3. What drilling and vertical sampling method was used during this project? _____

4. If the drilling method was rotosonic, was water added during borehole advancement? _____

5. Were samples analyzed onsite by a mobile laboratory? _____

Project #4

Project Name/Location/Year: _____

Description of Project: _____

1. Did your company perform vertical sampling for this project? _____

2. If yes to #1, are the personnel that performed vertical sampling for the above project on your RFP Project Team for which you are bidding? _____

3. What drilling and vertical sampling method was used during this project? _____

4. If the drilling method was rotosonic, was water added during borehole advancement? _____

5. Were samples analyzed onsite by a mobile laboratory? _____

Project #5

Project Name/Location/Year: _____

Description of Project: _____

1. Did your company perform vertical sampling for this project? _____

2. If yes to #1, are the personnel that performed vertical sampling for the above project on your RFP Project Team for which you are bidding? _____

EXHIBIT D – RELEVANT EXPERIENCE (continued)

Name of Proposing Company: _____

- 3. What drilling and vertical sampling method was used during this project? _____
- 4. If the drilling method was rotosonic, was water added during borehole advancement? _____
- 5. Were samples analyzed onsite by a mobile laboratory? _____

SUMMARY OF RELEVANT EXPERIENCE – DRILLING SUBCONTRACTOR

Name of Drilling Subcontractor: _____

Describe five projects that included vertical sampling during borehole advancement. The descriptions should answer the following questions.

- 1. What drilling method(s) were utilized?
- 2. What was the predominant underlying geology and what was the average depth drilled?
- 3. How were the sampling intervals developed?
- 4. How long were the sampling intervals (length of interval in groundwater in which the sample is representing (ex. from 53'-58' or from 65'-70' = five foot intervals))?
- 5. If the rotosonic method was utilized, was water added during borehole advancement and if so, how was it metered?

Project #1: _____

Project #2: _____

Project #3: _____

EXHIBIT D – RELEVANT EXPERIENCE (continued)

Name of Proposing Company: _____

Project #4: _____

Project #5: _____



City of Dayton, Ohio
Department of Water
GROUNDWATER INVESTIGATIONS
RFP No. 17043D
June 2017

EXHIBIT E – PRICING STRUCTURE COMPLETE EXHIBIT E IN ITS ENTIRETY.

Name of Proposing Company: _____

GROUNDWATER INVESTIGATION SCENARIOS – All appropriate scenarios are described in Exhibit E –

A. Fee Schedule

Summary of each Project Costs and Personnel (hourly rate) Cost listed in Exhibit E.

B. Shallow Aquifer Project

Scenario for this responsibility and pricing pages listed in Exhibit E.

C. Risk Assessment Inspections

Scenario for this responsibility and pricing pages listed in Exhibit E.

D. Deep Aquifer Project -

Scenario for this responsibility and pricing pages listed in Exhibit E.

E. Water Quality and Water Level Monitoring -

Scenario for this responsibility and pricing pages listed in Exhibit E.

F. Water quality and water level monitoring

Scenario for this responsibility and pricing pages listed in Exhibit E.

EXHIBIT E – PRICING STRUCTURE (continued)

Name of Proposing Company: _____

A. FEE SCHEDULE : SUMMARY OF PROJECT COSTS

SHALLOW AQUIFER PROJECT – LUMP SUM \$ _____
(See Item 42b.)

RISK ASSESSMENT INSPECTIONS – LUMP SUM \$ _____
(Item 1c.)

PROJECT COST FOR DEEP AQUIFER PROJECT – LUMP SUM \$ _____
(See Item 44d.)

WQ AND WL MONITORING - LUMP SUM \$ _____
(Item 3e.)

Installation of Water Level Data Loggers – Lump Sum \$ _____

Micro-GC Installation – Lump Sum \$ _____

GRAND TOTAL COST \$ _____

- **Price shall remain firm for the period through DECEMBER 31, 2021**
- Option to renew any resulting price agreement at the same rates, terms, and conditions for additional 12-month period (from January 1, 2022 through December 31, 2022) at the City’s sole discretion?

Yes [] or No [] If no, state maximum percent of increase (based on pricing as of first year of proposal) to retain this option is _____%.

If necessary please submit additional information on a separate sheet. All additional information provided must be identified with item number.

EXHIBIT E – PRICING STRUCTURE (continued)

Name of Proposing Company: _____

A. FEE SCHEDULE : PERSONNEL (Hourly Rate)

1a. Senior Project Manager	\$ _____/hr.
2a. Project Manager	\$ _____/hr.
3a. Field Geologist	\$ _____/hr.
4a. GC Operator	\$ _____/hr.
5a. Field Technician	\$ _____/hr.
6a Risk Assessor	\$ _____/hr.
6a. Graphics	\$ _____/hr.
7a. Word Processing	\$ _____/hr.
8a. Slotted Hollow Stem Auger (SHSA) Lead Driller	\$ _____/hr.
9a. SHSA Driller’s Assistants	\$ _____/hr.
_____	\$ _____/hr.
10a. Rotosonic Lead Driller	\$ _____/hr.
11a. Rotosonic Drilling Assistants	\$ _____/hr.
_____	\$ _____/hr.

➤ **Price shall remain firm for the period through DECEMBER 31, 2021**

➤ Option to renew any resulting price agreement at the same rates, terms, and conditions for additional 12-month period (from January 1, 2022 through December 31, 2022) at the City’s sole discretion?

Yes [] or No [] If no, state maximum percent of increase (based on pricing as of first year of proposal) to retain this option is _____%.

If necessary please submit additional information on a separate sheet. All additional information provided must be identified with item number.

EXHIBIT E – PRICING STRUCTURE (continued)

B. PROPOSED COST – SHALLOW AQUIFER PROJECT

Synopsis

1. Drilling methods for 10 vertical sampling borings will be roto-sonic or slotted hollow stem auger.
2. Five (10) vertical profile borings will be drilled to 80 feet and will include vertical sampling and onsite VOC analyses. The first two (2) samples per borehole will be also analyzed for RCRA metals PFOA, PFOS, and 1,4 Dioxane by the contractor's commercial lab.
3. All borings will be completed as flush mounted (high security) monitoring wells. The vault will be secured in 4,000 psi concrete with 4%-6% air entrainment.
4. One sample from each well will be analyzed for complete VOC analyses via Method 8260, RCRA 8 Metals, PFOA, PFOS, and 1,4 Dioxane. The contractor will be responsible for transport to the commercial lab. Metals samples will be unfiltered and the contractor shall provide all sample containers. Well sampling will begin a few days following development allowing time for the wells to equilibrate.
5. A complete survey of installed wells will include x, y, and two z (surface and top of well casing elevations) coordinates. All elevations will be surveyed per NAVD88.
6. A draft memorandum will be completed and submitted to the City summarizing all activities, findings and conclusions. A final memorandum will be completed and submitted following City review.

General Assumptions

1. Costs must include all labor and administrative, lab, survey, rental and subcontractor and contractor mark-ups.
2. The project area is on flat terrain surrounded by commercial and light industrial use.
3. Contractor is responsible for utility clearance.
4. Level D personal protective equipment is anticipated for all onsite personnel.
5. Drilling sites will be on grass, gravel, asphalt or concrete (concrete coring may be required). Assume flat terrain accessible for two-wheel drive vehicles.
6. Drilling sites will be on private property or City right-of-way requiring generated soil to be managed via 55-gallon drums. If access allows, contractor may be advised to manage soil via catchment pits. However, project costs should assume drum management.
7. Drummed soil cuttings must be removed from the site immediately following project completion.
8. Drummed soil may be transported and temporarily staged at the City's Ottawa Yards at Keowee Street and Monument Avenue (contractors will be escorted by DEM personnel).
9. Contractor will collect waste profile samples and coordinate transport from Ottawa Yards to an appropriate disposal facility. The City will authorize the contractor to function as a signing agent in the management of non-hazardous waste.
10. During vertical sampling activities, interval development will continue until the water is < 25 NTUs and pH, temperature, and conductivity has stabilized. The costs **must** assume **one-hour** interval development and sampling time per interval.
11. Four sets of interval samples (VOA vials) will be collected, including two sets for immediate mobile laboratory analyses, one set to be kept in laboratory refrigerator and one set for the contractor's commercial laboratory. The contractor will be responsible for obtaining sample containers including PFOA, PFOS, 1,4 Dioxane and RCRA Metals containers.

EXHIBIT E – PRICING STRUCTURE (continued)

Name of Proposing Company: _____

12. A water tank may be used to contain purge or development water. The City will have a discharge location available approximately one mile from the site (assume one hour to transport and discharge water). If drums are used to contain purge water, all transportation and disposal costs must be included in the project costs.

Drilling

* Items denoted “Do not include in total project cost”

Method Proposed _____

- 1b. Mobilization (est. 10 site locations) \$ _____
- 2b. Concrete Coring (est. 10 sites) \$ _____
- 3b. Rotosonic/coring: 0 - 50 feet (est. 500 feet) \$ _____
- 4b. Rotosonic/coring: 50 - 100 feet (est. 300 feet) \$ _____
- 5b. SHSA: 0-50 feet (est. 500 feet) \$ _____
- 6b. SHSA: 50-100 feet (est. 300 feet) \$ _____
- 7b. Gamma Logging* (if drilling via SHSA) (est. 10, 80-foot borings)
(do not include in Project Total 41b.) \$ _____
- 8b. Drill Rig Standby (est. 20 hours for SHSA & 40 hours for Sonic) \$ _____
- 9b. Catchment Pit Materials* (do not include in Project Total 41b.)
Backhoe, pit fencing and tape (10 est. locations) \$ _____
- 10b. Vertical Sampling (assume 70 intervals)
Development and sampling (est. 70 hours) \$ _____
- 11b. Air compressor, pump, packer, nephelometer, water level meter,
PID/FID, bailers, buckets, tubing and other required equipment
(est. 24 days) \$ _____
- 12b. VOA container sets (est. 320 sets) \$ _____
- 13b. PFOA/PFOS containers (est.20 sets) \$ _____
- 14b. 1,4 Dioxane container (est.20 sets) \$ _____
- 15b. RCRA 8 Metals container (est. 20 sets) \$ _____

Mobile Laboratory

Describe Self-Contained Lab and Equipment

EXHIBIT E – PRICING STRUCTURE (continued)

Name of Proposing Company: _____

13b. Lab cost – including labor and equipment (est. 24 days) \$ _____

Well Construction, Completion and Development

14b. 2-Inch Diameter PVC Schedule 40 casing (est. 700 feet) \$ _____

15b. 2-Inch Diameter PVC Slotted Screen (est.100 feet) \$ _____

16b. Well completion including sand pack, grouting, high-security flush mount vault installation and 36” square concrete pads (est. 10 wells) \$ _____

17b. Development and well sampling (est. 10, 80-foot wells) \$ _____

Post Well Completion

18b. Transportation of drums to temporary staging area (est. 8 hours) \$ _____

19b. Drum Management and Sampling
(est. 3 drums per well & 10 samples) \$ _____

20b. Catchment Pit Management, Sampling and Backfill*
(est. 10 samples/pits) (do not include in Project Total 41b.) \$ _____

21b. Transportation and disposal costs (soil), assuming non-hazardous
(est. 30 drums) \$ _____

22b. Transportation and disposal costs (purge water), assuming non-hazardous if not using a water tank (est. 20 drums) \$ _____

23b. Decontamination – including labor and equipment (est. 10 sites) \$ _____

24b. Survey (est. 10 wells) \$ _____

Other Equipment/Materials

25b. Support Trailer (est. 24 Days) \$ _____

26b. Water Tank/Trailer (est. 24 days) \$ _____

27b. Generator (24 days) \$ _____

28b. High Security Flush Mount Vault (est. 10) \$ _____

29b. Well Caps and Padlocks (est. 10) \$ _____

30b. 55-Gallon Drums - D.O.T. Approved (est. 30) \$ _____

31b. Restoration – including labor and cost of seed (est. 10 sites) \$ _____

32b. Other Costs: _____ \$ _____

_____ \$ _____

EXHIBIT E – PROPOSED COSTS (continued)

Name of Proposing Company: _____

Travel with Personnel cost (use for 30 d)

34b. Support Truck (est. ___ (#) of miles and cost for 24 days) \$ _____

35b. Geologist Vehicle (est. ___ (#) of miles and cost for 30 days) \$ _____

36b. Field technician Vehicle (est. ___ (#) of miles and cost for 30 days) \$ _____

37b. Other: _____ \$ _____

_____ \$ _____

38b. Overnight Lodging (est. ____ (#) of employees for a 24-day project) \$ _____

The City shall not pay for meals – Meals are the expense of the contractor

39b. Meetings including Manager & Proj. Scientist (est. 5, 2-hour meetings) \$ _____

40b. Draft and Final Memorandum \$ _____

41b. Commercial lab costs (est. 320 VOCs (8260), 20 RCRA metals, 20 PFOA and PFOS (837), and 1,4 dioxane)

42B **TOTAL PROJECT COST FOR SHALLOW AQUIFER PROJECT** - (Exclude items 7b, 9b, and 20b. from total) \$ _____

C. PROPOSED COST – RISK ASSESSMENT INSPECTIONS

Synopsis

1. The contractor will perform 25 Risk Assessment Inspections of selected business and industrial sites within the five-year time-of-travel. Assume building size is 150,000 ft², includes one waste oil underground storage tank, two above ground storage tanks, ten 400 pound totes containing acids, and two drum storage areas containing a total of 30 55-gallon drums of mixed hazardous and nonhazardous material.
2. The inspections will include an evaluation of general housekeeping practices including but not limited to best management practices, secondary containment and other engineering controls, Globally Harmonized System of Classification and Labeling of Chemicals, incompatible storage, above and below ground tank management, maintenance and training.
3. The contractor will also provide information and assist businesses in completing Blue-Gold Certification and develop a Spill Prevention & Response Plan. For more information on Blue-Gold Certification and the Spill Prevention & Response Plan go to: <http://www.daytonohio.gov/154/Source-Water-Protection-Program>.
4. A draft memorandum will be completed and submitted to the City summarizing all activities, findings and conclusions. A final memorandum will be completed and submitted following City review.

1c. TOTAL PROJECT COST FOR 25 RISK ASSESSMENT INSPECTIONS \$ _____

EXHIBIT E – PROPOSED COSTS (continued)

Name of Proposing Company: _____

D. PROPOSED COST - DEEP AQUIFER PROJECT

Synopsis

1. The drilling method for five (5) vertical sampling borings will be rotosonic and completed as three (3) wells per boring.
2. Five (5) vertical profile borings will be drilled and will include vertical sampling and onsite VOC analyses from the mobile lab. The first two (2) vertical profile samples will include analysis of PFOA, PFOS, and 1,4 Dioxane and RCRA Metals from the contractor’s commercial lab.
3. Costs should assume a depth of 170 feet and 11 vertical samples. Vertical sampling and onsite analysis will be performed at 10-foot intervals between 30 feet and 170 feet.
4. Costs should assume three (3) ten foot wells at 50’, 100’ and 150’ per boring.
5. The well will be completed and secured in a flush-mounted high-security vault. The well pad will be 4,000 psi concrete with 4%-6% air entrainment.
6. One well sample will be collected for complete VOCs (Method 8260), PFOA, PFOS, 1,4 Dioxane, and RCRA Metals from the contractor’s lab.
7. A complete survey of installed well will include x, y, and two z (surface and top of well casing elevations) coordinates.
8. A draft memorandum will be completed and submitted to the City summarizing all activities, findings and conclusions. A final memorandum will be completed and submitted following City review.

General Assumptions

1. Costs must include all labor and administrative, lab, survey, rental and subcontractor and contractor mark-ups.
2. The boring/well location will be on flat terrain with gravel or paved lots and landscaped yards that will result in post drilling restoration.
3. Level D personal protective equipment required for all onsite personnel.
4. Management of soil will include 55-gallon drums.
5. Drummed material must be removed from the site immediately following project completion.
6. Drummed material may be transported and temporarily staged at the City’s Ottawa Yards at Keowee Street and Monument Avenue (contractors will be escorted by DEM personnel).
7. Interval development will continue until the water is < 25 NUTs and pH, temperature, and conductivity has stabilized. The costs **must** assume **one-hour** interval development and sampling time per interval.
8. Four sets of interval samples (VOA vials) will be collected, including two sets for immediate mobile laboratory analyses, one set to be kept in laboratory refrigerator and one set for the City’s commercial laboratory. The contractor will be responsible for obtaining PFOA, PFOS, 1,4 Dioxane, and RCRA Metals containers.
1. A water tank may be used to contain purge or development water. The City will have a discharge location available approximately one mile from the site (assume one hour to transport and discharge water). If drums are used to contain purge water, all transportation and disposal costs must be included in the project costs.

Rotosonic Drilling

- | | |
|--|----------|
| 1d. One-Time Mobilization (est. 5 locations) | \$ _____ |
| 2d. Concrete Coring | \$ _____ |
| 3d. Drill Rig Standby (est. 10 hours) | \$ _____ |
| 4d. Drilling/Coring: 0 - 50 Feet (est. 250 feet) | \$ _____ |
| 5d. Drilling/Coring: 51 - 100 Feet (est. 250 feet) | \$ _____ |
| 6d. Drilling/Coring: 101-150 Feet (est. 250 feet) | \$ _____ |
| 7d. Drilling/Coring: 150-200 Feet (est. 100 feet) | \$ _____ |

EXHIBIT E – PROPOSED COSTS (continued)

Name of Proposing Company: _____

Vertical Sampling (assume 105 intervals)

8d. Development and sampling (est. 105 hours) \$ _____

9d. Air compressor, pump, packer, nephelometer, water level meter,
PID/FID, bailers, buckets, tubing and other required equipment
(est. 20 days) \$ _____

10d. Mobile Lab cost – including labor and equipment (est.20 days) \$ _____

11d. VOA container sets (est. 50 sets) \$ _____

12d. PFOA/PFOS containers (est.10 sets) \$ _____

13d. 1,4 Dioxane containers (est.10 sets) \$ _____

14d. RCRA 8 Metals containers (est. 10 sets) \$ _____

Well Construction and Development

15d. 2-Inch Diameter PVC Schedule 40 casing (est. 800 feet) \$ _____

16d. 2-Inch Diameter PVC Slotted Screen (est. 150 feet) \$ _____

17d. Well completion including sand pack, grouting, flush mount vault
installation and 24” square concrete pads (est. 15, 170-foot wells) \$ _____

18d. Development and well sampling (est. 15, 170-foot wells) \$ _____

Post Well Completion

19d. Transportation of drums to temporary staging area (est. 10 hours) \$ _____

20d. Drum management and sampling (est. 15 drums and 3 composite
samples) \$ _____

21d. Transportation and disposal costs (soil), assuming non-hazardous
(est. 15 drums) \$ _____

22d. Transportation and disposal costs (purge water), assuming non-
hazardous if not using a water tank (est. 40 drums) \$ _____

23d. Decontamination – including labor and equipment (est. 5 sites) \$ _____

EXHIBIT E – PROPOSED COSTS (continued)

Name of Proposing Company: _____

Other Equipment/Materials

- 24d. Support Trailer (est. 25 Days) \$ _____
- 25d. Water Tank/Trailer (est. 25 days) \$ _____
- 26d. Generator (25 days) \$ _____
- 27d. High Security Flush Mount Vault (est. 1) \$ _____
- 28d. Concrete - 4,000 psi with 4%-6% air entrainment (est. 10 yards) \$ _____
- 29d. Well Caps and Padlocks (est. 15) \$ _____
- 30d. 55-Gallon Drums - D.O.T. Approved (est. 15) \$ _____
- 31d. Commercial lab costs (est. 80 VOCs (8260), 20 RCRA metals,
20 PFOA and PFOS (837), and 20 1,4 Dioxane) \$ _____
- 33d. Restoration – including labor and cost of seed (est. 5 sites) \$ _____
- 34d. Well Survey – x, y, & 2 z coordinates (est. 15 wells) \$ _____
- 35d. Other Costs:
_____ \$ _____
_____ \$ _____

Travel with Personnel Cost

- 36d. Drill Rig vehicle - est. ___ (#) of miles and \$_____ per mile \$ _____
Drill Rig Personnel cost for 25 days \$ _____
_____ (#) of employees for a 25-day project
- 37d. Support Truck (est. ___ (#) of miles and cost for 25 days) \$ _____
- 38d. Geologist Vehicle (est. ___ (#) of miles and cost for 30 days) \$ _____
- 39d. Field technician Vehicle (est. ___ (#) of miles and cost for 30 days) \$ _____
- 40d. Other _____ \$ _____
_____ \$ _____
- 41d. Overnight Lodging (est. ___ (#) of employees for a 25-day project) \$ _____

EXHIBIT E – PROPOSED COSTS (continued)

Name of Proposing Company: _____

The City shall not pay for meals – Meals are the expense of the contractor

42d. Meetings including Manager & Proj. Scientist
(est. 3 - 2 hour meetings) \$ _____

43d. Draft and Final Memorandum \$ _____

44d. TOTAL PROJECT COST FOR DEEP AQUIFER PROJECT \$ _____

E. PROPOSED COST - WATER QUALITY AND WATER LEVEL MONITORING

1e. Collect water quality samples from 150 wells on a quarterly basis including purge water disposal and transportation. Analysis by commercial laboratory for VOCs (Method 8260), RCRA metals, PFOA and PFOS (Method 837), 1,4 Dioxane.
(est. 4 WQ Events and 600 wells total) \$ _____

2e. Perform water level snapshots (with assistance from City personnel) that will include measuring approximately 100 wells within one day (two people, two water level meters, 8-hour day). Results from snapshot including water level measurements provided by other consultants will be tabulated and potentiometric maps generated (either through SURFER software or GIS ArcMap) and included in a memorandum (est. 4 snapshots) \$ _____

3e TOTAL WATER QUALITY AND WATER LEVEL MONITORING \$ _____

F. PROPOSED COST – INSTALLATION OF WATER LEVEL DATA LOGGERS AND TELEMTRY

Install In-Situ water (Rugged TROLL 200) water loggers in existing 2” diameter wells and install a secure telemetry system to view and download all water levels (est. 50 data loggers in a five sq. mi. area)

1f Installation Water Level Data Loggers and Telemetry \$ _____

G. PROPOSED COST – INSTALLATION, TELEMTRY, AND MAINTENANCE OF MICRO-GC AUTOMATED SENSOR SYSTEMS

Install and service for five (5) years micro GC units and install a secure telemetry system to view and download all water quality results.
(est. 10 units in a 5 sq. mi. area)

1g Installation, Telemetry, and Maintenance of Micro-GC Automated Units \$ _____