

**RESOLUTION NO. 2719**

**A RESOLUTION OF THE CITY OF WILSONVILLE AUTHORIZING THE CITY MANAGER TO AMEND A PROFESSIONAL SERVICES AGREEMENT WITH MURRAYSMITH, INC. FOR DESIGN AND CONSTRUCTION ENGINEERING SERVICES FOR THE MEMORIAL PARK PUMP STATION PROJECT (CAPITAL IMPROVEMENT PROJECT #2065).**

WHEREAS, the City has planned and budgeted for Capital Improvement Project (CIP) #2065, known as the Memorial Park Pump Station Relocation project; and

WHEREAS, the City solicited Requests for Proposals for Engineering Services from qualified consultants for the Project using the formal selection procedure that duly followed the State of Oregon Public Contracting Rules and the City of Wilsonville Municipal Code; and

WHEREAS, Murraysmith, Inc. was selected as the most qualified consultant and was awarded a contract for the Memorial Park Pump Station Relocation (CIP #2065) for design services in the amount of \$492,414.00 on December 4, 2017; and

WHEREAS, when the bid documents were prepared the City was not aware of geotechnical issues pertaining to the stability of the location, which were discovered through Murraysmith's initial work. As a result, the City now needs to incorporate additional site limitations into the design of the pump station and thus requires additional design, bid support, and construction services from a qualified consultant to accommodate the added scope of work; and

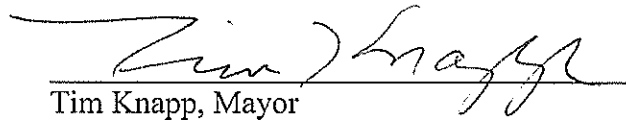
WHEREAS, the City desires to amend the Professional Services Agreement contract with Murraysmith, Inc. to include additional design, bid support and construction engineering services for the Memorial Park Pump Station Relocation project; and

WHEREAS, Oregon Administrative Rules (OAR 137-048-0200(1)(c) – “Continuation of Project with Intermediate Fee”) allows the City to utilize Murraysmith, Inc.'s engineering services without undertaking a new procurement process; and

NOW, THEREFORE, THE CITY OF WILSONVILLE RESOLVES AS FOLLOWS:

1. The procurement process for the Project duly followed Oregon Public Contracting Rules.
2. The Professional Services Agreement complies Oregon Public Contracting Rules for Continuation of Project with Intermediate Fee (OAR 137-048-0200(1)(c)).
3. The City of Wilsonville, acting as the Local Contract Review Board, authorizes the City Manager to enter into and execute, on behalf of the City of Wilsonville, the First Amendment to the Professional Services Agreement with Murraysmith, Inc. for a not-to-exceed amount of One-hundred sixty thousand three-hundred eighty dollars (\$160,380.00), which First Amendment is in substantially similar form to **Exhibit A** attached hereto.
3. This Resolution becomes effective upon adoption.

ADOPTED by the Wilsonville City Council at a regular meeting thereof this 7<sup>th</sup> day of January 2019, and filed with the Wilsonville City Recorder this date.

  
Tim Knapp, Mayor

ATTEST:

  
Kimberly Veliz, City Recorder

SUMMARY OF VOTES:

Mayor Knapp	Yes
Councilor Stevens	Excused
Councilor Lehan	Yes
Councilor Akervall	Yes
Councilor West	Yes

Attachments:

- A. Exhibit A – Amendment 1 Scope of Services Memorial Park Pump Station Improvements City of Wilsonville

## EXHIBIT A

# AMENDMENT 1 SCOPE OF SERVICES MEMORIAL PARK PUMP STATION IMPROVEMENTS CITY OF WILSONVILLE

## Project Overview and Understanding

The City of Wilsonville is improving its Memorial Park Pump Station to increase capacity and reliability. Additional design work has been identified as the preliminary design work was completed. This work includes mitigation for high groundwater and liquefiable soil potential at the pump station site, evaluation of the existing force main for transient pressure surge potential and mitigation needs and revising site planning and building architecture to meet staff requests.

Geotechnical investigations and analysis identified the need to develop external groundwater control requirements in order to maintain stable excavations and install the gravity sewer and wet well structures. By completing this additional design work, the contractors will be provided an equal basis of bidding for groundwater control, treatment, and disposal. This will limit the City's risk of an unprepared contractor attempting to construct the work without proper groundwater control. In addition, the soils at the pump station site were identified for the potential of both vertical settlement and horizontal movements from seismic liquefaction. This condition requires additional structural design to protect the building and structures from displacement or damage. By completing this additional design work, the new pump station, which serves the eastern half of the City, will remain operational following a seismic event.

Conducting a hydraulic analysis for transient pressure surges of the existing force main is recommended. This evaluation was not originally included in the scope of work because it was thought to be a temporary asset recommended for upsizing with the pump station. The City chose to implement the improvements to the pump station and force main separately in order to phase capital expenditures. The pump station was prioritized because it was capacity limited between the two assets and is also vulnerable to flooding. The new force main could be delayed several years as it had enough capacity to serve near term developments along Advanced Road and Frog Pond areas.

However, since the project has begun more current information from development plans within the service area suggest reduced loadings than assumed in the master planning models. This results in the potential for the existing force main may have enough capacity to serve the build out area or at least delay the need to upsize the pipeline. As such, it is now recommended that this evaluation be completed to ensure that the force main has long term protection from transient pressure surges and related damage.

This amendment also includes additional work to revise the site plan layout and architectural renderings submitted at the 30% design stage. The initial designs were developed in coordination with City staff with the intent to accommodate a future paved pathway along Boeckmann Creek, behind the new pump station. The resulting site plans presented operational access limitations and the City decided to remove the path requirement and revise the site layout. In addition, Park staff have revised architectural design guidelines after the building concepts were developed. This amendment also include time to update the building design concepts and prepare a building materials board that can be submitted with the land use application.

The City has also elected to delay the pump station construction to 2020 to accommodate the additional design work and schedule the work in dry weather. This will add additional project management and administration for an additional year.

This scope of work includes the additional design phase engineering services as described below.

## Scope of Services

Additional work outlined in this amendment is included as either supplemented existing subtasks or new subtasks added to the existing task list. The task that are affected by this amendment are listed below and followed by a detailed scope of work.

- Task 1 – Project Management
- Task 4 – Geotechnical Investigations
- Task 5 – Preliminary Design Development
- Task 6 – Land Use Approval
- Task 7 – Final Design Documents
- Task 9 – Bidding and Award Services
- Task 10 – Construction Phase Services

The Consultant will perform the following services under this amendment:

### Task 1. Project Management

#### *Objective:*

To provide overall leadership and team strategic guidance aligned with the City of Wilsonville staff objectives. To coordinate, monitor, and control the project resources to meet the technical, communication, and contractual obligations required for developing and implementing the project scope.

## *Activities:*

### *1.1 Invoices/Status Reports (Amended Existing Task)*

Consultant will prepare monthly invoices, including expenditures by task, hours worked by project personnel, and other direct expenses with the associated backup documentation. Monthly status reports will accompany each invoice.

### *1.3 Coordination with Subconsultants (Amended Existing Task)*

Consultant will coordinate with subconsultants on specific tasks, scope, and budget. Review subconsultant deliverables prior to submitting to the City.

## *Task Deliverables*

1. Monthly invoicing and activity reports

## *Assumptions*

1. Project duration will be extended up to 12 months.

## **Task 4. Geotechnical Investigations**

### *Objective:*

To complete subsurface investigations and geotechnical engineering report to support project design and construction.

### *Activities:*

#### *4.7 Groundwater Transmissivity Testing and Report Addendum (New Task)*

Consultant will perform testing at two locations to measure the potential flow rate of ground water to design and specify the dewatering system in order to lower the ground water levels below the proposed excavation elevations. An addendum will be prepared for the Geotech report to include this information.

### *Task Deliverables*

1. Geotechnical Engineering Report addendum in PDF format.

### *Assumptions*

1. Traffic control is anticipated not to be required for these borings.
2. Two borings will be completed.

3. All necessary right-of-entry permits will be provided by the City.
4. Drilling will be accomplished on weekdays, during daylight hours, and with no time restrictions.

## Task 5. Preliminary Design Development

### *Objective:*

To develop and document design criteria and concepts in a Preliminary Design Memorandum that will establish the basis for detailed design work.

### *Activities:*

#### *5.5 Site Plan Development (Amended Existing Task)*

Revise site plan development and associated 30% design deliverable to incorporate revised design requirements. These include removing the path from the site, raising the valve vaults to same elevation as wet well, and revising the architectural building concepts. These will be delivered through a final Preliminary Design Memorandum submittal.

### *Task Deliverables*

1. One revised Sketch Up Architectural perspectives
2. One Building Elevation Drawing
3. One revised preliminary Site Plan
4. One revised landscape concept plan
5. One revised force main and sanitary sewer extension plan and profile

### *Assumptions*

1. Plan revisions will follow updated site plan submitted to the City on October 11<sup>th</sup>, 2018.

## Task 6. Land Use Approval

### *Objective:*

To support the City to obtain necessary land use approvals.

## *Activities:*

### *6.2 Complete Site Design Review Application (Amended Existing Task)*

This task will be supplemented to prepare and submit a building materials presentation board to be included with the land use application.

## *Task Deliverables*

1. Building material presentation board.

## *Assumptions*

1. Board will include descriptions and sample materials or photos of the proposed building siding, roofing, doors, louvers, and other key architectural elements.

## **Task 7. Final Design Documents**

### *Objective:*

To prepare contract plans, specifications, and bidding documents for soliciting bids and constructing the project.

## *Activities:*

### *7.4 Develop Dewatering Requirements and Specifications (New Task)*

Services under this task include a conceptual design analysis to establish minimum requirements for dewatering including a minimum number of deep wells and/or vacuum extraction well points that the contractor should be required to include in their bid. Under this conceptual design approach, the contractor would still be required to hire an independent licensed hydrogeologist/engineering or certified geologist, civil engineer, or geotechnical engineer to prepare a stamped dewatering design as part of an overall dewatering plan.

Based on our understanding of the site conditions and wide range of excavation depths, there may be opportunity to utilize two different “external” dewatering systems, including the following:

- Deep wells for excavations exceeding 21 feet in depth
- Vacuum extraction well points for the shallower portion of the pipeline below the groundwater table, where the soils are Clay to Silt and Silt with sand, varying from non-plastic to low plasticity.

At various locations, additional groundwater observation wells would also be identified that should be installed by the dewatering contractor.

### *7.5 Seismic Mitigation Design (New Task)*

The geotechnical report identified the potential for seismically induced liquefaction and slope failure are the proposed pump station location. Mitigation design will be completed under this task to provide vertical and horizontal foundation supports for the pump station building, wet well, and below grade vaults. It is anticipated that the building and vaults will be supported on pile foundations that extend below the liquefiable soil layer. The wet well nearly extends through the liquefiable layer so it will be over excavated and placed on a thickened foundation. Connection straps between the precast barrel structures will be designed to prevent joint separation. Special fittings that allow for rotation and extension will be installed at transitions to structures. The force main pipe will include all restrained joints. The design work under this task includes:

- Generation of gravity and lateral design loads for structures.
- Coordinate with geotechnical engineer for L-pile analysis for auger cast piles.
- Coordination with precast wet well suppliers to discuss lateral spreading and proposed connections.
- Develop calculations to support building permit plan submittal.
- Preparation of additional structural plans and specifications for the proposed improvements. Submit with 60, 90, final deliverable schedule.

### *7.6 Pressure Transient Evaluation (New Task)*

Conduct transient analysis modeling of the 12-inch diameter force main for potential water hammer conditions. Identify need and location of combination air release valves (CARVs) to mitigate risk of pipe failure assuming the design flow rate, emergency shutdown from power loss scenario and factor of safety of two. The initial model results will be graphically represented along the force main alignment and provided to the City for review and comment. A second model run will be completed to incorporate City staff revisions to the design criteria. The recommended size and CARV locations will be documented in a brief technical memorandum (TM).

### *7.7 Pressure Transient Mitigation Design (New Contingency Task)*

Design combination air valve assembly details at locations recommended from Task 7.6. This includes collecting additional topographic survey at proposed locations to support site design.

### *Task Deliverables*

1. Minimum requirements for dewatering and associated plan notes and specifications.
2. Structural plans, specifications, and cost estimates for seismically resiliency at 60%, 90%, final increments.
3. TM for Pressure Transient Evaluation.
4. Up to three CARV details for transient mitigation.



## *Assumptions*

1. The contractor will be required to hire an independent licensed hydrogeologist/engineering or certified geologist, civil engineer, or geotechnical engineer to prepare a stamped dewatering designs as part of an overall dewatering plan that will be based on specified criteria and reviewed by the Consultant.
2. Design calculations and construction drawings for precast wet well structure are not included and typically provided by the manufacturer.
3. L-Pile analysis will be completed for three different horizontal displacements that include ½ inch, 1 inch, and 2 inches
4. The budget for Task 7.7 assumes three mitigation valves.

## **Task 9. Bidding and Award Services**

### *Objective:*

To provide professional engineering services during bidding as described below.

### *Activities:*

#### *9.2 Respond to Bidder Inquiries (Amended Existing Task)*

The level of effort for this task is increased to account for the additional dewater and structural foundation requirements.

### *Task Deliverables*

1. Bidder Responses and Addenda

### *Assumptions*

1. City will print and distribute bidding documents, responses to bidder inquiries, addenda, and maintain a plan holders list.

## **Task 10. Construction Phase Services**

### *Objective:*

Work under this task refers to engineering services during construction of the project so that the project is constructed in accordance with the approved plans and specifications.

## *Activities:*

### *10.2 Submittal Review (Amended Existing Task)*

The level of effort for this task is increased to account for the additional dewater and structural foundation requirements.

### *10.3 Construction Engineering (Amended Existing Task)*

The level of effort for this task is increased to account for the additional dewater and structural foundation requirements.

### *10.4 Construction Observation (Amended Existing Task)*

The level of effort for this task is increased to account for the additional dewater and structural foundation requirements.

## *Task Deliverables*

1. Submittal review comments for dewatering and pile foundations.
2. Responses to contractor RFI's for dewatering and pile foundations.
3. Site visits for observations of dewatering system or pile installation or operations. Provide written observation summary.

## *Assumptions*

1. City will provide a project manager and designated inspector that will be the primary contact for the contractor and coordinate with Murraysmith for work under this task.
2. Five submittals for dewatering and piles are assumed.
3. Up to one change order request is included in the budget.
4. Up to five RFI responses are included in the budget.
5. Up to four observations for dewatering and pipe installation are included.

## Payment

Payment will be made at the billing rates for personnel working directly on the project, which will be made at the Consultant's Hourly Rates, plus Direct Expenses incurred. Billing rates are as shown in the table below. Subconsultants, when required by the Consultant, will be charged at actual costs plus a 10 percent fee to cover administration and overhead. Direct expenses will be paid at the rates shown in the table below.

Principal Engineer VI	\$245.00
Principal Engineer V	237.00
Principal Engineer IV	227.00
Principal Engineer III	218.00
Principal Engineer II	209.00
Principal Engineer I	201.00
Professional Engineer IX	193.00
Engineering Designer IX	185.00
Professional Engineer VIII	183.00
Engineering Designer VIII	176.00
Professional Engineer VII	174.00
Engineering Designer VII	167.00
Professional Engineer VI	165.00
Engineering Designer VI	159.00
Professional Engineer V	156.00
Engineering Designer V	150.00
Professional Engineer IV	146.00
Engineering Designer IV	146.00
Professional Engineer III	142.00
Engineering Designer III	142.00
Engineering Designer II	131.00
Engineering Designer I	120.00
Technician IV	141.00
Technician III	126.00
Technician II	110.00
Technician I	93.00
Administrative III	100.00
Administrative II	93.00
Administrative I	81.00

## Direct Expenses

Expenses incurred in-house that are directly attributable to the project will be invoiced at actual cost. These expenses include the following:

Computer Aided Design and Drafting.....	\$18.00/hour
GIS and Hydraulic Modeling .....	\$10.00/hour
Mileage.....	Current IRS Rate
Postage and Delivery Services .....	At Cost
Printing and Reproduction .....	At Cost
Travel, Lodging and Subsistence.....	At Cost

## Time and Performance

The anticipated project schedule is as follows:

Consultant Notice to Proceed.....	December 2018
Preliminary Design Complete.....	December 2018
Design Complete.....	November 2019
Construction Complete .....	September 2020
Project Complete .....	December 2020