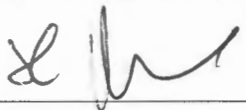


CITY OF MARYSVILLE AGENDA BILL

EXECUTIVE SUMMARY FOR ACTION

CITY COUNCIL MEETING DATE: April 14, 2014

| | |
|---|---|
| AGENDA ITEM: Supplemental Professional Services Agreement with Murray, Smith & Associates for Professional Engineering Services | |
| PREPARED BY: Patrick Gruenhagen, Project Manager | DIRECTOR APPROVAL:  |
| DEPARTMENT: Engineering | |
| ATTACHMENTS: <ul style="list-style-type: none">Professional Services Agreement Supplement No. 2 | |
| BUDGET CODE: 40220594.563000 W1302 | AMOUNT: \$36,192.00 |

SUMMARY:

In the summer of 2013, the City contracted with Murray, Smith and Associates to perform well capacity pump testing and a raw water blending evaluation of its Highway 9 and Sunnyside well sources – in order to explore and pave the way for potential construction of water treatment facilities at one or both locations. The work described within Supplement 2, as contained herein, represents a logical extension of the work undertaken previously, allowing for:

- pilot testing of the City’s Highway 9 well source in order to establish design parameters for a future treatment facility at that location, and
- a blending analysis to consider potential issues and/or regulatory impacts arising from differences in treated water quality among the Highway 9 Well, Sunnyside Wells, and Everett (JOA) source waters – exploring the short and long-term implications of combining water from these three distinct sources into the City’s municipal water system

As with the Sunnyside Well Treatment Project, scheduled to be under construction this fall, the City can reasonably expect that a new treatment facility at the Highway 9 well source would “pay for itself” within a relatively short period of time – serving to meet future, anticipated demand while *maximizing* reliance on City-owned water sources and simultaneously *reducing* the City’s dependence on costlier water from the City of Everett.

RECOMMENDED ACTION: Staff recommends that Council Authorize the Mayor to sign Professional Services Agreement Supplement No. 2 in the amount of \$36,192.00 with Murray, Smith & Associates, Inc.

**SUPPLEMENTAL AGREEMENT NO. 2
TO
PROFESSIONAL SERVICES AGREEMENT
BETWEEN CITY OF MARYSVILLE
AND
MURRAY, SMITH & ASSOCIATES, INC.**

This Supplemental Agreement No. 2 is made and entered into on the _____ day of _____, 2014, between the City of Marysville, hereinafter called the "City" and Murray, Smith & Associates, Inc., hereinafter called the "Consultant."

WITNESSETH THAT:

WHEREAS, the parties hereto have previously entered into an Agreement for the Sunnyside Well Treatment Project, hereinafter called the "Project," said Agreement being dated April 8, 2013; and

WHEREAS, both parties desire to supplement said Agreement, by expanding the Scope of Services to provide for a) pilot testing of the City's Highway 9 well source in order to establish design parameters for a future treatment facility at that location; and b) a blending analysis to consider potential issues and/or regulatory impacts arising from differences in treated water quality among the Highway 9 Well, Sunnyside Wells, and other City of Everett source waters; and both parties therefore desire to amend the total amount payable for this Agreement,

NOW THEREFORE, in consideration of the terms, conditions, covenants and performance contained herein or attached and incorporated, and made a part hereof, the parties hereto agree as follows:

Each and every provision of the Original Agreement for Professional Services dated April 8, 2013 shall remain in full force and effect, except as modified in the following sections:

1. Article II of the Original Agreement, "SCOPE OF SERVICES", shall be supplemented to include the Scope of Services as described in Exhibit A-2, attached hereto and by this reference made part of this Supplemental Agreement No. 2.

2. Article IV of the Original Agreement, "OBLIGATIONS OF THE CITY," Paragraph IV.I "PAYMENTS," the second sentence is amended to include the additional Consultant fee of \$36,192.00 and shall read as follows: "...shall the compensation paid to Consultant under this Agreement exceed \$648,363.00 without the written agreement of the Consultant and the City."

The Total Amount payable to the Consultant is summarized as follows:

| | |
|-----------------------------|--------------------|
| Original Agreement | \$353,338.00 |
| Supplemental Agreement No.1 | \$258,833.00 |
| Supplemental Agreement No.2 | <u>\$36,192.00</u> |
| Grand Total | \$648,363.00 |

IN WITNESS WHEREOF, the parties hereto have executed this SUPPLEMENTAL AGREEMENT NO. 2 as of the day and year first above written.

CITY OF MARYSVILLE

MURRAY, SMITH & ASSOCIATES, INC.

By: _____
Jon Nehring, Mayor

By: Thomas C. Lindberg
Its Principal Engineer
Thomas C. Lindberg

ATTEST/AUTHENTICATED:

City Clerk

APPROVED AS TO FORM:

Marysville City Attorney



EXHIBIT A-2

SUPPLEMENT NO. 2 TO SCOPE OF WORK FOR HIGHWAY 9 WELL PILOT TESTING SUNNYSIDE WELLS TREATMENT FACILITIES CITY OF MARYSVILLE, WA

BACKGROUND

This Supplement No. 2 to the Sunnyside Wells Treatment Facilities Design project includes pilot-scale testing for the Highway 9 Well source provided by Murray, Smith & Associates, Inc. (MSA) and subconsultant Confluence Engineering Group, LLC (Confluence) for the City of Marysville (City).

In the Summer of 2013, MSA and Confluence completed well capacity pump testing and a raw water blending evaluation of the Highway 9 Well water with the Sunnyside Well sources. Bench scale testing of the Highway 9 Well water at the time indicated that treatment of the Highway 9 well water may be feasible with similar treatment technology being pursued and designed by MSA for the Sunnyside Wells.

At the City's request, MSA also evaluated three production alternatives for Highway 9 Well source that included the construction of a dedicated treatment facility at the Highway 9 Well site, conveying Highway 9 Well water to the treatment facilities planned at the Sunnyside Wells site, and pursuing a change in the point of withdrawal of the Highway 9 Well water right. The recommendation from the results of the evaluation is to provide treatment at the Highway 9 Well site, with the first step being a pilot study of the Highway 9 well source to determine the appropriate treatment technology.

Upon completion of the pilot study, which forms the basis of design and selection of treatment equipment, the next step would be the preparation of design and construction documents for the Highway 9 Well treatment facility.

Scope of Work

The services defined herein consist of the following major tasks:

- Task 1 - Project Management and Coordination
- Task 2 - Pilot Study
- Task 3 - Blending Evaluation

Task 1 – Project Management and Meetings

Work under this phase includes project management and meetings for the pilot testing tasks. Specific tasks include:

1.1 – Correspondence and Communication with the City

MSA's Project Manager will serve as the primary design team point of contact and will maintain regular communication with the City concerning project issues, schedule, and work products. Electronic records of project decisions will be maintained. Coordination of subconsultant work and communications with permitting/regulatory agencies will be done in an efficient manner that promotes adherence to project schedule.

1.2 – Project Meetings

Two project meetings are anticipated and summarized below:

- Pre-Pilot Testing Kick-off Meeting: MSA and Confluence (by conference call) will attend a kick-off meeting with City staff to coordinate and establish protocol for the pilot testing at Highway 9 Well site.
- Post-Pilot Testing Meeting: MSA and Confluence will attend a meeting with City staff to review the pilot testing results.

City Responsibilities:

1. Host project meetings at the City Public Works Building.
2. Review draft meeting agenda and minutes and provide comment.
3. Participate in meetings with the consultant team to review and discuss project work.
4. Provide consolidated review comments of project deliverables discussed at meetings.

Assumptions:

1. Each meeting is estimated to have a two-hour duration on average.

Deliverables:

1. Monthly invoicing and project status reports.
2. Meeting agendas and minutes.

Task 2 – Pilot Study

In an effort led by Confluence, perform pilot test runs on Highway 9 Well water to determine design criteria for an oxidation and catalytic media treatment process to reduce the levels of iron, manganese, arsenic, and ammonia to meet the City's finished water quality goals.

2.1 – Pilot Scale Testing

This task will include the following:

- **Preliminary Testing.** The following activities will be performed in advance of pilot test runs in order to help develop the pilot test protocol:
 - a. Limited on-site bench-scale testing to confirm that native iron and pH levels are adequate to co-precipitate arsenic and meet the treated water quality goal.
 - b. Perform on-site sample collection and analysis to confirm that the Highway 9 Well water quality is sufficiently close to that measured during the 2013 pumping test, under the well operating conditions selected for this pilot testing.
- **Pilot Testing Protocol.** Develop a pilot testing protocol for Highway 9 Well. Pilot testing will include:
 - a. Side-by-side testing of two media configurations using a two-column, pilot skid for 10 working days. Media configurations are anticipated to include that selected for the Sunnyside treatment facility (base-case) and an alternate configuration tailored toward the higher iron levels of the Highway 9 Well, in an to attempt to improve performance.
 - b. Longer-term pilot filter runs to evaluate filter run time, head loss development, and filtered water quality.
- **Pilot Equipment Set Up.** Coordinate with suppliers to obtain the required media and chemicals and with the laboratory for sample analyses that cannot be performed in the field. Mobilize the Confluence pilot testing equipment. Prepare mobile analytical instrumentation and deliver to the site. Pre-condition media.
- **Pilot Testing and Analysis.** Provide an experienced technician to perform the following tasks:
 - a. Conduct on-site operation of the equipment, perform sampling and analysis, collect data, and make process adjustments, as needed.
 - b. Collect samples for laboratory measurement of the concentration of key metals in representative backwash water from each pilot filter.
 - c. Assess finished water disinfection by-product (DBP) formation and confirm longer-term chlorine demand/decay (CDD) characteristics, including progress of the ammonia breakpoint reaction, based upon anticipated water age downstream of the Highway 9 Reservoir and the new reservoir to be constructed at the site, if applicable.
 - d. At the conclusion of testing, demobilize and clean pilot testing equipment and remove from the site.

- **Pilot Testing Technical Memorandum.** Perform data analysis and prepare key tables/graphs to summarize the results and provide recommended design criteria. Prepare a Technical Memorandum to summarize the findings of the pilot-scale testing (approximately 15-pages).

City Responsibilities:

1. Operate Highway 9 Well to provide an adequate supply of representative water quality to facilitate completion of the pilot testing described in the protocol.
2. Identify an appropriate discharge method for blow-off water to allow continuous pilot plant operation for approximately 8 hours each day the pilot plant technician is on site to conduct pilot-scale testing.
3. Provide fittings and appropriate tubing to deliver Highway 9 Well water to the pilot skid.
4. Pay external lab fees.
5. Install temporary fencing to provide adequate protection and security for the pilot equipment, similar to that used for the pilot testing at the Sunnyside wells in the summer of 2013.
6. Assist with coordination and collection of distribution system samples as required.

Assumptions:

1. Pilot-scale testing will be conducted at the Highway 9 Well site.
2. For pilot testing Confluence will provide:
 - a. A raw water inlet assembly with a port to accept water from the Highway 9 Well.
 - b. A pilot skid, including filter columns, chemicals and chemical feed systems, tanks, filter media, consumables, and spare parts.
 - c. Similar portable analytical equipment and meters/probes as used for the pilot testing conducted by Confluence at the Sunnyside wells, along with reagents and glassware for field testing.

Deliverables:

1. Draft and Final Pilot Testing Protocol.
2. Draft and Final Pilot Testing Technical Memorandum.

Task 3 – Blending Evaluation

In an effort led by Confluence, conduct a blending evaluation to determine regulatory impacts and potential issues arising from differences in water quality among the Highway 9 Well, Sunnyside Wells, and other City of Everett source waters. This blending evaluation will consider blending treated Highway 9 Well water with City of Everett water in the 510 Zone and also blending of treated Highway 9 Well, City of Everett, and treated Sunnyside well water in the 360 Zone.

3.1 – Pilot Scale Testing

This task will include the following:

- **Assess Existing Distribution System Water Quality.** Review available data to assess existing water quality in the 360 and 510 Zones.
- **Water Blending Evaluation.** Use spreadsheet water quality models to estimate water quality for blends of Highway 9 Well water and existing water in the 510 Zone, as well as Highway 9 Well, Sunnyside Wells, and existing water in the 360 Zone. Blended water pH, alkalinity, hardness, and key corrosion/precipitation indices will be included. Identify any regulatory or potential customer complaint issues.
- **Prepare Memorandum.** Prepare a Memorandum to summarize the results and include tables to illustrate the anticipated water quality of the blended waters.

City Responsibilities:

1. Provide requested data items in a timely manner.
2. Pay external lab fees.
3. Conduct any required system modeling.

Deliverables:

1. Draft and Final Blending Memorandum.

**EXHIBIT B-2
HIGHWAY 9 WELL PILOT TESTING
CITY OF MARYSVILLE
PROPOSED FEE ESTIMATE**

| TASK | | | | | | ESTIMATED FEES | | | | |
|---|-----------------------|-----------------------|----------------------|--------------------|----------------|-----------------|------------------|-----------------|-----------------|------------------|
| | Princ. IV \$198 | Engr. VII \$156 | Engr. VI \$146 | Admin I \$74 | Total Hours | MSA Labor | Subs | Sub Markup | MSA Expenses | Total |
| | TCL | AS | NPH | DAB | | | | | | |
| Task 1 - Project Management and Coordination | | | | | | | | | | |
| 1.1 Correspondence/Communication w/City | | | | | 0 | \$ - | \$ 2,752 | \$ 275 | \$ - | \$ 3,027 |
| 1.2 Project Meetings | | | | | 0 | \$ - | \$ 1,084 | \$ 108 | \$ - | \$ 1,192 |
| Subtotal | 0 | 0 | 0 | 0 | 0 | \$ - | \$ 3,836 | \$ 384 | \$ - | \$ 4,220 |
| Task 2 - Pilot Study | | | | | | | | | | |
| 2.1 Pilot-Scale Testing | | 2 | 2 | | 4 | \$ 604 | \$ 23,000 | \$ 2,300 | \$ - | \$ 25,904 |
| Subtotal | 0 | 2 | 2 | 0 | 4 | \$ 604 | \$ 23,000 | \$ 2,300 | \$ - | \$ 25,904 |
| Task 3 - Blending Evaluation | | | | | | | | | | |
| 3.1 Blending Evaluation | | 2 | 2 | | 4 | \$ 604 | \$ 4,968 | \$ 497 | \$ - | \$ 6,069 |
| Subtotal | 0 | 2 | 2 | 0 | 4 | \$ 604 | \$ 4,968 | \$ 497 | \$ - | \$ 6,069 |
| TOTAL | 0 | 2 | 2 | 0 | 4 | \$ 1,208 | \$ 31,804 | \$ 3,180 | \$ - | \$ 36,192 |

**SUBCONSULTANTS AND EXPENSES
HIGHWAY 9 WELL PILOT TESTING
CITY OF MARYSVILLE
PROPOSED FEE ESTIMATE**

| TASK | Subconsultants | | MSA Expenses | | | | | |
|---|-----------------------------|------------------|---------------------|-------------|----------------------------|-------------|---------------------|-----------------------|
| | Confluence Water Quality | Total Subs | Mileage & Travel | CAD | Repro, Print, Photos | Postage | Communi- cations | Total MSA Expenses |
| Task 1 - Project Management and Coordination | | | | | | | | |
| 1.1 Correspondence/Communication w/City | \$ 2,752 | \$ 2,752 | | \$ - | \$ - | \$ - | \$ - | \$ - |
| 1.2 Project Meetings | \$ 1,084 | \$ 1,084 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Subtotal | \$ 3,836 | \$ 3,836 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Task 2 - Pilot Study | | | | | | | | |
| 2.1 Pilot-Scale Testing | \$ 23,000 | \$ 23,000 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Subtotal | \$ 23,000 | \$ 23,000 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Task 3 - Blending Evaluation | | | | | | | | |
| 3.1 Blending Evaluation | \$ 4,968 | \$ 4,968 | | \$ - | \$ - | \$ - | \$ - | \$ - |
| Subtotal | \$ 4,968 | \$ 4,968 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| TOTAL | \$ 31,804 | \$ 31,804 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |