

183988

**CITY OF PORTLAND
AGREEMENT FOR PROFESSIONAL, TECHNICAL, OR EXPERT SERVICES**

CONTRACT NO. 30001295

**SHORT TITLE OF WORK PROJECT:
Forest Park Low Tank**

This contract is between the City of Portland, acting by and through its Elected Officials, hereafter called "City," and Murray, Smith & Associates, Inc., hereafter called Contractor. The City's Project Manager for this contract is Ryan Nelson.

Effective Date and Duration

This contract shall become effective on June 1, 2010. This contract shall expire, unless otherwise terminated or extended, on June 1, 2014.

Consideration

- (a) City agrees to pay Contractor a sum not to exceed \$533,857 for accomplishment of the work.
- (b) Interim payments shall be made to Contractor according to the schedule identified in the STATEMENT OF THE WORK AND PAYMENT SCHEDULE.

CONTRACTOR DATA AND CERTIFICATION

Name (please print): Murray, Smith & Associates, Inc.

Address: 121 SW Salmon, Suite 900

Employer Identification Number (EIN) 93-0768555

[INDEPENDENT CONTRACTORS: DO NOT PROVIDE SOCIAL SECURITY NUMBER (SSN) - LEAVE BLANK IF NO EIN]

City of Portland Business License # 211425 01

Citizenship: Nonresident alien ☐ Yes ☒ No

Business Designation (check one): ☐ Individual ☐ Sole Proprietorship ☐ Partnership ☐ Corporation
☐ Limited Liability Co (LLC) ☐ Estate/Trust ☐ Public Service Corp. ☐ Government/Nonprofit

Payment information will be reported to the IRS under the name and taxpayer I.D. number provided above. Information must be provided prior to contract approval. Information not matching IRS records could subject you to 20 percent backup withholding.

**STANDARD CONTRACT PROVISIONS FOR
PROFESSIONAL, TECHNICAL & EXPERT SERVICES (MANDATORY PROVISIONS)**

1. Access to Records

The Contractor shall maintain, and the City of Portland ("City") and its duly authorized representatives shall have access to the books, documents, papers, and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts, and transcripts for a period of three years after final payment. Copies of applicable records shall be made available upon request. Payment for cost of copies is reimbursable by the City.

2. Audits

- (a) The City, either directly or through a designated representative, may conduct financial and performance audits of the billings and services specified in this agreement at any time in the course of the agreement and during the three (3) year period established by section 1, **Access to Records**. Audits will be conducted in accordance with generally accepted auditing standards as promulgated in Government Auditing Standards by the Comptroller General of the United States General Accounting Office.
- (b) If an audit discloses that payments to the Contractor were in excess of the amount to which the Contractor was entitled, then the Contractor shall repay the amount of the excess to the City.
- (c) If any audit shows performance of services is not efficient in accordance with Government Auditing Standards, or that the program is not effective in accordance with Government Auditing Standards, the City may pursue remedies provided under section 5, **Early Termination of Agreement** and section 7, **Remedies**.

3. **Effective Date and Duration**

The passage of the contract expiration date (as recorded on reverse side) shall not extinguish, prejudice, or limit either party's right to enforce this contract with respect to any default or defect in performance that has not been cured.

4. **Order of Precedence**

This contract consists of the terms and conditions of this contract, the Request for Proposals (RFP) issued by the City, if any, and the Contractor's proposal in response to the RFP. In the event of any apparent or alleged conflict between these various documents, the following order of precedence shall apply to resolve the conflict: a) this contract's terms and conditions, b) the City's RFP, and c) the Contractor's proposal in response to the RFP.

5. **Early Termination of Agreement**

- (a) The City and the Contractor, by mutual written agreement, may terminate this Agreement at any time.
- (b) The City, on thirty (30) days written notice to the Contractor, may terminate this Agreement for any reason deemed appropriate in its sole discretion.
- (c) Either the City or the Contractor may terminate this Agreement in the event of a breach of the Agreement by the other. Prior to such termination, however, the party seeking the termination shall give to the other party written notice of the breach and of the party's intent to terminate. If the party has not entirely cured the breach within fifteen (15) days of the notice, then the party giving the notice may terminate the Agreement at any time thereafter by giving a written notice of termination.

6. **Payment on Early Termination**

- (a) In the event of termination under subsection 5(a) or 5(b), **Early Termination of Agreement** hereof, the City shall pay the Contractor for work performed in accordance with the Agreement prior to the termination date.
- (b) In the event of termination under subsection 5(c), **Early Termination of Agreement** hereof, by the Contractor due to a breach by the City, then the City shall pay the Contractor as provided in subsection (a) of this section.
- (c) In the event of termination under subsection 5(c), **Early Termination of Agreement** hereof, by the City due to a breach by the Contractor, then the City shall pay the Contractor as provided in subsection (a) of this section, subject to set off of excess costs, as provided for in section 7(a), **Remedies**.
- (d) In the event of early termination all of the Contractor's work product will become and remain property of the City.

7. **Remedies**

- (a) In the event of termination under subsection 5(c), **Early Termination of Agreement**, hereof, by the City due to a breach by the Contractor, then the City may complete the work either itself, by agreement with another contractor or by a combination thereof. In the event the cost of completing the work exceeds the remaining unpaid balance of the total compensation provided under this contract, then the Contractor shall pay to the City the amount of the reasonable excess.
- (b) The remedies provided to the City under section 5, **Early Termination of Agreement** and section 7, **Remedies** for a breach by the Contractor shall not be exclusive. The City also shall be entitled to any other equitable and legal remedies that are available.
- (c) In the event of breach of this Agreement by the City, then the Contractor's remedy shall be limited to termination of the Agreement and receipt of payment as provided in section 5(c), **Early Termination of Agreement** and section 6(b), **Payment on Early Termination** hereof.

8. **Subcontracts and Assignment**

Contractor shall not subcontract, assign or transfer any of the work scheduled under this agreement, without the prior written consent of the City. Notwithstanding City approval of a subcontractor, the Contractor shall remain obligated for full performance hereunder, and the City shall incur no obligation other than its obligations to the Contractor hereunder. The Contractor agrees that if subcontractors are employed in the performance of this Agreement, the Contractor and its subcontractors are subject to the requirements and sanctions of ORS Chapter 656, Workers' Compensation.

9. **Compliance with Applicable Law**

In connection with its activities under this Agreement, Contractor shall comply with all applicable federal, state and local laws and regulations including the City's Equal Benefits Ordinance and its administrative rules, all of which are incorporated by this reference. Failure to comply with the Ordinance permits the City to impose sanctions or require remedial actions as stated in Section 13.1 of the administrative rules. Contractor shall complete the INDEPENDENT CONTRACTOR CERTIFICATION STATEMENT, which is attached hereto and by this reference made a part hereof.

(a) **Indemnity - Claims for Other than Professional Liability**

Contractor shall defend, save, and hold harmless the City of Portland, its officers, agents, and employees, from all claims, suits, or actions of whatsoever nature, including intentional acts, resulting from or arising out of the activities of Contractor or its subcontractors, agents or employees under this agreement. Nothing in this section requires the Contractor or its insurer to indemnify the City for any claims or losses arising out of death, or bodily injury to persons, or property damage caused by the negligence of the City.

(b) Indemnity - Claims for Professional Liability

Contractor shall defend, save, and hold harmless the City of Portland, its officers, agents, and employees, from all claims, suits, or actions arising out of the professional negligent acts, errors or omissions of Contractor or its subcontractors and sub-consultants, agents or employees in performance of professional services under this agreement. Nothing in this section requires the Contractor or its insurer to indemnify the City for any claims or losses caused by the negligence of the City.

(c) Indemnity - Standard of Care

If Contractor's services involve engineering or consulting, the standard of care applicable to Contractor's service will be the degree of skill and diligence normally employed by professional engineers or consultants performing the same or similar services at the time such services are performed. Contractor will re-perform any services not meeting this standard without additional compensation.

10. Insurance

During the term of this contract Contractor shall maintain in force at its own expense, each insurance noted below:

- (a) Workers' Compensation insurance in compliance with ORS 656.017, which requires subject employers to provide Oregon workers' compensation coverage for all their subject workers (contractors with one or more employees, unless exempt under ORS 656.027).

- (b) X Required and attached or Waived by City Attorney: _____

General Liability insurance with a combined single limit of not less than \$1,000,000 per occurrence for Bodily Injury and Property Damage. It shall include contractual liability coverage for the indemnity provided under this contract, and shall provide that City of Portland, and its agents, officers, and employees are Additional Insured but only with respect to the Contractor's services to be provided under this Contract:

- (c) X Required and attached or Waived by City Attorney: _____

Automobile Liability insurance with a combined single limit of not less than \$1,000,000 per occurrence for Bodily Injury and Property Damage, including coverage for owned, hired, or nonowned vehicles, as applicable:

- (d) X Required and attached or Waived by City Attorney: _____

Professional Liability insurance with a combined single limit of not less than \$1,000,000 per claim, incident, or occurrence. This is to cover damages caused by error, omission or negligent acts related to the professional services to be provided under this contract. If insurance coverage is provided on a "claims made" basis, the successful Proposer shall acquire a "tail" coverage or continue the same coverage for three years after completion of the contract, provided coverage is available and economically feasible. If such coverage is not available or economically feasible, contractor shall notify City immediately.

- (e) On all types of insurance. There shall be no cancellation, material change, reduction of limits, or intent not to renew the insurance coverage(s) without 30-days written notice from the Contractor or its insurer(s) to the City.
- (f) Certificates of insurance. As evidence of the insurance coverages required by this contract, the Contractor shall furnish acceptable insurance certificates to the City at the time contractor returns signed contracts. The certificate will specify all of the parties who are Additional Insured and will include the 30-day cancellation clause and 10-day non-payment clause that provides that the insurance shall not terminate or be cancelled without 30 days or 10 days written notice first being given to the City Auditor. Insuring companies or entities are subject to City acceptance. If requested, complete policy copies shall be provided to the City. The Contractor shall be financially responsible for all pertinent deductibles, self-insured retentions, and/or self-insurance.

11. Ownership of Work Product

All work products produced by the Contractor under this contract is the exclusive property of the City. "Work product" shall include but not be limited to research, reports, computer programs, manuals, drawings, recordings, photographs, artwork and any data or information in any form; the Contractor and the City intend that such work product shall be deemed "work made for hire" of which the City shall be deemed the author. If for any reason a work product is deemed not to be a "work made for hire," the Contractor hereby irrevocably assigns and transfers to the City all right, title and interest in such work product, whether arising from copyright, patent, trademark, trade secret, or any other state or federal intellectual property law or doctrines. Contractor shall obtain such interests and execute all documents necessary to fully vest such rights in the City. Contractor waives all rights relating to work product, including any rights arising under 17 USC 106A, or any other rights of authorship, identification or approval, restriction or limitation on use or subsequent modifications. If the Contractor is an architect, the work product is the property of the Contractor-Architect, and by execution of this contract, the Contractor-Architect grants the City an exclusive and irrevocable license to use that work product.

12. Nondiscrimination

Contractor agrees to comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules, and regulations. Contractor also shall comply with the Americans With Disabilities Act of 1990 (Pub L. No. 101-336) including Title II of that Act, ORS 659.425, and all regulations and administrative rules established pursuant to those laws.

13. Successors in Interest

The provisions of this contract shall be binding upon and shall inure to the benefit of the parties hereto, and their respective successors and approved assigns.

14. Severability

The parties agree that if any term or provision of this contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the particular term or provision held to be invalid.

15. Waiver

The failure of the City to enforce any provision of this contract shall not constitute a waiver by the City of that or any other provision.

16. Errors

The Contractor shall perform such additional work as may be necessary to correct errors in the work required under this contract without undue delays and without additional cost.

17. Governing Law

The provisions of this contract shall be construed in accordance with the provisions of the laws of the State of Oregon. Any action or suits involving any question arising under this contract must be brought in the appropriate court in Multnomah County Oregon.

18. Amendments

All changes to this contract, including changes to the scope of work and contract amount, must be made by written amendment and approved by the Chief Procurement Officer to be valid. Any amendment that increases the original contract amount by more than 25% must be approved by the City Council to be valid.

19. Business License

The Contractor shall obtain a City of Portland business license as required by PCC 7.02 prior to beginning work under this Agreement. The Contractor shall provide a business license number in the space provided on page one of this Agreement. Additionally, the Contractor shall pay all fees or taxes due under the Business License Law and the Multnomah County Business Income Tax (MCC Chapter 12) during the full term of this contract. Failure to be in compliance may result in payments due under this contract to be withheld to satisfy amount due under the Business License Law and the Multnomah County Business Income Tax Law.

20. Prohibited Interest

(a) No City officer or employee during his or her tenure or for one year thereafter shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

(b) No City officer or employee who participated in the award of this Agreement shall be employed by the Contractor during the period of the Agreement.

21. Payment to Vendors and Subcontractors

The Contractor shall timely pay all suppliers, lessors and contractors providing it services, materials or equipment for carrying out its obligations under this Agreement. The Contractor shall not take or fail to take any action in a manner that causes the City or any materials that the Contractor provides hereunder to be subject to any claim or lien of any person without the City's prior written consent.

Merger Clause

THIS CONTRACT AND ATTACHED EXHIBITS CONSTITUTES THE ENTIRE AGREEMENT BETWEEN THE PARTIES. NO WAIVER, CONSENT, MODIFICATION, OR CHANGE OF TERMS OF THIS CONTRACT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY BOTH PARTIES. SUCH WAIVER, CONSENT, MODIFICATION, OR CHANGE IF MADE, SHALL BE EFFECTIVE ONLY IN SPECIFIC INSTANCES AND FOR THE SPECIFIC PURPOSE GIVEN. THERE ARE NO UNDERSTANDINGS, AGREEMENTS, OR REPRESENTATIONS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS CONTRACT. CONTRACTOR, BY THE SIGNATURE OF ITS AUTHORIZED REPRESENTATIVE, HEREBY ACKNOWLEDGES THAT HE OR SHE HAS READ THIS CONTRACT, UNDERSTANDS IT AND AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.

OPTIONAL PROVISIONS (selected by City Project Manager)**22. Arbitration: / ☒ X / Not Applicable / ☐ / Applicable (consult with City Attorney's Office before finalizing as applicable)**

(a) Any dispute arising out of or in connection with this Agreement, which is not settled by mutual agreement of the Contractor and the City within sixty (60) days of notification in writing by either party, shall be submitted to an arbitrator mutually agreed upon by the parties. In the event the parties cannot agree on the arbitrator, then the arbitrator shall be appointed by the Presiding Judge (Civil) of the Circuit Court of the State of Oregon for the County of Multnomah. The arbitrator shall be selected within thirty (30) days from the expiration of the sixty (60) day period following notification of the dispute. The arbitration, and any

litigation arising out of or in connection with this Agreement, shall be conducted in Portland, Oregon, shall be governed by the laws of the State of Oregon, and shall be as speedy as reasonably possible. The applicable arbitration rules for the Multnomah County courts shall apply unless the parties agree in writing to other rules. The arbitrator shall render a decision within forty-five (45) days of the first meeting with the Contractor and the City. Insofar as the Contractor and the City legally may do so, they agree to be bound by the decision of the arbitrator.

(b) Notwithstanding any dispute under this Agreement, whether before or during arbitration, the Contractor shall continue to perform its work pending resolution of a dispute, and the City shall make payments as required by the Agreement for undisputed portions of work.

23. **Progress Reports:** / X / Applicable / ___ / Not Applicable

The Contractor shall provide monthly progress reports to the Project Manager. If applicable, the STATEMENT OF THE WORK should list what information the Contractor must include in monthly progress reports.

24. **Contractor's Personnel:** / X / Applicable / ___ / Not Applicable

The Contractor shall assign the following personnel to do the work in the capacities designated: If applicable, list selected personnel in the STATEMENT OF THE WORK. The Contractor shall not change personnel assignments without the prior written consent of the City.

25. **Subcontractors:** / X / Applicable / ___ / Not Applicable

The City requires Contractors to use the Minority, Women and Emerging Small Business (M/W/ESB) subcontractors identified in their proposals, and as such the Contractor shall assign these subcontractors as listed in the STATEMENT OF THE WORK to perform work in the capacities designated. The Contractor shall not change subcontractor assignments without the prior written consent of the Chief Procurement Officer.

STATEMENT OF THE WORK AND PAYMENT SCHEDULE

BACKGROUND INFORMATION

The Forest Park Low Tank project is a direct result of previous analysis performed by the City of Portland Water Bureau (PWB) personnel in an effort to meet water demands in the Northwest hills area. The project site is located along the up-hill (east) side of NW Skyline Blvd., approximately 1300 feet north of the intersection with NW Cornell Drive in Northwest Portland. After the property was secured for the Tank, PWB decided to proceed with an updated Master Plan of the area to finalize the needs of customers in the Northwest Hills. The Northwest Hills Service Area Master Plan (Master Plan) was completed in November, 2007. The Master Plan confirmed the need for 1.3 million gallons (MG) of long-term storage at the Forest Park Low Tank site as one component of addressing known storage deficiencies in the Northwest Hills area. It is proposed that the 1.3 MG at this storage site be built now with an additional 1.3 MG tank built at a later date, using a separate procurement. The additional storage provided by the Forest Park Low Tank shall meet the needs of local residents for at least 20 years.

SCOPE OF WORK

The Contractor shall provide technical services, develop all the necessary construction documentation, and provide support services for design, bidding, construction and post-construction to successfully bid and construct this project.

Key features of this project include the following:

- A. Project Management
- B. Geotechnical Evaluation
- C. Computational Fluid Dynamics (CFD) Analysis
- D. One 1.3-million gallon (MG) prestressed tank
- E. Electrical, Instrumentation and Control
- F. Constructability Review
- G. General Civil Site Work
- H. General Structural
- I. On-site Piping
- J. Tank Overflow and Storm Water Drainage Facility
- K. Valve house with adequate space for future pump station mechanical and electrical equipment

- L. Permits
- M. Assistance During Bidding
- N. Technical Support During Construction
- O. Landscaping Design

The following is a more detailed description of the key features of this project.

PHASE A PROJECT MANAGEMENT

Task Approach and Expectations

The Contractor shall work with PWB staff to develop and implement key project management protocols to ensure that the project is delivered on time and within budget. In addition, the Contractor shall:

1. Perform general administration and project management throughout Design, Bidding, Construction, and Post Construction phases to ensure successful completion of all tasks and elements of the Project within the established scope, schedule and budget.
2. Be responsible for all deliverables listed herein including attending an additional twenty (20) meetings.

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager or their designated representative:

1. Monthly summary reports highlighting work progress during the previous month and listing unresolved outstanding issues. One copy of each monthly report should be submitted to PWB's Project Manager by the 15th of the next month. Progress reports shall be broken down by task and shall compare percentage complete with percentage of budget spent.
2. Submit a Monthly Subconsultant Payment and Utilization Report by the 15th of each month (reference PART II, Section C, 5. Diversity in Employment and Contracting Requirements of Request for Proposal (RFP) WTR 083, dated January 5, 2010). NOTE: A copy of this report is to be submitted by the Contractor to the City of Portland's Procurement Services Division.
3. Copies of contracts with subconsultants.
4. Project Design Management Plan:
 - a. Participate in a project meeting and site/area tour with PWB project staff and others to review all phases of the work.
 - b. Prepare a work plan that details the team approach to the project. The work plan should include specific tasks, a description of products, schedule, reviews, costs by task and discipline, and an explanation of how the team shall interact.
 - c. Meet with the PWB Project Manager to review the work plan and make any revisions.
5. Minutes for all meetings that occur throughout the project. The minutes are due within one week following the meeting. (Expect a total of twenty (20) meetings)

NOTE: The Contractor shall submit a Monthly Payment Request (Invoice) as addressed in the Compensation section of this Contract.

PHASE B PREDESIGN

Task B.1 Computation Fluid Dynamics (CFD) Analysis

The Contractor shall complete the following tasks:

1. Perform a 3-dimensional Computation Fluid Dynamics (CFD) analysis for the proposed Tank to determine water age/contact time to optimize inlet/outlet manifold design and/or baffle wall configuration in order to minimize short circuiting of the water and reduction of the chlorine residual and stratification. Upon acceptance by PWB, the Contractor may submit a manifold design that has worked in prior designs of similar tank size, and water demands. This shall allow a reduction in CFD calculations so that alternative manifold and baffle designs need not be evaluated, provided that the submitted design meets the performance criteria. Two dimensional analyses which assume a planar section of the tank cross section shall not be acceptable.

2. Conduct a meeting with PWB design staff, Contractor's project manager, and a technical representative from the Contractors team who is well versed in the computer software and project specific results. Design solutions to all water quality issues shall be discussed and a solution that has PWB concurrence shall be chosen.
3. Incorporate all necessary design solutions into the construction contract documents for water quality issues discovered in the CFD analysis.

Subtasks associated with this task to be completed by the Contractor are as follows:

Subtask B 1.1 – Initial mixing system configuration analysis.

The Contractor shall analyze a typical manifold and mixing valve configuration used for similar sized reservoirs with similar operating conditions. This initial selection shall be reviewed with the mixing valve manufacturer relative to expected effectiveness of the valving configuration. CFD modeling shall incorporate this valving configuration along with the worst case operating conditions. The Contractor shall conduct one run of the model for this subtask.

Subtask B 1.2 – Advanced CFD modeling.

If it is determined by the Contractor and PWB that initial modeling based on an assumed manifold and mixing valve configuration indicates that the assumed piping layout does not meet performance criteria, additional CFD modeling shall be conducted to optimize mixing in the reservoir. Up to two additional model iterations are expected. Findings shall be summarized in a brief memorandum.

Work performed by the City:

The PWB shall provide inlet flow rates, tank levels, and water demands for various times of the year including the anticipated worst case scenario. The PWB shall also provide historical/relevant water quality data for the area to be served by these tanks (cl2, temp, pH, alkalinity, ammonia, nitrites, etc.).

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager:

CFD Technical Findings

Draft and final technical memorandums shall be provided on a CD in Microsoft Word and calculations as PDF's in addition to the noted number of hard copies.

- a. Ten (10) copies of the draft memorandum. The technical memorandum is to detail the analysis method utilized and findings, the calculations that support the findings, design assumptions, design criteria, and unresolved issues.
- b. Ten (10) copies of the final memorandum. This package shall include the revised and improved draft technical memorandum.

Task B.2 Geotechnical Evaluation

Subtasks associated with this task are as follows:

Subtask B 2.1 – Geotechnical Investigations: This subtask includes four (4) borings and onsite reconnaissance.

Subtask B 2.2 – Geotechnical Memorandum: This subtask includes preparation of a geotechnical report including site specific seismic analysis.

The Contractor shall complete the following tasks based on the following assumptions:

Expected subsurface conditions include Portland Hills Silt over Columbia River Basalt (CRB). The geotechnical investigation shall include four (4) borings at the reservoir site. One (1) each near to the center of the proposed and future tank and two (2) additional borings to characterize the rock profile and analyze soil conditions at cut slopes. One (1) boring shall be completed to a maximum depth of 100 feet or 20 feet into hard basalt whichever is encountered first. This boring is for the Site Specific Seismic analysis. One (1) boring shall be complete to a depth of 50 feet in the footprint of the future tank. Two (2) borings shall be completed to 50 feet to evaluate slope stability. It is expected that a track-mounted drill rig can use existing gravel access road for site access to complete the borings. The following are general expectations associated with this task.

1. PWB has posted a previous report entitled "Preliminary Geotechnical Evaluation Report" by GRI, Inc. for review. The Contractor shall independently determine what further soil investigations are required and provide

- recommendations to PWB. This shall include but not be limited to subsurface explorations, testing, engineering analysis, and commentary on the recommendations from the "Preliminary Geotechnical Evaluation Report."
2. The Contractor shall incorporate information from the geotechnical investigation into the design Plans, Specifications, and Estimates (PS&E) with respect to structural foundations, retaining structures, slope stability measures, embankment and excavation procedures, settlement and consolidation analyses, compaction requirements, erosion and sedimentation control, soil corrosion, dewatering, lateral, active and passive earth pressures, subsidence, landslide mapping and other applicable design criteria as deemed necessary.
 3. Perform site specific seismic evaluation. The "Preliminary Geotechnical Evaluation Report" notes that the primary geologic hazard at the site is ground amplification due to a seismic event. The site specific evaluation shall consider this and other seismic hazards.

Deliverables

The Contractor shall provide the following to PWB Project Manager:

1. Geotechnical Report
Draft and final technical memorandums shall be provided on a CD in Microsoft Word and calculations as PDF's in addition to the noted number of hard copies.
 - a. Ten (10) copies of the draft geotechnical report. The technical report shall include but not be limited to the following: Introduction and Project Understanding, Scope of Services, Site Description, Conclusions, Recommendations, Subsurface Exploration data.
 - b. Ten (10) copies of the final geotechnical report. This package shall include the revised and improved draft technical memorandum.

PHASE C DESIGN

Task C.1

Basic Design Services

Task C.1 – Basic Design Services – Basic Design Services include the following subtasks and deliverables:

- Subtask C 1.1 – 30 % Initial Design Milestone Submittal Documents
- Subtask C 1.2 – 60 % Intermediate Design Milestone Submittal Documents
- Subtask C 1.3 – 90% Pre-Final Design Milestone Submittal Documents
- Subtask C 1.4 – 100% Final Design Milestone Submittal Documents
- Subtask C 1.5 – Final SIGNED Design Milestone Submittal Documents
- Subtask C 1.6 – Constructability Review
- Subtask C 1.7 – Assistance During Bidding

The Contractor shall provide complete bid documents including all necessary permits to allow advertisement of the signed construction documents no later than **November 2011**. All construction documents shall be provided on a CD in Microsoft Word and PDF format with the drawing files in Microstation or other format that conforms to PWB Computer Aided Drafting (CAD) standards in addition to the noted number of hard copies. The documentation supplied by PWB, such as Section 007200, shall be incorporated into the Contractor's signed construction documentation.

The Contractor shall complete the following tasks:

One (1) 1.3 MG Prestressed Tank

1. Provide all information, including but not limited to calculations, plans, and specifications for the construction of a 1.3 Million Gallon American Water Works Association (AWWA) D110 Type I, strand wound, circular, prestressed water tank that meets the following criteria:
 - The Tank shall operate with an overflow elevation of 1,044 feet.
 - PWB's expectation is a tank design height of 40 feet from slab-to-overflow and approximately 76 feet in diameter, or substantially matching manufacturer's standardized sizing criteria in order to minimize customized design costs.
 - The tanks shall be buried or located to limit visual impact from public view. To provide for worker safety, the tank shall incorporate a bulkhead hatch at the tank invert level that is accessible without climbing.
 - The tank shall be located on site in order to accommodate a future 1.3 MG tank at an overflow elevation of 1044 feet.
2. Verify tank parameters established by PWB.

3. Design for all tank interior piping including inlet and outlet piping, manifold mixing system, overflow and drainage piping, and wash-down piping.
4. Provide plans which shall include sufficient information for a contractor to build the structures. This information shall include but not be limited to: General Structural Notes, Special Inspection Tables, Slab Plan, Tank Sections, Roof Plan, Roof Reinforcement Details, Wall Details, Footing Details, Column schedules, Interior Ladder and Access Hatch Details, Column Footing Details, Pipe Entrance Details, Roof Vent and Inlet/Outlet Piping Details, Roof Opening Details, ladders and sensor mounts, and roof vent.

Element Approach and Assumptions: Site configuration alternatives related to a fully buried versus partially buried tank shall be reviewed with the PWB project manager and stakeholders prior to the delivery of the 30% submittal package.

The Contractor shall complete the following tasks:

Electrical, Instrumentation and Control

1. Design all electrical, instrumentation, and control systems to provide power, lighting, telemetry, and security for a fully operating facility. The design shall include, but not be limited to electrical service and distribution, control telemetry, actuation/operation for valves, wash-down pump, telemetry for tank level, and intrusion sensors. Electrical service, distribution, control and telemetry shall include square footage capacity for future pump station requirements
2. Provide written instrumentation and process narrative (control strategy) as part of the Operations and Maintenance (O&M) manual.
3. Provide complete Process and Instrumentation Diagram (P&ID) drawing based on the control strategy with all set points for all instrumentation devices and equipment.
4. Provide equipment list with a unique identification for each piece of equipment.
5. Provide a complete electrical circuit and raceway schedule.
6. Provide an input/output list of all analog and digital circuits. Provide, or incorporate as a condition of the contract documents, instrumentation and controls interconnection drawing (point to point).
7. Provide complete single line drawing of the electrical power system with a short circuit coordination study, and the device settings needed for the over current devices of the electrical system.
8. All control systems must comply with and be incorporated into the Water Bureau's existing supervisory control and data acquisition (SCADA).
9. Provide PWB staff training associated with operation and maintenance activities.
10. Provide a tank system design with the following design features:
 - a. Tank level sensor shall be ultrasonic.
 - b. Inlet and outlet isolation valves shall be electrically actuated, and remotely controllable.
 - c. Provide power for a wash-down pump for the tank.

Element Approach and Assumptions: Pump station electrical service and electrical footprint shall be sized based on anticipated electrical load of the pump station configured as recommended in the Northwest Hills Service Area Master Plan. The PWB shall perform all analysis necessary to determine remote communication methods including radio surveys, if required.

The Contractor shall complete the following tasks:

General Civil Site Work

1. Provide plans and specifications for two (2) post construction hot mix asphalt concrete (HMAC) paved road(s) access to the tanks for maintenance and inspection.
2. Provide plans for permanent parking space for PWB inspection and maintenance.
3. Provide temporary and permanent traffic control plan.
4. Designate staging areas on plans.
5. Provide complete grading plan for construction and post construction, which includes but is not limited to the construction access roads
6. Plans and specs for access roads during construction.
7. Provide tree removal plan and mitigation.
8. Provide erosion control plan.

The Contractor shall complete the following:

General Structural

1. Provide the design for soil retaining structures as needed to accommodate access roads for the upper tank hatch, lower tank hatch and valve house. On-site earth retaining structure designs shall include detailed plans, profiles and technical specifications for pre-engineered modular retaining wall systems. If PWB desires cast-in-place concrete walls, and these are feasible for certain applications on the project, the Contractor shall design these including plans, details and calculations under Subtask C.2.7
2. Provide design for slab-on-grade to support future generator.

The Contractor shall complete the following:

On-Site Piping

1. Design inlet/outlet piping and valving.
2. Design approximately 300 feet of 8-inch outlet/distribution piping from proposed tank to property line. Show plan and profile
3. Design approximately 300 feet of 16-inch inlet/supply piping from property line to proposed tank. Show plan and profile
4. Design all other tank and pump station piping including but not limited to provisions for a future connection to the 16-inch diameter FPL supply main and valving and piping for the future pump station.
5. Design emergency overflow piping, with rubber check valve.
6. Design under drain, roof drain, and perimeter drain piping.
7. Design drain line piping.
8. Design storm water piping.
9. Design temporary irrigation piping.

Element Approach and Assumptions: On-site piping includes large diameter transmission mains (greater than 12-inch diameter) and connection to transmission facilities which the PWB typically designs with basic cathodic protection (CP) provisions. Typical PWB CP details shall be used and designs coordinated with PWB guidelines for passive CP systems including polyethylene bagging of pipe, joint bonding, and isolation of piping from structures at key locations and test stations.

The Contractor shall complete the following:

Tank Overflow and Storm Water Drainage Facility

1. Design all necessary drainage facilities for the area including storm water, tank overflow, and drain line, with all detention, dechlorination, and sediment removal processes and structures as required by applicable law and regulations.
2. Use Bureau of Environmental Services (BES) Stormwater Management Manual. The PWB project manager shall provide the Contractor with the Stormwater Management Manual.
3. Evaluate emergency overflow requirements for the tank and options for complying with Oregon Department of Human Services (DHS) Drinking Water Program requirements.
4. Design emergency overflow structure and piping.

Element Approach and Assumptions: On-site detention shall be provided for reservoir overflow facilities with a 20 to 30-minute overflow storage capacity. The downstream capacity of receiving facilities for site discharge of drainage and overflow shall be verified with BES. The existing downstream system has adequate capacity to address reservoir overflows in the event that the overflow event lasts longer than 30 minutes

The Contractor shall complete the following:

Valve House with Adequate Space for Current and Future Pump Station Mechanical and Electrical Equipment

1. Provide a valve house design with the following features:
 - a. Altitude valve, with isolation valves for servicing
 - b. Electrically actuated isolation valves for inlet and outlet piping
 - c. Facility for remote chlorination injection
 - d. Under drain monitoring flow meter – An open channel radar based flow meter such as FloDar shall be used and installed in a manhole required as part of the drainage system.
 - e. Wash down pump or washdown water supply

- f. Sampling Station
- g. Overflow valve
- 2. The valve house shall be of subsurface vault design, i.e., maintenance staff shall have ground level access, and not be required to perform confined space climbing entry to access the equipment for maintenance.
- 3. The valve house shall have spare footprint for a future pump station to be installed at a later date.
- 4. Specification of pre-packaged solar panel kits to supply power to Remote Terminal Unit (RTU)'s for tank and Valve House.

Element Approach and Assumptions: The Contractor shall work with the PWB Project Manager to determine the location of the new valve house/future pump station building. The Contractor shall design site grading to avoid direct backfill against the building. Key design interests, scope clarifications and suggested optional work tasks are identified below:

- Building Architectural Treatments Evaluation: The valve house building shall be a rectangular cast-in-place concrete structure with a sloped concrete roof, or a CMU block structure with pre-engineered wood trusses and metal roofing. See related additional design services below.
- Chlorination Facilities: Chlorination facilities in the pump house building shall be located in a separate room to reduce the risk of corrosion of electrical equipment, piping, etc. The facility shall contain an on-site hypochlorite generation system and no addition of ammonia is required. It is critical that post-chlorination to boost disinfectant residual in systems using chloramines be designed and implemented to maintain the optimum ratio of chlorine to ammonia

The Contractor shall complete the following:

Landscaping Design

- 1. Design landscaping based on the land use review and permit requirements.
- 2. Provide recommendations in limiting and mitigating construction and visual impacts to natural resources and incorporate recommendations into the design.
- 3. Provide non-native vegetation removal and redevelopment with native species in the landscaping design.

Basic Design Services include the following subtasks and deliverables:

Subtask C.1.1

30 % Initial Design Milestone Submittal Documents

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

- 1. 30% PLANS – The plans shall include, at a minimum, a preliminary site plan, tank and valve house, one section view of the tank, draft instrumentation and control diagram (P&IDs), preliminary electrical diagram, equipment list, proposed pipe alignment, & pipe sizes.
- 2. 30% SPECIFICATIONS – The specifications shall include a proposed list of specification sections and a draft of those sections that are most important to the project.
- 3. PERMITTING – Provide a permitting memo detailing the permitting requirements for the project, status for each permit, the permitting agency, contact information, a preliminary cost estimate for each permit, and schedule for delivering the required permitting to meet the timeline for start of construction. The schedule shall include time allowed for PWB review.
- 4. DESIGN MEMORANDUM (MEMO) – Provide a draft technical memo that includes design assumptions and criteria, description of resolved and outstanding issues, and list of next steps.
- 5. COST ESTIMATE – Provide a preliminary construction cost estimate for each major component of the work (i.e. each separate structure and pipe line). Provide a potential list of bid items and units of measurement.
- 6. SCHEDULE – Provide an update to the design schedule. Identify delays and actions required/taken to meet the timeline for start of construction. The schedule shall include time allowed for PWB review.

Subtask C.1.2

60 % Intermediate Design Milestone Submittal Documents

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

This submittal package shall include fifteen (15) hard copies of ½ size (11"x17") plans along with fifteen (15) hard copies of remaining 60% submittal documents. It should also include one full size (22"x34") plan set.

- 1. 60% PLANS – The plans shall include, at a minimum, a final site plan, tank elevations, sections, and details, slope stability and retaining structures, instrumentation and control diagram, electrical diagram, final pipe

- alignment, plan and profile, valve house, other utilities clearly identified, all connections with other mains, and all appurtenances. Provide tabulated comments and responses to 30% plan set including BCOE comments submitted by the PWB.
2. 60% SPECIFICATIONS – The specifications shall include a complete table of contents, all necessary front end documents, draft of all special provision sections, complete supplemental conditions sections. Specifications shall be consistent with design elements as shown on the drawings. Provide tabulated comments and responses to 30% specifications.
 3. PERMITTING – Provide an update to the initial permitting memo with status and cost estimate for each permit and an updated schedule. Provide completed application for land use permits.
 4. DESIGN MEMO – Provide updates to draft technical memo on design assumptions and criteria, description of resolved and outstanding issues, and list of next steps.
 5. COST ESTIMATE – Provide proposed bid item list for measurement and payment, and construction costs estimate for each bid item.
 6. SCHEDULE – Provide an update to the design schedule. Identify delays and actions required/taken to meet the timeline for start of construction. Update the proposed construction schedule to reflect changes in design development and start of project construction.
 7. CALCULATIONS – Provide draft package of structural and civil calculations.

Subtask C 1.3 90% Pre-Final Design Milestone Submittal Documents

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

This submittal package shall include fifteen (15) hard copies of ½ size (11"x 17") plans along with fifteen (15) hard copies of remaining 90% submittal documents. It should also include one (1) full size (22"x 34") plan set.

1. 90% PLANS – The plans shall be complete in all respects including all engineering details and be consistent with specifications. Provide tabulated comments and responses to PWB review of 60% plan set including BCOE comments submitted by the PWB.
2. 90% SPECIFICATIONS – The specifications shall be complete and shall be consistent with design elements as shown on the drawings. Provide tabulated comments and responses to PWB review of 60% specifications.
3. PERMITTING – Provide all required Permit applications including any supporting documentation, plans, specifications, calculations, etc. required for the permits. Update the permitting memo with status for each permit and an updated schedule. Identify delays and actions required/taken to meet the timeline for start of construction.
4. DESIGN MEMO – Provide updated technical memo.
5. COST ESTIMATE – Provide an update to bid item list for measurement and payment, and a final construction cost estimate for each bid item.
6. SCHEDULE - Provide an update to the design schedule. Identify delays and actions required/taken to meet the timeline for start of construction. Provide a final version of the construction schedule through construction completion and facilities commissioning including projected cash flow.

Subtask C 1.4 100% Final Design Milestone Submittal Documents

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

Provide fifteen (15) hard copies of 100% submittals. Plans shall be to scale on ½ size (11 x 17) sheets.

1. 100% PLANS – The plans shall be complete in all respects including all engineering detail, be consistent with specifications, and incorporate the resolution of the BCOE review comments. Provide tabulated comments and responses to 90% plan set. Provide list of any outstanding design issues.
2. 100% SPECIFICATIONS – The specifications shall be complete in all respects, shall be consistent with design elements as shown on the drawings, and incorporate the resolution of the BCOE review comments. Provide tabulated comments and responses to 90% specifications.
3. PERMITTING – Provide all required Permit applications including any supporting documentation, plans, specifications, calculations, etc required for the permits. Update the permitting memo with status for each permit and an updated schedule. Identify delays and actions required/taken to meet the timeline for start of construction.

Subtask C 1.5 Final SIGNED Design Milestone Submittal Documents

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

Provide one (1) original and full sized reproducible plan set, one (1) unbound set of specifications and permitting documentation, and one (1) electronic copy with all reference files for the following:

1. 100% PLANS – Provide one (1) signed, full sized original plan set and 1 electronic copy with all reference files.
2. 100% SPECIFICATIONS, ATTACHMENTS AND APPENDICES – Provide one (1) signed, unbound, original with dividers and cover, and one (1) electronic copy (PDF on compact disc).
3. 95% FRONT END DOCUMENTS – Provide draft copy of City of Portland front end documents for Procurement Services review with completed descriptive scope and bid form. PWB shall incorporate any changes in the front end documents.
4. PERMITTING – Provide all required Building Permit applications including any supporting documentation, plans, specifications, calculations, etc. required for the permits. Update the permitting memo with status for each permit and an updated schedule. Identify delays and actions required/taken to meet the timeline for start of construction.
5. CALCULATIONS – Provide final copy of all calculations.

Subtask C 1.6 Constructability Review

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

The Contractors independent construction contractor shall participate in one site visit at the approximately 60 percent design completion level to provide input on key constructability issues including but not limited to tank location, construction access and staging location. Provide memorandum from Contractors independent construction contractor with input on tank location, construction access, staging locations etc. Memo is to include a detailed construction schedule.

NOTE: Contractor is responsible to be aware of all potential organizational conflicts of interest when coordinating with an independent construction contractor. Contractor's independent construction contractor shall be ineligible to participate in the bidding for the PWB construction bid that shall be a result of this Project.

Subtask C 1.7 Assistance During Bidding

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

1. Provide technical assistance to PWB staff for Outreach and Public Information activities as well as during the construction bidding process of Project. Support during bidding shall include but not be limited to the following:
 - a. Attend the pre-bid conference and site visit, if and when requested by the PWB's Construction Manager (PWB CM).
 - b. Assist PWB in responding to clarifications of the contract documents and prepare addenda to bid documents as required. Respond to bidders questions and bid analysis if requested by the PWB CM.
 - c. Provide original signed plans and specifications, as well as an electronic copy with reference files to PWB project manager.
 - d. Public outreach shall involve one (1) site plan image and reservoir cross-section for use in a public meeting (one image figure and design plan). Technical assistance related to public involvement is anticipated to be limited.
2. Assist PWB in preparing addenda to bid documents as required.
3. Provide bid analysis if requested by PWB CM.
4. Responses to Requests for Information (RFIs) and Addenda.

Task C.2 Additional Design Services

The Contractor shall perform the following additional design services upon written authorization from the PWB Project Manager:

Subtask C.2.1 Water Quality Review

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

Should the PWB desire further analysis to verify optimum application rates and evaluate potential injection locations and mixing needs, the Contractor shall prepare a technical memorandum that reviews existing water quality parameters, addresses the need for rechlorination, the type of recommended chlorine, chlorine injection locations,

sampling locations, monitoring systems as well as reviewing/modeling the proposed inlet/outlet piping mixing scheme. **This is an optional task and shall only be completed after the Contractor receives written authorization from the PWB Project Manager.** A list of work completed under this task is summarized below.

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager:

- Review historical water quality (WQ) data prepared by the PWB
- Review/confirm tank performance criteria relative to mixing
- Review and confirm the need to add chlorine to the tank inlet/outlet, either full-time or on a seasonal basis
- Review/confirm that ammonia addition is not required for the tank
- Develop range of chlorine dose and chlorine usage rates based on PWB-provided WQ criteria and flow ranges
- Review alternative chlorine chemicals/systems, including capital and O&M costs, space requirements, pros and cons
- On-site hypo generation
- Bulk/delivered 12% (or less) hypo
- Recommend preferred chlorine type/system based on discussions with Contractor and PWB
- Recommend WQ sampling/monitoring plan including on-line instrumentation at the tank site
- Summarize in a Tech Memo (draft and final)

Subtask C.2.2 Architectural Designs

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

If further architectural considerations are required by PWB Project Manager, the Contractor shall provide further architectural design considerations, architectural renderings of the proposed building and site, and analysis of exterior treatments that match the character of the neighborhood. These services would be provided outside of the proposed scope of services and considered optional work, if requested. **This is an optional task and shall only be completed after the Contractor receives written authorization from the PWB Project Manager.**

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager:

- Architectural plans, details, specifications and cost estimates.

Subtask C.2.3 – Seismic Valve Design

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

The Contractor shall complete the following task:

Final design of seismic actuated valve systems. The valves shall be provided inside the proposed vault structure. **This is an optional task and shall only be completed after the Contractor receives written authorization from the PWB Project Manager.**

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager:

- Seismic valve plans, details, specifications and cost estimates.

Subtask C.2.4 Downstream Storm Sewer Analysis

The Contractor shall perform the following:

An analysis of the existing storm drain piping across Skyline Boulevard and review of the downstream system capacity shall only be performed upon written authorization from the PWB Project Manager. **This is an optional task and shall only be completed after the Contractor receives written authorization from the PWB Project Manager.**

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager:

- Storm drainage calculations for existing facilities immediately downstream of the reservoir site.

Subtask C.2.5***Paving and Storm Drainage for Private Access Road***

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

Designs for improved road section from Skyline along access road in the existing easement on private property. Designs include paving and drainage improvements. Paving shall be of standard design and storm water detention shall be addressed with proposed detention facilities for the reservoir site. **This is an optional task and shall only be completed after the Contractor receives written authorization from the PWB Project Manager.**

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager:

- Plans, details, specifications, cost estimates, and storm drainage calculations for the proposed road work.

Subtask C.2.6***Additional Designs for Buried Vault Structure***

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

If the Valve House structure is to be buried, additional structural design work shall be required. It is anticipated that a buried structure shall have soil fill against the walls and have soil placed on the roof. **This is an optional task and shall only be completed after the Contractor receives written authorization from the PWB Project Manager.**

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager:

- Plans, details, specifications, calculations and cost estimates.

Subtask C.2.7***Cast-in-place soil retaining structures***

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

If the PWB requests cast-in-place retaining walls, additional design work shall be required. **This is an optional task and shall only be completed after the Contractor receives written authorization from the PWB Project Manager.**

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager:

Plans, details, specifications, calculations and cost estimates for cast-in-place soil retaining structures.

Phase D**Permitting**

The Contractor shall complete the following tasks:

Submit applications for Building, Electrical and Plumbing permits prior to award of the construction contract. The PWB shall pay all required permit application fees.

1. Identify, coordinate and obtain all necessary permits for the Project. These permits include, but are not limited to, a Type III Conditional Use permit from City of Portland Bureau of Development Services (BDS), a Discharge permit from BES, and a Department of Environmental Quality (DEQ) NPDES 1200-C Permit. A Memorandum of Understanding (MOU) or Interagency Agreement(s) may also be necessary for permit applications involving other jurisdictions.
2. Building Permits, including electrical, plumbing, and structural permits shall be the sole responsibility of the Contractor. This includes all communications and required submittal procedures.
3. At the 100% submittal, the Contractor shall apply for any Building Permits that may be required. The Contractor shall provide all information, including any calculations requested during the application process, and shall incorporate any changes required under the permit into plans and specifications prior to bidding or by addendum.

4. Since the project site is greater than 1 acre, a DEQ 1200 storm water management permit may be required. This permit application shall be written and submitted by the Contractor.

Task D.1 Basic Permitting

Basic Permitting services include obtaining the project permits as listed in the project RFP and include the following Subtasks:

- Subtask D.1.1 Type III Conditional Use Permit (from BDS)
- Subtask D.1.2 Discharge Permit (from BES)
- Subtask D.1.3 NPDES 1200-D Permit (from DEQ)
- Subtask D.2.4 Building Permit (from BDS)
- Subtask D.2.5 Tree Permit (from City Forester)

Contractor Deliverables

The Contractor shall provide the following to the PWB Project Manager:

1. Five (5) copies of any required pre-bid permits, agreements or MOUs and supporting documentation.
2. Five (5) copies of approved land use permits.
3. Five (5) copies of approved building permits.
4. Five (5) copies of approved electrical permits.
5. Five (5) copies of approved plumbing permits.

Phase E Technical Support During Construction

The PWB shall provide special inspection services with PWB staff. Technical support during construction shall be provided on an as needed basis by the Contractor.

The Contractor shall designate one (1) engineer and support staff that is committed to this project to assist the PWB CM. Day-to-day project inspection, contract administration, payments, and the majority of construction engineering shall be handled by the PWB CM. The Contractor shall perform the following services during construction:

Technical Support During Construction includes the following tasks to be performed by the Contractor:

- Task E.1 – Construction Administration Assistance
- Task E.2 – Construction Observation Assistance
- Task E.3 – Assistance with Shop Drawing Review
- Task E.4 – Assistance with Substantial Completion and Final Inspection
- Task E.5 – Review O&M manuals
- Task E.6 – Assistance with Preparation of Record Drawings
- Task E.7 – Additional Construction Phase Services Associated with Buried Vault Structure

Task E.1 Construction Administration Assistance

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

1. Attend the pre-construction conference(s).
2. Consult with PWB and act as its representative as provided in the general conditions of the contract documents.
3. Provide technical support as needed throughout the bidding process.
4. Assist PWB in providing interpretations and clarifications of the contract documents and assist in preparation of field orders (FO's), requests for information (RFI's), and change orders (CO's) upon request of the PWB CM. For budgeting purposes it is anticipated that a reasonable number and complexity of FO's, RFIs and COs required. Up to 15 FO's and RFI's and three COs are budgeted. Excessive number of RFI's, FO's and CO's and significant changes resulting from RFI's, FO's and CO's that require review by the Contractor shall be considered outside this scope of work.
5. Be available as necessary for special consultation to resolve conflicts and provide interpretations.
6. Provide assistance in preparation of responses to construction claims.
7. Evaluate the selected Construction Contractor's suggestions for modifications in the drawings and specifications and report them, with recommendations to the PWB CM, when requested.

Task E.2 Construction Observation Assistance

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

Make periodic visits to the site when requested by the PWB CM to observe, as an experienced and qualified design professional, the progress and quality of the various aspects of the work. Based on information obtained during such visits, determine if work is proceeding in accordance with the contract documents. Provide a written response or report to the PWB CM of observations and recommendations based on the site visits. For budgeting purposes it is expected that up to twenty (20) site visits shall be conducted.

Task E.3 Assistance with Shop Drawing Review

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

Review shop drawings and submittals when requested and provide written responses to the PWB CM as promptly as possible and within the contract turnaround time limits. For budgeting purposed, up to forty five (45) shop drawings and submittals are included.

Task E.4 Assistance with Substantial Completion and Final Inspection

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

1. Coordinate with the PWB CM to verify that tests, equipment start-ups, and operating and maintenance training are conducted in the presence of appropriate personnel and that the Construction Contractor maintains adequate records of the proceedings. Observe, record, and report to the CM appropriate details regarding test procedures and start-ups.
2. Participate in an inspection to determine if the work is substantially complete and assist the PWB CM in preparing a list of items to be completed. Participate in the final inspection to determine if the completed work is acceptable for final payment. Give written notice to the PWB CM that the work is acceptable or of any deficiencies that need to be resolved.
3. Provide construction close-out production of electronic as-builts that are developed by the Construction Contractor, develop and assure compliance with the project punch list. Obtain all guarantees for PWB.

Task E.5 Review O&M manuals

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

Review operating and maintenance instructions, schedules, certificates of inspection, tests and approvals; these are to be assembled in accordance with the contract documents and included with the Operations and Maintenance (O&M) manuals prepared by the Contractor.

Task E.6 Assistance with Record Drawing Preparation

The Contractor shall complete the following tasks and provide the corresponding deliverables to the PWB Project Manager:

Provide a set of reproducible as-built drawings on Mylar showing those changes made during the construction process (as-builts) based on data furnished by the Construction Contractor. As-builts shall be provided electronically on CD-ROM or DVD in MicroStation conforming to PWB standards and scans of original signed as-builts PDF format. Revised specifications shall be provided in Microsoft Word on CD-ROM or DVD.

Contractor Deliverables

The Contractor shall provide the following to the PWB Construction Manager:

1. Provide a written response or report to the PWB CM of observations and recommendations based on site visits. (Contractor shall conduct a minimum of five (5) site visits)
2. Prepare field orders and change orders upon request of the PWB CM.
3. Provide written responses to the PWB CM regarding review of shop drawings and submittals when requested as promptly as possible within the contract turnaround time limits.
4. Prepare responses to construction claims.
5. Provide a set of reproducible as-built drawings on Mylar showing those changes made during the construction process (as-builts) based on data furnished by the Construction Contractor. As-builts shall also be provided

electronically on CD-ROM or DVD in MicroStation or other format that conforms to PWB CAD standard and scans of original signed as-builts PDF format. Revised specifications shall be provided in Microsoft Word on CD-ROM or DVD.

6. Provide written reports to the PWB CM containing appropriate details regarding test procedures and start-ups.
7. Compile and submit O&M manual.

WORK PERFORMED BY CITY

The City has assigned a project manager to oversee Contractor's work and provide support as needed. Specific duties the City shall perform and items it shall provide during the life of the project are listed below:

1. One (1) copy of the City of Portland Standard Construction Specifications for reference during the development of the special specification.
2. One (1) copy of the City of Portland Standard Bidding Instructions.
3. Electronic copy of Section 007200 – Supplemental General Requirements.
4. Two (2) Microstation files containing standard construction drawings, legend (with symbols) and general notes in a DXF format. 3D seed file for Micro station to be used for survey base map.
5. City of Portland, Procurement Services required paperwork: Notice to Bidders, Notice to Contractors, Non-collusion Affidavit, Bid Bond, Proposal, Bid Forms, sample agreement with minority subcontractor, work force training and hiring program, Minority/Women/Emerging Small Business (M/W/ESB) participation requirement information, and prevailing wage rates. This shall be included and bound with the completed specifications.
6. Written comments within fifteen (15) working days of receipt of 30% design submittal.
7. Written comments within fifteen (15) working days of receipt of 60% design submittal.
8. Written comments within fifteen (15) working days of receipt of 95% design submittal.
9. Review permit applications and provide written comments within fifteen (15) working days after receipt of each item. PWB shall submit pertinent permits and pay permit fees.
10. Surveying to establish horizontal/vertical control and base mapping.
11. PWB shall provide the Bidability, Constructability, Operability, Environmental (BCOE) checklist form, to inform the Contractor of the typical BCOE checks that the City shall perform for project quality assurance.
12. Public Outreach and education.
13. Overall construction Management including oversight and inspection.

DELIVERABLES

Deliverables shall be considered those tangible resulting work products that are to be delivered to the City such as reports, draft documents, data, interim findings, drawings, schematics, training, meeting presentations, final drawings and reports. The Contractor is encouraged to provide any deliverables in accordance with the City's Sustainable Paper Use Policy. The policy can be viewed at: <http://www.portlandonline.com/omf/index.cfm?c=37732>.

All deliverables and resulting work products from the contract shall become the property of the City of Portland.

CONTRACTOR PERSONNEL

The Contractor shall assign the following personnel to do the work in the capacities designated:

NAME	ROLE ON PROJECT
David Leibbrandt	Principal-in-Charge
Matt Hickey	Project Manager
Jim Helton	Technical Advisor
Pete Kreft	Water Quality Planning & Design

SUBCONTRACTORS

The Contractor shall assign the following subcontractors to perform work in the capacities designated:

NAME	ROLE ON PROJECT
MWH Americas, Inc.	Computational Fluid Dynamics
NLV Services	Surveying
Pacific Geotechnical, LLC	Geotechnical Engineering

Peterson Structural Engineers, Inc.	Structural Engineering
Susan Oman, Landscape Architect	Landscape Architecture
Reyes Engineering	Electrical Engineering / Instrumentation & Control
Vance Ellet	Constructability Memo

The City shall enforce all diversity in workforce and Minority, Women and Emerging Small Business (M/W/ESB) subcontracting commitments submitted by the Contractor in its Proposal. For contracts valued \$100,000 or more, the Contractor shall submit a Monthly Subconsultant Payment and Utilization Report (MUR), made part of this contract by reference, reporting ALL subcontractors employed in the performance of this agreement. An electronic copy of the MUR may be obtained at: <http://www.portlandonline.com/shared/cfm/image.cfm?id=119851>.

COMPENSATION

The not to exceed amount of this contract is \$533,857.

A. The City shall pay the Contractor for work performed under this Agreement. The payment shall be full compensation for work performed, for services rendered and delivered, and for all labor, materials, supplies, equipment and incidentals necessary to perform the work and services and approved for payment by the City. Errors in estimating the number of hours necessary to perform the work is the sole responsibility of the Contractor.

B. The City shall pay the Contractor on a time and materials basis in accordance with the following conditions:

Direct labor shall be invoiced as Salary Times Multiplier using a 3.1 multiplier. This multiplier includes overhead and profit. This multiplier includes fringe benefits, payroll bonuses, autos and other perks, telecommunications, facsimile services, overhead expenses including but not limited to local and long distance telephone, parking, delivery/courier, general business and professional liability insurance, advertising costs, postage, leasing of office equipment, information technology (including computer time and CAD services and other related highly specialized equipment), all other direct costs not identified as reimbursable, other indirect costs (support staff such as legal, accounting, officers, computer) and profits.

C. City shall pay Contractor for the actual amount of work performed for each task as identified in the attached spreadsheet labeled Task Compensation Limits for Forest Park Low Tank (attached as Exhibit A). The Contractor shall not exceed the individual task cost without prior written approval of the Portland Water Bureau (PWB) project manager. Contractor shall be paid the not to exceed total amount of **\$533,857** for the project unless a change is specifically authorized through an amendment to this Agreement.

D. Compensation for subcontractors shall be limited to the same restrictions imposed on the Contractor. The maximum markup on subcontractor services shall not exceed 5%.

Progress Payments

On or before the 15th of each month, the Contractor shall submit to the City's Project Manager an invoice for work performed by the Contractor during the preceding month. The invoice shall contain the City's Contract Number and set out all items for payment including, but not limited to: the name of the individual, labor category, direct labor rate, hours worked during the period, and tasks performed. The Contractor shall also attach photocopies of claimed reimbursable expenses, if applicable. The Project Coordinator shall stamp and approve all subconsultant invoices and note on the subconsultant invoice what they are approving as "billable" under the contract. The billing from the prime should clearly roll up labor and reimbursable costs for the prime and subconsultants – matching the subconsultant invoices. Prior to initial billing, the Contractor shall develop a billing format for approval by the City. Invoices shall either be e-mailed to: wb.accountspayablesection@ci.portland.or.us (this is the preferred method) or sent to:

City of Portland Water Bureau
Attn: Portland Water Bureau Accounts Payable
1120 SW 5th Avenue, Room 609
Portland, OR 97204

The City shall pay all amounts to which no dispute exists within 30 days of receipt of the invoice. Payment of any invoice, however, does not preclude the City from later determining that an error in payment was made and from withholding the disputed sum from the next progress payment until the dispute is resolved.

The Contractor shall make full payment to its subcontractors within 10 business days following receipt of any payment made by the City to Contractor.

INDEPENDENT CONTRACTOR CERTIFICATION STATEMENT

SECTION A

CONTRACTOR CERTIFICATION I, undersigned, am authorized to act on behalf of entity designated below, hereby certify that entity has current Workers' Compensation Insurance.

Contractor Signature

David J. Murray Date 6/8/10

Entity Murray, Smith

& Associates, Inc.

If entity does not have Workers' Compensation Insurance, City Project Manager and Contractor complete the remainder of this form.

SECTION B

ORS 670.600 Independent contractor standards. As used in various provisions of ORS Chapters 316, 656, 657, and 701, an individual or business entity that performs labor or services for remuneration shall be considered to perform the labor or services as an "independent contractor" if the standards of this section are met. The contracted work meets the following standards:

1. The individual or business entity providing the labor or services is free from direction and control over the means and manner of providing the labor or services, subject only to the right of the person for whom the labor or services are provided to specify the desired results;
2. The individual or business entity providing labor or services is responsible for obtaining all assumed business registrations or professional occupation licenses required by state law or local government ordinances for the individual or business entity to conduct the business;
3. The individual or business entity providing labor or services furnishes the tools or equipment necessary for performance of the contracted labor or services;
4. The individual or business entity providing labor or services has the authority to hire and fire employees to perform the labor or services;
5. Payment for the labor or services is made upon completion of the performance of specific portions of the project or is made on the basis of an annual or periodic retainer.

City Project Manager Signature

Date

SECTION C

Independent contractor certifies he/she meets the following standards:

1. The individual or business entity providing labor or services is registered under ORS Chapter 701, if the individual or business entity provides labor or services for which such registration is required;
2. Federal and state income tax returns in the name of the business or a business Schedule C or form Schedule F as part of the personal income tax return were filed for the previous year if the individual or business entity performed labor or services as an independent contractor in the previous year; and
3. The individual or business entity represents to the public that the labor or services are to be provided by an independently established business. Except when an individual or business entity files a Schedule F as part of the personal income tax returns and the individual or business entity performs farm labor or services that are reportable on Schedule C, an individual or business entity is considered to be engaged in an independently established business when four or more of the following circumstances exist. Contractor check four or more of the following:
 - ☐ A. The labor or services are primarily carried out at a location that is separate from the residence of an individual who performs the labor or services, or are primarily carried out in a specific portion of the residence, which portion is set aside as the location of the business;
 - ☐ B. Commercial advertising or business cards as is customary in operating similar businesses are purchased for the business, or the individual or business entity has a trade association membership;
 - ☐ C. Telephone listing and service are used for the business that is separate from the personal residence listing and service used by an individual who performs the labor or services;
 - ☐ D. Labor or services are performed only pursuant to written contracts;
 - ☐ E. Labor or services are performed for two or more different persons within a period of one year; or
 - ☐ F. The individual or business entity assumes financial responsibility for defective workmanship or for service not provided as evidenced by the ownership of performance bonds, warranties, errors and omission insurance or liability insurance relating to the labor or services to be provided.

Contractor Signature

Date

CONTRACTOR SIGNATURE:

This contract may be signed in two (2) or more counterparts, each of which shall be deemed an original, and which, when taken together, shall constitute one and the same Agreement.

The parties agree the City and Contractor may conduct this transaction, including any contract amendments, by electronic means, including the use of electronic signatures.

I, the undersigned, agree to perform work outlined in this contract in accordance to the STANDARD CONTRACT PROVISIONS, the terms and conditions, made part of this contract by reference, and the STATEMENT OF THE WORK made part of this contract by reference; hereby certify under penalty of perjury that I/my business am not/is not in violation of any Oregon tax laws; hereby certify that my business is certified as an Equal Employment Opportunity Affirmative Action Employer and is in compliance with the Equal Benefits Program as prescribed by Chapter 3.100 of Code of the City of Portland; and hereby certify I am an independent contractor as defined in ORS 670.600.

Murray, Smith & Associates, Inc.

BY: 

Date: 6/3/10

Name: David W. Leibbrandt

Title: President

183988

Contract No. 30001295

Contract Title: Forest Park Low Tank

CITY OF PORTLAND SIGNATURES:

By: 
Bureau Director

Date: 06.15.2010

By: _____
Chief Procurement Officer

Date: _____

By: _____
Elected Official

Date: _____


Approved:

By: _____
Office of City Auditor

Date: _____

Approved as to Form:

APPROVED AS TO FORM

By: 
Office of City Attorney
CITY ATTORNEY

Date: 6/10/10

Task Compensation Limits				
Forest Park Low Tank				
Task	Totals			
	MSA Labor Hours	MSA Expenses \$	Sub Expenses \$	Total \$
Phase A. Project Management				
Task 1 -- Basic Project Management	233	\$33,390	\$0	\$33,390
Phase A Total				\$33,390
Phase B. Pre-design				
Task B.1-- Computation Fluid Dynamics (CFD)				
Subtask B1.1 -- Initial Mixing System Analysis Draft Memo	9	\$1,665	\$45,115	\$46,780
Subtask B1.2 -- Additional CFD Modeling Memo	5	\$665	\$6,335	\$7,000
Task B.2 -- Geotechnical Investigation				
Subtask B2.1 -- Geotechnical Investigations	10	\$1,218	\$23,900	\$25,118
Subtask B2.2 -- Final Geotechnical Report	16	\$1,934	\$10,280	\$12,214
Phase B Total				\$91,112
Phase C. Design				
Task C.1-- Basic Design				
Subtask C1.1 -- 30% Submittal Package ¹	225	\$24,355	\$17,517	\$41,872
Subtask C1.2 -- 60% Submittal Package ²	340	\$36,875	\$28,275	\$65,151
Subtask C1.3 -- 90% Submittal Package ³	340	\$36,875	\$28,275	\$65,151
Subtask C1.4 -- 100% Submittal Package ³	200	\$21,550	\$18,017	\$39,567
Subtask C1.5 -- FINAL Signed Package	25	\$2,700	\$500	\$3,200
Subtask C1.6 -- Constructability Review	26	\$3,271	\$3,150	\$6,421
Subtask C1.7 -- Assistance During Bidding	67	\$8,000	\$788	\$8,787
Task C.2 -- Additional Design Services				
Subtask C2.1 -- Water Quality Review	8	\$1,200	\$9,500	\$10,700
Subtask C2.2 -- Architecture Design	16	\$1,800	\$10,500	\$12,300
Subtask C2.3 -- Seismic Valve Design	33	\$3,500	\$500	\$4,000
Subtask C2.4 -- Downstream Storm Sewer Analysis	60	\$6,000	\$0	\$6,000
Subtask C2.5 -- Paving and Storm Drainage for Private Access Road	70	\$7,500	\$0	\$7,500
Subtask C2.6 -- Additional Cost for Alternative Buried Vault Structure Design	8	\$1,200	\$9,925	\$11,125
Subtask C2.7 -- Design of Cast-in-place Concrete Retaining Walls	10	\$1,500	\$15,000	\$16,500
Phase C Total				\$298,275
Phase D. Permitting				
Task D.1-- Basic Permitting				
Subtask D1.1 -- Type III Conditional Use Permit (from BDS)	88	\$9,512	\$6,300	\$15,812
Subtask D1.2 -- Discharge Permit (from BES)	33	\$3,567	\$0	\$3,567
Subtask D1.3 -- NPDES 1200-C (from DEQ)	22	\$2,378	\$0	\$2,378
Subtask D1.4 -- Building Permit (from BDS) ⁴	55	\$6,125	\$0	\$6,125
Subtask D1.5 -- Tree Permit (from City Forester)	22	\$2,378	\$0	\$2,378
Phase D Total				\$30,261
Phase E. Assistance During Construction				
Task E.1-- Construction Administration Assistance				
Task E.1-- Construction Administration Assistance	124	\$15,163	\$8,045	\$23,208
Task E.2-- Construction Observation Assistance				
Task E.2-- Construction Observation Assistance	117	\$13,919	\$9,962	\$23,881
Task E.3-- Assistance with Shop Drawing Review				
Task E.3-- Assistance with Shop Drawing Review	128	\$15,099	\$5,266	\$20,365
Task E.4-- Assistance with Substantial Completion and Final Inspection				
Task E.4-- Assistance with Substantial Completion and Final Inspection	24	\$4,640	\$2,746	\$7,386
Task E.5-- Review O&M manuals				
Task E.5-- Review O&M manuals	14	\$1,680	\$350	\$2,030
Task E.6-- Assistance with Preparation of Record Drawings				
Task E.6-- Assistance with Preparation of Record Drawings	30	\$3,600	\$350	\$3,950
Phase E Total				\$80,820
Total All Tasks		\$273,261	\$260,597	\$533,857

Notes:

- 1.) Submittals to Include: Plans, Specifications, Design Memorandum, Cost Estimate, Schedule
- 2.) Submittals to Include: Plans, Specifications, Design Memorandum, Cost Estimate, Schedule, Calculations
- 3.) Submittals to Include: Plans, Specifications, Design Memorandum, Cost Estimate, Schedule, Calculations, Resolution to City's BCOE Comments
- 4.) Building Permit to Include: Electrical, Plumbing, Mechanical, Structural, Other Reviews Part of Building Permit

Labor Classification and Hourly Billable Rates

Classification	Senior Principal I	Senior Principal II	Associate
Hourly Billable Rate	\$207.45	\$175.56	\$145.92

Classification	Engineer VII	Engineer V	Tech.
Hourly Billable Rate	\$128.62	\$96.88	\$90.92

Classification	Clerical
Hourly Billable Rate	\$61.10